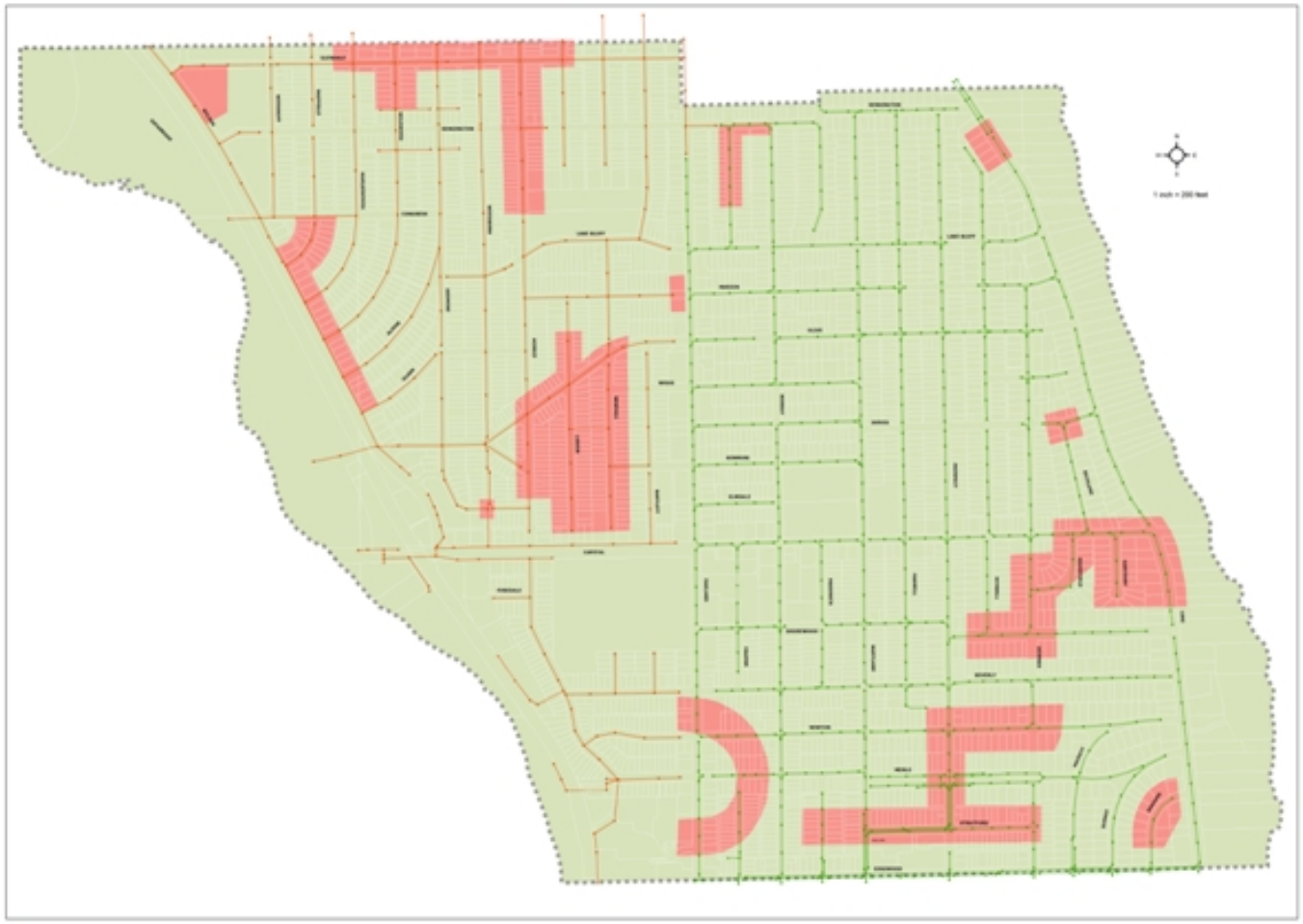
VILLAGE OF SHOREWOOD

Sewer System Information Meeting #4 02/08/2011

TONIGHT'S GOALS

- Recap of study findings and proposed implementation plan
- Public feedback from Dec. 13 meeting
- Engineers Plan Review Meeting
- Next Steps

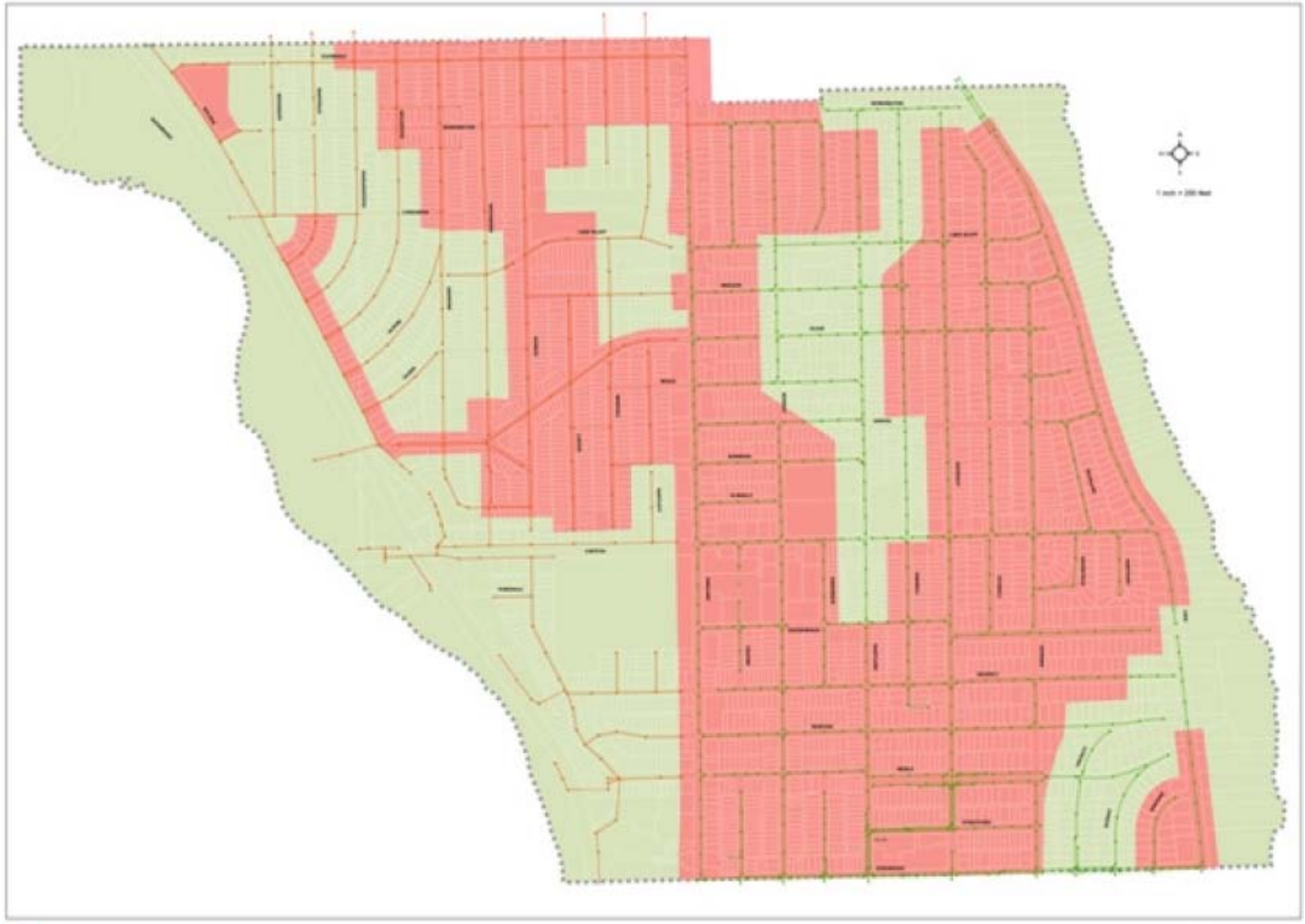
2 INCH-1 HOUR RAIN



Village of Shorewood Sewer Backup Risk Zones - Exisiting

Bonestroo

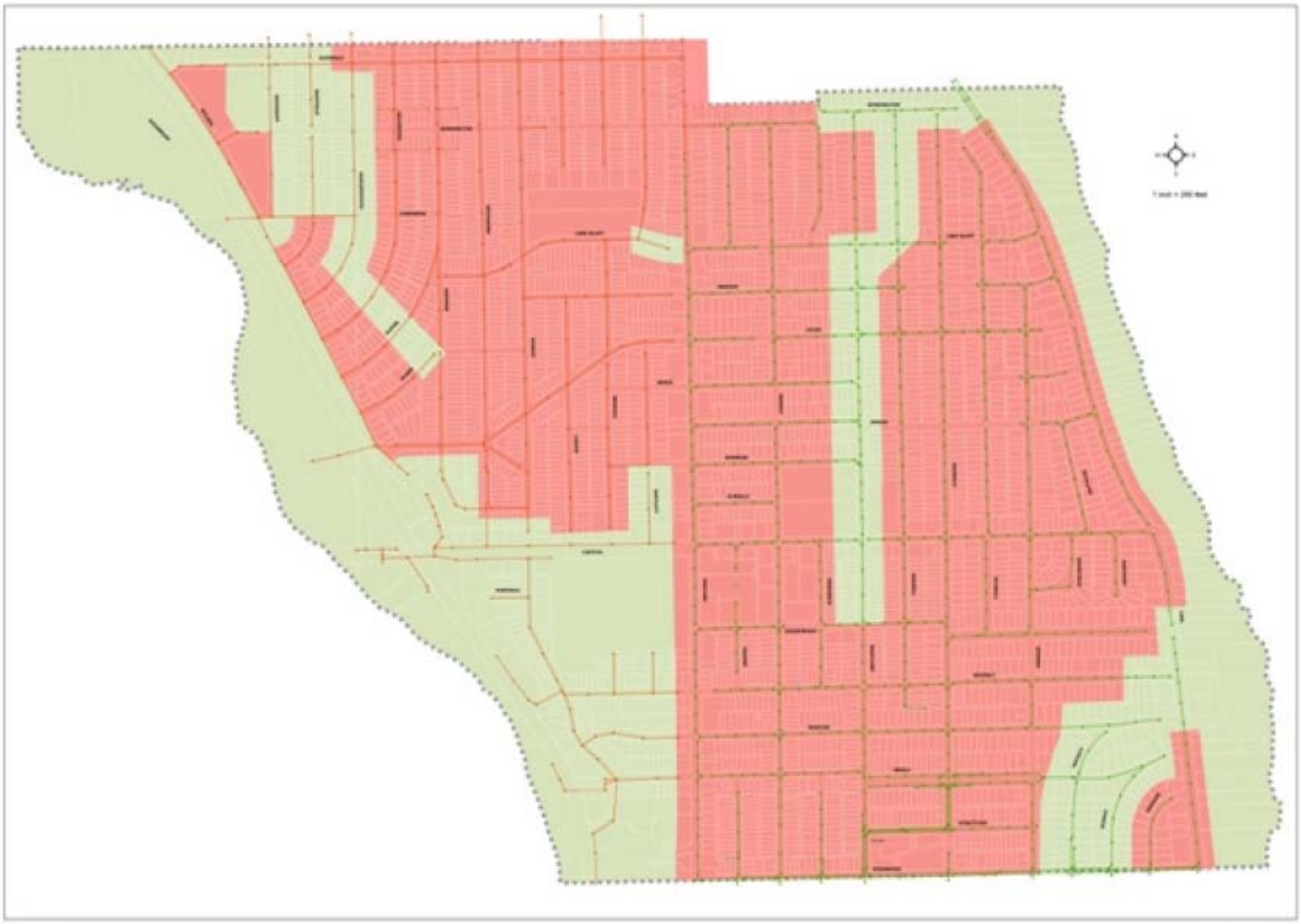
3 INCH-1 HOUR RAIN



Village of Shorewood Sewer Backup Risk Zones - Exisiting

Bonestroo

4 INCH-1 HOUR RAIN



Village of Shorewood Sewer Backup Risk Zones - Exisiting

Bonestroo

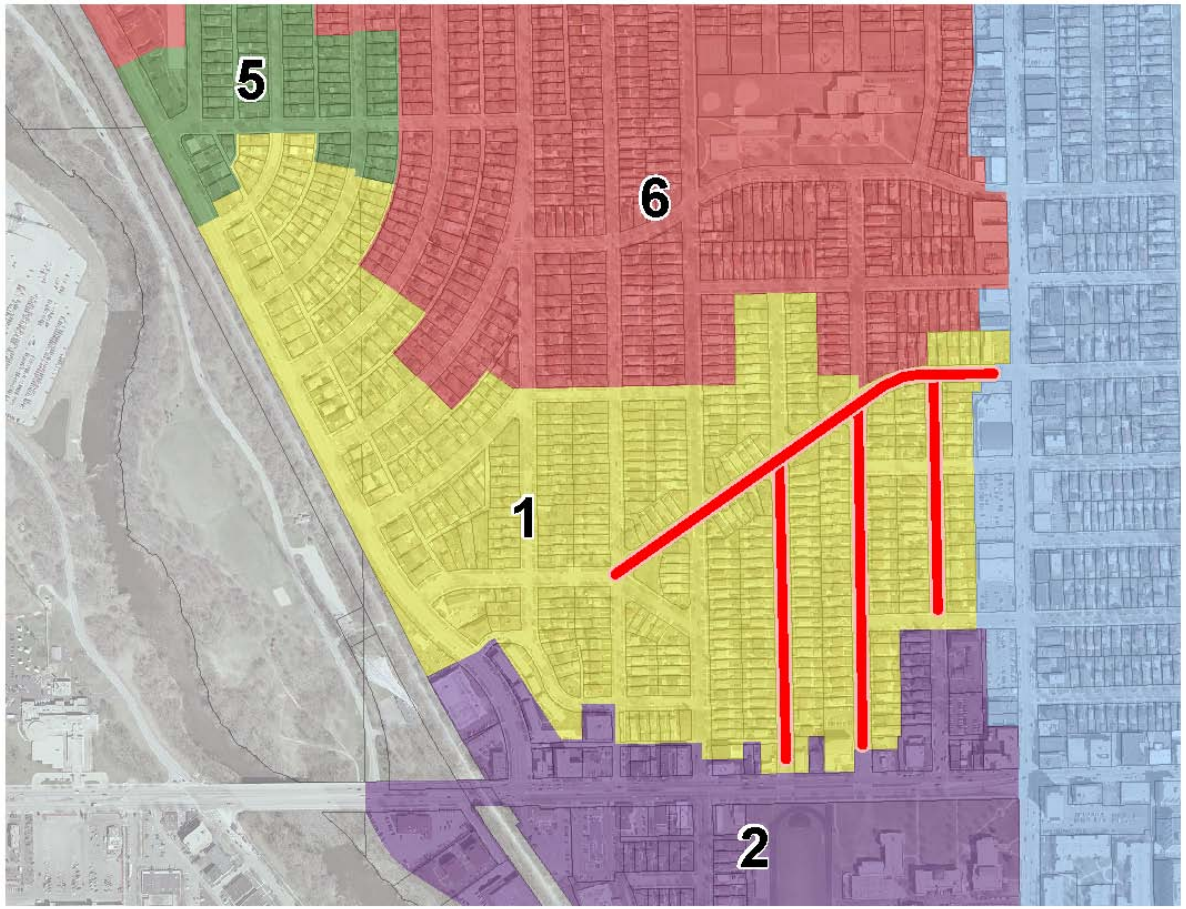
IMPLEMENTATION PLAN

- Based on the findings of the comprehensive sewer system study, the Village has drafted an implementation plan
- The plan was first presented at the December 13 public meeting
  - Staff continues to refine
  - Review and S.W.O.T. analysis by other engineers
- Plan is based on 4 GOALS and a list of financial principles…

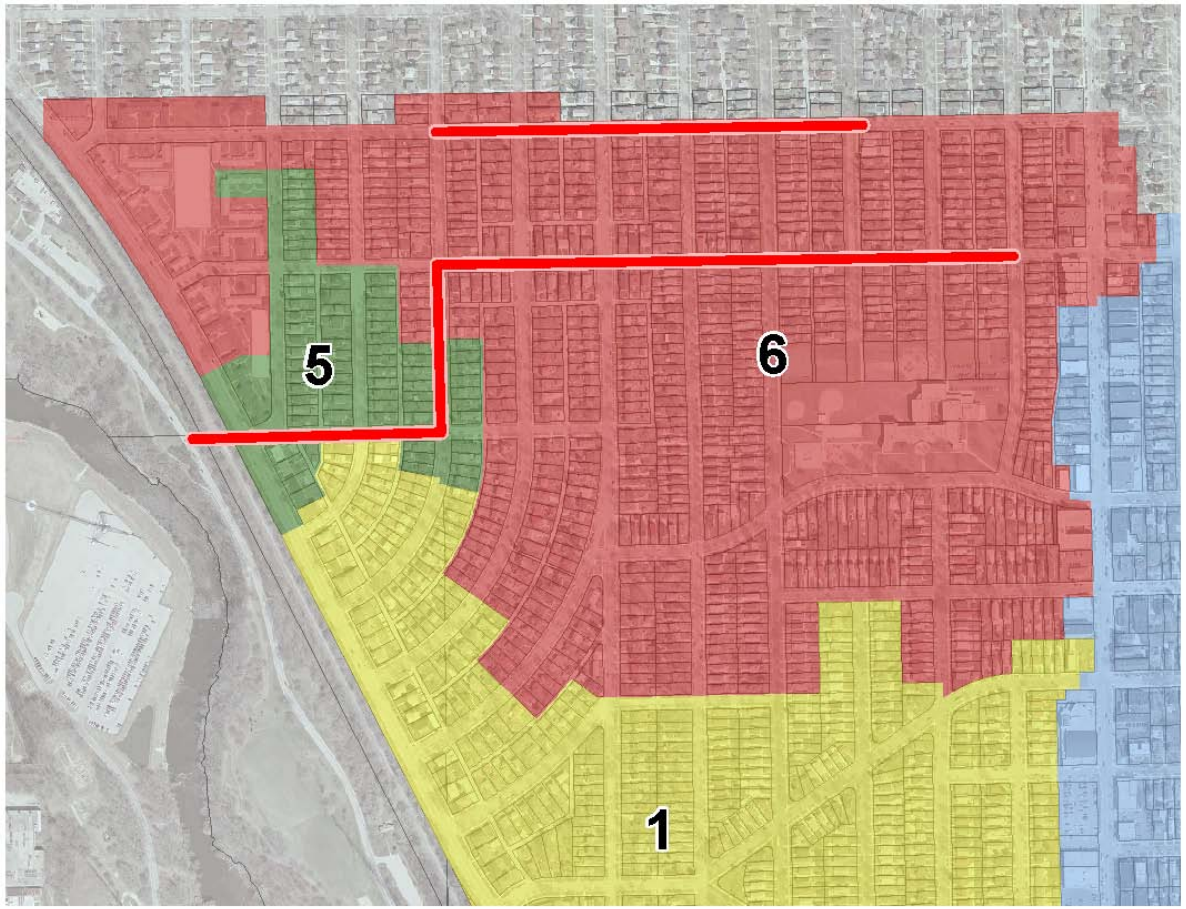
GOAL 1

- **GOAL 1: Provide basement back-up protection for 2 inches of rain in 1 hour throughout the Village by 2015**
  - Sanitary sewer replacement and reconfiguration in Basins 1 and 6
  - Combined sewer capacity increase project near Downer Ave. in combined sewer area
  - Virtual separation projects in combined sewer area
  - Coordinate street replacement program with these projects
  - Vigorously restrict cross connections between sanitary and storm sewer pipes
  - Coordinate road reconstruction with storm sewer projects
  - Coordinate with "green" concepts (i.e. water storage basin)

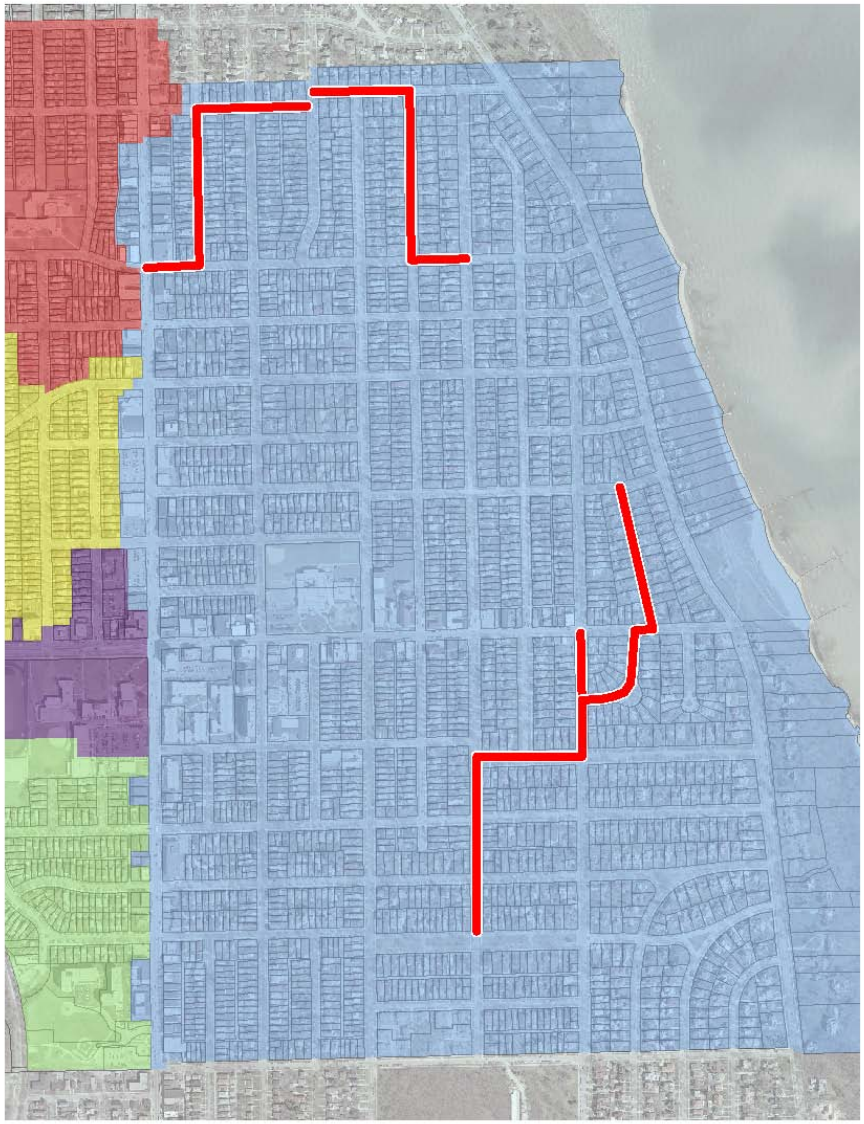
BASIN 1 PROPOSED SANITARY SEWER



BASIN 6 SANITARY SEWER PROJECTS



NEW COMBINED SEWERS



GOAL 1 – SUMMARY

Location	Project	Cost with Inflation	Proposed Timetable
Basin 1	Sanitary Sewer Construction	$2,000,000	2011
Basin 6	Sanitary Sewer Construction	$3,000,000	2011
Combined Area	Combined Sewer Upgrades	$3,473,144	2011, 2013
Combined North	Virtual Separation (Storm sewer)	$714,275	2014
Combined South	Virtual Separation (Storm sewer)	$2,497,624	2015
		$11,685,043	

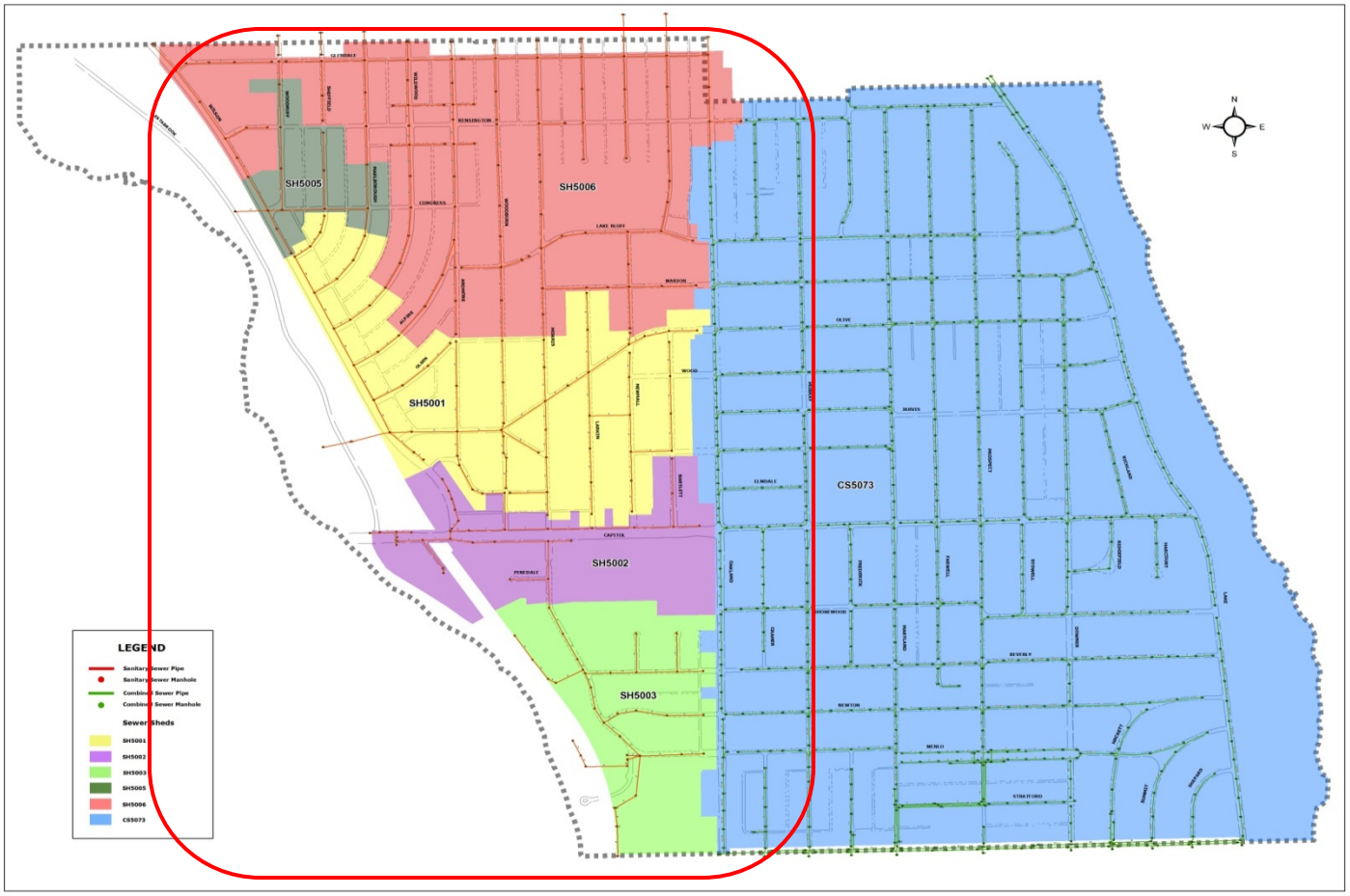
GOAL 2

- **GOAL 2: Reduce Inflow and Infiltration (I&I) in separated area by 40% by 2035 and 80% long-term, for back-up protection for 4 inches of rain in 1 hour**
  - Private sanitary lateral replacement – 40% reduction in I&I by 2035
    - Basin 1 – Up to 400 homes
    - Basin 2, 3, 5 – Up to 250 homes
    - Basin 6 – Up to 700 homes
    - Basin 1 laterals will be highest priority, however the timing of all replacements will be coordinated with other sewer construction projects

GOAL 2

- **GOAL 2, continued…**
  - Foundation drain disconnection – 80% reduction in I&I long-term
    - Foundation drain disconnection would be required upon the sale of homes per the Village Code Compliance Program
    - The Village would provide a subsidy for property owners who complete foundation drain disconnection at the time of completing lateral replacement

SEPARATED SANITARY SEWER AREA



Village of Shorewood Sewer Basin Map

1 inch = 200 feet

Bonestroo

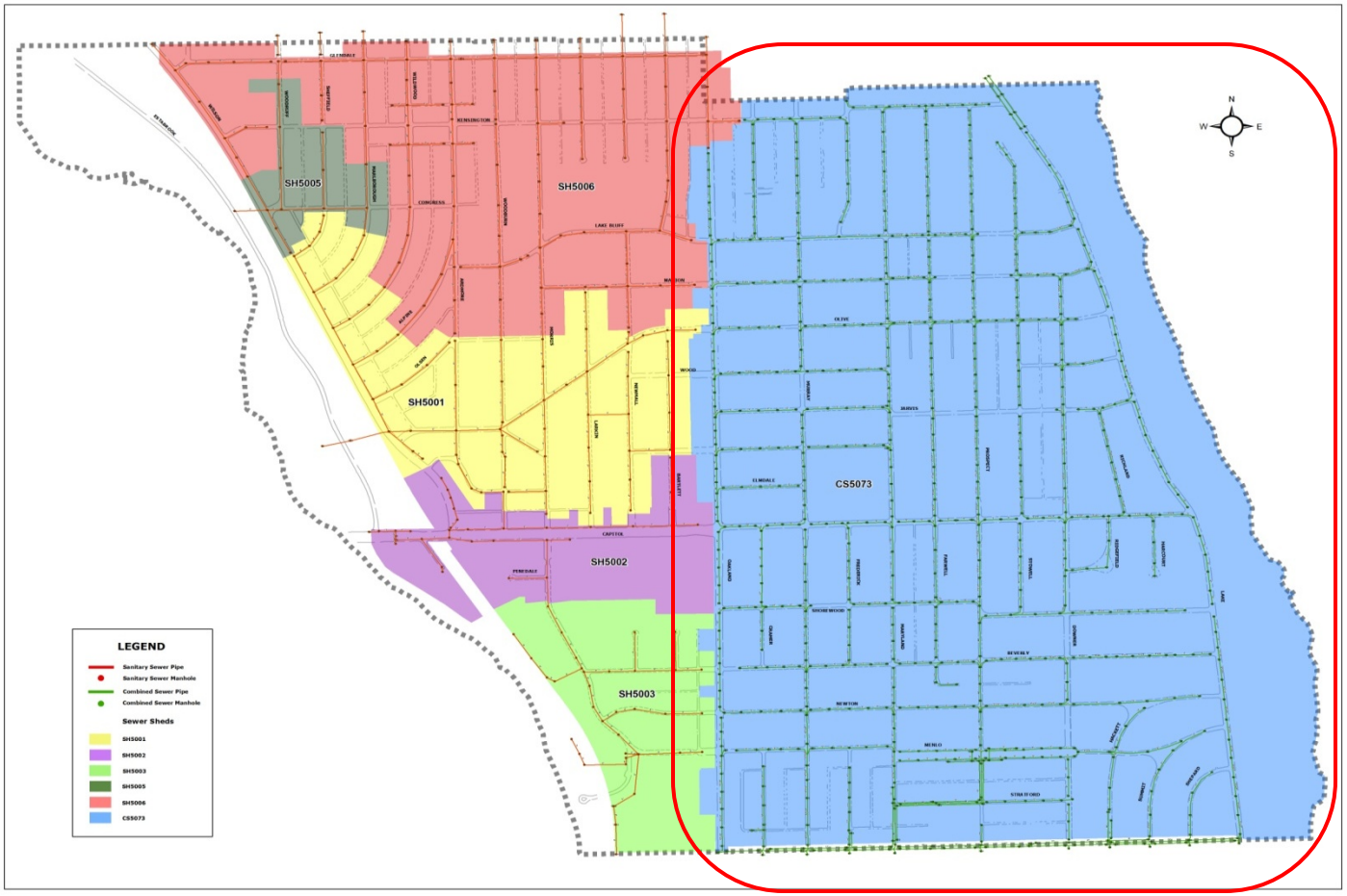
GOAL 2 – SUMMARY

Location	Project	Reduction of I&I in Basin After Project	Cost with Inflation (3% per year)	Proposed Timetable
Basin 1	Lateral Rehab Program	40%	$2,526,471	2011-2016
Basins 2, 3, and 5	Lateral Rehab Program	40%	$2,555,881	2019-2027
Basin 6	Lateral Rehab Program	40%	$5,693,831	2028-2033
All Areas	Foundation Drain Disconnect	80%	$3,645,926	Ongoing
		Total	**$14,422,109**	

GOAL 3

- **GOAL 3: Separation of the sanitary and storm sewer in the combined area will be completed by 2035, resulting back-up protection against a minimum of 4 inches per 1 hour in this area**
  - Completed in 6 phases
  - Priority: southwest portion of combined area

COMBINED SEWER AREA

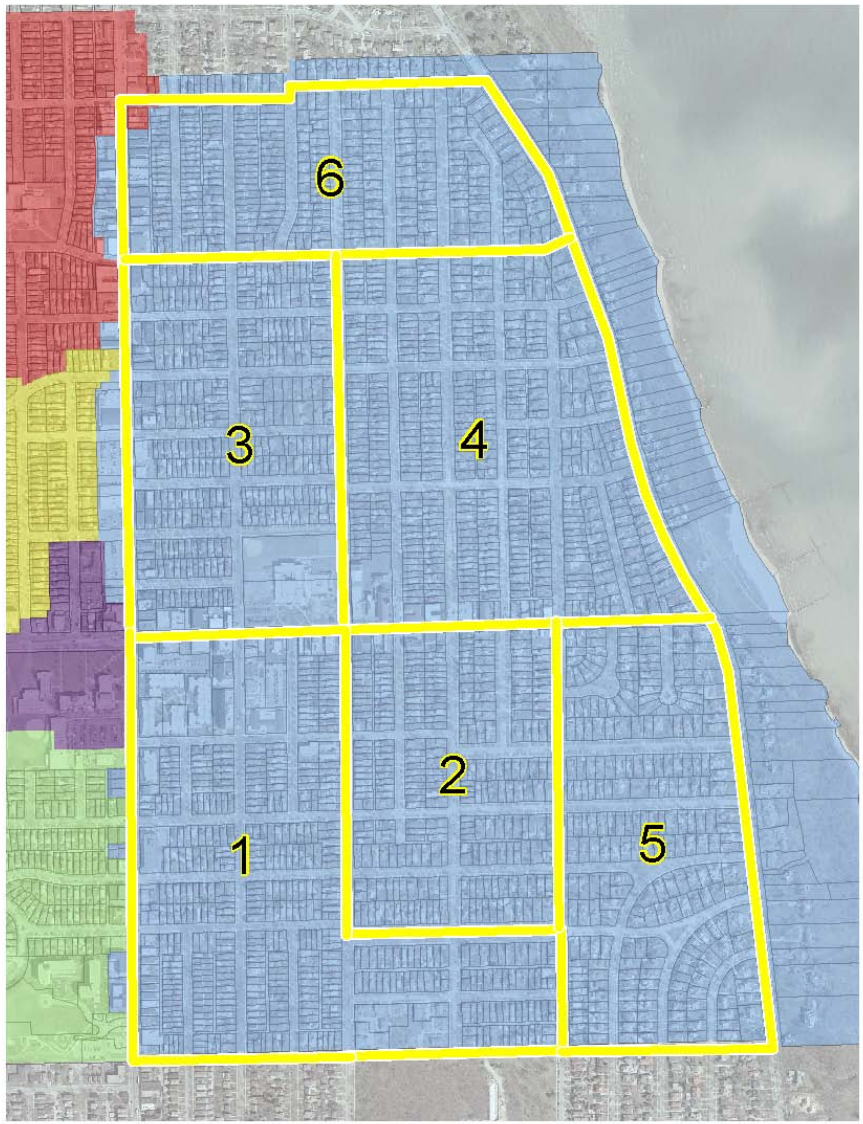


Village of Shorewood Sewer Basin Map

1 inch = 200 feet

Bonestroo

PHASED SEPARATION



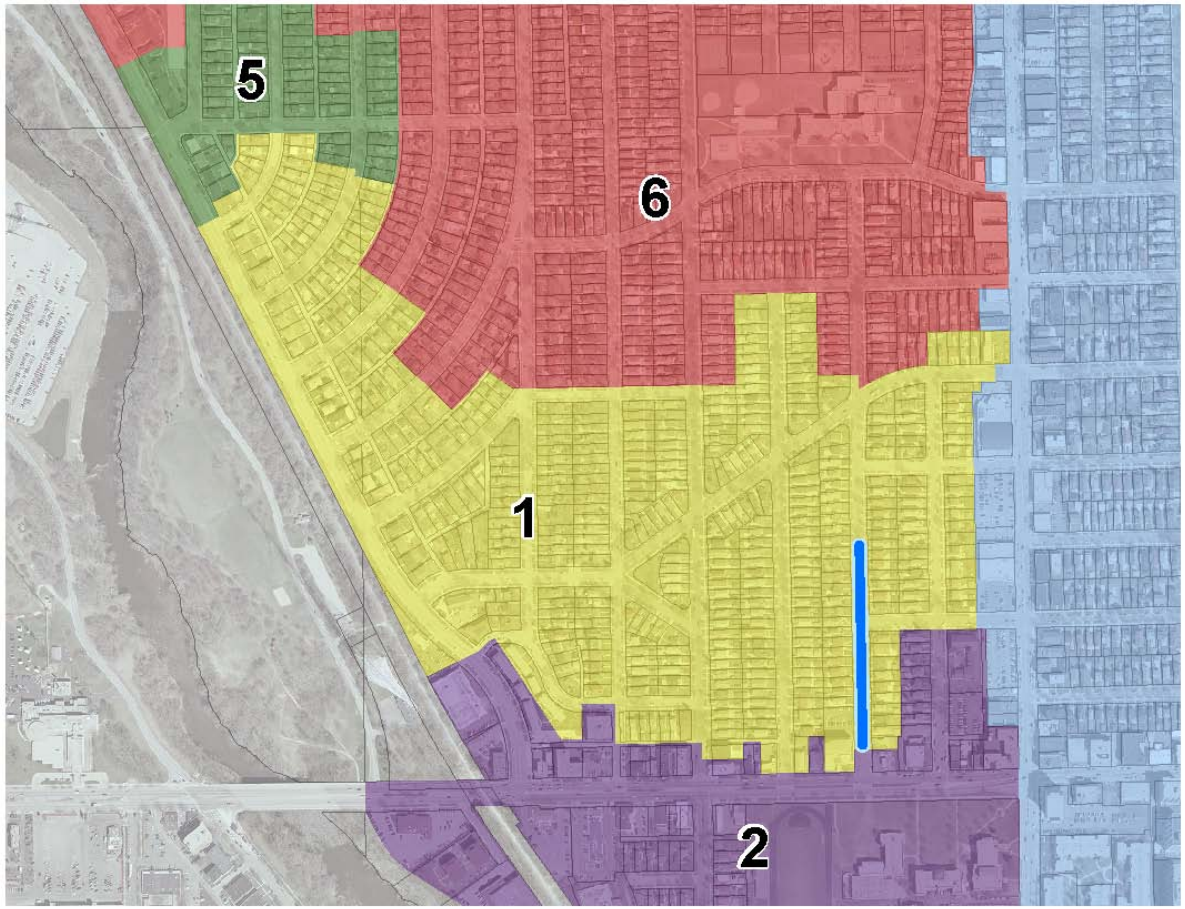
GOAL 3 - SUMMARY

Project	Location in Combined Area	Number of Homes	Approx. Public Pipe Cost	Approx. Private Lateral Cost	Proposed Timetable
Phase 1	Southwest ("L")	436	TBD	2,859,601	2013-2015
Phase 2	Maryland to Downer, Capitol to Menlo	254	TBD	1,820,476	2016-2018
Phase 3	Oakland to Maryland, Lake Bluff to Capitol	264	TBD	2,067,363	2019-2021
Phase 4	Maryland to Lake, Lake Bluff to Capitol	425	TBD	3,637,001	2022-2024
Phase 5	Downer to Lake, Capitol to Edgewood	251	TBD	2,347,257	2025-2027
Phase 6	Oakland to Lake, Kensington to Lake Bluff	298	TBD	3,045,140	2028-2030
			$25,436,543	**$15,776,839**	

GOAL 4

- **GOAL 4: Reduce street flooding throughout the Village to provide a minimum of 2 feet freeboard during 3 inch per hour rainfall by 2020.**
  - Storm sewer upsizing and reconfiguration projects in Basins 1 and 6
  - Virtual separation in combined area (also listed in GOAL 1)
  - Seek MMSD pipe increase from Oakland Ave. to deep tunnel
  - Seek new drainage way from Oakland Ave. to Milwaukee River
  - Coordinate road reconstruction with storm sewer projects
  - Coordinate with “green” concepts (i.e. water storage basin)

GOAL 4 - PROPOSED STORM SEWER



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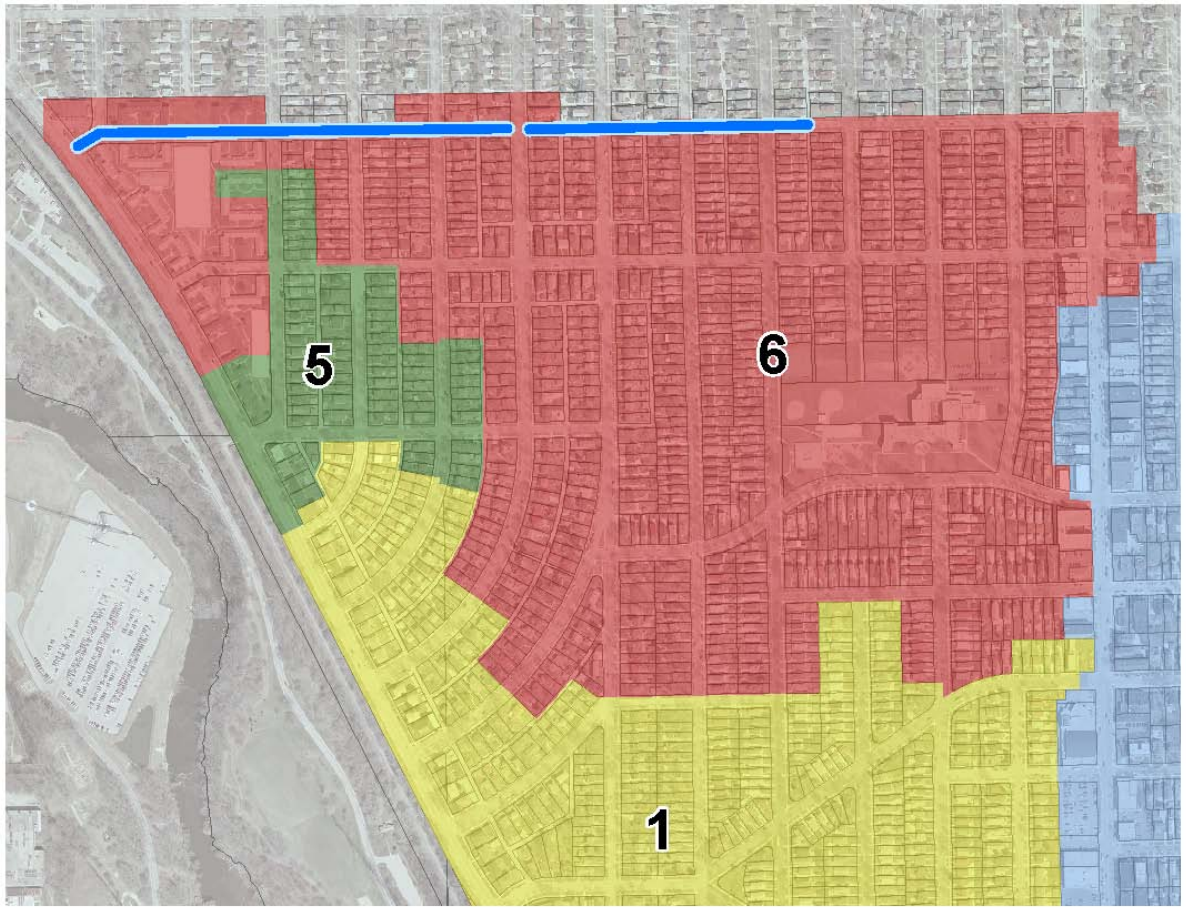

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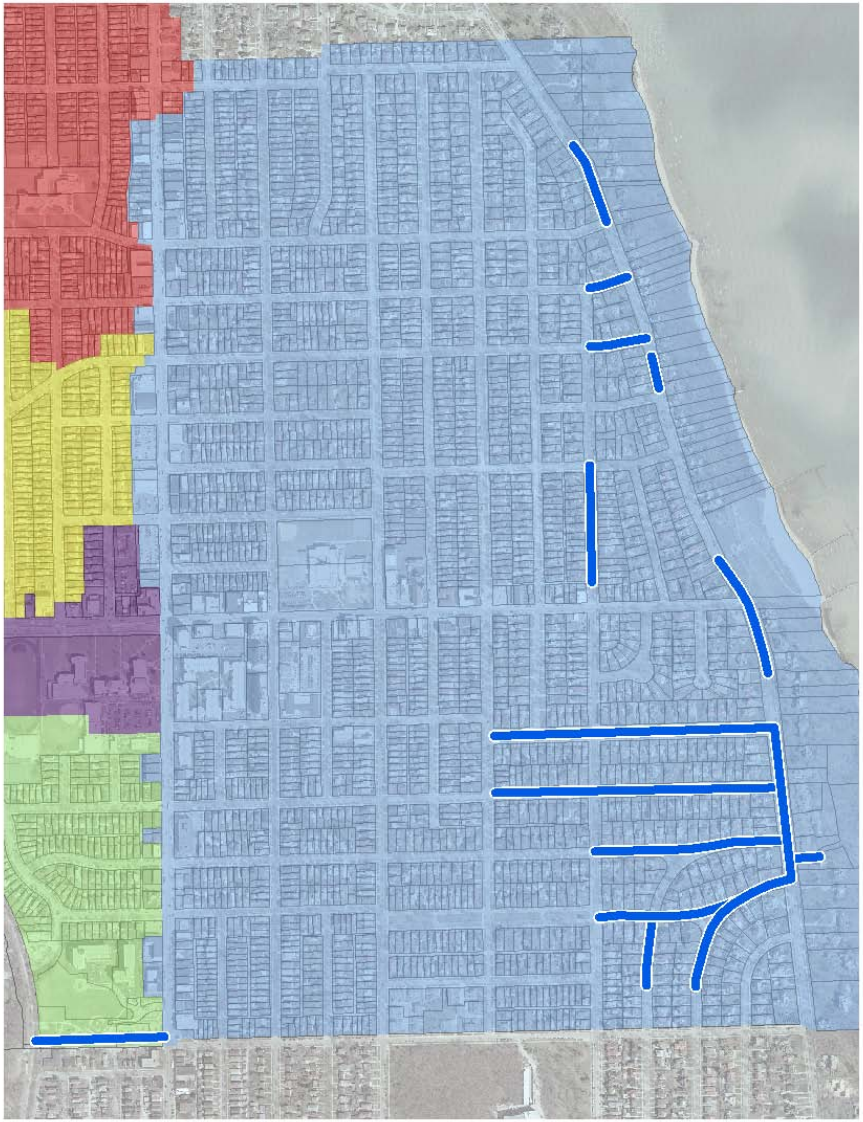


GOAL 4 – SUMMARY

Location	Project	Cost with Inflation (3% per year)	Proposed Timetable
Basin 1	Storm Sewer Construction	$300,000	2011
Basin 6	Storm Sewer Construction	$432,600	2012
		$927,000	2012
Combined North	Virtual Separation	*(funded in Goal 1)*	2013
Combined South	Virtual Separation	*(funded in Goal 1)*	2014
Combined South	MMSD pipe capacity increase	$1,060,900	2013
Combined South	Storm Sewer Construction	$273,182	2014
		$2,993,682	

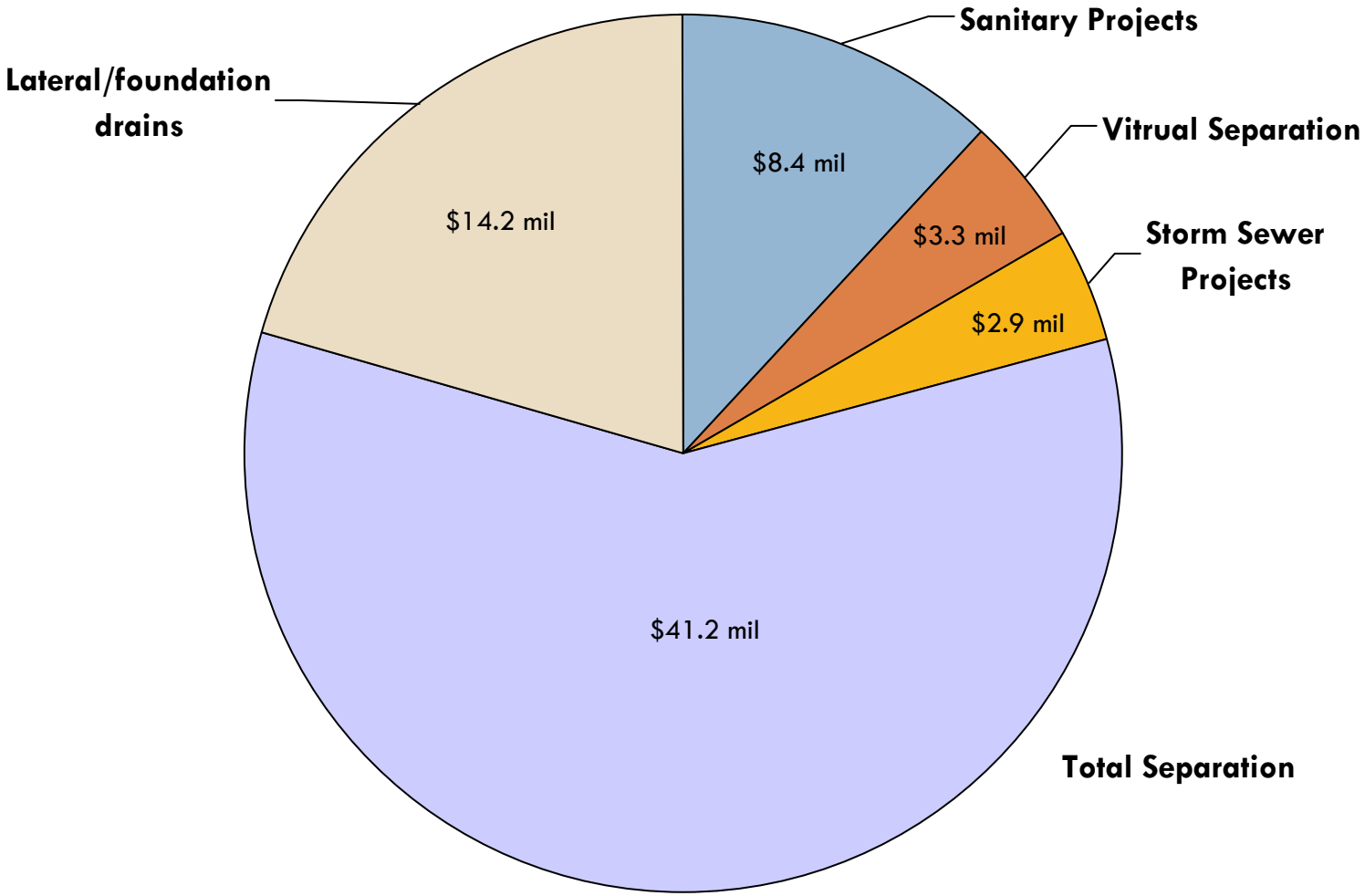
FINANCIAL PRINCIPLES

1. Storm sewer related expenses will be funded by a newly created Storm Sewer Utility Fund.
2. Public sanitary sewer related improvements will be funded by a mix of General Property Tax Levy and the existing Sanitary Sewer Utility Fund.
3. Village will seek federal, state, and MMSD grants and low interest loans.
4. A mixture of general obligation and revenue or special assessment bonds will be utilized.
5. Major sanitary/storm sewer borrowing will be funded for a term of 15 to 25 years.

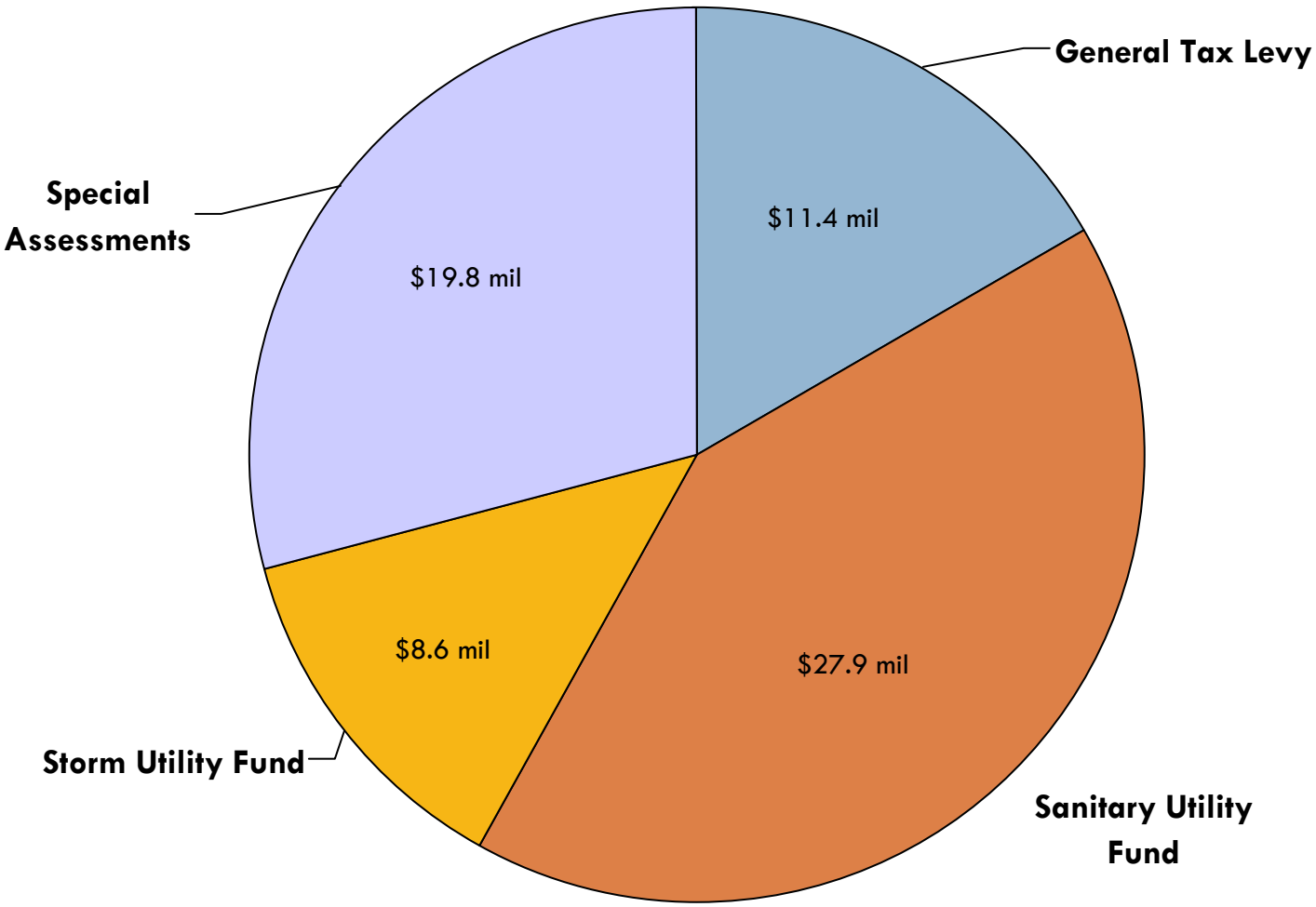
FINANCIAL PRINCIPLES, CONTINUED…

6. Debt service for general fund levy will not exceed _____ per thousand dollars of equalized value.
7. Debt service will not exceed __% of operating budget of sanitary sewer utility fund.
8. Special assessments will be used for new or replacement laterals, foundation disconnection or sump pump collection systems.
   - Subsidies will be made available to incentivize foundation drain disconnection at the time of lateral replacement.
   - Additional subsidies through Property Tax Levy will be considered when detailed costs are known.
9. Special assessments will be repaid over 10-15 years.

PROJECT COST COMPARISON



FUNDING SOURCE COMPARISON



ESTIMATED PROPERTY OWNER COST

Below is an estimated property owner cost, based on a scenario where the Village elected to do all projects and there were no grants or incentives.

	Year 1 2012	Year 5 2016	Year 10 2021	Note 2 Year 20 2031	Year 30 2041
Tax Levy Increase on a $300,000 Home	$ 42	$ 85	$ 127	$ 177	$ 61
Sewer User Fee Increase	37	133	235	512	224
Stormwater User Fee Increase	56	90	93	100	108
Total	$ 135	$ 308	$ 455	$ 789	$ 393
Special Assessment (Note 1)	815	815	815	815	815
Grand Total	$ 950	$ 1,123	$ 1,270	$ 1,604	$ 1,208

Note 1: The Special Assessment is only paid for a 10 year period, however the exact years of repayment will vary depending on the timing of the projects for that parcel.

Note 2: It is estimated that this would be the highest year's debt service.

RISKS

- MMSD limitations
- Community support
- Costs/Funding
- Organizational capacity
- Implementation/Timing

PUBLIC INPUT/CONCERNS

- Roundtable input from December 13 meeting:
  - **Plan Scale:**
    - Supportive of the phased, comprehensive approach
    - "Phase the fixes in relation to where the greatest amount of damage occurred"
    - Plan needs to address the "stigma," public relations side of the flood impact
  - **Funding Methods:**
    - Supportive of multiple funding sources
    - "Take advantage of economies of scale"
    - "Need to incentivize work on private properties"
    - "More specifics are needed"

PUBLIC INPUT/CONCERNS

- Roundtable input, continued:
  - **25 year timetable**
    - "25 years seems too long"
    - "Faster improvements are needed on properties that have major issues"
    - Perhaps help from the MMSD, EPA, state/federal government can help move up the timeline
  - **Communicating the plan**
    - "Continue the public meetings"
    - More advanced notice of meetings; use postcards, e-mail, online newspapers
    - "We will need to communicate the accomplishments/PR side of the plan"

PUBLIC INPUT/CONCERNS

- Roundtable input, continued:
  - **Other concerns:**
    - "Must take actions. Inaction=risks"
    - Replacement of laterals in Basin 6 needs to occur sooner
    - Reputation on community is important
    - Need to keep the public interested in this issue

ENGINEERS WORKSHOP

- Village has pre-qualified four engineering firms for 2011-12 sewer and road projects

- The Engineers met with Village staff for a workshop to analyze the proposed implementation plan:
  - S.W.O.T. analysis of each project (strength, weakness, opportunity, threats)
  - Engineers to develop Design Memorandum for each project
    - Proposed alternatives and cost detail

NEXT STEPS

- Finalize financial plans
- Negotiate agreements with engineers on projects
- Finalize timeline
- Recommendations to Village Board; Board considers engineering contracts
- Begin 2011 projects
- Schedule 2012 projects

THANK YOU

- Questions or Comments?