#### Drain 27 Flood Risk Management Project (40th Avenue South to I-29) City of Fargo - Project #6229

Public Informational Meeting September 19, 2013



### Overview / Why Are We Here?

- Overview of City-wide Initiatives
- Specific Project Objectives
- Past Flood Fight Strategy (i.e. 2009,2010,...)
- Pending FEMA Floodplain Impacts
- Review of Alternatives Considered
- Recommended Plan
- Project Schedule / Financing
- Questions





#### **Red River Flooding History**

Ned River Flood Stage = 18 feet on the Fargo gage at 13th Ave. S.

Exceeded in 48 of the past 109 years

Exceeded every year from 1993 through 2011

Catastrophic damages have been prevented by emergency measures

7 of the 15 "major" floods on record have occurred since 2000

2009 was the flood of record

Stage of 40.8 feet

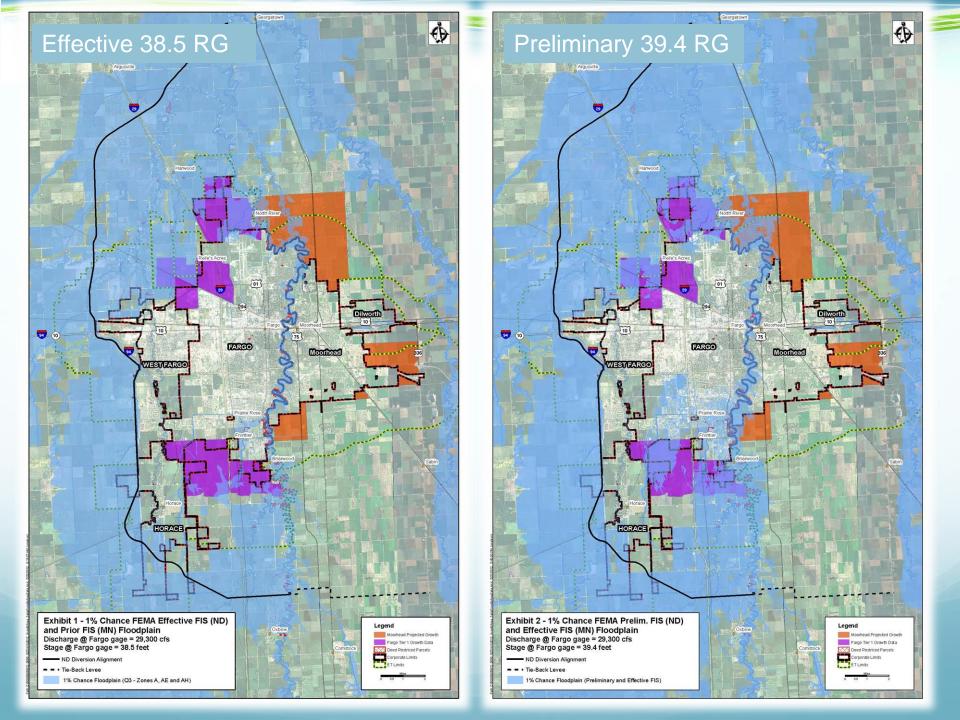
2-percent chance (50 year) event

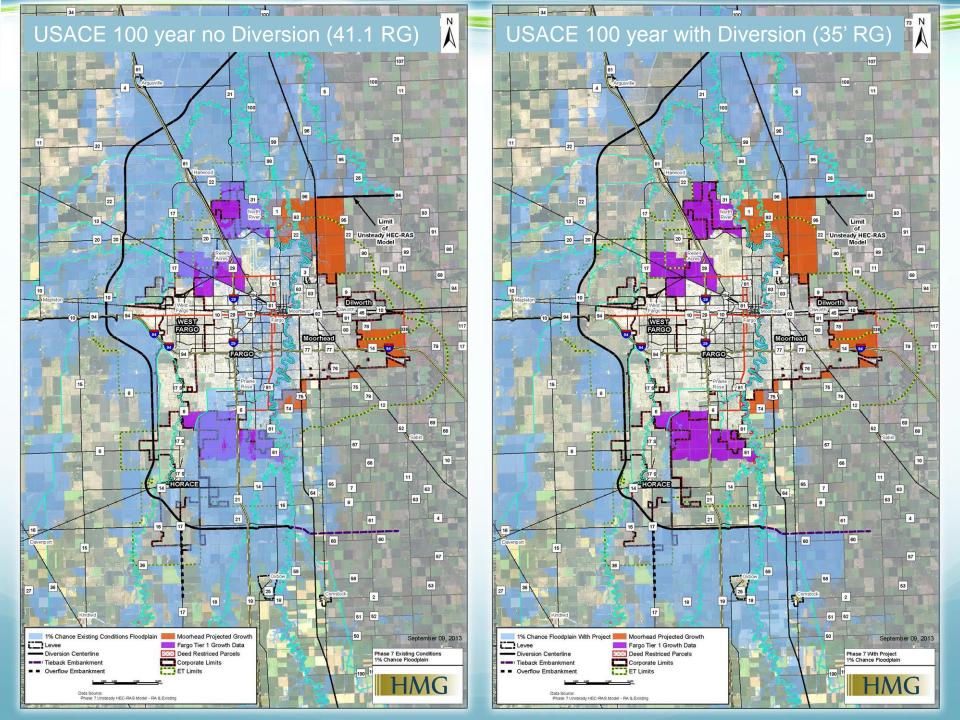
Emergency measures cost approximately \$70M

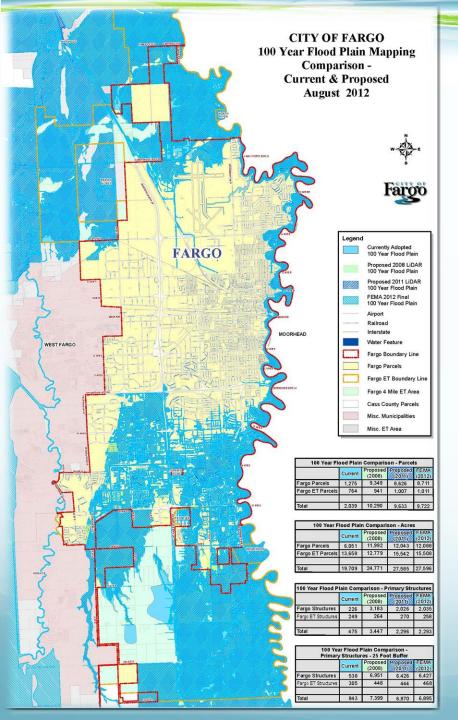
# **Defining the Risk**

- Current Floodplain
  - O 38.5 Feet River Gage (29,300 cfs)
  - O 475 Impacted Structures
  - O 19,700 Acres Impacted
- Preliminary Floodplain
  - O 39.4 Feet River Gage (29,300 cfs)
  - O Approx. 2,300 Impacted Structures
  - O 27,600 Acres Impacted
- Flood of Record
  - O 40.8 Feet River Gage
- Future of the Floodplain
  - O USACE 41.1 River Gage (34,700 cfs)
  - O Approx. 19,400 Impacted Structures
  - O 36,430 Acres Impacted



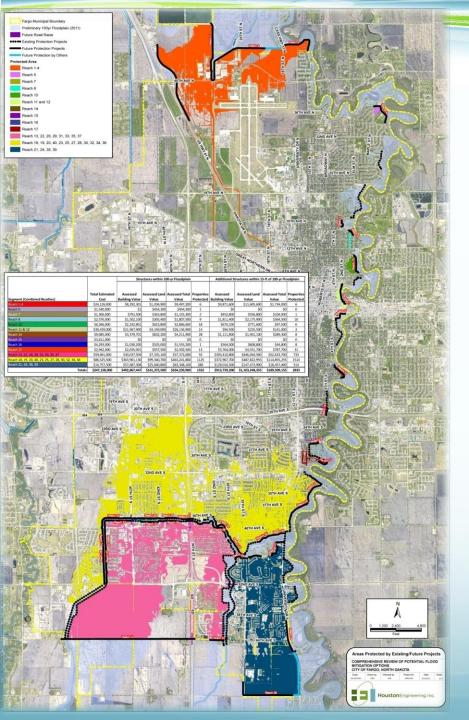






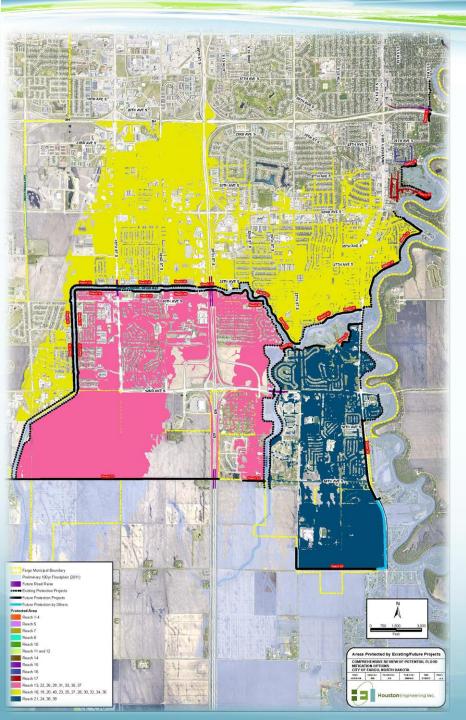
#### Map Process

- Anticipated Adoption Summer 2014
  - Appeal Period-Done
    - City submitted 32 Appeals
      - Including 221 property surveys
    - Map is being updated
    - Letter of Final Determination 2014
  - Newly mapped properties
     Likely to face substantially
     higher premiums due to
     Biggert Waters



# Comprehensive Plan

- Certifiable Protection From the Preliminary Floodplain (39.4 Feet)
- Only Proposed Projects If Protection Extended to Interior Property (additional buyouts)
- Identified an Estimated \$247 M in Projects
- Would require
  - 197 residential buyouts
    - 80 offers extended
      - 44 accepted
      - An additional 10 Added to buyout list and purchased based on greater detail
  - 5 commercial/Industrial buyouts



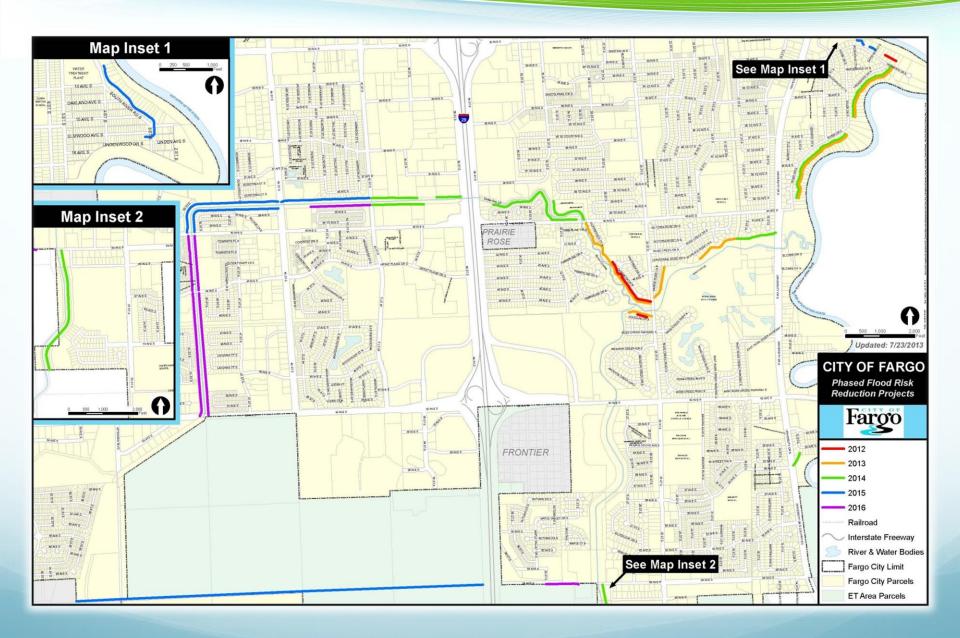
# Comprehensive Plan

- Area South of I-94 was identified as having a greater area at risk
- Yellow area has approx 1,500 structures in floodplain
- Recognizing funding limitations staff sought to prioritize potential projects

# CITY OF FARGO Flood MitigationProjects February 2013 **FARGO** MAIN AVE WEST FARGO Constructed Levee (color varies to show #5747-29 43.5'

#### Progress to date

- Approximately 14 Miles of Improvements Totaling Over \$57M Since 2009
  - North Oaks
  - Ridgewood
  - Oak Grove Area
  - 4<sup>th</sup> Street Levee Raise
  - Lindenwood
  - Southwood
  - Lemke Park
  - Southwood
  - River Vili
  - Timberline
  - Meadow Creek
  - Silver Leaf
  - Drain 27 West of I29 Various locations



# Overview of Project Objectives

- Improved Flood Protection for Area
- Reduced Reliance on Emergency Measures
- Compatibility with Overall Comprehensive Plan / Future Certification
- Long-term Sustainability
- Cost Effectiveness



# Past Flood Fight Strategy

(i.e. 2009,2010,...)

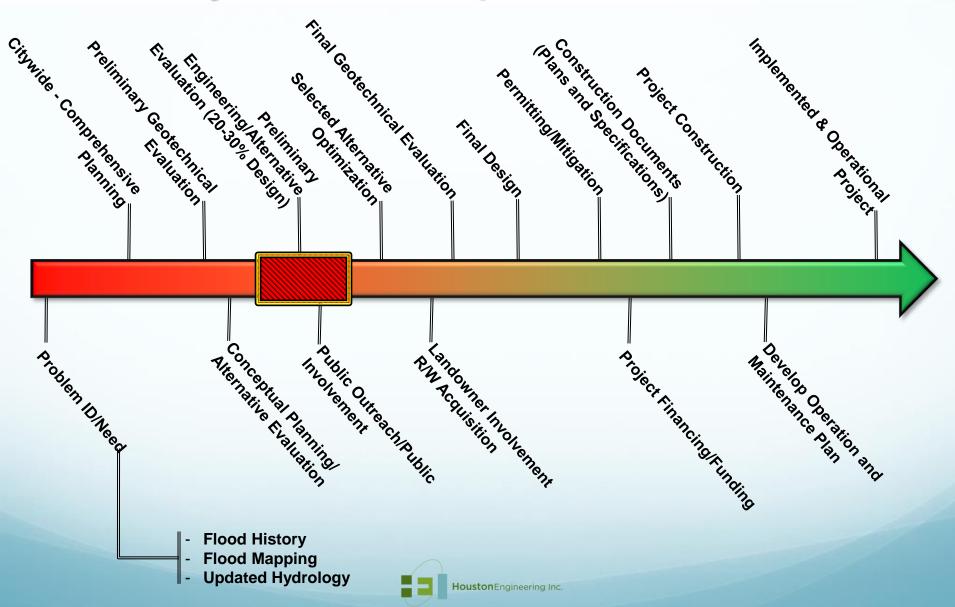


# Pending FEMA Floodplain Impacts

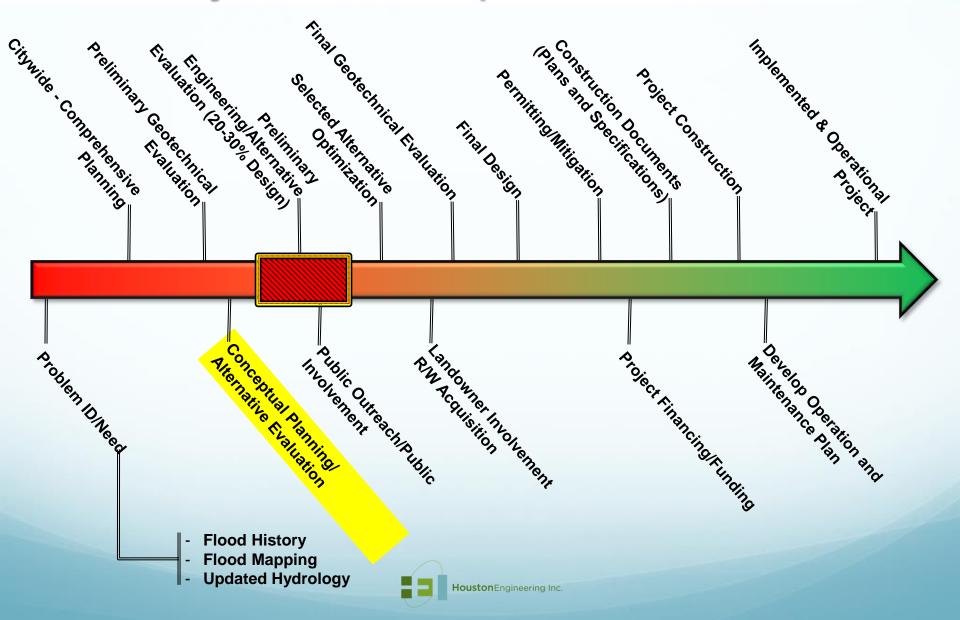
Preliminary FEMA 100yr - RS 39.4'



# Project Development Process



# Project Development Process



# Early Concept Plan Development

- Numerous alignments
- Multiple methods
- Geotechnical evaluation
- Preliminary design







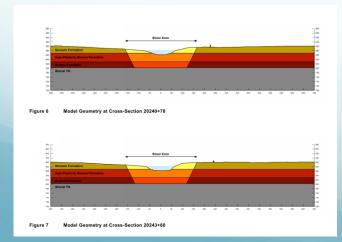






**Project Considerations** 

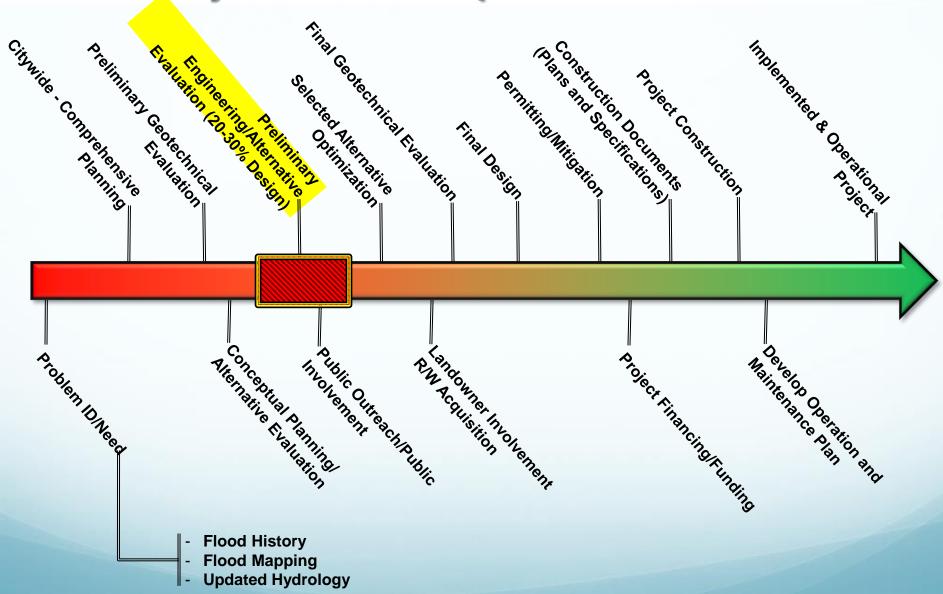
- Flood protection capability
- Geotechnical stability/sustainability
- Private property impacts
- Traffic/transportation impacts
- Utility impacts
- Environmental impacts
- Operation/maintenance requirements
- Costs







### Project Development Process



# Options Evaluated in Detail

- Option 1A Primary Levee Option
  - Estimated Cost = \$21.2M
  - 36 Residential Acquisitions
  - 7 Commercial/Rental Acquisitions

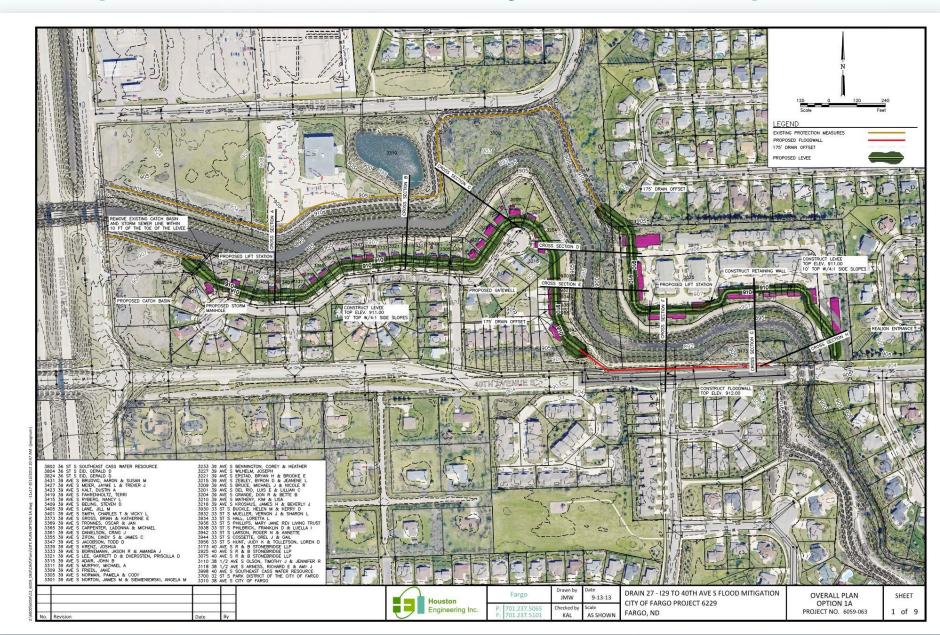
- Option 3A Combination Channel Modification/Levee/ Floodwall Option
  - Estimated Cost = \$18.5M
  - 21 Residential Acquisitions
  - 7 Commercial/Rental Acquisitions
- Option 5A Primary Floodwall Option
  - Estimated Cost = \$16.5M
  - 0 Residential Acquisitions
  - 7 Commercial/Rental Acquisitions



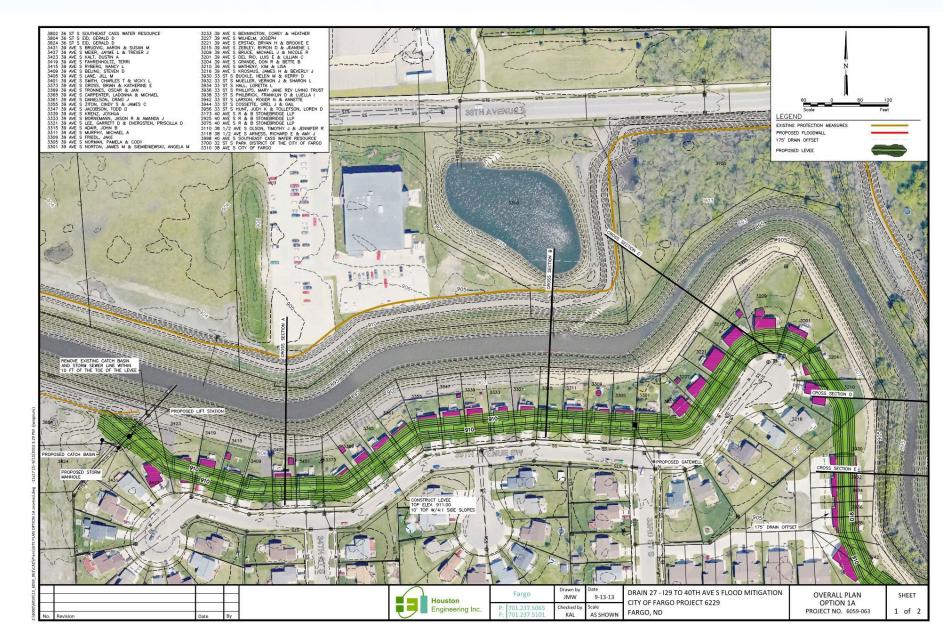




# Option 1A - Primary Levee Option



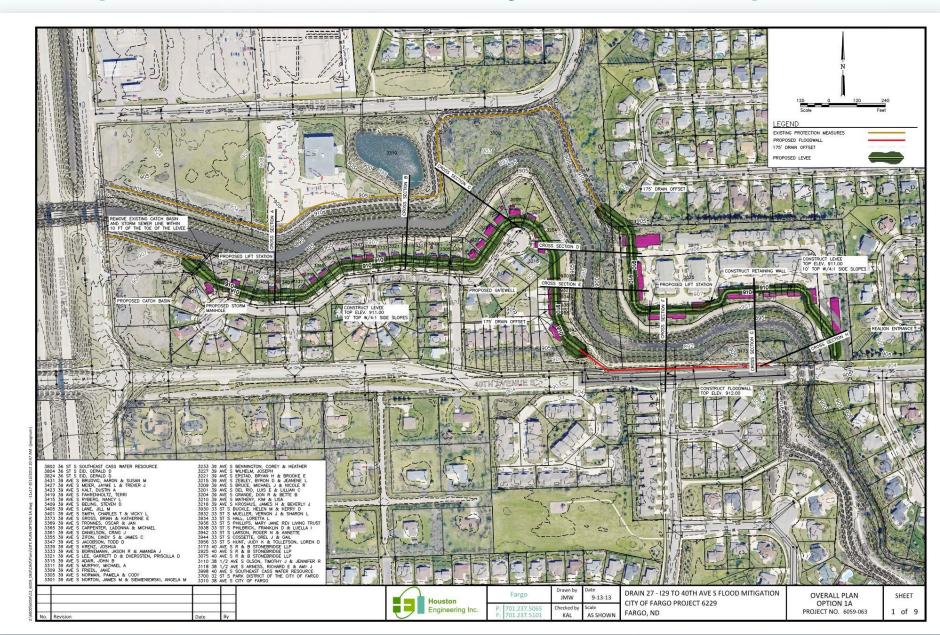
# Option 1A – Primary Levee Option

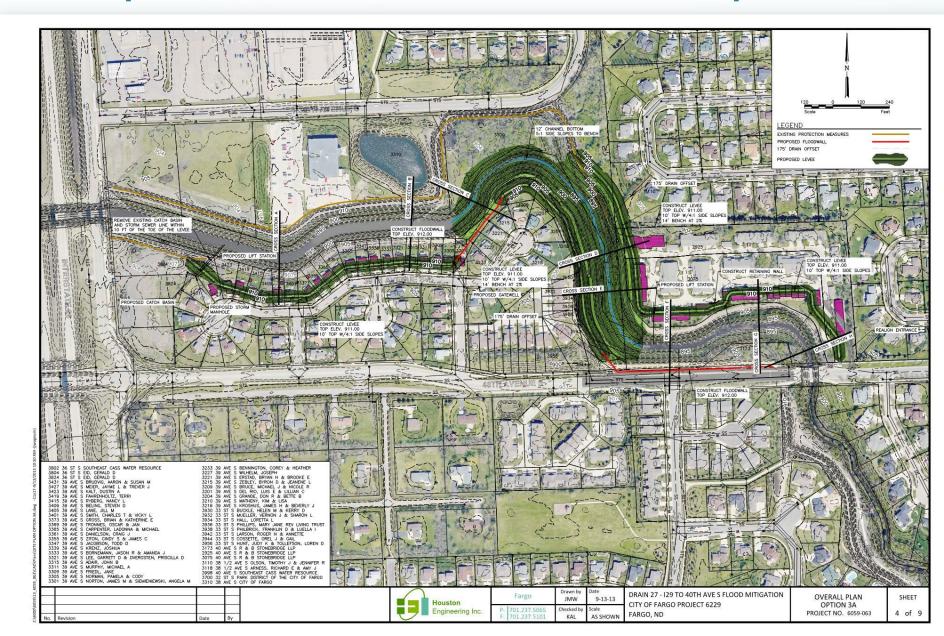


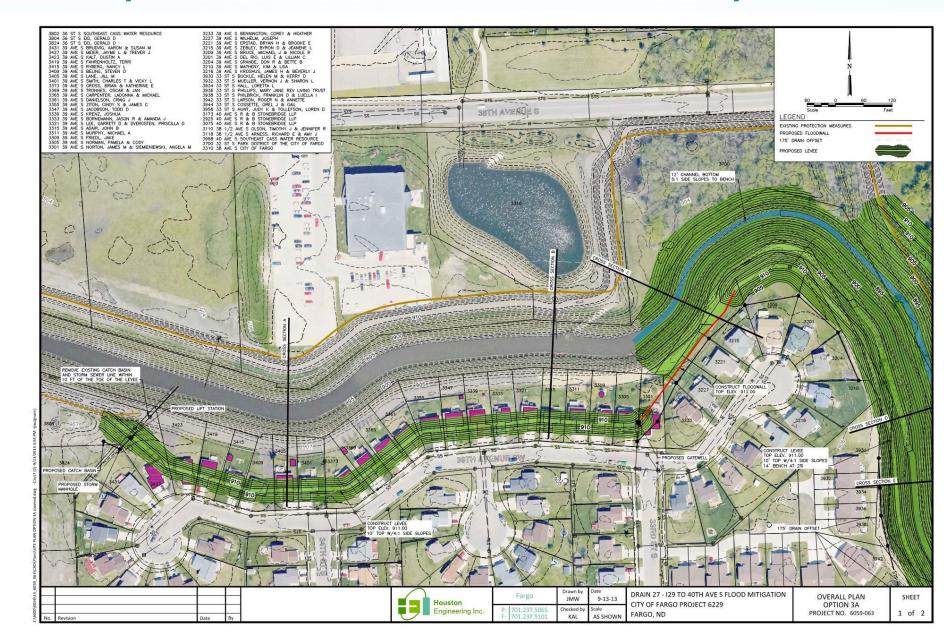
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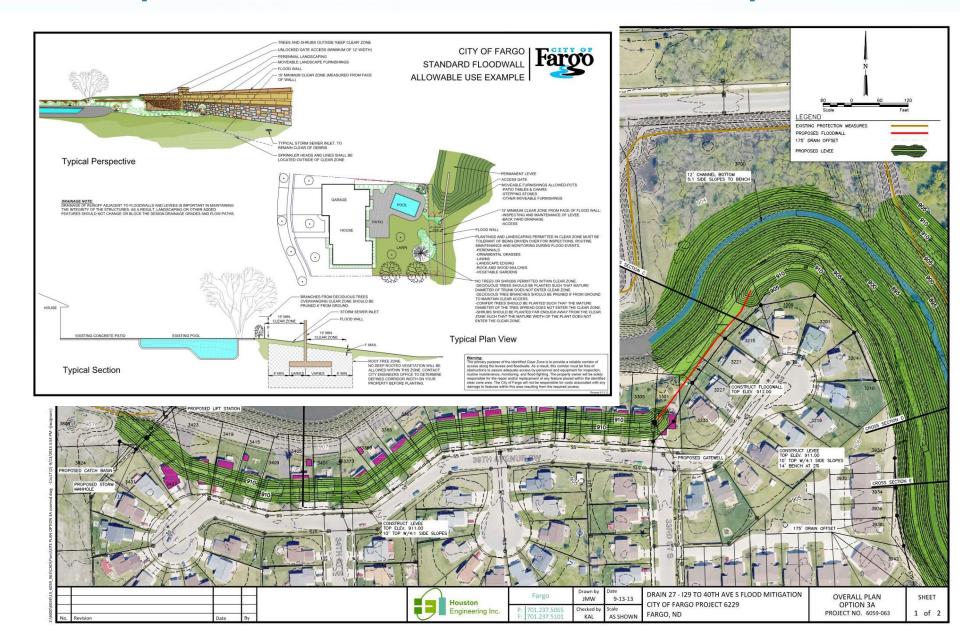


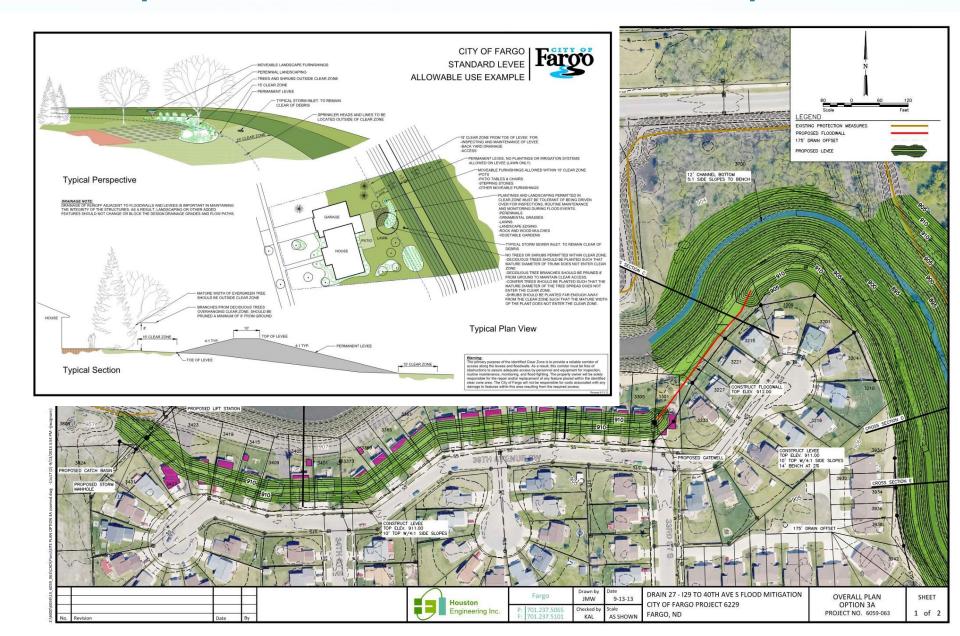
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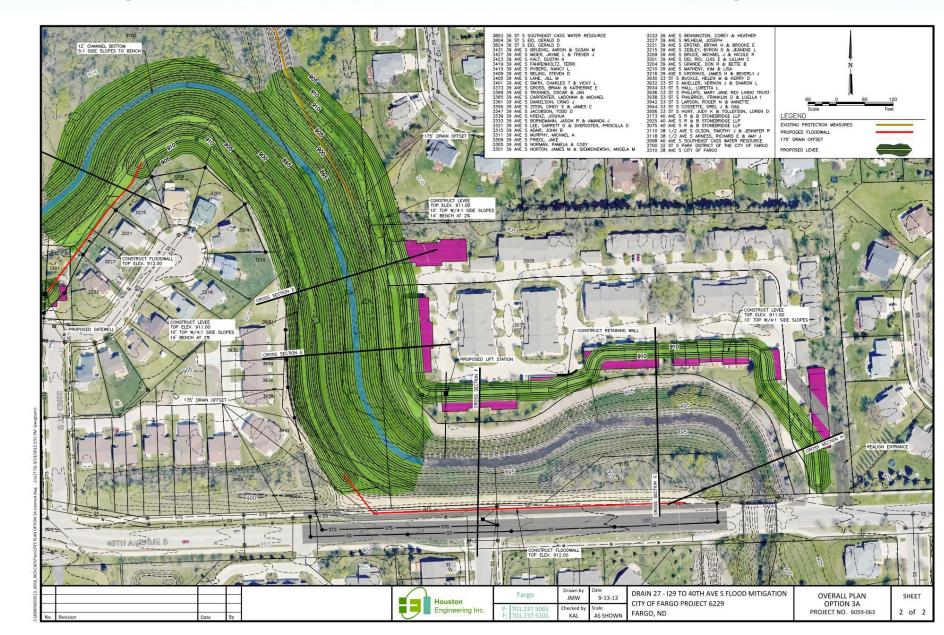


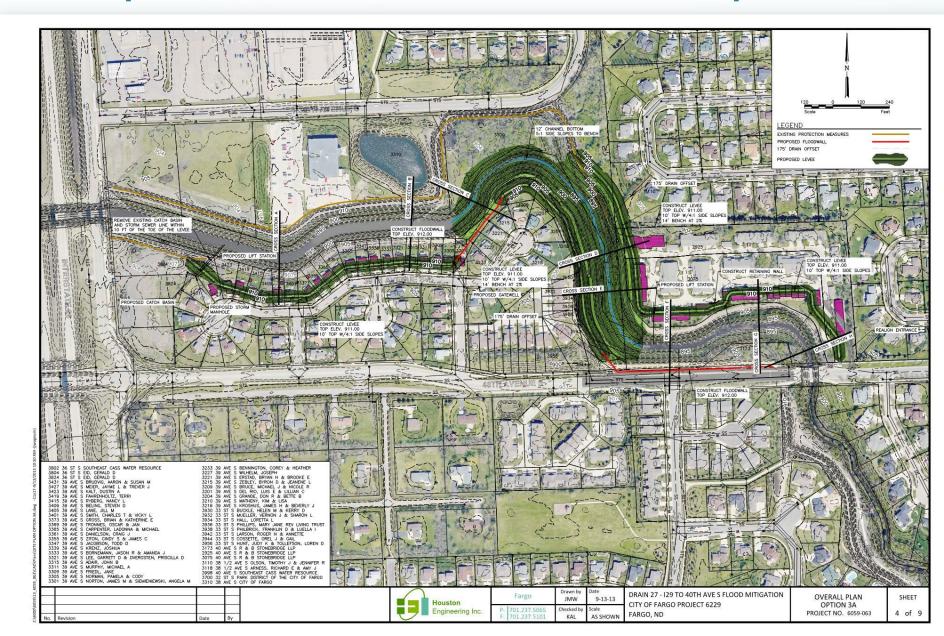




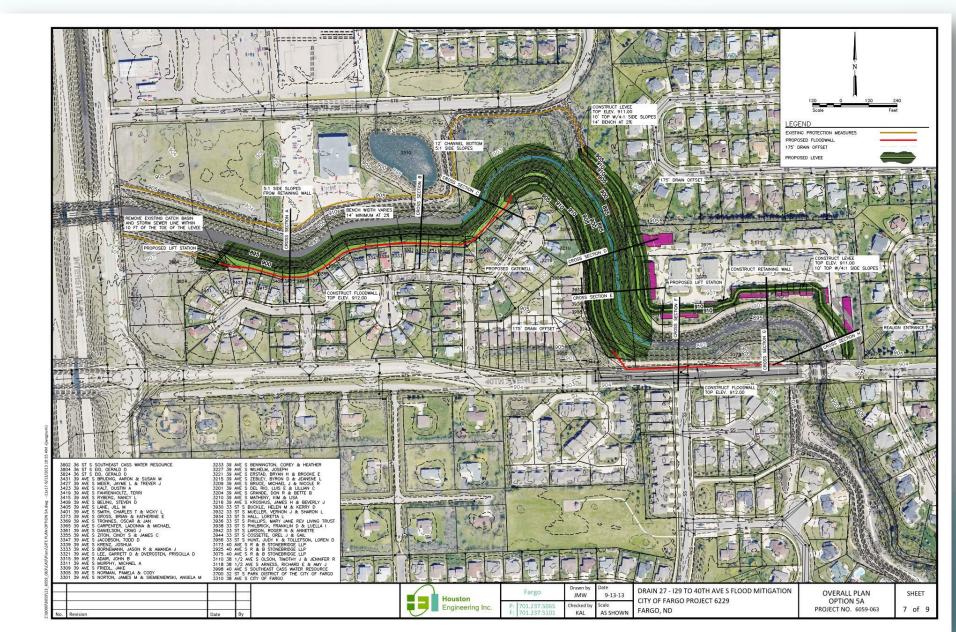




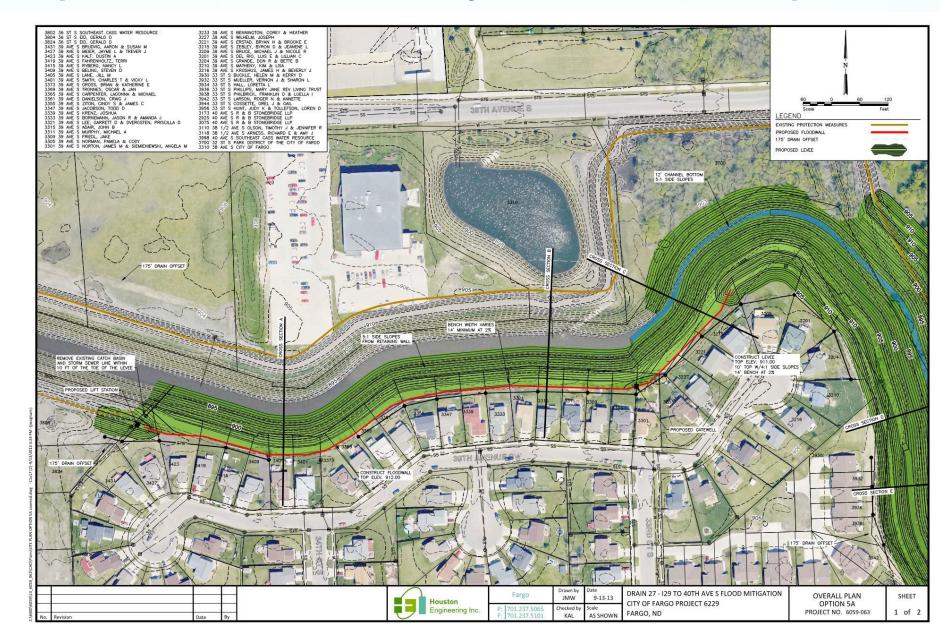




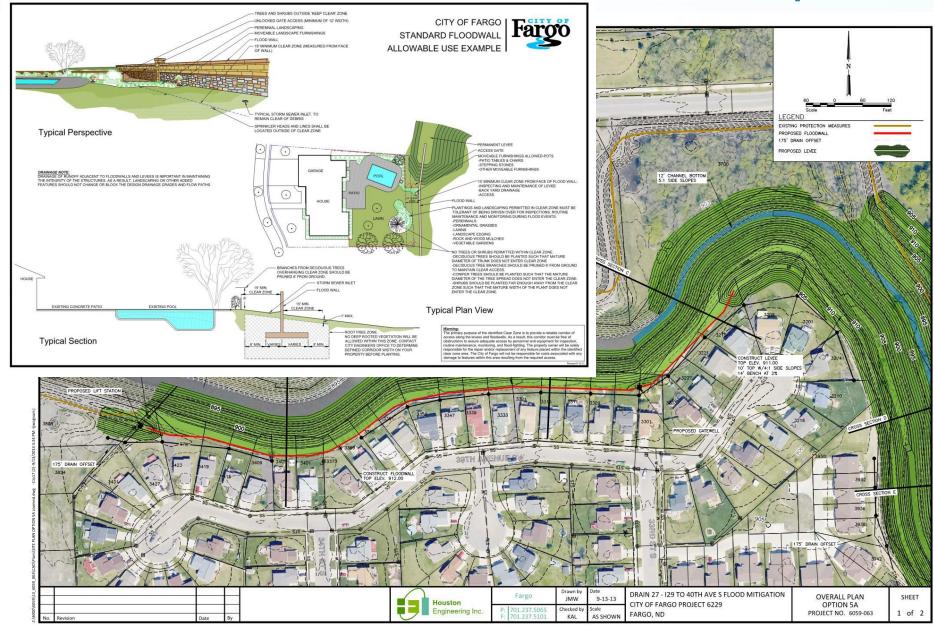
# Option 5A - Primary Floodwall Option



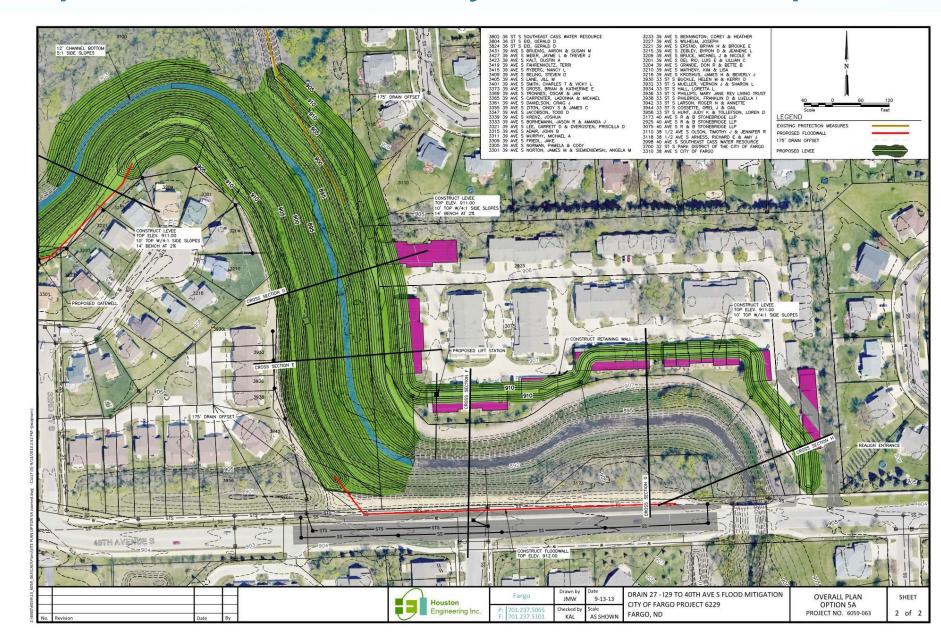
## Option 5A – Primary Floodwall Option



## Option 5A - Primary Floodwall Option



### Option 5A – Primary Floodwall Option



# Project Financing/Schedule/Logistics

- Project Costs
  - Estimated \$16.5-21.2M (Fargo Flood Sales Tax and NDSWC)
- Project Schedule
  - On-site Alignment Review Next Week
  - Public Comment Period Closes October 3rd
  - Follow-up Public Meeting / Contact (Oct./Nov.)
  - Commission Approval Fall 2013
  - R/W Acquisition Winter 2013/Spring 2014
  - Construction 2014
- General R/W Acquisition Information
  - Full Acquisition
    - Residential 110% Assessed Value
      - + \$15,000 Special Assessment Credit
      - + \$5,000 Relocation Costs
  - Partial Acquisition
     Donate, Minimum Payment, Negotiation, or Appraisal

#### Questionnaire

#### Drain 27 Flood Risk Management Project (40th Avenue South to I-29) City of Fargo - Project #6229



September 19, 2013 - Public Informational Meeting

Canaral Prairet Passana

ibents@houstoneng.com

	Gener	al Floje	ect Response.		
	Please provide feedback for providing flood protection for the neighborhood.				
Yes	No	neighborhood?			
□ 1A	☐ 3A	 5A	Which of the current alternatives do you prefer?		
	Additional Comments:				
		Return			
	Hous		ineering, Inc.		
		21st Av , ND 58	enue North Address:  102		
		e: (701) 701) 23	237-5065 Date:		

- Do you support the plan for providing improved permanent flood protection for your neighborhood?
- Which of the current alternatives do you prefer? (1A, 3A or 5A)

NOTE: Please return this form before October 3<sup>rd</sup>

# Questions?

http://www.cityoffargo.com/ - Flood Control Projects



