

***FOX ISLAND FLOOD CONTROL
PUBLIC INFORMATIONAL MEETING
Project Establishment and Funding
JANUARY 10, 2016***



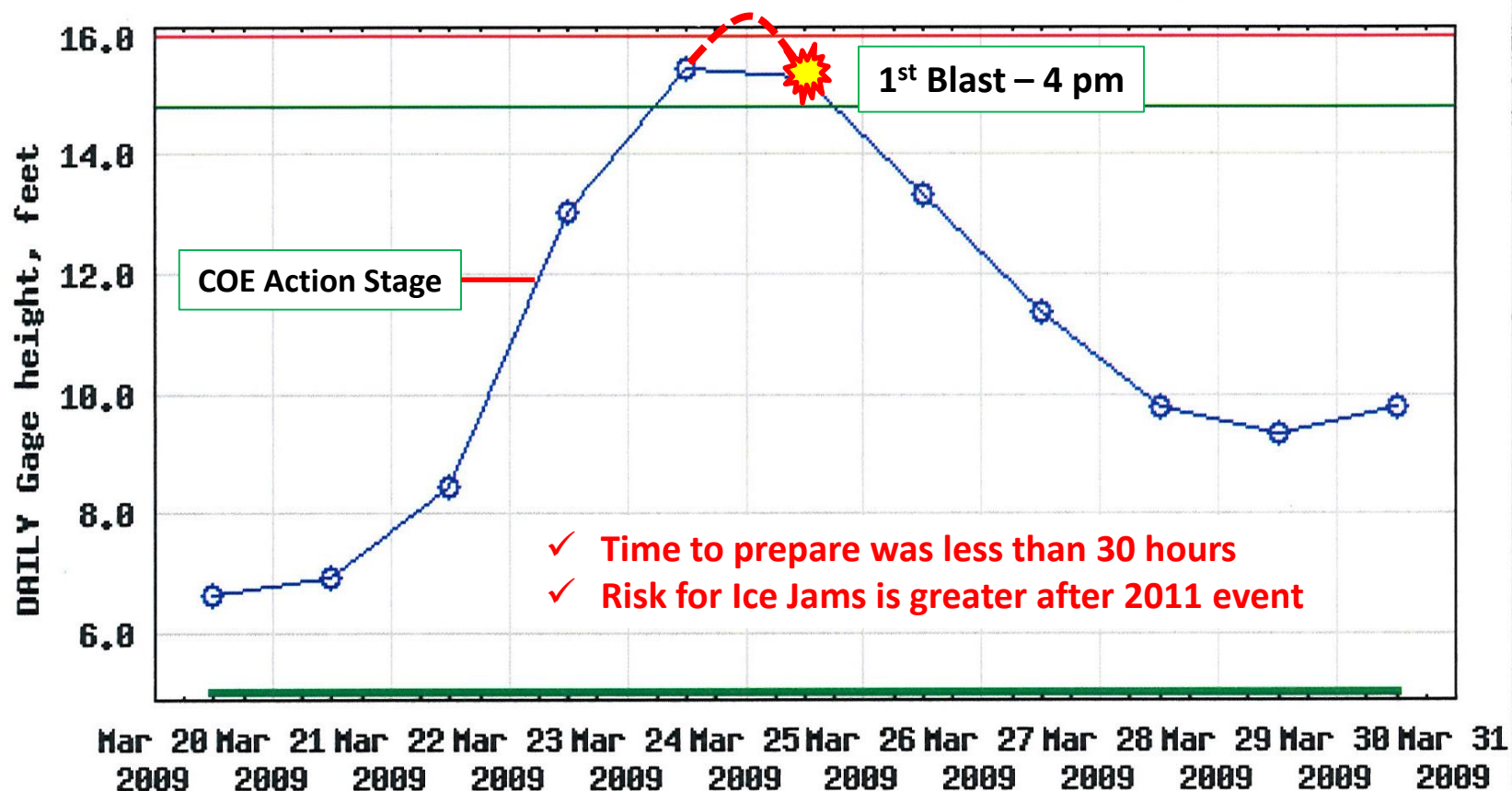


Fox Island 2009 Ice Jam Flood Event



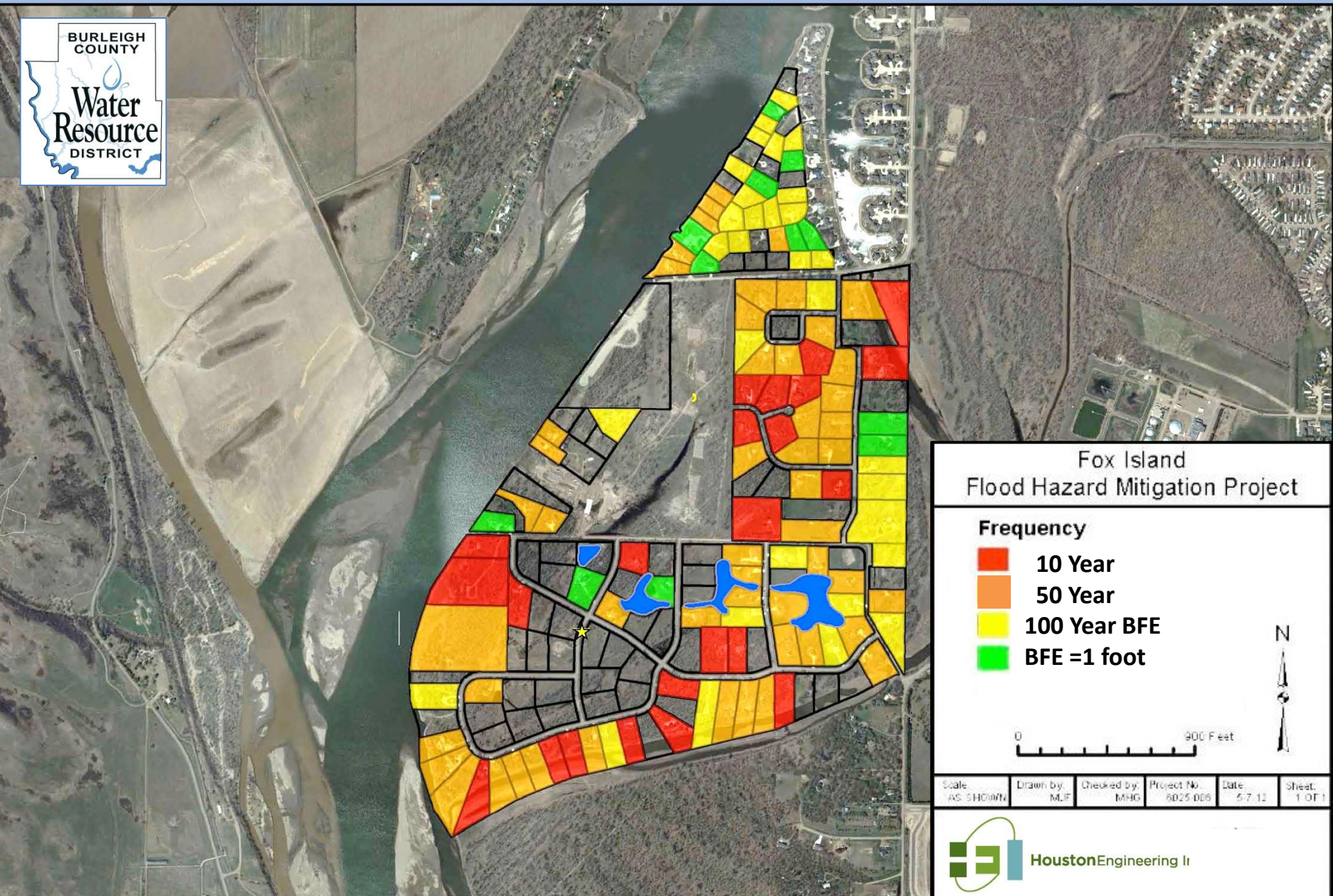
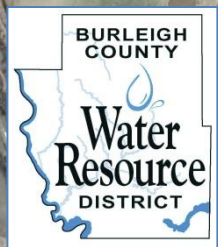
Date: 25MAR09
TOT: 1341Z
Location: South of Bismarck, ND
Latitude: N 46° 45.82' / Longitude: W 100° 50.91'
Object: Missouri River

USGS 06342500 MISSOURI RIVER AT BISMARCK, ND



- Daily mean gage height
- Period of approved data
- National Weather Service Flood Stage
- Peak of record since 1953

Fox Island - Flood Risk Map



Fox Island Flood Hazard Mitigation Project

Frequency

- 10 Year
- 50 Year
- 100 Year BFE
- BFE = 1 foot

0 900 Feet



Scale: AS SHOWN	Drawn by: MLF	Checked by: MHG	Project No. 6025-006	Date: 5-7-12	Sheet: 1 OF 1
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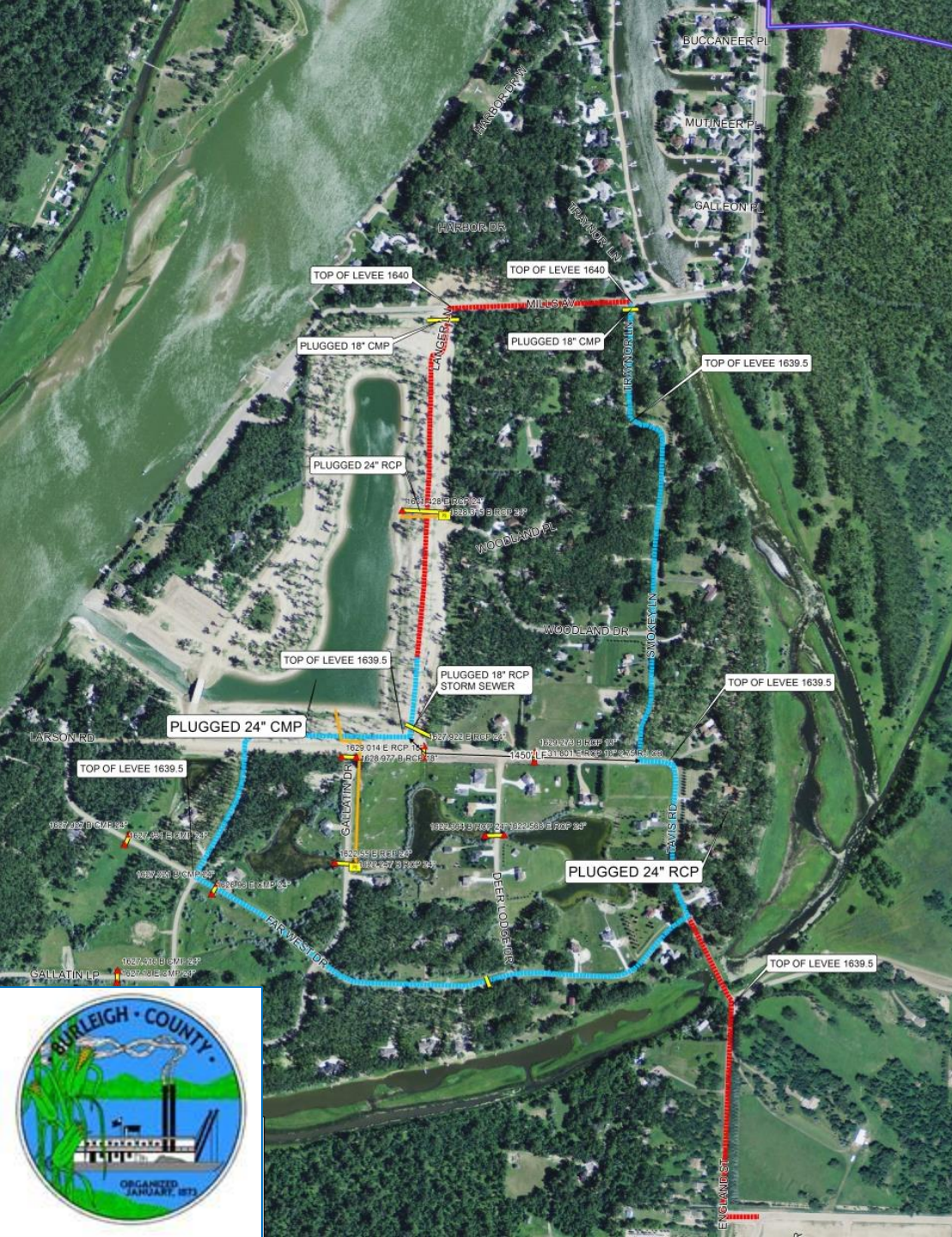


HoustonEngineering II

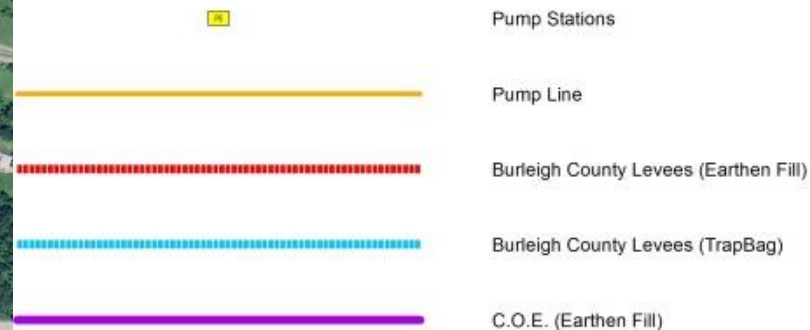
2011 Temporary Flood Control Measures

Installation and Removal
Cost ~ \$1 Million

TrapBags and Earthen Levee
Grade Raises on Access



Fox Island Protection Levees



Burleigh County 20 Foot Protection Plan South Side Measures

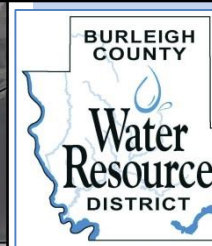
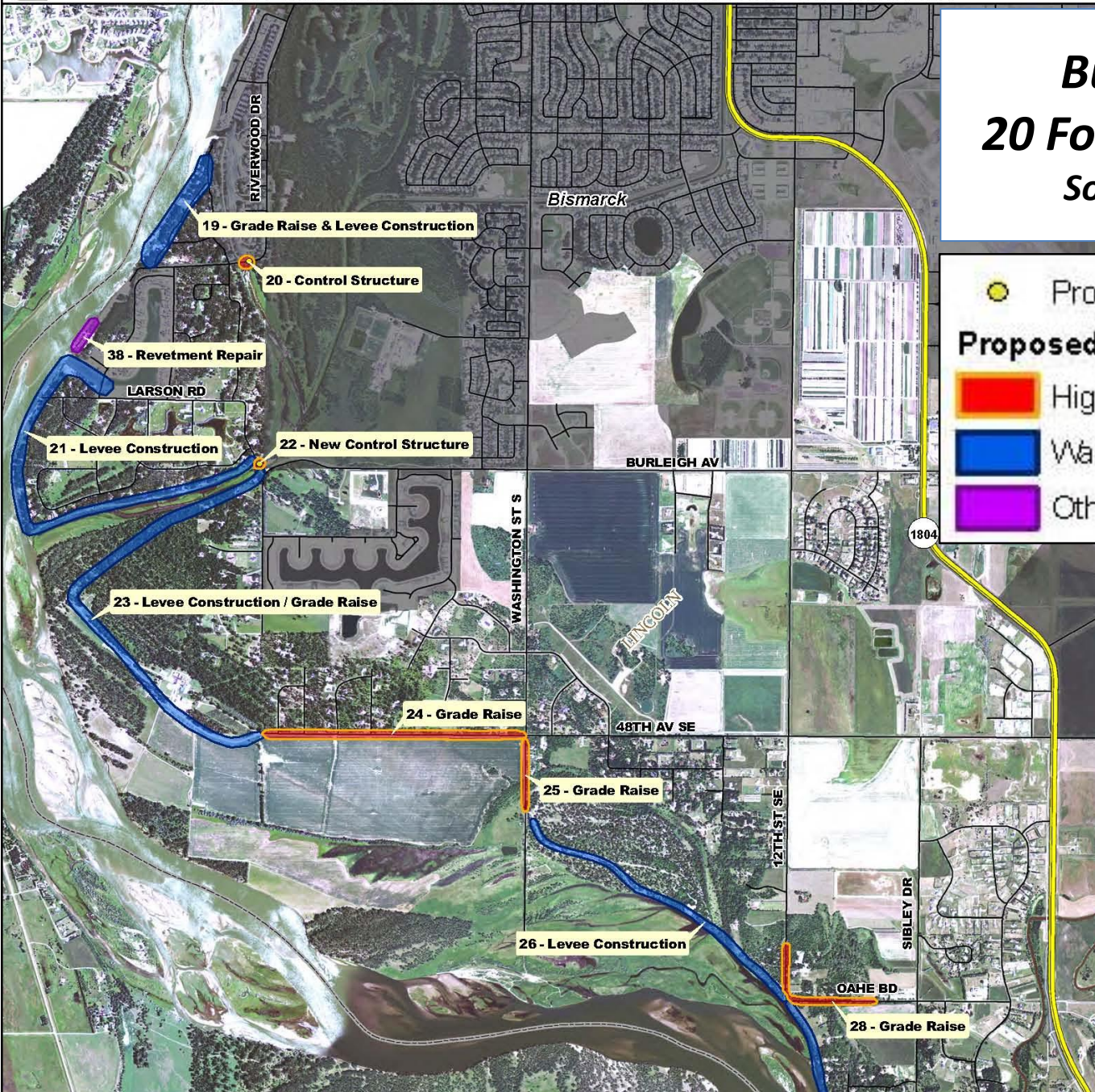
● Proposed Control Structure

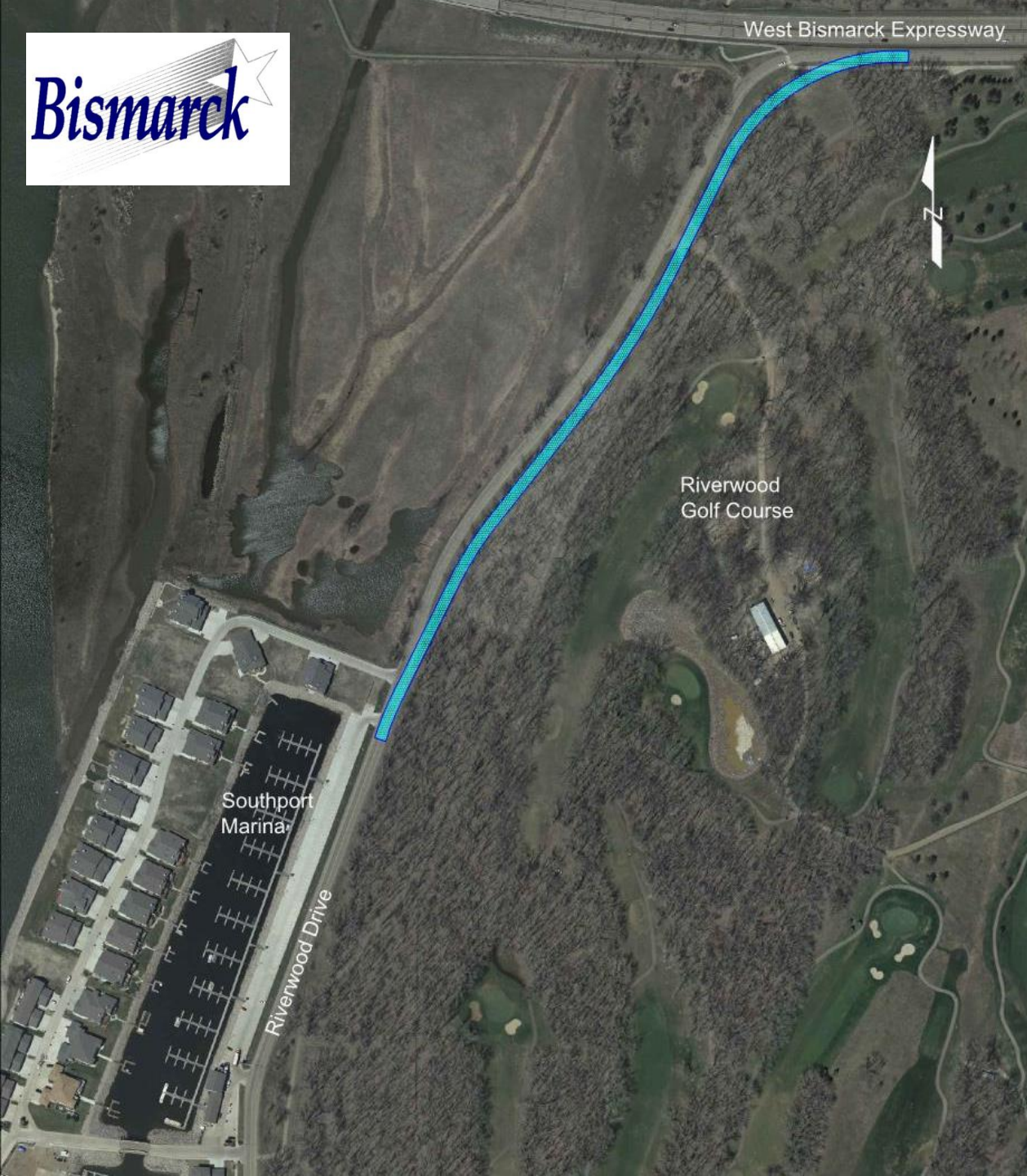
Proposed Project Area Lead Agency

Highway Department

Water Resource District

Other





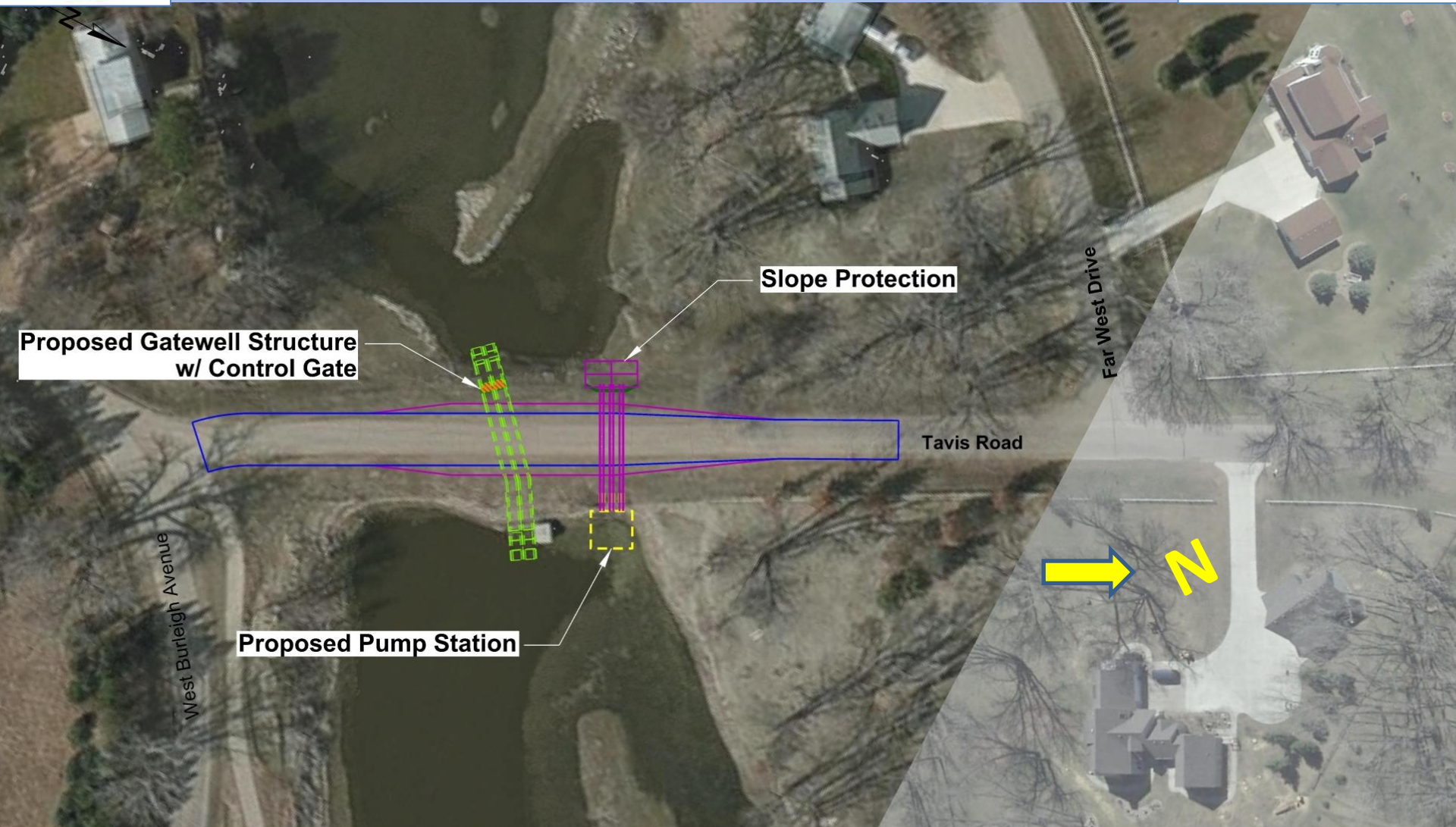
***Riverwood Drive
Grade Raise
Bismarck Expressway
to Southport Loop***

Mills Avenue Grade Raise City of Bismarck



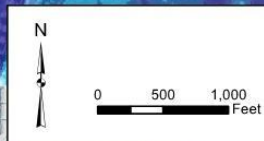


Tavis Road Grade Raise and Control Structure



Unprotected Flood Limits Existing Conditions

19.5 foot stage



**FIGURE 5
UNPROTECTED FLOOD LIMITS
EXISTING CONDITIONS**

19.5 ft stage at the USGS Bismarck Gage

Scale: AS SHOWN	Drawn By: M.J.F.	Checked By: MHG	Project No: 8025-006	Date: 4/3/2012
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	Bismarck	
	P: 701.323.0200	F: 701.323.0300

Legend

- Gate Structures
- Proposed Levees & Grade Raise
- Mills Ave Grade Raise
- Riverwood Dr Grade Raise
- Tavis Road Grade Raise

0 500 1,000 Feet

Preferred Alternative Protection Area

19.5 foot stage

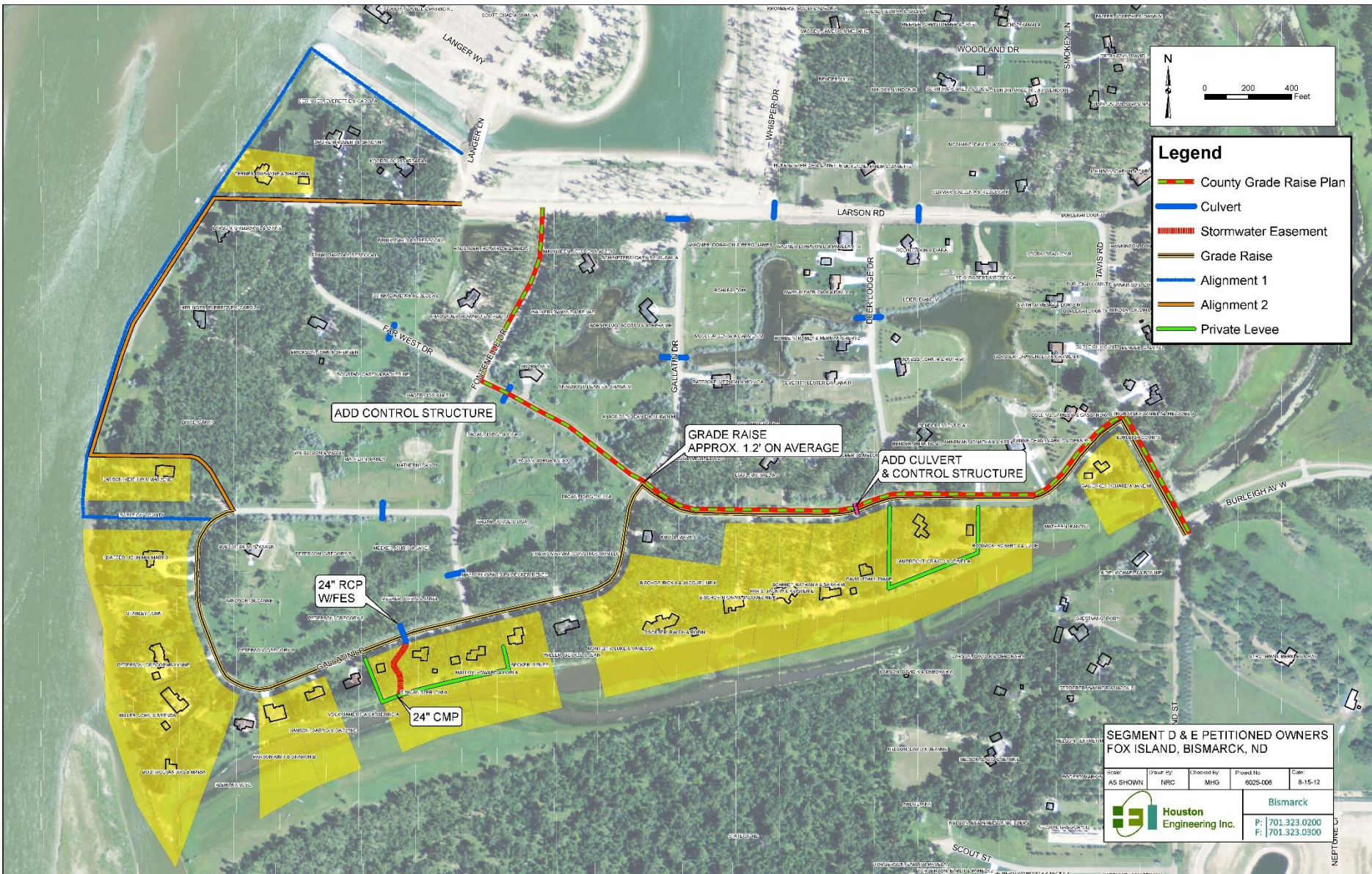
**FIGURE 11
PREFERRED ALTERNATIVE
PROTECTION AREA**

19.5 ft stage at the USGS Bismarck Gage

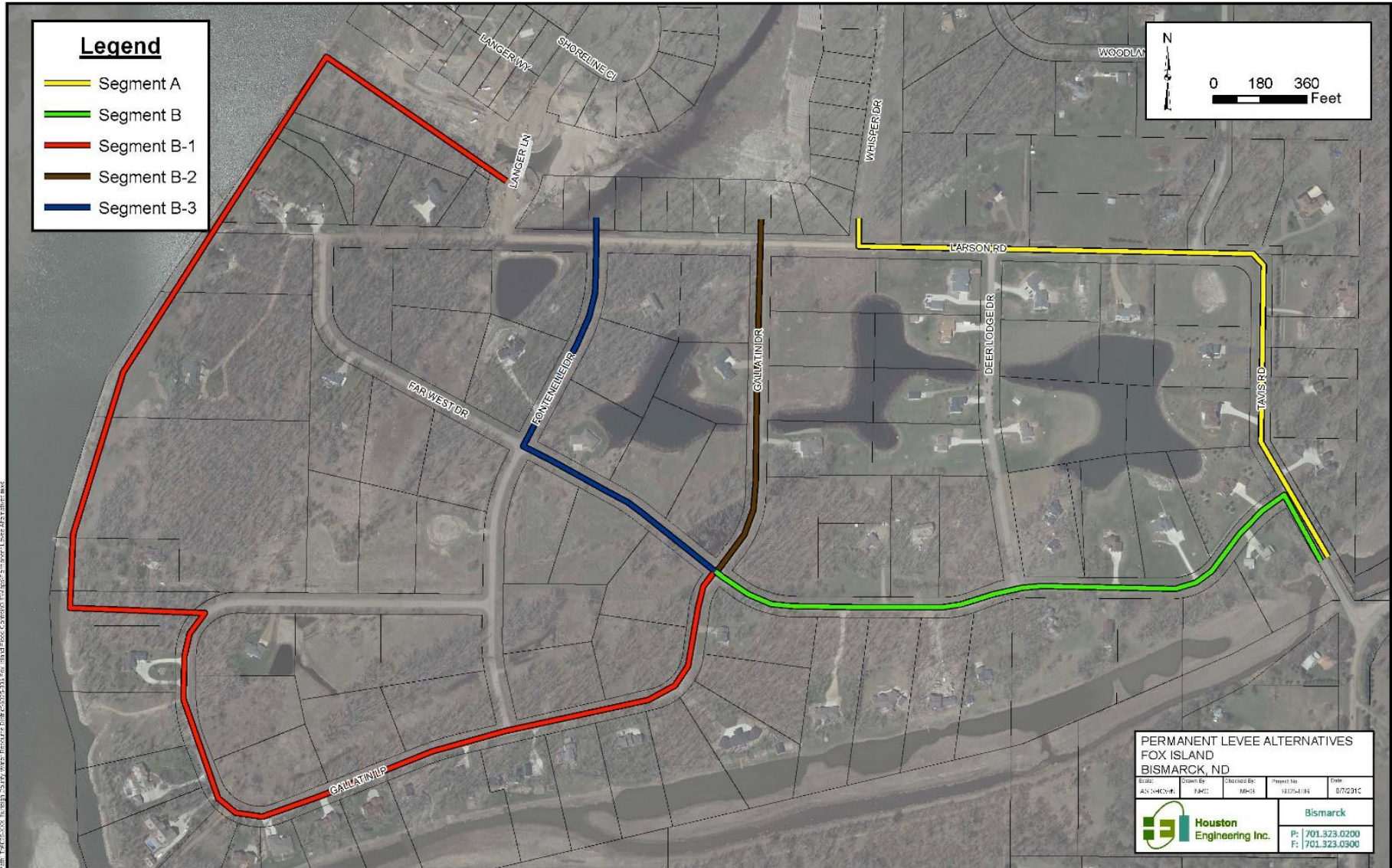
Scale: AS SHOWN	Drawn By: M.J.F.	Checked By: MHG	Project No: 8025-006	Date: 4/3/2012
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	Bismarck	
	P: 701.323.0200	F: 701.323.0300

Propertied Petitioned for Removal



Alternatives Considered

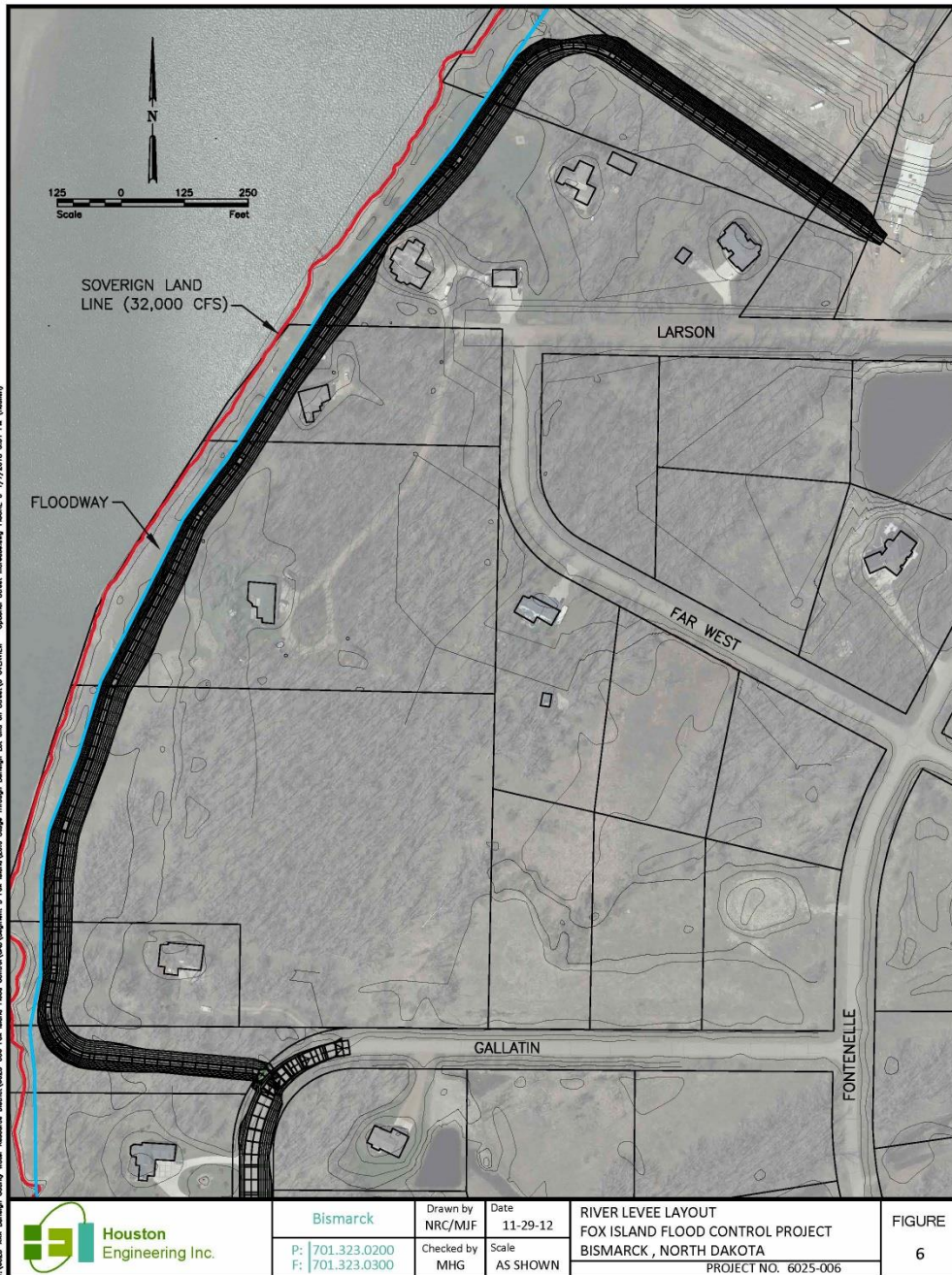




Houston
Engineering Inc.

Missouri River Levee Section

TV-6025-006 Burleigh County Water Resource District\6025-006 Fox Island Flood Control\Mapset D Fox Island\3.0 Stage Through Burleigh Lot and on Street\3.0 DOWNS - Optional Street Increase.dwg-12/17/2013 3:51 PM-Civilian

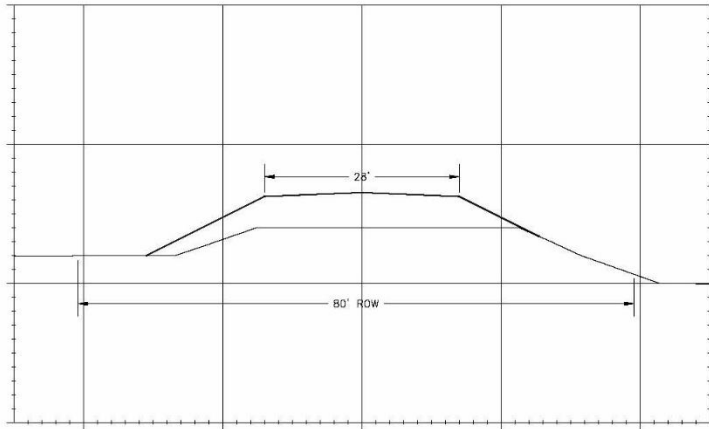


Internal Drainage Easements and Pump Removal System

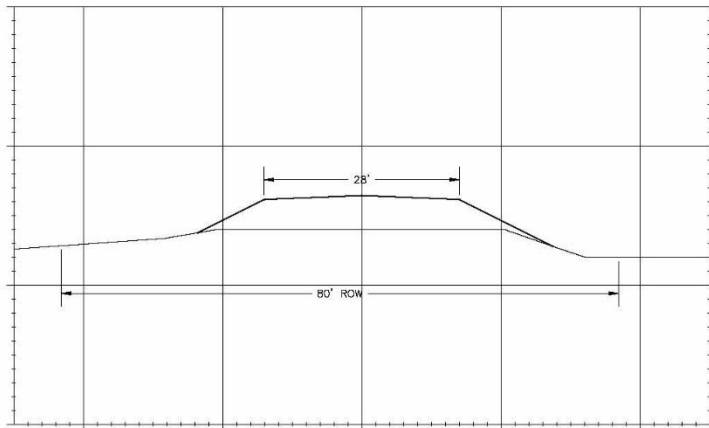


Typical Sections

40+00

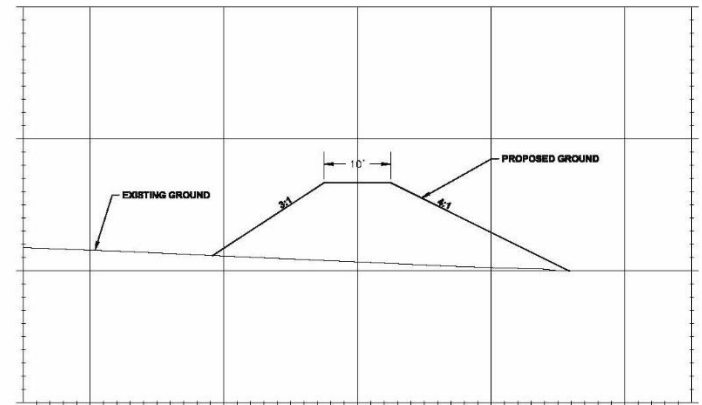


20+00

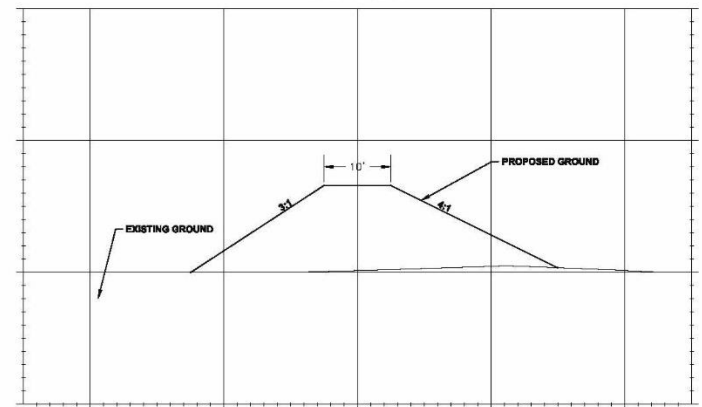


A
1 PROPOSED ROAD RAISE CROSS SECTIONS
NOT TO SCALE

80+00



60+00



B
1 PROPOSED LEVEE CROSS SECTIONS
NOT TO SCALE

Assessment District Formation Process

- ✓ Process Defined in ND Century Code Chapter 61-16.1
- ✓ Final Engineering Report & Assessment List (To be Updated)
- ✓ Existing Available Funding
 - ✓ ND Legislative Direct Allocation (\$2.8 Million)
 - ✓ Burleigh County / Lincoln TWP (\$920,456 in 2017)
- ✓ Assessment List to be filed with Burleigh County Auditor
- ✓ Notice of Hearing Publicly Advertised
- ✓ Notice Provided to Each Voting Landowner by Mail
- ✓ One Vote for Each Dollar of Assessment - Ballots Provided
- ✓ Projects Passes if More than 50% of Votes Cast Approve
- ✓ Final Design (2016)
- ✓ Construction (2017)

Fox Island Flood Control - Projected Assessment Alternatives

Opinion of Probable Cost (Preliminary Engineering Report) \$ 3,014,537.00
Update 2013-2017 25%

Projected Legislative Cost \$ 3,768,171.25

Legislative Funds Allocated (SB2020) \$ 2,800,000.00

Township Funding To Meet Commitment to the City \$ 920,456.00

Provided via BCWRD Funds (Borrowed line of Credit?) All or % of Above

Total Cost to Assess \$ 47,715.25

		Percent of Lots	Alt #3
Fox Island Homeowners Association {FIHA} Lots	68	59%	74%
Lots North of Larson Road	48	41%	26%
Total	116	100%	100%

Cost Per Lot Projection

Formula Checks

Alternative #1 - All Lots	\$ 411.34	\$ 47,715.25
Alternative #2 - FIHA Only	\$ 701.69	\$ 47,715.25
Alternative #3 - South Lots at 100%	\$ 518.64	\$ 35,267.79
Alternative #3 - North Lots at 50%	\$ 259.32	\$ 12,447.46
		\$ 47,715.25

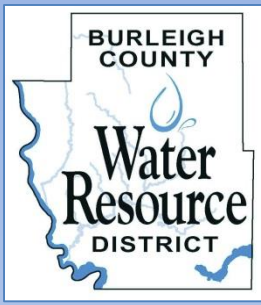
Cost Projection at last FIHA Meeting - Consensus Nov 2013

With/Twp./SWC Cost Share 68 Lots	\$ 15,622.47
With/Twp./SWC Cost Share 116 Lots	\$ 9,158.00

Alt #1 - Savings/lot	\$ 15,211.13
Alt #2 - Savings/lot	\$ 14,920.78
Alt #3 - Savings/lot	\$ 15,103.83

Burleigh County Cost to Fund North Lots - Alternative #1	\$ 19,744.24	Alternative with the County/Twp. Commitment
Burleigh County Cost to Fund North Lots - Alternative #2	\$ -	
Burleigh County Cost to Fund North Lots - Alternative #3	\$ 12,447.46	

Previous County/Township Commitment	\$ 920,456.00	2013
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Questions?

Fox Island Flood Control Project

Information Sources

Burleigh County Water Resource District

Website: www.bcwrdd.org

Power Point to be Posted