REESTABLISHMENT OF RECORDS JCD 301-HUEPER BRANCH

Faribault County, Minnesota

Date: November 19, 2020

ISG Project No.: 17-20487

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Engineering
Environmental
Planning
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

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Project Name Joint County Ditch No. 301 Hueper Branch Reestablishment of Records

Faribault and Freeborn County, Minnesota

Engineer's Project Number: 17-20487

Dated this 19th day of November, 2020

TABLE OF CONTENTS

Table of Contents ii
Executive Summary 1
Reestablishment of Records 1
Watershed 1
History 1
Open Ditch 8
Tile Televising 10
Present Conditions of Drainage Infrastructure 11
Summary of Findings, Conclusions + Recommendations 16

APPENDICES

Appendix A: Plan and Profiles ..... A
Appendix B: Watershed Maps ..... B
Appendix C: Historical Documents C
Appendix D: Tile Televising ..... D

EXECUTIVE SUMMARY

Faribault and Freeborn Joint County Ditch 301 (JCD 301) is a 11,900-acre drainage system located in Dunbar, Foster, and Clark Township of Faribault County and Carlston Township of Freeborn County. The JCD 301 open ditch outlets into Foster Creek before it drains into Walnut Lake.

Historical records suggest a public branch named "Hueper Branch" was originally constructed as an approximately 4,500 linear foot open ditch in 1903 in Sections 28 and 29 of Clark Township. However, over the years the open ditch has been filled in and replaced with a buried tile. Today, only 675 feet of the open ditch remains and 3,707 linear feet of buried tile.

Since no documentation of the conversion from open ditch to buried tile exists, the reestablishment of records process through MN Statute 103E was followed to determine the legal drainage conditions of the buried tile and open ditch portions of the Hueper Branch. This document contains detailed survey information, tile televising information, historical aerial photographs, and some historical records to determine the legal drainage conditions of the Hueper Branch. The findings include a 675-foot open ditch with a 4-foot bottom width, 1,967 linear feet of 18-inch tile, and 1,704 linear feet of 14-inch tile.

REESTABLISHMENT OF RECORDS

The reestablishment of records provision of MN Statute 103E.101 Subd. 4a is a process to follow if the Drainage Authority finds that the original as-built records of a public drainage system are incomplete, procedures can be executed to establish the as constructed or subsequently improved condition (ACSIC) of the drainage system. This includes establishing the legal drainage system which includes the profile, alignment, cross section, pipe diameter, hydraulic structure locations, right of way, and any other pertinent information regarding the legal public drainage system.

Current records on file with the Faribault County Drainage Authority for the Hueper Branch of the Joint County Ditch No. 301 (JCD 301) do not include as-built documentation for original construction or improved conditions. Additionally, no as-built records exist to document changes and/or improvements of the Hueper Branch since original construction which include the conversion from open ditch to buried tile.

In order for repairs to be completed on the Hueper Branch of JCD 301, the original records and legal drainage system need to be reestablished. This method includes determining the legal conditions of the system by utilizing historical aerial photographs, topographic survey, soil borings, capacity designs, televising, and other information obtained to aid in the findings.

WATERSHED

Faribault and Freeborn Joint County Ditch No. 301 (JCD 301) is an approximately 11,900-acre watershed located east and south of the City of Wells. This watershed lies in Dunbar, Clark, and Foster Townships and the City of Wells in Faribault County, and in Carlston Township in Freeborn County. JCD 301 is primarily drained by open ditches with the public ditch beginning in Section 1 of Clark Township and outlets in Section 32 of Clark Township into the Foster Creek tributary of the East Branch Blue Earth River. Land cover within the JCD 301 watershed is dominated by agricultural row crops. JCD 301 open ditch outlets into Foster Creek at County Road 172 in Section 32 of Clark Township in Faribault County before it drains into Walnut Lake

The Hueper Branch of JCD 301 is an approximately 400-acre sub-watershed comprised primarily of agricultural row crops in Sections 28-33 of Clark Township in Faribault County. The topography throughout the watershed is gently rolling with an elevation difference of approximately 35 feet. Watershed maps of the JCD 301 and Hueper Branch are included in Appendix B.

HISTORY

1903

Original records suggest that the Hueper Branch was planned as 4,500 feet of open ditch when the CD 301 system was established. However, no as-builts or designs are on record for the Hueper Branch. All available records are included in Appendix C.

1937

A landowner petition dated October 19, 1937 was filed with the Faribault County Board of Commissioners for the "repair and improvement" of the Hueper Branch. The petition described the existing and proposed conditions of the Hueper Branch, as shown in Figure 1. The system is described as open ditch in the lower 1,650 feet (Station 0+00 to 16+50) and 12" tile upstream of Station 16+50. The petition proposed increasing the tile size from stations 16+50 to 43+75 and optionally converting the open ditch from Station 8+00 to 16+50 to an 18" tile. The petition record indicates that it was presented to the Faribault County Board of Commissioners on November 1, 1937 and that the petition was "accepted and order filed." There are no records indicating whether any portion of the proposed project was constructed.

Your petitioners further state and represent that the size of tile necessary and expedient to the proper drainage of said area on the basis of either of the herein proposed grades is as follows, to-wit:

Sta. to Sta.	Present Condition	Size of Tile Needed	No. Lineal Feet Tile Needed
0+00 to 8+00	open	open	
8+00 to 16+50	"	18" or open	850'
16+50 to 23+50	12"	18"	700'
23+50 to 43+75	12"	15"	1975'
43+75 to 45+00	12"	12"	175'

Your petitioners further state and represent that the cost of making the repairs and improvements herein petitioned for will not exceed 30% of the original cost of construction of said ditch.

Dated this 19th day of October, 1937.

Figure 1: 1937 Petition for Tile Improvement

1938

Aerial imagery from October 1938 (Figure 2) appears to show an open ditch extending from the SE ¼ of Section 29 of Clark Township, flowing east-southeast toward present-day MN TH 22, where it flowed beneath present-day TH 22 (and into Section 28 of Clark Township) approximately 775 feet north of 140th Street. From TH 22, the open ditch flowed southeast toward 140th Street to a point approximately 1,300 feet east of TH 22, where it turned straight east and flowed approximately 750 feet to its confluence with the main branch of JCD 301. The confluence with the mainline open ditch of JCD 301 is immediately upstream of 140th Street and approximately 2,050 feet east of present-day TH 22.

The length of the open ditch in the 1938 aerial imagery is approximately 4,500 feet, which is consistent with the stationing and overall length indicated in the 1937 landowner petition. However, the open ditch shown in the 1938 aerial imagery is inconsistent with both the existing and proposed conditions outlined in the 1937 petition; the petition indicated that the ditch above Station 16+50 was tiled, while the 1938 aerial appears to show an open ditch. It is unclear if the construction of the tile occurred as described in either 1937 or 1938 in response to the petition. It is also unclear how the existing conditions of the tile and open ditch in the petition were determined, as they do not line up with the historical aerial evidence.

Figure 2: 1938 Historical Aerial Photo

1949

Aerial imagery from October of 1949 (Figure 3) shows that the portion of the Hueper Branch upstream of TH 22 appears to have been converted to tile; row crops have been planted over portions of the previous open ditch upstream of TH 22. The photo indicates that the open ditch begins on the east side of TH 22 and flows in a southeasterly direction into CD 301. This includes 2,275 linear feet of open ditch.

Figure 3: 1949 Historical Aerial Photo

1950

JCD 301 repair documents from 1950 include a repair of the Hueper Branch. The repair map as shown in Figure 4 is the earliest available document showing the alignment of the Hueper Branch, which begins near the border of the SW ¼ SE ¼ and the NW ¼ SE ¼ of Section 29 in Clark Township. The channel flows eastward through the S ½ SE ¼ of Section 29 toward present-day TH 22; from TH 22 it flows southeast before turning straight east along present-day 140th Street toward its confluence with the mainline open ditch. The total length of the Hueper Branch shown in the report documents is 4,300 feet. Note that the stationing used in the 1950 repair documents shows Station 0+00 at the upstream end and Station 43+00 at the confluence with the mainline open ditch, which is the reverse of present-day stationing convention.

The engineer's report proposes 1,650 feet of open ditch repair (Stations 43+00 to 26+50) in the lowest portion of the Hueper Branch. The report profile (Figure 5) shows the open ditch repair extending an additional 100 feet upstream (Stations 43+00 to 25+50), for a total length of 1,750 feet. The grade shown on the profile is 0.10%, based on a drop of 1.75 feet over 1,750 feet. The profile shows a channel bottom width of 4 feet and 1:1 side slopes. Based on the repair profile, the entire 2,275 linear feet of open ditch was not cleaned as a portion downstream of HWY 22 was not cleaned. It is also evident that the alignment shown in the 1950 repair map does not precisely follow the physical alignment of the ditch to the historical aerial photos.

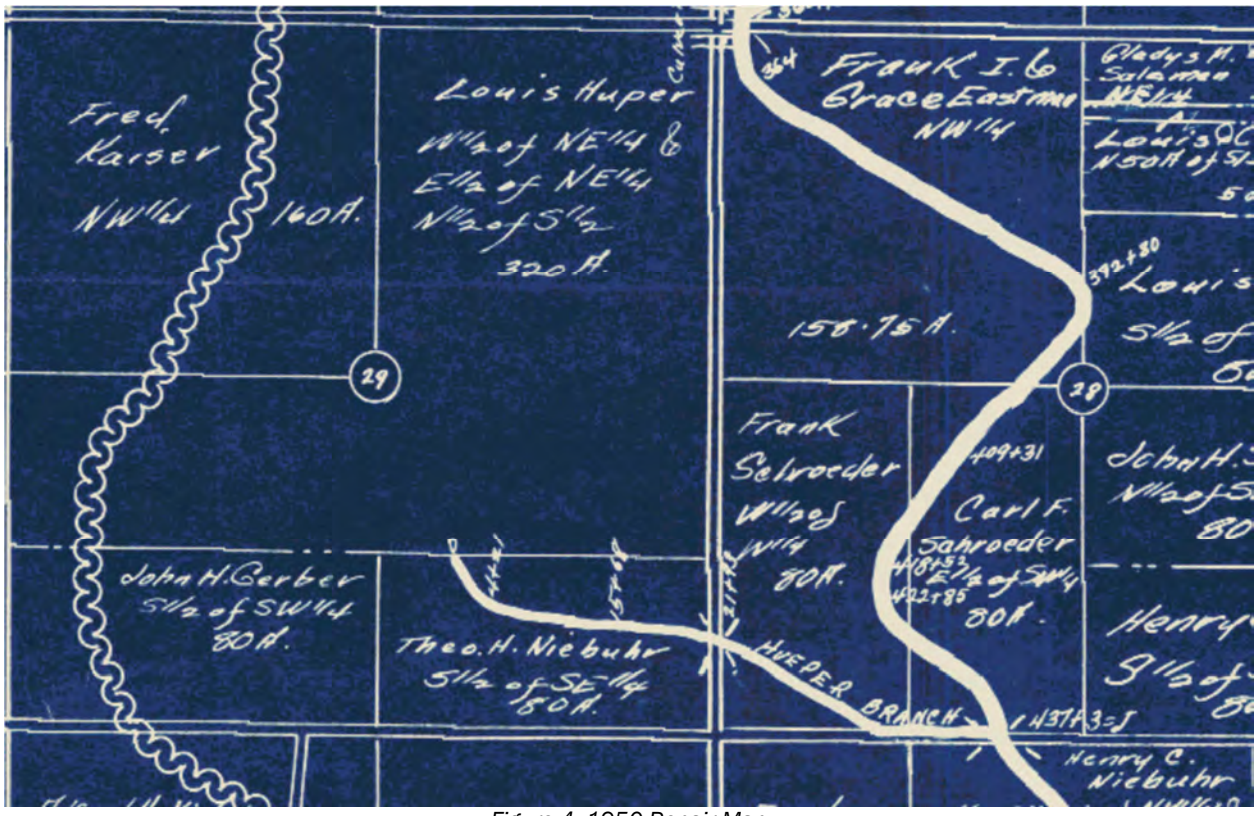


Figure 4: 1950 Repair Map

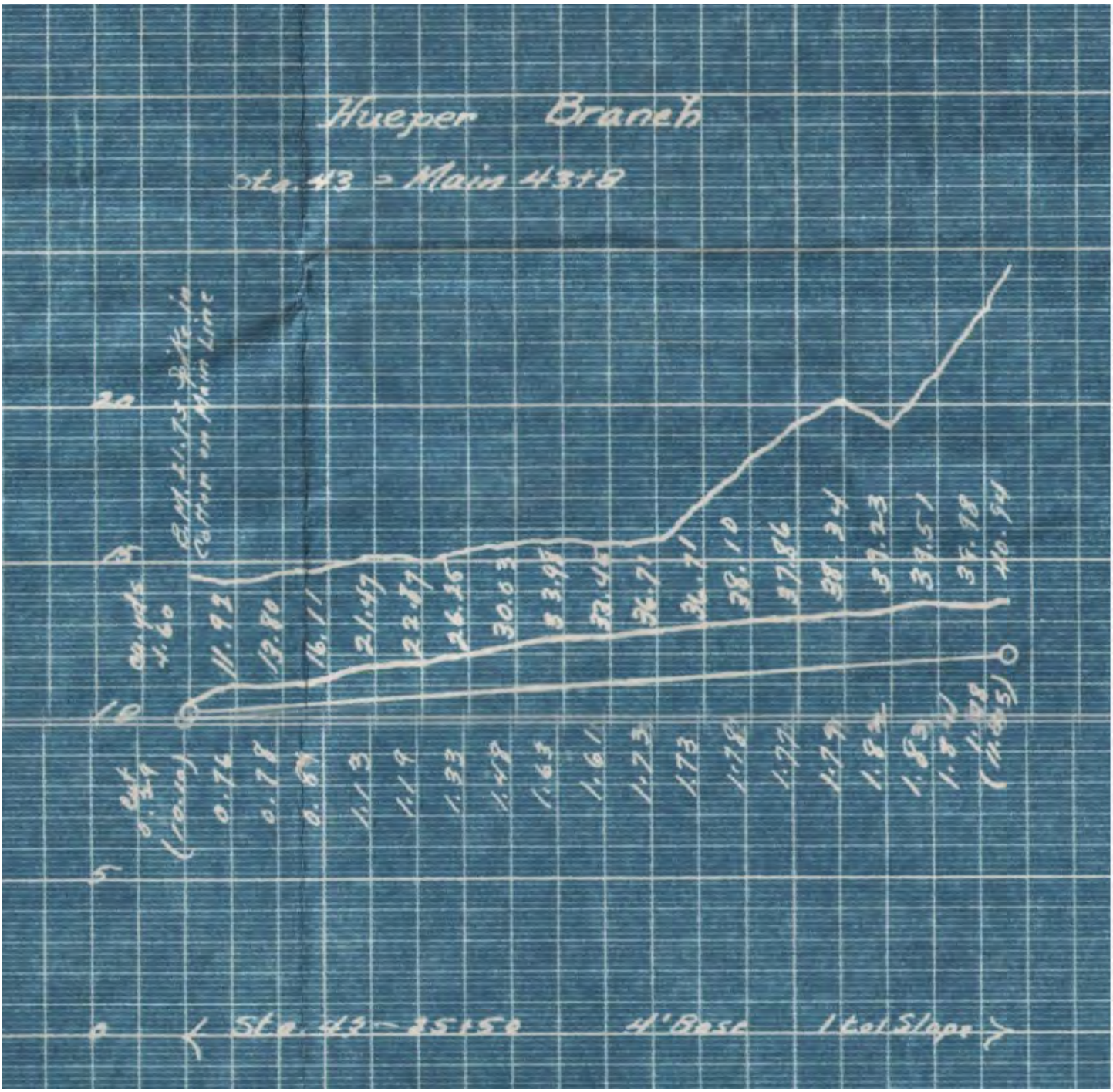


Figure 5: 1950 Hueper Branch Repair Profile

1953 & 1954

Historical aerial photos from 1953 and 1954 (Figure 6 and Figure 7) show a well-defined open ditch from HWY 22 downstream to the junction of the CD 301 mainline open ditch. This is likely the result of the repair from 1950. It is unclear if the entire 2,275 feet of open ditch or just the 1,750 feet as specified in the repair was cleaned.

Figure 6: 1953 Historical Aerial Photo

Figure 7: 1954 Historical Aerial Photo

1962

Historical aerial photos from 1962 (Figure 8) shows that 625 linear feet of open ditch from HWY 22 downstream was filled in and replaced with a buried tile. The remaining portion of open ditch includes 1,650 linear feet which extends east to the junction of CD 301 mainline open ditch. There are no records on file for this ditch work.

Figure 8: 1962 Historical Aerial Photo

1979

As shown in Figure 9, the 1979 historical aerial photo shows the open ditch only extending for 675 linear feet straight west along the 140th Street roadway. Scars from filling the ditch and replacing it with a buried tile are visible in this photo.

Figure 9: 1979 Historical Aerial Photo

2019

The 2019 aerial imagery (Figure 10) shows the same length of open ditch as indicated in the 1979 photo. A field crossing at the very beginning of the open ditch was moved to the west since 1979 to the property line.

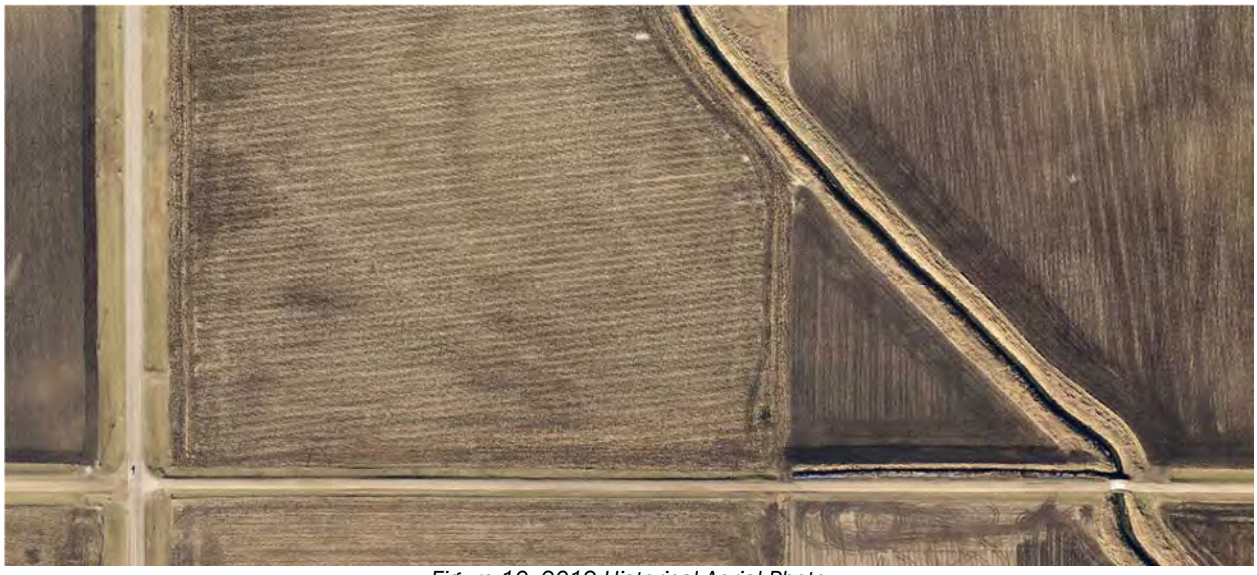


Figure 10: 2019 Historical Aerial Photo

OPEN DITCH

As indicated in the historical aerial review the Hueper Branch open ditch has been filled in overtime and replaced by a buried tile. The following is a summary of the open ditch conversion to buried tile.

- In 1903, it was assumed that the Hueper Branch was constructed as 4,500 linear feet of open ditch.
- Between 1937 and 1949, 2,050 feet of open ditch was filled in on the west side of HWY 22 leaving 2,275 feet of open ditch from HWY 22 to the junction of the CD 301 mainline open ditch.
- Between 1954 and 1962, 625 feet of open ditch east of HWY 22 was filled in leaving 1,650 feet of open ditch.
- In the late 1970s, 975 feet of open ditch was filled in which left 675 feet of open ditch along 140th Street. This is the current day alignment of the open ditch.

A topographic survey of the Hueper Branch open ditch was completed in 2020 to determine the open ditch geometry. Soil borings were also completed to determine the originally constructed open ditch bottom elevation. For the 675-foot stretch of open ditch, a noticeable clay and gravel bottom was found where the ditch had historically been cleaned to.

The only records indicating a legal grade of the Hueper Branch are from 1950 where the grade was shown at 0.10%. A profile plot of the open ditch and the soil borings was created to determine the legal ditch grade. The historical 0.10% open ditch grade was brought into the profile and a line of best fit was created to match as many soil borings as possible. Figure 11 shows the open ditch profile of Hueper Branch, indicating the reestablished grade based on soil borings and historical ditch repairs.

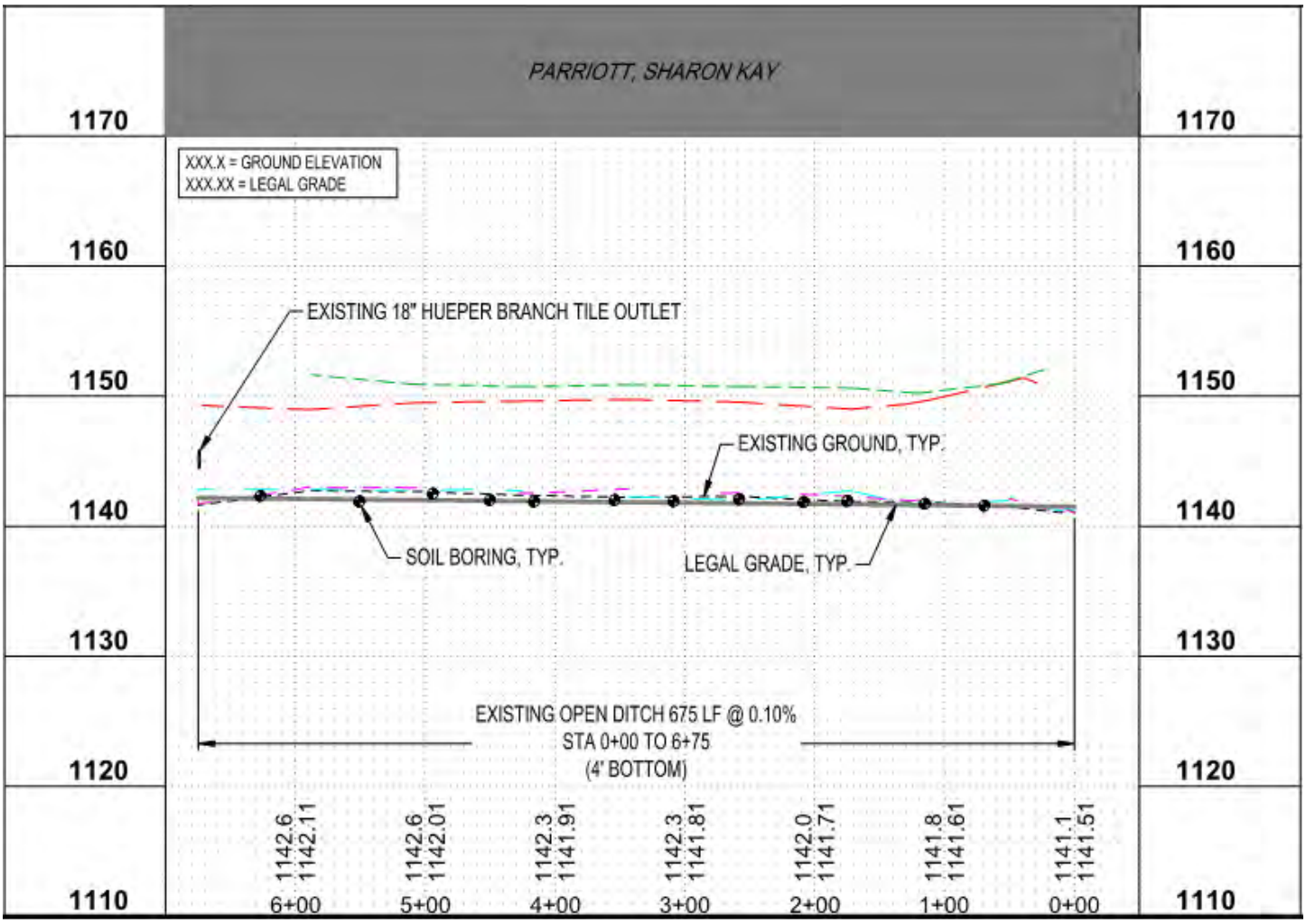


Figure 11: Open Ditch Profile of Hueper Branch

Historic records from the 1950 repairs indicate a ditch geometry of a 4-foot bottom width with 1:1 side slopes. The survey revealed consistency with a 4-foot bottom width; however the side slopes line up closer to a 1.5:1. Figure 12 shows an example cross section of the open ditch.

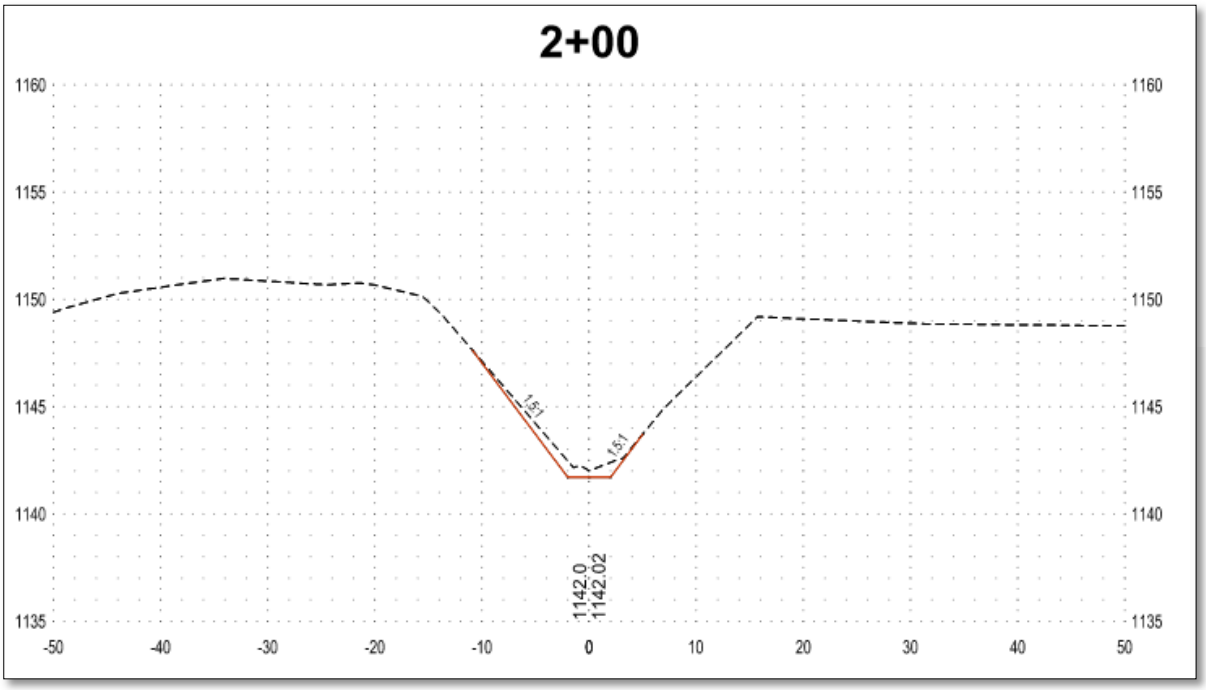


Figure 12: Cross Section of Hueper Branch Open Ditch

TILE TELEVISING

In order to determine the reestablished conditions of the buried tile of the Hueper Branch, ISG utilized a televising camera to determine the size, alignment, grade, and elevation of the buried tile. ISG's camera televised the entire buried tile that replaced the open ditch by digging up multiple locations of the tile. The camera depicted the size of the tile, noting sizes of 14-inches and 18-inches. A GPS beacon was attached to the camera which relayed positions and elevations to the surface. At this point, survey equipment was utilized to record the alignment and depth of the tile as the televising occurred. This data ultimately provided the alignment, size, grade, and elevations of the buried tile of the Hueper Branch. It is unclear if the tile physically was placed within the open ditch, however it does generally follow the originally excavated alignment of the ditch.

Profiles of the tile data were created to develop a legal grade profile of the Hueper Branch tile. Figure 13 below shows a portion of the profile of the buried tile. The data from the televising camera does not show smooth grades of the existing tile. This is likely due to several factors. The condition of the tile varies based on age. Some portions of the tile are over 80 years old and in poor conditions. As the open ditch was filled in, it is likely that the buried tile was placed in the open ditch without proper bedding. This would allow for shifting of the pipes and not a smooth grade. The televising confirmed that the tile does not flow at smooth and consistent grade lines.

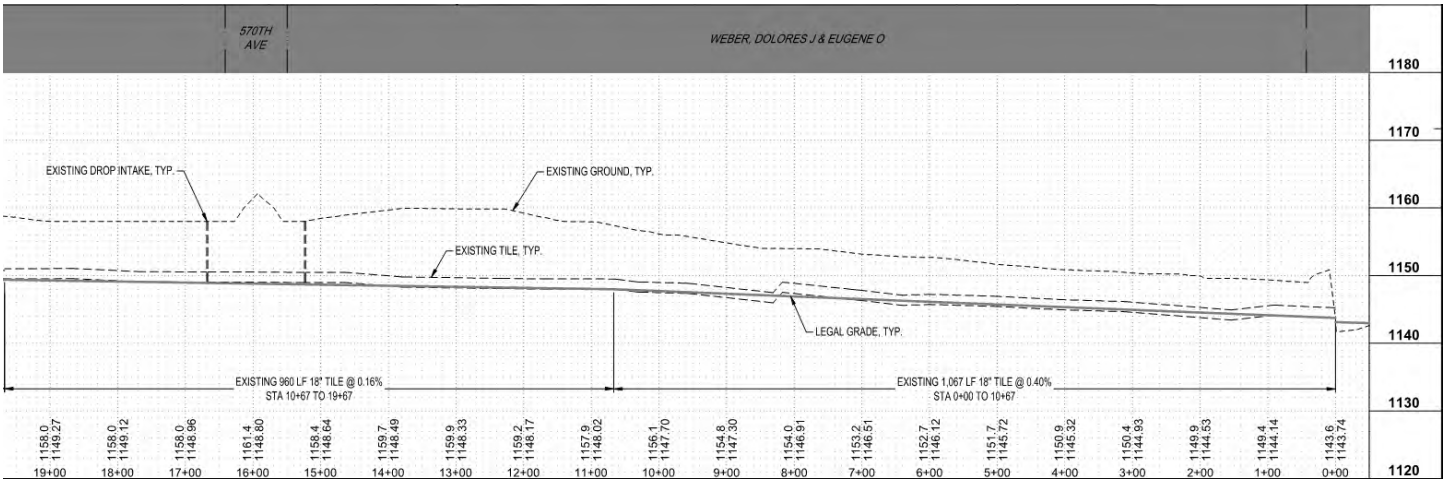


Figure 13: Profile of Buried Tile from Open Ditch to 570th Ave

In order to determine a consistent grade from the tile profiles, a line of best fit was generated on several portions of the profile matching the surveyed invert elevations. This resulted in two different grades of the tile profile. Full profiles of the tile are included in Appendix A. Table *1* below summarizes the reestablished tile of the Hueper Branch. Also included is the watershed area and drainage coefficient as represented in inches per day which is defined as the depth of water that drains an upstream watershed area in 24-hours.

Table 1: Reestablished Tile Summary

Area	Beginning Station	End Station	Existing Size (in)	Existing Slope (%)	Drainage Area (Acres)	Existing Drainage Coefficient (in/day)
Hueper	6+75	17+42	18	0.40%	398.0	0.28
Hueper	17+42	26+42	18	0.16%	341.7	0.21
Hueper	26+42	43+82	18	0.16%	313.8	0.22
Hueper	43+82	End of Pipe	14	0.16%	249.3	0.14

PRESENT CONDITIONS OF DRAINAGE INFRASTRUCTURE

During the open ditch surveying, soil borings, and tile investigation; the existing conditions of the drainage infrastructure were noted. The open ditch portion of Hueper Branch is in fair condition with sediment and vegetation growth within the open ditch and minor sloughing. Buffer strips were not in place at the time of the survey. Figure 14 and Figure 15 show the existing conditions of the open ditch.

Figure 14: Hueper Branch Open Ditch Looking West from CD 301 Mainline

Figure 15: Hueper Branch Open Ditch Looking East from Tile Outlet

The condition of the buried tile was also documented during the televising. Overall, the existing tile is in poor condition with offset joints, cracking in the pipe sections, bellies in the pipe where the pipe has sunk, and other blockages. A full televising report is included in Appendix D while Figure 16 through Figure 20 show images of the televising throughout the Hueper Branch.

Figure 16: Televising at the Tile Outlet into Open Ditch

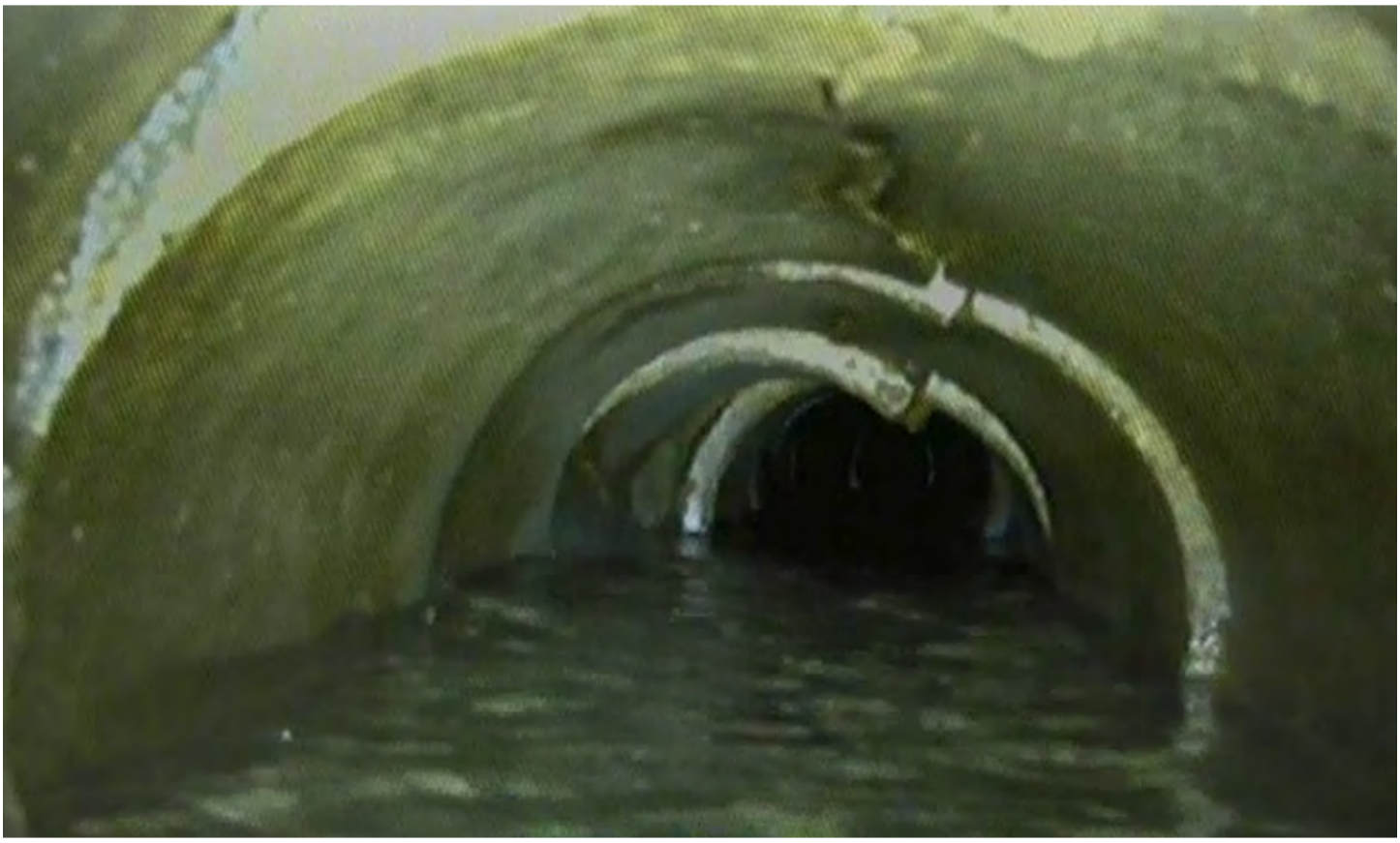


Figure 17: Televising 650 Feet Upstream of Tile Outlet

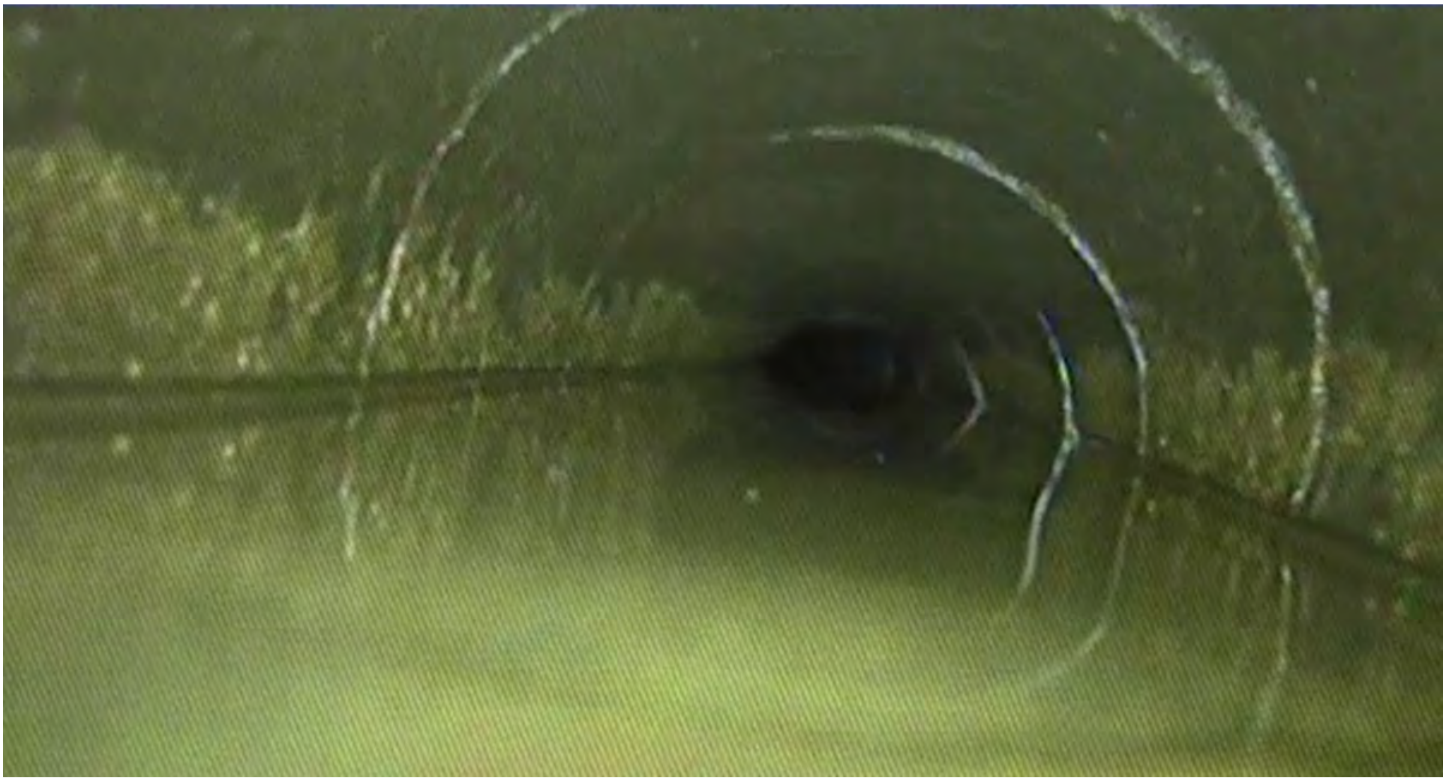


Figure 18: Televising 500 Feet Upstream of HWY 22

Figure 19: Televising 2,000 Feet Upstream of HWY 22

Figure 20: Televising Near Upstream End of Hueper Branch

SUMMARY OF FINDINGS, CONCLUSIONS + RECOMMENDATIONS

The Faribault and Freeborn Joint County Ditch 301 Hueper Branch was originally constructed in 1903 as an open ditch. Overtime, it has been filled in and replaced with buried tile generally following the original alignment of the open ditch with incomplete records available noting the changes. The reestablishment of records process allows for the available records to be reviewed and establish the legal drainage conditions of the system.

After reviewing the topographic survey, soil borings, historical aerial photos, and televising of the buried tile; the following describes the reestablished (legal) conditions of the Hueper Branch. Full plan and profiles are included in Appendix A showing the locations and elevations of the open ditch and buried tile as described.

- Station 0+00: Beginning of Hueper Branch at the confluence with CD 301 mainline open ditch
- Station 0+00 to 6+75 (675-feet): 4-foot bottom width with 1.5:1 side at 0.10%
- Station 6+75 to 17+42 (1,067-feet): 18-inch tile at 0.40%
- Station 17+42 to 26+42 (900-feet): 18-inch tile at 0.16%
- Station 26+42 to 43+82 (1,740-feet): 14-inch tile at 0.16%
- Station 43+82: Termination of Hueper Branch

This re-establishment of records report outlines the determination of the legal drainage system of the Hueper Branch of the Faribault and Freeborn Joint County Ditch No. 301. This report and all attachments shall be kept in the drainage system records and used for reference when any repair projects are slated. While this document clearly identifies the legal drainage system for JCD 301, additional permitting or mitigation for Public Waters and wetland impacts may be required through the MnDNR, U.S. Army Corps of Engineers, Wetland Conversation Act, and other agencies prior to repairs being completed.

Appendix A: Plan and Profiles

JOINT COUNTY DITCH No. 301
HUEPER BRANCH

FARIBAULT COUNTY, MINNESOTA **REESTABLISHMENT OF RECORDS** **ISG PROJECT # 20-20487**

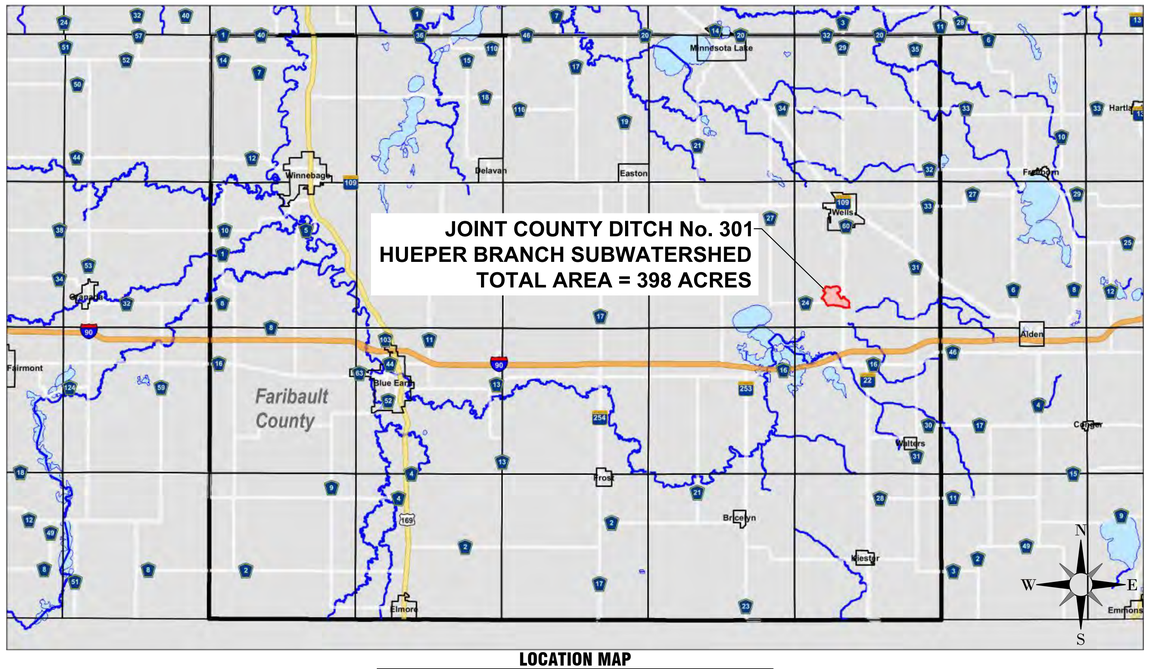
LEGEND

EXISTING

- CITY LIMITS
- SECTION LINE
- QUARTER SECTION LINE
- RIGHT OF WAY LINE
- PROPERTY / LOTLINE
- EASEMENT LINE
- ACCESS CONTROL
- WATER EDGE
- WETLAND BOUNDARY
- WETLAND / MARSH
- FENCE LINE
- CULVERT
- STORM SEWER
- SANITARY SEWER
- SANITARY SEWER FORCEMAIN
- WATER
- GAS
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- UNDERGROUND TELEPHONE
- UNDERGROUND TV
- OVERHEAD UTILITY
- UNDERGROUND UTILITY
- UNDERGROUND FIBER OPTIC
- CONTOUR (MAJOR)
- CONTOUR (MINOR)
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- MANHOLE/STRUCTURE
- CATCH BASIN
- HYDRANT
- VALVE
- CURB STOP
- POWER POLE
- UTILITY PEDESTAL / CABINET

PROPOSED

- LOT LINE
- RIGHT OF WAY
- EASEMENT
- CULVERT
- STORM SEWER
- STORM SEWER (PIPE WIDTH)
- SANITARY SEWER
- SANITARY SEWER (PIPE WIDTH)
- WATER
- GAS
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- UNDERGROUND TV
- CONTOUR
- MANHOLE (STORM, SANITARY)
- CATCH BASIN
- HYDRANT
- VALVE



LOCATION MAP

Sheet List Table

1 TITLE
2 EXISTING WATERSHED MAP
3 OPEN DITCH PLAN AND PROFILE
4 TILE PLAN AND PROFILE
5 TILE PLAN AND PROFILE
6 CROSS SECTIONS

ABBREVIATIONS:

AC	ACRE	CMP	CORRUGATED METAL PIPE	FDN	FOUNDATION	HR	HOUR	MB	MAIL BOX	PVC	POLYVINYL CHLORIDE	TEL	TELEPHONE
ADA	AMERICANS WITH DISABILITIES ACT	CO	CLEANOUT	FFE	FINISHED FLOOR ELEVATION	HWL	HIGH WATER LEVEL	MECH	MECHANICAL	PVMT	PAVEMENT	TEMP	TEMPORARY
ADD	ADDENDUM	CONC	CONCRETE	FPM	FEET PER MINUTE	HWY	HIGHWAY	MH	MANHOLE	QTY	QUANTITY	THRU	THROUGH
AFF	ABOVE FINISHED FLOOR	CONST	CONSTRUCTION	FPS	FEET PER SECOND	HYD	HYDRANT	MIN	MINIMUM	RAD	RADIUS	TNFH	TOP NUT OF FIRE HYDRANT
AGG	AGGREGATE	CONT	CONTINUOUS	FT	FOOT, FEET	I	INVERT	MISC	MISCELLANEOUS	RCP	REINFORCED CONCRETE PIPE	TRANS	TRANSFORMER
APPROX	APPROXIMATE	CY	CUBIC YARD	FTG	FOOTING	ID	INSIDE DIAMETER	NO	NUMBER	RD	ROOF DRAIN	TV	TELEVISION
ARCH	ARCHITECT, ARCHITECTURAL	C&G	CURB AND GUTTER	GA	GAUGE	IN	INCH	NTS	NOT TO SCALE	REBAR	REINFORCING BAR	T/W	TOP OF WALL
BFE	BASEMENT FLOOR ELEVATION	DEMO	DEMOLITION	GAL	GALLON	INV	INVERT	NWL	NORMAL WATER LEVEL	REM	REMOVE	TYP	TYPICAL
BIT	BITUMINOUS	DIA	DIAMETER	GALV	GALVANIZED	IP	IRON PIPE	OC	ON CENTER	ROW	RIGHT OF WAY	UT	UTILITY, UNDERGROUND TELEPHONE
CAD	COMPUTER-AIDED DESIGN	DIM	DIMENSION	GC	GENERAL CONTRACTOR	IPS	IRON PIPE SIZE	OCEW	ON CENTER EACH WAY	R/W	RIGHT OF WAY		
CB	CATCH BASIN	DS	DOWNSPOUT	GFE	GARAGE FLOOR ELEVATION	J-BOX	JUNCTION BOX	OH	OVERHEAD	SAN	SANITARY	VCP	VITRIFIED CLAY PIPE
CFS	CUBIC FEET PER SECOND	EA	EACH	GL	GUTTER LINE	JT	JOINT	OHD	OVERHEAD DOOR	SCH	SCHEDULE	W/O	WITHOUT
CF	CUBIC FOOT	ELEC	ELECTRICAL	GPM	GALLONS PER MINUTE	LF	LINEAR FEET	OZ	OUNCE	SF	SQUARE FOOT	W/	WITH
CI	CAST IRON	ELEV	ELEVATION	GV	GATE VALVE	LIN	LINEAR	PED	PEDESTAL, PEDESTRIAN	SPEC	SPECIFICATION	YD	YARD
CIP	CAST IRON PIPE	EOF	EMERGENCY OVERFLOW	HDPE	HIGH DENSITY POLYETHYLENE	LPS	LOW PRESSURE STEAM	PERF	PERFORATED	SQ	SQUARE	YR	YEAR
CIPC	CAST IN PLACE CONCRETE	EQ	EQUAL	HD	HEAVY DUTY	LS	LUMP SUM	PL	PROPERTY LINE	STA	STATION		
CJ	CONTROL JOINT	EX	EXISTING	HH	HANDHOLE	LSO	LOWEST STRUCTURAL OPENING	PP	POLYPROPYLENE	SY	SQUARE YARD		
CL	CENTERLINE	FDC	FIRE DEPARTMENT CONNECTION	HORIZ	HORIZONTAL	MAX	MAXIMUM	PSI	POUNDS PER SQUARE INCH	T/C	TOP OF CURB		

PROJECT GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS, WHICH INCLUDE, BUT ARE NOT LIMITED TO, THE OWNER - CONTRACTOR AGREEMENT, THE PROJECT MANUAL (WHICH INCLUDES GENERAL SUPPLEMENTARY CONDITIONS AND SPECIFICATIONS), DRAWINGS OF ALL DISCIPLINES AND ALL ADDENDA, MODIFICATIONS AND CLARIFICATIONS ISSUED BY THE ARCHITECT/ENGINEER.
2. CONTRACT DOCUMENTS SHALL BE ISSUED TO ALL SUBCONTRACTORS BY THE GENERAL CONTRACTOR IN COMPLETE SETS IN ORDER TO ACHIEVE THE FULL EXTENT AND COMPLETE COORDINATION OF ALL WORK.
3. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
4. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
5. DETAILS SHOWN ARE INTENDED TO BE INDICATIVE OF THE PROFILES AND TYPE OF DETAILING REQUIRED THROUGHOUT THE WORK. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO DETAILS SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
6. ALL MANUFACTURED ARTICLES, MATERIALS AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, CLEANED AND CONDITIONED ACCORDING TO MANUFACTURERS' INSTRUCTIONS. IN CASE OF DISCREPANCIES BETWEEN MANUFACTURERS' INSTRUCTIONS AND THE CONTRACT DOCUMENTS, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
7. ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO AVOID GALVANIC CORROSION.
8. THE LOCATION AND TYPE OF ALL INPLACE UTILITIES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY AND ARE ACCURATE AND COMPLETE TO THE BEST OF THE KNOWLEDGE OF I & S GROUP, INC. (ISG). NO WARRANTY OR GUARANTEE IS IMPLIED. THE CONTRACTOR SHALL VERIFY THE SIZES, LOCATIONS AND ELEVATIONS OF ALL INPLACE UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM PLAN.
9. THE CONTRACTOR IS TO CONTACT "GOPHER STATE ONE CALL" FOR UTILITY LOCATIONS, MINIMUM 2 BUSINESS DAYS PRIOR TO ANY EXCAVATION / CONSTRUCTION (1-800-252-1166).

PROJECT INDEX:

OWNER:

FARIBAULT COUNTY DRAINAGE AUTHORITY
415 S. GROVE STREET, SUITE 8
BLUE EARTH, MINNESOTA 56013

PH: 507-317-4833

PROJECT ADDRESS / LOCATION:

CLARK TWP.
SECTIONS 28 & 29

FARIBAULT COUNTY,
CLARK TWP.
MINNESOTA

MANAGING OFFICE:

MANKATO OFFICE
115 EAST HICKORY STREET
SUITE 300
MANKATO, MN 56001
PHONE: 507.387.6651
FAX: 507.387.3583

PROJECT MANAGER: MARK ORIGER
EMAIL: MARK.ORIGER@ISGINC.COM

SPECIFICATIONS REFERENCE

ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF FARIBAULT REQUIREMENTS AND MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2018 EDITION, AND THE STANDARD SPECIFICATIONS FOR SANITARY SEWER, STORM DRAIN AND WATERMAIN AS PROPOSED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA 2013, UNLESS DIRECTED OTHERWISE.

PROJECT DATUM

HORIZONTAL COORDINATES HAVE BEEN REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), 1996 ADJUSTMENT (NAD83(1996)) ON THE FARIBAULT COUNTY COORDINATE SYSTEM, IN U.S. SURVEY FEET.
ELEVATIONS HAVE BEEN REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
RTK GPS METHODS WERE USED TO ESTABLISH HORIZONTAL AND VERTICAL COORDINATES FOR THIS PROJECT.

B.M. ELEVATION=1145.40
2204 M (MNDOT MONUMENT) (NAVD 88)

TOPOGRAPHIC SURVEY

THIS PROJECT'S TOPOGRAPHIC SURVEY CONSISTS OF DATA COLLECTED IN APRIL OF 2019 BY ISG.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRELIMINARY NOT FOR CONSTRUCTION

DATE_____ LIC. NO._____

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PROJECT

JOINT COUNTY DITCH No. 301

HUEPER BRANCH

FARIBAULT COUNTY MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

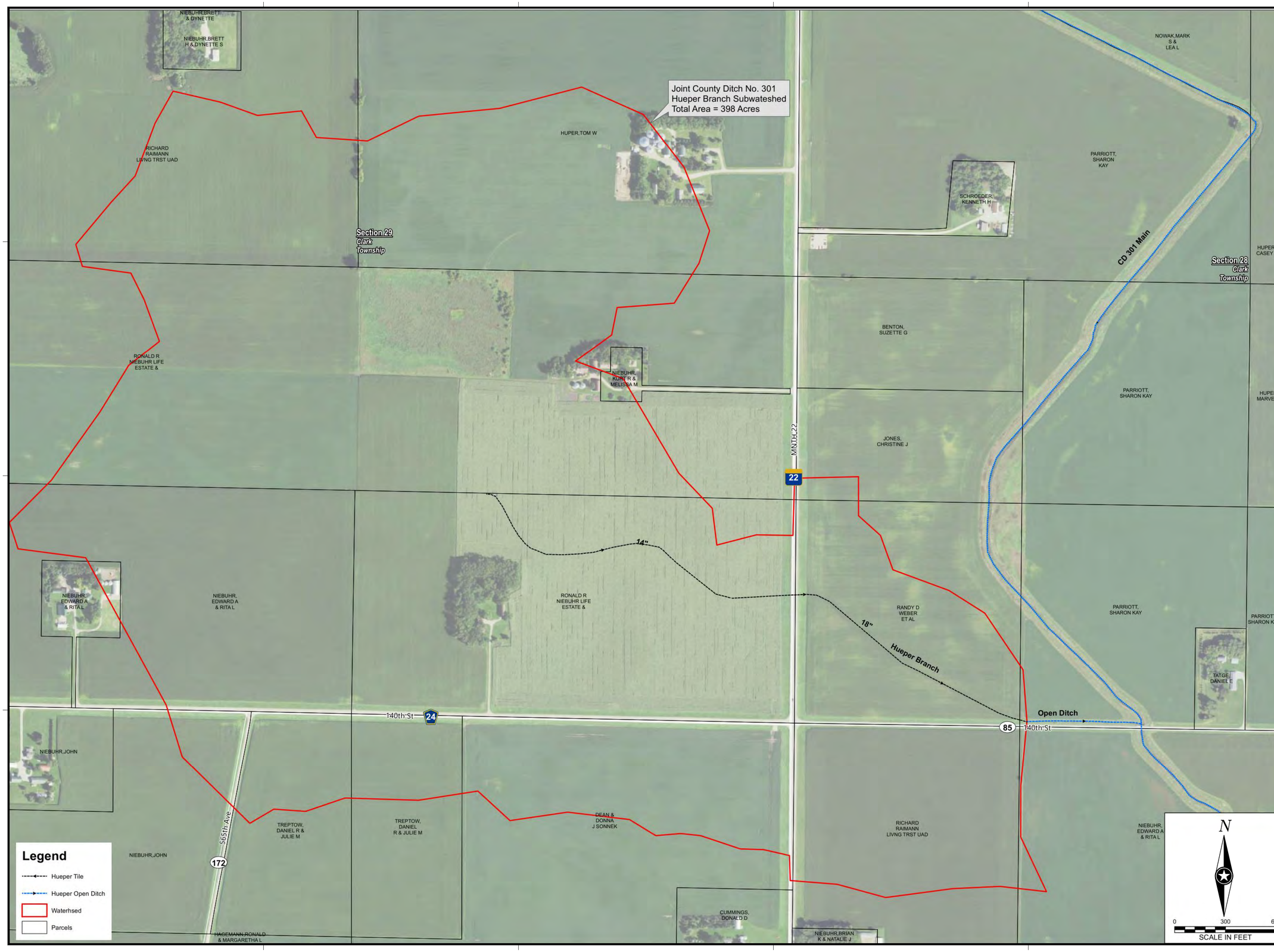
PROJECT NO.	20-20487
FILE NAME	20487-TITLE (HUEPER)
DRAWN BY	KJH
DESIGNED BY	MAO
REVIEWED BY	MAO
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

TITLE

SHEET

1 OF 6



ISG

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PROJECT

JOINT COUNTY DITCH No. 301

HUEPER BRANCH

FARIBAULT COUNTY MINNESOTA

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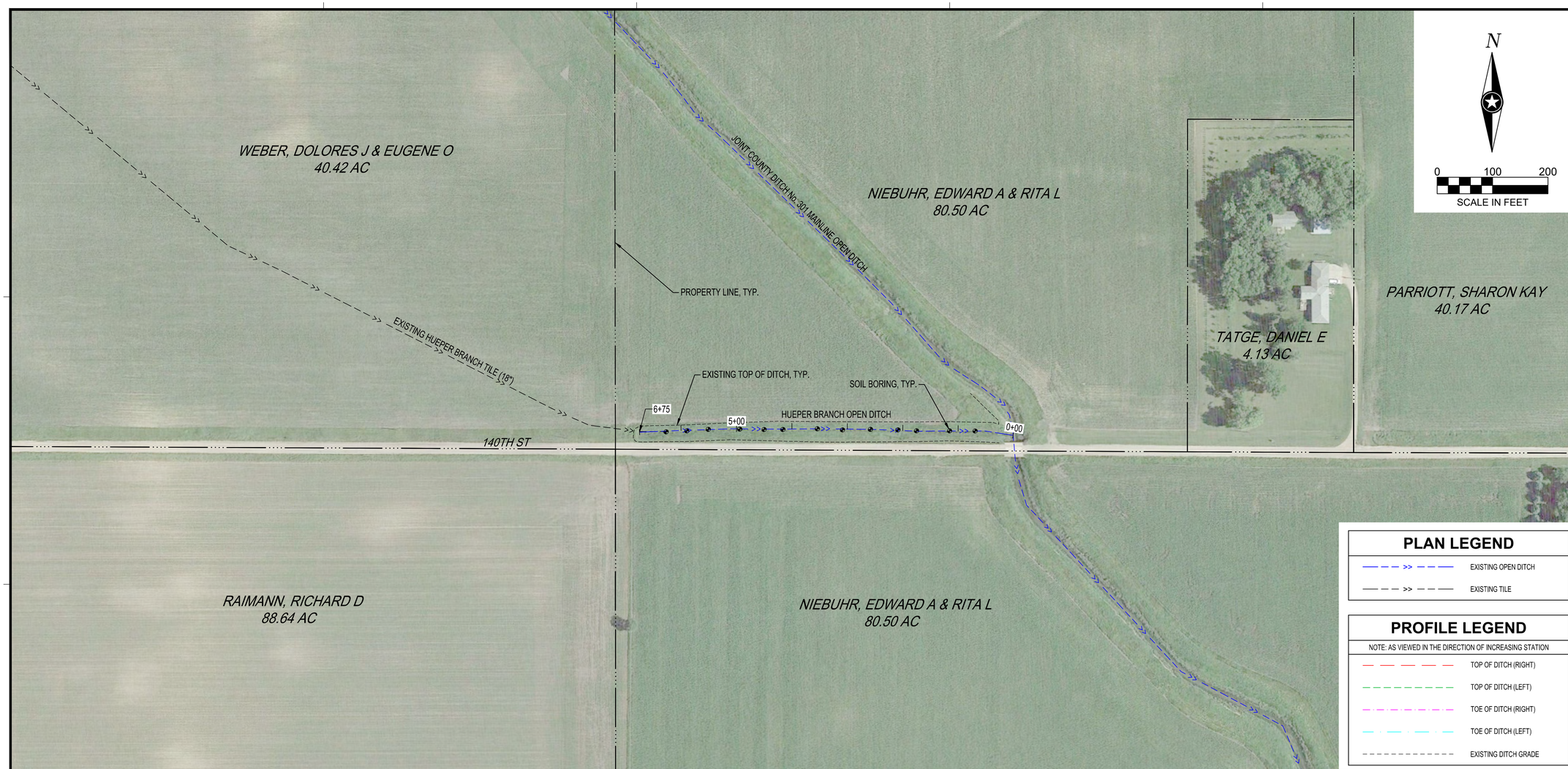
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

EXISTING WATERSHED MAP

SHEET

2 OF 6



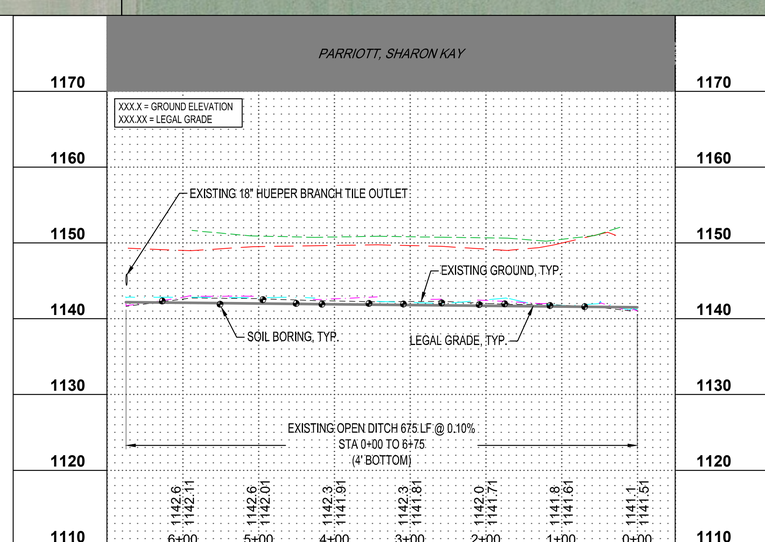
PLAN LEGEND

— — — >> — — —	EXISTING OPEN DITCH
— — — >> — — —	EXISTING TILE

PROFILE LEGEND

NOTE: AS VIEWED IN THE DIRECTION OF INCREASING STATION

— — — — —	TOP OF DITCH (RIGHT)
— — — — —	TOP OF DITCH (LEFT)
— · — · — ·	TOE OF DITCH (RIGHT)
— · — · — ·	TOE OF DITCH (LEFT)
- - - - - - - -	EXISTING DITCH GRADE



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PRELIMINARY - NOT FOR CONSTRUCTION

DATE_____ LIC. NO._____

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PROJECT

JOINT COUNTY DITCH No. 301

HUEPER BRANCH

FARIBAULT COUNTY MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

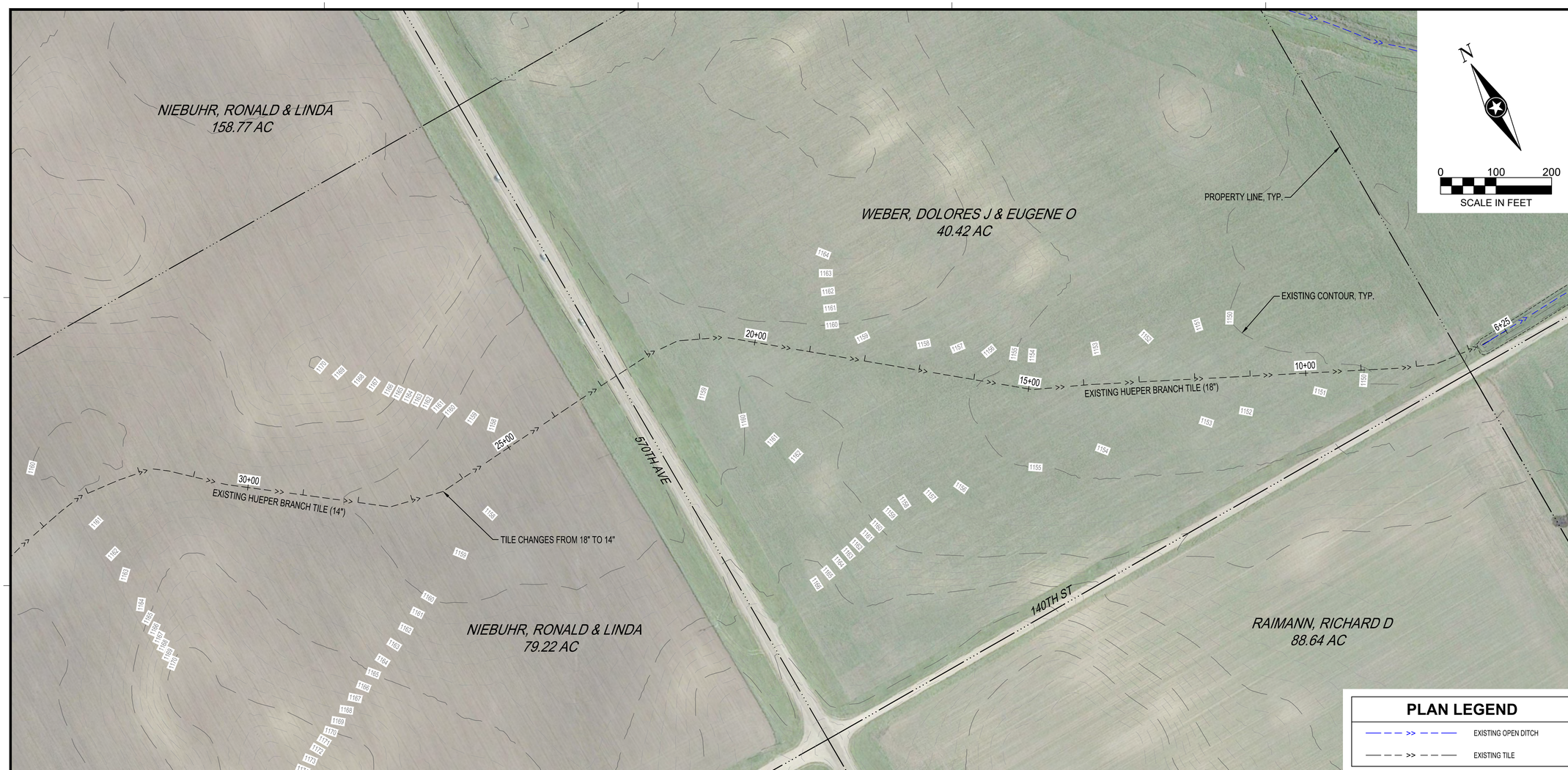
PROJECT NO.	20-20487
FILE NAME	20487-PROFILES DITCH (HUEPER)
DRAWN BY	KJH
DESIGNED BY	MAO
REVIEWED BY	MAO
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

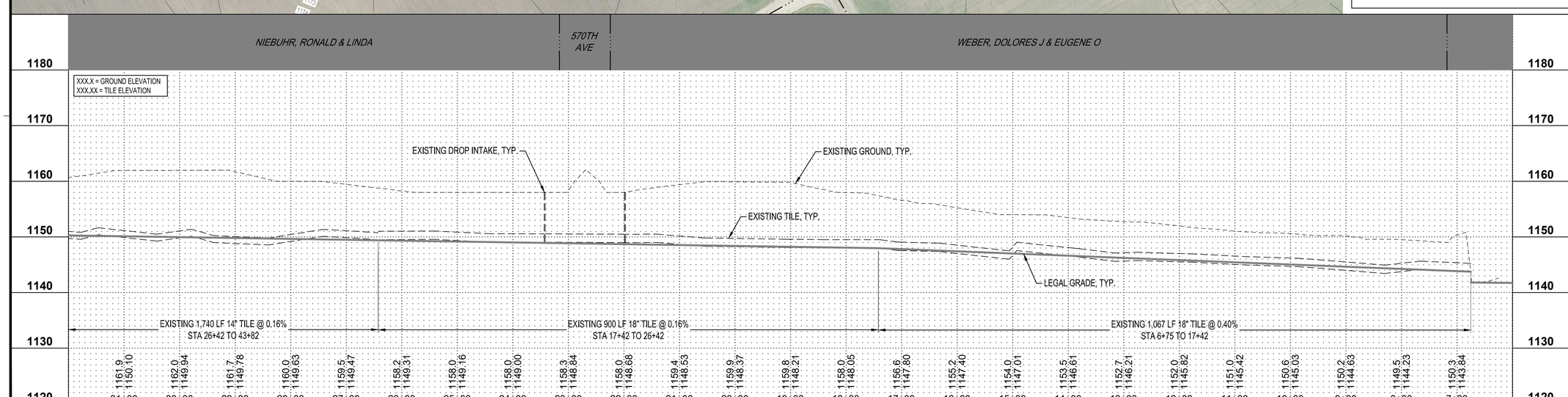
TITLE

OPEN DITCH PLAN AND PROFILE

SHEET

3 OF 6





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PROJECT

JOINT COUNTY DITCH No. 301

HUEPER BRANCH

FARIBAULT COUNTY MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

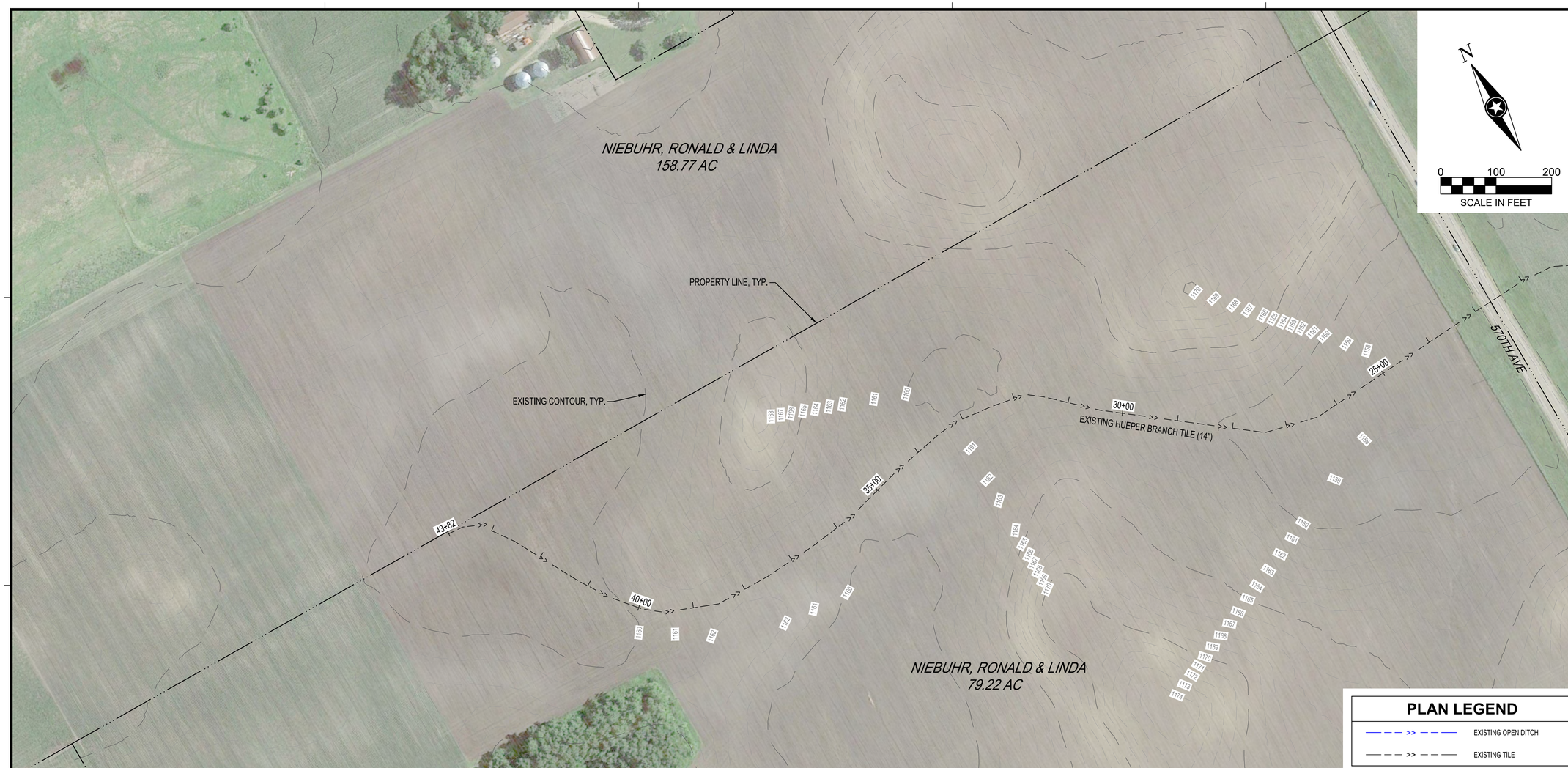
PROJECT NO.	20-20487
FILE NAME	20487-PROFILES TILE (HUEPER)
DRAWN BY	KJH
DESIGNED BY	MAO
REVIEWED BY	MAO
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

TILE PLAN AND PROFILE

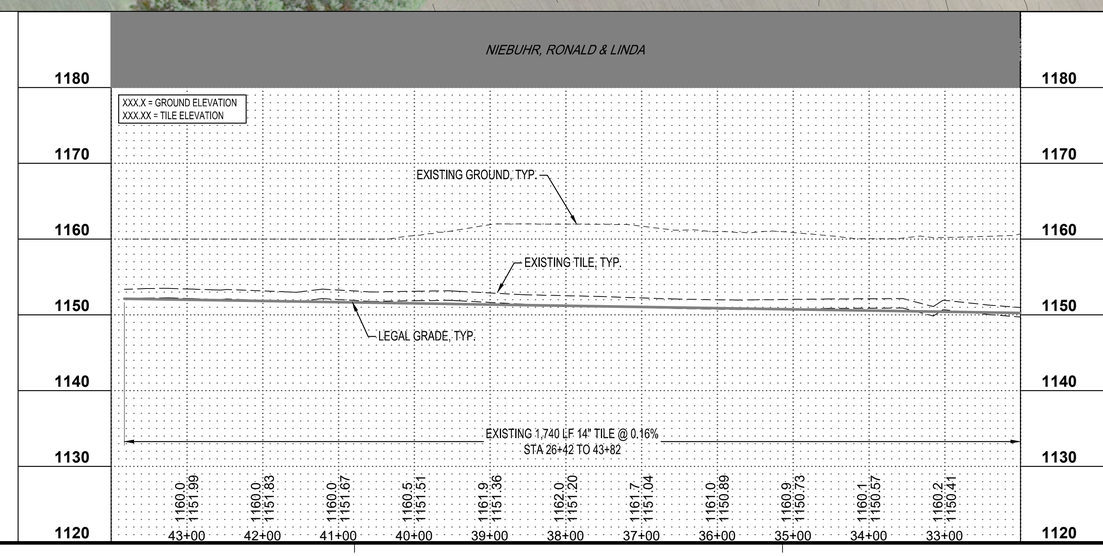
SHEET

4 OF 6



PLAN LEGEND

—— – – >> – – ——	EXISTING OPEN DITCH
—— – – >> – – ——	EXISTING TILE



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PROJECT

JOINT COUNTY DITCH No. 301

HUEPER BRANCH

FARIBAULT COUNTY MINNESOTA

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DRAWN BY	KJH
DESIGNED BY	MAO
REVIEWED BY	MAO
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

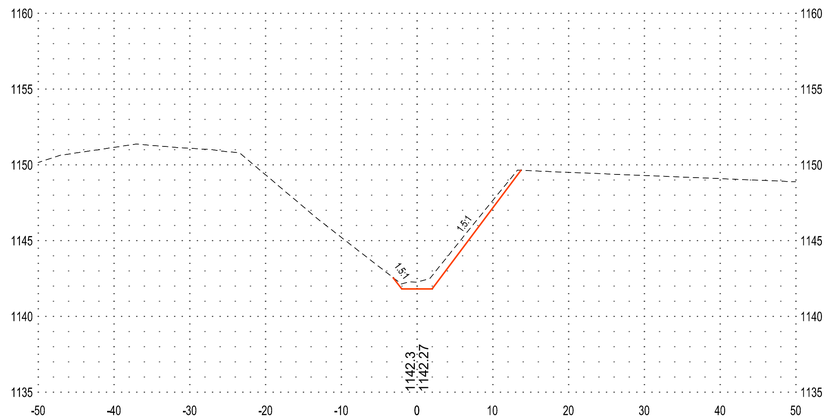
TILE PLAN AND PROFILE

SHEET

5 OF 6

0 10 20
SCALE IN FEET

3+00



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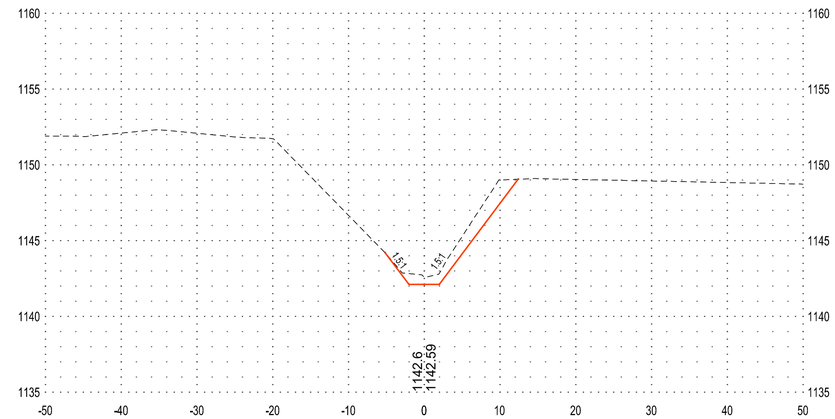

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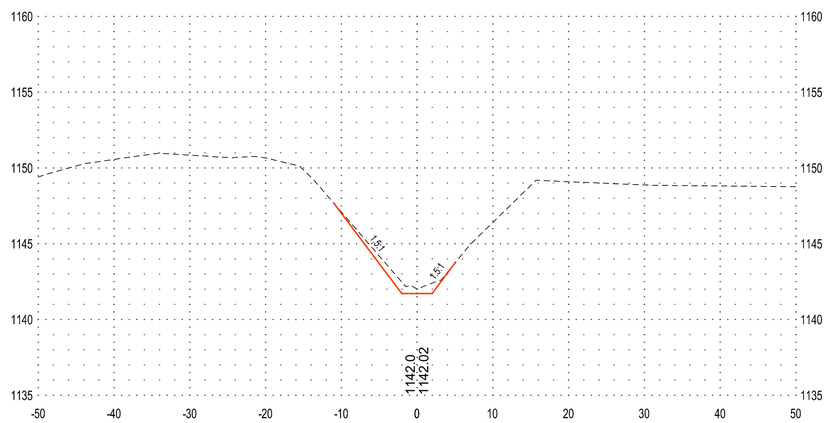

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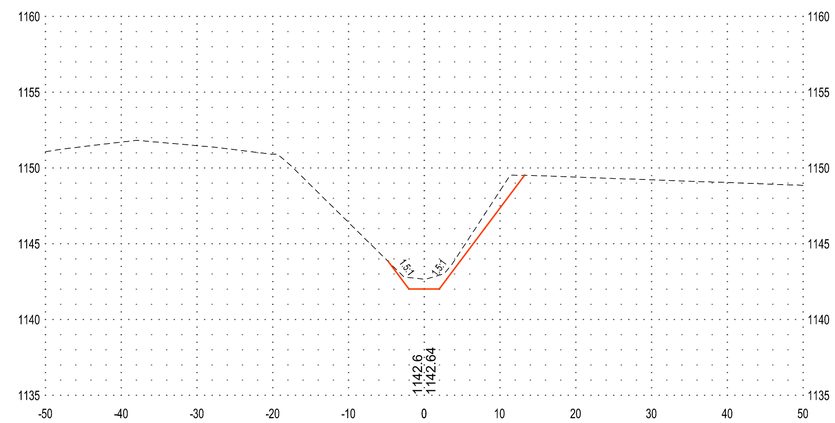

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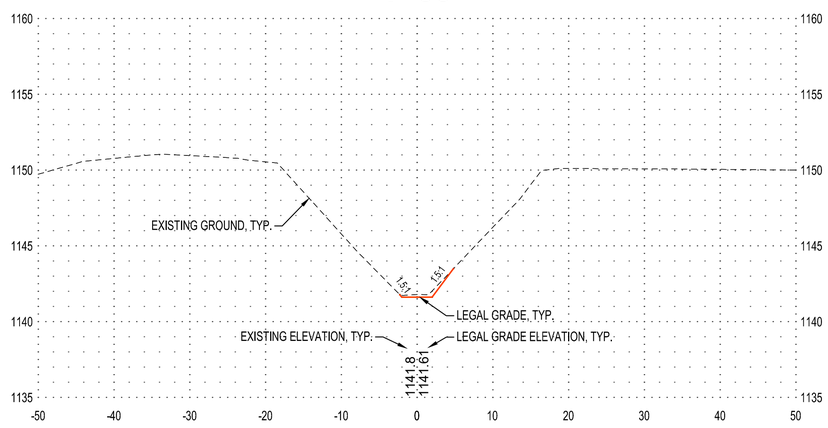

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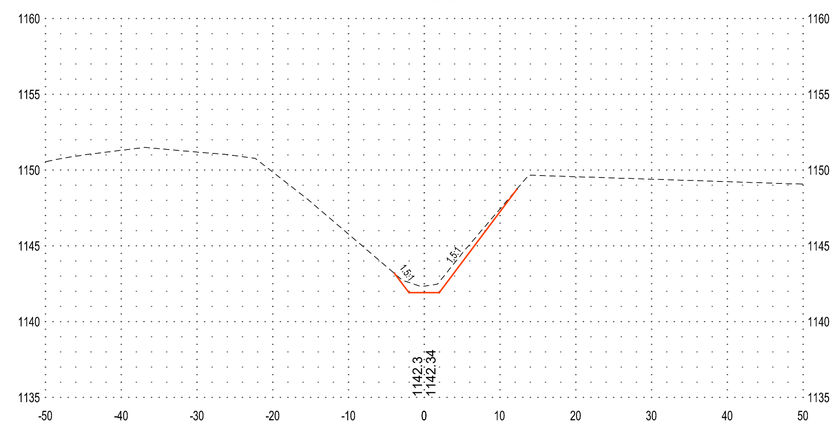

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PROJECT

JOINT COUNTY DITCH No. 301

HUEPER BRANCH

FARIBAULT COUNTY MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	20-20487
FILE NAME	20487-SECTIONS (HUEPER)
DRAWN BY	KJH
DESIGNED BY	MAO
REVIEWED BY	MAO
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

CROSS SECTIONS

SHEET

6 OF 6

Appendix B: Watershed Maps

ISG

Watershed Map
JCD 301
Faribault-Freeborn County, Minnesota

Wednesday, November 18, 2020

Legend

- Hueper Watershed
- Hueper Tile
- Hueper Open Ditch

CD 301

- Open Ditch
- Tile
- CD 301 Watershed

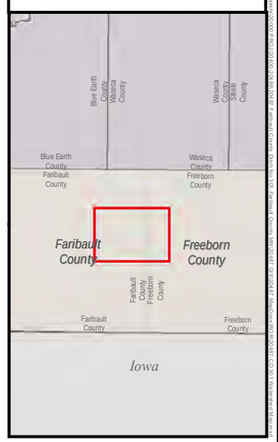
PN: 18-20487

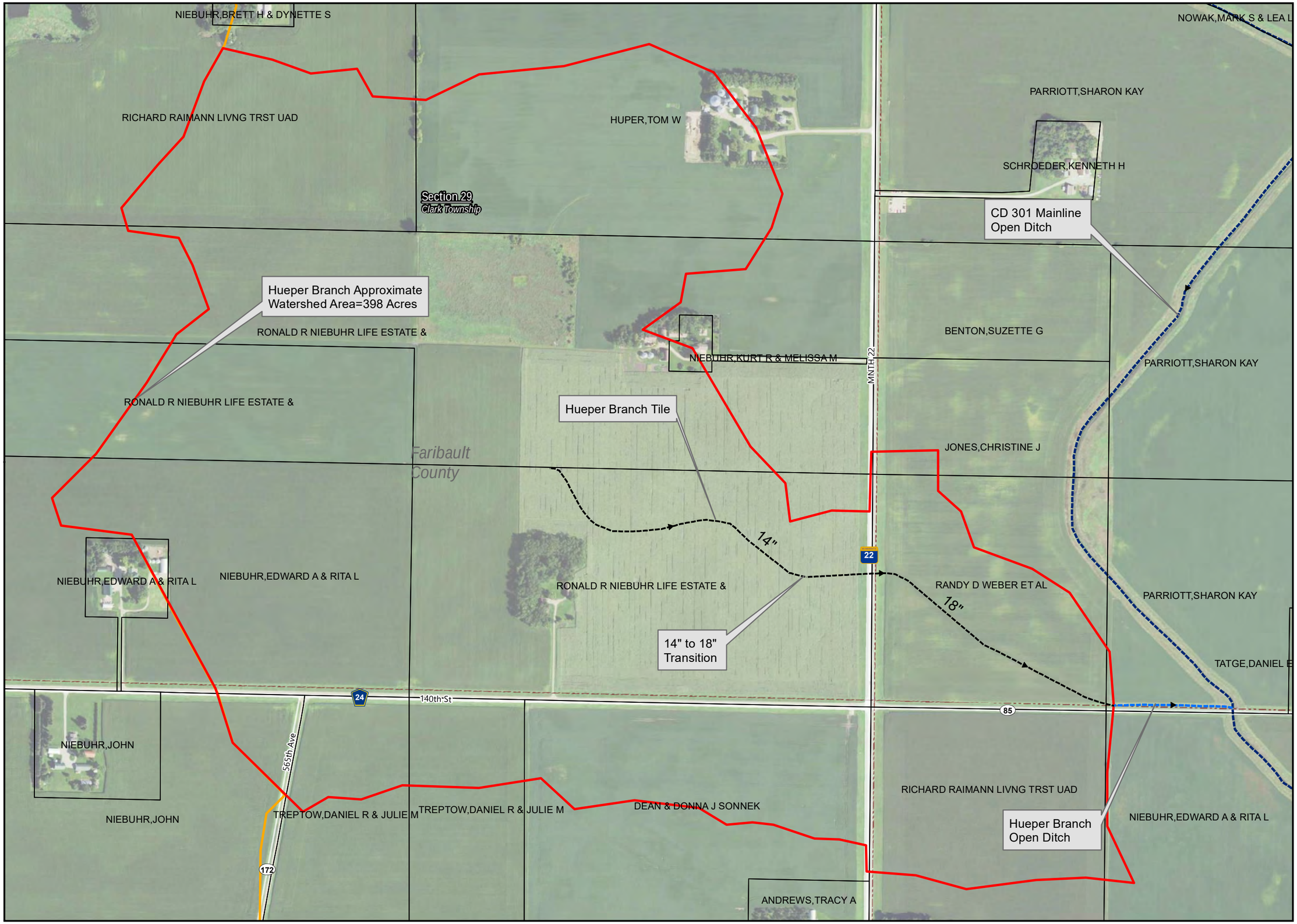
Source:

Orthophotograph (MnGeo WMS, 2015)
Tile/Ditch (XX County, 12/16/2016)
Parcels (XX County, 12/16/2016)
Lakes (MN DNR, July, 2008)
Major Stream (MN DNR, July 2008)
Counties (MN DNR, July 2013)
PLSS (MnGeo/USGS)

N

0 1,000 2,000 4,000 Feet





ISG

Watershed Map
Hueper Branch
Faribault-Freeborn County, Minnesota

Wednesday, November 18, 2020

Legend

- Hueper Watershed
- Hueper Tile
- Hueper Open Ditch

CD 301

- Open Ditch
- Tile
- CD 301 Watershed

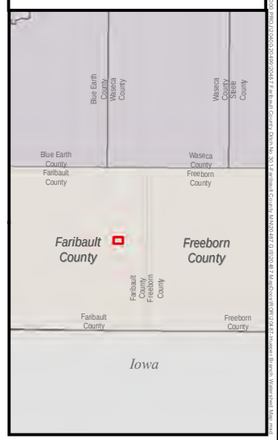
PN: 18-20487

Source:

Orthophotograph (MnGeo WMS, 2015)
Tile/Ditch (XX County, 12/16/2016)
Parcels (XX County, 12/16/2016)
Lakes (MN DNR, July, 2008)
Major Stream (MN DNR, July 2008)
Counties (MN DNR, July 2013)
PLSS (MnGeo/USGS)

N

0 125 250 500 Feet



Appendix C: Historical Documents

County Ditch NO.1
Faribault County

ENGINEER'S FINAL REPORT

IN THE MATTER OF THE PETITION
OF_____,ET AL
for the Repair of County Ditch
NO. 1 in the County of Faribault,
Minnesota.

To the Honorable Board of Faribault County Commissioners:

Gentlemen:

Your undersigned civil engineer in compliance with your order bearing the date of_____ to inquire and investigate into the amount of work required to repair said County Ditch NO.1, such as excavating it down to the original grade, removing brush and trees and performing any other work necessary to replace the ditch in a condition to fulfill the purpose for which it was intended.

And would respectfully report that at the time specified in your order he made a survey of the open work of said County Ditch NO. 1.

And did make a computation of the cubic yards of sediment to be removed from the channel. And did estimate the cost of excavating the fill, spreading of waste banks, removing trees and brush from ditch, moving and replacing fences, and engineering including all final and other expenses connected therewith, with the inspecting when and as the same is completed. And did cause the same to be made in a tabular form.

And did cause to be made a statement of the names of laborers and the time each was employed by him, and every expense n incurred in and about said work, which statement is made and attached hereto.

Dated this 5 day of Jan A.D.1950

Respectfully submitted,

Civil Engineer

Subscribed and sworn to before me this 5 day of Jan
A.D. 1950

G W Bunch
Co Aud

County Ditch NO.1
Faribault County

WORK TO BE DONE

MAIN LINE

Excavation & Bank Spreading

sta. to sta.	Lin. ft.	Base	Slope	Gradient	Cu.yds.
0- 5	500	4'	1-1½	.50 -.04	484.10
5-79	7400	6'	1-1½	.04 -.16	5630.30
79-140	6100	8'	1-1½	.10-15-.05	6692.20
140-200	6000	6'	1-1½	.05-.12-.16-	
					2673.00
200-220	2000	8'	1-1½	.14-.08	1555.80
220-340	12000	6'	1-1½	.04 -.10	11809.50
340-455	11500	8'	1-1½	.04 -.06	16985.60
455-544+68	8968	12'	1-1½	.06 -.04	4722.10
					50552.60
Slope Work					46025.90
Extra Slope Work					1500.00
					98078.50

Estimated Cost 98,078.50 cu. yds. @ 18¢ $17,654.13

Leveling Old Waste Bank

Left Side-

25-50	2500	Lin. ft.		much	
103-125	2200	"	"	"	
180-214	3400	"	"	"	
331-359	2800	"	"	very little	
360-364	400	"	"	little	
364-391	1700	"	"	very little	
391-397	600	"	"	much	
397-399	200	"	"	very little	
422-425	300	"	"	little	
430-437	700	"	"	"	
438-505	6700	"	"	much	
	21200				21,200'

Right Side

18-50	3200	"	"	"	
84-125	4100	"	"	"	
180-214	3400	"	"	"	
360-364	400	"	"	little	
364-391	1700	"	"	very little	
391-397	600	"	"	much	
422-437	1500	"	"	little	
458-504	4600	"	"	"	
	19500				19,500
					40,700

Estimated Cost 40,700 Lin. ft. @ $6.00 Per C. $ 2442.00

WORK TO BE DONE(CONTINUED)

Trees

Top

1645	4"	@ 35¢	$575.75	
1054	8"	@ 70¢	737.80	
492	12"	@ 1.15	565.80	
204	16"	@ 1.75	357.00	
96	24"	@ 3.30	316.80	
48	36"	@ 7.15	343.20	
			$2896.35	$2896.35

Top of Spoilbank

385	4"	@ 70¢	$ 269.50	
372	8"	@ 1.30	483.60	
405	12"	@ 2.10	850.50	
695	16"	@ 3.20	2240.00	
322	24"	@ 6.55	2109.10	
113	36"	@ 11.40	1288.20	
			$ 7240.90	$7240.90

Bottom of Ditch

450	4"	@ 70¢	$ 315.00	
145	8"	@1.30	188.50	
12	12"	@ 2.10	25.20	
			$ 528.70	$ 528.70
				$10,665.95 $10,665.95

Brush 380 sq. yds. @ 70¢ $ 266.00 $ 266.00

Moving and Replacing Fences

Cross Fences Located at 33, 41, 50, 53, 62, 81, 90, 103, 141, 224, 220, 274, 331, 388, 399, 430 - 457

17 @ $4.00 $ 68.00 $ 68.00

Parallel Fence

0-50	- 5000'	Good netting	Right Bank
33-50	1700'	" "	Left "
54-180	12,600	" 3 W. Barb	" "
62-90	2,800	" " " "	Right "
141-157	1,600	Fair Netting	" "
180-200	2,000	Poor netting	Left "
226-272	4,600	" "	Right "
274-300	2,600	Good 3 W.Barb	Left "
300-331	3,100	" " " "	Right "
364-382	1,800	Poor netting	Left "
382-390	800	Fair 3 W.Barb	" "
388-391	300	Poor netting	Right
394-399	500	Fair 4 W Barb	"
153-157	400	" 3 " "	"

Est. Cost 39,800 Lin. ft. @ $2.00 Per C. $ 796.00

Handwork

Cleaning under 2 Bridges @ $20.00 40.00 @

Lowering 1 Culvert $35.00 35.00

Total Est. Cost Main Line****** ~~$31,767.08~~

31,967.08

WORK TO BE DONE

BANSE BRANCH

Excavation & Bank Spreading

sta. to sta.	Lin. ft.	Base	Slope	Gradient	Cu.yds.
0-52	5200	4'	1-1½	.08	4,472.20

Slope Work 5,018.80

Extra Slope Work 150.00

9,641.00

Est. Cost 9641.00 cu. yds. @ 18¢ $1735.38

Leveling Old Waste Bank
Left and Right Sides
sta. 54-21 6600 Lin. ft. @ $6.00 Per C. $ 396.00

Trees

Top				
145	4"	@ 35¢	$ 50.75	
80	8"	@ 70¢	56.00	
32	12"	@ 1.15	36.80	
32	16"	@ 1.75	56.00	
			$199.55	$ 199.55

Top of Spoilbank				
15	4"	@ 70¢	$10.50	
20	8"	@ 1.30	26.00	
5	12"	@ 2.10	10.50	
6	16"	@ 3.20	19.20	
2	36"	@ 11.40	22.80	
			$89.00	$ 89.00

Bottom of Ditch				
15	4"	@ 70¢	$10.50	
18	8"	@ 1.30	23.40	
4	12"	@ 2.10	8.40	
			$42.30	$ 42.30

Moving and Replacing Fences
Parallel Fence
sta. 30-34 400' Right Bank
34-36 Netting 200' Left Bank
36-0 3600' Poor
2 W. Barb Left " "

4200 Lin. ft. @ $2.00 Per C. $ 84.00

Handwork
Cleaning under 2 Hy. Cul. @ $20.00 $ 40.00
" " 1 Pri. " @ " $ 20.00

Total Est. Cost Banse Branch $2,606.23

THESIUS BRANCH

Excavation & Bank Spreading

0-54	5400'	4' Base	1-1½	.05- .16	7,392.40
54-115	6100'	6' Base	1-1½	.16 - .06	8,454.00

Slope Work 6,747.50
Extra Slope Work 250.00

22,843.90

Estimated Cost 22,843.90 cu. yds. @ 18¢ $4111.90

Trees

Thesius Branch

Trees

	Top			
90	4"	@ 35¢	$31.50	
120	8"	@ 70¢	84.00	
102	12"	@1.15	117.30	
31	16"	@1.75	54.25	
7	24"	@3.30	23.10	
2	36"	@7.15	14.30	
			$324.75	$324.75

Top of Spoilbank

35	4"	@ 70¢	$ 24.50	
37	8"	@1.30	48.10	
23	12"	@2.10	48.30	
7	16"	@3.20	22.40	
1	24"	@6.55	6.55	
			$149.85	$149.85

Bottom of Ditch

25	4"	@ 70¢	$ 17.50	
10	8"	@ 1.30	13.00	
			$ 30.50	$ 30.50

Brush 35 sq. yds. @ 70¢ $ 24.50

Leveling of Waste Bank

Left Side

21-32	1100	Lin.	ft.	much
58-115	5700	"	"	"

Right Side

21-32	1100	"	"	"
58-115	5700	"	"	"
	13,600			

Estimated Cost. 13,600 Lin. ft. @ $6.00 Per C. $816.00

Moving and Replacing Fences

Cross Fence - Located 18,37,53 &90

4 @ $4.00 $ 16.00

Parallel Fence

10-18	800'	Poor Netting	Left Bank
18-20	200'	Good "	Right Bank
37-53	1300'	V.Poor 3W.B	" "
102-104	200	Good 3 W B.	Left "
	2500'		

Est. Cost 2500' @ $2.00 Per C. $ 50.00

Total Est. Cost Thesius Br. $ 5523.50

HUEPER BRANCH

Excavation & Bank Spreading

26 + 50- 43	1650'	4' Base	1-1½	.10	958.60
		Slope Work			1731.20
		Extra Slope Work			50.00
					2739.80 cu. yds.

Est. Cost 2739.80 cu. yds. @ 18¢ $493.16

Brush 9 sq. yds. @ 70¢ 6.30

Trees

	Top			
4	4"	@ 35¢	$ 1.40	
2	8"	@ 70¢	1.40	
			$ 2.80	2.80

Top of Spoilbank

6	4"	@	70¢	$4.20	
1	8"	@	1.30	1.30	
				$5.50	$.5.50

Bottom of Ditch

3	4"	@	70¢	$2.10	$ 2.10

Moving and Replacing Fences

Cross Fence 1 @ $4.00 $ 4.00

Parallel Fence

40-32 800' Poor 3 W.Barb Left Bank

800' @ $2.00 Per C $16.00

Est. Cost Heuper Br. $529.86

Summaries

Total Cost of Main Line	$31,767.08
Total Cost of Banse Branch	2,606.23
Total Cost of Thesius Branch	5 ,523.50
Total Cost of Heuper Branch	529.86
TOTAL	~~$40,426.67~~ 40,626.67

County Ditch NO.1
Faribault County

ENGINEER'S FINAL REPORT

Statement of names of laborers and time employed and compensation received, together with the time of the engineer and all items of expense incurred in connection therewith:

Names of laborers and assistants	Days Empl'd	Amt. per day	Total amt. pd.	Mi.	Office E Ep.
N.Dee Holden, Engr	4½	$15.00	$67.50	$7.75	$5.80
Mervin Hartman,Rod	4¼	7.00	29.75	12.80	
Vernon Butler, Ch.	4¼	6.00	25.50		
Henry Long, Chain.	1	6.00	6.00		
			$128.75	$20.55	$5.80
					20.65
					128.75
		Cost of Final Survey			$155.10

GENERAL SUMMARY

EST. COST CLEANING THE DITCH	$ ~~40,426.67~~ 40,626.67
*** " FINAL SURVEY	155.10
EST. COST ENGINEERING DURING CONSTRUCTION	350.00
EST. COST PRINTING AND POSTING NOTICES	200.00
EST. COST ATTORNEY FEES	150.00
GRAND TOTAL	~~$41,287.77~~ 41,481.77

Peter Vinney

County Ditch NO. 1
Faribault County

SPECIFICATIONS FOR CLEANOUT WORK

In general the original specifications for the construction of this ditch shall govern with the following exceptions and additions.

All spoilbank old or new shall be spread evenly, leaving a slope of 6' horizontal to 1 ft. vertical with a a 2' berm next to the ditch. Banks shall be spread evenly and neatly with the edges feathered down to meet the natural surface of the ground. Trees and brush in bottom of ditch shall be removed by the roots, on top and slope trees and brush shall be cut even with the ground, except on old spoilbank trees shall be grubbed; all trees and brush shall be piled along side of right of way, all brush and refuse shall be piled along side of right of way and burned. Fences to be moved shall be replaced in the same condition substantially as before. Spreading of new spoilbank shall be included in the unit price of excavation.

It is the essence of these specifications that the completed job shall show careful, finished workmanship in all particulars. Upon completion of work and before final payment and acceptance is made, the contractor shall remove from the right of way and adjacent property, all surplus and discarded materials, rubbish etc.; restore in acceptable manner all property, both public and private, which has been damaged during the prosecution of the work; and shall leave the right of way in a neat and presentable condition throughout the entire length of the job.

To the Honorable Board of Commissioners of the County of Faribault, State of Minnesota:

We, the undersigned, being owners of property abutting the Hueper Branch of County ditch number 1, inform your Honorable Board that said ditch is out of repair and that portions thereof are obstructed, and do hereby petition your Honorable Board for the repair and improvement of said Branch of said ditch in the following manner, to-wit:

By commencing a drain at station 8+00 with an outlet elevation 1.6 feet above the flow line of said County ditch number 1 where the said Hueper Branch empties into the same and by laying tile therein on a 0.2% (two tenths percent) grade for a distance of 2800 feet, thence continuing on a 0.1% (one tenth percent) grade to the end of the said Hueper Branch at station 45+00 or by laying the whole of said Branch from station 8+00 to station 45+00 on a 0.15% (fifteen hundreds percent) grade.

Your petitioners further state and represent that the size of tile necessary and expedient to the proper drainage of said area on the basis of either of the herein proposed grades is as follows, to-wit:

Sta. to Sta.	Present Condition	Size of Tile Needed	No. Lineal Feet Tile Needed
0+00 to 8+00	open	open	
8+00 to 16+50	"	18" or open	850'
16+50 to 23+50	12"	18"	700'
23+50 to 43+75	12"	15"	1975'
43+75 to 45+00	12"	12"	175'

Your petitioners further state and represent that the cost of making the repairs and improvements herein petitioned for will not exceed 30% of the original cost of construction of said ditch.

Dated this 19th day of October, 1937.

Respectfully,

Herman Huper
Theo. Niebuhr
John Korber
Louis Huper

of County Ditch
#1. Heeper Branch

COUNTY AUDITOR
FILED
OCT 19 1937
G. G. Buscho
Auditor
FARIBAULT COUNTY, MINN.

Presented to County
Board November 1
1937. petition on
motion accepted
and order filed.

REVISED MAP OF COUNTY DITCH No 1
FARIBAULT COUNTY
SHOWING APPROXIMATE LIMITS OF WATERSHED

SCALE 1 inch to 132 feet

N. Dec. Bolden 82.48

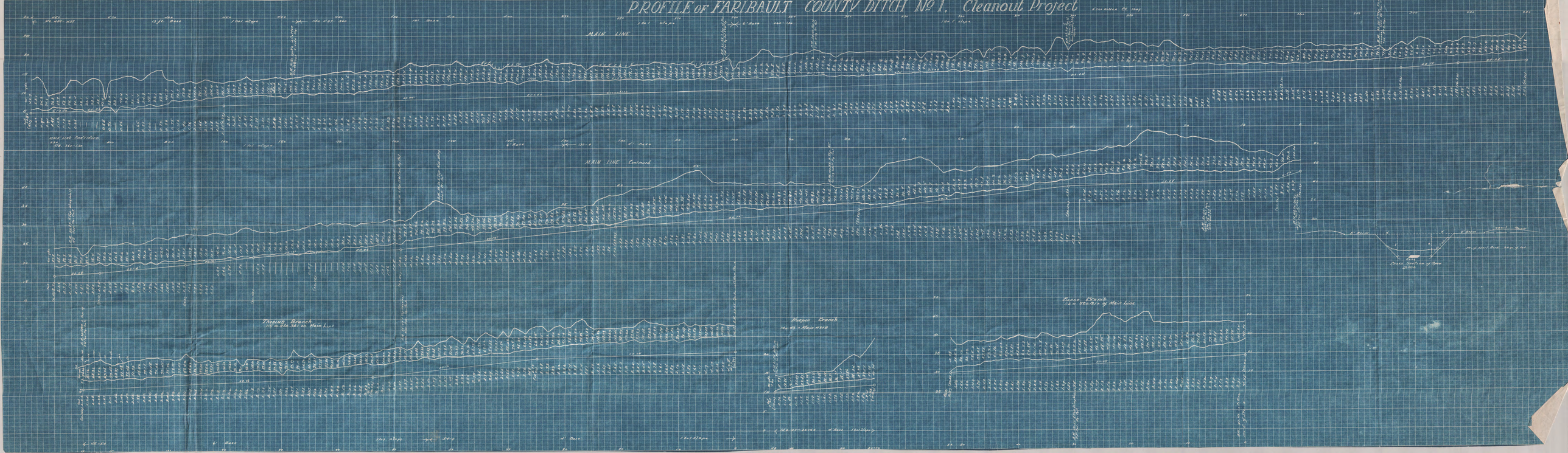
FARIBAULT CO. FREEBORN CO.

Dunbar Twp.

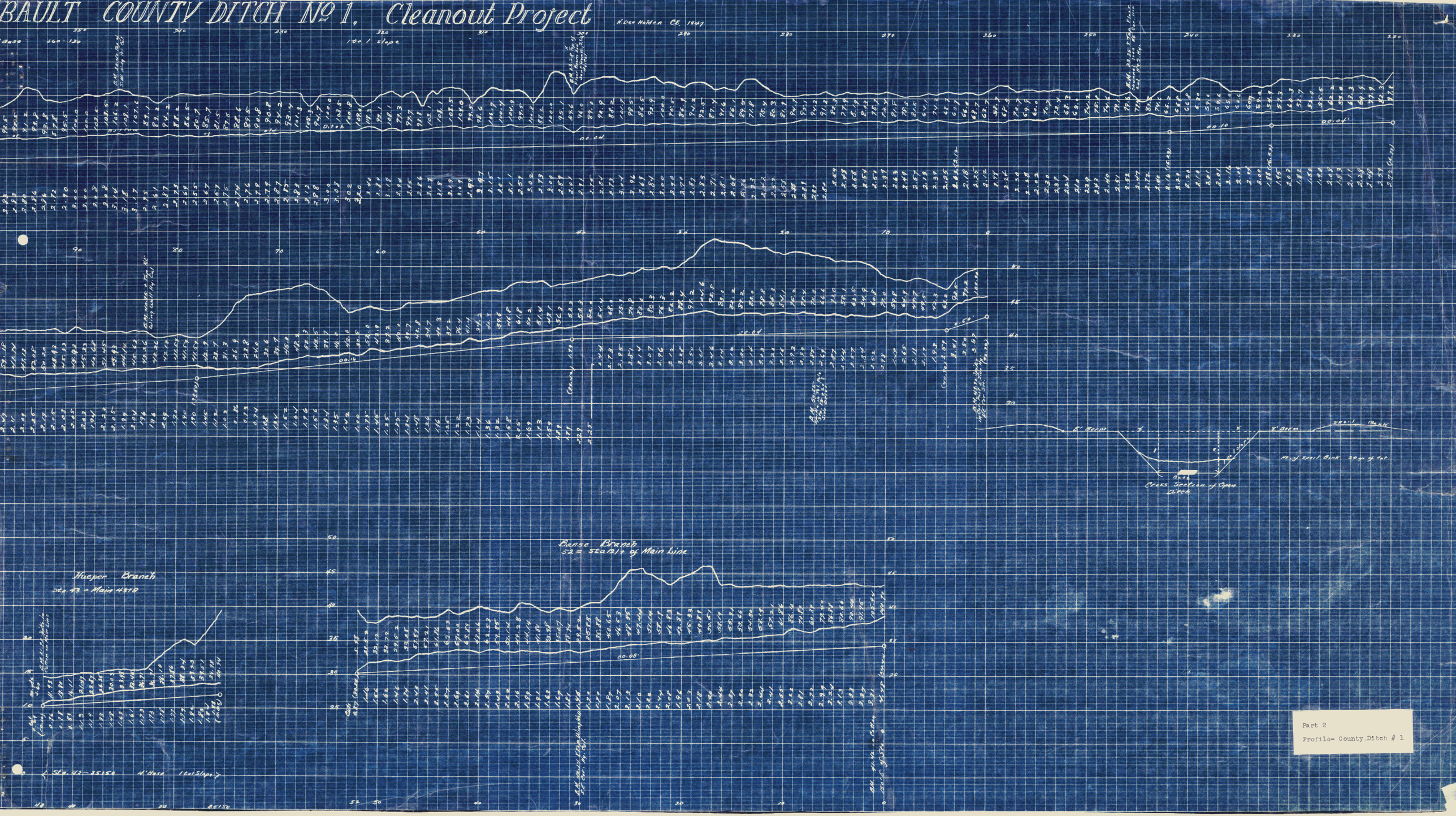
CLARK

Rudolph Rollenhagen 160 A.
Hugh Nixon 320 A.
Balbina Schultz 80 A.
Frank S. Schultz 80 A.
Bernard & Mary Schultz 120 A.
N. C. Woodworth 160 A.
John J. Kalis 160 A.
Hattie Swenson 160 A.
Gregor B. Schultz 160 A.
Wm. & Martha Kloek 80 A.
Crystal B. & R. D. Hawkins (B. B. Shirk) 122.12 A.
Valentine Yokiel
Wm. Treptow
Dakota Pipeline Co. N½ of NW¼ 52.8
California Packing Corp. S½ of NW¼ & NE¼ of NW¼ 132 A.
Edward W. Schuster NE¼ 163.92
Leroy R. Wells NW¼ 164.80
N. C. Woodworth N½ of NE¼ 56.96
Fara M. Kalis NW¼ 167.1
Hattie S. Swenson W½ of NE¼ 83.71 A.
Joseph Sonnek E½ of NE¼
Joseph & Ella Novak N½ of NW¼ 85.34
Albert J. Quade NE¼ 160.8 A.
Joseph Sonnek Glaof NW¼ 80 A.
Marie Gosch Beck 104
J. Wore K. 38
W. Rosenow 77.49
David M. Carey
Wm. T. Boyes SE¼ exc. W 20 A. 140 A.
Henry & Lillian Nixon S½ & S½ of NE¼ 400 A.
A. W. Bless S½ of & W½ of SE¼ 240 A.
Albert Schultz et. al. E½ of SE¼ 80 A.
Clement A. & Helen A. Yokiel S½ NW¼ 160 A.
John Sonnek SE¼ 160 A.
Albert & Sr. & Chas. L. Weiel 311 A.
Ada Kiesetal 160 A.
John Mike Hebhuber 21 A.
Ida & Albert J. Kaiser 115 A.
E. E. Foesta All N of R.R. of NE¼ of SE¼ & W½ of NE¼ Fed. Lots 12 & 13 & 20 132 A.
Mac Lovelace N½ - 320 A.
Leland L. Feist NW¼ 160 A.
Walter Schultz W½ of NE¼ 120 A.
Fleischer Schultz E½ of NE¼ of 91 A.
J. Yokiel NW¼ 160 A.
John A. & Pauline I. Herman NE¼ & N½ of SE¼ 240 A.
Chris & Augusta Weber 160 A.
Lizzie & Fred Beckman
Otto & Theresa Maja 80 A.
Kenneth E. Gaard All NE of R.R. of Sec. 10 90.12 A.
Vance P. Robertson All S of R.R. of SE¼ & Fed Lots 13 & 14 168.40
Ella N. Gaard All SW of R.R. of SW¼ 62.48 A.
Paul K. Stenzel SE¼ 158 A.
J. J. Mueller SW¼ 160 A.
Henry C. Thesius SE¼ 160 A.
Marie Bassetlake SW¼ & S½ of SE¼ 240 A.
Harold Frank 315.93 A.
Henry H. Niebuhr W½ of NW¼ & E½ of NW¼ 160 A.
E. L. Westman Ex. Fed. Lot 1 NE¼ 155 A.
A. C. Brummer NW¼ 160 A.
Henry Elmer NW¼ of NE¼ 40 A.
J. H. Cochrane N½ of NE¼ 120 A.
Village of Wells 40 A.
Ella M. Gaard S½ of NW¼ & NE¼ of NW¼ 120 A.
Aug. Klingbeil NE¼ & W½ of SE¼ Ex. R.R. 2.91 A.
Arthur H. Brandt All N of R.R. of W½ & W½ of NE¼ 114 A.
Louisa Seidlitz NE¼ of W½ 160 A.
Alfred Bates et. al. NW¼ 160 A.
Geo. A. Christ NE¼ 160 A.
Thos. H. Lenert 185.95 A.
Wm. F. F. Niebuhr 160 A.
David M. Carey & Julia Carey SW¼ 160 A.
Wm. T. Boyes SE¼ 160 A.
Henry F. Kronbergs N½ of SW¼ 80 A.
Roy J. & Nellie Claus S½ of SW¼
Hanna & Edward Thesius SE¼ of SE¼ 160 A.
Thes. Thesius SW¼ of SE¼ Adj. 40 A. 1815
Ed. Thesius SE¼ of SE¼ 40 A.
Wm. F. Brandt All S of R.R. of W½ 171 A.
Hans & Argesa Grace SE¼ ex. R.R.
Floyd & Julia Harper SW¼ ex. R.R. 159.50 A.
Roland E. & Hazel H. Karman SE¼ 160 A.
Mutual Life Ins. Co. Joe Kalis 231 A.
Lucy Cork et. al. 120 A.
Ray J. & Nellie Claus NW¼ 160 A.
Victor A. E. Weite N½ of NE¼ & N½ of S½ of NE¼ 120 A.
Erwin O. Brandt NW¼ 160 A.
Rosena Buendorf NE¼ 160 A.
Emma (Thes) Thesius NW¼ 160 A.
Emma Thesius (Edw) NE¼ 160 A.
H. C. Thesius NW¼ 160 A.
Edna & Howard C. Baiser NE¼ 160 A.
Theo. Elmer NW¼ ex. R.R. 152 A.
Wm Elmer NE¼ 160 A.
Joe Kalis 147.74 A.
J. C. Klenk 80 A.
J. C. Klenk SW¼ 160 A.
L. A. & Fannie Preston N½ of SE¼ & S½ of S½ of NE¼ 120 A.
Charles A. & Faye M. Bishop S½ of SE¼ 80 A.
Dorothea Brandt et. al. SW¼ 160 A.
Paul E. & Mary Schultz SE¼ 160 A.
Edward Barnick SW¼ ex. Fed. Lots 7 & 2 148 A.
Frank & Regina SE¼ 160 A.
Herbert Hitzman N½ of SW¼ 80 A.
Rosina Buendorf S½ of SW¼ 80 A.
Wm. F. Rosenow SE¼
Chas. E. Hilest All N of R.R. of SE¼ 115.75 A.
Agnes Kendorff et. al. All S of R.R. of S½ 194.05 A.
Andrew Johnson 155 A.
Arthur G. Slaughter 200 A.
Fred Kaiser NW¼ 160 A.
Louis Huper W½ of NE¼ & E½ of NE¼ N½ of S½ 320 A.
Frank I. & Grace Eastman NW¼ 158.75 A.
Gladys H. & Robert Schroeder N½ of SW¼ 40 A.
Louis & Clara Huper N½ of S½ of S½ of NE¼ 50 A.
Louis Huper S½ of NE¼ 80 A.
Robert J. & Fanny Bun R. NW¼ 160
Ellis & Laura C. Glaiser W½ of NW¼ 80 A.
Henry B. Bestenfeld E½ of NE¼ 80 A.
Fred R. Stoltz NW¼ 160 A.
Agnes Wentnold NE¼ 160 A.
Leopold H. & Frank X. Petsched NW¼ 160 A.
Edith Wells NE¼ 160 A.
Fred Kontzelman 156 A.
John H. Gerber 80 A.
Henry W. Hageman 40 A.
John H. Gerber S½ of SW¼ 80 A.
Theo. H. Niebuhr S½ of SE¼ 80 A.
Frank Schroeder W½ of NW¼ 80 A.
Carl F. Schroeder E½ of NW¼ 80 A.
John H. Schroeder N½ of SE¼ 80 A.
Henry C. Niebuhr S½ of SE¼ 80 A.
Margaret Fasser N½ of N½ of SW¼ 40 A.
Gladys Eatman S½ of N½ of SW¼ 40 A.
Agnes O. Conrad S½ of SW¼ 80 A.
Aug. V. Schultz SE¼ ex. sch. 159.50
Edward C. Huper SW¼ & W½ of W½ of SE¼ 200 A.
Aug. L. Huper E½ of SE¼ & E½ of W½ of SE¼ 120 A.
Marie Thesius et. al. W½ of SW¼ 80 A.
H. Christensen E½ of SW¼ 80 A.
Agnes Kulla Ruffensperger SE¼ 160 A.
Henry W. Hageman
Alfred H. Niebuhr
Alfred H. Niebuhr N½ of NW¼ 80 A.
Fred Niebuhr N½ of NW¼ 80 A.
Herbert H. Niebuhr SE¼ of NW¼ & NE¼ of SW¼ 80 A.
Henry C. Niebuhr (Jas) N½ of NE¼ 80 A.
Jessie Holway Scott C.R.A. NW¼ SE¼ & E½ of NE¼ 160 A.
William H. Stern W½ of NW¼ 80 A.
Aug. W. Schultz E½ of NW¼ 80 A.
Jessie Holway Scott N½ of NE¼ 80 A.
Aug. L. Huper N½ of NE¼ & N½ of SE¼ 95 A.
Jessie Holway Scott SW¼ 160 A.
Jessie Holway Scott SE¼ ex. N 15 A. 145 A.
Henry C. Niebuhr NE¼ of SE¼ 40 A.
Geo. R. Hageman
Romuald Fichter NW¼ of SW¼ 40 A.
Romuald Fichter
Lima Cory
Regerth Hageman 200 A.
John Niebuhr E½ 320 A.
NW¼ 160 A.
Aug. L. Huper E½ of NW¼ & NE¼ of NE¼ 80 A.
Jessie Holway Scott et. al.
Clement B. & S. N½ of NW¼ 80 A.
Geo. H. Buendorf S½ of NW¼ 80 A.
C. H. & E. D. E½ & W½ of NE¼ & NE¼ of NE¼ 120 A.
Wm. Rosenow SW¼ 160 A.
SE¼ & S½ of NE¼ 240 A.
Emma Adelle SE¼ of NE¼ & NE¼ of SE¼ & E½ of NW¼ of SE¼ & N½ of SW¼ & W½ of NW¼ of SE¼ 200 A.
Jessie Holway Scott SW¼ 160 A.

PROFILE of FARIBAULT COUNTY DITCH No 1, Cleanout Project



BAULT COUNTY DITCH No 1, Cleanout Project



Appendix D: Tile Televising

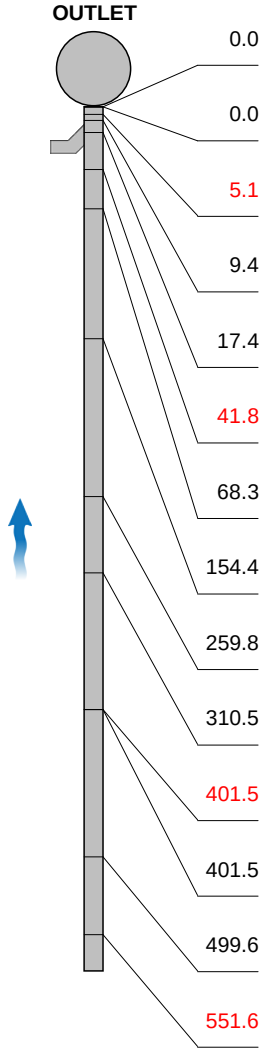
WinCan

Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/11/2020			**JOHN MEYER**	**123**	**HUEPER BRANCH OUTLET (US) UPSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Upstream**		**820.2 '**	**820.2 '**

City:	**WELLS**	Drainage Area:		Upstream MH:	**UPSTREAM**
Street:	**140TH STREET**	Media Label:		Up Rim to Invert:	**0.0**
Location Code:		Flow Control:		Downstream MH:	**OUTLET**
Location Details:		Sheet Number:		Down Rim to Invert:	**0.0**
Pipe shape:	**Circular**	Sewer Use:	**Combined Pipe**	Total gallons used:	**0.0**
Pipe size:	**16 "**	Sewer Category:	**SEC**	Joints passed:	**0**
Pipe material:	**Concrete Pipe (non-reinforced)**	Purpose:		Joints failed:	**0**
Lining Method:		Owner:			

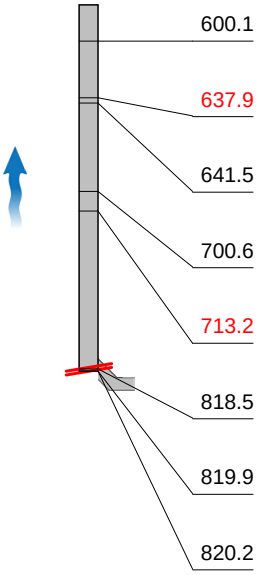
Additional Info:



1:5030 Distance	Code	Observation	Counter	Photo	Grade
0.0	MWL	Water Level, 15% of the vertical dimension / 13%	00:00:00	HUEPER BRANCH OUTLET	
0.0	AMH	Manhole / OUTLET	00:00:00	HUEPER BRANCH OUTLET	
5.1	DFBI	Deformed Flexible Bulging Inverse Curvature, change to: 15% from 4 o'clock to 6 o'clock / CMP FAIL AT INVERT	00:00:17	HUEPER BRANCH OUTLET	S5
9.4	MMC	Miscellaneous Material Change, Concrete pipe (non reinforced) / CMP AT OUTLET	00:00:51	HUEPER BRANCH OUTLET	
17.4	TBD	Tap Break-In Defective at 2 o'clock, dia/height: 6inch / COLLAPSED INSIDE PRIVATE TILE	00:01:35	HUEPER BRANCH OUTLET	
41.8	HSV	Hole Soil Visible from 8 o'clock to 12 o'clock	00:03:41		S5
68.3	MWL	Water Level, 35% of the vertical dimension	00:04:36	HUEPER BRANCH OUTLET	
154.4	MWL	Water Level, 20% of the vertical dimension	00:08:20	HUEPER BRANCH OUTLET	
259.8	MGO	Miscellaneous General Observation / LH BEND-20%	00:09:56	HUEPER BRANCH OUTLET	
310.5	MGO	Miscellaneous General Observation / LOCATOR DEPTH 5.0'	00:12:34	HUEPER BRANCH OUTLET	
401.5	JOL	Joint Offset Large, 4Inch / OFFSET 4 INCHES TO RIGHT	00:14:18	HUEPER BRANCH OUTLET	S4
401.5	MWL	Water Level, 30% of the vertical dimension / LOCATOR DEPTH 5' 3"	00:14:34	HUEPER BRANCH OUTLET	
499.6	MWL	Water Level, 30% of the vertical dimension / LOCATER DEPTH 5'6"	00:17:17	HUEPER BRANCH OUTLET	
551.6	CL	Crack Longitudinal at 12 o'clock / NOT FAILING YET	00:18:46	HUEPER BRANCH OUTLET	S2

Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/11/2020			**JOHN MEYER**	**123**	HUEPER BRANCH OUTLET (US) UPSTREAM
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Upstream**		**820.2 '**	**820.2 '**

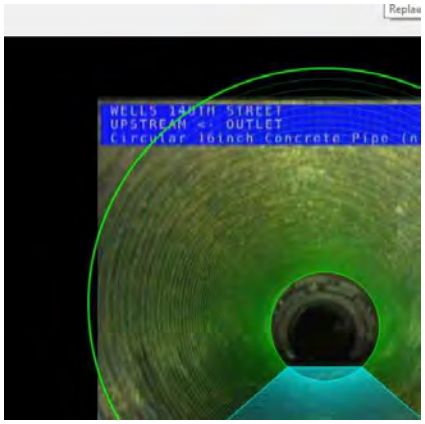


1:5030 Distance	Code	Observation	Counter	Photo	Grade
600.1	MWL	Water Level, 25% of the vertical dimension / LOCATOR DEPTH 6'6"	00:20:00	HUEPER BRANCH OUTLET	
637.9	B	Broken from 11 o'clock to 1 o'clock, length: 10inch, intruding: 4inch / MULTIPLE TILE FAILING	00:21:16	HUEPER BRANCH OUTLET	S4
641.5	MWL	Water Level, 35% of the vertical dimension / LOCATOR DEPTH 7'0"	00:21:53	HUEPER BRANCH OUTLET	
700.6	MWL	Water Level, 20% of the vertical dimension / LOCATOR DEPTH 6' 7"	00:24:19	HUEPER BRANCH OUTLET	
713.2	B	Broken from 11 o'clock to 1 o'clock, length: 10inch, intruding: 4inch / COLLAPSING	00:24:59	HUEPER BRANCH OUTLET	S4
818.5	TBA	Tap Break-in Activity at 10 o'clock, dia/height: 4inch / INTRUDING, COLLAPSING IN THE PRIVATE TILE	00:29:02	HUEPER BRANCH OUTLET	
819.9	MWL	Water Level, 15% of the vertical dimension / LOCATOR DEPTH 5'8"	00:30:12	HUEPER BRANCH OUTLET	
820.2	MSA	Miscellaneous Survey Abandoned / INTRUDING PE, CANNOT CONTINUE	00:30:55	HUEPER BRANCH OUTLET	

QSR	QMR	QOR	SPR	MPR	OPR	SPRI	MPRI	OPRI
5243	0000	5243	24.0	0.0	24.0	4.0	0.0	4.0

Section Pictures - 9/11/2020 - HUEPER BRANCH OUTLET (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**HUEPER BRANCH**	**1**



HUEPER BRANCH OUTLET (US)
UPSTREAM_155ca975-5c34-4dbb-95db-422dbcbb4cba_20200911_093227_907.jpg, 00:00:00, 0.00ft
Water Level, 15% of the vertical dimension / 13%

HUEPER BRANCH OUTLET (US)
UPSTREAM_b1071d64-9288-4e8d-bc28-ba920c803ed5_20200911_093310_676.jpg, 00:00:00, 0.00ft
Water Level, 15% of the vertical dimension / 13%

HUEPER BRANCH OUTLET (US)
UPSTREAM_20bbbc10-78f8-4f84-a42f-83a551e6e371_20200911_093212_251.jpg, 00:00:00, 0.00ft
Manhole / OUTLET

HUEPER BRANCH OUTLET (US)
UPSTREAM_4c48e0ef-33d7-4455-a360-c3de5c30cc74_20200911_093408_971.jpg, 00:00:17, 5.06ft
Deformed Flexible Bulging Inverse Curvature, change to: 15% from 4 o'clock to 6 o'clock / CMP FAIL AT INVERT

Section Pictures - 9/11/2020 - HUEPER BRANCH OUTLET (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**HUEPER BRANCH**	**1**

HUEPER BRANCH OUTLET (US)
UPSTREAM_3c1e7256-2f41-4754-b1b6-1944c65ee355_20200911_093427_845.jpg, 00:00:17, 5.06ft
Deformed Flexible Bulging Inverse Curvature, change to: 15% from 4 o'clock to 6 o'clock / CMP FAIL AT INVERT

HUEPER BRANCH OUTLET (US)
UPSTREAM_a0409254-b129-4b20-bdd1-06134a1efa4b_20200911_093508_397.jpg, 00:00:51, 9.39ft
Miscellaneous Material Change, Concrete pipe (non reinforced) / CMP AT OUTLET

HUEPER BRANCH OUTLET (US)
UPSTREAM_501d19e1-907c-490a-a78d-7d8bd28d6a86_20200911_093614_123.jpg, 00:01:35, 17.36ft
Tap Break-In Defective at 2 o'clock, dia/height: 6inch / COLLAPSED INSIDE PRIVATE TILE

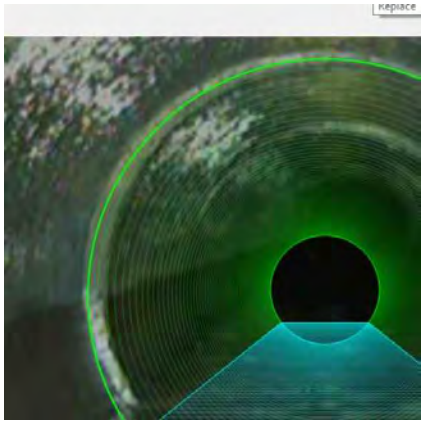
HUEPER BRANCH OUTLET (US)
UPSTREAM_ce0e5e53-6a12-49ac-a67c-c8c695227b42_20200911_093713_691.jpg, 00:01:35, 17.36ft
Tap Break-In Defective at 2 o'clock, dia/height: 6inch / COLLAPSED INSIDE PRIVATE TILE

Section Pictures - 9/11/2020 - HUEPER BRANCH OUTLET (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**HUEPER BRANCH**	**1**

HUEPER BRANCH OUTLET (US)
UPSTREAM_62ef70e4-26b6-430d-8e0b-3b5aa36e61d0_20200911_093937_252.jpg, 00:04:36, 68.26ft
Water Level, 35% of the vertical dimension

HUEPER BRANCH OUTLET (US)
UPSTREAM_065b5f9c-ac80-4b16-8ce2-ec5bf9a899de_20200911_094013_678.jpg, 00:04:36, 68.26ft
Water Level, 35% of the vertical dimension



HUEPER BRANCH OUTLET (US)
UPSTREAM_e36e9093-cd24-4839-9463-e9d84e1c7267_20200911_094814_505.jpg, 00:08:20, 154.44ft
Water Level, 20% of the vertical dimension

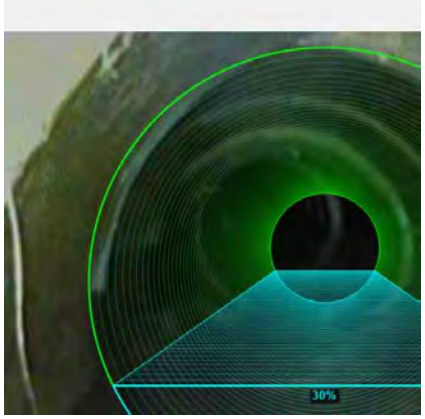
HUEPER BRANCH OUTLET (US)
UPSTREAM_572a1319-5e8e-4d50-9850-9efaf6adcbe9_20200911_095039_603.jpg, 00:09:56, 259.82ft
Miscellaneous General Observation / LH BEND-20%

Section Pictures - 9/11/2020 - HUEPER BRANCH OUTLET (US) UPSTREAM

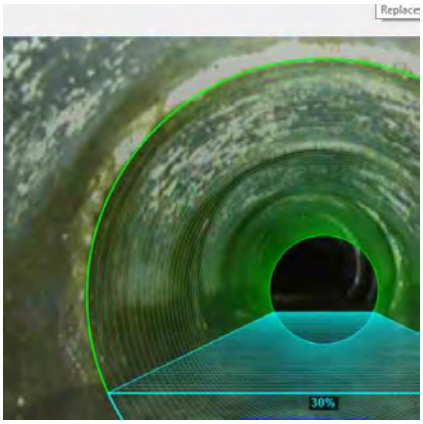
City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**HUEPER BRANCH**	**1**

HUEPER BRANCH OUTLET (US)
UPSTREAM_9bd990cb-1f28-4448-921f-3cf3eca67780_20200911_095517_829.jpg, 00:12:34, 310.46ft
Miscellaneous General Observation / LOCATOR DEPTH 5.0'

HUEPER BRANCH OUTLET (US)
UPSTREAM_2a984b08-27c4-480c-8a30-1bf05978b7ae_20200911_095729_160.jpg, 00:14:18, 401.50ft
Joint Offset Large, 4Inch / OFFSET 4 INCHES TO RIGHT



HUEPER BRANCH OUTLET (US)
UPSTREAM_515911f4-e13e-4412-9808-db9053ab968d_20200911_095820_636.jpg, 00:14:34, 401.50ft
Water Level, 30% of the vertical dimension / LOCATOR DEPTH 5' 3"

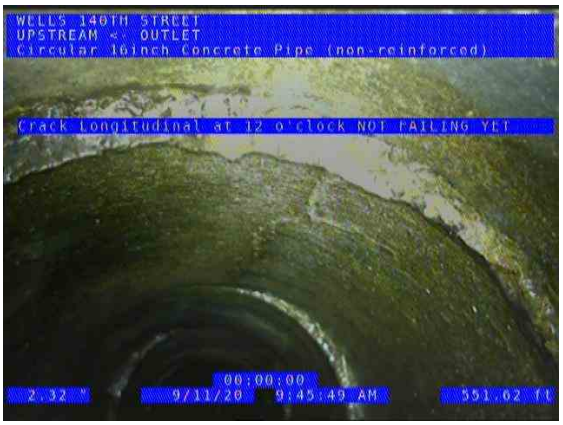


HUEPER BRANCH OUTLET (US)
UPSTREAM_f01b3b67-6801-47a5-ab99-5f9d2760b3d8_20200911_100152_289.jpg, 00:17:17, 499.64ft
Water Level, 30% of the vertical dimension / LOCATER DEPTH 5'6"

Section Pictures - 9/11/2020 - HUEPER BRANCH OUTLET (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**HUEPER BRANCH**	**1**

HUEPER BRANCH OUTLET (US)
UPSTREAM_668641c2-2fcd-4986-bc7f-fc9da7c5b44e_20200911_100250_705.jpg, 00:17:17, 499.64ft
Water Level, 30% of the vertical dimension / LOCATER DEPTH 5'6"



HUEPER BRANCH OUTLET (US)
UPSTREAM_e6ab26fa-49b3-489f-97b9-0b05a3cfdf5c_20200911_100617_103.jpg, 00:18:46, 551.62ft
Crack Longitudinal at 12 o'clock / NOT FAILING YET

HUEPER BRANCH OUTLET (US)
UPSTREAM_0cdae51b-e24f-491c-8cdf-a82c532d19db_20200911_100735_782.jpg, 00:20:00, 600.10ft
Water Level, 25% of the vertical dimension / LOCATOR DEPTH 6'6"

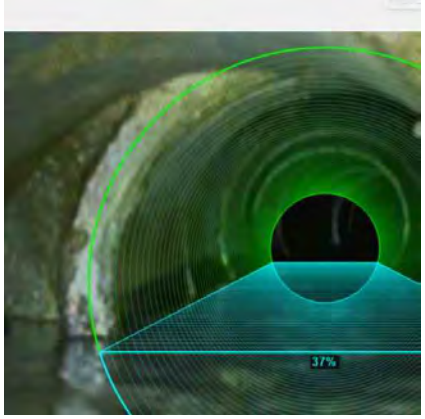
HUEPER BRANCH OUTLET (US)
UPSTREAM_12813a7a-e575-4610-8c47-6ae36065cfbf_20200911_100911_594.jpg, 00:20:00, 600.10ft
Water Level, 25% of the vertical dimension / LOCATOR DEPTH 6'6"

Section Pictures - 9/11/2020 - HUEPER BRANCH OUTLET (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**HUEPER BRANCH**	**1**

HUEPER BRANCH OUTLET (US)
UPSTREAM_23cf957b-cf6b-479f-abcd-5523457cbf2c_20200911_101137_455.jpg, 00:21:16, 637.92ft
Broken from 11 o'clock to 1 o'clock, length: 10inch, intruding: 4inch / MULTIPLE TILE FAILING

HUEPER BRANCH OUTLET (US)
UPSTREAM_ff8b467a-fca3-4e00-b752-e3d13ae92a85_20200911_101210_495.jpg, 00:21:16, 637.92ft
Broken from 11 o'clock to 1 o'clock, length: 10inch, intruding: 4inch / MULTIPLE TILE FAILING

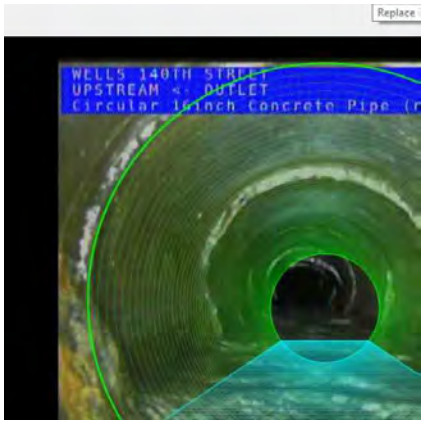


HUEPER BRANCH OUTLET (US)
UPSTREAM_3b568f21-6a70-40d5-8e59-8e856d9981bf_20200911_101239_020.jpg, 00:21:53, 641.50ft
Water Level, 35% of the vertical dimension / LOCATOR DEPTH 7'0"

HUEPER BRANCH OUTLET (US)
UPSTREAM_044baaa9-b90c-4020-a1d1-4f5517bcfee3_20200911_101320_023.jpg, 00:21:53, 641.50ft
Water Level, 35% of the vertical dimension / LOCATOR DEPTH 7'0"

Section Pictures - 9/11/2020 - HUEPER BRANCH OUTLET (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**HUEPER BRANCH**	**1**



HUEPER BRANCH OUTLET (US)
UPSTREAM_5c98c27b-93b0-4851-8bc0-c3c4a418890a_20200911_101548_766.jpg, 00:24:19, 700.55ft
Water Level, 20% of the vertical dimension / LOCATOR DEPTH 6' 7"

HUEPER BRANCH OUTLET (US)
UPSTREAM_120b2eca-5ce9-4ee4-b1d5-d46d0b1c7bf3_20200911_101754_365.jpg, 00:24:59, 713.21ft
Broken from 11 o'clock to 1 o'clock, length: 10inch, intruding: 4inch / COLLAPSING

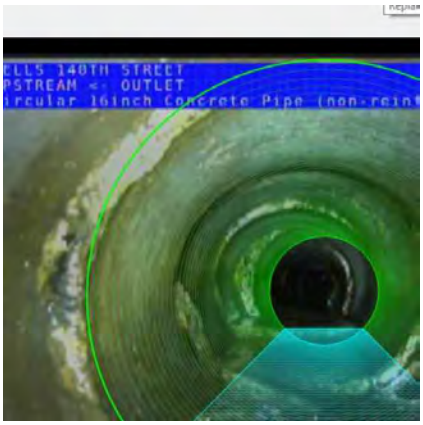
HUEPER BRANCH OUTLET (US)
UPSTREAM_d92daa52-41f5-40c7-a997-fffe8c7b5df8_20200911_101804_347.jpg, 00:24:59, 713.21ft
Broken from 11 o'clock to 1 o'clock, length: 10inch, intruding: 4inch / COLLAPSING

HUEPER BRANCH OUTLET (US)
UPSTREAM_493fb134-c9a4-4a87-8907-f65ebaed01c7_20200911_102212_412.jpg, 00:29:02, 818.50ft
Tap Break-in Activity at 10 o'clock, dia/height: 4inch / INTRUDING, COLLAPSING IN THE PRIVATE TILE

Section Pictures - 9/11/2020 - HUEPER BRANCH OUTLET (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**HUEPER BRANCH**	**1**

HUEPER BRANCH OUTLET (US)
UPSTREAM_34100971-3f49-4d13-abc5-d08c42a46781_20200911_102236_744.jpg, 00:29:02, 818.50ft
Tap Break-in Activity at 10 o'clock, dia/height: 4inch / INTRUDING, COLLAPSING IN THE PRIVATE TILE



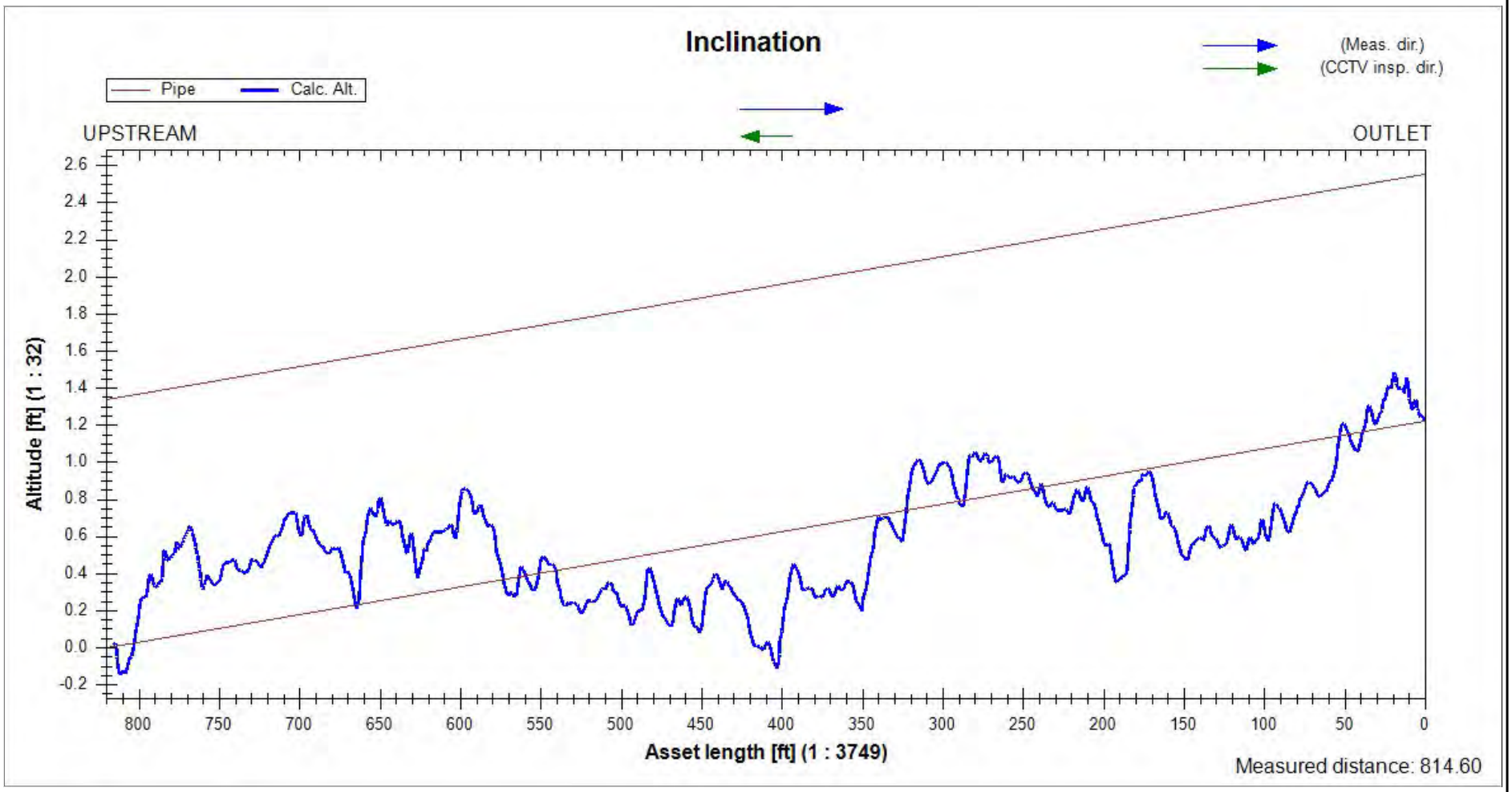
HUEPER BRANCH OUTLET (US)
UPSTREAM_94e32cdc-5014-4502-a7df-6ec7e45904c3_20200911_102335_952.jpg, 00:30:12, 819.93ft
Water Level, 15% of the vertical dimension / LOCATOR DEPTH 5'8"

HUEPER BRANCH OUTLET (US)
UPSTREAM_99fb7927-23d7-4091-9302-7aae308feb40_20200911_102358_512.jpg, 00:30:12, 819.93ft
Water Level, 15% of the vertical dimension / LOCATOR DEPTH 5'8"

HUEPER BRANCH OUTLET (US)
UPSTREAM_3efdb1d3-9e10-4ad2-b597-5755230bc17f_20200911_102519_138.jpg, 00:30:55, 820.16ft
Miscellaneous Survey Abandoned / INTRUDING PE, CANNOT CONTINUE

WinCan Section Inclination - 9/11/2020 - HUEPER

Pipe Segment Referenc	Date	Time	Surveyed By	City	Street	Direction	Length Surveyed
HUEPERBRANCHOUTLET(US)UPSTREAM	9/11/2020	9:29 AM	JOHN MEYER	WELLS	140TH STREET	Upstream	814.60
Shape	**Height**	**Width**	**Upstream MH**	**Downstream MH**	**Start altitude**	**End altitude**	**Measured Inc**
Circular	16	16	UPSTREAM	OUTLET	0.008	1.220	0.490 %



WinCan

Inspection report

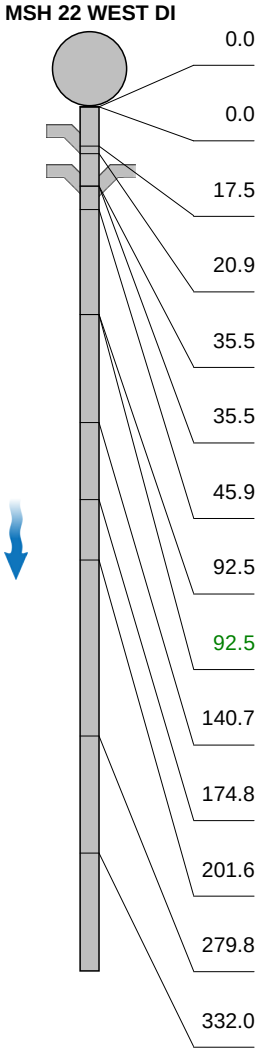
Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/11/2020			**JOHN MEYER**	**123**	**MSH 22 WEST DI (DS) DOWNSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Downstream**		**847.1 '**	**847.1 '**

City:	**WELLS**	Drainage Area:		Upstream MH:	**MSH 22 WEST DI**
Street:	**140TH STREET**	Media Label:		Up Rim to Invert:	**0.0**
Location Code:		Flow Control:		Downstream MH:	**DOWNSTREAM**
Location Details:		Sheet Number:		Down Rim to Invert:	**0.0**
Pipe shape:	**Circular**	Sewer Use:	**Combined Pipe**	Total gallons used:	**0.0**
Pipe size:	**16 "**	Sewer Category:	**SEC**	Joints passed:	**0**
Pipe material:	**Concrete Pipe (non-reinforced)**	Purpose:		Joints failed:	**0**
Lining Method:		Owner:			

Additional Info:

1:3358

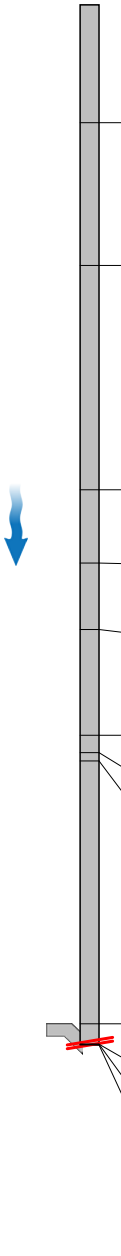
MSH 22 WEST DI



Distance	Code	Observation	Counter	Photo	Grade
0.0	MWL	Water Level, 25% of the vertical dimension / LOCATER DEPTH 7' 5"	00:00:00	MSH 22 WEST DI (DS)	
0.0	AMH	Manhole / MSH 22 WEST DI	00:31:16	MSH 22 WEST DI (DS)	
17.5	TBD	Tap Break-In Defective at 2 o'clock, dia/height: 4inch / COLLAPED OUTSIDE OF CONCRETE	00:01:08	MSH 22 WEST DI (DS)	M3
20.9	LLU	Line Left Up, change to: 70% / CONCRETE	00:02:11	MSH 22 WEST DI (DS)	M4
35.5	TBA	Tap Break-in Activity at 3 o'clock, dia/height: 5inch / CLAY CONNECTION	00:03:09	MSH 22 WEST DI (DS)	
35.5	TBA	Tap Break-in Activity at 9 o'clock, dia/height: 6inch / CONCRETE	00:03:42	MSH 22 WEST DI (DS)	
45.9	MMC	Miscellaneous Material Change / START CMP UNDER MSH 22	00:05:00	MSH 22 WEST DI (DS)	
92.5	MMC	Miscellaneous Material Change / END OF CMP UNDER MSH 22	00:07:45	MSH 22 WEST DI (DS)	
92.5	IDJ	Infiltration Dripper Joint from 4 o'clock to 8 o'clock, within 8 inch / SOIL CONSISTANTLY IN JOINTS	00:07:57	MSH 22 WEST DI (DS)	M3
140.7	MGO	Miscellaneous General Observation / MSH 22 DI EAST	00:09:23	MSH 22 WEST DI (DS)	
174.8	MGO	Miscellaneous General Observation / RH BEND	00:10:07	MSH 22 WEST DI (DS)	
201.6	MWL	Water Level, 20% of the vertical dimension / LOCATER DEPTH 9' 4"	00:10:41	MSH 22 WEST DI (DS)	
279.8	MGO	Miscellaneous General Observation / RH BEND LOCATOR DEPTH 10' 4"	00:11:47	MSH 22 WEST DI (DS)	
332.0	MGO	Miscellaneous General Observation / RH BEND SLIGHT	00:15:08	MSH 22 WEST DI (DS)	

Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/11/2020			**JOHN MEYER**	**123**	**MSH 22 WEST DI (DS) DOWNSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Downstream**		**847.1 '**	**847.1 '**



1:3358 Distance	Code	Observation	Counter	Photo	Grade
437.0	MWL	Water Level, 30% of the vertical dimension / LOCATER DEPTH 10'	00:16:57	MSH 22 WEST DI (DS)	
500.5	MWL	Water Level, 30% of the vertical dimension / LOCATER DEPTH	00:18:12	MSH 22 WEST DI (DS)	
600.3	MWL	Water Level, 40% of the vertical dimension / LOCATER DEPTH 8' 4"	00:20:21	MSH 22 WEST DI (DS)	
632.7	B	Broken at 12 o'clock, length: 1inch / 2 BROKEN TILE LOCATOR DEPTH 8' 2"	00:21:20	MSH 22 WEST DI (DS)	S4
662.2	B	Broken at 12 o'clock, length: 2inch / 1 TILE BROKEN SEVERAL CRACKED	00:22:50	MSH 22 WEST DI (DS)	S4
709.5	MWL	Water Level, 25% of the vertical dimension / LOCATER DEPTH 7' 2"	00:24:30	MSH 22 WEST DI (DS)	
717.1	JOL	Joint Offset Large, 2Inch / SEVERAL MISALIGNED TILE	00:24:58	MSH 22 WEST DI (DS)	S4
720.6	B	Broken at 1 o'clock, length: 2inch / SOIL VISIBLE	00:25:31		S4
837.5	JOL	Joint Offset Large, 2Inch / SOIL VISIBLE	00:28:46	MSH 22 WEST DI (DS)	S4
846.6	MWL	Water Level, 15% of the vertical dimension / LOCATER DEPTH 7' 4"	00:29:33	MSH 22 WEST DI (DS)	
846.8	TBA	Tap Break-in Activity at 2 o'clock, dia/height: 6inch	00:29:12	MSH 22 WEST DI (DS)	
847.1	MSA	Miscellaneous Survey Abandoned / RUN OVERLAP	00:29:44	MSH 22 WEST DI (DS)	

QSR	QMR	QOR	SPR	MPR	OPR	SPRI	MPRI	OPRI
4500	4132	4632	20.0	10.0	30.0	4.0	3.3	3.8

Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**

MSH 22 WEST DI (DS)
DOWNSTREAM_b8bdc120-1f4f-4969-9485-239ecac54731_20200911_110207_500.jpg, 00:00:00, 0.00ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 7' 5"

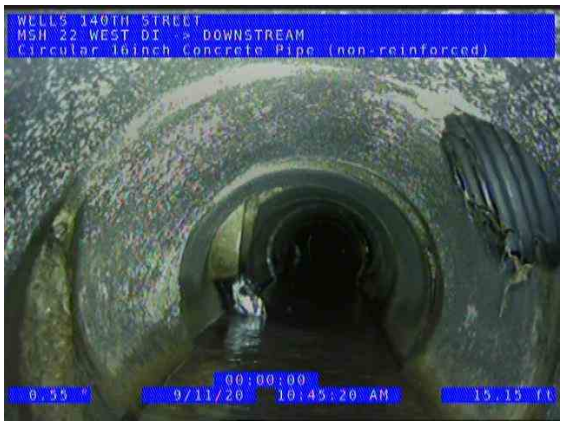
MSH 22 WEST DI (DS)
DOWNSTREAM_435148a7-e80e-4a37-97a2-1466341d1716_20200911_110347_833.jpg, 00:00:00, 0.00ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 7' 5"

MSH 22 WEST DI (DS)
DOWNSTREAM_97e4cca0-9143-4c4c-80b0-27b07a852c44_20200911_110153_881.jpg, 00:31:16, 0.00ft
Manhole / MSH 22 WEST DI

MSH 22 WEST DI (DS)
DOWNSTREAM_e12a6a6b-80d2-4101-aaf7-940b6f3b7361_20200911_110529_961.jpg, 00:01:08, 17.52ft
Tap Break-In Defective at 2 o'clock, dia/height: 4inch / COLLAPED OUTSIDE OF CONCRETE

Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**



MSH 22 WEST DI (DS)
DOWNSTREAM_c175e4ec-5a87-44ca-aec0-985ab2599884_20200911_110546_714.jpg, 00:01:08, 17.52ft
Tap Break-In Defective at 2 o'clock, dia/height: 4inch / COLLAPED OUTSIDE OF CONCRETE

MSH 22 WEST DI (DS)
DOWNSTREAM_2db46f63-ece5-451b-8f3c-84c46c1d92f8_20200911_110702_056.jpg, 00:02:11, 20.91ft
Line Left Up, change to: 70% / CONCRETE

MSH 22 WEST DI (DS)
DOWNSTREAM_33176324-8f5f-4e53-b5d2-2210f55fa073_20200911_110721_184.jpg, 00:02:11, 20.91ft
Line Left Up, change to: 70% / CONCRETE

MSH 22 WEST DI (DS)
DOWNSTREAM_db00fba8-2ea8-44e9-8324-38796641c0a0_20200911_110819_870.jpg, 00:03:09, 35.49ft
Tap Break-in Activity at 3 o'clock, dia/height: 5inch / CLAY CONNECTION

Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**

MSH 22 WEST DI (DS)
DOWNSTREAM_c14a6d1d-11d1-463b-99f4-fa088e9b1db4_20200911_110831_608.jpg, 00:03:09, 35.49ft
Tap Break-in Activity at 3 o'clock, dia/height: 5inch / CLAY CONNECTION

MSH 22 WEST DI (DS)
DOWNSTREAM_4239c331-6457-4d58-bb7b-c30842aa8c7b_20200911_110918_303.jpg, 00:03:42, 35.50ft
Tap Break-in Activity at 9 o'clock, dia/height: 6inch / CONCRETE

MSH 22 WEST DI (DS)
DOWNSTREAM_5f0b4e20-2ff8-4939-833e-635333ce17e8_20200911_110927_927.jpg, 00:03:42, 35.50ft
Tap Break-in Activity at 9 o'clock, dia/height: 6inch / CONCRETE

MSH 22 WEST DI (DS)
DOWNSTREAM_feb5b991-4280-4fae-9e94-9756aeab935e_20200911_111055_659.jpg, 00:05:00, 45.89ft
Miscellaneous Material Change / START CMP UNDER MSH 22

Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**

MSH 22 WEST DI (DS)
DOWNSTREAM_f45805a8-62ec-4ea4-9556-dceeb676a5c6_20200911_111133_120.jpg, 00:05:00, 45.89ft
Miscellaneous Material Change / START CMP UNDER MSH 22

MSH 22 WEST DI (DS)
DOWNSTREAM_4c92aa14-10ef-4d35-b7b0-b0a79ce63b28_20200911_111400_919.jpg, 00:07:45, 92.48ft
Miscellaneous Material Change / END OF CMP UNDER MSH 22

MSH 22 WEST DI (DS)
DOWNSTREAM_069aa29c-f19d-4c5d-8770-02d194556b6c_20200911_111407_542.jpg, 00:07:45, 92.48ft
Miscellaneous Material Change / END OF CMP UNDER MSH 22

MSH 22 WEST DI (DS)
DOWNSTREAM_8b752099-743d-4bde-b97f-68672c156f28_20200911_111444_739.jpg, 00:07:57, 92.48ft
Infiltration Dripper Joint from 4 o'clock to 8 o'clock, within 8 inch / SOIL CONSISTANTLY IN JOINTS

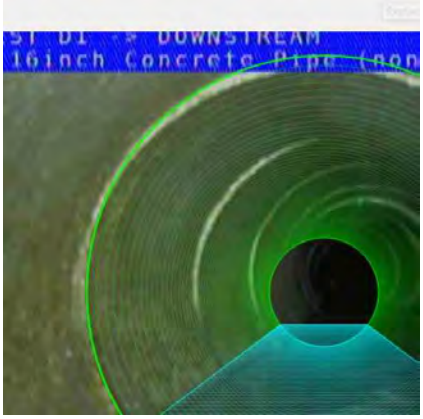
Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**

MSH 22 WEST DI (DS)
DOWNSTREAM_f5824195-cfad-4458-b205-25eb10b966a4_20200911_111448_403.jpg, 00:07:57, 92.48ft
Infiltration Dripper Joint from 4 o'clock to 8 o'clock, within 8 inch / SOIL CONSISTANTLY IN JOINTS

MSH 22 WEST DI (DS)
DOWNSTREAM_1c28fef9-3867-4eda-b2d7-5e1849701ed4_20200911_111639_775.jpg, 00:09:23, 140.66ft
Miscellaneous General Observation / MSH 22 DI EAST

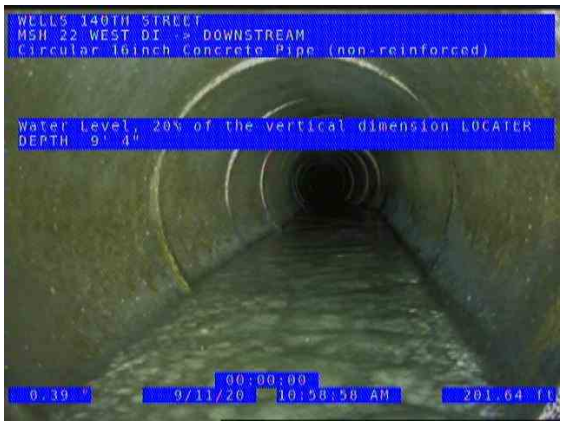
MSH 22 WEST DI (DS)
DOWNSTREAM_5baa9b8d-a35e-4303-b9ce-3d64b6c16973_20200911_111731_670.jpg, 00:10:07, 174.81ft
Miscellaneous General Observation / RH BEND



MSH 22 WEST DI (DS)
DOWNSTREAM_d41ab64a-81e5-4286-978e-cef6bd5e29ee_20200911_111822_839.jpg, 00:10:41, 201.64ft
Water Level, 20% of the vertical dimension / LOCATER DEPTH 9' 4"

Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

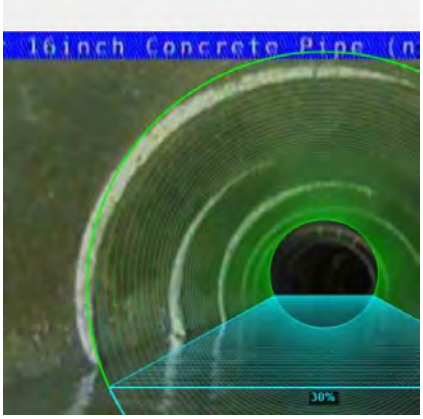
City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**



MSH 22 WEST DI (DS)
DOWNSTREAM_395dad04-3482-4912-964a-9d9d7e94acc8_20200911_111925_370.jpg, 00:10:41, 201.64ft
Water Level, 20% of the vertical dimension / LOCATER DEPTH 9' 4"

MSH 22 WEST DI (DS)
DOWNSTREAM_1dcfe3cb-e873-4dba-b054-ba3f56f4a64a_20200911_112038_251.jpg, 00:11:47, 279.82ft
Miscellaneous General Observation / RH BEND LOCATOR DEPTH 10' 4"

MSH 22 WEST DI (DS)
DOWNSTREAM_4a801da2-e5af-4aed-bdac-494b294579a7_20200911_112414_303.jpg, 00:15:08, 331.96ft
Miscellaneous General Observation / RH BEND SLIGHT

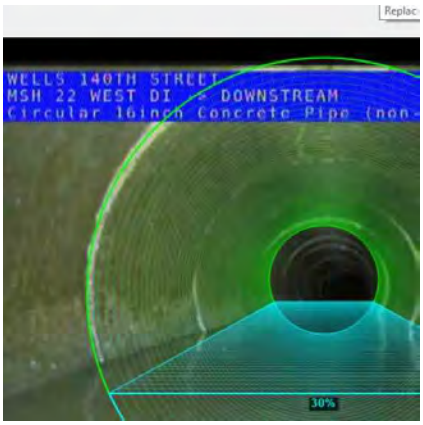


MSH 22 WEST DI (DS)
DOWNSTREAM_36ecaecc-f5a6-4843-b4db-565012ccc0a5_20200911_112612_228.jpg, 00:16:57, 436.97ft
Water Level, 30% of the vertical dimension / LOCATER DEPTH 10'

Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

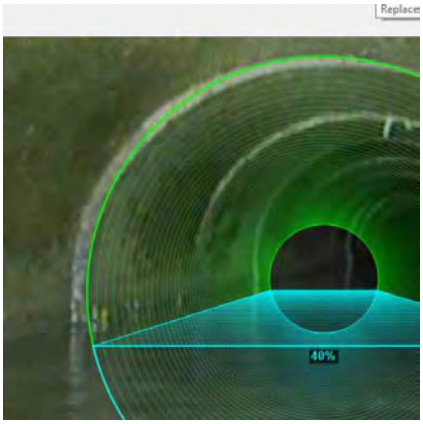
City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**

MSH 22 WEST DI (DS)
DOWNSTREAM_ac0e8f26-a22d-484e-9e22-8cabbf0ae780_20200911_112829_153.jpg, 00:16:57, 436.97ft
Water Level, 30% of the vertical dimension / LOCATER DEPTH 10'



MSH 22 WEST DI (DS)
DOWNSTREAM_fb962a3a-89e4-4a1c-8c23-803cc864345e_20200911_112953_419.jpg, 00:18:12, 500.53ft
Water Level, 30% of the vertical dimension / LOCATER DEPTH

MSH 22 WEST DI (DS)
DOWNSTREAM_808e009f-0061-494d-9953-a43c3b84d83a_20200911_113022_945.jpg, 00:18:12, 500.53ft
Water Level, 30% of the vertical dimension / LOCATER DEPTH



MSH 22 WEST DI (DS)
DOWNSTREAM_73862ba5-dd6f-4c7d-89a7-87d5c7ae55f6_20200911_113239_399.jpg, 00:20:21, 600.28ft
Water Level, 40% of the vertical dimension / LOCATER DEPTH 8' 4"

Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**

MSH 22 WEST DI (DS)
DOWNSTREAM_c106f42c-75e0-4119-9c7e-4848ae146b94_20200911_113342_367.jpg, 00:20:21, 600.28ft
Water Level, 40% of the vertical dimension / LOCATER DEPTH 8' 4"

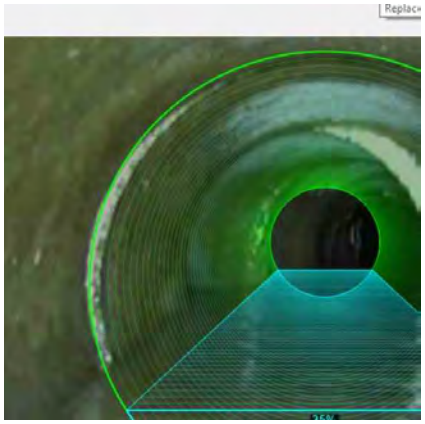
MSH 22 WEST DI (DS)
DOWNSTREAM_e18954db-a9d4-4ba0-b48b-64a52c9a7015_20200911_113503_040.jpg, 00:21:20, 632.72ft
Broken at 12 o'clock, length: 1inch / 2 BROKEN TILE
LOCATOR DEPTH 8' 2"

MSH 22 WEST DI (DS)
DOWNSTREAM_a5d005bb-fe03-467a-9310-f0a8782cfb82_20200911_113514_004.jpg, 00:21:20, 632.72ft
Broken at 12 o'clock, length: 1inch / 2 BROKEN TILE
LOCATOR DEPTH 8' 2"

MSH 22 WEST DI (DS)
DOWNSTREAM_b0df0b05-c367-41bb-a07f-acacdd78ac5d_20200911_113645_469.jpg, 00:22:50, 662.22ft
Broken at 12 o'clock, length: 2inch / 1 TILE BROKEN
SEVERAL CRACKED

Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**



MSH 22 WEST DI (DS)
DOWNSTREAM_aca57ff7-6b81-4a16-800b-f86bc02197cb_20200911_113910_983.jpg, 00:24:30, 709.50ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 7' 2"

MSH 22 WEST DI (DS)
DOWNSTREAM_fe720a86-5251-417d-a5cc-0053f7799f50_20200911_114010_165.jpg, 00:24:30, 709.50ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 7' 2"

MSH 22 WEST DI (DS)
DOWNSTREAM_1b0de49a-3c50-43ad-860d-2fce74c2a0fd_20200911_114056_027.jpg, 00:24:58, 717.12ft
Joint Offset Large, 2Inch / SEVERAL MISALIGNED TILE

MSH 22 WEST DI (DS)
DOWNSTREAM_225ea995-58b2-4ca1-a784-ad9921b512bd_20200911_114107_242.jpg, 00:24:58, 717.12ft
Joint Offset Large, 2Inch / SEVERAL MISALIGNED TILE

Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**

MSH 22 WEST DI (DS)
DOWNSTREAM_8cedb893-2e46-458c-9dc5-98feb45ce5c0_20200911_114707_546.jpg, 00:28:46, 837.47ft
Joint Offset Large, 2Inch / SOIL VISIBLE

MSH 22 WEST DI (DS)
DOWNSTREAM_49e1c3c7-08a6-408c-b13a-300979d90761_20200911_114933_502.jpg, 00:29:33, 846.63ft
Water Level, 15% of the vertical dimension / LOCATER DEPTH 7' 4"

MSH 22 WEST DI (DS)
DOWNSTREAM_3228d2a5-0b44-48cc-b0c3-b5825887554a_20200911_114836_497.jpg, 00:29:12, 846.78ft
Tap Break-in Activity at 2 o'clock, dia/height: 6inch

MSH 22 WEST DI (DS)
DOWNSTREAM_b861e18b-0801-442d-b114-d78911b5e7a3_20200911_114852_430.jpg, 00:29:12, 846.78ft
Tap Break-in Activity at 2 o'clock, dia/height: 6inch

WinCan

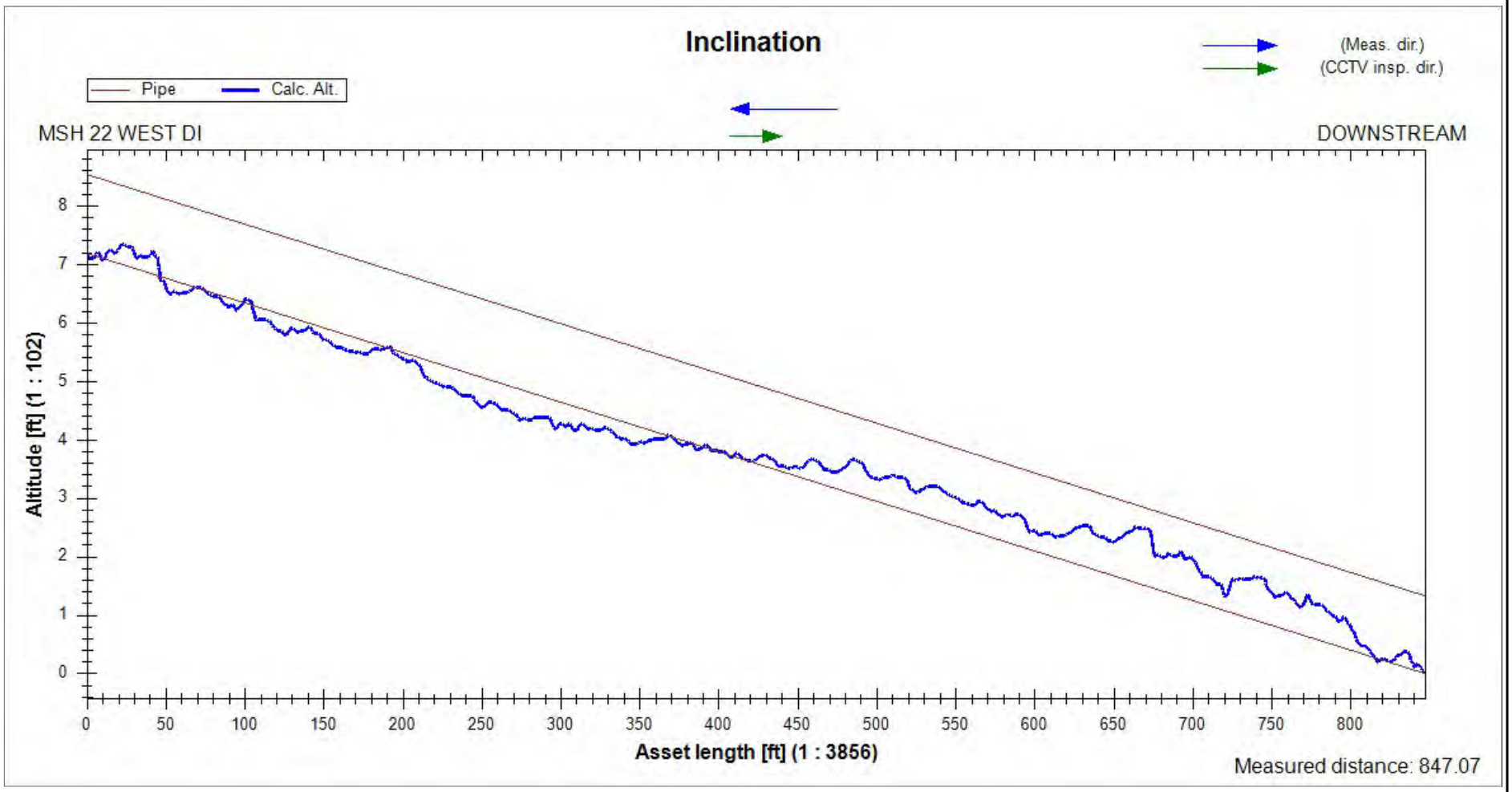
Section Pictures - 9/11/2020 - MSH 22 WEST DI (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST DI (DS)**	**2**

MSH 22 WEST DI (DS)
DOWNSTREAM_fdb0aa5c-bfad-4024-986b-3aeaf848ce6a_20200911_115050_124.jpg, 00:29:44, 847.07ft
Miscellaneous Survey Abandoned / RUN OVERLAP

WinCan Section Inclination - 9/11/2020 - MSH 22

Pipe Segment Referenc	Date	Time	Surveyed By	City	Street	Direction	Length Surveyed
MSH 22 WEST DI (DS) DOWN	9/11/2020	11:00 AM	JOHN MEYER	WELLS	140TH STREET	Downstream	847.07
Shape	**Height**	**Width**	**Upstream MH**	**Downstream MH**	**Start altitude**	**End altitude**	**Measured Inc**
Circular	16	16	MSH 22 WEST DI	DOWNSTREAM	0.000	7.192	-2.785 %



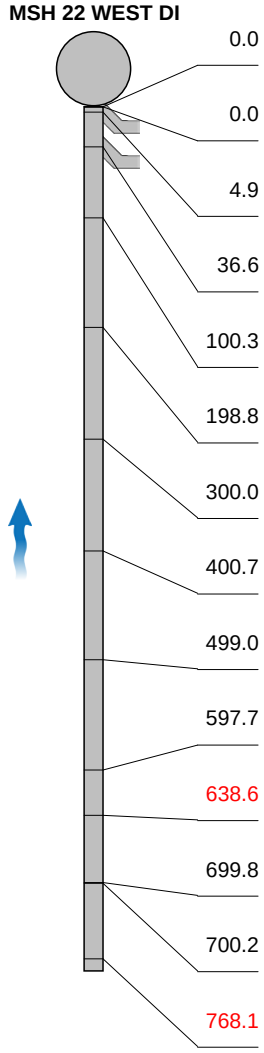
WinCan

Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/11/2020			**JOHN MEYER**	**123**	**MSH 22 WEST (US) UPSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Upstream**		**975.0 '**	**975.0 '**

City:	**WELLS**	Drainage Area:		Upstream MH:	**UPSTREAM**
Street:	**140TH STREET**	Media Label:		Up Rim to Invert:	**0.0**
Location Code:		Flow Control:		Downstream MH:	**MSH 22 WEST DI**
Location Details:		Sheet Number:		Down Rim to Invert:	**0.0**
Pipe shape:	**Circular**	Sewer Use:	**Combined Pipe**	Total gallons used:	**0.0**
Pipe size:	**16 "**	Sewer Category:	**SEC**	Joints passed:	**0**
Pipe material:	**Concrete Pipe (non-reinforced)**	Purpose:		Joints failed:	**0**
Lining Method:		Owner:			

Additional Info:

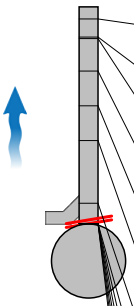


1:6808 Distance	Code	Observation	Counter	Photo	Grade
0.0	AMH	Manhole / MSH 22 WEST DI	00:29:57	MSH 22 WEST (US)	
0.0	MWL	Water Level, 30% of the vertical dimension	00:29:57	MSH 22 WEST (US)	
4.9	TBA	Tap Break-in Activity at 10 o'clock, dia/height: 6inch	00:29:57	MSH 22 WEST (US)	
36.6	TBA	Tap Break-in Activity at 10 o'clock, dia/height: 4inch	00:29:57	MSH 22 WEST (US)	
100.3	MWL	Water Level, 25% of the vertical dimension / LOCATER DEPTH 7' 10"	00:29:57	MSH 22 WEST (US)	
198.8	MWL	Water Level, 15% of the vertical dimension / LOCATER DEPTH 7' 6' there is a hump in pipe here	00:29:57	MSH 22 WEST (US)	
300.0	MWL	Water Level, 25% of the vertical dimension / LOCATER DEPTH 8' 3"	00:29:57	MSH 22 WEST (US)	
400.7	MWL	Water Level, 20% of the vertical dimension / LOCATER DEPTH 8' 5"	00:29:57	MSH 22 WEST (US)	
499.0	MWL	Water Level, 50% of the vertical dimension / LOCATER DEPTH 10' 1"	00:29:57	MSH 22 WEST (US)	
597.7	MWL	Water Level, 30% of the vertical dimension / LOCATER DEPTH	00:29:57	MSH 22 WEST (US)	
638.6	JOL	Joint Offset Large, 2Inch / 9.7% OBSTRUCTED	00:29:57	MSH 22 WEST (US)	S4
699.8	MGO	Miscellaneous General Observation / RH BEND	00:29:57	MSH 22 WEST (US)	
700.2	MWL	Water Level, 30% of the vertical dimension / LOCATER DEPTH 11' 6"	00:29:57	MSH 22 WEST (US)	
768.1	CL	Crack Longitudinal at 12 o'clock, length: 1inch / SEVERAL	00:29:57	MSH 22 WEST (US)	S2

WinCan

Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/11/2020			**JOHN MEYER**	**123**	**MSH 22 WEST (US) UPSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Upstream**		**975.0 '**	**975.0 '**



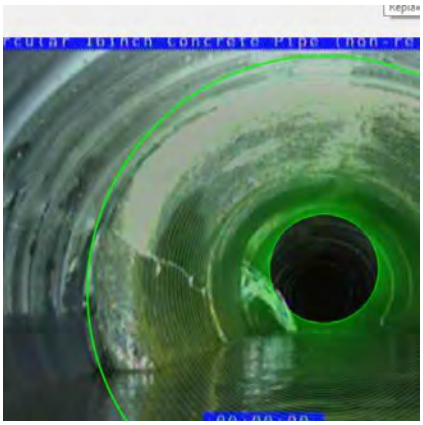
Distance	Code	Observation	Counter	Photo	Grade
790.8	CL	Crack Longitudinal at 12 o'clock	00:29:57	MSH 22 WEST (US)	S2
806.9	MGO	Miscellaneous General Observation / LH BEND	00:29:57	MSH 22 WEST (US)	
808.7	MWL	Water Level, 25% of the vertical dimension / LOCATER DEPTH 9' 8"	00:29:57	MSH 22 WEST (US)	
838.0	MGO	Miscellaneous General Observation / LH BEND	00:29:57	MSH 22 WEST (US)	
869.3	MGO	Miscellaneous General Observation / LH BEND	00:29:57	MSH 22 WEST (US)	
900.3	MWL	Water Level, 25% of the vertical dimension / LOCATER DEPTH 9' 7"	00:29:57	MSH 22 WEST (US)	
957.1	TBA	Tap Break-in Activity at 1 o'clock, dia/height: 6inch	00:29:57	MSH 22 WEST (US)	
975.0	C	Remark: ***** Combined *****			
975.0	C	Remark: Inspection from the other side			
975.0	C	Remark: Uninspected Length: 0.0			
975.0	C	Remark: Inspection from the other side			
975.0	C	Remark: ***** Combined *****			
975.0	MSA	Miscellaneous Survey Abandoned / END OF TETHER	00:00:00		
975.0	MWL	Water Level, 35% of the vertical dimension / LOCATER DEPTH 9' 7"	00:29:57	MSH 22 WEST (US)	

QSR	QMR	QOR	SPR	MPR	OPR	SPRI	MPRI	OPRI
4122	0000	4122	8.0	0.0	8.0	2.7	0.0	2.7

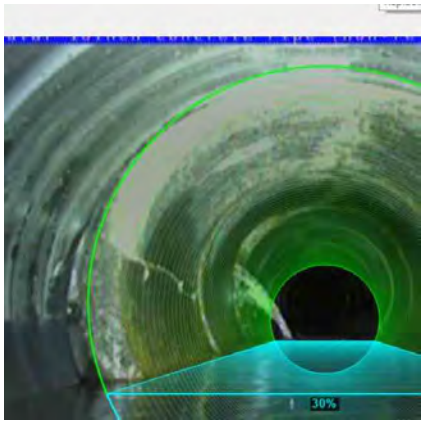
Section Pictures - 9/11/2020 - MSH 22 WEST (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST (US)**	**3**

MSH 22 WEST (US)
UPSTREAM_02e17e0b-9a9d-4a2a-8244-bbfde9267269_20200911_121037_158.jpg, 00:29:57, 0.00ft
Manhole / MSH 22 WEST DI



MSH 22 WEST (US)
UPSTREAM_f1b16bcd-f6cb-4963-ae66-48ea894ae322_20200911_121059_277.jpg, 00:29:57, 0.00ft
Water Level, 30% of the vertical dimension



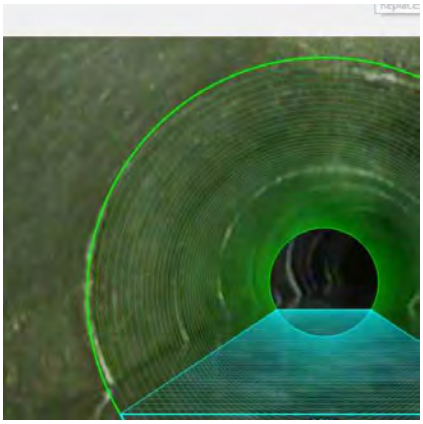
MSH 22 WEST (US)
UPSTREAM_1d91e5b0-76b6-4172-a9ef-a15471b74a8b_20200911_121111_547.jpg, 00:29:57, 0.00ft
Water Level, 30% of the vertical dimension

MSH 22 WEST (US)
UPSTREAM_3c8ffe67-2462-4380-a25f-d4166ba99795_20200911_121250_869.jpg, 00:29:57, 4.89ft
Tap Break-in Activity at 10 o'clock, dia/height: 6inch

Section Pictures - 9/11/2020 - MSH 22 WEST (US) UPSTREAM

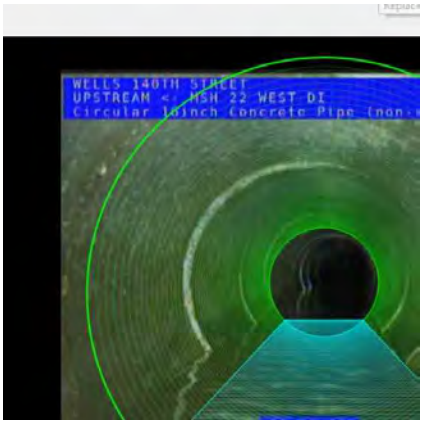
City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST (US)**	**3**

MSH 22 WEST (US)
UPSTREAM_cb150d80-c8cd-4664-838c-e87b292d293e_20200911_121410_651.jpg, 00:29:57, 36.56ft
Tap Break-in Activity at 10 o'clock, dia/height: 4inch



MSH 22 WEST (US)
UPSTREAM_bd721081-941a-446f-97b8-b601e8247376_20200911_121605_393.jpg, 00:29:57, 100.26ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 7' 10"

MSH 22 WEST (US)
UPSTREAM_5d5a549e-b193-43d7-8cce-99789ad4464c_20200911_121655_486.jpg, 00:29:57, 100.26ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 7' 10"

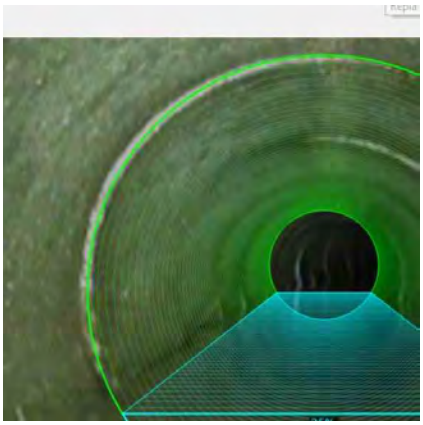


MSH 22 WEST (US)
UPSTREAM_014d88d7-a137-4498-ac89-7eb22664e7f4_20200911_121900_996.jpg, 00:29:57, 198.84ft
Water Level, 15% of the vertical dimension / LOCATER DEPTH 7' 6'
there is a hump in pipe here

Section Pictures - 9/11/2020 - MSH 22 WEST (US) UPSTREAM

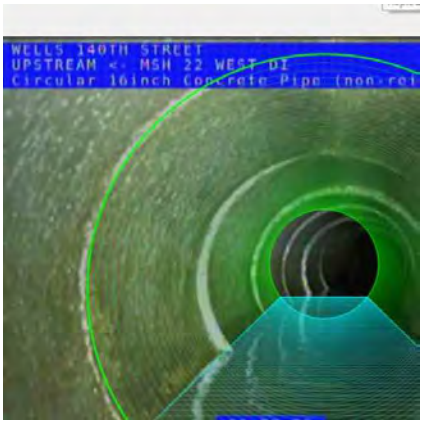
City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST (US)**	**3**

MSH 22 WEST (US)
UPSTREAM_e9891966-3569-4c24-9a00-47efb314d858_20200911_122020_432.jpg, 00:29:57, 198.84ft
Water Level, 15% of the vertical dimension / LOCATER DEPTH 7' 6'
there is a hump in pipe here



MSH 22 WEST (US)
UPSTREAM_443e0ec2-9561-4525-9b40-002c8c349b8a_20200911_122216_043.jpg, 00:29:57, 300.02ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 8' 3"

MSH 22 WEST (US)
UPSTREAM_48578027-55c7-4b90-9177-0ef629f8a5fe_20200911_122327_462.jpg, 00:29:57, 300.02ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 8' 3"

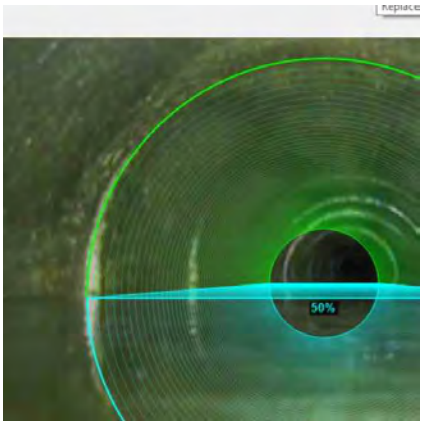


MSH 22 WEST (US)
UPSTREAM_ca32a305-b085-4236-ae0a-a335007e3385_20200911_122503_984.jpg, 00:29:57, 400.72ft
Water Level, 20% of the vertical dimension / LOCATER DEPTH 8' 5"

Section Pictures - 9/11/2020 - MSH 22 WEST (US) UPSTREAM

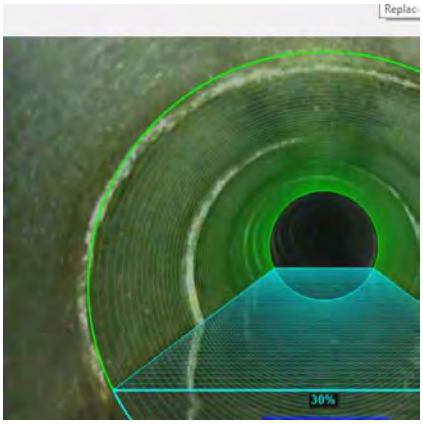
City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST (US)**	**3**

MSH 22 WEST (US)
UPSTREAM_d02004f2-de31-45b6-9842-19acd4368742_20200911_122540_883.jpg, 00:29:57, 400.72ft
Water Level, 20% of the vertical dimension / LOCATER DEPTH 8' 5"



MSH 22 WEST (US)
UPSTREAM_726a6fda-efc3-45c4-ae88-623d48469b2e_20200911_122749_545.jpg, 00:29:57, 498.96ft
Water Level, 50% of the vertical dimension / LOCATER DEPTH 10' 1"

MSH 22 WEST (US)
UPSTREAM_7694e5a2-c69b-4aec-bdc1-2e674d9b5b1f_20200911_122832_374.jpg, 00:29:57, 498.96ft
Water Level, 50% of the vertical dimension / LOCATER DEPTH 10' 1"

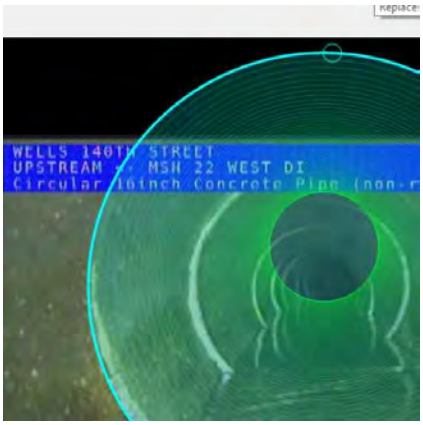


MSH 22 WEST (US)
UPSTREAM_8bad4184-4052-46a6-bcb6-a0d48d365e20_20200911_123038_955.jpg, 00:29:57, 597.75ft
Water Level, 30% of the vertical dimension / LOCATER DEPTH

Section Pictures - 9/11/2020 - MSH 22 WEST (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST (US)**	**3**

MSH 22 WEST (US)
UPSTREAM_0b44f384-49e4-4401-99b7-7fa61ddf8d73_20200911_123120_181.jpg, 00:29:57, 597.75ft
Water Level, 30% of the vertical dimension / LOCATER DEPTH



MSH 22 WEST (US)
UPSTREAM_3fe1f803-bb5f-42f6-9cf6-0e2bec271971_20200911_123249_375.jpg, 00:29:57, 638.61ft
Joint Offset Large, 2Inch / 9.7% OBSTRUCTED

MSH 22 WEST (US)
UPSTREAM_7cc917a1-7919-4a3e-9972-5ae500c03969_20200911_123403_798.jpg, 00:29:57, 638.61ft
Joint Offset Large, 2Inch / 9.7% OBSTRUCTED

MSH 22 WEST (US)
UPSTREAM_ffdf3937-b51f-4605-afd6-8f23b4b81b0a_20200911_123611_270.jpg, 00:29:57, 699.80ft
Miscellaneous General Observation / RH BEND

Section Pictures - 9/11/2020 - MSH 22 WEST (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST (US)**	**3**

MSH 22 WEST (US)
UPSTREAM_1a33eab2-1b12-4ea0-9732-d5e044b00965_20200911_123625_336.jpg, 00:29:57, 700.23ft
Water Level, 30% of the vertical dimension / LOCATER DEPTH 11' 6"

MSH 22 WEST (US)
UPSTREAM_a53adef2-8ed7-46f5-a476-6b3a85f07253_20200911_123731_340.jpg, 00:29:57, 700.23ft
Water Level, 30% of the vertical dimension / LOCATER DEPTH 11' 6"

MSH 22 WEST (US)
UPSTREAM_d0f30d7a-154c-43ef-a84a-c36d32fad9c6_20200911_124019_140.jpg, 00:29:57, 768.12ft
Crack Longitudinal at 12 o'clock, length: 1inch / SEVERAL

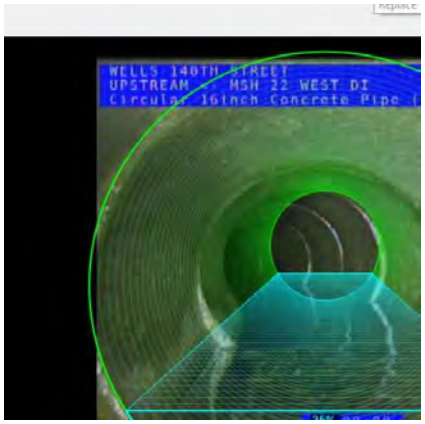
MSH 22 WEST (US)
UPSTREAM_8042e241-301e-4f92-acb7-b39acf8c1d2f_20200911_124026_797.jpg, 00:29:57, 768.12ft
Crack Longitudinal at 12 o'clock, length: 1inch / SEVERAL

Section Pictures - 9/11/2020 - MSH 22 WEST (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST (US)**	**3**

MSH 22 WEST (US)
UPSTREAM_b4fc8e30-b879-4f3c-8cbe-e9c28bfa50c6_20200911_124128_599.jpg, 00:29:57, 790.82ft
Crack Longitudinal at 12 o'clock

MSH 22 WEST (US)
UPSTREAM_384bd8e1-30f5-43c3-8b31-ef7d30c03714_20200911_124231_007.jpg, 00:29:57, 806.86ft
Miscellaneous General Observation / LH BEND



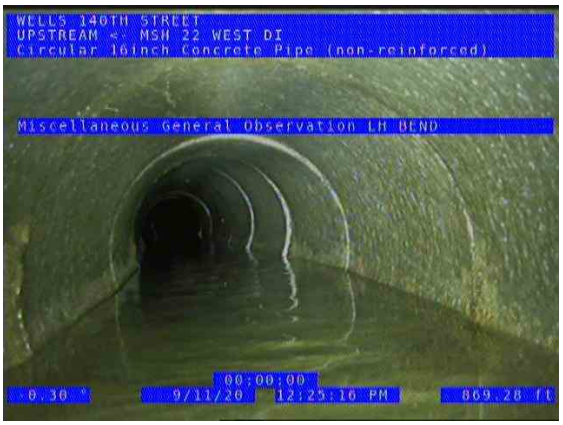
MSH 22 WEST (US)
UPSTREAM_42119e54-b94c-4ea9-a286-c0f3ab8fc2ba_20200911_124302_426.jpg, 00:29:57, 808.66ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 9' 8"

MSH 22 WEST (US)
UPSTREAM_b24caf9b-a3f2-43ed-a966-91550912e4b8_20200911_124336_737.jpg, 00:29:57, 808.66ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 9' 8"

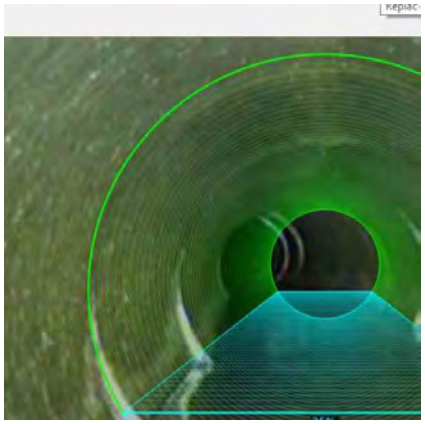
Section Pictures - 9/11/2020 - MSH 22 WEST (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST (US)**	**3**

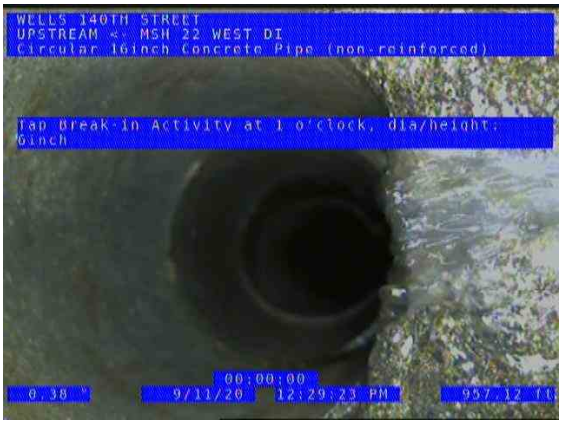
MSH 22 WEST (US)
UPSTREAM_e93e03b4-3f1d-4f0e-902f-26ab7cf556f0_20200911_124441_709.jpg, 00:29:57, 837.97ft
Miscellaneous General Observation / LH BEND



MSH 22 WEST (US)
UPSTREAM_0db4eeb7-56b8-4d53-bf95-725b697fb9ec_20200911_124543_057.jpg, 00:29:57, 869.28ft
Miscellaneous General Observation / LH BEND



MSH 22 WEST (US)
UPSTREAM_7f0572c7-9fa8-4367-a158-f5b34901e124_20200911_124652_715.jpg, 00:29:57, 900.33ft
Water Level, 25% of the vertical dimension / LOCATER DEPTH 9' 7"

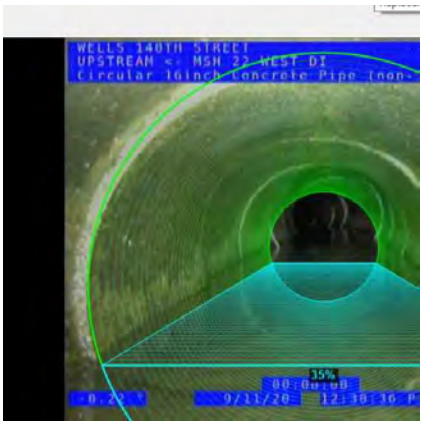


MSH 22 WEST (US)
UPSTREAM_e2cf924a-5df1-4f93-9ccd-e9851e0f23c1_20200911_124950_262.jpg, 00:29:57, 957.12ft
Tap Break-in Activity at 1 o'clock, dia/height: 6inch

Section Pictures - 9/11/2020 - MSH 22 WEST (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/11/2020**	**MSH 22 WEST (US)**	**3**

MSH 22 WEST (US)
UPSTREAM_6e45c733-1664-4f55-92b2-ad2e1fc85749_20200911_125000_166.jpg, 00:29:57, 957.12ft
Tap Break-in Activity at 1 o'clock, dia/height: 6inch

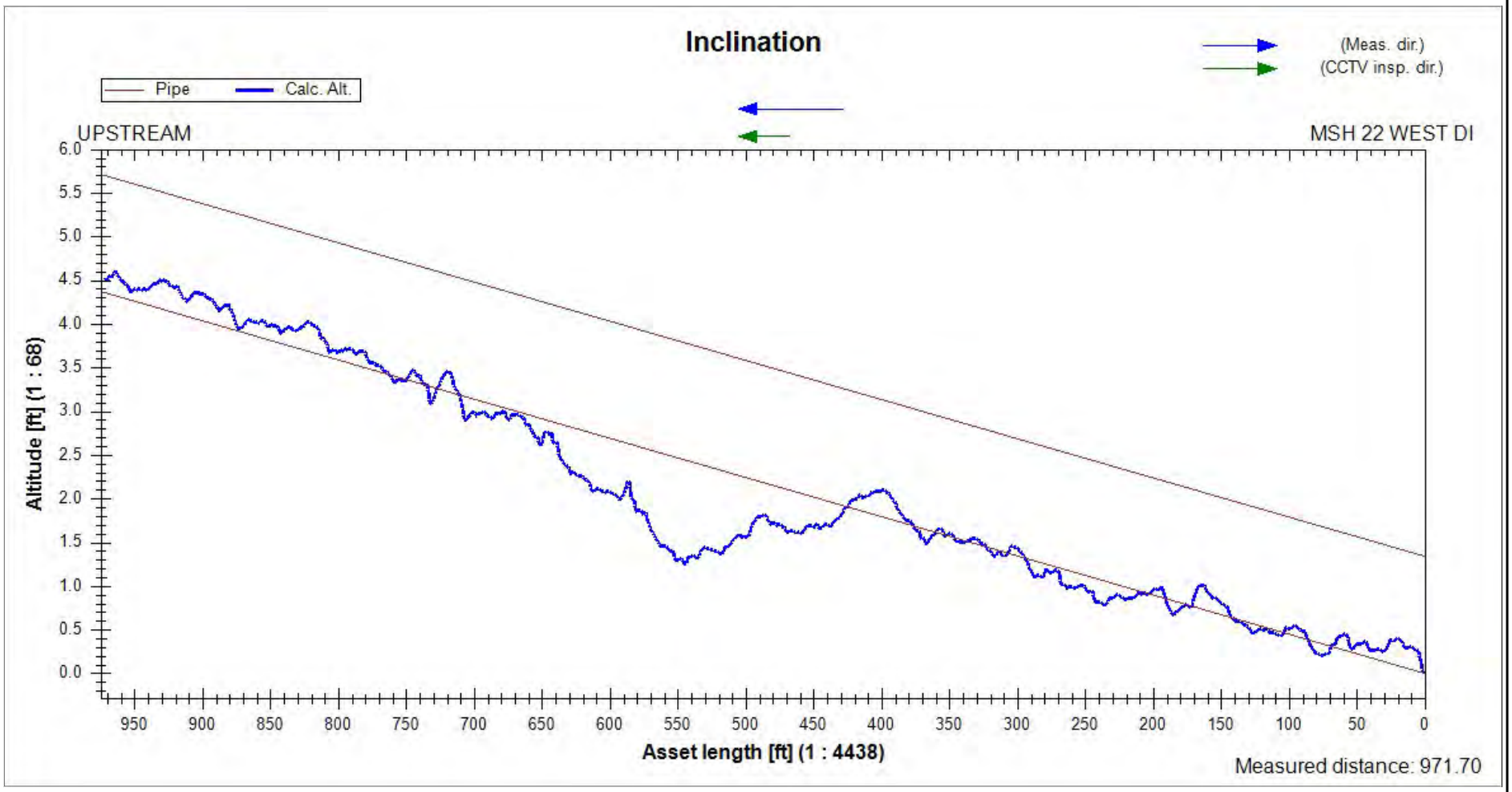


MSH 22 WEST (US)
UPSTREAM_7cffb3b3-086f-4572-b2f5-51180392b909_20200911_125102_986.jpg, 00:29:57, 975.04ft
Water Level, 35% of the vertical dimension / LOCATER DEPTH 9' 7"

MSH 22 WEST (US)
UPSTREAM_961ca001-1351-45cf-98e5-e8cb173609e4_20200911_125239_766.jpg, 00:29:57, 975.04ft
Water Level, 35% of the vertical dimension / LOCATER DEPTH 9' 7"

WinCan Section Inclination - 9/11/2020 - MSH 22

Pipe Segment Referenc	Date	Time	Surveyed By	City	Street	Direction	Length Surveyed
MSH22WEST(US)UPSTREAM	9/11/2020	12:07 PM	JOHN MEYER	WELLS	140TH STREET	Upstream	971.70
Shape	**Height**	**Width**	**Upstream MH**	**Downstream MH**	**Start altitude**	**End altitude**	**Measured Inc**
Circular	16	16	UPSTREAM	MSH 22 WEST DI	0.000	4.512	-1.478 %



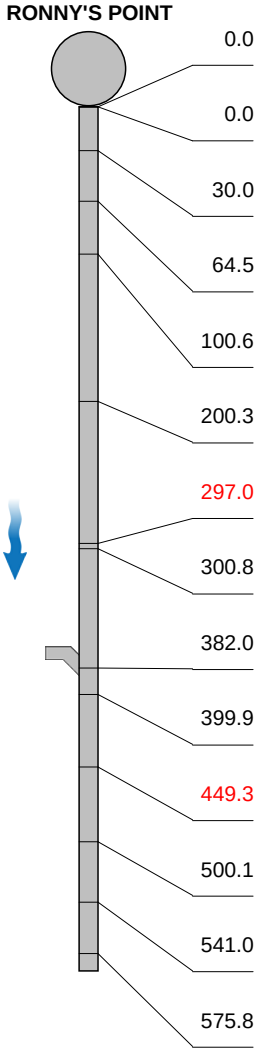
WinCan

Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/24/2020			**JOHN MEYER**	**123**	**RONNY'S POINT (DS) DOWNSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Downstream**		**652.3 '**	**652.3 '**

City:	**WELLS**	Drainage Area:		Upstream MH:	**RONNY'S POINT**
Street:	**140TH STREET**	Media Label:		Up Rim to Invert:	**0.0**
Location Code:		Flow Control:		Downstream MH:	**DOWNSTREAM**
Location Details:		Sheet Number:		Down Rim to Invert:	**0.0**
Pipe shape:	**Circular**	Sewer Use:	**Combined Pipe**	Total gallons used:	**0.0**
Pipe size:	**14 "**	Sewer Category:	**SEC**	Joints passed:	**0**
Pipe material:	**Concrete Pipe (non-reinforced)**	Purpose:		Joints failed:	**0**
Lining Method:		Owner:			

Additional Info:

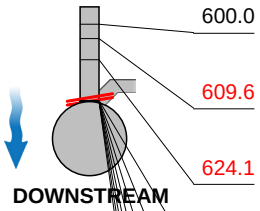


1:5135 Distance	Code	Observation	Counter	Photo	Grade
0.0	AMH	Manhole / RONNY'S POINT	00:00:00	RONNY'S POINT (DS)	
0.0	MWL	Water Level, 5% of the vertical dimension	00:00:00	RONNY'S POINT (DS)	
30.0	MWL	Water Level, 25% of the vertical dimension	00:00:00	RONNY'S POINT (DS)	
64.5	MWL	Water Level, 10% of the vertical dimension	00:00:00	RONNY'S POINT (DS)	
100.6	MWL	Water Level, 15% of the vertical dimension / DEPTH 9' 6"	00:01:58	RONNY'S POINT (DS)	
200.3	MWL	Water Level, 10% of the vertical dimension / 9' 6" DEPTH	00:03:29	RONNY'S POINT (DS)	
297.0	JOM	Joint Offset Medium, 2Inch / MISALIGNED JOINT TOP AND BOTTOM	00:05:04	RONNY'S POINT (DS)	S3
300.8	MWL	Water Level, 45% of the vertical dimension / 9' 3" DEPTH	00:05:27	RONNY'S POINT (DS)	
382.0	TBA	Tap Break-in Activity at 2 o'clock, dia/height: 8inch / PRIVATE FROM INTAKE TO SOUTH	00:06:56	RONNY'S POINT (DS)	
399.9	MWL	Water Level, 35% of the vertical dimension / DEPTH 9' 3"	00:08:26	RONNY'S POINT (DS)	
449.3	CL	Crack Longitudinal at 1 o'clock	00:09:33	RONNY'S POINT (DS)	S2
500.1	MWL	Water Level, 30% of the vertical dimension / DEPTH 9' 4"	00:11:07	RONNY'S POINT (DS)	
541.0	MWL	Water Level, 45% of the vertical dimension	00:11:58	RONNY'S POINT (DS)	
575.8	MWL	Water Level, 15% of the vertical dimension	00:13:01	RONNY'S POINT (DS)	

WinCan

Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/24/2020			**JOHN MEYER**	**123**	**RONNY'S POINT (DS) DOWNSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Downstream**		**652.3 '**	**652.3 '**



Distance	Code	Observation	Counter	Photo	Grade
600.0	MWL	Water Level, 10% of the vertical dimension / DEPTH 8' 9"	00:13:39	RONNY'S POINT (DS)	
609.6	CL	Crack Longitudinal at 1 o'clock	00:14:02	RONNY'S POINT (DS)	S2
624.1	CL	Crack Longitudinal at 1 o'clock	00:14:31	RONNY'S POINT (DS)	S2
651.7	TBA	Tap Break-in Activity at 10 o'clock, dia/height: 5inch / 5" CLAY	00:15:30	RONNY'S POINT (DS)	
652.3	C	Remark: ***** Combined *****			
652.3	C	Remark: Inspection from the other side			
652.3	C	Remark: Uninspected Length: 0.0			
652.3	C	Remark: Inspection from the other side			
652.3	C	Remark: ***** Combined *****			
652.3	MSA	Miscellaneous Survey Abandoned / END OF RUN-OVERLAP	00:15:54	RONNY'S POINT (DS)	
652.3	MWL	Water Level, 20% of the vertical dimension / DEPTH 8' 9"	00:15:49	RONNY'S POINT (DS)	

QSR	QMR	QOR	SPR	MPR	OPR	SPRI	MPRI	OPRI
3123	0000	3123	9.0	0.0	9.0	2.2	0.0	2.2

Section Pictures - 9/24/2020 - RONNY'S POINT (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (DS)**	**4**

RONNY'S POINT (DS)
DOWNSTREAM_8a2c88d9-e0cb-4f34-9fb3-8a14277d1469_20200924_094118_441.jpg, 00:00:00, 0.00ft
Manhole / RONNY'S POINT

RONNY'S POINT (DS)
DOWNSTREAM_59839bd9-db4f-4e54-8bf7-a79377b0828a_20200924_094131_110.jpg, 00:00:00, 0.00ft
Manhole / RONNY'S POINT

RONNY'S POINT (DS)
DOWNSTREAM_1623197b-04c2-4fef-a790-f5381831b885_20200924_094143_598.jpg, 00:00:00, 0.00ft
Water Level, 5% of the vertical dimension

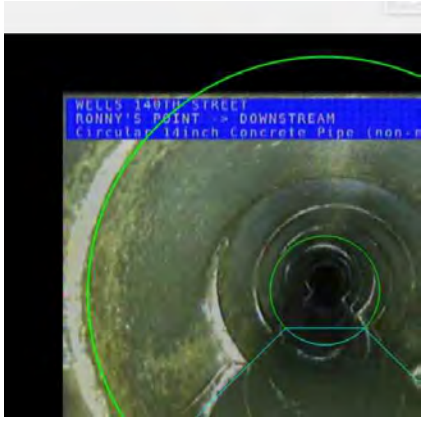
RONNY'S POINT (DS)
DOWNSTREAM_2f31c690-d04c-40a2-b655-7b24368d3c25_20200924_094214_316.jpg, 00:00:00, 0.00ft
Water Level, 5% of the vertical dimension

Section Pictures - 9/24/2020 - RONNY'S POINT (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (DS)**	**4**

RONNY'S POINT (DS)
DOWNSTREAM_52b5c289-d865-4d17-8e40-e4b4fd821d11_20200924_094312_818.jpg, 00:00:00, 30.00ft
Water Level, 25% of the vertical dimension

RONNY'S POINT (DS)
DOWNSTREAM_77d2658b-4655-40b1-938d-9a41fda691db_20200924_094550_171.jpg, 00:00:00, 64.48ft
Water Level, 10% of the vertical dimension



RONNY'S POINT (DS)
DOWNSTREAM_d818a505-b5b5-4241-8a89-dbe3dfda04af_20200924_095048_046.jpg, 00:01:58, 100.59ft
Water Level, 15% of the vertical dimension / DEPTH 9' 6"

RONNY'S POINT (DS)
DOWNSTREAM_ef1f15d3-9a07-454a-8dbd-5363770222ad_20200924_095148_266.jpg, 00:01:58, 100.59ft
Water Level, 15% of the vertical dimension / DEPTH 9' 6"

Section Pictures - 9/24/2020 - RONNY'S POINT (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (DS)**	**4**

RONNY'S POINT (DS)
DOWNSTREAM_5d499935-9ca4-47cd-b9cd-f06be714b5cd_20200924_095327_561.jpg, 00:03:29, 200.28ft
Water Level, 10% of the vertical dimension / 9' 6" DEPTH

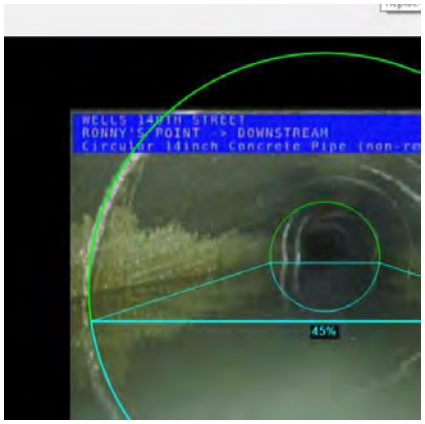
RONNY'S POINT (DS)
DOWNSTREAM_950f400f-6c01-4408-96c4-1f058143222b_20200924_095403_088.jpg, 00:03:29, 200.28ft
Water Level, 10% of the vertical dimension / 9' 6" DEPTH

RONNY'S POINT (DS)
DOWNSTREAM_bc74da77-9c9f-4795-a618-f5af7dfec002_20200924_095611_542.jpg, 00:05:04, 297.03ft
Joint Offset Medium, 2Inch / MISALIGNED JOINT TOP AND BOTTOM

RONNY'S POINT (DS)
DOWNSTREAM_5ad2dfc0-9d05-4da9-aa06-d874e3514351_20200924_095619_945.jpg, 00:05:04, 297.03ft
Joint Offset Medium, 2Inch / MISALIGNED JOINT TOP AND BOTTOM

Section Pictures - 9/24/2020 - RONNY'S POINT (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (DS)**	**4**



RONNY'S POINT (DS)
DOWNSTREAM_21bf10a9-26aa-43e9-82ef-d29a59f1e248_20200924_095646_291.jpg, 00:05:27, 300.81ft
Water Level, 45% of the vertical dimension / 9' 3" DEPTH

RONNY'S POINT (DS)
DOWNSTREAM_2a4bd338-38cb-4dff-819c-dd2ffb2fd2ad_20200924_095730_039.jpg, 00:05:27, 300.81ft
Water Level, 45% of the vertical dimension / 9' 3" DEPTH

RONNY'S POINT (DS)
DOWNSTREAM_c31bd52d-3618-445d-b6c8-a78baa86844f_20200924_095952_784.jpg, 00:06:56, 382.02ft
Tap Break-in Activity at 2 o'clock, dia/height: 8inch / PRIVATE
FROM INTAKE TO SOUTH

RONNY'S POINT (DS)
DOWNSTREAM_b6e2e23b-1056-42be-b9aa-237690aed570_20200924_100020_826.jpg, 00:06:56, 382.02ft
Tap Break-in Activity at 2 o'clock, dia/height: 8inch / PRIVATE
FROM INTAKE TO SOUTH

Section Pictures - 9/24/2020 - RONNY'S POINT (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (DS)**	**4**

RONNY'S POINT (DS)
DOWNSTREAM_568cf3b0-3043-4085-a813-b15e064f8b44_20200924_100107_148.jpg, 00:08:26, 399.93ft
Water Level, 35% of the vertical dimension / DEPTH 9' 3"

RONNY'S POINT (DS)
DOWNSTREAM_6d0e21a5-179f-4729-9fba-ecc14bd805fe_20200924_100153_667.jpg, 00:08:26, 399.93ft
Water Level, 35% of the vertical dimension / DEPTH 9' 3"

RONNY'S POINT (DS)
DOWNSTREAM_43655d47-7dbe-4540-85a6-a4e5d6c65c2d_20200924_100313_088.jpg, 00:09:33, 449.30ft
Crack Longitudinal at 1 o'clock

RONNY'S POINT (DS)
DOWNSTREAM_7c744c2b-6155-446f-9fbd-11bfa932c5ba_20200924_100322_263.jpg, 00:09:33, 449.30ft
Crack Longitudinal at 1 o'clock

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Section Pictures - 9/24/2020 - RONNY'S POINT (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (DS)**	**4**

RONNY'S POINT (DS)
DOWNSTREAM_2858044c-9366-4179-93ae-f41c53dbd6cc_20200924_100450_270.jpg, 00:11:07, 500.06ft
Water Level, 30% of the vertical dimension / DEPTH 9' 4"

RONNY'S POINT (DS)
DOWNSTREAM_80d1b92c-2c63-4000-b9fa-c15abce6db7e_20200924_100530_968.jpg, 00:11:07, 500.06ft
Water Level, 30% of the vertical dimension / DEPTH 9' 4"

RONNY'S POINT (DS)
DOWNSTREAM_df6561b8-c95b-4a97-8689-faa7b2cba8f2_20200924_100624_032.jpg, 00:11:58, 541.04ft
Water Level, 45% of the vertical dimension

RONNY'S POINT (DS)
DOWNSTREAM_ab052775-cad1-4094-9ee9-62205d2e6e09_20200924_100649_467.jpg, 00:11:58, 541.04ft
Water Level, 45% of the vertical dimension

Section Pictures - 9/24/2020 - RONNY'S POINT (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (DS)**	**4**

RONNY'S POINT (DS)
DOWNSTREAM_54c8366f-9936-487d-8c32-aa779a561eab_20200924_100819_065.jpg, 00:13:01, 575.77ft
Water Level, 15% of the vertical dimension

RONNY'S POINT (DS)
DOWNSTREAM_9af4572a-da93-43c4-9a5e-3fc577352a34_20200924_100819_213.jpg, 00:13:01, 575.77ft
Water Level, 15% of the vertical dimension

RONNY'S POINT (DS)
DOWNSTREAM_7ade2e6f-6caa-4548-a77f-aaa732cac579_20200924_100902_608.jpg, 00:13:39, 600.00ft
Water Level, 10% of the vertical dimension / DEPTH 8' 9"

RONNY'S POINT (DS)
DOWNSTREAM_76e63014-4edf-4001-b94f-69e66203887c_20200924_101019_145.jpg, 00:13:39, 600.00ft
Water Level, 10% of the vertical dimension / DEPTH 8' 9"

Section Pictures - 9/24/2020 - RONNY'S POINT (DS) DOWNSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (DS)**	**4**

RONNY'S POINT (DS)
DOWNSTREAM_6de5e123-def9-4616-82cc-5593a249632b_20200924_101051_613.jpg, 00:14:02, 609.62ft
Crack Longitudinal at 1 o'clock

RONNY'S POINT (DS)
DOWNSTREAM_ee76ac7b-b14f-43b8-98d4-fd27049e56e5_20200924_101124_515.jpg, 00:14:31, 624.12ft
Crack Longitudinal at 1 o'clock

RONNY'S POINT (DS)
DOWNSTREAM_17c21c9d-e368-4a52-931d-e44d33640a13_20200924_101309_203.jpg, 00:15:30, 651.68ft
Tap Break-in Activity at 10 o'clock, dia/height: 5inch / 5" CLAY

RONNY'S POINT (DS)
DOWNSTREAM_6f94e5b0-7713-420b-84cb-a15ea3dd3c85_20200924_101320_685.jpg, 00:15:30, 651.68ft
Tap Break-in Activity at 10 o'clock, dia/height: 5inch / 5" CLAY

Section Pictures - 9/24/2020 - RONNY'S POINT (DS) DOWNSTREAM

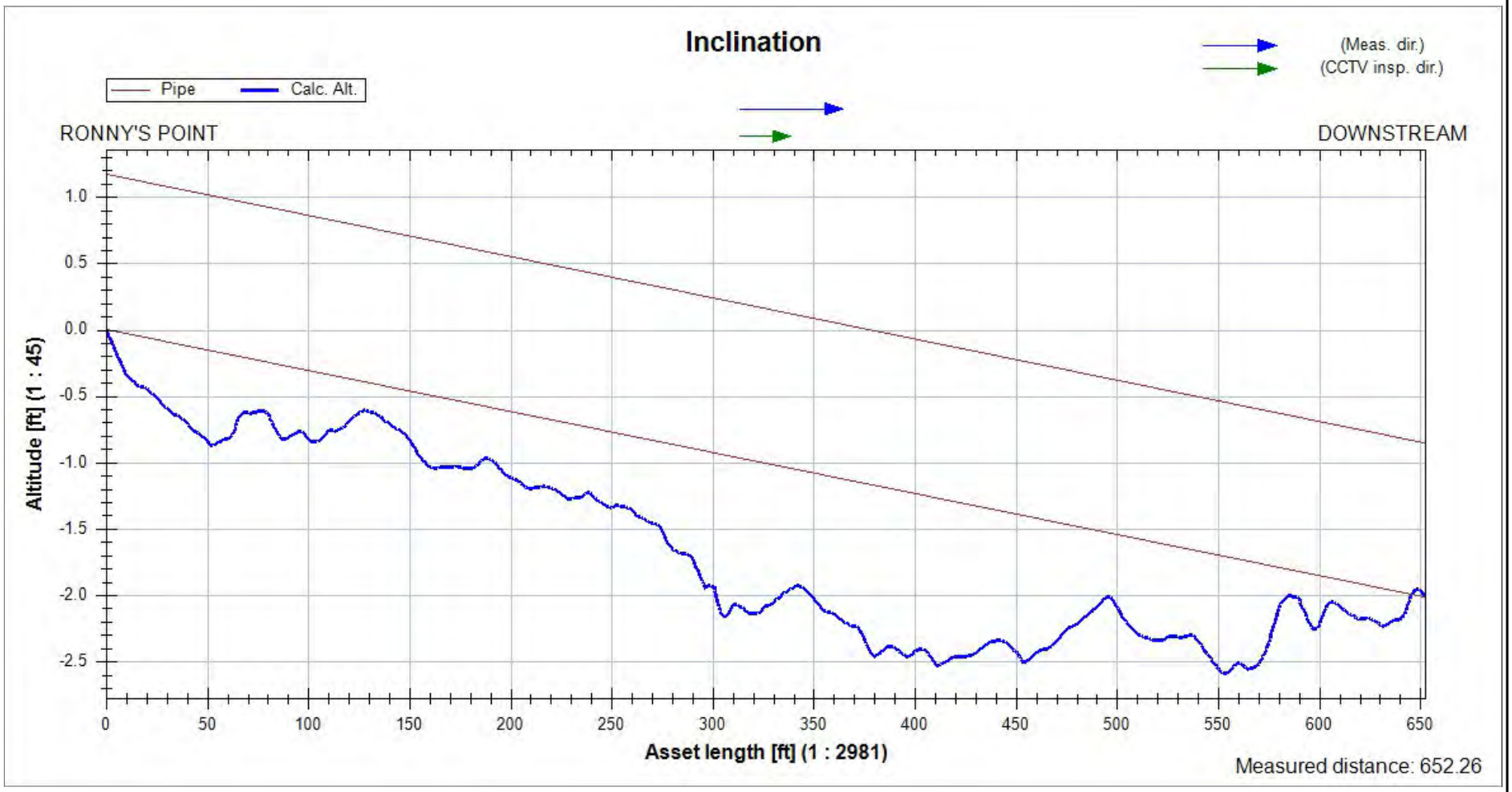
City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (DS)**	**4**

RONNY'S POINT (DS)
DOWNSTREAM_81c01547-7a8c-458c-b6f3-e615263fc8ce_20200924_101422_149.jpg, 00:15:54, 652.26ft
Miscellaneous Survey Abandoned / END OF RUN-OVERLAP

RONNY'S POINT (DS)
DOWNSTREAM_98547b51-e8ec-47a2-a904-ba8919e76957_20200924_101338_273.jpg, 00:15:49, 652.26ft
Water Level, 20% of the vertical dimension / DEPTH 8' 9"

WinCan Section Inclination - 9/24/2020 - RONNY'S

Pipe Segment Referenc	Date	Time	Surveyed By	City	Street	Direction	Length Surveyed
RONNY'S POINT (DS) DOWN	9/24/2020	9:11 AM	JOHN MEYER	WELLS	140TH STREET	Downstream	652.26
Shape	**Height**	**Width**	**Upstream MH**	**Downstream MH**	**Start altitude**	**End altitude**	**Measured Inc**
Circular	14	14	RONNY'S POINT	DOWNSTREAM	0.000	-2.017	-1.015 %



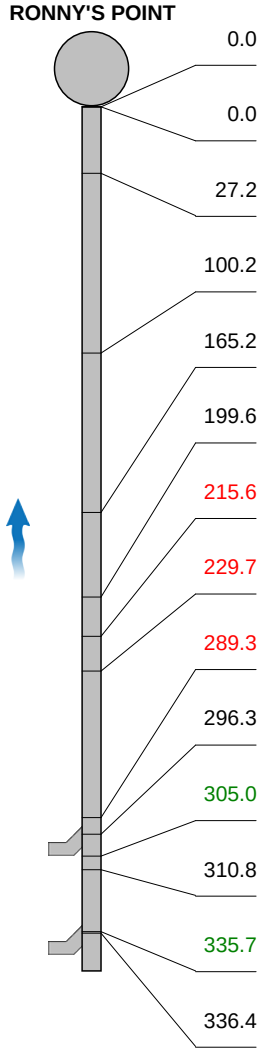
WinCan

Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/24/2020			**JOHN MEYER**	**123**	**RONNY'S POINT (US) UPSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Upstream**		**427.5 '**	**427.5 '**

City:	**WELLS**	Drainage Area:		Upstream MH:	**UPSTREAM**
Street:	**140TH STREET**	Media Label:		Up Rim to Invert:	**0.0**
Location Code:		Flow Control:		Downstream MH:	**RONNY'S POINT**
Location Details:		Sheet Number:		Down Rim to Invert:	**0.0**
Pipe shape:	**Circular**	Sewer Use:	**Combined Pipe**	Total gallons used:	**0.0**
Pipe size:	**14 "**	Sewer Category:	**SEC**	Joints passed:	**0**
Pipe material:	**Concrete Pipe (non-reinforced)**	Purpose:		Joints failed:	**0**
Lining Method:		Owner:			

Additional Info:

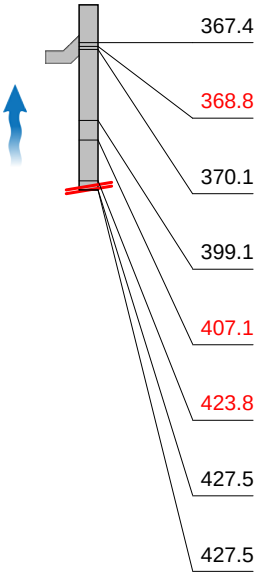


1:3074 Distance	Code	Observation	Counter	Photo	Grade
0.0	AMH	Manhole / RONNY'S POINT	00:00:05	RONNY'S POINT (US)	
0.0	MWL	Water Level, 5% of the vertical dimension	00:00:07	RONNY'S POINT (US)	
27.2	MWL	Water Level, 35% of the vertical dimension	00:01:27	RONNY'S POINT (US)	
100.2	MWL	Water Level, 20% of the vertical dimension / DEPTH 7' 5"	00:05:09	RONNY'S POINT (US)	
165.2	MWL	Water Level, 5% of the vertical dimension / DEPTH 6' 6"	00:06:20	RONNY'S POINT (US)	
199.6	MWL	Water Level, 20% of the vertical dimension / DEPTH 6' 7"	00:06:54	RONNY'S POINT (US)	
215.6	CL	Crack Longitudinal at 12 o'clock / STARTS	00:07:24	RONNY'S POINT (US)	S2
229.7	CL	Crack Longitudinal at 12 o'clock / END OF A FEW BAD TILE	00:08:16	RONNY'S POINT (US)	S2
289.3	B	Broken at 12 o'clock / START OF BROKEN TILE DEPTH 5' 9"	00:09:24	RONNY'S POINT (US)	S4
296.3	TBA	Tap Break-in Activity at 3 o'clock, dia/height: 8inch / RUNS UP TO THE NORTH	00:10:02	RONNY'S POINT (US)	
305.0	DSGV	Deposits Settled Gravel, 5% of cross sectional area at 5 o'clock	00:10:45	RONNY'S POINT (US)	M2
310.8	MWL	Water Level, 15% of the vertical dimension / DEPTH 5 5' 7"	00:11:08	RONNY'S POINT (US)	
335.7	DSGV	Deposits Settled Gravel, 10% of cross sectional area from 5 o'clock to 7 o'clock / JUST OFF OUTLET OF CLAY	00:12:49	RONNY'S POINT (US)	M2
336.4	TBA	Tap Break-in Activity at 3 o'clock, dia/height: 6inch / CLAY BACK TO THE RIGHT	00:12:16	RONNY'S POINT (US)	

WinCan

Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/24/2020			**JOHN MEYER**	**123**	**RONNY'S POINT (US) UPSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Upstream**		**427.5 '**	**427.5 '**

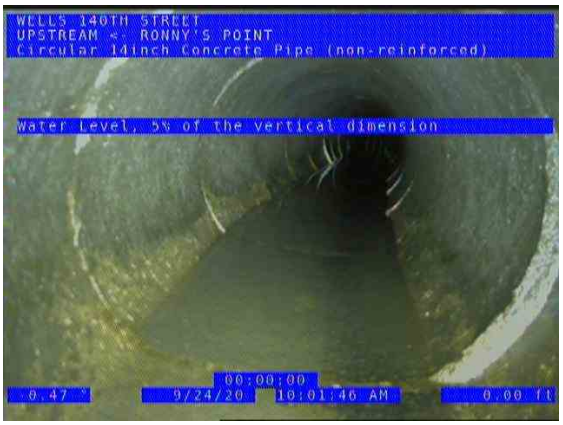


1:3074 Distance	Code	Observation	Counter	Photo	Grade
367.4	TBA	Tap Break-in Activity at 2 o'clock, dia/height: 10inch / 2 FT OFFSET FROM PRIVATE DROP INTAKE	00:14:03	RONNY'S POINT (US)	
368.8	JSL	Joint Separated Large, 2Inch / COVERED WITH CLAY AT SEAM	00:15:01	RONNY'S POINT (US)	S4
370.1	MSC	Miscellaneous Shape or Size Change, dia/height: 12inch / FAILING	00:15:27	RONNY'S POINT (US)	
399.1	MWL	Water Level, 10% of the vertical dimension / DEPTH 5' 8"	00:16:59	RONNY'S POINT (US)	
407.1	B	Broken at 12 o'clock, length: 12inch	00:17:17	RONNY'S POINT (US)	S4
423.8	B	Broken at 12 o'clock, length: 12inch	00:17:52	RONNY'S POINT (US)	S4
427.5	MWL	Water Level, 25% of the vertical dimension	00:18:56	RONNY'S POINT (US)	
427.5	MSA	Miscellaneous Survey Abandoned / UNABLE TO CONTINUE, BROKEN TILE	00:19:08	RONNY'S POINT (US)	

QSR	QMR	QOR	SPR	MPR	OPR	SPRI	MPRI	OPRI
4422	2200	4424	20.0	4.0	24.0	3.3	2.0	3.0

Section Pictures - 9/24/2020 - RONNY'S POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (US)**	**5**



RONNY'S POINT (US)
UPSTREAM_61754a40-f20e-4199-be27-75f52b21333b_20200924_102404_253.jpg, 00:00:05, 0.00ft
Manhole / RONNY'S POINT

RONNY'S POINT (US)
UPSTREAM_4f10dee5-0c9a-42a0-95aa-606b32b0f837_20200924_102409_584.jpg, 00:00:05, 0.00ft
Manhole / RONNY'S POINT

RONNY'S POINT (US)
UPSTREAM_38ab2809-13b2-4a3a-a765-8bb9ad416c29_20200924_102412_104.jpg, 00:00:07, 0.00ft
Water Level, 5% of the vertical dimension

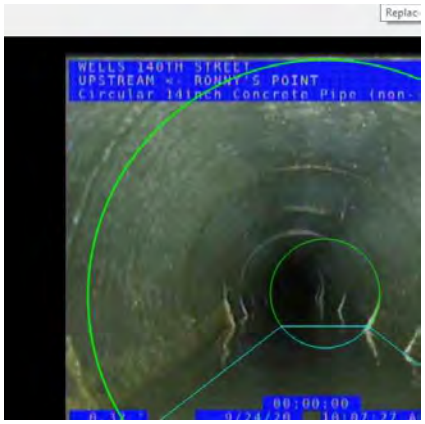
RONNY'S POINT (US)
UPSTREAM_fcb3e791-adb1-481f-b8da-6ae5d68040c6_20200924_102417_239.jpg, 00:00:07, 0.00ft
Water Level, 5% of the vertical dimension

Section Pictures - 9/24/2020 - RONNY'S POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (US)**	**5**

RONNY'S POINT (US)
UPSTREAM_3e84878b-1f19-4574-a767-dce9ee0e9c32_20200924_102525_487.jpg, 00:01:27, 27.18ft
Water Level, 35% of the vertical dimension

RONNY'S POINT (US)
UPSTREAM_c44aad47-09bf-4aa0-a196-fe6b5fd4003b_20200924_102559_853.jpg, 00:01:27, 27.18ft
Water Level, 35% of the vertical dimension



RONNY'S POINT (US)
UPSTREAM_5e890a27-9c69-4290-969b-3739b59a44eb_20200924_102945_662.jpg, 00:05:09, 100.24ft
Water Level, 20% of the vertical dimension / DEPTH 7' 5"

RONNY'S POINT (US)
UPSTREAM_9425705f-d2ae-4d64-bcb2-1022bf8bfe16_20200924_103021_693.jpg, 00:05:09, 100.24ft
Water Level, 20% of the vertical dimension / DEPTH 7' 5"

Section Pictures - 9/24/2020 - RONNY'S POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (US)**	**5**

RONNY'S POINT (US)
UPSTREAM_71b192e9-1c9f-437a-9024-d9fda2622007_20200924_103134_505.jpg, 00:06:20, 165.25ft
Water Level, 5% of the vertical dimension / DEPTH 6' 6"

RONNY'S POINT (US)
UPSTREAM_9bcee977-fada-4dd3-94db-8d8cf2e44f8f_20200924_103214_010.jpg, 00:06:20, 165.25ft
Water Level, 5% of the vertical dimension / DEPTH 6' 6"

RONNY'S POINT (US)
UPSTREAM_399ced17-e592-45b3-97ae-8b0b08561528_20200924_103250_611.jpg, 00:06:54, 199.62ft
Water Level, 20% of the vertical dimension / DEPTH 6' 7"

RONNY'S POINT (US)
UPSTREAM_21c49a0a-b7d8-4f46-8a9f-84ab6851bb36_20200924_103322_949.jpg, 00:06:54, 199.62ft
Water Level, 20% of the vertical dimension / DEPTH 6' 7"

Section Pictures - 9/24/2020 - RONNY'S POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (US)**	**5**

RONNY'S POINT (US)
UPSTREAM_ed7e8834-2e4d-4ab5-af6f-208567e58228_20200924_103416_527.jpg, 00:07:24, 215.57ft
Crack Longitudinal at 12 o'clock / STARTS

RONNY'S POINT (US)
UPSTREAM_a178090c-a63a-4ab7-af60-a3e73fa6efc3_20200924_103443_442.jpg, 00:07:24, 215.57ft
Crack Longitudinal at 12 o'clock / STARTS

RONNY'S POINT (US)
UPSTREAM_0e1bc8c6-9bd7-473f-af5c-a9a4c50491df_20200924_103525_526.jpg, 00:08:16, 229.74ft
Crack Longitudinal at 12 o'clock / END OF A FEW BAD TILE

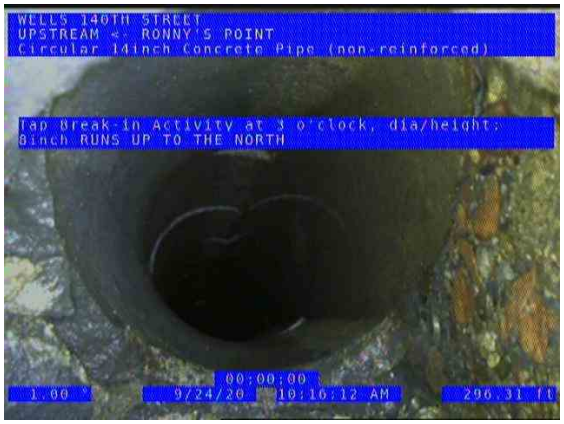
RONNY'S POINT (US)
UPSTREAM_39553e5a-45b3-48ca-9860-18def4ea2392_20200924_103530_053.jpg, 00:08:16, 229.74ft
Crack Longitudinal at 12 o'clock / END OF A FEW BAD TILE

Section Pictures - 9/24/2020 - RONNY'S POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (US)**	**5**

RONNY'S POINT (US)
UPSTREAM_39a809de-0ae9-4101-a0b9-3fa7217bcde0_20200924_103700_818.jpg, 00:09:24, 289.35ft
Broken at 12 o'clock / START OF BROKEN TILE DEPTH 5' 9"

RONNY'S POINT (US)
UPSTREAM_6053434c-195f-49ed-bbda-1295638bfaa5_20200924_103705_803.jpg, 00:09:24, 289.35ft
Broken at 12 o'clock / START OF BROKEN TILE DEPTH 5' 9"



RONNY'S POINT (US)
UPSTREAM_c9ad6c2b-abba-43d6-8f98-f6687e889642_20200924_103831_240.jpg, 00:10:02, 296.31ft
Tap Break-in Activity at 3 o'clock, dia/height: 8inch / RUNS UP TO THE NORTH

RONNY'S POINT (US)
UPSTREAM_c8a3e2e7-f3c8-41d9-af15-b246e8f881b5_20200924_103849_134.jpg, 00:10:02, 296.31ft
Tap Break-in Activity at 3 o'clock, dia/height: 8inch / RUNS UP TO THE NORTH

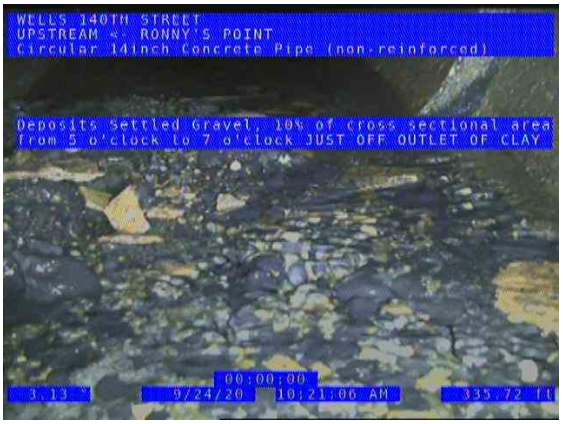
Section Pictures - 9/24/2020 - RONNY'S POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (US)**	**5**

RONNY'S POINT (US)
UPSTREAM_1df92873-2d35-4379-af25-858b25836c2d_20200924_103923_835.jpg, 00:10:45, 305.00ft
Deposits Settled Gravel, 5% of cross sectional area at 5 o'clock

RONNY'S POINT (US)
UPSTREAM_0124fd27-80ba-4df0-9130-53837ef63d06_20200924_103950_067.jpg, 00:11:08, 310.76ft
Water Level, 15% of the vertical dimension / DEPTH 5 5' 7"

RONNY'S POINT (US)
UPSTREAM_5205a8e1-407b-4426-a342-61df361cbd41_20200924_104028_489.jpg, 00:11:08, 310.76ft
Water Level, 15% of the vertical dimension / DEPTH 5 5' 7"



RONNY'S POINT (US)
UPSTREAM_fa0b7912-a67b-4285-a6a3-2cd3f7516eb5_20200924_104324_336.jpg, 00:12:49, 335.72ft
Deposits Settled Gravel, 10% of cross sectional area from 5 o'clock to 7 o'clock / JUST OFF OUTLET OF CLAY

Section Pictures - 9/24/2020 - RONNY'S POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (US)**	**5**

RONNY'S POINT (US)
UPSTREAM_25a97eac-e7c5-498a-b782-ec34f1a1fbfa_20200924_104234_763.jpg, 00:12:16, 336.39ft
Tap Break-in Activity at 3 o'clock, dia/height: 6inch / CLAY BACK TO THE RIGHT

RONNY'S POINT (US)
UPSTREAM_1f801f72-8a5b-4421-b018-c4ccc3c00d65_20200924_104256_049.jpg, 00:12:16, 336.39ft
Tap Break-in Activity at 3 o'clock, dia/height: 6inch / CLAY BACK TO THE RIGHT

RONNY'S POINT (US)
UPSTREAM_b2c5559d-1751-4e12-a06b-f65eda491a81_20200924_104528_821.jpg, 00:14:03, 367.41ft
Tap Break-in Activity at 2 o'clock, dia/height: 10inch / 2 FT OFFSET FROM PRIVATE DROP INTAKE

RONNY'S POINT (US)
UPSTREAM_1a5df952-1228-47c1-89f2-3fd578278d69_20200924_104556_546.jpg, 00:14:03, 367.41ft
Tap Break-in Activity at 2 o'clock, dia/height: 10inch / 2 FT OFFSET FROM PRIVATE DROP INTAKE

Section Pictures - 9/24/2020 - RONNY'S POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (US)**	**5**

RONNY'S POINT (US)
UPSTREAM_bb63fa9a-0620-4617-a6c9-6abe49611074_20200924_104647_593.jpg, 00:15:01, 368.81ft
Joint Separated Large, 2Inch / COVERED WITH CLAY AT SEAM

RONNY'S POINT (US)
UPSTREAM_bde5e63e-16d8-4939-ad0f-a879f5b9c353_20200924_104658_501.jpg, 00:15:01, 368.81ft
Joint Separated Large, 2Inch / COVERED WITH CLAY AT SEAM

RONNY'S POINT (US)
UPSTREAM_604ccbf6-a7a6-4249-9718-82773e2145ec_20200924_104740_987.jpg, 00:15:27, 370.14ft
Miscellaneous Shape or Size Change, dia/height: 12inch / FAILING

RONNY'S POINT (US)
UPSTREAM_57e8f55f-f40e-4120-8ab8-2ff05dc94e57_20200924_104747_018.jpg, 00:15:27, 370.14ft
Miscellaneous Shape or Size Change, dia/height: 12inch / FAILING

Section Pictures - 9/24/2020 - RONNY'S POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (US)**	**5**

RONNY'S POINT (US)
UPSTREAM_9e395046-a00c-4bdf-84c0-6fe072be308c_20200924_104911_155.jpg, 00:16:59, 399.15ft
Water Level, 10% of the vertical dimension / DEPTH 5' 8"

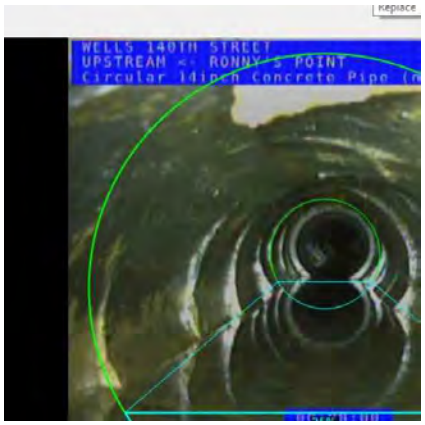
RONNY'S POINT (US)
UPSTREAM_2646cc8a-245a-49a2-86ee-10bea5eb9939_20200924_104956_869.jpg, 00:16:59, 399.15ft
Water Level, 10% of the vertical dimension / DEPTH 5' 8"

RONNY'S POINT (US)
UPSTREAM_e79b1519-cffb-4246-8141-0b242127b4df_20200924_105028_736.jpg, 00:17:17, 407.09ft
Broken at 12 o'clock, length: 12inch

RONNY'S POINT (US)
UPSTREAM_e629e8a9-806d-4c8b-93fc-dec3dc06f704_20200924_105111_457.jpg, 00:17:52, 423.80ft
Broken at 12 o'clock, length: 12inch

Section Pictures - 9/24/2020 - RONNY'S POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**RONNY'S POINT (US)**	**5**



RONNY'S POINT (US)
UPSTREAM_666f0ac7-93ba-4e0b-bf1a-f62f463c566e_20200924_105219_434.jpg, 00:18:56, 427.49ft
Water Level, 25% of the vertical dimension

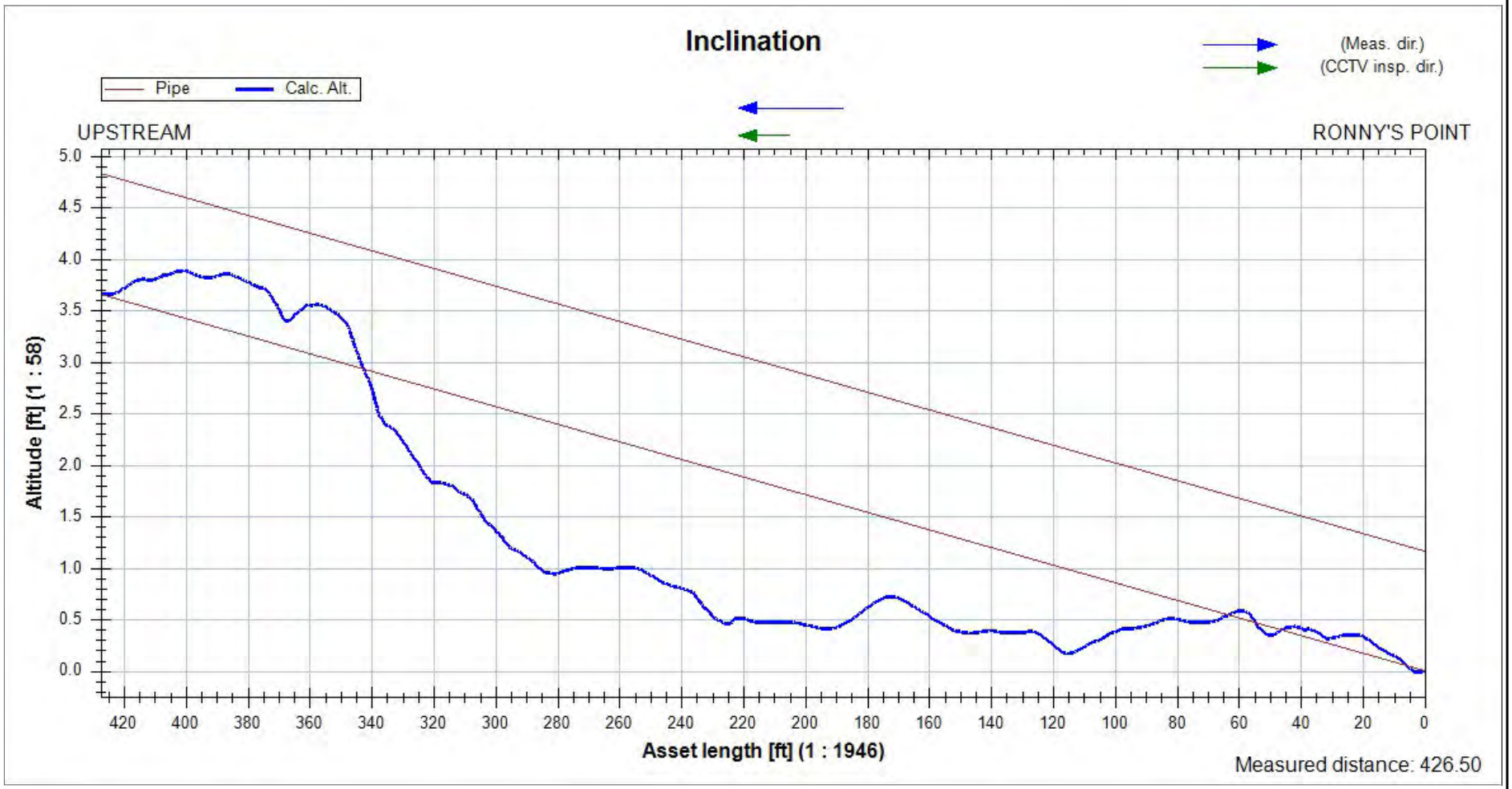
RONNY'S POINT (US)
UPSTREAM_4432ea83-3f4d-4f93-a2b6-87c6aa2c97cc_20200924_105300_997.jpg, 00:18:56, 427.49ft
Water Level, 25% of the vertical dimension

RONNY'S POINT (US)
UPSTREAM_ec9d819f-136e-448f-b255-9ef79eb24f75_20200924_105325_883.jpg, 00:19:08, 427.49ft
Miscellaneous Survey Abandoned / UNABLE TO CONTINUE, BROKEN TILE

RONNY'S POINT (US)
UPSTREAM_89be9b19-dbf9-4655-96fd-f51179d77125_20200924_105330_344.jpg, 00:19:08, 427.49ft
Miscellaneous Survey Abandoned / UNABLE TO CONTINUE, BROKEN TILE

WinCan Section Inclination - 9/24/2020 - RONNY'S

Pipe Segment Referenc	Date	Time	Surveyed By	City	Street	Direction	Length Surveyed
RONNY'S POINT (US) UPS	9/24/2020	10:22 AM	JOHN MEYER	WELLS	140TH STREET	Upstream	426.50
Shape	**Height**	**Width**	**Upstream MH**	**Downstream MH**	**Start altitude**	**End altitude**	**Measured Inc**
Circular	14	14	UPSTREAM	RONNY'S POINT	0.000	3.661	-2.816 %

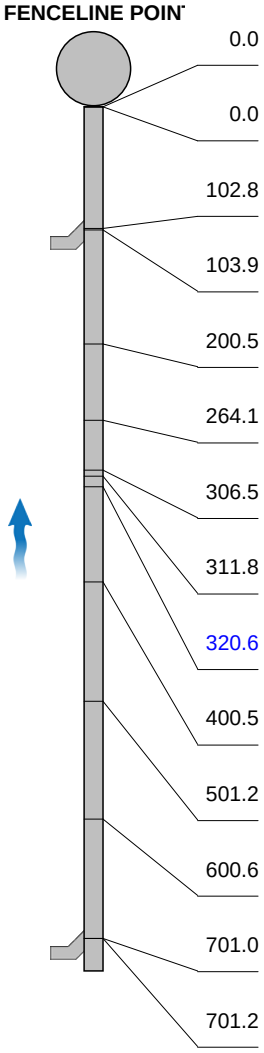


Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/24/2020			**JOHN MEYER**	**123**	**FENCELINE POINT (US) UPSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Upstream**		**970.4 '**	**970.4 '**

City:	**WELLS**	Drainage Area:		Upstream MH:	**UPSTREAM**
Street:	**140TH STREET**	Media Label:		Up Rim to Invert:	**0.0**
Location Code:		Flow Control:		Downstream MH:	**FENCELINE POINT**
Location Details:		Sheet Number:		Down Rim to Invert:	**0.0**
Pipe shape:	**Circular**	Sewer Use:	**Combined Pipe**	Total gallons used:	**0.0**
Pipe size:	**8 "**	Sewer Category:	**SEC**	Joints passed:	**0**
Pipe material:	**Concrete Pipe (non-reinforced)**	Purpose:		Joints failed:	**0**
Lining Method:		Owner:			

Additional Info:



1:6364 Distance	Code	Observation	Counter	Photo	Grade
0.0	AMH	Manhole / FENCELINE POINT	00:00:02	FENCELINE POINT (US)	
0.0	MWL	Water Level, 25% of the vertical dimension	00:00:20	FENCELINE POINT (US)	
102.8	TBA	Tap Break-in Activity at 2 o'clock, dia/height: 5inch / CEMENT	00:03:47	FENCELINE POINT (US)	
103.9	MWL	Water Level, 15% of the vertical dimension / DEPTH 5' 8"	00:03:36	FENCELINE POINT (US)	
200.5	MWL	Water Level, 15% of the vertical dimension / DEPTH 7" 1"	00:06:06	FENCELINE POINT (US)	
264.1	MGO	Miscellaneous General Observation / LH BEND DEPTH 7' 5"	00:07:15	FENCELINE POINT (US)	
306.5	MWL	Water Level, 10% of the vertical dimension / DEPTH 8' 3 "	00:08:47	FENCELINE POINT (US)	
311.8	MWL	Water Level, 5% of the vertical dimension / HUMP IN PIPE	00:09:00	FENCELINE POINT (US)	
320.6	MWLS	Miscellaneous Water Level, Sag, 45% of the vertical dimension / UPSTREAM FROM A LARGE HUMP	00:09:34	FENCELINE POINT (US)	S3
400.5	MWL	Water Level, 70% of the vertical dimension / DEPTH 10'	00:11:04	FENCELINE POINT (US)	
501.2	MWL	Water Level, 40% of the vertical dimension / DEPTH 8' 10"	00:13:01	FENCELINE POINT (US)	
600.6	MWL	Water Level, 25% of the vertical dimension / DEPTH 8' 4"	00:15:05	FENCELINE POINT (US)	
701.0	TBA	Tap Break-in Activity at 2 o'clock, dia/height: 5inch / PUT IN 2015-PRIVATE	00:17:23	FENCELINE POINT (US)	
701.2	MWL	Water Level, 30% of the vertical dimension / DEPTH 6' 8"	00:17:52	FENCELINE POINT (US)	

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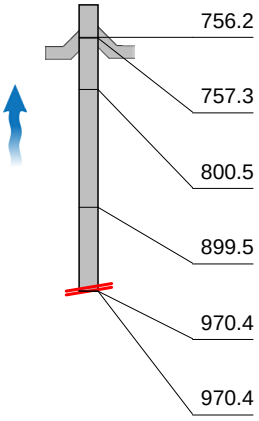
Inspection report

Date:	Work Order:	Weather:	Surveyed By:	Certificate Number:	Pipe Segment Ref.:
9/24/2020			**JOHN MEYER**	**123**	**FENCELINE POINT (US) UPSTREAM**
Year laid:	Pre-cleaning:	Direction:	Pipe Joint Length:	Total Length:	Length Surveyed:
	No Pre-Cleaning	**Upstream**		**970.4 '**	**970.4 '**



Distance	Code	Observation	Counter	Photo	Grade
756.2	TBD	Tap Break-In Defective at 9 o'clock, dia/height: 5inch / PRIVATE	00:26:06	FENCELINE POINT (US)	M3
757.3	TBA	Tap Break-in Activity at 3 o'clock, dia/height: 5inch / PRIVATE	00:26:06	FENCELINE POINT (US)	
800.5	MWL	Water Level, 30% of the vertical dimension / DEPTH 5' 9"	00:20:31	FENCELINE POINT (US)	
899.5	MWL	Water Level, 40% of the vertical dimension / DEPTH 4'	00:23:37	FENCELINE POINT (US)	
970.4	MWL	Water Level, 20% of the vertical dimension / DEPTH 4" 3"	00:25:39	FENCELINE POINT (US)	
970.4	MSA	Miscellaneous Survey Abandoned / END OF TETHER	00:25:42	FENCELINE POINT (US)	

QSR	QMR	QOR	SPR	MPR	OPR	SPRI	MPRI	OPRI
3100	3100	3200	3.0	3.0	6.0	3.0	3.0	3.0

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Section Pictures - 9/24/2020 - FENCELINE POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**FENCELINE POINT (US)**	**6**

FENCELINE POINT (US)
UPSTREAM_c1dbd586-bae8-4492-9151-c3cdef1d84dd_20200924_113958_208.jpg, 00:00:02, 0.00ft
Manhole / FENCELINE POINT

FENCELINE POINT (US)
UPSTREAM_651a4237-19ae-475e-8fbb-b7fafccdefc0_20200924_114002_905.jpg, 00:00:02, 0.00ft
Manhole / FENCELINE POINT

FENCELINE POINT (US)
UPSTREAM_73d56c79-e184-48cb-be7c-f95b3025b429_20200924_114009_492.jpg, 00:00:20, 0.00ft
Water Level, 25% of the vertical dimension

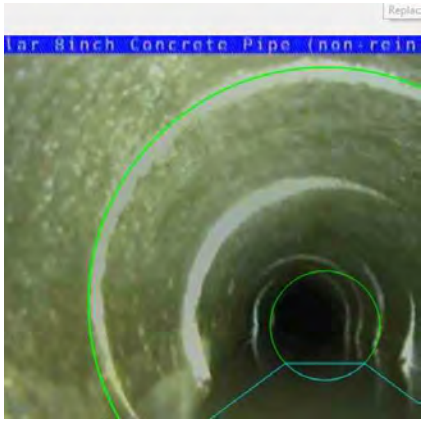
FENCELINE POINT (US)
UPSTREAM_1dcac2ab-b491-4ccc-9483-22c4efc65ee1_20200924_114043_359.jpg, 00:00:20, 0.00ft
Water Level, 25% of the vertical dimension

Section Pictures - 9/24/2020 - FENCELINE POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**FENCELINE POINT (US)**	**6**

FENCELINE POINT (US)
UPSTREAM_bd06800b-a3b2-49c1-b621-314e4227e21f_20200924_114502_201.jpg, 00:03:47, 102.83ft
Tap Break-in Activity at 2 o'clock, dia/height: 5inch / CEMENT

FENCELINE POINT (US)
UPSTREAM_cd41253a-83c5-4676-bb6e-82c7940ec7f4_20200924_114516_747.jpg, 00:03:47, 102.83ft
Tap Break-in Activity at 2 o'clock, dia/height: 5inch / CEMENT

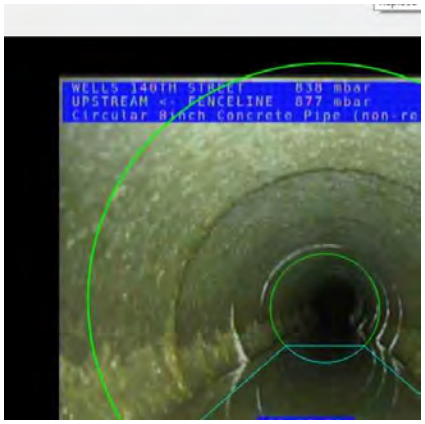


FENCELINE POINT (US)
UPSTREAM_ed6b9700-3d4c-4b75-9dd6-d65c4009ec2f_20200924_114412_262.jpg, 00:03:36, 103.94ft
Water Level, 15% of the vertical dimension / DEPTH 5' 8"

FENCELINE POINT (US)
UPSTREAM_750ce619-4ff4-47f7-b6a3-eabacdbfeec3_20200924_114429_321.jpg, 00:03:36, 103.94ft
Water Level, 15% of the vertical dimension / DEPTH 5' 8"

Section Pictures - 9/24/2020 - FENCELINE POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**FENCELINE POINT (US)**	**6**



FENCELINE POINT (US)
UPSTREAM_76d393c1-c690-4a58-b422-edfbbdb328a1_20200924_114725_438.jpg, 00:06:06, 200.46ft
Water Level, 15% of the vertical dimension / DEPTH 7" 1"

FENCELINE POINT (US)
UPSTREAM_75c6ef38-44ed-4421-a65c-ed163a308056_20200924_114811_441.jpg, 00:06:06, 200.46ft
Water Level, 15% of the vertical dimension / DEPTH 7" 1"

FENCELINE POINT (US)
UPSTREAM_5cc3dc3c-849b-4201-92ed-bcc711c71ec7_20200924_114933_185.jpg, 00:07:15, 264.14ft
Miscellaneous General Observation / LH BEND DEPTH 7' 5"

FENCELINE POINT (US)
UPSTREAM_c6b030dd-a1bf-4760-a5f3-7ef85b69e781_20200924_114941_752.jpg, 00:07:15, 264.14ft
Miscellaneous General Observation / LH BEND DEPTH 7' 5"

Section Pictures - 9/24/2020 - FENCELINE POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**FENCELINE POINT (US)**	**6**

FENCELINE POINT (US)
UPSTREAM_16706eee-b8b1-4b11-bf42-a256eef4e605_20200924_115108_196.jpg, 00:08:47, 306.46ft
Water Level, 10% of the vertical dimension / DEPTH 8' 3 "

FENCELINE POINT (US)
UPSTREAM_caf3f41d-e45d-4b4b-8a15-2331daf04ce6_20200924_115139_245.jpg, 00:08:47, 306.46ft
Water Level, 10% of the vertical dimension / DEPTH 8' 3 "

FENCELINE POINT (US)
UPSTREAM_46529899-ff49-47cc-bd4d-410136e5981c_20200924_115218_848.jpg, 00:09:00, 311.79ft
Water Level, 5% of the vertical dimension / HUMP IN PIPE

FENCELINE POINT (US)
UPSTREAM_d19612e0-6dd7-4217-826c-3bd70d86f5e1_20200924_115226_949.jpg, 00:09:00, 311.79ft
Water Level, 5% of the vertical dimension / HUMP IN PIPE

Section Pictures - 9/24/2020 - FENCELINE POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**FENCELINE POINT (US)**	**6**

FENCELINE POINT (US)
UPSTREAM_e1205acf-2fbc-4fef-9ce6-5cf5a28f9540_20200924_115301_673.jpg, 00:09:34, 320.65ft
Miscellaneous Water Level, Sag, 45% of the vertical dimension / UPSTREAM FROM A LARGE HUMP

FENCELINE POINT (US)
UPSTREAM_ccd425f4-2265-4a7f-b251-49792cea78a8_20200924_115332_828.jpg, 00:09:34, 320.65ft
Miscellaneous Water Level, Sag, 45% of the vertical dimension / UPSTREAM FROM A LARGE HUMP

FENCELINE POINT (US)
UPSTREAM_6959f7ad-d023-47e0-b298-b14d59eabbdd_20200924_115520_398.jpg, 00:11:04, 400.51ft
Water Level, 70% of the vertical dimension / DEPTH 10'

FENCELINE POINT (US)
UPSTREAM_d1661635-ae2c-4e8b-931e-0a02994c9979_20200924_115554_309.jpg, 00:11:04, 400.51ft
Water Level, 70% of the vertical dimension / DEPTH 10'

Section Pictures - 9/24/2020 - FENCELINE POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**FENCELINE POINT (US)**	**6**

FENCELINE POINT (US)
UPSTREAM_526d18d5-8dc1-4079-b23d-1f06cae820e5_20200924_115753_719.jpg, 00:13:01, 501.15ft
Water Level, 40% of the vertical dimension / DEPTH 8' 10"

FENCELINE POINT (US)
UPSTREAM_6821c268-038e-417e-9a25-d38b031e7b0e_20200924_115816_223.jpg, 00:13:01, 501.15ft
Water Level, 40% of the vertical dimension / DEPTH 8' 10"

FENCELINE POINT (US)
UPSTREAM_7de2b54c-62cd-40f2-afd8-afac93c8a69e_20200924_120022_579.jpg, 00:15:05, 600.65ft
Water Level, 25% of the vertical dimension / DEPTH 8' 4"

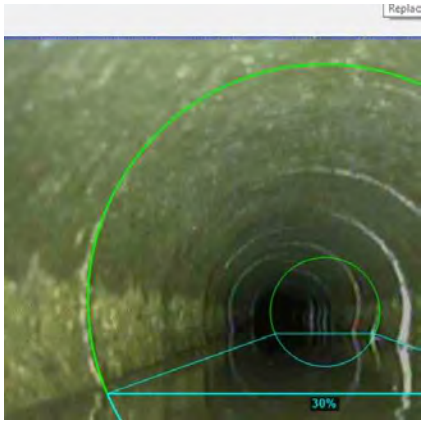
FENCELINE POINT (US)
UPSTREAM_ebcc9ad3-440b-4ae0-95de-b7817c2c3648_20200924_120052_495.jpg, 00:15:05, 600.65ft
Water Level, 25% of the vertical dimension / DEPTH 8' 4"

Section Pictures - 9/24/2020 - FENCELINE POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**FENCELINE POINT (US)**	**6**

FENCELINE POINT (US)
UPSTREAM_5283c6b1-3c85-4e7c-80f1-634038d44782_20200924_120344_062.jpg, 00:17:23, 700.98ft
Tap Break-in Activity at 2 o'clock, dia/height: 5inch / PUT IN 2015-PRIVATE

FENCELINE POINT (US)
UPSTREAM_9aef5376-e8f9-491d-b1b8-c62922ad16d3_20200924_120356_995.jpg, 00:17:23, 700.98ft
Tap Break-in Activity at 2 o'clock, dia/height: 5inch / PUT IN 2015-PRIVATE



FENCELINE POINT (US)
UPSTREAM_6b851c5d-c45c-4851-a6b1-b379e17d4a5c_20200924_120415_265.jpg, 00:17:52, 701.16ft
Water Level, 30% of the vertical dimension / DEPTH 6' 8"

FENCELINE POINT (US)
UPSTREAM_be5c8ddc-d576-4cde-93c1-13728a6ceff7_20200924_120437_917.jpg, 00:17:52, 701.16ft
Water Level, 30% of the vertical dimension / DEPTH 6' 8"

Section Pictures - 9/24/2020 - FENCELINE POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**FENCELINE POINT (US)**	**6**

FENCELINE POINT (US)
UPSTREAM_06da4976-ea3c-4f97-a795-b85963c21597_20200924_122204_841.jpg, 00:26:06, 756.19ft
Tap Break-In Defective at 9 o'clock, dia/height: 5inch / PRIVATE

FENCELINE POINT (US)
UPSTREAM_680b6eb1-c1be-4a4b-b9ce-f67bf88ebe9d_20200924_122218_272.jpg, 00:26:06, 756.19ft
Tap Break-In Defective at 9 o'clock, dia/height: 5inch / PRIVATE

FENCELINE POINT (US)
UPSTREAM_0d8b17d8-129b-4b6f-a301-59098cd11c0c_20200924_122028_542.jpg, 00:26:06, 757.30ft
Tap Break-in Activity at 3 o'clock, dia/height: 5inch / PRIVATE

FENCELINE POINT (US)
UPSTREAM_037e6d6c-d017-4ede-b073-6a55621c08f5_20200924_122051_591.jpg, 00:26:06, 757.30ft
Tap Break-in Activity at 3 o'clock, dia/height: 5inch / PRIVATE

Section Pictures - 9/24/2020 - FENCELINE POINT (US) UPSTREAM

City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**FENCELINE POINT (US)**	**6**

FENCELINE POINT (US)
UPSTREAM_a2819279-72f7-4f89-8429-1522c6179ea0_20200924_120726_904.jpg, 00:20:31, 800.47ft
Water Level, 30% of the vertical dimension / DEPTH 5' 9"

FENCELINE POINT (US)
UPSTREAM_979bc4a1-d85f-428f-b458-a797c7bcc3ad_20200924_120743_508.jpg, 00:20:31, 800.47ft
Water Level, 30% of the vertical dimension / DEPTH 5' 9"

FENCELINE POINT (US)
UPSTREAM_d9dda0ad-a71a-4077-b267-19f6f7f21b3f_20200924_121050_774.jpg, 00:23:37, 899.51ft
Water Level, 40% of the vertical dimension / DEPTH 4'

FENCELINE POINT (US)
UPSTREAM_02b59f98-1845-4bb0-87a4-fa75293ccc9e_20200924_121119_386.jpg, 00:23:37, 899.51ft
Water Level, 40% of the vertical dimension / DEPTH 4'

Section Pictures - 9/24/2020 - FENCELINE POINT (US) UPSTREAM

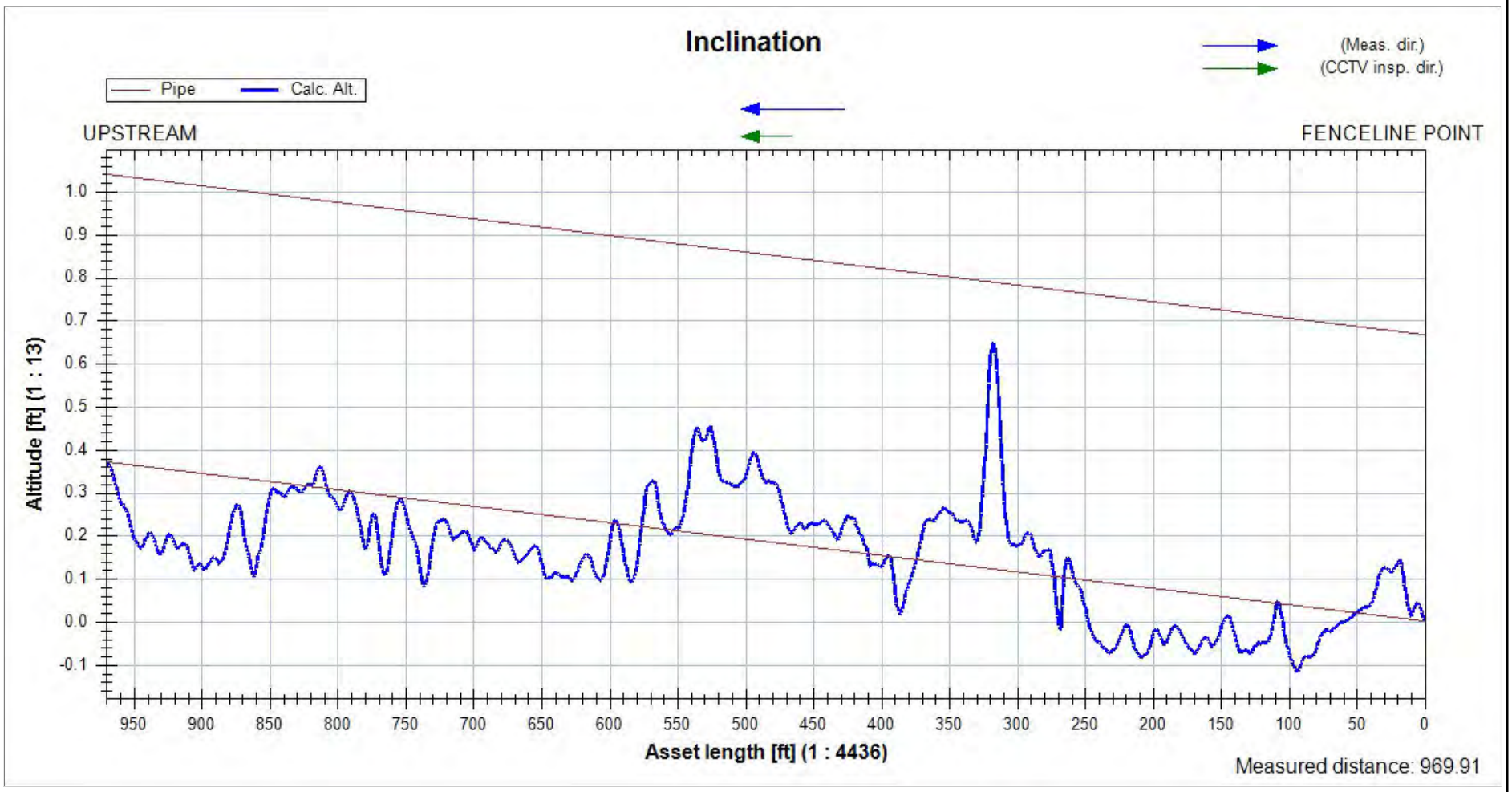
City	Street	Date	Pipe Segment Reference	Section No.
WELLS	**140TH STREET**	**9/24/2020**	**FENCELINE POINT (US)**	**6**

FENCELINE POINT (US)
UPSTREAM_14bafc3d-84ef-46d8-98e7-6c73e8b4929c_20200924_121357_384.jpg, 00:25:39, 970.39ft
Water Level, 20% of the vertical dimension / DEPTH 4" 3"

FENCELINE POINT (US)
UPSTREAM_1c3b8813-8310-422e-a5c5-394e9a241a91_20200924_121422_197.jpg, 00:25:39, 970.39ft
Water Level, 20% of the vertical dimension / DEPTH 4" 3"

FENCELINE POINT (US)
UPSTREAM_37a94f49-c1b9-4e3d-94e2-4612c3b443be_20200924_121433_020.jpg, 00:25:42, 970.39ft
Miscellaneous Survey Abandoned / END OF TETHER

FENCELINE POINT (US)
UPSTREAM_69468ece-b8ea-48d6-aa52-e415b4f34cba_20200924_121444_057.jpg, 00:25:42, 970.39ft
Miscellaneous Survey Abandoned / END OF TETHER

WinCan Section Inclination - 9/24/2020 - FENCELINE

Pipe Segment Referenc	Date	Time	Surveyed By	City	Street	Direction	Length Surveyed
FENCELINE POINT (US) UPS	9/24/2020	11:36 AM	JOHN MEYER	WELLS	140TH STREET	Upstream	969.91
Shape	**Height**	**Width**	**Upstream MH**	**Downstream MH**	**Start altitude**	**End altitude**	**Measured Inc**
Circular	8	8	UPSTREAM	FENCELINE POINT	0.000	0.372	-0.126 %