

# Curry Court and Old Indian Trail Watershed Study

**PUBLIC INFORMATION MEETING #2**

July 29, 2021





# TEAM INTRODUCTIONS

**Ann-Marie Kirsch, PE**

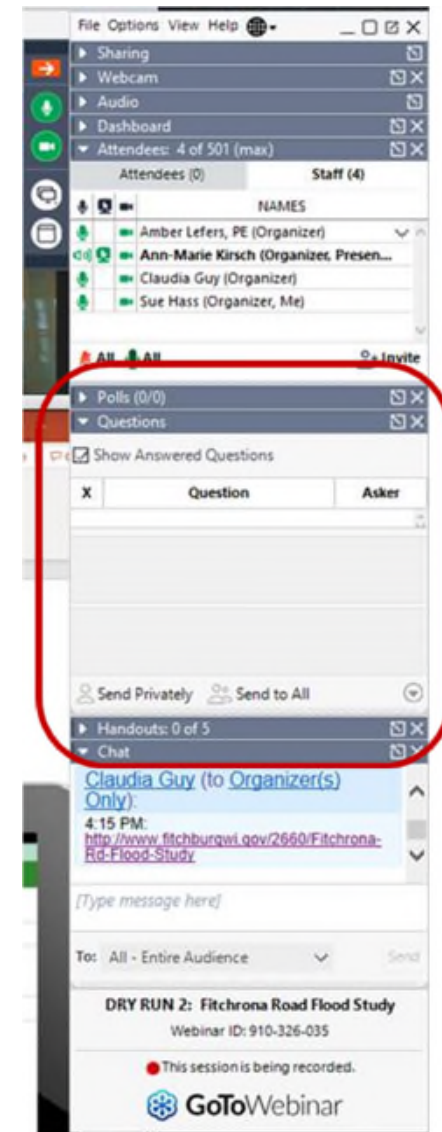
AE2S Project Manager

**Claudia Guy, PE**

City of Fitchburg Environmental Engineer

# MEETING FORMAT AND Q&A

- GoToWebinar for access
- Questions can be asked
  - Electronically during or after the presentation using the **Question function**



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- Questions can be asked
  - Electronically during or after the presentation using the **Question function**
- After the public meeting through **email** to Claudia Guy: [Claudia.Guy@Fitchburgwi.gov](mailto:Claudia.Guy@Fitchburgwi.gov) or by **phone** at 608.270.4262



# Outline



## **Drainage Challenge Review**

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## **Existing Conditions**

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## **Alternatives**

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- Wetland Overflow/Railroad Culvert
- Old Indian Trail
- S. Syene Road
- South to Murphy's Creek
- Sump Pump Collection System
- Pond in Gold's Addition Park

## **Opinions of Probable Cost**

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## **Pros and Cons of Alternatives**

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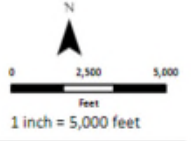
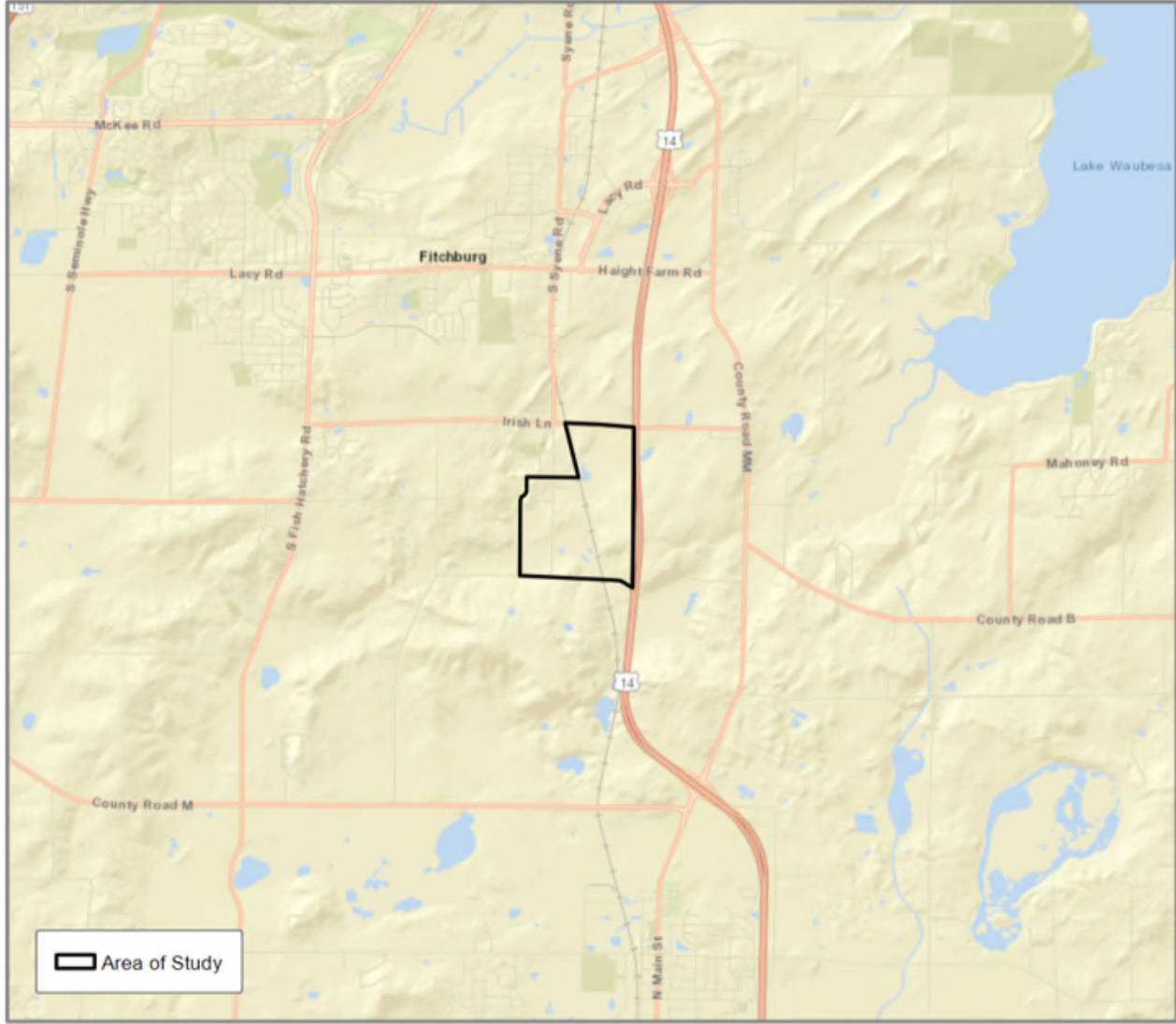
## **Recommendations**

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## **Next Steps**

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# **Drainage Challenges**



Locator Map Not to Scale  
 City of Fitchburg  
 Dane County, WI

Figure 1  
**LOCATION  
 MAP**

**CURRY COURT  
 FLOODING  
 FEASIBILITY STUDY  
 / CITY OF  
 FITCHBURG**

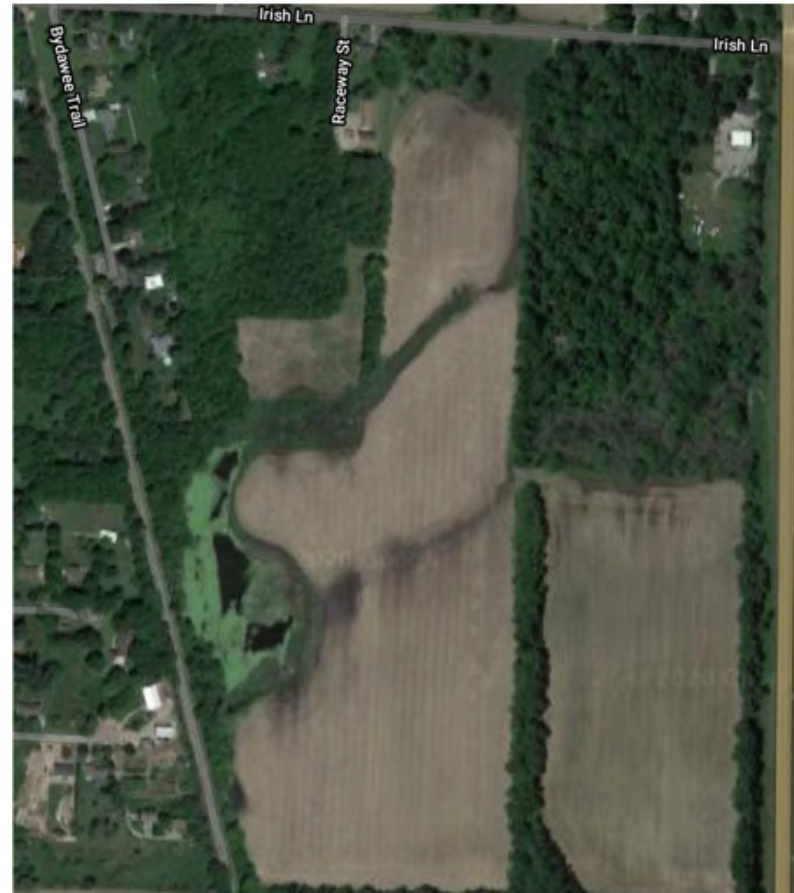
Date: 7/20/2021



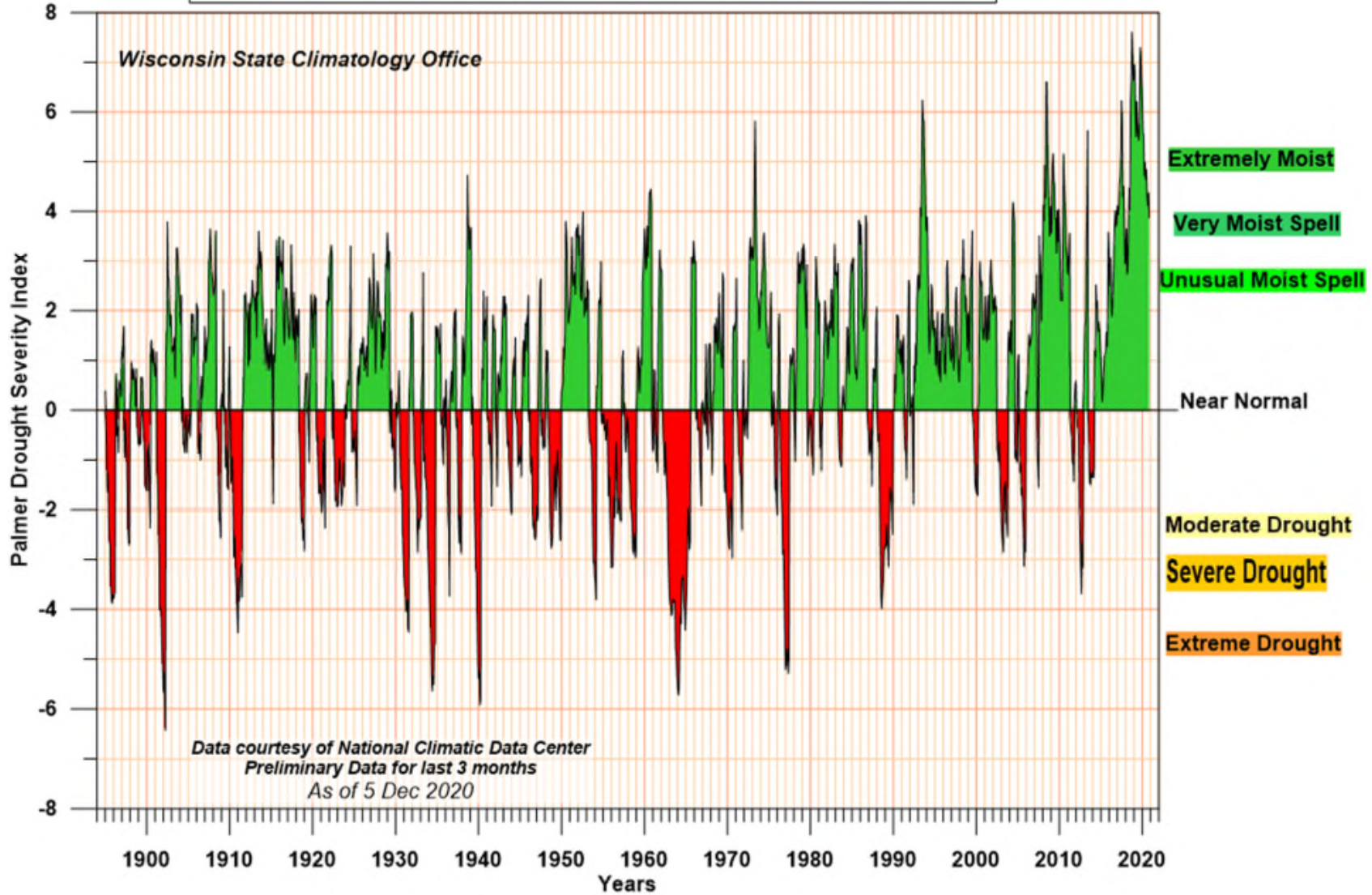
Information depicted may include data unverified by AES2. Any reliance upon such data is at the user's own risk. AES2 does not warrant this map or its features are either spatially or temporally accurate.  
 Coordinate System: NAD 1983 HARN WISCRS Dane County Feet | Edited by: MMazourek | C:\Users\MMazourek\OneDrive - AE25\Desktop\Curry Ct Figures\Figure1\_LocationMap.mxd

# EXISTING DRAINAGE CHALLENGES

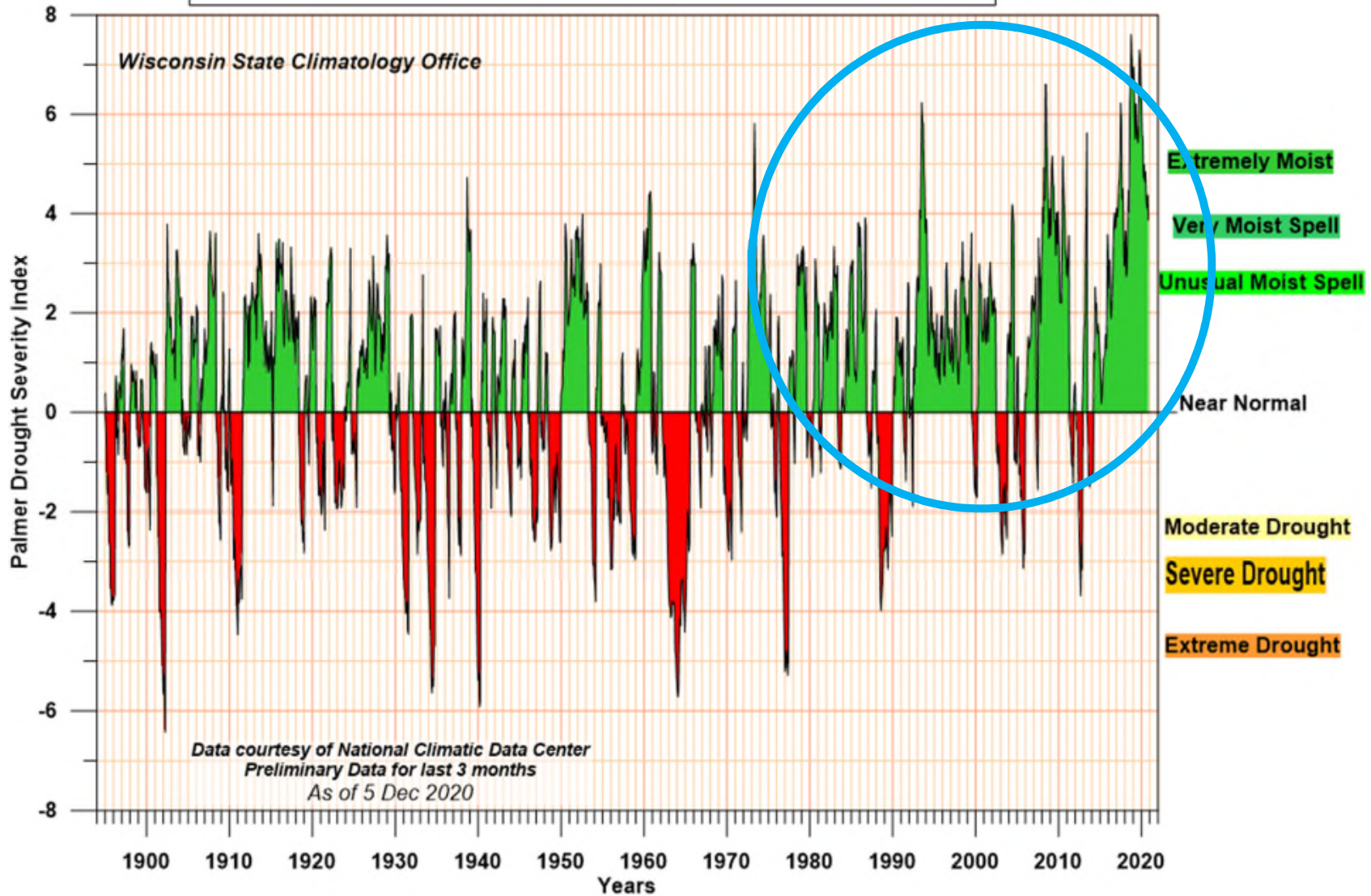
- It has been very wet



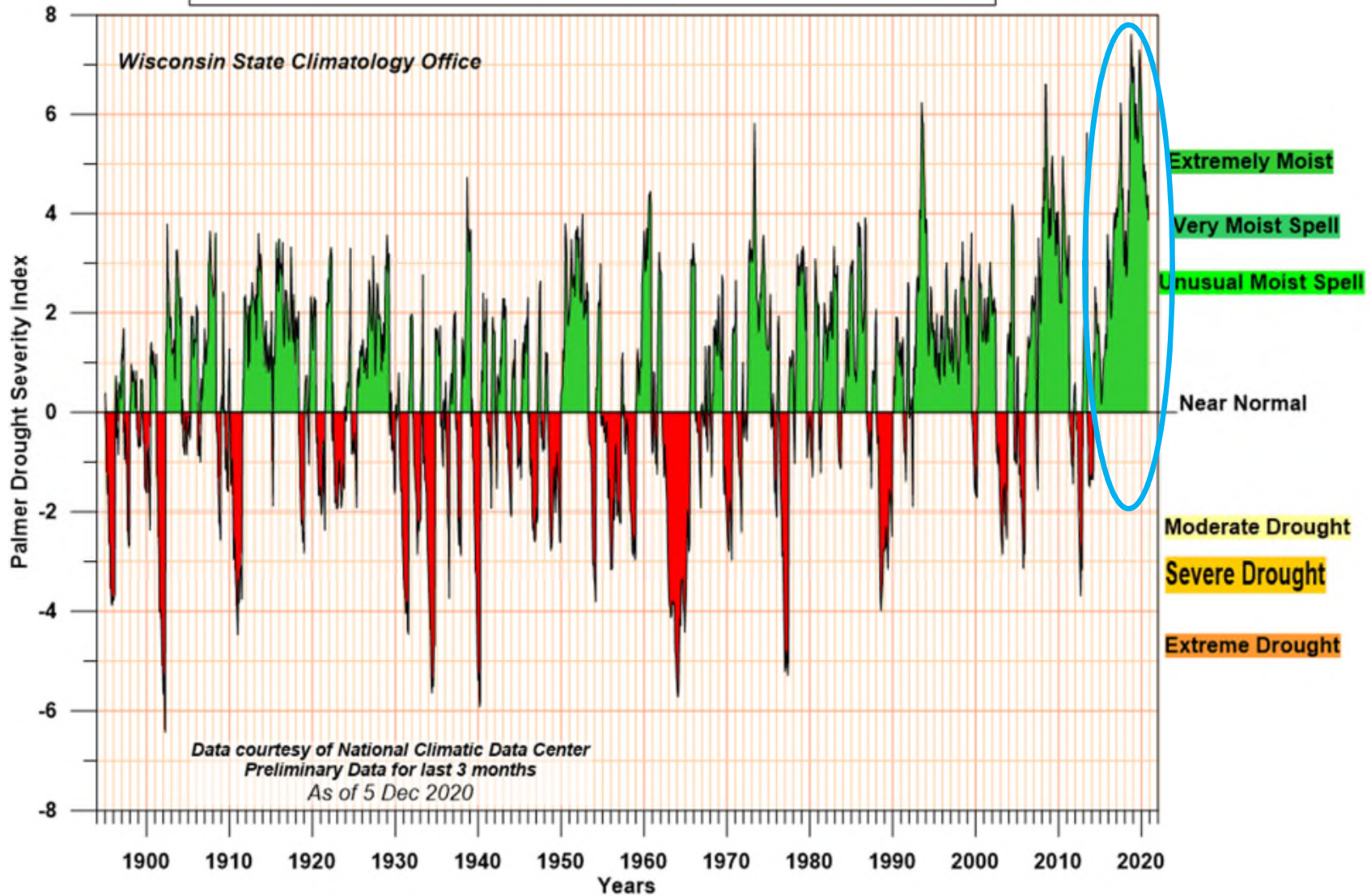
**South Central Wisconsin (Div 4708) Palmer Drought Severity Index  
Jan 1895-Nov 2020**



**South Central Wisconsin (Div 4708) Palmer Drought Severity Index  
Jan 1895-Nov 2020**

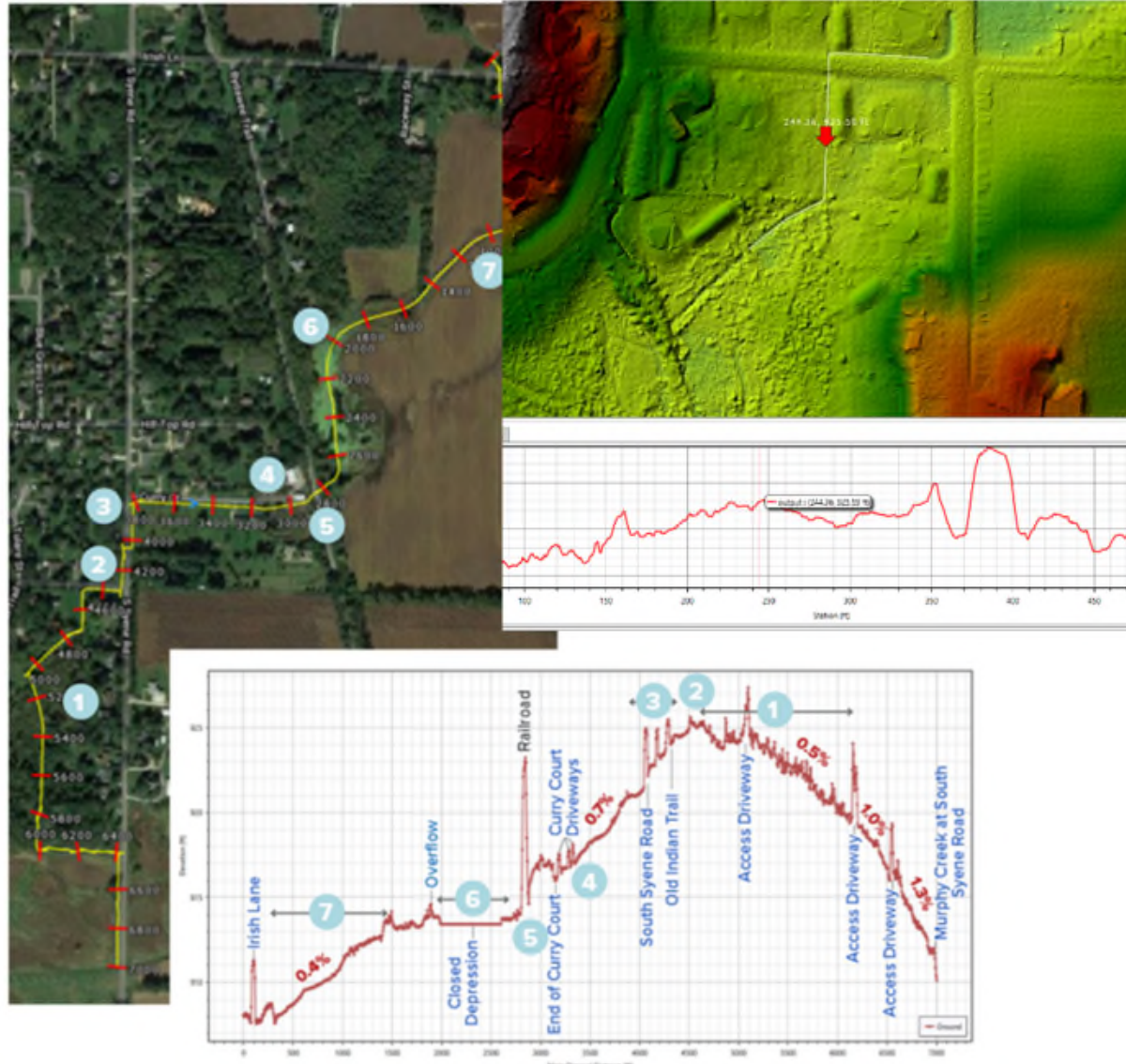


**South Central Wisconsin (Div 4708) Palmer Drought Severity Index  
Jan 1895-Nov 2020**



# EXISTING DRAINAGE CHALLENGES

- It has been very wet
- Flat topography



# EXISTING DRAINAGE CHALLENGES

- It has been very wet
- Flat topography
- Filled ditches with no easement for City maintenance



# EXISTING DRAINAGE CHALLENGES

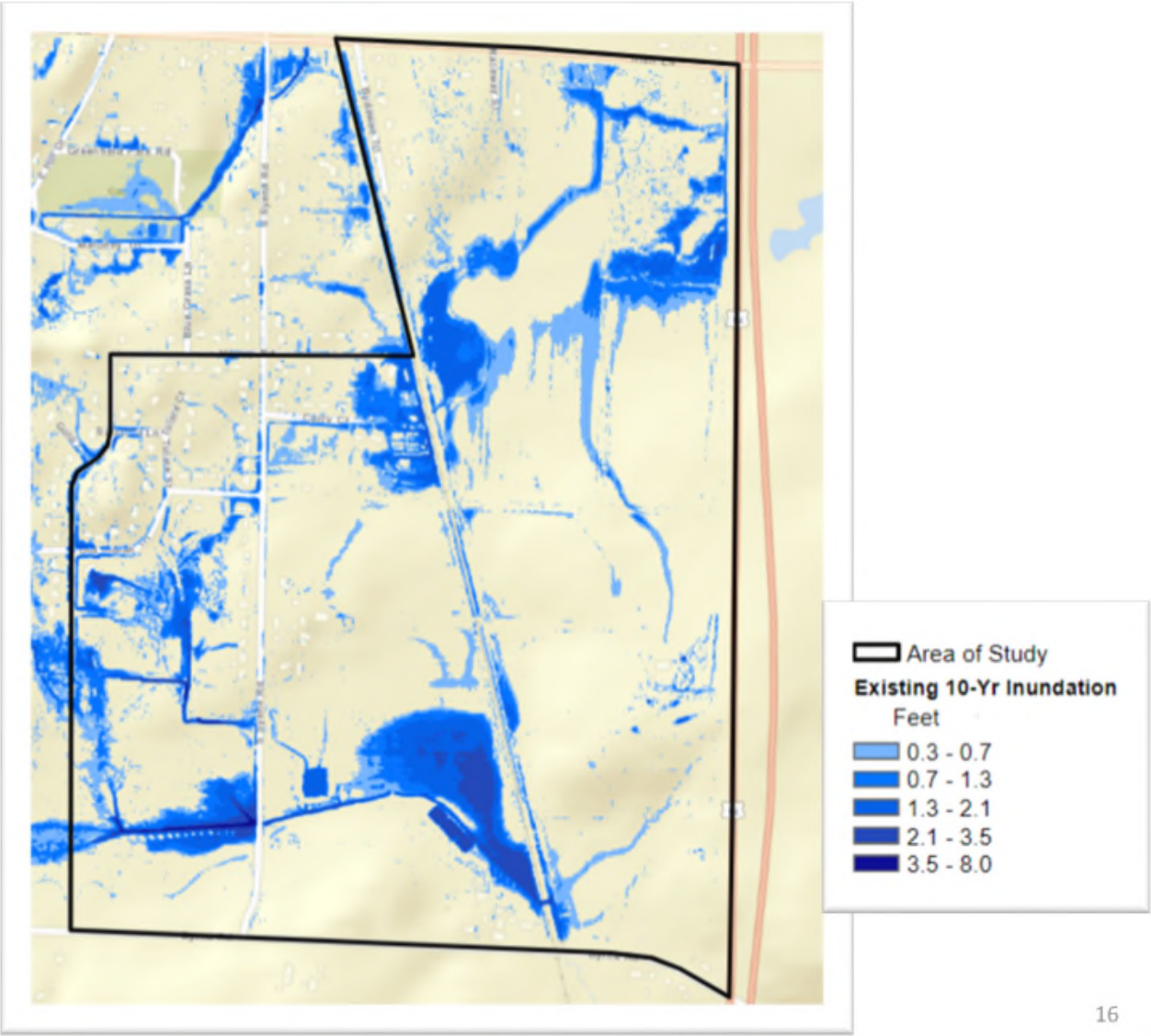
- It has been very wet
- Flat topography
- Filled ditches with no easement for City Maintenance
- High groundwater/sump pumps



# Existing Conditions

# Existing Conditions

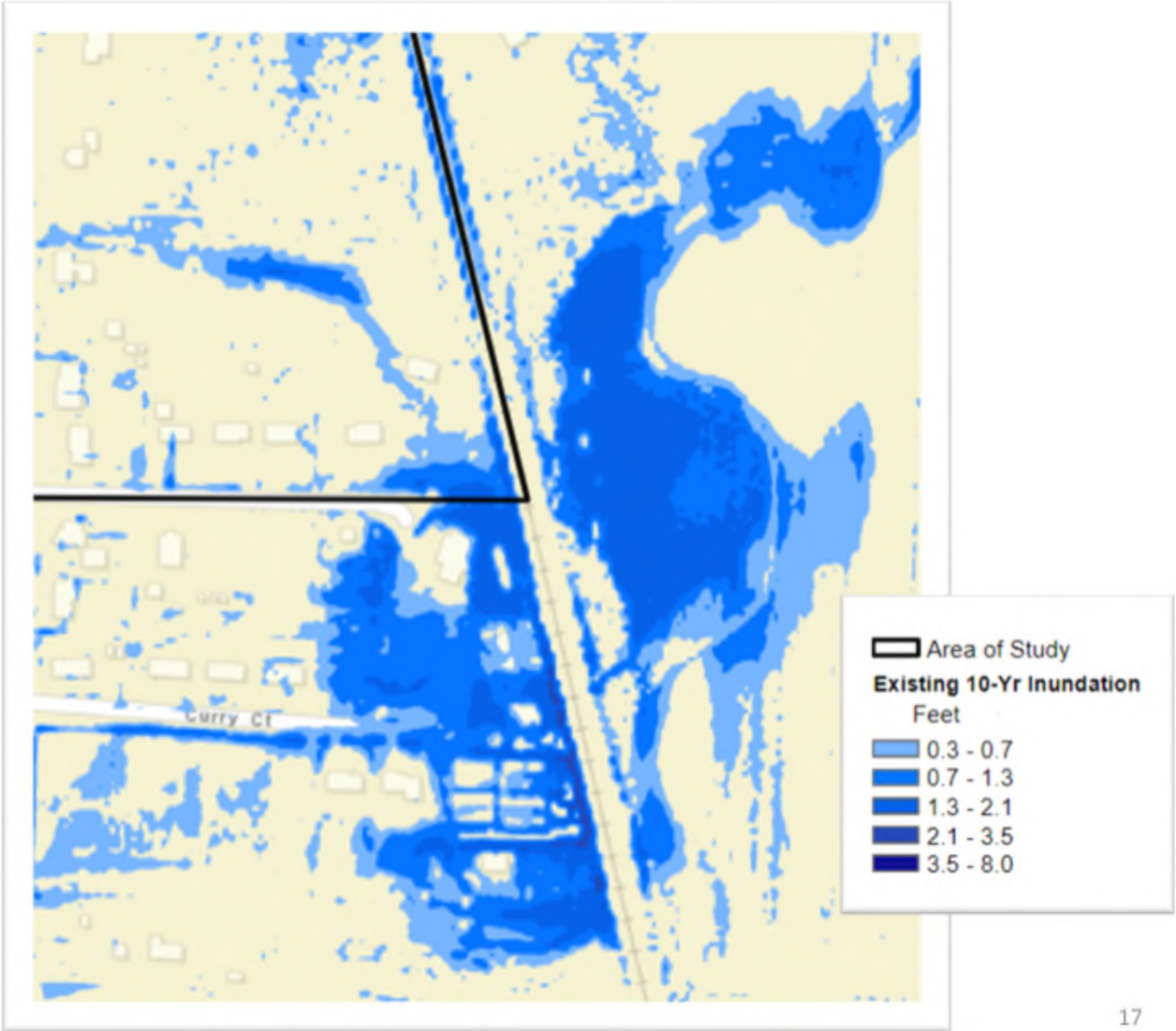
## 10-year Design Storm



# Existing Conditions

## 10-year Design Storm

### Curry Court Area

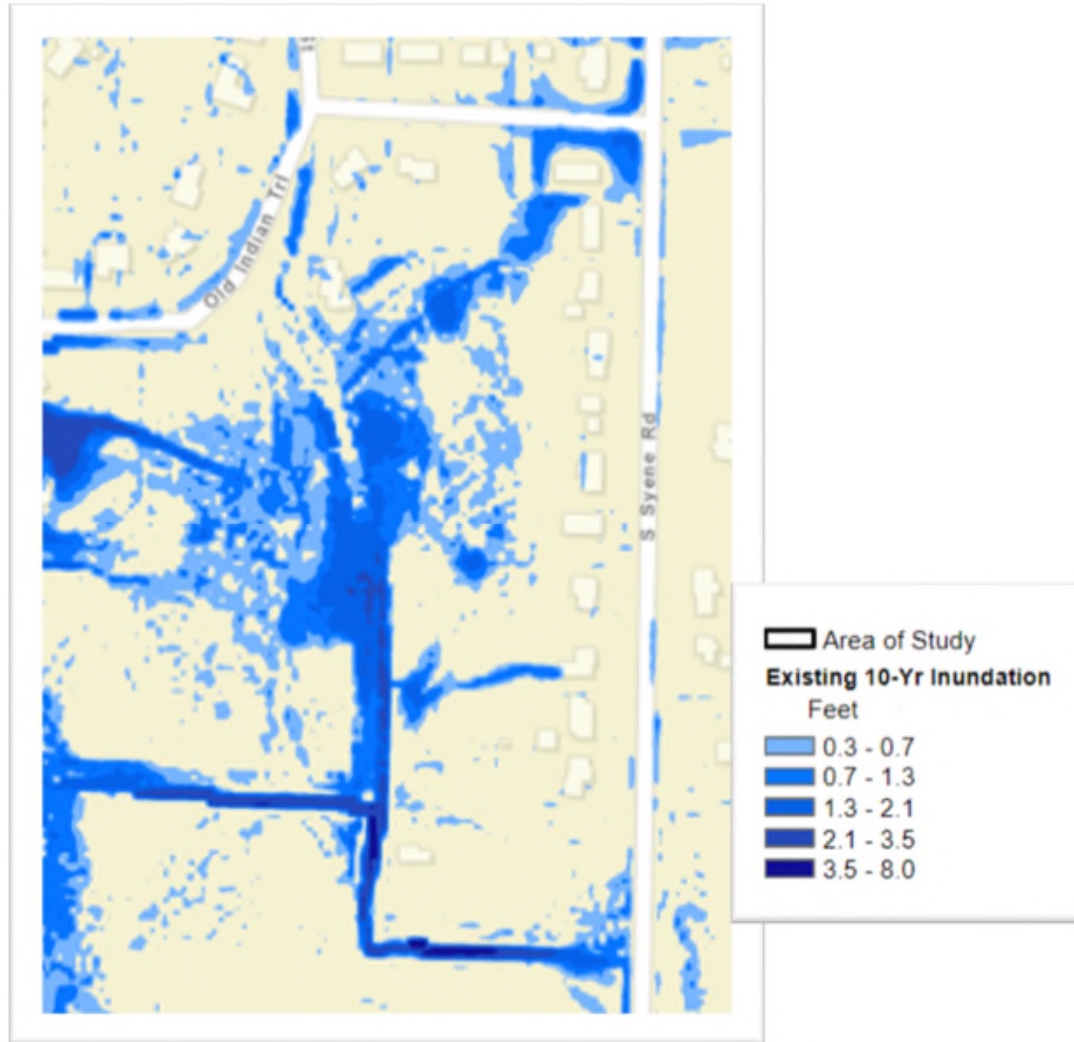


# Existing Conditions

10-year Design Storm

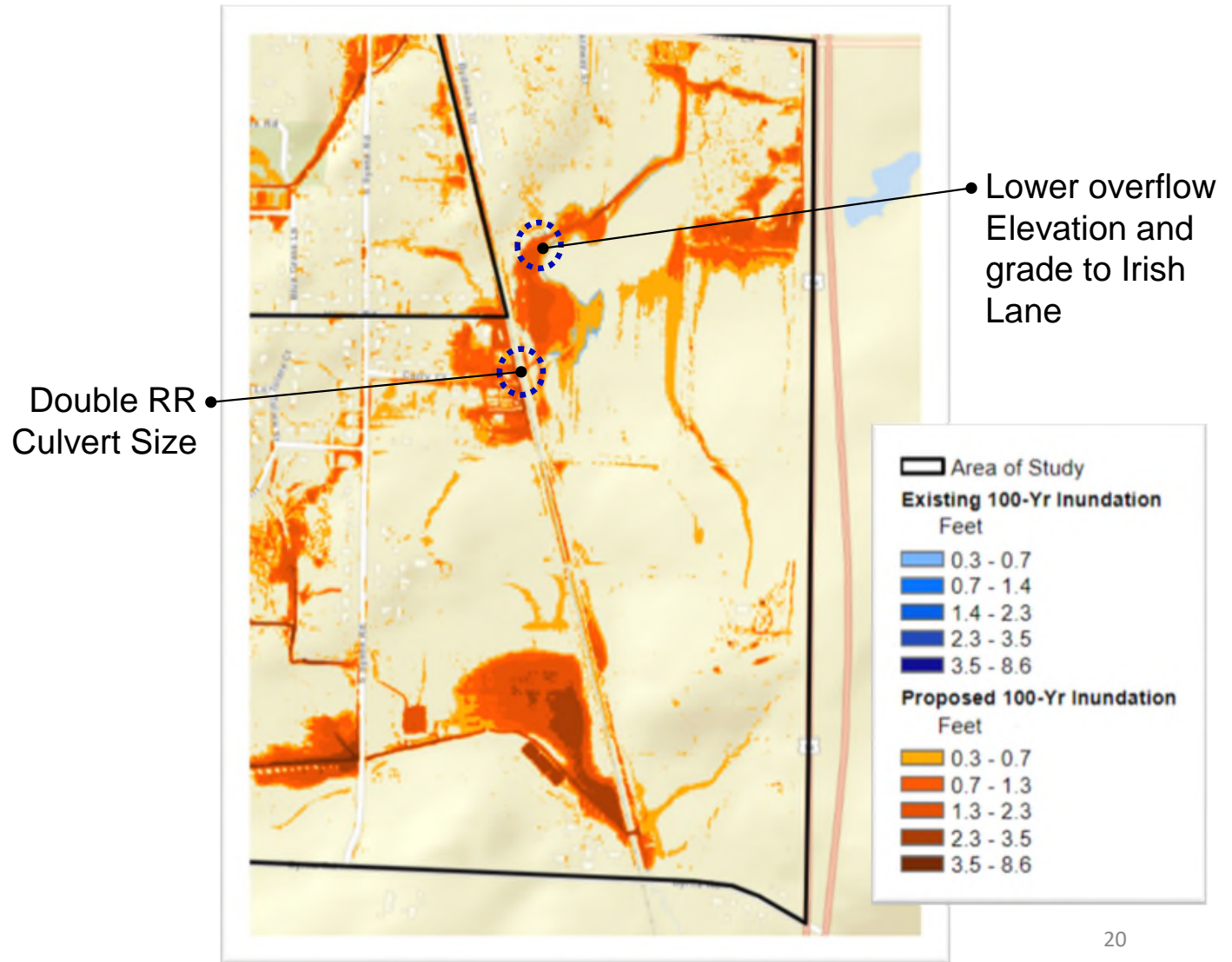
Curry Court Area

Old Indian Trail Area



# **Curry Court Drainage Options**

# Lower Wetland Overflow Elevation And Enlarge RR Culvert





Existing Railroad Culvert 3-ft x 3.5-ft



Existing Railroad Culvert 3-ft x 3.5-ft

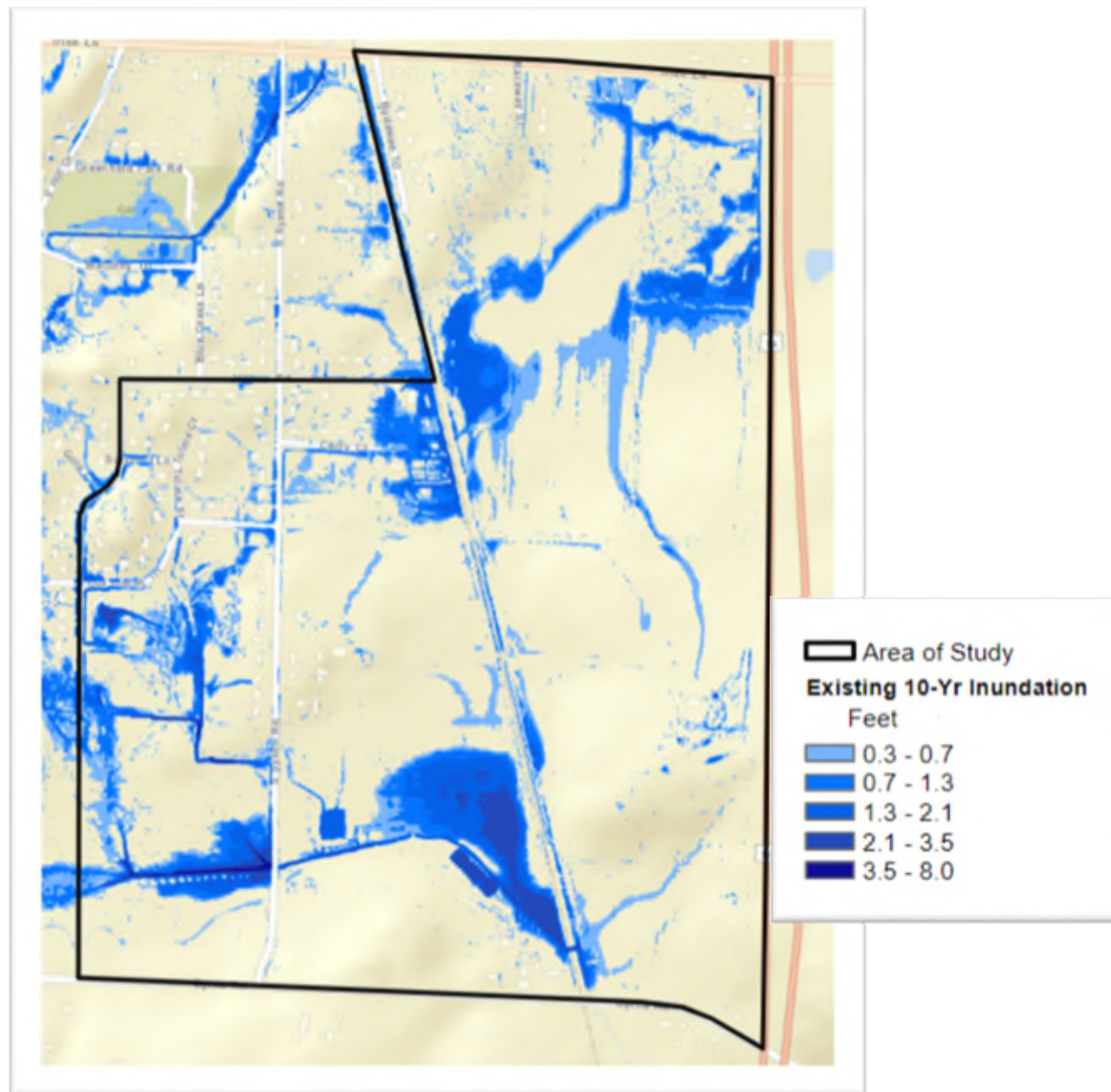


Wetland Overflow Elevation = 914.5

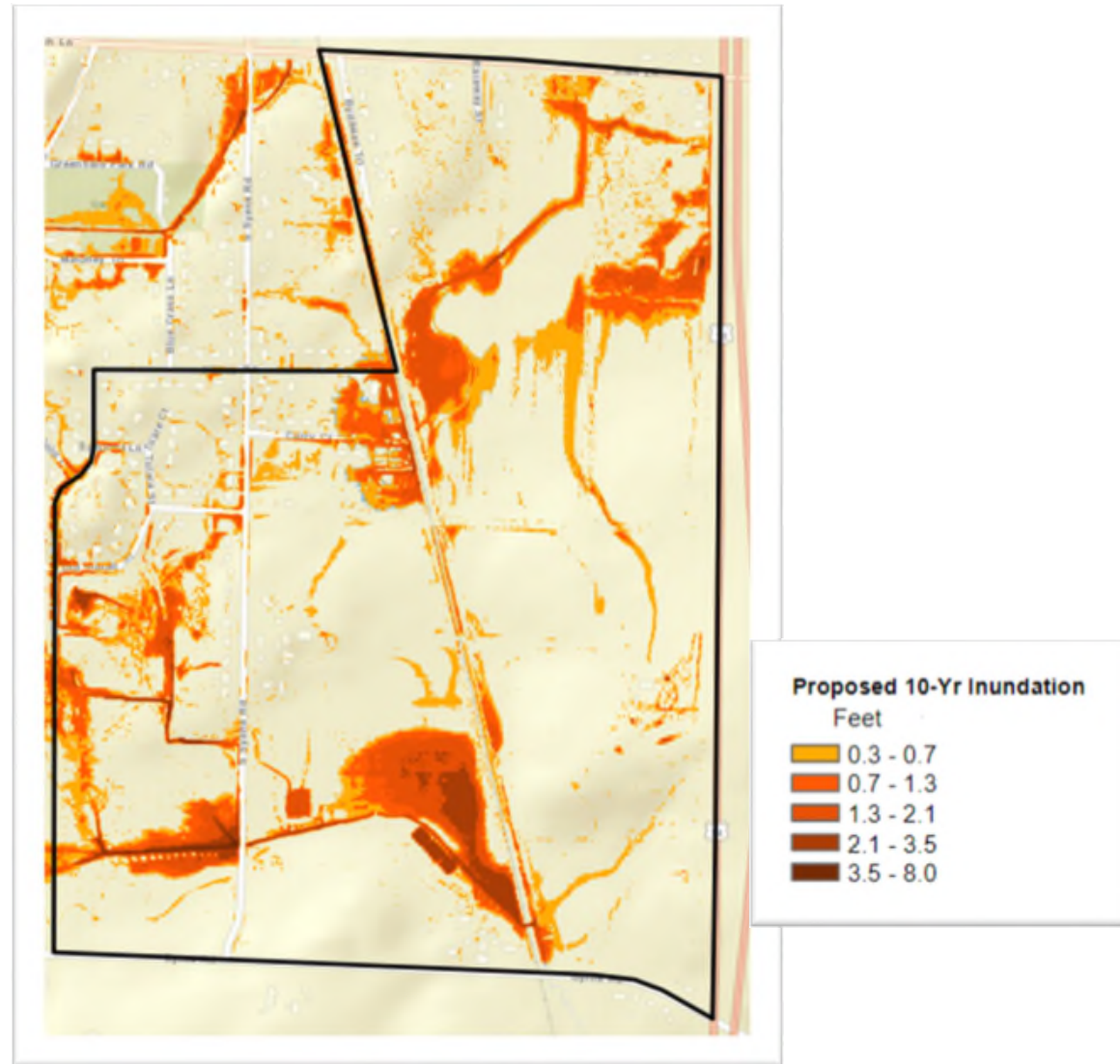
## **Alternative Challenges**

- City does not own property - requires easement
- Very little “grade to chase” to improve flow to north
- Railroads own their infrastructure, and difficult to change drainage patterns

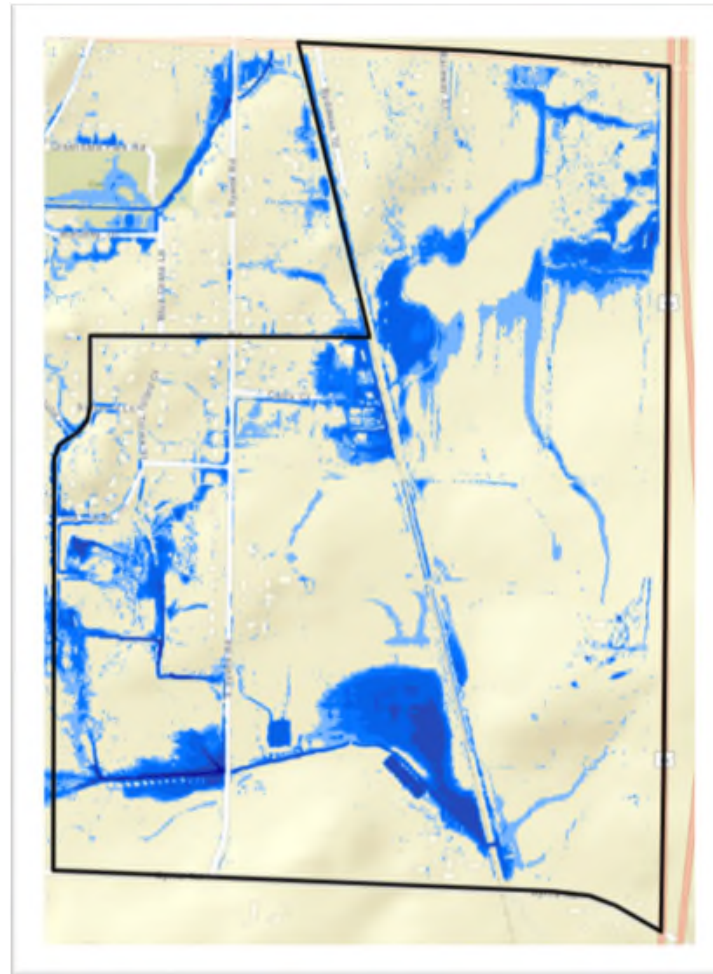
# Existing Conditions



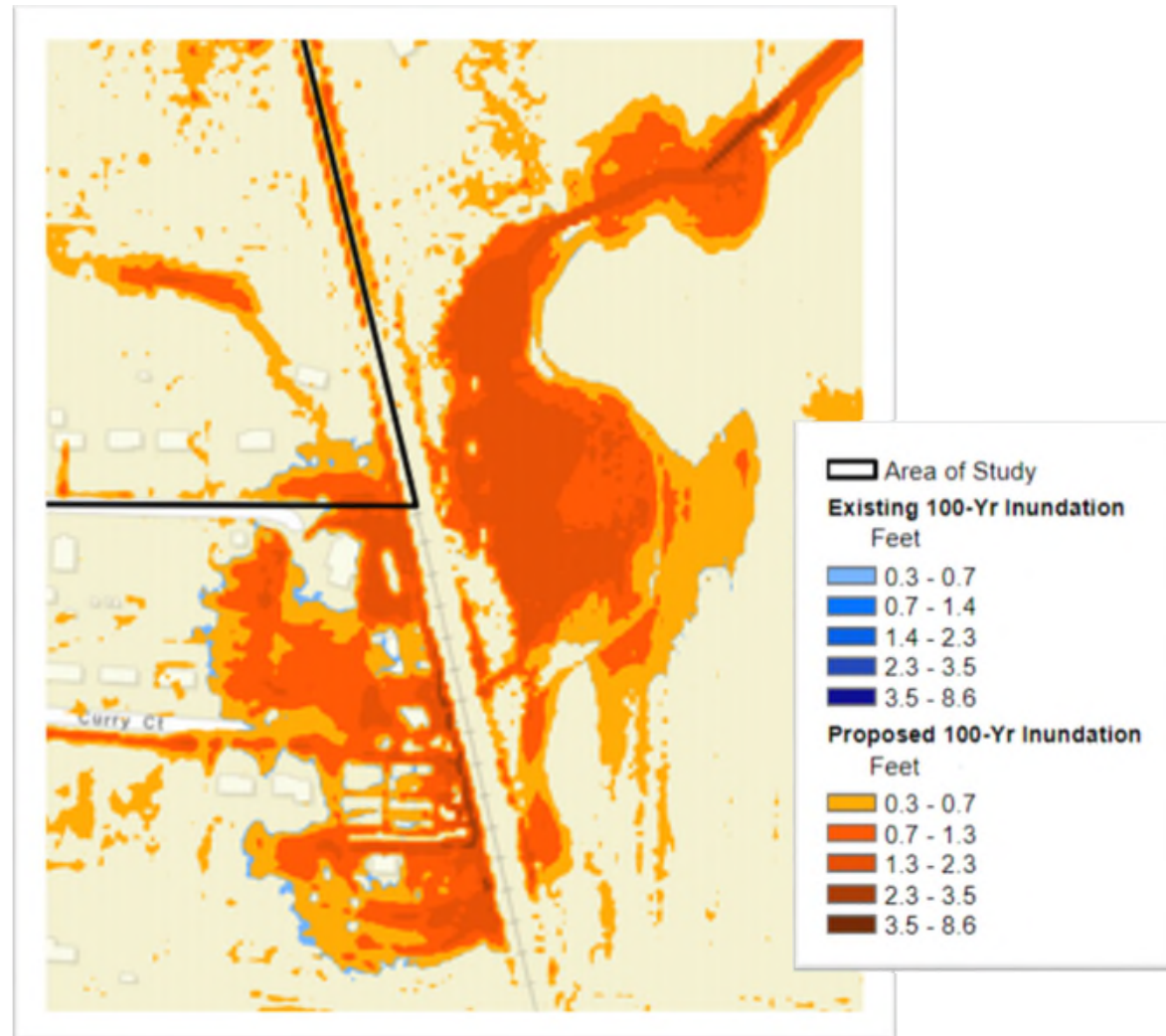
# North Overflow Conditions



# What is the Difference?



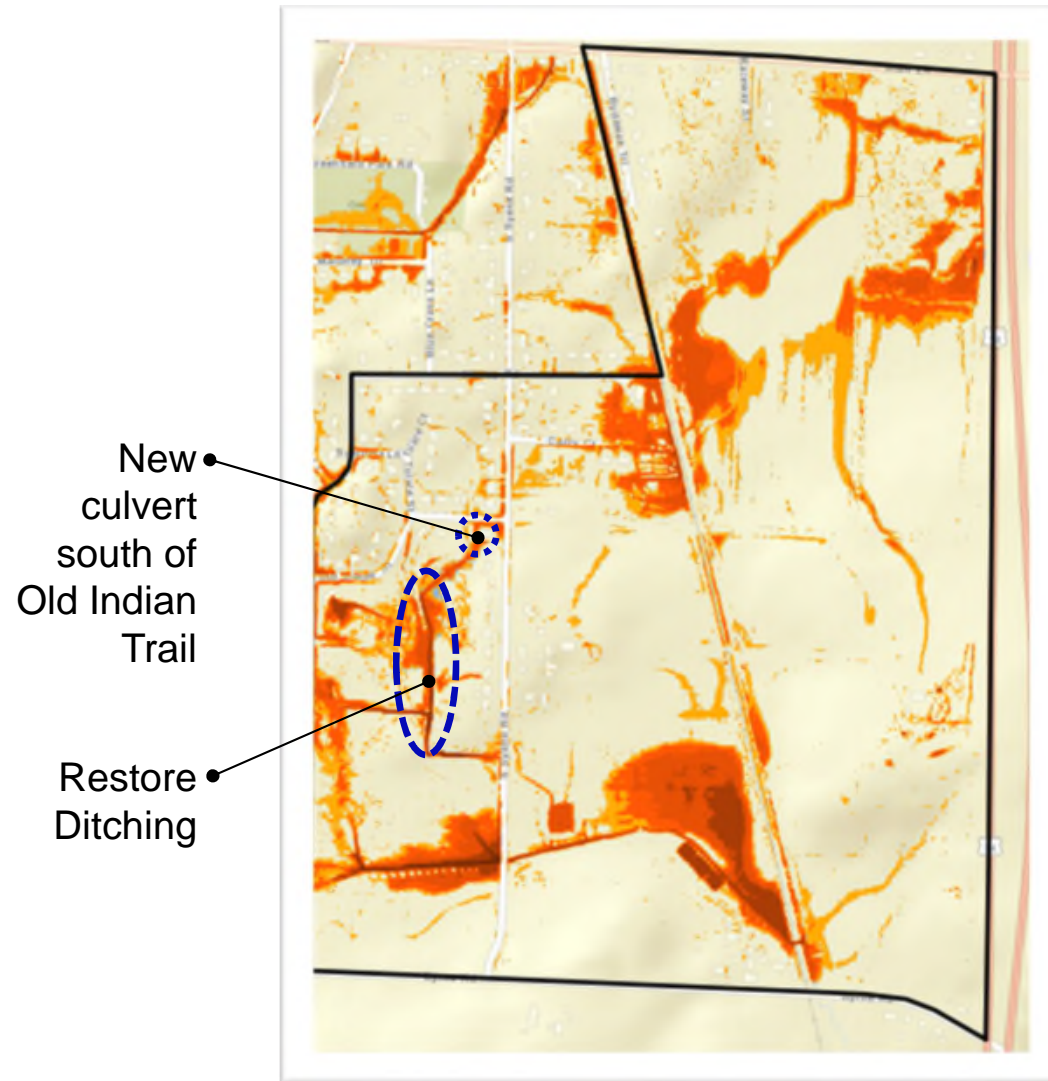
# Superimpose Maps



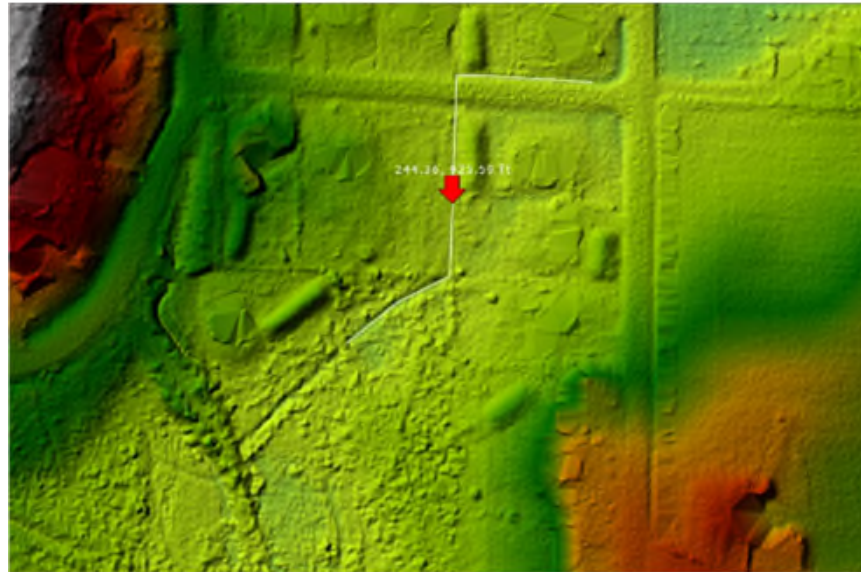
## **Alternative Bottom Line**

- Marginal improvement for Curry Court flooding
- Railroad coordination is difficult
- Requires significant downstream easement
- Alternative not under consideration

# Old Indian Trail Drainage

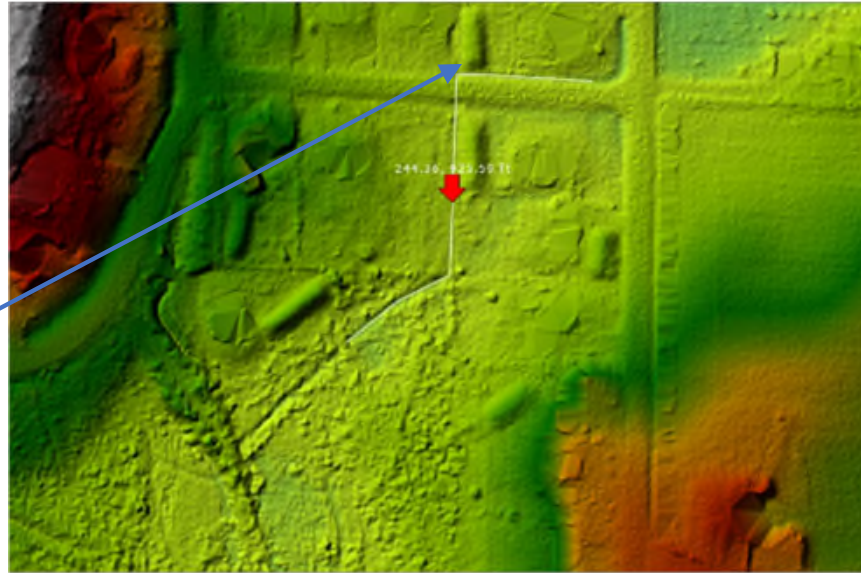


# OLD INDIAN TRAIL AREA

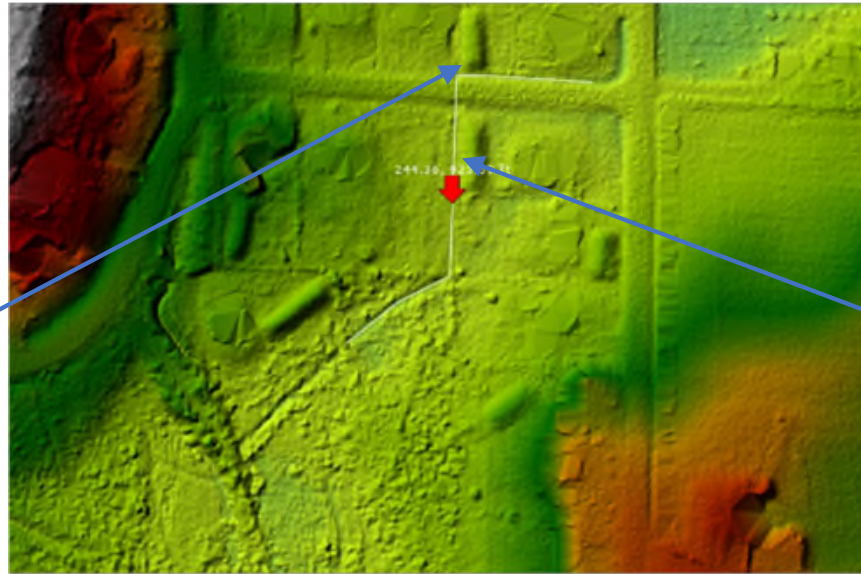


Topography from Old Indian Trail  
through Gold's Addition Park

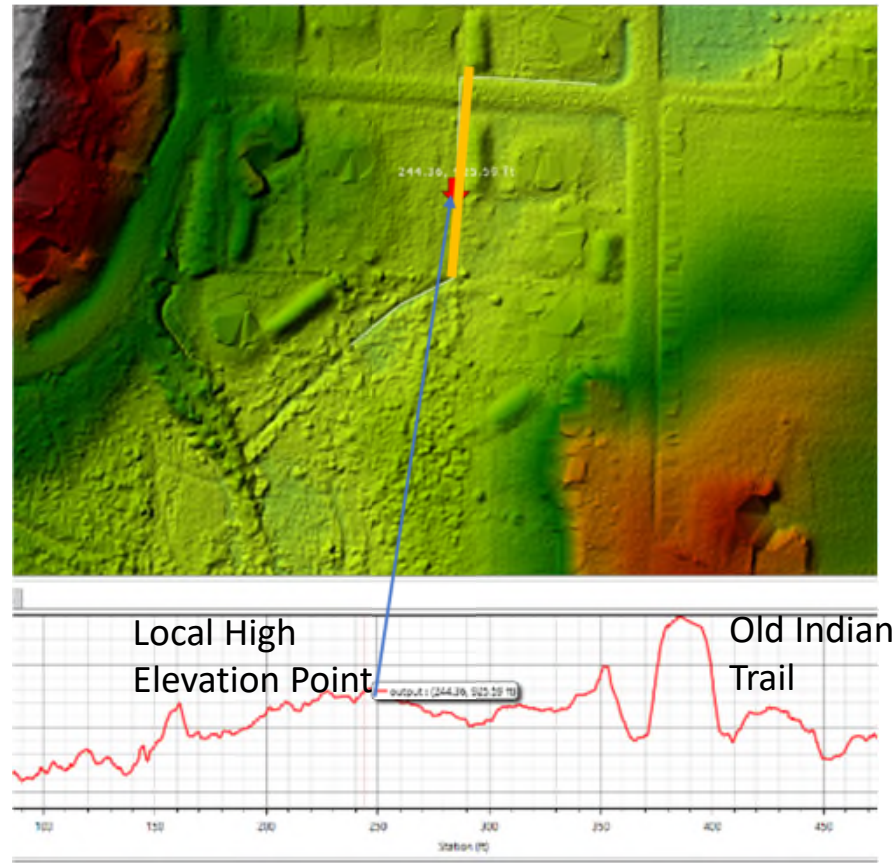
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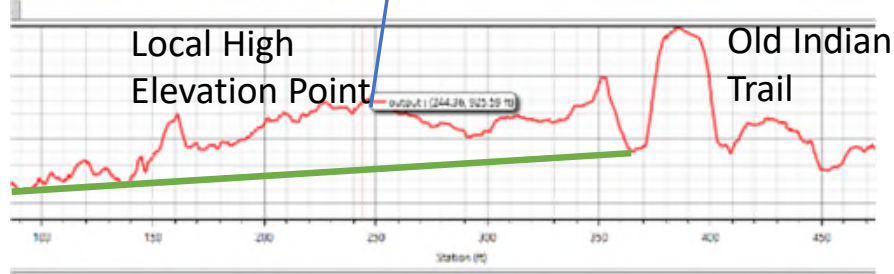
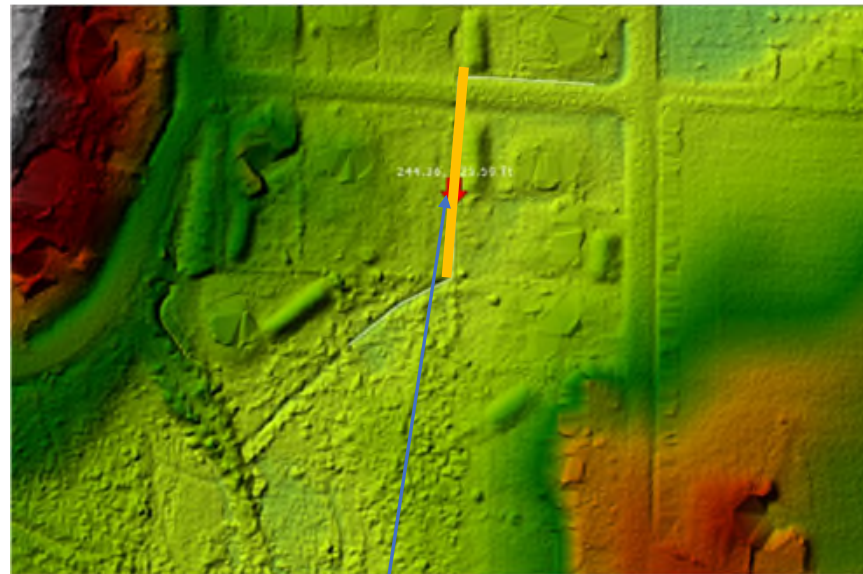
# OLD INDIAN TRAIL AREA



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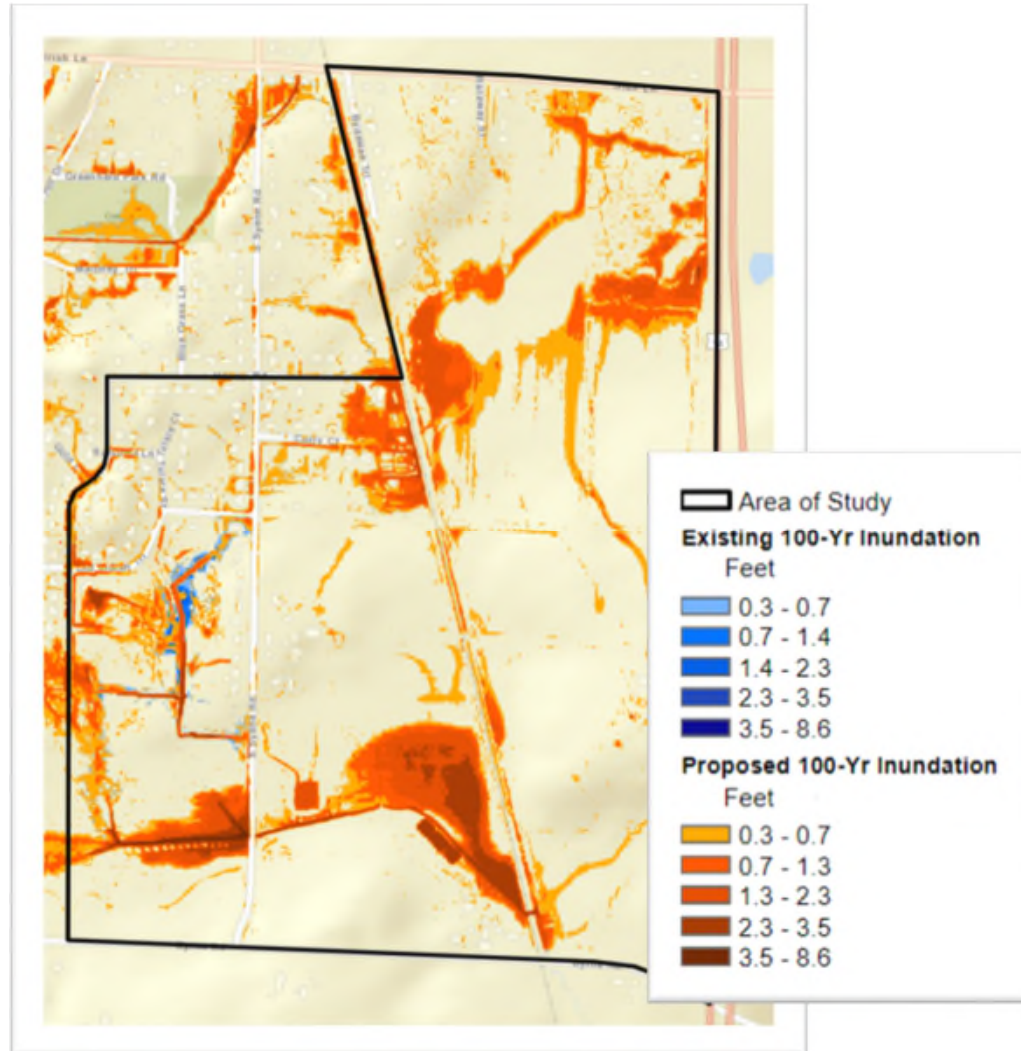
Profile of new pipe

## **Alternative Challenges**

- Requires easement from private property owner
- Channels in Gold's Addition Park difficult to maintain
- No benefit to Curry Court residents

# Syene Road

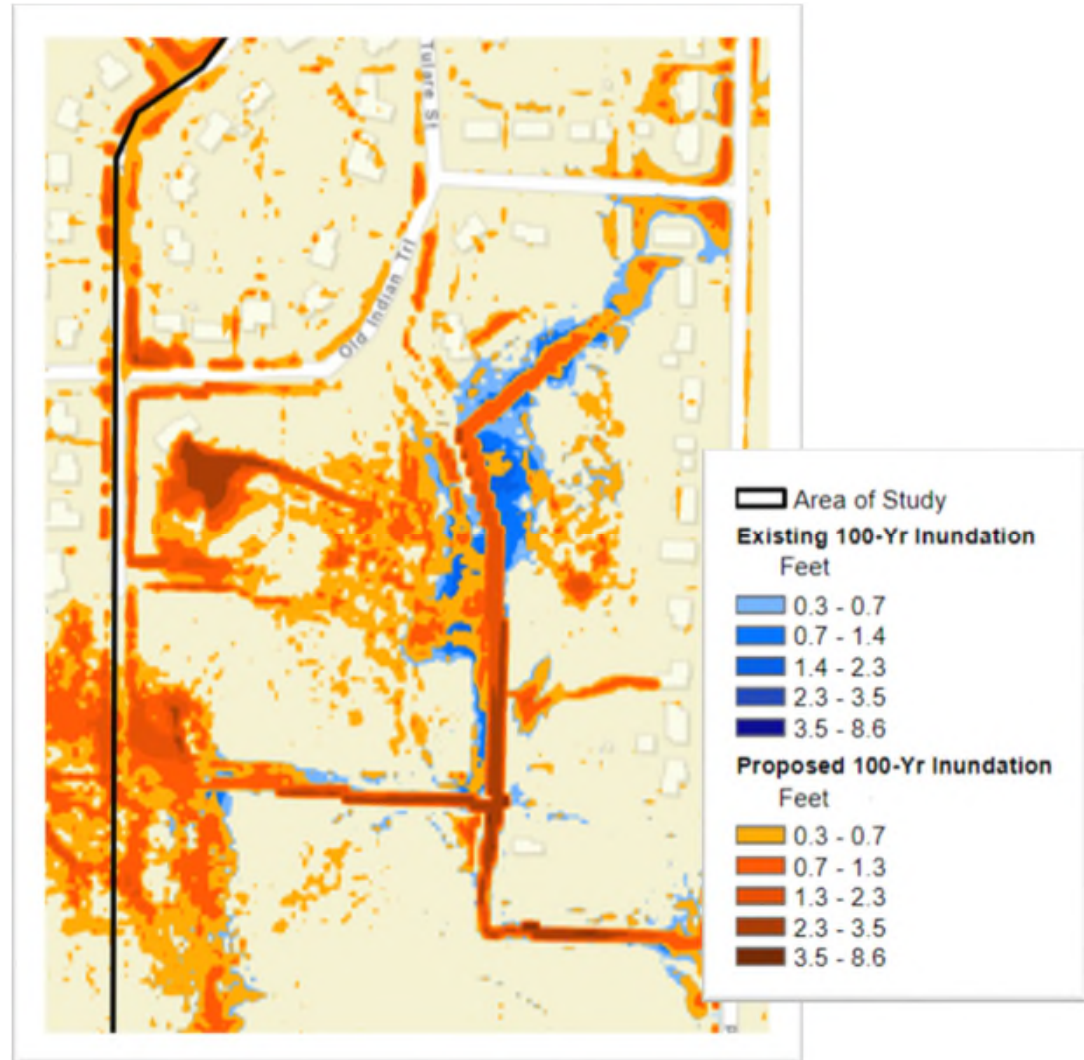
## 10-year Design Storm



# Syene Road

## 10-year Design Storm

## Old Indian Trail Area



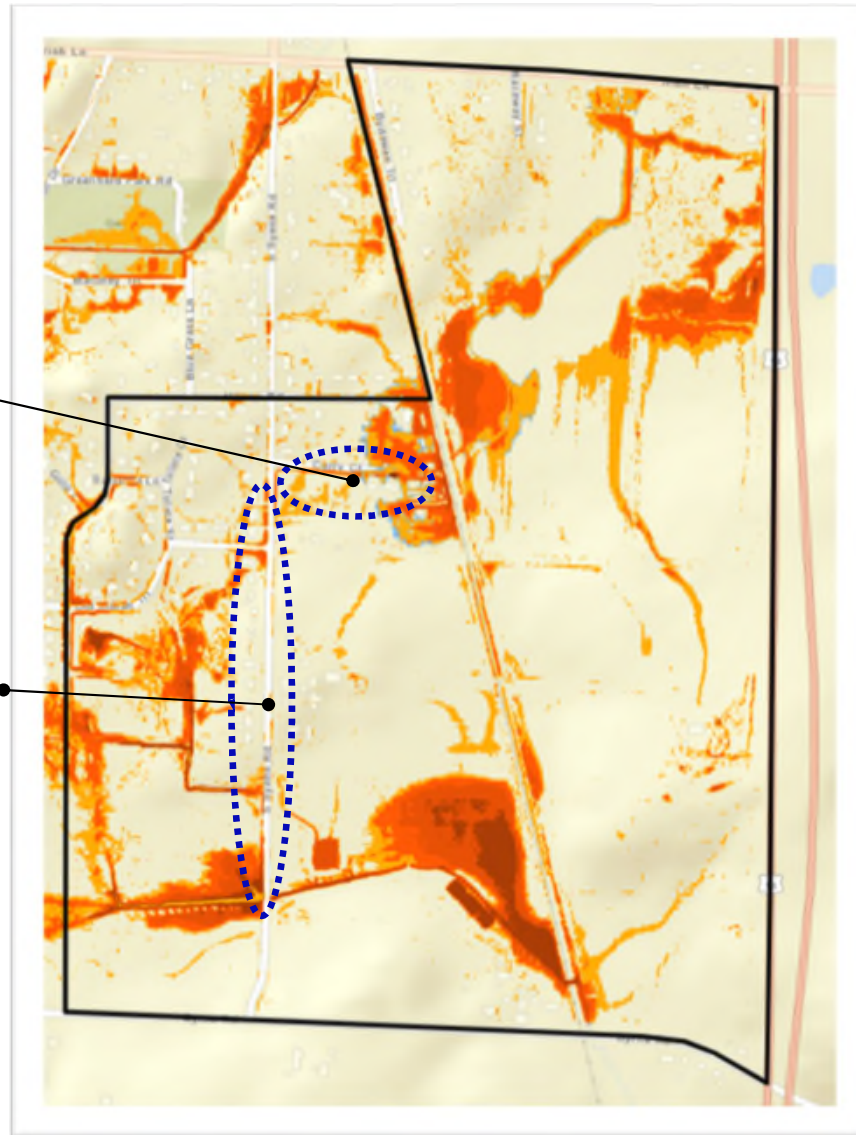
## **Alternative Bottom Line**

- Positive impact on flooding extent and duration for property owners
- Relatively inexpensive, especially if relying on City maintenance staff
- Relies on gravity drainage

# Drain South to Murphy's Creek along Syene Rd.

Grade toward Syene Road

Install storm sewer along Syene Road





S. Syene Rd. Looking North



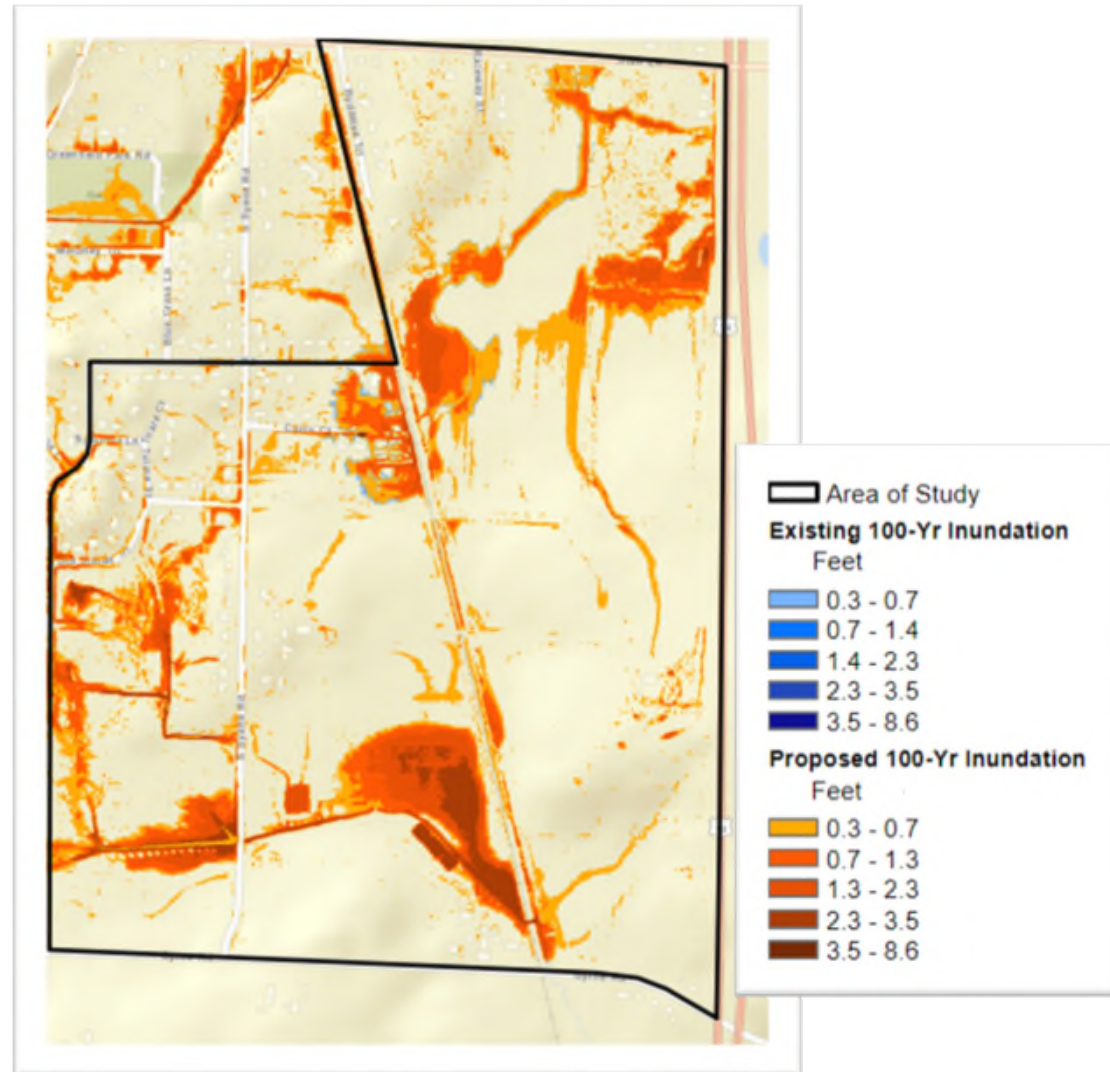
S. Syene Rd. Looking South

## Alternative Challenges

- Storm sewer installation would likely require directional drilling for installation
- Maintenance of deep system is difficult
- Storm sewer is not common on rural roadway sections
- Difficult to construct at 0.5% slope, as the cutting head can “wander”
- Materials very difficult to obtain (\$\$\$)

# Syene Road

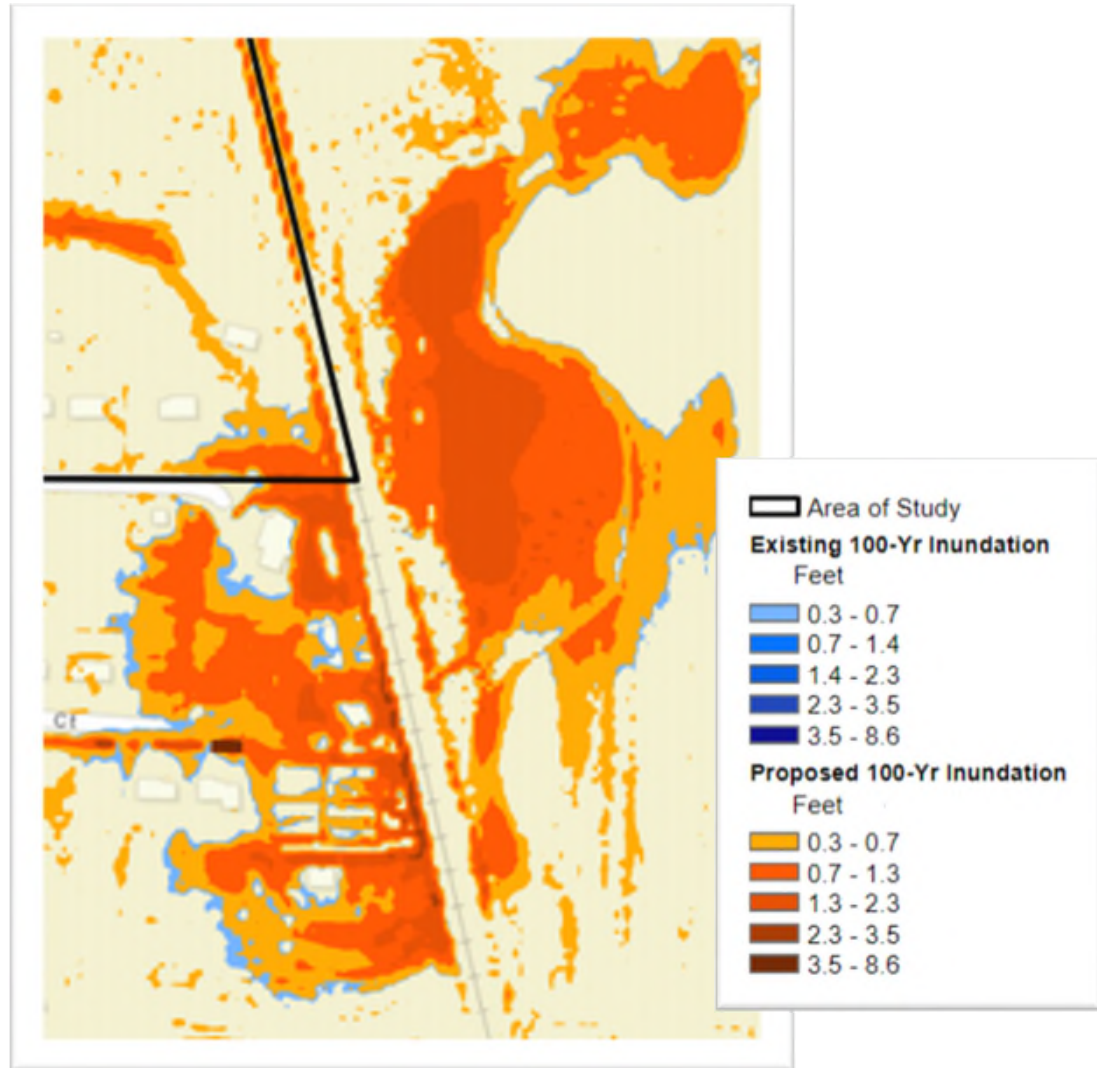
## 10-year Design Storm



# Syene Road

10-year  
Design  
Storm

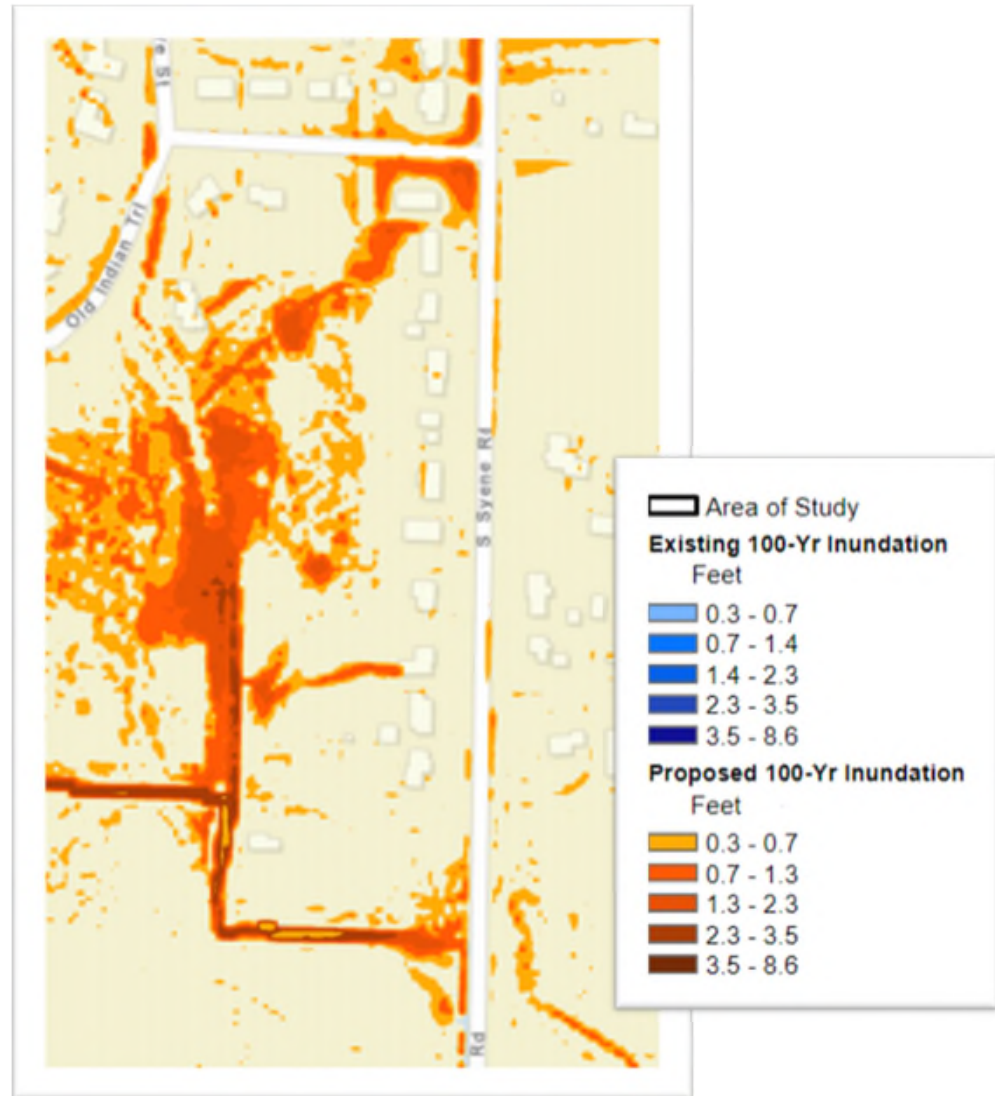
Curry Court  
Area



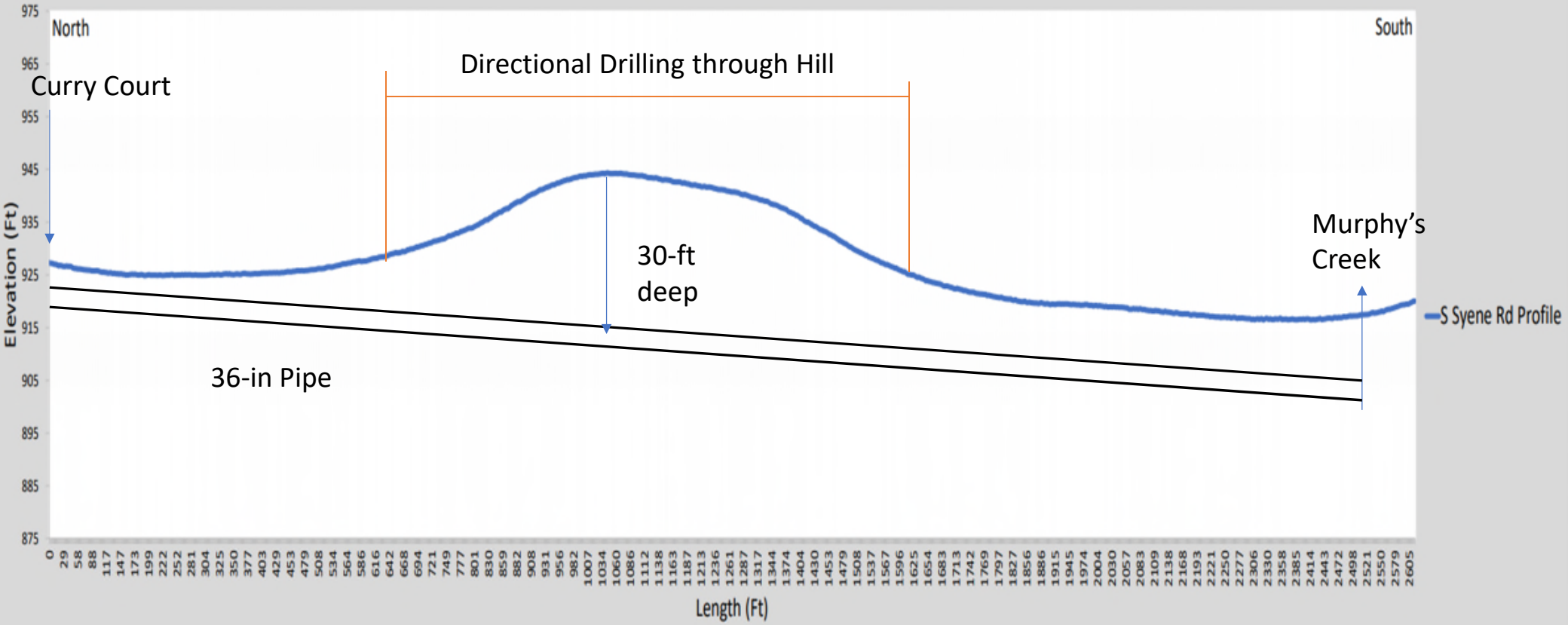
# Syene Road

## 10-year Design Storm

## Old Indian Trail Area



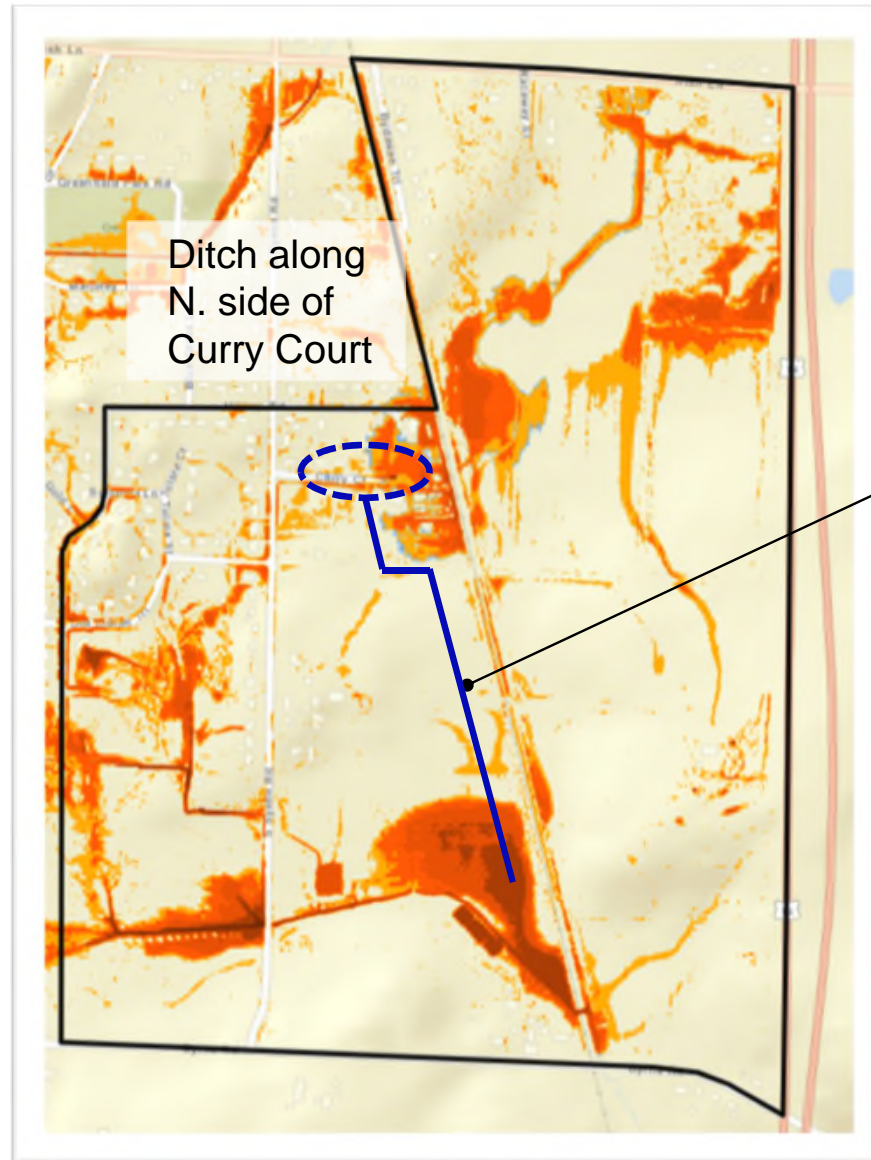
# S Syene Rd Centerline Profile



## **Alternative Bottom Line**

- Most costly option
- Very disruptive construction process
- Less benefit per dollar spent
- Not recommended for further consideration

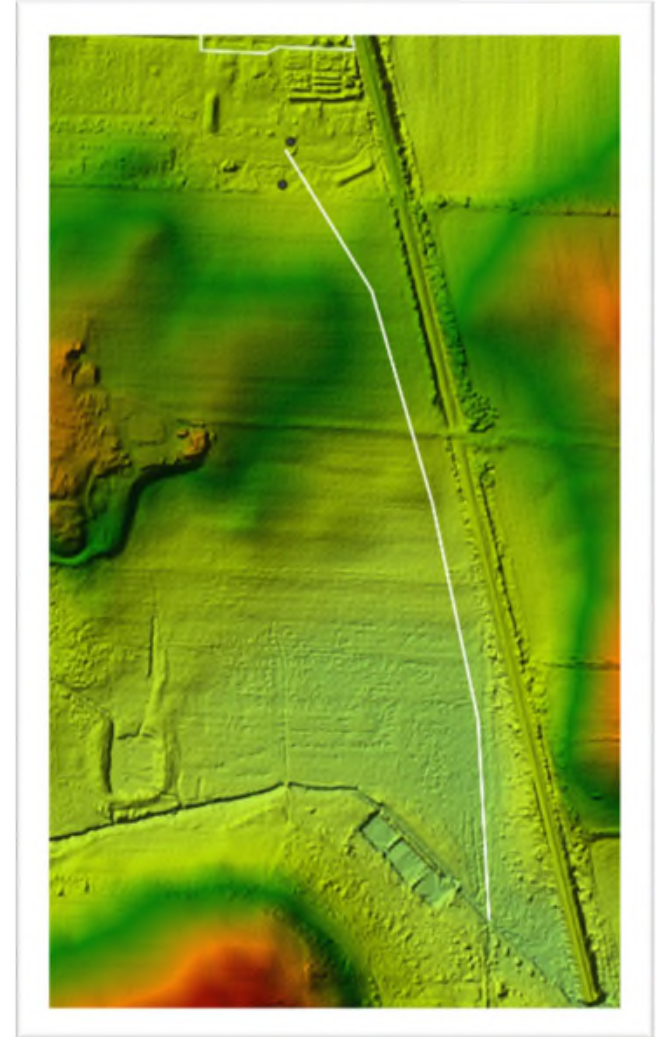
# Drain South to Murphy's Creek Near Railroad



Ditch or 36-inch culvert to Murphy's Creek

## Alternative Challenges

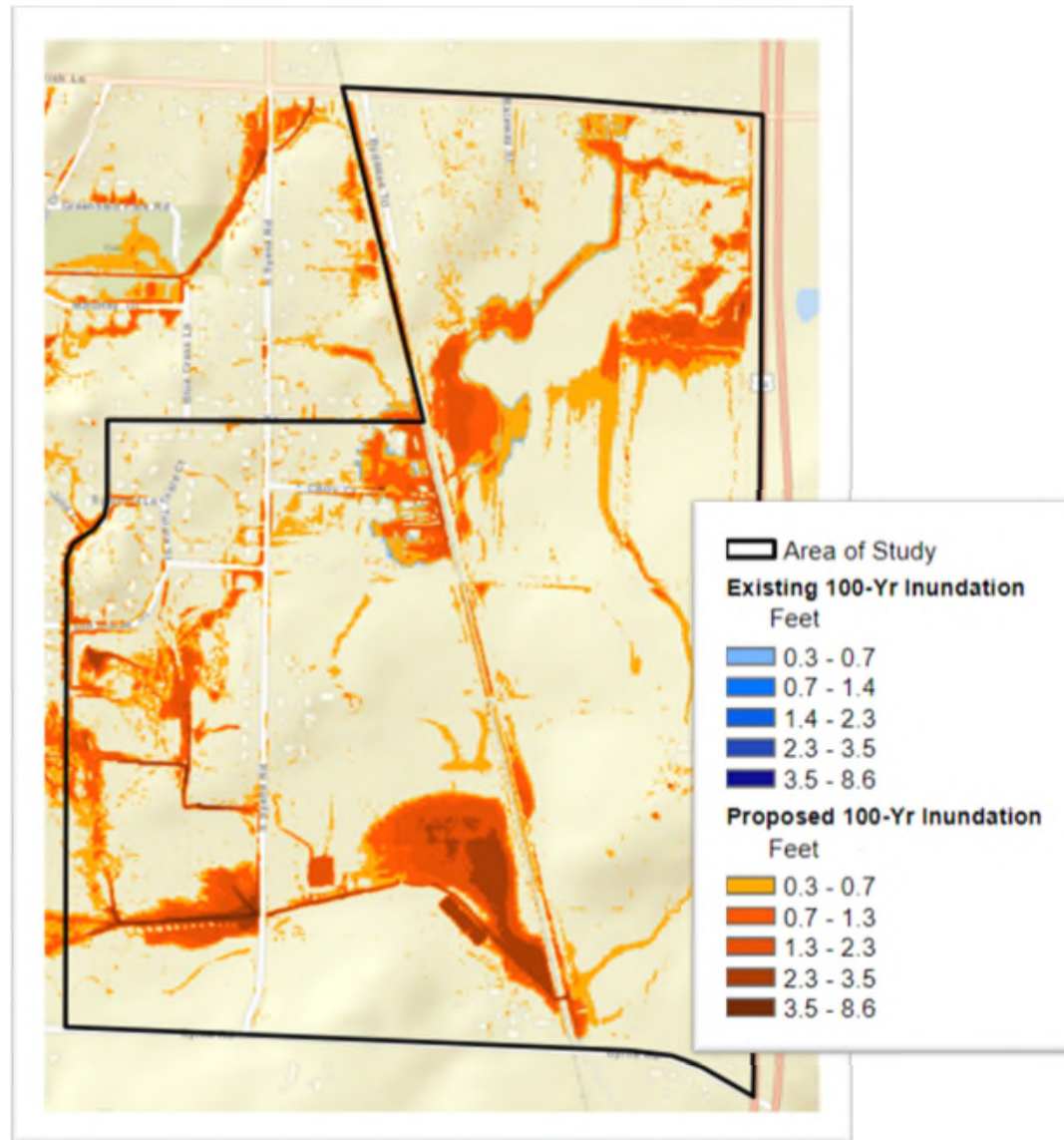
- Even with flatter topography near the railroad, project still requires significant length of pipe or substantial excavation
- Construction of inlets with enough capacity



**South  
Along RR**

**10-year  
Design  
Storm**

**1-36 in Pipe**

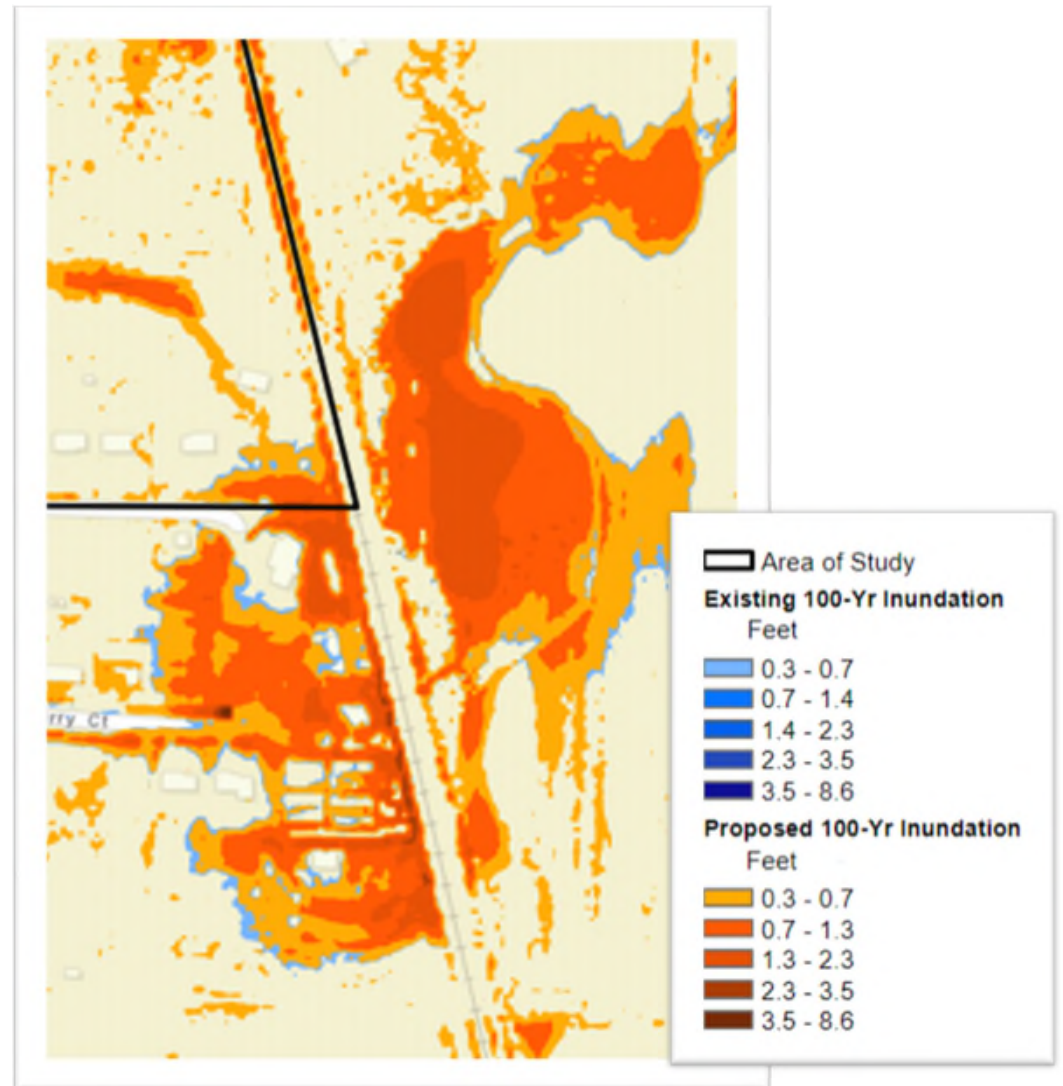


**South  
Along RR**

**10-year  
Design  
Storm**

**1-36 in Pipe**

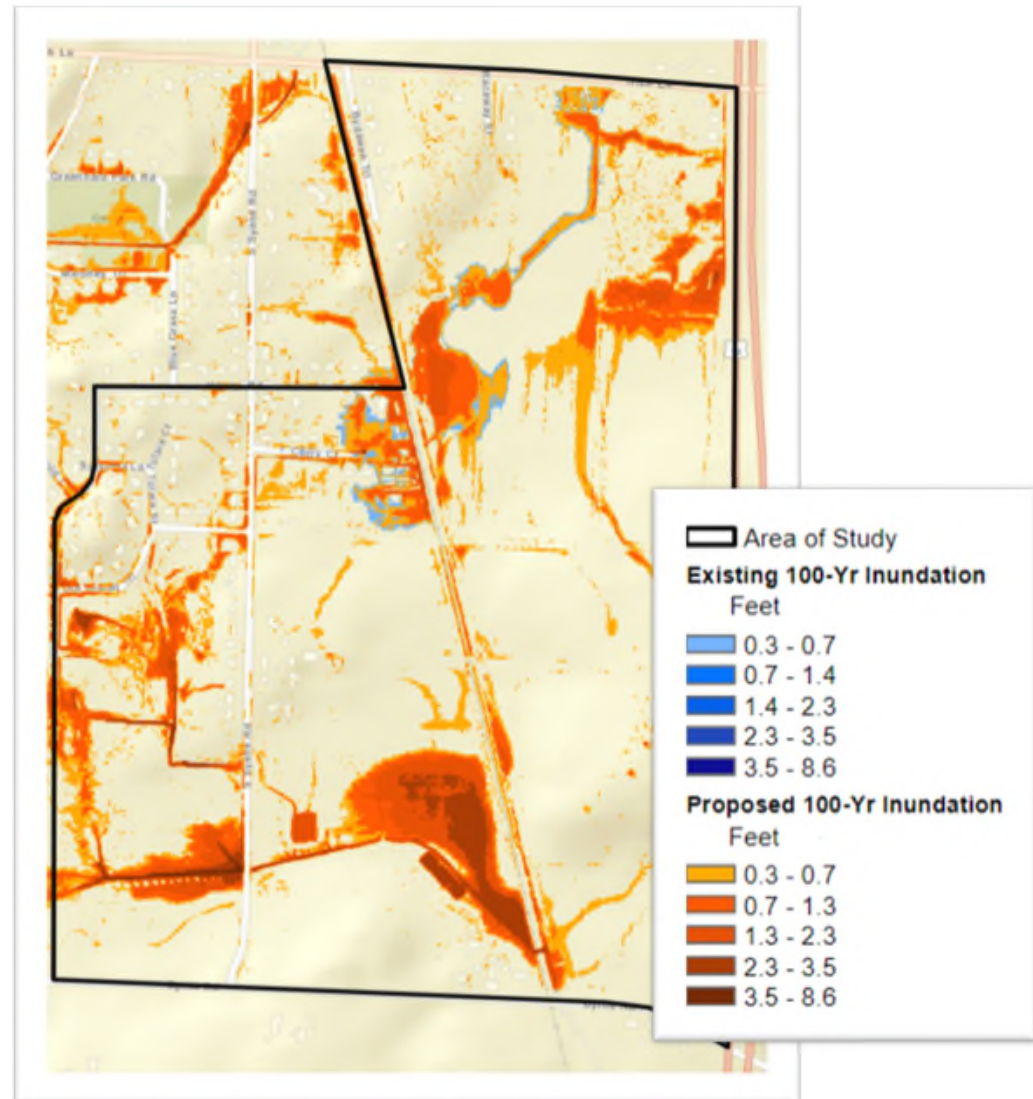
**Curry Court  
Area**



**South  
Along RR**

**10-year  
Design  
Storm**

**3-36 in  
Pipes**

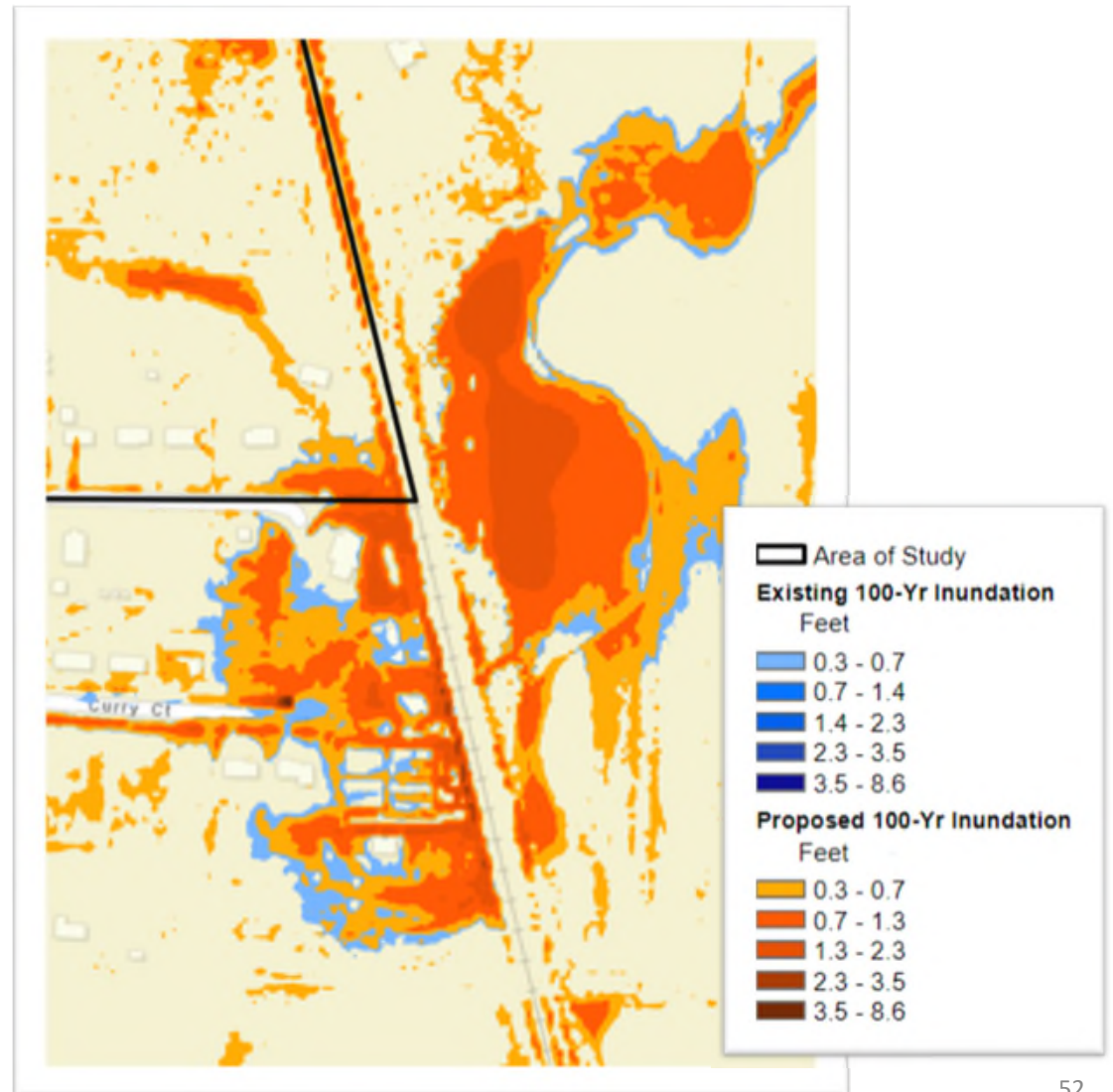


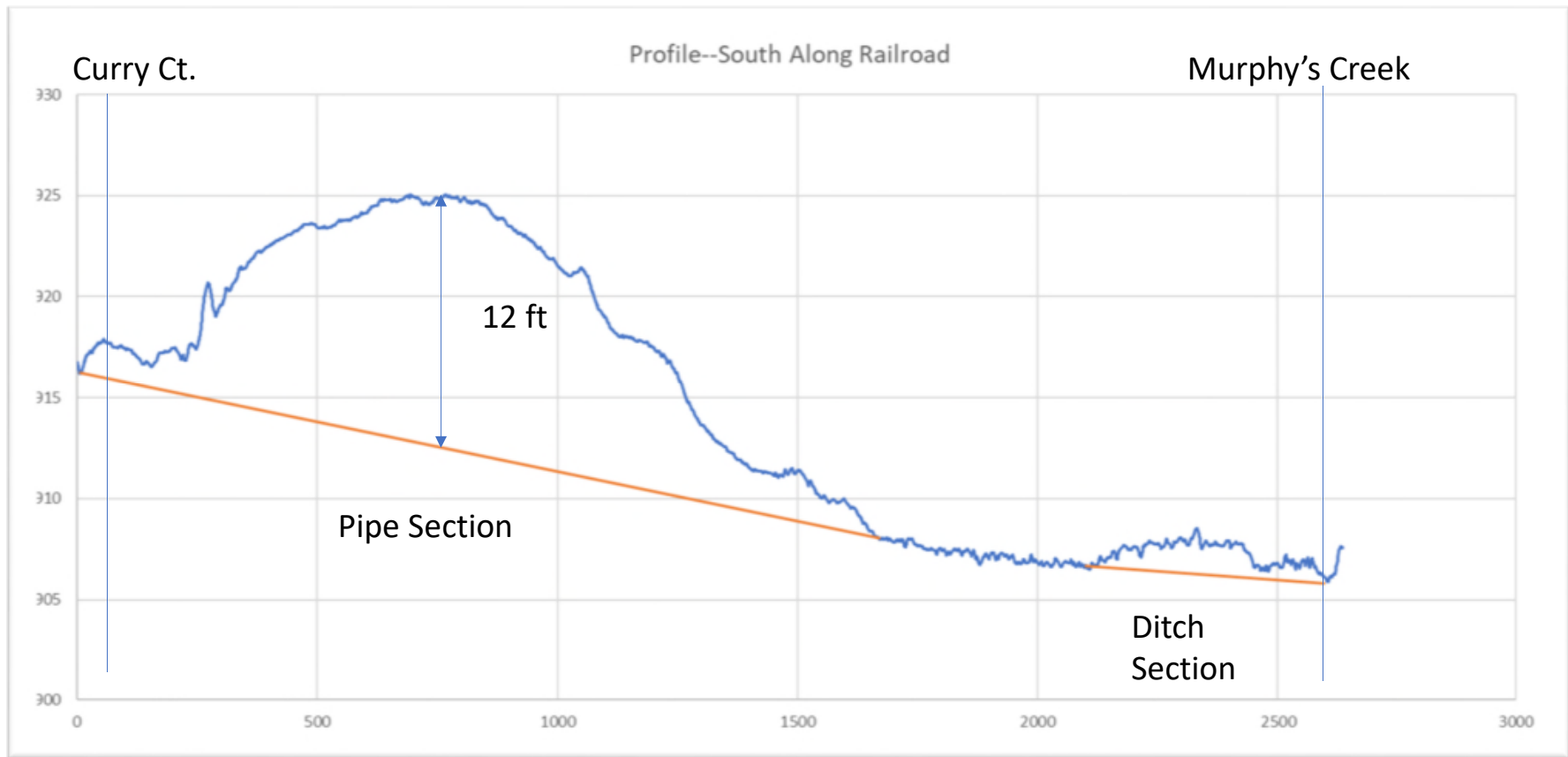
**South  
Along RR**

**10-year  
Design  
Storm**

**3-36 in  
Pipes**

**Curry Court  
Area**





## **Alternative Bottom Line**

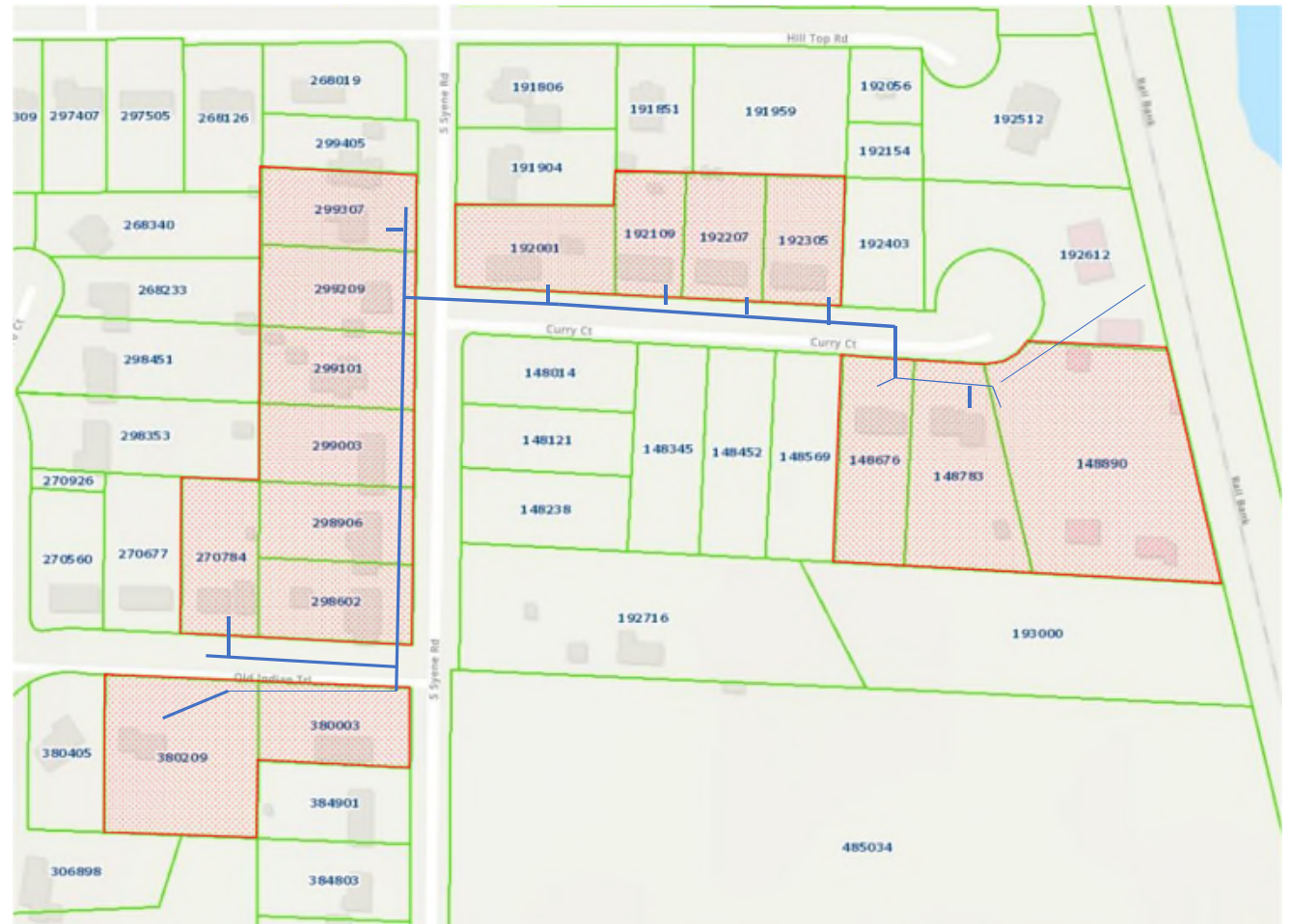
- Willing landowner for easement acquisition
- Easier construction
- Provides flexibility for pipe or ditch section
- Lower project construction cost

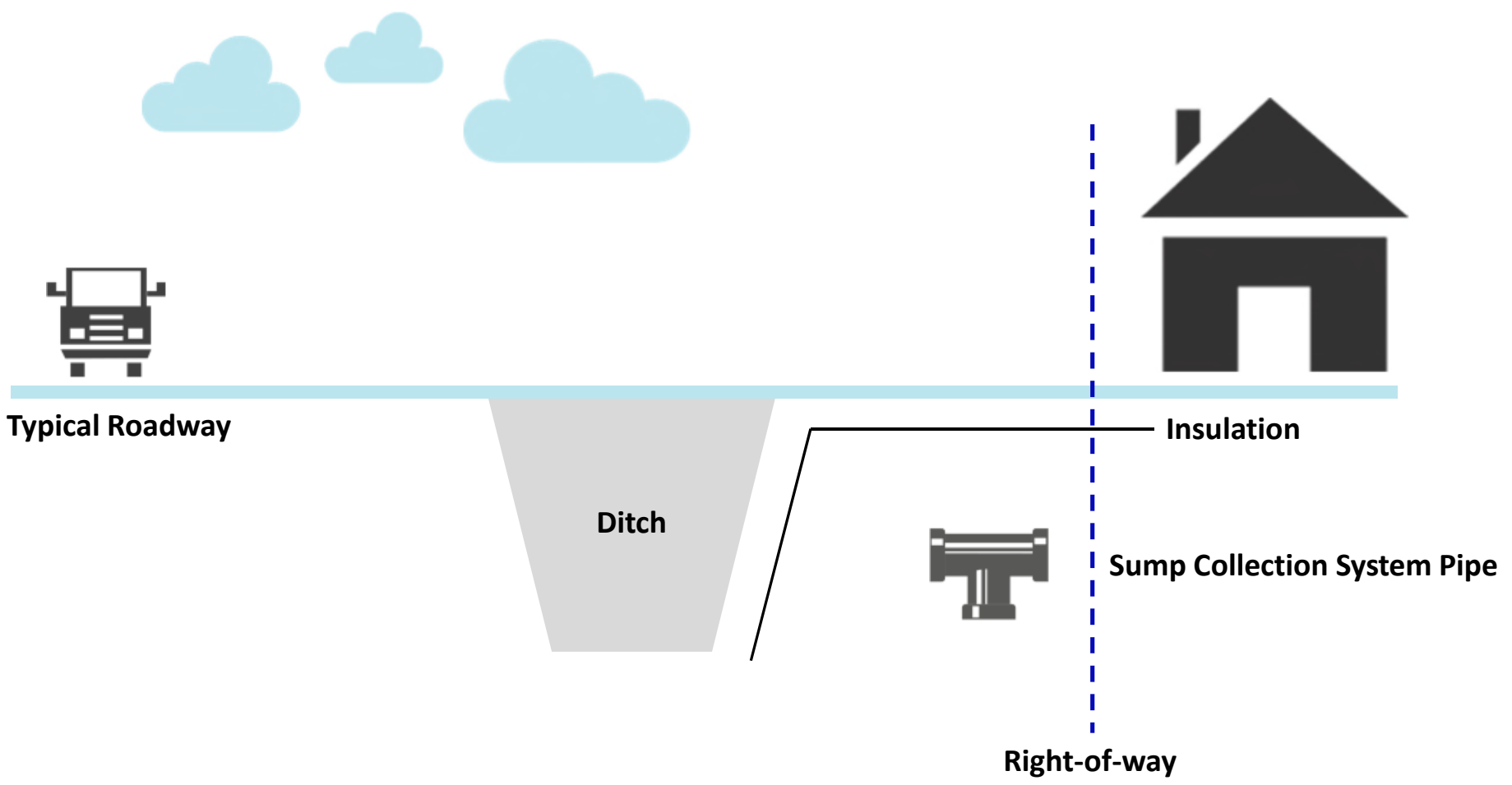
# **Sump Pump Drainage**

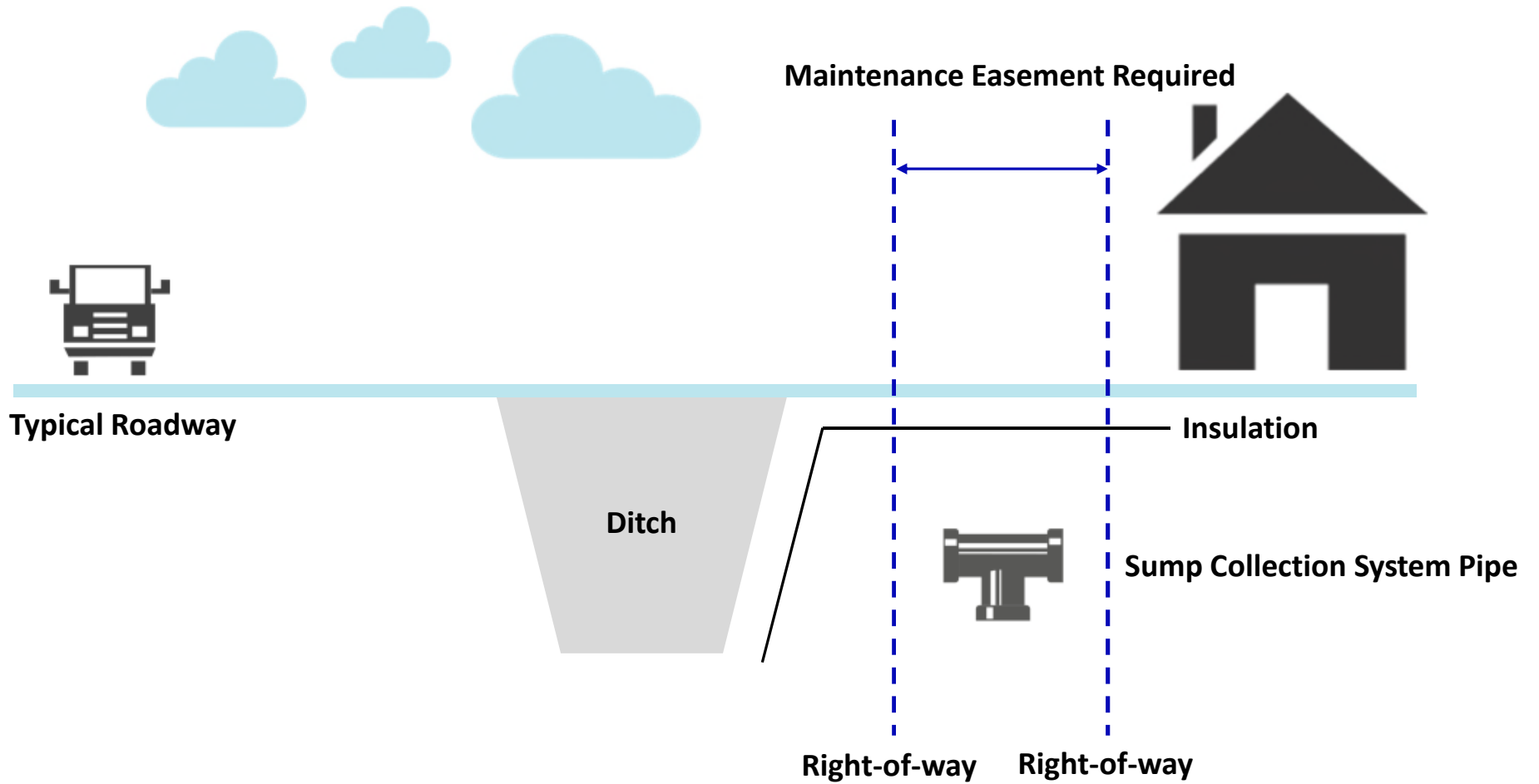
## **Alternative Challenges**

- Ditch sections result in minimal cover
- Minimal cover results in need for insulation
- Depending on right-of-way boundaries, maintenance easements may be required

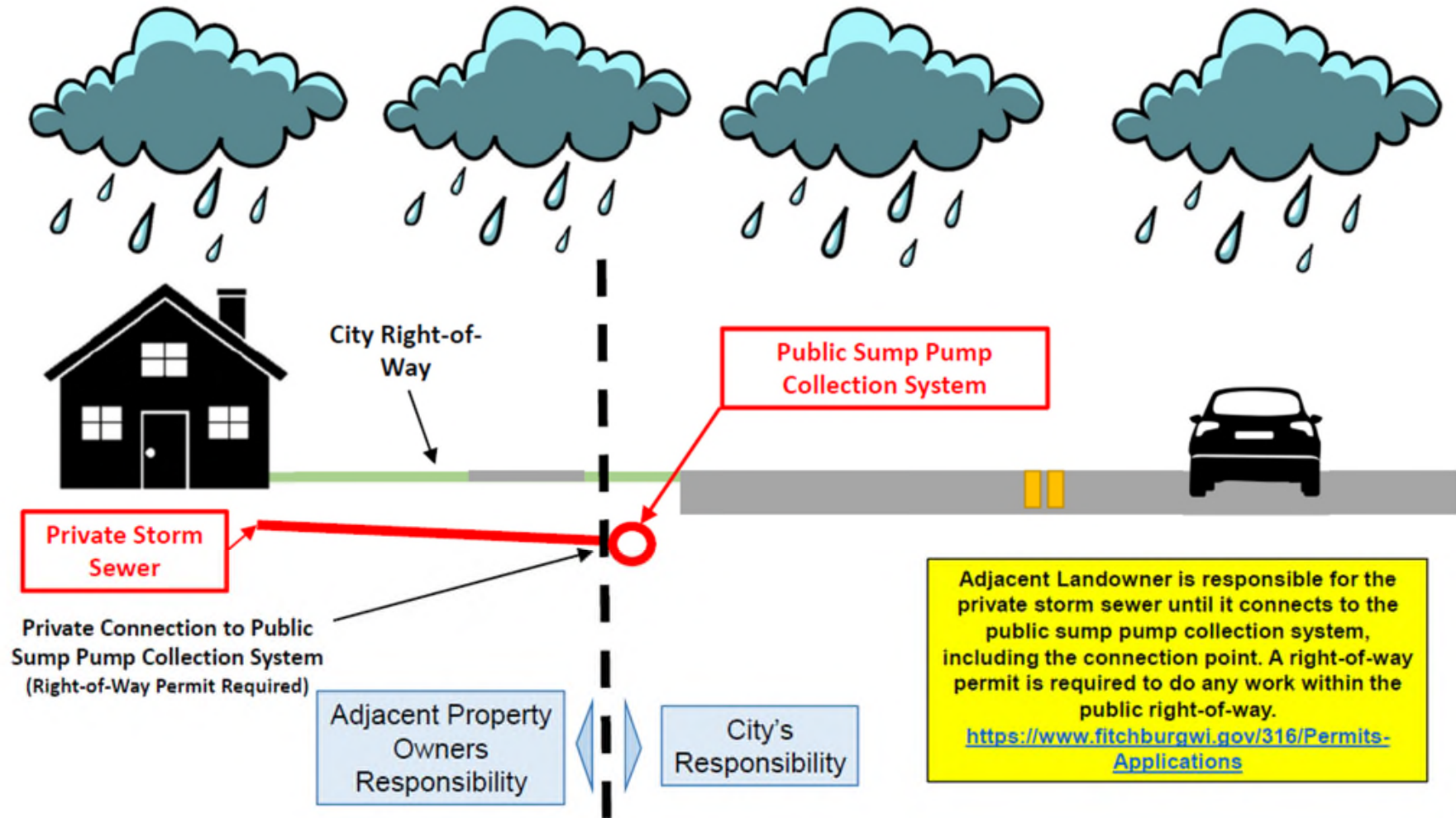
# Potential Sump Pump Collection Network



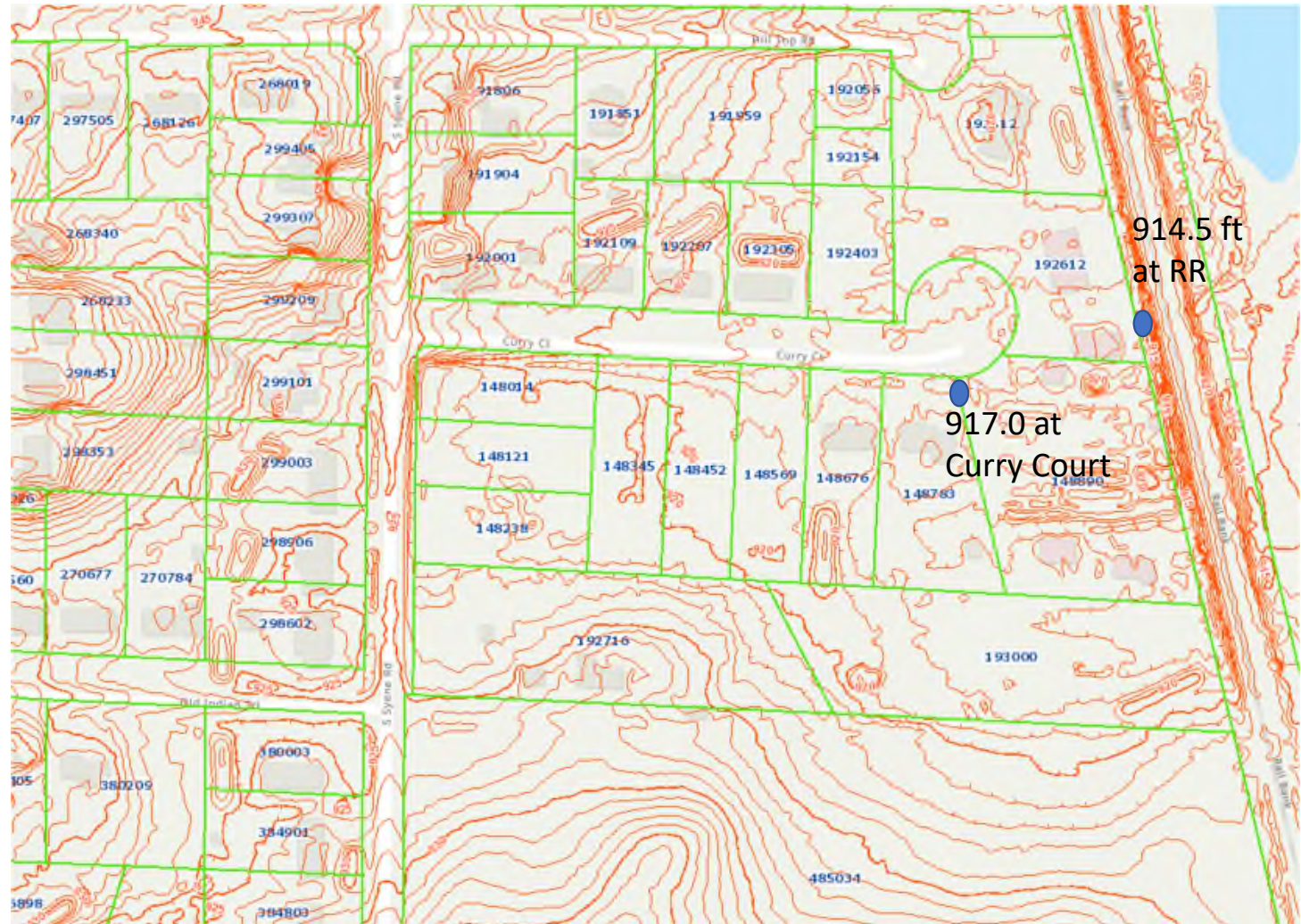




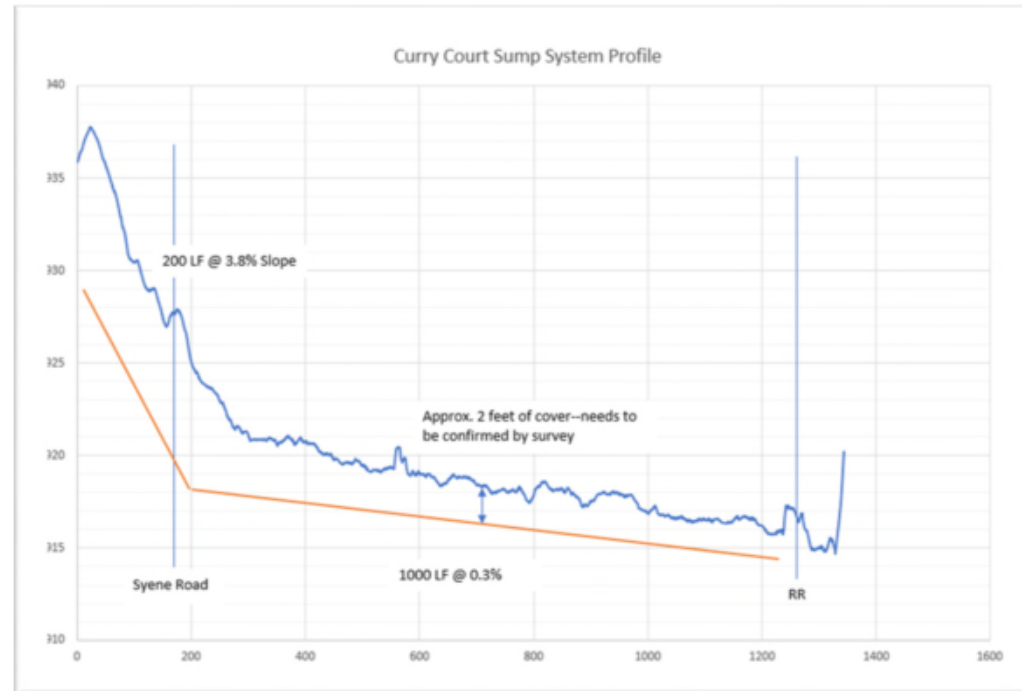
# Homeowner vs. City Responsibilities



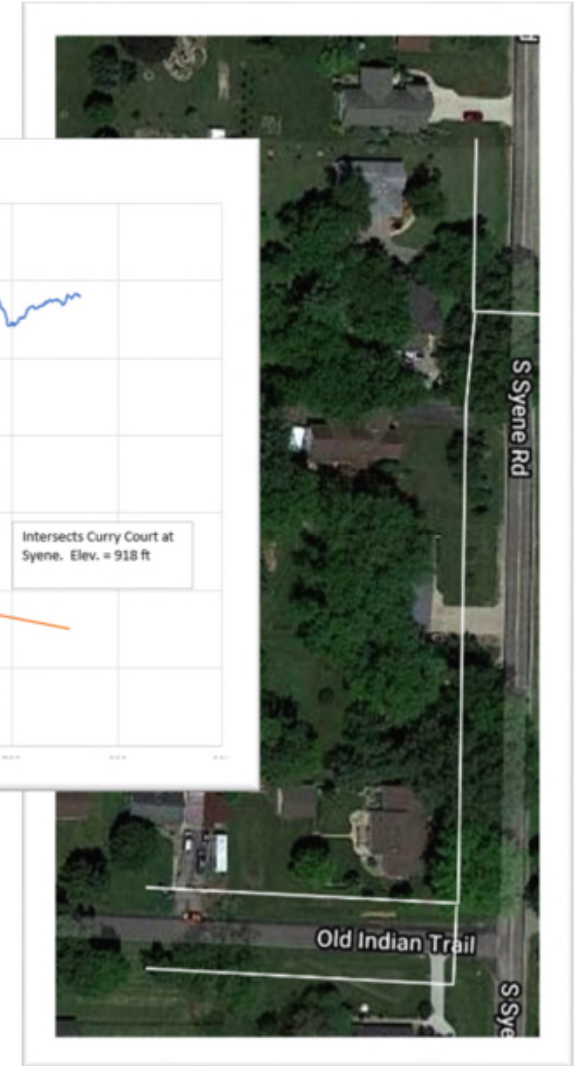
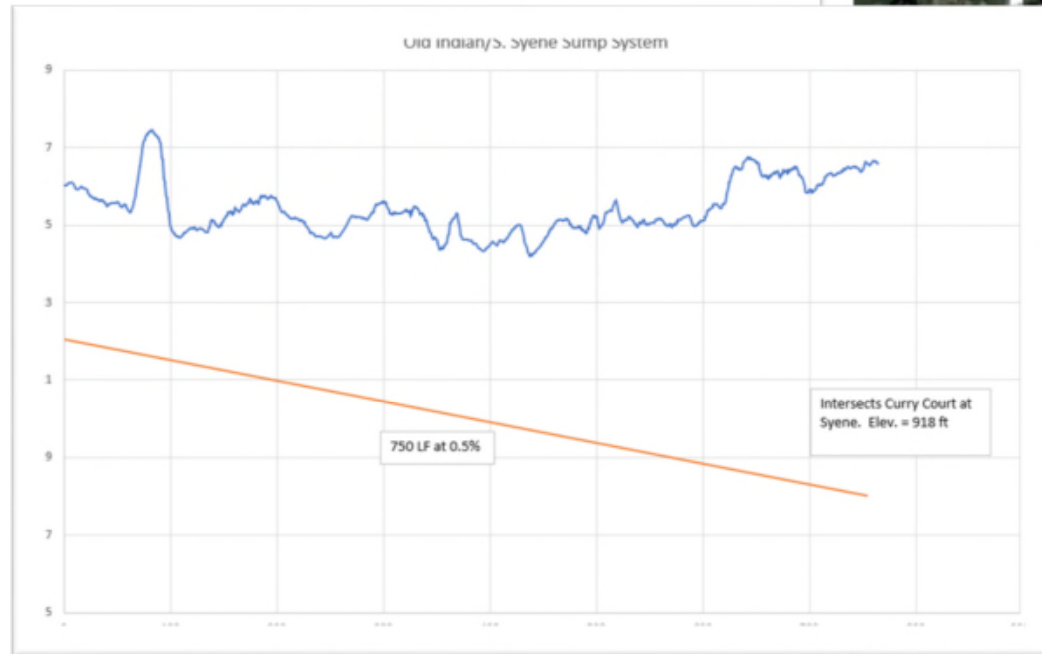
# Grades are a Challenge



# Potential Collection System Profile



# Potential Collection System Profile

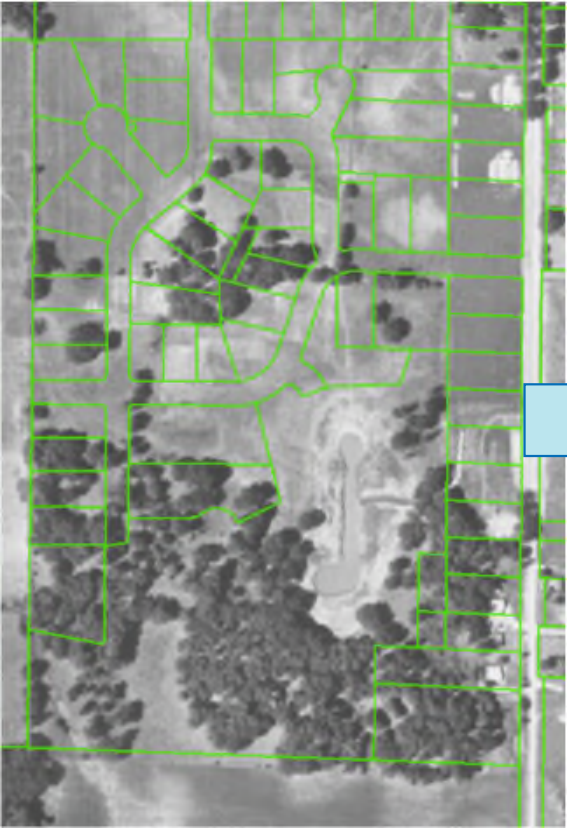


## **Alternative Bottom Line**

- Reduction in “soggy ditches”
- Reduced risk of “recirculating” water back to basements
- System for groundwater influenced flooding, not surface water flooding
- City maintains system within right-of-way
- Would not be effective unless individual homeowners decide to connect to the system
- Less expensive option

# **Gold's Addition Park Pond**

# GOLD'S ADDITON PARK



1955



1974



2010

## **Alternative Challenges**

- Pond location is downstream of flooding locations
- Pond construction would result in the loss of a significant number of trees

## **Alternative Bottom Line**

- Pond is located downstream of flooding and will not mitigate stormwater flooding concerns. (Stormwater detention ponds are designed to help flooding in areas downstream of the ponds, not upstream).

# Options of Probable Cost

# Opinions of Probable Costs

Alternative	OPC
Lower Wetland Overflow Elevation and Enlarge Railroad Culvert	N/A
Old Indian Trail	\$226,000 - \$285,000
South along Syene Road	\$2,107,000
South along Railroad	\$669,000-\$721,000 \$1,500,000 for triple pipes
Sump Pump Collection	\$192,500

# **Pros/Cons of Alternative**

Alternative	Pros	Cons	Cost	Bottom Line
Lower Wetland Overflow & RR Culvert	None	Unable to obtain Easement on Private Property/ Railroad Impacts	Not Assessed	Not viable
Old Indian Trail – Culvert S of Old Indian Trail and dredge ditches in Gold Addition Park	Solves localized flooding issue	Requires easement from landowner Only impacts 4-5 properties Less expensive	\$226,000 - \$285,000	Recommended
S. Syene Storm Sewer	No need for private easements City can maintain	Very expensive Disruptive construction	\$2,107,000	Not Recommended (South Along RR is a similar option which is less expensive)
South Along RR	Willing landowner Some flooding improvements	Relatively expensive Requires easement for maintenance	\$669,000-721,000	Viable – Drains area more quickly, but does not impact peak elevations
Sump Pump Collection	Helps for normal conditions Centralizes discharge	Will not improve conditions for extreme flooding events	\$193,000	Recommended
Gold’s Addition Park Pond	None	Not effective for flood reduction	Not Assessed	Not Recommended

# Recommendations

# RECOMMENDATIONS

## Primary

- Sump Pump System** - Next year if grades have enough pitch
- Discharge to Curry Court/RR Ditch

# RECOMMENDATIONS

## Primary

**Sump Pump System** - Next year if grades have enough pitch

- Discharge to Curry Court/RR Ditch

### **Old Indian Trail**

- Install pipe along property line
- Clean ditches through park

# RECOMMENDATIONS

## Primary

**Sump Pump System** - Next year if grades have enough pitch

- Discharge to Curry Court/RR Ditch

**Old Indian Trail**

- Install pipe along property line
- Clean ditches through park

## Secondary

**South Along Railroad**

- Willing landowner
- Lower construction costs than S. Syene Road option
- Extend drainage system to north side of Curry Court
- Reduces duration of flooding, but has little impact on peak elevations

# Next Steps

# NEXT STEPS

- Feasibility Study
  - Assess alternatives to pump to north or south (change order approved as part of Resolution R-127-21)
  - PIM 3 to review results of pump station feasibility
  - Issue Final Report

**Capital Improvement Program (CIP)**

2022 *thru* 2031

**City of Fitchburg, WI**

<b>Project #</b>	<b>4717</b>
<b>Project Name</b>	<b>Curry Court Flooding</b>

<b>Type</b>	Improvement	<b>Department</b>	Public Works - Storm
<b>Useful Life</b>	20 Years	<b>Contact</b>	PW Director/City Engineer
<b>Category</b>	Utility & Urban Services	<b>Priority</b>	Storm Rank 1



**Description**

Notes - The purpose of this project would be to analyze the flooding problem at Curry Court, determine alternatives to fix the issue, and provide a price estimate for each alternative. We anticipate that fixing the issue would involve building a pump station to send the water south to Murphy Creek. Any alternative to fix the flooding at Curry Court would be contingent upon first improving the street to include curb, gutter, and storm sewers to collect the water. This would be assessed to the home owners.

2021-2030 CIP Update: Accelerated from starting in 2023 to starting in 2021.

Current timeline:

2021 - Collect data and model flooding problems, determine alternatives to fix the problem, provide concept-level plans and a cost estimate for each alternative. Select alternative that will be selected for design. (accelerated from 2023)

2022 - Develop design plans. (accelerated from 2024)

2023 - Improve the road and construct the selected alternative. The cost to improve the road is approximately \$160,000, of which approximately \$110,000 is assessable. We anticipate that the average lot would be assessed approximately \$10,000. The actual cost of the solution to the flooding problem will be determined once it has been designed. The cost to construct the alternative to address the flooding will be determined when it is designed. A placeholder of \$400,000 has been included. (accelerated from 2025)

Previously authorized funding:  
2021: Planning and design \$40,000 (rates)

Note: Staff intends to propose a change in the City's Assessment Policy during 2021 that may change how this project is funded.

**Justification**

The Curry Court neighborhood was built during a time when stormwater drainage was not always considered and houses were often built using the natural topography of the land. Unfortunately, Curry Court was built on a very flat area with no natural outlet and the neighborhood has dealt with stormwater issues for years. In the past few years, flooding has been worse than normal due to the record-high groundwater throughout the community.

<b>Expenditures</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>	<b>2031</b>	<b>Total</b>
Planning/Design/Eng	45,000										45,000
Construction of New Facilities/Additions		560,000									560,000
<b>Total</b>	<b>45,000</b>	<b>560,000</b>									<b>605,000</b>

# NEXT STEPS

- Sump Pump Collection System
  - 2022 – Planning/Design
  - 2023 – Construction (assessment)
- Gold Addition Park
  - Dredging the existing ditch is recommended; however, re-constructing historic pond is not recommended
  - 2022 – Planning/Design
  - 2023 – Dredge ditches (Jan/Feb winter)

# NEXT STEPS

- Old Indian Trail
  - Adding a culvert between Old Indian Trail and Gold Addition Park is recommended
  - 2021 – Work with property owner to determine if there is willingness to provide the City with a Public Stormwater Easement to install a pipe in this area
- Common Council input on alternates that are viable, but cost-benefit is less clear
  - Jones Property Alternative
  - S. Syene Alternative
  - Pump Station Alternatives (if determined to be viable)

# Questions?

<http://www.fitchburgwi.gov/2667/Curry-Court-and-Old-Indian-Trail-Study>



# Contact

**Claudia Guy, PE**  
**City of Fitchburg**  
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**608-270-4262**

