

PRELIMINARY ENGINEERING REPORT
FOR

JAMESTOWN / STUTSMAN
DEVELOPMENT CORPORATION

UTILITIES TO PROPOSED DEVELOPMENT SITES
JAMESTOWN, ND
J21-00-174

FEBRUARY, 2022

Prepared By:
Interstate Engineering, Inc.



Ben Aaseth, PE



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I. INTRODUCTION

Jamestown is in central North Dakota at the intersection of US Highway 281 and Interstate 94. To further develop the community of Jamestown, the following locations are areas of potential development that would require additional city water and sanitary sewer. The city would provide these services up to the listed locations below.

- Beverly Hills Sixth Addition
- Horizon Estates First Addition & Schumacher Acres
- Loose Bypass Subdivision
- Looyesen Scenic View Estates
- The Meadows Addition

This preliminary engineering report will analyze the City's existing infrastructure that would connect to the proposed development locations. This report will review sanitary sewer and water mains.

II. EXISTING CONDITIONS

The following development locations have been points of interest for further site development. The existing conditions for each subject area will be in this section of the report. The conditions documented in the attached maps were based on historic data from the city's existing information. The corresponding existing utility maps for each project location can be found in Appendix A at the end of the report. The conditions documented in the maps were based on historic data from the city's existing information.

A. Beverly Hills Sixth Addition

The Beverly Hills Sixth Addition is located North of Louis LaMoure Elementary school and has existing 8" polyvinyl chloride sanitary sewer pipe running along 11th avenue southwest and 13th street southwest.

There is also existing watermain in this same area that consists of 6" polyvinyl chloride pipe running along 13th street southwest and 8" polyvinyl chloride pipe running along 11th avenue southwest.

B. Horizon Estates First Addition & Schumacher Acres

The existing sanitary sewer in this area consists of 10" polyvinyl chloride pipe running along 5th street northeast from 23rd avenue southeast to 27th avenue southeast. At the existing manhole within the intersection of 5th street northeast and 23rd avenue southeast, there is an 8" polyvinyl chloride pipe that runs to another existing manhole going north. There are also north facing stub outs on the following manholes to the east as seen in the existing conditions map found in Appendix A.

The existing watermain feeding this area consists of 10" polyvinyl chloride pipe running along 5th street northeast from 23rd avenue northeast to 27th avenue northeast that was installed in 2000. In addition, there is 16" polyvinyl chloride pipe running along 27th avenue northeast from 5th street northeast to 3rd street northeast that was also installed in 2000. Running along 13th street northeast there is 12" & 8" ACP pipe that stops turns to go north at 21st avenue northeast.

C. Loose Bypass Subdivision

The Loose Bypass Subdivision does not have current utilities near it. There is an existing sanitary sewer line that runs along 81st avenue southeast on the south side of interstate near Titan Machinery. This line is a 12" polyvinyl chloride pipe that follows 81st avenue southeast to the south and turns at the intersection of 20th street southwest going east.

The existing watermain is found along 20th street southwest on the eastern side of Jamestown Regional Medical Center (JRMC). This pipe consists of 12" polyvinyl chloride pipe.

D. Looyen Scenic View Estates

The existing sanitary sewer feeding this area consists of 8" polyvinyl chloride pipe running along 9th avenue southwest that was installed in 1978. There are also other areas of 8" polyvinyl chloride pipe in this area that can be seen in the existing conditions map found in Appendix A.

The existing watermain feeding this area consists of 8" polyvinyl chloride watermain running along 9th avenue southwest that was installed in 1978. Running along 7th street southwest there is existing 6" polyvinyl watermain from 14th avenue southwest to 9th avenue southwest installed in 1979.

E. The Meadows Addition

The existing sanitary sewer pipe that feeds this area consists of 8" polyvinyl chloride pipe running along 23rd avenue northeast that was installed in 1998. There is another section of 8" polyvinyl chloride pipe that is found running along 3rd street northeast that turns down 24th avenue northeast that were both installed in 1996.

The existing watermain feeding this area consists of 6" polyvinyl chloride watermain running along 3rd street northeast from 27th avenue northeast to 24th avenue northeast installed in 1997. In addition, there is 16" watermain running along 27th avenue northeast from 5th street northeast to 3rd St. northeast installed in 2000 and 2013 and 10" polyvinyl chloride pipe running along 23rd avenue northeast that was installed in 1979.

III. NEED FOR THE PROJECT

It is anticipated that these locations will have some areas of expansion that will need additional city water and sanitary sewer.

IV. PROPOSED IMPROVEMENTS

The sections of proposed improvements have been listed below for the expansion of city sanitary sewer and water to the sites. Appendix B will have the proposed sanitary sewer and watermain layouts and detailed cost estimates will be found in Appendix C at the end of this report.

A. Beverly Hills Sixth Addition

The expansion of the city's existing sanitary sewer would require additional 8" polyvinyl chloride gravity sewer pipe as well as the addition of a 48" manhole to get to the proposed site location. Due to the length of 11th Avenue Southwest, there would need to be a second manhole, provided by the developer, to satisfy the requirements of the 10 State Standard.

The expansion of the city's existing watermain would entail additional 8" polyvinyl chloride watermain to extend off the current loop along 13th Street Southwest. It is also proposed that a 6" hydrant be installed at the end of the expansion of city water to have additional fire suppression to the proposed site location. The hydrant will also allow the city to flush this segment.

The estimated total cost is shown below. There are 56 total lots within this area that would bring the cost to near \$1,700.00 per lot. A map showing the lot boundary line can be seen in Appendix B to see which lots were used for this calculation.

Estimated Probable Cost of Construction: \$95,000.00
(Detailed Estimate of Probable Cost can be found in Appendix C)

B. Horizon Estates First Addition & Schumacher Acres

The expansion of the city's existing sanitary sewer would require additional 8" polyvinyl chloride gravity sewer as well as six additional manholes, 48" in size. This sewer line would tie into the existing gravity system that runs along 5th Street Northeast, as shown in Appendix B. Gravity sewer would only be sufficient if the proposed site is built up to meet the minimum slope requirements for gravity sewer.

The expansion of the city's existing watermain would entail the looping of the existing watermain on 13th Street Northeast and connecting it to the existing watermain at the intersection of 27th Avenue Northeast and 5th Street Northeast. This would be a 12" polyvinyl chloride line running along 13th Street Northeast and switching to a 16" polyvinyl

chloride line running along 27th Avenue Northeast. An additional 8" polyvinyl chloride line extending off 23rd Avenue Northeast and connecting to the proposed loop on 13th Street Northeast would add additional support to the proposed site location as well as the possibility of serving the land west of this proposed site location. Additional fire suppression would also be required to serve this area by adding fourteen 6" hydrants as shown in Appendix B.

The estimated total cost is shown below. There are 102 total lots within this area that would bring the cost to near \$17,600.00 per lot. A map showing the lot boundary line can be seen in Appendix B to see which lots were used for this calculation.

Estimated Probable Cost of Construction: \$1,794,000.00
(Detailed Estimate of Probable Cost can be found in Appendix C)

C. Loose Bypass Subdivision

The Loose Bypass subdivision does not have utilities that are near the proposed site location so this would entail needing a lift station rather than gravity sewer. The proposed route would be to install an 8" polyvinyl chloride force main along the highway 281 bypass and crossing interstate I-94 to get to the existing 12" gravity sewer main near Titan Machinery.

There are two proposed alternates to have watermain installed to the proposed site locations. Alternate 1 would be to tie into the existing 12" polyvinyl chloride watermain that is located on the northeast corner of the Jamestown Regional Medical Center complex (JRMC). This alternate would then cross Interstate I-94 at that location to install watermain along 17th Street Southwest going east, then follow the highway 281 bypass to the proposed site location.

Alternate 2 would tie into the existing 12" polyvinyl chloride watermain that is located near the southeast corner of the JRMC complex and would run along 20th Street Southwest until 81st Avenue Southeast. The proposed line would then follow 81st Avenue Southeast and cross Interstate I-94 to follow the highway 281 bypass to the proposed site. Due to right of way issues, every one of these proposed alternates for this site location would be require some additional permitting with the NDDOT.

The estimated total cost was broken down into two separate costs since it is still unclear whether Stutsman Rural Water or the City of Jamestown will be providing the water utility to this proposed site. These costs were broken down into City water utilities and City sanitary sewer utilities to the proposed sites. The total probable cost for combined water and SAS construction is under the assumption that the construction of both will be completed at the same time.

Based on information from the city, a preliminary plat shows 24 lots which would bring the cost per lot to near \$110,000 for Alternate 1 and near \$122,000 for Alternate 2.

The cost per lot used the combined cost for both water and SAS utilities. Estimated probable costs can be seen below and detailed estimates can be found in Appendix C.

Estimated Probable Cost for City Water Utilities Construction (ALT 1): \$1,316,000.00
Estimated Probable Cost for City SAS Utilities Construction (ALT 1): \$1,507,000.00

Estimated Probable Cost for Water & SAS Utilities Construction (ALT 1): \$2,622,000.00

Estimated Probable Cost for City Water Utilities Construction (ALT 2): \$1,602,000.00
Estimated Probable Cost for City SAS Utilities Construction (ALT 2): \$1,507,000.00

Estimated Probable Cost for Water & SAS Utilities Construction (ALT 2): \$2,908,000.00

D. Looyen Scenic View Estates

To get City sanitary sewer to this proposed location, a lift station would be required due to issues with elevations for a gravity sewer option. A gravity sewer would require the lots near the center to be built up an excessive amount. A lift station being installed in the lowermost point of the new development area and a 4" polyvinyl chloride force main would be a sufficient way to get City sanitary sewer to this location.

The expansion of the city's existing watermain utility would entail extending the current line along 14th Avenue Southwest up along the western portion of the CenterPoint Condominiums to get to the proposed site location. It would be advised for the developer to continue this line through the development and tie into the existing 8" polyvinyl chloride pipe that is currently at the north end of 9th Avenue Southwest. This would make a loop that would help with pressure issues within the system. The addition of three 6" hydrants are also proposed to be installed. Due to right of way issues, there would need to be the execution of a construction easement since there is no right of way for City utilities on the western side of CenterPoint Condominiums. This additional cost was included in the detail estimate.

The estimated total cost is shown below. There are 22 total lots within this area that would bring the cost to near \$33,000.00 per lot. A map showing the lot boundary line can be seen in Appendix B to see which lots were used for this calculation.

Estimated Probable Cost of Construction: \$706,000.00
(Detailed Estimate of Probable Cost can be found in Appendix C)

E. The Meadows Addition

To get City sanitary sewer to this proposed location, a lift station would be required due to issues with elevations for a gravity sewer option. A gravity sewer would require the lots to be built up an excessive amount to be able to tie into the existing gravity sewer along 23 Avenue Northeast. A lift station being installed on the west end of the

development area is recommended since that is in the lower portion of the proposed development. A 4" polyvinyl chloride force main that ties into the existing gravity sewer on 23rd Avenue Northeast would be a sufficient way to get City sanitary sewer to this location. On the south end of 23rd Avenue Northeast there is an existing sanitary sewer cleanout that would need to be removed and replaced with a sanitary sewer manhole to tie into the lift stations force main line.

The expansion of the city's existing watermain utility would entail extending the current line along 23rd Avenue Northeast to the south and adding an additional hydrant. In addition to this, it would be recommended to complete the loop along 27th Avenue Northeast that would run from 3rd Street Northeast to 35th Street Southeast. Additional hydrants would also be recommended to be installed along 27th Avenue Northeast for future fire suppression.

The estimated total cost was broken down into two separate costs since it is still unclear whether Stutsman Rural Water or the City of Jamestown will be providing the water utility to this proposed site. These costs were broken down into City water utilities and City sanitary sewer utilities to the proposed sites. The total probable cost for combined water and SAS construction is under the assumption that the construction of both will be completed at the same time.

Estimated costs are shown below. There are 60 total lots within this area which would bring the cost per lot to near \$17,000 per lot. The cost per lot used the combined cost for both water and SAS utilities. Detailed estimates can be found in Appendix C.

Estimated Probable Cost for City Water Utilities Construction: \$627,000.00

Estimated Probable Cost for City SAS Utilities Construction: \$484,000.00

Estimated Probable Cost for Water & SAS Utilities Construction: \$964,000.00

V. CONCLUSION

The final scope of all subject areas will vary based upon the proposed site improvements and phasing.

The costs listed in the appendix and this report are estimated for 2022 construction. Inflation would need to be added to this for any future delay.

Section	Price
Section 1: Beverly Hills Sixth Addition	\$95,000.00
Section 2: Horizon Estates First Addition & Schumacher Acres	\$1,794,000.00
Section 3A: Loose Bypass Subdivision (Alternate 1)	\$2,622,000.00
Section 3B: Loose Bypass Subdivision (Alternate 2)	\$2,908,000.00
Section 4: Looyesen Scenic View Estates	\$706,000.00
Section 5: The Meadows Addition	\$964,000.00
	Total Including 3A
	\$6,181,000.00
	Total Including 3B
	\$6,467,000.00

APPENDIX A
EXISTING SANITARY SEWER & WATERMAIN CONDITIONS



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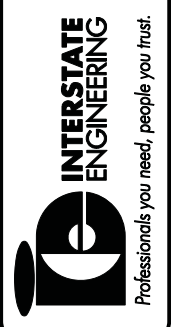
PRELIMINARY

Rev No	Date	By	Description

Beverly Hills Sixth Addition Corporation Jamestown, North Dakota	
EXISTING SANITARY SEWER	
Drawn By: JLF	Surveyed By: N/A
Checked By: BA	Designed By: N/A
Project No: 21-00-174	Date: December, 2021

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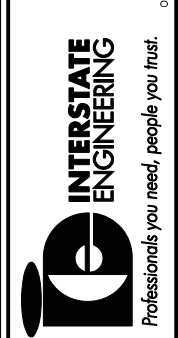


Rev No	Date	By	Description

Beverly Hills Sixth Addition Corporation Jamestown, North Dakota		Project No: 21-00-174	Date: December, 2021
EXISTING WATER MAIN		Surveyed By: N/A	Project No: N/A
Drawn By: JLF	Checked By: BA	Surveyed By: N/A	Date: N/A

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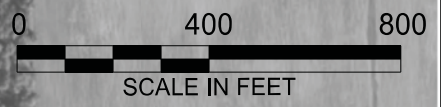
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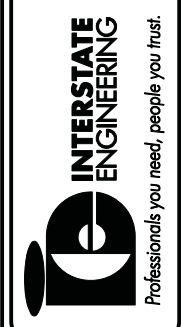
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Rev No	Date	By	Description

Horizon Estates First Addition & Schumacher Acres Jamesstown, ND Corporation Jamesstown, North Dakota	
Project No:	21-00-174
Date:	December, 2021
Drawn By:	JLF
Checked By:	BA
Surveyed By:	N/A
Designed By:	N/A

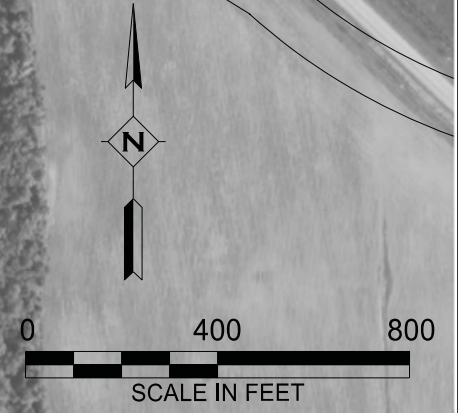
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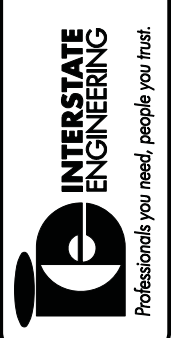
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Horizon Estates First Addition & Schumacher Acres Jamesstown, ND Corporation Jamesstown, North Dakota		Project No: 21-00-174	Date: December, 2021
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Drawn By: JLF	Checked By: BA	Designed By: N/A	Date: N/A

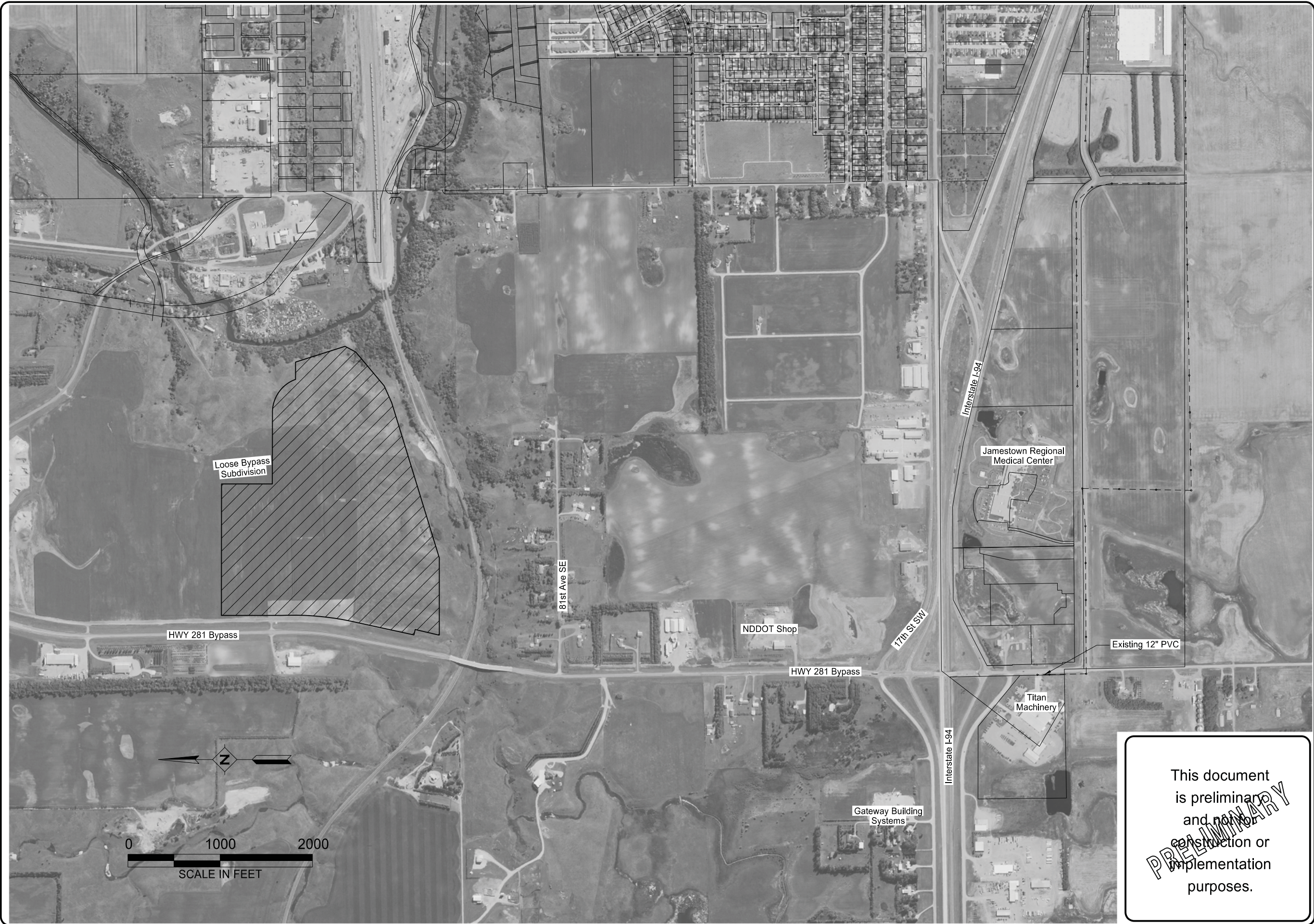
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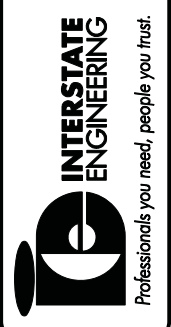
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Loose Bypass Subdivision Jamestown Regional Medical Center Corporation Jamestown, North Dakota		
EXISTING SANITARY SEWER		
Drawn By: JLF	Surveyed By: N/A	Project No: 21-00-174
Checked By: BA	Designed By: N/A	Date: December, 2021

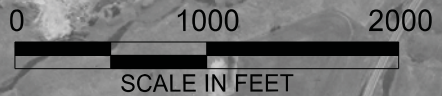
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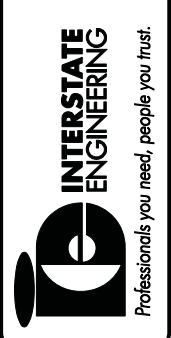
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Rev No	Date	By	Description

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EXISTING WATER MAIN		Surveyed By: N/A	Project No: N/A
Drawn By: JLF	Checked By: BA	Surveyed By: N/A	Date: N/A

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LOOYSEN SOUTH VILLYAGE ESTATES
 JAMES TOWN UTILITY DISTRICT CORPORATION
 Jamestown, North Dakota

EXISTING SANITARY SEWER

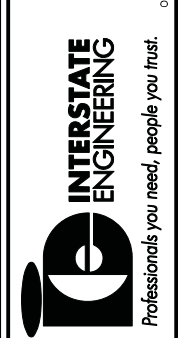
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 Date: December, 2021

Drawn By: JLF
 Checked By: BA

Surveyed By: N/A
 Designed By: N/A

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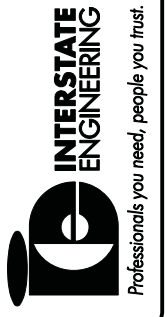
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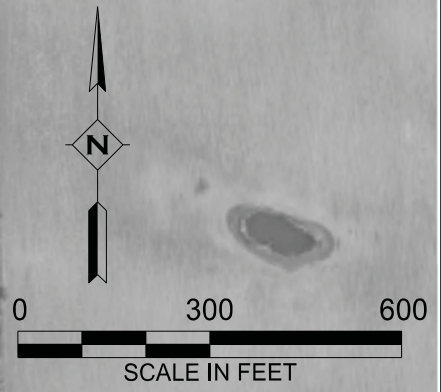
Looyens Scenic View Estates Jamesstown, North Dakota		Project No: 21-00-174 Date: December, 2021	
EXISTING WATER MAIN		Surveyed By: N/A	Project No: N/A
Drawn By: JLF	Checked By: BA	Surveyed By: N/A	Project No: N/A

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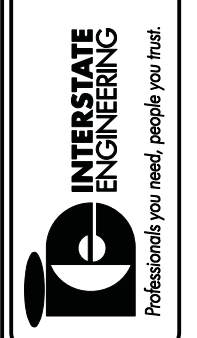
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The Meadows Addition Jamestown, North Dakota		Project No: 21-00-174 Date: December, 2021	
EXISTING SANITARY SEWER		Surveyed By: N/A Designed By: N/A	
Drawn By: JLF	Checked By: BA		

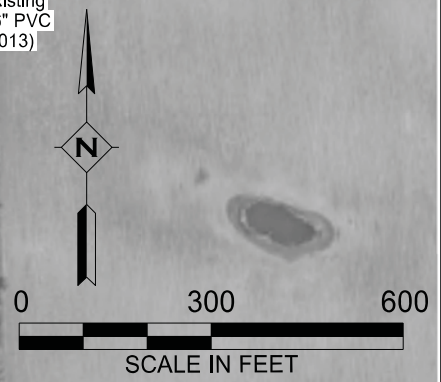
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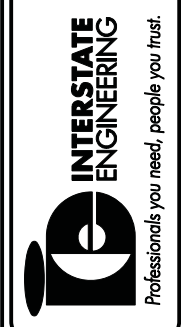
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The Meadows Addition Jamestown, North Dakota		Project No: 21-00-174	Date: December, 2021
EXISTING WATER MAIN		Surveyed By: N/A	Designed By: N/A
Drawn By: JLF	Checked By: BA		

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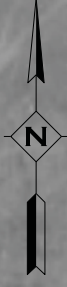
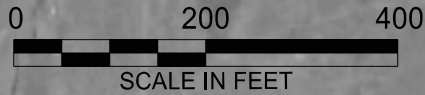
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APPENDIX B
PROPOSED SANITARY SEWER & WATERMAIN CONDITIONS



Proposed Manhole

Proposed 8" PVC

Existing 8" PVC

Lot Boundary

Existing 15" PVC

Existing 15" PVC

Existing 8" PVC

11th Ave SW

11th Ave SW

9th Ave SW

8th Ave SW

14th Street SW

Louis LaMoure Grade School

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Beverly Hills Sixth Addition
Jamestown, North Dakota
Jamestown, North Dakota Corporation

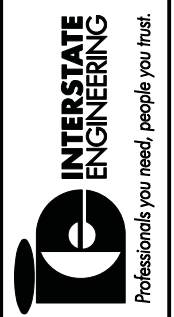
PROPOSED SANITARY SEWER LAYOUT

Drawn By: JLF
 Checked By: BA
 Surveyed By: N/A
 Designed By: JLF

Project No: 21-00-174
 Date: December, 2021

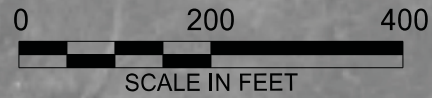
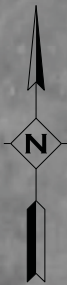
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Proposed 6" Hydrant

Proposed 8" PVC

Existing 8" PVC

Existing 6" PVC

11th Ave SW

11th Ave SW

9th Ave SW

14th Street SW

8th Ave SW

Lot Boundary

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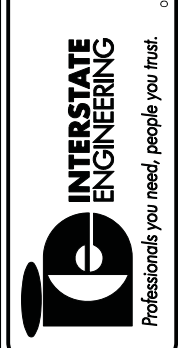
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Beverly Hills Sixth Addition Corporation Jamestown, North Dakota	
PROPOSED WATER MAIN LAYOUT	
Drawn By: JLF	Checked By: BA
Surveyed By: N/A	Designed By: JLF
Project No: 21-00-174	Date: December, 2021

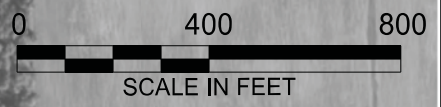
Interstate Engineering, Inc.
P.O. Box 2035
1903 12th Avenue SW
Jamestown, ND 58402-2035
Ph (701) 252-0234
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P2

Sheet Number



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PRELIMINARY

Rev No	Date	By	Description

Horizon Estates First Addition & Schumacher Acres
 Jamesstown, ND
 Jamesstown, North Dakota

PROPOSED SANITARY SEWER LAYOUT

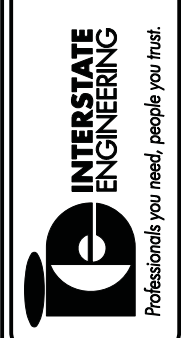
Drawn By: JLF
 Checked By: BA

Surveyed By: N/A
 Project No: 21-00-174

Designed By: JLF
 Date: December, 2021

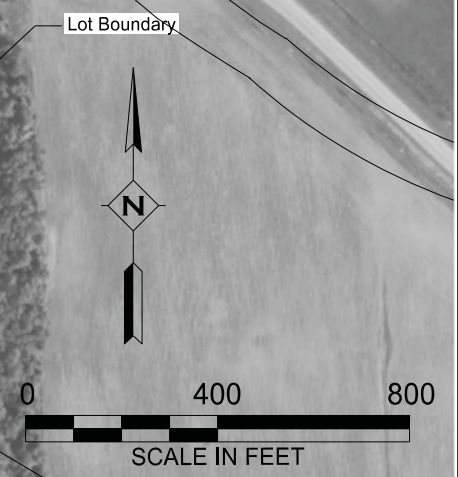
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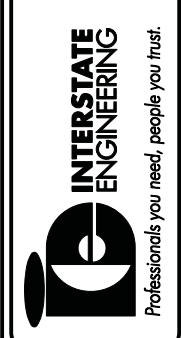
PRELIMINARY

Rev No	Date	By	Description

Horizon Estates First Addition & Schumacher Acres Jamesstown, ND Schumacher Acres Corporation Jamesstown, North Dakota	
PROPOSED WATER MAIN LAYOUT	
Drawn By: JLF	Checked By: BA
Surveyed By: N/A	Designed By: JLF
Project No: 21-00-174	Date: December, 2021

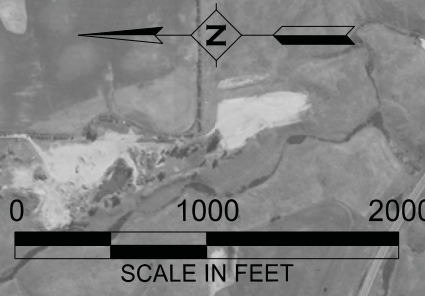
Interstate Engineering, Inc.
P.O. Box 2035
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Jamesstown, ND 58402-2035
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P4

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Rev No	Date	By	Description

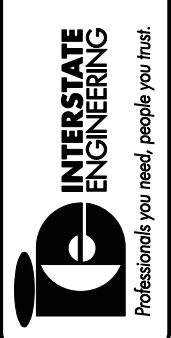
Loose Bypass Subdivision
Jamestown, North Dakota

PROPOSED SANITARY SEWER LAYOUT

Drawn By: JLF Surveyed By: N/A Project No: 21-00-174
 Checked By: BA Designed By: JLF Date: December, 2021

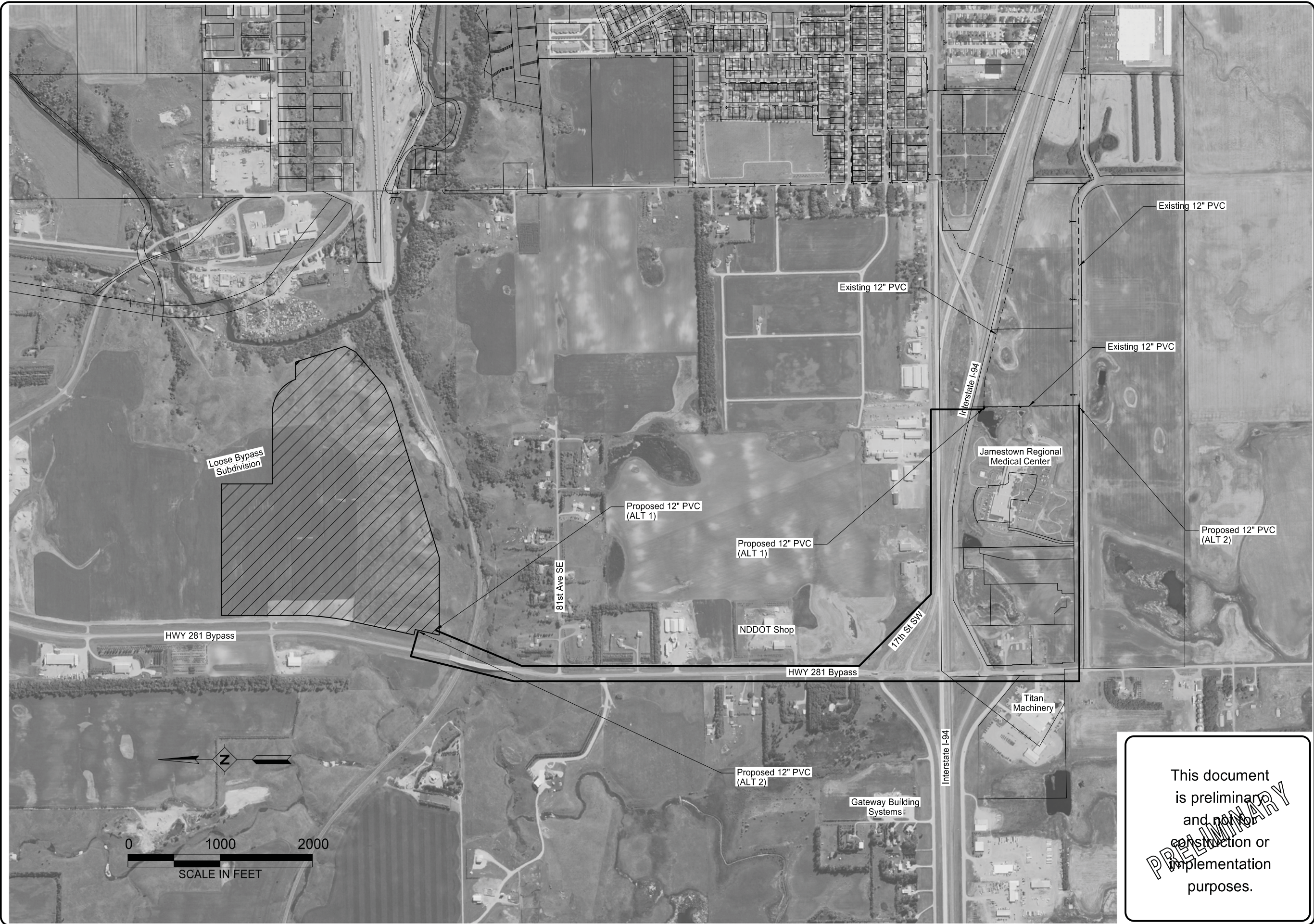
Interstate Engineering, Inc.
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P5

Sheet Number



Loose Bypass Subdivision

HWY 281 Bypass

81st Ave SE

Proposed 12" PVC (ALT 1)

Proposed 12" PVC (ALT 1)

NDDOT Shop

HWY 281 Bypass

17th St SW

Interstate I-94

Jamestown Regional Medical Center

Titan Machinery

Gateway Building Systems

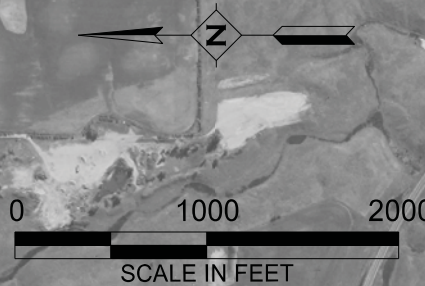
Proposed 12" PVC (ALT 2)

Existing 12" PVC

Existing 12" PVC

Existing 12" PVC

Proposed 12" PVC (ALT 2)



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PRELIMINARY

Rev No	Date	By	Description

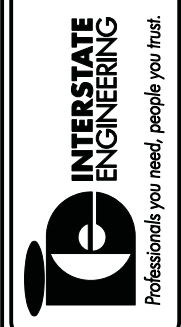
Loose Bypass Subdivision Corporation
Jamestown, North Dakota

PROPOSED WATER MAIN LAYOUT

Drawn By: JLF Surveyed By: N/A Project No: 21-00-174
 Checked By: BA Designed By: JLF Date: December, 2021

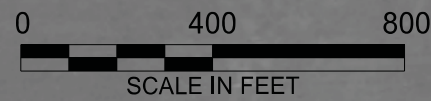
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P6

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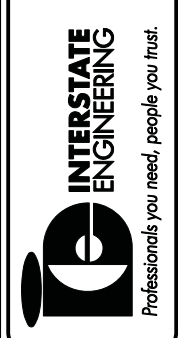
LOOYSEN SOUTH VILLAGES
 JAMESTOWN/STUTSONVILLE, ND
 LOOYSEN DEVELOPMENT CORPORATION
 Jamestown, North Dakota

PROPOSED SANITARY SEWER LAYOUT

Drawn By: JLF Surveyed By: N/A Project No: 21-00-174
 Checked By: BA Designed By: JLF Date: December, 2021

Interstate Engineering, Inc.
 P.O. Box 2035
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P7

Sheet Number



Rev No	Date	By	Description

Looyens Septic View Estates
 Jamesstown, North Dakota Corporation
 Jamesstown, North Dakota

PROPOSED WATER MAIN LAYOUT

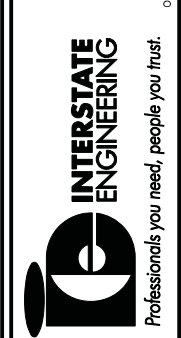
Drawn By: JLF
 Checked By: BA

Surveyed By: N/A
 Designed By: JLF

Project No: 21-00-174
 Date: December, 2021

Interstate Engineering, Inc.
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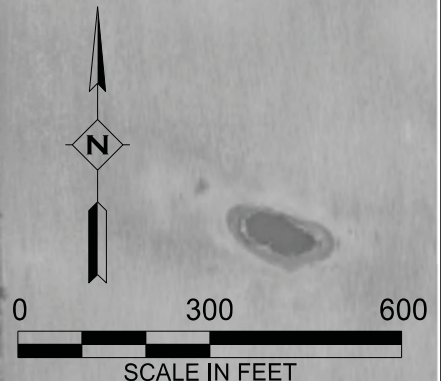


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P8

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Rev No	Date	By	Description

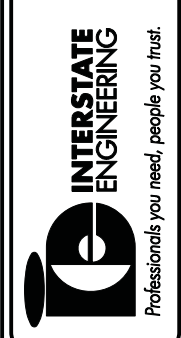
PROPOSED SANITARY SEWER LAYOUT

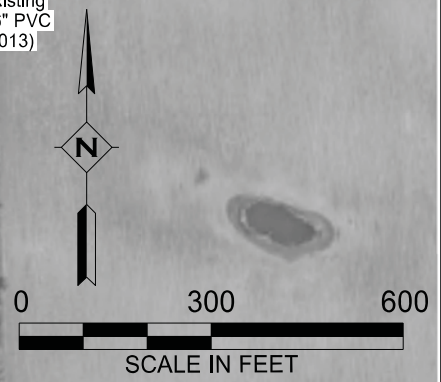
The Meadows Addition
Jamestown, North Dakota

Drawn By: JLF Surveyed By: N/A Project No: 21-00-174
 Checked By: BA Designed By: JLF Date: December, 2021

Interstate Engineering, Inc.
 P.O. Box 2035
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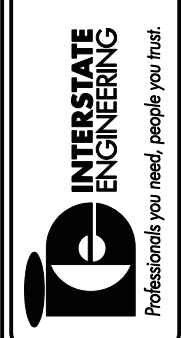
PRELIMINARY

Rev No	Date	By	Description

The Meadows Addition Jamestown, North Dakota		Project No: 21-00-174
PROPOSED WATER MAIN LAYOUT		Date: December, 2021
Drawn By: JLF	Surveyed By: N/A	Project No: 21-00-174
Checked By: BA	Designed By: JLF	Date: December, 2021

Interstate Engineering, Inc.
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1903 12th Avenue SW
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P10

Sheet Number

APPENDIX C
ESTIMATE OF PROBABLE COSTS

Engineer's Opinion of Probable Construction Costs
 Infrastructure to Various Housing Developments
 Jamestown / Stutsman Development Corporation
 Jamestown, North Dakota
 21-00-174
 January 2, 2022



Section 1: City Water Main & Sanitary Sewer Extension to Beverly Hills Sixth Addition (Sheets P1, P2)

ITEM	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
1	8IN Sanitary Sewer Pipe	LF	\$65.00	150	\$9,750.00
2	48" Manhole	VF	\$180.00	10	\$1,800.00
3	Concrete Base	EA	\$2,000.00	1	\$2,000.00
4	Manhole Casting & Cover	EA	\$1,500.00	1	\$1,500.00
5	6" Polyvinyl Chloride Pipe Watermain	LF	\$50.00	15	\$750.00
6	8" Polyvinyl Chloride Pipe Watermain	LF	\$75.00	150	\$11,250.00
7	Fittings-Ductile Iron	LB	\$12.00	290	\$3,480.00
8	6" Hydrant	EA	\$5,700.00	1	\$5,700.00
9	6" Gate Valve and Box	EA	\$2,100.00	1	\$2,100.00
10	8" Gate Valve and Box	EA	\$2,800.00	1	\$2,800.00
11	Connect to Existing Sanitary Main	EA	\$2,300.00	1	\$2,300.00
12	Connect to Existing Watermain	EA	\$2,800.00	1	\$2,800.00
13	Asphalt Road Resurfacing	SY	\$70.00	50	\$3,500.00
14	Salvage & Relay Aggregate Surface Course	SY	\$30.00	300	\$9,000.00
15	Removal of Bituminous Surfacing	SY	\$20.00	50	\$1,000.00
16	Mobilization	L SUM	\$10,000.00	1	\$10,000.00
17	Rock Excavation	CY	\$20.00	100	\$2,000.00

Subtotal Section 1 \$71,730.00

Contengincies \$7,173.00

Probable Cost of Construction \$78,903.00

Engineering, Administration, Legal Fees \$16,097.00

Section 1 Total Project Costs \$95,000.00

Engineer's Opinion of Probable Construction Costs
 Infrastructure to Various Housing Developments
 Jamestown / Stutsman Development Corporation
 Jamestown, North Dakota
 21-00-174
 January 2, 2022



**Section 2: City Water Main & Sanitary Sewer Extension to Schumacher Acres / Horizon Estates First Addition
 (Sheets P3, P4)**

ITEM	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
1	8IN Sanitary Sewer Pipe	LF	\$65.00	2,175	\$141,375.00
2	48" Manhole	VF	\$180.00	84	\$15,120.00
3	Concrete Base	EA	\$2,000.00	6	\$12,000.00
4	Manhole Casting & Cover	EA	\$1,500.00	6	\$9,000.00
5	6" Polyvinyl Chloride Pipe Watermain	LF	\$50.00	210	\$10,500.00
6	8" Polyvinyl Chloride Pipe Watermain	LF	\$75.00	2,450	\$183,750.00
7	12" Polyvinyl Chloride Pipe Watermain	LF	\$90.00	2,705	\$243,450.00
8	16" Polyvinyl Chloride Pipe Watermain	LF	\$105.00	2,585	\$271,425.00
9	Fittings-Ductile Iron	LB	\$12.00	5,540	\$66,480.00
10	6" Hydrant	EA	\$5,700.00	14	\$79,800.00
11	6" Gate Valve and Box	EA	\$2,100.00	14	\$29,400.00
12	8" Gate Valve and Box	EA	\$2,800.00	11	\$30,800.00
13	12" Gate Valve and Box	EA	\$4,500.00	8	\$36,000.00
14	16" Gate Valve and Box	EA	\$7,300.00	12	\$87,600.00
15	Connect to Existing Sanitary Main	EA	\$2,300.00	1	\$2,300.00
16	Connect to Existing Watermain	EA	\$2,800.00	3	\$8,400.00
17	Mobilization	L SUM	\$120,000.00	1	\$120,000.00
18	Asphalt Road Resurfacing	SY	\$70.00	100	\$7,000.00
19	Removal of Bituminous Surfacing	SY	\$20.00	100	\$2,000.00
20	Rock Excavation	CY	\$20.00	100	\$2,000.00

Subtotal Section 2 \$1,358,400.00

Contingencies \$135,840.00

Probable Cost of Construction \$1,494,240.00

Engineering, Administration, Legal Fees \$299,760.00

Section 2 Total Project Costs \$1,794,000.00

Engineer's Opinion of Probable Construction Costs
 Infrastructure to Various Housing Developments
 Jamestown / Stutsman Development Corporation
 Jamestown, North Dakota
 21-00-174
 January 2, 2022



**Section 3A: City Water Main & Sanitary Sewer Extension to Loose Bypass Subdivision (ALT 1)
 (Sheets P5, P6)**

ITEM	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
1	Forcemain 8IN	LF	\$105.00	7,260	\$762,300.00
2	Lift Station	EA	\$225,000.00	1	\$225,000.00
3	6" Polyvinyl Chloride Pipe Watermain	LF	\$50.00	60	\$3,000.00
4	12" Polyvinyl Chloride Pipe Watermain (ALT 1)	LF	\$90.00	8,345	\$751,050.00
5	Fittings-Ductile Iron	LB	\$12.00	2,025	\$24,300.00
6	6" Hydrant	EA	\$5,700.00	4	\$22,800.00
7	12" Gate Valve and Box	EA	\$4,500.00	9	\$40,500.00
8	Connect to Existing Sanitary Main	EA	\$2,300.00	1	\$2,300.00
9	Connect to Existing Watermain	EA	\$2,800.00	1	\$2,800.00
10	Mobilization	L SUM	\$150,000.00	1	\$150,000.00
11	Rock Excavation	CY	\$20.00	100	\$2,000.00

City Water Utilities Subtotal Section 3A **\$996,450.00**

Contingencies \$99,645.00

Probable Cost of Construction **\$1,096,095.00**

Engineering, Administration, Legal Fees \$219,905.00

City Water Utilities Section 3A Total Project Costs **\$1,316,000.00**

City Sanitary Sewer Utilities Subtotal Section 3A **\$1,141,600.00**

Contingencies \$114,160.00

Probable Cost of Construction **\$1,255,760.00**

Engineering, Administration, Legal Fees \$251,240.00

City Sanitary Sewer Utilities Section 3A Total Project Costs **\$1,507,000.00**

Combined City Water & Sanitary Sewer Utilities Subtotal Section 3A **\$1,986,050.00**

Contingencies \$198,605.00

Probable Cost of Construction **\$2,184,655.00**

Engineering, Administration, Legal Fees \$437,345.00

Combined City Water & Sanitary Sewer Utilities Section 3A Total Project Costs **\$2,622,000.00**

Engineer's Opinion of Probable Construction Costs
 Infrastructure to Various Housing Developments
 Jamestown / Stutsman Development Corporation
 Jamestown, North Dakota
 21-00-174
 January 2, 2022



Section 3B: City Water Main & Sanitary Sewer Extension to Loose Bypass Subdivision (ALT 2)
 (Sheets P5, P6)

ITEM	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
1	Forcemain 8IN	LF	\$105.00	7,260	\$762,300.00
2	Lift Station	EA	\$225,000.00	1	\$225,000.00
3	6" Polyvinyl Chloride Pipe Watermain	LF	\$50.00	60	\$3,000.00
4	12" Polyvinyl Chloride Pipe Watermain (ALT 2)	LF	\$90.00	10,525	\$947,250.00
5	Fittings-Ductile Iron	LB	\$12.00	2,495	\$29,940.00
6	6" Hydrant	EA	\$5,700.00	5	\$28,500.00
7	12" Gate Valve and Box	EA	\$4,500.00	11	\$49,500.00
8	Connect to Existing Sanitary Main	EA	\$2,250.00	1	\$2,250.00
9	Connect to Existing Watermain	EA	\$2,750.00	1	\$2,750.00
10	Mobilization	L SUM	\$150,000.00	1	\$150,000.00
11	Rock Excavation	CY	\$20.00	100	\$2,000.00

City Water Utilities Subtotal Section 3B **\$1,212,940.00**

Contingencies \$121,294.00

Probable Cost of Construction **\$1,334,234.00**

Engineering, Administration, Legal Fees \$267,766.00

City Water Utilities Section 3B Total Project Costs **\$1,602,000.00**

City Sanitary Sewer Utilities Subtotal Section 3B **\$1,141,550.00**

Contingencies \$114,155.00

Probable Cost of Construction **\$1,255,705.00**

Engineering, Administration, Legal Fees \$251,295.00

City Sanitary Sewer Utilities Section 3B Total Project Costs **\$1,507,000.00**

Combined City Water & Sanitary Sewer Utilities Subtotal Section 3B **\$2,202,490.00**

Contingencies \$220,249.00

Probable Cost of Construction **\$2,422,739.00**

Engineering, Administration, Legal Fees \$485,261.00

Combined City Water & Sanitary Sewer Utilities Section 3B Total Project Costs **\$2,908,000.00**

Engineer's Opinion of Probable Construction Costs
 Infrastructure to Various Housing Developments
 Jamestown / Stutsman Development Corporation
 Jamestown, North Dakota
 21-00-174
 January 2, 2022



Section 4: City Water Main & Sanitary Sewer Extension to Looyesen Scenic View Estates (Sheets P7, P8)

ITEM	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
1	Forecmain 4IN	LF	\$65.00	1,345	\$87,425.00
2	Lift Station	EA	\$225,000.00	1	\$225,000.00
3	6" Polyvinyl Chloride Pipe Watermain	LF	\$50.00	45	\$2,250.00
4	8" Polyvinyl Chloride Pipe Watermain	LF	\$75.00	1,070	\$80,250.00
5	Fittings-Ductile Iron	LB	\$12.00	815	\$9,780.00
6	6" Hydrant	EA	\$5,700.00	3	\$17,100.00
7	6" Gate Valve and Box	EA	\$2,100.00	1	\$2,100.00
8	8" Gate Valve and Box	EA	\$2,800.00	7	\$19,600.00
9	Connect to Existing Sanitary Main	EA	\$2,300.00	1	\$2,300.00
10	Connect to Existing Watermain	EA	\$2,800.00	1	\$2,800.00
11	Mobilization	L SUM	\$75,000.00	1	\$75,000.00
12	Rock Excavation	CY	\$20.00	100	\$2,000.00

Subtotal Section 4 **\$525,605.00**

Construction Easement \$10,000.00

Contengincies \$52,560.50

Probable Cost of Construction **\$588,165.50**

Engineering, Administration, Legal Fees \$117,834.50

Section 4 Total Project Costs **\$706,000.00**

Engineer's Opinion of Probable Construction Costs
 Infrastructure to Various Housing Developments
 Jamestown / Stutsman Development Corporation
 Jamestown, North Dakota
 21-00-174
 January 2, 2022



Section 5: City Water Main & Sanitary Sewer Extension to The Meadows Addition (Sheets P9, P10)

ITEM	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
1	Forecmain 4IN	LF	\$65.00	335	\$21,775.00
2	Lift Station	EA	\$225,000.00	1	\$225,000.00
3	48" Manhole	VF	\$180.00	10	\$1,800.00
4	Concrete Base	EA	\$2,000.00	1	\$2,000.00
5	Manhole Casting & Cover	EA	\$1,500.00	1	\$1,500.00
6	Remove Sanitary Structure	EA	\$900.00	1	\$900.00
7	6" Polyvinyl Chloride Pipe Watermain	LF	\$50.00	60	\$3,000.00
8	10" Polyvinyl Chloride Pipe Watermain	LF	\$100.00	285	\$28,500.00
9	16" Polyvinyl Chloride Pipe Watermain	LF	\$110.00	1,750	\$192,500.00
10	Fittings-Ductile Iron	LB	\$12.00	3,010	\$36,120.00
11	6" Hydrant	EA	\$2,700.00	4	\$10,800.00
12	6" Gate Valve and Box	EA	\$2,100.00	1	\$2,100.00
13	10" Gate Valve and Box	EA	\$3,500.00	2	\$7,000.00
14	16" Gate Valve and Box	EA	\$7,500.00	10	\$75,000.00
15	Connect to Existing Sanitary Main	EA	\$2,300.00	1	\$2,300.00
16	Connect to Existing Watermain	EA	\$2,800.00	3	\$8,400.00
17	Mobilization	L SUM	\$100,000.00	1	\$100,000.00
18	Asphalt Road Resurfacing	SY	\$70.00	100	\$7,000.00
19	Removal of Bituminous Surfacing	SY	\$20.00	100	\$2,000.00
20	Rock Excavation	CY	\$20.00	100	\$2,000.00

City Water Utilities Subtotal Section 5 **\$474,420.00**
 Contingencies \$47,442.00
Probable Cost of Construction **\$521,862.00**
 Engineering, Administration, Legal Fees \$105,138.00

City Water Utilities Section 5 Total Project Costs **\$627,000.00**

City Sanitary Sewer Utilities Subtotal Section 5 **\$366,275.00**
 Contingencies \$36,627.50
Probable Cost of Construction **\$402,902.50**
 Engineering, Administration, Legal Fees \$81,097.50

City Sanitary Sewer Utilities Section 5 Total Project Costs **\$484,000.00**

Combined City Water & Sanitary Sewer Utilities Subtotal Section 5 **\$729,695.00**
 Contingencies \$72,969.50
Probable Cost of Construction **\$802,664.50**
 Engineering, Administration, Legal Fees \$161,335.50

Combined City Utilities Section 5 Total Project Costs **\$964,000.00**

Engineer's Opinion of Probable Construction Costs
 Infrastructure to Various Housing Developments
 Jamestown / Stutsman Development Corporation
 Jamestown, North Dakota
 21-00-174
 January 2, 2022



Subtotal Section 1	\$71,730.00
Contengincies	\$7,173.00
Probable Cost of Construction	\$78,903.00
Engineering, Administration, Legal Fees	\$16,097.00
Section 1 Total Project Costs	\$95,000.00

Subtotal Section 2	\$1,358,400.00
Contengincies	\$135,840.00
Probable Cost of Construction	\$1,494,240.00
Engineering, Administration, Legal Fees	\$299,760.00
Section 2 Total Project Costs	\$1,794,000.00

Subtotal Section 3A	\$1,986,050.00
Contengincies	\$198,605.00
Probable Cost of Construction	\$2,184,655.00
Engineering, Administration, Legal Fees	\$437,345.00
Section 3A Total Project Costs	\$2,622,000.00

Subtotal Section 3B	\$2,202,490.00
Contengincies	\$220,249.00
Probable Cost of Construction	\$2,422,739.00
Engineering, Administration, Legal Fees	\$485,261.00
Section 3B Total Project Costs	\$2,908,000.00

Engineer's Opinion of Probable Construction Costs
Infrastructure to Various Housing Developments
Jamestown / Stutsman Development Corporation
Jamestown, North Dakota
21-00-174
January 2, 2022



Subtotal Section 4	\$525,605.00
Construction Easment	\$10,000.00
Contengincies	\$52,560.50
Probable Cost of Construction	\$588,165.50
Engineering, Administration, Legal Fees	\$117,834.50
Section 4 Total Project Costs	\$706,000.00

Subtotal Section 5	\$729,695.00
Contengincies	\$72,969.50
Probable Cost of Construction	\$802,664.50
Engineering, Administration, Legal Fees	\$161,335.50
Section 5 Total Project Costs	\$964,000.00

Total of All Project Costs With Section 3A	\$6,181,000.00
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Total of All Project Costs With Section 3B	\$6,467,000.00
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