

Village of La Grange

Sewer Improvement Workshop September 22, 2014

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Director of Public Works**

Sewer Improvement Workshop

- July presentation discussed causes of flooding
- Intense Rain Events exceed capacity of sewers
- Results in overland flooding in depressional areas and combined sewer backups
- Purpose of presentation tonight is to discuss the process for identifying solutions to address flooding

Prioritization of Objectives

Staff recommended prioritization

Tier 1 – Overland flooding in depressional areas

50th Street and Spring Avenue

Sunset Avenue and Elm Avenue

Tier 2 – Combined sewer backups

Tier 3 – Rear yard flooding + Seepage

Identified Solutions – Tier 1 - Overland Flooding

50th Street and Spring Avenue Area

- 50th Street Storm Sewer
- Brainard Avenue Floodwall
- Plainfield Road Storm Sewer [MWRD + Cook County]

Sunset Avenue and Elm Avenue Area

- Maple Avenue Relief Sewer

Other activities

- Sewer Lining Program
- Televising Main Line Sewers

South of 47th Street Hydraulic Model

➤ **Goal:**

- Model flood mitigation solutions to determine expected performance of improvements in various rainfall events. Compare effectiveness of proposed solutions to expected cost.

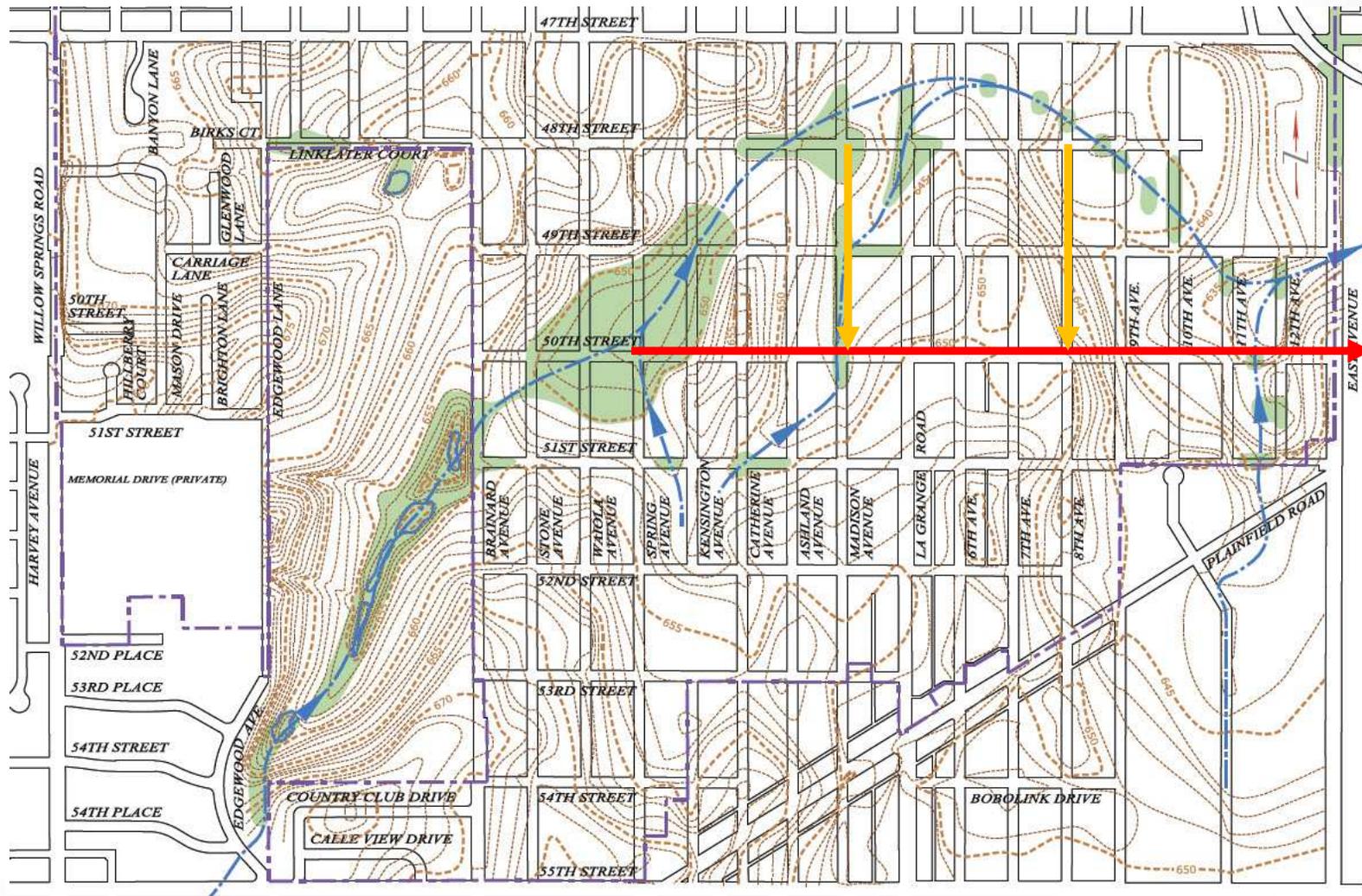
➤ **Scope of Work**

1. Model various storm sewer and floodwall alternatives
2. Identify alternatives for storm water outfalls
3. Collect geotechnical information
4. Develop cost estimates
5. Refine alternatives based on affordability of the different options
6. Present concepts, inundation maps, cost estimates and recommended alternatives to the Village Board

➤ **Cost - \$47,000**

➤ **Completion – November / December**

50th Street Storm Sewer Concept



50th Street Storm Sewer Concept

➤ **Estimated Cost - \$12.5 to \$15 million**

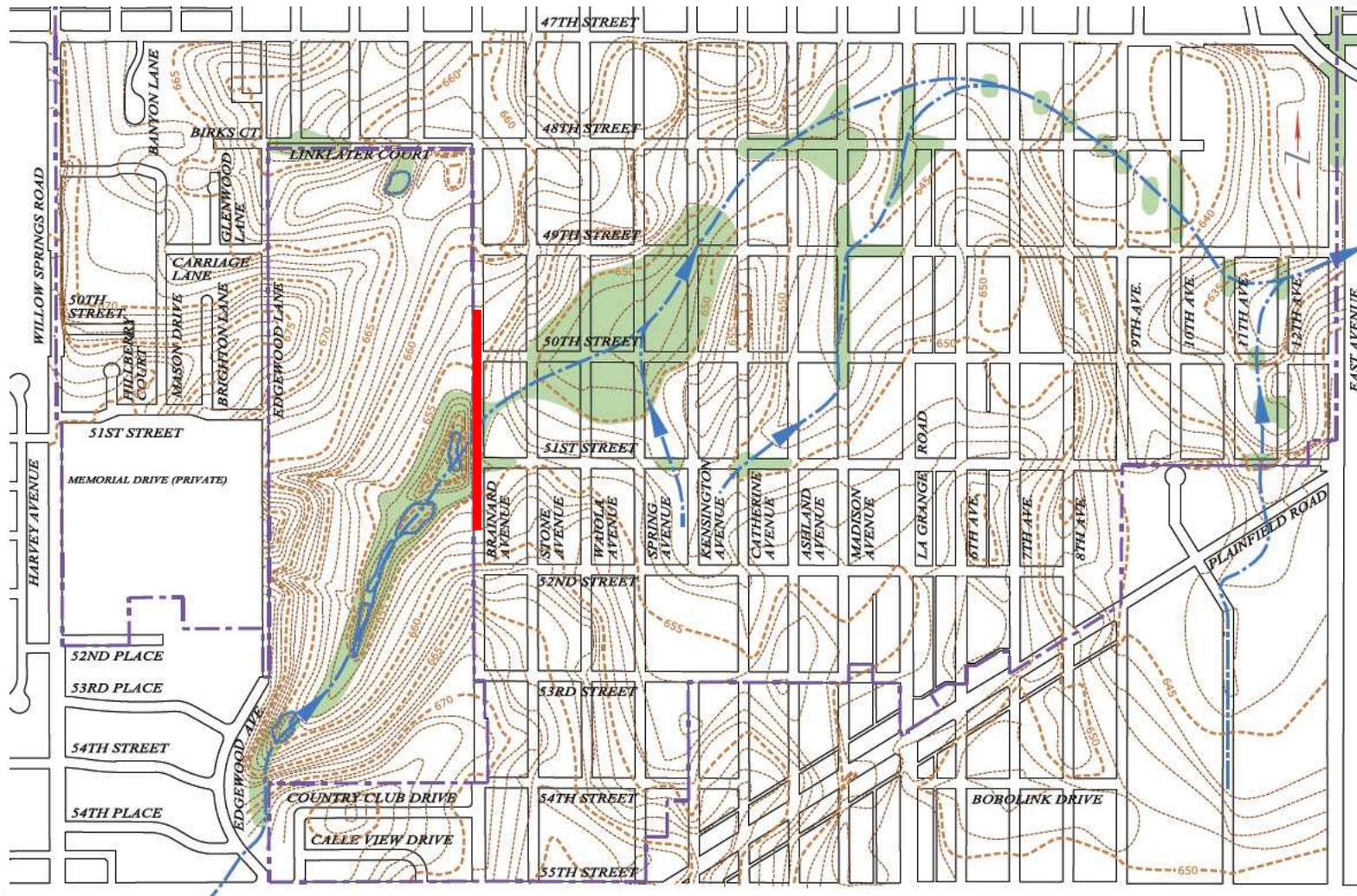
➤ **Next Steps**

1. Complete hydraulic model and study
2. Develop inundation maps showing expected performance
3. Collect geotechnical information specifically to determine rock elevations
4. Refine cost estimates
5. Present concept, inundation maps, and cost estimates to Village Board for consideration
6. Identify funding sources

➤ **Variables**

1. Funding – Identified work exceeds current resources
2. Need to identify outlet for storm water
3. Geotechnical conditions
4. Regulatory approval (MWRD, IDOT, IEPA, McCook)

Brainard Avenue Floodwall Concept



Brainard Avenue Floodwall Concept

- **Estimated Cost - \$1 million**

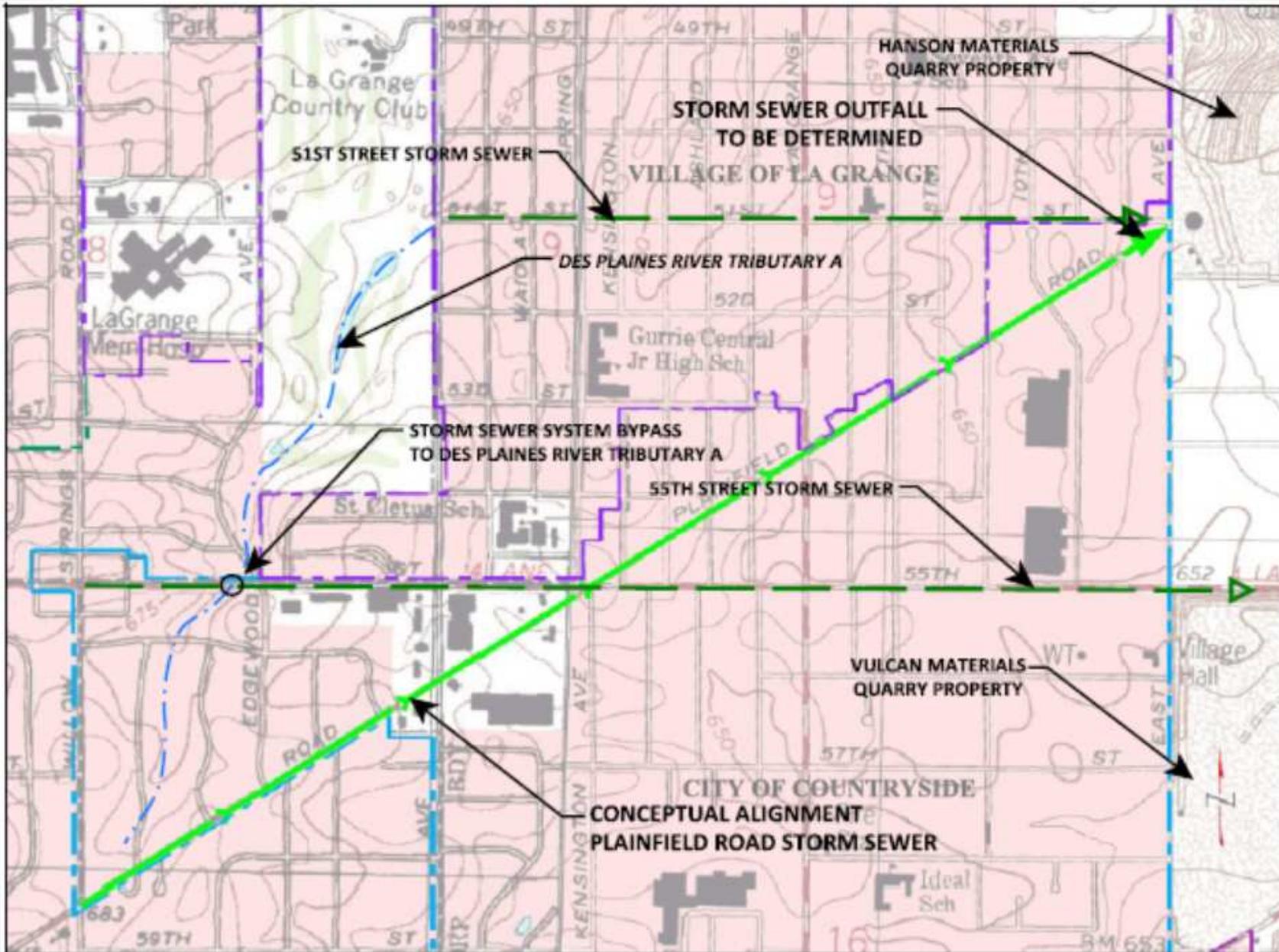
- **Next Steps**

1. Complete hydraulic model
2. Develop inundation maps showing expected performance
3. Refine cost estimates
4. Coordinate with La Grange Country Club
5. Present concept, inundation maps, and cost estimates to Village Board for consideration
6. Identify funding sources

- **Variables**

1. Stakeholder Coordination
2. Funding – Identified work exceeds current resources
3. Regulatory approval (IDNR, FEMA, Cook County)

Plainfield Road Interceptor Sewer Concept



Plainfield Road Interceptor Sewer Concept

➤ **MWRD is lead agency**

- Regional, multi-jurisdictional storm water improvement project
- In process of finalizing scope of work with consulting engineering firm

➤ **Estimated Cost – TBD – MWRD Funded**

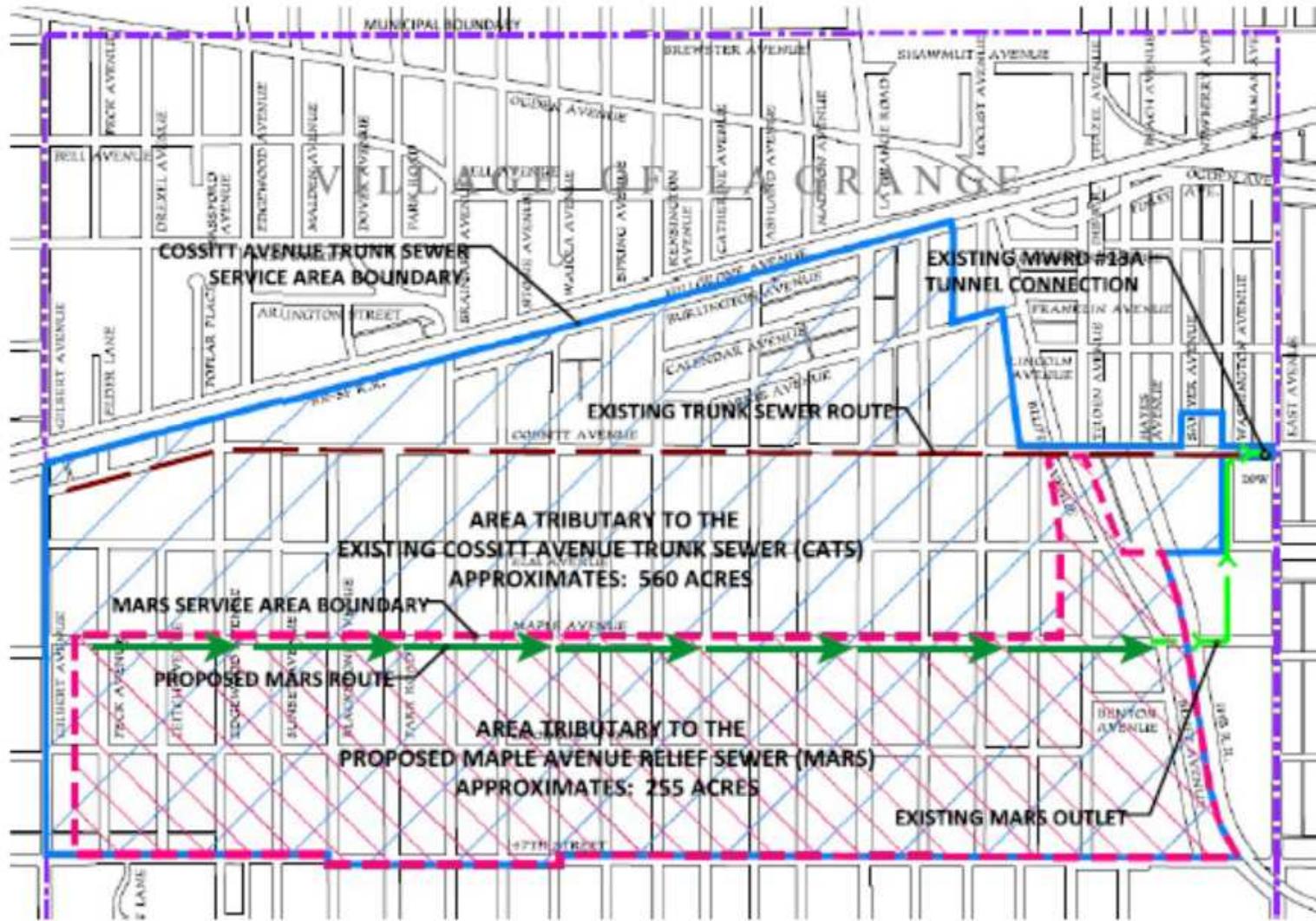
➤ **Next Steps**

1. Complete drainage study [1 year]
2. Develop alternatives and cost estimates
3. Identify and coordinate a storm water outlet
4. Present options as part of public involvement process

➤ **Variables**

1. Stakeholder Coordination (Quarry, IDOT, Cook County, La Grange, Countryside)
2. Regulatory approval (IDOT, IDNR, FEMA, Cook County)
3. Funding – Needs to be included in MWRD's multi-year improvement program

Maple Avenue Relief Sewer



Maple Avenue Relief Sewer

- **Identified solution for depressional areas of Sunset and Elm**
- **Estimated Cost - \$11.2 million (2009)**
 - Cost to date - \$5.8 million (Completed up to La Grange Road)
 - Future costs likely higher due to known subsurface conditions and inflation
 - FY2019-20 - \$1.75 million budgeted for next segment
 - FY2023-24 - \$1.65 million budgeted for future segment
- **Next Steps**
 1. Develop plans and specifications for next phase of project
 2. Refine cost estimates
 3. Identify funding sources
- **Variables**
 1. Access to deep tunnel system
 2. Geotechnical conditions
 3. Funding – Identified budget exceeds available resources



Sewer Lining Program



Emergency Sewer
Televising Program

300 Block of Peck Avenue

12" Combination Sewer



Sewer Lining Program

Emergency Sewer Televising Program

300 Block of Edgewood
Avenue

12" Combination Sewer



Sewer Lining Program



Emergency Sewer Televising Program

200 Block Brainard Avenue - 30" Combination Sewer

Sewer Lining Program

➤ **Current Budget For Sewer Lining**

- \$100,000 per year starting in FY2016-17

➤ **Emergency Sewer Televising Program**

- Identified 2,600 feet of sewer for immediate repair at an approximate cost of \$467,000
- This is only for sewers that were televised as part of emergency sewer televising program

➤ **Sewer Lining Program**

- Recommend lining sewer prior to additional deterioration
- Continue to coordinate sewer repairs with street resurfacing program when possible
- Additional sewer televising will most likely lead to additional sewers identified for repairs

➤ **Variables**

1. Funding - Identified work exceeds available budget

Clean and Televisive Main Sewer Lines

- **360,000 lineal feet of sanitary, storm and combined sewers**
- **Current Budget for Cleaning and Televising Sewers**
 - \$60,000 annually (\$25,000 - Capital Projects Fund and \$35,000 - Sewer Fund)
- **Prioritization of Assessment of Main Line Sewers**
 - Confirm they are operating properly as they serve as the backbone for all other sewers within the Village
 - Remove any debris within the sewers to re-establish optimal performance and capacity
 - Identify any required repairs to the sewers
 - Estimate remaining useful life
 - Identify long-term repair alternatives.
- **Bids were received**
 - Low Bid - Sheridan Plumbing \$173,614
- **Variables**
 - Funding - Identified work exceeds available budget

Clean and Televise Main Sewer Lines

FY2014-15 Sewer Televising Program	FY2014-15 BUDGET
Expenses	
Emergency Sewer Televising	17,230
Main Line Sewer Televising	219,154
Total	236,384
Funding Sources	
Capital Projects Fund – FY2014-15 Budget	25,000
Sewer Fund – FY2014-15 Budget	35,000
Capital Projects Fund - Reserves	176,384
Total	236,384

New and Unbudgeted Capital Needs

Project	Cost Estimate
Sewer Improvements – Tier 1	
Hydraulic Modeling	50,000
Sewer Televising – Main lines	175,000
Sewer Lining and Repairs	500,000
Brainard Avenue Flood Wall	1,000,000
50 th Avenue Storm Sewer	12,500,000
Subtotal	14,225,000
Other Capital Needs	
Police / Fire Boiler	185,000
Police / Fire HVAC Upgrades	275,000
Parking Garage – Coating Repair	150,000
Traffic Signal – Locust / Ogden	365,000
Subtotal	955,000
Total	15,200,000

Next Steps for Tier 1 Alternatives

- 1. Complete hydraulic model of alternatives south of 47th Street**
 - ✓ Model various storm sewer and floodwall alternatives
 - ✓ Identify alternatives for storm water outfall
 - ✓ Develop cost estimates for identified alternatives
 - ✓ Develop inundation maps showing expected performance of alternatives
 - ✓ Collect geotechnical information specifically to determine rock elevations
- 2. Present concepts, inundation maps, recommended alternatives and cost estimates to Village Board for consideration**
- 3. Identify funding sources**
- 4. Coordinate with other stakeholders**

Issues / Variables / Coordination Requirements

1. Engineering

- ✓ Confirm that identified solutions will function as designed
- ✓ Assess alternatives based on affordability

2. Regulatory

- ✓ IEPA, MWRD, IDNR, Cook County, IDOT, Army Corp of Engineers

3. Stakeholder Coordination

- ✓ Residents, La Grange Country Club, Hansen Quarry

4. Funding

- ✓ Refining cost estimates
- ✓ Referendum timing
- ✓ Grant application timing

Tier 3 Solutions – Reduce incidences of rear yard flooding

Tier 2 Solutions – Reduce incidences of combined sewer backups

- Ogden Avenue Relief Sewer
- Evaluation and installation of restrictors to store water on streets
- Continuation of yearly sewer televising program
- Downspout disconnection program