Environmental Assessment

Lift Station Relocation with Green Space

Storage Area

Fargo, North Dakota

FEMA Region VIII DR#1981-ND

June 2013

FEMA

U.S. Department of Homeland Security
FEMA Region VIII
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TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

AAQM	Ambient Air Quality Monitoring
AMSL	Above Mean Seal Level
ASTM	American Society for Testing and Materials
BCA	Benefit Cost Analysis
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
DBH	Diameter at Breast Height
EA	Environmental Assessment
EDR	Environmental Data Resources
EO	Executive Order
EPA	Environmental Protection Agency

ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
GLO	General Land Office
GPM	Gallons per Minute
HMGP	Hazard Mitigation Grant Program
HUD	Department of Housing and Urban Development
LWCF	Land and Water Conservation Fund
NDDES	North Dakota Department of Emergency Services
NDDH	North Dakota Department of Health
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Presentation Act
NPDES	National Pollution Discharge Elimination System
NRCS	National Resources Conservation Service
NWI	National Wetland Inventory
PM	Particulate Matter
REC	Recognized Environmental Conditions
RCP	Reinforced Concrete Pipe
SHPO	State Historic Preservation Office
SOV	Solicitation of Views
SWMM	Storm Water Management Modeling
SWPPP	Storm Water Pollution Prevention Plan
TDH	Total Dynamic Head
USACE	United States Army Corps of Engineers
WSRA	Wild and Scenic Rivers Act

1.0 INTRODUCTION

1.1 BACKGROUND

In May of 2011 severe flooding caused extensive damage to homes, contents, and property across North Dakota. As a result, Presidential Disaster Declaration FEMA-1981-DR was declared for 39 counties and 3 Indian Tribes within North Dakota. Cass County, which includes Fargo, was included in this declaration. Damages in the project area were primarily avoided during this event through the construction of emergency temporary dikes and the addition of temporary pumps to supplement the existing storm water lift stations.

This was not a new event in the project area. The Red River of the North (Red River) has experienced significant spring flooding where the flood elevations have reached major flood stage in seven of the last sixteen years (since 1997).

As a result, the City of Fargo (City) has conducted analyses of the existing stormwater system including Lift Stations No. 29 and No. 38 in the Mickelson Park area of downtown Fargo. The storm sewer systems within this area of the City typically drain with free flow outfalls to the Red River during non-Red River flood conditions. However, the lift stations are required to provide storm sewer discharge during times of high Red River flood conditions. Both Lift Stations No.29 and No. 38 have provided insufficient pumping capacity in previous flood events.

Future periodic flooding events along the Red River of the North are expected to continue to require the dedication of additional pumps to provide storm water drainage behind the emergency dikes. Additionally, the current configuration of the lift stations require that the emergency dikes be constructed on Oak Street, and adjacent to residential homes. These existing conditions present ongoing hazards and safety concerns associated with the potential for the flooding of streets, homes, and businesses due to storm water accumulation behind the emergency dikes.

1.2 PROJECT AREA

The project area is located within a developed residential area of Fargo to the east of Oak Street, between 8th Avenue North and 11th Avenue North. Approximate latitude and longitude coordinates are 96 46' 41"W, 46 53' 10"N. Figure 2 shows Lift Stations 29 and 38 with respect to the location of existing storm sewer. The proposed build alternatives are presented on Figures 4, 9, 14 and 15 in Appendix A. The remaining figures present the extent of existing and proposed potential impacts under each build alternative, with respect to where permanent flood protection measures exist and temporary measures are constructed during emergency flooding. Appendix B contains site photography which shows both the project area and temporary measures constructed during past flood events.

1.3 SPECIFIC DAMAGE INFORMATION

Since the area was protected from significant damage through emergency levees and pumping, an Environmental Protection Agency (EPA) Storm Water Management Model (SWMM) model was developed using the 10-yr, 25-yr, 50-yr, and 100-yr rainfall events in combination with high river stages on the Red River to estimate the existing condition flood elevations and mapping throughout the area.

The existing conditions modeling produced minor flooding throughout many areas of the neighborhoods in the study area. The most substantial of flooding was predicted in the 800 and 900 block of Oak Street and along Elm Street. These portions of the neighborhood are much lower than other parts because they were constructed in an old Red River oxbow. One additional significantly impacted commercial building worth noting is the Sanford Health Medical Center on Broadway (Sanford). The emergency room entrance on 4th Street is lower than the street elevation. The SWMM model showed that the storm sewer near the emergency room entrance could surcharge during a 25-, 50-, and 100-year rainfall events and spill water into the building. Existing condition flood inundation maps for the 10-, 25-, 50-, and 100-year rainfall events are presented in Appendix A for comparison to proposed conditions for each alternative in Section 3.0.

Potential damages associated with each storm event were estimated using the Federal Emergency Management Agency (FEMA) Benefit Cost Analysis (BCA) tool methodology and submitted along with the Hazard Mitigation Grant Program (HMGP) application.

1.4 APPLICANT AND HMGP PROGRAM INFORMATION

The City submitted an application to FEMA and the North Dakota Department of Emergency Services (NDDES) through the Hazard Mitigation Grant Program (HMGP) under Presidential Disaster Declaration FEMA-1981-DR for the improvements to the storm sewer system. The proposed storm sewer improvements are anticipated to provide long-term hazard mitigation of future flooding impacts due to storm water accumulation behind emergency and permanent flood protection measures. The HMGP is authorized under Section 404 of the Stafford Act. As part of the HMGP Application and ongoing project development efforts, the City of Fargo has held a number of public meetings and has posted information on the City's website for the Mickelson Field area. Specifically, public meetings were held by the City on July 12, 2012 and November 19, 2012 to present the proposed project plans and gather public input. Further information regarding these and other public meetings is located in Section 5.0 of this document.

1.5 NATIONAL ENVIRONMENTAL POLICY ACT REQUIREMENTS

The President's Council on Environmental Quality (CEQ) has developed regulations for implementing the National Environmental Policy Act (NEPA). These federal regulations, set forth in Title 40, Code of Federal Regulations (CFR) Parts 1500-1508, require an evaluation of alternatives, and a discussion of the potential environmental impacts of a proposed federal action, as part of the Environmental Assessment (EA) process. This EA has been prepared according to the NEPA as applied to FEMA in Title 44, CFR Part 10 and the FEMA Region VIII Anatomy of an Environmental Assessment (FEMA 2011). This section of the code requires FEMA to take into account environmental considerations before funding or approving actions.

2.0 PURPOSE AND NEED STATEMENT

The purpose of the proposed project is to improve the stormwater runoff system pumping capacity in the Mickelson Field neighborhood and the Sanford Downtown Medical Facility. The need is to reduce future losses due to flood damages resulting from inadequate stormwater runoff system pumping capacity in the Mickelson Field neighborhood and the Sanford Downtown Medical Facility.

3.0 ALTERNATIVES CONSIDERED

Several alternatives were considered throughout the project development. Viable options were then selected to address the potential damages associated with flooded streets, homes, and businesses. Alternatives that were considered included:

- Do nothing
- Upgrade Lift Station No. 29, construct of a new forcemain line and gatewell structure, and add green space interior storage.
- Abandon Lift Station No. 29, construct a new lift station, and add green space interior storage.
- Abandon existing Lift Stations No. 29 and No. 38, construct a new combined lift station, and add green space interior storage.
- Abandon existing Lift Stations No. 29 and No. 38, construct a new combined lift station, add green space interior storage and a permanent flood control levee along the alignment of the proposed interior green space storage berms.
- Increase lift station capacity
- Buyout at-risk residential and commercial property and relocate affected utilities.

3.1 ALTERNATIVES CARRIED FORWARD

Four alternatives were carried forward as part of this Environmental Assessment. The alternatives provide varying levels of costs and benefits.

3.1.1 ALTERNATIVE 1 (NO ACTION)

As presented in Figure 2, Alternative 1 would leave the existing sewer system in place as it exists today. The two lift stations currently present within the study area (Lift Station No. 29 & Lift Station No. 38) have proven ineffective in controlling water levels during previous flood and rainfall events. If no action is taken, future flood events could result in the inundation of the 800 and 900 blocks of Oak Street and along Elm Street between North Terrace and the recently constructed levee (Oak Grove/Mickelson Field Project, 2010). One significantly impacted commercial building worth noting is the Sanford Health Medical Center on Broadway (Sanford). The emergency room entrance on Broadway is lower than the street elevation. During large Red River flood events, a 25-year or greater rainfall event would cause a storm sewer inlet near the emergency room entrance to surcharge into the building. The

City of Fargo would continue to experience future losses due to flood damages resulting from the inadequate stormwater runoff system.

3.1.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

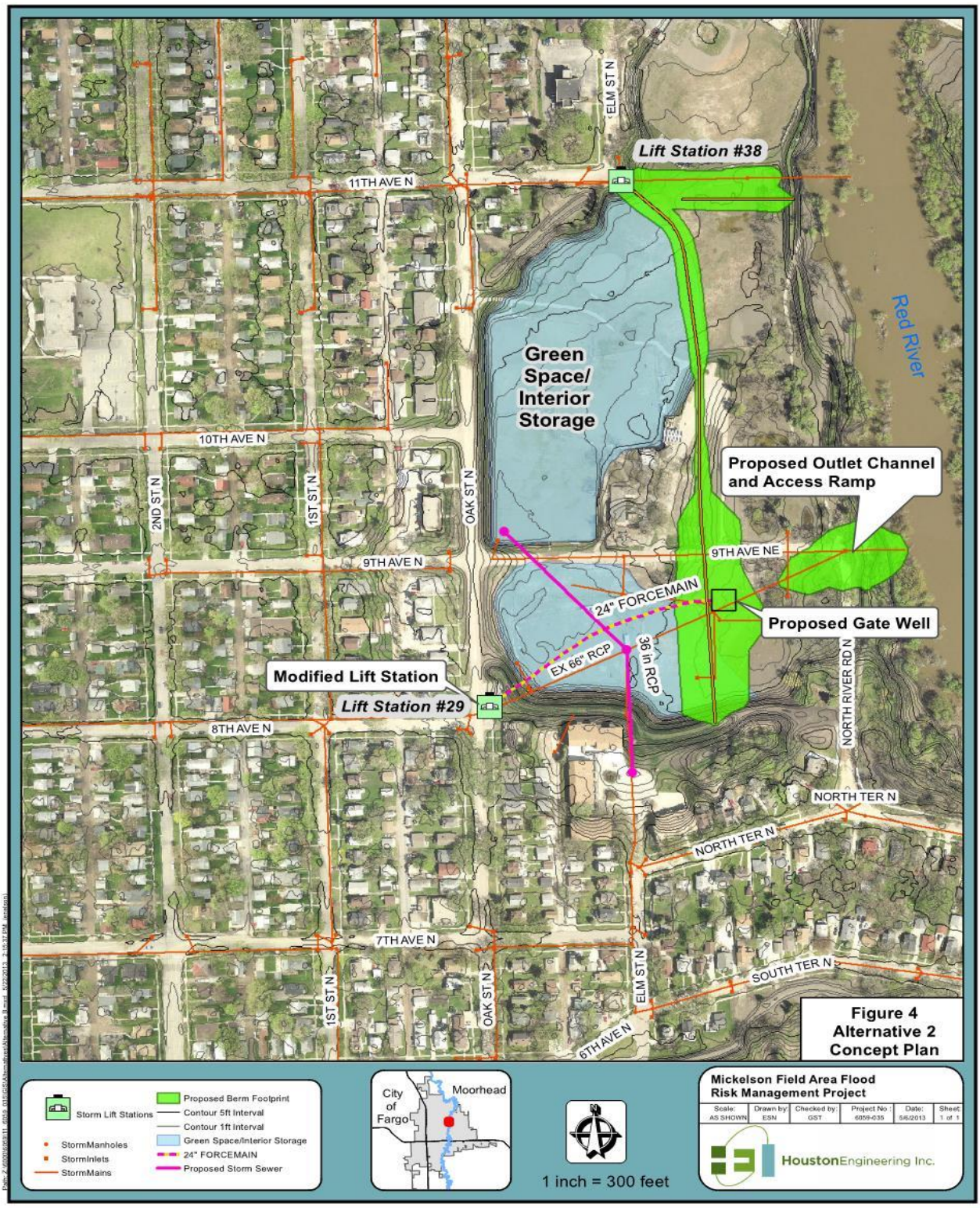
Alternative 2 consists primarily of the upgrading of Lift Station No. 29, construction of a new forcemain line and gatewell structure, and added green space interior storage. Those proposed changes are presented in Figure 4. No changes would be made to Lift Station No. 38.

Under this alternative, the proposed berm would be approximately 600 feet east of the existing wet well. As a result, a forcemain would be required to convey the pumped runoff from the existing Lift Station No. 29 wet well to the proposed gate well. The forcemain would introduce additional head loss that results in the need for a new pump installation.

The new pump would discharge through a new 24" forcemain to the proposed berm location where it would outlet into a new gate well. It is assumed that the 66" Reinforced Concrete Pipe (RCP) would remain in use for free outfall.

In order to facilitate the interior storage within the green space (Mickelson Field) two low level berms would need to be constructed along the east edge of the project area to contain runoff. The new gatewell would be located along the alignment of the south berm. A 36" storm sewer would connect the storm sewer from Elm Street and North Terrace to the 66" RCP outfall. Additional 36" RCP storm sewer would join the 66" storm sewer to the green space north and south of 9th Avenue North between Oak Street and the proposed flood protection berm. The green space would provide temporary storage when the 66" storm sewer surcharges. The storage area in Alternative 2 would be inundated for approximately 12 hours during a 100-year rainfall with high stages on the Red River. Figure 4 shows key components for Alternative 2.

The proposed storage areas would provide an overall reduction in the storm sewer hydraulic grade line by approximately four feet. The existing conditions surcharging that occurs west of Oak Street in the 800 and 900 blocks would be offset by the proposed storage area in the green space. Flooding in this area will be greatly reduced on all modeled events. The flooding north of the Elm Street and North Terrace intersection would be completely eliminated. The impact to Sanford would be eliminated on all modeled


Lift Station #38
11TH AVE N
ELM ST N
Red River
Green Space/ Interior Storage
10TH AVE N
2ND ST N
1ST ST N
OAK ST N
9TH AVE N
9TH AVE NE
Proposed Outlet Channel and Access Ramp
24" FORCEMAIN
Proposed Gate Well
EX 66" RCP
36" RCP
Modified Lift Station
Lift Station #29
8TH AVE N
NORTH RIVER RD N
NORTH TER N
NORTH TER N
7TH AVE N
ELM ST N
SOUTH TER N
1ST ST N
OAK ST N
6TH AVE N
Figure 4
Alternative 2
Concept Plan
Storm Lift Stations
StormManholes
StormInlets
StormMains
Proposed Berm Footprint
Contour 5ft Interval
Contour 1ft Interval
Green Space/Interior Storage
24" FORCEMAIN
Proposed Storm Sewer
City of Fargo
Moorhead
1 inch = 300 feet
Mickelson Field Area Flood Risk Management Project
Scale: AS SHOWN
Drawn by: ESN
Checked by: GST
Project No: 6059-035
Date: 5/6/2013
Sheet: 1 of 1
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events. In the SWMM model, the existing condition 100-year was reduced from 898.8 to 894.7 feet AMSL (above mean sea level) which are approximately 3.4 feet below the emergency room entrance. Figures showing existing condition flooding vs. Alternative 2 flooding for the 10- , 25- , 50- and 100- year events are displayed in Figures 5, 6, 7 and 8 respectively. The benefits attributed to Alternative 2 are primarily due to the offset of storage in the streets and storm sewer system with the storage in the green space at a lower elevation. The pump would begin discharging water as soon as surcharging occurs and would continue until the storage areas and storm sewer are evacuated. The lift station capacity would only be slightly increased from its original (9,000 gallons per minute (gpm) @ 12' Total Dynamic Head (TDH) existing to 10,000 gpm @ 30' TDH.

The entire project would take approximately 17 months to complete, with a planned start date of July 2013.

3.1.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

Alternative 3 consists primarily of the abandoning Lift Station No. 29, constructing of a new lift station, and added green space interior storage. No changes would be made to Lift Station No. 38

Under this alternative, a new lift station would be constructed at the location of the proposed future berm along the alignment of the existing 66" outfall. The existing Lift Station No. 29 wet well and gate well would be removed and the 66" storm sewer would continue to gravity flow to the new lift station location.

In order to facilitate the interior storage within the green space (Mickelson Field) two low level berms would need to be constructed along the east edge of the project area to contain runoff. The new lift station would be located along the alignment of the south berm. A 36" storm sewer would connect the ponding areas north and south of 9th Avenue North with the 66" storm sewer outfall. A 36" storm sewer would also be extended south to the Oak Grove neighborhood toward the existing 24" storm sewer at Elm Street and North Terrace. The Alternative 3 storage area would operate the same as the storage area in Alternative 2. Figure 9 shows key components for Alternative 3. Figures showing existing condition flooding vs. Alternative C flooding for the 10- , 25- , 50- and 100-year events are displayed in Figures 10, 11, 12 and 13, respectively.

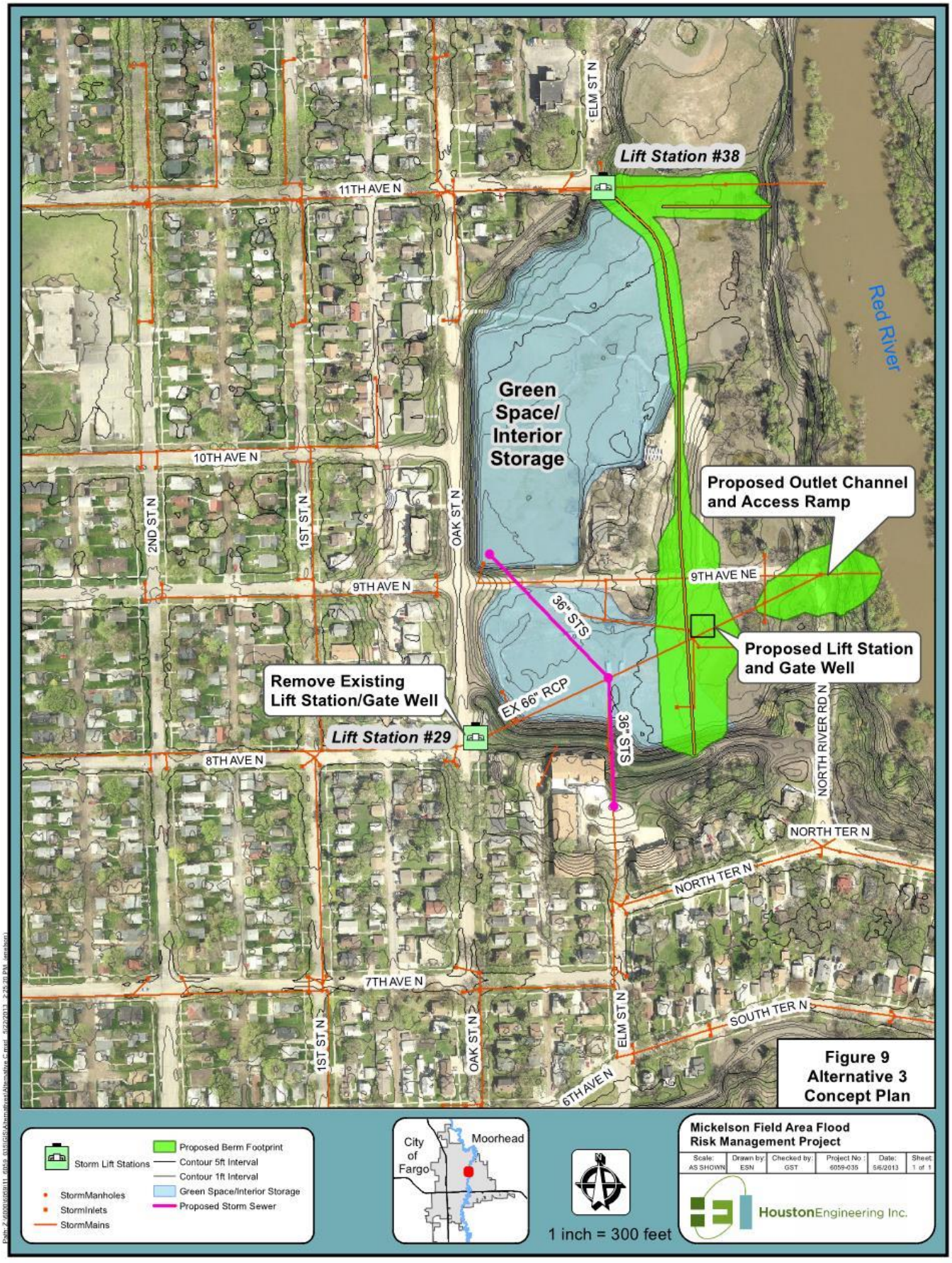
The entire project would take approximately 17 months to complete, with a planned start date of July 2013.

3.1.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION) LOCALLY PREFFERED ALTERNATIVE

Alternative 4 consists primarily of the abandonment of existing Lift Stations No. 29 and No. 38, construction of a new combined lift station, and added green space interior storage.

Runoff from the abandoned Lift Station No. 29 drainage area would reach the proposed new lift station via the in-place 66" diameter RCP. Runoff from the Lift Station No. 38 drainage area would be routed to the proposed lift station via a new line of 36" diameter RCP. The proposed 36" diameter RCP line would then be installed from the existing gate-well of abandoned Lift Station No. 38, and travel south to the existing storm sewer line under 9th Avenue North. From there, the connecting storm sewer line would be upsized to a 48" diameter RCP between the existing line under 9th Avenue North and the existing 66" diameter RCP approximately 113 feet west (upstream) of the proposed lift station.

Since this Alternative combines both previous lift stations, the new combined lift station would have a design capacity of 20,000 gallons per minute. To accommodate this pumping capacity, green space east of Oak Street (Mickelson Field) would act as a temporary interior storage area to allow for a controlled storm sewer surcharge when runoff inflow is greater than the pump


Lift Station #38
Red River
Green Space/ Interior Storage
Proposed Outlet Channel and Access Ramp
Proposed Lift Station and Gate Well
Remove Existing Lift Station/Gate Well
Lift Station #29
36" STS
EX 66" RCP
11TH AVE N
10TH AVE N
9TH AVE N
9TH AVE NE
8TH AVE N
7TH AVE N
6TH AVE N
ELM ST N
OAK ST N
1ST ST N
2ND ST N
NORTH RIVER RD N
NORTH TER N
SOUTH TER N
Storm Lift Stations
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Proposed Berm Footprint
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Sheet: 1 of 1
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Figure 9 Alternative 3 Concept Plan

discharge through the construction of two low level berms along the east edge of the project area to contain and pond excess runoff. The new lift station would be located along the alignment of the south berm.

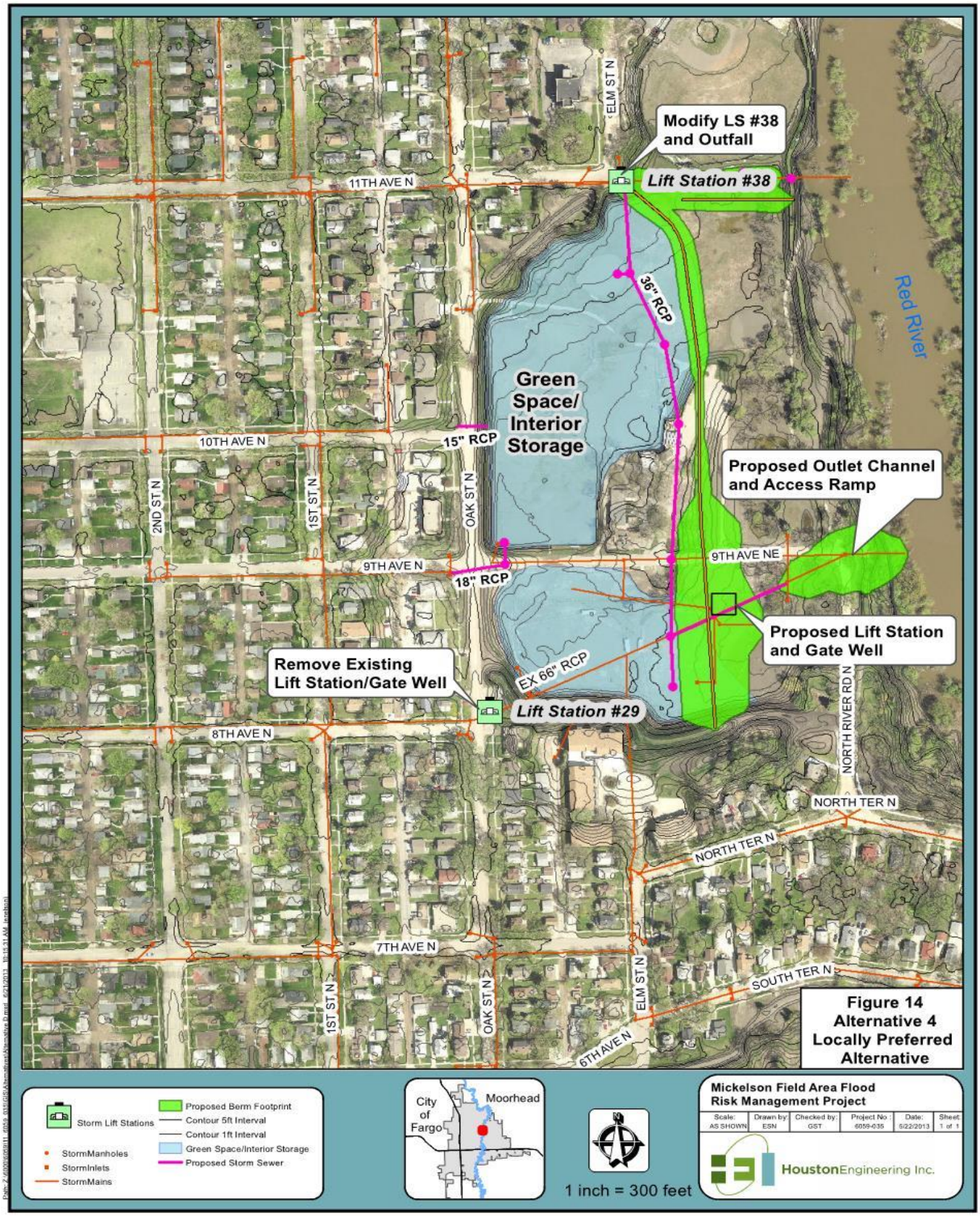
Alternative 4 would result in an overall reduction in the storm sewer hydraulic grade line by approximately four feet. The existing surcharging that occurs west of Oak Street in the 800 and 900 blocks of Oak Street would be offset by the proposed storage area in the green space. Flooding in this area would be greatly reduced on all modeled events. The flooding north of Elm Street and North Terrace intersection would be completely eliminated. The impact to Sanford Medical Center would be eliminated on all modeled events. In the SWMM model, the existing 100-year condition was reduced from 898.8 to 894.7 feet AMSL which is approximately 3.4 feet below the emergency room entrance. In addition, the area northwest of the project area, currently within the Lift Station #38 area of influence, would receive additional protection during large rain events. Alternative 4 would reduce or eliminate street flooding throughout much of this area. The Alternative 4 components are displayed in Figure 14.

The City of Fargo has proposed adding permanent flood protection measures to this alternative. The addition of this flood protection measures will minimize the city's reliance on emergency protection measures to protect against Red River of the North Flooding. The flood protection measures will extend from approximately the intersection of Elm Street and 11th Avenue North to the location of the existing flood control levee along the north side of the homes on North Terrace. From this point, emergency measures will continue to be needed. The top of flood protection measures would provide approximately 4.5 feet of freeboard above the estimated River Stage of 39.5. Since the area will still rely on the addition of adjacent emergency protection measures, no changes to the designated flood insurance rate maps will be eligible based on the current proposed project. As a result, no CLOMR or LOMR submittals are currently anticipated. The Alternative 4 components with the city flood protection measures are displayed in Figure 15.

The entire project would take approximately 17 months to complete, with a planned start date of July 2013.

3.2 ALTERNATIVES ANALYZED AND DISMISSED

It was originally assumed that the benefit for a proposed lift station project must be specifically related to the increased discharge capacity of the lift station. Before finalizing any of the alternatives, a sensitivity analysis was conducted to determine the correlation between lift station discharge capacity and relative benefits. To assess the magnitude of benefits on a preliminary basis, the existing pump capacity was doubled (increased by 200%) for the 100-year rainfall event. While doubling the pump capacity would be a substantial cost, it provided only minimal change to the flood elevation (0.10') and no significant change in potential damages. As a result, other modifications in addition to increased lift station capacity were evaluated. The alternative of simply increasing the lift station capacity was dismissed.


Modify LS #38 and Outfall
Lift Station #38
36" RCP
Red River
Green Space/ Interior Storage
15" RCP
Proposed Outlet Channel and Access Ramp
18" RCP
Proposed Lift Station and Gate Well
Remove Existing Lift Station/Gate Well
EX 66" RCP
Lift Station #29
11TH AVE N
10TH AVE N
9TH AVE N
9TH AVE NE
8TH AVE N
7TH AVE N
6TH AVE N
ELM ST N
2ND ST N
1ST ST N
OAK ST N
NORTH RIVER RD N
NORTH TER N
SOUTH TER N
Storm Lift Stations
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City of Fargo
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Drawn by: ESN
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Sheet: 1 of 1
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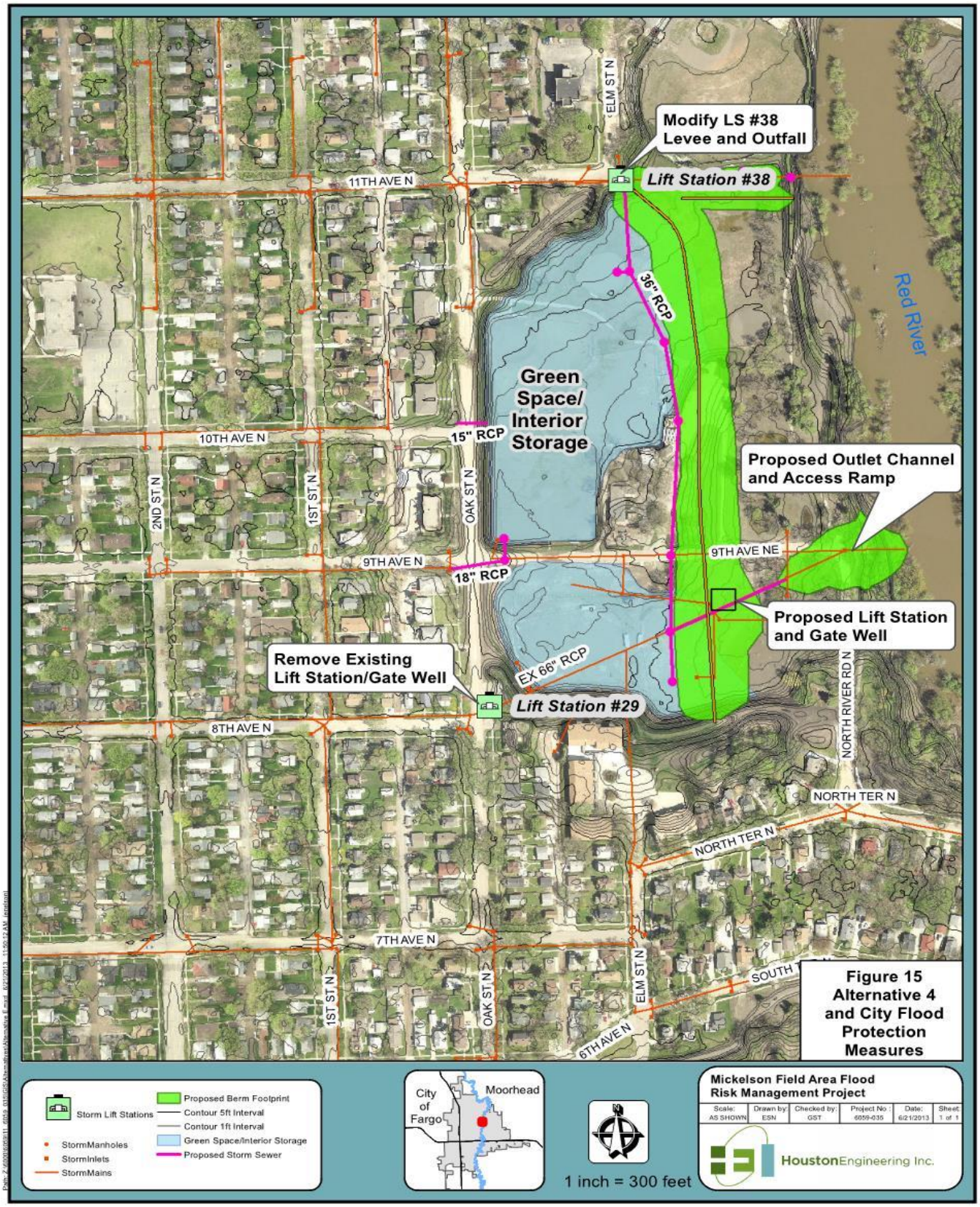
Figure 14
Alternative 4
Locally Preferred
Alternative


Modify LS #38
Levee and Outfall
Lift Station #38
ELM ST N
11TH AVE N
36" RCP
Red River
Green
Space/
Interior
Storage
15" RCP
10TH AVE N
2ND ST N
1ST ST N
OAK ST N
9TH AVE N
18" RCP
9TH AVE NE
Proposed Outlet Channel
and Access Ramp
Proposed Lift Station
and Gate Well
Remove Existing
Lift Station/Gate Well
EX 66" RCP
Lift Station #29
8TH AVE N
NORTH RIVER RD N
NORTH TER N
NORTH TER N
7TH AVE N
SOUTH
ELM ST N
1ST ST N
OAK ST N
6TH AVE N
Figure 15
Alternative 4
and City Flood
Protection
Measures
Storm Lift Stations
StormManholes
StormInlets
StormMains
Proposed Berm Footprint
Contour 5ft Interval
Contour 1ft Interval
Green Space/Interior Storage
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Sheet: 1 of 1
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The City also considered removing and relocating the homes and businesses within the area frequently affected by flooding. However, this alternative was dismissed because it would require significant effort and resources to reach agreements with each affected property owner and was not considered to be practical.

4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS OF THE ALTERNATIVES CONSIDERED

4.1 GEOLOGY AND SOILS

The proposed project is located within the Oahe Formation. According to the North Dakota Geological Survey, "The Oahe Formation is characterized by channel alluvium reworked and deposited by the Red River during recent flow and flooding events. Soils consist of brown to gray bedded sands, silts, gravels, and clay, and are prone to slope failure and cutbank erosion" (NDGS 2013). Soil series mapped at the project site are Urban Land, 0-2 percent slopes (NRCS 2013). These areas have typically been converted to an urban land use and have been impacted by development. The soils surrounding the City of Fargo are typically mapped as Fargo silty clay loams. These soils have a silty clay texture with slopes less than 2%.

A Geotechnical Evaluation Report prepared by Braun Intertec describes the subsurface soils in the project area. According to this report, the project area is underlain with a thick sequence of lake-deposited (lacustrine) soils that are associated with the Sherack, Brenna, and Argusville Formations. The Sherack is locally overlain in some areas with existing fill placed to establish subgrades for roadways, bike path and other structures. These formations, as well as the existing fill, consist mainly of fat clay but also minor amounts of lean clay and silt. The soils are typically saturated or nearly so, even above the hydrostatic groundwater surface, and possess low to very low hydraulic conductivities. The Sherack and the upper portion of the Brenna are generally over-consolidated, while the lower portion of the Brenna, and the Argusville, are normally consolidated. The shear strength of the overconsolidated formations is moderately higher than the normally consolidated portion; however, the lower strength normally consolidated portion increases again with depth (Braun 2012).

4.1.1 ALTERNATIVE 1 (NO ACTION)

The No Action alternative would have no negative impact on the existing geology or soils within the project area.

4.1.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

This alternative would result in the temporary disturbance of soil and the removal of vegetation which could result in soil erosion. These issues would be addressed as part of the North Dakota Pollution Discharge Elimination System Permit (NDPDES) for construction activity. This permit requires the development of a storm water pollution prevention plan (SWPPP) to control erosion and sedimentation. It would typically be the responsibility of the construction contractor for development and implementation of the plan.

4.1.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

This alternative would result in the temporary disturbance of soil and the removal of vegetation which could result in soil erosion. These issues would be addressed as part of the NDPDES Permit for construction activity. This permit requires the development of a SWPPP to control erosion and sedimentation. It would typically be the responsibility of the construction contractor for development and implementation of the plan.

4.1.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

This alternative would result in the temporary disturbance of soil and the removal of vegetation which could result in soil erosion. These issues would be addressed as part of the NDPDES Permit for construction activity. This permit requires the development of a SWPPP to control erosion and sedimentation. It would typically be the responsibility of the construction contractor for development and implementation of the plan.

4.2 LAND USE AND PLANNING

The project is located in the City of Fargo in Cass County North Dakota. Fargo lies on the border between Minnesota and North Dakota. The City of Moorhead lies across the Red River in Minnesota. The Fargo-Moorhead metropolitan area is the largest community in the region. It also includes the Cities of West Fargo, Harwood, Horace, Dilworth and other development areas. Fargo is the largest community in the Fargo-Moorhead Metropolitan area. The Fargo-Moorhead area is surrounded by sparsely populated agricultural areas. These areas are typically characterized by row crop, small grain and sugar beet production. The project site is located in a residential part of the City of Fargo in the Horace Mann Neighborhood. The project area is predominated by single-family residences interspersed multi-family apartments and park lands. The park lands are located on the west side of the river which is the east side of the neighborhood.

4.2.1 ZONING

The project area is currently zoned Public Institutional. Zoning within the City falls under the authority of the Fargo Zoning Administrator and Planning Commission. The project area is currently a series of public baseball fields, surrounded by single-family residences and apartment buildings. The apartment buildings are located on the south and west sides of the project area. The single-family residences surround the project site on the north, west and south sides. The site is bordered on the west by the Red River of the North. The Public Institutional land continues to the north and southeast following the river channel corridor.

4.2.1.1 ALTERNATIVE 1 (NO ACTION)

Taking no action to address the identified deficiencies in the existing storm sewer system will not change the existing land use or zoning. However, the continued risk of flooding to homes and businesses in the affected area will present and ongoing hazard that could discourage future investment by area businesses and decrease property values for residents.

4.2.1.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

Changes to the zoning status and land use are not anticipated as a result of this alternative. The project area would continue to be zoned Public Institutional following construction completion. However, the reduced risk of flooding to homes and businesses in the affected area may result in increased property values for area residents and businesses.

4.2.1.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

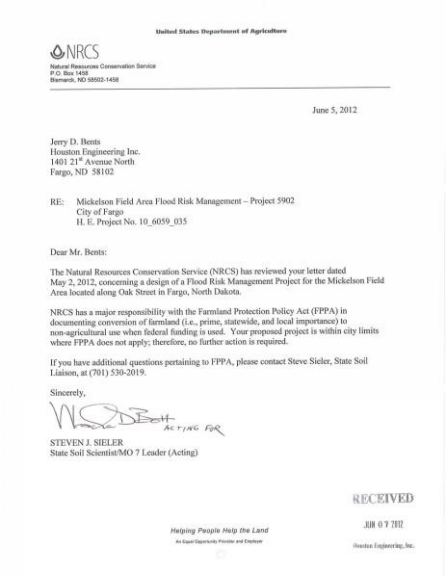
Changes to the zoning status and land use are not anticipated as a result of this alternative. The project area would continue to be zoned Public Institutional following construction completion. However, the reduced risk of flooding to homes and businesses in the affected area may result in increased property values for area residents and businesses.

4.2.1.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

Changes to the zoning status and land use are not anticipated as a result of this alternative. The project area would continue to be zoned Public Institutional following construction completion. However, the reduced risk of flooding to homes and businesses in the affected area may result in increased property values for area residents and businesses.

4.2.2 PRIME FARM LAND

The Farmland Protection Policy Act was enacted in 1981 (P.L. 98-98) to minimize the unnecessary conversion of farmland to nonagricultural uses as a result of federal actions. In addition, the Act seeks to assure that federal programs are administered in a manner that will be compatible with state and local policies and programs that have been developed to protect farmland. The policy of the Natural Resources Conservation Service (NRCS) is to protect significant agricultural lands from conversions that are irreversible and result in the loss of an essential food and environmental resource. Project correspondence with NRCS is included in Appendix C.



United States Department of Agriculture

NRCS
Natural Resources Conservation Service
P.O. Box 1458
Bismarck, ND 58502-1458

June 5, 2012

Jerry D. Bents
Houston Engineering Inc.
1401 21st Avenue North
Fargo, ND 58102

RE: Mickelson Field Area Flood Risk Management – Project 5902
City of Fargo
H. E. Project No. 10_6059_035

Dear Mr. Bents:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated May 2, 2012, concerning a design of a Flood Risk Management Project for the Mickelson Field Area located along Oak Street in Fargo, North Dakota.

NRCS has a major responsibility with the Farmland Protection Policy Act (FPPA) in documenting conversion of farmland (i.e., prime, statewide, and local importance) to non-agricultural use when federal funding is used. Your proposed project is within city limits where FPPA does not apply; therefore, no further action is required.

If you have additional questions pertaining to FPPA, please contact Steve Sieler, State Soil Liaison, at (701) 530-2019.

Sincerely,

STEVEN J. SIELER
State Soil Scientist/MO 7 Leader (Acting)

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An Equal Opportunity Provider and Employer

4.2.2.1 ALTERNATIVE 1 (NO ACTION)

The proposed project is within the city limits of Fargo, which does not contain agricultural lands. Prime farmland would not be impacted by this alternative. In addition, the NRCS confirmed in correspondence, dated January 31, 2012, that due to its location within the city limits of Fargo, the Farmland Protection Policy Act does not apply.

4.2.2.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

The proposed project is within the city limits of Fargo, which does not contain agricultural lands. Prime farmland would not be impacted by this alternative. In addition, the NRCS confirmed in correspondence, dated January 31, 2012, that due to its location within the city limits of Fargo, the Farmland Protection Policy Act does not apply.

4.2.2.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

The proposed project is within the city limits of Fargo, which does not contain agricultural lands. Prime farmland would not be impacted by this alternative. In addition, the NRCS confirmed in correspondence, dated January 31, 2012, that due to its location within the city limits of Fargo, the Farmland Protection Policy Act does not apply.

4.2.2.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

The proposed project is within the city limits of Fargo, which does not contain agricultural lands. Prime farmland would not be impacted by this alternative. In addition, the NRCS confirmed in correspondence, dated January 31, 2012, that due to its location within the city limits of Fargo, the Farmland Protection Policy Act does not apply.

4.2.3 FLOODPLAIN ENCROACHMENT

The intent of Executive Order (EO) 11988 is to require Federal Agencies to take actions to minimize occupancy of and modifications to floodplains. Specifically, EO 11988 prohibits Federal agencies from funding construction in the 100-year floodplain unless there

are no practicable alternatives. EO 11988 also endorses actions to reduce the risk of flood loss, to minimize the impact of floods, and to restore and preserve the natural and beneficial values served by floodplains. The Fargo – Lift Station Relocation with Green Space Storage Area is a stand-alone project. It will not remove properties from the floodplain and the effects of the project will not be reflected on FEMA floodplain maps. However, it will help reduce the emergency flood mitigation efforts required during Red River flooding events.

At the project site, the floodplain extends from the Red River main channel into the City's residential areas. The proposed flood mitigation project is to be constructed within Zone AE (floodplain) and X (500-year) as shown on the preliminary Flood Insurance Rate Map dated July 31, 2012. However, the project does not include placing embankment material within the floodway. A copy of the 1995 Flood Insurance Rate Map (FIRM) for the project area is provided as Figure 3 in Appendix A.

By its very nature, the NEPA compliance process involves the same basic decision process to meet objectives found in the Eight-Step Decision-Making Process. The Eight-Step Decision-making process has been applied through implementation of the NEPA process followed as part of this EA. While all the build alternatives carried forward in this Federal undertaking are located in the floodplain, it has been identified through the evaluation of alternatives that they are reasonable and practicable alternatives. Furthermore, no practicable build alternatives were identified that would avoid construction in the 100-year floodplain.

The City of Fargo participates in the National Flood Insurance Program (NFIP) and has jurisdiction over floodplain development within the proposed project area. The floodplain management ordinance for the City of Fargo requires that a floodplain development permit be approved for this project because it is being constructed within the floodplain. If the project were being constructed within the floodway, approval of the permit would require a hydraulic analysis and "no-rise certificate". Although the project is outside of the floodway, a hydraulic analysis was still completed to disclose the minimal impacts. The floodplain development permit application and approved permit is included in Appendix C. City sponsored flood protection within the project area must be compliant with NFIP regulations.

4.2.3.1 ALTERNATIVE 1 (NO ACTION)

Alternative 1 is to maintain the existing conditions. As such, there would be no floodplain impacts.

4.2.3.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

Under this alternative, it is anticipated that emergency levee protection during future Red River of the North flooding events will be constructed along the east side of the green space interior storage area, similar to the permanent levee protection shown in Alternative 4. As a result, the hydraulic analysis was only conducted to show the associated impacts from Alternative 4. These impacts were determined to be minor and are less than the allowable impact under current floodplain zoning requirement. The analysis of Alternative 4 is comparable with the anticipated emergency protection impacts that would be expected during future flood events for Alternative 2; and therefore Alternative 2 would also meet the local floodplain requirements. The details from the hydraulic analysis are included in a floodplain development permit application letter addressed to Nathan Boerboom, City of Fargo – Floodplain Coordinator. This correspondence is included in Appendix C.

4.2.3.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

Under this alternative, it is anticipated that emergency levee protection during future Red River of the North flooding events will be constructed along the east side of the green space interior storage area, similar to the permanent levee protection shown in Alternative 4. As a result, the hydraulic analysis was only conducted to show the associated impacts from Alternative 4. These impacts were determined to be minor and are less than the allowable impact under current floodplain zoning requirement. The

analysis of Alternative 4 is comparable with the anticipated emergency protection impacts that would be expected during future flood events for Alternative 3; and therefore Alternative 3 would also meet the local floodplain requirements. The details from the hydraulic analysis are included in a floodplain development permit application letter addressed to Nathan Boerboom, City of Fargo – Floodplain Coordinator. This correspondence is included in Appendix C.

4.2.3.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

Under this alternative, it is anticipated that emergency levee protection during future Red River of the North flooding events will be constructed along the east side of the green space interior storage area, similar to the permanent levee protection shown in Alternative 4, City Flood Protection. As a result, the hydraulic analysis was only conducted to show the associated impacts from Alternative 4, City Flood Protection. These impacts were determined to be minor and are less than the allowable impact under current floodplain zoning requirement. The analysis of Alternative 4, City Flood Protection is comparable with the anticipated emergency protection impacts that would be expected during future flood events for Alternative 4; and therefore Alternative 4 would also meet the local floodplain requirements. The details from the hydraulic analysis are included in a floodplain development permit application letter addressed to Nathan Boerboom, City of Fargo – Floodplain Coordinator. This correspondence is included in Appendix C.

4.3 TRAFFIC CIRCULATION, VOLUME, AND ACCESS

The project is located within a residential area with relatively low traffic volumes. On-street parking is generally allowed. Oak Street would typically carry the most traffic as it is the last north-south roadway on the west side of the Red River. The proposed project occurs along the following roads within the city of Fargo: Oak Street North, Elm Street North, 9th Avenue North, 11th Avenue North, and North River Road. Traffic impacts for each alternative are related to flooded streets or construction activity that would restrict traffic flow and could present a hazard to motorists.

4.3.1 ALTERNATIVE 1 (NO ACTION)

Traffic or parking impacts under Alternative 1 would remain unchanged, with temporary street closures and emergency construction activities to build an emergency dike on Oak Street during future Red River of the North Flood Events. In addition, the street flooding described in Section 3.0 is possible due to heavy rain during flood events if additional temporary pumping was not incorporated.

4.3.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

The majority of construction associated with this alternative would take place away from city streets. Some streets may be temporarily closed as needed for construction; however, no major traffic disruptions are anticipated to result from this alternative. Temporary disruptions would occur during the initial construction and subsequent flood events due to truck traffic required to place emergency levees.

During flood events, this alternative would greatly reduce potential street flooding associated with large rain events, allowing traffic to flow freely with minimal disruptions.

Parking at Mickelson Field will be reduced due to the elimination of one parking lot south of 9th Avenue NE. This is anticipated to be balanced with a reduced demand due to the elimination of one baseball field.

4.3.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

The majority of construction associated with this alternative would take place away from city streets. Some streets may be temporarily closed as needed for construction; however, no major traffic disruptions are anticipated to result from this alternative. Temporary disruptions would occur during the initial construction and subsequent flood events due to truck traffic required to place emergency levees.

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Parking at Mickelson Field will be reduced due to the elimination of one parking lot south of 9th Avenue NE. This is anticipated to be balanced with a reduced demand due to the elimination of one baseball field.

4.3.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

The majority of construction associated with this alternative would take place away from city streets. Some streets may be temporarily closed as needed for construction; however, no major traffic disruptions are anticipated to result from this alternative. Temporary disruptions would occur during the initial construction and subsequent flood events due to truck traffic required to place emergency levees.

During flood events, this alternative would greatly reduce potential street flooding associated with large rain events, allowing traffic to flow freely with minimal disruptions.

Parking at Mickelson Field will be reduced due to the elimination of one parking lot south of 9th Avenue NE. This is anticipated to be balanced with a reduced demand due to the elimination of one baseball field.

4.4 PUBLIC HEALTH AND SAFETY

Public health and safety within the surrounding community depends upon safe, reliable utilities and public services. The current storm water system has provided insufficient pumping capacity during past flood events, which could cause localized flooding and limit access for emergency services. Additionally, construction activity in a residential neighborhood can present a safety concern for motorists and pedestrians.

Public health and safety impacts are related to hazards resulting from flooded streets and construction activity in a residential area. Mitigation described in each alternative is associated with a reduction in the occurrence of these hazards. Construction hazards are temporary and mitigated through a mixture of appropriate traffic control, warning signage, and barriers, in accordance with existing state and federal standards.

4.4.1 ALTERNATIVE 1 (NO ACTION)

During recent flood events, the current infrastructure has proven ineffective at removing and storing excess water from the storm water system of the surrounding community. The No Action alternative would perpetuate these deficiencies creating a health and safety hazard for local residents by allowing floodwaters to potentially inundate their homes and places of business. Further, the construction of an emergency dike along Oak Street during each flood event presents a safety concern as it occurs on an existing street and immediately adjacent to residential homes.

4.4.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

The storm sewer improvements would result in an overall reduction in the storm sewer hydraulic grade line by approximately four feet. As described in Section 3.0, flooding on Oak Street, Elm Street, and North Terrace would be eliminated or be greatly reduced on all modeled events. The impact to Sanford Medical Center would be eliminated on all modeled events. While construction activity is required for this alternative, it would be located in green space, further away from the residences. Subsequent emergency dike construction would still be required during flood events; however, this activity would also be located in the same green space and not occur on Oak Street.

4.4.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

The storm sewer improvements would result in an overall reduction in the storm sewer hydraulic grade line by approximately four feet. As described in Section 3.0, flooding on Oak Street, Elm Street, and North Terrace would be eliminated or be greatly reduced on all modeled events. The impact to Sanford Medical Center would be eliminated on all modeled events. While construction activity is required for this alternative, it would be located in green space, further away from the residences. Subsequent emergency dike construction would still be required during flood events; however, this activity would also be located in the same green space and not occur on Oak Street.

4.4.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

The storm sewer improvements would result in an overall reduction in the storm sewer hydraulic grade line by approximately four feet. As described in Section 3.0, flooding on Oak Street, Elm Street, and North Terrace would be eliminated or be greatly reduced on all modeled events. The impact to Sanford Medical Center would be eliminated on all modeled events. While construction activity is required for this alternative, it would be located in green space, further away from the residences. Subsequent emergency dike construction would still be required during flood events; however, this activity would also be located in the same green space and not occur on Oak Street.

4.5 SOCIOECONOMIC ISSUES

The City of Fargo contains both minority and low-income populations. U.S. Census Bureau data for 2010 was evaluated in regards to minority populations within the 58102 zip code that includes the project area of influence. Minority populations within the project area ranged from 0.0% to 4.2% with an average minority population of approximately 1.7%. The minority population of Fargo is approximately 10.0%. (USCB 2013)

Census tract data (also year 2010) were evaluated in regards to low income populations within the zip code. Low income populations within project area included 20.3 % below poverty. The percent of individuals living below poverty level in Fargo is 16.1%. (USCB 2013)

4.5.1 ENVIRONMENTAL JUSTICE

On February 11, 1994, President Clinton signed EO 12898, entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations". The EO directs federal agencies to focus attention on human health and environmental conditions in minority and/or low-income communities. Its goals are to achieve environmental justice, fostering nondiscrimination in federal programs that substantially affect human health or the environment, and to give minority or low-income communities greater opportunities for public participation in and access to public information on matters relating to human health and the

environment. Also to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations in the United States.

4.5.1.1 ALTERNATIVE 1 (NO ACTION)

Alternative 1 would have no direct adverse impacts on low-income or minority populations. However, not providing the storm sewer improvements will leave these homes and businesses at risk. This could reduce property values and concentrate low-income populations in an at-risk area.

4.5.1.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

Impacts resulting from this alternative would be primarily temporary in nature and located within existing road right-of-way or on City property. Additionally, the alternative would provide a benefit to the public by improving the sewer system for the surrounding community. As such, the alternative is not anticipated to have disproportionate adverse impacts on low-income or minority populations; rather, the alternative would have a beneficial impact to all residences serviced by the existing lift stations.

4.5.1.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

Impacts resulting from this alternative would be primarily temporary in nature and located within existing road right-of-way or on City property. Additionally, the alternative would provide a benefit to the public by improving the sewer system for the surrounding community. As such, the alternative is not anticipated to have disproportionate adverse impacts on low-income or minority populations; rather, the alternative would have a beneficial impact to all residences serviced by the existing lift stations.

4.5.1.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

Impacts resulting from this alternative would be primarily temporary in nature and located within existing road right-of-way or on City property. Additionally, the alternative would provide a benefit to the public by improving the sewer system for the surrounding community. As such, the alternative is not anticipated to have disproportionate adverse impacts on low-income or minority populations; rather, the alternative would have a beneficial impact to all residences serviced by the existing lift stations.

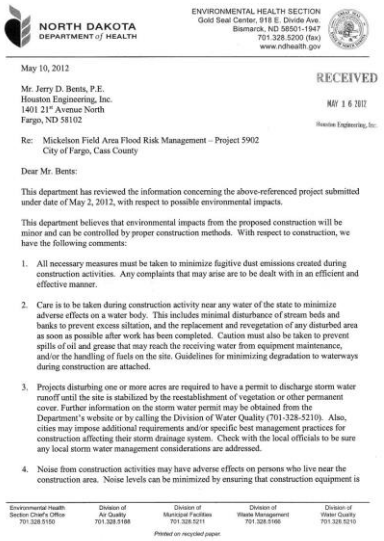
4.6 AIR QUALITY

The Clean Air Act, as amended, requires the Environmental Protection Agency (EPA) to establish air quality standards for pollutants considered harmful to public health and the environment. This is done by setting limits on emission levels of various types of air pollutants. The North Dakota Department of Health (NDDH) operates a network of Ambient Air Quality Monitoring (AAQM) stations, including one located within Fargo, North Dakota (Fargo NW). Criteria pollutants tracked under EPA's National Ambient Air Quality Standards in the Clean Air Act include sulfur dioxide (SO_2), particulate matter (PM), nitrogen dioxide (NO_2), ozone (O_3), lead (Pb), and carbon monoxide (CO). In addition, the NDDH has established state air quality standards. The federal and state air quality standards for these pollutants are summarized in *Table 4-1, Federal and State Air Quality Standards and Reported Data for Fargo NW Station (EPA 2012, NDCC 2011, NDDH 2013).*

In 2011, North Dakota again met standards for all criteria pollutants. The state also met standards for fine particulates and the eight-hour ozone standards established by the EPA (NDDH, 2010).

Pollutant	Averaging Period	EPA Air Quality Standard		NDDH Air Quality Standard		Fargo NW 2011 Reported Data	
		µg/m³	parts per million	µg/m³	parts per million	µg/m³	parts per million
SO_2	1-Hour	196	0.075	196	0.075	--	**0.005**
	3-Hour Peak	1309	0.5	1309	0.5	--	**0.0058**
PM_{10}	24-Hour	150	--	150	--	98.0	**--**
$PM_{2.5}$	24-Hour	35	--	35	--	21.3	**--**
	Annual Mean	12	--	15	--	--	**--**
NO_2	1-Hour	188	0.100	188	0.100	--	**0.040**
	Annual Mean	100	0.053	100	0.053	--	**0.00445**
CO	1-Hour	40,000	35	40,000	35	--	**0.682**
	8-Hour	10,000	9	10,000	9	--	**0.400**
Pb	3-Month	1.5	--	1.5	--	--	**--**
O3	1-Hour	235	0.12	235	0.12	--	**.064**
	8-Hour	**--**	**0.08**	**--**	**0.08**	**--**	**.06**

Construction activities could have a short-term impact on air quality, due to the generation of dust and exhaust emissions from operating equipment. No long term impacts are anticipated. Dust is the pollutant of primary concern and would be the responsibility of the contractor. The amount of dust generated would vary, depending on construction activity and local weather conditions. The contractor would be required to obtain a NDPDES Permit from the North Dakota Department of Health prior to construction. As part of the NDPDES Permit, the contractor must have a plan for erosion and sediment control during and post construction to minimize dust generated. When excess dust is anticipated to be a problem, effective dust control measures would be implemented in accordance with standard procedures.



NORTH DAKOTA DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
Bismarck, ND 58501-1947
701.328.5200 (fax)
www.ndhealth.gov

May 10, 2012

RECEIVED
MAY 16 2012
Houston Engineering, Inc.

Mr. Jerry D. Bents, P.E.
Houston Engineering, Inc.
1401 21st Avenue North
Fargo, ND 58102

Re: Mickelson Field Area Flood Risk Management – Project 5902
City of Fargo, Cass County

Dear Mr. Bents:

This department has reviewed the information concerning the above-referenced project submitted under date of May 2, 2012, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.
2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
3. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit may be obtained from the Department's website or by calling the Division of Water Quality (701-328-5210). Also, cities may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.
4. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is

Environmental Health Section Chief's Office 701.328.5150 | Division of Air Quality 701.328.5188 | Division of Municipal Facilities 701.328.5211 | Division of Waste Management 701.328.5166 | Division of Water Quality 701.328.5210

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Emissions from construction equipment are regulated by federal standards. Any burning of cleared materials would be conducted in accordance with applicable state and local laws, regulations, and ordinances.

Cass County complies with North Dakota National Ambient Air Quality Standards and visibility protection. Construction activities would temporarily generate minor amounts of dust and gaseous emissions of PM, SO2, NO2, CO, and volatile organic compounds. Emissions would be limited to the immediate project area and are not anticipated to cause or contribute to a violation of National Ambient Air Quality Standards.

4.6.1 ALTERNATIVE 1 (NO ACTION)

No initial air quality impacts would occur with this alternative. However, future flood events will continue to require emergency construction activities and result in associated temporary and localized impacts to air quality.

4.6.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

Initial construction activities would also result in temporary and localized air quality impacts, in addition to similar impacts during flooding events. However, the location of the proposed construction activity is further away from residences, and less likely to present a concern.

4.6.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

Initial construction activities would also result in temporary and localized air quality impacts, in addition to similar impacts during flooding events. However, the location of the proposed construction activity is further away from residences, and less likely to present a concern.

4.6.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

Initial construction activities would also result in temporary and localized air quality impacts, in addition to similar impacts during flooding events. However, the location of the proposed construction activity is further away from residences, and less likely to present a concern.

4.7 NOISE

The Noise Control Act was enacted in 1972 (P.L. 92-574). Inadequately controlled noise presents a growing danger to the health and welfare of the nation's population. The major sources of noise include transportation vehicles and equipment, machinery, appliances, other products in commerce, climate or recreation. Sounds which disrupt normal activities or otherwise diminish the quality of the environment are designated as noise. Noise can be stationary or transient, intermittent or continuous.

Noise is often referred to as any unwanted sound, random signal, or anything that would diminish the quality of the human environment such as an excavator operating on your front lawn. Noise events that occur during the night are often considered a greater nuisance than during normal daytime hours.

No noise ordinances exist within the City pertaining to construction related activities; however, construction activities are typically restricted to between 7am and 6pm. Noise impacts for each alternative are anticipated to be temporary and entirely associated with construction activities. Noise would be generated primarily from heavy equipment used to transport materials and construct the project. Sensitive noise receptors in the project area would be residential homes and Mickelson Field.

4.7.1 ALTERNATIVE 1 (NO ACTION)

No initial noise impacts would occur with this alternative. However, future flood events will continue to require emergency construction activities and result in associated noise impacts. Further, the emergency nature of the activity will likely require 24-hour a day construction, until complete.

4.7.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

Initial noise impacts would occur during the construction of this alternative. Mitigation steps include mufflers on equipment and the restriction of construction activities to daytime hours. Emergency construction activities would still be required during flood events; however, this would be partially mitigated by being located farther away from residential homes.

4.7.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

Initial noise impacts would occur during the construction of this alternative. Mitigation steps include mufflers on equipment and the restriction of construction activities to daytime hours. Emergency construction activities would still be required during flood events; however, this would be partially mitigated by being located farther away from residential homes.

4.7.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

Initial noise impacts would occur during the construction of this alternative. Mitigation steps include mufflers on equipment and the restriction of construction activities to daytime hours. Emergency construction activities would still be required during flood events; however, this would be partially mitigated by being located farther away from residential homes.

4.8 PUBLIC SERVICES AND UTILITIES

Public services and utilities within the City are operated by both public (City) entities and private utility companies. The City has the water distribution, sewage and storm water systems. Private companies operate the telecommunications services and the electrical services. This arrangement is typical for cities in the region. Avoidance and relocation measures that would be necessary for project alternatives would be coordinated with the corresponding utility company or entity prior to construction. Other services that the City provides include police, fire departments and garbage collection. Emergency medical services are provided by FM Ambulance.

4.8.1 ALTERNATIVE 1 (NO ACTION)

If no action is taken, future flood events could threaten to overwhelm the current storm water system creating a hazardous situation for the surrounding residents. Additionally, the flooded streets and emergency levee during Red River Flooding events that would be constructed on Oak Street could restrict access for emergency services.

4.8.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

This alternative will substantially improve the functionality of the storm sewer utility, in addition to providing a means to more easily protect the adjacent infrastructure from future flood events. This alternative would also eliminate the traffic restrictions for emergency services.

4.8.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

This alternative will substantially improve the functionality of the storm sewer utility, in addition to providing a means to more easily protect the adjacent infrastructure from future flood events. This alternative would also eliminate the traffic restrictions for emergency services.

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This alternative will substantially improve the functionality of the storm sewer utility, in addition to providing a means to more easily protect the adjacent infrastructure from future flood events. This alternative would also eliminate the traffic restrictions for emergency services.

4.9 WATER QUALITY/WATER RESOURCES

The United States Army Corps of Engineers (USACE) is responsible for permitting and enforcement functions dealing with building in U.S. waters and discharging dredged or fill material into U.S. waters. The Rivers and Harbors Act of 1899 authorize USACE regulations for building or working in navigable waters of the United States. These regulations often go hand in hand with Section 404 of the Clean Waters Act (CWA), which establishes the USACE permit program for discharging dredged or fill material. The regulations are often used together because building in navigable waters of the United States also constitutes discharging dredged or fill material into waters of the United States. In addition to regulating construction or work being done in navigable waters of the United States, USACE regulates discharging into wetlands through the "Section 404" permit program. (See EO 11990 – Protection of Wetlands)

The project is located adjacent to the Red River of the North. The Red River it the primary source of water for the surrounding Fargo/Moorhead community. The Red River Valley is generally characterized by very flat slopes over a silty clay substrate. Surface waters within the area generally flow overland until draining into this river system. As a result of the flat landscape associated with this river system, flooding is a common occurrence. In recent years the Red River has experienced significant spring flood events prompting the need for flood damage reduction measures. The Red River is the only significant water resource in the project area.

Based on the proposed extent of disturbance associated with each build alternative, a Construction Stormwater Permit will be required from the City of Fargo and the North Dakota Health Department (NDDH). A construction SWPPP will also need to be prepared. In cases where runoff from a project will be received by a water body that is impaired for turbidity or nutrients, the SWPPP must be submitted to the NDDH for review, prior to receiving coverage under the permit. While this portion of the river is listed as impaired for turbidity in the State of Minnesota, the NDDH only lists it as impaired for methylmercury and E. coli.

4.9.1 ALTERNATIVE 1 (NO ACTION)

Alternative 1 would not initially impact surface waters. However, water quality could become compromised during significant precipitation events or during flood events if the sewage collection system is compromised by storm or flood waters.

4.9.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

The best management practices implemented in the SWPPP will be sufficient to control erosion and prevent the discharge of sediment into the river. This alternative reduces the potential for the sewage system to be compromised by floodwaters or stormwater.

4.9.3 ALTERNATIVES 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

The best management practices implemented in the SWPPP will be sufficient to control erosion and prevent the discharge of sediment into the river. This alternative reduces the potential for the sewage system to be compromised by floodwaters or stormwater.

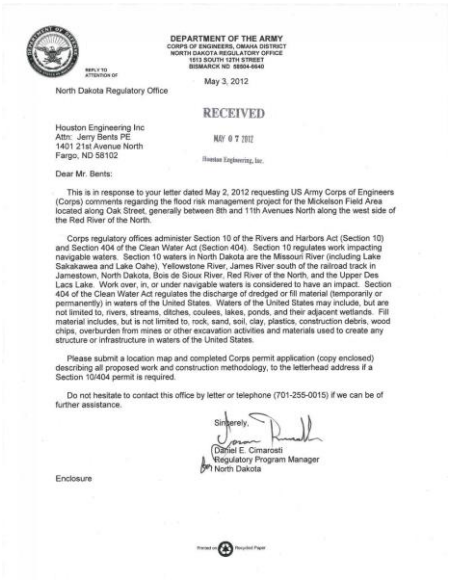
4.9.4 ALTERNATIVES 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

The best management practices implemented in the SWPPP will be sufficient to control erosion and prevent the discharge of sediment into the river. This alternative reduces the potential for the sewage system to be compromised by floodwaters or stormwater.

4.10 BIOLOGICAL RESOURCES

4.10.1 WETLANDS

Executive Order 11990, Protection of Wetlands, requires federal agencies to take action to minimize the destruction or modification of wetlands, by considering both direct and indirect impacts to wetlands that may result from federally funded actions. Application of the Eight-Step Decision-Making process is required to ensure that federally funded projects are consistent with EO 11990 objectives.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-6640

REPLY TO ATTENTION OF
North Dakota Regulatory Office

May 3, 2012

RECEIVED
MAY 07 2012
Houston Engineering, Inc.

Houston Engineering Inc
Attn: Jerry Bents PE
1401 21st Avenue North
Fargo, ND 58102

Dear Mr. Bents:

This is in response to your letter dated May 2, 2012 requesting US Army Corps of Engineers (Corps) comments regarding the flood risk management project for the Mickelson Field Area located along Oak Street, generally between 8th and 11th Avenues North along the west side of the Red River of the North.

Corps regulatory offices administer Section 10 of the Rivers and Harbors Act (Section 10) and Section 404 of the Clean Water Act (Section 404). Section 10 regulates work impacting navigable waters. Section 10 waters in North Dakota are the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River south of the railroad track in Jamestown, North Dakota, Bois de Sioux River, Red River of the North, and the Upper Des Lacs Lake. Work over, in, or under navigable waters is considered to have an impact. Section 404 of the Clean Water Act regulates the discharge of dredged or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

Please submit a location map and completed Corps permit application (copy enclosed) describing all proposed work and construction methodology, to the letterhead address if a Section 10/404 permit is required.

Do not hesitate to contact this office by letter or telephone (701-255-0015) if we can be of further assistance.

Sincerely,

Daniel E. Cimarosti
Regulatory Program Manager
ND North Dakota

Enclosure

Printed on Recycled Paper

Activities disturbing jurisdictional wetlands require a permit from the USACE. Two types of authorization are available from the USACE for activities regulated under Section 404 of the CWA: general permits, which are issued for a specific category of similar activities and include nationwide permits defined in 33 CFR Part 30, and individual permits issued after individual review of the project, project alternative, and proposed mitigation.

The National Wetland Inventory (NWI) data, presented on Figure 2, did not identify any wetlands within the footprint of any project alternatives. The Red River of the North is identified on the NWI as a Riverine resource, specifically; Riverine Lower Perennial Unconsolidated Bottom Permanently Flooded (R2UBH). Although wetlands typically are encountered in floodplains, few wetland areas are located adjacent to the river channel due to the flat topography. The exceptions are old oxbows that capture surface runoff and floodwaters. These floodplain wetland areas can be found throughout the Red River Valley, however they are not present near the project site. Please refer to the attached National Wetlands Inventory Map.

4.10.1.1 ALTERNATIVE 1 (NO ACTION)

Alternative 1 would have no wetland impacts.

4.10.1.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

Alternative 2 would have no wetland impacts. Wetlands have not been identified within or adjacent to the construction footprint of this alternative. The NWI does not identify wetlands near the footprint of Alternative 2.

4.10.1.3 ALTERNATIVES 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

Alternative 3 would have no wetland impacts. Wetlands have not been identified within or adjacent to the construction footprint of this alternative. The NWI does not identify wetlands near the footprint of Alternative 3.

4.10.1.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

Alternative 4 would have no wetland impacts. Wetlands have not been identified within or adjacent to the construction footprint of this alternative. The NWI does not identify wetlands near the footprint of Alternative 4.

4.10.2 THREATENED OR ENDANGERED SPECIES

The Endangered Species Act (ESA) of 1973 establishes a federal program to conserve, protect and restore threatened and endangered plants and animals and their habitats. ESA specifically charges federal agencies with the responsibility of using their authority to conserve threatened and endangered species. All federal agencies must insure any action they authorize, fund or carry out is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction of critical habitat for these species.

The United States Fish & Wildlife Service website, (USFWS 2013) identified one endangered species, the Whooping Crane, within Cass County. In addition one candidate species is also identified, the Poweshiek Skipperling. A description of each species is listed below.

Whooping Crane (Grus americana)

Whooping cranes inhabit shallow wetlands that are characterized by cattails, bulrushes, and sedges. They can also be found in upland areas, especially during migration. About 264 whooping cranes presently occur in the wild. Almost all of these birds are in the Aransas-Wood Buffalo flock. The Aransas-Wood Buffalo population migrates through North Dakota. Birds can show up in all parts of North Dakota, although most sightings occur in the western two-thirds of the State. (USFWS 2013)

Poweshiek Skipperling (Oarisma Poweshiek)

Poweshiek Skipperlings are found in prairie habitat including prairie fens, grassy lake and stream margins, moist meadows, and wet-mesic to dry tall grass prairie. Prefers a wide variety of native plants including smooth ox-eye, blacksamson echinacea, stiff tickseed, blackeyed susan, pale lobelia, prairie dropseed, little bluestem, and sideoats grama. (USFWS 2013)

State Listed Rare Species

According to consultation with the North Dakota Parks and Recreation Deportment, the North Dakota Natural Heritage biological database identified one plant species of concern near the project footprint, the Downy Phlox (Phlox pilosa). The National Heritage database lists the last observation date for this species as 1891, (ND Parks and Rec. Appendix C).

4.10.2.1 ALTERNATIVE 1 (NO ACTION)

Alternative 1 would have no effect on Whooping Cranes, Poweshiek Skipperlings or the Downy Phlox.

May 25, 2012

Houston Engineering, Inc.
Attn: Jerry Bents
1401 21 St. Ave. North
Fargo, ND 58102

RECEIVED
MAY 2 5 2012

Re: Mickelson Field Area Flood Risk Management – Project 5902, City of Fargo HE Project # [illegible]

Dear Mr. Bents,

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced proposal for the construction of an earthen levee along the west side of the Red River in the City of Fargo.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare plants and ecological communities). The project as defined does not affect state park lands that we manage but may affect state Land and Water Conservation Fund (LWCF) project sites that we manage. A map with LWCF project locations has been attached. We have concerns regarding a Land and Water Conservation Fund (LWCF) site near the project area. The Fargo Boat/Canoe Access project (#38-01127) received assistance from the federal Land and Water Conservation Fund and is under protection of section 6(f) of the LWCF Act. Any property taken from within the 6f boundary of this site for non-recreational use must be replaced with property of equal market value. Should any public or private utilities need to be added or relocated on the LWCF recreational lands, the NDPRD must be consulted prior to any action taken. Please contact Jessica Riepl (701-328-5364 or jriepl@nd.gov) if additional LWCF information is needed.

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any current or historical plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, one plant of concern has been identified within or adjacent to the project areas. Please see the attached spreadsheet and maps for more specific information on these species. We defer further comments regarding animal species to the North Dakota Game and Fish Department and the United States Fish and Wildlife Service.

Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

The Department recommends that the project be accomplished with minimal impacts and that all efforts be made to ensure that critical habitats not be disturbed in the project area to help secure rare species conservation in North Dakota. Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact Kathy Duttenhefner (701-328-5370 or kduttenhefner@nd.gov) of our staff. Thank you for the opportunity to comment on this proposed project.

Sincerely,

Jesse Hiltbold, Manager
Planning and Natural Resources Division

R:\USNDNHP\2012_124 KD\5/22/2012DL6.4.2012

Play in our backyard!

4.10.2.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

Due to the urban setting of the proposed project area and lack of historic sightings, Alternative 2 would have no effect on Whooping Cranes or the Downy Phlox. In addition, a native prairie plant community is not present within the project footprint and consequently this alternative would not have an impact to Poweshiek Skipperlings.

4.10.2.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

Due to the urban setting of the proposed project area and lack of historic sightings, Alternative 3 would have no effect on Whooping

Cranes or the Downy Phlox. In addition, a native prairie plant community is not present within the project footprint and consequently this alternative would not have an impact to Poweshiek Skipperlings.

4.10.2.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

Due to the urban setting of the proposed project area and lack of historic sightings, Alternative 4 would have no effect on Whooping Cranes or the Downy Phlox. In addition, a native prairie plant community is not present within the project footprint and consequently this alternative would not have an impact to Poweshiek Skipperlings.

4.10.3 VEGETATION, WILDLIFE, AND AQUATIC RESOURCES

Vegetation in the project area consists of turf grasses and trees typical of an urban setting within the Red River Valley. Typical species of trees within the Red River floodplain are: Green Ash, Black Ash, Hackberry, American Elm, Willows, Chokecherry, Cottonwood, Quaking Aspen, Burr Oak, and Boxelder. Dogwoods, Common Buckthorn, and Sandbar Willow are frequently encountered shrubs. Introduced species of trees and shrubs are also present at the project site. The most common at the project site are various species of spruce including Colorado and Black Hills Spruce. Wildlife in the area is associated with the riparian corridor of the Red River of the North. Typical species of observed include, beaver, otters, mink, weasels squirrels, white tail deer, raccoons, songbirds, turkeys and some waterfowl. The proposed project is located entirely in an urban setting with poor potential for the presence of critical wildlife habitat. In addition, besides the Red River there are no aquatic resources in the project area.

4.10.3.1 ALTERNATIVE 1 (NO ACTION)

Alternative 1 would not impact vegetation, wildlife, or aquatic resources.

4.10.3.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

Construction activities associated with Alternative 2 would impact existing vegetation. Construction activities would result in the scraping and stockpiling of topsoil with will result in the potential for noxious weed establishment. Disturbed areas would be reseeded after construction and weed control methods would be implemented during vegetation establishment. General construction site BMPs would be used to minimize the likelihood of invasive plant species to become established. This alternative would also have permanent impacts to trees. However, City of Fargo local policy would require the mitigation of all lost trees in excess of 6-in diameter be replaced at a 2:1 ratio.

4.10.3.3 ALTERNATIVE 3(NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

Construction activities associated with Alternative 3 would impact existing vegetation. Construction activities would result in the scraping and stockpiling of topsoil with will result in the potential for noxious weed establishment. Disturbed areas would be reseeded after construction and weed control methods would be implemented during vegetation establishment. General construction site Best Management Practices (BMP) would be used to minimize the likelihood of invasive plant species to become established. This alternative would also have permanent impacts to trees. However, City of Fargo local policy would require the mitigation of all lost trees in excess of 6-in diameter be replaced at a 2:1 ratio.

4.10.3.4 ALTERNATIVE 4(COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

Construction activities associated with the Alternative 4 would impact existing vegetation. Construction activities would result in the scraping and stockpiling of topsoil with will result in the potential for noxious weed establishment. Disturbed areas would be reseeded after construction and weed control methods would be implemented during vegetation establishment. General construction site BMPs would be used to minimize the likelihood of invasive plant species to become established. This alternative would also have permanent impacts to trees. However, City of Fargo local policy would require the mitigation of all lost trees in excess of 6-in diameter be replaced at a 2:1 ratio.

4.10.4 AREAS WITH SPECIAL DESIGNATION

According to consultation with the North Dakota Parks and Recreation Department, the Department manages a Land and Water Conservation Fund (LWCF) site near the project footprint. The Fargo Boat/Canoe Access site located just southeast of Lift Station No. 38 is under protection of section 6(f) of the LWCF Act. Any property taken from this site is required to be replaced with property of equal value.

4.10.4.1 ALTERNATIVE 1 (NO ACTION)

Alternative 1 would not impact areas with special designations including the Boat/Canoe Access site. Alternative 1 is not expected to alter the function or location of the Access.

4.10.4.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

Alternative 2 would not impact areas with special designations including the Boat/Canoe Access site. Alternative 2 is not expected to alter the function or location of the Access.

4.10.4.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

Alternative 3 would not impact areas with special designations including the Boat/Canoe Access site. Alternative 3 is not expected to alter the function or location of the Access.

4.10.4.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

Alternative 4 would not impact areas with special designations including the Boat/Canoe Access site. Alternative 4 is not expected to alter the function or location of the Access.

4.11 CULTURAL RESOURCES

Historic Properties and Archeological Resources

In conjunction to review under NEPA, consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA) as implemented by 36 CFR 800. Requirements include the need to identify significant historic properties that may be impacted by the proposed action or alternatives within the project's area of potential effect. Historic properties are defined as archaeological sites, standing structures, or other historic resources over 50 years old listed in or determined eligible for listing in the NRHP 36 CFR 60.4. If adverse effects on historic, archaeological, or cultural properties are identified, then agencies must attempt to avoid, minimize, or mitigate the impacts to these resources.

Area of Potential Effect (APE)

The APE for the proposed project is identified in Figure 2 and identifies both architectural and archaeological potential areas of impact. The APE represent a former meander of the Red River of the North that pre-dates the 1878 General Land Office (GLO) Survey and has no structures that are more than 50-years of age. The majority of the APE currently serves as recreational areas.

State Historical Society of North Dakota Record Search

A site search was conducted by Trefoil Inc. using the records of the State Historic Preservation Office. No previously identified archaeological sites were identified within 2 miles of the project area. The project area has not been previously surveyed.

State Historical Society of North Dakota Review

Components of the proposed project were previously reviewed by the North Dakota State Historic Preservation Office (ND SHPO), which concurred with a finding of "No Historic Properties Affected" (ND SHPO Ref. 12-5628 – see Appendix C). The proposed undertaking APE has since expended to its current boundary. A second letter was sent to the ND SHPO on June 5, 2013 with a copy of the Phase 1a Survey (Appendix E). On that same day, June 5, 2013, ND SHPO responded and continued to concur that the proposed project would result in "No Historic Properties Affected".

4.11.1 ALTERNATIVE 1 (NO ACTION)

Under the No Action Alternative, there would be no effects to cultural resources because proposed improvements would not occur.

4.11.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

No Historic Properties were identified within the APE. If artifacts or human remains are encountered during construction, work in the vicinity would be halted; and FEMA, the State Archaeologist, and the SHPO would be immediately contacted.

4.11.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

No Historic Properties were identified within the APE. If artifacts or human remains are encountered during construction, work in the vicinity would be halted; and FEMA, the State Archaeologist, and the SHPO would be immediately contacted.

4.11.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

No Historic Properties were identified within the APE. If artifacts or human remains are encountered during construction, work in the vicinity would be halted; and FEMA, the State Archaeologist, and the SHPO would be immediately contacted.

4.12 HAZARDOUS MATERIALS AND WASTES

A review of environmental databases and historical records, consistent with American Society Testing and Materials (ASTM) 1527-05, was conducted for the area adjacent to the proposed project. The review included the results from a database search conducted by Environmental Data Resources (EDR), historical topographic maps, aerial photography, Sanborn fire insurance maps, and city directories. Copies of these records are included in Appendix D. Boring logs from the Geotechnical Evaluation Report prepared by

Braun Intertec Corporation, was also reviewed for any evidence of material disposal sites or below grade structures. No evidence of Recognized Environmental Conditions (RECs) was discovered.

Hazardous substances, petroleum products, or other hazardous materials, such as fuel, lubricants, and paints may be brought onsite and used during construction activities.

4.12.1 ALTERNATIVE 1 (NO ACTION)

Not doing the storm sewer improvements leaves area homes and businesses at risk of flooding due to accumulated storm water. If these structures were to flood, a wide range of hazardous substances and petroleum products that are stored in these structures could contaminate the flood water. This contamination would then spread with the flood water to other structures in addition to impacting people and wildlife that come in contact with it.

4.12.2 ALTERNATIVE 2 (UPGRADE LIFT STATION NO. 29, NEW FORCEMAIN/GATEWELL AND GREEN SPACE INTERIOR STORAGE)

No impacts are anticipated with this alternative. All hazardous materials used or staged onsite during construction will be listed in the Construction SWPPP and handled in accordance with State and Federal regulations. All wastes generated onsite will be collected and hauled offsite for proper disposal.

4.12.3 ALTERNATIVE 3 (NEW LIFT STATION NO. 29 AND GREEN SPACE INTERIOR STORAGE)

No impacts are anticipated with this alternative. All hazardous materials used or staged onsite during construction will be listed in the Construction SWPPP and handled in accordance with State and Federal regulations. All wastes generated onsite will be collected and hauled offsite for proper disposal.

4.12.4 ALTERNATIVE 4 (COMBINED LIFT STATION WITH STORM SEWER CONNECTION)

No impacts are anticipated with this alternative. All hazardous materials used or staged onsite during construction will be listed in the Construction SWPPP and handled in accordance with State and Federal regulations. All wastes generated onsite will be collected and hauled offsite for proper disposal.

4.13 CUMULATIVE IMPACTS

According to CEQ regulations, cumulative impacts represent the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).”

Past activities within the vicinity of the proposed site included the construction of an earthen levee along the south side of the Mickelson Field complex in 2010. This levee is located to the east of Oak Street and was intended to reduce the need for emergency flood fight measures. As part of this project, material will be removed from this levee and used as borrow material for the proposed Alternatives 2-4. If Alternative 1 is chosen, no change to this levee will occur.

Reasonably foreseeable future actions will likely involved the addition of permanent flood control features (levees or floodwalls) in the areas to the north and south of the proposed project. These actions would occur in an effort to reduce the need for future emergency flood protection.

In accordance with NEPA and to the extent reasonable and practical, this EA considered the combined effect of the Reviewed Alternatives and other past, present, and reasonably foreseeable future actions occurring or proposed in the vicinity of the proposed project site. No significant cumulative impacts are anticipated from the actions in the vicinity of the proposed site.

The proposed federal action, Lift Station Relocation, has independent utility and is not dependent upon another action to function. The City sponsored flood protection, while located in the area of potential impact for this project is not a component of this Federal undertaking and as such is not being evaluated under cumulative impacts.

4.14 SUMMARY TABLE

No significant adverse impacts were noted in this draft Environmental Assessment. Alternative One or the no action alternative is the least preferred alternative because it does nothing in regards to flood damage mitigation or access protection in the project area. Alternative 4 provided the most opportunity for positive impacts due to the reduction in future emergency flood protection needs.

Table 4.14 summarizes the affected environments and potential impacts of the proposed alternatives.

Table 4-14 Summary Table Comparing Alternatives by Environmental Resource

Assessment Category	Alternative 1 No Action	Alternative 2 Upgrade Lift Station No. 29, New Forcemain/Gatewell and Green Space Interior Storage	Alternative 3 New Lift Station No. 29 and Green Space Interior Storage	Alternative 4 Combined Lift Station with Storm Sewer Connection
Geology and Soils	Minor long term impacts: Sediment from Red River Flooding	Minor short term impacts: construction related soil erosion	Minor short term impacts: construction related soil erosion	Minor short term impacts: construction related soil erosion
Land Use, Planning, and Zoning	Potential loss of property values and discouragement of business investment.	The project supports long-term goals of flood protection.	The project supports long-term goals of flood protection.	The project supports long-term goals of flood protection.
Prime Farm	No effect.	No effect.	No effect.	No effect.
Floodplain	No effect. Repetitive flooding events will continue to occur in the existing floodplain.	Minor short term impacts will occur during the construction phase. Reduced flood damages are expected.	Minor short term impacts will occur during the construction phase. Reduced flood damages are expected.	Minor short term impacts will occur during the construction phase. Reduced flood damages are expected.
Traffic	During flooding events residential traffic is disrupted due to earthen dike construction on Oak Street, flooded streets, and associated emergency construction activities.	Short term impacts may occur during construction; however no major disruptions are anticipated.	Short term impacts may occur during construction; however no major disruptions are anticipated.	Short term impacts may occur during construction; however no major disruptions are anticipated.

Assessment Category	Alternative 1 No Action	Alternative 2 Upgrade Lift Station No. 29, New Forcemain/Gatewell and Green Space Interior Storage	Alternative 3 New Lift Station No. 29 and Green Space Interior Storage	Alternative 4 Combined Lift Station with Storm Sewer Connection
Public Health and Safety	Continued flood events could cause repetitive flood damages to homes and property and result in public safety issues.	Improves health and safety by providing effective storm water drainage.	Improves health and safety by providing effective storm water drainage.	Improves health and safety by providing effective storm water drainage.
Socioeconomic Issues	Potential loss of property value and concentration of low-income population in at-risk area.	No negative impact on minorities or on households that have low incomes.	No negative impact on minorities or on households that have low incomes.	No negative impact on minorities or on households that have low incomes.
Air Quality	No effect.	No effect.	No effect.	No effect.

Assessment Category	Alternative 1 No Action	Alternative 2 Upgrade Lift Station No. 29, New Forcemain/Gatewell and Green Space Interior Storage	Alternative 3 New Lift Station No. 29 and Green Space Interior Storage	Alternative 4 Combined Lift Station with Storm Sewer Connection
Noise	Noise will be a minor issue during emergency construction activities.	No noise impacts once the proposed project is completed.	No noise impacts once the proposed project is completed.	No noise impacts once the proposed project is completed.
Public Services and Utilities	No effect will occur.	Some site alterations will need to be made to public services and utilities when the proposed project is under construction. However, utility concerns will be incorporated into the final design to minimize disruptions and avoid conflicts whenever possible.	Some site alterations will need to be made to public services and utilities when the proposed project is under construction. However, utility concerns will be incorporated into the final design to minimize disruptions and avoid conflicts whenever possible.	Some site alterations will need to be made to public services and utilities when the proposed project is under construction. However, utility concerns will be incorporated into the final design to minimize disruptions and avoid conflicts whenever possible.
Water Quality – Water Resources	No effect.	No effect on water quality.	No effect on water quality.	No effect on water quality.

Assessment Category	Alternative 1 No Action	Alternative 2 Upgrade Lift Station No. 29, New Forcemain/Gatewell and Green Space Interior Storage	Alternative 3 New Lift Station No. 29 and Green Space Interior Storage	Alternative 4 Combined Lift Station with Storm Sewer Connection
Biological Resources	No effect.	No effect.	No effect.	No effect.
Wetlands	No effect.	Would have no impacts on identified wetlands; therefore, no Section 404 permits are anticipated to be required.	Would have no impacts on identified wetlands; therefore, no Section 404 permits are anticipated to be required.	Would have no impacts on identified wetlands; therefore, no Section 404 permits are anticipated to be required.
Threatened & Endangered Species	No effect on federally listed species.	No effect on federally listed species.	No effect on federally listed species.	No effect on federally listed species.
Historic Properties	No historic properties affected.	No historic properties affected.	No historic properties affected.	No historic properties affected.

Assessment Category	Alternative 1 No Action	Alternative 2 Upgrade Lift Station No. 29, New Forcemain/Gatewell and Green Space Interior Storage	Alternative 3 New Lift Station No. 29 and Green Space Interior Storage	Alternative 4 Combined Lift Station with Storm Sewer Connection
Hazardous Materials and Wastes	No effect.	No effect.	No effect.	No effect.

5.0 AGENCY COORDINATION, PUBLIC INVOLVEMENT, PERMITS

5.1 FEDERAL STATE AND LOCAL AGENCIES CONSULTED

The following table lists the agencies, contact people, addresses and phone numbers of the organizations that were consulted for the project. Agencies were contacted as part of two efforts, first by the City of Fargo for the solicitation of views (SOV) and secondly through the Hazard Mitigation Grant Application (HMGP). Copies of the SOV and HMGP coordination letters along with the corresponding responses are included in Appendix C.

Table 5-1 Agency Consultation Table

AGENCY	ADDRESS	PHONE	City of Fargo SOV	HMGP Application
Wade Kline, Fargo-Moorhead Metro Council of Govts.	1 - 2nd St. N., 232 Case Plaza, Fargo, ND 58102	701-232-3242		X
Steve Dyke, ND Game & Fish Department	100 Bismarck Expressway, Bismarck, ND 58501	701-328-6300	x	X
Weldon Loudermilk, Bureau of Indian Affairs	115 4th Avenue SE, Aberdeen, SD 57401	605-226-7343	x	X
Cass Lake Area Chamber	115 6th Street NW, Suite E, Cass Lake, MN 56633	218-335-8396		X
Chairman, Cass County Highway Dept.	1201 Main Avenue West, West Fargo, ND 58078	701-298-2370	x	

Table 5-1 Agency Consultation Table

AGENCY	ADDRESS	PHONE	City of Fargo SOV	HMGP Application
Tom Fischer, SE Cass Water Resource Board	1201 Main Avenue West, West Fargo, ND 58078	701-298-2370	x	
Keith Berndt, Cass County Highway Department	1201 West Main Avenue, West Fargo, ND 58078	701-298-2370		X
Dan Cimarosti, US Army Corps of Engineers	1513 South 12th Street, Bismarck, ND 58504	701-255-0015		X
Richard Clark, US Environmental Protection Agency	1595 Wynkoop Street, Denver, CO 80202	303-312-6312		X
Mark Zimmerman, ND Parks & Recreation Dept.	1600 E. Century Avenue, Suite 3, Bismarck, ND 58503	701-328-5357	x	X
Mark Johnson, ND Association of Counties	1661 Capitol Way, PO Box 877, Bismarck, ND 58502	701-328-7300		X
Chairman, Soil Conservation Dist. Cass County	1665 43rd Street South, Unit 103, Fargo, ND 58103	701-282-2157	x	
Acting Regional Admin., Department of HUD, Regional Office	1670 Broadway, Suite 200, Denver, CO 80202	303-672-5440	x	
Department of HUD	1670 Broadway, Suite 200, Denver, CO 80202	303-672-5440		X
Aaron Snyder, US Army Corps of Engineers, St. Paul District	180 5th Street E., Suite 700, St. Paul, MN 55101	651-290-5200	x	X
Dennis Walaker, City of Fargo	200 3rd Street North, Fargo, ND 58102	701-241-1310	x	X
Steve Sprague, City of Fargo	200 3rd Street North, Fargo, ND 58102	701-241-1310	x	X
Jim Gilmour, City of Fargo	201 3rd Street North, Fargo, ND 58102	701-241-1310		X
John Q. Paulson, Planning/Zoning Committee, City Hall	202 3rd Street North, Fargo, ND 58102	701-241-1310	x	
Sharon Odegaard, City of Fargo	203 3rd Street North, Fargo, ND 58102	701-241-1310		X
Keith Ternes, City of Fargo	222 4th Street North, Fargo, ND 58102	701-241-1401	x	X
Thomas Schauer, Federal Aviation Administration	2301 Univ. Dr., Bldg. 23B, Bismarck, ND 58504	701-323-7341		X
Scott Hochhalter, NDSU Extension Service	2718 Gateway Avenue, #104, Bismarck, ND 58503	701-231-8944	x	X
Jessica Lee, F-M Chamber of Commerce	321 N. 4th St., PO Box 2443, Fargo, ND 58108	218-359-0511	x	
Jeffrey Towner, ND Field Office, US Fish & Wildlife Service	3425 Miriam Avenue, Bismarck, ND 58501	701-355-8526	x	X
Scott Liudahl, Forestry Department, City of Fargo	402 North 23rd Street, Fargo, ND 58102	701-241-1525	x	X
Benjamin Dow, Fargo Street Department	402 North 23rd Street, Fargo, ND 58102	701-241-1525	x	X
Bruce Grubb, City of Fargo	402 North 23rd Street, Fargo, ND 58102	701-241-1525		X
Superintendent, Public Works City of Fargo	402 North 23rd Street, Fargo, ND	701-241-1525	x	

Table 5-1 Agency Consultation Table

AGENCY	ADDRESS	PHONE	City of Fargo SOV	HMGP Application
	58102			
Rick Buresh, Fargo School District	414 North 4th Street, Fargo, ND 58102	701-446-1000	x	
Chief Missle Engineer, 91st Missile Maintenance Squadron	417 Bomber Boulevard, Minot AFB, ND 58705	701-723-6244	x	X
Tracey Anderson, Lake Agassiz Regional Council	417 Main Avenue, Fargo, ND 58103	701-235-1197		X
Ron Hendricks, Water Works, City of Fargo	435 14th Avenue South, Fargo, ND 58103	701-241-1469	x	X
Dave Rogness, Cass County-Fargo Emergency Management	4630 15th Avenue North, Fargo, ND 58102	701-476-4065		X
Robert Walton, ND Department of Transportation	503 38th Street South, Fargo, ND 58103	701-239-8900		X
Kevin McKinnon, Economic Development, City of Fargo	51 Broadway Suite 500, Fargo, ND 58102	701-364-1900	x	
Mary Giltner, Grand Forks Air Force Base, 319 CES/CEVA	525 Tuskagee Airmen Rd., Grand Forks, ND 58205	701-747-3000	x	
Victoria Winfrey, Prairie Island Indian Community	5636 Sturgeon Lake Rd., Welch, MN 55089	651-385-2554		X
Whitney White, Prairie Island Indian Community	5636 Sturgeon Lake Rd., Welch, MN 55089	651-385-2554		X
Scott Davis, Indian Affairs Commission	600 E. Blvd. Ave., 1st Flr. Judicial Wing, Rm 117, Bismarck, ND 58505	701-328-2428	x	X
Ed Murphy, ND Geological Survey	600 E. Boulevard Ave., Bismarck, ND 58505	701-328-8000	x	
Jeani Borchert, ND Dept. of Transportation	608 East Boulevard Ave., Bismarck, ND 58505	701-328-2500	x	
Merl Paaverud, State Historic Presevation Office	612 E. Boulevard Avenue, Bismarck, ND 58505	701-328-2668		X
Bruce Hoover, City of Fargo	637 NP Avenue North, Fargo, ND 58102	701-241-8139	x	X
Arthur LaRose, Leech Lake band of the Minnesota Chippewa Tribe	6530 US Hwy. 2 NW, Cass Lake, MN 56633	218-335-8200		X
Barb Johnson, City of Fargo	701 Main Avenue, Fargo, ND 58103	701-241-1353		X
Clay Whittlesey, Fargo Parks	701 Main Avenue, Fargo, ND 58103	701-241-1353	x	
Joe Deutsch, Park Board, City of Fargo	701 Main Avenue, Fargo, ND 58103	701-241-1353	x	
Roger Gress, Parks & Recreation, City of Fargo	701 Main Avenue, Fargo, ND 58103	701-241-1353	x	X
Greg Wiche, Water Resources Div., US Geological Survey	821 E. Interstate Ave., Bismarck, ND 58501	701-250-7401	x	
Todd Sando, ND State Water Commission	900 E. Boulevard Avenue, Bismarck, ND 58505	701-328-4955	x	X
David Glatt, Environ. Health Sec. Gold Seal Ctr., ND Dept. of Health	918 E. Divide Ave., 4th Floor, Bismarck, ND 58501	701-328-5210	x	X
Federal Emergency Management Agency	Building 710, Box 25267, Denver, CO 80225			X

Table 5-1 Agency Consultation Table

AGENCY	ADDRESS	PHONE	City of Fargo SOV	HMGP Application
Richard Nelson, Bureau of Reclamation, Dakotas Area Office	PO Box 1017, Bismarck, ND 58502	701-250-4242	x	X
Gerald Paulson, Western Area Power Admin., US Dept. of Energy	PO Box 1173, Bismarck, ND 58502	701-221-4501	x	X
Mary Podoll, US Department of Agriculture	PO Box 1458, Bismarck, ND 58502	701-530-2000	x	X
Kevin Jensvold, Upper Sioux Community	PO Box 147, Granite Falls, MN 56241	320-564-2360		X
Gary Frazer, Minnesota Chippewa Tribe	PO Box 217, Cass Lake, MN 56633	218-335-8581		X
Darrell Vanyo, Cass County Park Board	PO Box 2806, Fargo, ND 58108	701-241-5609	x	
Ken Pawluk, Cass County Commission	PO Box 2806, Fargo, ND 58108	701-241-5609		X
Mike Montplasir, Cass County Auditor	PO Box 2806, Fargo, ND 58108	701-241-5609		X
Sir or Madam, Cass County Commission	PO Box 2806, Fargo, ND 58108	701-241-5609		X
Anthony Reider, Flandreau Sioux Tribe	PO Box 283, Flandreau, SD 57028	605-997-3891		X
James Weston, Flandreau Santee Sioux Tribe	PO Box 285, Fandreau, SD 57028	605-997-3891		X
Anthony Morse, Lower Sioux Indian Community in the State of MN	PO Box 308, Morton, MN 56270	507-697-6185		X
Gabe Prescott, Lower Sioux Indian Community in the State of MN	PO Box 308, Morton, MN 56270	507-697-6185		X
Darrell Smith, Spirit Lake Tribe	PO Box 359, Fort Trotten, ND 58335	701-766-1746		X
Roger Yankton, Spirit Lake Tribe	PO Box 359, Fort Trotten, ND 58335	701-766-1746		X
Erma Vizenor, White Earth Band of Minnesota Chippewa Tribe	PO Box 418, White Earth, MN 56591	218-983-3285		X
Paul Laney, Cass County Sheriff	PO Box 488, Fargo, ND 58107	701-241-5800		X
Kyle Wanner, ND Aeronautics Commission	PO Box 5020, Bismarck, ND 58502	701-328-9650		X
Robert Shepherd, Sisseton-Wahpeton	PO Box 509, Agency Village, SD 57262	605-698-3911		X
Lonnie Hoffer, Department of Homeland Security	PO Box 5511, Bismarck, ND 58506	701-328-8100	x	X
Raymond Morrell, ND Department of Emergency Services	PO Box 5511, Bismarck, ND 58506	701-328-8107		
John Rogers, US Department of Commerce	PO Box 578, Helena, MT 59624	406-449-5380		X
Dianne Desrosiers, THPO, Sisseton-Wahpeton	PO Box 907, Sisseton, SD 57262			X
Charles Murphy, Standing Rock Sioux Tribe	PO Box D, Fort Yates, ND 58538	701-854-7340		

5.2 PUBLIC MEETINGS AND NOTICES

The City of Fargo has held a number of public meetings and has posted information on the City's website for the Mickelson Field area. Specifically, public meetings were held by the City on July 12, 2012 and November 19, 2012 to present the proposed project plans and gather public input. Copies of the meeting notices and public comments are included in Appendix F. In addition, a public input meeting was held by the Fargo Park District on November 28, 2012.

There were three primary issues that arose at the first public meeting (July 12, 2012). Public comments and survey forms indicated that:

1. Softball field #2 should remain and not be removed.
2. The trees in the northwest corner of the project area should be avoided and saved.
3. There was opposition to relocating the recycling site to 11th Avenue and Oak Street.

All of these issued were resolved prior to the second public meeting (November 19, 2012) through changes to the proposed project alignments. Impacts to the trees were reduced by realigning the borrow sites and pond, the recycling site is now planned to remain away from the residential areas and will be located on the west side of the levee and Field #2 will remain intact. These alignment changes were incorporated in to Alternatives 2-4.

5.3 PERMITS AND MITIGATION

Existing and proposed projects within the City of Fargo and its extraterritorial limits are subject to Federal, State, and local jurisdiction and regulations. The development of adequate drainage and flood control facilities are no exception. At the Federal level, the major agencies having some degree of impact on surface water drainage and flood control include the US Army Corps of Engineers, the Federal Emergency Management Agency, the US Fish and Wildlife Service, and the Environmental Protection Agency. The North Dakota state agencies involved in various aspects of surface water drainage and flood control include the State Water Commission, the Department of Transportation, and the State Health Department. Regional governmental entities involved in surface water issues include the Southeast Cass Water Resource District and Cass County. Last but not least, the City of Fargo has its own ordinances and regulations governing development and, drainage and flood control practices.

Table 5.3 summarized the permits that would be required for each of the project alternatives. With the exception of the Alternative 1 (No Action), the remaining Alternatives would require similar permits. Federal agencies that require permits would include the US Army Corps of Engineers for the Clean Water Act permits (Section 404 and Section 10). State agencies include the North Dakota State Water Commission for the levee construction and the lift station work, and the North Dakota Department of Health for the NPDES Permit. The City of Fargo requires permits for the construction in the floodplain and for the grading of one or more acres of land.

Table 5-3 Permit and Mitigation by Project Alternative

Alternative	Description of Required Permits
Alternative 1 (No Action)	No permits or mitigation would be required.
Alternative 2 (Upgrade Lift Station No. 29, New Forcemain/Gatewell and Green Space Interior Storage)	A Section 404 and Section 10 Permit would be required for work within the banks of the Red River of the North. North Dakota State Water Commission Approval is required for the construction of a dike or levee. North Dakota State Water Commission Approval is required for work within the banks of the Red River of the North (Sovereign Lands Permit). An NPDES permit is required from the North Dakota Department of Health and an Erosion and Sediment Control Permit is required from the City of Fargo for projects where grading occurs on one acre or more. A floodplain development permit is required from the City of Fargo because it is being constructing in the floodplain. Mitigation measures are not anticipated.

Table 5-3 Permit and Mitigation by Project Alternative

Alternative	Description of Required Permits
Alternative 1 (No Action)	No permits or mitigation would be required.
Alternative 3 (New Lift Station No. 29 and Green Space Interior Storage)	A Section 404 and Section 10 Permit would be required for work within the banks of the Red River of the North. North Dakota State Water Commission Approval is required for the construction of a dike or levee. North Dakota State Water Commission Approval is required for work within the banks of the Red River of the North (Sovereign Lands Permit). An NPDES permit is required from the North Dakota Department of Health and an Erosion and Sediment Control Permit is required from the City of Fargo for projects where grading occurs on one acre or more. A floodplain development permit is required from the City of Fargo because it is being constructing in the floodplain. Mitigation measures are not anticipated.
Alternative 4 (Combined Lift Station with Storm Water Connection)	A Section 404 and Section 10 Permit would be required for work within the banks of the Red River of the North. North Dakota State Water Commission Approval is required for the construction of a dike or levee. North Dakota State Water Commission Approval is required for work within the banks of the Red River of the North (Sovereign Lands Permit). An NPDES permit is required from the North Dakota Department of Health and an Erosion and Sediment Control Permit is required from the City of Fargo for projects where grading occurs on one acre or more. A floodplain development permit is required from the City of Fargo because it is being constructing in the floodplain. Mitigation measures are not anticipated.

The following text provides a general description of regulatory programs referenced in Table 5.3.

City of Fargo

The City operates under a comprehensive set of zoning regulations and ordinances. Aspects of the zoning regulations pertaining to urban drainage and flood control mostly involve regulations controlling development within the designated floodway and 100-year flood plain of the Red River of the North. Presently, these regulations are based on the current FEMA Flood Insurance Rate Map (FIRM).

North Dakota State Water Commission (SWC).

The SWC is the main state agency responsible for water related issues in North Dakota. It is also the lead agency responsible for managing and allocating any funding legislated by the state for water projects. In addition to its role in project funding, the SWC has the following regulatory functions:

Construction Permit. This permit is needed for any construction or modification of a dam, dike, ring dike, or any other water resource facility.

Application to Drain. This permit may be required for a Project modifying or impacting any existing County Drains within the project area.

Sovereign Land. This permit may be required for a Project modifying or impacting North Dakota Sovereign Lands, this would apply to work within the banks of the Red River of the North.

Island and Beds of Navigable Streams and Waters. This would also apply to work done in the Red River of the North.

North Dakota Health Department (NDHD). The NDHD has mostly a regulatory role in management of the waters of the state relative to pollution and water quality. As such, the NDHD has permitting authority for the following:

- Discharges of Water into Streams
- North Dakota Pollution Discharge Elimination System (NDPEDES)

US Army Corps of Engineers (USACE). The USACE jurisdiction relative to the projects in the Red River Valley is divided between two USACE Districts:

St. Paul District. The St. Paul District USACE has overall responsibility for flood control civil works project in the Red River Basin. With regards to navigable rivers, such as the Red River and its tributaries, the St. Paul District has permit authority under Section 10 of the Rivers and Harbors Act for any project involving the placement of fill within the ordinary high water area. This includes any action involving the possible obstruction of a navigable stream, which would require not only a permit from the USACE but also the US Coast Guard. In addition, the St. Paul District has Section 404 (Clean Water Act) permit jurisdiction in the State of Minnesota.

Omaha District. The Omaha District USACE has Section 404 (Clean Water Act) permit jurisdiction in the State of North Dakota.

6.0 LIST OF PREPARERS

This document was prepared primarily by Houston Engineering Inc., for FEMA Region VIII. The Cultural Resources Work was completed by Richard M. Rothaus**,** PhD President and Principal Investigator, Trefoil Inc.

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- Jerry D. Bents - Civil Engineer/Vice President
- Erik Nelson - GIS Technician
- Sara Hatlen - Administrative Assistant

7.0 REFERENCES

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NDDH 2013 North Dakota Ambient Monitoring Network Plan 2012 Annual Report. North Dakota Department of Health, January 2013.

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Fargo 2013 City of Fargo Website http://www.cityoffargo.com/CityInfo/Departments/Engineering/FloodControlProjectsandProtection

USCB 2013 American FactFinder Website. United States Census Bureau, viewed May 22, 2013 http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml