

# 2015 Utility & Street Improvements

Improvement Hearing – January 5, 2015



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# PROJECT AREA





## EXISTING WASTEWATER FLOWS

- “ City experiences relatively high wastewater flows due to clear water entering the sanitary collection system through inflow and infiltration (I/I)
- “ Excess flows result in additional conveyance and treatment expenses; Interconnection Agreement with the City of Mankato requires that the City work towards I/I reduction
- “ High flows can also cause basement back-ups
- “ Several reports have identified the sewers within the project area to be susceptible to I/I due to the age and condition of the sanitary sewer as well as the lack of an adequate storm sewer outlet for sump pump discharges



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## EXISTING SANITARY SEWER

- “ Existing sewer within the project area installed in mid-1970s
- “ Sewer televised and shown to be in poor condition
  - Cracked, sagged, offset joints, etc.



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## EXISTING WATER SYSTEM

- “ Poor water quality and inadequate fire flows have been experienced in some areas of town
- “ 2004 Report Identified Recommended Improvements to the City’s water supply and distribution system
  - New Municipal Well; constructed in 2010
  - New Water Tower; constructed in 2012
  - Replacement and looping of watermains; partially completed through various projects
- “ Some dead-end and undersized watermains still remain



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## EXISTING WATER SYSTEM

- “ 4<sup>th</sup> and 5<sup>th</sup> Street Watermains are 4-inch diameter
  - Looped at north end by a 2-inch main under existing structure
- “ Lake Street area served entirely by long dead-end main
- “ Sarah Circle, southern Park Road, and Melwood Court served by long dead-end main
- “ Point Pleasant Road, Point Avenue, and Point Pleasant campground served by long dead-end main
- “ Watermain within project area is circa 1975 and 6-inch diameter



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## EXISTING DRAINAGE

- “ Area north of Sakatah Trail drains to south side of Spruce Avenue
  - Normally drained by 5<sup>th</sup> Street Storm Sewer
  - 5<sup>th</sup> Street Storm Sewer cannot keep up during large events, resulting in flooding on the south side of Spruce Avenue
- “ Upper 5<sup>th</sup> Street storm sewer drains to Highway 60 storm system
  - Storm sewer collapsed in 2010 resulting in upstream flooding
- “ Lower 5<sup>th</sup> Street storm sewer failed during June 2014
  - Televising indicates storm sewer drains an area north of Highway 60, but blockages precluded the upstream end from being located.
- “ 4<sup>th</sup> Street storm sewer drains entire residential area east of 4<sup>th</sup> Street and discharges directly to Madison Lake
- “ Chestnut Avenue and Block 17 & Block 18 Alleys experience poor drainage due to flat grades and lack of storm sewer



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## EXISTING STREETS

- “ Pavement within project area in poor condition
- “ Road sections lack subsurface drainage, making them more susceptible to frost action
- “ Roads lack curb & gutter and are not wide enough to allow two-way traffic and one-side parking



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## PROPOSED IMPROVEMENTS

- ” Sanitary Sewer Reconstruction
- ” Watermain Reconstruction
- ” Watermain Looping
- ” Storm Sewer Reconstruction
- ” Street Reconstruction
- ” Curb & Gutter Construction
- ” Subsurface Drainage Construction



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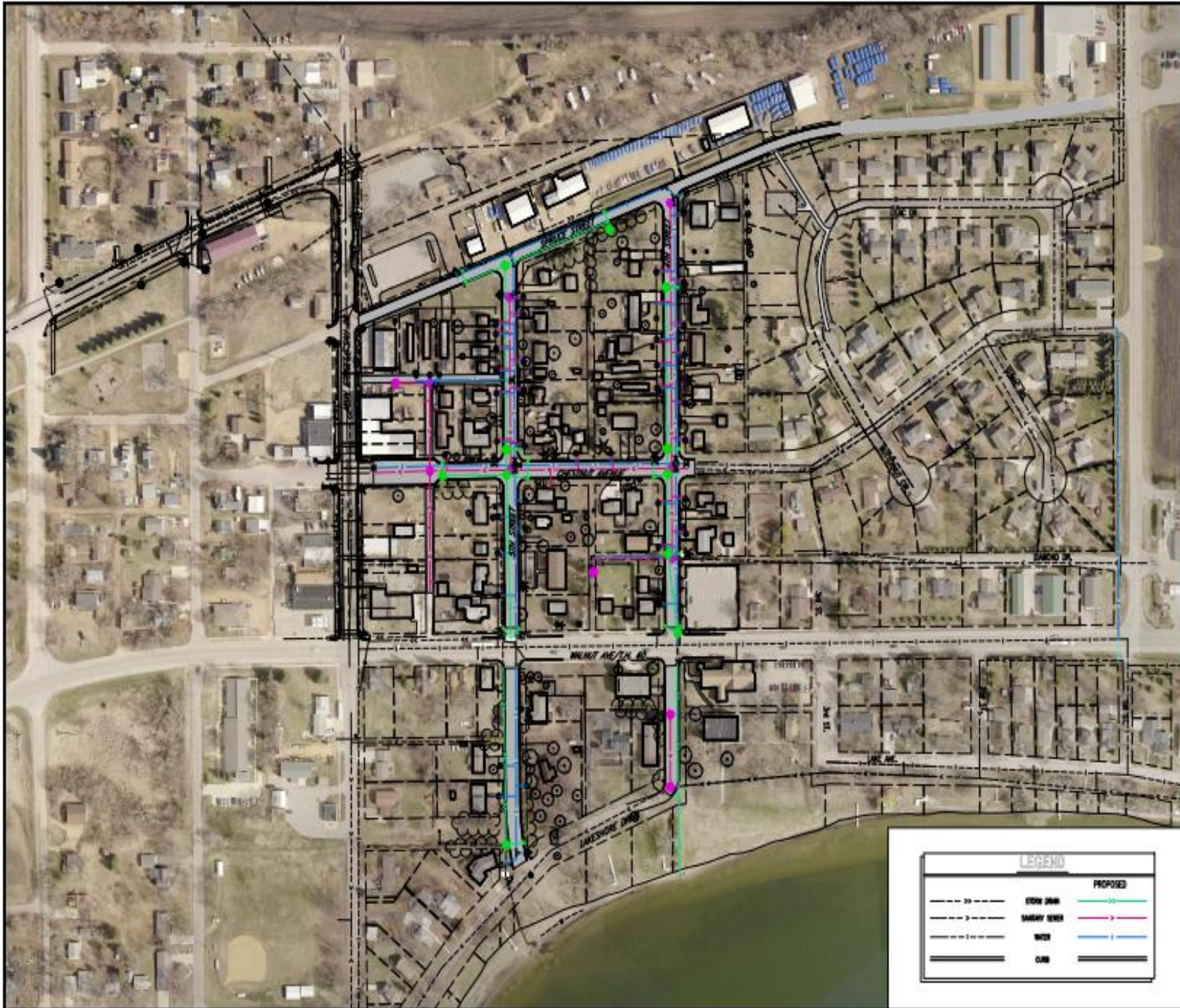


## SANITARY SEWER IMPROVEMENTS

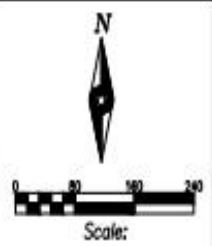
- “ Sanitary sewer to be replaced:
  - 4<sup>th</sup> Street from Highway 60 to Spruce Avenue and north of Lakeshore Drive
  - 5<sup>th</sup> Street from Chestnut Avenue to Spruce Avenue
  - Chestnut Avenue from Main Street to 4<sup>th</sup> Street
  - Within alleys of Blocks 17 & 18
- “ All sewer to be 8-inch PVC except for Chestnut Avenue would be 10-inch PVC based on existing and future service area.
- “ Services will be replaced up to the right-of-way
  - Services will be televised during construction to inspect for leaks or other sources of I/I



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**2015 STREET IMPROVEMENTS**

MADEIRA LAKE MINNESOTA

REV.	DATE	DESCRIPTION

PROJECT NO.	13324
FILE NAME	13324.PRI01A
DRAWN BY	JAG
DESIGNED BY	CSJ
REVIEWED BY	CSJ
DATE PLOTTED	8/20/15
CLIENT PROJECT NO.	

**PROJECT AREA**

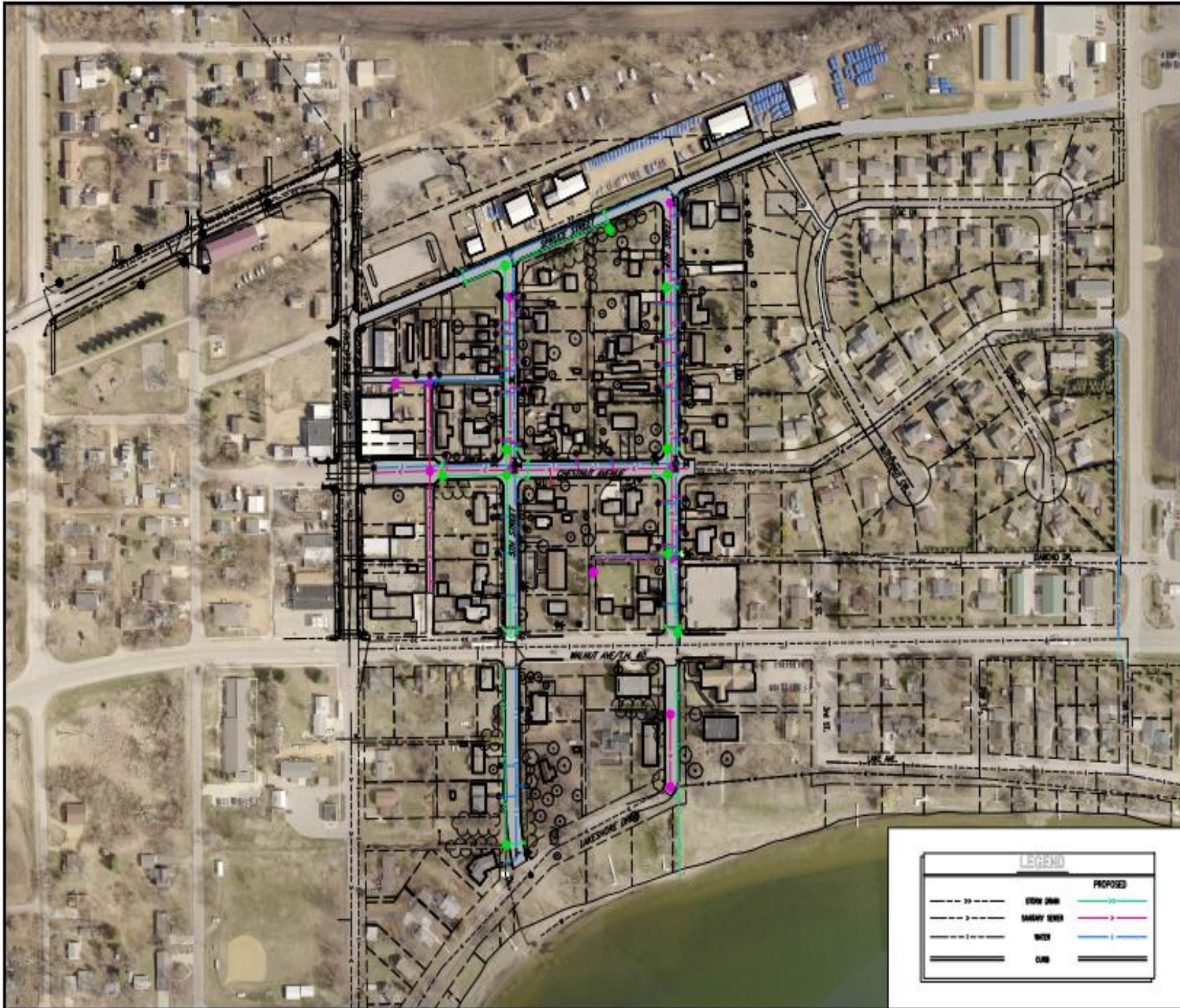


## WATERMAIN IMPROVEMENTS

- “ All existing watermain within the project area will be replaced with 8-inch mains for improved fire protection and water quality
- “ Services will be replaced up to and including the curb stop, approximately at the property line
- “ Loop connecting north end of 4<sup>th</sup> & 5<sup>th</sup> Streets will be relocated to Spruce Avenue right-of-way
- “ Loop to be added along 1<sup>st</sup> Street between Chestnut Avenue and Highway 60 to provide redundancy to Lake Street area and aid in the provision of temporary water service during construction to the eastern portion of the City
- “ Loops to be added between Sarah Circle & Park Road and between Park Road & Point Pleasant Road to provide redundancy and improve water quality in these areas

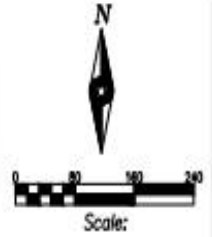


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**2015 STREET IMPROVEMENTS**

REVISION SCHEDULE	
NO.	DESCRIPTION

PROJECT NO.	13324
FILE NAME	13324.PREFLIM
DRAWN BY	JAG
DESIGNED BY	CSL
REVIEWED BY	CSL
DATE PLOTTED	8/10/11
CUSTOM PROJECT NO.	

**PROJECT AREA**

LEGEND	
PROPOSED	
	STORM SEWER
	SANITARY SEWER
	WATER
	CURB





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PROJECT

**2015 STREET IMPROVEMENTS**

MADISON LAKE, MINNESOTA

NO.	DATE	REVISIONS/ISSUES/DESCRIPTION

PROJECT NO.	13324
FILE NAME	2015 POINT AVE
DRAWN BY	ASG
DESIGNED BY	CSJ
REVIEWED BY	CSJ
DATE PLOTTED	08/11/15
CLIENT PROJECT NO.	

TITLE

**POINT AVENUE WATERMAIN**

SHEET

**2** OF 2

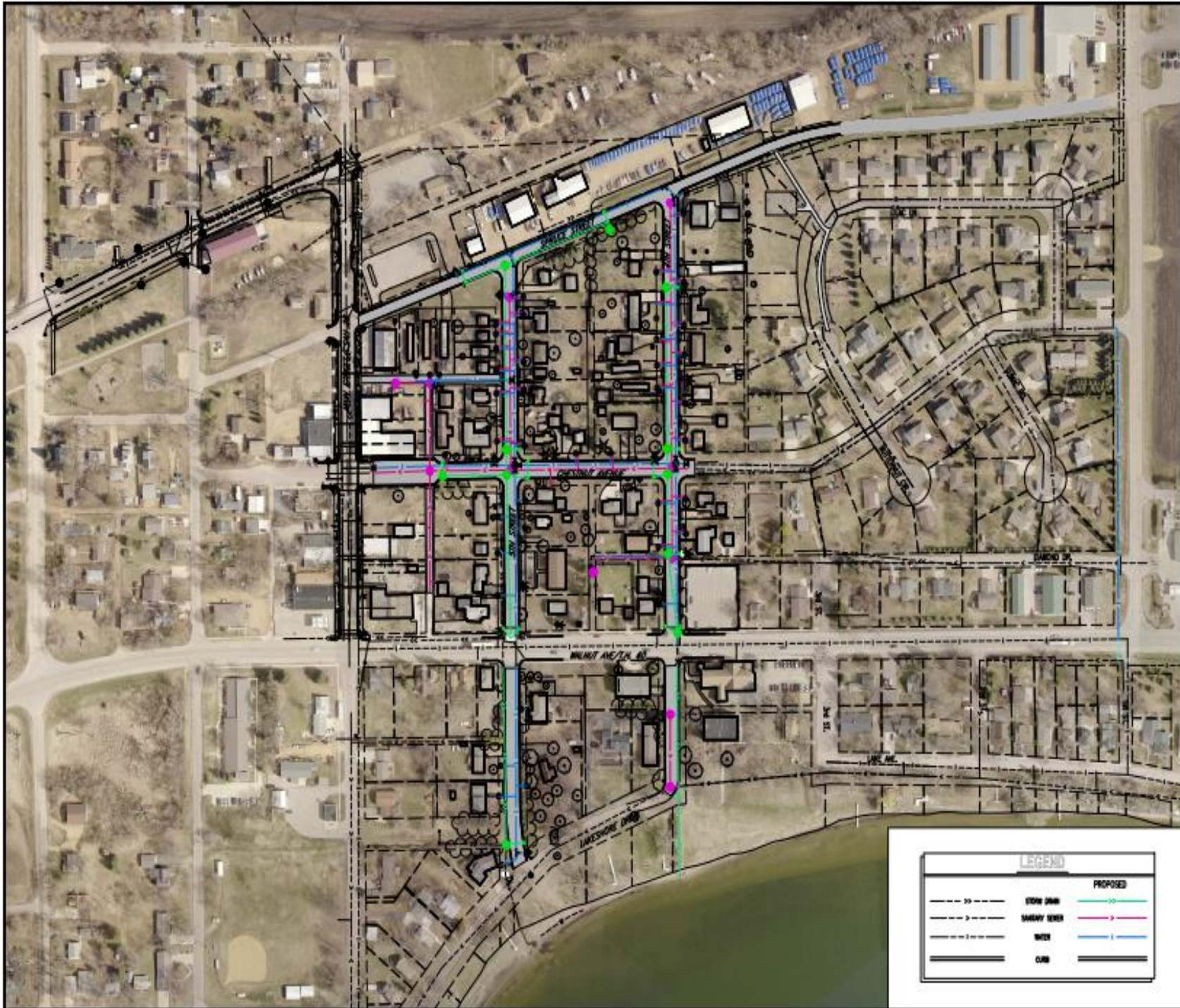


## DRAINAGE IMPROVEMENTS

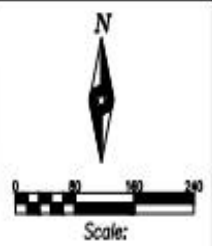
- “ Typical design standards require drainage infrastructure to be designed for a 10-year rainfall event (10% chance of occurring within a given year)
- “ Drainage from north of Sakatah Trail to be tied directly into storm sewer systems
- “ Overland overflows to be provided to provide secondary drainage of bowl area between 4<sup>th</sup> & 5<sup>th</sup> Streets
  - Spruce Avenue could be lowered in some locations as a result
- “ Subdrainage to be added along each street will also provide outlet for sump pump discharges



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**2015 STREET IMPROVEMENTS**

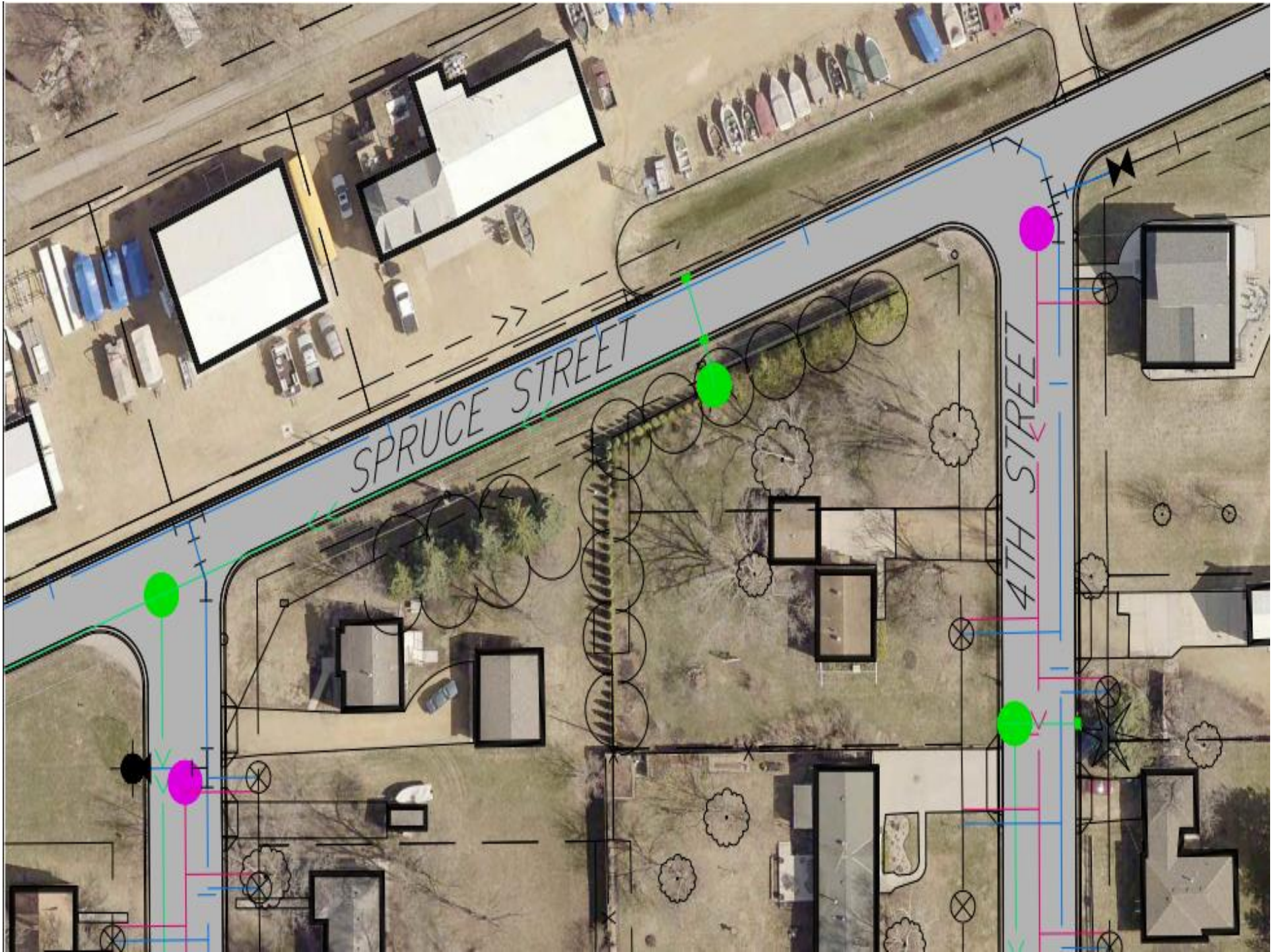
REVISION SCHEDULE	
NO.	DESCRIPTION

PROJECT NO.	13324
FILE NAME	13324.PRI01A
DRAWN BY	JAG
DESIGNED BY	CSJ
REVIEWED BY	CSJ
DATE PLOTTED	8/20/15
CUSTOMER PROJECT NO.	

**PROJECT AREA**

LEGEND	
PROPOSED	
	STORM SEWER
	SANITARY SEWER
	WATER
	CURB







## STREET IMPROVEMENTS

- “ Streets to be reconstructed with urban sections, including concrete curb & gutter
- “ 4<sup>th</sup> & 5<sup>th</sup> Streets and most of Chestnut Avenue to be 32-foot wide to allow two-way traffic and parking on one side
- “ Western portion of Chestnut Avenue within commercial area to be slightly narrowed such that the power poles are located behind the curb
- “ Spruce Avenue to be 24-foot wide to allow two-way traffic
- “ Depending on soil conditions, pavement sections will likely include:
  - Subgrade Preparation
  - Geotextile Fabric
  - 10 inches MnDot Class 5 Aggregate Base
  - 3.5 inches Bituminous Pavement



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## STREET IMPROVEMENTS

- “ Eastern portion of Spruce Avenue to receive mill & overlay
- “ Portions of Spruce Avenue may be slightly lowered in order to accommodate provision of overflow for bowl area
  - Lowering of road to be balanced with needs for detaining water on north side of Spruce Avenue and with the driveway grades and access requirements of the business on north side of Spruce Avenue



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## SUBSURFACE DRAINAGE IMPROVEMENTS

- “ 6-inch perforated drain tile will be installed behind the curb for the entire length of the street
  - Tile will remove moisture from the street section, making it less susceptible to frost action
- “ 4-inch service stubs will be provided to each property for the connection of sump pump discharge lines



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## ALLEY & SIDEWALK IMPROVEMENTS

- “ Existing gravel alleys within Blocks 17 & 18 to be paved in addition to the necessary trench restoration from utility improvements
- “ Pedestrian Ramps to be reconstructed in accordance with current ADA standards
- “ Pedestrian route to be added to north side of Chestnut Avenue



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## OPINION OF PROBABLE COST

“ Total Estimated Project Cost, including contingency & soft costs:

Segment Description	Estimated Cost
Upper 5th	\$ 461,896.54
Upper 4th	\$ 585,107.56
Lower 5th	\$ 198,605.78
Lower 4th	\$ 133,090.81
Chestnut East (4th to 5th)	\$ 183,384.32
Chestnut Ave (Main to 5th)	\$ 183,578.51
Spruce (Main to Fasnacht Park)	\$ 330,681.50
Spruce Overlay	\$ 36,707.90
Block 17 Alley (Walnut to Chestnut)	\$ 40,442.50
Block 18 Alley (Chestnut to 4th St)	\$ 85,780.00
CSAH 26 Watermain Loop	\$ 74,817.50
Point Ave Watermain Loop	\$ 152,758.00
<b>TOTAL</b>	<b>\$ 2,466,850.91</b>



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## PROJECT COSTS & FUNDING

- “ Estimated costs based on recent bid results. Actual costs will be based on bid results and actual construction quantities. Costs include contingencies for unforeseen circumstances and soft costs such as surveying, engineering, contract administration, etc.
- “ Potential outside funding available for 5<sup>th</sup> Street Storm Sewer Improvements and watermain looping and replacement
- “ A portion of project costs to be specially assessed to the benefitted properties in accordance with the Minnesota Statute 429



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## SPECIAL ASSESSMENTS

- ” Preliminary Assessment Roll calculated based on City’s assessment policy
- ” Footages
  - Side footage on corner lots defined as the longest side and shall be assessed at 50% of the footage, or a minimum of 75 feet
  - Utilities to be assessed along shortest frontage only
- ” Watermain loops not assessed
- ” Mill & Overlay segment of Spruce Avenue not assessed



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## SPECIAL ASSESSMENTS

- “ 30% of utility costs to be assessed on a front footage basis
- “ 30% of street costs to be assessed on a front footage basis
- “ 50% of reconstructed sidewalk to be assessed on a front footage basis
- “ 100% of new sidewalk to be assessed on front footage basis
- “ 100% of alley pavement costs to be assessed on front footage basis
- “ 30% of reconstructed curb & gutter costs to be assessed on a front footage basis
- “ 100% of new curb & gutter costs to be assessed on front footage basis



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## PROJECT PROCEDURE & SCHEDULE

- ” City Council to Pass Resolution Ordering Feasibility Study – *Complete*
- ” City Engineer to Prepare the Feasibility Study - *Complete*
- ” City Council to Pass Resolution Calling for Public Hearing – *Complete*
- ” City Council to Pass Resolution Receiving Feasibility Study – *Anticipated Tonight*
- ” City Council to Hold Public Hearing on Improvement – *Tonight*
- ” City Council to Pass Resolution Ordering the Improvement and Preparation of Plans and Specifications – *Anticipated Tonight*
- ” City Engineer to Prepare Plans & Specifications – *Anticipated January – February 2015*



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## SPECIAL ASSESSMENTS

- “ Assessments will appear on 2016 Property Tax Statements
- “ Assessments assumed to be over a 15 year term at an interest rate of 5%, but actual term and interest rate will be dependent on the actual bond rates and terms obtained by the City
- “ Assessments can be deferred in accordance with Minnesota Statute 435
  - Owner is 65 years of age or older or retired by virtue of a permanent and total disability
  - Owner is a member of the Minnesota National Guard or other military reserves who is ordered into active military service
- “ Preliminary Assessment Roll provides estimate of the amount to be assessed to each property



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