



THE CITY OF
CANTON
THOMAS M. BERNABEL, MAYOR

March 22, 2019

Ohio Environmental Protection Agency
Northeast District Office
Attn: Ms. Laura Shriver
2110 East Aurora Road
Twinsburg, Ohio 44087-1969

Re: Outfall 300 – Sanitary Sewer Overflow Annual Report

Dear Ms. Shriver,

Please find enclosed one (1) copy of the City of Canton's Sanitary Sewer Overflow Annual Report as required by our National Pollutant Discharge Elimination System (NPDES) Permit. One additional copy of this report is also being transmitted to the Ohio EPA, Division of Surface Water, NPDES Permit Unit by copy of this letter. We are also transmitting electronic copies to the USEPA as required by our recent Administrative Order on Consent.

Also, as required by our NPDES permit, we are notifying the public of the availability of this report. This will be accomplished by publishing a legal notice in the "The Repository", Canton's local newspaper. We will also post the report on the City of Canton's website at www.cantonohio.gov.

If you have any questions, please contact our office at (330) 489-3031.

Sincerely,



James M. DiMarzio
Collection Systems Superintendent

Enclosures

cc: John M. Highman, Jr., Director of Public Service
Daniel J. Moeglin, P.E., S.I., City Engineer
Tracy J. Mills, WRF Superintendent
David Brumbaugh, Ohio EPA (via email)
Marta Grabowski, USEPA (via email)
Robert Peachey, USEPA (via email)
R5WECA@epa.gov (via email)
File



Sanitary Sewer Overflow Annual Report

Division of Surface Water

Date: March 22, 2019
Facility name: City of Canton, Ohio
Ohio NPDES permit no.: 3PE00000*QD
Period covered by report: January 1, 2018 - December 31, 2018

Contact person

Name: James M. DiMarzio
Title: Superintendent
Mailing address: 2901 Regent Avenue NE, Canton, Ohio 44705
Telephone: (330)489 - 3031
Email: james.dimarzio@cantonohio.gov

Certification:

I certify under penalty of law that I have personally examined and am familiar with the information in this report and all attachments. Based on my inquiry of those persons immediately for obtaining the information contained in the report, I believe that the information is true, accurate, and complete.

Name James M. DiMarzio
(typed):

Title: Superintendent

Signature:

A handwritten signature in blue ink, appearing to read "James M. DiMarzio", written over a horizontal line.

Date:

3/22/19

[illegible]

A. Assign each SSO location a unique identification by numbering them consecutively, beginning with 301.

B. Enter name of receiving water. If an SSO enters a storm sewer, enter "SS to (name of receiving water)." If an SSO does not reach a receiving water, enter (None".

C. If an SSO has been eliminated, enter the date of elimination (MM/DD/YY).

Use additional pages as needed.

A. A sewershed is a specific geographic area, such as a city block or a subdivision, that drains to a common outlet.

B. Enter the total number of water in basement occurrences reported for the sewershed.

C. Enter all causes that apply: W= extreme weather; E = equipment failure; P = power failure; D = debris in line; R = roots; G = grease; B = other blockages; L = line deterioration; V = vandalism; O = other, provide details.

Use additional pages as needed.

EPA 4238 (06/06)

Page 5 of 8

SSO Annual Report Table 3: Water In Basement Occurrences		Ohio NPDES Permit No.: 3PE00000*QD
Sewershed ^A	WIB Occurrences ^B	Causes ^C
1 SW	1	G
2 SW	1	G
3 SW		
4 SW		
5 SW	1	G
6 SW	5	W, B, G, R
7 SW		
8 SW		
9 SW		
10 SW	1	G
11 SW	1	W, B, G, R
12 SW	1	B
13 SW		
14 SW		
15 SW	1	G, B
16 SW		
17 SW		
18 SW		
19 SW		
20 SW		
21 SW		
22 SW		
23 SW		
1 NE		
2 NE		
3 NE		
4 NE	1	B
5 NE		
6 NE		
7 NE		
8 NE		
9 NE		
10 NE		
11 NE		
12 NE	1	B
13 NE	2	W, B
14 NE	1	B
15 NE		
16 NE	1	G
17 NE		
18 NE	1	B
19 NE		
20 NE	1	B
21 NE		
22 NE		
23 NE		
24 NE		

A. A sewershed is a specific geographic area, such as a city block or a subdivision, that drains to a common outlet.

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Use additional pages as needed.

Enter narrative analysis of WIB patterns by location, frequency and cause.

In the past, the City has performed Inflow and Infiltration (I/I) Studies and Sanitary Sewer Evaluation Studies (SSES), via engineering consultants, to evaluate the condition of the sanitary sewer system. In these studies, the system was divided into several sewersheds. For the purpose of this annual report, we have utilized these sewersheds to determine the number of Water in Basement (WIB) occurrences reported in each. Areas outside of the limits of the previous engineering studies have since been added in a consistent manner and sewershed boundaries have been refined as information becomes available.

The City has also created spreadsheets and charts including each reported WIB based on sewershed. Summary charts of this information are included in Appendix B. Based on this information, we are performing this analysis of WIB patterns by location, frequency and cause.

In 2018, the City received 409 WIB calls from city sewer customers. Upon receipt of these calls, the Collection Systems Department (CSD) dispatched a cleaning and/or televising crew to investigate the cause of the WIB. If it was determined that the WIB was the result of an issue within the mainline (City maintained) sanitary sewer, the CSD proceeded to identify and address the cause backup. Canton refers to backups as a result of issues within the mainline sanitary sewer as "Public WIBs". Public WIBs may be caused by one or multiple issues (e.g.: debris in the line, line deteriorations, grease, wet weather, etc.). Of the 409 WIB related calls, 51 occurrences were considered Public WIBs; 21 of which were attributable to wet weather.

On many occasions, when it was determined the public sanitary system was not the cause of the WIB, the CSD crew informed the customer of apparent lateral deterioration and/or blockages. By ordinance, laterals from the building to the main line sewer connection are privately owned and maintained by the building owner. When possible, CSD crews provided recommendations to the customer regarding remediation efforts and potential repairs via a private contractor. When available, the cause of the blockage, public and private, is recorded on the associated work order. However, the cause is typically unknown for a "Private WIB". For the purposes of this WIB analysis, only publicly caused WIBs are included.

In 2018, approximately 39% Canton's Public WIB occurrences were reported during periods of wet weather. The date with the most reports of WIBs (5) occurred on July 5, 2018 after 0.12 inches of rain fell on already saturated ground. On September 9, 2018, 2.5 inches of rain was recorded with only 2 reported publicly caused WIB events.

In past annual reports, Canton typically analyzed sewersheds that had five or more Public WIB occurrences in the reporting year. For this reporting year, there were two sewersheds that met this criteria (08 NW and 06 SW). Individual maps for these sewersheds showing the location of each Public WIB within its boundaries follow this WIB analysis (Appendix A).

Following is a list of each of the five publicly caused WIBs that occurred in sewershed 08 NW.

Date	Address	Cause
5/21/2018	1202 22 nd St NW	G, D, W
7/5/2018	522 22 nd St NW	B
7/5/2018	526 22 nd St NW	B
7/5/2018	530 22 nd St NW	B
9/9/2018	1900 Monument Rd NW	W

When the WIB occurrence at 1202 22nd St NW was reported, CSD crews were dispatched to the home and identified a build-up of debris in the downstream manhole (SAN-10792-MH) and an accumulation of grease in the upstream sewer. As a result, the crew cleaned the manhole and the corresponding gravity main, which resolved the issue. Coincidentally, 1.53 inches of rain fell on the day of this WIB event, which also contributed to the sewer backup.

Enter narrative analysis of WIB patterns by location, frequency and cause.

Local rainfall records indicate 0.12 inches of precipitation fell on the day of the WIB events on 7/5/2018. On this day, five public WIBs occurred, three of which were in the 08 NW sewershed. Upon initial inspection of the sanitary sewer mains in this area, the water levels in the manhole were higher than usual. These backups were assumed to be caused by temporary blockages that were eliminated during the cleaning process.

The final publicly caused WIB in sewershed 08NW was located at 1900 Monument Rd NW. Approximately 2.50 inches of rainfall was recorded on the day of this WIB event; therefore, weather was also determined to be a factor in this WIB.

Following is a list of each of the five publicly caused WIBs that occurred in sewershed 06 SW.

Date	Address	Cause
2/25/2018	3024 13th St SW	W
3/13/2018	1001 Arlington Ave SW	B
7/30/2018	822 Arlington Ave SW	G
10/14/2018	2414 Grigsby Pl SW	R
12/4/2018	1001 Arlington Ave SW	B

Local rainfall records indicate 0.54 inches of precipitation on February 25, 2018. This is in addition to 1.05 inches of rain which fell on the two days prior to this WIB event. Therefore, wet weather was the ultimate cause of the back-up at 3024 13th St SW, as no blockages were found in the lines upon inspection.

Upon receipt of the sewer back-up call for 1001 Arlington Ave SW, Canton cleaned the mainline sewer in this location. After cleaning, sufficient flow was restored to the pipe. Again on December 4, 2018 a sewer back-up occurred at this location. Rags were found in the line and were removed during cleaning, restoring flow to the sewer main.

On July 30, 2018 dispatch directed the cleaning crew to 822 Arlington Ave SW. The sewer main was cleaned accordingly in which the crew found a substantial amount of grease in the line that was restricting the flow within the pipe. Since cleaning the pipe no other back-ups have occurred at this location. This area will be reviewed for inclusion in the City's grease treatment program.

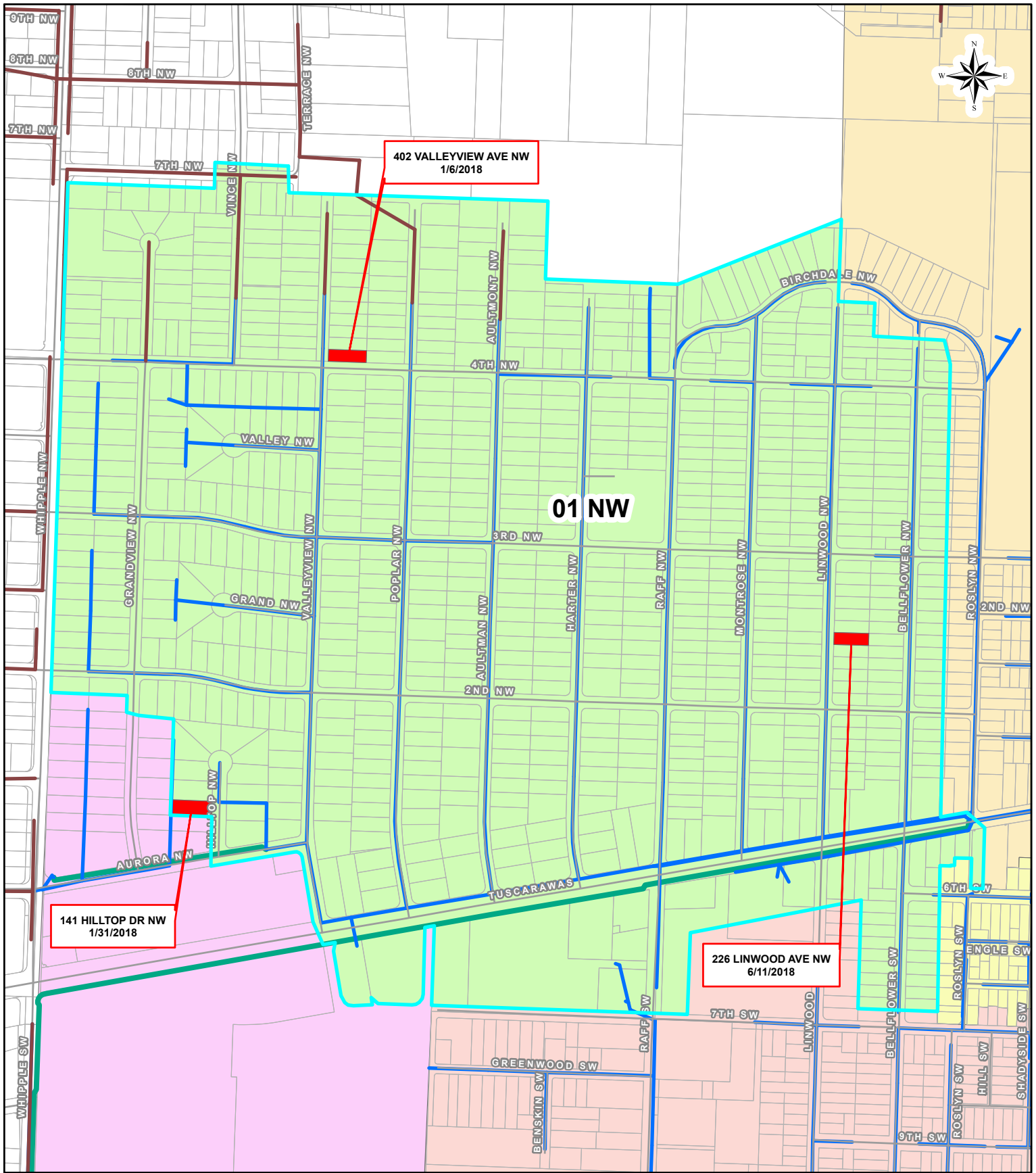
Finally, a WIB event occurred at 2414 Grigsby Pl SW on October 14, 2018. After cleaning the line, the sewer main was televised and the camera crew found roots to be the cause of the back-up. After removing the roots from the line no other back-ups have been reported in this area. This area has been added to the City's root treatment list.

On September 27, 2004, Canton City Council passed Ordinance No. 195/2004 which established the Backwater Response Initiative (BRI Program). The purpose of the BRI Program is to assist homeowners with chronic backwater flooding by providing for the installation of a backwater prevention device under the terms and conditions set forth in the BRI Program Policies. Approved applicants meeting the requirements of the program are eligible for 100% of the funds necessary to pay for installation of the backwater device, subject to availability of funds. Eligibility requirements were broadened by ordinance 143/2014 on July, 28, 2014.

Since the BRI Program's inception, Canton has sent out 127 BRI Application Packets to residences that had chronic backwater flooding. The Department has received 51 responses to the BRI Application Packets. The status of the 51 applicants is as follows:

- 27 have not met the program requirements or did not submit the required documentation.
- 1 sold the house (new owners have not responded).
- 23 backwater valves have been installed.

In 2018, Canton entered into an Administrative Order on Consent with the USEPA. This order requires development and implementation of Asset Management and CMOM programs. It also requires the City to clean and televise all sewers 15 inches in diameter and smaller every five years. All larger diameter sewers are required to be televised every five years and cleaned if determined necessary. Although the Administrative Order has only been in effect for less than one year, these additional requirements have had a positive impact on the number of publicly caused WIBs.



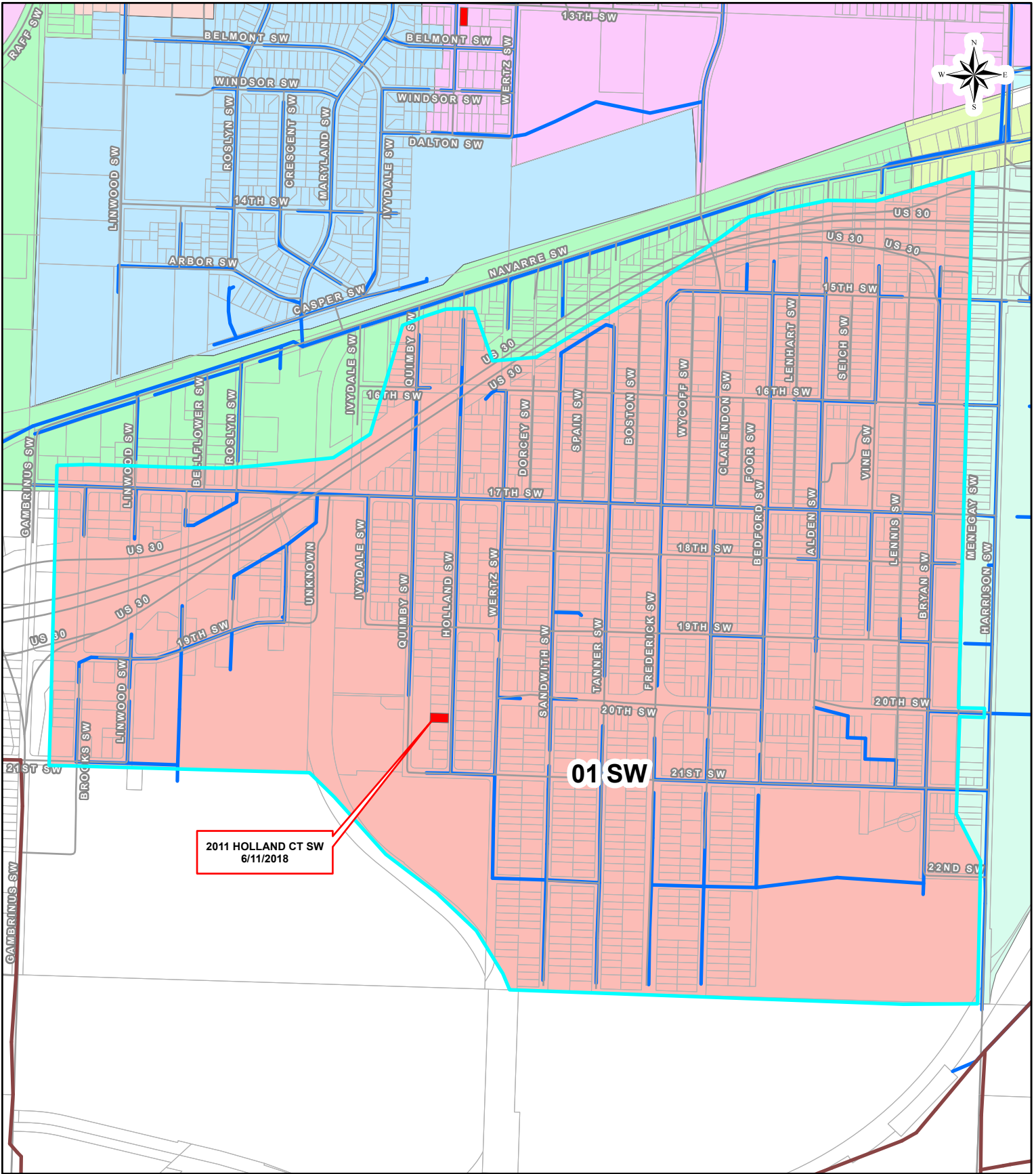
City of Canton, Ohio 2018 WIB Analysis - Sewershed 01 NW

LEGEND

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|--|--|
| ■ PUBLIC WIB | — CANTON CITY FORCE MAIN |
| — CANTON CITY SEWER MAIN | — STARK COUNTY SEWER MAIN |

550 275 0 550 Feet

1 inch = 538 feet



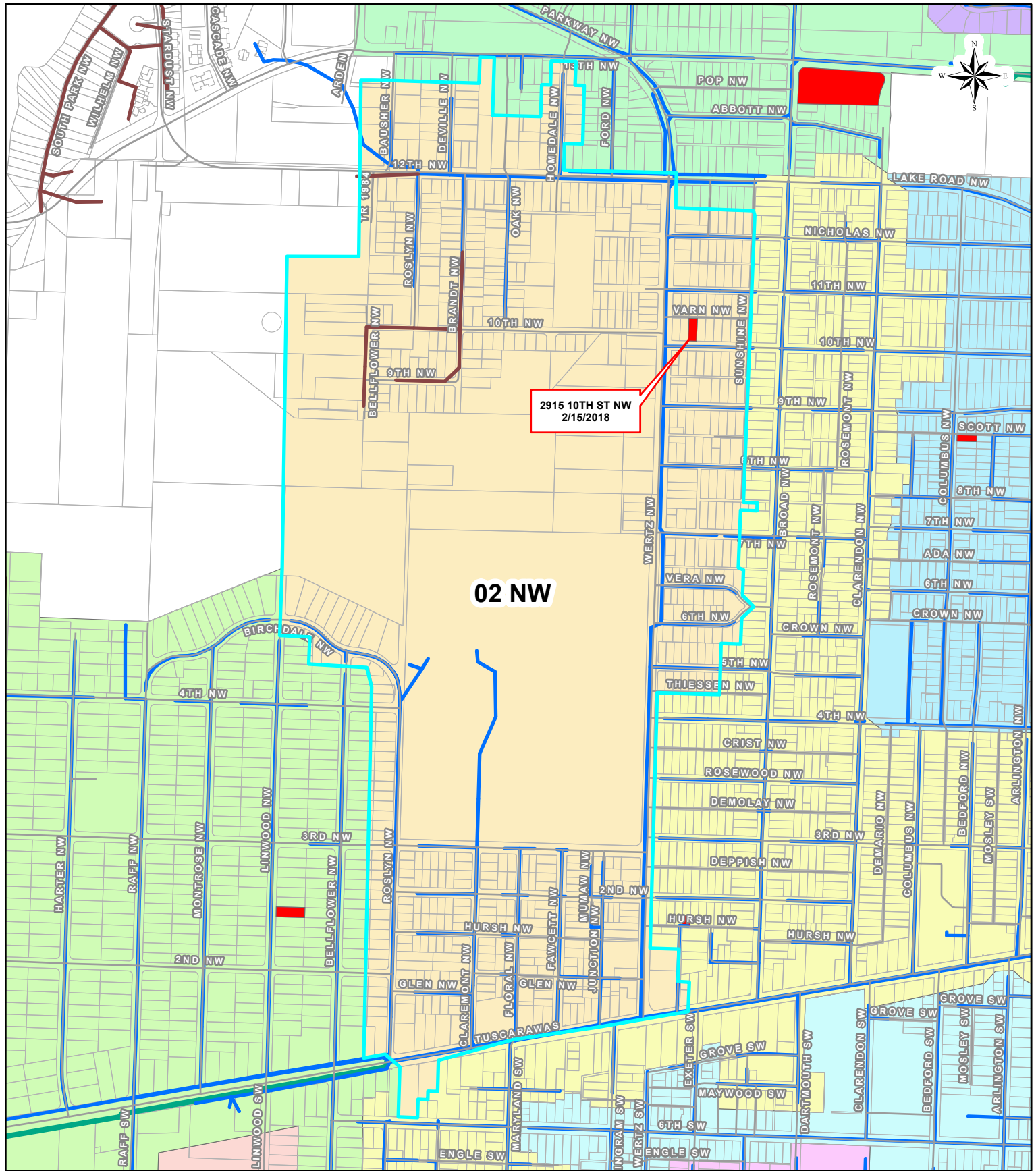
City of Canton, Ohio 2018 WIB Analysis - Sewershed 01 SW

LEGEND

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|  PUBLIC WIB |  CANTON CITY FORCE MAIN |
|  CANTON CITY SEWER MAIN |  STARK COUNTY SEWER MAIN |

700 350 0 700 Feet

1 inch = 715 feet



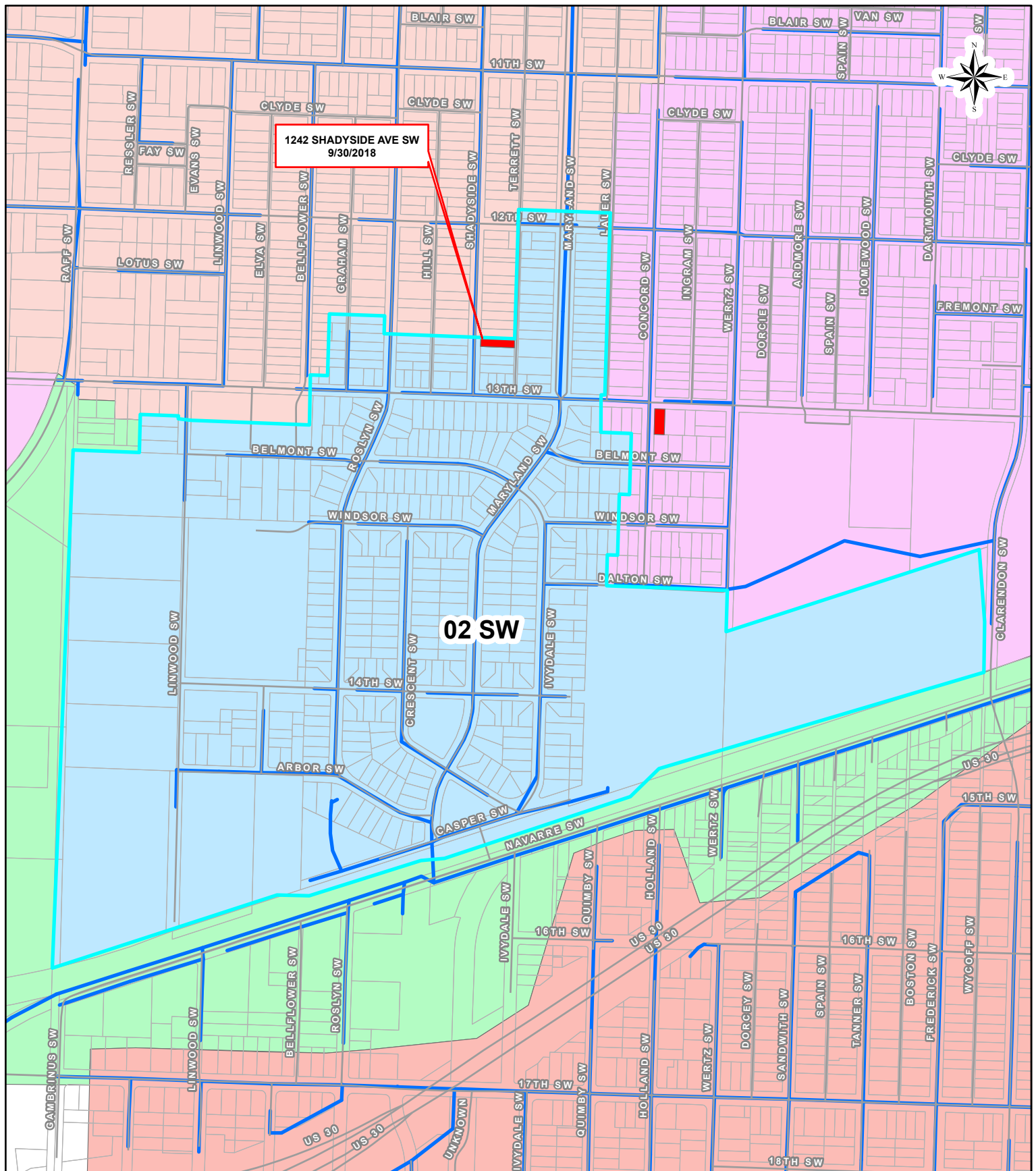
City of Canton, Ohio 2018 WIB Analysis - Sewershed 02 NW

LEGEND

- PUBLIC WIB
- CANTON CITY FORCE MAIN
- CANTON CITY SEWER MAIN
- STARK COUNTY SEWER MAIN

650 325 0 650 Feet

1 inch = 657 feet



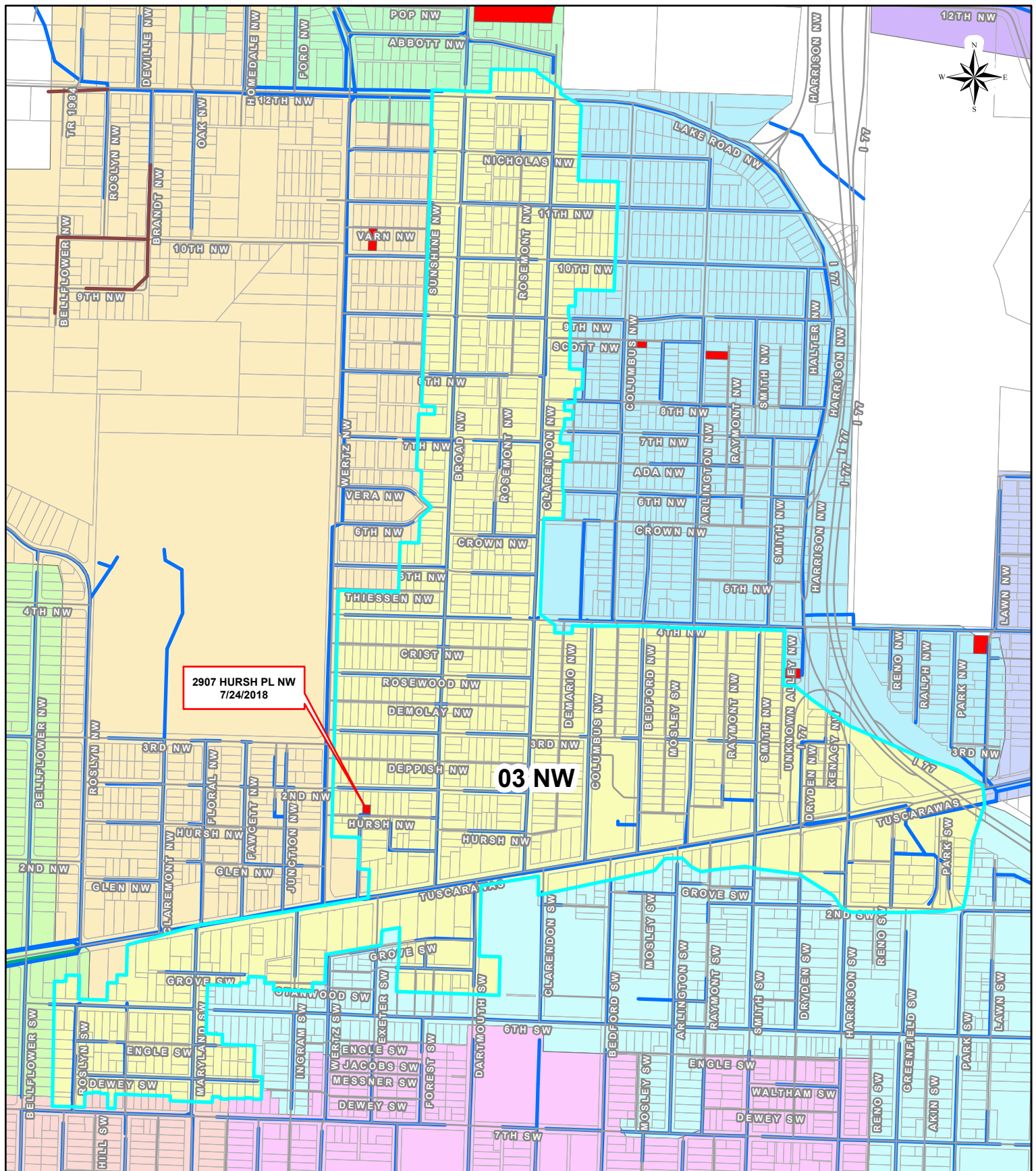
City of Canton, Ohio 2018 WIB Analysis - Sewershed 02 SW

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| PUBLIC WIB | CANTON CITY FORCE MAIN |
| CANTON CITY SEWER MAIN | STARK COUNTY SEWER MAIN |

500 250 0 500 Feet

1 inch = 510 feet



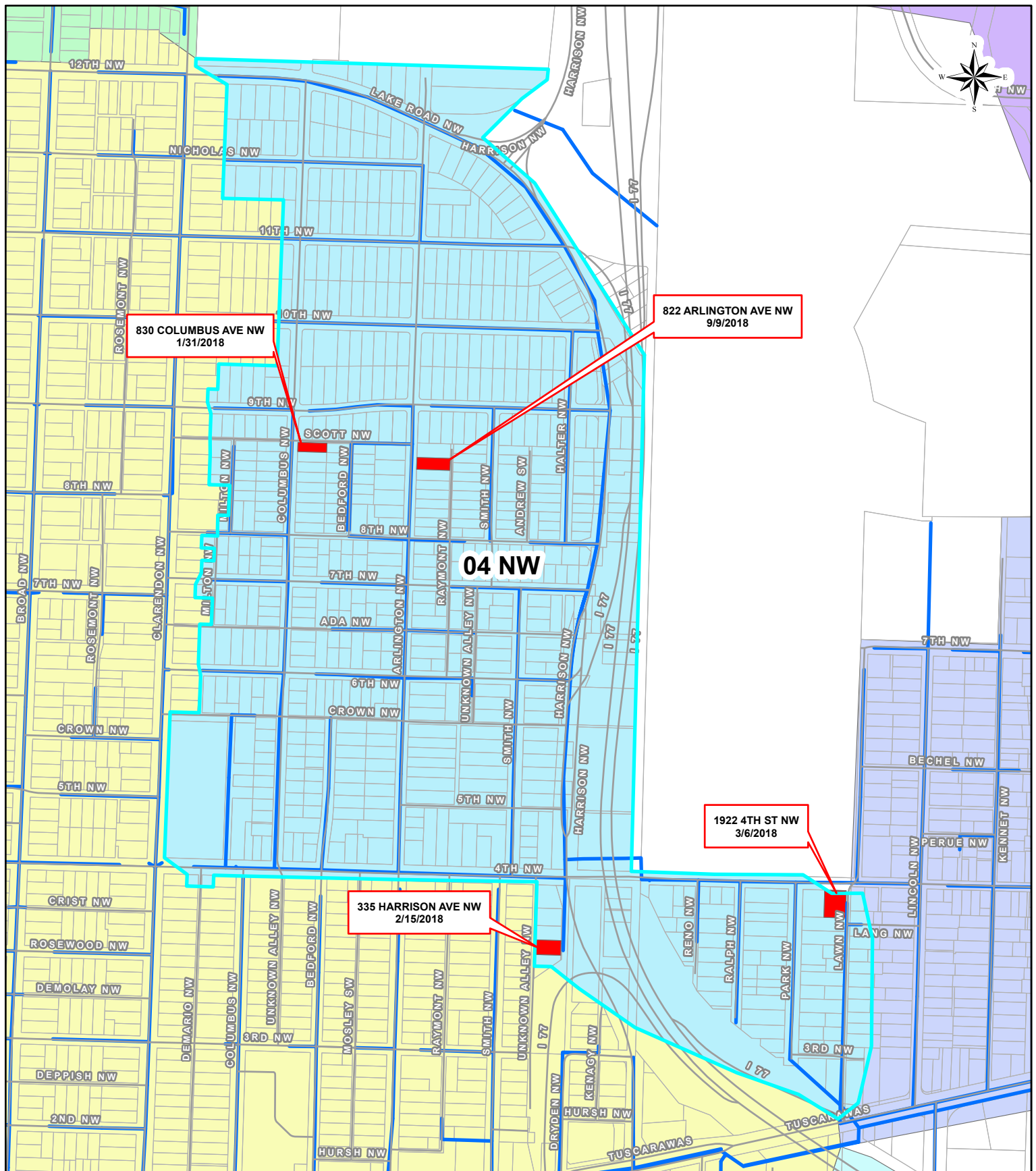
City of Canton, Ohio 2018 WIB Analysis - Sewershed 03 NW

LEGEND

- PUBLIC WIB
- CANTON CITY FORCE MAIN
- CANTON CITY SEWER MAIN
- STARK COUNTY SEWER MAIN

700 350 0 700 Feet

1 inch = 679 feet



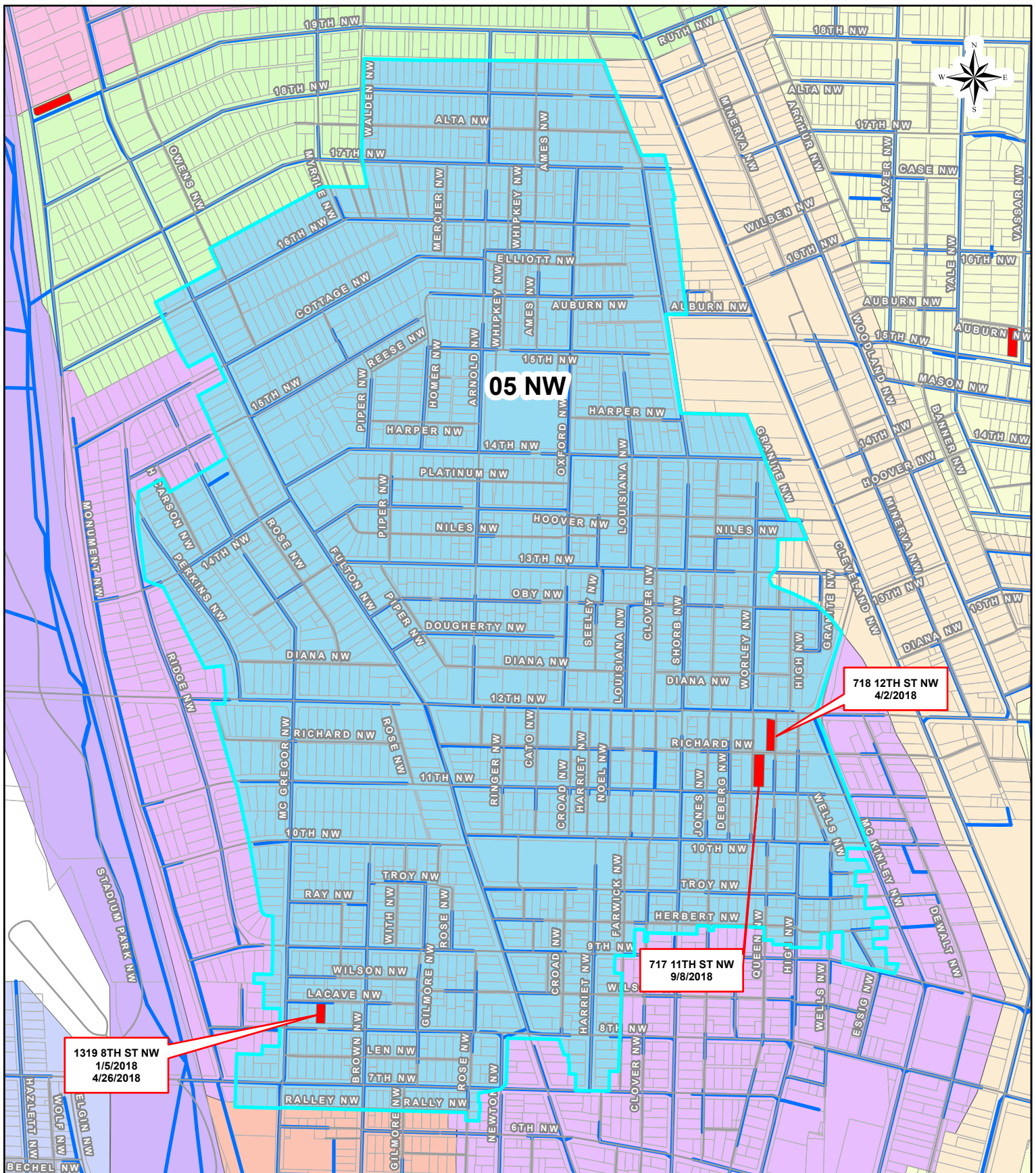
City of Canton, Ohio 2018 WIB Analysis - Sewershed 04 NW

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| ■ PUBLIC WIB | — CANTON CITY FORCE MAIN |
| — CANTON CITY SEWER MAIN | — STARK COUNTY SEWER MAIN |

450 225 0 450 Feet

1 inch = 446 feet



City of Canton, Ohio

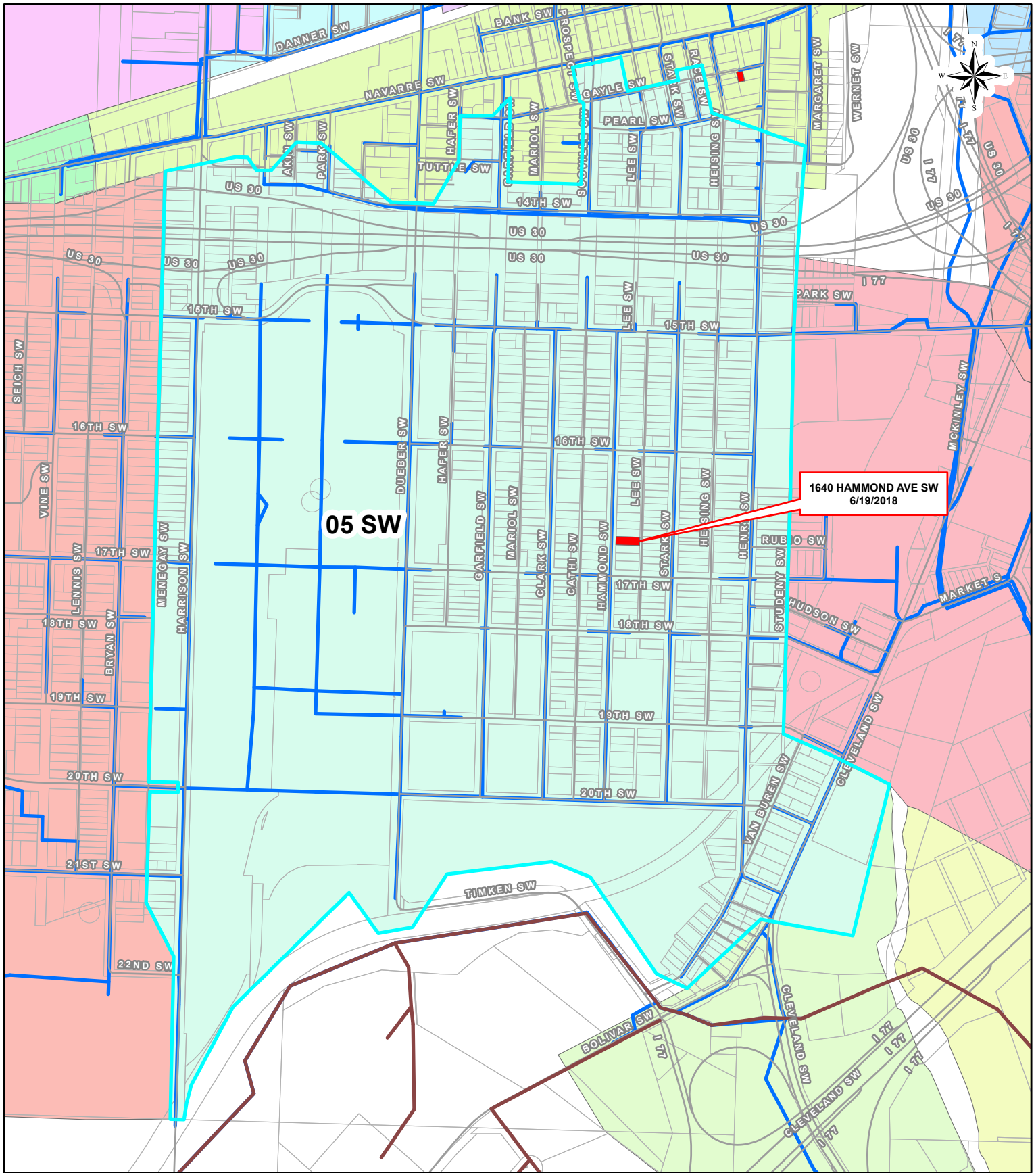
2018 WIB Analysis - Sewershed 05 NW

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| ■ PUBIC WIB | — CANTON CITY FORCE MAIN |
| — CANTON CITY SEWER MAIN | — STARK COUNTY SEWER MAIN |

650 325 0 650 Feet

1 inch = 646 feet



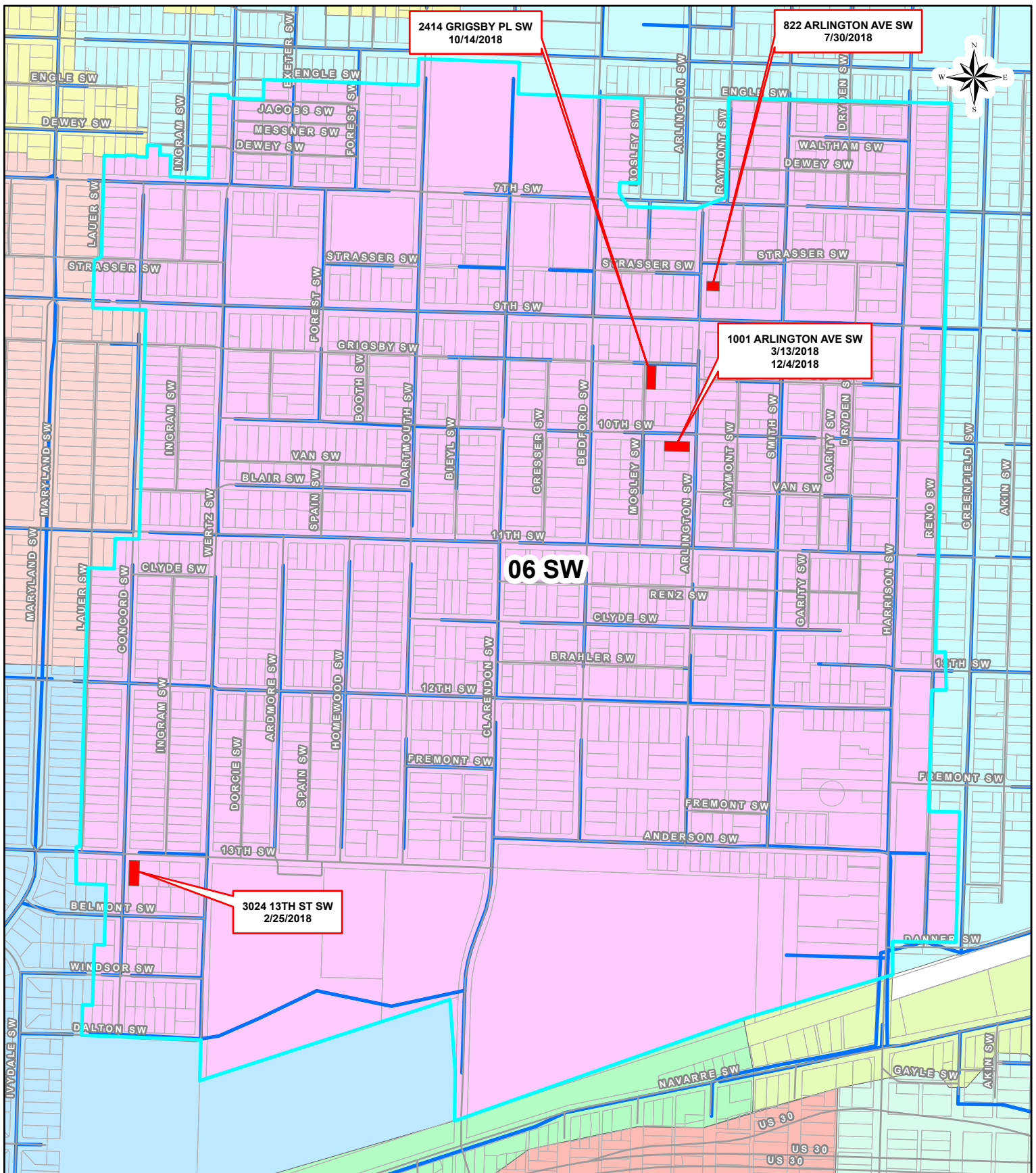
City of Canton, Ohio 2018 WIB Analysis - Sewershed 05 SW

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| ■ PUBLIC WIB | — CANTON CITY FORCE MAIN |
| — CANTON CITY SEWER MAIN | — STARK COUNTY SEWER MAIN |

600 300 0 600 Feet

1 inch = 625 feet



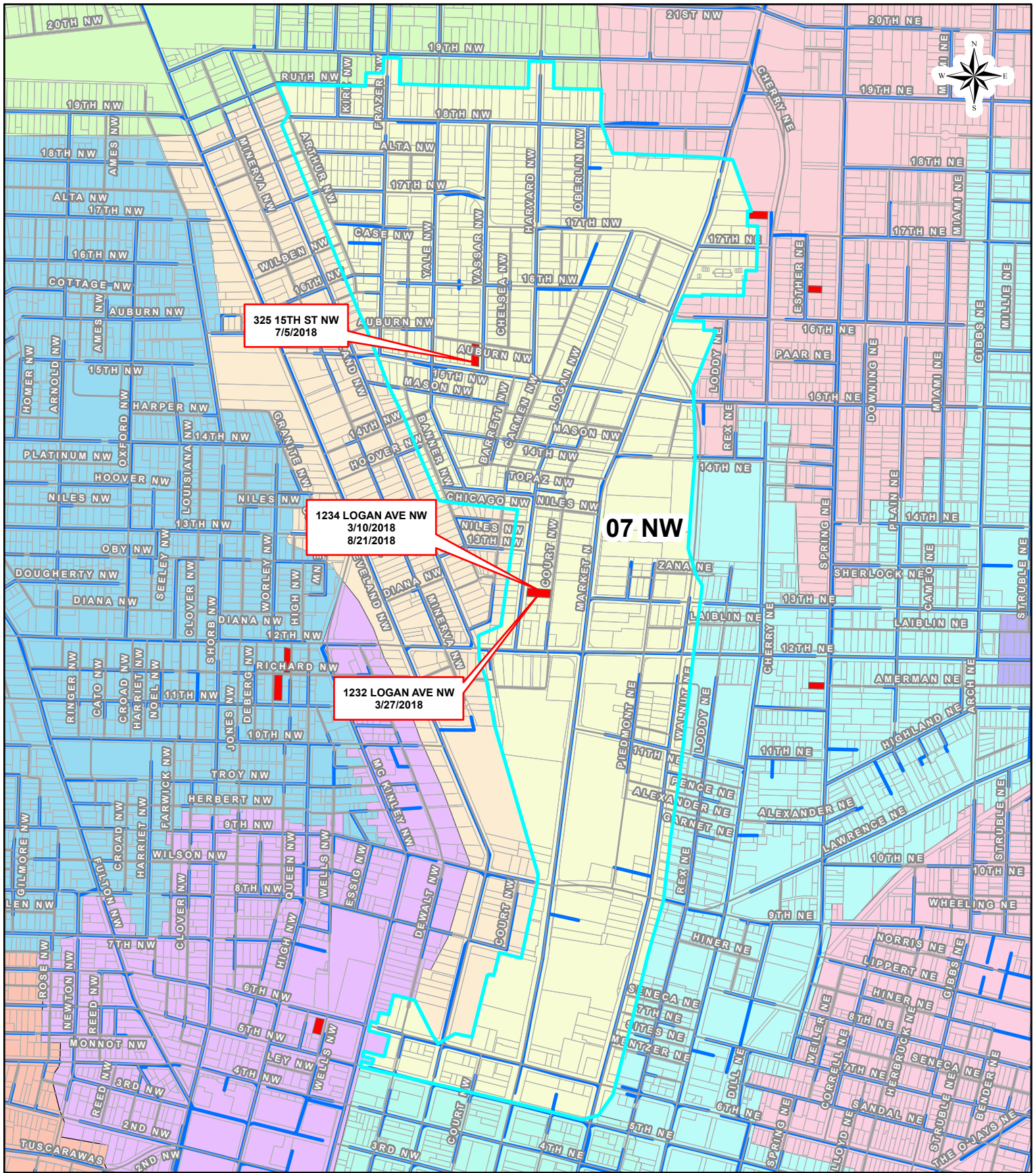
City of Canton, Ohio 2018 WIB Analysis - Sewershed 06 SW

LEGEND

- PUBLIC WIB
- CANTON CITY SEWER MAIN
- CANTON CITY FORCE MAIN
- STARK COUNTY SEWER MAIN

530 265 0 530 Feet

1 inch = 517 feet



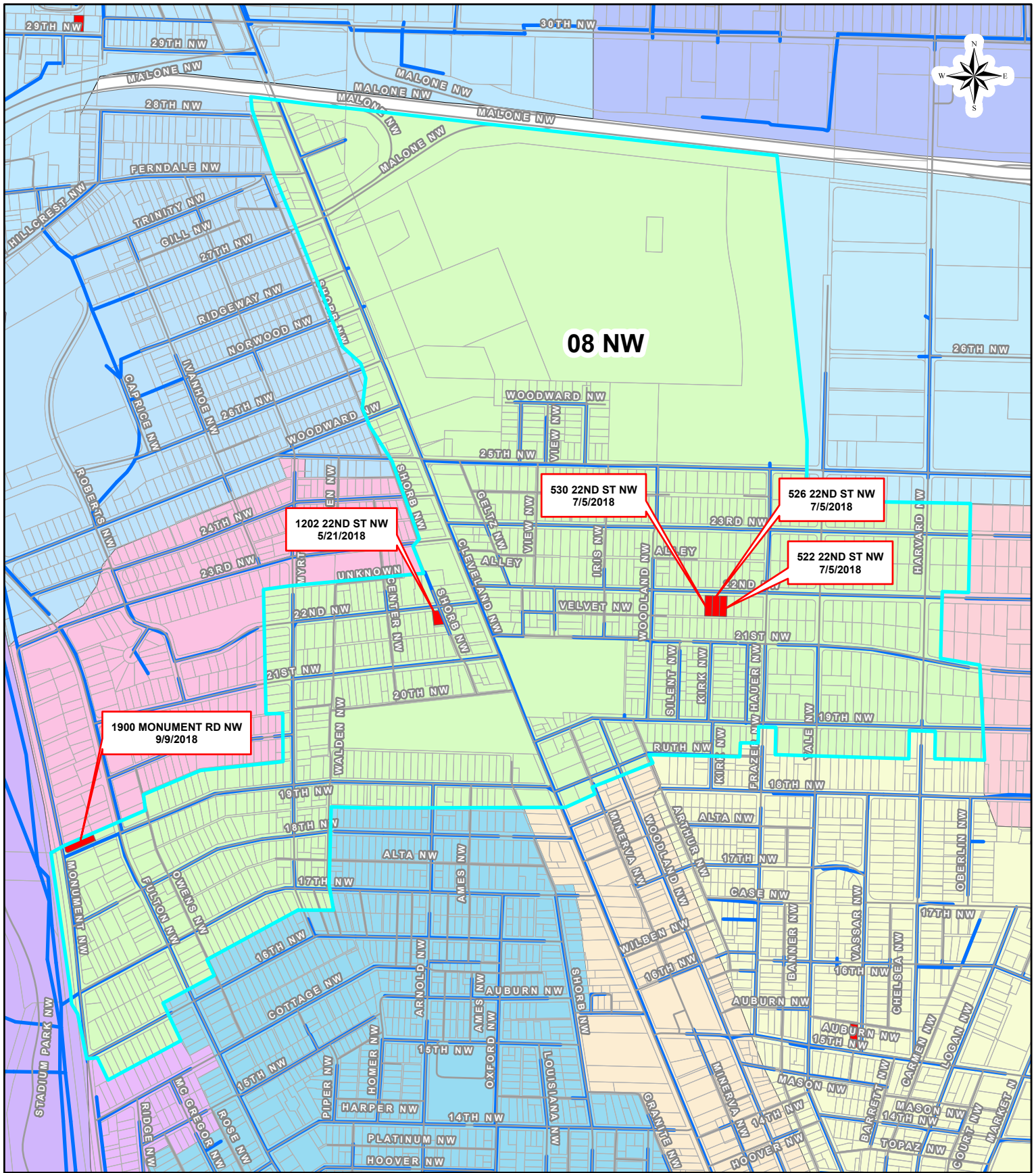
City of Canton, Ohio 2018 WIB Analysis - Sewershed 07 NW

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| ■ PUBLIC WIB | — CANTON CITY FORCE MAIN |
| — CANTON CITY SEWER MAIN | — STARK COUNTY SEWER MAIN |

850 425 0 850 Feet

1 inch = 831 feet



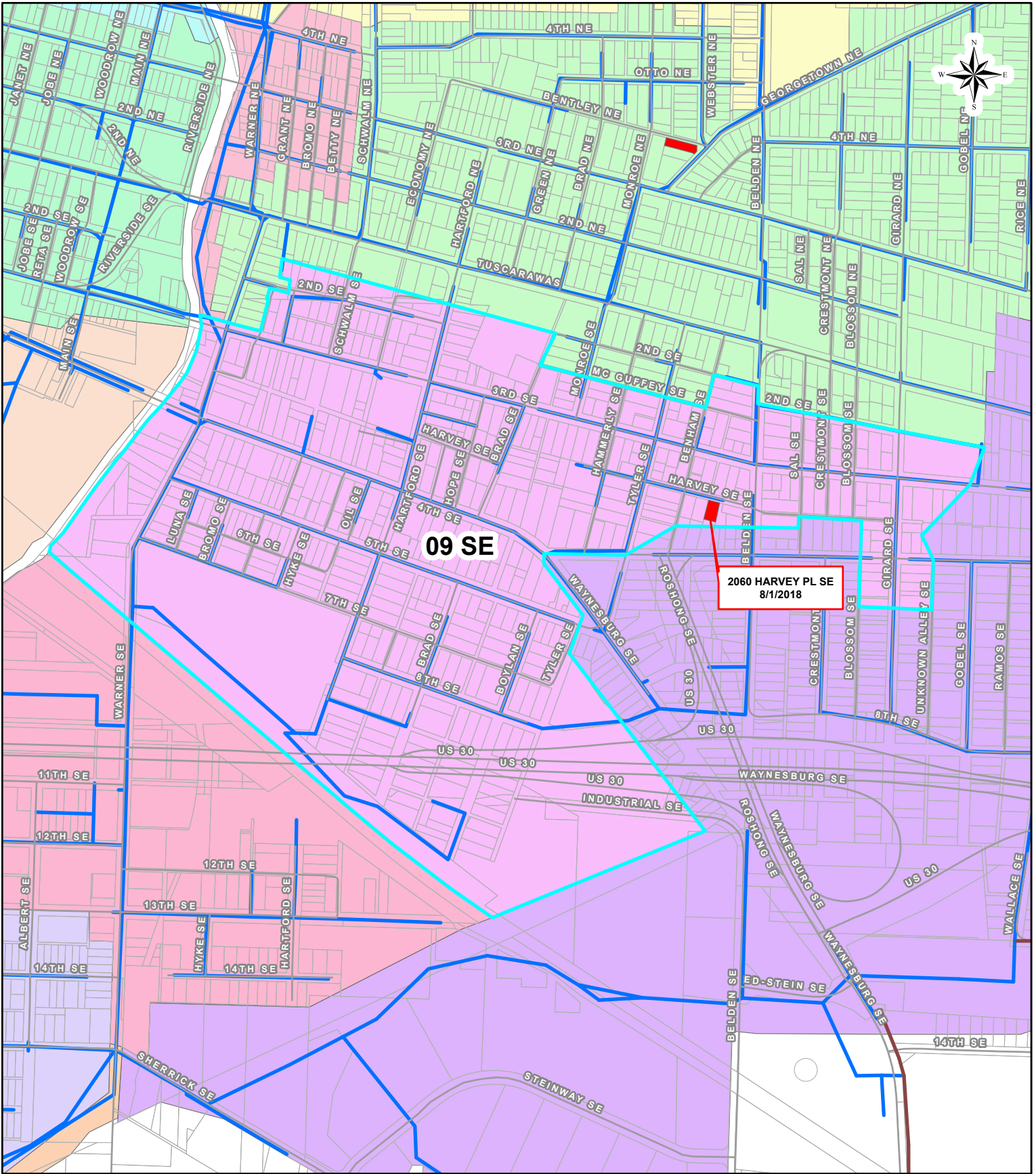
City of Canton, Ohio 2018 WIB Analysis - Sewershed 08 NW

LEGEND

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| ■ PUBLIC WIB | ■ CANTON CITY FORCE MAIN |
| ■ CANTON CITY SEWER MAIN | ■ STARK COUNTY SEWER MAIN |

800 400 0 800 Feet

1 inch = 800 feet

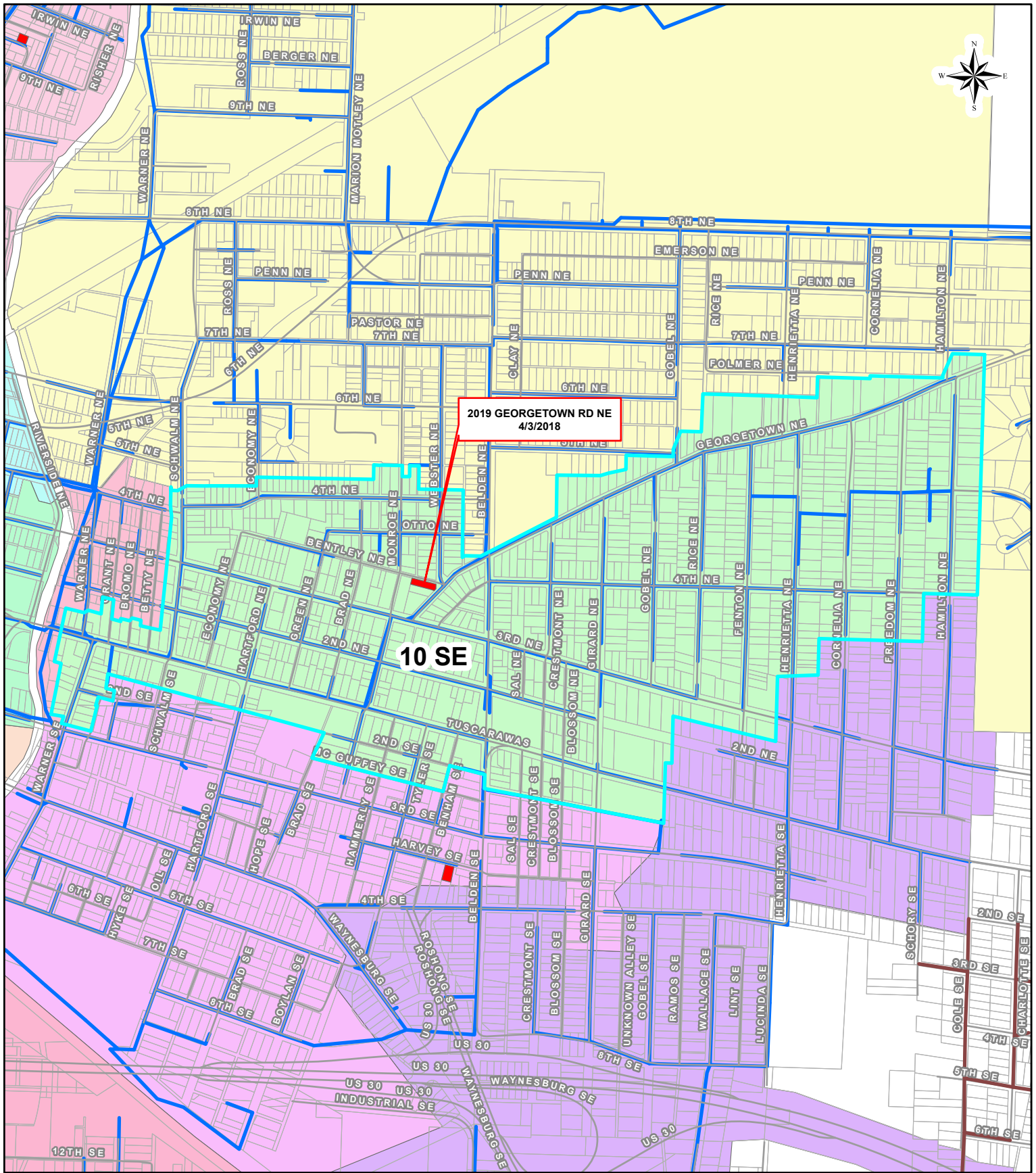


City of Canton, Ohio
2018 WIB Analysis - Sewershed 09 SE

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|  PUBLIC WIB |  CANTON CITY FORCE MAIN |
|  CANTON CITY SEWER MAIN |  STARK COUNTY SEWER MAIN |

550 275 0 550 Feet
1 inch = 567 feet



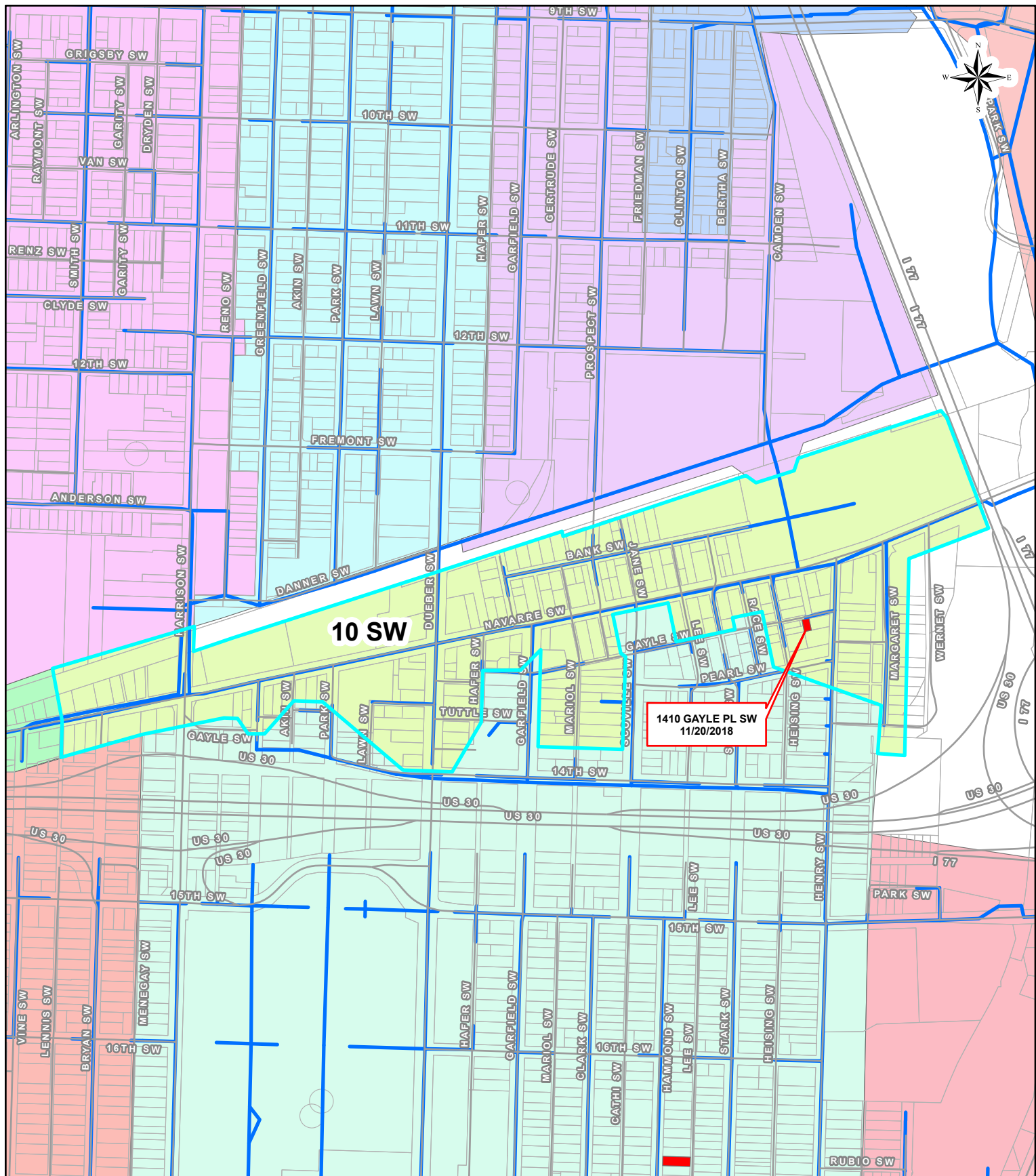
City of Canton, Ohio 2018 WIB Analysis - Sewershed 10 SE

LEGEND

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| ■ PUBLIC WIB | — CANTON CITY FORCE MAIN |
| — CANTON CITY SEWER MAIN | — STARK COUNTY SEWER MAIN |

700 350 0 700 Feet

1 inch = 715 feet



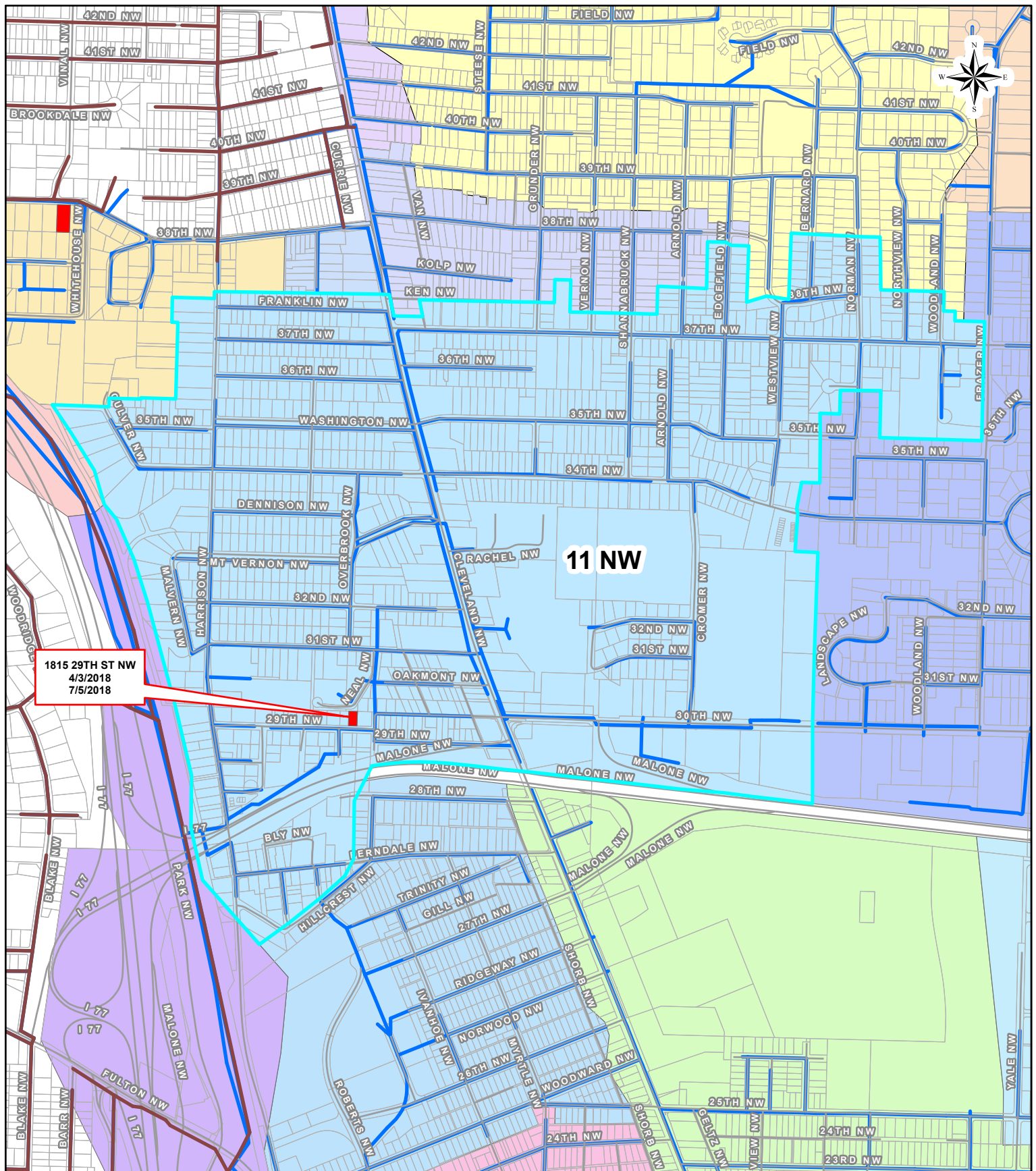
City of Canton, Ohio 2018 WIB Analysis - Sewershed 10 SW

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| PUBLIC WIB | CANTON CITY FORCE MAIN |
| CANTON CITY SEWER MAIN | STARK COUNTY SEWER MAIN |

550 275 0 550 Feet

1 inch = 544 feet



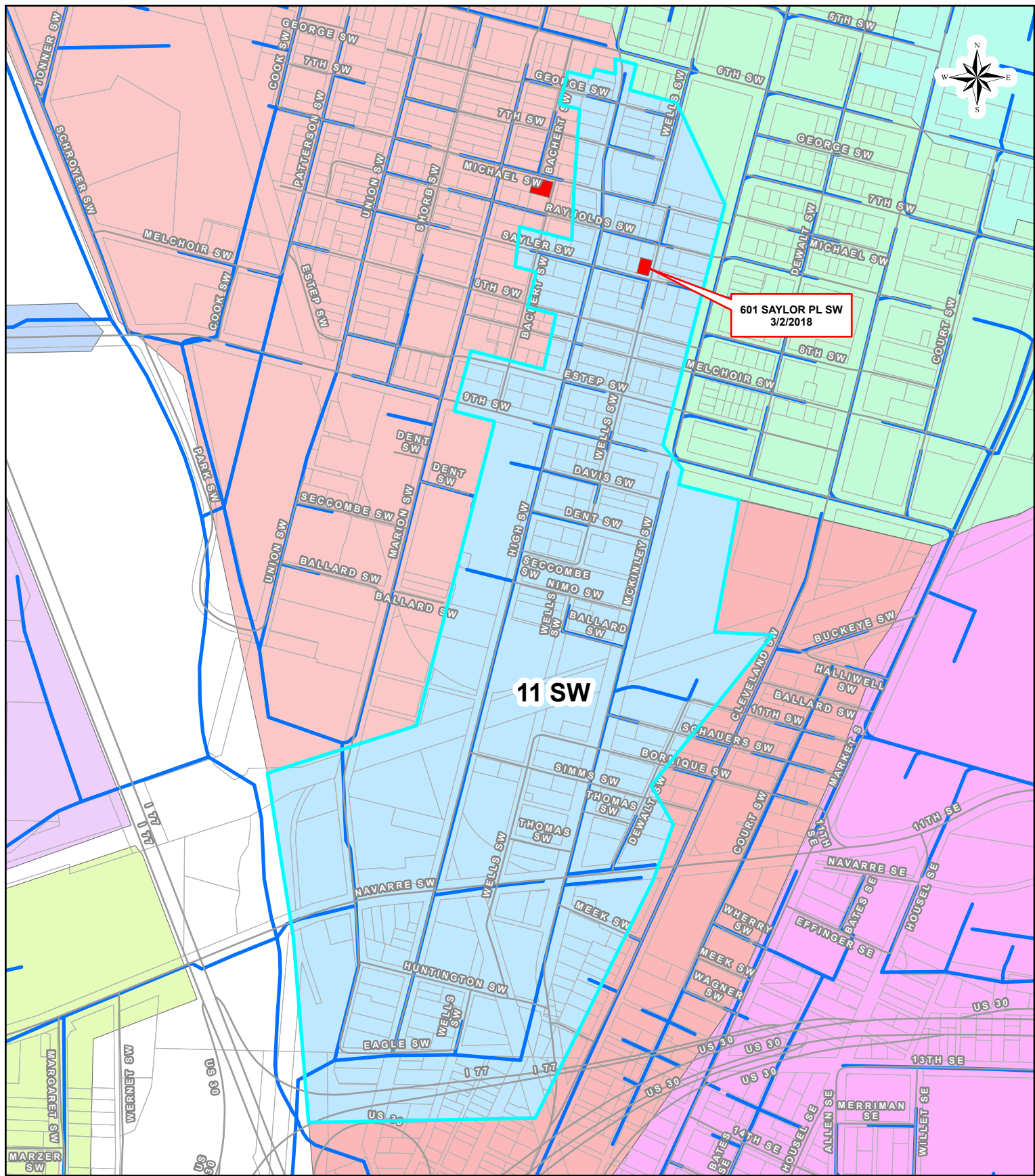
City of Canton, Ohio 2018 WIB Analysis - Sewershed 11 NW

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| ■ PUBLIC WIB | ■ CANTON CITY FORCE MAIN |
| ■ CANTON CITY SEWER MAIN | ■ STARK COUNTY SEWER MAIN |

900 450 0 900 Feet

1 inch = 895 feet



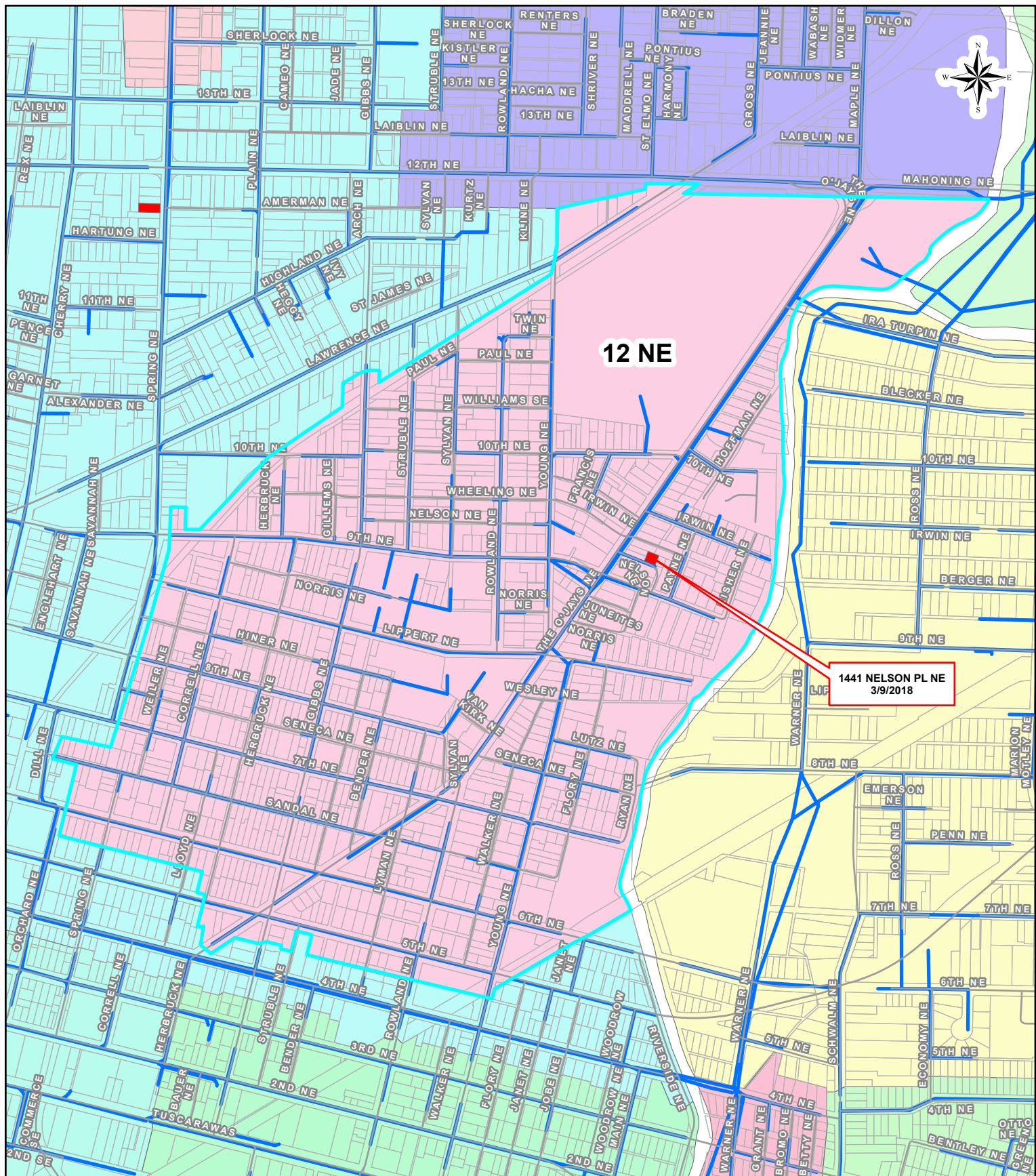
City of Canton, Ohio 2018 WIB Analysis - Sewershed 11 SW

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| ■ PUBLIC WIB | ■ CANTON CITY FORCE MAIN |
| ■ CANTON CITY SEWER MAIN | ■ STARK COUNTY SEWER MAIN |

400 200 0 400 Feet

1 inch = 416 feet



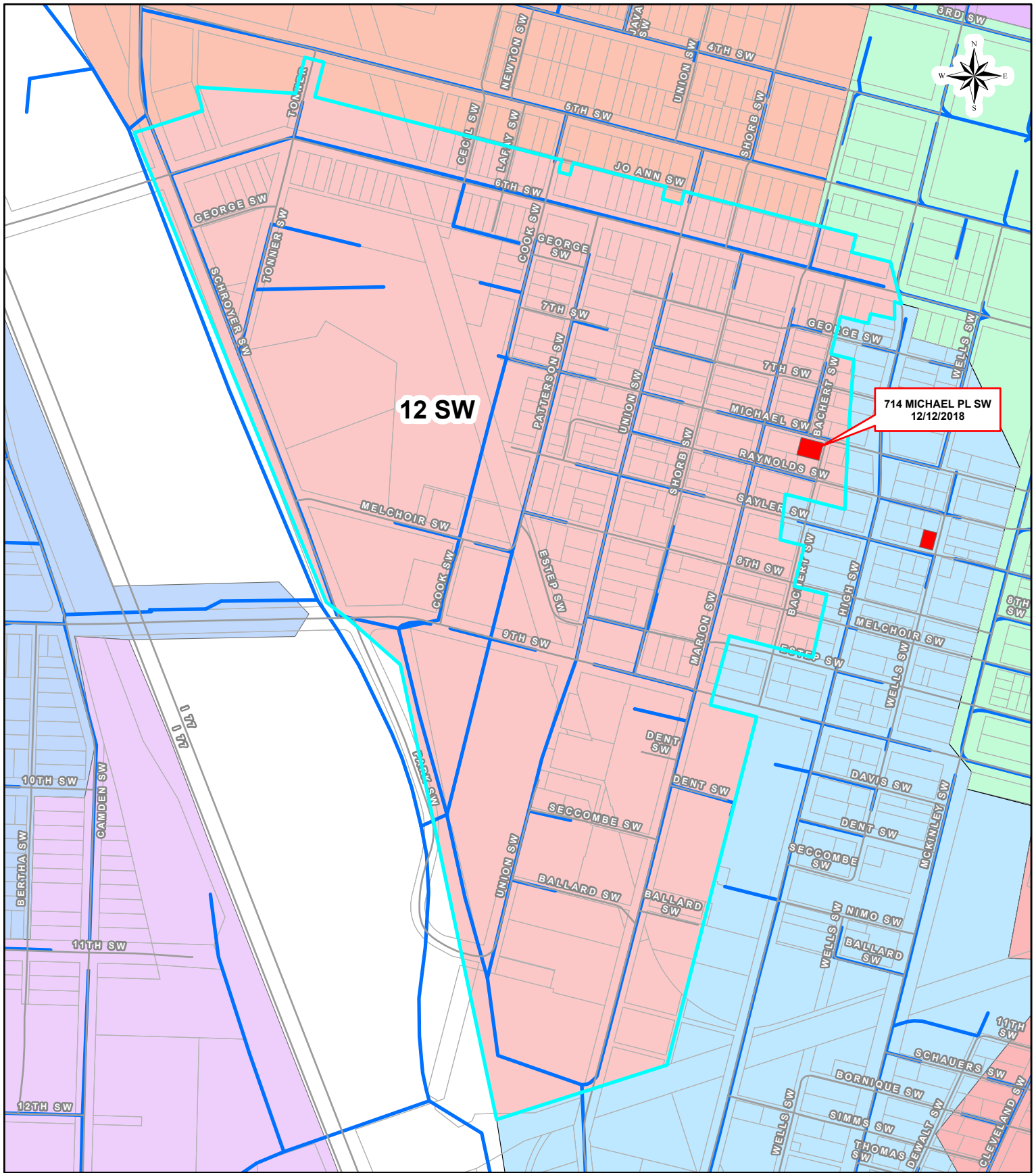
City of Canton, Ohio 2018 WIB Analysis - Sewershed 12 NE

LEGEND

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| <p> PUBLIC WIB</p> <p> CANTON CITY SEWER MAIN</p> | <p> CANTON CITY FORCE MAIN</p> <p> STARK COUNTY SEWER MAIN</p> |
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600 300 0 600 Feet

1 inch = 606 feet



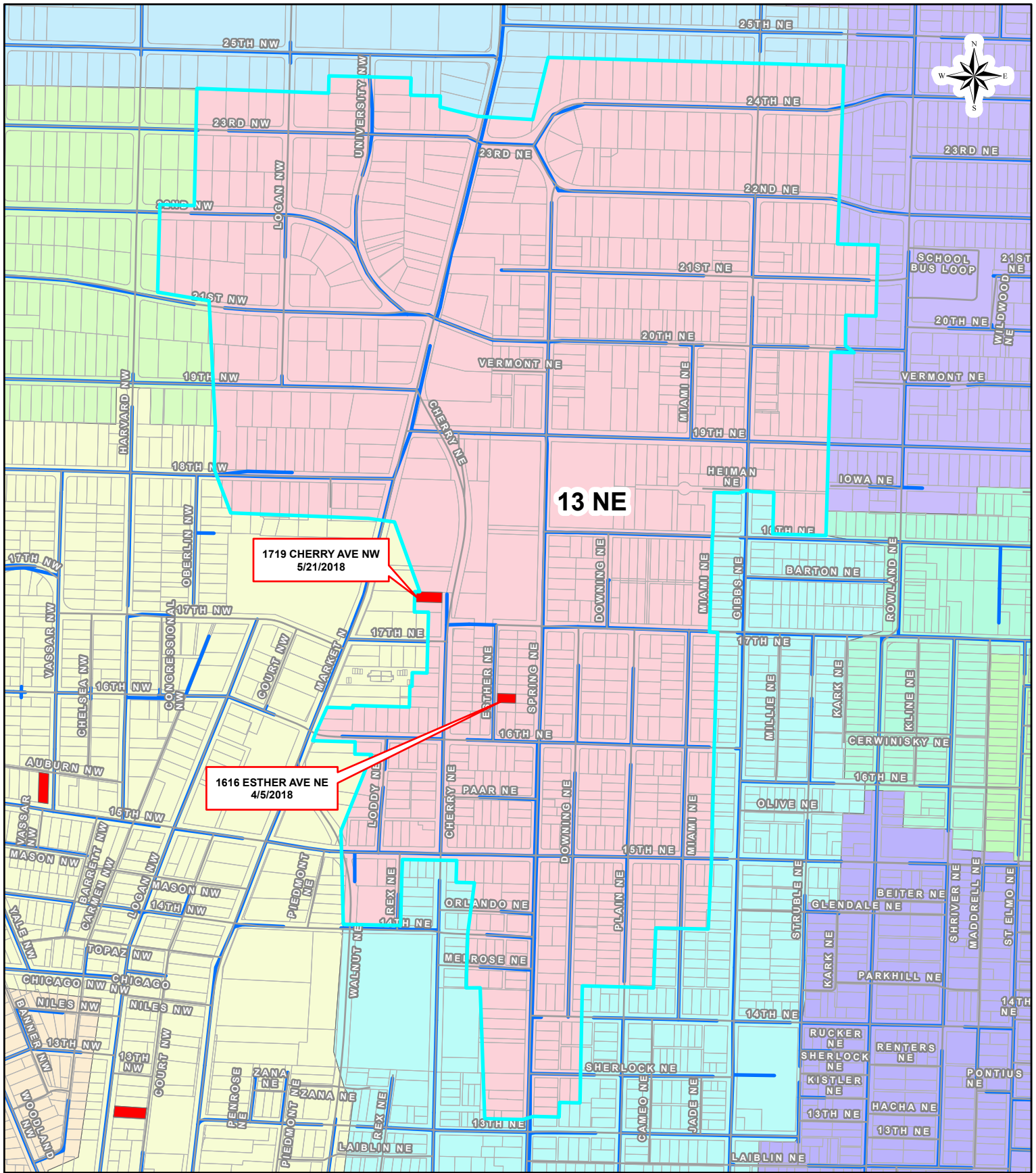
City of Canton, Ohio 2018 WIB Analysis - Sewershed 12 SW

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|  PUBLIC WIB |  CANTON CITY FORCE MAIN |
|  CANTON CITY SEWER MAIN |  STARK COUNTY SEWER MAIN |

350 175 0 350 Feet

1 inch = 361 feet



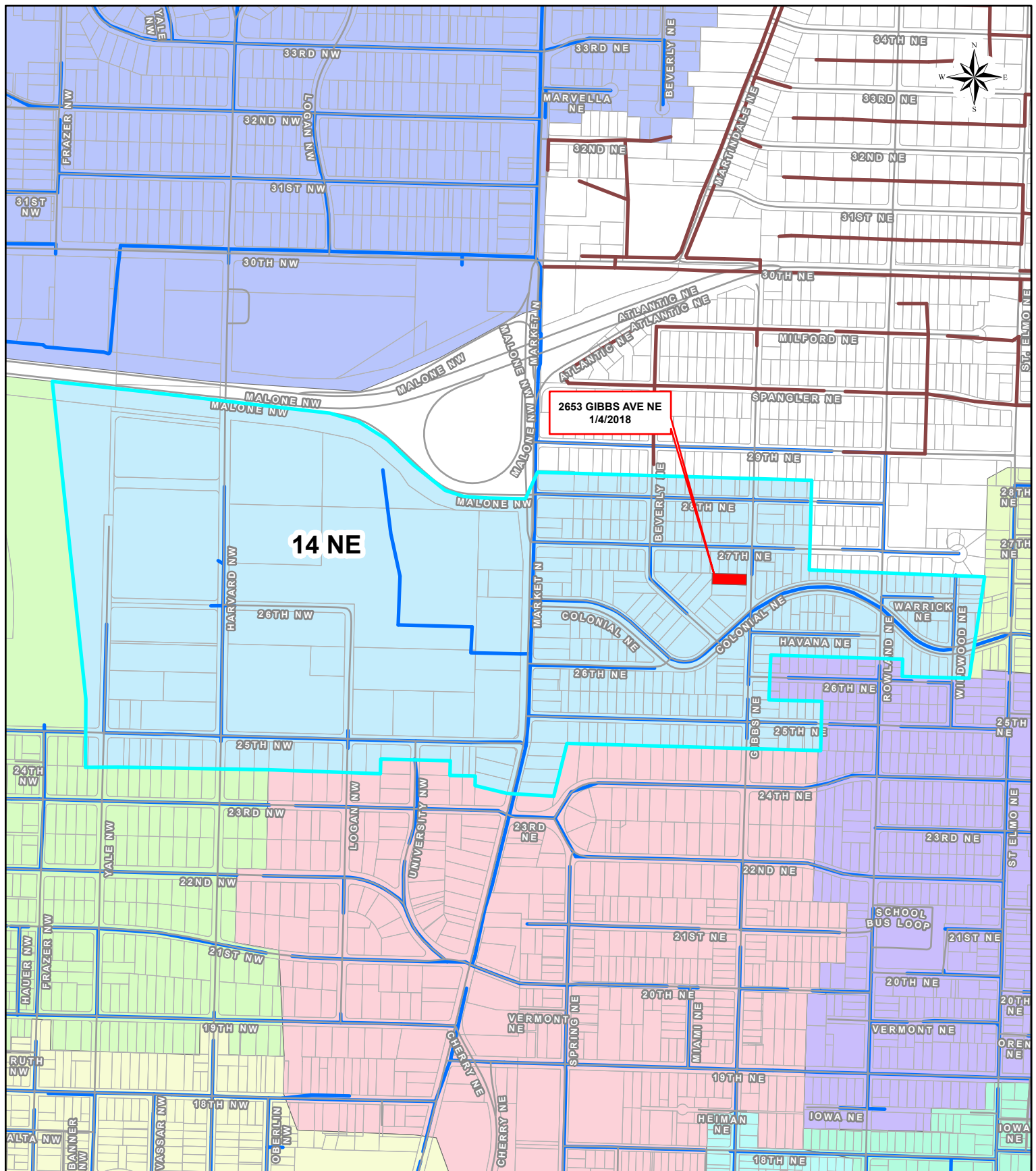
City of Canton, Ohio 2018 WIB Analysis - Sewershed 13 NE

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| PUBLIC WIB | CANTON CITY FORCE MAIN |
| CANTON CITY SEWER MAIN | STARK COUNTY SEWER MAIN |

600 300 0 600 Feet

1 inch = 609 feet



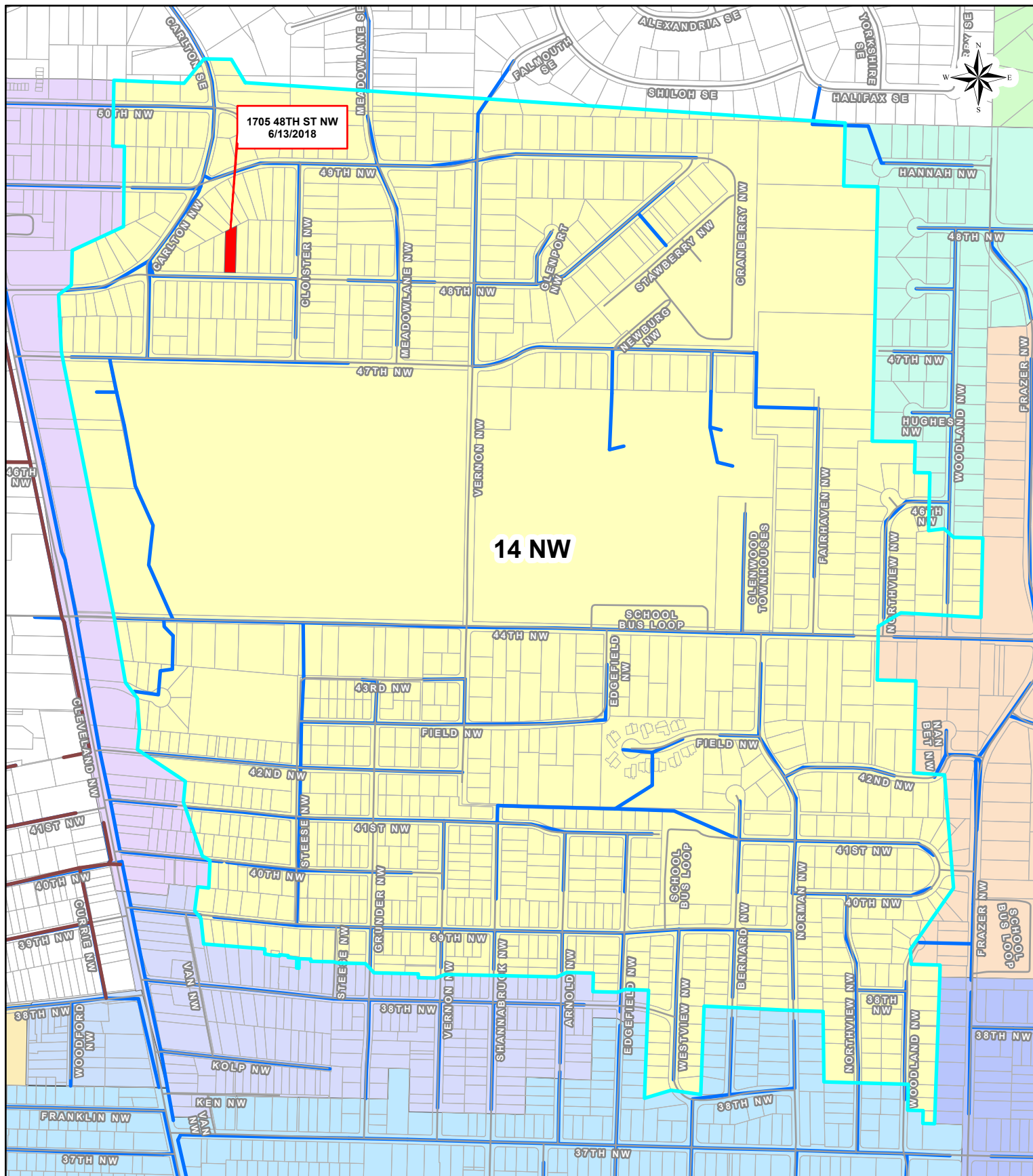
City of Canton, Ohio 2018 WIB Analysis - Sewershed 14 NE

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| <p> PUBLIC WIB</p> <p> CANTON CITY SEWER MAIN</p> | <p> CANTON CITY FORCE MAIN</p> <p> STARK COUNTY SEWER MAIN</p> |
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700 350 0 700 Feet

1 inch = 716 feet



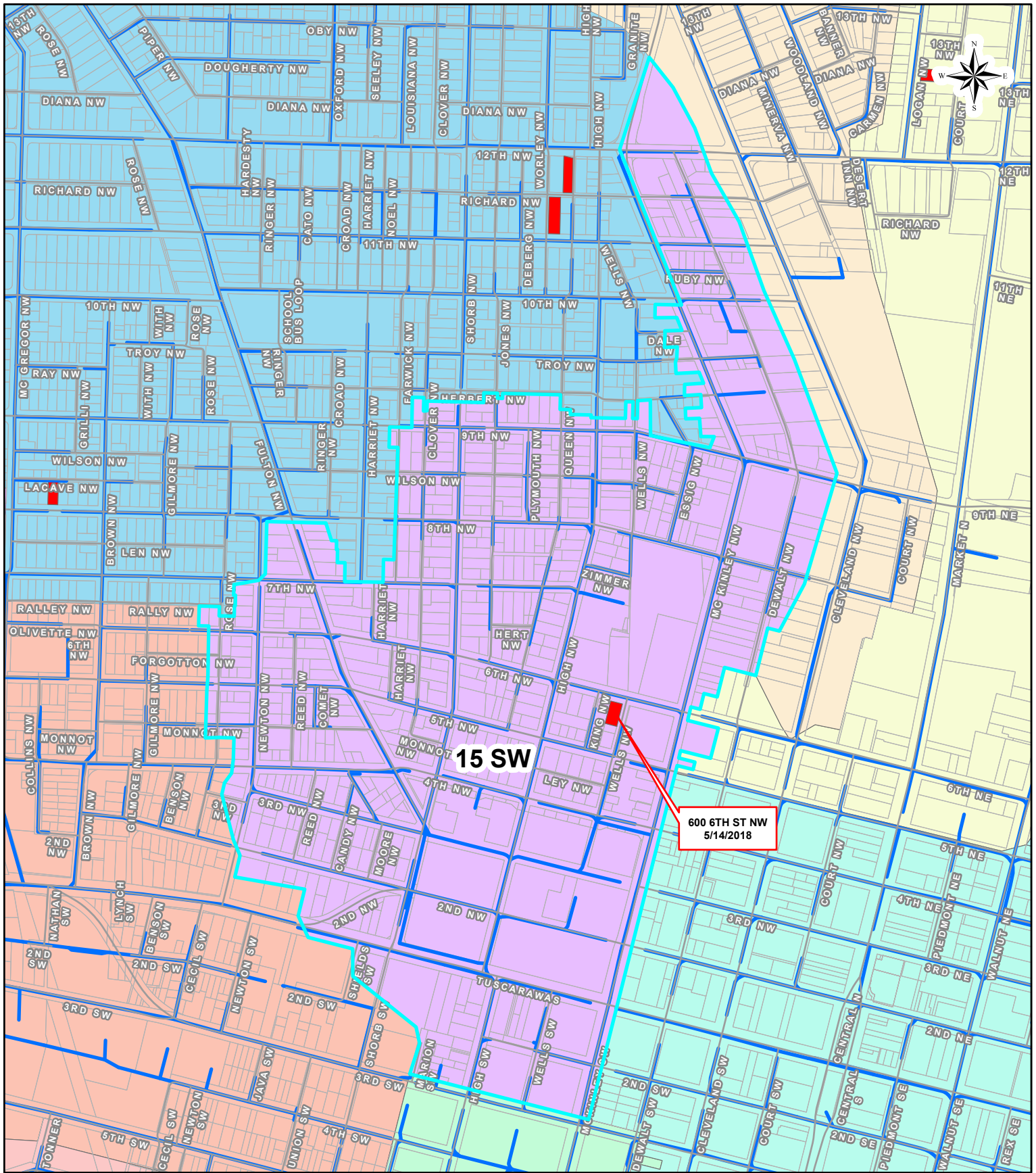
City of Canton, Ohio 2018 WIB Analysis - Sewershed 14 NW

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| ■ PUBLIC WIB | ■ CANTON CITY FORCE MAIN |
| ■ CANTON CITY SEWER MAIN | ■ STARK COUNTY SEWER MAIN |

650 325 0 650 Feet

1 inch = 672 feet



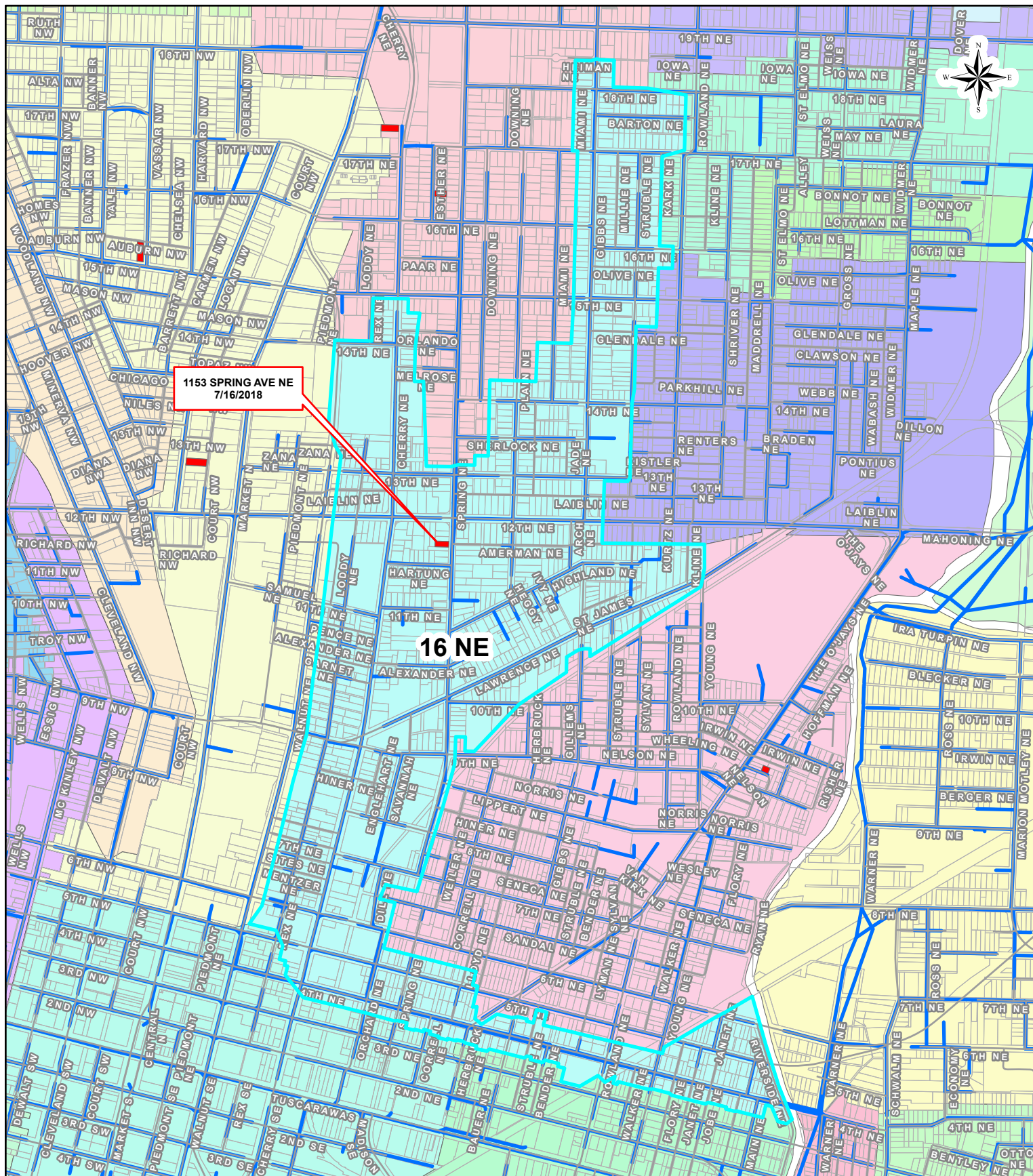
City of Canton, Ohio 2018 WIB Analysis - Sewershed 15 SW

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| ■ PUBLIC WIB | — CANTON CITY FORCE MAIN |
| — CANTON CITY SEWER MAIN | — STARK COUNTY SEWER MAIN |

550 275 0 550 Feet

1 inch = 563 feet



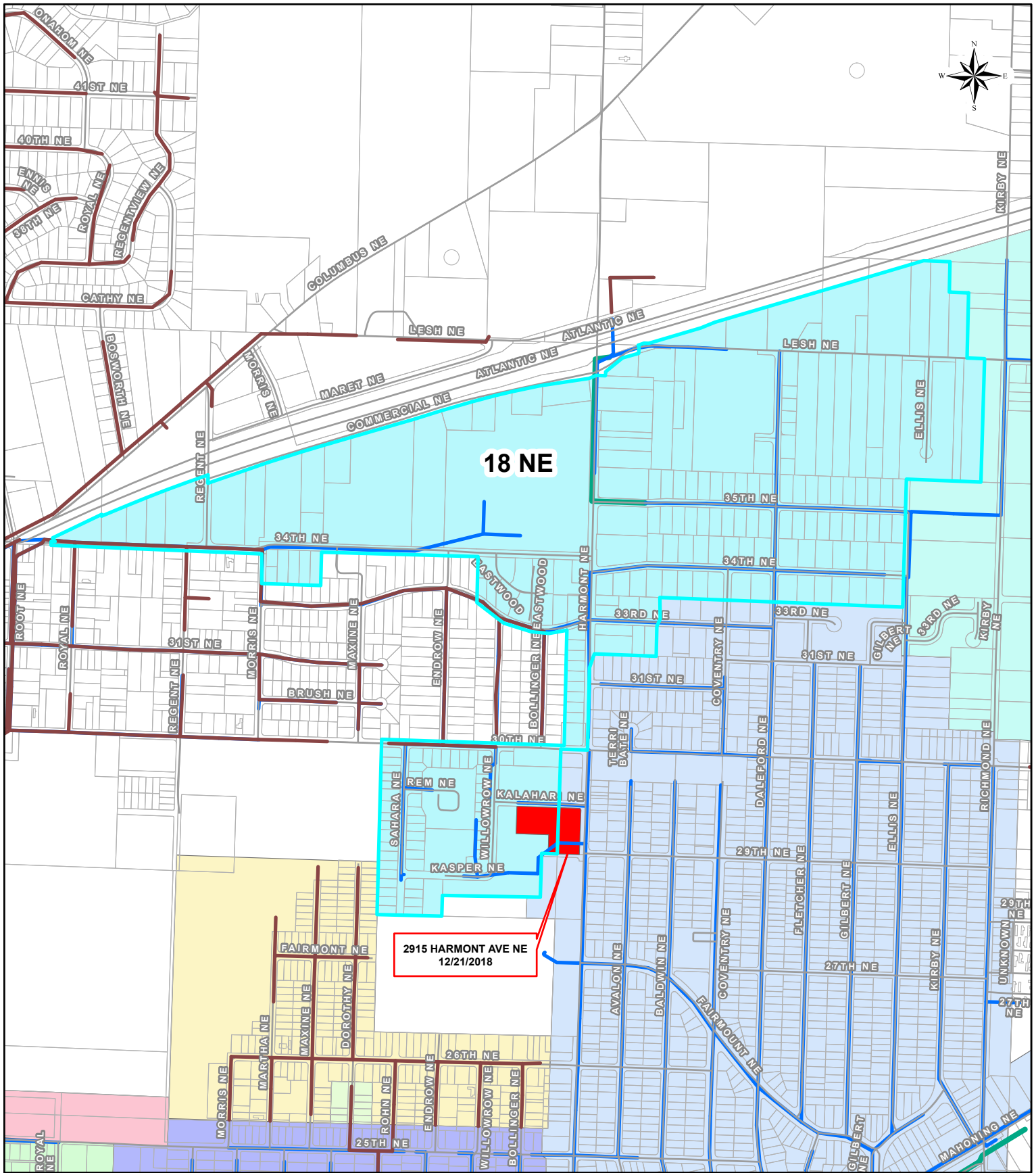
City of Canton, Ohio 2018 WIB Analysis - Sewershed 16 NE

LEGEND

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| ■ PUBLIC WIB | — CANTON CITY FORCE MAIN |
| — CANTON CITY SEWER MAIN | — STARK COUNTY SEWER MAIN |

900 450 0 900 Feet

1 inch = 944 feet



City of Canton, Ohio

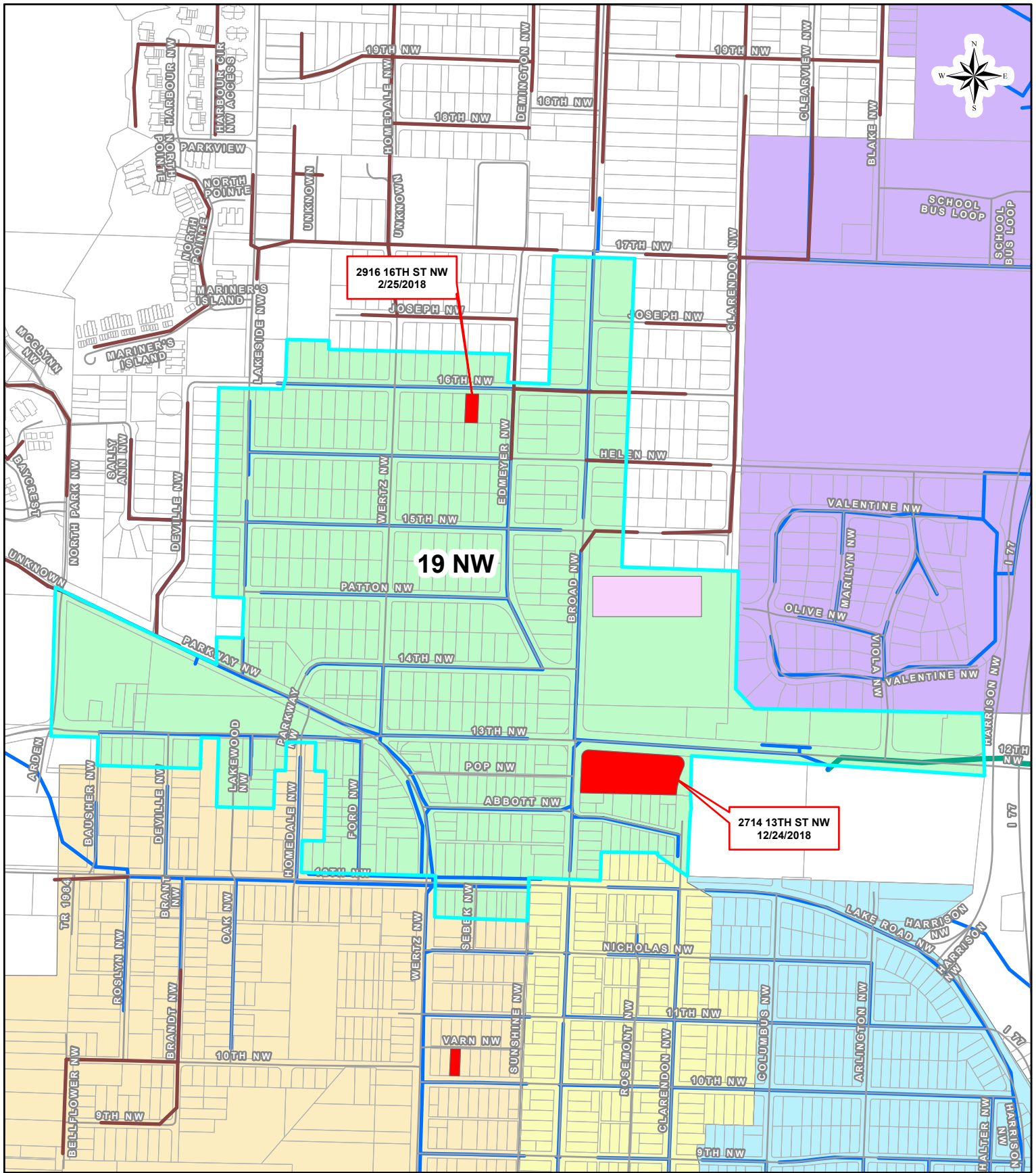
2018 WIB Analysis - Sewershed 18 NE

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|  | PUBLIC WIB |  | CANTON CITY FORCE MAIN |
|  | CANTON CITY SEWER MAIN |  | STARK COUNTY SEWER MAIN |

800 400 0 800 Feet

1 inch = 853 feet



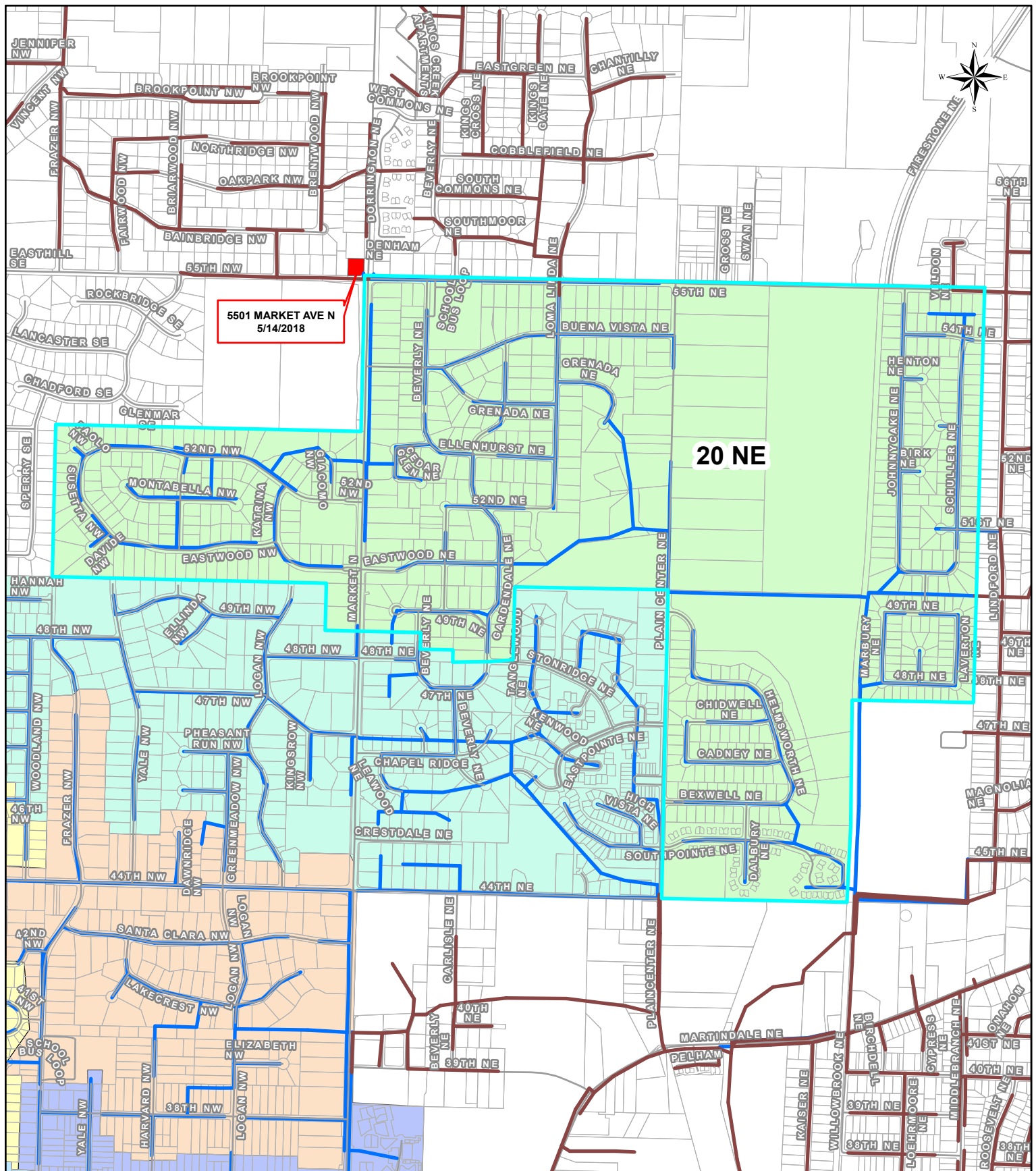
City of Canton, Ohio 2018 WIB Analysis - Sewershed 19 NW

LEGEND

- PUBLIC WIB
- CANTON CITY FORCE MAIN
- CANTON CITY SEWER MAIN
- STARK COUNTY SEWER MAIN

500 250 0 500 Feet

1 inch = 551 feet



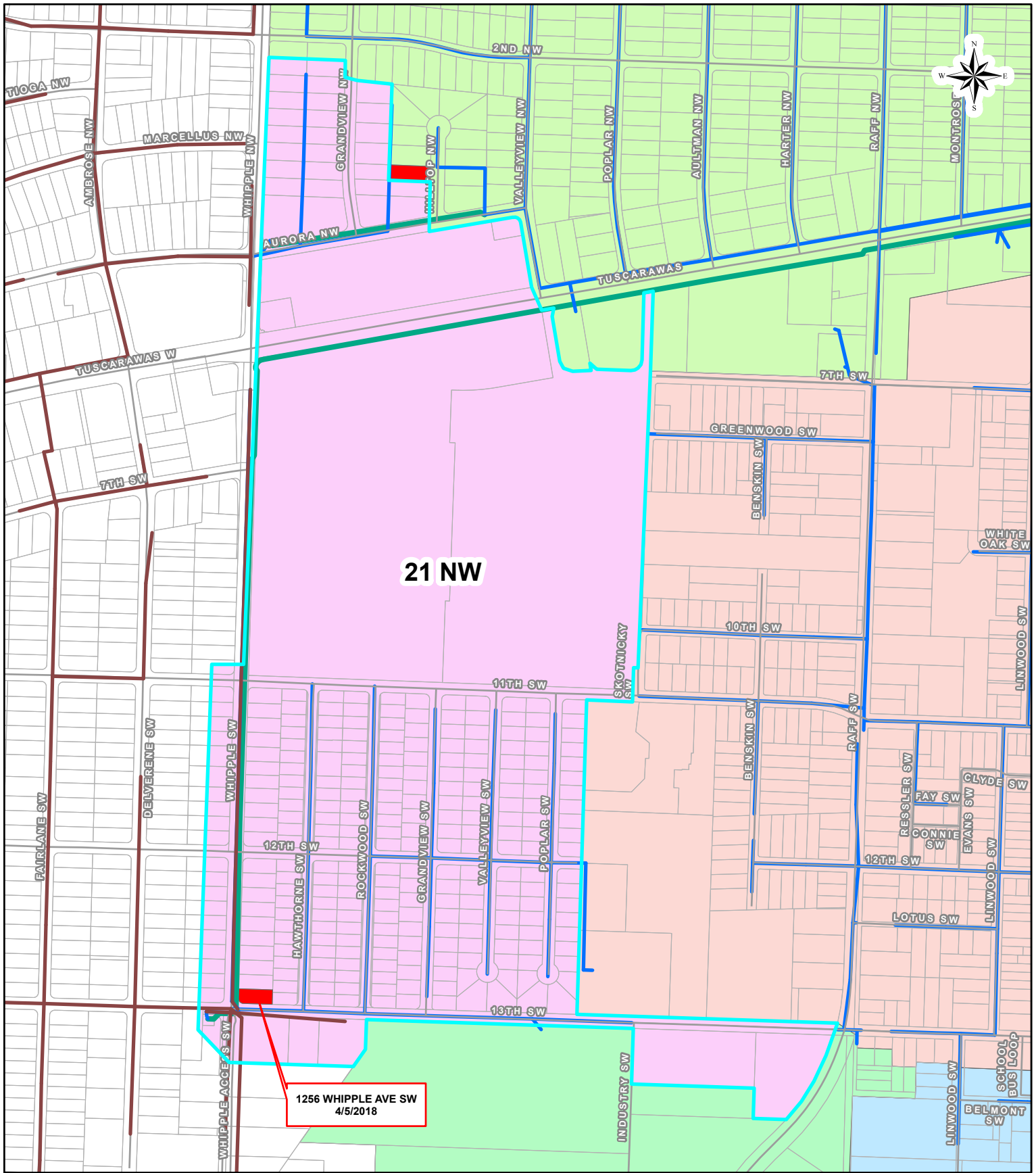
City of Canton, Ohio 2018 WIB Analysis - Sewershed 20 NE

LEGEND

- PUBLIC WIB
- CANTON CITY FORCE MAIN
- CANTON CITY SEWER MAIN
- STARK COUNTY SEWER MAIN

1,000 500 0 1,000 Feet

1 inch = 1,126 feet



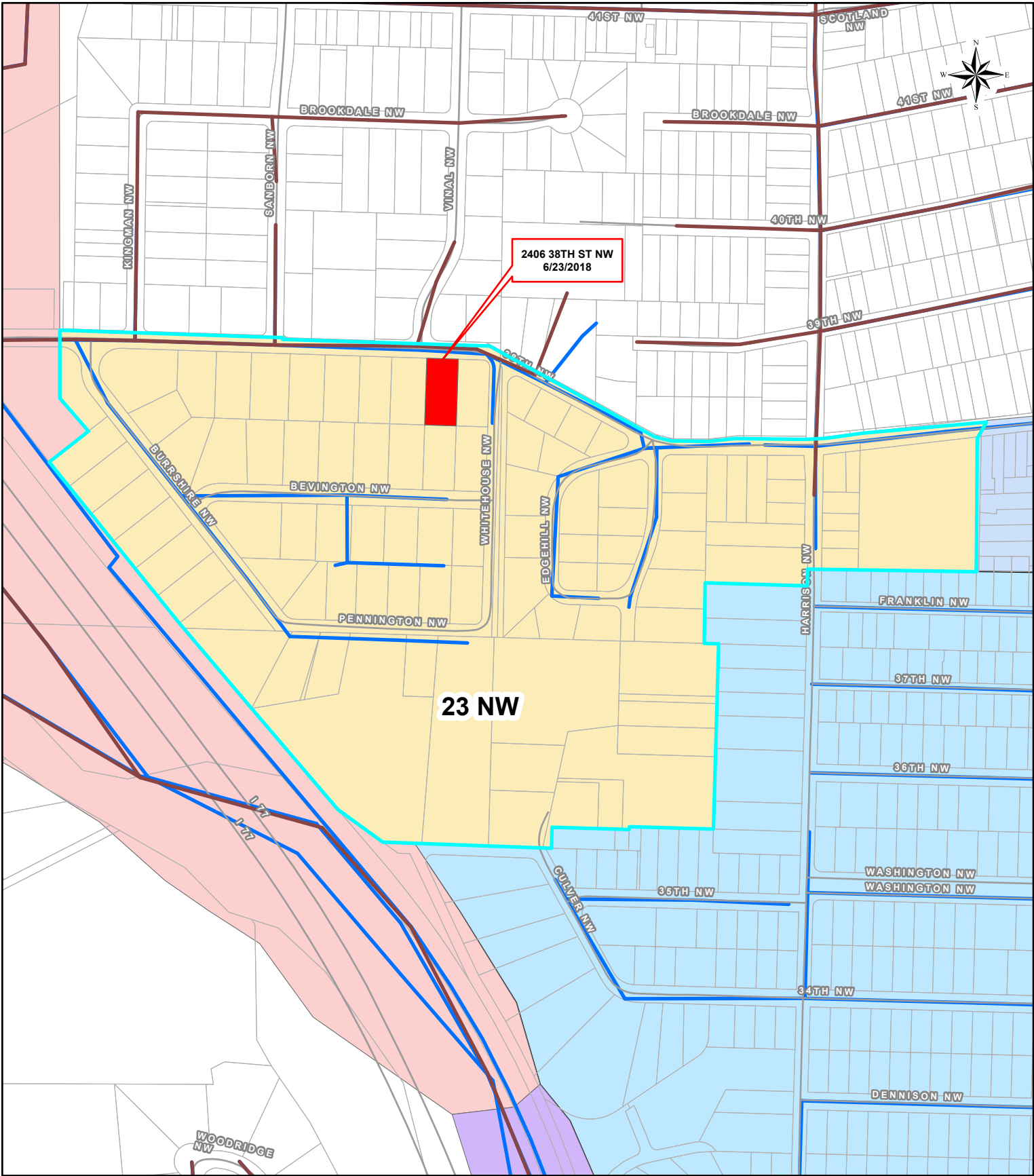
City of Canton, Ohio 2018 WIB Analysis - Sewershed 21 NW

LEGEND

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| ■ PUBLIC WIB | — CANTON CITY FORCE MAIN |
| — CANTON CITY SEWER MAIN | — STARK COUNTY SEWER MAIN |

500 250 0 500 Feet

1 inch = 537 feet



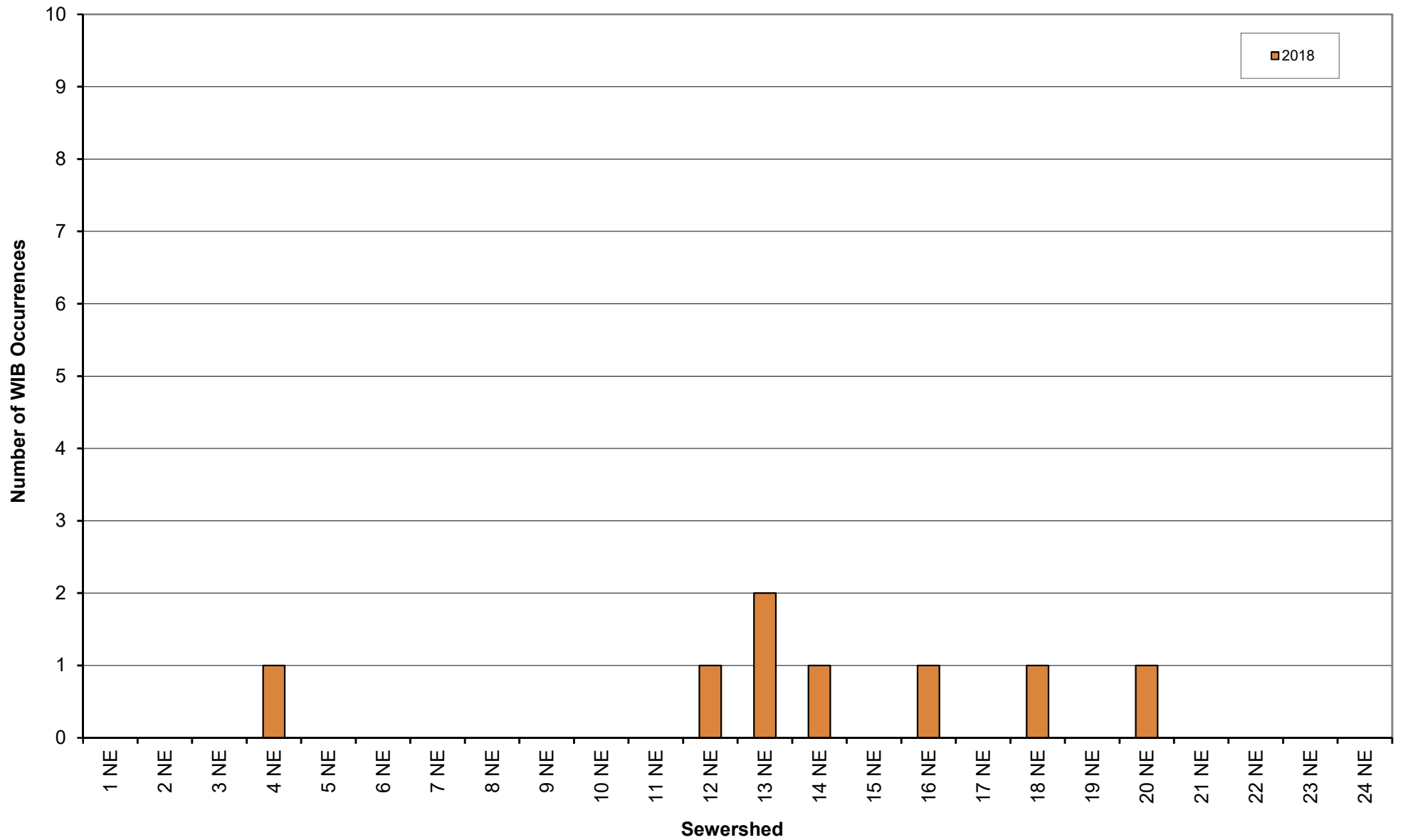
City of Canton, Ohio
2018 WIB Analysis - Sewershed 23 NW

LEGEND

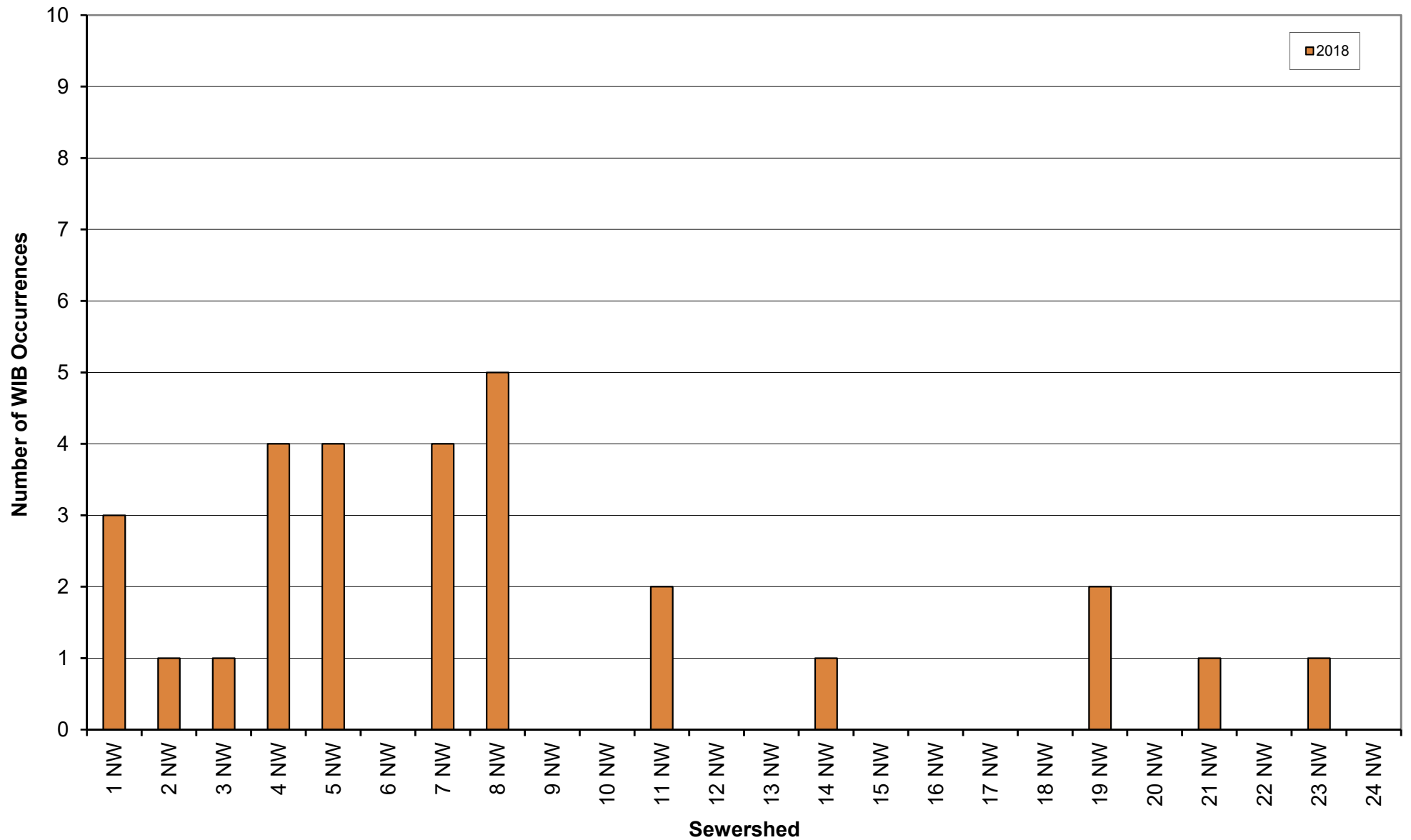
- | | | | |
|---|------------------------|---|-------------------------|
|  | PUBLIC WIB |  | CANTON CITY FORCE MAIN |
|  | CANTON CITY SEWER MAIN |  | STARK COUNTY SEWER MAIN |

350 175 0 350 Feet
1 inch = 371 feet

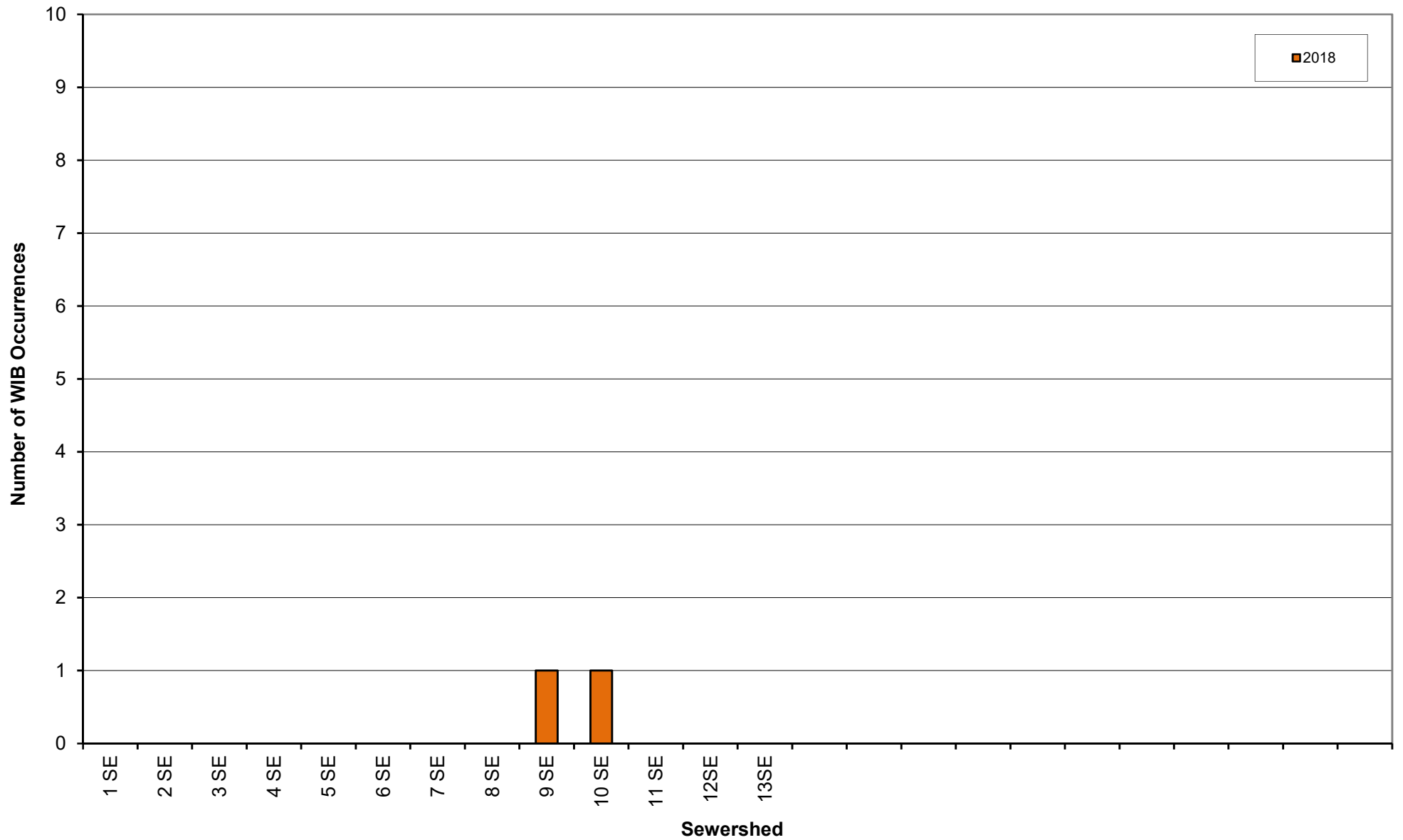
ATTACHMENT B1
PUBLIC WIB OCCURRENCES BY SEWERSHED (NE QUADRANT)



ATTACHMENT B2
PUBLIC WIB OCCURRENCES BY SEWERSHED (NW QUADRANT)



ATTACHMENT B3
PUBLIC WIB OCCURRENCES BY SEWERSHED (SE QUADRANT)



ATTACHMENT B4
PUBLIC WIB OCCURRENCES BY SEWERSHED (SW QUADRANT)

