



**VILLAGE OF WINNETKA  
STORMWATER MASTER PLAN  
FLOOD RISK REDUCTION -  
ADDITIONAL STUDY AREAS**



**Flood Risk Reduction Assessment -  
Additional Study Areas**

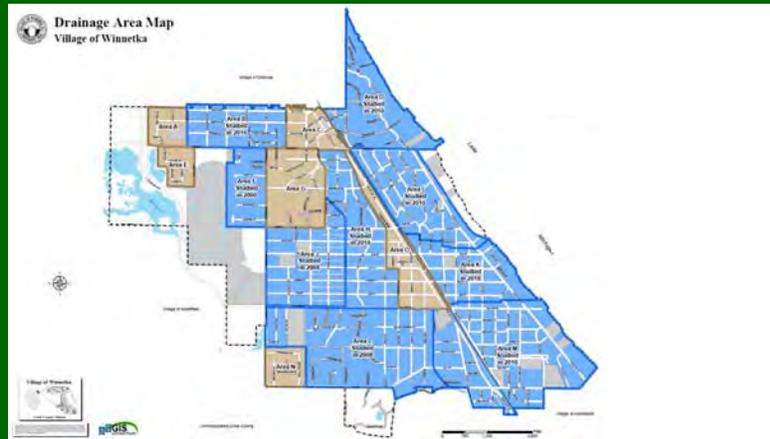
- Part of Scope of Work for Master Plan
  - Framework for key components of overall stormwater management program
  - Timeframe = 5 to 10+ years
- Supplements studies previously completed by CBEL and uses consistent methodology (100-year protection)
  - Flooding generally less severe, more street and yard
- Identifies possible improvements to include in long-range Stormwater Master Plan



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# Flood Risk Reduction Assessment - Additional Study Areas



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# Additional Study Areas



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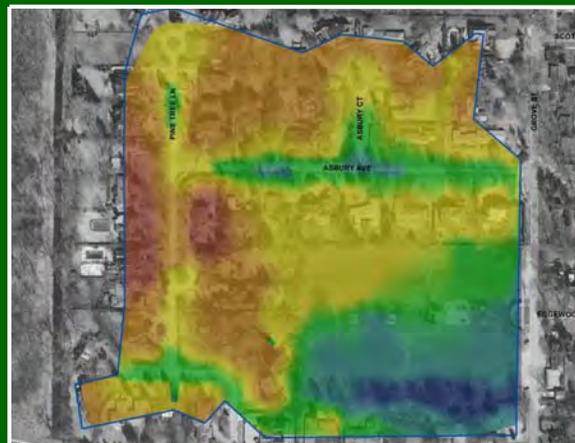
# Additional Study Areas



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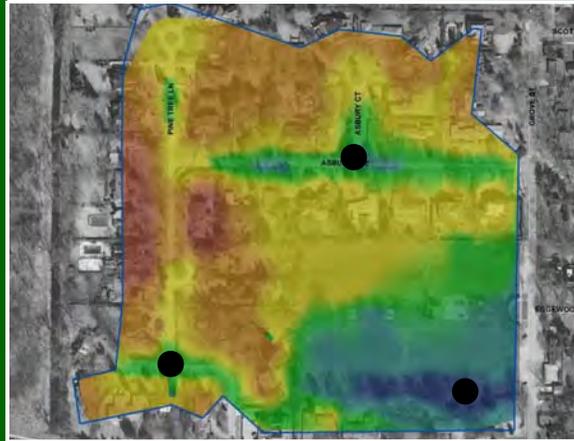
# Study Area A



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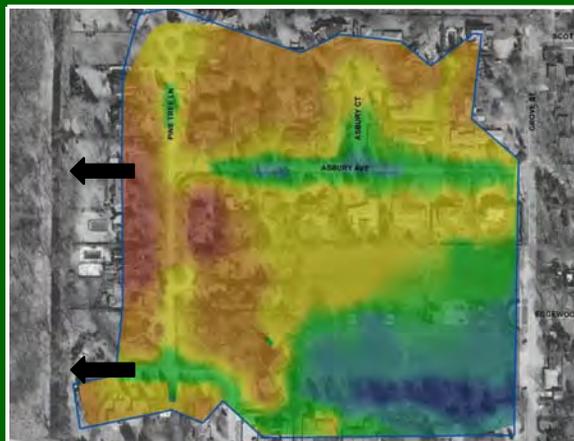
# Study Area A



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# Study Area A



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# Study Area A



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# Study Area A



- Ex 12"-18" Sewers Replaced with
- Pr 24"-36" Storm Sewers
- Pr 12" Storm Sewer Draining Corwin Park



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## Study Area A



- Ex 12"-18" Sewers Replaced with
- Pr 24"-36" Storm Sewers
- Pr 12" Storm Sewer Draining Corwin Park

Probable Cost = \$493,408



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## Study Area C



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# Study Area C



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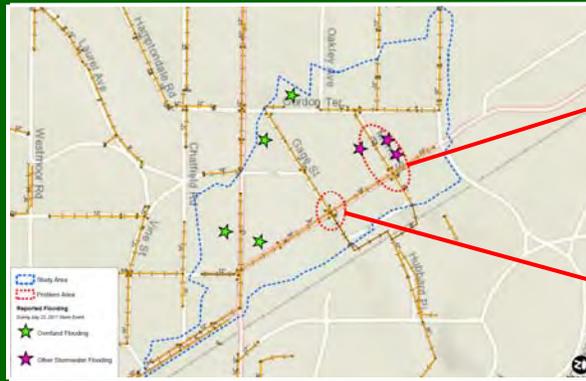
# Study Area C



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# Study Area C



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# Study Area C



## Alternate 1

- Disconnect from MWRD
- Ex 12"-36" Sewers Replaced with
- Pr 18"-48" Sewers



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## Study Area C



### Alternate 1

- Disconnect from MWRD
- Ex 12"-36" Sewers Replaced with
- Pr 18"-48" Sewers



Probable Cost = \$1,913,278

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## Study Area C



### Alternate 2

- Maintain Connection to MWRD
- Ex 12"-36" Sewers Replaced with
- Pr 18"-42" Sewers



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## Study Area C



### Alternate 2

- Maintain Connection to MWRD
- Ex 12"-36" Sewers Replaced with
- Pr 18"-42" Sewers

Probable Cost = \$1,668,341



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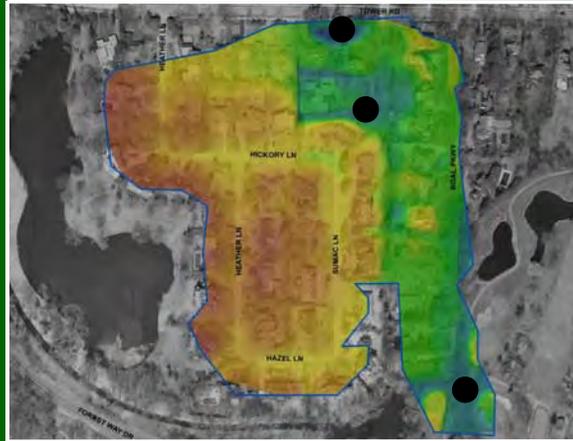
## Study Area E



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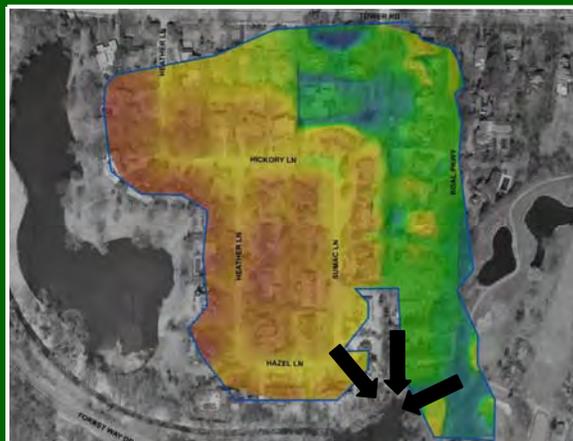
# Study Area E



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# Study Area E



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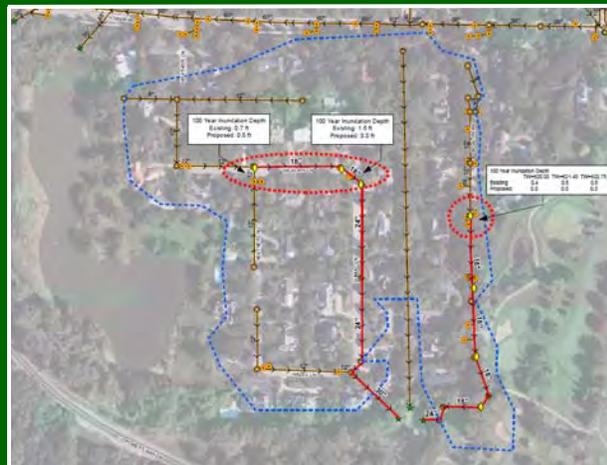
# Study Area E



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# Study Area E



- Ex 12"-24" Sewers Replaced with
- Pr 18"-30" Sewers



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# Study Area E



- Ex 12"-24" Sewers Replaced with
- Pr 18"-30" Sewers

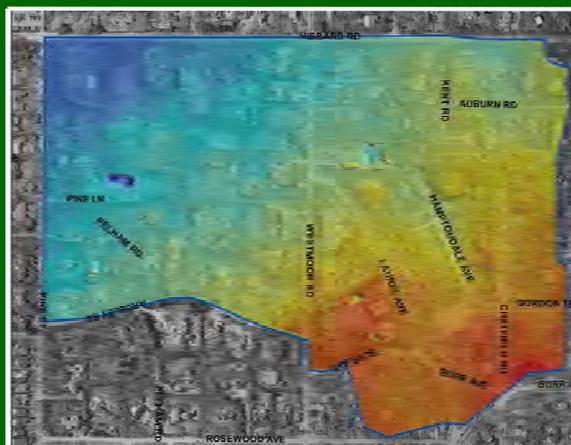
Probable Cost = \$862,755



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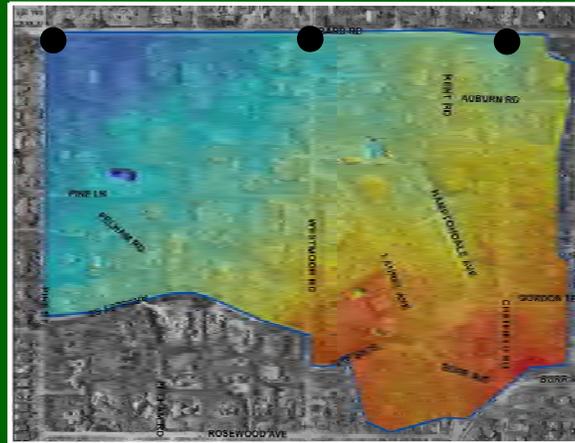
# Study Area G



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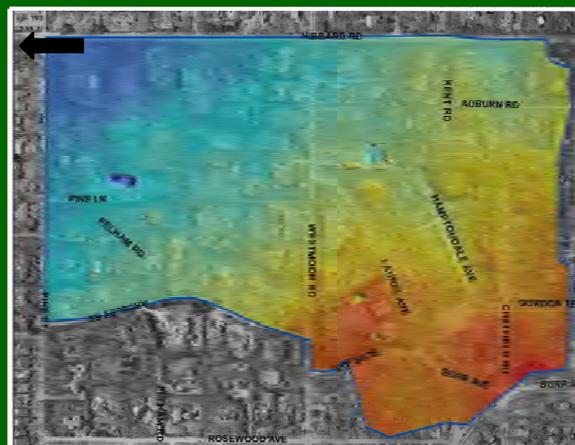
# Study Area G



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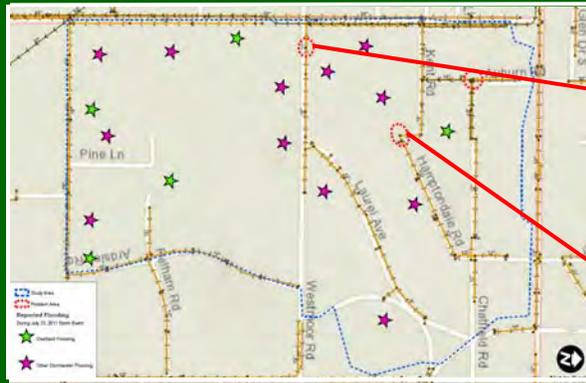
# Study Area G



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# Study Area G



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# Study Area G



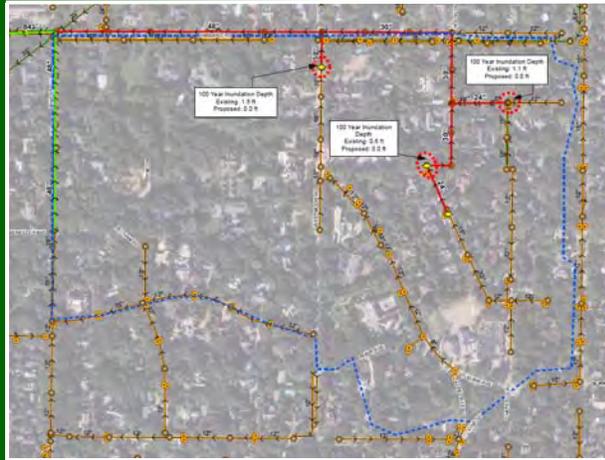
- Ex 15"-30" Sewers Replaced with
- Pr 24"-48" Sewers
- Connection to Planned 84" Sewer



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# Study Area G



- Ex 15"-30" Sewers Replaced with
- Pr 24"-48" Sewers
- Connection to Planned 84" Sewer

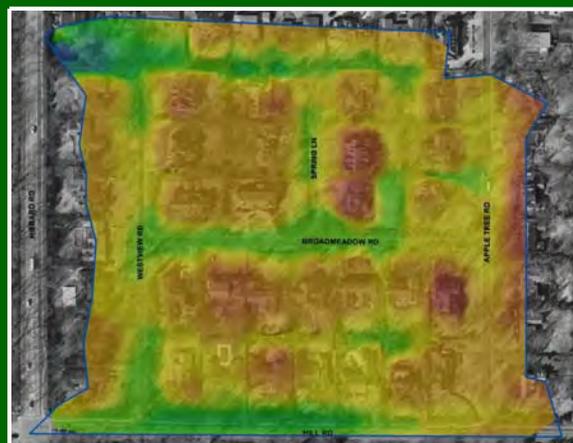
Probable Cost = \$1,961,270



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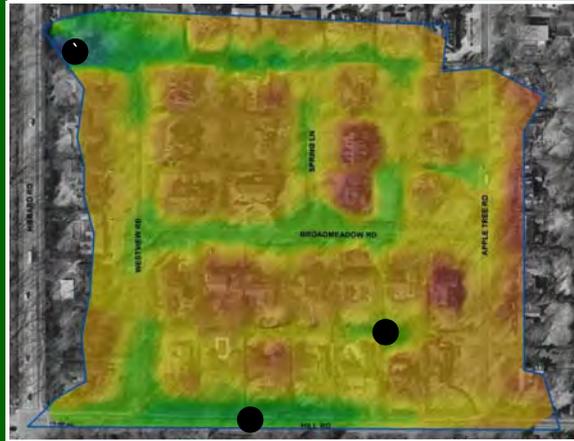
# Study Area N



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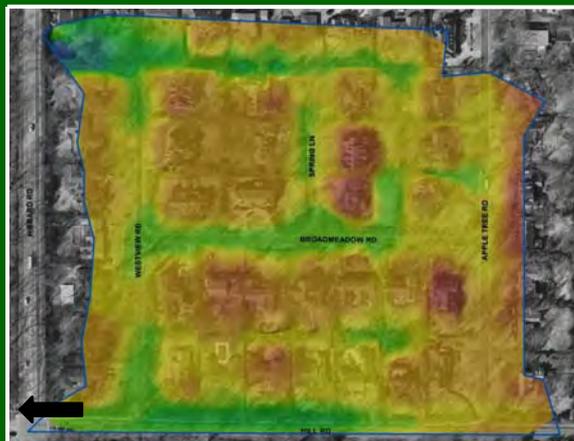
# Study Area N



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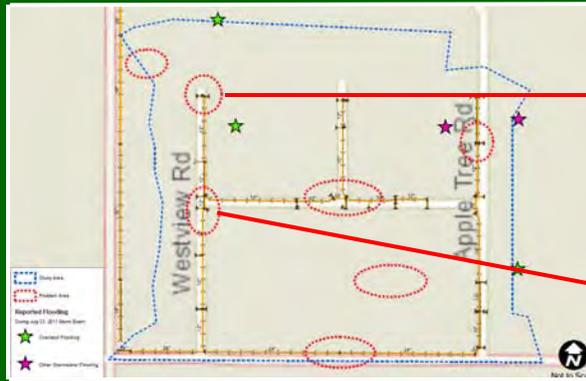
# Study Area N



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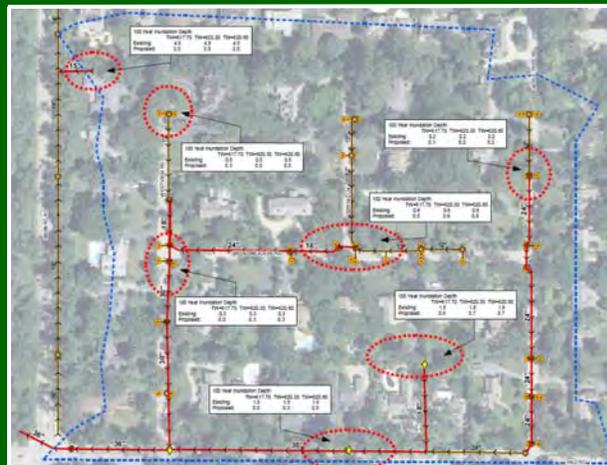
# Study Area N



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# Study Area N



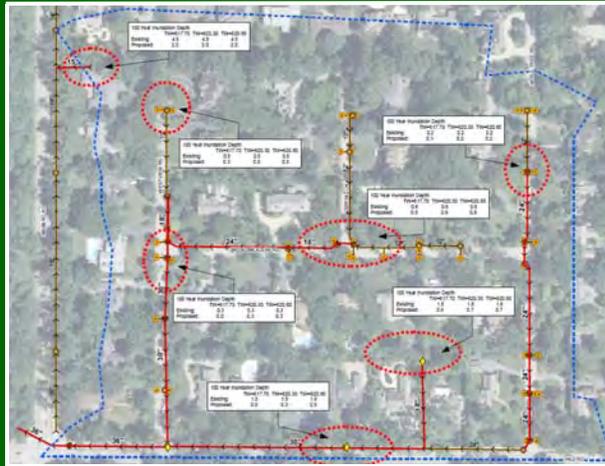
- Ex 12"-24" Sewers Replaced with
- Pr 18"-36" Storm Sewers
- Pr 15" and 18" Sewers Draining Depressions



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# Study Area N



- Ex 12"-24" Sewers Replaced with
- Pr 18"-36" Storm Sewers
- Pr 15" and 18" Sewers Draining Depressions

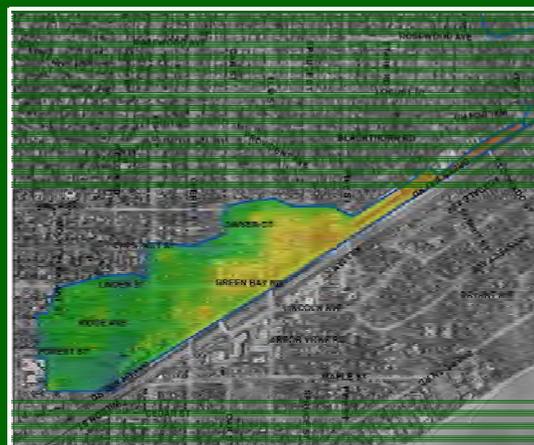
Probable Cost = \$1,168,115



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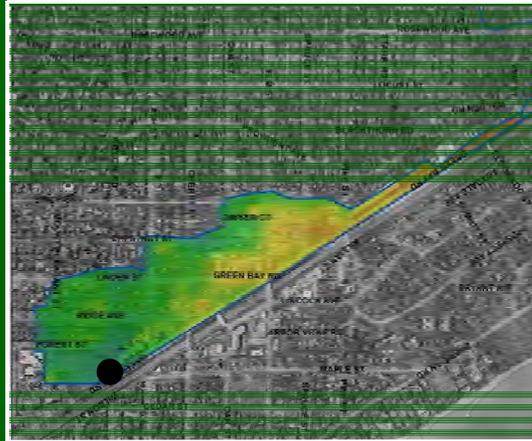
# Study Area O



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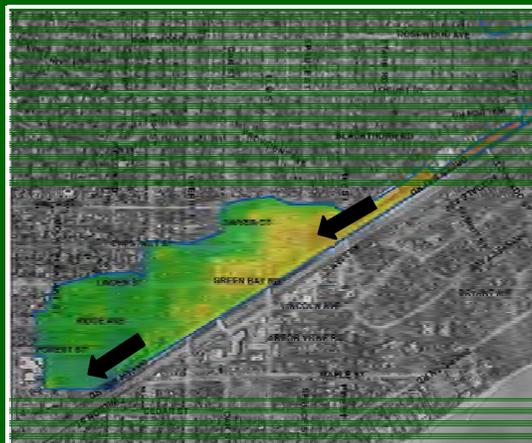
# Study Area O



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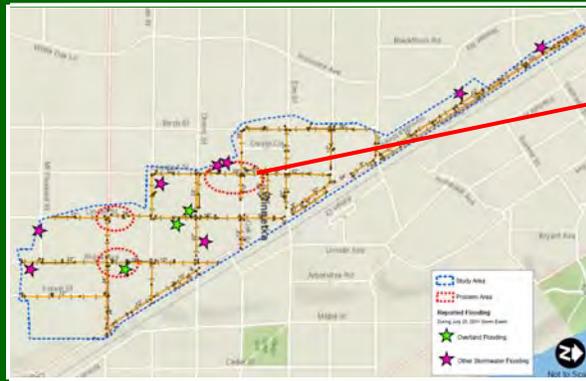
# Study Area O



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# Study Area O



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# Study Area O



## Alternate 1

- Disconnect from MWRD
- Ex 18"-24" Sewers Replaced with
- Pr 24"-48" Sewers
- Connection to Planned 48" and 96" Sewers



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## Study Area O



### Alternate 1

- Disconnect from MWRD
- Ex 18"-24" Sewers Replaced with
- Pr 24"-48" Sewers
- Connection to Planned 48" and 96" Sewers



Probable Cost = \$2,303,475

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## Study Area O



### Alternate 2

- Maintain Connection to MWRD
- Ex 18"-24" Sewers Replaced with
- Pr 24"-48" Sewers
- Connection to Planned 96" Sewer



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## Study Area O



- Alternate 2
- Maintain Connection to MWRD
  - Ex 18"-24" Sewers Replaced with
  - Pr 24"-48" Sewers
  - Connection to Planned 96" Sewer

Probable Cost = \$1,767,074



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## Conclusions and Recommendations

Engineer's Estimate of Probable Cost (Millions)

Area A	\$0.5
Area C – Alternate 2	\$1.7
Area E	\$0.9
Area G	\$2.0
Area N	\$1.2
Area O – Alternate 2	<u>\$1.8</u>
<b>Total =</b>	<b>\$8.1</b>



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## Conclusions and Recommendations

### Engineer's Estimate of Probable Cost (Millions)

Area A	\$0.5
Area C – Alternate 2	\$1.7
Area E	\$0.9
Area G	\$2.0
<b>Area N</b>	<b>\$1.2</b>
Area O – Alternate 2	<u>\$1.8</u>
Total =	\$8.1



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## Conclusions and Recommendations

- Maintain connections to MWRD interceptor, if allowed.
- Delay improvements for Areas G, N, and O, which depend on other planned improvements.
- Make improvements to overland flow paths in Area N, rather than storm sewer improvements.



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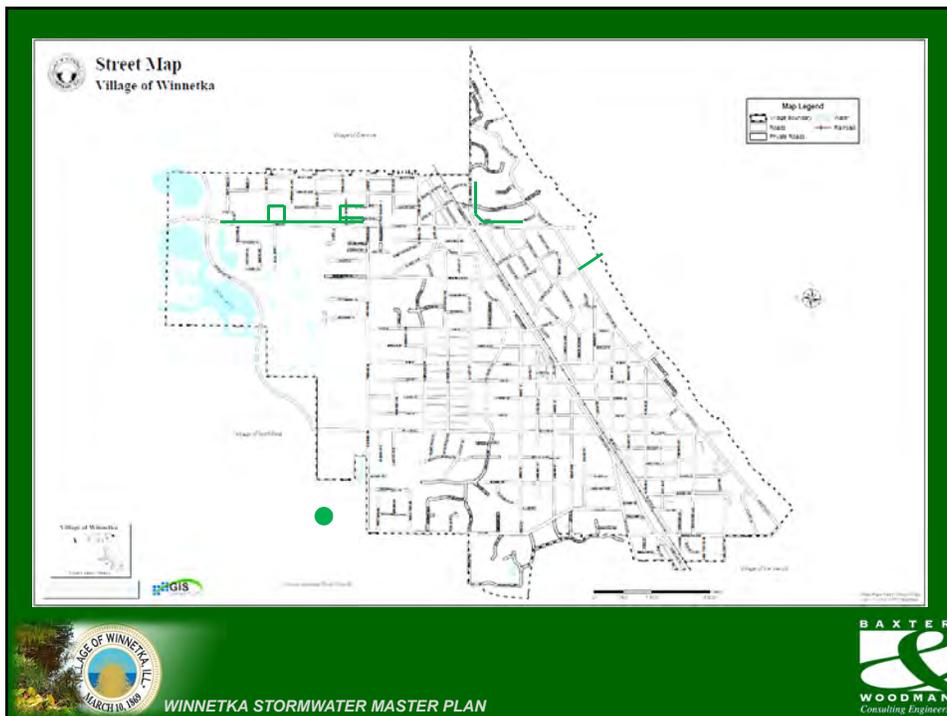


## Summary of Planned and Potential Improvements

- Projects in progress
  - Northeast Winnetka
  - Northwest Winnetka
  - Skokie River Pump Station
- Planned Projects
  - Willow Road Tunnel
- Possible Future Projects
  - Areas A, C, E, G, N, O

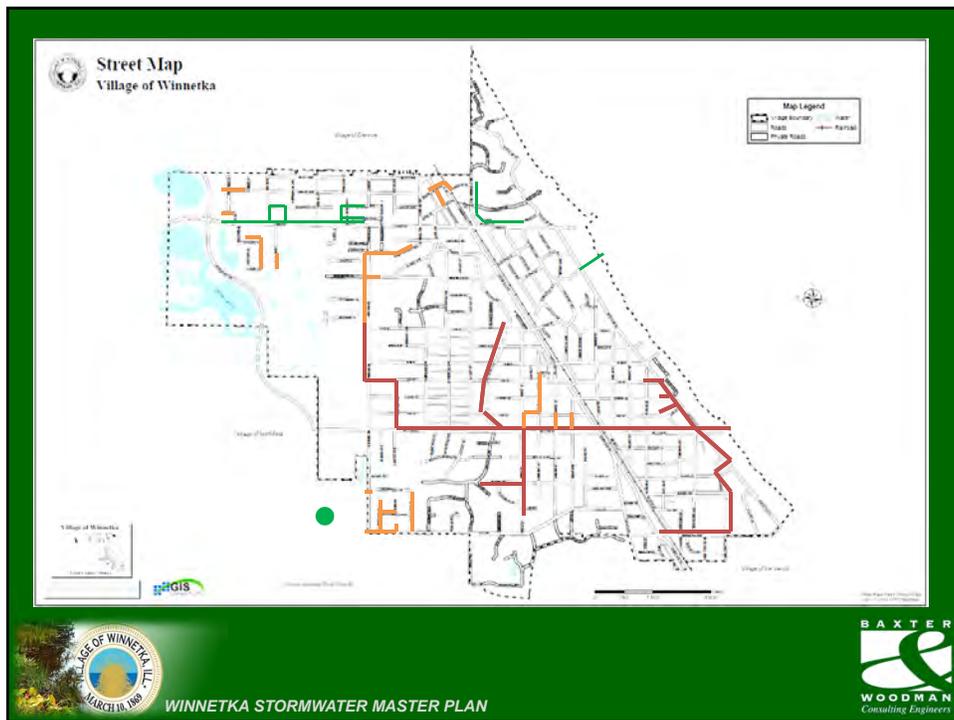
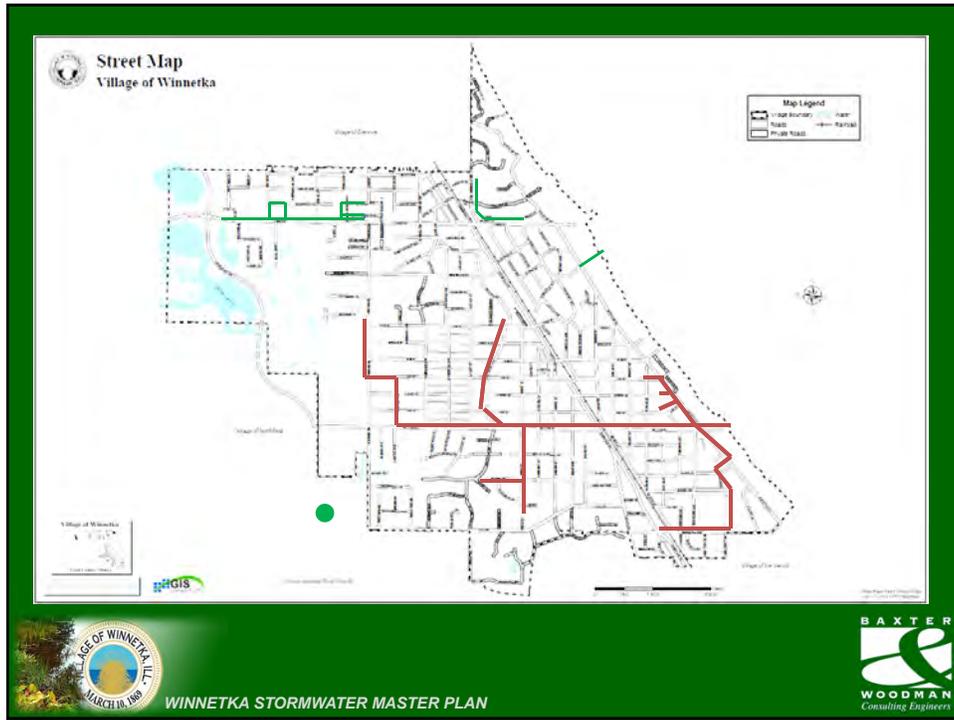


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## Possible Next Steps

- Area N Additional Topography (\$10,000)
  - Obtain additional detailed elevation data to determine existing overland flow paths
  - Evaluate possible improvements to overland flow paths to protect structures from flooding
- Include these improvements in one of MFSG's financial scenarios to determine financial impact
- Direct staff to identify the scope and probable cost of a Cost-Benefit evaluation to determine relative value and need for additional improvements



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## Questions?



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