DESIGN DATA				
Traffic	Average Daily			
Current 2026	Pass: 6,912	Trucks: 678	Total: 7,590	
Forecast 2046	Pass: 8,552	Trucks: 838	Total: 9,390	
Clear Zone Distance: 18 FT		Design Speed: 35 MPH		
Minimum Sight Dist. for Stopping: 250 FT				
Limited Access Control				
Pavement Design Life: 30 YEARS				
Design Accumulated One-way Rigid ESALs: N/A				

	STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	23537	1	1

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

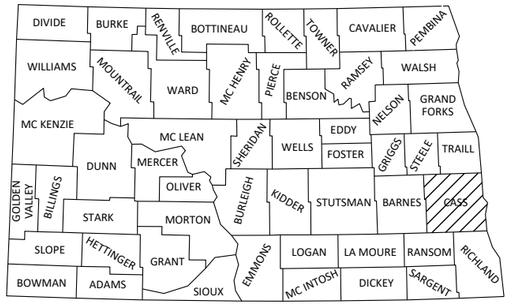
TMA-SU-FXP-8-992(045)
CITY IMPROVEMENT
DISTRICT NO 2265

CASS COUNTY
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

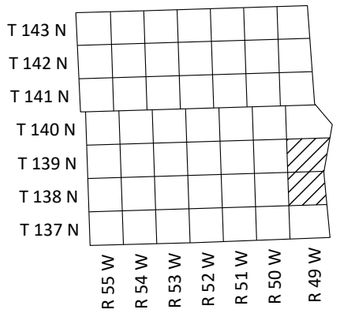
GRADING, SALVAGED BASE, PCC PAVEMENT, STORM DRAIN, LIGHTING, SIGNALS, PAVEMENT MARKING, SIGNING, SHARED USE PATH, AND WATER MAIN

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	7/1/2024
Supplemental Specifications	NONE

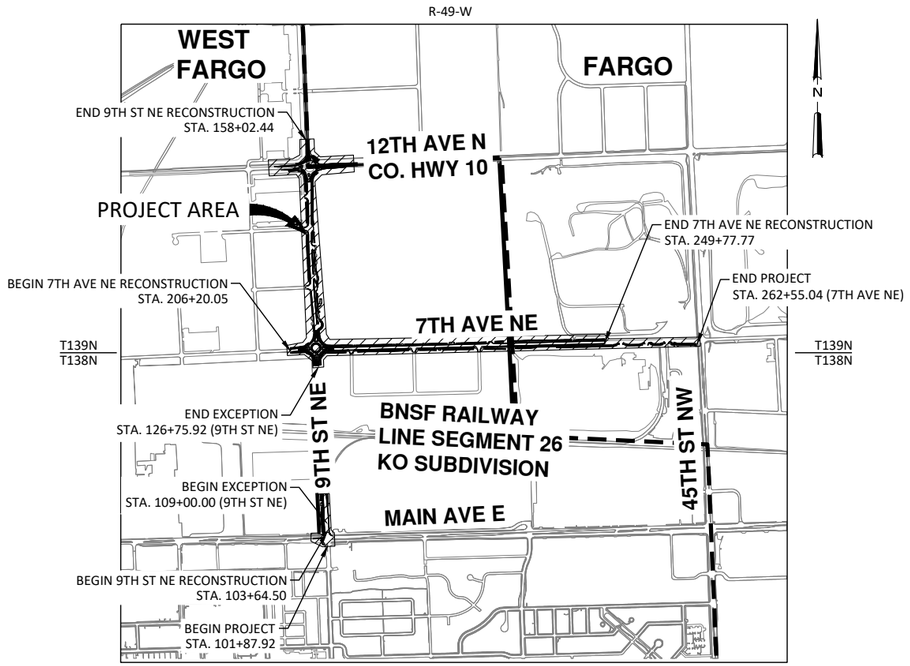
PROJECT NUMBER\DESCRIPTION	NET MILES	GROSS MILES
TMA-SU-FXP-8-992(045)	1.786	2.122
9th St NE	0.719	1.055
7th Ave NE	1.067	1.067



STATE COUNTY MAP



CASS COUNTY



R-49-W

CITY OF WEST FARGO

HOUSTON engineering, inc.

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA
7/30/2025

PROJECT MANAGER

REGISTERED PROFESSIONAL ENGINEER
JEREMY L. MCLAUGHLIN
PE-4883
DATE
NORTH DAKOTA
7/30/2025

DESIGNERS

Josiah Erickson
Kalvin Strecker
Brady Wall
Carter Ueland
Jonathon Andresen
Michael Bautch

APPROVED DATE 7/31/2025

Daniel Hanson
SENIOR DIRECTOR OF COMMUNITY & DEVELOPMENT, CITY OF WEST FARGO

I hereby certify that the attached plans were prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the state of ND.

APPROVED DATE 7/30/2025

Jeremy McLaughlin
HOUSTON ENGINEERING INC

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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6	1 - 11	Notes
6	12	Environmental Notes
8	1 - 3	Quantities
10	1 - 3	Basis of Estimate
11	1	Data Tables
20	1 - 27	General Details
30	1 - 6	Typical Sections
40	1 - 9	Removals
50	1 - 10	Inlet and Manhole Summary
55	1 - 13	Utility Layouts - Watermain
55	14 - 16	Utility Layouts - Sanitary Sewer
55	17 - 32	Utility Layouts - Storm Sewer
60	1 - 33	Plan & Profile
75	1 - 10	Wetland Impacts
76	1 - 9	Temporary Erosion Control
77	1 - 9	Permanent Erosion Control
80	1 - 34	Layouts
90	1 - 9	Paving Layouts
100	1 - 18	Work Zone Traffic Control
110	1 - 29	Signing
120	1 - 10	Pavement Marking
140	1 - 28	Lighting
150	1	Signals
160	1 - 3	ITS
200	1 - 18	Cross Sections - 9th St NE
200	19 - 35	Cross Sections - 7th Ave NE
200	36 - 52	Cross Sections - 7th Ave NE Roundabout
200	53 - 67	Cross Sections - 12th Ave NE Roundabout
200	68 - 72	Cross Sections - Frontage Road

SPECIAL PROVISIONS

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SSP 1	Temporary Erosion and Sediment Best Management Practices
PSP 89(24)	Permits and Environmental Considerations
SP 630(24)	City of West Fargo Specifications
SP 631(24)	Utility Coordination
SP 657(24)	Temporary Pedestrian Facilities

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	2	2

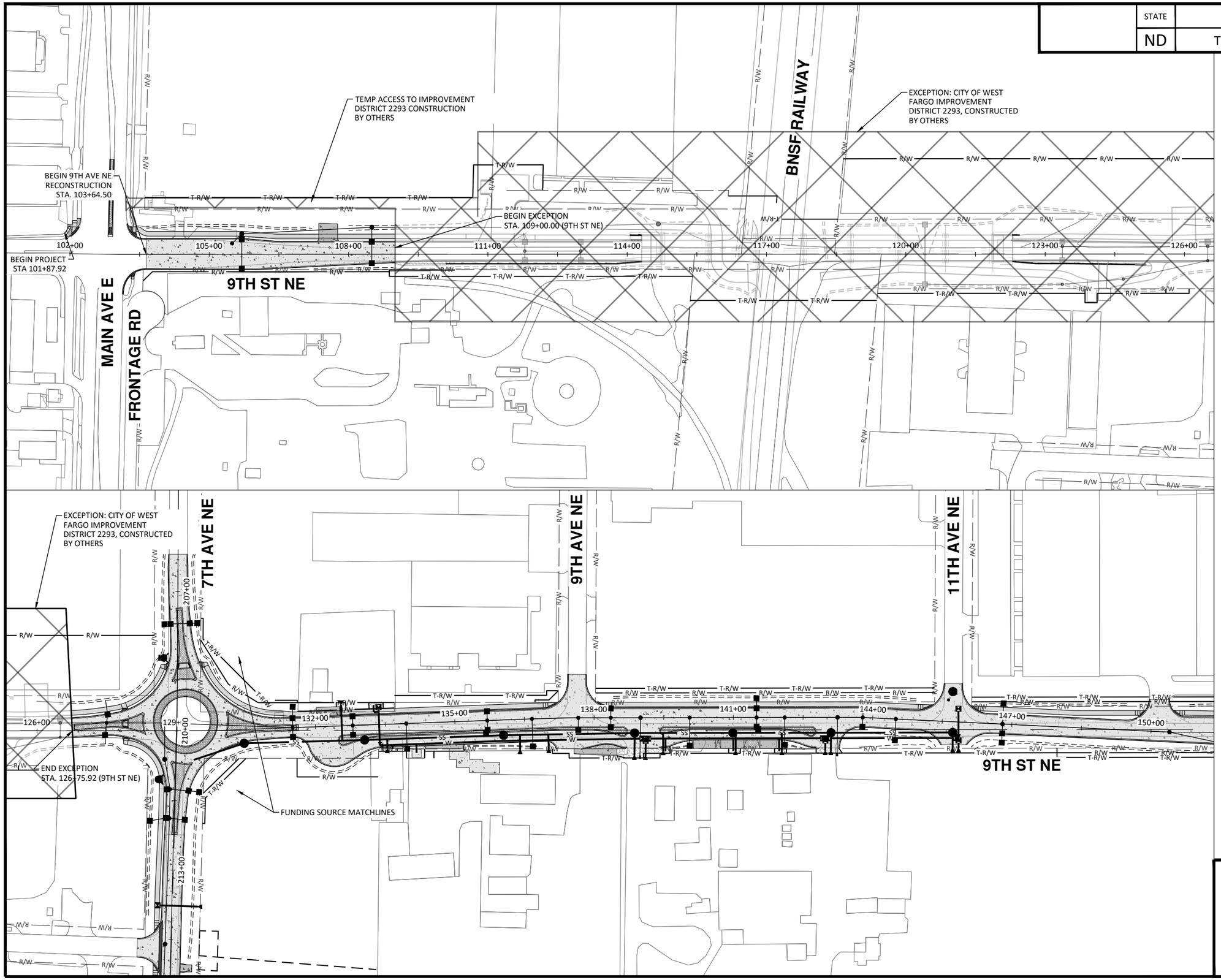
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LIST OF STANDARD DRAWINGS

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D-101-10	NDDOT Utility Company and Organization Abbreviations
D-101-20, 21	Line Styles
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D-256-1	Erosion And Siltation Controls
D-261-1	Erosion Control - Fiber Roll Placement Details
D-704-7	Breakaway Systems For Construction Zone Signs - Perforated Tube
D-704-8	Breakaway Systems For Construction Zone Signs - U-Channel Post
D-704-9	Construction Sign Details - Terminal And Guide Signs
D-704-10	Construction Sign Details - Regulatory Signs
D-704-11, 11A	Construction Sign Details - Warning Signs
D-704-13	Barricade And Channelizing Device Details
D-704-14	Construction Sign Punching And Mounting Details
D-704-21	Detour And Roadway Diversion Sign Layouts
D-704-23	Short Term Urban Detour And Lane Closure On A Divided Highway Layouts
D-704-50	Portable Sign Support Assembly
D-748-1	Curb & Gutter And Valley Gutter
D-754-9	Letter and Arrow Details
D-754-10	Arrow Details for Lane Control and Arrow-Per-Lane Signs
D-754-23	Perforated Tube Assembly Details
D-754-24, 25	Mounting Details Perforated Tube
D-754-24A	Breakaway Coupler System For Perforated Tubes
D-754-26, 27-32	Sign Punching, Stringer and Support Location Details Regulatory, Warning and Guide Signs
D-754-47	Sign Punching, Stringer and Support Location Details For Variable Length Signs
D-754-80	Light Standard, Signal Standard, and Span Wire Mounted Sign Assembly Detail
D-762-1	Pavement Marking Message Details
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D-770-1	Concrete Foundations (Traffic Signals & Highway Lighting)
D-770-2	Feed Points (Roadway Lighting)
D-770-3	Pull Box Details
D-770-4	Lighting And Signal Details
D-770-5	Light Standard Details
D-772-2	Traffic Signal Standards
D-772-4	Traffic Signal Head Mounting

Number	Description

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	4	1



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Scale Feet

LEGEND

- INSTALL WATER MAIN — W
- INSTALL SANITARY SEWER MAIN — SS
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- GATE VALVE
- FIRE HYDRANT
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- MANHOLE
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- PIGMENTED IMPRINTED CONCRETE
- DETECTABLE WARNING PANELS
- CURB & GUTTER - TYPE I
- DITCH BOTTOM
- RIGHT OF WAY — R/W
- EXISTING RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
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CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

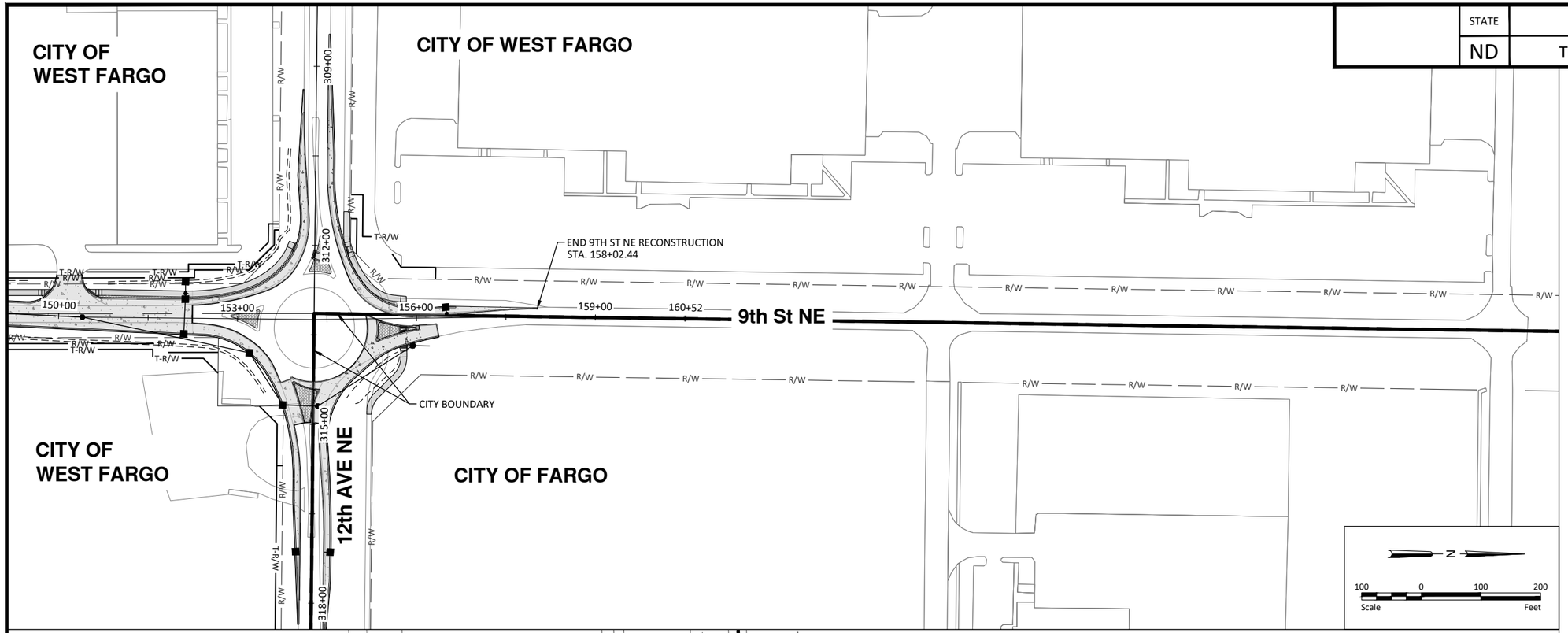
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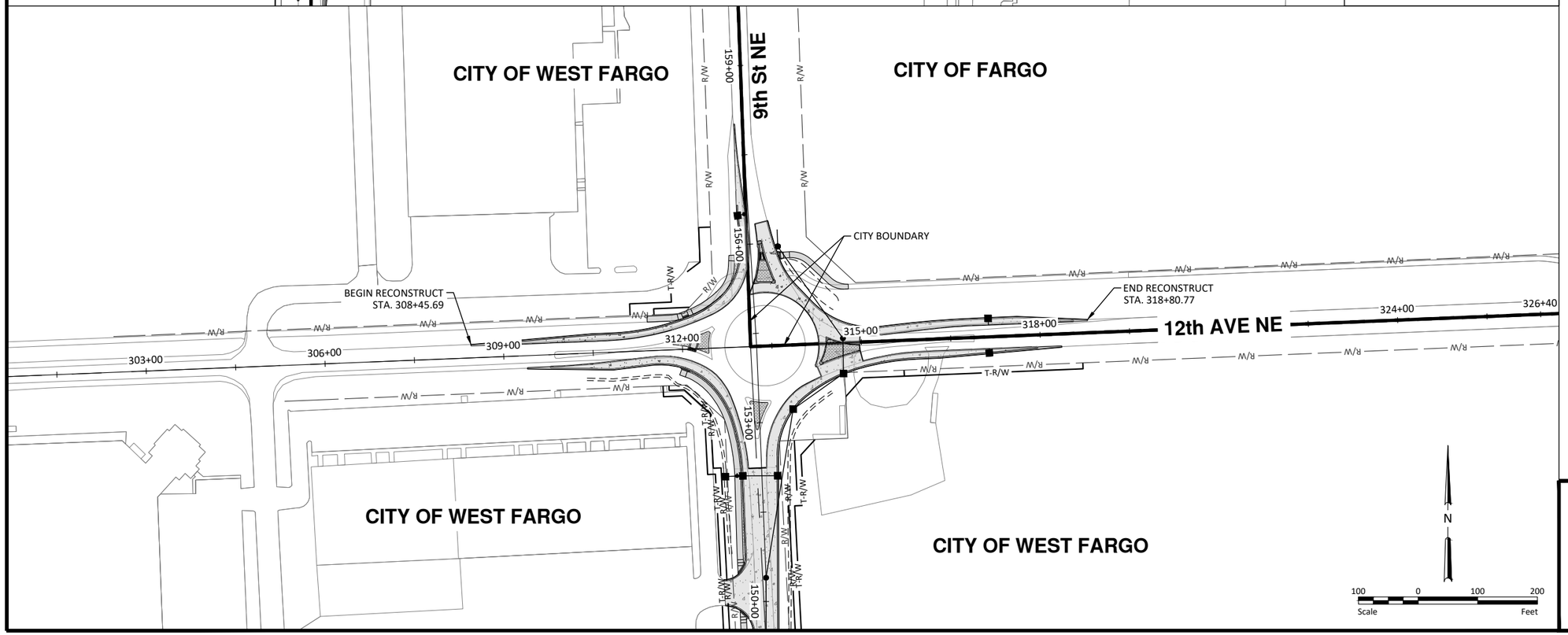
Scope of Work - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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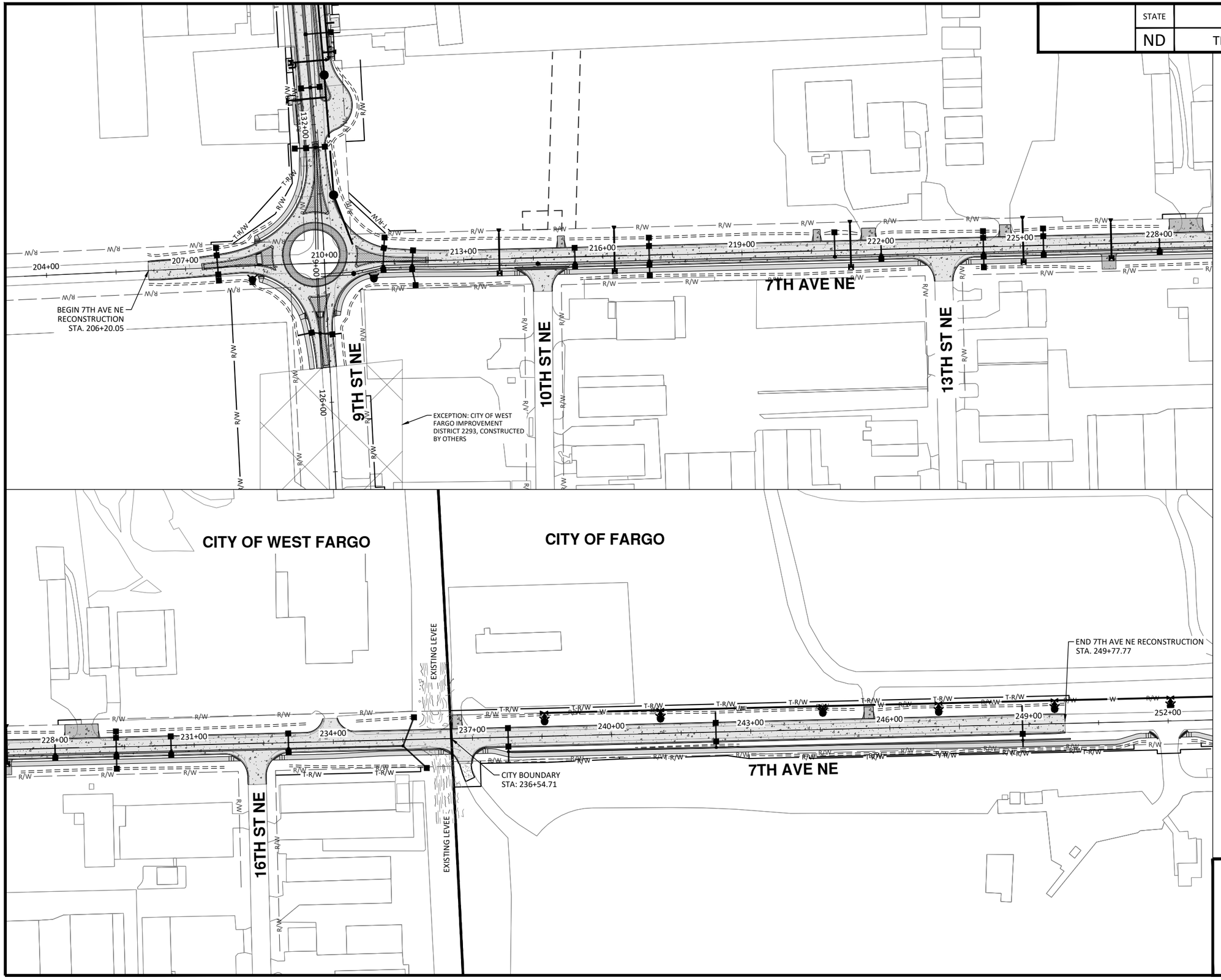
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	ND	TMA-SU-FXP-8-992(045)	4	3



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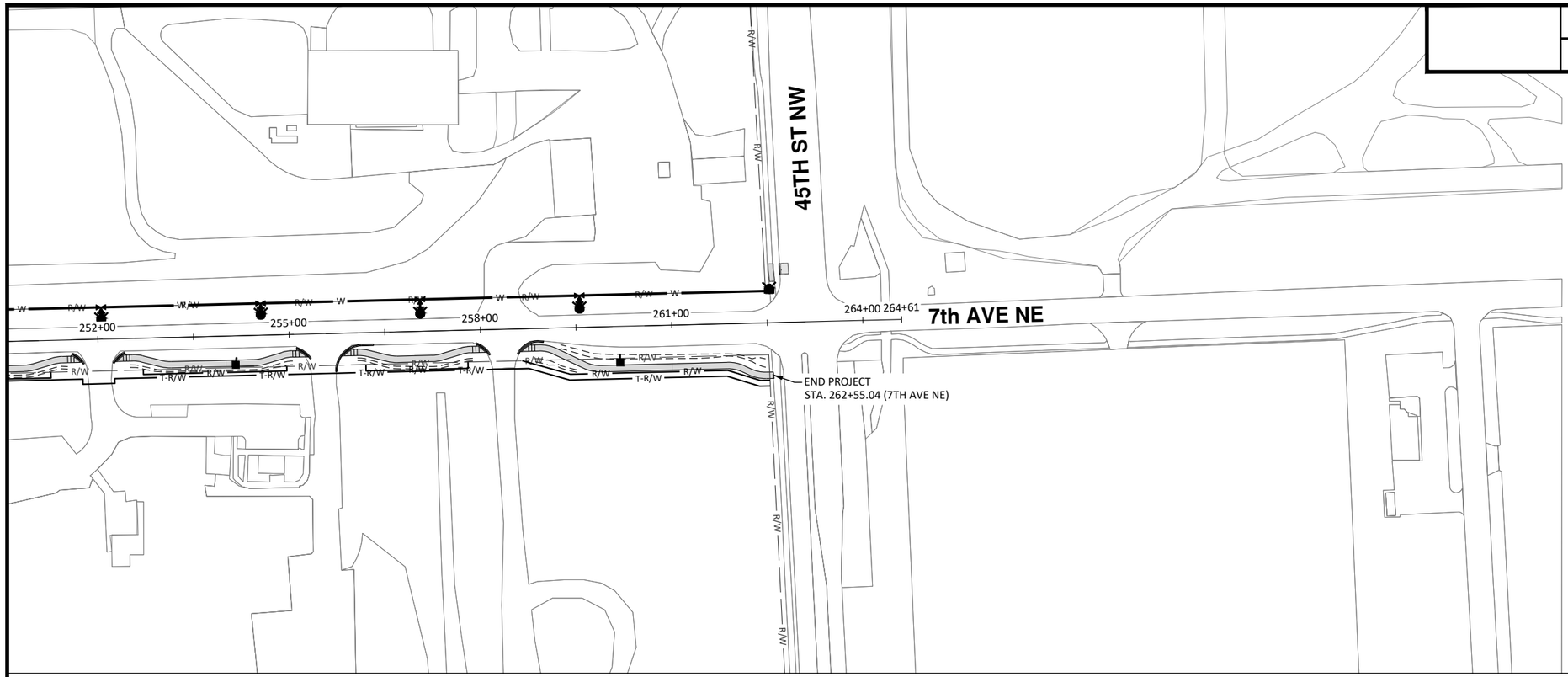
8/1/2025

Scope of Work - 7th Ave NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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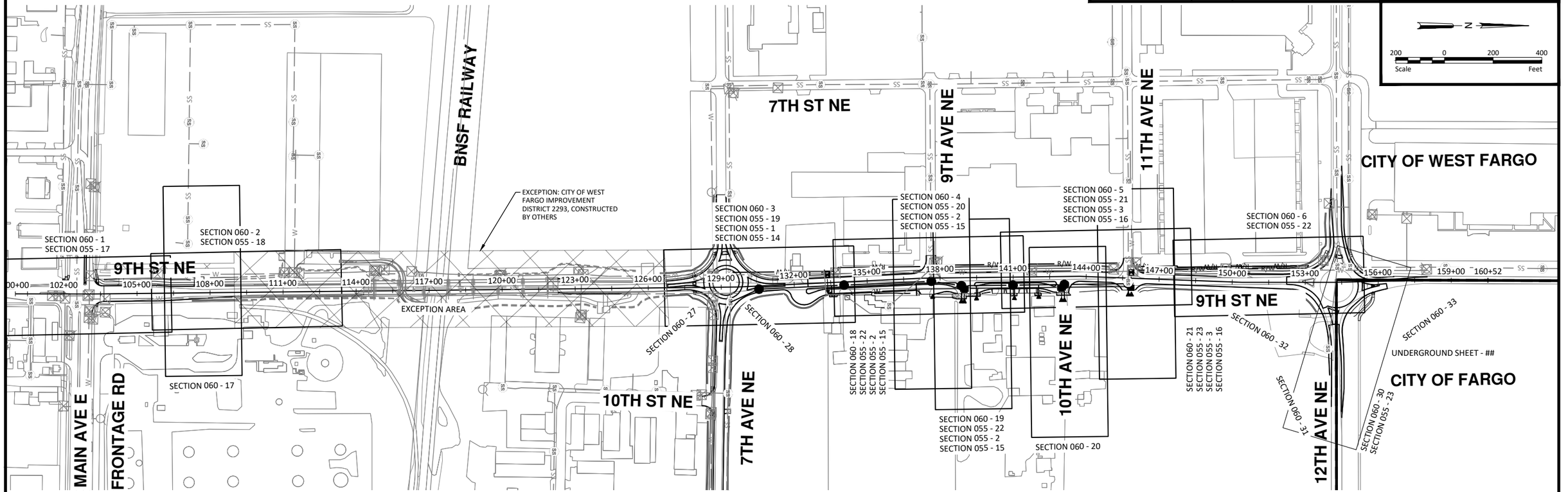
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Scope of Work - 7th Ave NE

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

8/1/2025

Sheet Layout & Index - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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CITY OF WEST FARGO

CITY OF FARGO

10TH AVE NE

9TH AVE NE

7TH AVE NE

5TH AVE NE

45TH ST NW

10TH ST NE

13TH ST NE

16TH ST NE

SECTION 060 - 25

SECTION 060 - 29
SECTION 055 - 25

SECTION 060 - 7
SECTION 055 - 26
SECTION 055 - 5

SECTION 060 - 8
SECTION 055 - 27
SECTION 055 - 6

SECTION 060 - 9
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SECTION 060 - 12
SECTION 055 - 31
SECTION 055 - 10

SECTION 060 - 13
SECTION 055 - 32
SECTION 055 - 11

SECTION 060 - 14
SECTION 055 - 12

204+00 207+00 210+00 213+00 216+00 219+00 222+00 225+00 228+00 231+00 234+00 237+00 240+00 243+00 246+00 249+00 252+00 255+00 258+00 261+00 264 264+61

SECTION 060 - 22

SECTION 060 - 23

SECTION 060 - 24

CITY BOUNDARY
STA. 236+54.71 (7TH AVE NE)

EXCEPTION: CITY OF WEST FARGO IMPROVEMENT DISTRICT 2293, CONSTRUCTED BY OTHERS

N

200 0 200 400
Scale Feet

CITY OF WEST FARGO

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Sheet Layout & Index - 7th Ave NE

9th St NE from Main Ave to 12th Ave N
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	6	1

NOTES

100-P01 COORDINATION OF PROJECTS: Another project in the vicinity of this project is under contract during the 2026 construction season. This project is City of West Fargo Improvement District No 2293, 9th St NE Grade Separation and is located between Sta 109+00.00 and Sta 126+75.92.

Improvement District No 2293 will construct a temporary access road within the temporary easement west of the 9th St right of way from Main Ave, north to beyond Sta 109+00.00. Maintain work and operations to not impact this area or access for the adjacent project and properties.

100-P02 PROJECT COMPLETION: Phase and schedule construction activities to meet the following requirements:

Interim Completion: Complete all work impacting traffic within the intersection of 9th St NE and Main Ave by August 15, 2026. Restore full traffic operations through the intersection within the timeframe designated.

Work within the intersection may utilize lane closures as shown in the plans within the timeframe designated above for a total of 30 consecutive calendar days over the duration of the project. Closure beyond the 30 consecutive calendar days or failure to complete this work within the timeframe limitations noted, will result in an interim completion penalty of $3,000 per calendar day.

Substantial Completion: Complete all work, except for finish grading and turf establishment, and open the roadway to normal traffic operations by October 17, 2026. Failure to meet the substantial completion timeframe will result in liquidated damages being charged per the Contract.

Final Completion: Complete all work, including finish grading and seeding, by November 14, 2026. Complete final turf establishment by May 30, 2027. Failure to meet the final completion date will result in liquidated damages being charged per the Contract.

100-P03 SPECIFICATIONS: Follow City of West Fargo Standard Specifications for Construction for public utilities. See SP 630(24).

105-110 PAVEMENT SWEEPING: Sweep paved areas that were used by construction traffic before opening these areas to public traffic.

Sweep all newly constructed pavement no more than 24 hours before a scheduled final inspection.

Use a vacuum or pick-up type sweeper to perform this work.

105-P01 EXISTING LEVEE: There is an existing flood control levee located near Sta 236+00. Impacts to the embankment below the existing subgrade elevation is not permitted. See PSP 89(24), Permits and Environmental Considerations for more information.

108-100 WEEKLY PLANNING & REPORTING MEETING: A weekly planning and reporting meeting is required.

108-150 PUBLIC RELATIONS COORDINATOR: Provide a public relations and information coordinator. The coordinator cannot be the project superintendent or construction foreman. The coordinator should be knowledgeable in construction operations, be able to develop effective media releases, possess written and verbal communication skills, and be able to organize productive meetings.

Provide the name, work address, and work phone number to the relevant project, community, and media personnel.

The public relations coordinator is responsible for providing the following:

1. Organizing, scheduling, and conducting the meeting specified in Note 108-100, "Weekly Planning/Reporting Meeting".
2. Advise Jerry Wallace, from the City of West Fargo, PH: (701) 515-5104, of upcoming construction activities in regard to street closures and traffic detour routes so that city police, emergency services, schools, and other pertinent city agencies may be notified.
3. Provide news releases and necessary drawings to the media before and during construction. News releases should inform the public on construction activities, schedules, street closures, width or height restrictions to traffic, and traffic detour routes. Update news releases regarding construction activities every other week, at a minimum.
4. Be available for media interviews.
5. Work directly with property owners and businesses affected by construction activities. The coordinator must have sufficient knowledge and authority to resolve property owner and business concerns regarding scheduling, maintaining access, and construction operations.

202-P01 REMOVAL OF PAVEMENT: Include all costs for removal of mainline HMA pavement, PCC pavement, concrete median and aggregate base in the price bid for “Removal of Pavement”.

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

8/13/2025

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	6	2

NOTES

202-P02 CONTAMINATED SOIL: Petroleum Contaminated Soil (PCS) is anticipated to be encountered during installation of storm sewer and other utilities from Sta 101+87.92 to Sta 109+00.00. PCS is generally defined as soils exhibiting petroleum impacts based on visual, olfactory, or photo-ionization detector total organic vapor readings in excess of 100 parts-per-million (ppm), or as defined by Owner's onsite representative. See the Environmental Site Assessment in the supplemental design information for more details on the type of PCS anticipated to be encountered.

Coordinate the complete, daily disposal of the removed PCS with an acceptable disposal facility.

The contaminated material may be able to be disposed of at the City of Fargo Landfill but it is not guaranteed. Coordinate with the City of Fargo landfill for availability and possible schedule of delivery. If the City of Fargo landfill determines there is no availability, dispose of contaminated material at another appropriate landfill at no additional cost.

Tarp all loads of PCS. Remove all PCS from the tires and exterior of the truck prior to leaving the site to avoid spreading PCS beyond the site boundaries.

Overnight stockpiling or storage of PCS on the site is not permitted without approval by Owner's representative. It is recognized; however, that conditions outside of contractor control (weather, road conditions, disposal facility limitations, etc.) may arise that require temporary stockpiling.

If overnight stockpiling is approved by Owner's representative, segregate and store PCS on an impermeable surface or a minimum 40-mil plastic and covered at the end of each day with an impermeable membrane of not less than 6-mil reinforced plastic or 10-mil unreinforced plastic. Securely weight the covering membrane around the edges to prevent exposure to precipitation or wind.

Provide a health and safety plan for the excavation and handling of PCS.

Include all costs associated with screening, removal, hauling and disposing of material in the unit price bid for "Excavation & Disposal of Contaminated Soil".

203-010 SHRINKAGE: 15 percent additional volume is included for shrinkage in earth embankment.

203-360 COMPACTION AND DENSITY CONTROL: Compact material as specified in Section 203.04 G.2.b, "ND T-99".

Manipulate embankment material with disking equipment.

203-385 AVERAGE HAUL: No average haul has been computed for this project.

203-P01 PROOF ROLLING: In addition to density/moisture testing, perform a proof roll test to verify the uniformity of support and to identify unstable areas which will require correction. Perform a proof roll test on subgrade located under the roadway. In fill areas, perform a proof roll test per one foot of each compacted lift.

Complete proof rolling by using a fully loaded tandem dump truck. Other heavy equipment may be substituted to complete proof rolling upon prior approval of the Engineer. Offset each trip of the proof roller by no more than one tire width.

If the grade shows no signs of pumping, cracking, or rutting, the grade being tested is considered acceptable. Correct any defective areas discovered during proof rolling and proof roll again.

Include all costs associated with performing the proof roll test and any corrective work in the price bid for "Common Excavation-Type A."

203-P02 COMMON EXCAVATION SUBCUT: No subcuts are planned. If the Engineer determines that an area of the subgrade is too wet or unstable, a subcut may be required. A discretionary quantity of 500' of 18" subcutting has been provided.

REGISTERED PROFESSIONAL ENGINEER
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NORTH DAKOTA

8/13/2025

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	6	3

NOTES

203-P03 BORROW EXCAVATION: Provide contractor optioned borrow material. Payment for borrow material will be done based on plan quantity. No measurement will be completed. If material underrun or overrun is encountered, no price adjustment will be considered.

251-P01 SEEDING CLASS III: Use the following seed mix for all permanent seeding.

Species	Pounds Live Seed/Acre
Kentucky Bluegrass	120
Fine Lead Perennial Ryegrass	60
Creeping Red Fescue	20

Rate of Seeding = 220 Lbs/Acre

Remove all stumps, brush, sticks, roots, stones larger than ½ inch in diameter, concrete chunks, rebar, wire or other material that may hinder seeding and maintenance operations. Dispose of any accumulated material at no additional cost to the City/State.

Drill seed prior to installation of hydraulic mulch. Water the seeded areas sufficiently to moisten the seedbed to a depth of 2 inches. Apply water in a manner that provides uniform coverage and prevents erosion and damage to the final surface. Provide daily watering for the first five days and sufficient water to maintain surface moisture in the top 2 inches of the soil until such time as the grass (not cover crop) has been evenly established to a height of 2 inches.

Include an additional 10 lbs of oats per acre if seeding is performed prior to June 15th or after August 15th.

Include all costs for labor, equipment and materials necessary to complete the work in the price bid for “Seeding Class III”.

302-110 BASE COURSE: Trim base course as specified in Section 302.04 C.2, "Surface Tolerance Type B."

550-P01 STORM SEWER CASTINGS: Install storm sewer castings while the concrete is still in a plastic state and in a manner that does not create additional joints in the pavement, which were not part of the designed joint layout.

Install inlet castings that are adjacent to the concrete roadway concurrently with the driving surface paving operation.

Install manhole castings that lie within the limits of the concrete pavement with the paving operation. Install castings 1/4 inch to 3/8 inch below the finished pavement surface.

If installing a casting after the paving machine has passed, use vibratory methods to consolidate concrete placed or disturbed as part of the casting installation.

Include all costs for this work in the price bid for the concrete paving items.

704-100 TRAFFIC CONTROL SUPERVISOR: Provide a Traffic Control Supervisor.

704-P01 PORTABLE CHANGEABLE MESSAGE SIGN: Install Portable Changeable Message Signs (PCMS) before work begins on the project. The Engineer will determine the locations for PCMS installation. Relocate the PCMS as directed by the Engineer.

Provide an operator trained in the use of the PCMS.

The Engineer will determine the message to be displayed. The operator shall program the message within one hour of the Engineer's request to change the message.

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704-P02 TRAFFIC CONTROL PHASING: The traffic control details have been developed based on the premise that the project will be constructed in five phases. Include all costs to remove and reset traffic control devices in the price bid for individual items. Submit traffic control adjustments due to deviations from the listed assumptions for approval prior to implementing.

See Section 100 Sheet 5 for location and limits of each phase and subphase. Phases and subphases may not be constructed concurrently.

Phase 1A: Construct all 9th St NE and 12th Ave NE roundabout improvements except for the northwest and north legs of the intersection. Detour traffic on the Phase 1 detours. Maintain pedestrian access through the intersection on the existing shared use path at all times.

Phase 1B: Construct the northwest and north legs of the 9th St NE and 12th Ave NE roundabout improvements. Detour traffic on the Phase 1 detours. Provide pedestrian access through the intersection on the temporary pedestrian access route at all times.

Phase 2: Construct 9th St NE south of the 9th St NE and 12th Ave NE roundabout through the 9th Ave NE approach. Detour traffic on the Phase 2 detour. Cover or remove any 7th Ave NE detour signs during this phase. Provide access to the businesses along the east side of 9th St NE on temporary improvements at all times.
Phase 3: Construct 9th St NE north of the exception area and south of 9th Ave NE, the 9th St NE and 7th Ave NE roundabout, and 7th Ave NE east through the 10th St NE approach. Detour traffic on the Phase 3 detour.

Phase 4: Construct 7th Ave NE east of 10th Ave. Detour traffic on the Phase 4 detour. Cover or remove any 9th St NE detour signs during this phase. Close the right lane of 45th St N southbound and provide pedestrian access on the temporary pedestrian access route as needed to construct the shared use path and concrete pavement northwest of 7th Ave NE and 45th St N. Provide access to the businesses along the north side of 7th Ave NE on temporary improvements at all times. Provide access to Northern Improvement on the middle or east entrance at all times. Maintain access to Lafarge and the Fargo City Landfill at all times.

Phase 5A: Construct 9th St NE north of Main Ave and south of the exception. Detour traffic on the Phases 5A & 5B detour. Cover or remove any 7th Ave NE detour signs during this phase. Detour pedestrian traffic on the north side of Main Ave to the south side. Close the right lane of Main Ave westbound as needed to construct the north portion of the intersection of 9th St NE and Main Ave
Phase 5B: Construct the Main Ave median west of 9th St NE. Detour traffic on the Phases 5A & 5B detour. Cover or remove any 7th Ave NE detour signs during this phase. Detour pedestrian traffic on the north side of Main Ave to the south side. Close the left lane of Main Ave westbound.

Phase 5C: Construct the pedestrian ramps southwest of Main Ave and 9th St NE. Detour pedestrian traffic on the south side of Main Ave to the north side. Detour pedestrian traffic on the west side of 9th Ave NE to the east side.

706-P01 FIELD OFFICE: Provide a field office which meets the following requirements:

1. Minimum total area of 800 square feet
2. Indoor bathroom facilities and supplies with weekly cleaning services
3. Hookups for heat, electricity, sewer, and potable water.
4. Minimum cabinet space of 32 cubic feet
5. Minimum counter space of 40 square feet
6. Air conditioner with a minimum of 20,000 BTUs
7. Lighting with a minimum of 110 foot-candles
8. DSL broadband internet and a router that broadcasts Wi-Fi and will allow for hard wiring of a computer.
9. Photocopy/Printer with scanning capabilities capable of 11x17 photocopies and toner to last the duration of the project. Other features to include digital copying and scanning. Copier/printer machine with operating software compatible with that used by the NDDOT.

Place the field office on the project, or as close to the project as possible. The Contractor is responsible for furnishing the office equipment and for the pay for the following:
- Rental fees;
- Heating;
- Electrical;
- Sewer, and
- Potable water.

Make the field office available for occupancy one week before the start of the project. The Engineer will approve the location and the condition of the office. Do not remove the field office until the Engineer releases the field office.

All requirements of the Field Office are subject to approval by the Engineer. Include the costs for the field office in the bid item "Field Office".

Schedule for Payments:
- 25% when set up on site.
- 50% when 30% of the work is complete.
- 75% when 60% of the work is complete.
- 100% when project is complete.

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714-P01 PIPE CONC REINF _IN CL _ -STORM DRAIN: Construct all reinforced concrete pipe storm drains in accordance with City of West Fargo Standard Specifications for Construction Section 334213.13 “Storm Sewer Pipe”. Include all costs including hand trimming, excavating, removing soft subsoil, bedding fill, compacting, backfilling, pipe, removing plugs, connection to structures or existing storm drains, assembled fittings and accessories in the price bid for “PIPE CONC REINF _IN CL _ -STORM DRAIN” all sizes and classes.

714-P02 END SECT-CONC REINF _IN: Construct all reinforced concrete end sections in accordance with City of West Fargo Standard Specifications for Construction Section 334213.13 “Flared-End Section”. Include all costs including hand trimming, excavation, bedding, backfilling, trach rack, tie bolts, fasteners, accessories, construction, furnishing, and installing structure in the price bid for “END SECT-CONC REINF _IN” all sizes. Length of structure not included in pipe quantity.

714-P03 PLUG PIPE – ALL TYPES AND SIZES: Plug pipe openings in a workman like manner that creates a watertight seal. Pipes indicated to in the plans to be plugged are not to be filled with grout and are to be able to be put back into service if future connections are made. Contractor to submit means for plugging pipes to Engineer for approval prior to installation. Include all costs to plug pipes including excavation, materials, backfilling, and compaction in the price bid for “PLUG PIPE – ALL TYPES AND SIZES”.

722-P01 INLETS AND MANHOLES: Inlets and manholes were designed with a minimum 4 foot riser height. Fill the bottom of each drainage structure with concrete, up to the lowest invert elevation. All precast concrete structures will be constructed and finished in accordance with City of West Fargo Standard Specifications for Construction Section 330561 “PRECAST CONCRETE STRUCTURES”. Manhole risers paid separately from manhole bases, lids, and castings. Sanitary and Storm Sewer manhole and risers are included under a single bid item of corresponding size.

722-P02 ABANDON STORM SEWER: Abandon pipes as indicated in the plans in accordance with City of West Fargo Standard Specifications for Construction Section 024200 “Abandon Pipe”. Include all costs to abandon pipes including excavation, filling pipe with flowable fill, plugging pipe ends, backfilling, and compaction in the price bid for “ABANDON STORM SEWER”.

722-P03 INLET SPECIAL – TYPE 2 __IN: Construct in accordance with “INLET SPECIAL – TYPE 2” detail. Use Neenah Foundry R-3067 or EJ Iron Works 7030 casting frames. Use Neenah C or EJ Iron Works M2 grates.

722-P04 INLET SPECIAL – TYPE 2 DOUBLE __IN: Construct structures in accordance with “INLET SPECIAL TYPE 2 DOUBLE” detail. Use Neenah Foundry R-3295-2 or EJ Iron Works 7031 casting frames. Use Neenah C or EJ Iron Works M2 grates.

722-P05 INLET SPECIAL – CATCH BASIN __IN: If build height allows for the use of an eccentric cone section, construct structure in accordance with “MANHOLE 48”” or “MANHOLE 60”-96”” details. Where build height does not allow for the use of an eccentric cone section, construct concrete base and riser in accordance with “MANHOLE 48”” or “MANHOLE 60”-108”” details and construct covers in accordance with “INLET SPECIAL – CATCH BASIN COVER” detail. Use Neenah Foundry R-4342 or EJ Iron Works 6489 grates.

722-P06 MANHOLE: If build height allows for the use of an eccentric cone section, construct structures in accordance with “MANHOLE 48”” or “MANHOLE 60”-108”” details. Where build height does not allow for the use of an eccentric cone section, construct concrete base and riser in accordance with “MANHOLE 48”” or “MANHOLE 60”-108”” details and construct covers in accordance with “INLET SPECIAL – CATCH BASIN COVER” detail. Use Neenah Foundry R-1733 or EJ Iron Works 1205Z for installations in the boulevard or asphalt paved areas, and floating Neenah Foundry R-1955-1 or EJ 3025 for installations in concrete pavement.

722-P07 INLET TYPE 2: Construct structures in accordance with “INLET TYPE 2” detail. Use Neenah Foundry R-3067 or EJ Iron Works 7030 casting frames. Use Neenah C or EJ Iron Works M2 grates.

722-P08 INLET TYPE 2 DOUBLE: Construct structures in accordance with “INLET TYPE 2 DOUBLE” detail. Use Neenah Foundry R-3295-2 or EJ Iron Works 7031 casting frames. Use Neenah C or EJ Iron Works M2 grates.

722-P09 INLET CATCH BASIN: Construct structures in accordance with “INLET CATCH BASIN” detail. Use Neenah Foundry R-4342 or EJ Iron Works 6489 grates.

722-P10 MODIFY MANHOLE: Provide connections for proposed storm sewer at dimensions as indicated in the plans or as directed by the Engineer. The structures are assumed to be clean prior to the beginning of the modifications unless otherwise agreed to with the Engineer.

Connect new storm sewer in a workmanlike manner. Bring inverts into the existing manhole at the elevations indicated in the plans, and mortar in place.

Modify existing structure invert to elevations indicated in the plans.

If applicable, plug existing abandoned pipe openings in accordance with City of West Fargo Standard Specifications for Construction.

Seal all barrel-to-barrel joints with a gasketed joint for all sizes of manholes. Any section that is removed and reinstalled or replaced is to be sealed.

Where the height of the structure is to be lowered, remove the masonry or concrete to sufficient depth to allow for the installation of the casting, grate, adjusting rings, or cover at the new elevation.

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Accurately set new castings to correct elevation and line so that no subsequent adjustment will be necessary. Use Neenah Foundry R-1733 or EJ Iron Works 1205Z for installations in the boulevard or asphalt paved areas, and floating Neenah Foundry R-1955-1 or EJ 3025 for installations in concrete pavement.

Replace all deteriorated or faulty materials of the existing structure and complete the modification.

Include all costs for labor, materials, and equipment necessary to provide new storm inlet connections including any additional structure riser sections or adjustment rings in the contract unit price for “MODIFY MANHOLE”.

722-P11 MODIFY INLET: Provide connections for proposed storm sewer at dimensions as indicated in the plans or as directed by the Engineer. The structures are assumed to be clean prior to the beginning of the modifications unless otherwise agreed to with the Engineer.

Connect new storm sewer in a workmanlike manner. Bring inverts into the existing manhole at the elevations indicated in the plans, and mortar in place.

If applicable, plug existing abandoned pipe openings in accordance with City of West Fargo Standard Specifications for Construction.

Seal all barrel-to-barrel joints with a gasketed joint for all sizes of manholes. Any section that is removed and reinstalled or replaced is to be sealed.

Where the height of the structure is to be lowered, remove the masonry or concrete to sufficient depth to allow for the installation of the casting, grate, adjusting rings, or cover at the new elevation.

Accurately set new castings to correct elevation and line so that no subsequent adjustment will be necessary. Use Neenah Foundry R-4342 or EJ Iron Works 6489 grates for round inlets located outside of pavement. Use Neenah Foundry R-3067 or EJ Iron Works 7030 casting frames. Use Neenah C or EJ Iron Works M2 grates for inlets located within the curb and gutter.

Replace all deteriorated or faulty materials of the existing structure and complete the modification.

Include all costs for labor, materials, and equipment necessary to provide new storm inlet connections including any additional structure riser sections or adjustment rings in the contract unit price for “MODIFY INLET”

724-P01 WATERMAIN _IN PVC: Construct, disinfect, and test all watermain in accordance with City of West Fargo Standard Specifications for Construction Section 331413 “Pipe” and related sections. All costs to provide excavation and backfill; pipe, disinfection, trace wire system, insulation, hydrostatic testing, and bedding is incidental to the price bid for “WATERMAIN _IN PVC” all sizes.

724-P02 WATER SERVICE LINE _IN: Construct, disinfect, and test all water services 2” in diameter and smaller in accordance with City of West Fargo Standard Specifications for Construction Section 331417 “Water Service Line” and related sections. All costs to provide including hand-trimming excavation, pipe and fittings, bedding, thrust restraints, connection to service piping, tracer wire, disinfection, and municipal utility water source, and backfill is incidental to the price bid for “WATER SERVICE LINE _IN” all sizes.

724-P03 CURB STOP & BOX _ IN: Construct all curb stop and boxes in accordance with City of West Fargo Standard Specifications for Construction Section 331417 “Water Service Connection” and related sections. All costs including service saddle, corporation stop, curb stop, curb box and cover, connection to new or existing service line (if applicable), fittings, and accessories are incidental to the price bid for “CURB STOP & BOX _IN” all sizes.

724-P04 GATE VALVE & BOX _IN: Construct all gate valve and boxes in accordance with City of West Fargo Standard Specifications for Construction Section 331419 “Valves”. All costs including excavation, valve, valve box, accessories, bedding, and backfill is incidental to the price bid for “GATE VALVE & BOX _IN” all sizes.

724-P05 HYDRANT-INSTALL 5IN: Furnish and install all fire hydrants in accordance with City of West Fargo Standard Specifications for Construction Section 331419 “Fire Hydrant”. All costs including excavation, hydrant, top extension (where required), accessories, foundation bedding, and backfill is incidental to the price bid for “HYDRANT-INSTALL 5IN”.

724-P06 _IN SANITARY SEWER PIPE: Construct all sanitary sewer pipe in accordance with City of West Fargo Standard Specifications for Construction Section 333111 “Pipe and Fittings”. All costs including hand trimming, excavation, bedding, pipe and fittings, plugs, bypass pumping (if required) is incidental to the price bid for “_IN SANTARY SEWER PIPE” all sizes.

724-P07 _IN SEWER SERVICE PIPE: Construct all sanitary sewer pipe in accordance with City of West Fargo Standard Specifications for Construction Section 333111 “Pipe and Fittings”. All costs including hand trimming, excavation, bedding, pipe and fittings, plugs, bypass pumping (if required) is incidental to the price bid for “_IN SEWER SERVICE PIPE” all sizes.

724-P08 _IN x _ IN SEWER WYE BRANCH: Construct all sanitary sewer pipe in accordance with City of West Fargo Standard Specifications for Construction Section 333111 “Sanitary Sewer Service Connection”. Include all labor, excavation, backfilling, materials, and equipment necessary for furnishing and installing one (1) in-line sanitary sewer service connection as shown in the plans in the price bid for _IN x _ IN SEWER WYE BRANCH” all sizes.

724-P09 SANITARY SEWER CLEANOUT: Construct all sanitary sewer pipe in accordance with City of West Fargo Standard Specifications for Construction Section 333111 “Cleanout”. All costs Includes hand trimming, excavating, reinforced concrete pad, casting, unit installation with accessories, connection to sewer piping and backfilling is incidental to the price bid for “SANITARY SEWER CLEANOUT” all sizes.



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724-P10 ADJUST GATE VALVE AND BOX: Adjust gate valve and boxes to proposed grade in accordance with City of West Fargo Standard Specifications for Construction Section 331419 “Valves and Hydrants for Water Utility Service”. Include all costs including excavation, labor, equipment, and materials, testing, and backfill in the price bid for “ADJUST GATE VALVE AND BOX”.

724-P11 RELOCATE HYDRANT: Relocating existing fire hydrants to proposed location in accordance with City of West Fargo Standard Specifications for Construction Section 331419 “Valves and Hydrants for Water Utility Service”. Include all costs including removal and salvaging of existing hydrant, excavation, piping, hardware and appurtenances, installation of barrel extension as needed, installation of the hydrant and tracer wires, accessories, testing, and backfill in the price bid for “RELOCATE HYDRANT”.

724-P12 ADJUST HYDRANT: Adjusting existing fire hydrants to proposed grade in accordance with City of West Fargo Standard Specifications for Construction Section 331419 “Valves and Hydrants for Water Utility Service”. Include all costs including removal of existing hydrant, excavation, piping, hardware and appurtenances, installation of barrel extension as needed, installation of the hydrant and tracer wires, accessories, testing, and backfill in the price bid for “ADJUST HYDRANT”.

724-P13 TAPPING SLEEVE & VALVE _IN X _IN: Furnish and install all tapping sleeve and valves in accordance with City of West Fargo Standard Specifications for Construction Section 331413 “Taps”. All costs including excavation, tap, sleeve, accessories, and backfill is incidental to the price bid for “TAPPING SLEEVE & VALVE _IN X _IN” all sizes.

724-P14 FITTINGS DUCTILE IRON: Unless otherwise noted on the plans, water main fittings will be measured by the pound without joint accessories or cement lining. The weight for fittings not listed in the tables below shall be in accordance with AWWA C153. The weight for fittings not listed in the tables below or in AWWA C153 shall be the actual weight of the fitting(s) furnished and installed based on acceptable documentation provided by the Contractor. Include all costs to provide and install watermain fittings and appurtenances in the price bid for “FITTINGS DUCTILE IRON”. The standard weight of water main fittings, for payment purposes, shall be as follows:

Tees, Crosses, and Reducers

Run	Branch	Fitting Weights, lbs. (AWWA C153)			Run	Branch	Fitting Weights, lbs. (AWWA C153)		
Large	Small	Tee	Cross	Reducer	Large	Small	Tee	Cross	Reducer
4	4	32	40		16	6	228	240	124
6	4	46	57	24	16	8	248	260	124
6	6	56	75		16	10	264	317	124
8	4	60	68	32	16	12	280	306	112
8	6	72	74	36	16	14	316		140
8	8	86	105		16	16	322	385	
10	4	78	112	46	20	6	315		
10	6	90	119	47	20	8	345	379	
10	8	105	124	50	20	10	370		220
10	10	120	145		20	12	395	413	205
12	4	94	119	58	20	14	440		200
12	6	110	126	58	20	16	465		200
12	8	125	149	57	20	20	535		
12	10	140	179	61	24	6	415		
12	12	160	213		24	8	445	481	
14	4	172			24	10	470		
14	6	182	200	100	24	12	500	529	305
14	8	206	228	100	24	14	550		306
14	10	228		100	24	16	580	576	320
14	12	234		100	24	20	660	1589	300
14	14	280	299		24	24	720		

Bends, Caps, and Plugs

Size	Fitting Weights, lbs. (AWWA C153)						
	Bends (degrees)				Caps	Plugs	Sleeves
	90	45	22.5	11.25			
4	25	22	18	16	9	10	20
6	39	32	31	30	15	16	29
8	57	46	46	42	22	26	45
10	89	70	64	58	32	36	61
12	108	86	80	67	42	46	76
14	210	160	136	93	66	75	128
16	264	202	172	148	92	95	159
20	400	305	310	245	125	135	236
24	565	405	412	315	166	175	306

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750-P01 PIGMENTED IMPRINTED CONCRETE: Develop a mix design using any size coarse aggregate specified in Section 802.02 B.2, "Aggregate Gradation" and with a 60-40 fine aggregate-coarse aggregate ratio.

Provide a pigment from the list below or provide an approved equal. To be considered an approved equal, pigments must meet the requirements of ASTM C 979.

1. Number 366 Natural Red, produced by Soloman Colors, Inc. http://www.solomoncolors.com/;
2. Brick Red pigment Number 160, produced by Davis Colors http://www.daviscolors.com/; or
3. Brick Red, produced by Butterfield Color http://butterfieldcolor.com/

Use the same supplier for all colored concrete placed under the contract.

Add pigment at the ratio recommended by the manufacturer directly into the mixer along with the aggregate, cement, and water. Add pigment while the mixer is operating at mixing speed. Continue mixing for 5 to 10 minutes or between 50 and 100 revolutions.

Form a pattern in the concrete using a roller to create a 4 inch × 8 inch brick pattern.

Cure concrete using curing compound that meets the requirements of ASTM C 309, Type 1.

752-P01 TEMPORARY SAFETY FENCE: Install and maintain a temporary safety fence in any areas where a hazardous situation may occur such as open trenches, pavement removal areas, or other areas that could be a hazard to the public. Include all costs to install, maintain and remove the fence in the price bid for other items.

752-P02 SCREENING CHAIN LINK: Construct a chain link fence with privacy slats, privacy tape or privacy fence screen providing 85% to 95% of privacy at the location shown in Section 80. Provide an earth-tone color of slats/tape/screen that match the adjacent fencing. Include all cost for slats/tape/screening, double brace assemblies, corner assembly and fence terminals in the price bid for "Screening Chain Link".

762-050 PAVEMENT MARKING: If the Engineer and Contractor agree, plan quantity will be used as the measurement for payment for pavement marking items.

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770-P01 EXISTING CONDUIT AND CONDUCTOR: Remove and abandon existing conduit and conductor as shown on the plans or as directed by the Engineer. Ends of abandon conduit to be plugged. Include all costs for labor, materials, and necessary equipment in the contract unit price for “Lighting System _” or “Revise Lighting System”.

770-P02 SALVAGE LIGHT STANDARD: Remove, salvage, and deliver existing light standards and luminaires at locations shown on the plans. Disconnect branch circuit wiring at the fuse holder and salvage light standard and luminaire. Remove existing concrete foundation and internal pole wiring. Deliver light standards and luminaires to the City of West Fargo Sign Shop located at 327L 34th Avenue East. Coordinate delivery with City of West Fargo Assistant Public Works Director Ryan James (701-433-5400) a minimum of 24 hours in advance of drop-off. Any equipment deemed not salvageable by the City is to be disposed of by the Contractor. Include all costs for labor, materials, and necessary equipment for removing, salvaging, and delivering light standards and luminaires in the contract unit price for “Lighting System _”.

770-P03 RELOCATE LIGHT STANDARD: Salvage and reset existing light standards and luminaires at location shown on the plans. Disconnect branch circuit wiring at the fuse holder and salvage light standard and luminaire. Remove existing concrete foundation, anchor bolts, and internal pole wiring. Furnish and install new concrete foundation and anchor bolts. New anchor bolt dimensions and material grade to match existing anchor bolts; field verify. Reset existing light standard and luminaire on new foundation and provide new internal pole wiring, fuses, and connectors. Include all costs for labor, materials, and necessary equipment for salvaging and resetting light standards and luminaries in the contract unit price for “Revise Lighting System”.

770-P04 DECORATIVE LIGHT STANDARD – 30 FT: Provide Millerbernd, Decorative Stainless Steel Light Standard (product no. 8-SDN(B)1-8-300-001) or Decorative Twin Stainless Steel Light Standard (product no. 8-SDN(B)3-8-300-2-001), 28-foot pole height (30’ mounting height), “H” base, decorative pole top arm mount, octagonal pole shaft, and black finish color. Provide stainless steel “H” base breakaway system. Mount light standards on a concrete foundation.

Provide Millerbernd 70A203 Decorative DN8 Mast Arm or Millerbernd 70B273 Decorative DN8 Twin Mast Arm. Mast arms to be 8-footh length, black finish color, and have 70A205 Scroll Brace.

Provide a 15 Amp rated GFCI receptacle (WR type) with an “in-use” outdoor rated cover on the pole, flush mounted, as shown on the plans. Meet requirements of NDDOT Specification 895.05. Niland Company is an approved equivalent. Include all costs to furnish and install decorative light standards in the contract unit price for “Lighting System _”.

770-P05 ANTI-SEIZE: Provide anti-seize compound to all threaded bolts and screws.

770-P06 CONDUCTORS AND CONNECTORS: Provide continuously color-coded conductors (for all conductors), black and red for lighting, white for neutral, green for equipment ground, blue for receptacle power, and purple and pink as needed for additional circuits. Provide Tyco Electronics Gelcap SL splice cover kit with connector for all connections in street light bases. All other conductor splices to be UL Listed with Power Gel sealant. Provide fuse holders with 3” of heat shrink at conductor connections. Splicing is not permitted in pull boxes.

770-P07 DECORATIVE LIGHT FIXTURE (Decorative Teardrop 30’): Provide the LED luminaire listed below:

- Holophane Esplanade, Model ESL3-P40S-40K-MVOLT-TG3-QSM-BK-AO

Provide luminaires that meet the following requirements:

- Minimum average maintained illuminance: 1.0 footcandles
- Uniformity ratio (average/minimum): 4:1
- Light loss factor: 0.81
- Maximum operating wattage: 150 watts
- Minimum output: 20,000 lumens
- Type III optical distribution
- Color temperature of 4000K
- 70 CRI (minimum)
- Operating temperature: -40°C to +40°C
- LED light engine rated at 100,000 hours at 25°C
- Aluminum corrosion resistant housing
- IP 66 rated
- Tool-less entry

770-P08 LIGHTING FEED POINT: Coordinate with the electric utility (Cass County Electric Cooperative – Brent Hodgson, 701-356-4462) for providing new electrical services for the new lighting feed point cabinets. Coordinate the installation of new service conductors and conduit between the feed point and utility transformer. Verify feed point locations and elevation with the Engineer and Cass County Electric before installation.

Provide 2” conduit for the service conductor between the meter socket on the feed point cabinet to the utility transformer. Provide rigid steel conduit where exposed.

Feed point cabinet assembly to be pedestal, pad-mounted type, prefabricated UL 508 Listed, service entrance rated, stainless steel, with one (1) meter socket. Refer to Section 140 details. Provide a meter socket with lever bypass meeting utility requirements. Meters to be provided by the utility company. Prefabricated feed point enclosure to be assembled by Milbank, States Electric, Povolny, or approved equivalent.

Provide permanent, typed, etched labeling for contactors, breakers, and control switch. Provide gasketed doors. Provide button type photocell and face north. Install all conduit within the

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concrete foundation. Include all costs for labor, materials, and coordination required to install the service in the contract unit price for “Lighting System _”.

770-P09 CONCRETE FOUNDATION-FEED POINT: Install top of concrete foundation level and at an elevation to prevent flood damage. Duct seal all conduits with conductor. Provide two (2) spare 2” PVC conduits in the foundation. Provide conduit caps, with an oil-tight plug and wing nut, on the spare conduit sweeps and label each as to the direction each sweep faces.

770-P10 CONCRETE FOUNDATION-HIGHWAY LIGHTING: Provide mouse guard, Xcluder light pole gasket 2800g, 162727.

772-P01 ACCESSIBLE PEDESTRIAN SIGNALS (APS) PUSHBUTTON AND SIGN: Provide pedestrian pushbuttons that include the features, installation procedures, and code compliance shown below:

A. Features:
   1. Rapid tick WALK indication, no more than 2-5 dBA above ambient sound.
   2. Vibrotactile WALK indication.
   3. Speaker and vibrotactile indication located at pushbutton.
   4. Pushbutton locator tone.
   5. Tactile arrow on each device aligned in the direction of travel on the crosswalk.

B. Installation Procedures:
   1. APS should be reachable from the level landing of the curb ramp for the crossing or from a level surface with an accessible path to the ramp (MUTCD Section 4I.05 and PROWAG).
   2. APS should be within 5 feet of the crosswalk line furthest from the center of the intersection and within 10 feet of the curb (MUTCD Section 4I.05).
   3. Align tactile arrow parallel to the direction of travel on the crosswalk (MUTCD Section 4K.04).
   4. Pushbutton is required to be located within reach range for wheelchair users (PROWAG, R406).

C. Code Compliance
   1. Functionality: MUTCD 2023 – 4I
   2. Temperature and Humidity – NEMA TS-2
   3. Transient Voltage Protection: NEMA TS-2
   4. Transient Suppression: IEC 61000-4-4, IEC 61000-4-5
   5. Electronic Noise: FCC Title 47, Part 5, Class A
   6. Mechanical Shock and Vibration: NEMA TS-2
   7. EN4 PBS Enclosure: NEMA 250 – Type 4X
   8. Electrical Reliability: NEMA TS 4

Provide APS pushbuttons with black housing and R10-3e-9 instructional signs. APS pushbuttons will require a new APS pushbutton controller in the existing traffic signal cabinet. Include all costs for labor, materials, and necessary equipment in the contract unit price for “Revise Traffic Signal System”.

772-P02 SIGNAL EQUIPMENT:

A. Provide steel mounting brackets for pedestrian signal heads. Brackets to be colored black.
B. Provide LED 16” pedestrian with countdown displays. Housing to be black.
C. Provide stainless steel fasteners and use anti-seize lubricant on all threaded components.

772-P03 PULL BOXES: Provide polymer concrete type pull boxes. Clearly mark the cover as “Traffic Signal” as required. Provide the style as shown on the standard drawings and include the stackable bottom extension with knockouts. Include all costs for labor, materials, and necessary equipment in the contract unit price for “Revise Traffic Signal System”.

772-P04 DUCT SEAL: Seal all conduits with duct seal at the controller cabinet and all conduit entering and exiting pull boxes.

772-P05 WIRE SPLICING: No splicing will be allowed in pull boxes. Splicing may only take place at the signal transformer base terminal block, controller cabinet terminals blocks, and traffic signal head terminal blocks.

772-P06 CONTROLLER CABINET WIRING DIAGRAM: Label the following information on the cabinet wiring diagram, in addition to information required by NDDOT Standard Specification 772.03.D.

1. Label field wire terminals for the pedestrian head control cables with the phase number (i.e., Ø8 PED).
2. Label field wire terminals for the pedestrian push-button cables with the phase number (i.e., Ø8 PED).
3. Modify the intersection diagram on the cabinet door as necessary to include additional pushbuttons and pedestrian signal heads.

Use a heat-shrink labeling system. Do not strip cables back from the connection more than 12 inches. Include all costs for labor, materials, and necessary equipment for labeling the cabinet wiring diagram in the contract unit price for “Revise Traffic Signal System”.



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NOTES

772-P07 LABEL ALL FIELD CABLES: Coordinate with the City of West Fargo for approved labeling materials. Provide plastic labels printed on a label machine. Labels must be readable without moving the cables. Label all field cables with the following cable designations:

TYPE	LABEL	LABEL LOCATION
Pedestrian Push Button	Phase/location (i.e. NW, SW, etc.)	Within 6" of terminals
Control Cable	Cable number & location (i.e. NW, SW, etc.)	Within 12" of conduit
Tracer Wire	Tracer Wire, Destination	*Within 6” of terminals

* Confirm tracer wire is labeled in the controller cabinet

Include all costs for labor, materials, and necessary equipment for labeling field cables in the contract unit price for “Revise Traffic Signal System”.

772-P08 IT SYSTEM: Install (2) parallel 2” HDPE conduits as shown in the plans. Include a pull rope in each conduit run for future use. Terminate the pull rope within each pull box with a minimum of 10’ of slack coiled within the pull box. Provide a pull rope with a minimum tensile strength of 1,800 lbs. Install a tracer wire, meeting the requirements detailed in SP 630(24) City of West Fargo Specifications, within one of the HDPE conduits continuously.

990-P01 TEMPORARY ACCESS: Maintain local access through the project site at all times. Truck traffic is to be anticipated. Maintain access to businesses, north and south sides of the BNSF Railway, City of Fargo Landfill, adjacent contractor access, and existing lift station near Sta 124+20 at all times throughout the duration of the project on either the existing or proposed pavement or temporary improvements. The temporary improvements may be utilized for up to four months throughout the duration of the project and will consist of 24’ wide gravel surfacing. Maintain the temporary improvements as directed by the Engineer. Include all costs to construct and remove the means to maintain local access at all times in the price bid for “Temporary Access”.

REGISTERED PROFESSIONAL ENGINEER
STEVEN L. STRACK
PE-10621
DATE
NORTH DAKOTA

8/13/2025

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	6	12

ENVIRONMENTAL NOTES

ENVIRONMENTAL NOTES (EN): The City of West Fargo, North Dakota Department of Transportation and the Federal Highway Administration have made environmental commitments to secure approval of this project. The following environmental notes are requirements to comply with these commitments:

EN-1 TEMPORARY WETLAND IMPACT: Temporary impact areas within wetlands and or other waters are incorporated into the plans for this project. Remove temporary fill placed and sedimentation in wetlands or other waters. Restore these wetlands to preconstruction contours.

NOTIFICATIONS TO BE FILED BY CONTRACTOR:
EN-2 FAA Notice: Notification is required for work within 3 nautical miles of the airport. Complete the Federal Aviation Administration Notice of Proposed Construction or Alteration Form 7460-1 in accordance with 14 CFR 77.7 and 77.9 (at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest) (online at http://oeaaa.faa.gov).

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

8/13/2025

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	8	1

Estimated Quantities

SPEC	CODE	ITEM DESCRIPTION	UNIT	Participating	100% Non-Part.	Drainage		TOTAL
103	0100	CONTRACT BOND	L SUM	0.93	0.07			1
202	0130	REMOVAL OF CURB & GUTTER	LF	5750				5750
202	0136	REMOVAL OF PAVEMENT	TON	26734				26734
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	2909	270			3179
202	0210	REMOVAL OF MANHOLES	EA		3			3
202	0235	REMOVAL OF CATCH BASIN	EA	2				2
202	0288	EXCAVATION & DISPOSAL OF CONTAMINATED SOIL	CY	900				900
202	0312	REMOVE EXISTING FENCE	LF	305				305
203	0101	COMMON EXCAVATION-TYPE A	CY	19621				19621
203	0109	TOPSOIL	CY	7216				7216
203	0140	BORROW-EXCAVATION	CY	2558				2558
216	0100	WATER	M GAL	987				987
230	0300	SUBGRADE PREPARATION-TYPE A	STA	5				5
251	0300	SEEDING CLASS III	ACRE	13.35				13.35
251	2000	TEMPORARY COVER CROP	ACRE	13.35				13.35
253	0201	HYDRAULIC MULCH	ACRE	13.35				13.35
253	0301	BONDED FIBER MATRIX	ACRE	13.35				13.35
260	0100	SILT FENCE UNSUPPORTED	LF	547				547
260	0101	REMOVE SILT FENCE UNSUPPORTED	LF	547				547
261	0112	FIBER ROLLS 12IN	LF	9569				9569
261	0113	REMOVE FIBER ROLLS 12IN	LF	4511				4511
302	0101	SALVAGED BASE COURSE	CY	19147				19147
302	0356	AGGREGATE SURFACE COURSE CL 13	TON	107				107
550	0310	10IN NON REINF CONCRETE PVMT CL AE-DOWELED	SY	41988				41988
550	0335	NON-REINF CONCRETE PVMT CL AE-DOWELED-COLORED-TEXT	SY	515				515
702	0100	MOBILIZATION	L SUM	0.93	0.07			1
704	0100	FLAGGING	MHR	400				400
704	1000	TRAFFIC CONTROL SIGNS	UNIT	3726				3726
704	1052	TYPE III BARRICADE	EA	16				16
704	1054	SIDEWALK BARRICADE	EA	6				6
704	1058	PEDESTRIAN WALKWAY	LF	1827				1827
704	1060	DELINEATOR DRUMS	EA	46				46
704	1067	TUBULAR MARKERS	EA	19				19
704	1087	SEQUENCING ARROW PANEL-TYPE C	EA	1				1
704	2108	TEMPORARY CURB RAMP	EA	2				2
704	4011	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2				2
706	0400	FIELD OFFICE	EA	1				1
706	0500	AGGREGATE LABORATORY	EA	1				1
706	0600	CONTRACTOR'S LABORATORY	EA	1				1
708	1540	INLET PROTECTION-SPECIAL	EA	124				124
708	1541	REMOVE INLET PROTECTION-SPECIAL	EA	62				62
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	52443				52443
714	0137	PIPE CONC REINF 12IN CL V-STORM DRAIN	LF			40		40
714	0215	PIPE CONC REINF 15IN CL V-STORM DRAIN	LF			2120		2120
714	0337	PIPE CONC REINF 18IN CL V-STORM DRAIN	LF			1013		1013
714	0405	PIPE CONC REINF 21IN CL III-STORM DRAIN	LF			764		764
714	0620	PIPE CONC REINF 24IN CL III-STORM DRAIN	LF			313		313

Estimated Quantities

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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SPEC	CODE	ITEM DESCRIPTION	UNIT	Participating	100% Non-Part.	Drainage		TOTAL
714	0825	PIPE CONC REINF 30IN CL III-STORM DRAIN	LF			701		701
714	0910	PIPE CONC REINF 36IN CL III-STORM DRAIN	LF			350		350
714	1010	PIPE CONC REINF 42IN CL III-STORM DRAIN	LF			931		931
714	1110	PIPE CONC REINF 48IN CL III-STORM DRAIN	LF			1870		1870
714	1212	PIPE CONC REINF 54IN CL III-STORM DRAIN	LF			1219		1219
714	1312	PIPE CONC REINF 60IN CL III-STORM DRAIN	LF			283		283
714	1412	PIPE CONC REINF 66IN CL III STORM DRAIN	LF			50		50
714	2018	PIPE CONC REINF ARCH 51IN X 31IN CL II	LF			80		80
714	3000	END SECT-CONC REINF 12IN	EA	1				1
714	3005	END SECT-CONC REINF 15IN	EA	2				2
714	3010	END SECT-CONC REINF 18IN	EA	5				5
714	9680	PLUG PIPE-ALL TYPES & SIZES	EA		4			4
714	9696	EDGEDRAIN NON PERMEABLE BASE	LF	15473				15473
722	0100	MANHOLE 48IN	EA	10	8			18
722	0110	MANHOLE 60IN	EA	6				6
722	0120	MANHOLE 72IN	EA	19				19
722	0130	MANHOLE 84IN	EA	7				7
722	0140	MANHOLE 96IN	EA	2				2
722	0200	MANHOLE 108IN	EA	2				2
722	1100	MANHOLE RISER 48IN	LF	56.15	89.92			146.07
722	1110	MANHOLE RISER 60IN	LF	44.93				44.93
722	1120	MANHOLE RISER 72IN	LF	179.56				179.56
722	1130	MANHOLE RISER 84IN	LF	79.67				79.67
722	1140	MANHOLE RISER 96IN	LF	24.76				24.76
722	1200	MANHOLE RISER 108IN	LF	18.2				18.2
722	3297	ABANDON STORM SEWER	LF	161				161
722	3495	MODIFY INLET	EA	2				2
722	3510	INLET-TYPE 2	EA	45				45
722	3520	INLET-TYPE 2 DOUBLE	EA	4				4
722	3701	INLET SPECIAL-TYPE 2 48IN	EA	8				8
722	3768	INLET SPECIAL-TYPE 2 84IN	EA	2				2
722	3825	INLET SPECIAL-TYPE 2 DOUBLE 84IN	EA	1				1
722	4005	INLET CATCH BASIN	EA	30				30
722	4108	INLET SPECIAL CATCH BASIN 48IN	EA	1				1
722	4114	INLET SPECIAL CATCH BASIN 84IN	EA	1				1
722	4116	INLET SPECIAL CATCH BASIN 96IN	EA	1				1
722	6140	ADJUST GATE VALVE BOX	EA		29			29
724	0210	FITTINGS-DUCTILE IRON	LBS		3546			3546
724	0300	GATE VALVE & BOX 6IN	EA		9			9
724	0310	GATE VALVE & BOX 8IN	EA		7			7
724	0314	GATE VALVE & BOX 12IN	EA		2			2
724	0410	HYDRANT-INSTALL 5IN	EA		9			9
724	0420	HYDRANT-RELOCATE	EA		2			2
724	0427	ADJUST HYDRANT	EA		8			8
724	0530	TAPPING SLEEVE & VALVE 12IN X 6IN	EA		2			2
724	0540	TAPPING SLEEVE & VALVE 12IN X 8IN	EA		5			5
724	0552	TAPPING SLEEVE & VALVE 16IN X 8IN	EA		1			1

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Estimated Quantities

SPEC	CODE	ITEM DESCRIPTION	UNIT	Participating	100% Non-Part.	Drainage		TOTAL
724	0560	TAPPING SLEEVE & VALVE 16IN X 12IN	EA		2			2
724	0611	WATER SERVICE LINE 1IN	LF		44			44
724	0616	WATER SERVICE LINE 1 1/2IN	LF		95			95
724	0810	WATERMAIN 6IN PVC	LF		174			174
724	0830	WATERMAIN 8IN PVC	LF		1814			1814
724	0850	WATERMAIN 12IN PVC	LF		2561			2561
724	0905	CURB STOP & BOX 1IN	EA		2			2
724	0907	CURB STOP & BOX 1 1/2IN	EA		4			4
724	1110	8IN SANITARY SEWER PIPE	LF		85			85
724	1115	10IN SANITARY SEWER PIPE	LF		1676			1676
724	1120	6IN SEWER SERVICE PIPE	LF		351			351
724	1135	10IN X 6IN SEWER WYE BRANCH	EA		6			6
724	9002	SANITARY SEWER CLEANOUT	EA		1			1
748	0120	CURB & GUTTER MOUNTABLE-TYPE I	LF	1027				1027
748	0140	CURB & GUTTER-TYPE I	LF	20958				20958
748	1030	VALLEY GUTTER 72IN	SY	70				70
750	0030	PIGMENTED IMPRINTED CONCRETE	SY	2470				2470
750	0125	SIDEWALK CONCRETE 5IN	SY	9287				9287
750	0210	CONCRETE MEDIAN NOSE PAVING	SY	68				68
750	1000	DRIVEWAY CONCRETE	SY	1540				1540
750	2115	DETECTABLE WARNING PANELS	SF	1111				1111
752	0922	FENCE REMOVE & RESET	LF	72				72
752	4170	SCREENING CHAIN LINK	LF	285				285
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	633				633
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	59				59
754	0193	FLEXIBLE DELINEATORS-TYPE D	EA	46				46
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1281				1281
754	0592	RESET SIGN PANEL	EA	2				2
754	0801	OBJECT MARKERS - TYPE I	EA	8				8
762	0122	PREFORMED PATTERNED PVMT MK-MESSAGE(GROOVED)	SF	1230				1230
762	1305	PREFORMED PATTERNED PVMT MK 4IN LINE-GROOVED	LF	15280				15280
762	1307	PREFORMED PATTERNED PVMT MK 6IN LINE-GROOVED	LF	1469				1469
762	1309	PREFORMED PATTERNED PVMT MK 8IN LINE-GROOVED	LF	3134				3134
762	1325	PREFORMED PATTERNED PVMT MK 24IN LINE-GROOVED	LF	622				622
764	0151	REMOVE W-BEAM GUARDRAIL & POSTS	LF	179				179
770	0003	LIGHTING SYSTEM A	EA	1				1
770	0004	LIGHTING SYSTEM B	EA	1				1
770	0005	LIGHTING SYSTEM C	EA	1				1
770	4525	REVISE LIGHTING SYSTEM	EA	1				1
772	2904	REVISE TRAFFIC SIGNAL SYSTEM	EA	1				1
772	9200	IT SYSTEM	EA	1				1
910	0570	MODIFY MANHOLE	EA			2		2
990	0230	TEMPORARY ACCESS	L SUM	1				1

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	10	1

BASIS OF ESTIMATE

Project Removals

Project	202-0136 Removal of Pavement Pay Item						Removal Total	302-0101 Salvaged Base Course Pay Item
	Removal of Aggregate		Removal of Asphalt		Removal of Concrete			
	(CY) B	(Ton)	(CY) C	(Ton)	(CY) D	(Ton)	(CY) E = A+B+C+D	(CY) F
9TH ST NE	2,972	5,573	3,091	6,182	1,066	2,132	7,129	10,574
12TH AVE NE	51	96	82	164	11	22	144	858
7TH AVE NE	2,667	5,001	3,214	6,428	570	1,140	6,451	7,715
Total	**5,690**		**6,387**		**1,647**		**13,724**	**19,147**

Notes:

1. This is not a balance sheet, calculate own balance of materials.
2. It is assumed 95% of removed materials may be reclaimed after the crushing process.

Removal of Pavement

Concrete Pavements @ 2.0 Ton/CY
Bituminous Pavements @ 2.0 Ton/CY
Aggregate Base @ 1.875 Ton/CY

Pavement

Salvaged Base Course @ 1.875 Ton/CY

Water

25 MGal/Mile for Dust Palliative
20 Gal/Ton for Aggregates
10 Gal/CY for Embankment

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
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DATE
NORTH DAKOTA
8/1/2025

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	10	2

BASIS OF ESTIMATE

Required Salvaged Base Course

	Concrete			Curb & Gutter (Outside, Grass Blvd)			Curb & Gutter (Outside, Imp Conc Blvd/Sidewalk)			Impressioned Concrete			Valley Gutter 72IN		
	Surface Area	Depth	Volume	Area	Length	Volume	Area	Length	Volume	Surface Area	Depth	Volume	Surface Area	Depth	Volume
Station Range	**SF**	**LF**	**CY**	**SF**	**LF**	**CY**	**SF**	**LF**	**CY**	**SF**	**LF**	**CY**	**SF**	**LF**	**CY**
Sta 101+87.92 to Sta 109+00 (Pr_9thSt)	29,221	1	1,082	3.44	1,220	155	2.94	46	5	1,107	2	82			0
Sta 126+75.92 to Sta 134+00 (Pr_9thSt)	41,596	1	1,541	3.44	2,014	256	2.94	426	46	8,428	2	624			0
Sta 134+00 to Sta 148+00 (Pr_9thSt)	91,350	1	3,383	3.44	1,531	195	2.94	1,243	135	6,324	2	468			0
Sta 148+00 to Sta 157+62.05 (Pr_9thSt)	36,183	1	1,340	3.44	1,247	159	2.94	427	47	3,227	2	239			0
Sta 308+45.81 to Sta 318+80.56 (Pr_12thAve)	14,910	1	552	3.44	1,476	188	2.94	3	0	1,253	2	93			0
Sta 206+20.05 to Sta 219+00 (Pr_7thAve)	37,818	1	1,401	3.44	1,998	255	2.94	21	2	1,897	2	141	628	1	23
Sta 219+00 to Sta 233+00 (Pr_7thAve)	59,831	1	2,216	3.44	2,667	340	2.94	201	22			0			0
Sta 233+00 to Sta 247+00 (Pr_7thAve)	56,237	1	2,083	3.44	2,748	350	2.94	52	6			0			0
Sta 247+00 to Sta 261+00 (Pr_7thAve)	10,538	1	390	3.44	791	101			0			0			0
Sta 261+00 to Sta 262+58.62 (Pr_7thAve)	195	1	7	3.44	16	2			0			0			0

Required Salvaged Base Course (Continued)

	Curb & Gutter (Inside, Imp Conc Median)			Concrete (Truck Apron)			Median Nose			Driveway concrete			Sidewalk Concrete			Total
	Area	Length	Volume	Surface Area	Depth	Volume	Surface Area	Depth	Volume	Area	Depth	Volume	Area	Depth	Volume	
Station Range	**SF**	**LF**	**CY**	**SF**	**LF**	**CY**	**SF**	**LF**	**CY**	**SF**	**LF**	**CY**	**SF**	**LF**	**CY**	**CY**
Sta 101+87.92 to Sta 109+00 (Pr_9thSt)	2.94	295	32			0			0	1,527	0.17	9	6,223	0.17	38	1,405
Sta 126+75.92 to Sta 134+00 (Pr_9thSt)	2.94	1,224	133	4,637	1	172	334	1	12	1,158	0.17	7	9,114	0.17	56	2,849
Sta 134+00 to Sta 148+00 (Pr_9thSt)	2.94	1,642	179			0			0	4,522	0.17	28	12,068	0.17	74	4,463
Sta 148+00 to Sta 157+62.05 (Pr_9thSt)	2.94	153	17			0	89	1	3			0	8,559	0.17	53	1,857
Sta 308+45.81 to Sta 318+80.56 (Pr_12thAve)	2.94	157	17			0	47	1	2			0	890	0.17	5	858
Sta 206+20.05 to Sta 219+00 (Pr_7thAve)	2.94	387	42			0	140	1	5	420	0.17	3	6,965	0.17	43	1,915
Sta 219+00 to Sta 233+00 (Pr_7thAve)			0			0			0	5,040	0.17	31	12,111	0.17	75	2,683
Sta 233+00 to Sta 247+00 (Pr_7thAve)			0			0			0	1,187	0.17	7	13,383	0.17	83	2,528
Sta 247+00 to Sta 261+00 (Pr_7thAve)			0			0			0			0	12,332	0.17	76	567
Sta 261+00 to Sta 262+58.62 (Pr_7thAve)			0			0			0			0	1,947	0.17	12	21
															9TH ST NE	**10,574**
												Totals			**12TH AVE NE**	**858**
															7TH AVE NE	**7,715**
															Total	**19,147**

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA
8/1/2025

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	10	3

BASIS OF ESTIMATE

	Aggregate Surface Course CL 13			Total
	Area	Depth	Volume	
Station Range	**SF**	**LF**	**CY**	**TON**
Sta 101+87.92 to Sta 109+00 (Pr_9thSt)				0
Sta 126+75.92 to Sta 134+00 (Pr_9thSt)	890	0.33	11	21
Sta 134+00 to Sta 148+00 (Pr_9thSt)	2941	0.33	36	68
Sta 148+00 to Sta 157+62.05 (Pr_9thSt)				0
Sta 308+45.81 to Sta 318+80.56 (Pr_12thAve)				0
Sta 206+20.05 to Sta 219+00 (Pr_7thAve)				0
Sta 219+00 to Sta 233+00 (Pr_7thAve)				0
Sta 233+00 to Sta 247+00 (Pr_7thAve)	790	0.33	10	18
Sta 247+00 to Sta 261+00 (Pr_7thAve)				0
Sta 261+00 to Sta 262+58.62 (Pr_7thAve)				0
			TOTAL	**107**

Aggregate Surface Course CL 13
Aggregate Surface Course @ 1.875 Ton/CY

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA
8/1/2025

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	11	1

Earthwork Summary

Location	Excavation (CY)	*Embankment (CY)	Common Excavation - Type A (CY) Pay Item	Excess Excavated Material (CY)	Borrow Material from Other Phases (CY)	Borrow-Excavation (CY) Pay Item
9th St NE	12,531	8,009	12,531	4,522		
7th Ave NE	7,046	14,126	7,046		4,522	2,558
Totals	**19,577**	**22,135**	**19,577**	**4,522**	**4,522**	**2,558**

*An additional volume of 15% has been included to allow for shrinkage.

Topsoil Summary

	Topsoil from Stripping		Topsoil Placement
	Area	Volume	Volume
Location	(SY)	(CY)	(CY)
9th St NE	31,658	3,518	2,881
7th Ave NE	33,330	3,703	4,340
Totals	64,988	7,221	7,221

Notes:
1. Assumed stripping depth: 4"
2. Spread all stripped topsoil uniformly across the project limits.
   Assumed topsoil placement depth: 6.6"
3. If existing topsoil depth of less than 4" is encountered, spread the topsoil uniformly across the project site. The balance of material will be Borrow-Excavation.

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

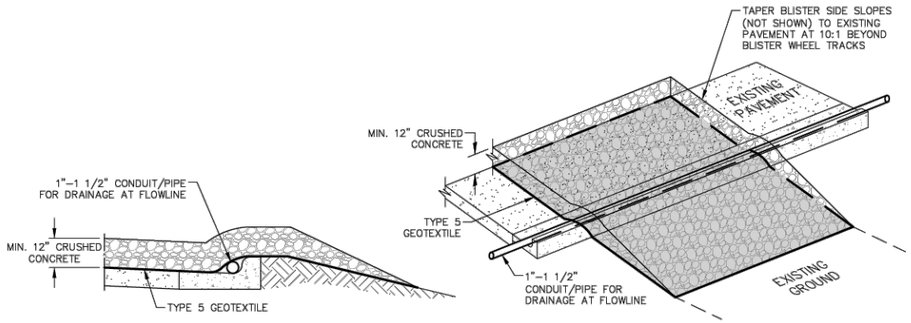
8/1/2025

Data Tables

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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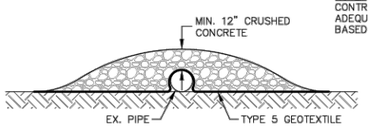
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	ND	TMA-SU-FXP-8-992(045)	20	1



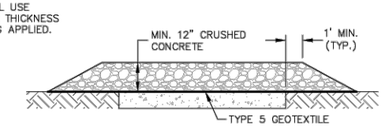
CURB CROSSING SECTION

PAVEMENT CROSSING PLAN

NOTE:
CONTRACTOR SHALL USE ADEQUATE BLISTER THICKNESS BASED ON LOADING APPLIED.



PIPE CROSSING SECTION



SIDEWALK CROSSING SECTION

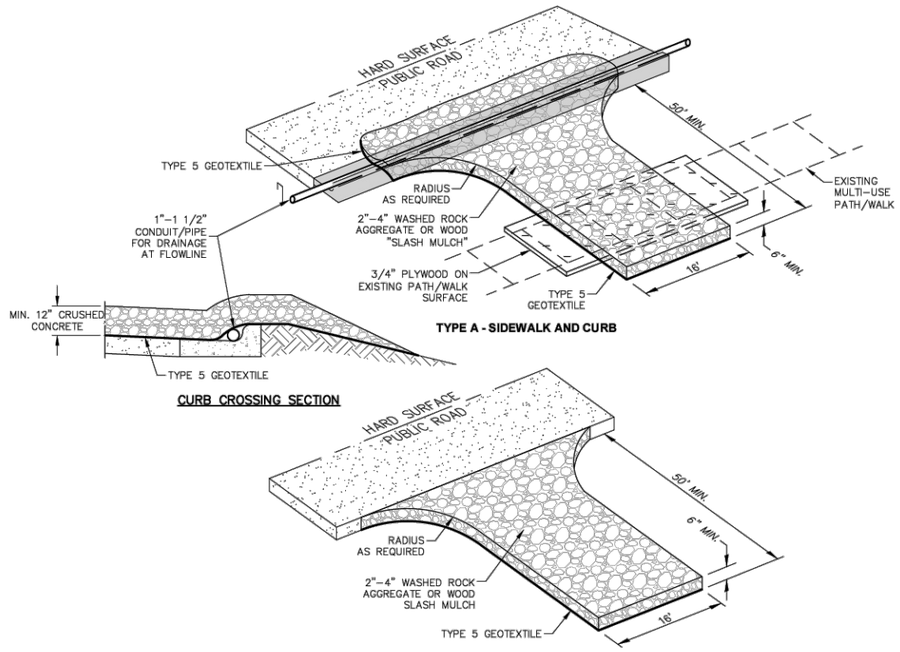
PAVEMENT BLISTER

NO SCALE EROSION CONTROL 02.18.15

PAVEMENT BLISTER

SECTION:	EROSION CONTROL
DETAIL NO.	1
REVISION:	1
APPROVED BY:	DTS
DATE:	02.18.15

City of WEST FARGO



TYPE A - SIDEWALK AND CURB

CURB CROSSING SECTION

TYPE B - NO SIDEWALK OR CURB

STABILIZED CONSTRUCTION ENTRANCE

NO SCALE EROSION CONTROL 03.01.18

STABILIZED CONSTRUCTION ENTRANCE

SECTION:	EROSION CONTROL
DETAIL NO.	2
REVISION:	1
APPROVED BY:	DTS
DATE:	03.01.18

City of WEST FARGO

CITY OF WEST FARGO

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NORTH DAKOTA

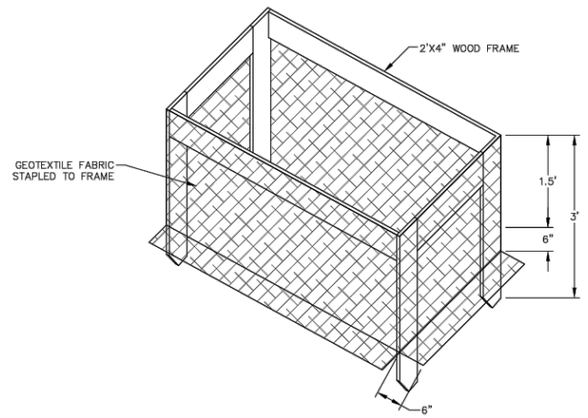
8/1/2025

General Details - Erosion Control

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	2



INLET PROTECTION SPECIAL
NO SCALE EROSION CONTROL 03.01.22

INLET PROTECTION TYPE A–2

SECTION:	EROSION CONTROL
DETAIL NO.	4
REVISION:	1
APPROVED BY:	JFW
DATE:	01.14.22

CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
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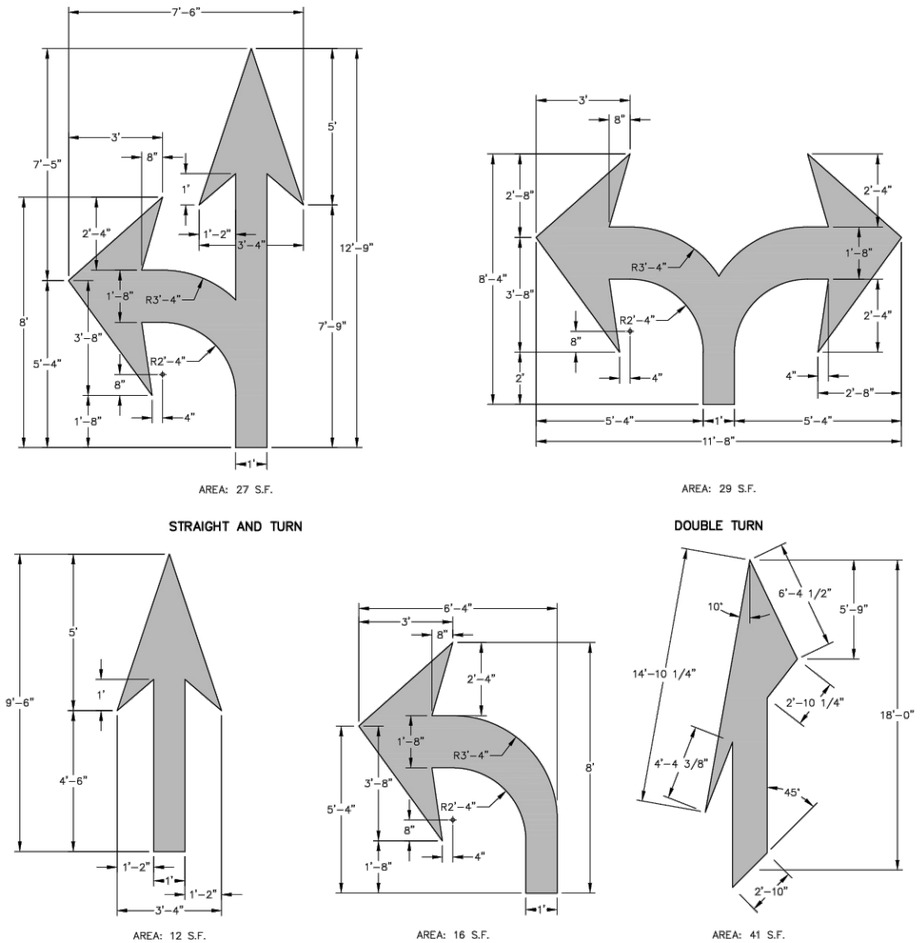
8/1/2025

General Details - Erosion Control

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

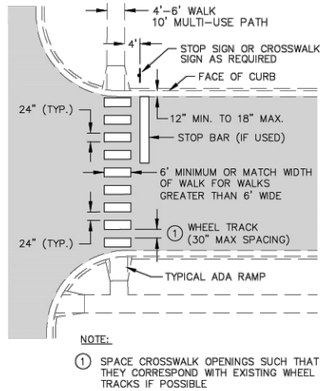
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	3



PAVEMENT MARKING - DIRECTIONAL ARROWS

NO SCALE PAVEMENT MARKINGS 01.14.22



CROSSWALK STRIPING - CONTINENTAL

NO SCALE PAVEMENT MARKINGS 01.14.22

PAVEMENT MARKING – DIRECTIONAL ARROWS

SECTION:	PAVEMENT MARKINGS
DETAIL NO.	1
REVISION:	1
APPROVED BY:	JFW
DATE:	01.14.22

City of WEST FARGO

CROSSWALK STRIPING – CONTINENTAL

SECTION:	PAVEMENT MARKINGS
DETAIL NO.	2
REVISION:	1
APPROVED BY:	DTS
DATE:	01.14.22

City of WEST FARGO

CITY OF WEST FARGO

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NORTH DAKOTA

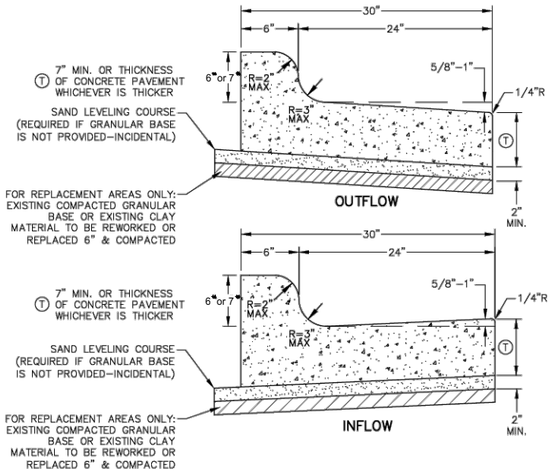
8/1/2025

General Details - Pavement Markings

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

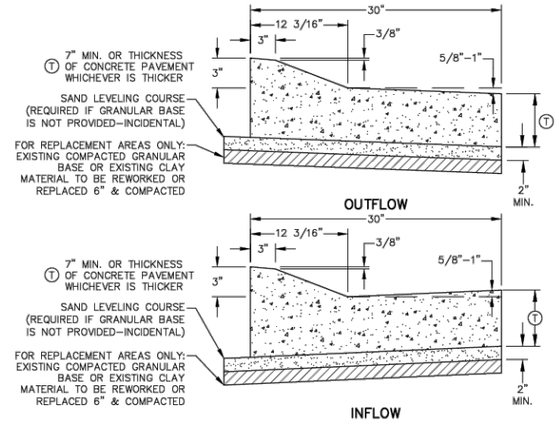
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	4



HIGH BACK CURB AND GUTTER
CURB & GUTTER - TYPE I

NO SCALE PAVING 03.15.23



MOUNTABLE CURB AND GUTTER
CURB & GUTTER MOUNTABLE - TYPE I

NO SCALE PAVING 03.15.23

HIGH BACK CURB AND GUTTER		
	SPECIFICATION:	PAVING
	DETAIL NO.	1
	REVISION:	1
	APPROVED BY:	JFW
	DATE:	03.15.23

MOUNTABLE CURB AND GUTTER		
	SPECIFICATION:	PAVING
	DETAIL NO.	2
	REVISION:	1
	APPROVED BY:	JFW
	DATE:	03.15.23

CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
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NORTH DAKOTA

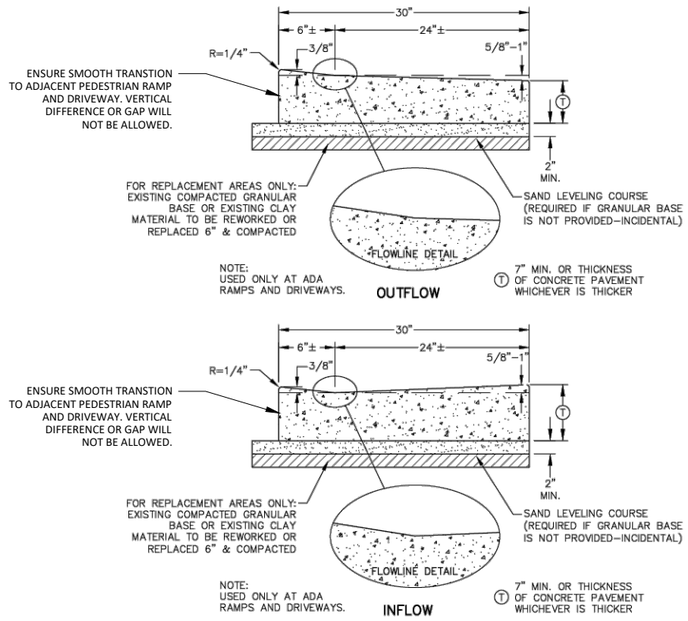
8/1/2025

General Details - Paving

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

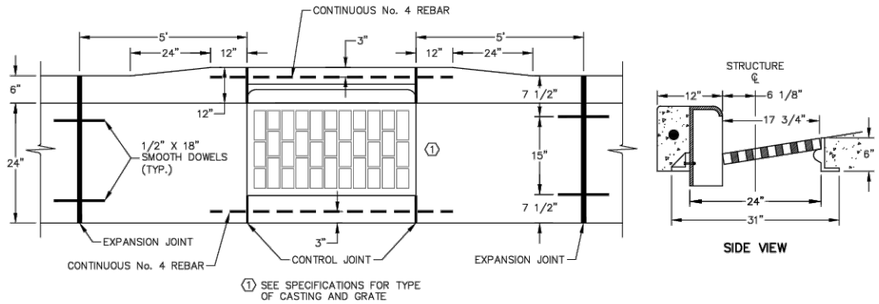
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	5



KNOCKDOWN CURB AND GUTTER
CURB & GUTTER - TYPE I

NO SCALE PAVING 03.15.23



CURB AND GUTTER INLET WITH HIGH BACK CURB

NO SCALE *PAVING 03.15.23*

KNOCKDOWN CURB & GUTTER	SPECIFICATION:	PAVING
	DETAIL NO.	3
	REVISION:	1
	APPROVED BY:	JFW
	DATE:	03.15.23

CURB AND GUTTER INLET WITH HIGH BACK CURB	SPECIFICATION:	PAVING
	DETAIL NO.	4
	REVISION:	1
	APPROVED BY:	JFW
	DATE:	03.15.23

CITY OF WEST FARGO

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DATE
NORTH DAKOTA

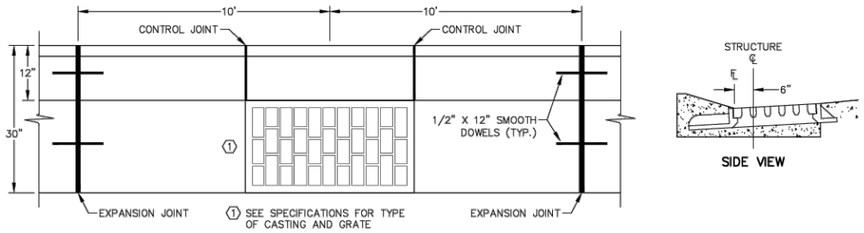
8/1/2025

General Details - Paving

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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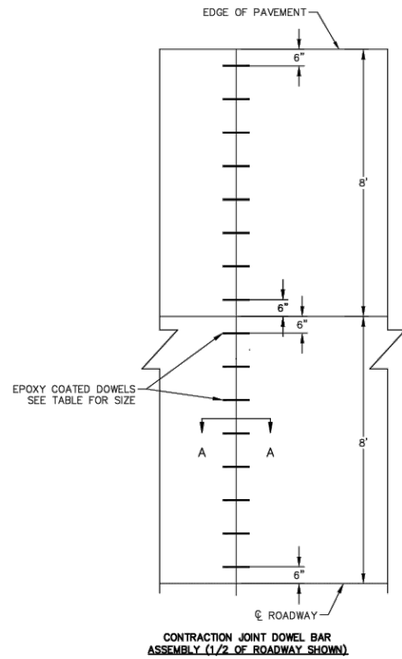
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	6



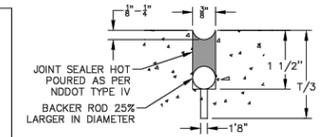
SIDE VIEW

CURB AND GUTTER INLET WITH MOUNTABLE CURB

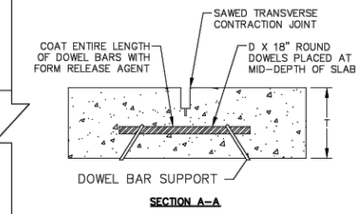
NO SCALE *PAVING 01.14.22*



CONTRACTION JOINT DOWEL BAR ASSEMBLY (1/2 OF ROADWAY SHOWN)



SAWED TRANSVERSE JOINT



SECTION A–A

NOTES:

1. PREFORMED INSERTS USED TO FORM GROOVES FOR TRANSVERSE JOINTS WILL NOT BE ALLOWED.
2. THE JOINT SEAL DETAILS APPLY TO BOTH DOWELED AND PLAIN (NON–DOWELED) TRANSVERSE JOINTS.
3. ALL DOWELS SHALL BE EPOXY COATED IN ACCORDANCE WITH AASHTO M–254 TYPE B.
6. JOINT SPACING:

MAXIMUM SPACING	T	D
15'	10"	1 1/4"
15'	8"	1"
14'	7"	7/8"
12"	6"	3/4"

TRANSVERSE CONTRACTION JOINT

NO SCALE *PAVING 03.15.23*

CURB AND GUTTER INLET WITH MOUNTABLE CURB

SPECIFICATION:	PAVING
DETAIL NO.	5
REVISION:	1
APPROVED BY:	DTS
DATE:	01.14.22

City of WEST FARGO

TRANSVERSE CONTRACTION JOINT

SPECIFICATION:	PAVING
DETAIL NO.	6
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23

City of WEST FARGO

CITY OF WEST FARGO

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DATE
NORTH DAKOTA

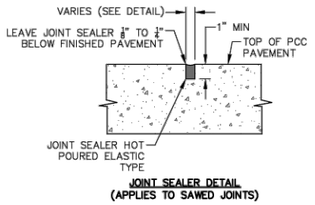
8/1/2025

General Details - Paving

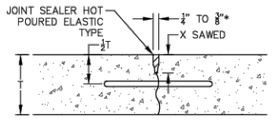
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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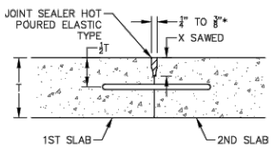
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	7



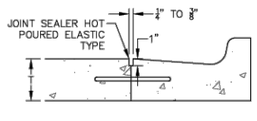
JOINT SEALER DETAIL
(APPLIES TO SAWED JOINTS)



SAWED LONGITUDINAL JOINT



LONGITUDINAL CONSTRUCTION JOINT
(TIED BUTT JOINT)



JOINT SEALER AT ALL CURB AND GUTTER SECTIONS

X = ONE-THIRD THICKNESS OF PCC PAVEMENT PLUS 1/4".

* = WIDTH REQUIREMENT FOR TOP 1" ONLY; BOTTOM PORTION OF SAWCUT MAY BE NARROWER.

T/4 = ONE-FOURTH THICKNESS OF PCC PAVEMENT.

NOTES:

1. THE HOT POURED ELASTIC TYPE JOINT SEALER SHALL BE IN ACCORDANCE WITH SECTION 826.02A.2 OF THE CITY OF WEST FARGO STANDARD SPECIFICATIONS.
2. THE TIED LONGITUDINAL JOINTS AND HOT POURED SEAL SHALL BE INCLUDED IN THE PRICE BID FOR THE PAVEMENT.
3. TIEBARS SHALL NOT BE PLACED WITHIN 15 (FIFTEEN) INCHES OF A TRANSVERSE JOINT.
4. WHERE TIEBARS ARE INSTALLED BENT AND LATER STRAIGHTEBED GRADE 40 STEEL SHALL BE USED.
5. TIEBAR SPACING CAN BE INCREASED UP TO 10% TO FACILITATE CONSTRUCTION.
5. 48" MAXIMUM BAR SPACING.
6. JOINT SPACING

MAXIMUM SPACING	T
15'	10"
15'	8"
14'	7"
12"	6"

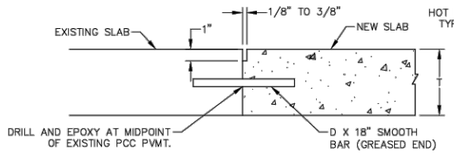
LONGITUDINAL JOINT

NO SCALE *PAVING 03.15.23*

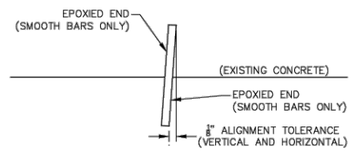
LONGITUDINAL JOINT

SPECIFICATION:	PAVING
DETAIL NO.	7
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23

City of WEST FARGO

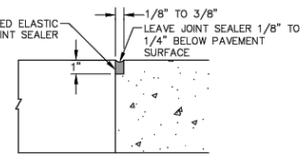


JOINT SAWING & DOWEL BAR DETAIL

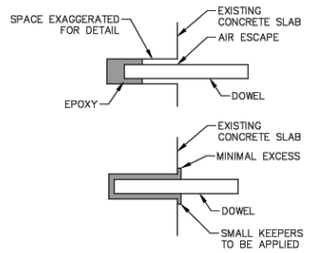


DOWEL ALIGNMENT TOLERANCES
(SMOOTH BARS)

T	D
10"	1 1/4"
8"	1"
7"	7/8"
6"	3/4"



JOINT SEALING DETAILS



DOWEL & EPOXY INSTALLATION

DOWELED CONSTRUCTION JOINT

NO SCALE *PAVING 01.14.22*

DOWELED CONSTRUCTION JOINT

SPECIFICATION:	PAVING
DETAIL NO.	8
REVISION:	1
APPROVED BY:	DTS
DATE:	01.14.22

City of WEST FARGO

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

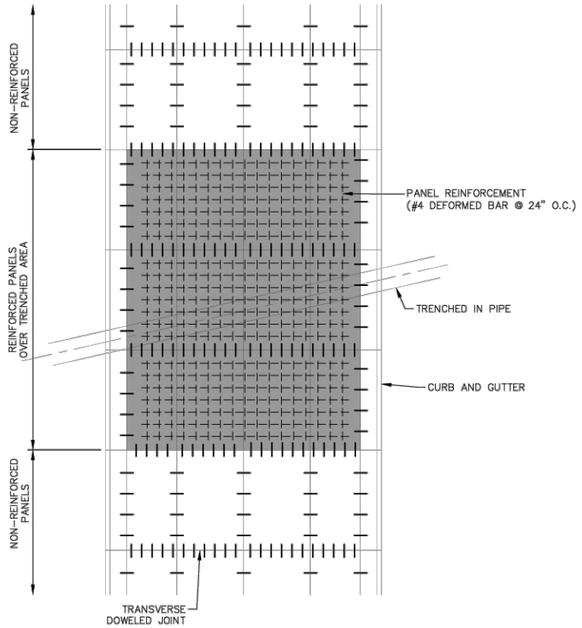
8/1/2025

General Details - Paving

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\BN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\020 - WF Standard Details Paving.dwg-Detail (4)-8/1/2025 9:48 AM-(aruud)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	8



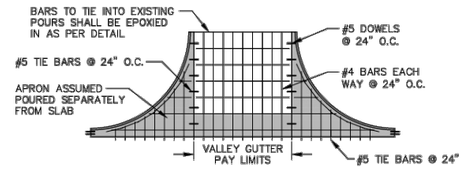
NOTES:
1. PAYMENT FOR REINFORCEMENT SHALL BE INCIDENTAL TO THE PRICE OF THE CONCRETE PAVEMENT.
2. THE COMPLETE PANEL SHALL BE REINFORCED IF ANY PART OF THE PANEL IS WITHIN 5' OF THE STORM SEWER INLET LEAD PIPE CENTERLINE AND ANY PANEL THAT TOUCH A MANHOLE CASTING.
3. REBAR MAT SHALL BE SUPPORTED BY CHAIRS AT THE MID-DEPTH POINT OF THE SLAB.
4. REBAR SHALL STOP WITHIN 1' OF THE DOWELED CONTRACTION JOINT AT THE ADJACENT NON-REINFORCED PANEL.
5. MAXIMUM JOINT SPACING SHOULD BE 15 FEET.

PAVEMENT REINFORCEMENT

NO SCALE *PAVING 08.11.20*

PAVEMENT REINFORCEMENT

SPECIFICATION:	PAVING
DETAIL NO.	9
REVISION:	1
APPROVED BY:	JFW
DATE:	08.11.20



NOTES:
1. DOWELING, SAW CUTTING, OR OTHER MISCELLANEOUS ITEMS NEEDED TO COMPLETE SHALL BE INCIDENTAL IF ANY ITEM IS NOT APPROVED.
2. ASSUMING APRONS POURED SEPARATELY FROM SLAB. APRONS AND CURB POURED INTEGRALLY.
3. SEE PLAN FOR EXACT CONFIGURATION OF PAVEMENT.

CONCRETE APPROACH

NO SCALE *PAVING 02.18.15*

CONCRETE APPROACH

SPECIFICATION:	PAVING
DETAIL NO.	10
REVISION:	1
APPROVED BY:	DTS
DATE:	02.08.15

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

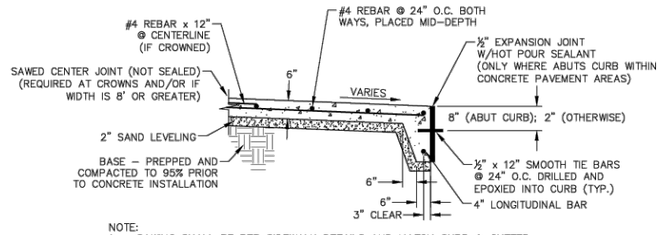
8/1/2025

General Details - Paving

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\865A\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\020 - WF Standard Details Paving.dwg-Detail (5)-8/1/2025 9:47 AM-(aruud)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	9



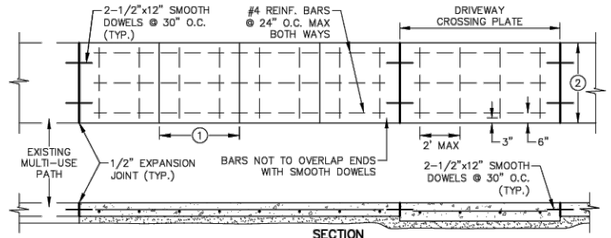
NOTE:
1. SAWING SHALL BE PER SIDEWALK DETAILS AND MATCH CURB & GUTTER JOINTS.
2. SLOPE MAY NEED TO BE ADJUSTED BASED ON ADJACENT CURB & GUTTER HEIGHTS, I.E. CROWN MAY MOVE OR BE NON EXISTENT.
3. THICKENED EDGE ONLY REQUIRED WHEN ABUTS CURB & GUTTER.
4. CURING SHALL BE DONE WITH A CLEAR (NON-PIGMENTED) PRODUCT WITHIN 24 HOURS. SEALANT SHALL BE USED AFTER 14 DAYS WITH A MAXIMUM OF 30 DAYS.

PIGMENTED IMPRINTED CONCRETE

NO SCALE PAVING 03.15.23

DECORATIVE COLORED CONCRETE

SPECIFICATION:	PAVING
DETAIL NO.	11
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23



NOTATIONS:
1. JOINTS TO BE SPACED AT 5'.
2. AS SHOWN ON PLANS.
3. 5" THICK FOR MULTI-USE PATH.
4. SAME AS ADJACENT DRIVEWAY.

NOTES:
1. CROSS SLOPE SHALL BE AS SHOWN ON PLANS.
2. ALL JOINTS SHALL BE SAWED.
3. CHAIRS OR APPROVED SUPPORT DEVICES SHALL BE USED TO SUPPORT REBAR AT MID-DEPTH.
4. CONTRACTOR STAMP TO BE PLACED AT EXPANSION JOINTS.
5. EXPANSION JOINTS SHALL BE PLACED AT PROPERTY LINES WHERE POSSIBLE.
6. SAW CENTERLINE JOINT ON 10'-0" WIDTH OR LARGER PATHS. IT SHALL BE SPLIT WIDTH AND ON CURVES FOLLOW THOSE CURVES, I.E. NO STRAIGHT LINE SEGMENTS.

CONCRETE MULTI-USE PATH

NO SCALE *SIDEWALK & DRIVEWAY 01.14.22*

CONCRETE MULTI-USE PATH

SECTION:	SIDEWALK & DRIVEWAYS
DETAIL NO.	1
REVISION:	1
APPROVED BY:	DTS
DATE:	01.14.22

CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
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DATE
NORTH DAKOTA

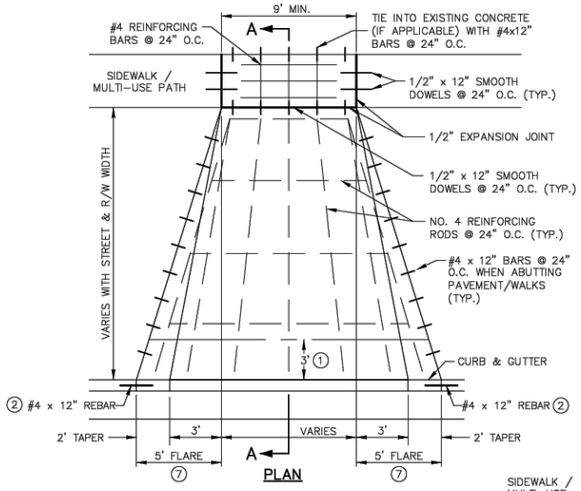
8/1/2025

General Details - Paving

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	10



NOTES:

1. SAW CUT, REMOVE AND REPLACE WHEN CURB & GUTTER IS BEING INSTALLED WITH EXISTING DRIVEWAY.
2. WHEN DRIVEWAY IS BEING INSTALLED WITH EXISTING CURB AND GUTTER, THE CURB AND GUTTER IS REMOVED AND REPLACED. NO INTEGRAL DRIVEWAY/CURB & GUTTER POURS SHALL BE ALLOWED.
3. THE DRIVEWAY AND REINFORCEMENT MAT SHALL BE TIED TO THE CURB AND GUTTER WITH #4 EPOXY COATED REBAR 12" LONG 24" ON CENTER.
4. CHAIRS OR APPROVED SUPPORT DEVICES SHALL BE USED TO SUPPORT REINFORCEMENT BARS AT MID-DEPTH.
5. 6" MINIMUM FOR RESIDENTIAL; 7" MINIMUM FOR COMMERCIAL; OR AS NOTED ON PLANS.
6. SMOOTH DOWELS SHALL NOT BE TIED TO REINFORCING MATS.
7. 60" TAPER WHEN SIDES OF DRIVEWAY ABUT PAVEMENTS/WALKS.
8. 2" COMPACTED AGGREGATE BASE COURSE.

DRIVEWAY - WITH CURB & GUTTER AND CROSSING PLATE

NO SCALE *SIDEWALK & DRIVEWAY 03.15.23*

DRIVEWAY–WITH CURB & GUTTER AND CROSSING PLATE

SECTION:	SIDEWALK & DRIVEWAYS
DETAIL NO.	4
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23

City of WEST FARGO

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
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PE-10407
DATE
NORTH DAKOTA

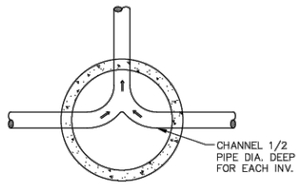
8/1/2025

General Details - Paving

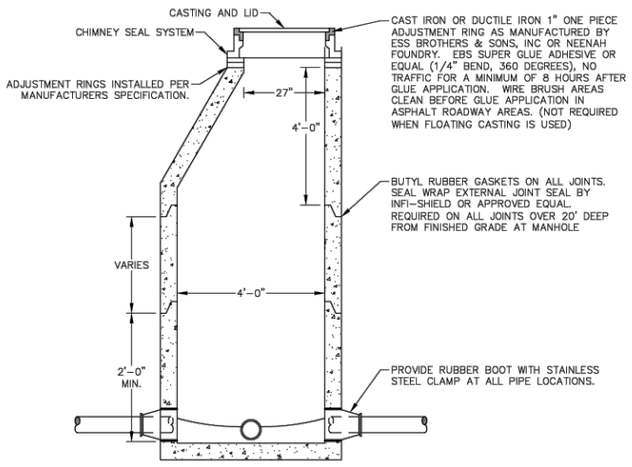
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	11



TOP VIEW



SECTION

NOTE:
1. MANHOLE SHALL BE MARKED WITH 2" X 2" WOOD MARKER WITH TOP 1' SPRAY PAINTED GREEN.
2. USE MANHOLE DROP DETAIL IF PIPE ENTERS MORE THAN 2' ABOVE THE FLOOR
3. COATINGS PER SPECIFICATIONS

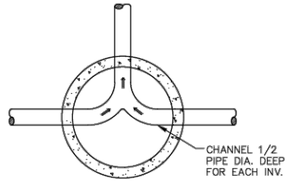
SANITARY SEWER MANHOLE

NO SCALE *SANITARY SEWER 03.15.23*

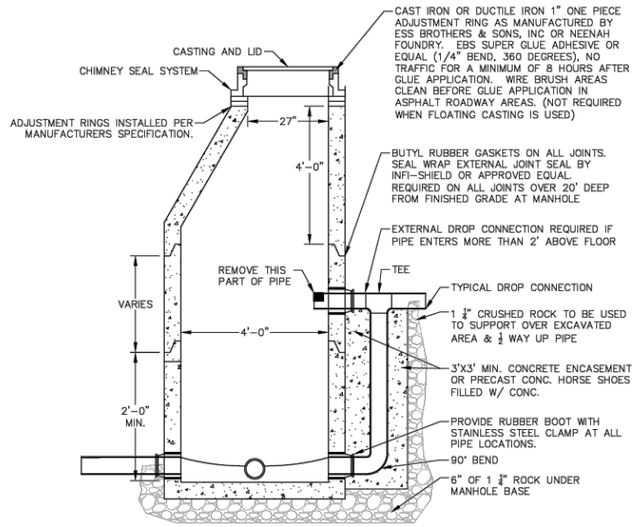
SANITARY SEWER MANHOLE

SECTION:	SANITARY SEWER
DETAIL NO.	1
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23

City of WEST FARGO



TOP VIEW



SECTION

NOTE:
1. MANHOLE SHALL BE MARKED WITH 2" X 2" WOOD MARKER WITH TOP 1' SPRAY PAINTED GREEN.
2. COATINGS PER SPECIFICATIONS.

SANITARY SEWER MANHOLE (EXTERNAL DROP)

NO SCALE *SANITARY SEWER 03.15.23*

SANITARY SEWER MANHOLE (EXTERNAL DROP)

SECTION:	SANITARY SEWER
DETAIL NO.	2
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23

City of WEST FARGO

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

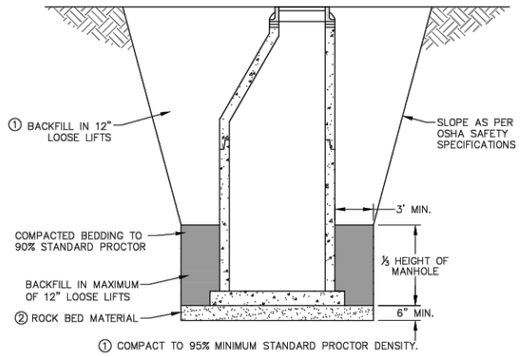
8/1/2025

General Details - Sanitary Sewer

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\020 - WF Standard Details Sanitary.dwg-Detail (1)-8/1/2025 9:47 AM-(aruud)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	12



① COMPACT TO 95% MINIMUM STANDARD PROCTOR DENSITY.

② ROCK BED MATERIAL SHALL BE 1–1/4" CRUSHED ROCK. ROCK FOR BEDDING AND COMPACTED GRANULAR MATERIAL ARE INCIDENTAL TO MANHOLE INSTALLATION.

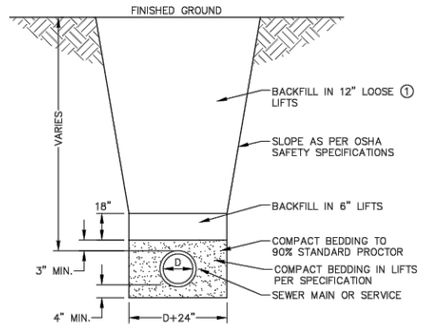
③ DETAIL SHALL BE USED FOR ALL MANHOLES.

MANHOLE TRENCH

NO SCALE SANITARY SEWER 03.15.23

MANHOLE TRENCH

SECTION:	SANITARY SEWER
DETAIL NO.	4
REVISION:	1
APPROVED BY:	JFW
DATE:	03.01.18



① COMPACT TO 95% MINIMUM STANDARD PROCTOR DENSITY.

SANITARY SEWER MAIN OR SERVICE TRENCH

NO SCALE SANITARY SEWER 03.01.18

SANITARY SEWER MAIN OR SERVICE TRENCH

SECTION:	SANITARY SEWER
DETAIL NO.	5
REVISION:	1
APPROVED BY:	JFW
DATE:	03.01.18

CITY OF WEST FARGO

HOUSTON engineering, inc.

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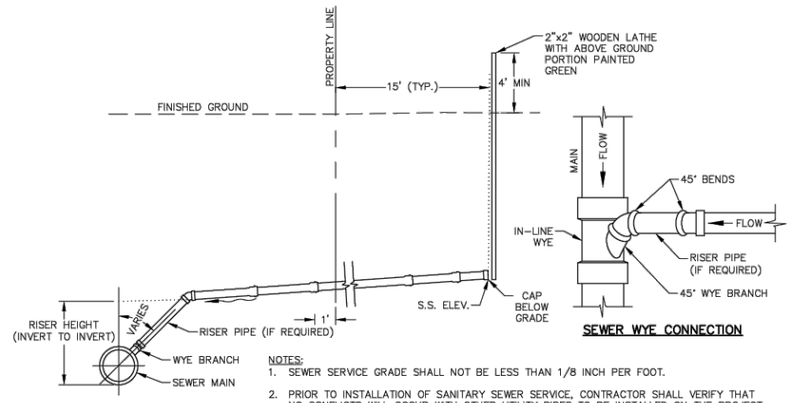
8/1/2025

General Details - Sanitary Sewer

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	13



SEWER WYE CONNECTION

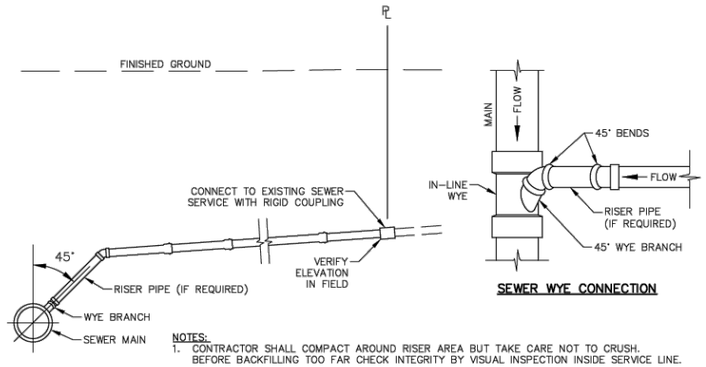
NOTES:
1. SEWER SERVICE GRADE SHALL NOT BE LESS THAN 1/8 INCH PER FOOT.
2. PRIOR TO INSTALLATION OF SANITARY SEWER SERVICE, CONTRACTOR SHALL VERIFY THAT NO CONFLICTS WILL OCCUR WITH OTHER UTILITY PIPES TO BE INSTALLED ON THE PROJECT.
3. WYES INSTALLED TO FLOW DOWNSTREAM.
4. PROTECT MARKING LATHE DURING CONSTRUCTION. IF DAMAGED IMMEDIATELY REPAIR OR REPLACE LATHE UNDER OBSERVATION OF CITY REPRESENTATIVE.

SANITARY SEWER SERVICE

NO SCALE *SANITARY SEWER 03.15.23*

SANITARY SEWER SERVICE

SECTION:	SANITARY SEWER
DETAIL NO.	6
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23



SEWER WYE CONNECTION

NOTES:
1. CONTRACTOR SHALL COMPACT AROUND RISER AREA BUT TAKE CARE NOT TO CRUSH. BEFORE BACKFILLING TOO FAR CHECK INTEGRITY BY VISUAL INSPECTION INSIDE SERVICE LINE.
2. SEWER SERVICE GRADE SHALL NOT BE LESS THAN 1/8 INCH PER FOOT.
3. PRIOR TO INSTALLATION OF SANITARY SEWER SERVICE, CONTRACTOR SHALL VERIFY THAT NO CONFLICTS WILL OCCUR WITH OTHER UTILITY PIPES TO BE INSTALLED ON THE PROJECT.

SANITARY SEWER SERVICE REPLACEMENT

NO SCALE *SANITARY SEWER 03.01.18*

SANITARY SEWER SERVICE REPLACEMENT

SECTION:	SANITARY SEWER
DETAIL NO.	7
REVISION:	1
APPROVED BY:	DTS
DATE:	03.01.18

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

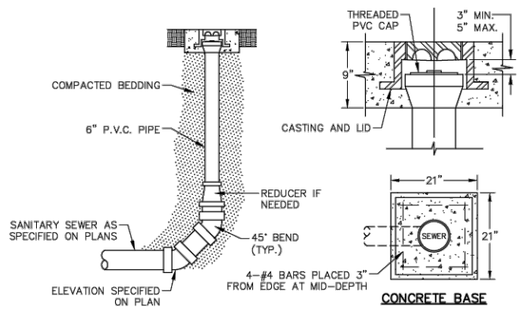
8/1/2025

General Details - Sanitary Sewer

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

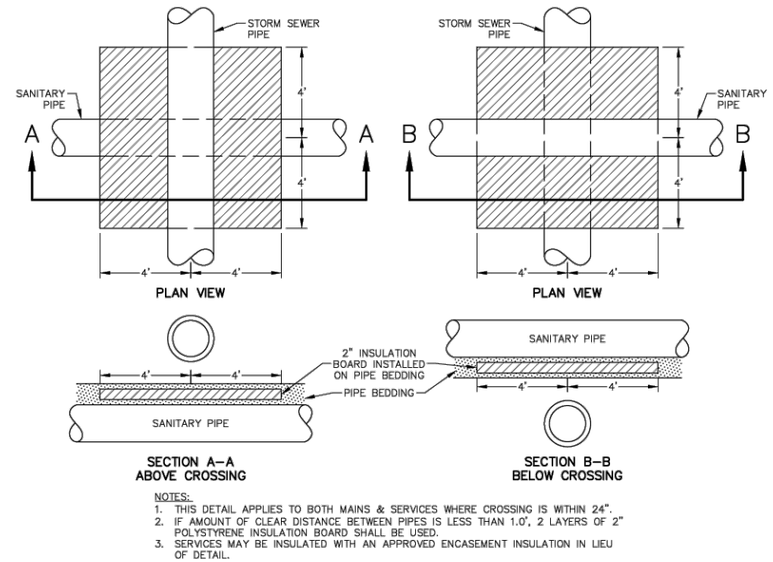
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	14



SANITARY SEWER CLEANOUT - ON MAIN

NO SCALE *SANITARY SEWER 04.21.15*



NOTES:
1. THIS DETAIL APPLIES TO BOTH MAINS & SERVICES WHERE CROSSING IS WITHIN 24".
2. IF AMOUNT OF CLEAR DISTANCE BETWEEN PIPES IS LESS THAN 1.0', 2 LAYERS OF 2" POLYSTYRENE INSULATION BOARD SHALL BE USED.
3. SERVICES MAY BE INSULATED WITH AN APPROVED ENCASEMENT INSULATION IN LIEU OF DETAIL.

SANITARY INSULATION FOR STORM CROSSING

NO SCALE *SANITARY SEWER 02.18.15*

SANITARY SEWER CLEANOUT – ON MAIN

SECTION:	SANITARY SEWER
DETAIL NO.	8
REVISION:	1
APPROVED BY:	DTS
DATE:	04.21.15

SANITARY INSULATION FOR STORM CROSSING

SECTION:	SANITARY SEWER
DETAIL NO.	9
REVISION:	1
APPROVED BY:	DTS
DATE:	02.18.15

CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
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PE-10922
DATE
NORTH DAKOTA

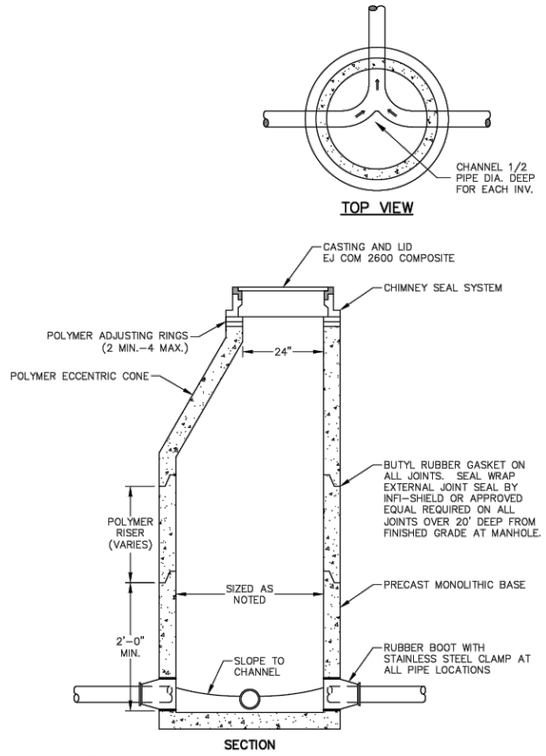
8/1/2025

General Details - Sanitary Sewer

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	15



NOTE:
1. MANHOLE SHALL BE MARKED WITH 2" X 2" WOOD MARKER WITH TOP 1" SPRAY PAINTED GREEN.

SANITARY SEWER POLYMER MANHOLE

NO SCALE *SANITARY SEWER 03.01.18*

SANITARY SEWER POLYMER MANHOLE

SECTION:	SANITARY SEWER
DETAIL NO.	10
REVISION:	1
APPROVED BY:	JFW
DATE:	03.01.18

City of WEST FARGO

CITY OF WEST FARGO

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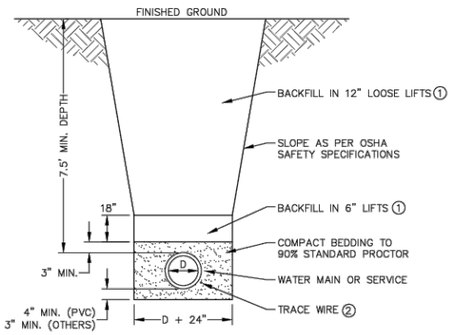
8/1/2025

General Details - Sanitary Sewer

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	16



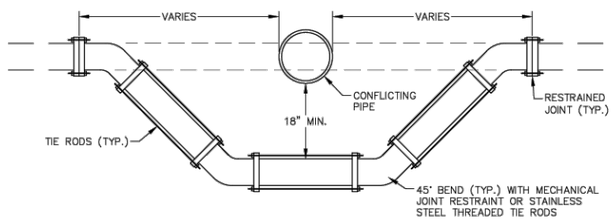
① COMPACT TO 95% MINIMUM STANDARD PROCTOR DENSITY.
② INSTALL TRACE WIRE PER SPECIFICATION.

WATER MAIN OR SERVICE TRENCH

NO SCALE *WATER MAIN 03.15.23*

WATER MAIN OR SERVICE TRENCH

SECTION:	WATER MAIN
DETAIL NO.	1
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23



NOTES:
1. ALL LOWERING AREA SHALL BE COVERED WITH 8 MIL POLYETHYLENE PLASTIC.
2. THRUST BLOCKS NEED TO BE INSTALLED AT ELBOWS.
3. INSULATE IF CLOSER THAN 24" TO CONFLICTING STORM PIPE OR CLOSER THAN 7.5' FROM FINISHED GROUND.
4. ADJUST AS SHOWN ON PLANS, OTHERWISE WATER MAIN MAY BE BELOW OR ABOVE CONFLICTING PIPE.
5. CATHODIC PROTECTIONS–SACRIFICIAL ANODE ZINC CAPS
6. INSTALL TRACE WIRE PER SPECIFICATIONS..

WATER MAIN ADJUSTMENT

NO SCALE *WATER MAIN 03.15.23*

WATER MAIN ADJUSTMENT

SECTION:	WATER MAIN
DETAIL NO.	2
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23

CITY OF WEST FARGO

HOUSTON engineering, inc.

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DATE
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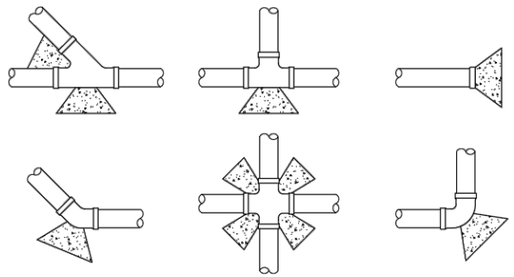
8/1/2025

General Details - Watermain

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	17



MINIMUM THRUST BLOCK SIZES										
	REQUIRED BEARING AREA (S.F.)									
PIPE DIAMETER	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
CROSS, DEAD END OR TEE	2	4	7	11	16	21	28	36	44	63
90 BEND	3	6	10	16	22	30	39	50	62	88
45 BEND	2	3	6	9	12	17	21	27	34	48
22 1/2 BEND	1	2	3	5	7	9	14	17	17	25
NOTE: ALL THRUST BLOCKS A MINIMUM OF 12" THICK AND MUST BEAR AGAINST UNDISTURBED SOIL.										

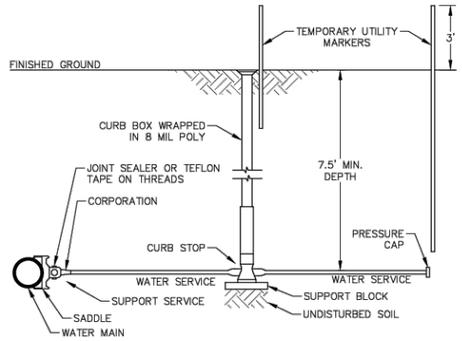
THRUST BLOCKS

NO SCALE WATER MAIN 02.18.15

THRUST BLOCKS

SECTION:	WATER MAIN
DETAIL NO.	3
REVISION:	1
APPROVED BY:	DTS
DATE:	02.18.15

City of WEST FARGO



NOTES:
1. CURB BOX TO BE INSTALLED TO FINISHED GROUND ELEVATION AS SPECIFIED ON PLANS, HALFWAY EXTENDED.
2. ENTIRE SERVICE LINE TO BE PRESSURE TESTED.
3. SEE SERVICE LAYOUT DETAIL OR PLAN SHEETS FOR LOCATION OF CURB STOP AND END OF SERVICE.
4. PROVIDE STIFFENERS ON ALL CONNECTIONS WITH PEXa PIPE.
5. PROVIDE ADDITIONAL WATER SERVICE LINE LENGTH PER SPECIFICATION.

WATER SERVICE LINE

NO SCALE WATER MAIN 01.14.22

WATER SERVICE LINE

SECTION:	WATER MAIN
DETAIL NO.	4
REVISION:	1
APPROVED BY:	JFW
DATE:	01.14.22

City of WEST FARGO

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

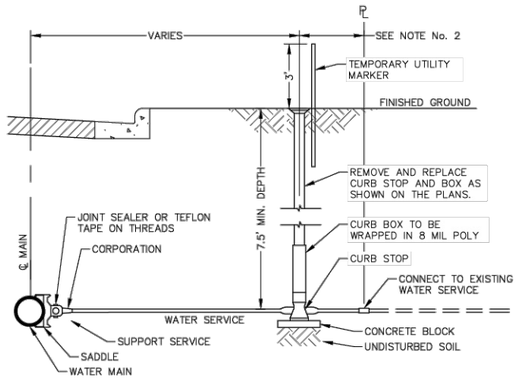
8/1/2025

General Details - Watermain

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\020 - WF Standard Details Water.dwg-Detail (2)-8/1/2025 9:47 AM-(aruud)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	18



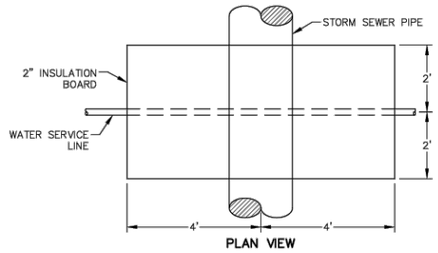
NOTES:
1. CURB BOX TO BE INSTALLED TO FINISHED GROUND ELEVATION AS SPECIFIED ON PLANS, HALFWAY EXTENDED.
2. ENTIRE SERVICE LINE TO BE PRESSURE TESTED.
3. SEE SERVICE LAYOUT DETAIL OR PLAN SHEETS FOR LOCATION OF CURB STOP AND END OF SERVICE.
4. PROVIDE STIFFENERS ON ALL CONNECTIONS WITH PEXa PIPE.
5. PROVIDE ADDITIONAL WATER SERVICE LINE LENGTH PER SPECIFICATION.

WATER SERVICE REPLACEMENT

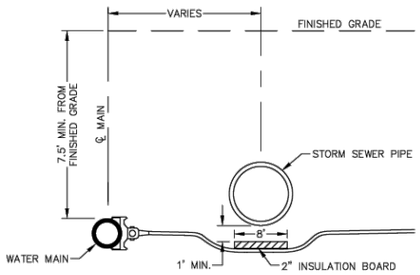
NO SCALE *WATER MAIN 03.15.23*

WATER SERVICE REPLACEMENT

SECTION:	WATER MAIN
DETAIL NO.	5
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23



PLAN VIEW



NOTES:
1. SEE WATER SERVICE DETAIL FOR INFORMATION NOT SHOWN.
2. WATER SERVICE MAY BE INSTALLED WITH ENCASEMENT INSULATION IN LIEU OF DETAIL.

WATER SERVICE LOWERING

NO SCALE *WATER MAIN 02.18.15*

WATER SERVICE LOWERING

SECTION:	WATER MAIN
DETAIL NO.	6
REVISION:	1
APPROVED BY:	DTS
DATE:	02.18.15

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

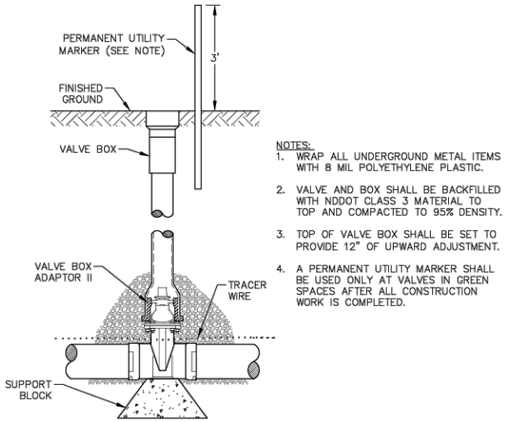
8/1/2025

General Details - Watermain

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\020 - WF Standard Details Water.dwg-Detail (3)-8/1/2025 9:48 AM (aruud)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	19



NOTES:
1. WRAP ALL UNDERGROUND METAL ITEMS WITH 8 MIL POLYETHYLENE PLASTIC.
2. VALVE AND BOX SHALL BE BACKFILLED WITH NDDOT CLASS 3 MATERIAL TO TOP AND COMPACTED TO 95% DENSITY.
3. TOP OF VALVE BOX SHALL BE SET TO PROVIDE 12" OF UPWARD ADJUSTMENT.
4. A PERMANENT UTILITY MARKER SHALL BE USED ONLY AT VALVES IN GREEN SPACES AFTER ALL CONSTRUCTION WORK IS COMPLETED.

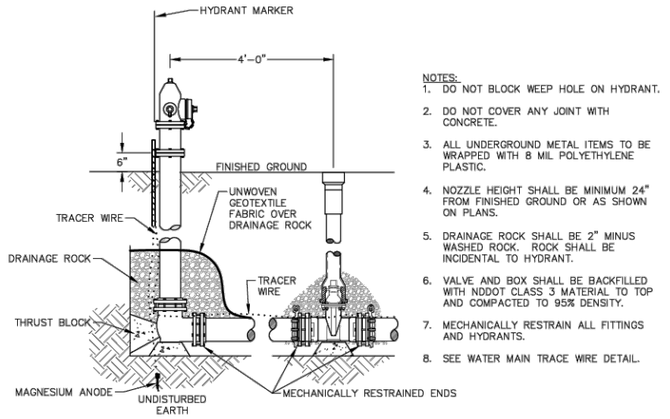
VALVE AND BOX

NO SCALE WATER MAIN 03.15.23

VALVE AND BOX

SECTION:	WATER MAIN
DETAIL NO.	7
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23

City of WEST FARGO



NOTES:
1. DO NOT BLOCK WEEP HOLE ON HYDRANT.
2. DO NOT COVER ANY JOINT WITH CONCRETE.
3. ALL UNDERGROUND METAL ITEMS TO BE WRAPPED WITH 8 MIL POLYETHYLENE PLASTIC.
4. NOZZLE HEIGHT SHALL BE MINIMUM 24" FROM FINISHED GROUND OR AS SHOWN ON PLANS.
5. DRAINAGE ROCK SHALL BE 2" MINUS WASHED ROCK. ROCK SHALL BE INCIDENTAL TO HYDRANT.
6. VALVE AND BOX SHALL BE BACKFILLED WITH NDDOT CLASS 3 MATERIAL TO TOP AND COMPACTED TO 95% DENSITY.
7. MECHANICALLY RESTRAIN ALL FITTINGS AND HYDRANTS.
8. SEE WATER MAIN TRACE WIRE DETAIL.

HYDRANT

NO SCALE WATER MAIN 03.15.23

HYDRANT

SECTION:	WATER MAIN
DETAIL NO.	8
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23

City of WEST FARGO

CITY OF WEST FARGO

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DATE
NORTH DAKOTA

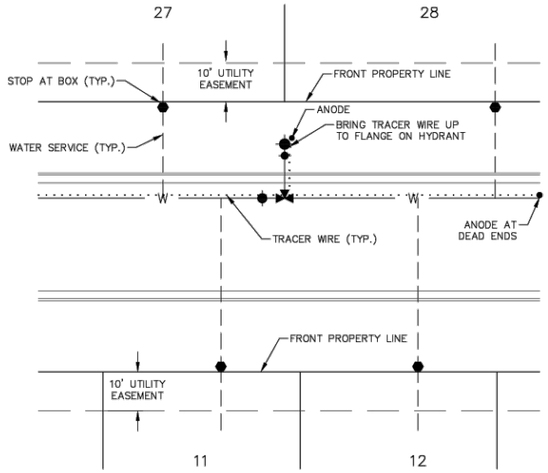
8/1/2025

General Details - Watermain

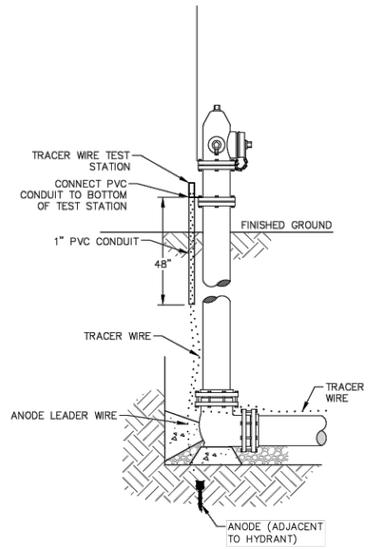
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	20



PLAN VIEW



HYDRANT SECTION

NOTES:
1. TRACER WIRE SHALL BE INSTALLED ON SOUTH AND EAST SIDES OF PIPELINE BEING TRACED.
2. ACCESS BOX WITH DUAL CONNECTION LID AND ANODE SHALL BE INSTALLED AT PLUGGED ENDS.

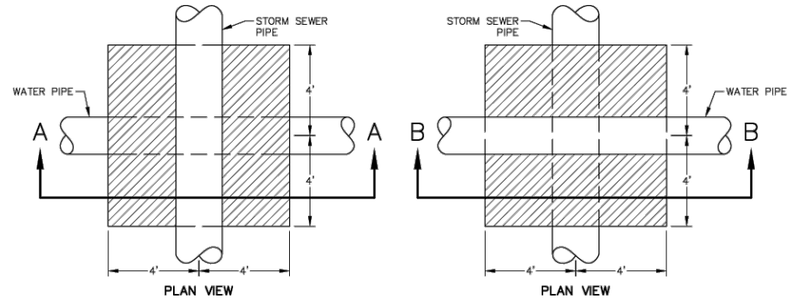
WATER MAIN TRACE WIRE

NO SCALE *WATER MAIN 03.15.23*

WATER MAIN TRACE WIRE

SECTION:	WATER MAIN
DETAIL NO.	9
REVISION:	1
APPROVED BY:	JFW
DATE:	03.15.23

City of WEST FARGO



NOTES:
1. THIS DETAIL APPLIES TO BOTH MAINS & SERVICES WHERE CROSSING IS WITHIN 24".
2. IF AMOUNT OF CLEAR DISTANCE BETWEEN PIPES IS LESS THAN 1.0', 2 LAYERS OF 2" INSULATION BOARD SHALL BE USED.
3. WATER SERVICES MAY BE INSULATED WITH AN APPROVED ENCASEMENT INSULATION IN LIEU OF DETAIL.

WATER INSULATION FOR STORM CROSSING

NO SCALE *WATER MAIN 02.18.15*

WATER INSULATION FOR STORM CROSSING

SECTION:	WATER MAIN
DETAIL NO.	10
REVISION:	1
APPROVED BY:	DTS
DATE:	02.18.15

City of WEST FARGO

CITY OF WEST FARGO

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DATE
NORTH DAKOTA

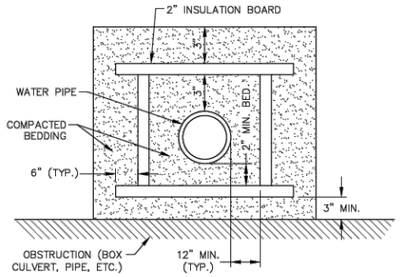
8/1/2025

General Details - Watermain

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	21



NOTE:
1. COMPACT PER WATER MAIN OR SERVICE TRENCH DETAIL.

WATER ENCASEMENT INSULATION

NO SCALE *WF 02.18.15*

TYPICAL DETAIL DESCRIPTION TAG

SECTION:	WATER MAIN
DETAIL NO.	##
REVISION:	#
APPROVED BY:	XXX
DATE:	MM.DD.YY

City of WEST FARGO

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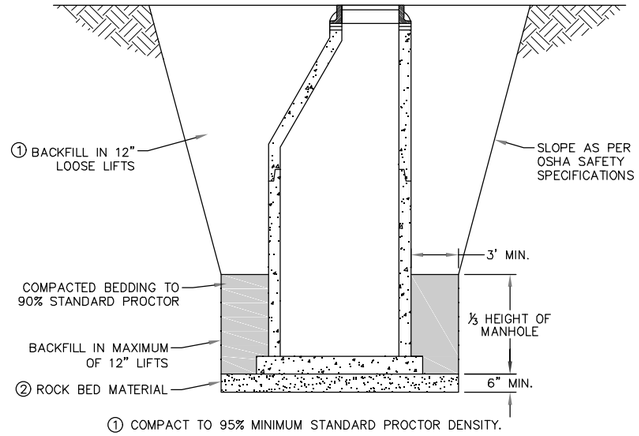
8/1/2025

General Details - Watermain

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	ND	TMA-SU-FXP-8-992(045)	20	22

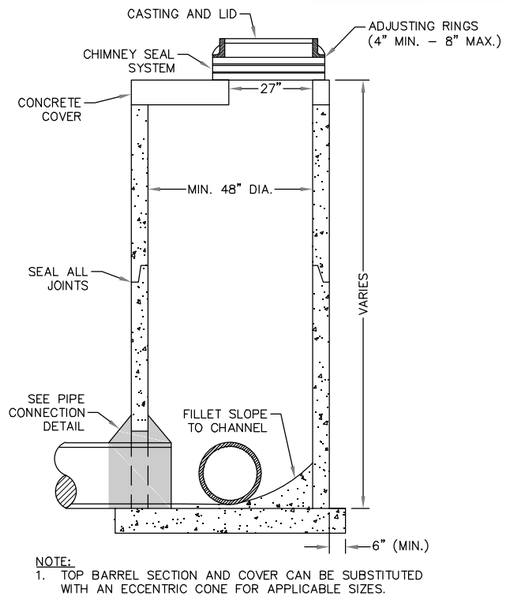


① COMPACT TO 95% MINIMUM STANDARD PROCTOR DENSITY.

② ROCK BED MATERIAL SHALL BE 1–1/4" CRUSHED ROCK. ROCK FOR BEDDING AND COMPACTED GRANULAR MATERIAL ARE INCIDENTAL TO MANHOLE INSTALLATION.

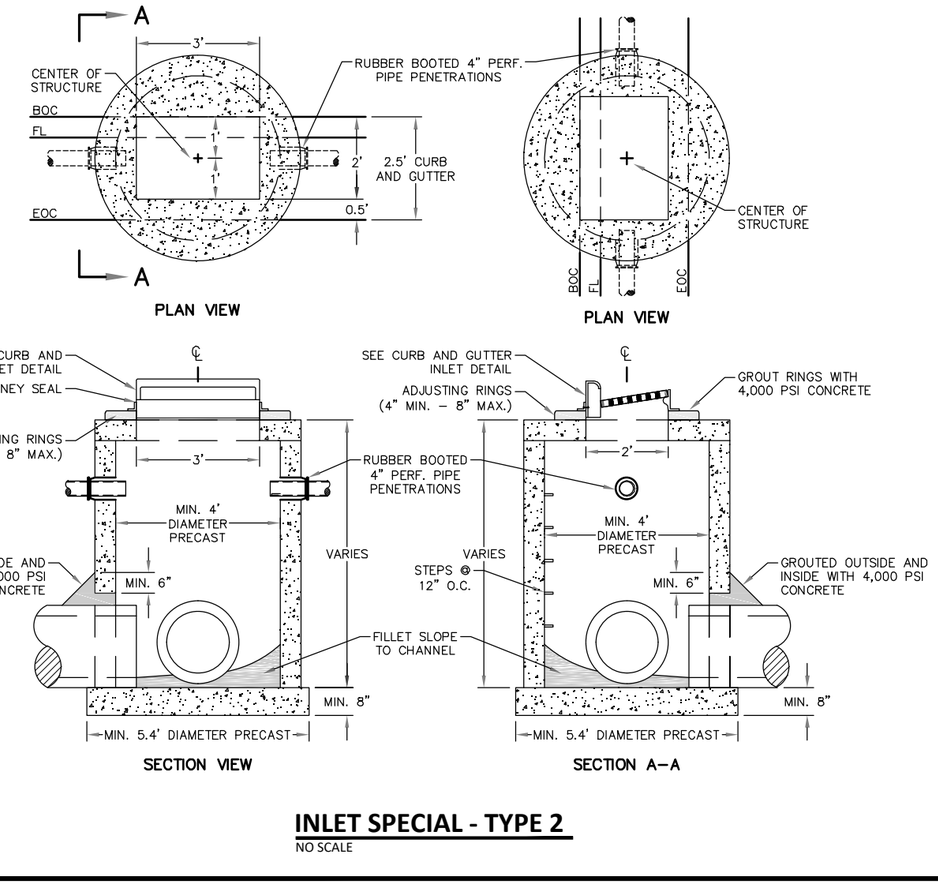
③ DETAIL SHALL BE USED FOR ALL MANHOLES AND CATCH BASINS.

MANHOLE/CATCH BASIN TRENCH
NO SCALE

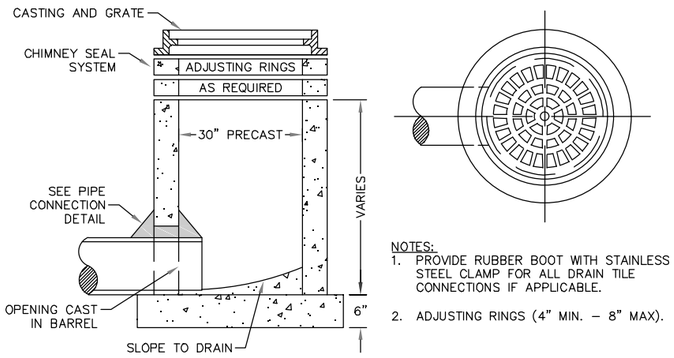


NOTE:
1. TOP BARREL SECTION AND COVER CAN BE SUBSTITUTED WITH AN ECCENTRIC CONE FOR APPLICABLE SIZES.

STORM SEWER
STRUCTURE - MANHOLE - REGULAR
NO SCALE



INLET SPECIAL - TYPE 2
NO SCALE



NOTES:
1. PROVIDE RUBBER BOOT WITH STAINLESS STEEL CLAMP FOR ALL DRAIN TILE CONNECTIONS IF APPLICABLE.
2. ADJUSTING RINGS (4" MIN. – 8" MAX).

INLET CATCH BASIN
NO SCALE

CITY OF WEST FARGO

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NORTH DAKOTA

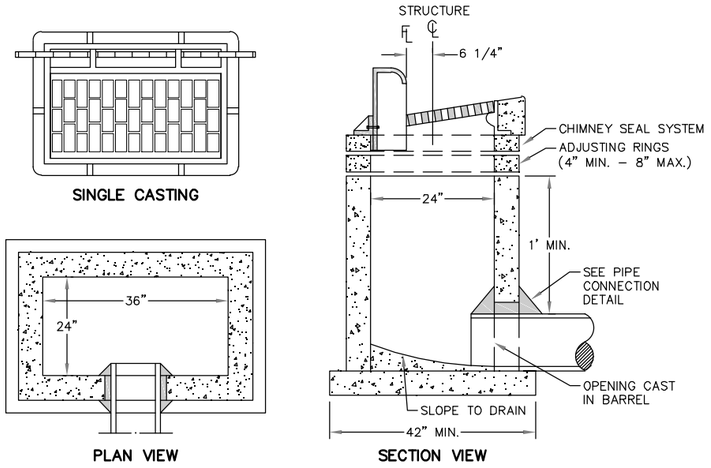
8/1/2025

General Details - Storm Sewer

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

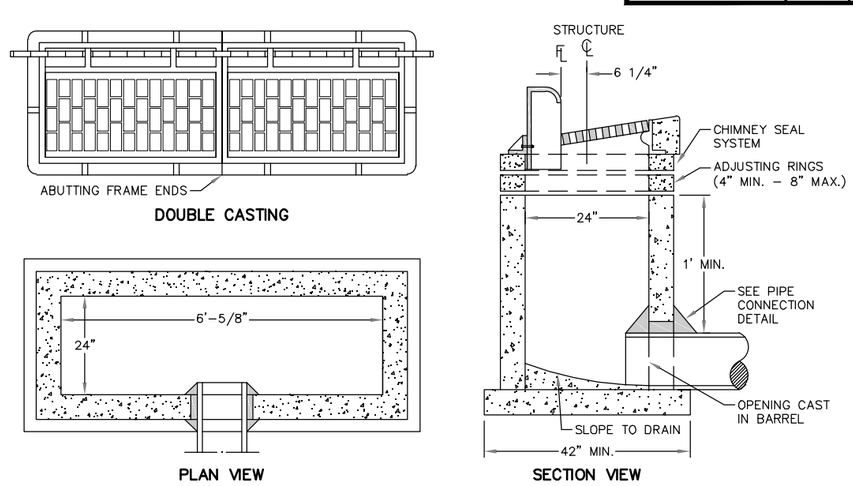
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	23



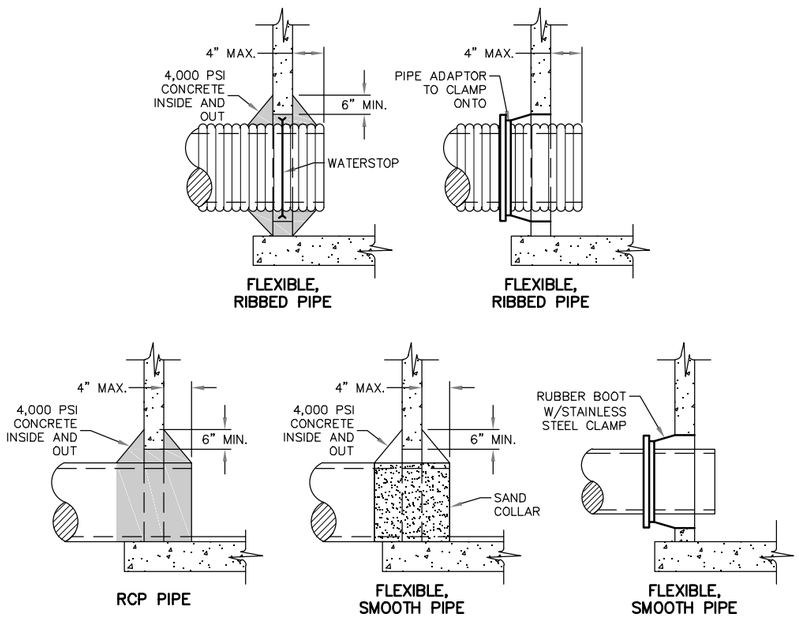
NOTES:
1. PROVIDE RUBBER BOOT WITH STAINLESS STEEL CLAMP FOR ALL DRAIN TILE CONNECTIONS IF APPLICABLE.
2. SEE CURB AND GUTTER DETAIL FOR CASTING PLACEMENT.

INLET TYPE 2
NO SCALE

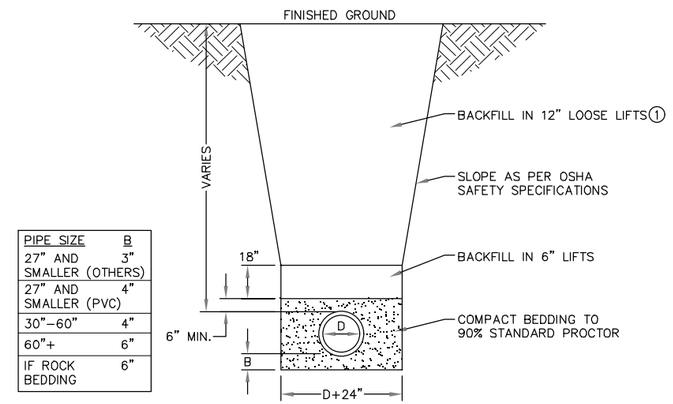


NOTES:
1. PROVIDE RUBBER BOOT WITH STAINLESS STEEL CLAMP FOR ALL DRAIN TILE CONNECTIONS IF APPLICABLE.
2. SEE CURB AND GUTTER DETAIL FOR CASTING PLACEMENT.

INLET TYPE 2 DOUBLE
NO SCALE



STORM SEWER PIPE CONNECTION
NO SCALE



PIPE SIZE	B
27" AND SMALLER (OTHERS)	3"
27" AND SMALLER (PVC)	4"
30"–60"	4"
60"+	6"
IF ROCK BEDDING	6"

① COMPACT TO 95% MINIMUM STANDARD PROCTOR DENSITY.

② CS PIPE IS CONSIDERED A FLEXIBLE PIPE.

FLEXIBLE PIPE STORM SEWER TRENCH
NO SCALE

CITY OF WEST FARGO

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DATE
NORTH DAKOTA

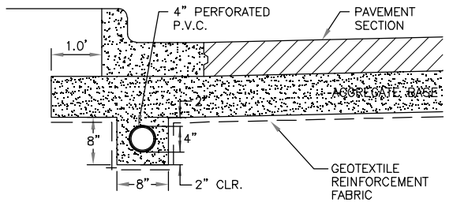
8/1/2025

General Details - Storm Sewer

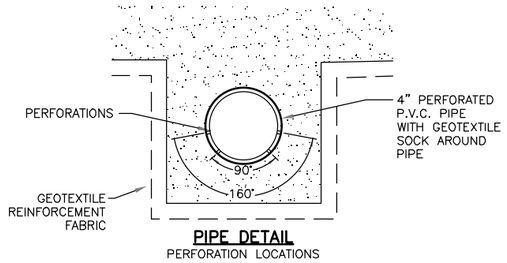
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7th Ave NE from 9th St NE to 45th St N

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	ND	TMA-SU-FXP-8-992(045)	20	24



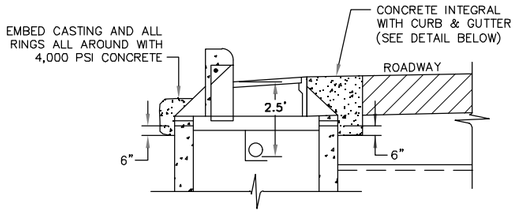
OVERALL LAYOUT



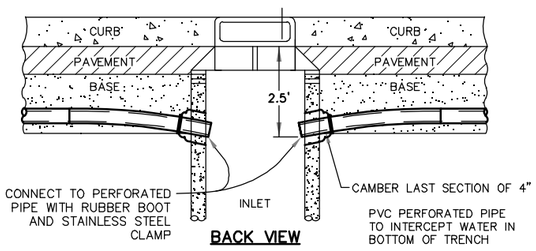
PIPE DETAIL
PERFORATION LOCATIONS

NOTES:

1. KNOCKOUTS SHALL BE PROVIDED IN INLETS TO ACCOMMODATE 4" PVC PERFORATED PIPE. COST OF KNOCKOUTS AND RUBBER BOOT CONNECTION SHALL BE INCLUDED IN THE PRICE BID FOR PERFORATED PVC PIPE.
2. NO BENDS OR FITTINGS SHALL BE USED UNLESS APPROVED BY THE ENGINEER. IF USED, SOLVENT WELD FITTINGS SHALL BE USED.
3. THE PIPE SHALL BE POLYVINYL CHLORIDE SEWER PIPE WITH SOLVENT CEMENTED JOINTS AS SPECIFIED IN ASTM SPEC. NO. 3034.
4. PERFORATIONS SHALL BE CIRCULAR AND 1/4" ± 1/16" IN DIAMETER. THEY SHOULD BE ARRANGED IN ROWS PARALLEL TO THE AXIS OF THE PIPE AND SHALL BE SPACED APPROXIMATELY 3" CENTER TO CENTER ALONG THE ROWS. THE SPIGOT END OF THE PIPE SHALL BE UNPERFORATED FOR A LENGTH EQUAL TO THE DEPTH OF THE SOCKET. THE PLACEMENT AND TOTAL NUMBERS OF THE ROWS SHALL BE AS SHOWN ABOVE WITH AN ALLOWABLE TOLERANCE OF ±10°. THE SPIGOT AND BELL END SHALL BE UNPERFORATED FOR A LENGTH EQUAL TO THE DEPTH OF THE SPIGOT.
5. THE NOMINAL LAYING LENGTH OF THE PIPE SHALL BE 12.5'. SHORTER OR LONGER LAYING LENGTHS SHALL BE PROVIDED IF REQUIRED.
6. PIPE SIZE: 4"
7. ROWS OF PERFORATIONS: 4
8. PERFORATIONS PER ROW: 48 (FOR 12.5' PIPE LAYING LENGTHS)
9. 4" PERFORATED PIPE SHALL ALWAYS TERMINATE INSIDE OF INLETS OR MANHOLES AT LEAST 1" WITH A MAXIMUM OF 3".
10. PERFORATIONS SHALL BE PLACED FACING DOWN.
11. COST FOR EXTRA CLASS 5 GRAVEL, ADDITIONAL GEOTEXTILE FABRIC, AND EXCAVATION FOR THE PERFORATE PIPE INSTALLATION TO BE INCLUDED IN THE PERFORATED PIPE PAY ITEM.
12. BOOTS INSTALLED IN FIELD SHALL BE CORED.

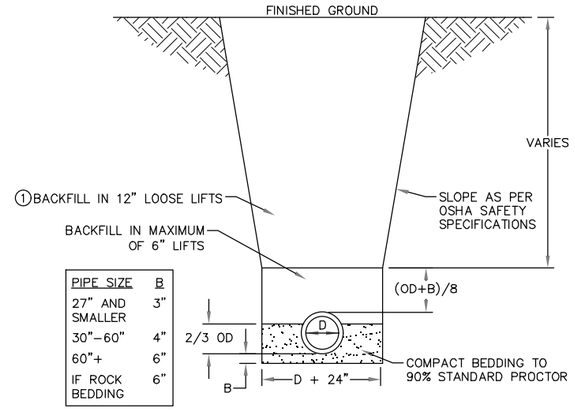


SIDE VIEW



BACK VIEW

PERFORATED PIPE DETAIL
NO SCALE

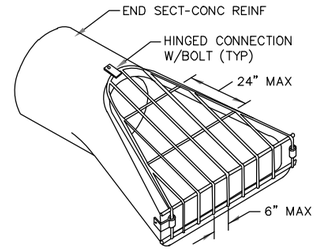


PIPE SIZE	B
27" AND SMALLER	3"
30"–60"	4"
60"+	6"
IF ROCK BEDDING	6"

① COMPACT TO 95% MINIMUM STANDARD PROCTOR DENSITY.

RCP STORM SEWER TRENCH
NO SCALE

TRASH RACK SIZING		
PIPE SIZE	BARS	BOLTS
12"–18"	3/4ø	5/8"
21"–42"	1"ø	3/4"
48"–72"	1 1/4"ø	1"



NOTES:
1. PROVIDE 3 ANCHOR CLIPS TO FASTEN TRASH RACK TO FLARED END SECTION. HOT DIP GALVANIZE AFTER FABRICATION.
2. TIE LAST 3 PIPE JOINTS. USE 2 TIE BOLT FASTENERS PER JOINT. INSTALL AT 60 DEGREES FROM TOP.
3. ALL PARTS SHALL BE HOT DIP GALVANIZED PER ASTM A153.

TRASH RACK - END SECT - CONC REINF
NO SCALE

CITY OF WEST FARGO

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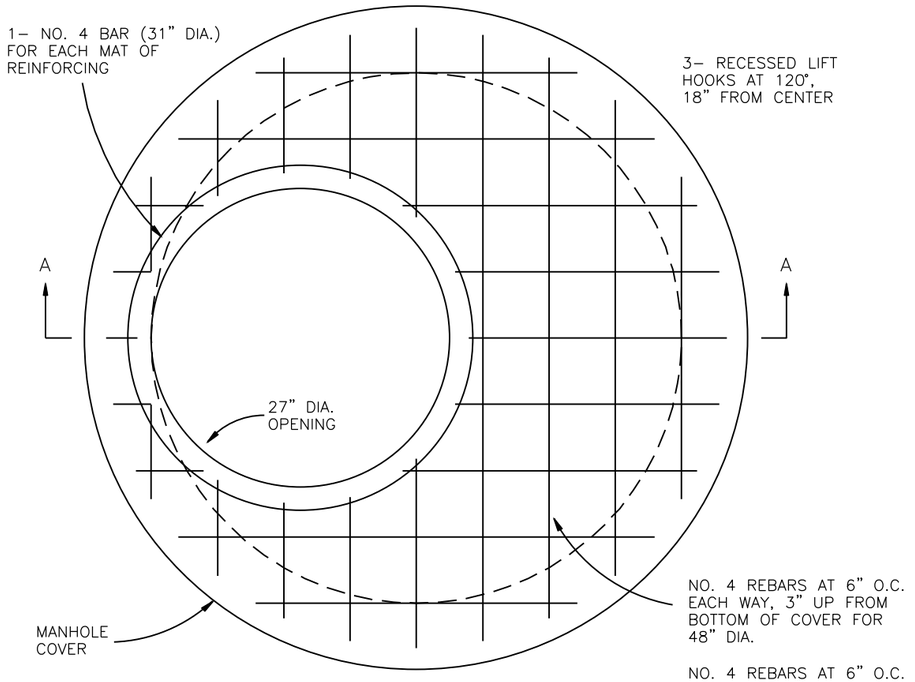
REGISTERED PROFESSIONAL ENGINEER
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PE-10922
DATE
NORTH DAKOTA
8/1/2025

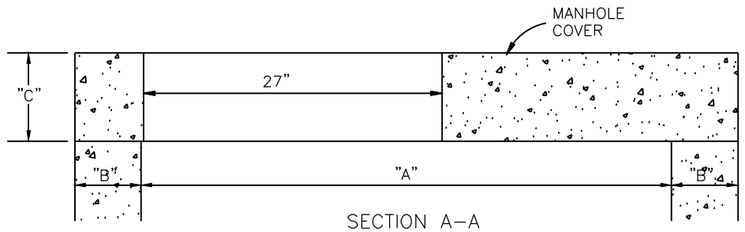
General Details - Storm Sewer

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\020 - WF Standard Details Storm.dwg-Detail (3)-8/1/2025 9:48 AM-(aruud)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	25



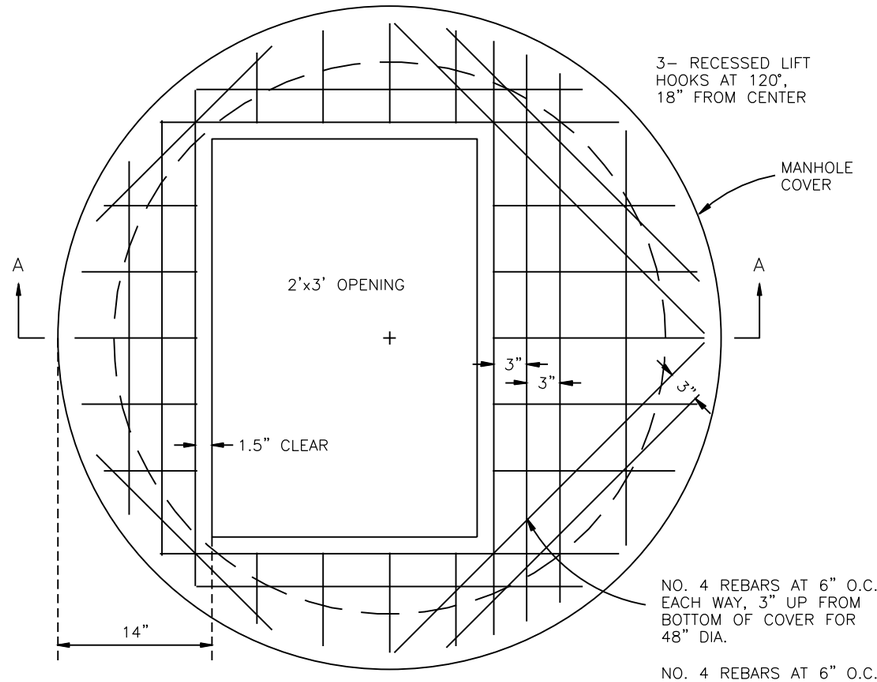


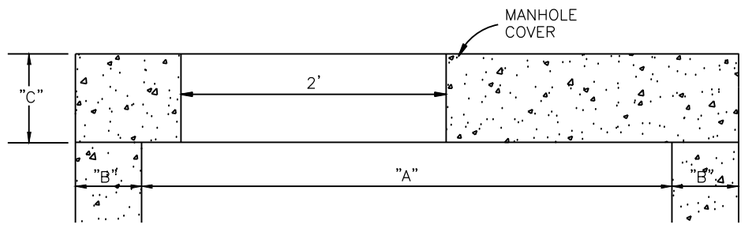
SECTION A–A

DIMENSION TABLE

A	B	C
48"	5"	6"
60"	6"	7"
72"	7"	8"
84"	8"	9"
96"	9"	9"

INLET
SPECIAL - CATCH BASIN COVER
NO SCALE





SECTION A–A

DIMENSION TABLE

A	B	C
48"	5"	6"
60"	6"	7"
72"	7"	8"
84"	8"	9"
96"	9"	9"

INLET SPECIAL - TYPE 2 COVER
NO SCALE

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

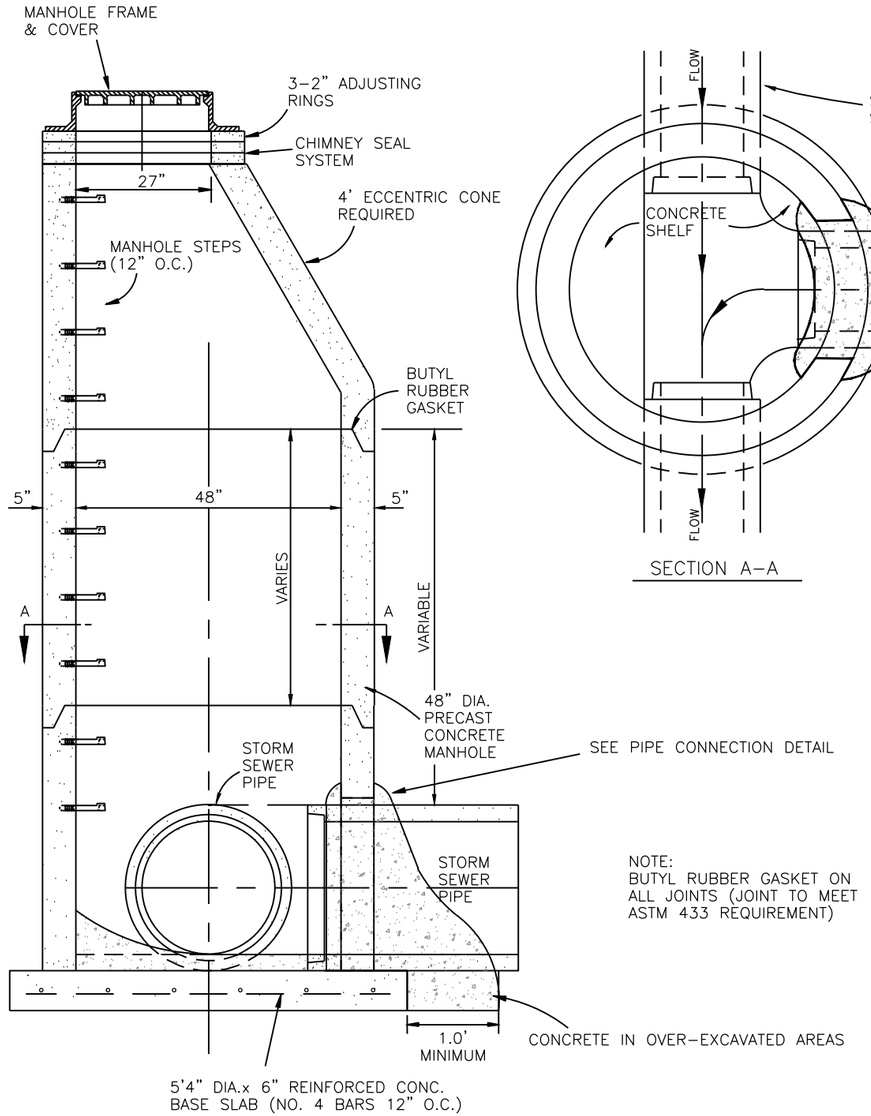
REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA
8/1/2025

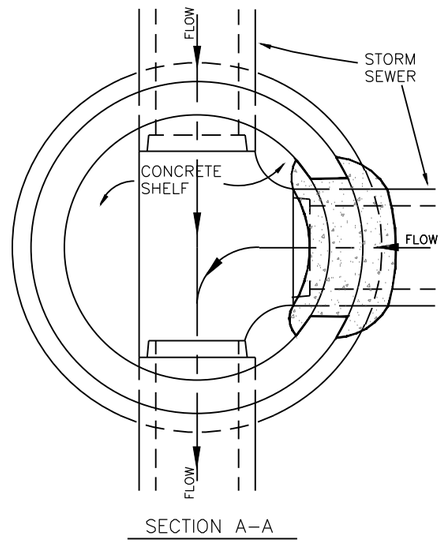
General Details - Storm Sewer

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\020 - WF Standard Details Storm.dwg-Detail (4)-8/1/2025 9:49 AM-(aruud)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	20	26





SECTION A–A

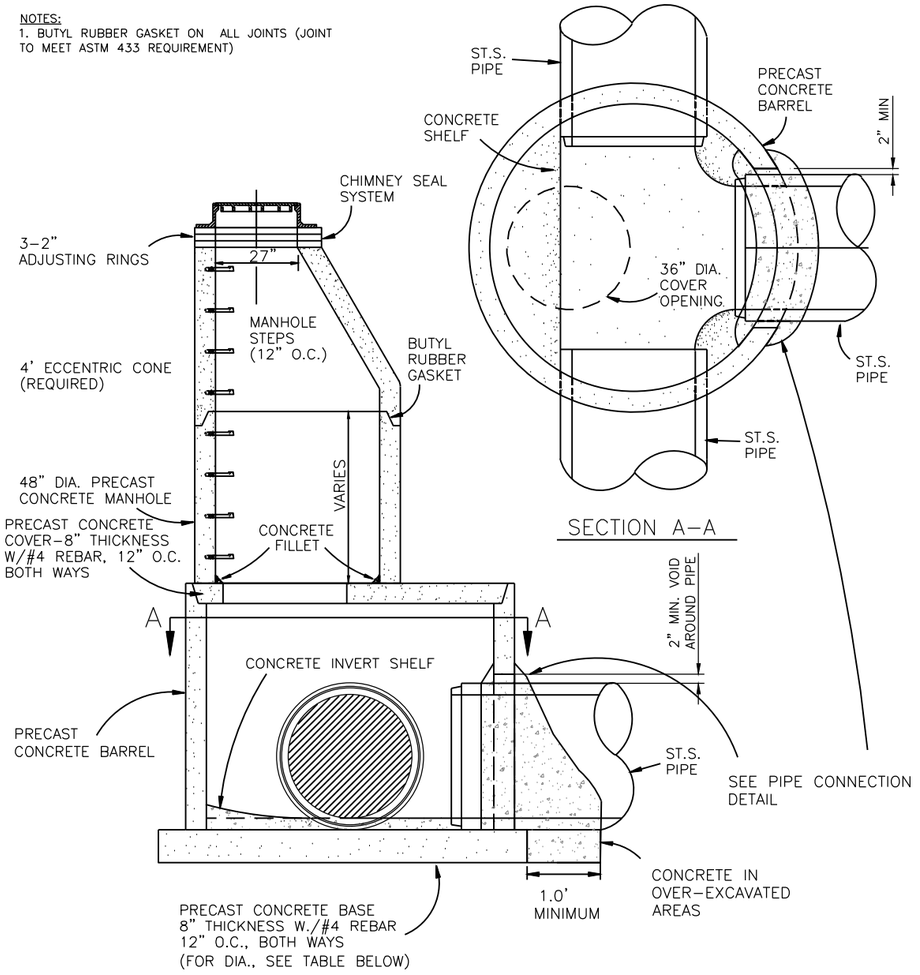
NOTE:
BUTYL RUBBER GASKET ON ALL JOINTS (JOINT TO MEET ASTM 433 REQUIREMENT)

NOTES:
1. MAXIMUM RCP DIA.–27" STRAIGHT THRU. MAXIMUM RCP DIA–18" AT RIGHT ANGLES.

2. ALL JOINTS AND LIFTING HOLES SHALL BE MORTARED.

MANHOLE 48"
NO SCALE

NOTES:
1. BUTYL RUBBER GASKET ON ALL JOINTS (JOINT TO MEET ASTM 433 REQUIREMENT)



SECTION A–A

MANHOLE TYPE	(A) MANHOLE INSIDE DIA.	(B) MANHOLE OUTSIDE DIA.
A	60"	7'–0"
B	72"	8'–0"
C	84"	9'–4"
D	96"	10'–6"
E	108"	11'–8"

MANHOLE 60" - 108"
NO SCALE

CITY OF WEST FARGO

HOUSTON engineering, inc.

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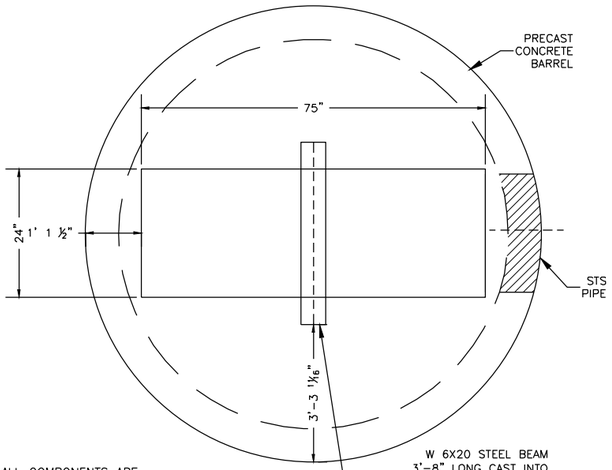
REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA
8/1/2025

General Details - Storm Sewer

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\020 - WF Standard Details Storm.dwg-Detail (5) 8/1/2025 9:47 AM (aruud)

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	ND	TMA-SU-FXP-8-992(045)	20	27

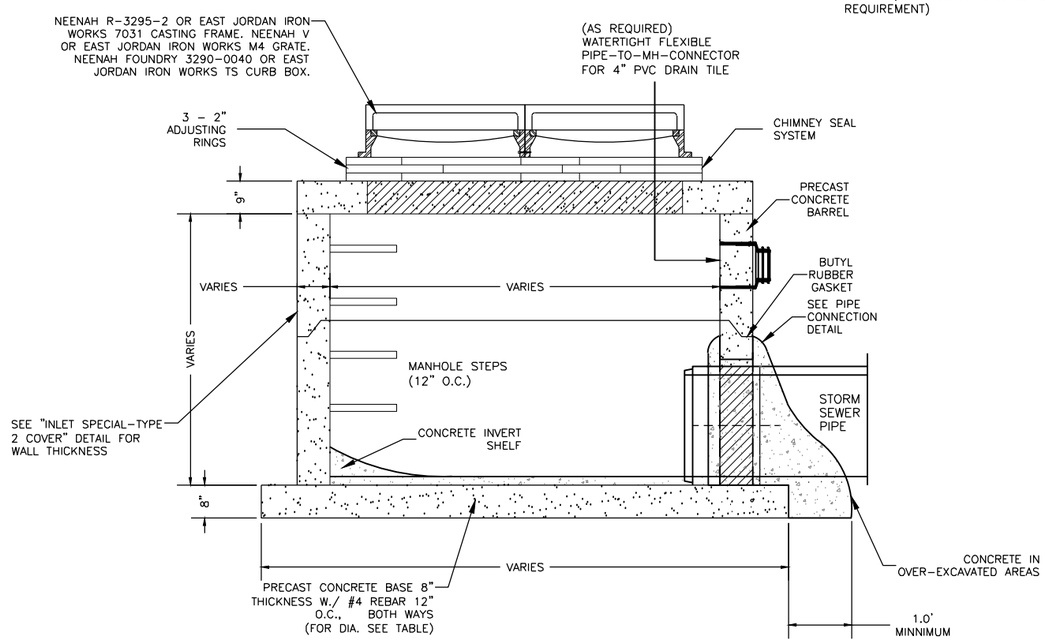


ALL COMPONENTS ARE MANUFACTURED PER ASTM C478

W 6X20 STEEL BEAM 3'-8" LONG CAST INTO COVER SLAB. ADDITIONAL REINFORCEMENT IN COVER SLAB PER MANUFACTURERS RECOMMENDATIONS.

MANHOLE INSIDE DIA.	MANHOLE OUTSIDE DIA.
84"	9'-4"
96"	10'-6"

NOTES:
1. BUTYL RUBBER GASKET ON ALL JOINTS (JOINT TO MEET ASTM 433 REQUIREMENT)



INLET SPECIAL TYPE 2 DOUBLE

NO SCALE SEE "INLET TYPE 2 DOUBLE" DETAIL FOR INLET SPECIFICATIONS

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

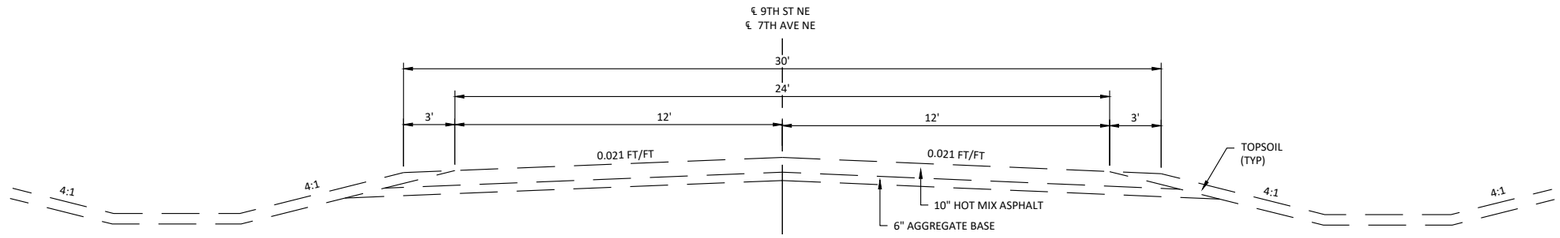
8/1/2025

General Details - Storm Sewer

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\020 - WF Standard Details Storm.dwg-Detail (6) 8/1/2025 9:48 AM (aruud)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	30	1



EXISTING SECTION

NOT TO SCALE

STA 103+64.50 TO STA 152+05.35 (Align: Pr_9thSt)
STA 206+20.05 TO STA 249+77.77 (Align: Pr_7thAve)

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

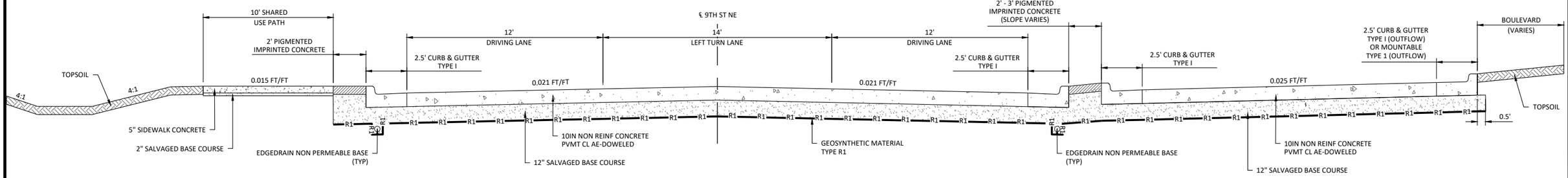
8/1/2025

Existing Typical Sections

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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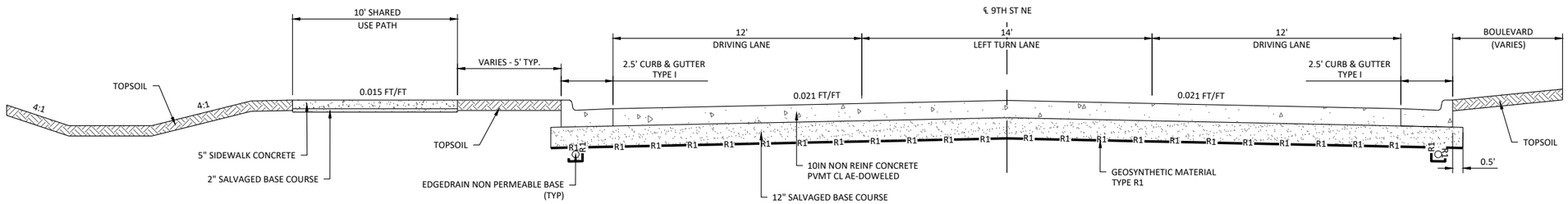
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	30	2



PROPOSED TYPICAL SECTION

NOT TO SCALE

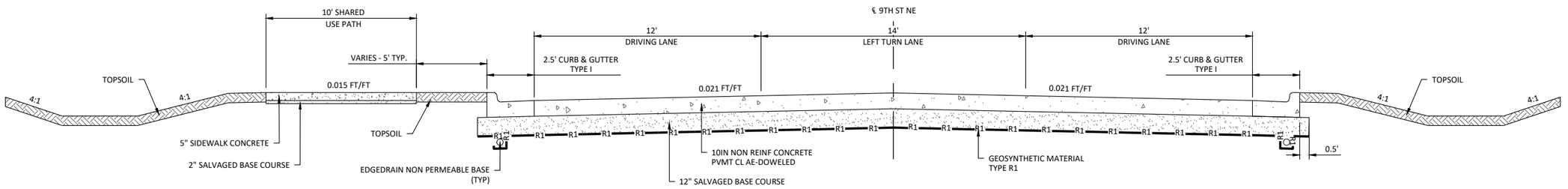
STA 131+63.14 TO STA 143+74.15 (Align: Pr_9thSt)



PROPOSED TYPICAL SECTION

NOT TO SCALE

STA 103+64.50 TO STA 107+25.00 (Align: Pr_9thSt)



PROPOSED TYPICAL SECTION

NOT TO SCALE

STA 107+25.00 TO STA 109+00.00 (Align: Pr_9thSt)

STA 145+73.28 TO STA 150+18.25 (Align: Pr_9thSt)

CITY OF WEST FARGO

HOUSTON engineering, inc.

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ADAM M. RUUD
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DATE
NORTH DAKOTA

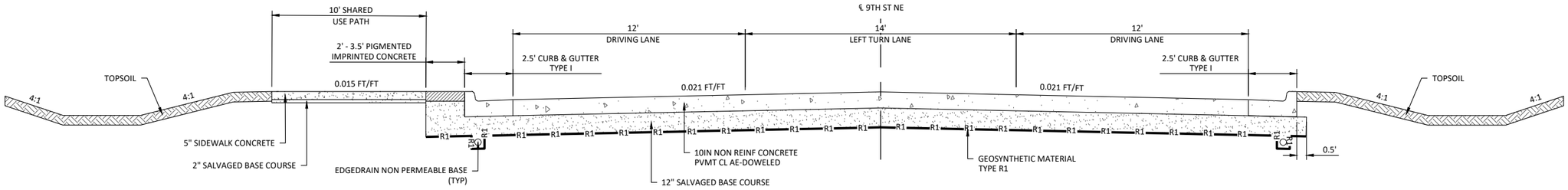
8/1/2025

Proposed Typical Sections

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

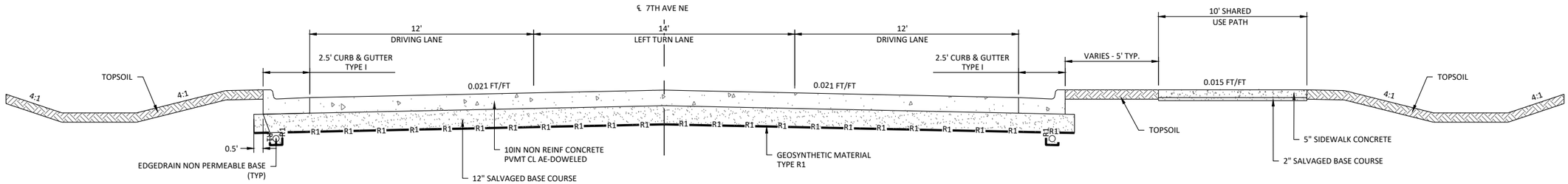
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	ND	TMA-SU-FXP-8-992(045)	30	3



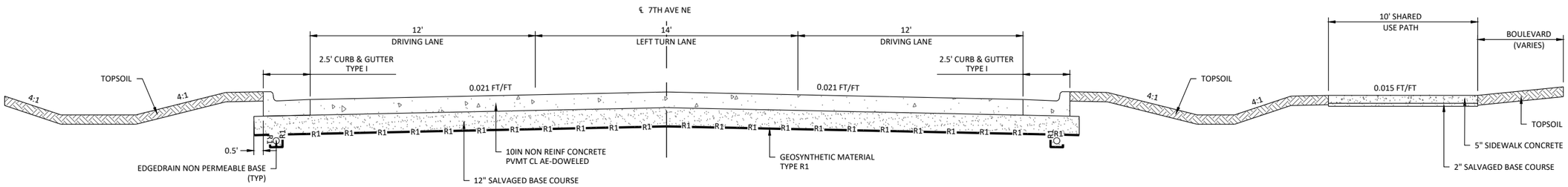
PROPOSED TYPICAL SECTION

NOT TO SCALE
STA 143+74.15 TO STA 145+73.28 (Align: Pr_9thSt)
STA 150+18.25 TO STA 152+24.20 (Align: Pr_9thSt)



PROPOSED TYPICAL SECTION

NOT TO SCALE
STA 213+38.70 TO STA 240+50.00 (Align: Pr_7thAve)
STA 242+75.00 TO STA 249+77.77 (Align: Pr_7thAve)



PROPOSED TYPICAL SECTION

NOT TO SCALE
STA 240+50.00 TO STA 242+75.00 (Align: Pr_7thAve)

CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
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DATE
NORTH DAKOTA

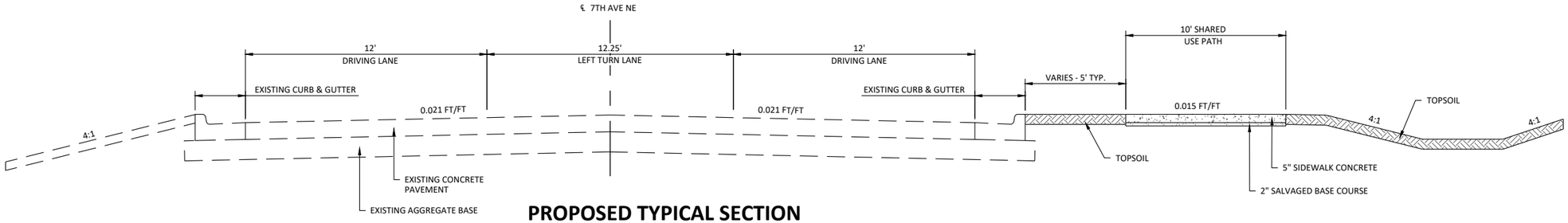
8/1/2025

Proposed Typical Sections

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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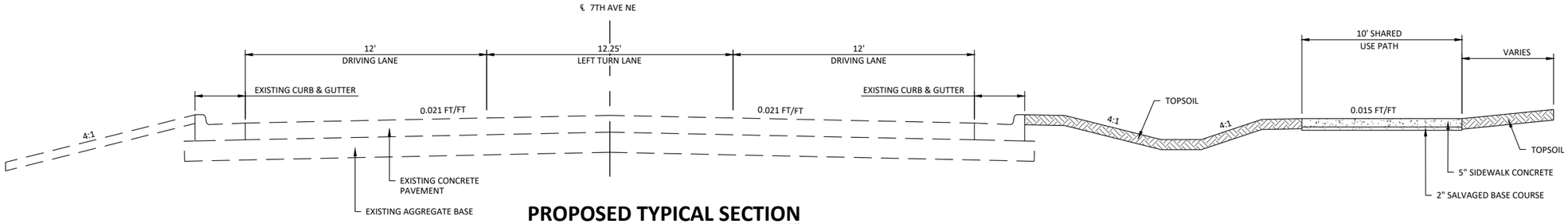
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	30	4



PROPOSED TYPICAL SECTION

NOT TO SCALE

STA 249+77.77 TO STA 259+25.00 (Align: Pr_7thAve)



PROPOSED TYPICAL SECTION

NOT TO SCALE

STA 259+25.00 TO STA 262+57.55 (Align: Pr_7thAve)

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

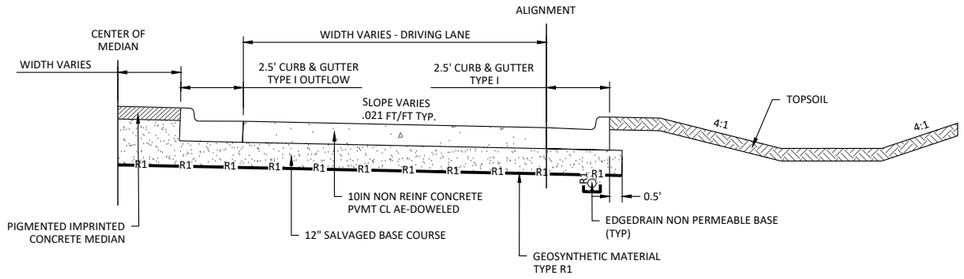
8/1/2025

Proposed Typical Sections

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\030 - Proposed Typical Sections.dwg Typ Sections (3)-7/31/2025 3:26 PM-(jerickson)

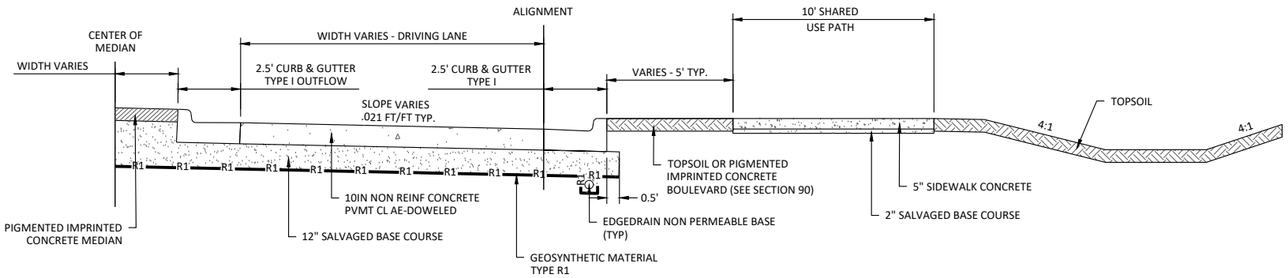
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	30	5



PROPOSED TYPICAL SECTION

NOT TO SCALE

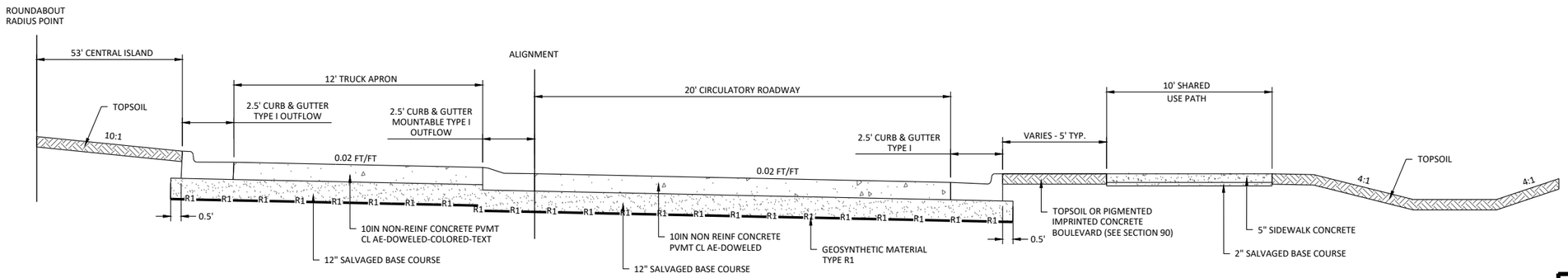
STA 200+00.00 TO STA 202+37.89 (Align: Pr_9th&7th_Roundabout_SW)
STA 301+16.18 TO STA 302+26.48 (Align: Pr_9th&7th_Roundabout_SE)
STA 400+00.00 TO STA 406+16.22 (Align: Pr_9th&7th_Roundabout_NE)
STA 503+83.15 TO STA 506+19.67 (Align: Pr_9th&7th_Roundabout_NW)



PROPOSED TYPICAL SECTION

NOT TO SCALE

STA 202+37.89 TO STA 204+99.22 (Align: Pr_9th&7th_Roundabout_SW)
STA 302+26.48 TO STA 306+02.44 (Align: Pr_9th&7th_Roundabout_SE)
STA 500+00.00 TO STA 503+83.15 (Align: Pr_9th&7th_Roundabout_NW)



PROPOSED TYPICAL SECTION

NOT TO SCALE

STA 100+00.00 TO STA 104+39.82 (Align: Pr_9th&7th_Roundabout_Circle)

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

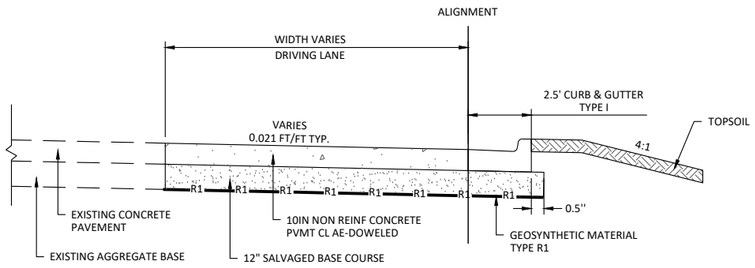
8/1/2025

Proposed Typical Sections

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\030 - Proposed Typical Sections.dwg Typ Sections (4)-7/31/2025 3:26 PM (jerickson)

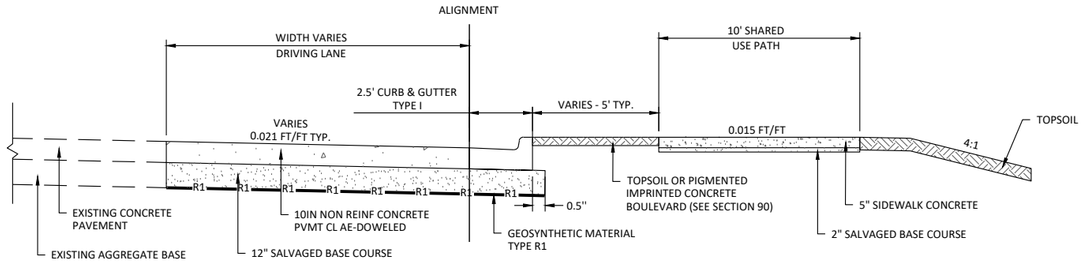
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	30	6



PROPOSED TYPICAL SECTION

NOT TO SCALE

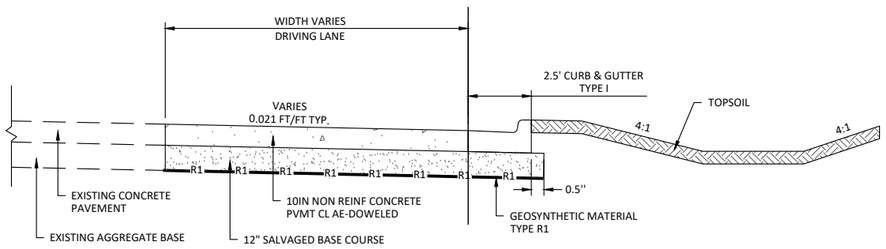
STA 12+00.00 TO STA 16+02.44 (Align: Pr_12thAveRoundabout_SE)
STA 20+00.00 TO STA 24+30.32 (Align: Pr_12thAveRoundabout_NE)
STA 25+79.32 TO STA 26+35.04 (Align: Pr_12thAveRoundabout_NE)
STA 30+00.00 TO STA 32+20.09 (Align: Pr_12thAveRoundabout_NW)
STA 34+35.58 TO STA 37+35.11 (Align: Pr_12thAveRoundabout_NW)
STA 40+00.00 TO STA 41+00.00 (Align: Pr_12thAveRoundabout_SW)



PROPOSED TYPICAL SECTION

NOT TO SCALE

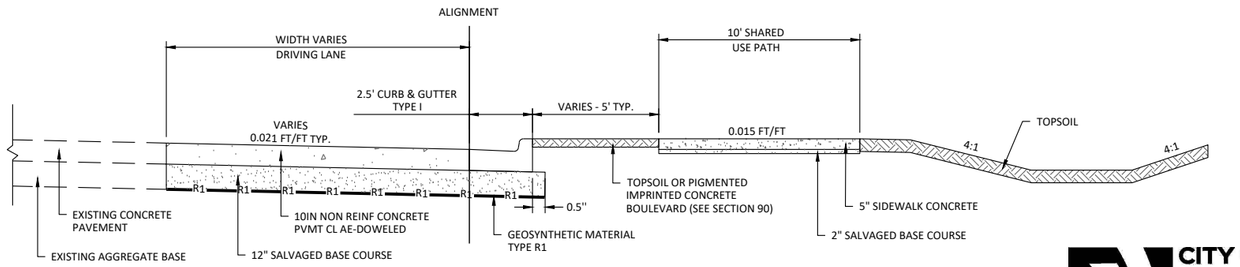
STA 32+20.09 TO STA 34+35.58 (Align: Pr_12thAveRoundabout_NW)



PROPOSED TYPICAL SECTION

NOT TO SCALE

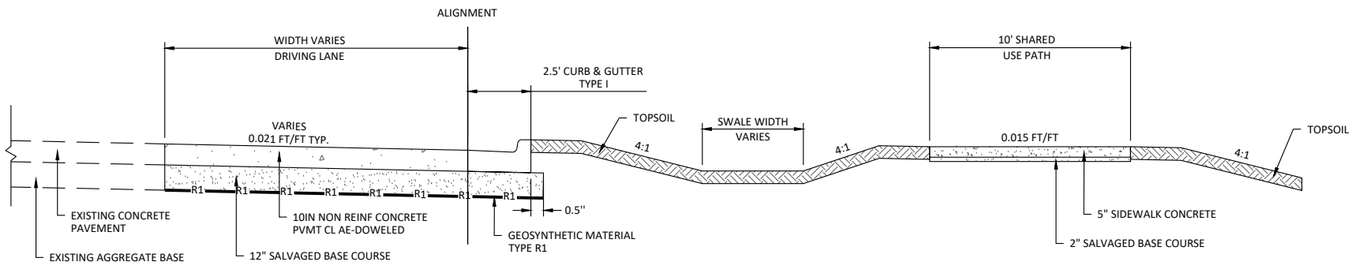
STA 10+23.02 TO STA 12+00.00 (Align: Pr_12thAveRoundabout_SE)
STA 41+00.00 TO STA 42+61.17 (Align: Pr_12thAveRoundabout_SW)



PROPOSED TYPICAL SECTION

NOT TO SCALE

STA 42+61.17 TO STA 44+73.36 (Align: Pr_12thAveRoundabout_SW)



PROPOSED TYPICAL SECTION

NOT TO SCALE

STA 24+30.32 TO STA 25+79.32 (Align: Pr_12thAveRoundabout_NE)

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

8/1/2025

Proposed Typical Sections

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\030 - Proposed Typical Sections.dwg-Typ Sections (5)-7/31/2025 3:26 PM-(jerickson)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	40	1

SPEC	CODE	BID ITEM	QTY	UNIT
202	0130	REMOVAL OF CURB & GUTTER		
		Sta 101+87.92 to Sta 109+00	940	LF
		Sta 126+75.92 to Sta 134+00	455	LF
202	0136	REMOVAL OF PAVEMENT		
		Sta 103+64.50 to Sta 109+00 (Asphalt)	1398	TON
		Sta 103+64.50 to Sta 109+00 (Concrete)	130	TON
		Sta 103+64.50 to Sta 109+00 (Aggregate Base)	891	TON
		Sta 126+75.92 to Sta 134+00 (Asphalt)	1211	TON
		Sta 126+75.92 to Sta 134+00 (Concrete)	897	TON
		Sta 126+75.92 to Sta 134+00 (Aggregate Base)	1380	TON
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		Sta 104+00.95 to Sta 109+00	931	LF
		Sta 126+75.92 to Sta 134+00	508	LF
724	0402	SALVAGE 6IN HYDRANT		
		Sta 128+60.15	1	EA
		Sta 128+62.27	1	EA

*Stationing is based on 9th St NE alignment

NOTE:

SEE SECTION 80 FOR REMOVAL/RECONSTRUCTION COORDINATE POINTS

REMOVALS

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- SAW CUT
- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- REMOVAL OF CONCRETE CURB & GUTTER
- REMOVAL OF PAVEMENT (ASPHALT)
- REMOVAL OF PAVEMENT (CONCRETE)
- REMOVAL OF PAVEMENT (SIDEWALK)
- REMOVAL OF PAVEMENT (AGGREGATE SURFACING)

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

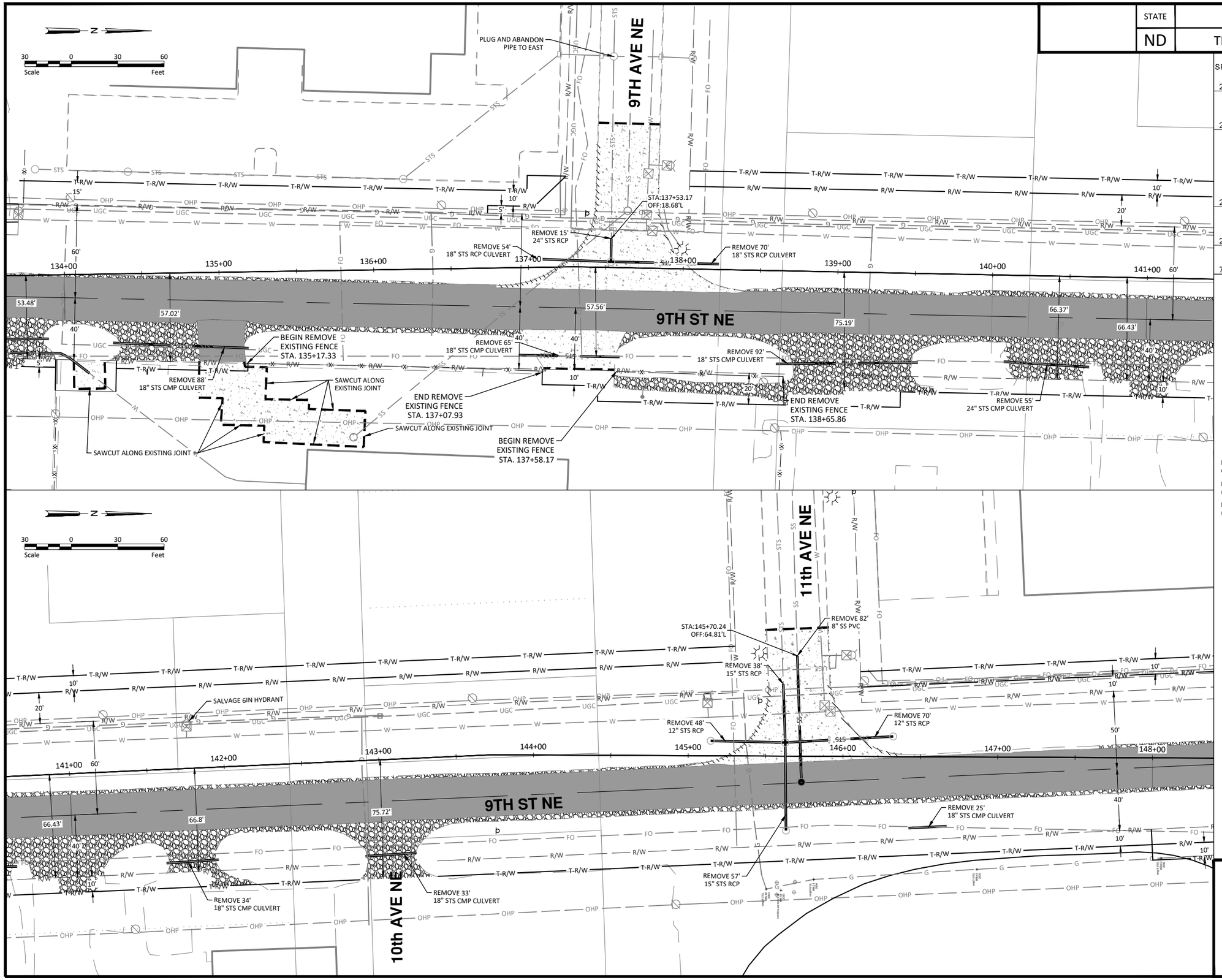
8/13/2025

Removals - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\040 - 9th St NE Removals.dwg-Removal (1)-8/13/2025 2:00 PM-(jerickson)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	40	2



SPEC	CODE	BID ITEM	QTY	UNIT
202	0130	REMOVAL OF CURB & GUTTER		
		Sta 134+00 to Sta 141+00	255	LF
		Sta 141+00 to Sta 148+00	217	LF
202	0136	REMOVAL OF PAVEMENT		
		Sta 134+00 to Sta 141+00 (Asphalt)	1215	TON
		Sta 134+00 to Sta 141+00 (Concrete)	562	TON
		Sta 134+00 to Sta 141+00 (Aggregate Base)	1420	TON
		Sta 141+00 to Sta 148+00 (Asphalt)	1140	TON
		Sta 141+00 to Sta 148+00 (Concrete)	263	TON
		Sta 141+00 to Sta 148+00 (Aggregate Base)	1013	TON
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		Sta 134+00 to Sta 141+00	439	LF
		Sta 141+00 to Sta 148+00	387	LF
202	0312	REMOVE EXISTING FENCE		
		Sta 134+00 to Sta 141+00	305	LF
724	0402	SALVAGE 6IN HYDRANT		
		Sta 141+76.86	1	EA

*Stationing is based on 9th St NE alignment

NOTE:

SEE SECTION 80 FOR REMOVAL/RECONSTRUCTION COORDINATE POINTS

REMOVALS

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- SAW CUT
- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- REMOVAL OF CONCRETE CURB & GUTTER
- REMOVAL OF PAVEMENT (ASPHALT)
- REMOVAL OF PAVEMENT (SIDEWALK)
- REMOVAL OF PAVEMENT (CONCRETE)
- REMOVAL OF PAVEMENT (AGGREGATE SURFACING)

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

8/13/2025

Removals - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	40	3

SPEC CODE	BID ITEM	QTY	UNIT
202 0130	REMOVAL OF CURB & GUTTER		
(West Fargo)	Sta 148+00 to Sta 155+00	650	LF
(Fargo)	Sta 148+00 to Sta 155+00	31	LF
(West Fargo)	Sta 155+00 to Sta 158+02.44	135	LF
(Fargo)	Sta 155+00 to Sta 158+02.44	327	LF
202 0136	REMOVAL OF PAVEMENT		
(West Fargo)	Sta 148+00 to Sta 155+00 (Asphalt)	710	TON
(West Fargo)	Sta 148+00 to Sta 155+00 (Concrete)	240	TON
(West Fargo)	Sta 148+00 to Sta 155+00 (Aggregate Base)	583	TON
(Fargo)	Sta 148+00 to Sta 155+00 (Asphalt)	8	TON
(Fargo)	Sta 148+00 to Sta 155+00 (Aggregate Base)	4	TON
(West Fargo)	Sta 155+00 to Sta 158+02.44 (Asphalt)	336	TON
(West Fargo)	Sta 155+00 to Sta 158+02.44 (Concrete)	22	TON
(West Fargo)	Sta 155+00 to Sta 158+02.44 (Aggregate Base)	189	TON
(Fargo)	Sta 155+00 to Sta 158+02.44 (Asphalt)	164	TON
(Fargo)	Sta 155+00 to Sta 158+02.44 (Concrete)	18	TON
(Fargo)	Sta 155+00 to Sta 158+02.44 (Aggregate Base)	92	TON
202 0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
(West Fargo)	Sta 148+00 to Sta 155+00	172	LF
(West Fargo)	Sta 155+00 to Sta 158+02.44	11	LF
(Fargo)	Sta 155+00 to Sta 158+02.44	8	LF
722 3297	ABANDON STORM SEWER		
(West Fargo)	Sta 148+00 to Sta 155+00	19	LF
(Fargo)	Sta 148+00 to Sta 155+00	107	LF
724 0402	SALVAGE 6IN HYDRANT		
(West Fargo)	Sta 153+78.13	1	EA

*Stationing is based on 9th St NE alignment

REMOVALS

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- SAW CUT
- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- REMOVAL OF CONCRETE CURB & GUTTER
- REMOVAL OF PAVEMENT (ASPHALT)
- REMOVAL OF PAVEMENT (SIDEWALK)
- REMOVAL OF PAVEMENT (CONCRETE)
- REMOVAL OF PAVEMENT (AGGREGATE SURFACING)

NOTE:

SEE SECTION 80 FOR REMOVAL/RECONSTRUCTION COORDINATE POINTS

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

8/13/2025

Removals - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	40	4

SPEC CODE	BID ITEM	QTY	UNIT
202 0130	REMOVAL OF CURB & GUTTER		
(West Fargo)	Sta 308+45.81 to Sta 311+84	585	LF
(West Fargo)	Sta 314+21 to Sta 318+80.56	555	LF
(Fargo)	Sta 314+21 to Sta 318+80.56	524	LF
202 0136	REMOVAL OF PAVEMENT		
(West Fargo)	Sta 308+45.81 to Sta 311+84 (Concrete)	10	TON
(West Fargo)	Sta 314+21 to Sta 318+80.56 (Asphalt)	84	TON
(West Fargo)	Sta 314+21 to Sta 318+80.56 (Aggregate Base)	47	TON
(Fargo)	Sta 314+21 to Sta 318+80.56 (Asphalt)	80	TON
(Fargo)	Sta 314+21 to Sta 318+80.56 (Concrete)	12	TON
(Fargo)	Sta 314+21 to Sta 318+80.56 (Aggregate Base)	48	TON
202 0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
(Fargo)	Sta 308+45.77 to Sta 318+80.67	22	LF
722 3297	ABANDON STORM SEWER		
(Fargo)	Sta 314+21 to Sta 318+80.56	35	LF

*Stationing is based on 12th Ave NE alignment

NOTE:

SEE SECTION 80 FOR REMOVAL/RECONSTRUCTION COORDINATE POINTS

REMOVALS

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- SAW CUT
- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- REMOVAL OF CONCRETE CURB & GUTTER
- REMOVAL OF PAVEMENT (ASPHALT)
- REMOVAL OF PAVEMENT (CONCRETE)
- REMOVAL OF PAVEMENT (SIDEWALK)
- REMOVAL OF PAVEMENT (AGGREGATE SURFACING)

N

30 0 30 60
Scale Feet

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

8/13/2025

Removals - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	40	5

SPEC	CODE	BID ITEM	QTY	UNIT
202	0130	REMOVAL OF CURB & GUTTER		
		Sta 206+20.05 to Sta 208+40	440	LF
		Sta 212+00 to Sta 219+00	100	LF
202	0136	REMOVAL OF PAVEMENT		
		Sta 206+20.05 to Sta 208+40 (Concrete)	500	TON
		Sta 206+20.05 to Sta 208+40 (Aggregate Base)	282	TON
		Sta 211+25 to Sta 212+00 (Asphalt)	133	TON
		Sta 211+25 to Sta 212+00 (Aggregate Base)	85	TON
		Sta 212+00 to Sta 219+00 (Asphalt)	1163	TON
		Sta 212+00 to Sta 219+00 (Concrete)	190	TON
		Sta 212+00 to Sta 219+00 (Aggregate Base)	837	TON
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		Sta 206+20.05 to Sta 208+40	59	LF
		Sta 212+00 to Sta 219+00	140	LF
724	0402	SALVAGE 6IN HYDRANT		
		Sta 215+22.38	1	EA

*Stationing is based on 7th Ave NE alignment

NOTE:

SEE SECTION 80 FOR REMOVAL/RECONSTRUCTION COORDINATE POINTS

REMOVALS

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- SAW CUT
- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- REMOVAL OF CONCRETE CURB & GUTTER
- REMOVAL OF PAVEMENT (ASPHALT)
- REMOVAL OF PAVEMENT (CONCRETE)
- REMOVAL OF PAVEMENT (SIDEWALK)
- REMOVAL OF PAVEMENT (AGGREGATE SURFACING)

WARNING
HIGH-PRESSURE PIPELINE(S)
Excavation and/or Construction Prohibited
Without compliance with **State One-Call**, AND
Without Written Permission From
MAGELLAN PIPELINE COMPANY, L.P.
A MAGELLAN REPRESENTATIVE MUST BE PRESENT DURING WORK AROUND PIPELINE(S)

CITY OF WEST FARGO

HOUSTON engineering, inc.

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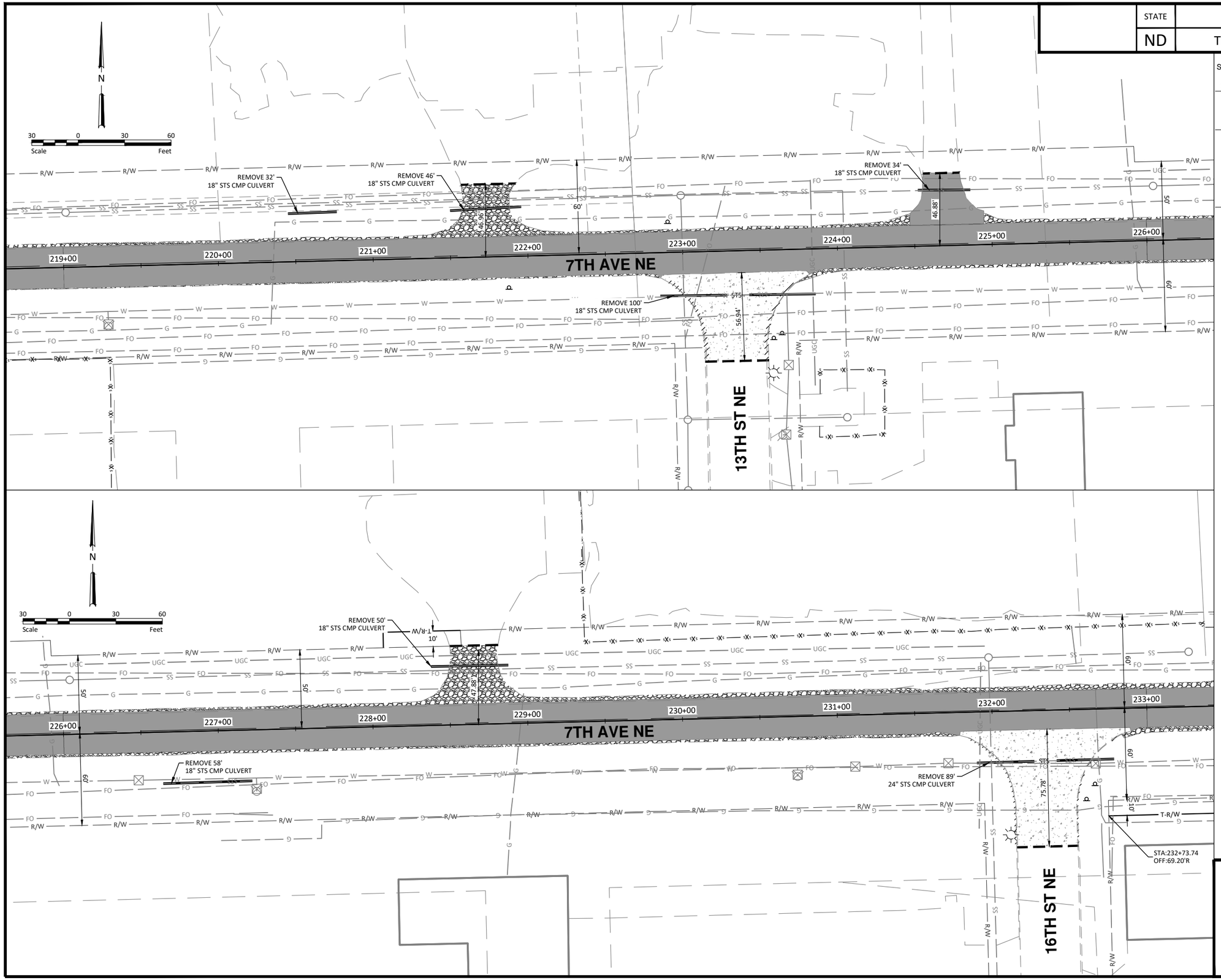
8/13/2025

Removals - 7th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	40	6



SPEC	CODE	BID ITEM	QTY	UNIT
202	0130	REMOVAL OF CURB & GUTTER		
		Sta 219+00 to Sta 226+00	116	LF
		Sta 226+00 to Sta 233+00	169	LF
202	0136	REMOVAL OF PAVEMENT		
		Sta 219+00 to Sta 226+00 (Asphalt)	1228	TON
		Sta 219+00 to Sta 226+00 (Concrete)	180	TON
		Sta 219+00 to Sta 226+00 (Aggregate Base)	903	TON
		Sta 226+00 to Sta 233+00 (Asphalt)	1139	TON
		Sta 226+00 to Sta 233+00 (Concrete)	249	TON
		Sta 226+00 to Sta 233+00 (Aggregate Base)	923	TON
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		Sta 219+00 to Sta 226+00	212	LF
		Sta 226+00 to Sta 233+00	197	LF

*Stationing is based on 7th Ave NE alignment

NOTE:

SEE SECTION 80 FOR REMOVAL/RECONSTRUCTION COORDINATE POINTS

REMOVALS

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- SAW CUT
- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- REMOVAL OF CONCRETE CURB & GUTTER
- REMOVAL OF PAVEMENT (ASPHALT)
- REMOVAL OF PAVEMENT (CONCRETE)
- REMOVAL OF PAVEMENT (SIDEWALK)
- REMOVAL OF PAVEMENT (AGGREGATE SURFACING)

CITY OF WEST FARGO

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DATE
NORTH DAKOTA

8/13/2025

Removals - 7th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	40	7

CITY OF WEST FARGO

CITY OF FARGO

7TH AVE NE

REMOVE 53'
18" STS CMP CULVERT

CITY BOUNDARY
STA: 236+54.71

STA:232+73.74
OFF:69.20'R

STA:236+57.24
OFF:104.32'R

STA:237+15.91
OFF:54.59'R

STA:238+59.11
OFF:56.19'R

STA:240+15.91
OFF:52.69'R

REMOVE 28'
18" STS CMP CULVERT

STA:240+15.91
OFF:52.69'R

STA:242+48.91
OFF:51.27'R

STA:242+94.96
OFF:58.54'R

STA:244+24.96
OFF:61.58'R

SPEC CODE	BID ITEM	QTY	UNIT
202 0136	REMOVAL OF PAVEMENT		
(West Fargo)	Sta 233+00 to Sta 236+54.71 (Asphalt)	566	TON
(West Fargo)	Sta 233+00 to Sta 236+54.71 (Aggregate Base)	456	TON
(Fargo)	Sta 236+54.71 to Sta 240+00 (Asphalt)	550	TON
(Fargo)	Sta 236+54.71 to Sta 240+00 (Aggregate Base)	443	TON
(Fargo)	Sta 240+00 to Sta 247+00 (Asphalt)	1119	TON
(Fargo)	Sta 240+00 to Sta 247+00 (Aggregate Base)	738	TON
202 0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
(West Fargo)	Sta 233+00 to Sta 236+54.71	53	LF
(Fargo)	Sta 240+00 to Sta 247+00	28	LF

*Stationing is based on 7th Ave NE alignment

NOTE:

SEE SECTION 80 FOR REMOVAL/RECONSTRUCTION COORDINATE POINTS

REMOVALS

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- SAW CUT
- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- CITY LIMITS
- REMOVAL OF CONCRETE CURB & GUTTER
- REMOVAL OF PAVEMENT (ASPHALT)
- REMOVAL OF PAVEMENT (CONCRETE)
- REMOVAL OF PAVEMENT (SIDEWALK)
- REMOVAL OF PAVEMENT (AGGREGATE SURFACING)

N

30 0 30 60
Scale Feet

CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

8/13/2025

Removals - 7th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	40	8

N

30 0 30 60
Scale Feet

END RECONSTRUCTION
STA. 249+77.77 (7TH AVE NE)

7TH AVE NE

247+00 248+00 249+00 250+00 251+00 252+00 253+00 254+00

REMOVE 12'
21" STS CMP CULVERT

10' 50' 50' 10'

63.57'

10.18'

STA:251+24.96
OFF:58.83'R

STA:251+74.96
OFF:69.84'R

STA:252+24.96
OFF:62.36'R

STA:252+69.96
OFF:56.88'R

N

30 0 30 60
Scale Feet

254+00 255+00 256+00 257+00 258+00 259+00 260+00 261+00

7TH AVE NE

59.89'

50'

60'

62'

10'

STA:254+94.96
OFF:56.95'R

STA:256+19.20
OFF:60.00'R

STA:257+79.20
OFF:60.05'R

STA:258+64.46
OFF:50.08'R

STA:258+74.52
OFF:62.59'R

STA:259+38.10
OFF:82.11'R

STA:259+39.45
OFF:73.11'R

SPEC	CODE	BID ITEM	QTY	UNIT
202	0130	REMOVAL OF CURB & GUTTER		
		Sta 247+00 to Sta 254+00	48	LF
		Sta 254+00 to Sta 261+00	187	LF
202	0136	REMOVAL OF PAVEMENT		
		Sta 247+00 to Sta 254+00 (Asphalt)	529	TON
		Sta 247+00 to Sta 254+00 (Aggregate Base)	326	TON
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		Sta 247+00 to Sta 254+00	12	LF

*Stationing is based on 7th Ave NE alignment

NOTE:

SEE SECTION 80 FOR REMOVAL/RECONSTRUCTION COORDINATE POINTS

REMOVALS

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- SAW CUT
- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- REMOVAL OF CONCRETE CURB & GUTTER
- REMOVAL OF PAVEMENT (ASPHALT)
- REMOVAL OF PAVEMENT (CONCRETE)
- REMOVAL OF PAVEMENT (SIDEWALK)
- REMOVAL OF PAVEMENT (AGGREGATE SURFACING)

CITY OF WEST FARGO

HOUSTON engineering, inc.

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ADAM M. RUUD
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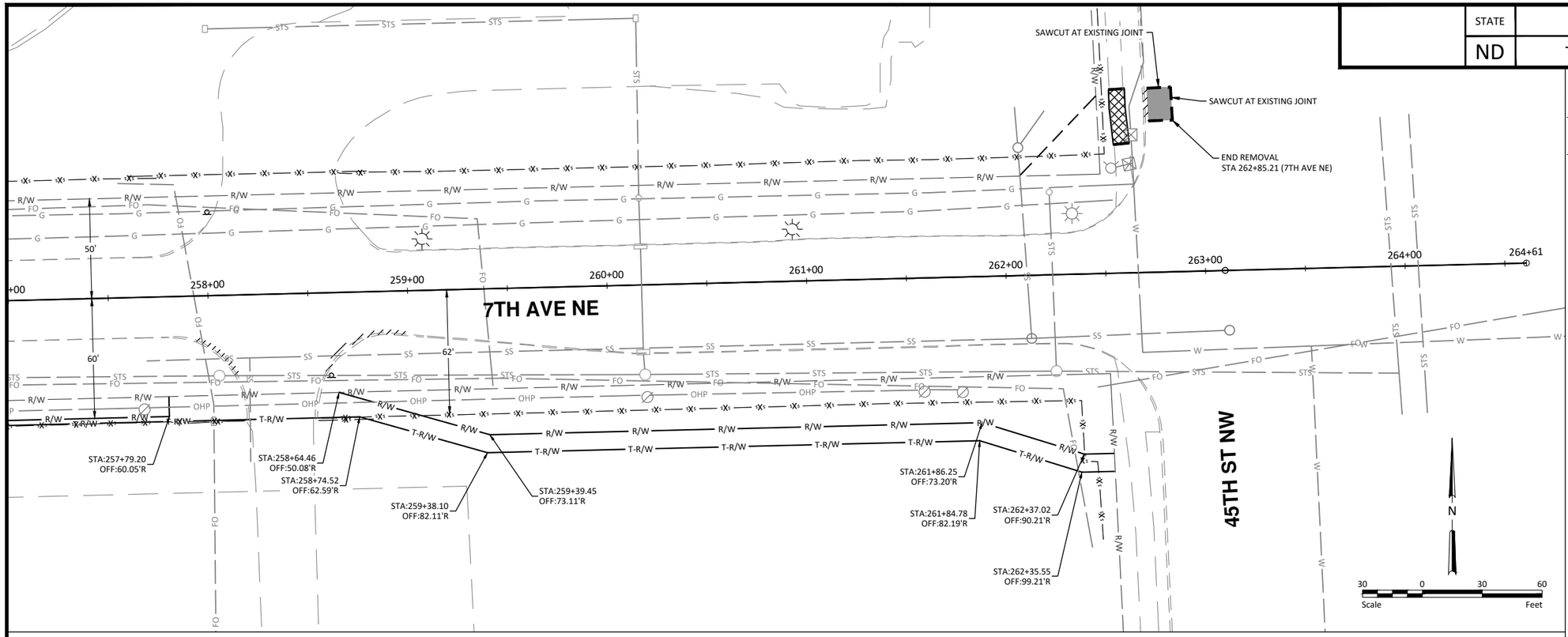
8/13/2025

Removals - 7th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	40	9



SPEC	CODE	BID ITEM	QTY	UNIT
202	0130	REMOVAL OF CURB & GUTTER		
		Sta 261+00 to Sta 262+85.21	16	LF
202	0136	REMOVAL OF PAVEMENT		
		Sta 261+00 to Sta 262+85.21 (Concrete)	21	TON
		Sta 261+00 to Sta 262+85.21 (Aggregate Base)	7	TON

*Stationing is based on 7th Ave NE alignment

NOTE:

SEE SECTION 80 FOR REMOVAL/RECONSTRUCTION COORDINATE POINTS

REMOVALS

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- SAW CUT
- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- REMOVAL OF CONCRETE CURB & GUTTER
- REMOVAL OF PAVEMENT (ASPHALT)
- REMOVAL OF PAVEMENT (CONCRETE)
- REMOVAL OF PAVEMENT (SIDEWALK)
- REMOVAL OF PAVEMENT (AGGREGATE SURFACING)

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

8/13/2025

Removals - 7th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\040 - 7th Ave NE Removals.dwg-Removal (5)-8/13/2025 2:02 PM-(jerickson)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	50	1

Structure No.	STS-102	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	105+18.84 -23.64L	
Rim Elev	902.49	
Base Thickness	0.67	
Riser	7.14	
INV NE 894.1	48" RCP	
INV S 894.1	EX. 48" RCP	

Structure No.	STS-103	
Type	MANHOLE 108IN	
Grate Style	R-1733	
Sta.	105+67.32 -50.28L	
Rim Elev	902.73	
Base Thickness	1	
Riser	6.8	
INV N 894.43	60" RCP	
INV E 897.4	15" RCP	
INV SW 894.43	48" RCP	
INV E 896.55	15" RCP	

Structure No.	STS-103A	**
Type	INLET - TYPE 2 DOUBLE	
Grate Style	R-3295-2	
Sta.	105+70.00 -33.36L	
Rim Elev	902.03	
Base Thickness	0.67	
Riser	N/A	
INV W 897.5	15" RCP	
INV E 897.5	15" RCP	

Structure No.	STS-103B	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	105+70.00 31.36R	
Rim Elev	901.77	
Base Thickness	0.67	
Riser	N/A	
INV W 897.75	15" RCP	

Structure No.	STS-103C	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	105+70.00 -61.55L	
Rim Elev	900.65	
Base Thickness	0.5	
Riser	N/A	
INV W 896.65	15" RCP	

Structure No.	STS-104	
Type	INLET SPECIAL CATCH BASIN 96IN	
Grate Style	R-4342	
Sta.	108+50.00 -58.36L	
Rim Elev	902.34	
Base Thickness	0.67	
Riser	N/A	
INV N 894.29	66" RCP	
INV S 894.29	60" RCP	
INV E 898.31	15" RCP	

Structure No.	STS-104A	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	108+50.00 -27.5L	
Rim Elev	903.54	
Base Thickness	0.67	
Riser	N/A	
INV W 899.25	15" RCP	
INV E 899.25	15" RCP	

Structure No.	STS-104B	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	108+50.08 19.41R	
Rim Elev	903.42	
Base Thickness	0.67	
Riser	N/A	
INV W 899.43	15" RCP	

Structure No.	STS-204	
Type	MANHOLE 60IN	
Grate Style	R-1733	
Sta.	127+49.74 -17L	
Rim Elev	900.9	
Base Thickness	0.67	
Riser	8.93	
INV N 890.59	30" RCP	
INV W 892	15" RCP	
INV E 893.2	15" RCP	
INV S 890.59	30" RCP	

Structure No.	STS-204A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	127+47.12 -67.19L	
Rim Elev	897.71	
Base Thickness	0.5	
Riser	N/A	
INV E 893.45	15" RCP	

Structure No.	STS-204B	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	127+52.09 -35.72L	
Rim Elev	899.98	
Base Thickness	0.67	
Riser	N/A	
INV W 893.3	15" RCP	
INV W 893.3	15" RCP	

Structure No.	STS-204C	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	127+46.33 9.41R	
Rim Elev	900.02	
Base Thickness	0.67	
Riser	N/A	
INV E 892.16	15" RCP	
INV E 892.16	15" RCP	

Structure No.	STS-204D	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	127+47.54 30.18R	
Rim Elev	896.51	
Base Thickness	0.5	
Riser	N/A	
INV W 892.26	15" RCP	

Structure No.	STS-205	
Type	MANHOLE 108IN	
Grate Style	R-1733	
Sta.	128+74.83 -17L	
Rim Elev	902	
Base Thickness	1	
Riser	11.4	
INV N 889.06	48" RCP	
INV E 889.06	EX. 54" RCP	
INV E 889.06	54" RCP	
INV S 890.43	30" RCP	

Structure No.	STS-206	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	131+55.02 0R	
Rim Elev	899.96	
Base Thickness	0.67	
Riser	9.74	
INV N 888.97	48" RCP	
INV W 893.5	15" RCP	
INV E 892.38	15" RCP	
INV S 888.97	48" RCP	

Structure No.	STS-206A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	131+52.26 -44.93L	
Rim Elev	897.73	
Base Thickness	0.5	
Riser	N/A	
INV E 893.73	15" RCP	

Structure No.	STS-206B	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	131+55.58 -20.87L	
Rim Elev	899	
Base Thickness	0.67	
Riser	N/A	
INV E 893.6	15" RCP	
INV W 893.6	15" RCP	

Structure No.	STS-206C	*
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	131+56.62 20.77R	
Rim Elev	898.98	
Base Thickness	0.67	
Riser	N/A	
INV W 892.48	15" RCP	
INV W 892.48	15" RCP	

Structure No.	STS-206D	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	131+54.52 37.46R	
Rim Elev	896.58	
Base Thickness	0.5	
Riser	N/A	
INV E 892.58	15" RCP	

Structure No.	STS-207	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	132+80.18 0R	
Rim Elev	898.8	
Base Thickness	0.67	
Riser	8.64	
INV N 888.91	48" RCP	
INV E 893.76	15" RCP	
INV W 893.76	15" RCP	
INV S 888.91	48" RCP	

* FACTORY INSTALL ONE (1) RUBBER BOOTS WITH STAINLESS STEEL CLAMPS FOR DRAIN TILE CONNECTION 2.5' BELOW RIM ELEVATION PER DETAIL ON SHEET 20-24

** FACTORY INSTALL TWO (2) RUBBER BOOTS WITH STAINLESS STEEL CLAMPS FOR DRAIN TILE CONNECTION 2.5' BELOW RIM ELEVATION PER DETAIL ON SHEET 20-24

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Inlet and Manhole Summary - Storm

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\050 - Structure & Pipe Tables.dwg STS-1 8/13/2025 3:42 PM (bwall)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	50	2

Structure No.	STS-207A	**
Type	INLET - TYPE 2 DOUBLE	
Grate Style	R-3295-2	
Sta.	132+80.18 -20.5L	
Rim Elev	898.36	
Base Thickness	0.67	
Riser	N/A	
INV E	893.86 15" RCP	

Structure No.	STS-207B	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	132+80.18 20.5R	
Rim Elev	898.36	
Base Thickness	0.67	
Riser	N/A	
INV W	893.86 15" RCP	

Structure No.	STS-208	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	133+95.36 0R	
Rim Elev	899.38	
Base Thickness	0.67	
Riser	9.28	
INV N	888.85 48" RCP	
INV E	894.92 15" RCP	
INV S	888.85 48" RCP	

Structure No.	STS-208A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	133+95.36 54.47R	
Rim Elev	899.6	
Base Thickness	0.5	
Riser	N/A	
INV W	895.1 15" RCP	

Structure No.	STS-209	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	135+70.00 0R	
Rim Elev	899.42	
Base Thickness	0.67	
Riser	9.4	
INV N	888.77 48" RCP	
INV W	894.38 15" RCP	
INV E	894.08 15" RCP	
INV S	888.77 48" RCP	

Structure No.	STS-209A	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	135+70.00 -20.5L	
Rim Elev	898.98	
Base Thickness	0.67	
Riser	N/A	
INV E	894.48 15" RCP	

Structure No.	STS-209B	
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	135+70.00 20.5R	
Rim Elev	898.98	
Base Thickness	0.67	
Riser	N/A	
INV W	894.18 15" RCP	
INV SW	894.18 15" RCP	

Structure No.	STS-209C	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	135+66.27 25.5R	
Rim Elev	898.78	
Base Thickness	0.67	
Riser	N/A	
INV NE	894.28 15" RCP	

Structure No.	STS-210	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	136+66.27 0R	
Rim Elev	899.9	
Base Thickness	0.67	
Riser	9.93	
INV N	888.72 48" RCP	
INV S	888.72 48" RCP	
INV E	893.27 15" RCP	

Structure No.	STS-210A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	136+66.27 59.43R	
Rim Elev	898.04	
Base Thickness	0.5	
Riser	N/A	
INV W	893.54 15" RCP	

Structure No.	STS-211	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	137+65.94 0R	
Rim Elev	900.02	
Base Thickness	0.67	
Riser	10.1	
INV N	888.67 48" RCP	
INV E	894.45 15" RCP	
INV S	888.67 48" RCP	

Structure No.	STS-211A	**
Type	INLET - TYPE 2 DOUBLE	
Grate Style	R-3295-2	
Sta.	137+65.94 25.5R	
Rim Elev	899.05	
Base Thickness	0.67	
Riser	N/A	
INV W	894.55 15" RCP	

Structure No.	STS-212	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	138+36.00 0R	
Rim Elev	899.67	
Base Thickness	0.67	
Riser	9.79	
INV N	888.63 48" RCP	
INV W	894.61 15" RCP	
INV E	894.67 15" RCP	
INV S	888.63 48" RCP	

Structure No.	STS-212A	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	138+36.00 -20.73L	
Rim Elev	899.21	
Base Thickness	0.67	
Riser	N/A	
INV E	894.71 15" RCP	

Structure No.	STS-212B	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	138+36.00 20.5R	
Rim Elev	899.23	
Base Thickness	0.67	
Riser	N/A	
INV W	894.77 15" RCP	

Structure No.	STS-213	
Type	MANHOLE 84IN	
Grate Style	R-1733	
Sta.	138+78.32 0R	
Rim Elev	899.88	
Base Thickness	0.67	
Riser	10.03	
INV N	888.6 48" RCP	
INV E	893.8 18" RCP	
INV S	888.6 48" RCP	

Structure No.	STS-214	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	140+05.85 0R	
Rim Elev	899.46	
Base Thickness	0.67	
Riser	9.67	
INV N	888.54 48" RCP	
INV E	893.46 15" RCP	
INV S	888.54 48" RCP	

Structure No.	STS-214A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	140+05.44 60.49R	
Rim Elev	898.01	
Base Thickness	0.5	
Riser	N/A	
INV W	893.76 15" RCP	

Structure No.	STS-215	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	141+50.00 0R	
Rim Elev	898.74	
Base Thickness	0.67	
Riser	9.02	
INV N	888.47 48" RCP	
INV S	888.47 48" RCP	
INV E	893.68 15" RCP	
INV W	893.08 15" RCP	

Structure No.	STS-215A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	141+50.00 -43.11L	
Rim Elev	897.28	
Base Thickness	0.5	
Riser	N/A	
INV E	893.28 15" RCP	

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H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\050 - Structure & Pipe Tables.dwg-STS-2-8/13/2025 3:42 PM-(bwall)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	50	3

Structure No. STS-215B Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 141+50.00 -20.5L Rim Elev 898.31 Base Thickness 0.67 Riser N/A INV E 893.18 15" RCP INV W 893.18 15" RCP	Structure No. STS-215C Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 141+50.00 20.5R Rim Elev 898.3 Base Thickness 0.67 Riser N/A INV W 893.78 15" RCP INV NE 893.78 15" RCP	Structure No. STS-215D Type INLET - TYPE 2 Grate Style R-3067 Sta. 141+53.45 24.5R Rim Elev 898.38 Base Thickness 0.67 Riser N/A INV SW 893.88 15" RCP	Structure No. STS-216 Type MANHOLE 72IN Grate Style R-1733 Sta. 142+10.49 0R Rim Elev 899.05 Base Thickness 0.67 Riser 9.36 INV N 888.44 48" RCP INV S 888.44 48" RCP INV E 893.3 15" RCP
Structure No. STS-216A Type INLET CATCH BASIN Grate Style R-4342 Sta. 142+10.49 58.8R Rim Elev 897.78 Base Thickness 0.5 Riser N/A INV W 893.53 15" RCP	Structure No. STS-217 Type MANHOLE 84IN Grate Style R-1733 Sta. 143+24.32 0R Rim Elev 899.61 Base Thickness 0.67 Riser 9.98 INV N 888.38 48" RCP INV E 890 18" RCP INV S 888.38 48" RCP	Structure No. STS-218 Type MANHOLE 72IN Grate Style R-1733 Sta. 143+78.69 0R Rim Elev 899.89 Base Thickness 0.67 Riser 10.29 INV N 888.35 48" RCP INV S 888.35 48" RCP INV W 894.85 15" RCP INV E 894.85 15" RCP	Structure No. STS-218A Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 143+78.69 -20.5L Rim Elev 899.45 Base Thickness 0.67 Riser N/A INV E 894.95 15" RCP
Structure No. STS-218B Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 143+78.69 20.5R Rim Elev 899.45 Base Thickness 0.67 Riser N/A INV W 894.95 15" RCP	Structure No. STS-219 Type MANHOLE 72IN Grate Style R-1733 Sta. 144+50.00 0R Rim Elev 900.24 Base Thickness 0.67 Riser 10.68 INV N 888.31 48" RCP INV E 892.65 15" RCP INV S 888.31 48" RCP	Structure No. STS-219A Type INLET CATCH BASIN Grate Style R-4342 Sta. 144+50.00 45.58R Rim Elev 897.35 Base Thickness 0.5 Riser N/A INV W 892.85 15" RCP	Structure No. STS-220 Type MANHOLE 84IN Grate Style R-1733 Sta. 145+64.22 0.01R Rim Elev 900.81 Base Thickness 0.67 Riser 11.34 INV N 888.26 54" RCP INV E 890.7 24" RCP INV S 888.26 48" RCP
Structure No. STS-221 Type MANHOLE 84IN Grate Style R-1733 Sta. 146+80.00 0.02R Rim Elev 900.46 Base Thickness 0.67 Riser 11.05 INV N 888.2 54" RCP INV S 888.2 54" RCP INV E 893.15 15" RCP INV W 894.95 15" RCP	Structure No. STS-221A Type INLET CATCH BASIN Grate Style R-4342 Sta. 146+80.00 -44.58L Rim Elev 899.35 Base Thickness 0.5 Riser N/A INV E 895.15 15" RCP	Structure No. STS-221B Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 146+80.00 -20.5L Rim Elev 900.02 Base Thickness 0.67 Riser N/A INV E 895.05 15" RCP INV W 895.05 15" RCP	Structure No. STS-221C Type INLET SPECIAL - TYPE 2 48IN ** Grate Style R-3067 Sta. 146+80.00 20R Rim Elev 900.03 Base Thickness 0.5 Riser N/A INV W 893.25 15" RCP INV E 893.25 15" RCP
Structure No. STS-221D Type INLET CATCH BASIN Grate Style R-4342 Sta. 146+80.00 39.8R Rim Elev 897.64 Base Thickness 0.5 Riser N/A INV W 893.35 15" RCP	Structure No. STS-222 Type MANHOLE 84IN Grate Style R-1733 Sta. 150+39.85 0R Rim Elev 902.24 Base Thickness 0.67 Riser 12.99 INV N 888.04 54" RCP INV S 888.04 54" RCP	Structure No. STS-223 Type MANHOLE 48IN Grate Style R-1733 Sta. 152+12.26 -41.63L Rim Elev 902.95 Base Thickness 0.5 Riser 10.68 INV N 891 EX. 21" RCP INV E 897.8 15" RCP INV W 895.49 15" RCP	Structure No. STS-223A Type INLET CATCH BASIN Grate Style R-4342 Sta. 152+12.12 -61.3L Rim Elev 899.84 Base Thickness 0.5 Riser N/A INV E 895.59 15" RCP

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DATE
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7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	50	4

Structure No.	STS-223B	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	152+12.15 -32.46L	
Rim Elev	902.57	
Base Thickness	0.67	
Riser	N/A	
INV W 897.9	15" RCP	
INV E 897.9	15" RCP	

Structure No.	STS-223C	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	152+11.90 26.96R	
Rim Elev	902.59	
Base Thickness	0.67	
Riser	N/A	
INV W 898.15	15" RCP	

Structure No.	STS-224	**
Type	INLET SPECIAL - TYPE 2 84IN	
Grate Style	R-3067	
Sta.	153+20.52 56.86R	
Rim Elev	903.44	
Base Thickness	0.67	
Riser	N/A	
INV NE 887.93	54" RCP	
INV S 887.93	54" RCP	

Structure No.	STS-225	**
Type	INLET SPECIAL - TYPE 2 84IN	
Grate Style	R-3067	
Sta.	314+67.93 51.32R	
Rim Elev	902.97	
Base Thickness	0.67	
Riser	N/A	
INV N 887.89	54" RCP	
INV SW 887.89	54" RCP	

Structure No.	STS-226	
Type	MANHOLE 84IN	
Grate Style	R-1733	
Sta.	154+32.50 145.14R	
Rim Elev	903.28	
Base Thickness	0.67	
Riser	14.21	
INV NE 887.86	54" RCP	
INV S 887.86	54" RCP	
INV E 887.86	EX. 27" RCP	

Structure No.	STS-226A	**
Type	INLET SPECIAL - TYPE 2 DOUE	
Grate Style	R-3295-2	
Sta.	317+13.94 -30.95L	
Rim Elev	900.54	
Base Thickness	0.67	
Riser	N/A	
INV S 895	18" RCP	
INV N 895	EX. 18" RCP	

Structure No.	STS-226B	**
Type	INLET - TYPE 2 DOUBLE	
Grate Style	R-3295-2	
Sta.	317+13.69 27.5R	
Rim Elev	900.61	
Base Thickness	0.67	
Riser	N/A	
INV N 896.8	15" RCP	

Structure No.	STS-227	
Type	MANHOLE 96IN	
Grate Style	R-1733	
Sta.	155+93.12 45.95R	
Rim Elev	903.17	
Base Thickness	0.67	
Riser	14.16	
INV N 887.8	54" RCP	
INV SW 887.8	54" RCP	

Structure No.	STS-228	
Type	MANHOLE 48IN	
Grate Style	R-1733	
Sta.	156+50.72 -6.86L	
Rim Elev	902.95	
Base Thickness	0.5	
Riser	5.67	
INV W 895.99	18" RCP	
INV E 899.04	EX. 18" RCP	

Structure No.	STS-228A	**
Type	INLET SPECIAL - TYPE 2 48IN	
Grate Style	R-3067	
Sta.	156+49.08 -17.92L	
Rim Elev	902.71	
Base Thickness	0.5	
Riser	N/A	
INV W 895.64	EX. 18" RCP	
INV E 895.64	18" RCP	

Structure No.	STS-300	
Type	INLET SPECIAL CATCH BASIN 84IN	
Grate Style	R-4342	
Sta.	207+70.63 28.37R	
Rim Elev	897.41	
Base Thickness	0.67	
Riser	N/A	
INV W 889	EX. 54" RCP	
INV E 889	EX. 54" RCP	
INV N 892.65	18" RCP	

Structure No.	STS-300A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	207+67.80 -42.05L	
Rim Elev	897.06	
Base Thickness	0.5	
Riser	N/A	
INV S 893.05	15" RCP	

Structure No.	STS-300B	*
Type	INLET SPECIAL - TYPE 2 48IN	
Grate Style	R-3067	
Sta.	207+68.43 -26.31L	
Rim Elev	899.24	
Base Thickness	0.5	
Riser	N/A	
INV S 892.95	15" RCP	
INV N 892.95	15" RCP	

Structure No.	STS-300C	*
Type	INLET SPECIAL - TYPE 2 48IN	
Grate Style	R-3067	
Sta.	207+69.99 15.22R	
Rim Elev	899.39	
Base Thickness	0.5	
Riser	N/A	
INV S 892.75	18" RCP	
INV N 892.75	15" RCP	

Structure No.	STS-301	
Type	MANHOLE 96IN	
Grate Style	R-1733	
Sta.	210+62.09 23.35R	
Rim Elev	900.89	
Base Thickness	0.67	
Riser	10.6	
INV W 889.08	54" RCP	
INV S 889.08	EX. 42" RCP	
INV E 889.08	48" RCP	

Structure No.	STS-302	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	211+26.00 10.17R	
Rim Elev	900.26	
Base Thickness	0.67	
Riser	9.87	
INV W 889.14	48" RCP	
INV S 895.49	15" RCP	
INV N 892	15" RCP	
INV E 889.14	48" RCP	

Structure No.	STS-302A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	211+30.36 -52.57L	
Rim Elev	896.3	
Base Thickness	0.5	
Riser	N/A	
INV S 892.3	15" RCP	

Structure No.	STS-302B	**
Type	INLET SPECIAL - TYPE 2 48IN	
Grate Style	R-3067	
Sta.	211+28.41 -29.91L	
Rim Elev	900.11	
Base Thickness	0.5	
Riser	N/A	
INV S 892.2	15" RCP	
INV N 892.2	15" RCP	

Structure No.	STS-302C	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	211+26.45 17.66R	
Rim Elev	900.09	
Base Thickness	0.67	
Riser	N/A	
INV N 895.59	15" RCP	

Structure No.	STS-303	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	211+88.47 9.97R	
Rim Elev	900.58	
Base Thickness	0.67	
Riser	10.14	
INV W 889.19	48" RCP	
INV S 893.23	15" RCP	
INV N 895.71	15" RCP	
INV E 889.19	42" RCP	

* FACTORY INSTALL ONE (1) RUBBER BOOTS WITH STAINLESS STEEL CLAMPS FOR DRAIN TILE CONNECTION 2.5' BELOW RIM ELEVATION PER DETAIL ON SHEET 20-24

** FACTORY INSTALL TWO (2) RUBBER BOOTS WITH STAINLESS STEEL CLAMPS FOR DRAIN TILE CONNECTION 2.5' BELOW RIM ELEVATION PER DETAIL ON SHEET 20-24

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Inlet and Manhole Summary - Storm

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\050 - Structure & Pipe Tables.dwg-STS-4-8/13/2025 3:42 PM-(bwall)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	50	5

Structure No.	STS-303A	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	211+91.08 -23.69L	
Rim Elev	900.41	
Base Thickness	0.67	
Riser	N/A	
INV S 895.91	15" RCP	

Structure No.	STS-303B	**
Type	INLET SPECIAL - TYPE 2 48IN	
Grate Style	R-3067	
Sta.	211+88.28 17.1R	
Rim Elev	900.41	
Base Thickness	0.5	
Riser	N/A	
INV N 893.33	15" RCP	
INV S 893.33	15" RCP	

Structure No.	STS-303C	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	211+95.08 51.82R	
Rim Elev	897.53	
Base Thickness	0.5	
Riser	N/A	
INV N 893.53	15" RCP	

Structure No.	STS-304	
Type	MANHOLE 84IN	
Grate Style	R-1733	
Sta.	214+59.60 12.31R	
Rim Elev	900.77	
Base Thickness	0.67	
Riser	10.07	
INV W 889.41	42" RCP	
INV E 889.41	51"x31" RCPA	

Structure No.	STS-305	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	215+39.59 13R	
Rim Elev	900.32	
Base Thickness	0.67	
Riser	9.55	
INV W 889.48	51"x31" RCPA	
INV N 895.45	15" RCP	
INV S 895.55	15" RCP	
INV E 889.48	42" RCP	

Structure No.	STS-305A	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	215+39.59 -20.5L	
Rim Elev	900.15	
Base Thickness	0.67	
Riser	N/A	
INV S 895.65	15" RCP	

Structure No.	STS-305B	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	215+39.59 20.5R	
Rim Elev	900.15	
Base Thickness	0.67	
Riser	N/A	
INV N 895.65	15" RCP	

Structure No.	STS-306	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	217+00.00 13R	
Rim Elev	899.51	
Base Thickness	0.67	
Riser	8.58	
INV W 889.64	42" RCP	
INV S 894.27	15" RCP	
INV N 892.36	18" RCP	
INV E 889.64	42" RCP	

Structure No.	STS-306A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	217+00.00 -38.05L	
Rim Elev	896.66	
Base Thickness	0.5	
Riser	N/A	
INV S 892.66	18" RCP	

Structure No.	STS-306B	**
Type	INLET SPECIAL - TYPE 2 48IN	
Grate Style	R-3067	
Sta.	217+00.00 -20L	
Rim Elev	899.36	
Base Thickness	0.5	
Riser	N/A	
INV S 892.56	18" RCP	
INV N 892.56	18" RCP	

Structure No.	STS-306C	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	217+00.00 20.5R	
Rim Elev	899.35	
Base Thickness	0.67	
Riser	N/A	
INV N 894.37	15" RCP	
INV S 894.37	15" RCP	

Structure No.	STS-306D	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	217+00.00 43.54R	
Rim Elev	898.47	
Base Thickness	0.5	
Riser	N/A	
INV N 894.47	15" RCP	

Structure No.	STS-307	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	221+00.00 13R	
Rim Elev	900.8	
Base Thickness	0.67	
Riser	9.49	
INV W 890.02	42" RCP	
INV E 890.02	42" RCP	
INV N 893.75	15" RCP	

Structure No.	STS-307A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	221+00.00 -39.81L	
Rim Elev	898	
Base Thickness	0.5	
Riser	N/A	
INV S 894	15" RCP	

Structure No.	STS-308	
Type	MANHOLE 72IN	
Grate Style	R-1733	
Sta.	222+00.00 13R	
Rim Elev	900.3	
Base Thickness	0.67	
Riser	8.89	
INV W 890.12	42" RCP	
INV S 895.53	15" RCP	
INV N 895.43	15" RCP	
INV E 890.12	36" RCP	

Structure No.	STS-308A	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	222+00.00 -20.5L	
Rim Elev	900.13	
Base Thickness	0.67	
Riser	N/A	
INV S 895.63	15" RCP	

Structure No.	STS-308B	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	222+00.00 20.5R	
Rim Elev	900.13	
Base Thickness	0.67	
Riser	N/A	
INV N 895.63	15" RCP	

Structure No.	STS-309	
Type	MANHOLE 60IN	
Grate Style	R-1733	
Sta.	224+20.50 13R	
Rim Elev	899.19	
Base Thickness	0.67	
Riser	7.5	
INV W 890.36	36" RCP	
INV N 893.5	15" RCP	
INV S 893.99	15" RCP	
INV E 890.36	36" RCP	

Structure No.	STS-309A	
Type	INLET CATCH BASIN	
Grate Style	R-4342	
Sta.	224+20.50 -34.2L	
Rim Elev	897.3	
Base Thickness	0.5	
Riser	N/A	
INV S 893.8	15" RCP	

Structure No.	STS-309B	**
Type	INLET - TYPE 2	
Grate Style	R-3067	
Sta.	224+20.50 -20.5L	
Rim Elev	899.03	
Base Thickness	0.67	
Riser	N/A	
INV S 893.7	15" RCP	
INV N 893.7	15" RCP	

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8/14/2025

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7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\050 - Structure & Pipe Tables.dwg-STS-5-8/13/2025 3:42 PM-(bwall)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	50	6

Structure No. STS-309C Type INLET - TYPE 2 Grate Style R-3067 Sta. 224+20.50 20.5R Rim Elev 899.03 Base Thickness 0.67 Riser N/A INV N 894.09 15" RCP INV S 894.09 15" RCP	**	Structure No. STS-309D Type INLET CATCH BASIN Grate Style R-4342 Sta. 224+20.50 43.71R Rim Elev 898.19 Base Thickness 0.5 Riser N/A INV N 894.19 15" RCP	
Structure No. STS-310B Type INLET SPECIAL - TYPE 2 48IN Grate Style R-3067 Sta. 225+50.00 -20.1L Rim Elev 899.69 Base Thickness 0.5 Riser N/A INV S 893.27 15" RCP INV N 893.27 15" RCP	**	Structure No. STS-310C Type INLET - TYPE 2 Grate Style R-3067 Sta. 225+50.00 20.5R Rim Elev 899.67 Base Thickness 0.67 Riser N/A INV N 895.17 15" RCP	**
Structure No. STS-311B Type INLET - TYPE 2 Grate Style R-3067 Sta. 228+00.00 20.5R Rim Elev 899.52 Base Thickness 0.67 Riser N/A INV N 894.92 15" RCP	**	Structure No. STS-312 Type MANHOLE 60IN Grate Style R-1733 Sta. 229+32.00 13R Rim Elev 899.03 Base Thickness 0.67 Riser 6.4 INV W 891.25 30" RCP INV E 891.25 30" RCP INV N 893.04 15" RCP INV S 893.8 15" RCP	
Structure No. STS-312C Type INLET - TYPE 2 Grate Style R-3067 Sta. 229+32.00 20.5R Rim Elev 898.86 Base Thickness 0.67 Riser N/A INV N 893.9 15" RCP INV S 893.9 15" RCP	**	Structure No. STS-312D Type INLET CATCH BASIN Grate Style R-4342 Sta. 229+32.00 46.86R Rim Elev 898 Base Thickness 0.5 Riser N/A INV N 894 15" RCP	
Structure No. STS-313B Type INLET - TYPE 2 Grate Style R-3067 Sta. 230+50.00 20.5R Rim Elev 899.45 Base Thickness 0.67 Riser N/A INV N 894.95 15" RCP	**	Structure No. STS-314 Type MANHOLE 48IN Grate Style R-1733 Sta. 233+03.20 13R Rim Elev 900.89 Base Thickness 0.5 Riser 7.57 INV W 892.07 24" RCP INV N 896.03 15" RCP INV S 896.13 15" RCP INV E 892.27 18" RCP	

Structure No. STS-310 Type MANHOLE 60IN Grate Style R-1733 Sta. 225+50.00 13R Rim Elev 899.84 Base Thickness 0.67 Riser 8.01 INV W 890.5 36" RCP INV N 893.07 15" RCP INV S 895.07 15" RCP INV E 890.5 30" RCP		Structure No. STS-310A Type INLET CATCH BASIN Grate Style R-4342 Sta. 225+50.00 -36.75L Rim Elev 897.37 Base Thickness 0.5 Riser N/A INV S 893.37 15" RCP	
Structure No. STS-311 Type MANHOLE 60IN Grate Style R-1733 Sta. 228+00.00 13R Rim Elev 899.69 Base Thickness 0.67 Riser 7.27 INV W 891.05 30" RCP INV E 891.05 30" RCP INV N 894.82 15" RCP INV S 894.82 15" RCP		Structure No. STS-311A Type INLET - TYPE 2 Grate Style R-3067 Sta. 228+00.00 -20.5L Rim Elev 899.52 Base Thickness 0.67 Riser N/A INV S 895.02 15" RCP	**
Structure No. STS-312A Type INLET CATCH BASIN Grate Style R-4342 Sta. 229+32.00 -33.4L Rim Elev 897.34 Base Thickness 0.5 Riser N/A INV S 893.34 15" RCP		Structure No. STS-312B Type INLET - TYPE 2 Grate Style R-3067 Sta. 229+32.00 -20.5L Rim Elev 898.86 Base Thickness 0.67 Riser N/A INV S 893.24 15" RCP INV N 893.24 15" RCP	**
Structure No. STS-313 Type MANHOLE 60IN Grate Style R-1733 Sta. 230+50.00 13R Rim Elev 899.62 Base Thickness 0.67 Riser 6.82 INV W 891.43 30" RCP INV N 894.75 15" RCP INV S 894.85 15" RCP INV E 891.63 24" RCP		Structure No. STS-313A Type INLET - TYPE 2 Grate Style R-3067 Sta. 230+50.00 -20.5L Rim Elev 899.45 Base Thickness 0.67 Riser N/A INV S 894.95 15" RCP	**
Structure No. STS-314A Type INLET - TYPE 2 Grate Style R-3067 Sta. 233+03.20 -20.5L Rim Elev 900.73 Base Thickness 0.67 Riser N/A INV S 896.23 15" RCP	**	Structure No. STS-314B Type INLET - TYPE 2 Grate Style R-3067 Sta. 233+03.21 20.5R Rim Elev 900.73 Base Thickness 0.67 Riser N/A INV N 896.23 15" RCP	**

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MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

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7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\050 - Structure & Pipe Tables.dwg-STS-6-8/13/2025 3:42 PM-(bwall)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	50	7

Structure No. STS-315 Type MANHOLE 48IN Grate Style R-1733 Sta. 235+50.00 13R Rim Elev 903.13 Base Thickness 0.5 Riser 8.66 INV W 893.18 18" RCP INV SW 893.18 15" RCP INV N 893.36 15" RCP	Structure No. STS-315A Type INLET CATCH BASIN Grate Style R-4342 Sta. 235+75.00 -48.18L Rim Elev 897.87 Base Thickness 0.5 Riser N/A INV S 893.62 15" RCP	Structure No. STS-315B Type INLET CATCH BASIN Grate Style R-4342 Sta. 236+00.00 59.63R Rim Elev 897.7 Base Thickness 0.5 Riser N/A INV NE 893.45 15" RCP	Structure No. STS-316 Type MANHOLE 48IN Grate Style R-1733 Sta. 145+61.23 -46.58L Rim Elev 900.59 Base Thickness 0.5 Riser 5.31 INV W 893.97 EX. 15" RCP
Structure No. STS-400 Type MANHOLE 48IN Grate Style R-1733 Sta. 237+77.03 28R Rim Elev 901.9 Base Thickness 0.5 Riser 2.81 INV E 897.8 18" RCP INV N 897.8 15" RCP	Structure No. STS-400A Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 237+77.03 -20.5L Rim Elev 902.23 Base Thickness 0.67 Riser N/A INV S 898 15" RCP	Structure No. STS-400B Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 237+77.03 20.5R Rim Elev 902.23 Base Thickness 0.67 Riser N/A INV S 897.85 15" RCP INV N 897.85 15" RCP	Structure No. STS-401 Type MANHOLE 48IN Grate Style R-1733 Sta. 238+75.08 28R Rim Elev 901.53 Base Thickness 0.5 Riser 2.6 INV E 897.64 18" RCP INV S 897.64 12" RCP INV W 897.64 18" RCP
Structure No. STS-402 Type INLET SPECIAL CATCH BASIN 48IN Grate Style R-4342 Sta. 242+25.00 28R Rim Elev 900.6 Base Thickness 0.5 Riser N/A INV E 897.08 21" RCP INV W 897.08 18" RCP INV N 897.08 15" RCP	Structure No. STS-402B Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 242+25.00 -20.5L Rim Elev 901.27 Base Thickness 0.67 Riser N/A INV S 897.27 15" RCP INV N 897.27 15" RCP	Structure No. STS-402C Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 242+25.00 20.5R Rim Elev 901.27 Base Thickness 0.67 Riser N/A INV S 897.13 15" RCP INV N 897.13 15" RCP	Structure No. STS-403 Type MANHOLE 48IN Grate Style R-1733 Sta. 247+25.00 28R Rim Elev 901.01 Base Thickness 0.5 Riser 3.16 INV E 896.58 21" RCP INV S 896.83 18" RCP INV W 896.58 21" RCP
Structure No. STS-404 Type MANHOLE 48IN Grate Style R-1733 Sta. 248+86.01 28R Rim Elev 900.24 Base Thickness 0.5 Riser 2.55 INV W 896.42 21" RCP INV W 896.42 21" RCP INV N 896.42 15" RCP	Structure No. STS-404B Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 248+86.00 -20.5L Rim Elev 900.06 Base Thickness 0.67 Riser N/A INV S 896.6 15" RCP INV N 896.6 15" RCP	Structure No. STS-404C Type INLET - TYPE 2 ** Grate Style R-3067 Sta. 248+86.00 20.5R Rim Elev 900.06 Base Thickness 0.67 Riser N/A INV S 896.47 15" RCP INV N 896.47 15" RCP	Structure No. STS-405A Type INLET CATCH BASIN Grate Style R-4342 Sta. 249+88.65 54.96R Rim Elev 899 Base Thickness 0.5 Riser N/A INV N 896.4 12" RCP
Structure No. STS-406A Type INLET CATCH BASIN Grate Style R-4342 Sta. 254+16.50 54R Rim Elev 900.58 Base Thickness 0.5 Riser N/A INV N 896 15" RCP	Structure No. STS-407 Type MANHOLE 48IN Grate Style R-1733 Sta. 257+70.84 39.72R Rim Elev 903.03 Base Thickness 0.5 Riser 7.14 INV E 894.62 EX. 21" RCP INV S 897.1 15" RCP INV W 894.62 EX. 21" RCP	Structure No. STS-407A Type INLET CATCH BASIN Grate Style R-4342 Sta. 257+70.70 48.58R Rim Elev 901.32 Base Thickness 0.5 Riser N/A INV N 897.2 15" RCP	

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	50	8

Storm Sewer Pipe Schedule			
Pipe	Description	Length	Slope
STS-102 to STS-103	48" RCP	55.32'	-0.59%
STS-103 to STS-104	60" RCP	282.79'	0.05%
STS-103A to STS-103	15" RCP	17.13'	0.58%
STS-103B to STS-103A	15" RCP	64.72'	0.39%
STS-103C to STS-103	15" RCP	11.58'	0.86%
STS-104 to CONNECT TO 66IN	66" RCP	50.00'	0.05%
STS-104A to STS-104	15" RCP	30.86'	3.05%
STS-104B to STS-104A	15" RCP	46.91'	0.39%
STS-204 to STS-205	30" RCP	125.09'	0.13%
STS-204A to STS-204B	15" RCP	31.86'	0.47%
30IN PLUG to STS-204	30" RCP	74.70'	0.22%
STS-204B to STS-204	15" RCP	18.87'	0.53%
STS-204C to STS-204	15" RCP	26.63'	0.60%
STS-204D to STS-204C	15" RCP	20.80'	0.48%
STS-205 to STS-206	48" RCP	280.25'	0.03%
STS-206 to STS-207	48" RCP	125.16'	0.05%
STS-206A to STS-206B	15" RCP	24.29'	0.54%
STS-206B to STS-206	15" RCP	20.88'	0.48%
STS-206C to STS-206	15" RCP	20.83'	0.48%
STS-206D to STS-206C	15" RCP	16.83'	0.59%
STS-207 to STS-208	48" RCP	115.17'	0.05%
STS-207A to STS-207	15" RCP	20.50'	0.49%
STS-207B to STS-207	15" RCP	20.50'	0.49%
STS-208 to STS-209	48" RCP	174.64'	0.05%
STS-208A to STS-208	15" RCP	54.47'	0.33%
STS-209 to STS-210	48" RCP	96.27'	0.05%
STS-209A to STS-209	15" RCP	20.50'	0.49%
STS-209B to STS-209	15" RCP	20.50'	0.49%
STS-209C to STS-209B	15" RCP	6.24'	1.60%
STS-210 to STS-211	48" RCP	99.65'	0.05%
STS-210A to STS-210	15" RCP	59.43'	0.45%
STS-211 to STS-212	48" RCP	70.06'	0.06%
STS-211A to STS-211	15" RCP	25.50'	0.39%
STS-212 to STS-213	48" RCP	42.32'	0.07%
STS-212A to STS-212	15" RCP	20.73'	0.48%
STS-212B to STS-212	15" RCP	20.50'	0.49%
STS-213 to STS-214	48" RCP	127.53'	0.05%
STS-213A to STS-213	18" RCP	78.66'	0.25%
STS-214 to STS-215	48" RCP	144.15'	0.05%
STS-214A to STS-214	15" RCP	60.49'	0.50%
STS-215 to STS-216	48" RCP	60.49'	0.05%
STS-215A to STS-215B	15" RCP	22.61'	0.44%
STS-215B to STS-215	15" RCP	20.50'	0.49%
STS-215C to STS-215	15" RCP	20.50'	0.49%
STS-215D to STS-215C	15" RCP	5.28'	1.89%
STS-216 to STS-217	48" RCP	113.83'	0.05%
STS-216A to STS-216	15" RCP	58.80'	0.39%
STS-217 to STS-218	48" RCP	54.37'	0.06%
STS-217A to STS-217	18" RCP	73.82'	0.28%
STS-218 to STS-219	48" RCP	71.31'	0.06%
STS-218A to STS-218	15" RCP	20.50'	0.49%
STS-218B to STS-218	15" RCP	20.50'	0.49%
STS-219 to STS-220	48" RCP	114.22'	0.05%
STS-219A to STS-219	15" RCP	45.58'	0.44%
STS-220 to STS-221	54" RCP	115.78'	0.05%
24IN PLUG to STS-220	24" RCP	59.56'	0.20%
STS-221 to STS-222	54" RCP	359.85'	0.04%
STS-221A to STS-221B	15" RCP	24.08'	0.42%
STS-221B to STS-221	15" RCP	20.51'	0.49%
STS-221C to STS-221	15" RCP	19.98'	0.50%
STS-221D to STS-221C	15" RCP	19.80'	0.51%
STS-222 to STS-224	54" RCP	286.37'	0.04%

Storm Sewer Pipe Schedule			
Pipe	Description	Length	Slope
STS-223A to STS-223	15" RCP	19.67'	0.51%
STS-223B to STS-223	15" RCP	9.16'	1.09%
STS-223C to STS-223B	15" RCP	59.42'	0.42%
STS-224 to STS-225	54" RCP	103.48'	0.04%
STS-225 to STS-226	54" RCP	58.96'	0.05%
STS-226 to STS-227	54" RCP	188.78'	0.03%
STS-226A to CONNECT TO EX. 18IN	18" RCP	9.74'	1.03%
STS-226B to CONNECT TO EX. 15IN	15" RCP	6.00'	0.50%
STS-227 to STS-227A	54" RCP	28.47'	0.07%
STS-228 to STS-228A	18" RCP	11.18'	3.13%
STS-300A to STS-300B	15" RCP	15.75'	0.63%
STS-300B to STS-300C	15" RCP	41.56'	0.48%
STS-300C to STS-300	18" RCP	13.16'	0.76%
STS-301 to STS-205	54" RCP	78.45'	0.02%
STS-302 to STS-301	48" RCP	65.25'	0.09%
STS-302A to STS-302B	15" RCP	22.75'	0.44%
STS-302B to STS-302	15" RCP	40.15'	0.50%
STS-302C to STS-302	15" RCP	7.50'	1.33%
STS-303 to STS-302	48" RCP	62.47'	0.08%
STS-303A to STS-303	15" RCP	33.77'	0.59%
STS-303B to STS-303	15" RCP	7.13'	1.40%
STS-303C to STS-303B	15" RCP	35.38'	0.57%
STS-304 to STS-303	42" RCP	271.14'	0.08%
STS-305 to STS-304	51"x31" RCPA	80.00'	0.08%
STS-305A to STS-305	15" RCP	33.50'	0.60%
STS-305B to STS-305	15" RCP	7.50'	1.33%
STS-306 to STS-305	42" RCP	160.41'	0.10%
STS-306A to STS-306B	18" RCP	18.05'	0.55%
STS-306B to STS-306	18" RCP	33.00'	0.61%
STS-306C to STS-306	15" RCP	7.50'	1.33%
STS-306D to STS-306C	15" RCP	23.04'	0.43%
STS-307 to STS-306	42" RCP	400.00'	0.10%
STS-307A to STS-307	15" RCP	52.81'	0.47%
STS-308 to STS-307	42" RCP	100.00'	0.10%
STS-308A to STS-308	15" RCP	33.50'	0.60%
STS-308B to STS-308	15" RCP	7.50'	1.33%
STS-309 to STS-308	36" RCP	220.50'	0.11%
STS-309A to STS-309B	15" RCP	13.70'	0.73%
STS-309B to STS-309	15" RCP	33.50'	0.60%
STS-309C to STS-309	15" RCP	7.50'	1.33%
STS-309D to STS-309C	15" RCP	23.21'	0.43%
STS-310 to STS-309	36" RCP	129.50'	0.11%
STS-310A to STS-310B	15" RCP	16.65'	0.60%
STS-310B to STS-310	15" RCP	33.10'	0.60%
STS-310C to STS-310	15" RCP	7.50'	1.33%
STS-311 to STS-310	30" RCP	250.00'	0.22%
STS-311A to STS-311	15" RCP	33.50'	0.60%
STS-311B to STS-311	15" RCP	7.50'	1.33%
STS-312 to STS-311	30" RCP	132.00'	0.15%
STS-312A to STS-312B	15" RCP	12.90'	0.77%
STS-312B to STS-312	15" RCP	33.50'	0.60%
STS-312C to STS-312	15" RCP	7.50'	1.33%
STS-312D to STS-312C	15" RCP	26.36'	0.38%
STS-313 to STS-312	30" RCP	118.00'	0.15%
STS-313A to STS-313	15" RCP	33.50'	0.60%
STS-313B to STS-313	15" RCP	7.50'	1.33%
STS-314 to STS-313	24" RCP	253.20'	0.17%
STS-314A to STS-314	15" RCP	33.50'	0.60%
STS-314B to STS-314	15" RCP	7.50'	1.33%
STS-315 to STS-314	18" RCP	246.80'	0.37%
STS-315A to STS-315	15" RCP	66.09'	0.40%
STS-315B to STS-315	15" RCP	68.37'	0.40%

Storm Sewer Pipe Schedule			
Pipe	Description	Length	Slope
STS-400 to STS-401	18" RCP	98.05'	0.16%
STS-400A to STS-400B	15" RCP	41.00'	0.37%
STS-400B to STS-400	15" RCP	7.50'	0.67%
STS-401 to STS-402	18" RCP	349.92'	0.16%
STS-401C to STS-401	12" RCP	17.72'	3.48%
STS-402 to STS-403	21" RCP	500.00'	0.10%
STS-402A to STS-402B	15" RCP	14.48'	0.55%
STS-402B to STS-402C	15" RCP	41.00'	0.34%
STS-402C to STS-402	15" RCP	7.50'	0.62%
STS-403 to STS-404	21" RCP	161.01'	0.10%
STS-403A to STS-403	18" RCP	21.20'	5.78%
STS-404 to STS-405	21" RCP	102.78'	0.15%
STS-404A to STS-404B	15" RCP	12.40'	0.45%
STS-404B to STS-404C	15" RCP	41.00'	0.32%
STS-404C to STS-404	15" RCP	7.50'	0.67%
STS-405A to STS-405	12" RCP	21.56'	0.60%
STS-406A to STS-406	15" RCP	19.81'	1.01%
STS-407A to STS-407	15" RCP	8.86'	1.13%
STS-408 to STS-409	18" RCP	33.10'	1.07%
STS-411 to STS-410	18" RCP	25.64'	1.39%

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Pipe Summary - Storm

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	50	9

Structure No.	SS-100
Type	MANHOLE 48IN
Grate Style	R-1733
Sta.	145+74.25 24.11R
Rim Elev	900.39
Base Thickness	0.5
Riser	9.83
INV S 889.08	10" PVC
INV E 889.18	10" PVC

Structure No.	SS-101
Type	MANHOLE 48IN
Grate Style	R-1733
Sta.	143+10.13 34R
Rim Elev	899.49
Base Thickness	0.5
Riser	9.76
INV S 888.25	10" PVC
INV E 888.35	8" PVC
INV N 888.35	10" PVC

Structure No.	SS-102
Type	MANHOLE 48IN
Grate Style	R-1733
Sta.	140+98.80 34R
Rim Elev	898.9
Base Thickness	0.5
Riser	9.86
INV S 887.56	10" PVC
INV N 887.66	10" PVC

Structure No.	SS-103
Type	MANHOLE 48IN
Grate Style	R-1733
Sta.	138+85.87 34R
Rim Elev	899.95
Base Thickness	0.5
Riser	11.61
INV S 886.86	10" PVC
INV N 886.96	10" PVC
INV E 886.96	8" PVC

Structure No.	SS-104
Type	MANHOLE 48IN
Grate Style	R-1733
Sta.	136+09.94 29.82R
Rim Elev	899.09
Base Thickness	0.5
Riser	11.62
INV S 885.99	10" PVC
INV N 886.09	10" PVC

Structure No.	SS-105
Type	MANHOLE 48IN
Grate Style	R-1733
Sta.	133+04.47 34R
Rim Elev	899.52
Base Thickness	0.5
Riser	13
INV S 885.04	10" PVC
INV N 885.14	10" PVC

Structure No.	SS-106
Type	MANHOLE 48IN
Grate Style	R-1733
Sta.	130+27.05 34R
Rim Elev	900.25
Base Thickness	0.5
Riser	14.61
INV S 884.16	10" PVC
INV N 884.26	10" PVC

Structure No.	SS-108
Type	MANHOLE 48IN
Grate Style	R-1733
Sta.	145+70.24 -64.81L
Rim Elev	900.86
Base Thickness	0.5
Riser	9.63
INV W 889.75	8" PVC

CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Manhole Summary - Sanitary

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	50	10

Sanitary Sewer Pipe Schedule			
Pipe	Description	Length	Slope
PLUG 10IN-1 to SS-100	10" PVC	34.99'	0.28%
PLUG 6IN-1 to 10X6 WYE-1	6" PVC	37.69'	2.00%
PLUG 6IN-2 to 10X6 WYE-2	6" PVC	37.76'	2.00%
PLUG 6IN-3 to 10X6 WYE-3	6" PVC	37.81'	2.00%
PLUG 6IN-4 to 10X6 WYE-4	6" PVC	84.27'	1.88%
PLUG 6IN-5 to 10X6 WYE-5	6" PVC	19.90'	2.00%
PLUG 8IN-1 to SS-101	8" PVC	39.65'	0.40%
SS-100 to SS-101	10" PVC	262.68'	0.28%
SS-101 to SS-102	10" PVC	211.33'	0.28%
SS-102 to SS-103	10" PVC	212.93'	0.28%
SS-103 to SS-104	10" PVC	274.82'	0.28%
SS-103.1 to SS-103	8" PVC	44.66'	0.40%
SS-104 to SS-105	10" PVC	305.50'	0.28%
SS-105 to SS-106	10" PVC	277.42'	0.28%
SS-106 to SS-107	10" PVC	96.03'	0.54%
SS-109 to 6IN 45DEG BEND	6" PVC	66.35'	2.50%
6IN 45DEG BEND to 10X6 WYE-6	6" PVC	66.97'	2.50%

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DATE
NORTH DAKOTA

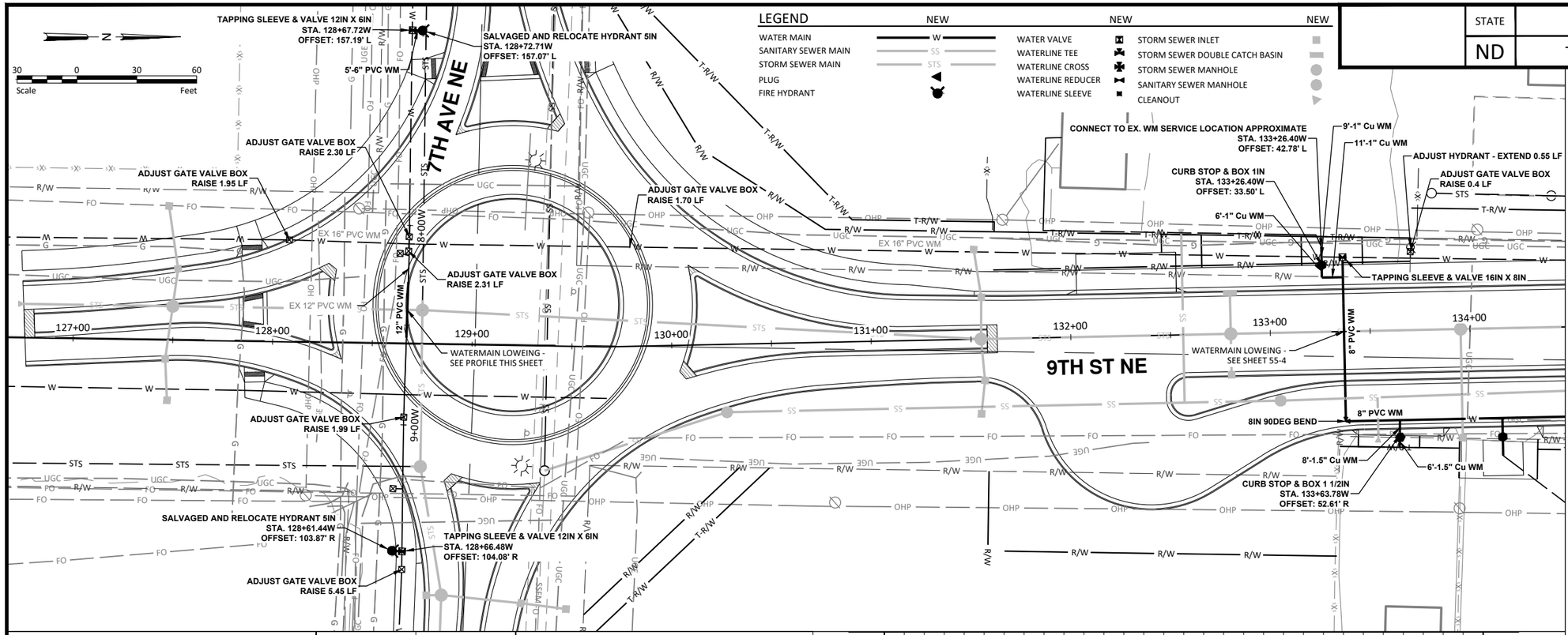
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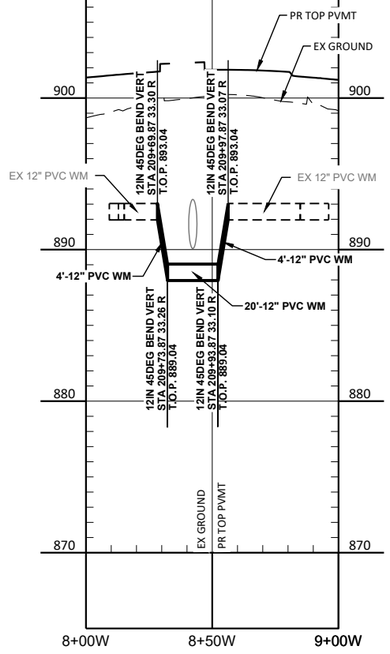
Pipe Summary - Sanitary

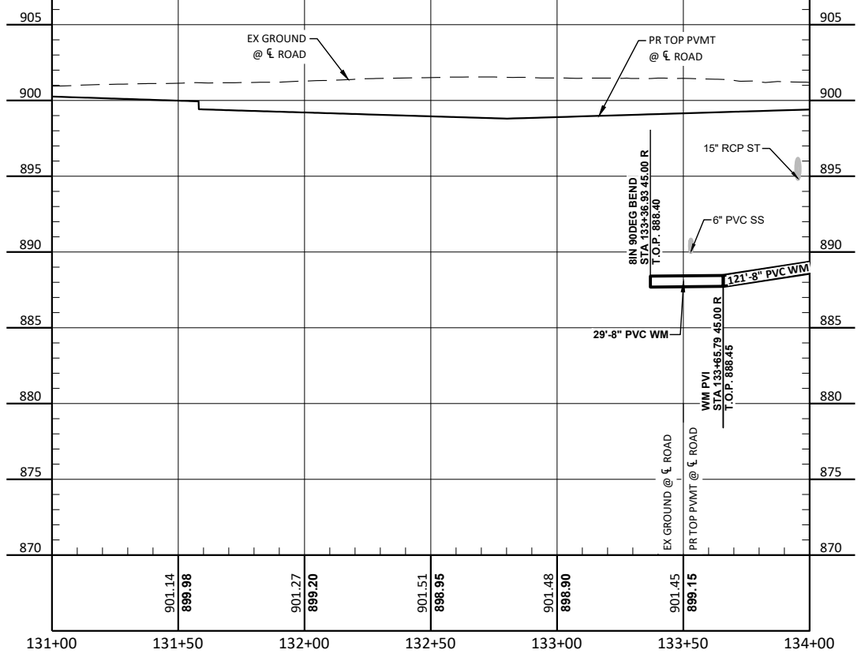
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	1







SPEC	CODE	BID ITEM	QTY	UNIT
722	6140	ADJUST GATE VALVE BOX		
		Sta 133.36+00 to 134+00	7	EA
724	210	FITTINGS-DUCTILE IRON		
		Sta 133.36+00 to 134+00	57	LBS
		Sta 8+00W to 9+00W	344	LBS
724	420	HYDRANT-RELOCATE		
		Sta 133.36+00 to 134+00	2	EA
724	427	ADJUST HYDRANT		
		Sta 133.36+00 to 134+00	1	EA
724	530	TAPPING SLEEVE & VALVE 12IN X 6IN		
		Sta 133.36+00 to 134+00	2	EA
724	611	WATER SERVICE LINE 1IN		
		Sta 133.36+00 to 134+00	26	LF
724	616	WATER SERVICE LINE 1 1/2IN		
		Sta 133.36+00 to 134+00	14	LF
724	810	WATERMAIN 6IN PVC		
		Sta 133.36+00 to 134+00	5	LF
724	830	WATERMAIN 8IN PVC		
		Sta 133.36+00 to 134+00	63	LF
724	850	WATERMAIN 12IN PVC		
		Sta 8+00W to 9+00W	28	LF
724	905	CURB STOP & BOX 1IN		
		Sta 133.36+00 to 134+00	1	EA
724	907	CURB STOP & BOX 1 1/2IN		
		Sta 133.36+00 to 134+00	1	EA

CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
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NORTH DAKOTA

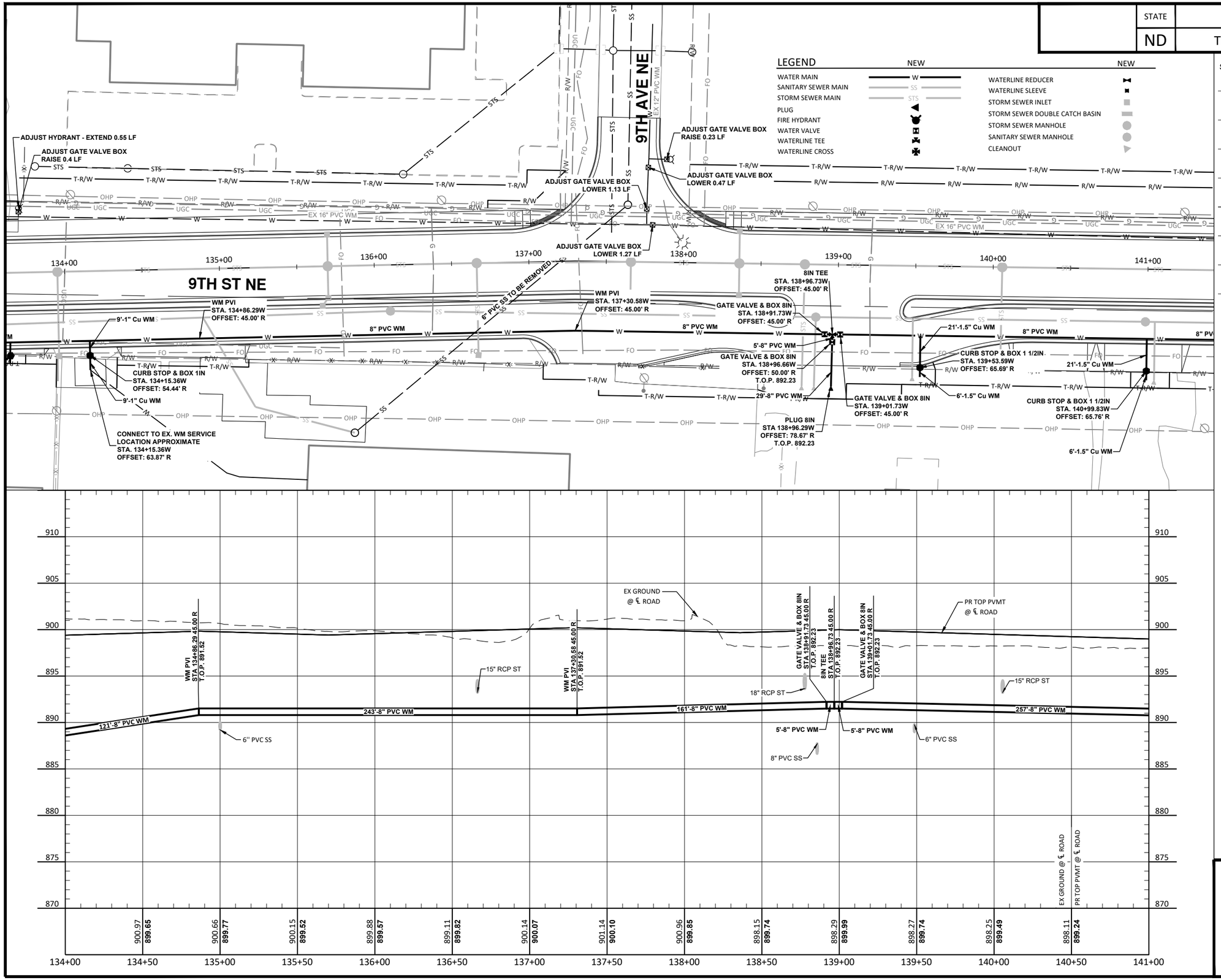
8/14/2025

Watermain Plan & Profile - 9th St NE
Sta 131+00 to Sta 134+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	2



LEGEND

	NEW		NEW
WATER MAIN	W	WATERLINE REDUCER	
SANITARY SEWER MAIN	SS	WATERLINE SLEEVE	
STORM SEWER MAIN	STS	STORM SEWER INLET	
PLUG		STORM SEWER DOUBLE CATCH BASIN	
FIRE HYDRANT		STORM SEWER MANHOLE	
WATER VALVE		SANITARY SEWER MANHOLE	
WATERLINE TEE		CLEANOUT	
WATERLINE CROSS			

SPEC	CODE	BID ITEM	QTY	UNIT
722	6140	ADJUST GATE VALVE BOX		
		Sta 134+00 to 141+00	4	EA
724	210	FITTINGS-DUCTILE IRON		
		Sta 134+00 to 141+00	112	LBS
724	310	GATE VALVE & BOX 8IN		
		Sta 134+00 to 141+00	3	EA
724	611	WATER SERVICE LINE 1IN		
		Sta 134+00 to 141+00	18	LF
724	616	WATER SERVICE LINE 1 1/2IN		
		Sta 134+00 to 141+00	54	LF
724	830	WATERMAIN 8IN PVC		
		Sta 134+00 to 141+00	732	LF
724	905	CURB STOP & BOX 1IN		
		Sta 134+00 to 141+00	1	EA
724	907	CURB STOP & BOX 1 1/2IN		
		Sta 134+00 to 141+00	2	EA

N

30 0 30 60
Scale Feet

CITY OF WEST FARGO

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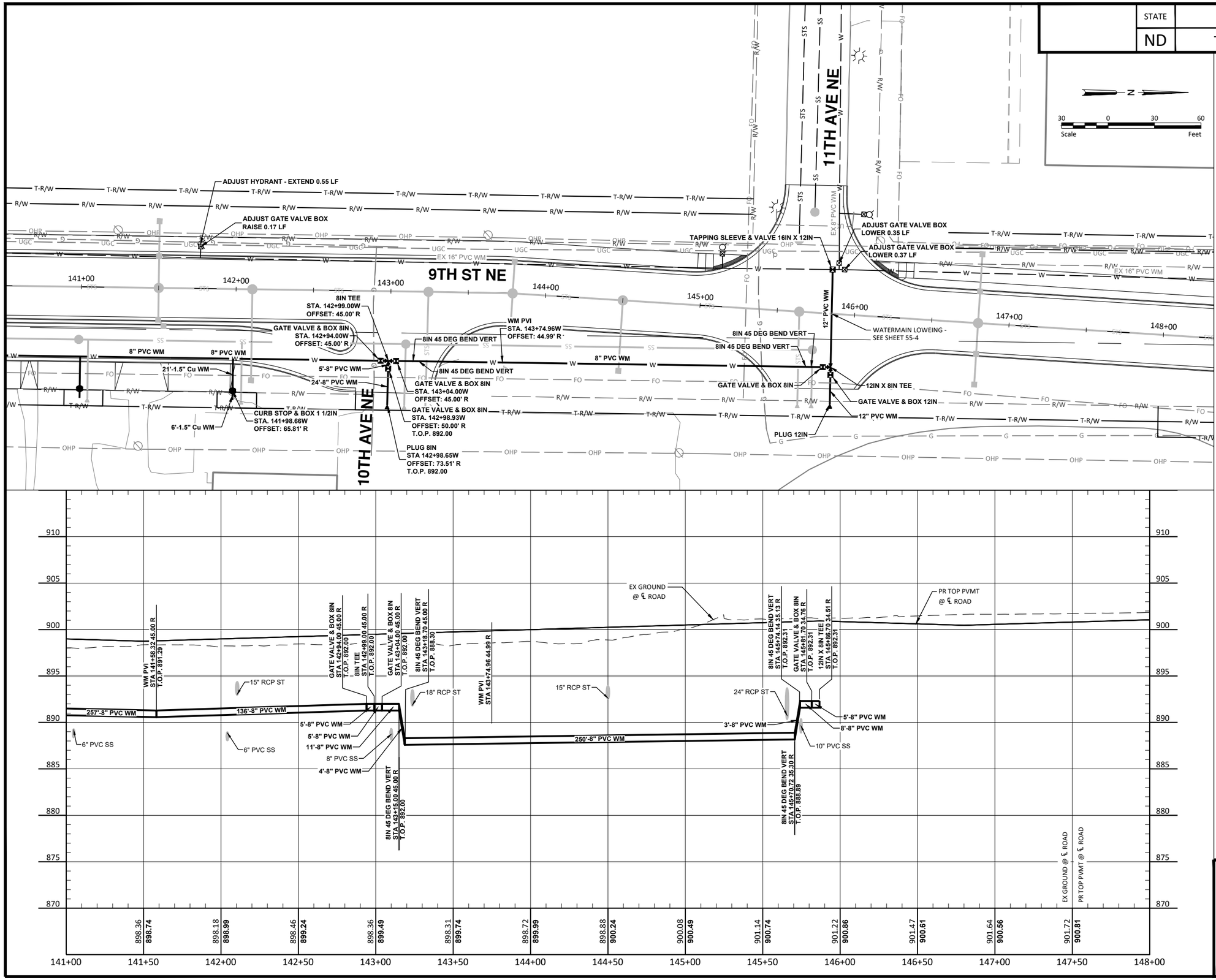
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Watermain Plan & Profile - 9th St NE
Sta 134+00 to Sta 141+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	3



SPEC	CODE	BID ITEM	QTY	UNIT
722	6140	ADJUST GATE VALVE BOX Sta 141+00 to 148+00	3	EA
724	210	FITTINGS-DUCTILE IRON Sta 141+00 to 148+00	296	LBS
724	310	GATE VALVE & BOX 8IN Sta 141+00 to 148+00	4	EA
724	427	ADJUST HYDRANT Sta 141+00 to 148+00	1	EA
724	616	WATER SERVICE LINE 1 1/2IN Sta 141+00 to 148+00	27	LF
724	830	WATERMAIN 8IN PVC Sta 141+00 to 148+00	513	LF
724	907	CURB STOP & BOX 1 1/2IN Sta 141+00 to 148+00	1	EA

LEGEND	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

CITY OF WEST FARGO

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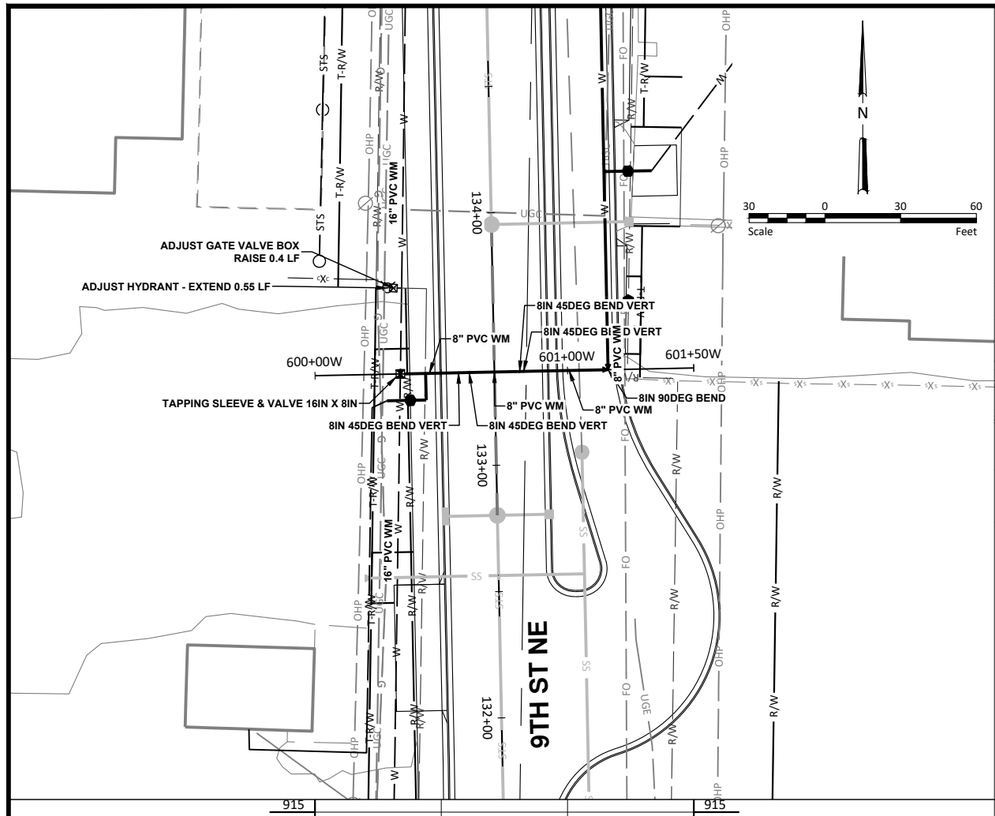
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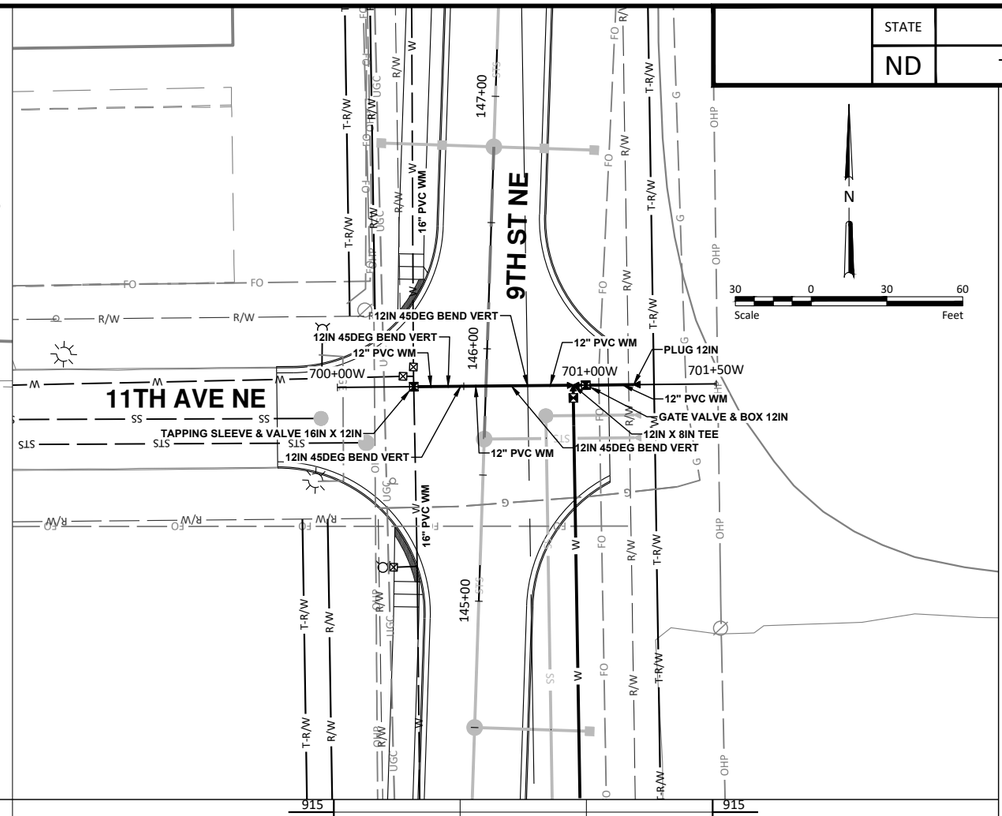
Watermain Plan & Profile - 9th St NE
Sta 141+00 to Sta 148+00

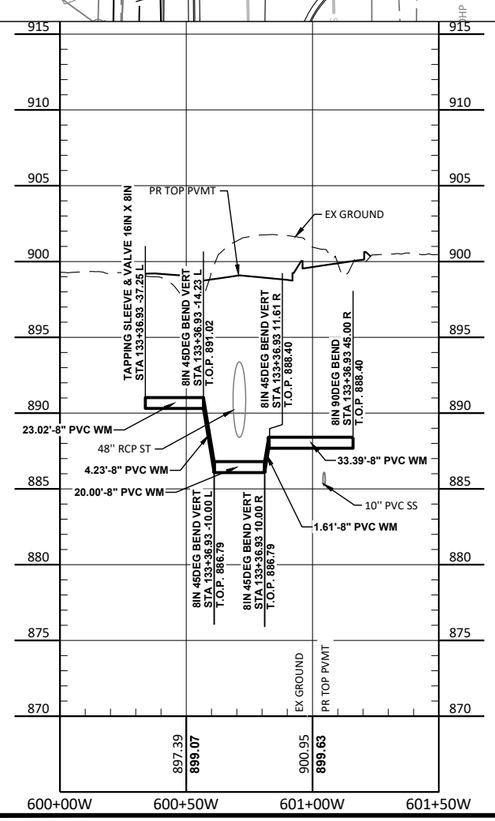
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

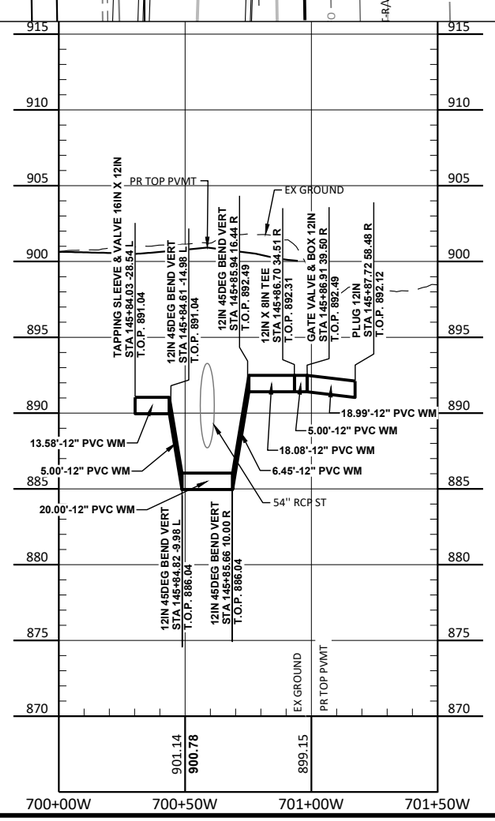
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	4









SPEC	CODE	BID ITEM	QTY	UNIT
724	210	FITTINGS-DUCTILE IRON		
		Sta 600+00W to 601+50W	184	LBS
		Sta 700+00W to 701+50W	515	LBS
724	314	GATE VALVE & BOX 12IN		
		Sta 700+00W to 701+50W	1	EA
724	552	TAPPING SLEEVE & VALVE 16IN X 8IN		
		Sta 600+00W to 601+50W	1	EA
724	560	TAPPING SLEEVE & VALVE 16IN X 12IN		
		Sta 700+00W to 701+50W	1	EA
724	830	WATERMAIN 8IN PVC		
		Sta 600+00W to 601+50W	83	LF
724	850	WATERMAIN 12IN PVC		
		Sta 700+00W to 701+50W	87	LF

LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

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NORTH DAKOTA

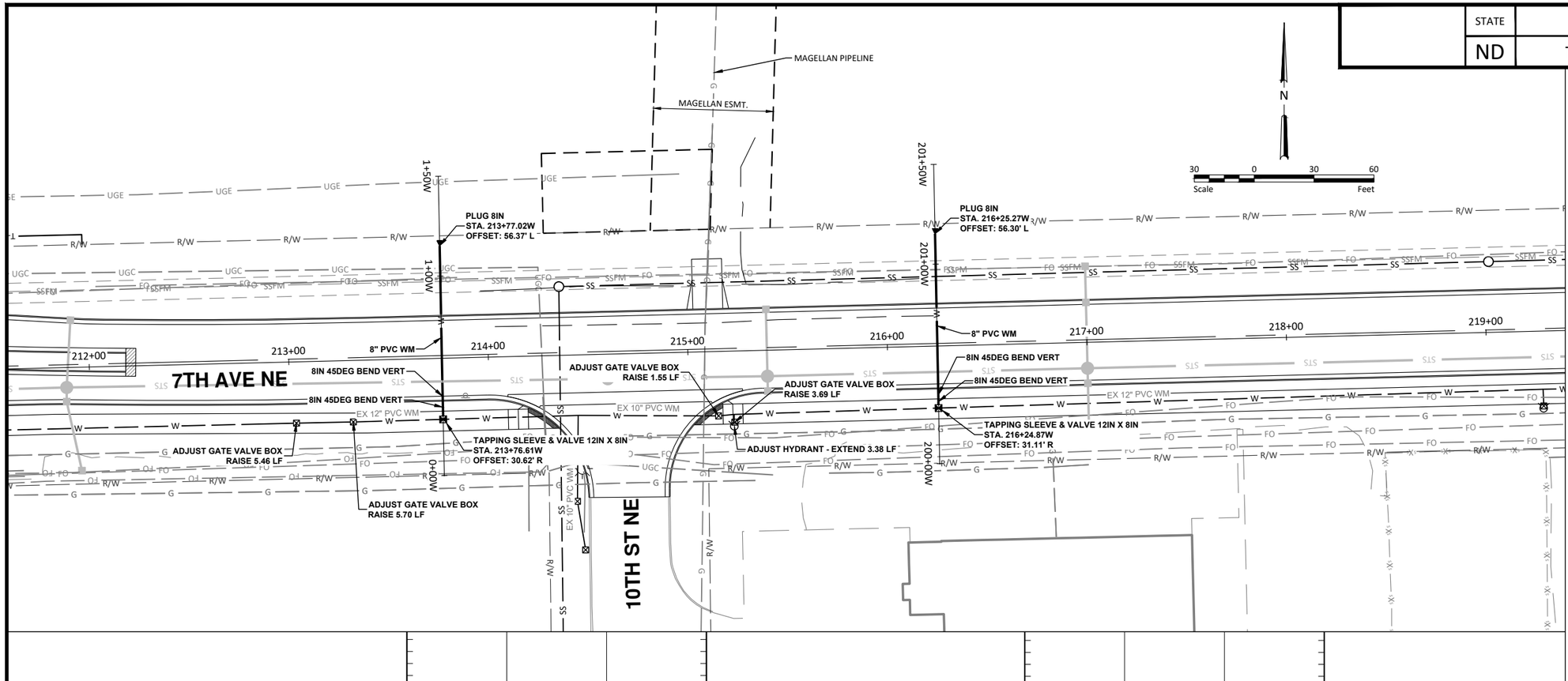
8/14/2025

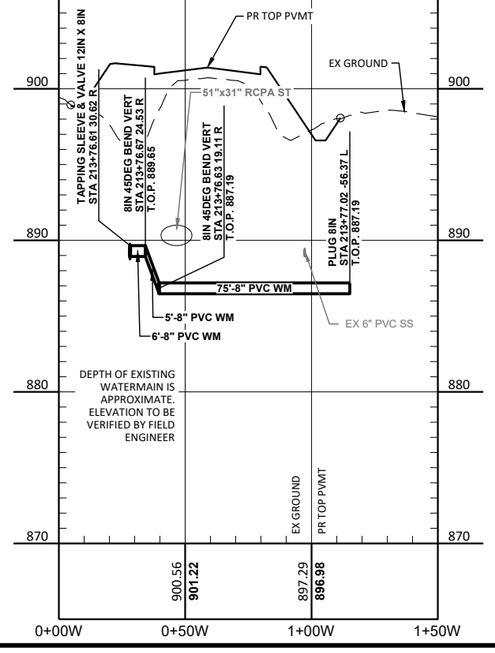
Watermain Plan & Profile - 9th St NE
Sta 133+00 to Sta 146+00

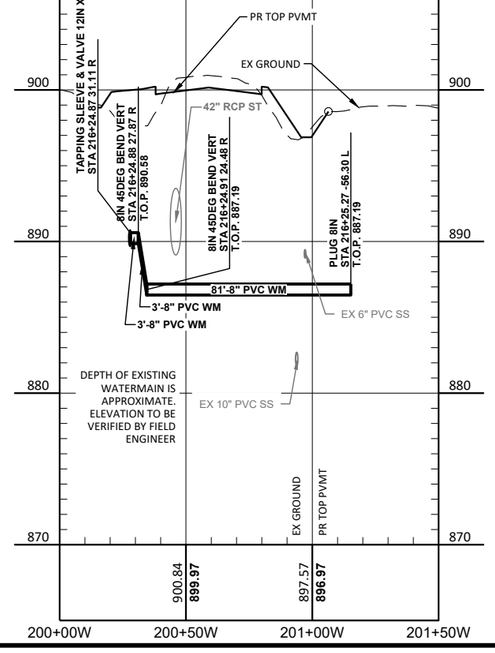
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\055 - Watermain Crossings Plan & Profile.dwg-WM Crossing P&P-8/13/2025 3:46 PM-(bwall)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	5







SPEC	CODE	BID ITEM	QTY	UNIT
722	6140	ADJUST GATE VALVE BOX		
		Sta 212+00 to 219+00	4	EA
724	210	FITTINGS-DUCTILE IRON		
		Sta 212+00 to 219+00	236	LBS
724	427	ADJUST HYDRANT		
		Sta 212+00 to 219+00	1	EA
724	540	TAPPING SLEEVE & VALVE 12IN X 8IN		
		Sta 212+00 to 219+00	2	EA
724	830	WATERMAIN 8IN PVC		
		Sta 212+00 to 219+00	175	LF

LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

WARNING
HIGH-PRESSURE PIPELINE(S)
Excavation and/or Construction Prohibited
Without compliance with **State One-Call**, AND
Without Written Permission From
MAGELLAN PIPELINE COMPANY, L.P.
A MAGELLAN REPRESENTATIVE MUST BE PRESENT DURING WORK AROUND PIPELINE(S)

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

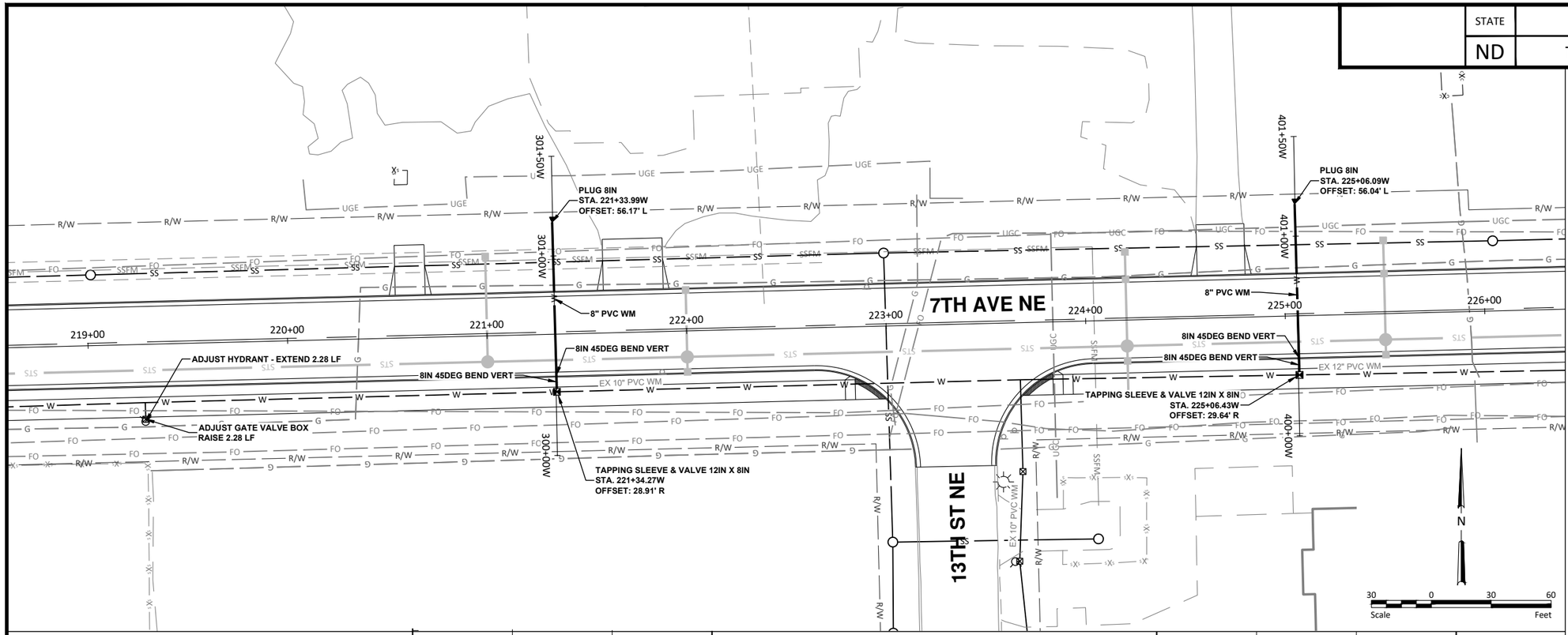
8/14/2025

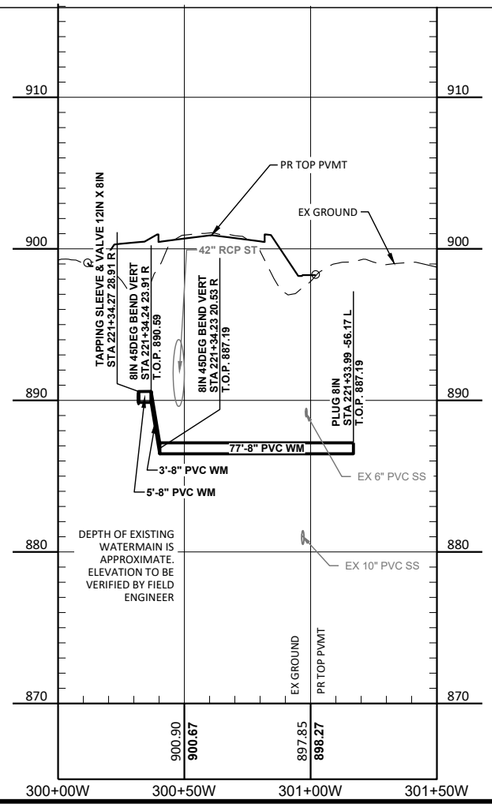
Watermain Plan & Profile - 7th Ave NE
Sta 212+00 to Sta 219+00

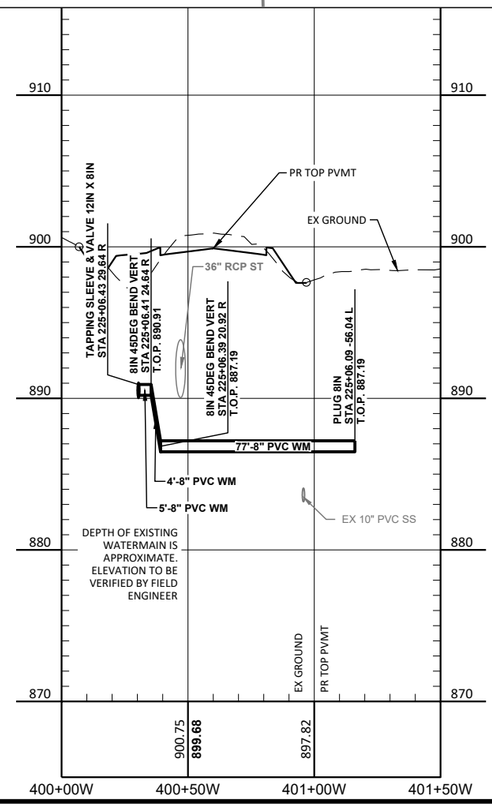
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\865A\8654_0004 9th St\CADD_CITY PROJECT\Plans\055 - Watermain Plan & Profile.dwg P&P (4)-8/13/2025 3:47 PM-(bwall)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	6







SPEC	CODE	BID ITEM	QTY	UNIT
722	6140	ADJUST GATE VALVE BOX		
		Sta 219+00 to 226+00	1	EA
724	210	FITTINGS-DUCTILE IRON		
		Sta 219+00 to 226+00	236	LBS
724	427	ADJUST HYDRANT		
		Sta 219+00 to 226+00	1	EA
724	540	TAPPING SLEEVE & VALVE 12IN X 8IN		
		Sta 219+00 to 226+00	2	EA
724	830	WATERMAIN 8IN PVC		
		Sta 219+00 to 226+00	171	LF

LEGEND	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

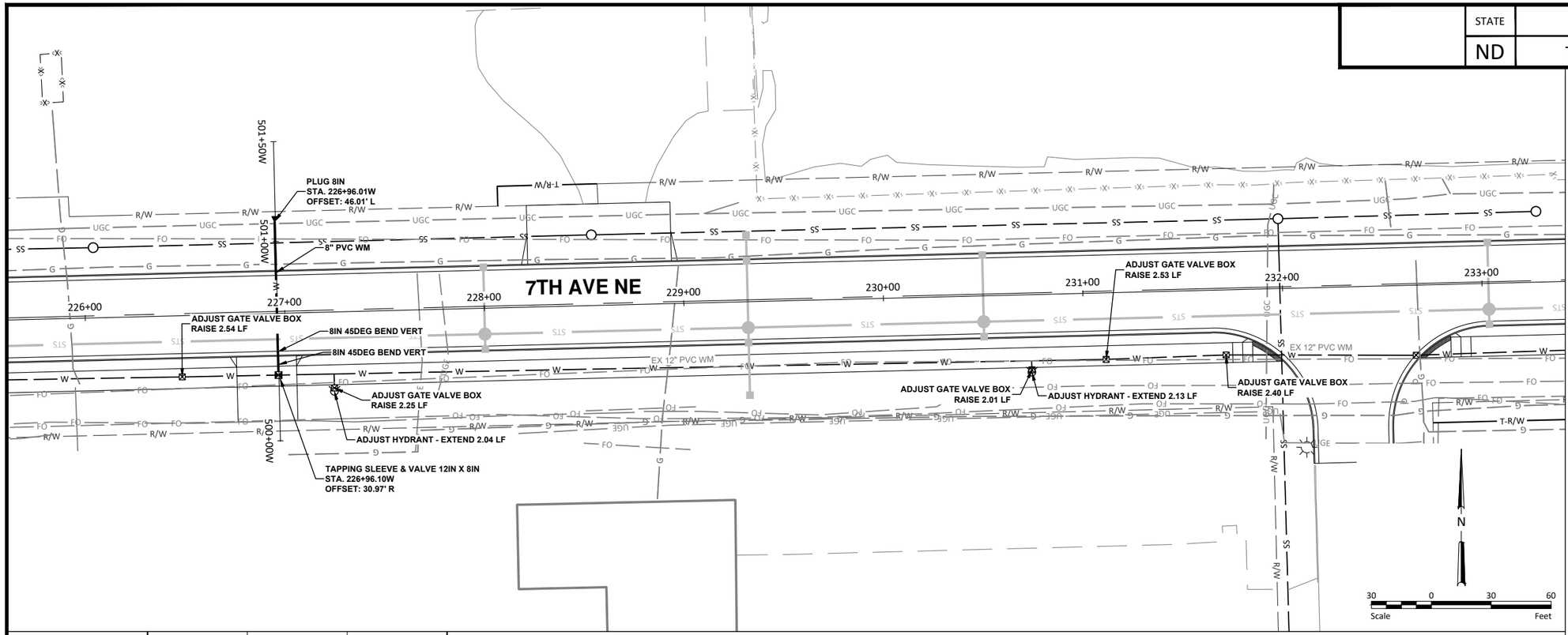
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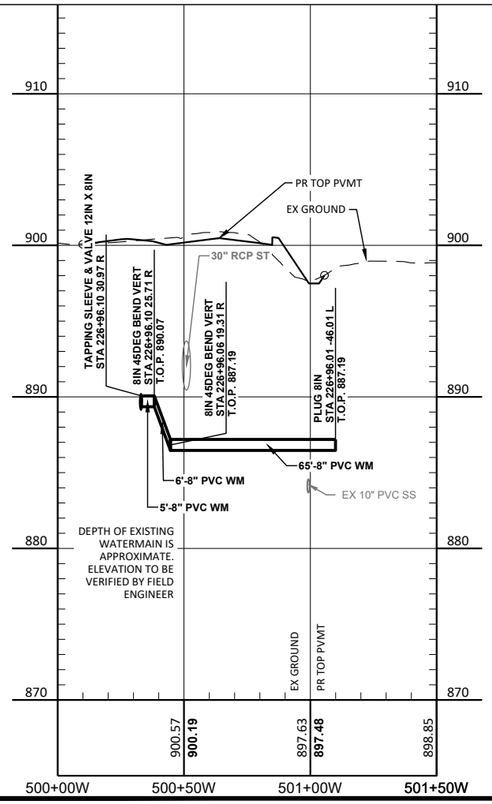
Watermain Plan & Profile - 7th Ave NE
Sta 219+00 to Sta 226+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	7





SPEC	CODE	BID ITEM	QTY	UNIT
722	6140	ADJUST GATE VALVE BOX Sta 226+00 to 233+00	5	EA
724	210	FITTINGS-DUCTILE IRON Sta 226+00 to 233+00	118	LBS
724	427	ADJUST HYDRANT Sta 226+00 to 233+00	2	EA
724	540	TAPPING SLEEVE & VALVE 12IN X 8IN Sta 226+00 to 233+00	1	EA
724	830	WATERMAIN 8IN PVC Sta 226+00 to 233+00	77	LF

LEGEND — NEW

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- PLUG
- FIRE HYDRANT
- WATER VALVE
- WATERLINE TEE
- WATERLINE CROSS
- WATERLINE REDUCER
- WATERLINE SLEEVE
- STORM SEWER INLET
- STORM SEWER DOUBLE CATCH BASIN
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- CLEANOUT

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Watermain Plan & Profile - 7th Ave NE
Sta 226+00 to Sta 233+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	8

SPEC	CODE	BID ITEM	QTY	UNIT
722	6140	ADJUST GATE VALVE BOX		
		Sta 233+00 to 240+00	1	EA
724	210	FITTINGS-DUCTILE IRON		
		Sta 233+00 to 240+00	186	LBS
724	300	GATE VALVE & BOX 6IN		
		Sta 233+00 to 240+00	1	EA
724	314	GATE VALVE & BOX 12IN		
		Sta 233+00 to 240+00	1	EA
724	410	HYDRANT-INSTALL 5IN		
		Sta 233+00 to 240+00	1	EA
724	427	ADJUST HYDRANT		
		Sta 233+00 to 240+00	1	EA
724	810	WATERMAIN 6IN PVC		
		Sta 233+00 to 240+00	19	LF
724	850	WATERMAIN 12IN PVC		
		Sta 233+00 to 240+00	169	LF

GATE VALVE & BOX 12IN
STA. 238+51.34W
OFFSET: 50.62' L

12IN X 6IN TEE
STA. 238+56.35W
OFFSET: 50.62' L

12" PVC WM

PLUG 12IN
STA. 238+31.34W
OFFSET: 50.62' L

10'-6" PVC WM

6IN 11DEG BEND VERT
STA. 238+56.35W
OFFSET: 40.85' L
T.O.P. 891.68

12" PVC WM

4'-6" PVC WM

5'-6" PVC WM

GATE VALVE & BOX 6IN
STA. 238+56.35W
OFFSET: 36.75' L
T.O.P. 891.68

HYDRANT 5IN
STA. 238+56.35W
OFFSET: 31.87' L
T.O.P. 891.68

7TH AVE NE

ADJUST GATE VALVE BOX
RAISE 4.69 LF

ADJUST HYDRANT - EXTEND 4.74 LF

233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00

N

30 0 30 60
Scale Feet

PR TOP PVMT
@ ℄ ROAD

EX GROUND
@ ℄ ROAD

PLUG 12IN
STA 238+31.34 -50.62 L
T.O.P. 890.00

GATE VALVE & BOX 12IN
STA 238+51.34 -50.62 L
T.O.P. 890.00

12IN X 6IN TEE
STA 238+56.35 -50.62 L

250'-12" PVC WM

20'-12" PVC WM

5'-12" PVC WM

	233+00	233+50	234+00	234+50	235+00	235+50	236+00	236+50	237+00	237+50	238+00	238+50	239+00	239+50	240+00
EX GROUND @ ℄ ROAD	901.54	901.85	902.09	902.35	902.57	902.84	903.29	902.91	902.81	902.63	902.37	902.14	901.88		
PR TOP PVMT @ ℄ ROAD	**901.60**	**902.06**	**902.53**	**902.99**	**903.41**	**903.58**	**903.48**	**903.11**	**902.73**	**902.71**	**902.95**	**903.20**	**903.10**		

LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

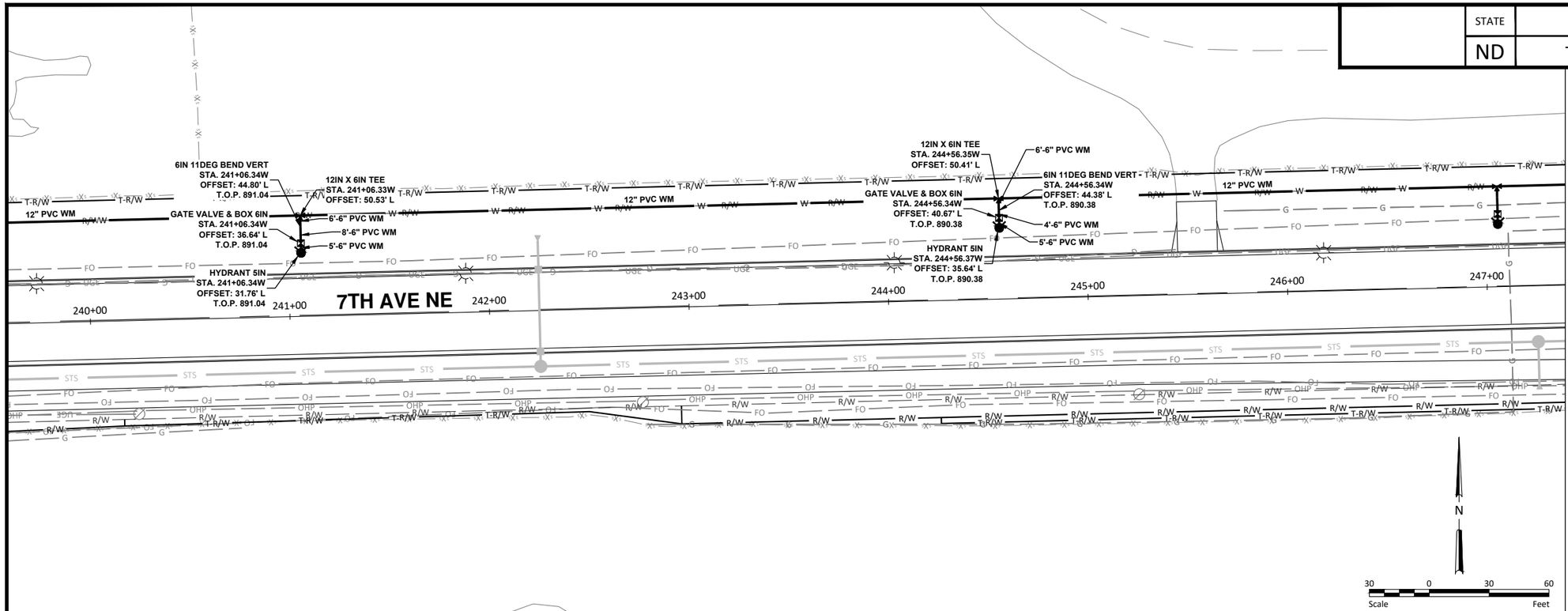
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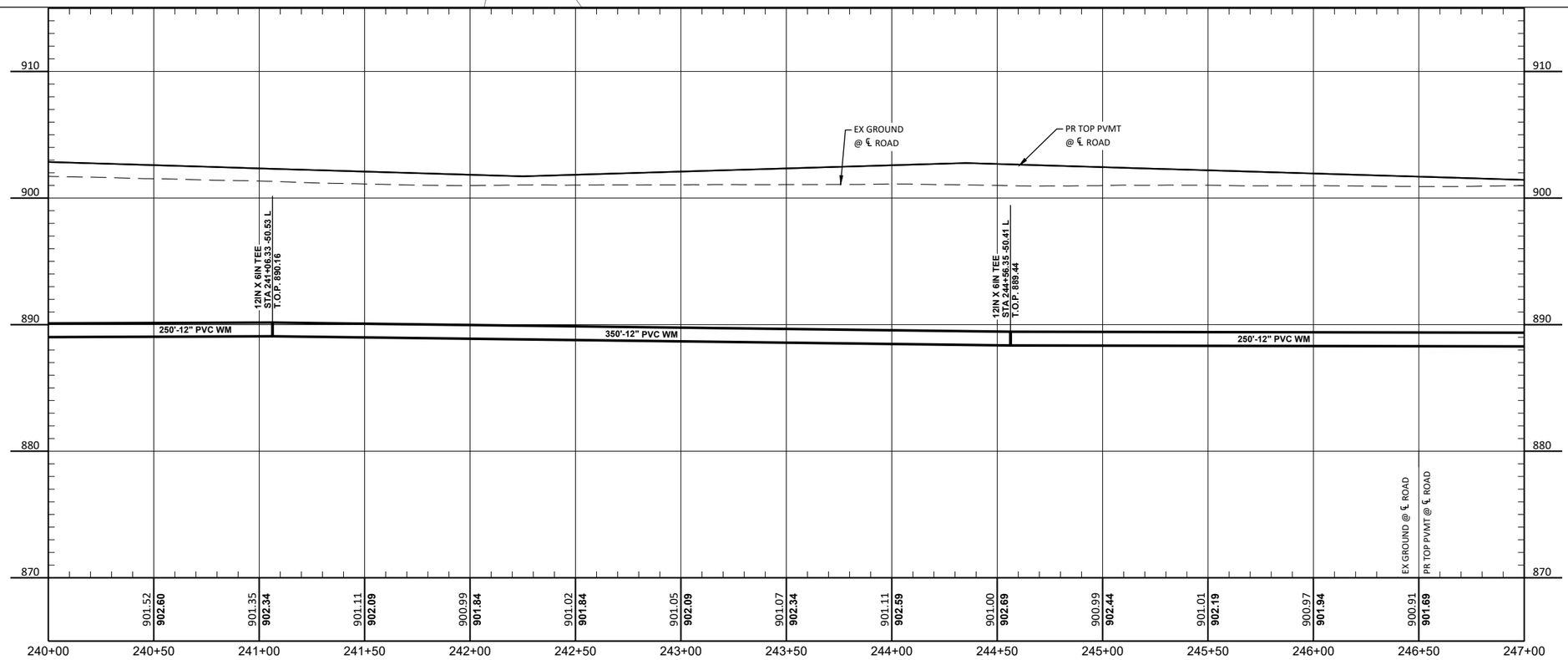
Watermain Plan & Profile - 7th Ave NE
Sta 233+00 to Sta 240+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	9





SPEC	CODE	BID ITEM	QTY	UNIT
724	210	FITTINGS-DUCTILE IRON		
		Sta 240+00 to 247+00	280	LBS
724	300	GATE VALVE & BOX 6IN		
		Sta 240+00 to 247+00	2	EA
724	410	HYDRANT-INSTALL 5IN		
		Sta 240+00 to 247+00	2	EA
724	810	WATERMAIN 6IN PVC		
		Sta 240+00 to 247+00	34	LF
724	850	WATERMAIN 12IN PVC		
		Sta 240+00 to 247+00	700	LF

LEGEND — NEW

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- PLUG
- FIRE HYDRANT
- WATER VALVE
- WATERLINE TEE
- WATERLINE CROSS
- WATERLINE REDUCER
- WATERLINE SLEEVE
- STORM SEWER INLET
- STORM SEWER DOUBLE CATCH BASIN
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- CLEANOUT

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
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NORTH DAKOTA

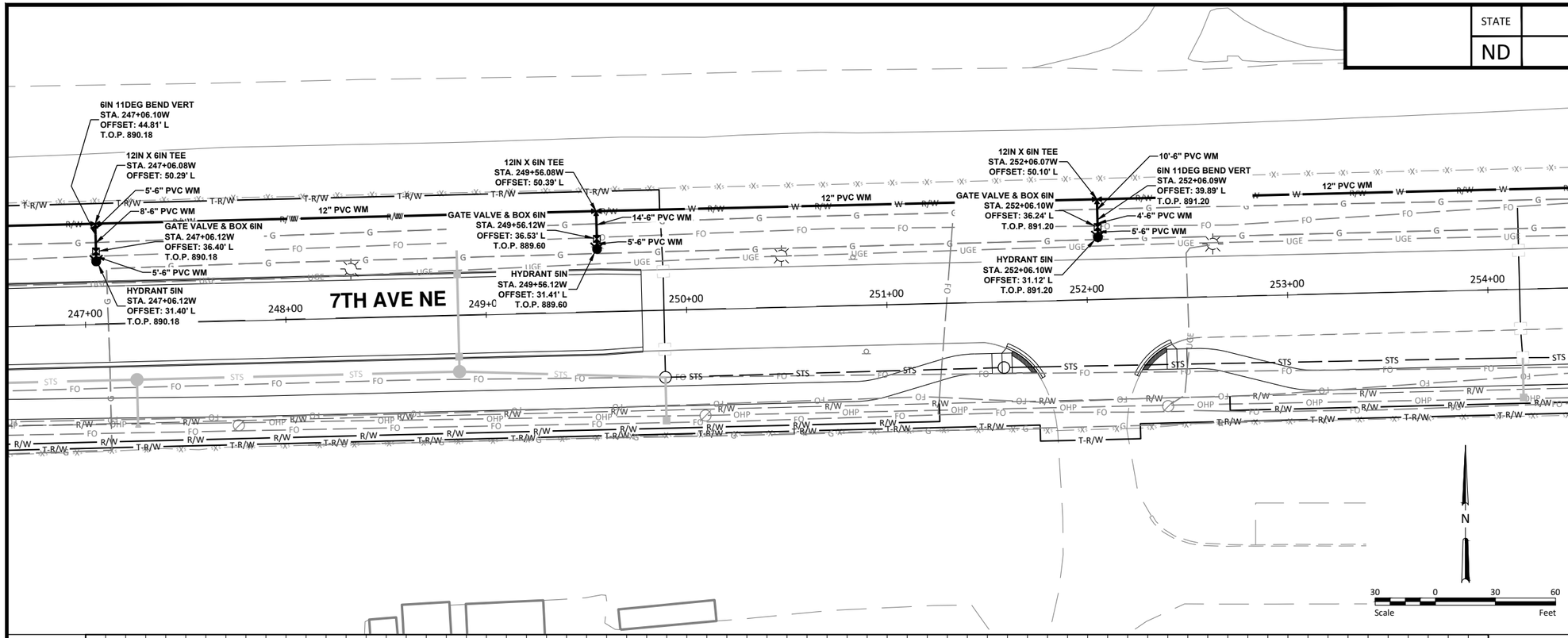
8/14/2025

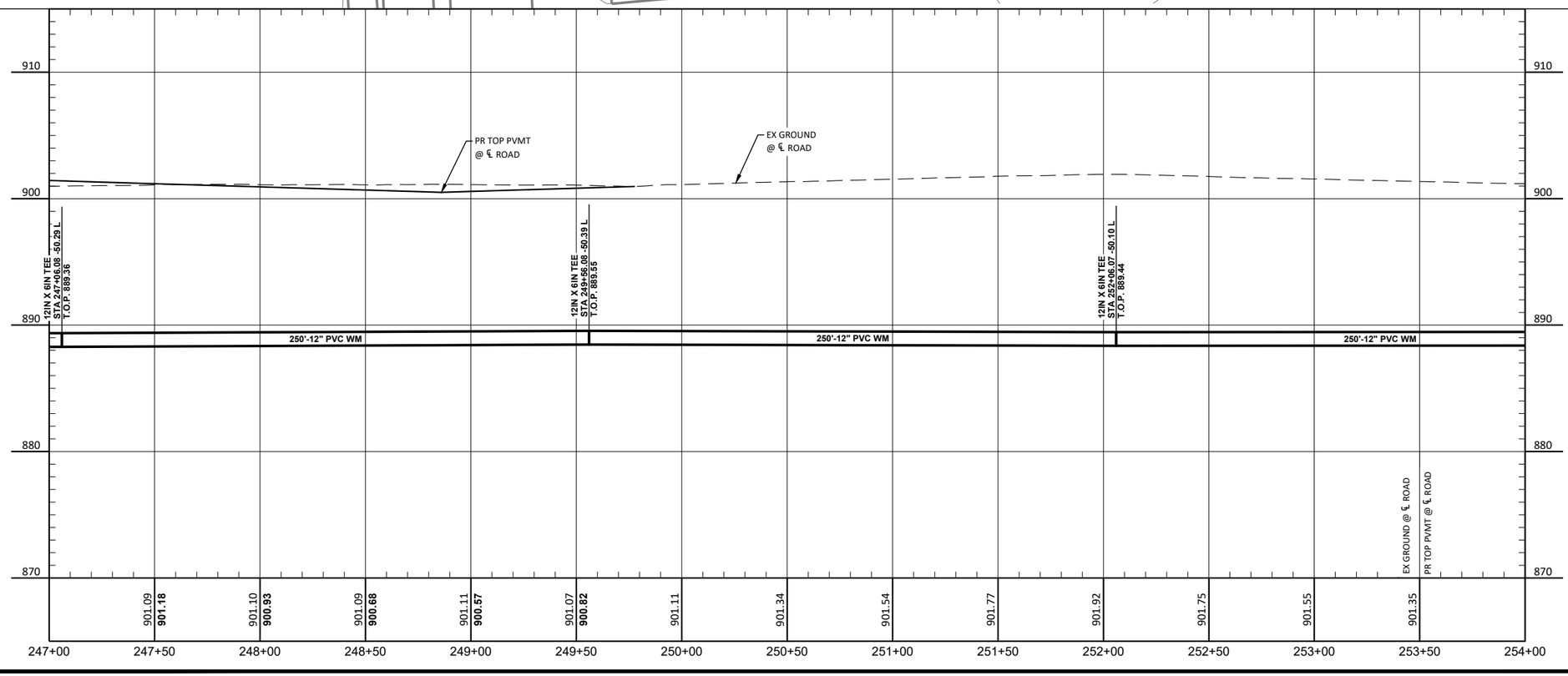
Watermain Plan & Profile - 7th Ave NE
Sta 240+00 to Sta 247+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	10





SPEC	CODE	BID ITEM	QTY	UNIT
724	210	FITTINGS-DUCTILE IRON		
		Sta 247+00 to 254+00	390	LBS
724	300	GATE VALVE & BOX 6IN		
		Sta 247+00 to 254+00	3	EA
724	410	HYDRANT-INSTALL 5IN		
		Sta 247+00 to 254+00	3	EA
724	810	WATERMAIN 6IN PVC		
		Sta 247+00 to 254+00	56	LF
724	850	WATERMAIN 12IN PVC		
		Sta 247+00 to 254+00	700	LF

LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

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8/14/2025

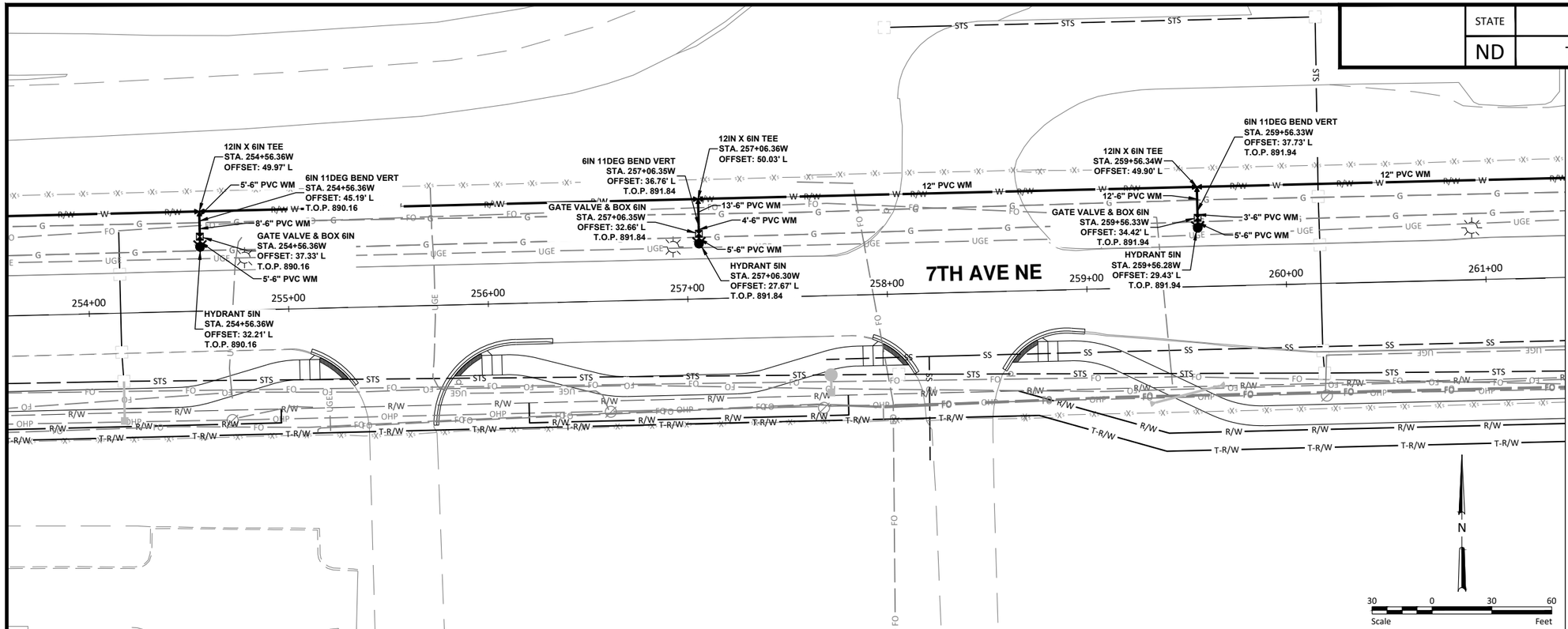
Watermain Plan & Profile - 7th Ave NE
Sta 247+00 to Sta 254+00

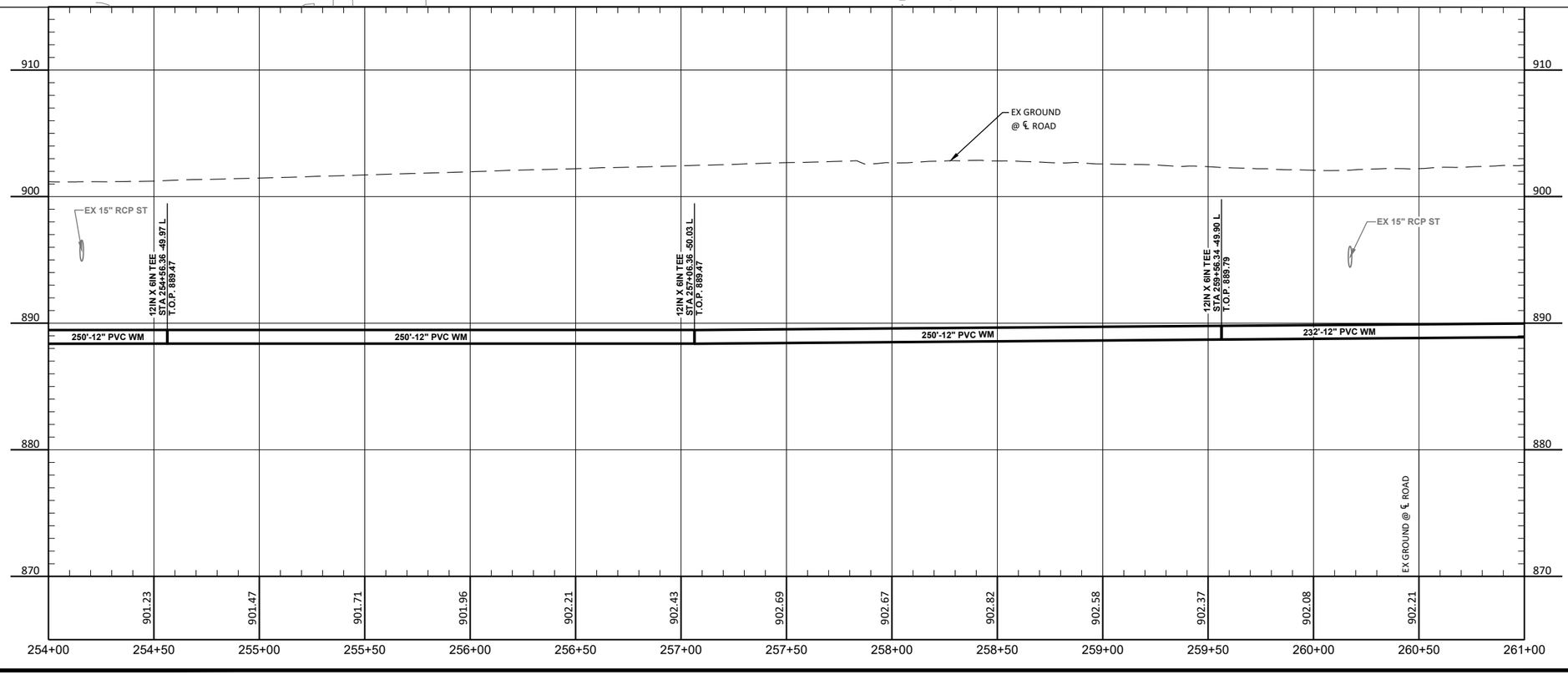
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	11

SPEC	CODE	BID ITEM	QTY	UNIT
724	210	FITTINGS-DUCTILE IRON		
		Sta 254+00 to 261+00	420	LBS
724	300	GATE VALVE & BOX 6IN		
		Sta 254+00 to 261+00	3	EA
724	410	HYDRANT-INSTALL 5IN		
		Sta 254+00 to 261+00	3	EA
724	810	WATERMAIN 6IN PVC		
		Sta 254+00 to 261+00	60	LF
724	850	WATERMAIN 12IN PVC		
		Sta 254+00 to 261+00	700	LF





LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

CITY OF WEST FARGO

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DATE
NORTH DAKOTA

8/14/2025

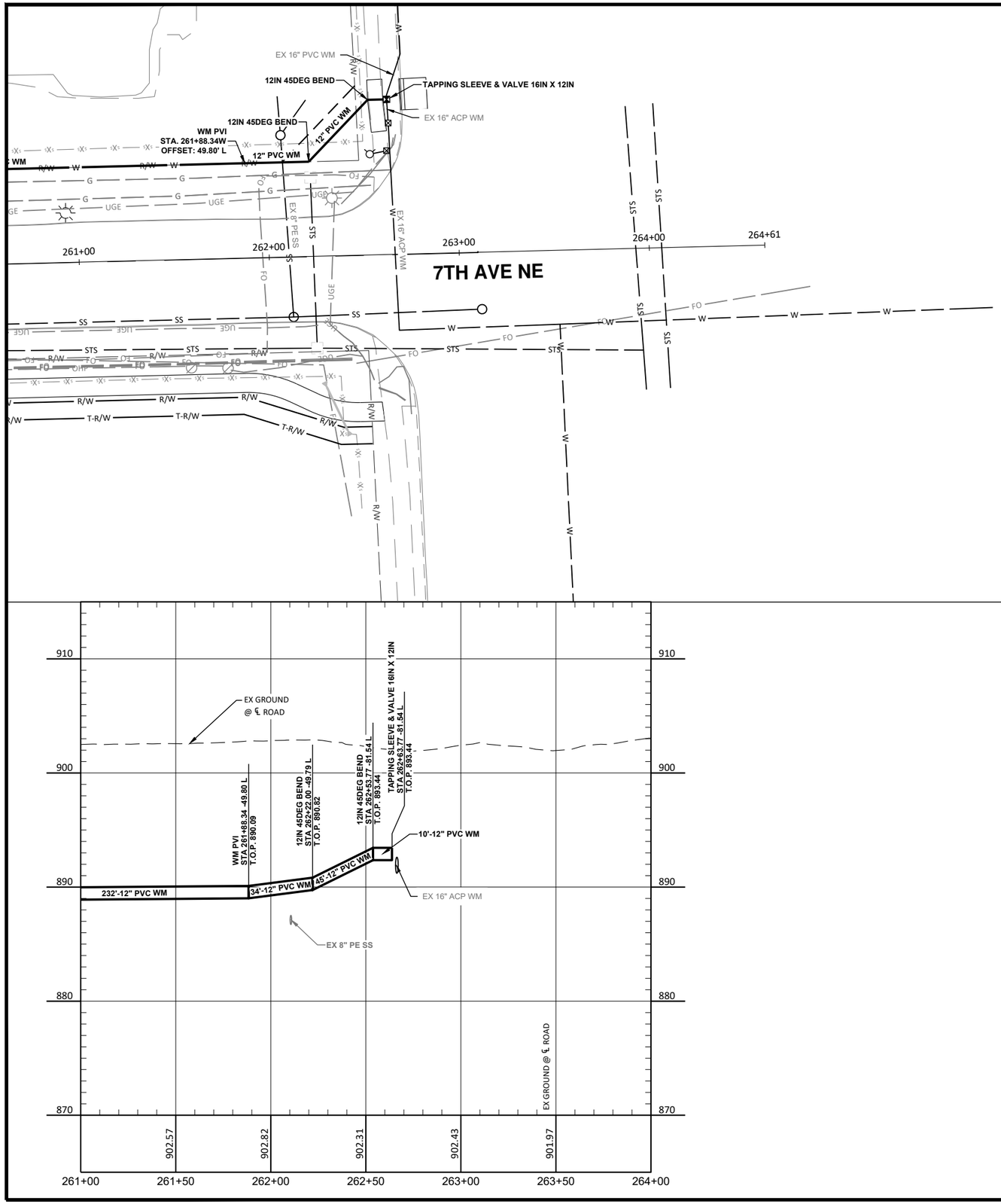
Watermain Plan & Profile - 7th Ave NE
Sta 254+00 to Sta 261+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	12

SPEC	CODE	BID ITEM	QTY	UNIT
724	210	FITTINGS-DUCTILE IRON		
		Sta 261+00 to 264+00	172	LBS
724	560	TAPPING SLEEVE & VALVE 16IN X 12IN		
		Sta 261+00 to 264+00	1	EA
724	850	WATERMAIN 12IN PVC		
		Sta 261+00 to 264+00	177	LF



N

30 0 30 60
Scale Feet

LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Watermain Plan & Profile - 7th Ave NE
Sta 261+00 to Sta 264+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	13

SPEC	CODE	BID ITEM	QTY	UNIT
722	6140	ADJUST GATE VALVE BOX		
		Sta 101+00 to 107+00	1	EA
		Sta 152+50 to 154+50	3	EA
724	427	ADJUST HYDRANT		
		Sta 152+50 to 154+50	1	EA

MAIN AVE

9TH ST NE

FRONTAGE RD

12TH AVE NE

9TH ST NE

ADJUST GATE VALVE BOX
RAISE 0.16 LF

ADJUST GATE VALVE BOX
RAISE 0.23 LF

ADJUST HYDRANT - EXTEND 2.46 LF

ADJUST GATE VALVE BOX
RAISE 3.18 LF

ADJUST GATE VALVE BOX
RAISE 3.77 LF

CONNECT EXISTING SEWER TO PROPOSED MANHOLE

101+00 102+00 103+00 104+00 105+00 106+00 107+00

309+00 310+00 311+00 312+00 313+00 314+00 315+00 316+00

153+00 154+00 155+00

N

30 0 30 60
Scale Feet

LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

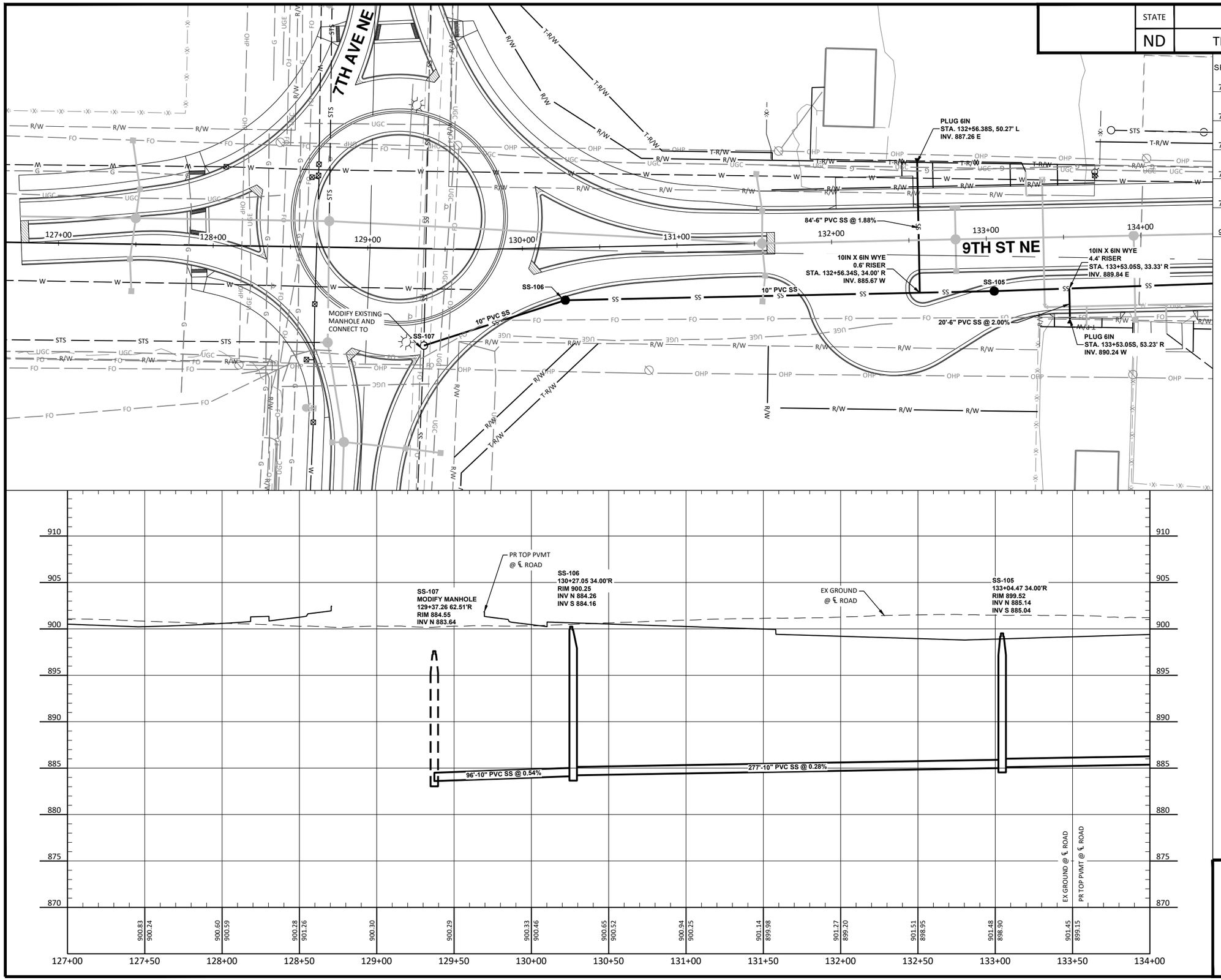
Adjust Gate Valves and Hydrants
Sta 101+00 to Sta 154+50

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\055 - Watermain Crossings Plan & Profile.dwg-ADJ GV 1 8/13/2025 3:51 PM (bwall)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	14

SPEC	CODE	BID ITEM	QTY	UNIT
722	100	MANHOLE 48IN		
		Sta 127+00 to 134+00	2	EA
722	1100	MANHOLE RISER 48IN		
		Sta 127+00 to 134+00	27.61	LF
724	1115	10IN SANITARY SEWER PIPE		
		Sta 127+00 to 134+00	469	LF
724	1120	6IN SEWER SERVICE PIPE		
		Sta 127+00 to 134+00	104	LF
724	1135	10IN X 6IN SEWER WYE BRANCH		
		Sta 127+00 to 134+00	2	EA
910	570	MODIFY MANHOLE		
		Sta 127+00 to 134+00	1	EA



N

30 0 30 60
Scale Feet

LEGEND NEW

- WATER MAIN
- SANITARY SEWER MAIN
- STORM SEWER MAIN
- PLUG
- FIRE HYDRANT
- WATER VALVE
- WATERLINE TEE
- WATERLINE CROSS
- WATERLINE REDUCER
- WATERLINE SLEEVE
- STORM SEWER INLET
- STORM SEWER DOUBLE CATCH BASIN
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- CLEANOUT

CITY OF WEST FARGO

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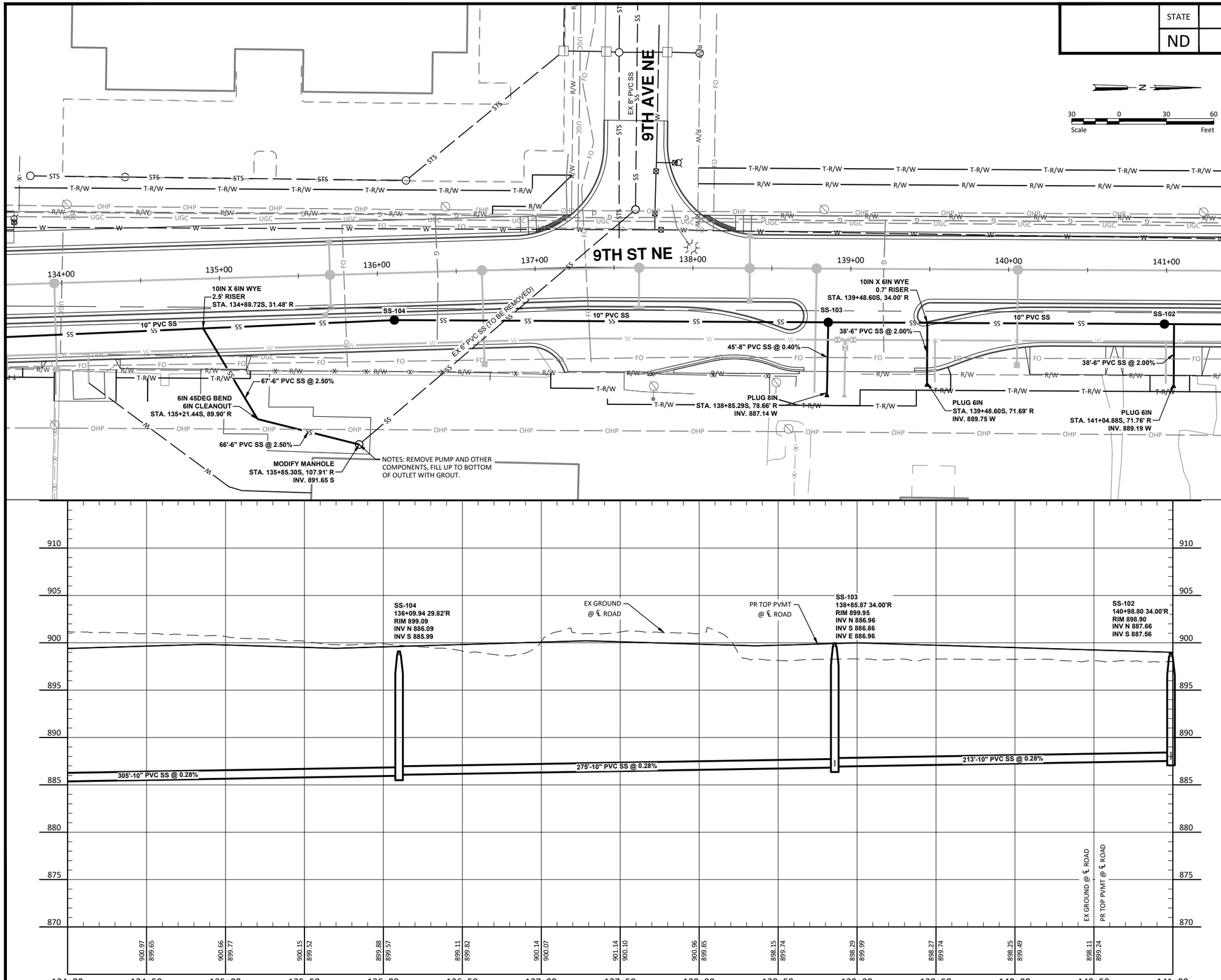
8/14/2025

Sanitary Sewer Plan & Profile - 9th St NE
Sta 127+00 to Sta 134+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	15



SPEC	CODE	BID ITEM	QTY	UNIT
722	100	MANHOLE 48IN		
		Sta 134+00 to 141+00	3	EA
722	1100	MANHOLE RISER 48IN		
		Sta 134+00 to 141+00	33.09	LF
724	1110	8IN SANITARY SEWER PIPE		
		Sta 134+00 to 141+00	45	LF
724	1115	10IN SANITARY SEWER PIPE		
		Sta 134+00 to 141+00	699	LF
724	1120	6IN SEWER SERVICE PIPE		
		Sta 134+00 to 141+00	171	LF
724	1135	10IN X 6IN SEWER WYE BRANCH		
		Sta 134+00 to 141+00	2	EA
724	9002	SANITARY SEWER CLEANOUT		
		Sta 134+00 to 141+00	1	EA
910	570	MODIFY MANHOLE		
		Sta 134+00 to 141+00	1	EA

LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

CITY OF WEST FARGO

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8/14/2025

Sanitary Sewer Plan & Profile - 9th St NE
Sta 134+00 to Sta 141+00

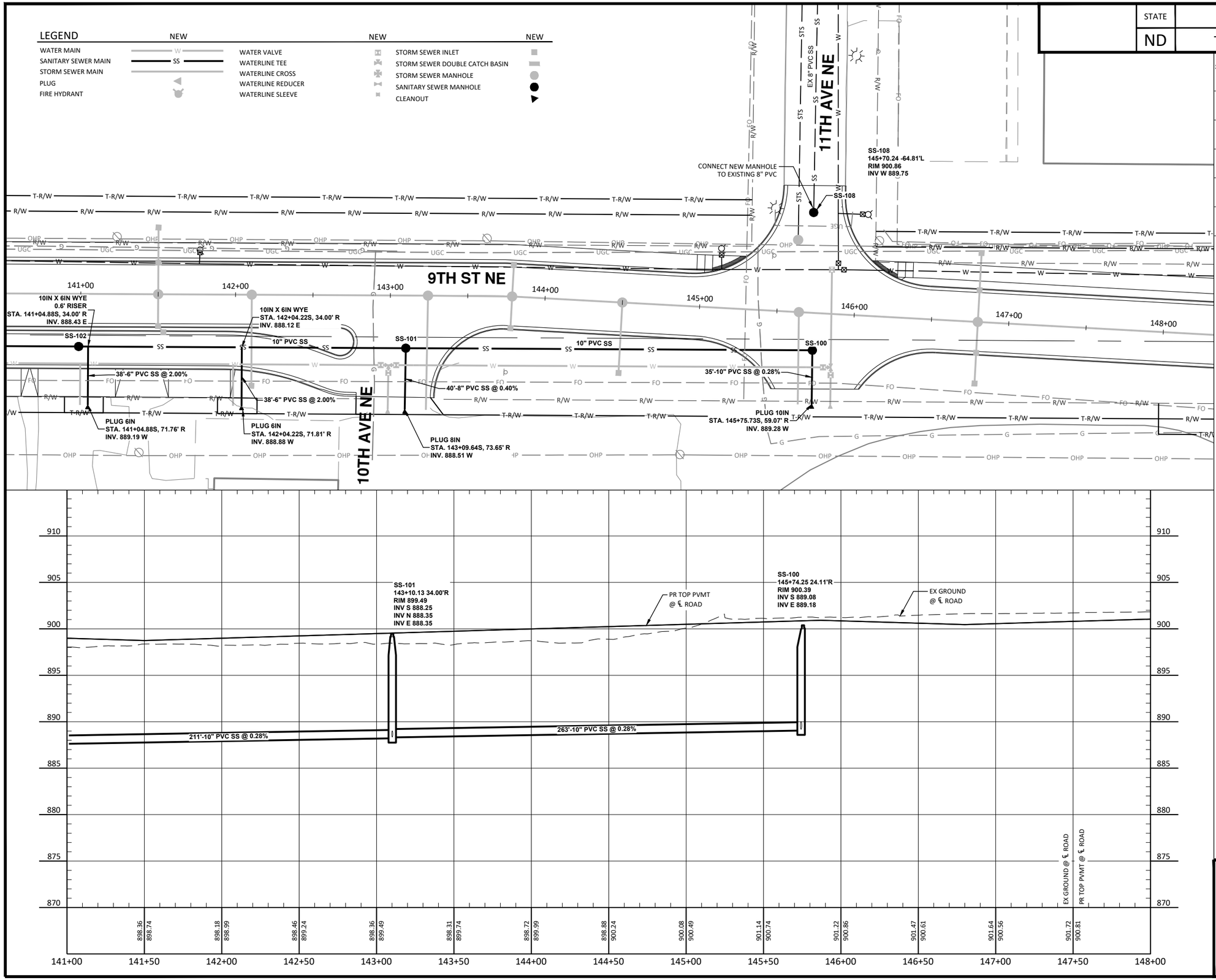
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	16

LEGEND

	NEW		NEW		NEW
WATER MAIN	W	WATER VALVE		STORM SEWER INLET	
SANITARY SEWER MAIN	SS	WATERLINE TEE		STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MAIN		WATERLINE CROSS		STORM SEWER MANHOLE	
PLUG		WATERLINE REDUCER		SANITARY SEWER MANHOLE	
FIRE HYDRANT		WATERLINE SLEEVE		CLEANOUT	



SPEC	CODE	BID ITEM	QTY	UNIT
722	100	MANHOLE 48IN		
		Sta 141+00 to 146+00	3	EA
722	1100	MANHOLE RISER 48IN		
		Sta 141+00 to 146+00	29.22	LF
724	1110	8IN SANITARY SEWER PIPE		
		Sta 141+00 to 146+00	40	LF
724	1115	10IN SANITARY SEWER PIPE		
		Sta 141+00 to 146+00	508	LF
724	1120	6IN SEWER SERVICE PIPE		
		Sta 141+00 to 146+00	76	LF
724	1135	10IN X 6IN SEWER WYE BRANCH		
		Sta 141+00 to 146+00	2	EA

N

30 0 30 60
Scale Feet

CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Sanitary Sewer Plan & Profile - 9th St NE
Sta 141+00 to Sta 148+00

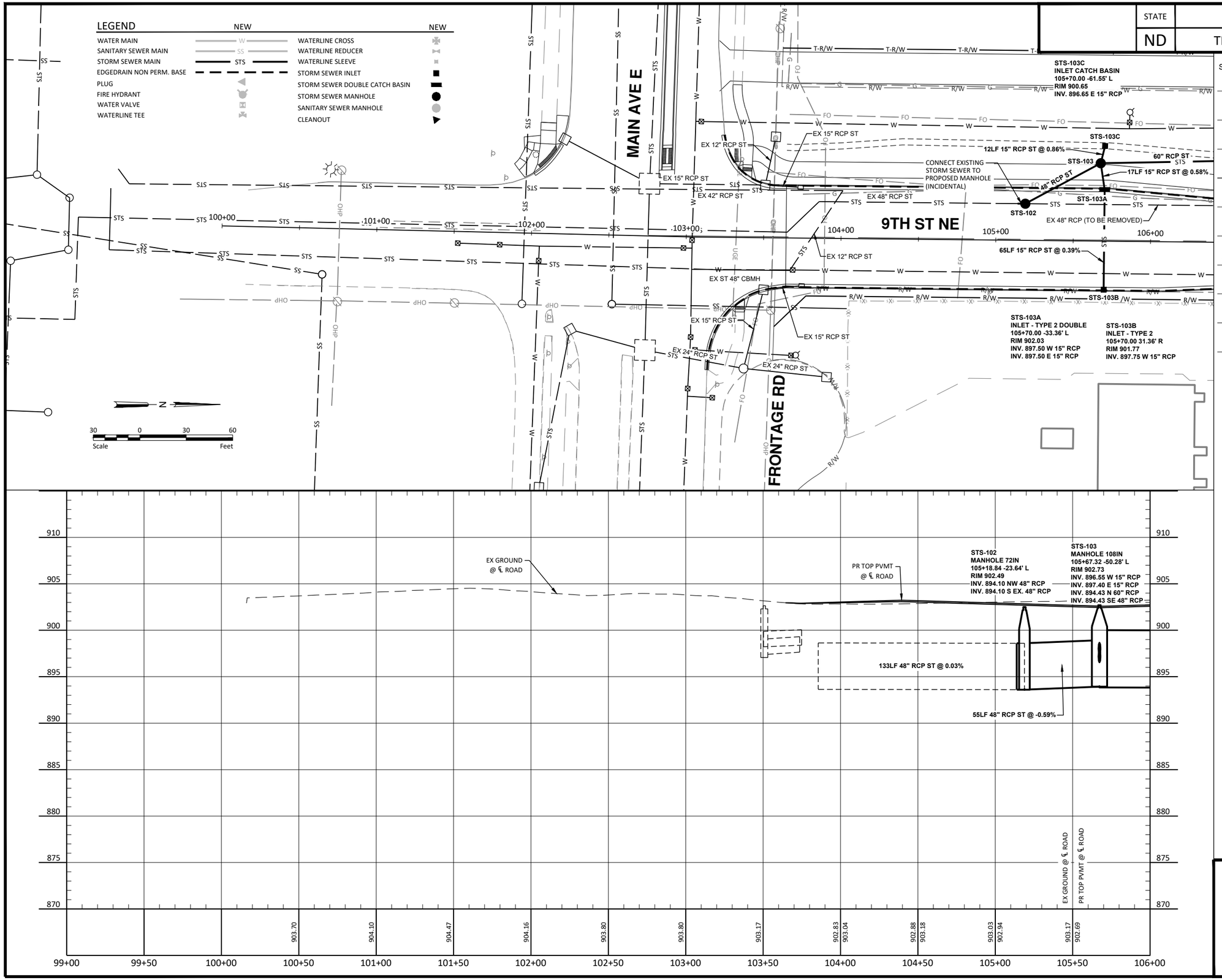
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	17

LEGEND

	NEW		NEW
WATER MAIN	W	WATERLINE CROSS	
SANITARY SEWER MAIN	SS	WATERLINE REDUCER	
STORM SEWER MAIN	STS	WATERLINE SLEEVE	
EDGEDRAIN NON PERM. BASE		STORM SEWER INLET	
PLUG		STORM SEWER DOUBLE CATCH BASIN	
FIRE HYDRANT		STORM SEWER MANHOLE	
WATER VALVE		SANITARY SEWER MANHOLE	
WATERLINE TEE		CLEANOUT	



SPEC	CODE	BID ITEM	QTY	UNIT
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN		
		Sta 105+00 to 106+00	94	LF
714	1110	PIPE CONC REINF 48IN CL III-STORM DRAIN		
		Sta 105+00 to 106+00	55	LF
714	1312	PIPE CONC REINF 60IN CL III-STORM DRAIN		
		Sta 105+00 to 106+00	33	LF
722	120	MANHOLE 72IN		
		Sta 105+00 to 106+00	1	EA
722	200	MANHOLE 108IN		
		Sta 105+00 to 106+00	1	EA
722	1120	MANHOLE RISER 72IN		
		Sta 105+00 to 106+00	7.14	LF
722	1200	MANHOLE RISER 108IN		
		Sta 105+00 to 106+00	6.8	LF
722	3510	INLET-TYPE 2		
		Sta 105+00 to 106+00	1	EA
722	3520	INLET-TYPE 2 DOUBLE		
		Sta 105+00 to 106+00	1	EA
722	4005	INLET CATCH BASIN		
		Sta 105+00 to 106+00	1	EA

NOTES:

1. INSTALLATION OF 66" RCP BY OTHERS TO BE COMPLETED PRIOR TO INSTALLATION OF PROPOSED STORM SEWER FROM STS-102 TO STA 109+00.

2. EXISTING 48" RCP EAST OF STS-102 TO REMAIN IN PLACE UNTIL INSTALLATION OF PROPOSED STORM SEWER FROM STS-102 TO STA 109+00 IS COMPLETED.

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Storm Sewer Plan & Profile - 9th St NE
Sta 99+00 to Sta 106+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	18

STS-103C
INLET CATCH BASIN
105+70.00 -61.55' L
RIM 900.65
INV. 896.65 E 15" RCP

STS-103C

12LF 15" RCP ST @ 0.86%

STS-103

60" RCP ST

17LF 15" RCP ST @ 0.58%

STS-103A

65LF 15" RCP ST @ 0.39%

STS-104

66" RCP ST

REMOVE PLUG
CONNECT TO EX. 66" RCP
(INCIDENTAL)

31LF 15" RCP ST @ 3.05%

STS-104A

47LF 15" RCP ST @ 0.39%

STS-104B

BEGIN EXCEPTION AREA
STA. 109+00.00 (9TH ST NE)

66" RCP ST (BY OTHERS)

15" RCP ST (BY OTHERS)

18" RCP ST (BY OTHERS)

66" RCP ST (BY OTHERS)

15" RCP ST (BY OTHERS)

18" RCP ST (BY OTHERS)

15" RCP ST (BY OTHERS)

18" RCP ST (BY OTHERS)

15" RCP ST (BY OTHERS)

15" RCP ST (BY OTHERS)

9TH ST NE

106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00

STS-103A
INLET - TYPE 2 DOUBLE
105+70.00 -33.36' L
RIM 902.03
INV. 897.50 W 15" RCP
INV. 897.50 E 15" RCP

STS-103B
INLET - TYPE 2
105+70.00 31.36' R
RIM 901.77
INV. 897.75 W 15" RCP

STS-104A
INLET - TYPE 2
108+50.00 -27.50' L
RIM 903.54
INV. 899.25 E 15" RCP
INV. 899.25 W 15" RCP

STS-104B
INLET - TYPE 2
108+50.08 19.41' R
RIM 903.42
INV. 899.43 W 15" RCP

N

30 0 30 60
Scale Feet

SPEC	CODE	BID ITEM	QTY	UNIT
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN		
		Sta 106+00 to 109+00	78	LF
714	1312	PIPE CONC REINF 60IN CL III-STORM DRAIN		
		Sta 106+00 to 109+00	250	LF
714	1412	PIPE CONC REINF 66IN CL III STORM DRAIN		
		Sta 106+00 to 109+00	50	LF
722	3510	INLET-TYPE 2		
		Sta 106+00 to 109+00	2	EA
722	4116	INLET SPECIAL CATCH BASIN 96IN		
		Sta 106+00 to 109+00	1	EA

NOTES:

1. INSTALLATION OF 66" RCP BY OTHERS TO BE COMPLETED PRIOR TO INSTALLATION OF PROPOSED STORM SEWER FROM STS-102 TO STA 109+00.

2. EXISTING 48" RCP EAST OF STS-102 TO REMAIN IN PLACE UNTIL INSTALLATION OF PROPOSED STORM SEWER FROM STS-102 TO STA 109+00 IS COMPLETED.

LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
EDGEDRAIN NON PERM. BASE	
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

CITY OF WEST FARGO

HOUSTON engineering, inc.

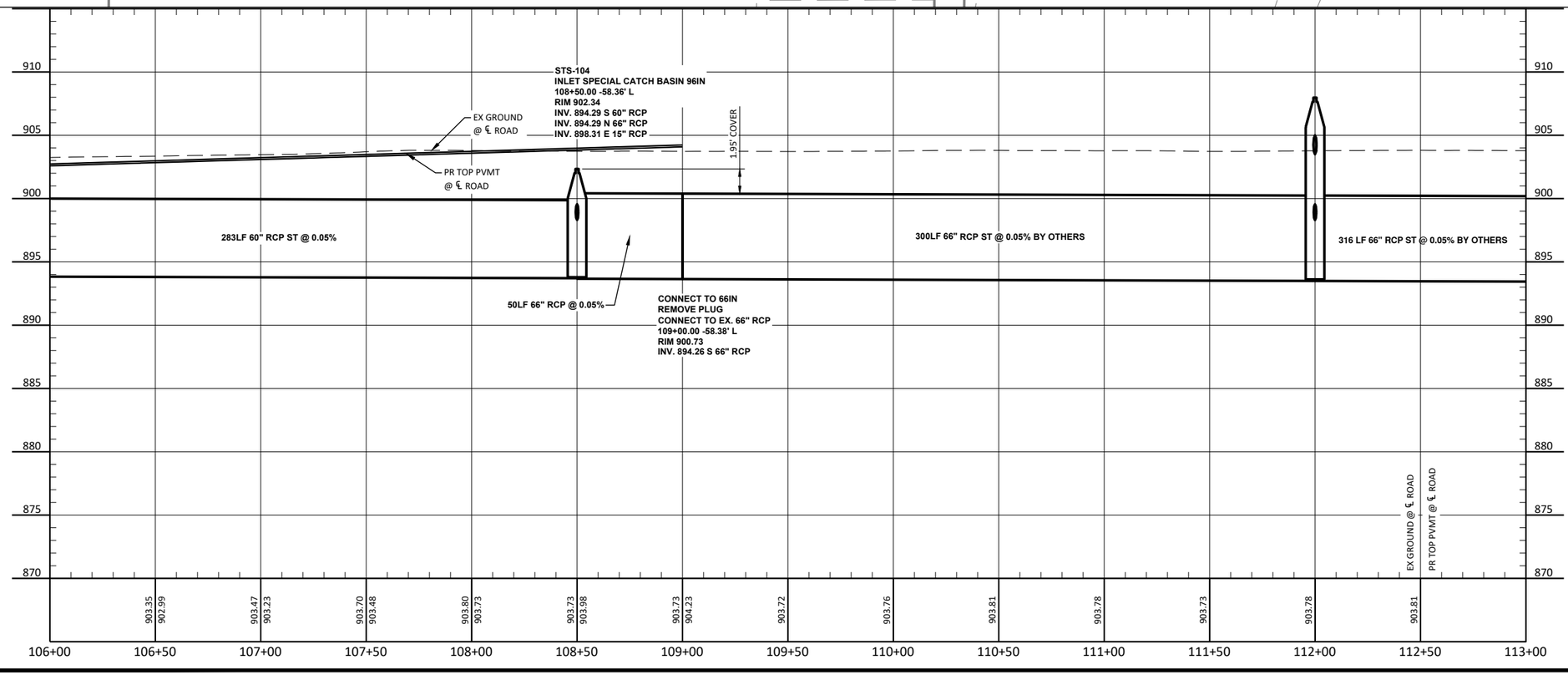
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8/14/2025

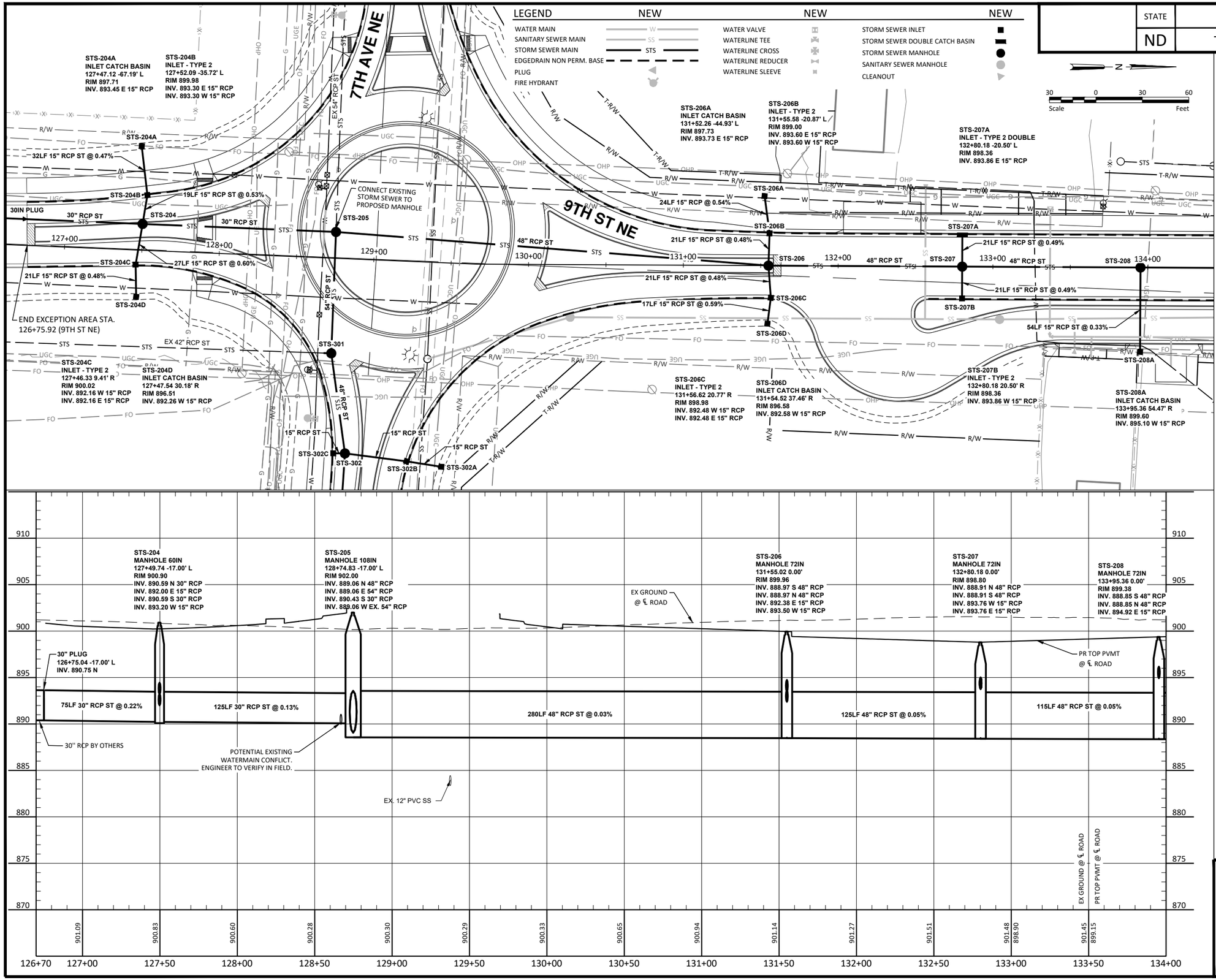
Storm Sewer Plan & Profile - 9th St NE
Sta 106+00 to Sta 113+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N



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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	19



SPEC	CODE	BID ITEM	QTY	UNIT
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN Sta 126+75 to 134+00	278	LF
714	825	PIPE CONC REINF 30IN CL III-STORM DRAIN Sta 126+75 to 134+00	201	LF
714	1110	PIPE CONC REINF 48IN CL III-STORM DRAIN Sta 126+75 to 134+00	525	LF
714	9680	PLUG PIPE-ALL TYPES & SIZES Sta 126+75 to 134+00	1	EA
722	110	MANHOLE 60IN Sta 126+75 to 134+00	1	EA
722	120	MANHOLE 72IN Sta 126+75 to 134+00	3	EA
722	200	MANHOLE 108IN Sta 126+75 to 134+00	1	EA
722	1110	MANHOLE RISER 60IN Sta 126+75 to 134+00	8.93	LF
722	1120	MANHOLE RISER 72IN Sta 126+75 to 134+00	27.66	LF
722	1200	MANHOLE RISER 108IN Sta 126+75 to 134+00	11.4	LF
722	3510	INLET-TYPE 2 Sta 126+75 to 134+00	5	EA
722	3520	INLET-TYPE 2 DOUBLE Sta 126+75 to 134+00	1	EA
722	4005	INLET CATCH BASIN Sta 126+75 to 134+00	5	EA

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

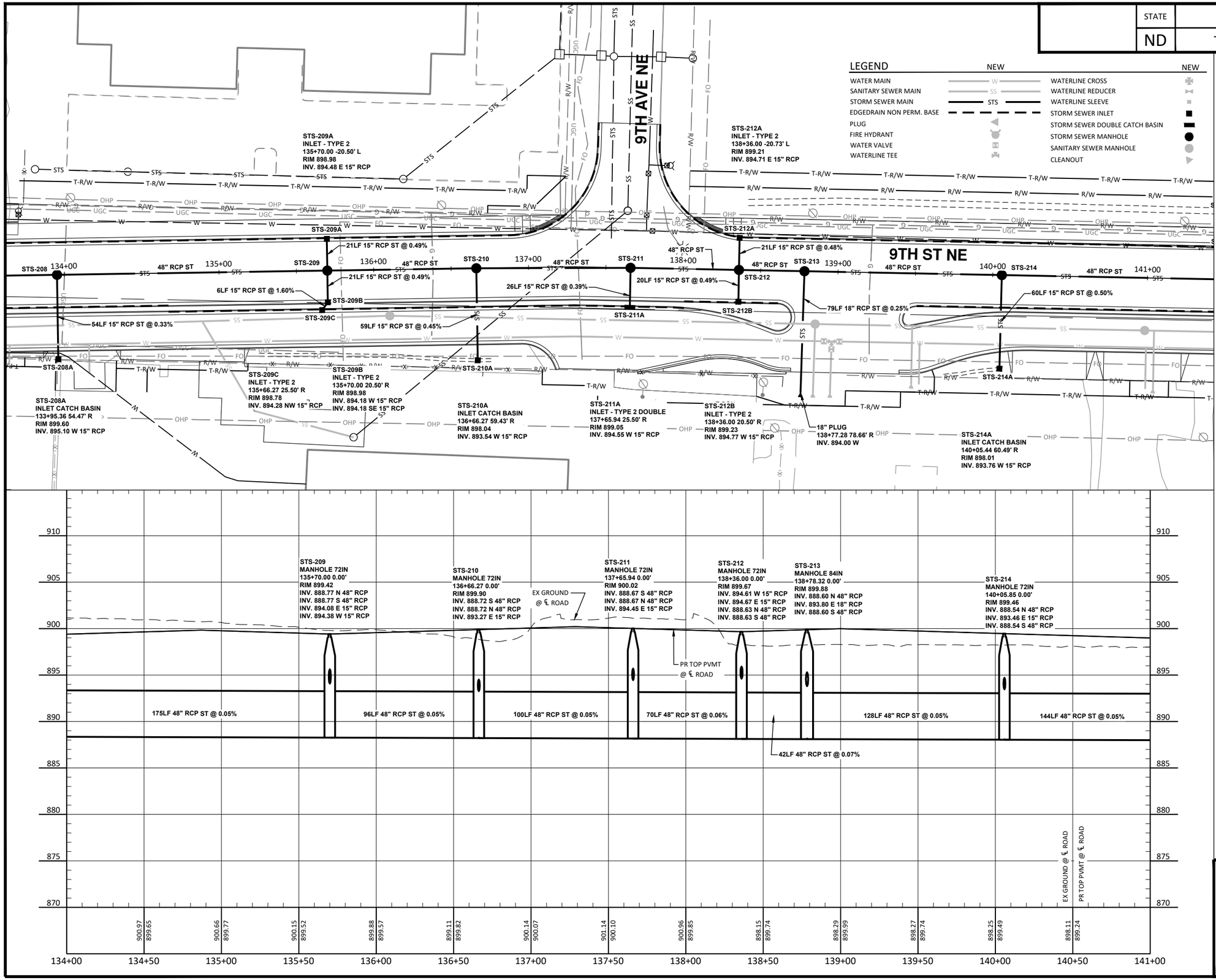
8/14/2025

Storm Sewer Plan & Profile - 9th St NE
Sta 126+70 to Sta 134+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	20



LEGEND

	NEW		NEW
WATER MAIN	W	WATERLINE CROSS	
SANITARY SEWER MAIN	SS	WATERLINE REDUCER	
STORM SEWER MAIN	STS	WATERLINE SLEEVE	
EDGEDRAIN NON PERM. BASE		STORM SEWER INLET	
PLUG		STORM SEWER DOUBLE CATCH BASIN	
FIRE HYDRANT		STORM SEWER MANHOLE	
WATER VALVE		SANITARY SEWER MANHOLE	
WATERLINE TEE		CLEANOUT	

SPEC CODE	BID ITEM	QTY	UNIT
714 215	PIPE CONC REINF 15IN CL V-STORM DRAIN		
	Sta 134+00 to 141+00	234	LF
714 337	PIPE CONC REINF 18IN CL V-STORM DRAIN		
	Sta 134+00 to 141+00	79	LF
714 1110	PIPE CONC REINF 48IN CL III-STORM DRAIN		
	Sta 134+00 to 141+00	700	LF
714 9680	PLUG PIPE-ALL TYPES & SIZES		
	Sta 134+00 to 141+00	1	EA
722 120	MANHOLE 72IN		
	Sta 134+00 to 141+00	5	EA
722 130	MANHOLE 84IN		
	Sta 134+00 to 141+00	1	EA
722 1120	MANHOLE RISER 72IN		
	Sta 134+00 to 141+00	48.89	LF
722 1130	MANHOLE RISER 84IN		
	Sta 134+00 to 141+00	10.03	LF
722 3510	INLET-TYPE 2		
	Sta 134+00 to 141+00	5	EA
722 3520	INLET-TYPE 2 DOUBLE		
	Sta 134+00 to 141+00	1	EA
722 4005	INLET CATCH BASIN		
	Sta 134+00 to 141+00	2	EA

N

30 0 30 60
Scale Feet

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Storm Sewer Plan & Profile - 9th St NE
Sta 134+00 to Sta 141+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	21

LEGEND

NEW: WATER MAIN (W), SANITARY SEWER MAIN (SS), STORM SEWER MAIN (STS), EDGEDRAIN NON PERM. BASE, PLUG, FIRE HYDRANT

NEW: WATER VALVE, WATERLINE TEE, WATERLINE CROSS, WATERLINE REDUCER, WATERLINE SLEEVE

NEW: STORM SEWER INLET, STORM SEWER DOUBLE CATCH BASIN, STORM SEWER MANHOLE, SANITARY SEWER MANHOLE, CLEANOUT

N

30 0 30 60
Scale Feet

9TH ST NE

10TH AVE NE

11TH AVE NE

STS-215A
INLET CATCH BASIN
141+50.00 -43.11' L
RIM 897.28
INV. 893.28 E 15" RCP

STS-215B
INLET - TYPE 2
141+50.00 -20.50' L
RIM 898.31
INV. 893.18 W 15" RCP
INV. 893.18 E 15" RCP

STS-218A
INLET - TYPE 2
143+78.69 -20.50' L
RIM 899.45
INV. 894.95 E 15" RCP

STS-316
MANHOLE 48IN
145+61.23 -46.58' L
RIM 900.59
INV. 893.97 W EX. 15" RCP

CONNECT EXISTING STORM SEWER TO NEW MANHOLE

STS-221A
INLET CATCH BASIN
146+80.00 -44.58' L
RIM 899.35
INV. 895.15 E 15" RCP

STS-221B
INLET - TYPE 2
146+80.00 -20.50' L
RIM 900.02
INV. 895.05 E 15" RCP
INV. 895.05 W 15" RCP

STS-215A
23LF 15" RCP ST @ 0.44%

STS-215B
20LF 15" RCP ST @ 0.49%

48" RCP ST

STS-215
141+00

STS-216
142+00

21LF 15" RCP ST @ 0.49%
5LF 15" RCP ST @ 1.89%

@ 0.50%

STS-215C
STS-215D
59LF 15" RCP ST @ 0.39%

STS-216A

STS-217
143+00

STS-218
144+00

STS-218A
20LF 15" RCP ST @ 0.49%

STS-218B
21LF 15" RCP ST @ 0.49%
74LF 18" RCP ST @ 0.28%

STS-219
145+00

STS-219A
46LF 15" RCP ST @ 0.44%

STS-220
146+00
54" RCP ST
60LF 24" RCP ST @ 0.20%

STS-221
147+00
54" RCP ST

STS-221A
24LF 15" RCP ST @ 0.42%

STS-221B
21LF 15" RCP ST @ 0.49%

STS-221C
20LF 15" RCP ST @ 0.50%
20LF 15" RCP ST @ 0.51%

STS-221D
148+00

24IN PLUG

STS-215C
INLET - TYPE 2
141+50.00 20.50' R
RIM 898.30
INV. 893.78 NE 15" RCP
INV. 893.78 W 15" RCP

STS-215D
INLET - TYPE 2
141+53.45 24.50' R
RIM 898.38
INV. 893.88 SW 15" RCP

STS-216A
INLET CATCH BASIN
142+10.49 58.80' R
RIM 897.78
INV. 893.53 W 15" RCP

STS-217A
18" PLUG
143+23.30 73.82' R
RIM 891.97
INV. 890.21 W 18" RCP

STS-218B
INLET - TYPE 2
143+78.69 20.50' R
RIM 899.45
INV. 894.95 W 15" RCP

STS-219A
INLET CATCH BASIN
144+50.00 45.58' R
RIM 897.35
INV. 892.85 W 15" RCP

24IN PLUG
24" PLUG
145+66.74 59.51' R
RIM 893.14
INV. 890.82 W 24" RCP

STS-221C
INLET SPECIAL - TYPE 2 48IN
146+80.00 20.00' R
RIM 900.03
INV. 893.25 W 15" RCP
INV. 893.25 E 15" RCP

STS-221D
INLET CATCH BASIN
146+80.00 39.80' R
RIM 897.64
INV. 893.35 W 15" RCP

STS-215
MANHOLE 72IN
141+50.00 0.00'
RIM 898.74
INV. 888.47 S 48" RCP
INV. 888.47 N 48" RCP
INV. 893.68 E 15" RCP
INV. 893.08 W 15" RCP

STS-216
MANHOLE 72IN
142+10.49 0.00'
RIM 899.05
INV. 888.44 N 48" RCP
INV. 893.30 E 15" RCP
INV. 888.44 S 48" RCP

STS-217
MANHOLE 84IN
143+24.32 0.00'
RIM 899.61
INV. 888.38 S 48" RCP
INV. 888.38 N 48" RCP
INV. 890.00 E 18" RCP

STS-218
MANHOLE 72IN
143+78.69 0.00'
RIM 899.89
INV. 888.35 N 48" RCP
INV. 894.85 E 15" RCP
INV. 888.35 S 48" RCP
INV. 894.85 W 15" RCP

STS-219
MANHOLE 72IN
144+50.00 0.00'
RIM 900.24
INV. 888.31 N 48" RCP
INV. 888.31 S 48" RCP
INV. 892.65 E 15" RCP

EX GROUND @ ℄ ROAD

PR TOP PVMT @ ℄ ROAD

STS-220
MANHOLE 84IN
145+64.22 0.01' R
RIM 900.81
INV. 888.26 S 48" RCP
INV. 888.26 N 54" RCP
INV. 890.70 E 24" RCP

STS-221
MANHOLE 84IN
146+80.00 0.02' R
RIM 900.46
INV. 888.20 S 54" RCP
INV. 888.20 N 54" RCP
INV. 893.15 E 15" RCP
INV. 894.95 W 15" RCP

114LF 48" RCP ST @ 0.05%
60LF 48" RCP ST @ 0.05%
71LF 48" RCP ST @ 0.06%
54LF 48" RCP ST @ 0.06%
114LF 48" RCP ST @ 0.05%
116LF 54" RCP ST @ 0.05%
360LF 54" RCP ST @ 0.04%

910 905 900 895 890 885 880 875 870

888.36 898.74 | 888.18 898.99 | 888.46 899.24 | 888.36 899.49 | 888.31 899.74 | 888.72 899.99 | 898.88 900.24 | 900.08 900.49 | 901.14 900.74 | 901.22 900.86 | 901.47 900.61 | 901.64 900.56 | 901.72 900.81

EX GROUND @ ℄ ROAD
PR TOP PVMT @ ℄ ROAD

141+00 141+50 142+00 142+50 143+00 143+50 144+00 144+50 145+00 145+50 146+00 146+50 147+00 147+50 148+00

SPEC	CODE	BID ITEM	QTY	UNIT
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN		
		Sta 141+00 to 148+00	300	LF
714	337	PIPE CONC REINF 18IN CL V-STORM DRAIN		
		Sta 141+00 to 148+00	74	LF
714	620	PIPE CONC REINF 24IN CL III-STORM DRAIN		
		Sta 141+00 to 148+00	60	LF
714	1110	PIPE CONC REINF 48IN CL III-STORM DRAIN		
		Sta 141+00 to 148+00	463	LF
714	1212	PIPE CONC REINF 54IN CL III-STORM DRAIN		
		Sta 141+00 to 148+00	236	LF
714	9680	PLUG PIPE-ALL TYPES & SIZES		
		Sta 141+00 to 148+00	2	EA
722	100	MANHOLE 48IN		
		Sta 141+00 to 148+00	1	EA
722	120	MANHOLE 72IN		
		Sta 141+00 to 148+00	4	EA
722	130	MANHOLE 84IN		
		Sta 141+00 to 148+00	3	EA
722	1100	MANHOLE RISER 48IN		
		Sta 141+00 to 148+00	5.31	LF
722	1120	MANHOLE RISER 72IN		
		Sta 141+00 to 148+00	39.35	LF
722	1130	MANHOLE RISER 84IN		
		Sta 141+00 to 148+00	32.37	LF
722	3510	INLET-TYPE 2		
		Sta 141+00 to 148+00	6	EA
722	3701	INLET SPECIAL-TYPE 2 48IN		
		Sta 141+00 to 148+00	1	EA
722	4005	INLET CATCH BASIN		
		Sta 141+00 to 148+00	5	EA

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

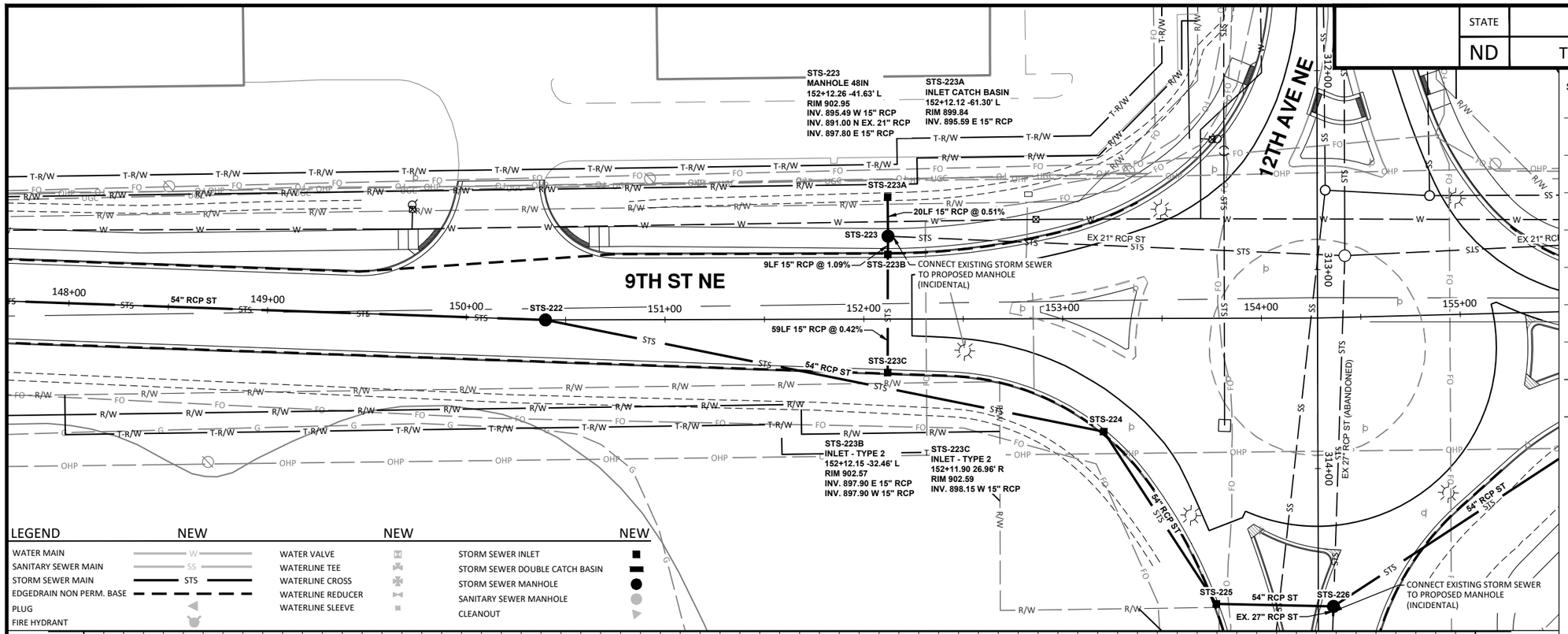
Storm Sewer Plan & Profile - 9th St NE
Sta 141+00 to Sta 148+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\BN\8600\86541\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\055 - Storm Sewer Plan & Profile.dwg-P&P (7) 8/13/2025 3:55 PM (bwall)

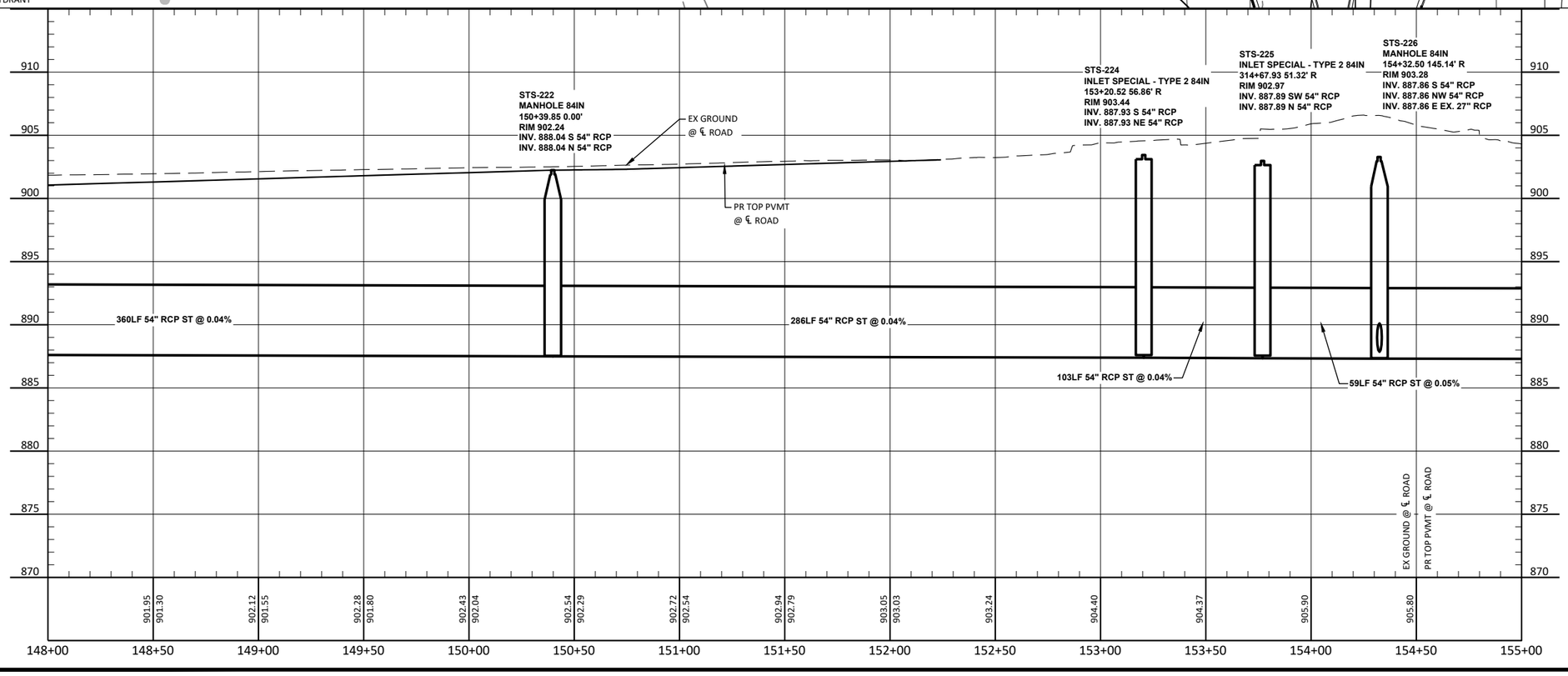
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	22

SPEC CODE	BID ITEM		QTY	UNIT
714 215	PIPE CONC REINF 15IN CL V-STORM DRAIN			
	Sta 148+00 to 155+00		88	LF
714 1212	PIPE CONC REINF 54IN CL III-STORM DRAIN			
	Sta 148+00 to 155+00		798	LF
722 100	MANHOLE 48IN			
	Sta 148+00 to 155+00		1	EA
722 130	MANHOLE 84IN			
	Sta 148+00 to 155+00		2	EA
722 1100	MANHOLE RISER 48IN			
	Sta 148+00 to 155+00		10.68	LF
722 1130	MANHOLE RISER 84IN			
	Sta 148+00 to 155+00		27.2	LF
722 3510	INLET-TYPE 2			
	Sta 148+00 to 155+00		2	EA
722 3768	INLET SPECIAL-TYPE 2 84IN			
	Sta 148+00 to 155+00		2	EA
722 4005	INLET CATCH BASIN			
	Sta 148+00 to 155+00		1	EA



LEGEND

	NEW		NEW		NEW
WATER MAIN	W	WATER VALVE		STORM SEWER INLET	
SANITARY SEWER MAIN	SS	WATERLINE TEE		STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MAIN	STS	WATERLINE CROSS		STORM SEWER MANHOLE	
EDGEDRAIN NON PERM. BASE		WATERLINE REDUCER		SANITARY SEWER MANHOLE	
PLUG		WATERLINE SLEEVE		CLEANOUT	
FIRE HYDRANT					



30 0 30 60
Scale Feet

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

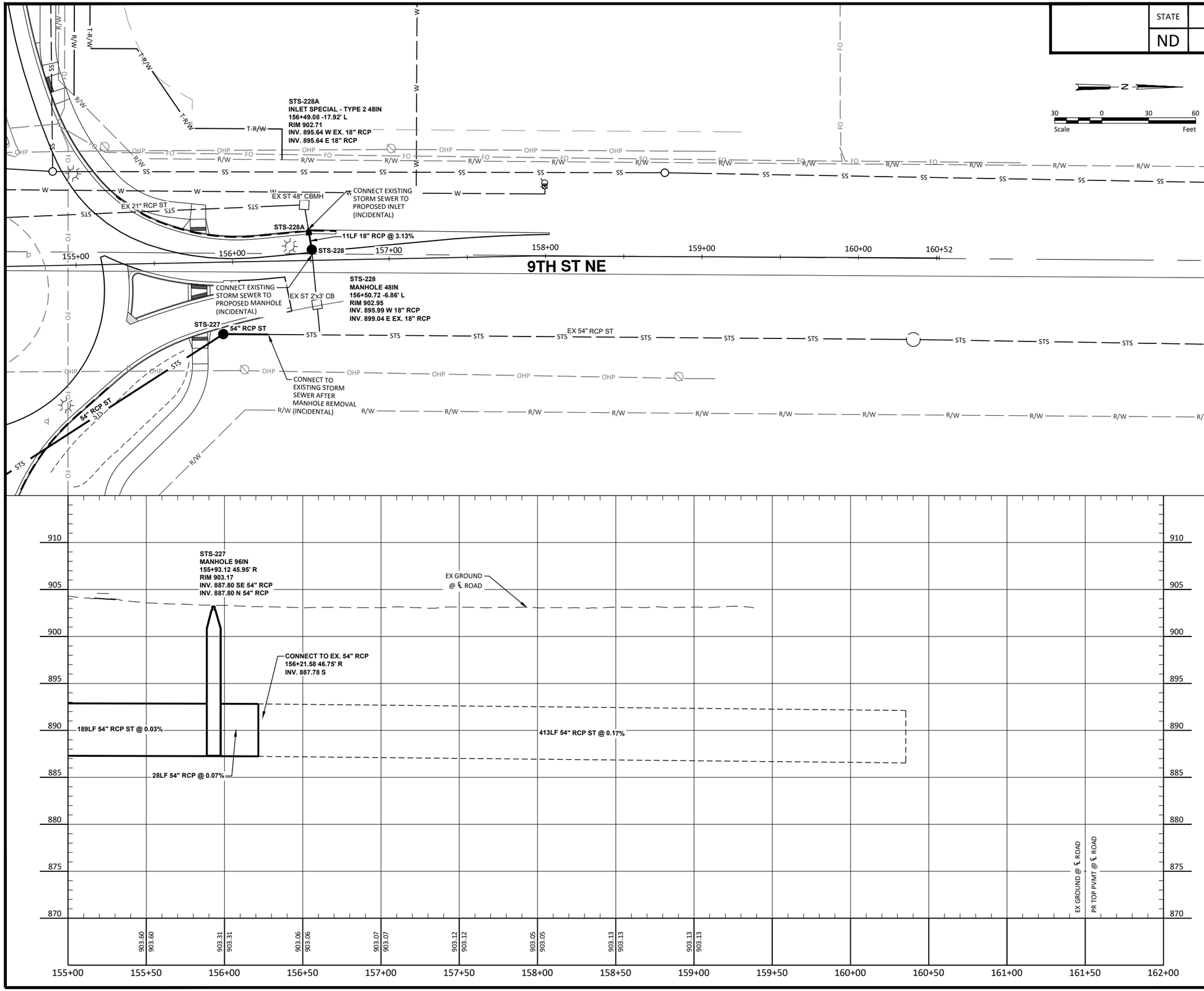
8/14/2025

Storm Sewer Plan & Profile - 9th St NE
Sta 148+00 to Sta 155+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	23



SPEC	CODE	BID ITEM	QTY	UNIT
714	337	PIPE CONC REINF 18IN CL V-STORM DRAIN		
		Sta 155+00 to 160+00	11	LF
714	1212	PIPE CONC REINF 54IN CL III-STORM DRAIN		
		Sta 155+00 to 160+00	107	LF
722	100	MANHOLE 48IN		
		Sta 155+00 to 160+00	1	EA
722	140	MANHOLE 96IN		
		Sta 155+00 to 160+00	1	EA
722	1100	MANHOLE RISER 48IN		
		Sta 155+00 to 160+00	5.67	LF
722	1140	MANHOLE RISER 96IN		
		Sta 155+00 to 160+00	14.16	LF
722	3701	INLET SPECIAL-TYPE 2 48IN		
		Sta 155+00 to 160+00	1	EA

LEGEND — NEW

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- EDGEDRAIN NON PERM. BASE
- PLUG
- FIRE HYDRANT
- WATER VALVE
- WATERLINE TEE
- WATERLINE CROSS
- WATERLINE REDUCER
- WATERLINE SLEEVE
- STORM SEWER INLET
- STORM SEWER DOUBLE CATCH BASIN
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- CLEANOUT

CITY OF WEST FARGO

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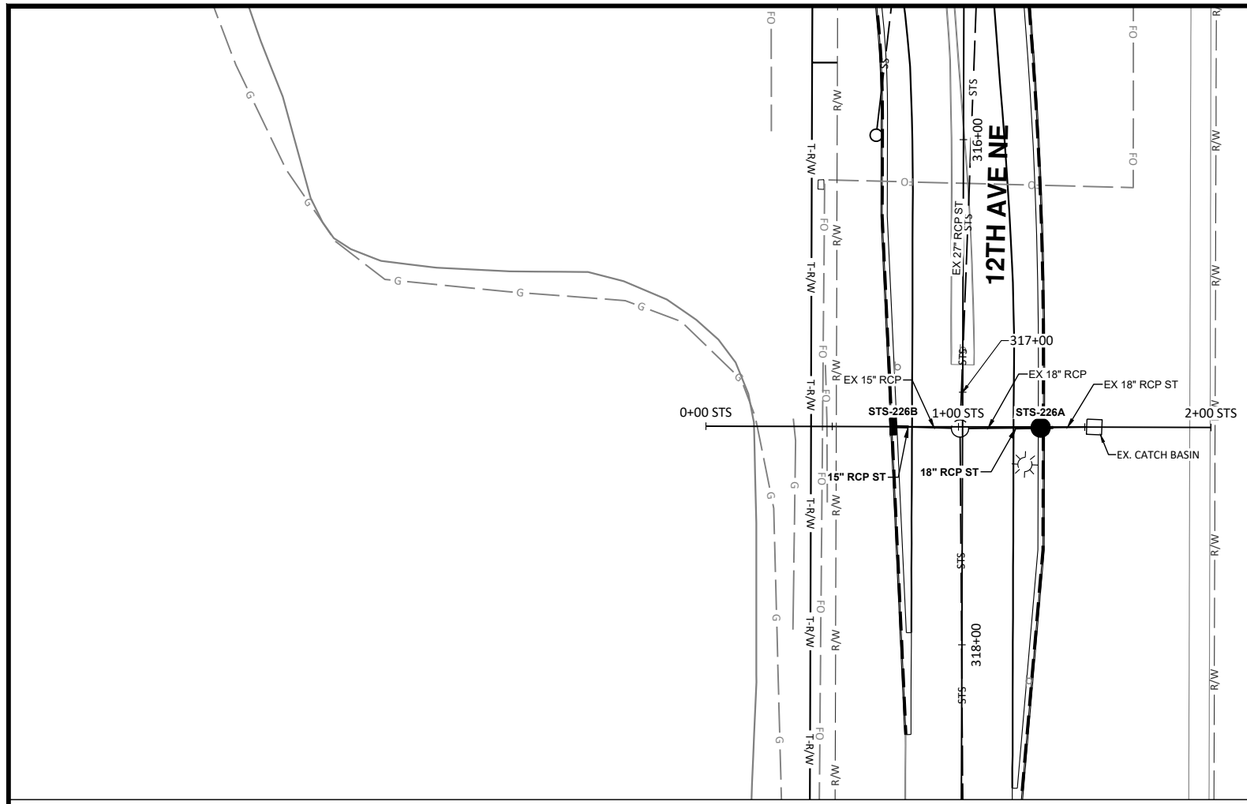
8/14/2025

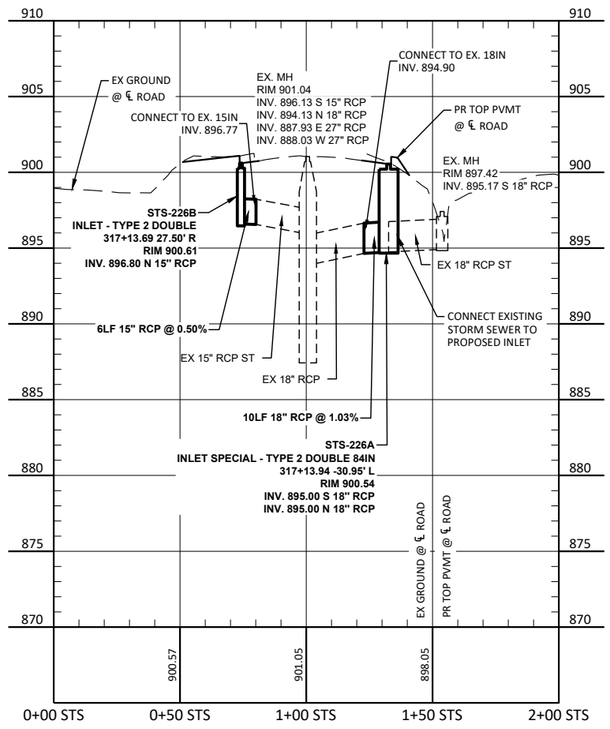
Storm Sewer Plan & Profile - 9th St NE
Sta 155+00 to Sta 162+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\055 - Storm Sewer Plan & Profile.dwg-P&P (9)-8/13/2025 3:56 PM-(bwall)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	24





SPEC	CODE	BID ITEM	QTY	UNIT
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN		
		Sta 0+00 to 2+00	6	LF
714	337	PIPE CONC REINF 18IN CL V-STORM DRAIN		
		Sta 0+00 to 2+00	10	LF
722	3520	INLET-TYPE 2 DOUBLE		
		Sta 0+00 to 2+00	1	EA
722	3825	INLET SPECIAL-TYPE 2 DOUBLE 84IN		
		Sta 0+00 to 2+00	1	EA

LEGEND — NEW

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- EDGEDRAIN NON PERM. BASE
- PLUG
- FIRE HYDRANT
- WATER VALVE
- WATERLINE TEE
- WATERLINE CROSS
- WATERLINE REDUCER
- WATERLINE SLEEVE
- STORM SEWER INLET
- STORM SEWER DOUBLE CATCH BASIN
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- CLEANOUT

N

30 0 30 60
Scale Feet

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Storm Sewer Plan & Profile - 12th Ave NE
Sta 316+00 to Sta 318+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	25

LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
EDGEDRAIN NON PERM. BASE	
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

N

30 0 30 60
Scale Feet

STS-300A
INLET CATCH BASIN
207+67.80 -42.05' L
RIM 897.06
INV. 893.05 S 15" RCP

STS-300B
INLET SPECIAL - TYPE 2 48IN
207+68.43 -26.31' L
RIM 899.24
INV. 892.95 N 15" RCP
INV. 892.95 S 15" RCP

STS-300C
INLET SPECIAL - TYPE 2 48IN
207+69.99 15.22' R
RIM 899.39
INV. 892.75 N 15" RCP
INV. 892.75 S 18" RCP

STS-302A
INLET CATCH BASIN
211+30.36 -52.57' L
RIM 896.30
INV. 892.30 S 15" RCP

STS-302B
INLET SPECIAL - TYPE 2 48IN
211+28.41 -29.91' L
RIM 900.11
INV. 892.20 S 15" RCP
INV. 892.20 N 15" RCP

STS-303A
INLET - TYPE 2
211+91.08 -23.69' L
RIM 900.41
INV. 895.91 S 15" RCP

STS-302C
INLET - TYPE 2
211+26.45 17.66' R
RIM 900.09
INV. 895.59 N 15" RCP

STS-303B
INLET SPECIAL - TYPE 2 48IN
211+88.28 17.10' R
RIM 900.41
INV. 893.33 S 15" RCP
INV. 893.33 N 15" RCP

STS-303C
INLET CATCH BASIN
211+95.08 51.82' R
RIM 897.53
INV. 893.53 N 15" RCP

SPEC	CODE	BID ITEM	QTY	UNIT
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN		
		Sta 207+00 to 212+00	205	LF
714	337	PIPE CONC REINF 18IN CL V-STORM DRAIN		
		Sta 207+00 to 212+00	13	LF
714	1010	PIPE CONC REINF 42IN CL III-STORM DRAIN		
		Sta 207+00 to 212+00	11	LF
714	1110	PIPE CONC REINF 48IN CL III-STORM DRAIN		
		Sta 207+00 to 212+00	127	LF
714	1212	PIPE CONC REINF 54IN CL III-STORM DRAIN		
		Sta 207+00 to 212+00	78	LF
722	120	MANHOLE 72IN		
		Sta 207+00 to 212+00	2	EA
722	140	MANHOLE 96IN		
		Sta 207+00 to 212+00	1	EA
722	1120	MANHOLE RISER 72IN		
		Sta 207+00 to 212+00	20.01	LF
722	1140	MANHOLE RISER 96IN		
		Sta 207+00 to 212+00	10.6	LF
722	3510	INLET-TYPE 2		
		Sta 207+00 to 212+00	2	EA
722	3701	INLET SPECIAL-TYPE 2 48IN		
		Sta 207+00 to 212+00	4	EA
722	4005	INLET CATCH BASIN		
		Sta 207+00 to 212+00	3	EA
722	4114	INLET SPECIAL CATCH BASIN 84IN		
		Sta 207+00 to 212+00	1	EA

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Storm Sewer Plan & Profile - 7th Ave NE
Sta 205+00 to Sta 212+00

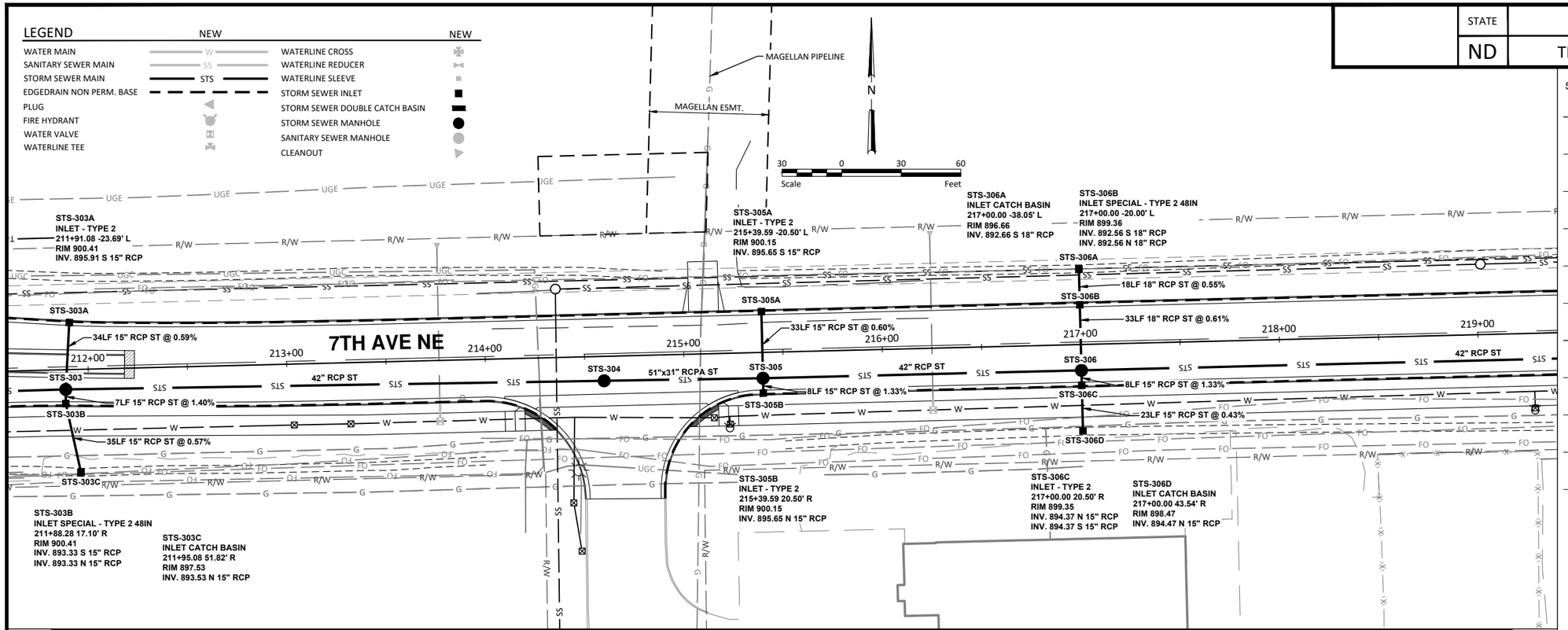
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

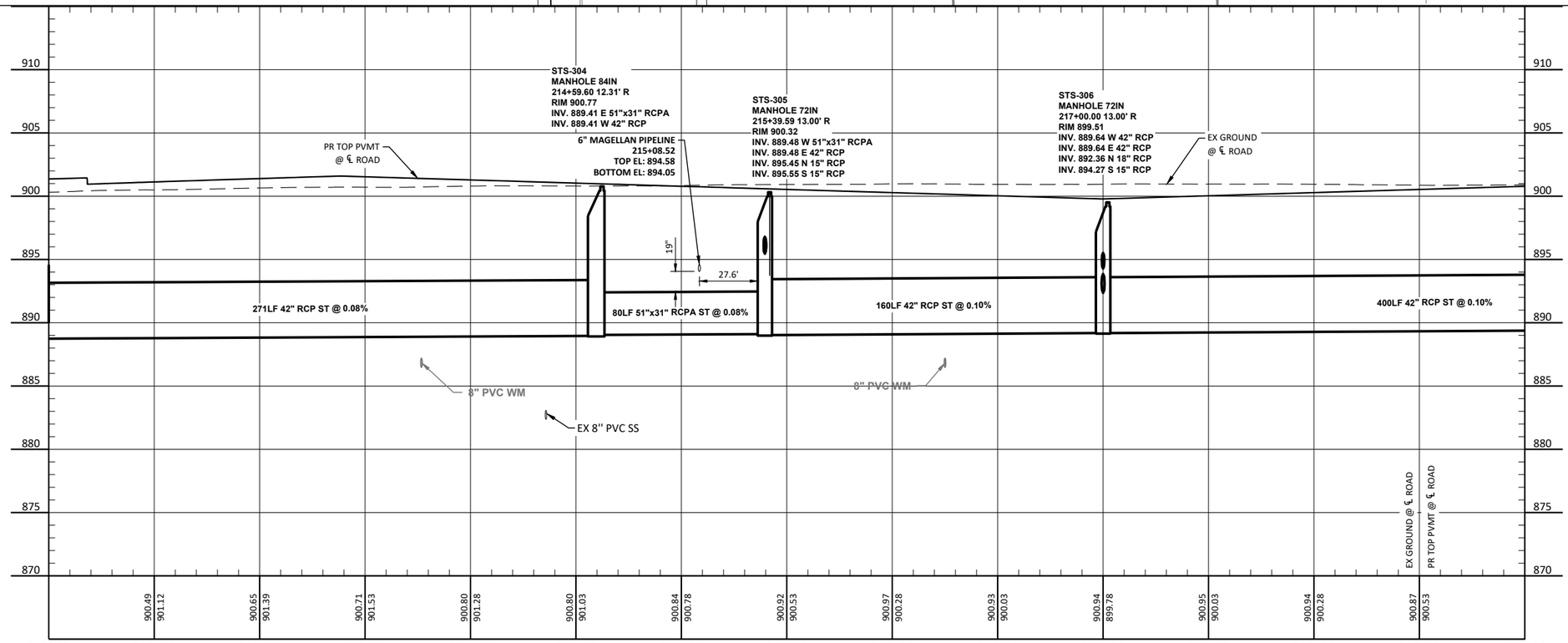
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	26

LEGEND

	NEW		NEW
WATER MAIN	W	WATERLINE CROSS	
SANITARY SEWER MAIN	SS	WATERLINE REDUCER	
STORM SEWER MAIN	STS	WATERLINE SLEEVE	
EDGEDRAIN NON PERM. BASE		STORM SEWER INLET	
PLUG		STORM SEWER DOUBLE CATCH BASIN	
FIRE HYDRANT		STORM SEWER MANHOLE	
WATER VALVE		SANITARY SEWER MANHOLE	
WATERLINE TEE		CLEANOUT	





SPEC	CODE	BID ITEM	QTY	UNIT
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN		
		Sta 212+00 to 219+00	72	LF
714	337	PIPE CONC REINF 18IN CL V-STORM DRAIN		
		Sta 212+00 to 219+00	51	LF
714	1010	PIPE CONC REINF 42IN CL III-STORM DRAIN		
		Sta 212+00 to 219+00	620	LF
722	120	MANHOLE 72IN		
		Sta 212+00 to 219+00	2	EA
722	130	MANHOLE 84IN		
		Sta 212+00 to 219+00	1	EA
722	1120	MANHOLE RISER 72IN		
		Sta 212+00 to 219+00	18.13	LF
722	1130	MANHOLE RISER 84IN		
		Sta 212+00 to 219+00	10.07	LF
714	2018	PIPE CONC REINF ARCH 51IN X 31IN CL II		
		Sta 212+00 to 219+00	80	LF
722	3510	INLET-TYPE 2		
		Sta 212+00 to 219+00	3	EA
722	3701	INLET SPECIAL-TYPE 2 48IN		
		Sta 212+00 to 219+00	1	EA
722	4005	INLET CATCH BASIN		
		Sta 212+00 to 219+00	2	EA

WARNING
HIGH-PRESSURE PIPELINE(S)
Excavation and/or Construction Prohibited
Without compliance with **State One-Call**, AND
Without Written Permission From
MAGELLAN PIPELINE COMPANY, L.P.
A MAGELLAN REPRESENTATIVE MUST BE PRESENT DURING WORK AROUND PIPELINE(S)

CITY OF WEST FARGO

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

Storm Sewer Plan & Profile - 7th Ave NE
Sta 212+00 to Sta 219+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	27

N

30 0 30 60
Scale Feet

STS-307A
INLET CATCH BASIN
221+00.00 -39.81' L
RIM 898.00
INV. 894.00 S 15" RCP

STS-308A
INLET - TYPE 2
222+00.00 -20.50' L
RIM 900.13
INV. 895.63 S 15" RCP

STS-309A
INLET CATCH BASIN
224+20.50 -34.20' L
RIM 897.30
INV. 893.80 S 15" RCP

STS-309B
INLET - TYPE 2
224+20.50 -20.50' L
RIM 899.03
INV. 893.70 S 15" RCP
INV. 893.70 N 15" RCP

STS-310A
INLET CATCH BASIN
225+50.00 -36.75' L
RIM 897.37
INV. 893.37 S 15" RCP

STS-310B
INLET SPECIAL - TYPE 2 48IN
225+50.00 -20.10' L
RIM 899.69
INV. 893.27 S 15" RCP
INV. 893.27 N 15" RCP

7TH AVE NE

53LF 15" RCP ST @ 0.47%
33LF 15" RCP ST @ 0.60%
14LF 15" RCP ST @ 0.73%
17LF 15" RCP ST @ 0.60%
34LF 15" RCP ST @ 0.60%
33LF 15" RCP ST @ 0.60%
7LF 15" RCP ST @ 1.33%
8LF 15" RCP ST @ 1.33%
7LF 15" RCP ST @ 1.33%
23LF 15" RCP ST @ 0.43%

42" RCP ST
36" RCP ST
36" RCP ST
30" RCP ST

STS-307
STS-308
STS-309
STS-310
STS-308A
STS-309A
STS-310A
STS-308B
STS-309B
STS-310B
STS-309C
STS-310C
STS-309D

STS-308B
INLET - TYPE 2
222+00.00 20.50' R
RIM 900.13
INV. 895.63 N 15" RCP

STS-309C
INLET - TYPE 2
224+20.50 20.50' R
RIM 899.03
INV. 894.09 N 15" RCP
INV. 894.09 S 15" RCP

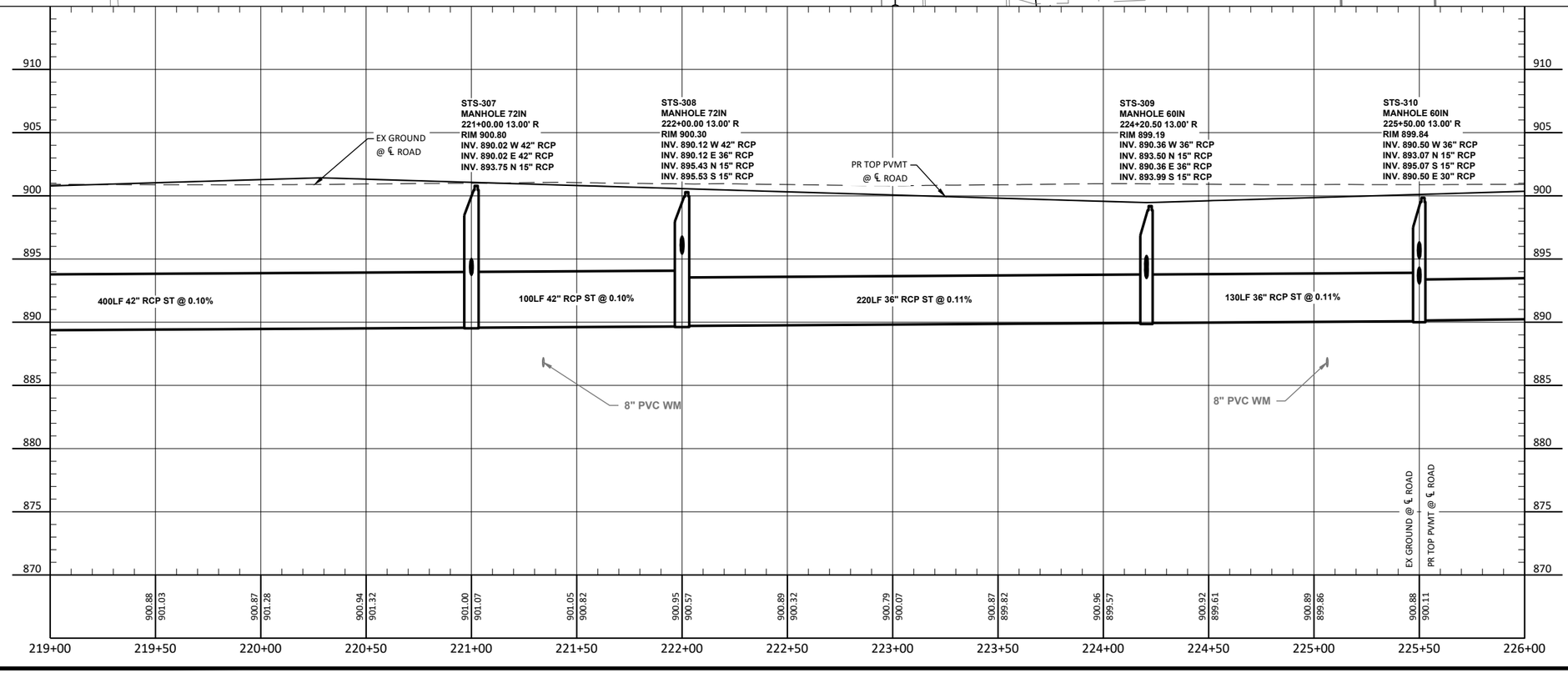
STS-309D
INLET CATCH BASIN
224+20.50 43.71' R
RIM 898.19
INV. 894.19 N 15" RCP

STS-310C
INLET - TYPE 2
225+50.00 20.50' R
RIM 899.67
INV. 895.17 N 15" RCP

219+00 220+00 221+00 222+00 223+00 224+00 225+00 226+00

LEGEND

	NEW		NEW
WATER MAIN	W	WATERLINE CROSS	
SANITARY SEWER MAIN	SS	WATERLINE REDUCER	
STORM SEWER MAIN	STS	WATERLINE SLEEVE	
EDGEDRAIN NON PERM. BASE		STORM SEWER INLET	
PLUG		STORM SEWER DOUBLE CATCH BASIN	
FIRE HYDRANT		STORM SEWER MANHOLE	
WATER VALVE		SANITARY SEWER MANHOLE	
WATERLINE TEE		CLEANOUT	



SPEC CODE	BID ITEM	QTY	UNIT
714 215	PIPE CONC REINF 15IN CL V-STORM DRAIN		
	Sta 219+00 to 226+00	229	LF
714 825	PIPE CONC REINF 30IN CL III-STORM DRAIN		
	Sta 219+00 to 226+00	50	LF
714 910	PIPE CONC REINF 36IN CL III-STORM DRAIN		
	Sta 219+00 to 226+00	350	LF
714 1010	PIPE CONC REINF 42IN CL III-STORM DRAIN		
	Sta 219+00 to 226+00	300	LF
722 110	MANHOLE 60IN		
	Sta 219+00 to 226+00	2	EA
722 120	MANHOLE 72IN		
	Sta 219+00 to 226+00	2	EA
722 1110	MANHOLE RISER 60IN		
	Sta 219+00 to 226+00	15.51	LF
722 1120	MANHOLE RISER 72IN		
	Sta 219+00 to 226+00	18.38	LF
722 3510	INLET-TYPE 2		
	Sta 219+00 to 226+00	5	EA
722 3701	INLET SPECIAL-TYPE 2 48IN		
	Sta 219+00 to 226+00	1	EA
722 4005	INLET CATCH BASIN		
	Sta 219+00 to 226+00	4	EA

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

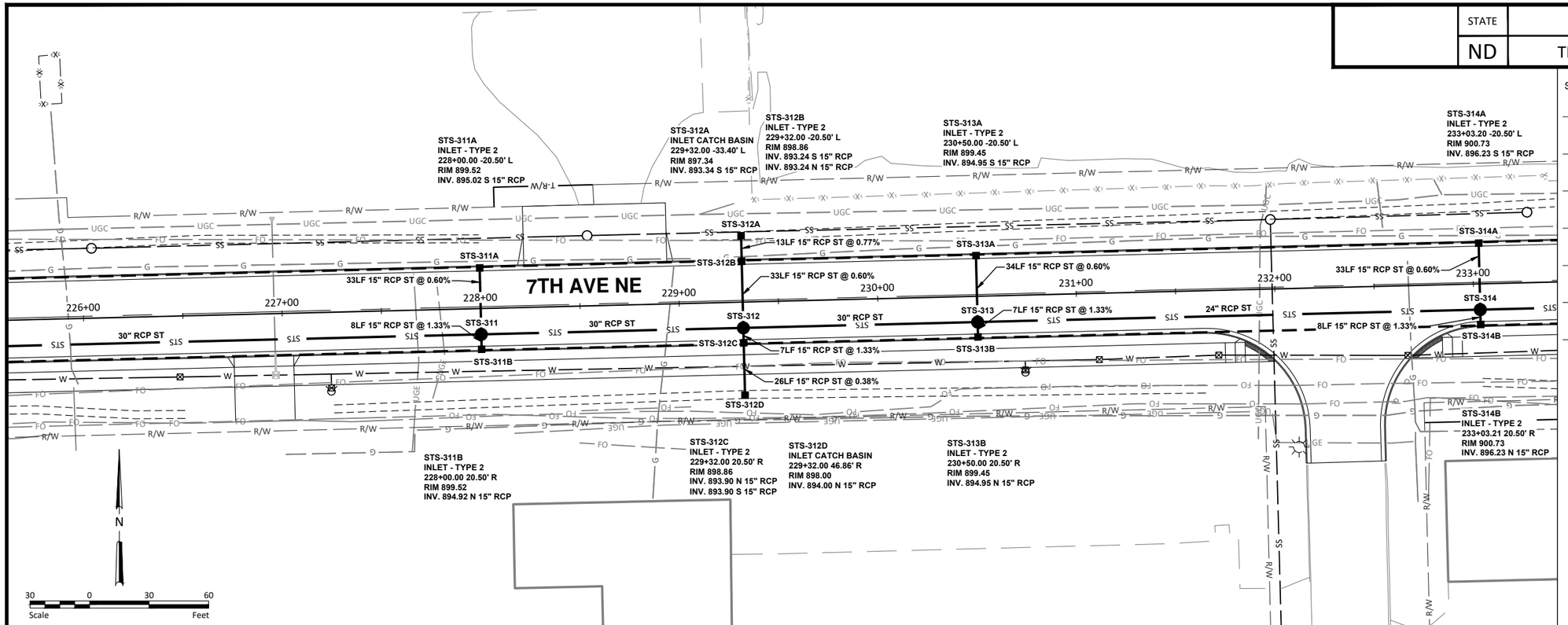
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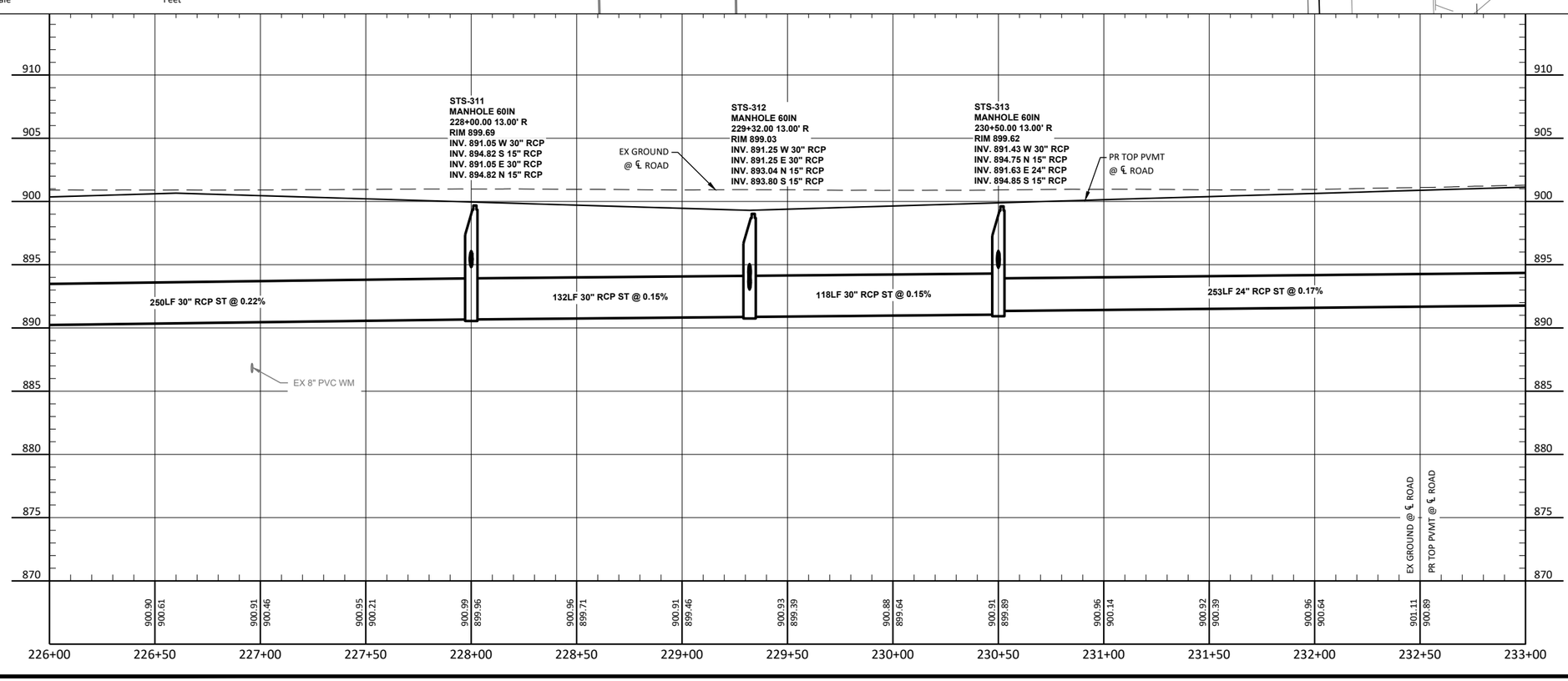
Storm Sewer Plan & Profile - 7th Ave NE
Sta 219+00 to Sta 226+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\Q_CITY PROJECT\Plans\055 - Storm Sewer Plan & Profile.dwg-P&P (12)-8/13/2025 3:57 PM-(bwall)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	28





SPEC CODE BID ITEM

714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN Sta 226+00 to 233+00	161	LF
714	620	PIPE CONC REINF 24IN CL III-STORM DRAIN Sta 226+00 to 233+00	250	LF
714	825	PIPE CONC REINF 30IN CL III-STORM DRAIN Sta 226+00 to 233+00	450	LF
722	110	MANHOLE 60IN Sta 226+00 to 233+00	3	EA
722	1110	MANHOLE RISER 60IN Sta 226+00 to 233+00	20.49	LF
722	3510	INLET-TYPE 2 Sta 226+00 to 233+00	6	EA
722	4005	INLET CATCH BASIN Sta 226+00 to 233+00	2	EA

LEGEND NEW

- WATER MAIN — W
- SANITARY SEWER MAIN — SS
- STORM SEWER MAIN — STS
- EDGEDRAIN NON PERM. BASE
- PLUG
- FIRE HYDRANT
- WATER VALVE
- WATERLINE TEE
- WATERLINE CROSS
- WATERLINE REDUCER
- WATERLINE SLEEVE
- STORM SEWER INLET
- STORM SEWER DOUBLE CATCH BASIN
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- CLEANOUT

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

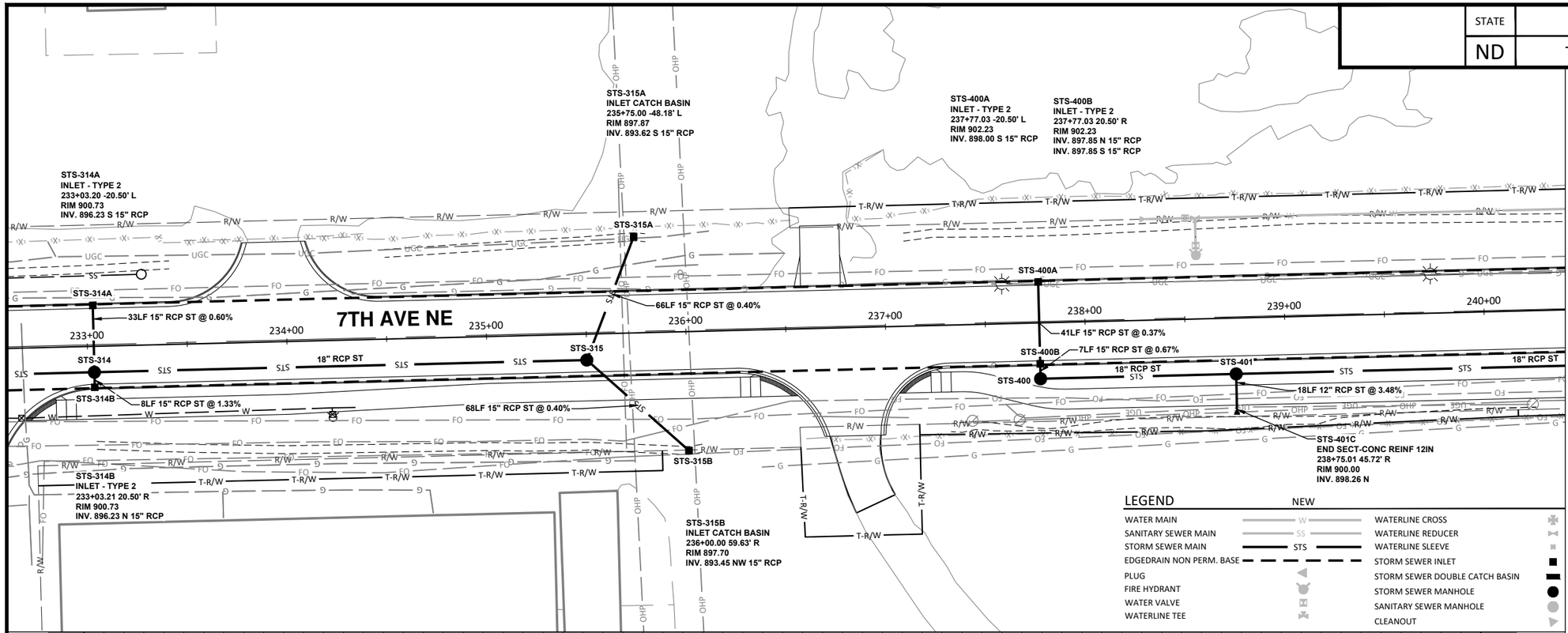
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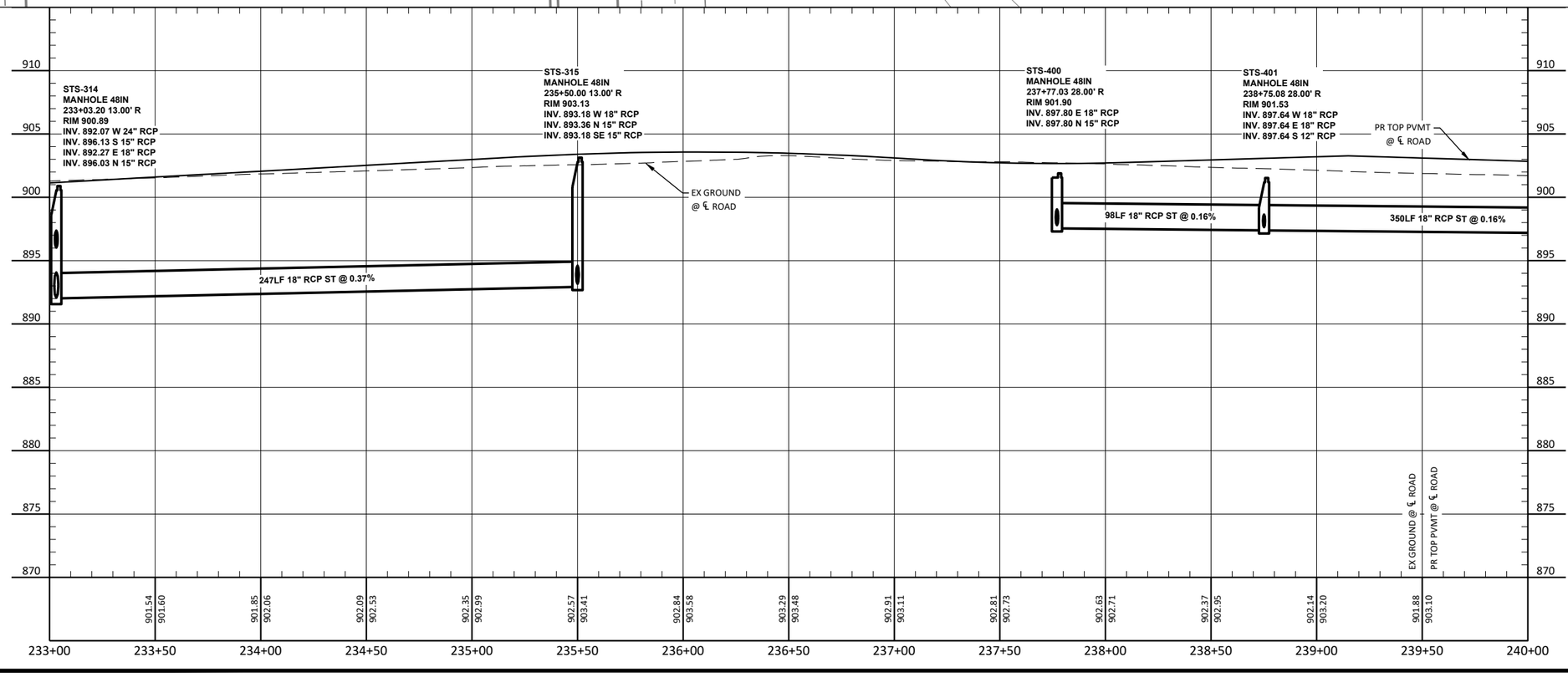
Storm Sewer Plan & Profile - 7th Ave NE
Sta 226+00 to Sta 233+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	29





SPEC	CODE	BID ITEM	QTY	UNIT
714	137	PIPE CONC REINF 12IN CL V-STORM DRAIN Sta 233+00 to 240+00	18	LF
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN Sta 233+00 to 240+00	223	LF
714	337	PIPE CONC REINF 18IN CL V-STORM DRAIN Sta 233+00 to 240+00	470	LF
714	620	PIPE CONC REINF 24IN CL III-STORM DRAIN Sta 226+00 to 233+00	3	LF
714	3000	END SECT-CONC REINF 12IN Sta 233+00 to 240+00	1	EA
722	100	MANHOLE 48IN Sta 233+00 to 240+00	4	EA
722	1100	MANHOLE RISER 48IN Sta 233+00 to 240+00	21.64	LF
722	3510	INLET-TYPE 2 Sta 233+00 to 240+00	4	EA
722	4005	INLET CATCH BASIN Sta 233+00 to 240+00	2	EA

N

30 0 30 60
Scale Feet

CITY OF WEST FARGO

HOUSTON engineering, inc.

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NORTH DAKOTA

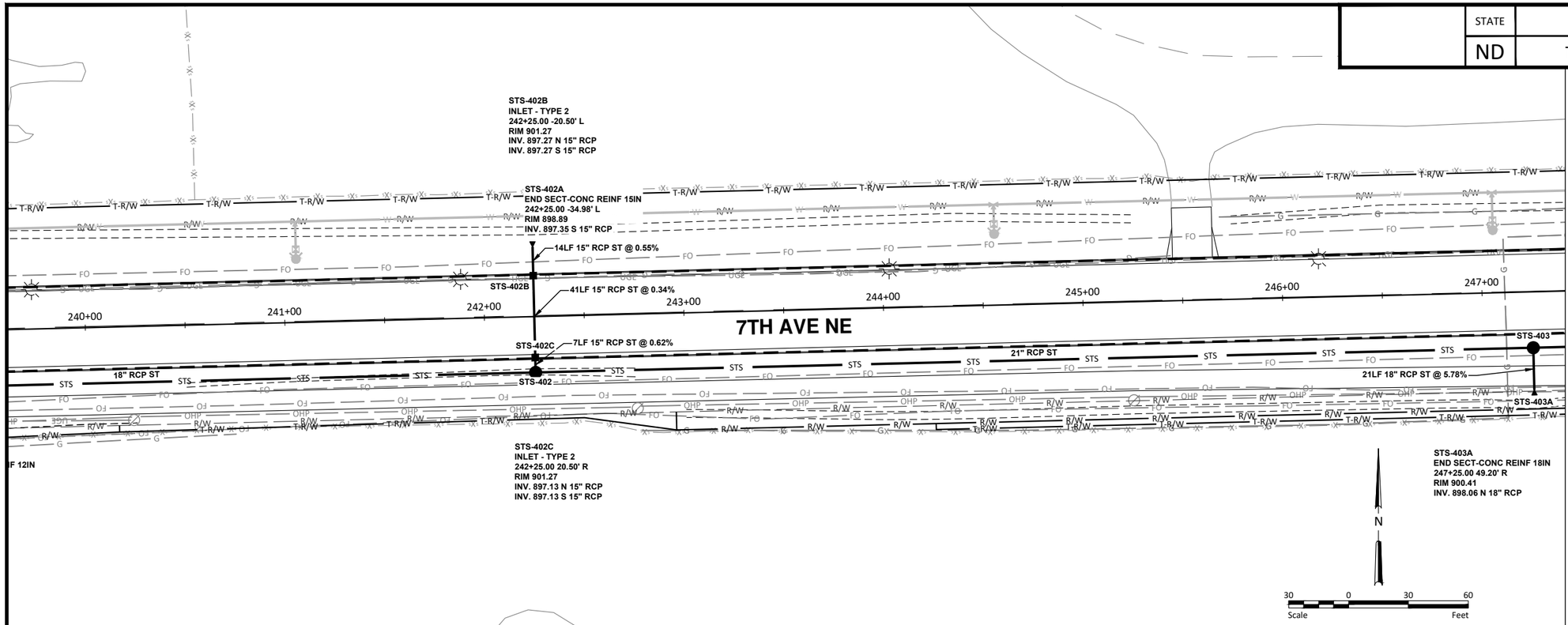
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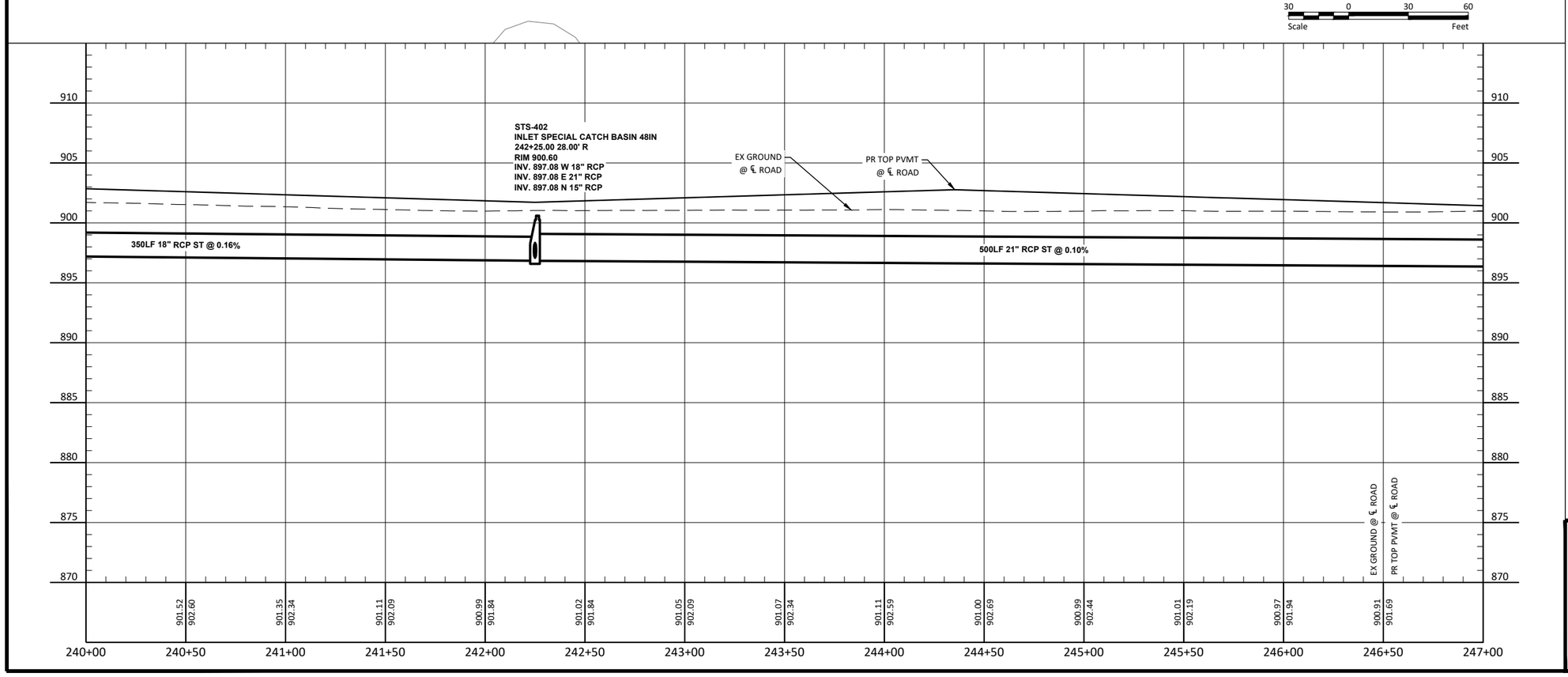
Storm Sewer Plan & Profile - 7th Ave NE
Sta 233+00 to Sta 240+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	30





SPEC	CODE	BID ITEM	QTY	UNIT
714	337	PIPE CONC REINF 18IN CL V-STORM DRAIN		
		Sta 240+00 to 247+00	225	LF
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN		
		Sta 240+00 to 247+00	62	LF
714	405	PIPE CONC REINF 21IN CL III-STORM DRAIN		
		Sta 240+00 to 247+00	475	LF
714	3005	END SECT-CONC REINF 15IN		
		Sta 240+00 to 247+00	1	EA
722	3510	INLET-TYPE 2		
		Sta 240+00 to 247+00	2	EA
722	4108	INLET SPECIAL CATCH BASIN 48IN		
		Sta 240+00 to 247+00	1	EA

LEGEND — NEW

- WATER MAIN
- SANITARY SEWER MAIN
- STORM SEWER MAIN
- EDGEDRAIN NON PERM. BASE
- PLUG
- FIRE HYDRANT
- WATER VALVE
- WATERLINE TEE
- WATERLINE CROSS
- WATERLINE REDUCER
- WATERLINE SLEEVE
- STORM SEWER INLET
- STORM SEWER DOUBLE CATCH BASIN
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- CLEANOUT

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

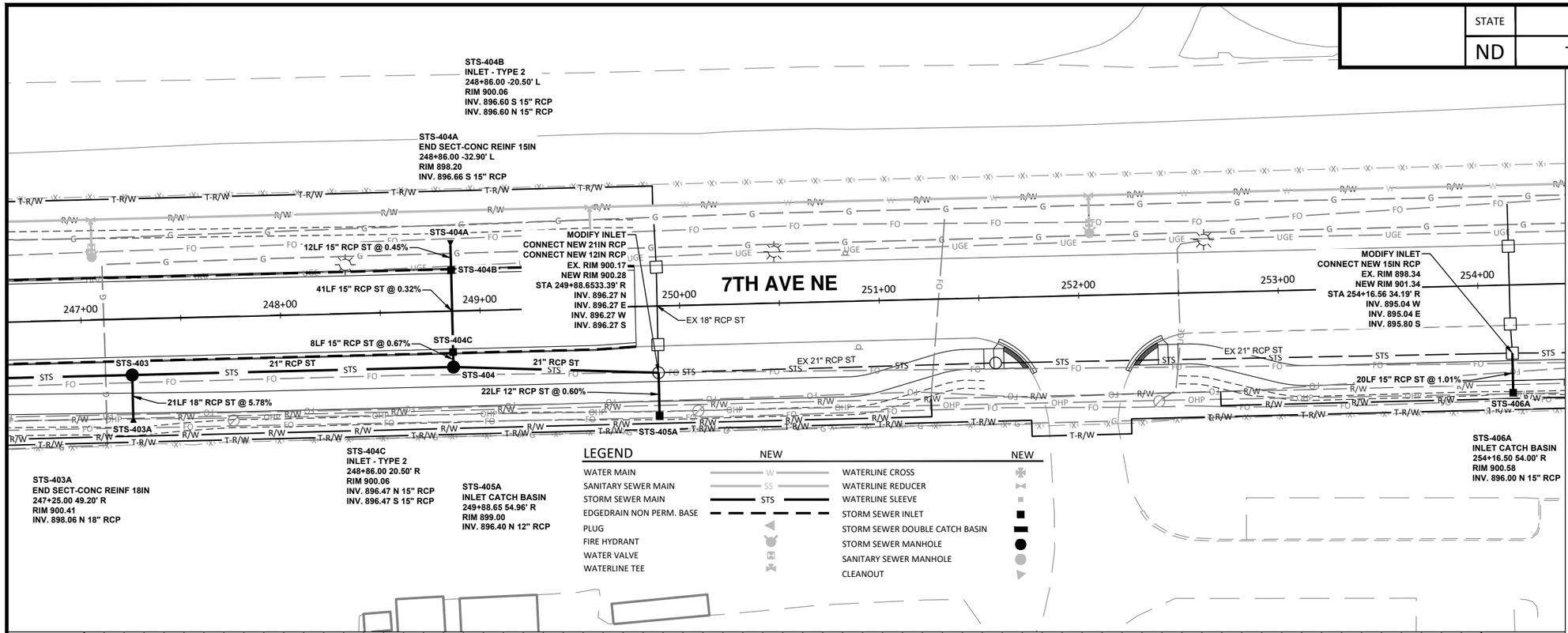
8/14/2025

Storm Sewer Plan & Profile - 7th Ave NE
Sta 240+00 to Sta 247+00

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

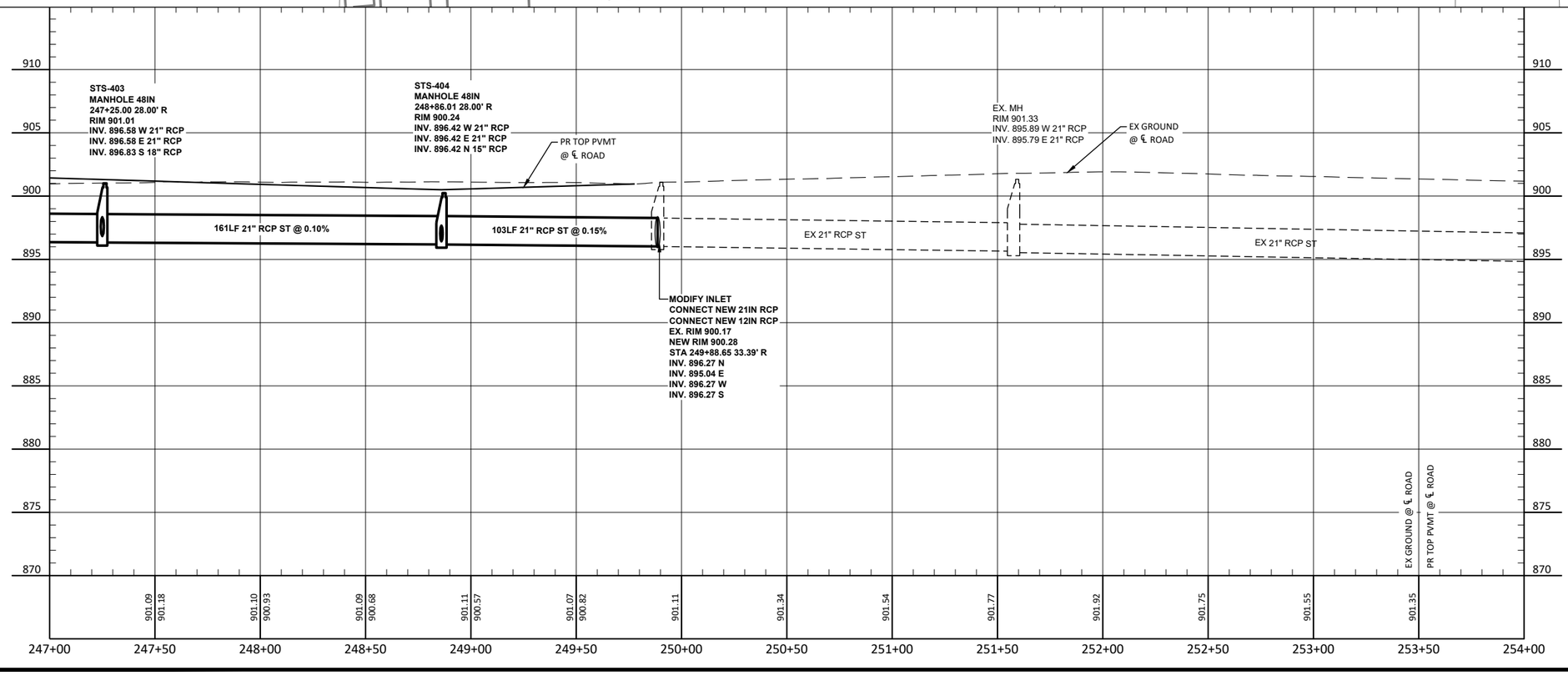
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	55	31



LEGEND

	NEW		NEW
WATER MAIN	W	WATERLINE CROSS	
SANITARY SEWER MAIN	SS	WATERLINE REDUCER	
STORM SEWER MAIN	STS	WATERLINE SLEEVE	
EDGEDRAIN NON PERM. BASE		STORM SEWER INLET	
PLUG		STORM SEWER DOUBLE CATCH BASIN	
FIRE HYDRANT		STORM SEWER MANHOLE	
WATER VALVE		SANITARY SEWER MANHOLE	
WATERLINE TEE		CLEANOUT	



SPEC	CODE	BID ITEM	QTY	UNIT
714	137	PIPE CONC REINF 12IN CL V-STORM DRAIN		
		Sta 247+00 to 255+50	22	LF
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN		
		Sta 247+00 to 255+50	81	LF
714	337	PIPE CONC REINF 18IN CL V-STORM DRAIN		
		Sta 247+00 to 255+50	21	LF
714	405	PIPE CONC REINF 21IN CL III-STORM DRAIN		
		Sta 247+00 to 255+50	289	LF
714	3005	END SECT-CONC REINF 15IN		
		Sta 247+00 to 255+50	1	EA
714	3010	END SECT-CONC REINF 18IN		
		Sta 247+00 to 255+50	1	EA
722	100	MANHOLE 48IN		
		Sta 247+00 to 255+50	2	EA
722	1100	MANHOLE RISER 48IN		
		Sta 247+00 to 255+50	5.71	LF
722	3495	MODIFY INLET		
		Sta 247+00 to 255+50	2	EA
722	3510	INLET-TYPE 2		
		Sta 247+00 to 255+50	2	EA
722	4005	INLET CATCH BASIN		
		Sta 247+00 to 255+50	2	EA

N

30 0 30 60
Scale Feet

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. FERRIE
PE-10922
DATE
NORTH DAKOTA

8/14/2025

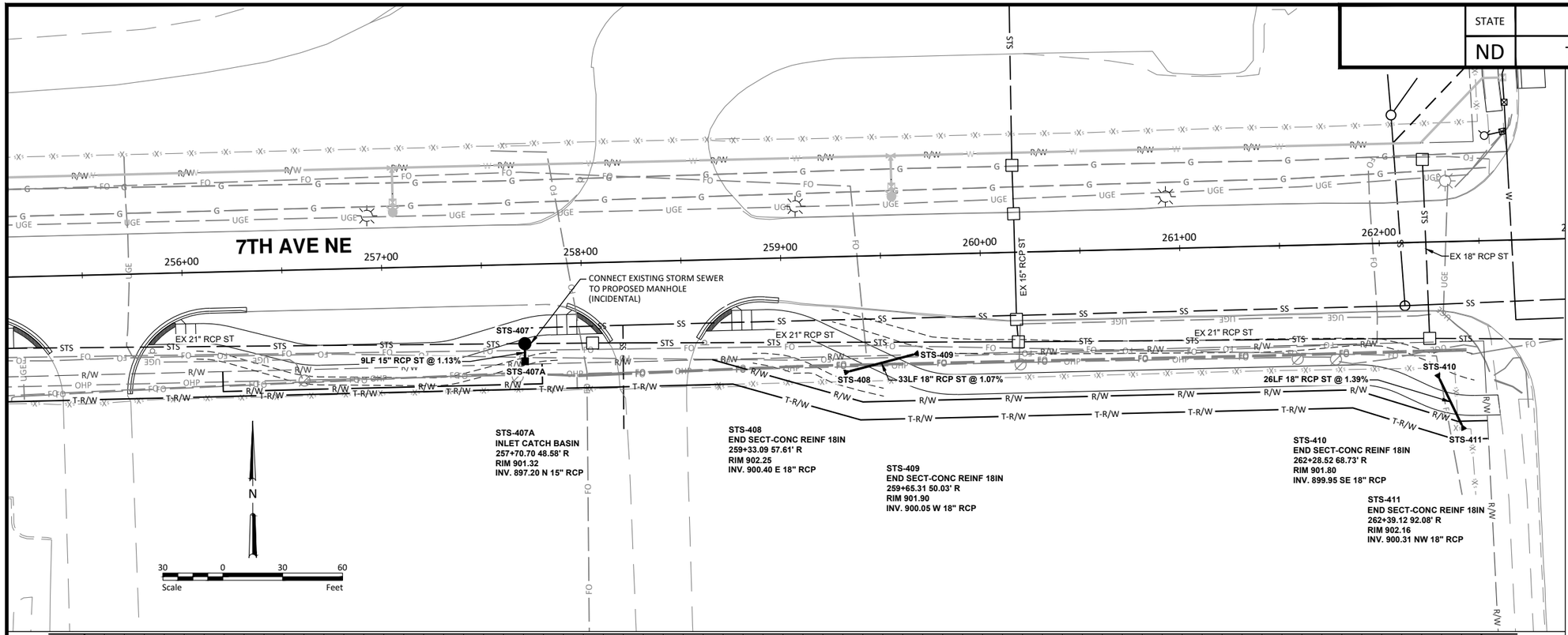
Storm Sewer Plan & Profile - 7th Ave NE
Sta 247+00 to Sta 254+00

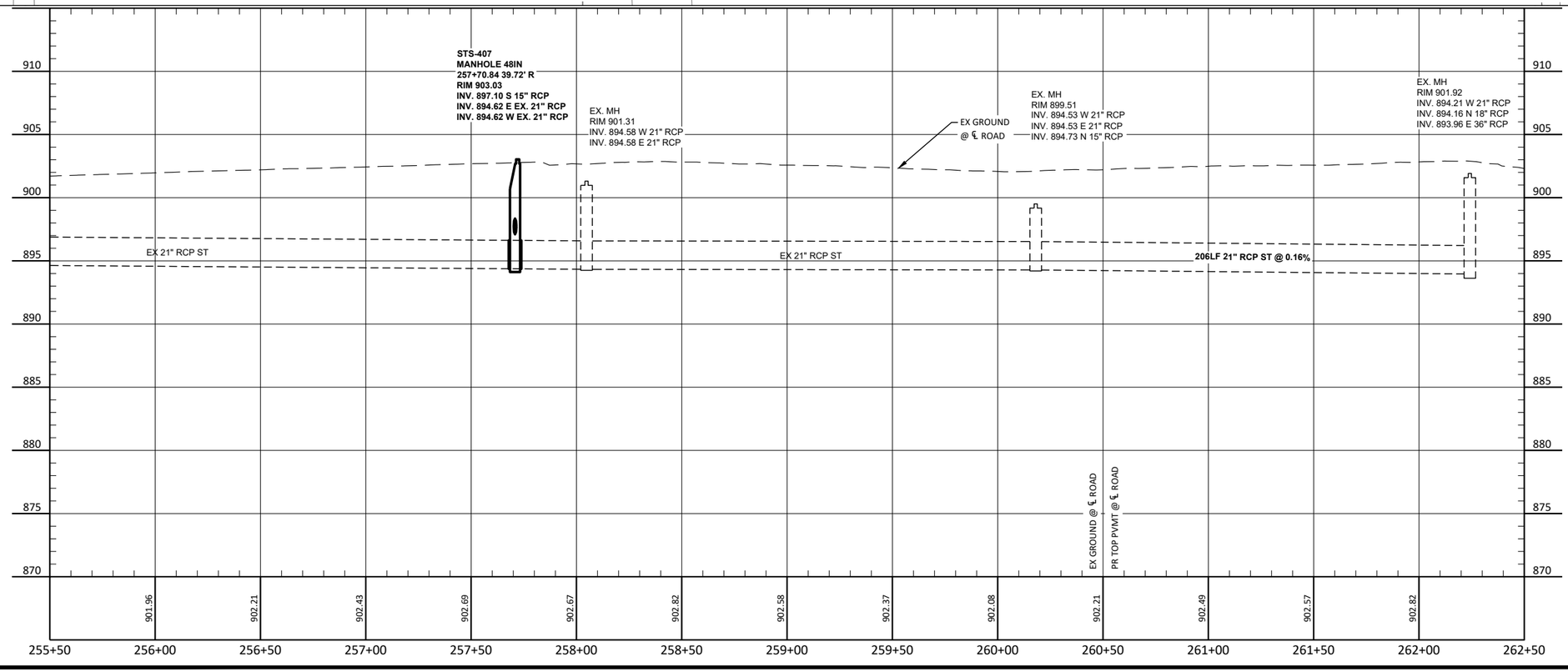
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	55	32

SPEC	CODE	BID ITEM	QTY	UNIT
714	215	PIPE CONC REINF 15IN CL V-STORM DRAIN Sta 255+50 to 262+50	9	LF
714	337	PIPE CONC REINF 18IN CL V-STORM DRAIN Sta 255+50 to 262+50	59	LF
714	3010	END SECT-CONC REINF 18IN Sta 255+50 to 262+50	4	EA
722	100	MANHOLE 48IN Sta 255+50 to 262+50	1	EA
722	1100	MANHOLE RISER 48IN Sta 255+50 to 262+50	7.14	LF
722	4005	INLET CATCH BASIN Sta 255+50 to 262+50	1	EA





LEGEND

	NEW
WATER MAIN	W
SANITARY SEWER MAIN	SS
STORM SEWER MAIN	STS
EDGEDRAIN NON PERM. BASE	
PLUG	
FIRE HYDRANT	
WATER VALVE	
WATERLINE TEE	
WATERLINE CROSS	
WATERLINE REDUCER	
WATERLINE SLEEVE	
STORM SEWER INLET	
STORM SEWER DOUBLE CATCH BASIN	
STORM SEWER MANHOLE	
SANITARY SEWER MANHOLE	
CLEANOUT	

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL J FERRIE
PE-10922
DATE
NORTH DAKOTA

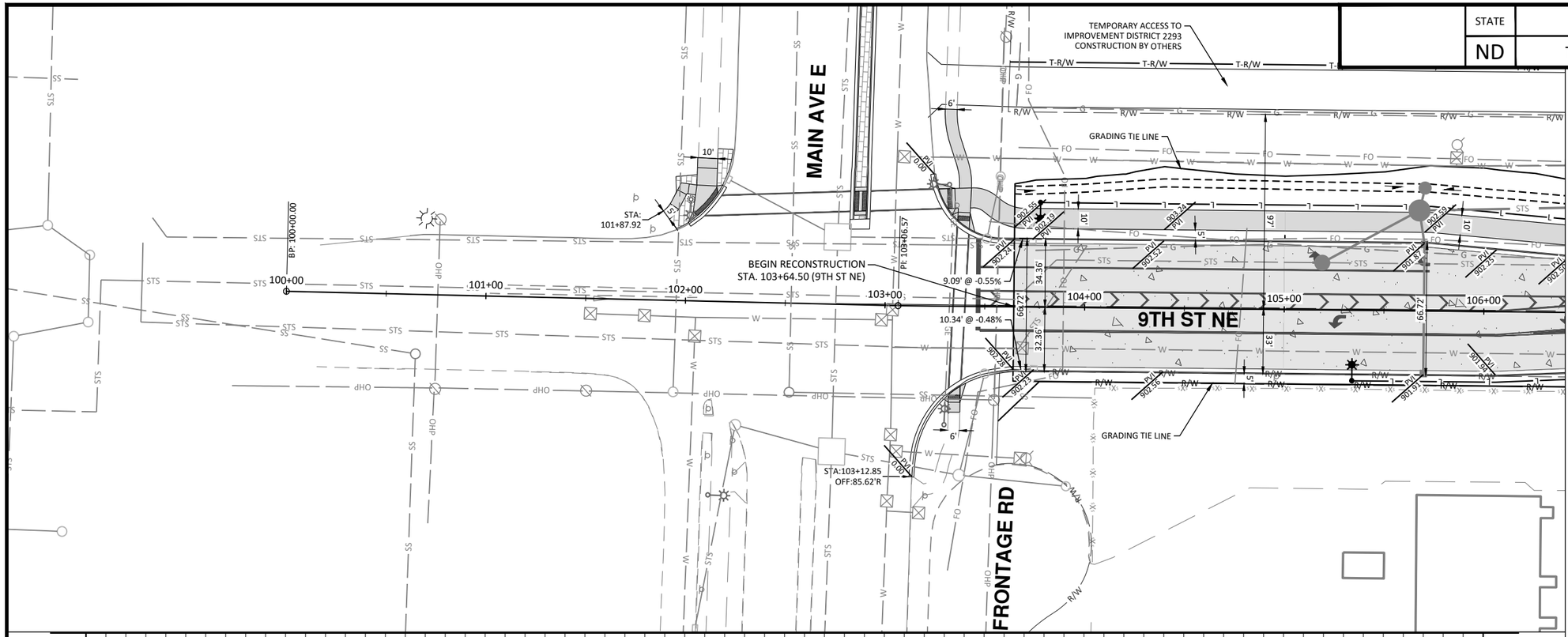
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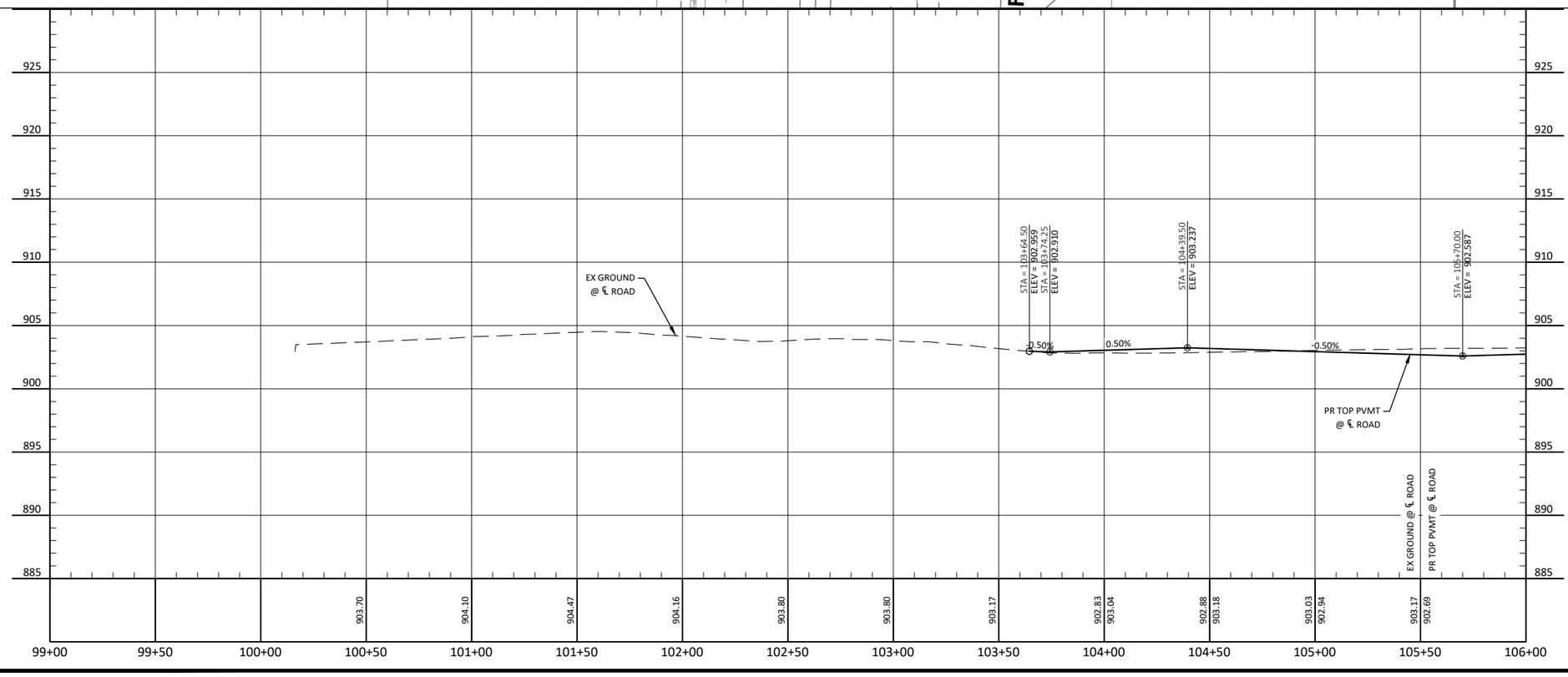
Storm Sewer Plan & Profile - 7th Ave NE
Sta 255+50 to Sta 262+50

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	1





NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

30 0 30 60
Scale Feet

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

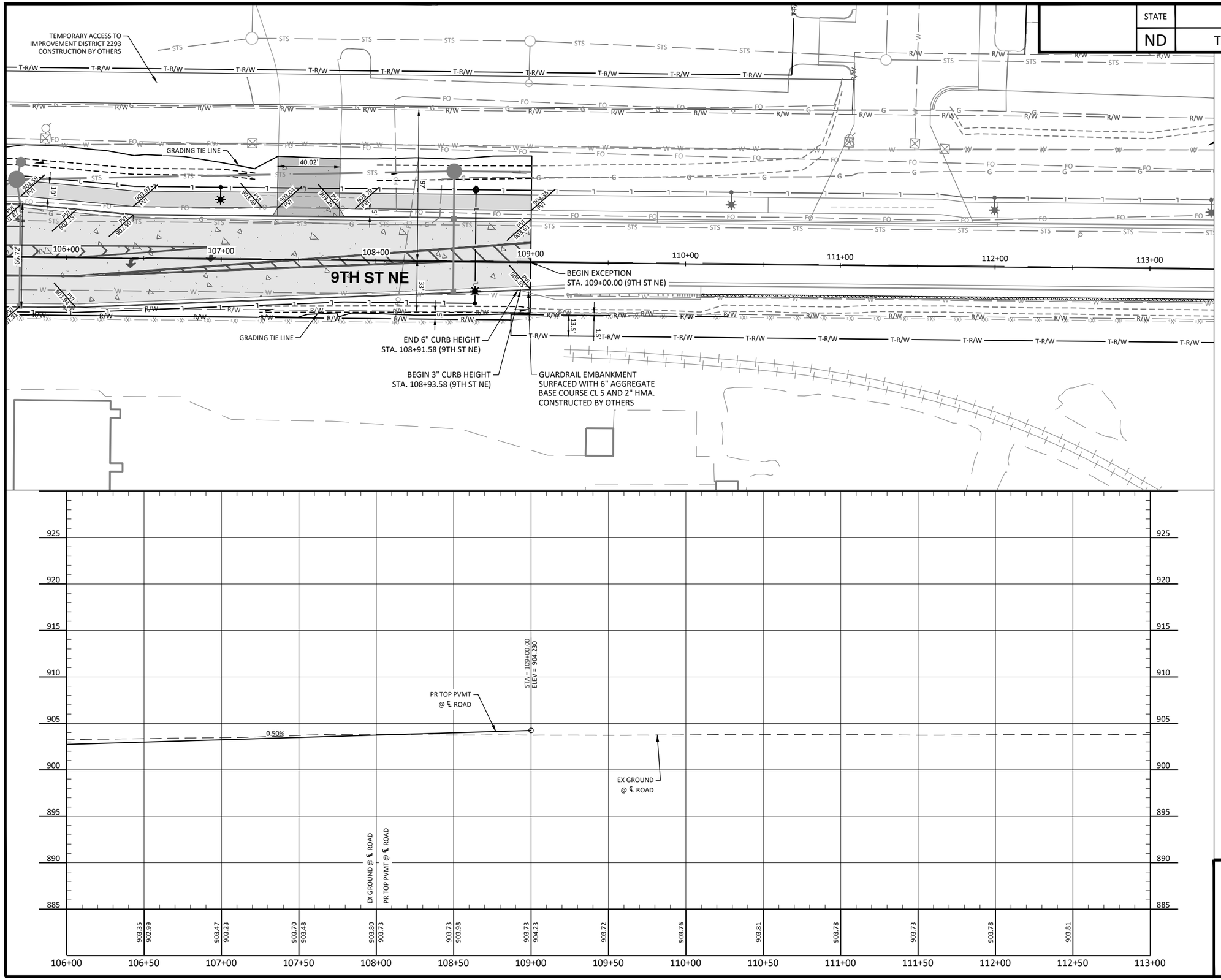
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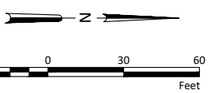
Plan & Profile - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	2





NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

LEGEND

EXISTING RIGHT OF WAY	R/W
PROPOSED RIGHT OF WAY	R/W
TEMPORARY RIGHT OF WAY	T-R/W
DITCH BOTTOM	
GRADING TIE LINE	
CURB & GUTTER - TYPE I	
10IN NON REINF CONCRETE PVMT CL AE-DOWELED	
SIDEWALK CONCRETE 5IN	
DRIVEWAY CONCRETE (7IN)	
PIGMENTED IMPRINTED CONCRETE (4IN)	
AGGREGATE BASE COURSE CL 13 (4IN)	
CONCRETE MEDIAN NOSE PAVING	
DETECTABLE WARNING PANELS	

CITY OF WEST FARGO

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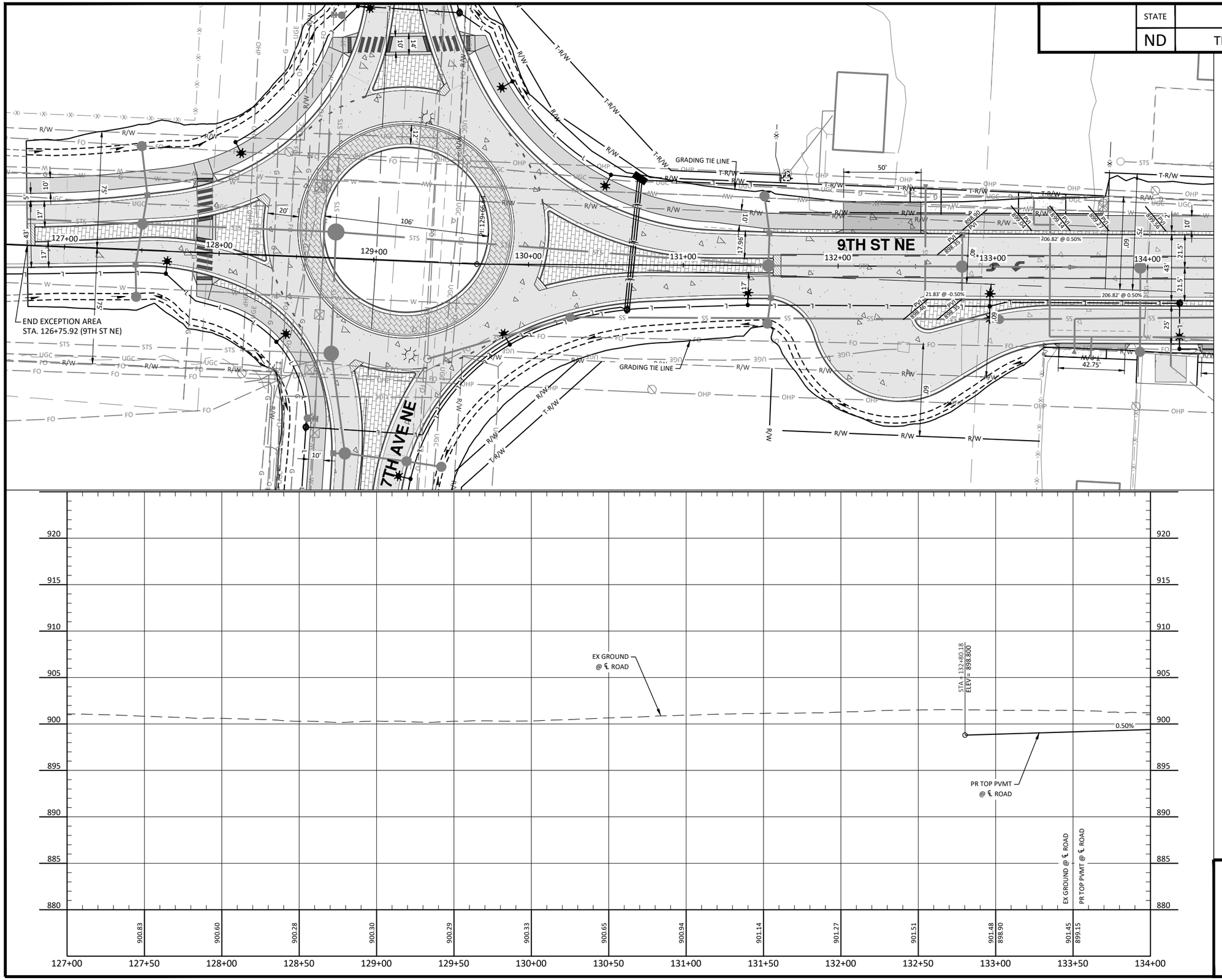
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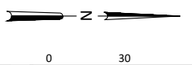
Plan & Profile - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	3





NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

LEGEND

EXISTING RIGHT OF WAY	R/W
PROPOSED RIGHT OF WAY	R/W
TEMPORARY RIGHT OF WAY	T-R/W
DITCH BOTTOM	
GRADING TIE LINE	
CURB & GUTTER - TYPE I	
10IN NON REINF CONCRETE PVMT CL AE-DOWELED	
SIDEWALK CONCRETE 5IN	
DRIVEWAY CONCRETE (7IN)	
PIGMENTED IMPRINTED CONCRETE (4IN)	
AGGREGATE BASE COURSE CL 13 (4IN)	
CONCRETE MEDIAN NOSE PAVING	
DETECTABLE WARNING PANELS	
10IN NON REINF CONCRETE PVMT CL AE-DOWELED -COLORED-TEXT	

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

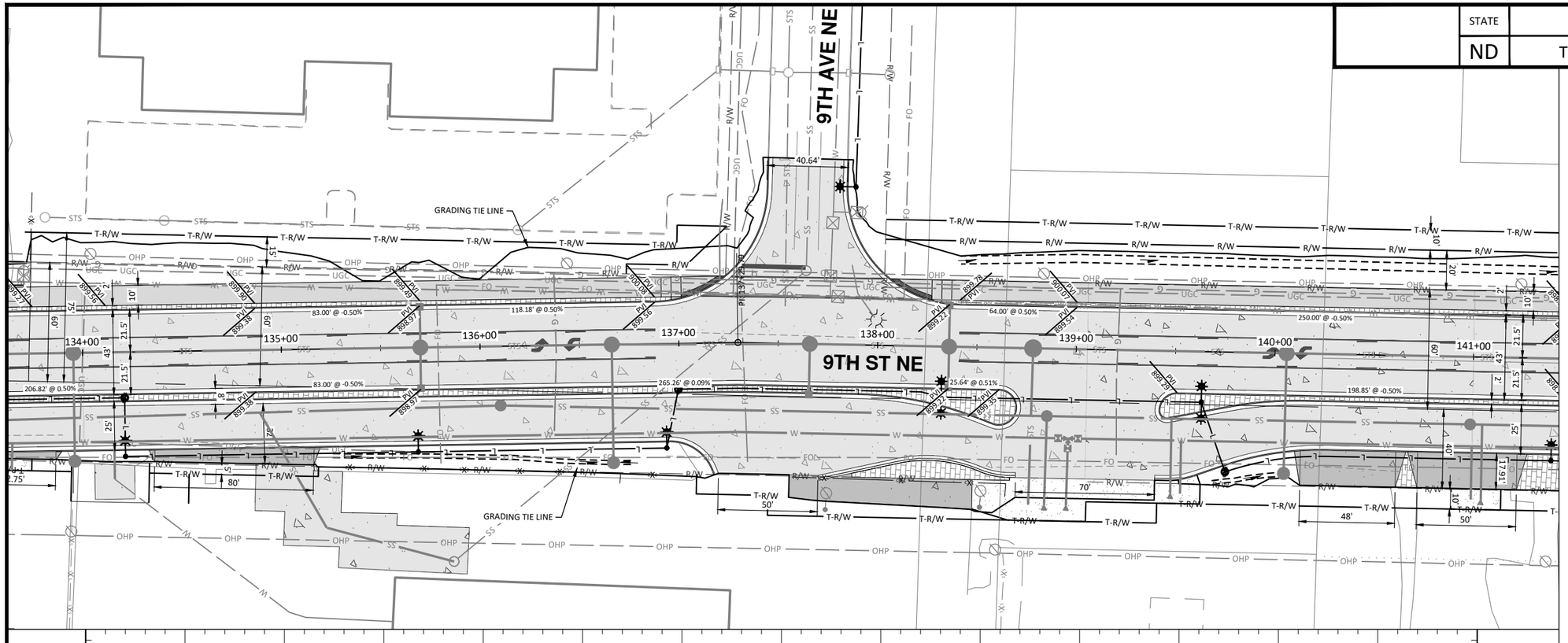
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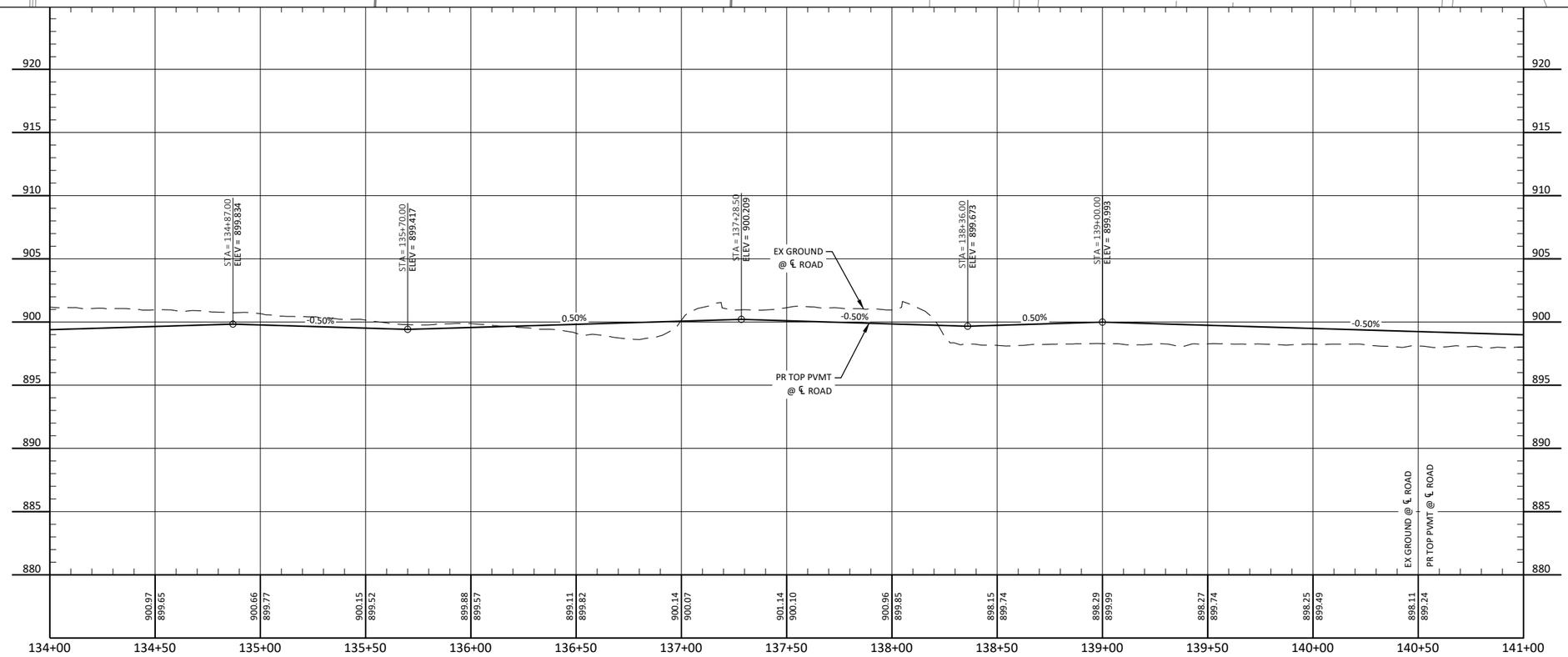
Plan & Profile - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	4





N

30 0 30 60
Scale Feet

NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

CITY OF WEST FARGO

HOUSTON engineering, inc.

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DATE
NORTH DAKOTA

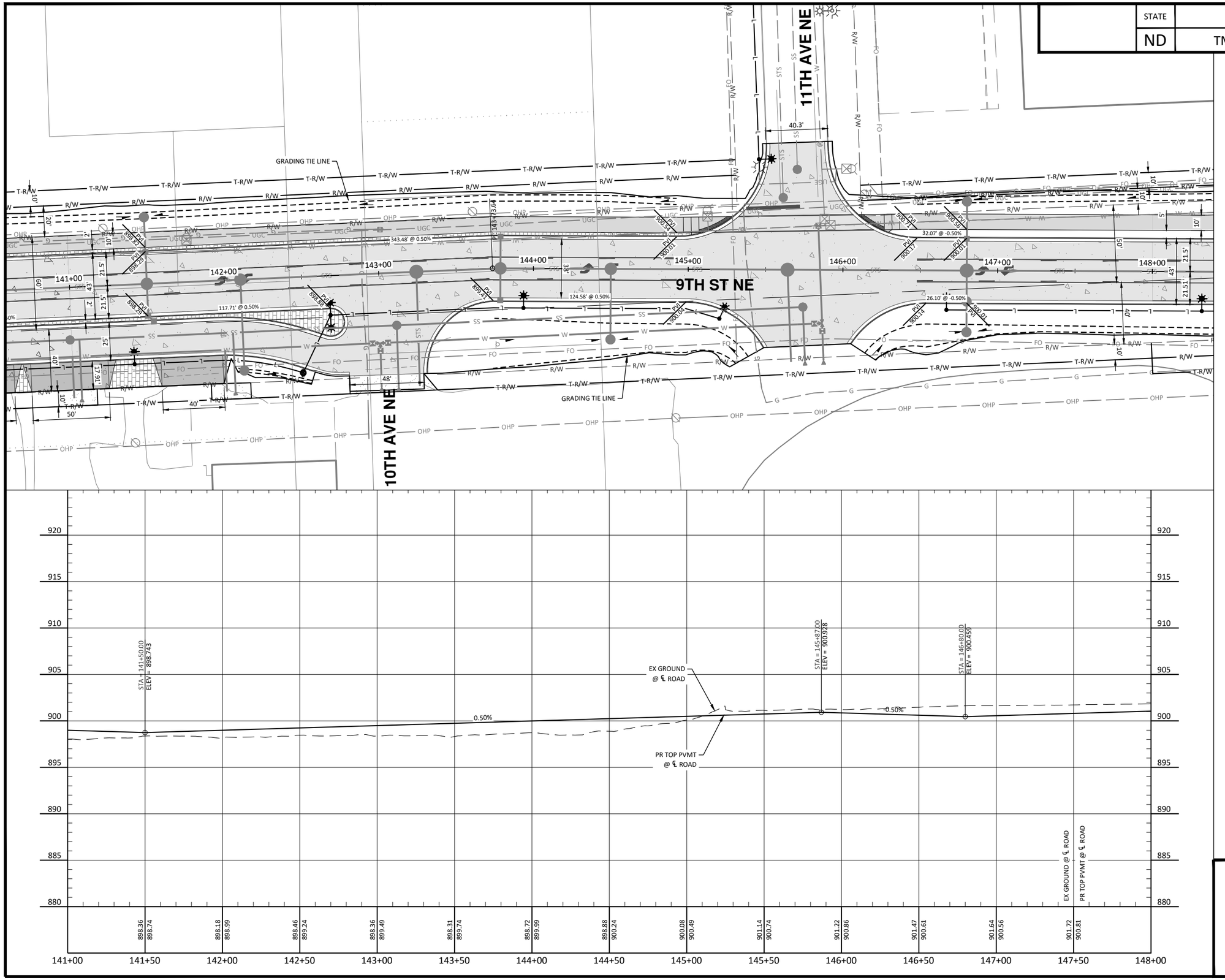
8/13/2025

Plan & Profile - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	5



NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

30 0 30 60
Scale Feet

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

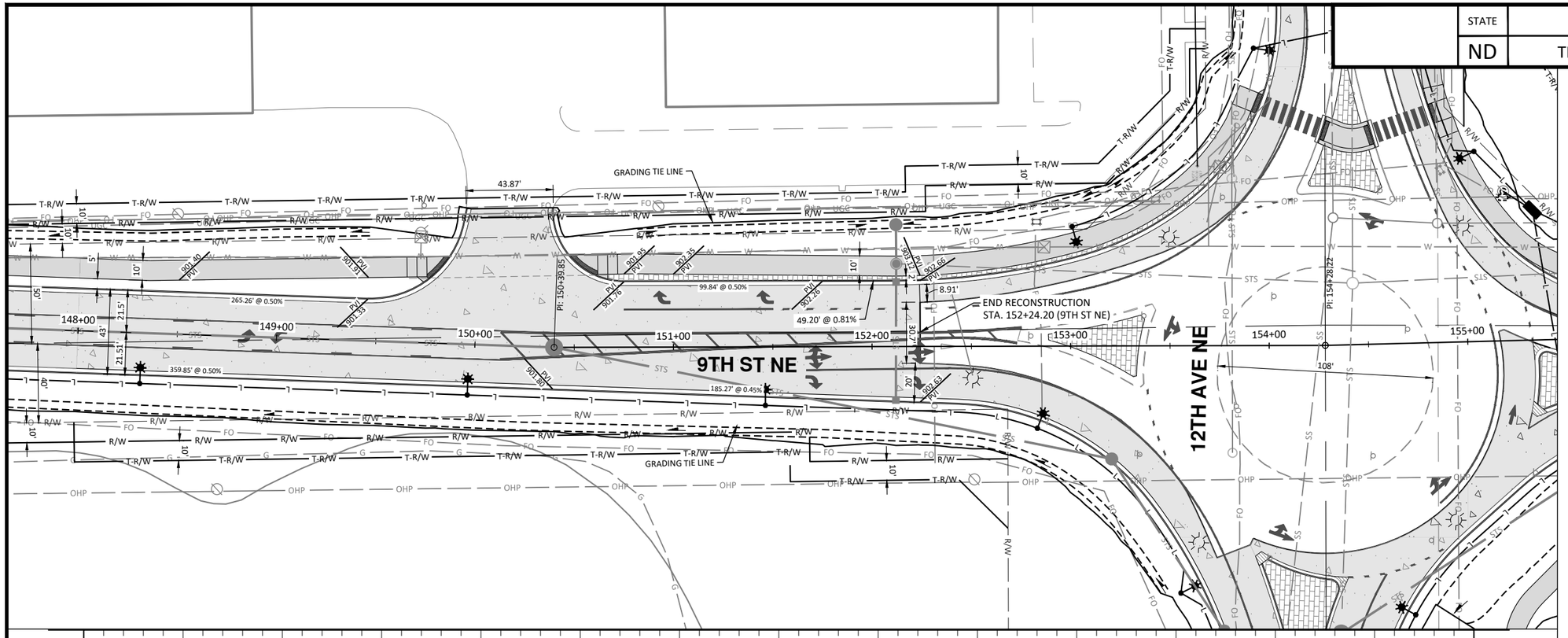
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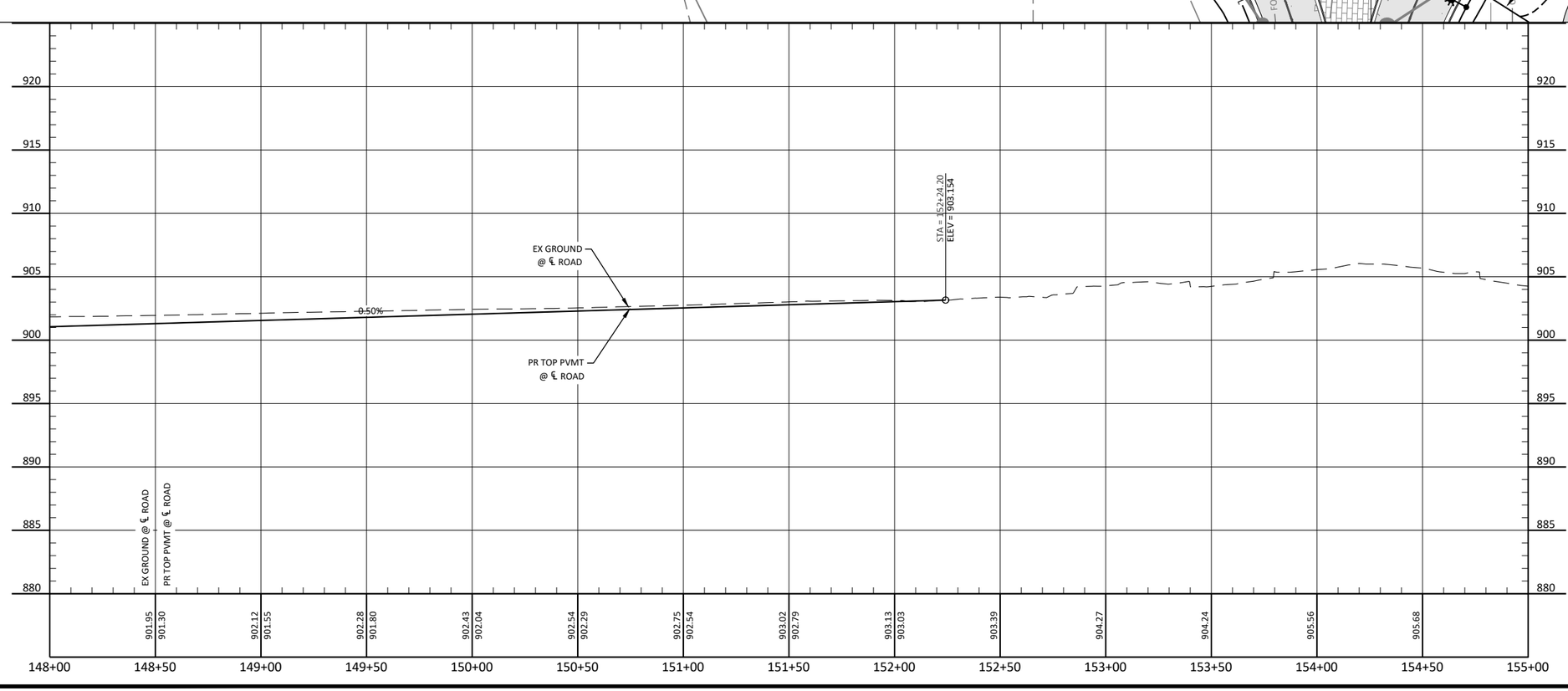
Plan & Profile - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	6





30 0 30 60
Scale Feet

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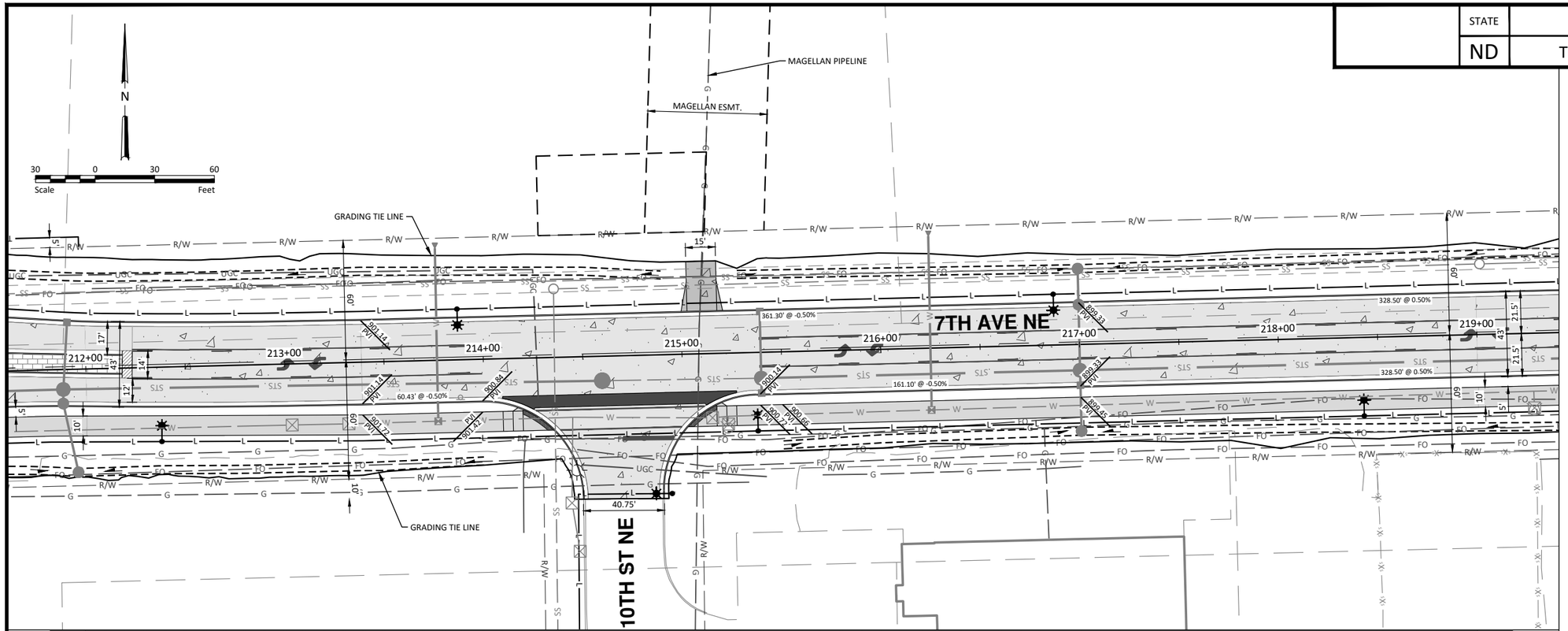
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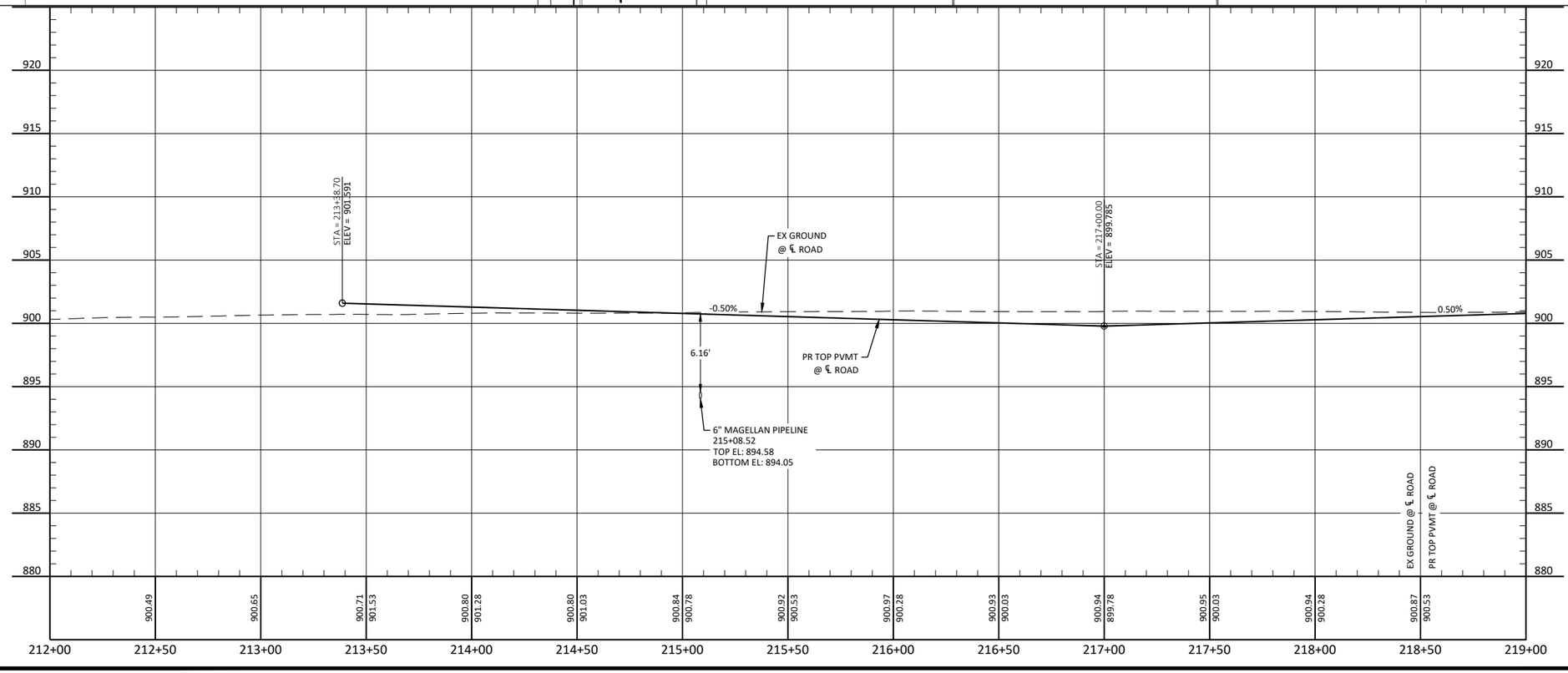
Plan & Profile - 9th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	7





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- PIGMENTED IMPRINTED CONCRETE (4IN)
- VALLEY GUTTER 72IN
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

WARNING
HIGH-PRESSURE PIPELINE(S)
Excavation and/or Construction Prohibited
Without compliance with **State One-Call**, AND
Without Written Permission From
MAGELLAN PIPELINE COMPANY, L.P.
A MAGELLAN REPRESENTATIVE MUST BE PRESENT DURING WORK AROUND PIPELINE(S)

CITY OF WEST FARGO

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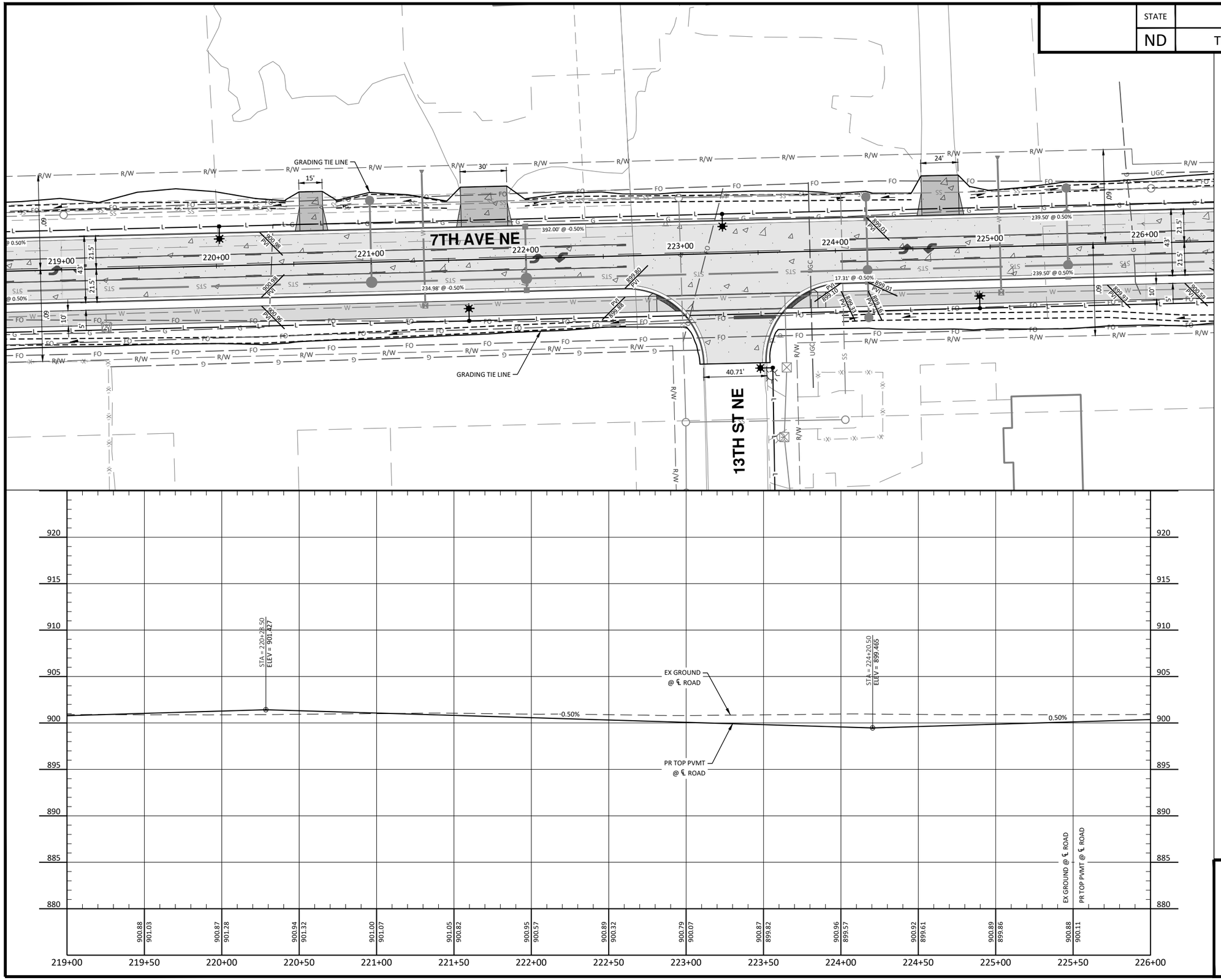
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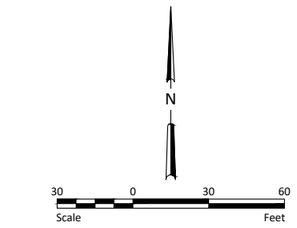
Plan & Profile - 7th Ave NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	8





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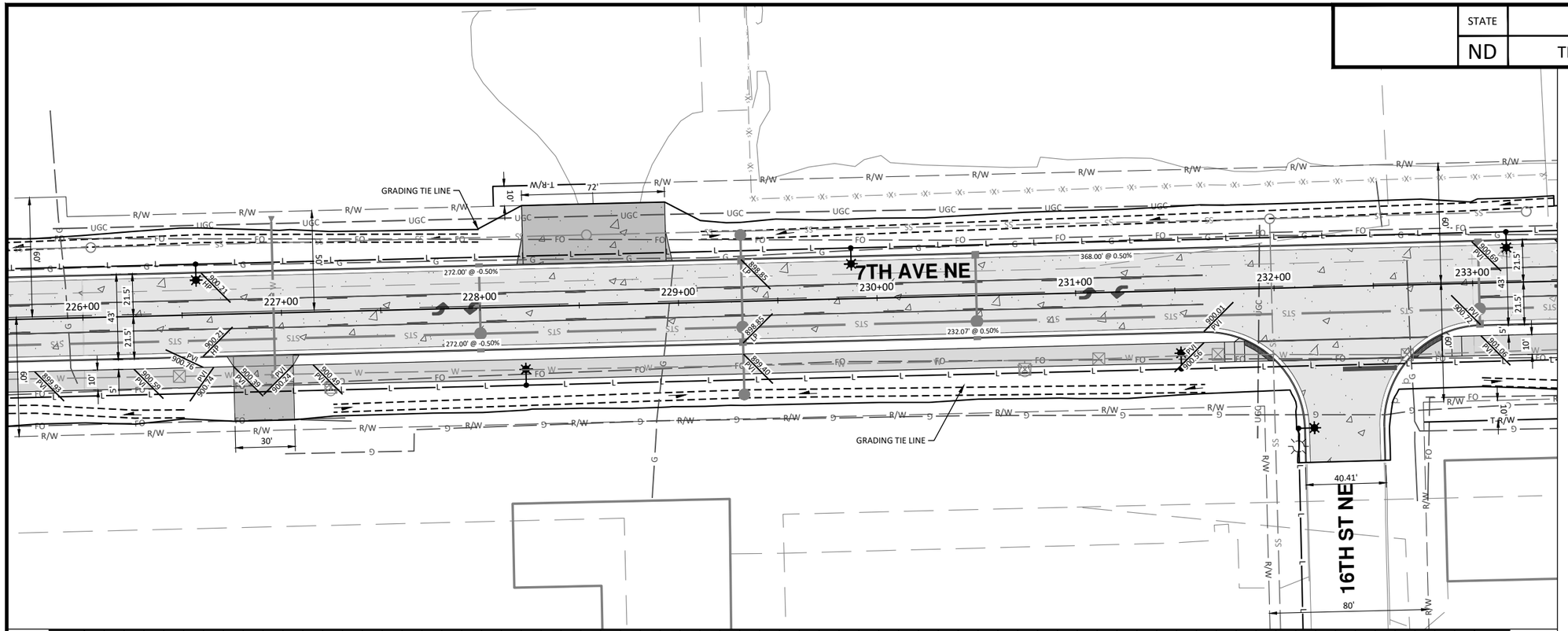
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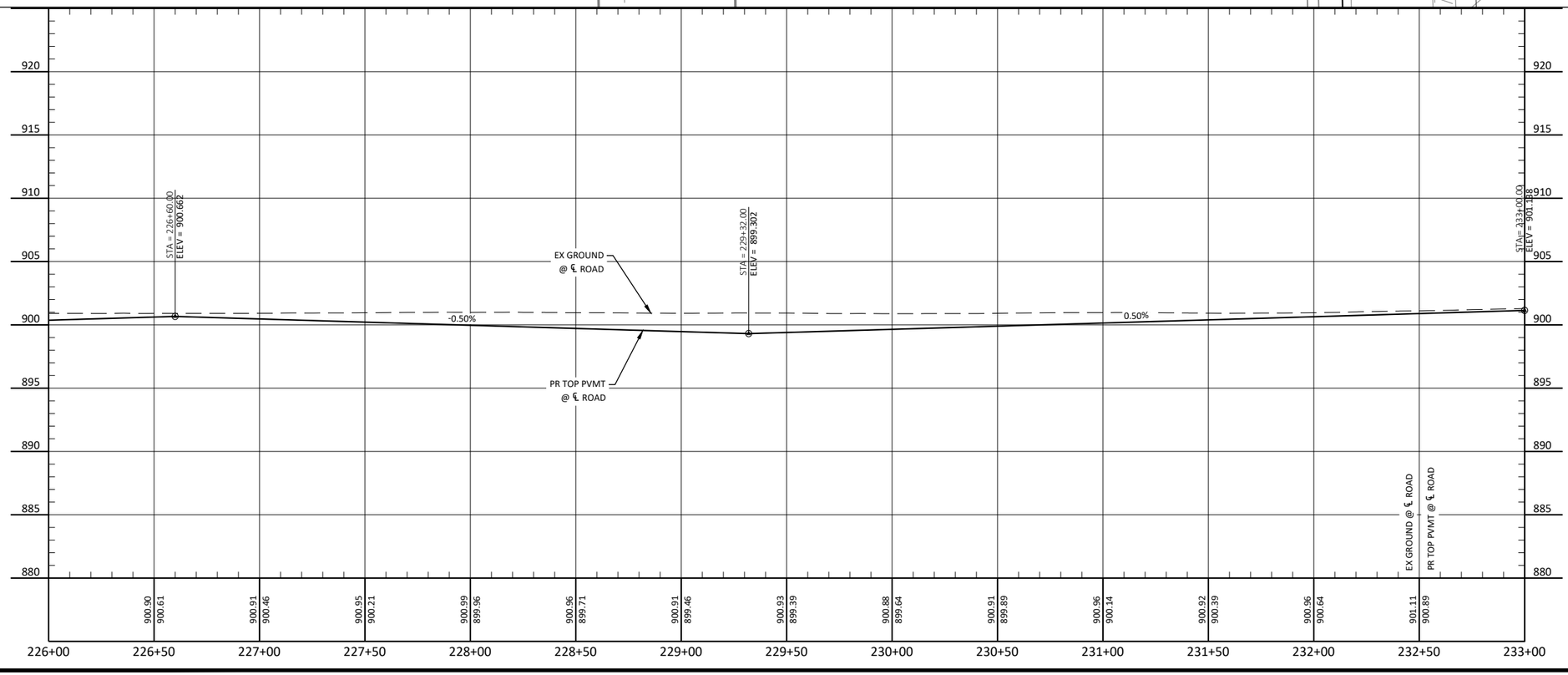
Plan & Profile - 7th Ave NE

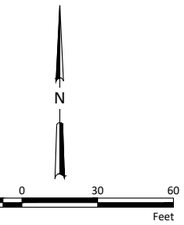
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	9







NOTES:

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CITY OF WEST FARGO

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NORTH DAKOTA

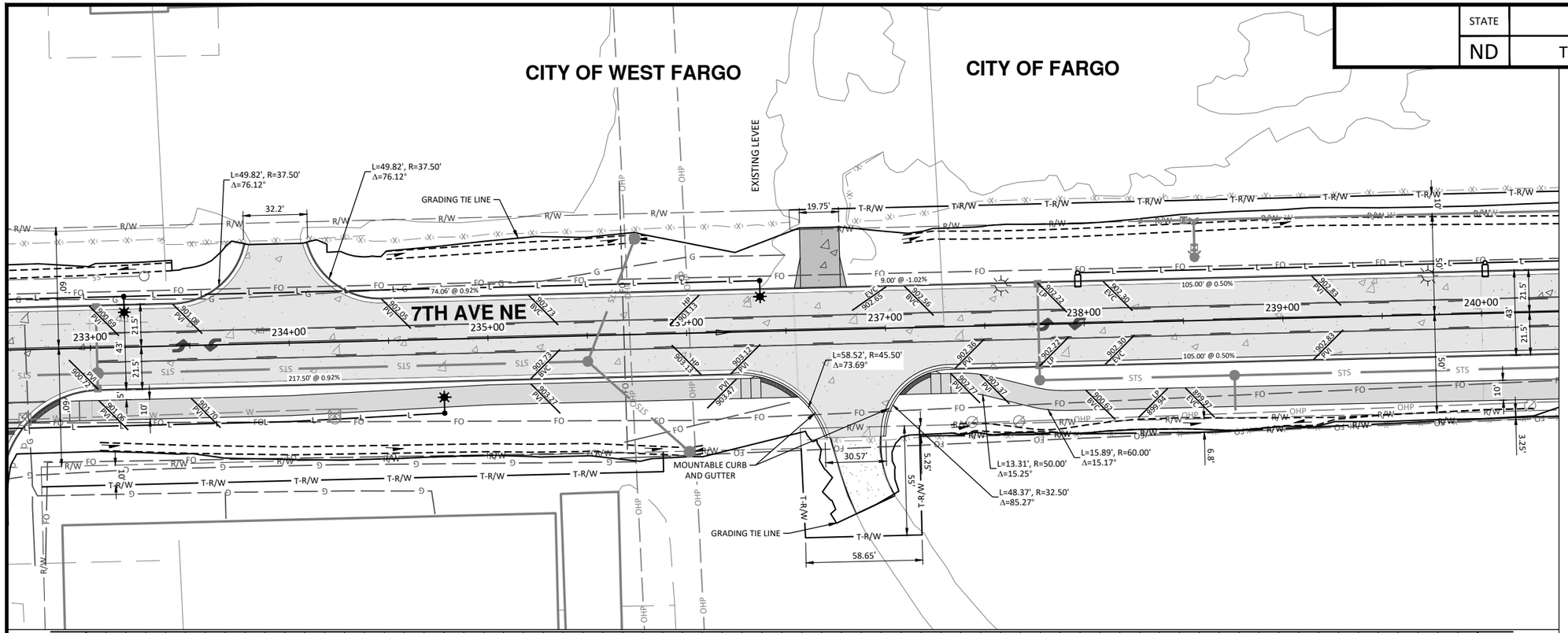
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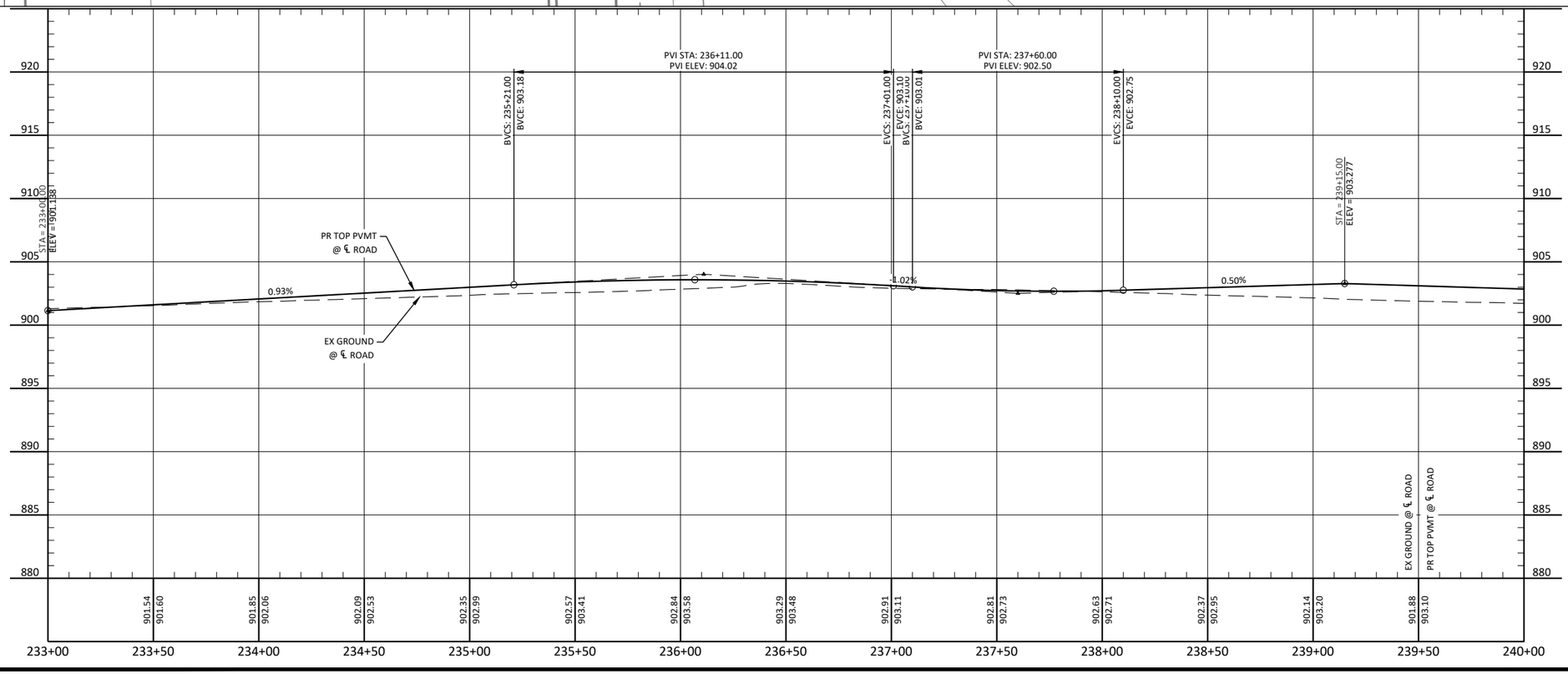
Plan & Profile - 7th Ave NE

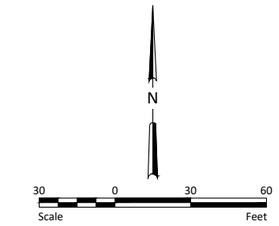
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	10







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CITY OF WEST FARGO

HOUSTON engineering, inc.

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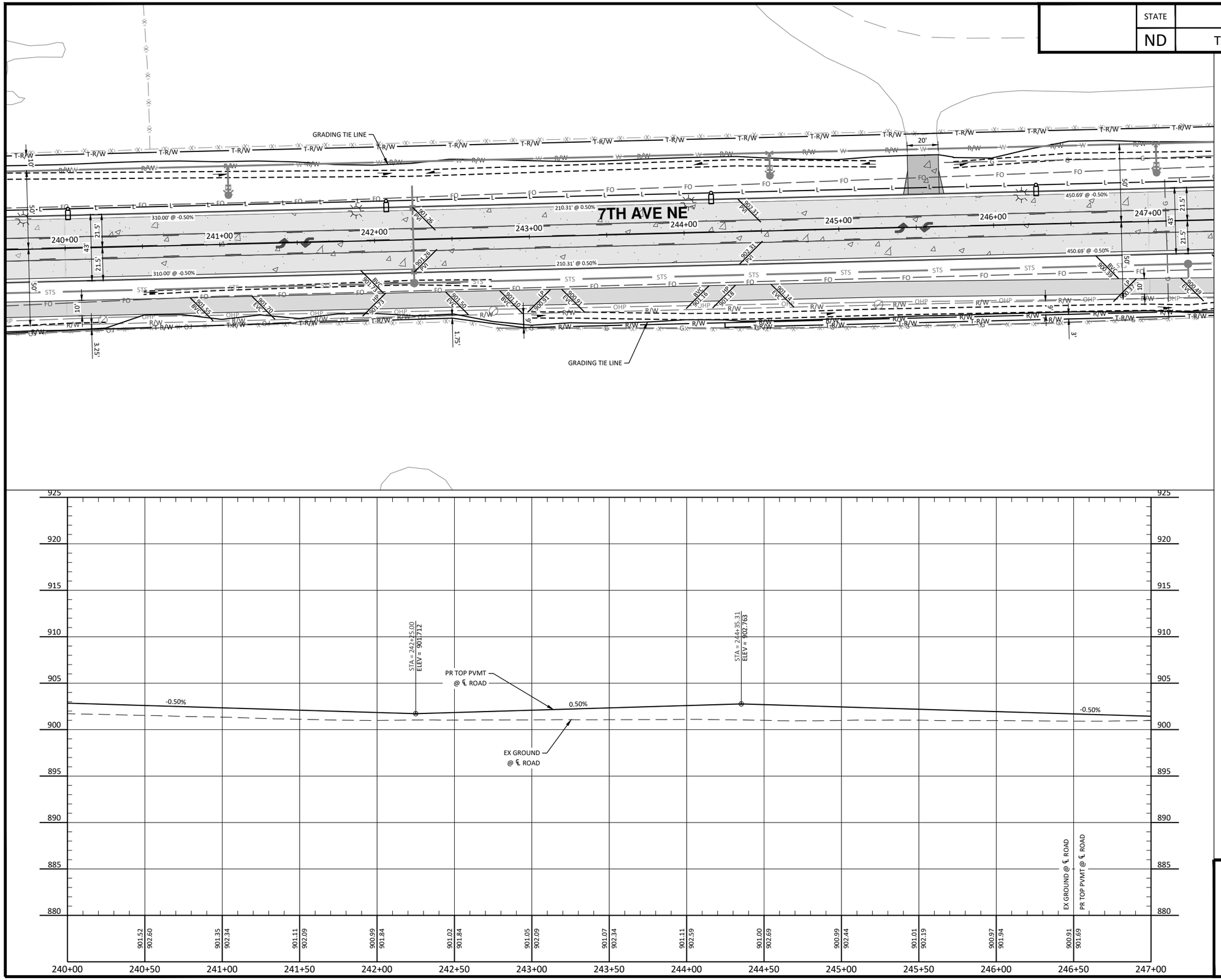
8/13/2025

Plan & Profile - 7th Ave NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	11



N

30 0 30 60

Scale Feet

NOTES:

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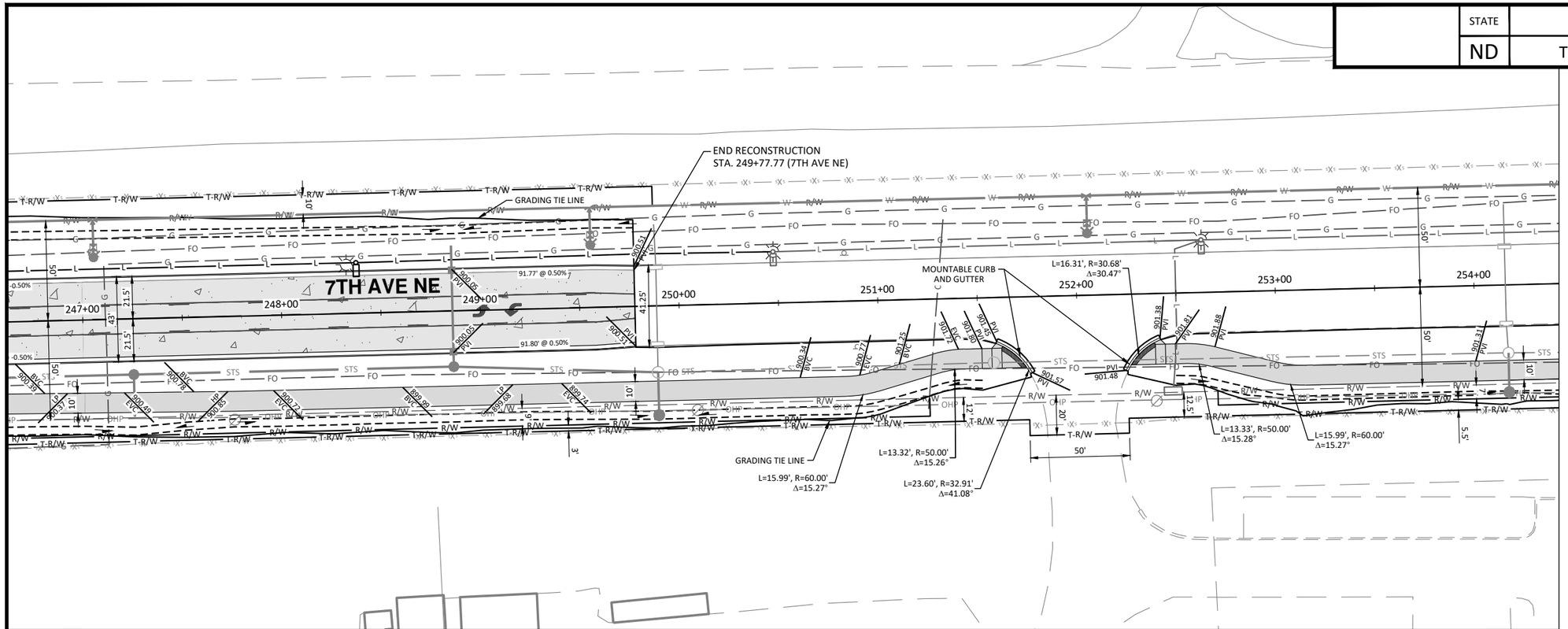
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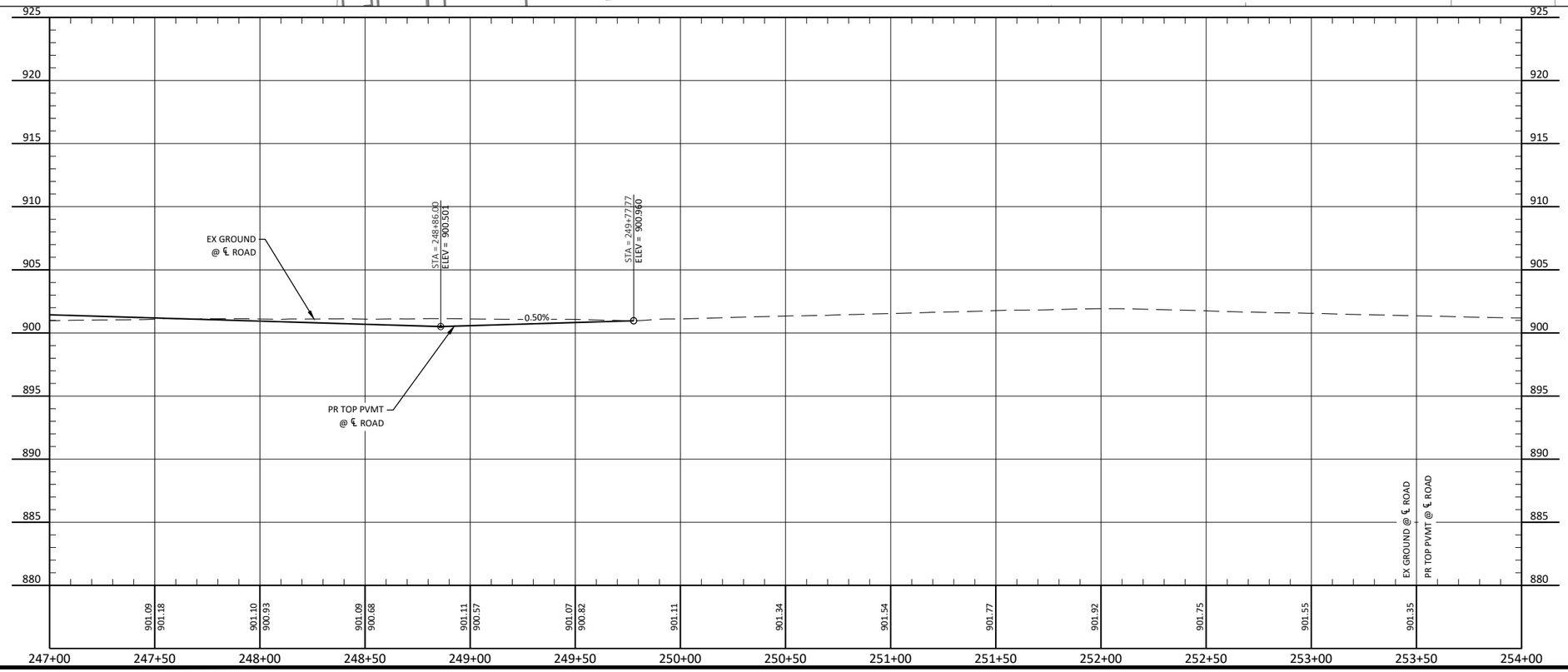
Plan & Profile - 7th Ave NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	12





N

30 0 30 60
Scale Feet

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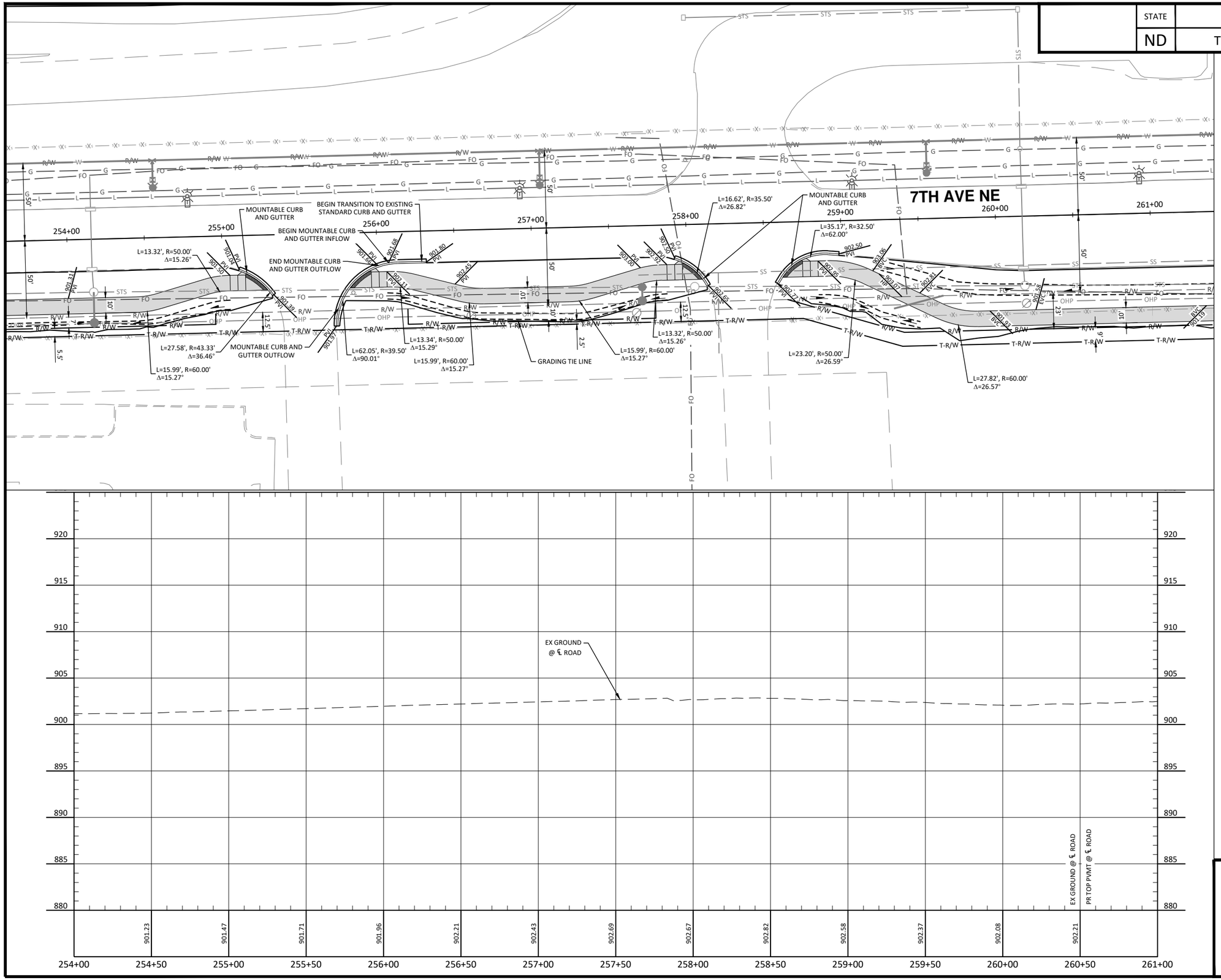
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Plan & Profile - 7th Ave NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	13



N

30 0 30 60
Scale Feet

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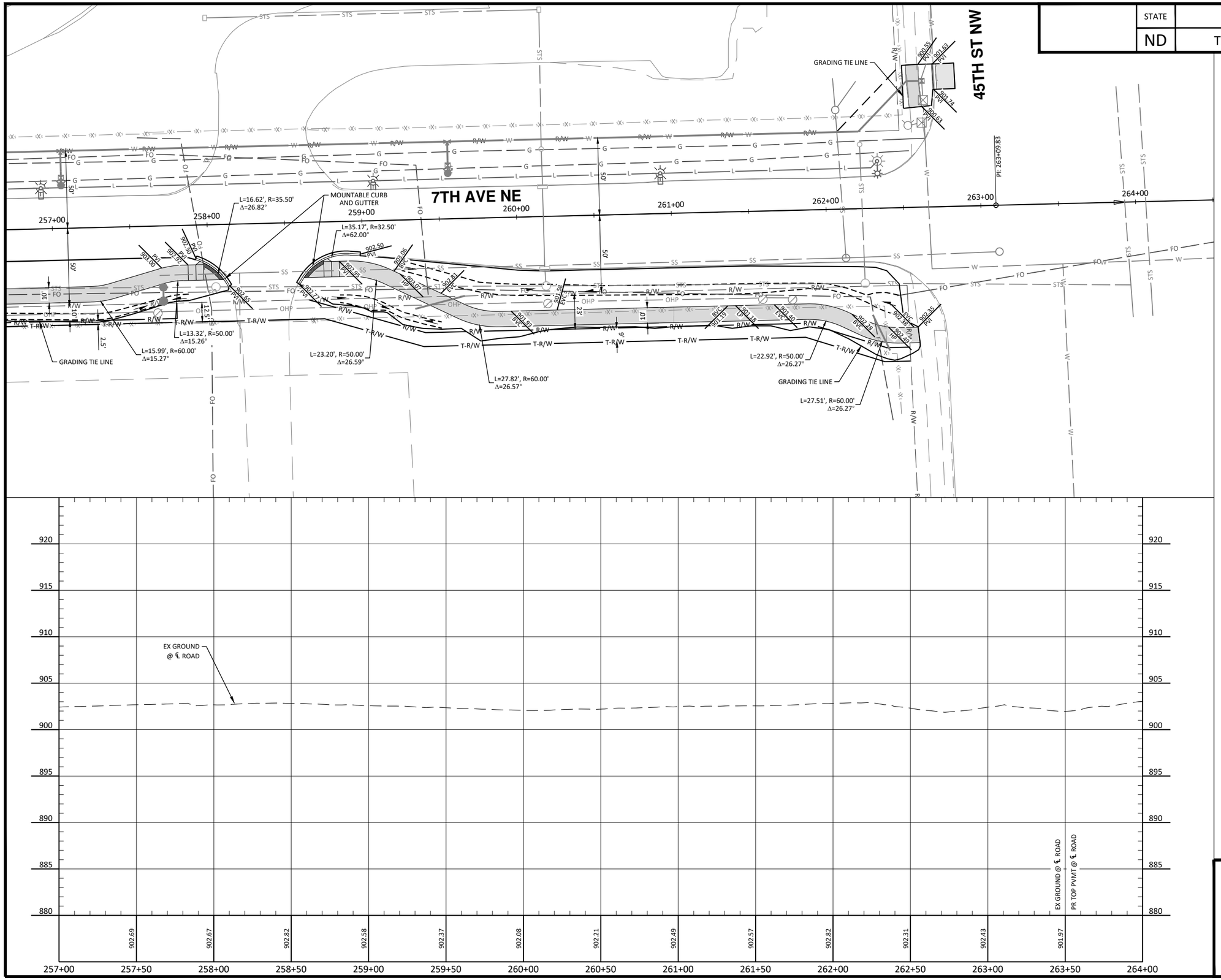
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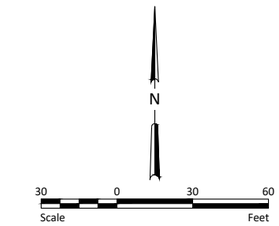
Plan & Profile - 7th Ave NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	14





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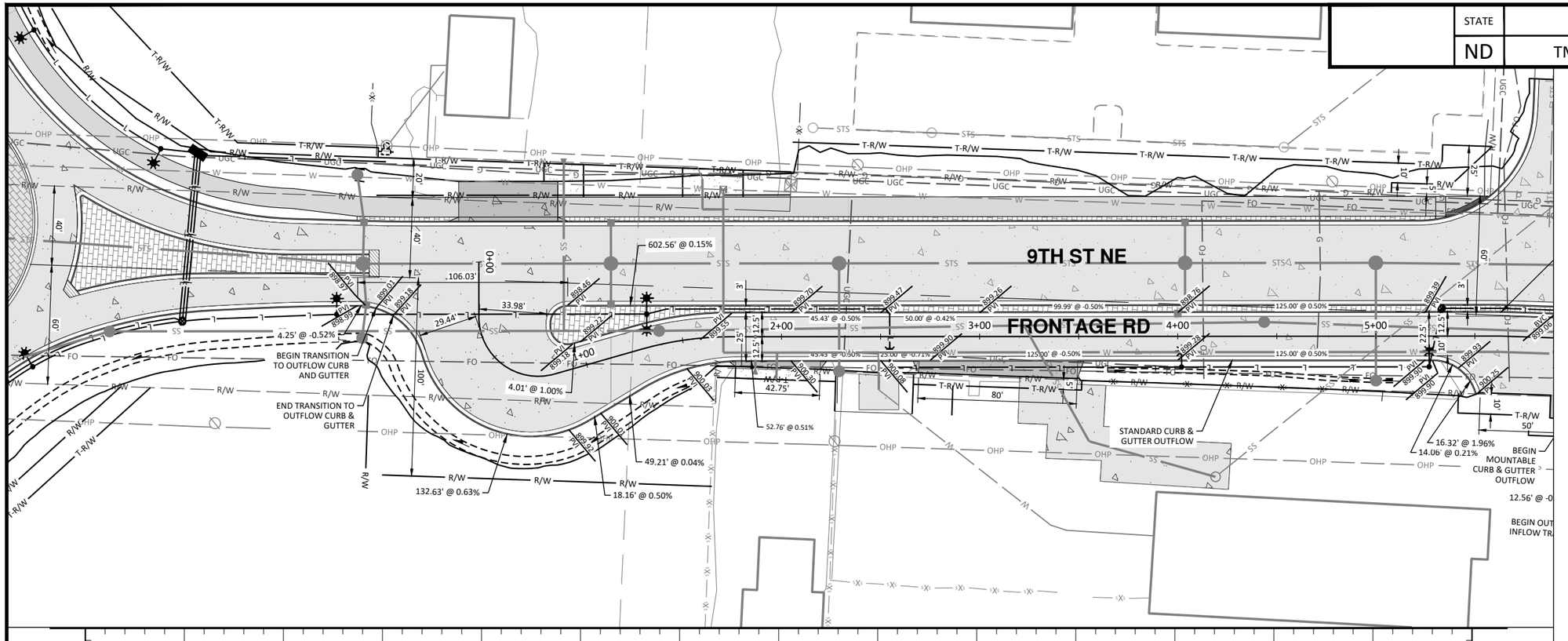
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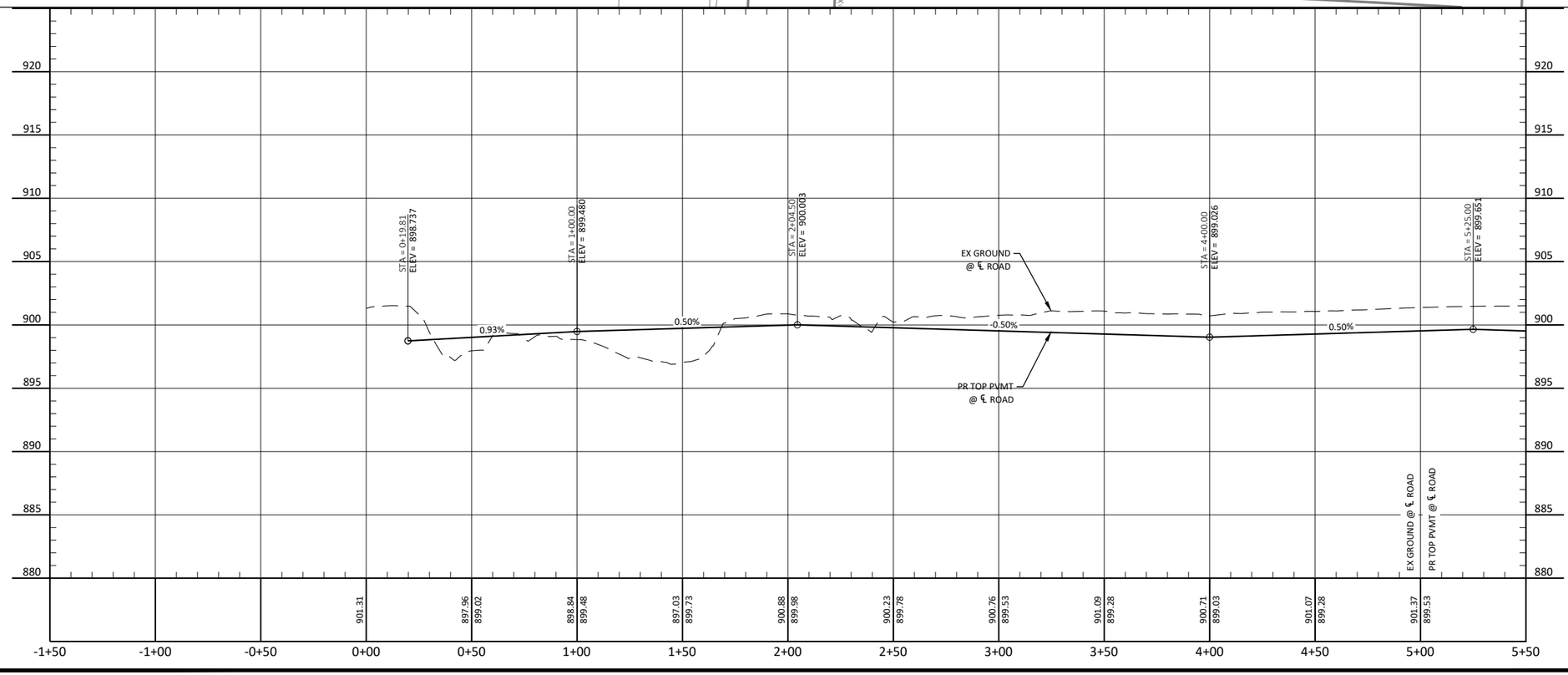
Plan & Profile - 7th Ave NE

9th St NE from Main Ave to 12th Ave N
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	15





N

30 0 30 60
Scale Feet

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LEGEND

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PROPOSED RIGHT OF WAY	R/W
TEMPORARY RIGHT OF WAY	T-R/W
DITCH BOTTOM	
GRADING TIE LINE	
CURB & GUTTER - TYPE I	
10IN NON REINF CONCRETE PVMT CL AE-DOWELED	
SIDEWALK CONCRETE 5IN	
DRIVEWAY CONCRETE (7IN)	
PIGMENTED IMPRINTED CONCRETE (4IN)	
AGGREGATE BASE COURSE CL 13 (4IN)	
CONCRETE MEDIAN NOSE PAVING	
DETECTABLE WARNING PANELS	

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

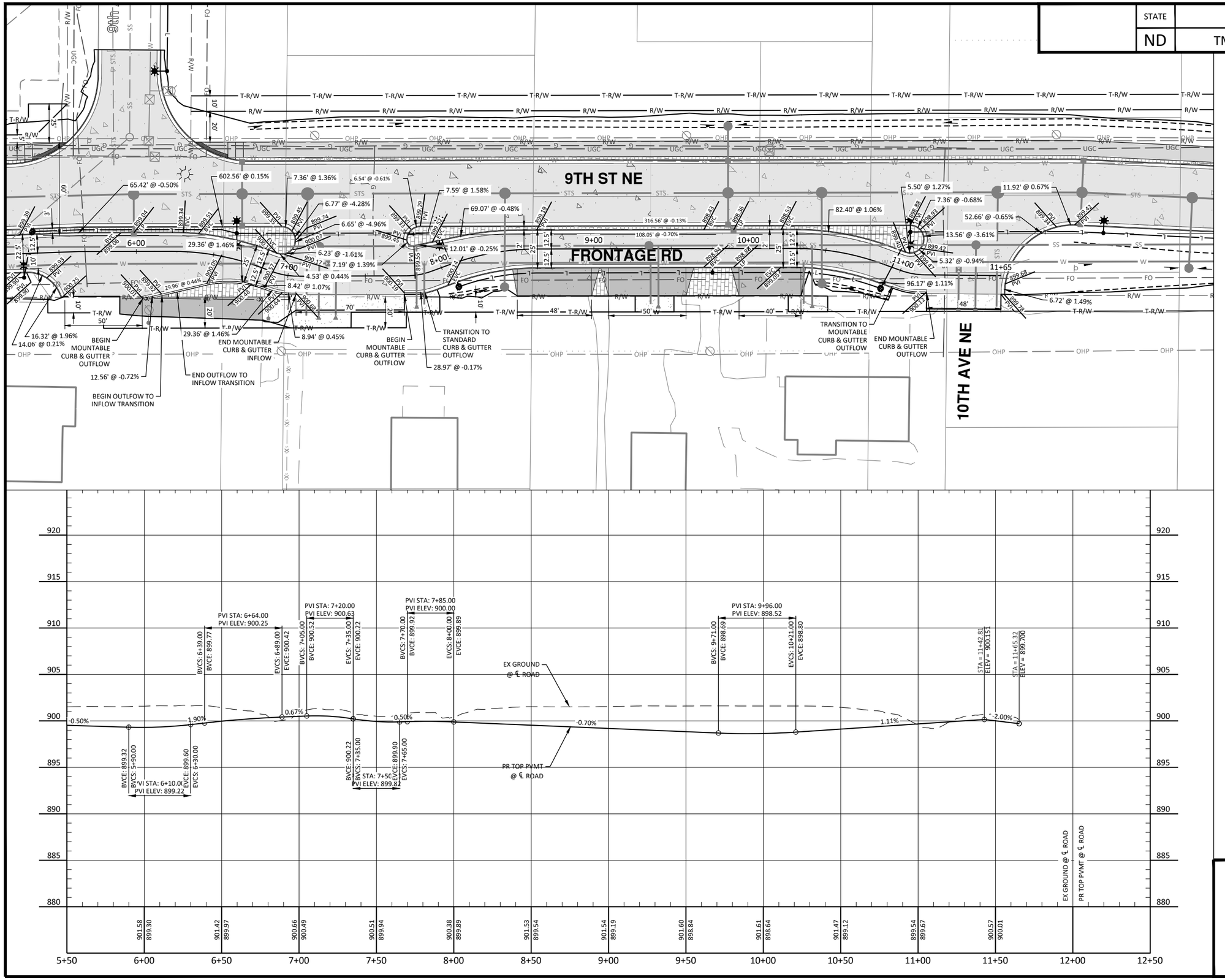
8/13/2025

Plan & Profile - Frontage Road

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - Frontage Rd P & P.dwg-P&P (1)-8/13/2025 2:10 PM-(jerickson)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	16



30 0 30 60
Scale Feet

NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

CITY OF WEST FARGO

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DATE
NORTH DAKOTA

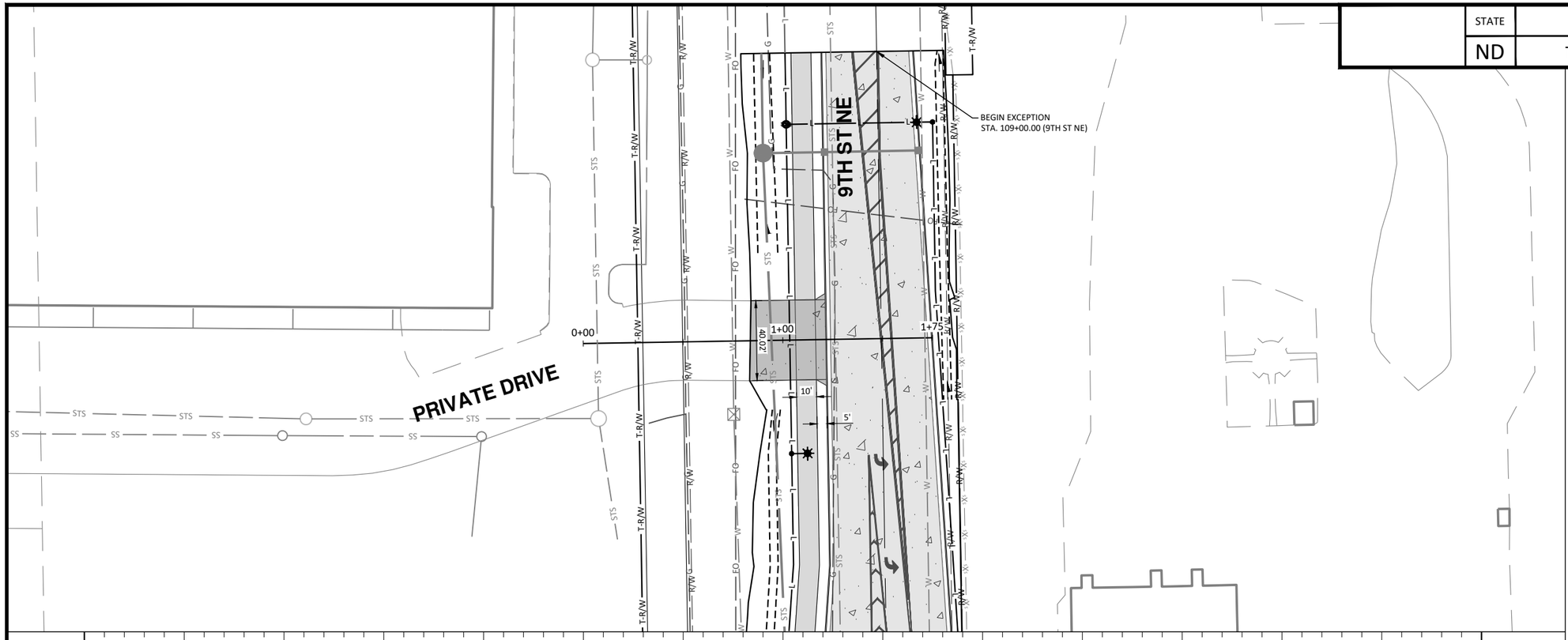
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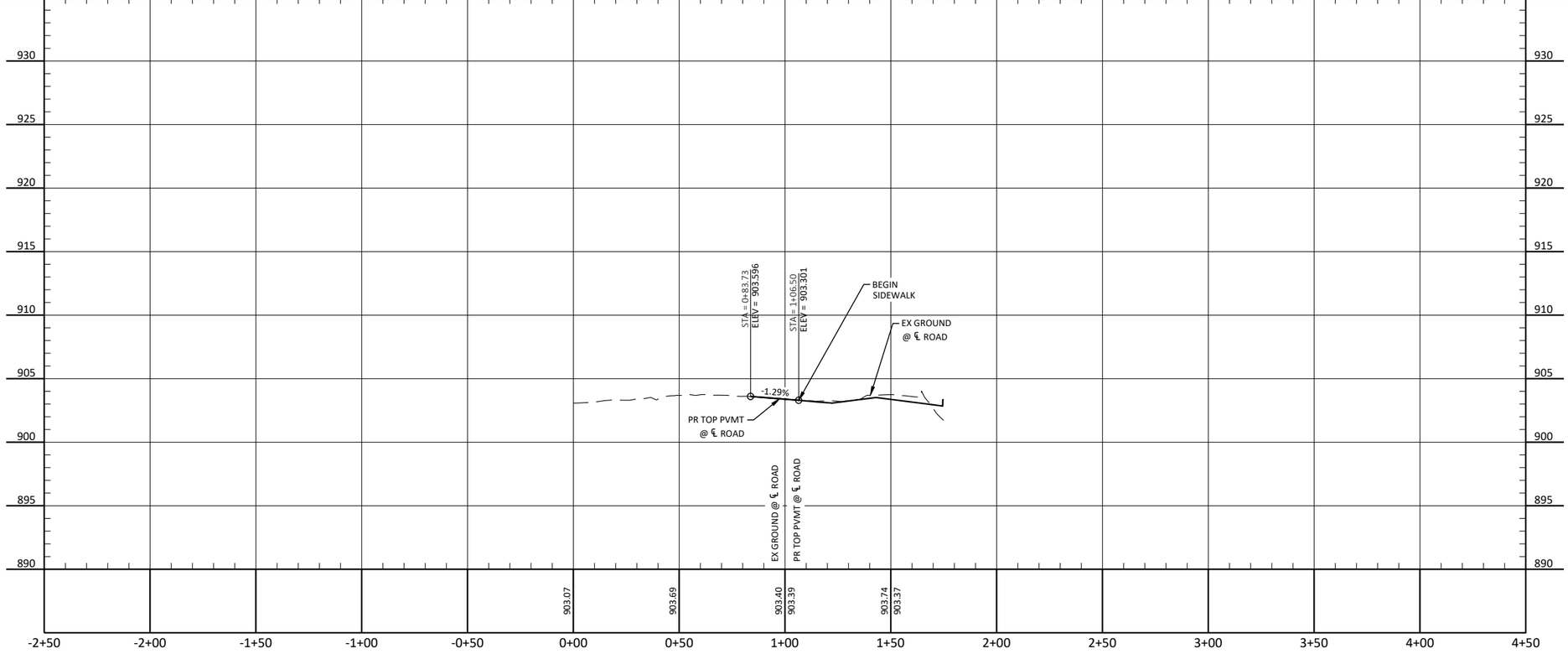
Plan & Profile - Frontage Road

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	17





N

30 0 30 60

Scale Feet

NOTES:

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LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

CITY OF WEST FARGO

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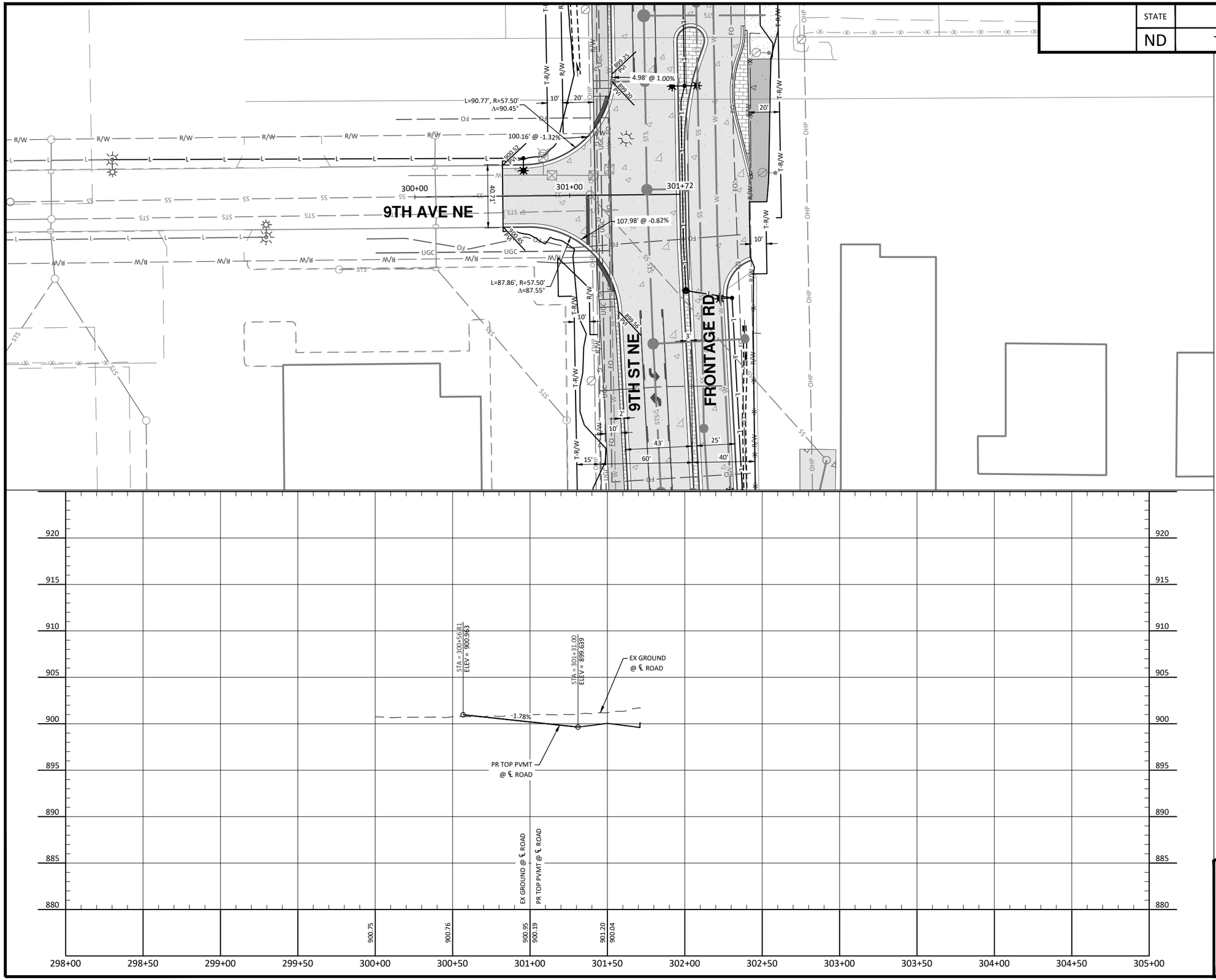
8/13/2025

Plan & Profile - Private Drive

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\86541\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - Side Roads P & P.dwg-Prvt Drv (8)-8/13/2025 2:10 PM-(jerickson)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	18



N

30 0 30 60

Scale Feet

NOTES:

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LEGEND

EXISTING RIGHT OF WAY	R/W
PROPOSED RIGHT OF WAY	R/W
TEMPORARY RIGHT OF WAY	T-R/W
DITCH BOTTOM	
GRADING TIE LINE	
CURB & GUTTER - TYPE I	
10IN NON REINF CONCRETE PVMT CL AE-DOWELED	
SIDEWALK CONCRETE 5IN	
DRIVEWAY CONCRETE (7IN)	
PIGMENTED IMPRINTED CONCRETE (4IN)	
AGGREGATE BASE COURSE CL 13 (4IN)	
CONCRETE MEDIAN NOSE PAVING	
DETECTABLE WARNING PANELS	

CITY OF WEST FARGO

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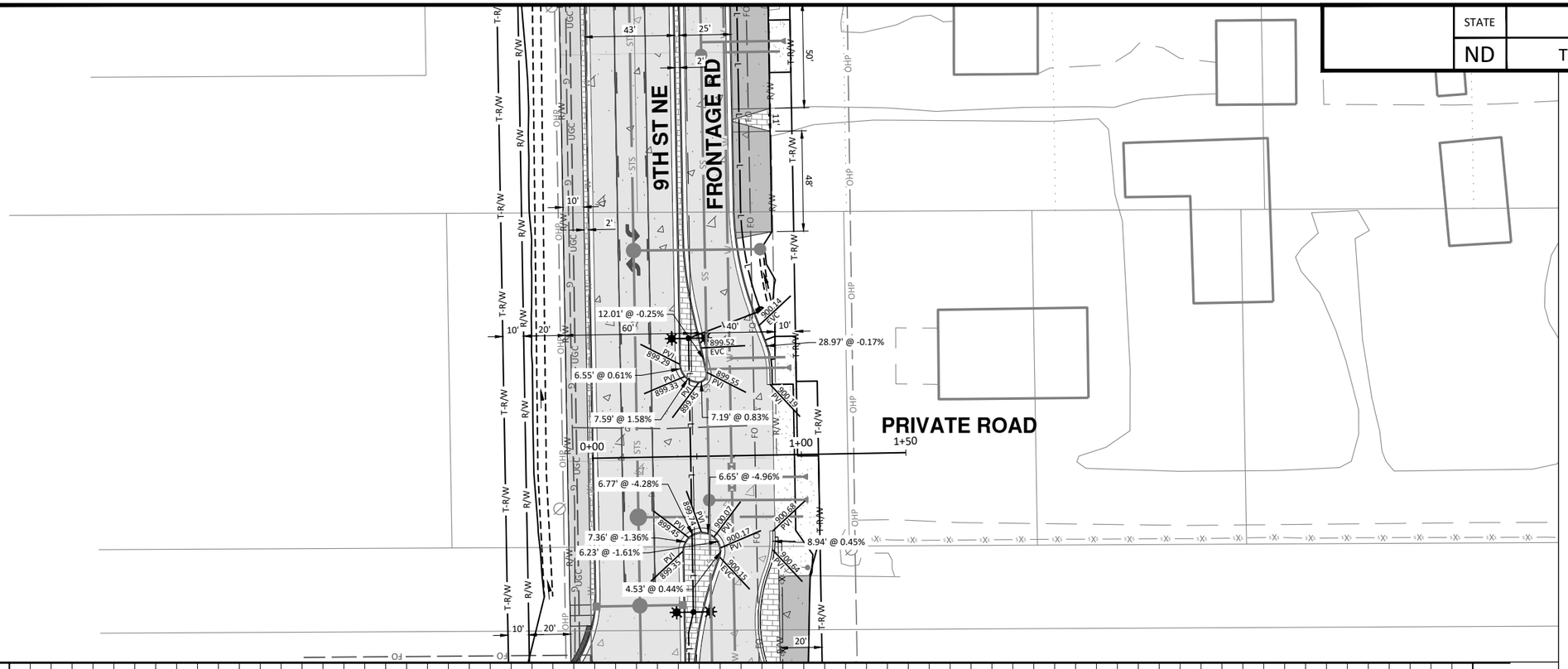
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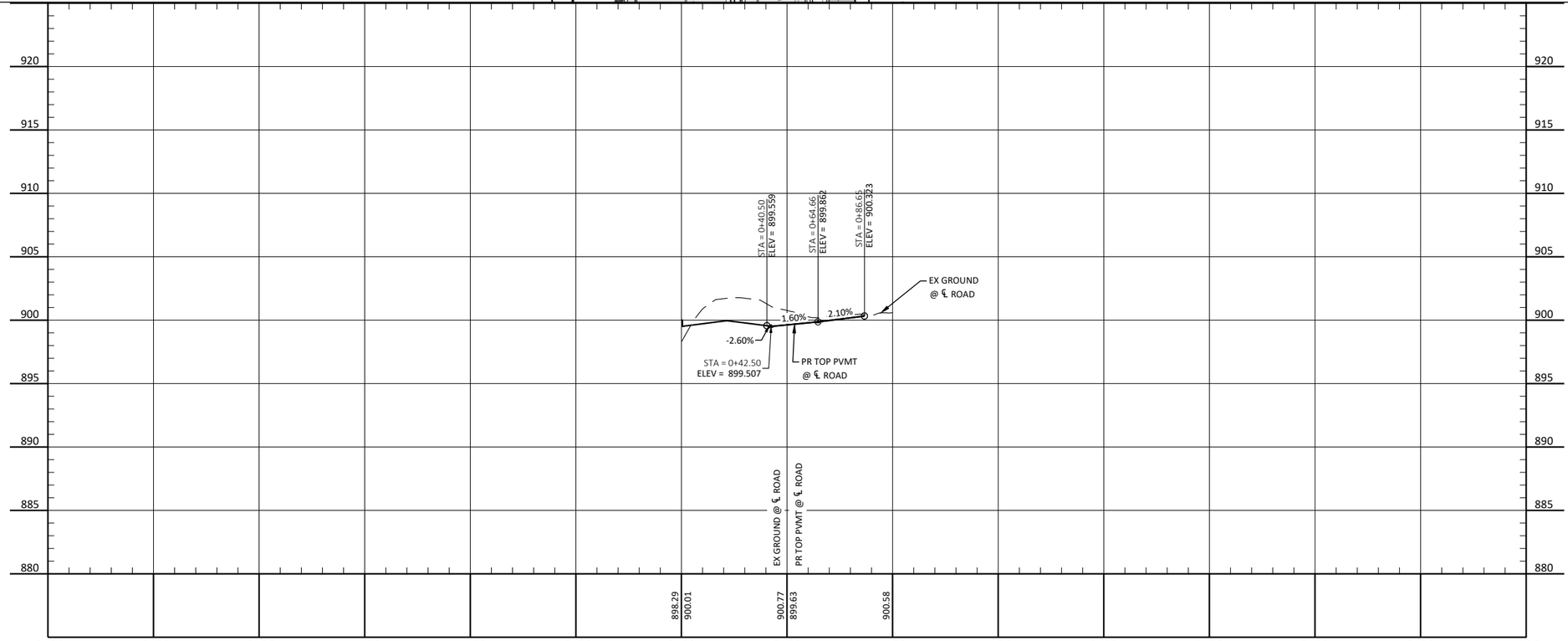
Plan & Profile - 9th Ave NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - Side Roads P & P.dwg-9th Ave (4)-8/13/2025 2:11 PM-(jerickson)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	19





N

30 0 30 60

Scale Feet

NOTES:

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LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

CITY OF WEST FARGO

HOUSTON engineering, inc.

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REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
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DATE
NORTH DAKOTA

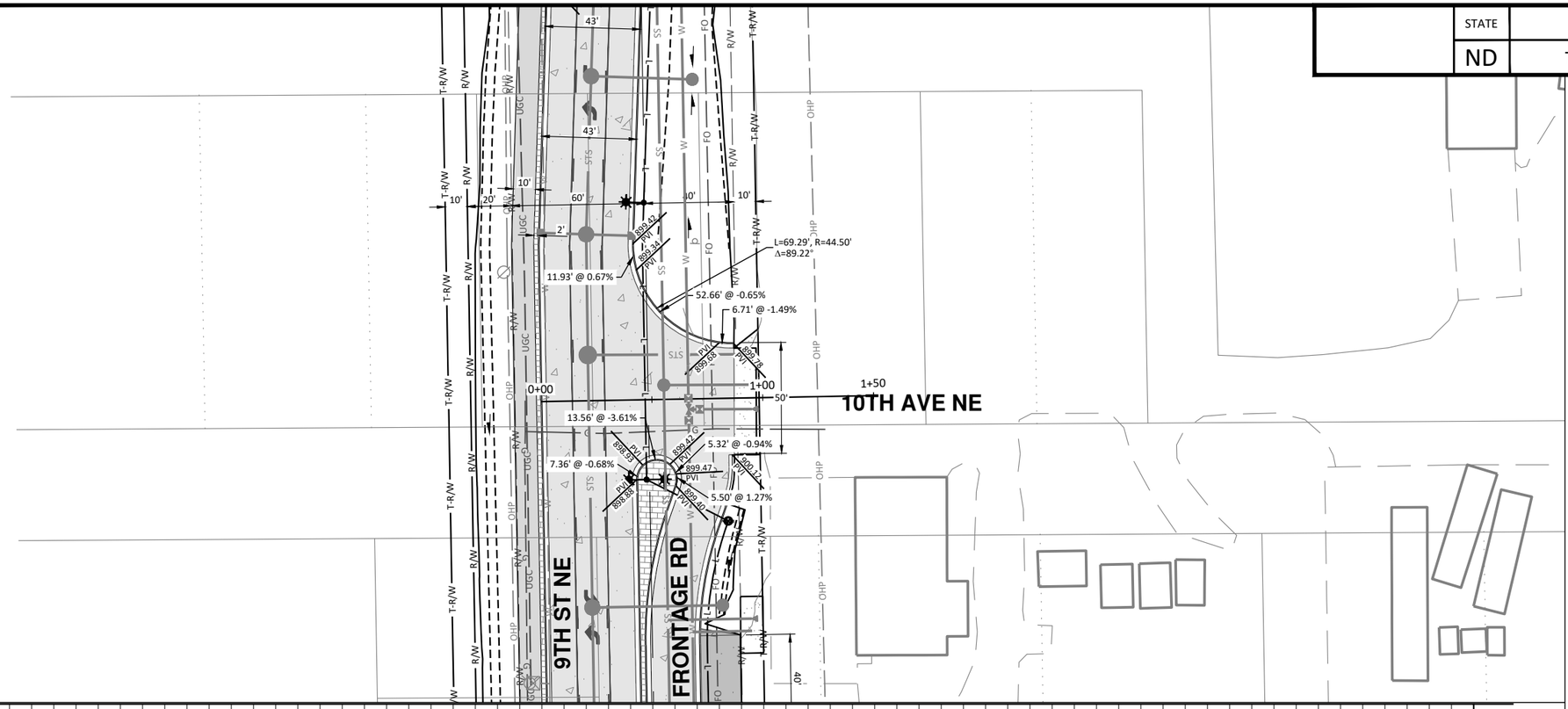
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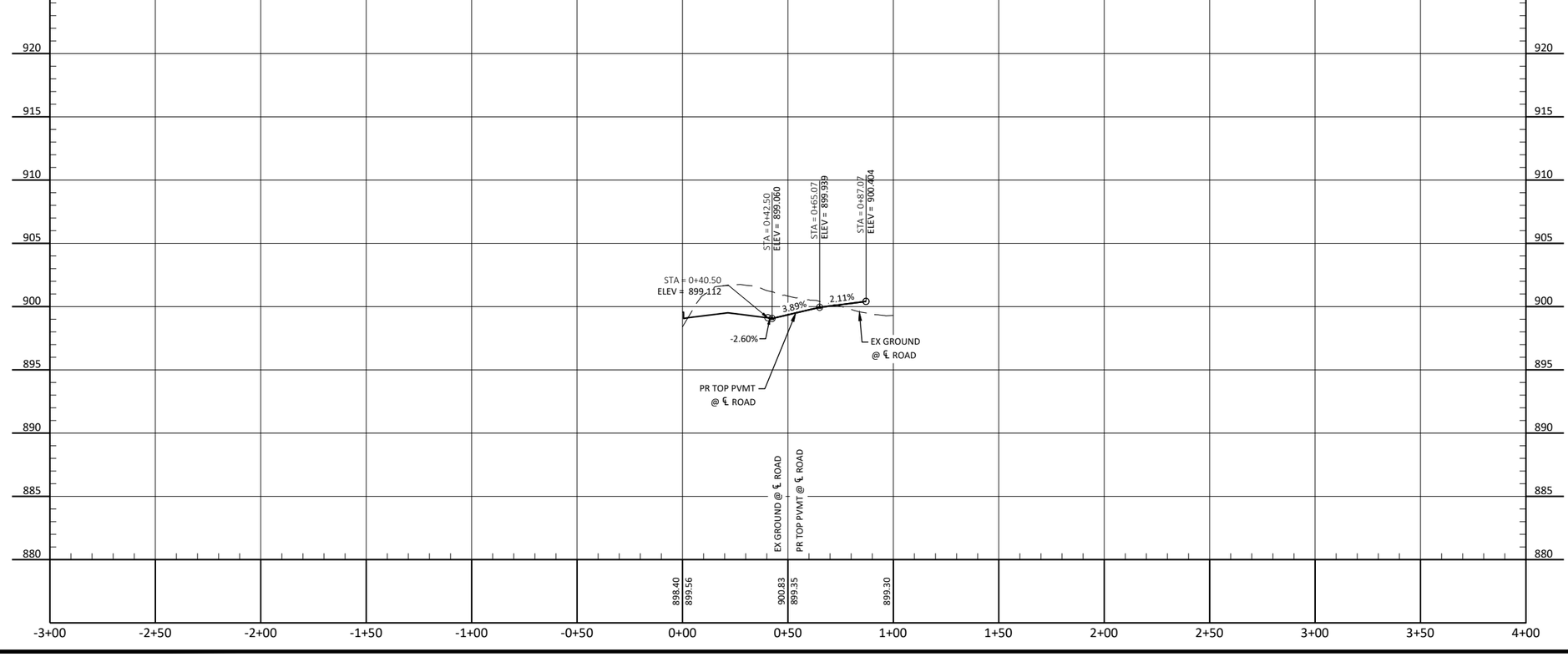
Plan & Profile - Private Drive

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - Side Roads P & P.dwg-Hazer (3)-8/13/2025 2:11 PM-(jerickson)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	20





N

30 0 30 60
Scale Feet

NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

CITY OF WEST FARGO

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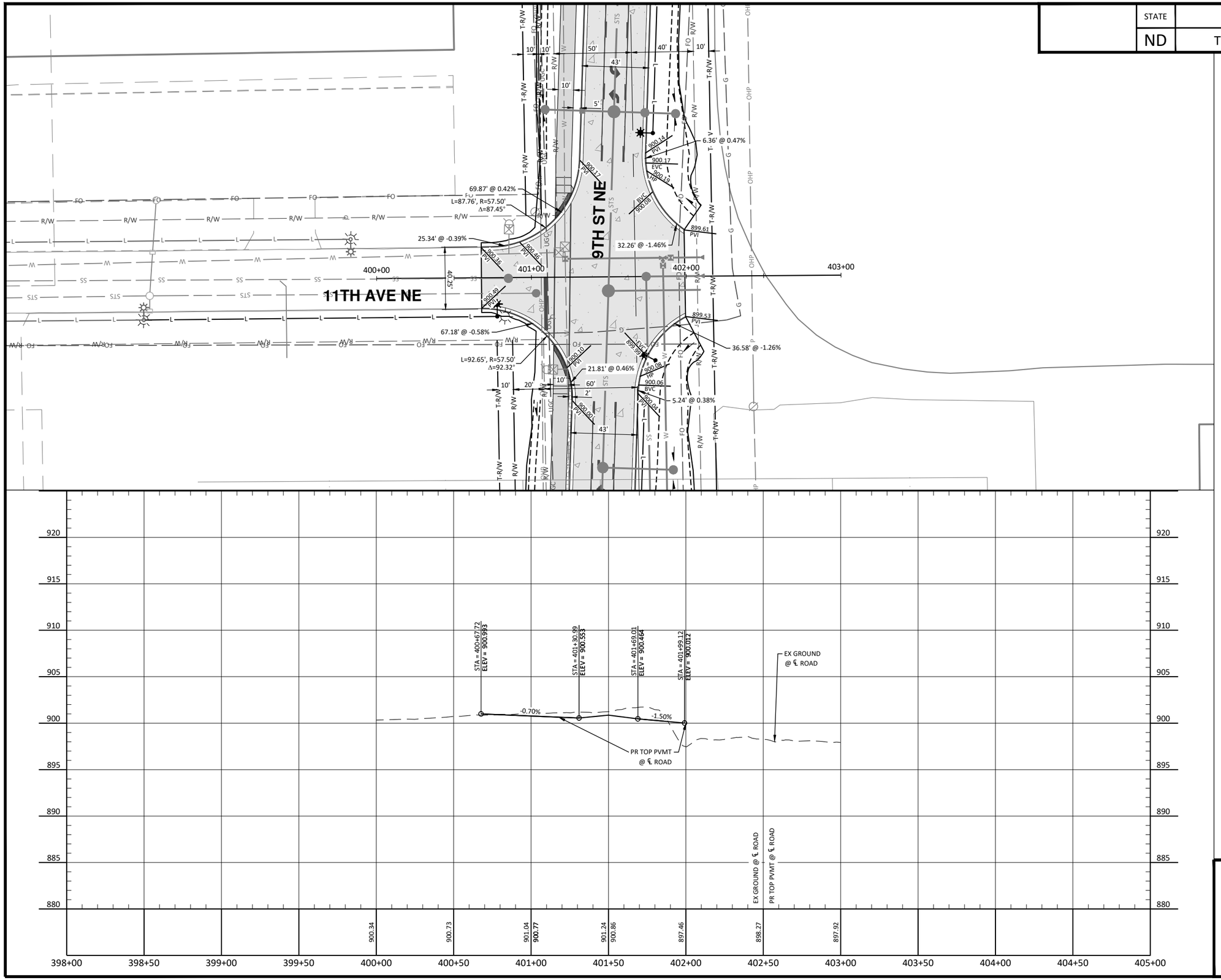
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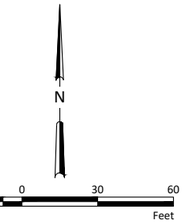
Plan & Profile - 10th Ave NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	21





NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

CITY OF WEST FARGO

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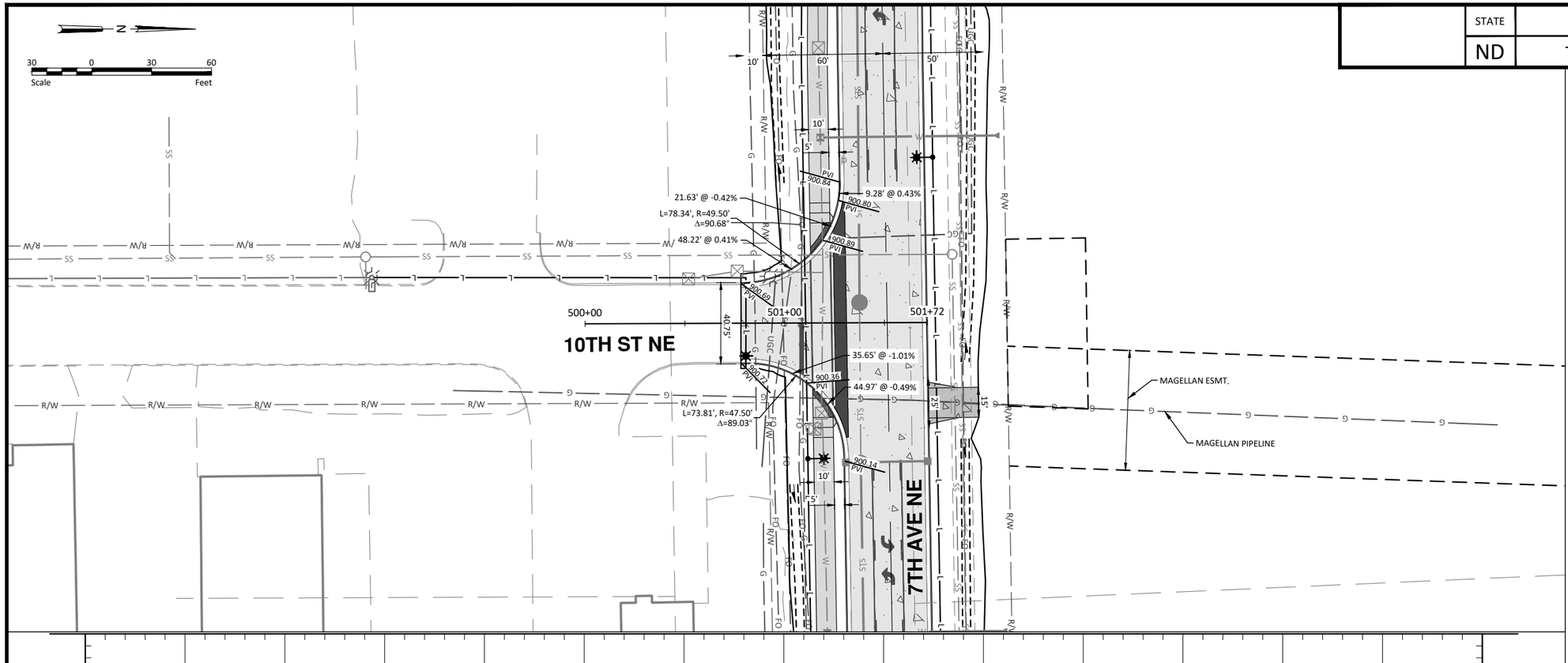
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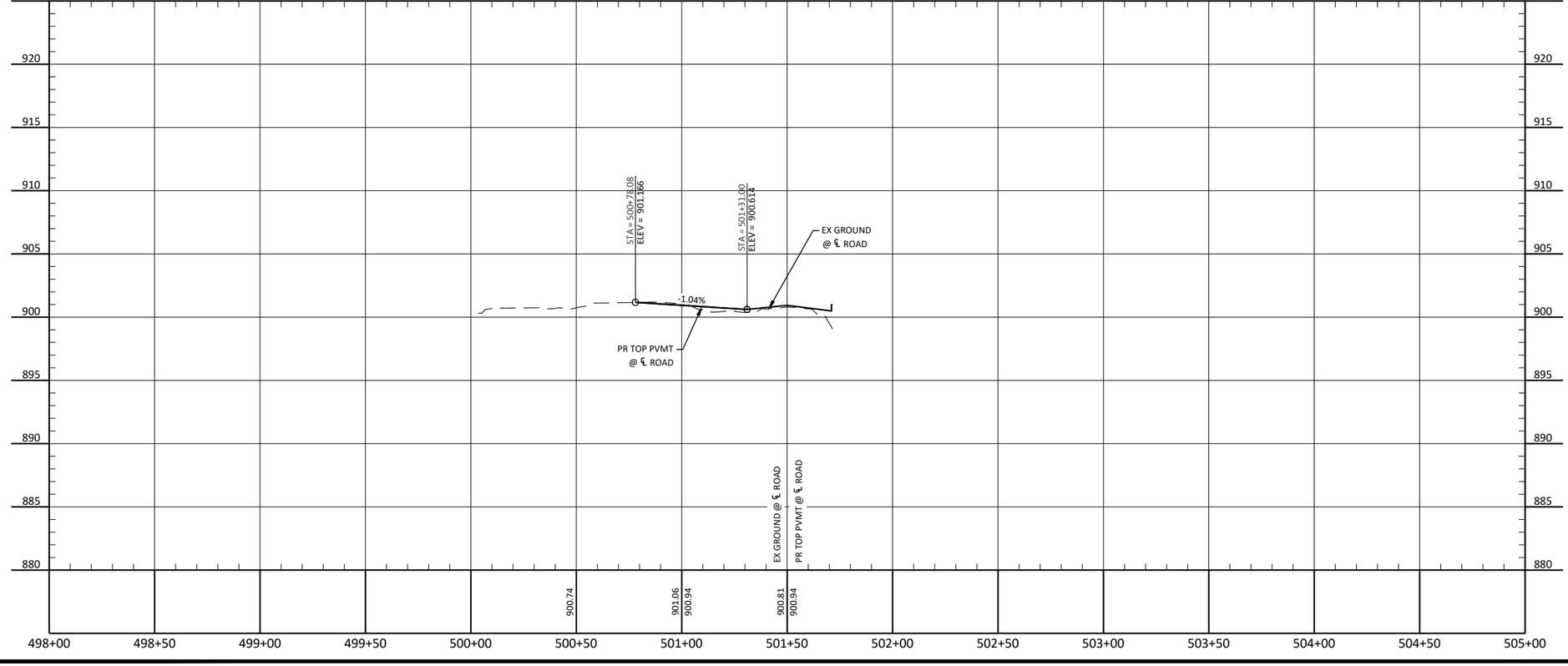
Plan & Profile - 11th Ave NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - Side Roads P & P.dwg-11th Ave (1)-8/13/2025 2:11 PM-(jerickson)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	22





NOTES:

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LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- VALLEY GUTTER 72IN
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

WARNING
HIGH-PRESSURE PIPELINE(S)
Excavation and/or Construction Prohibited
Without compliance with **State One-Call**, AND
Without Written Permission From
MAGELLAN PIPELINE COMPANY, L.P.
A MAGELLAN REPRESENTATIVE MUST BE PRESENT DURING WORK AROUND PIPELINE(S)

CITY OF WEST FARGO

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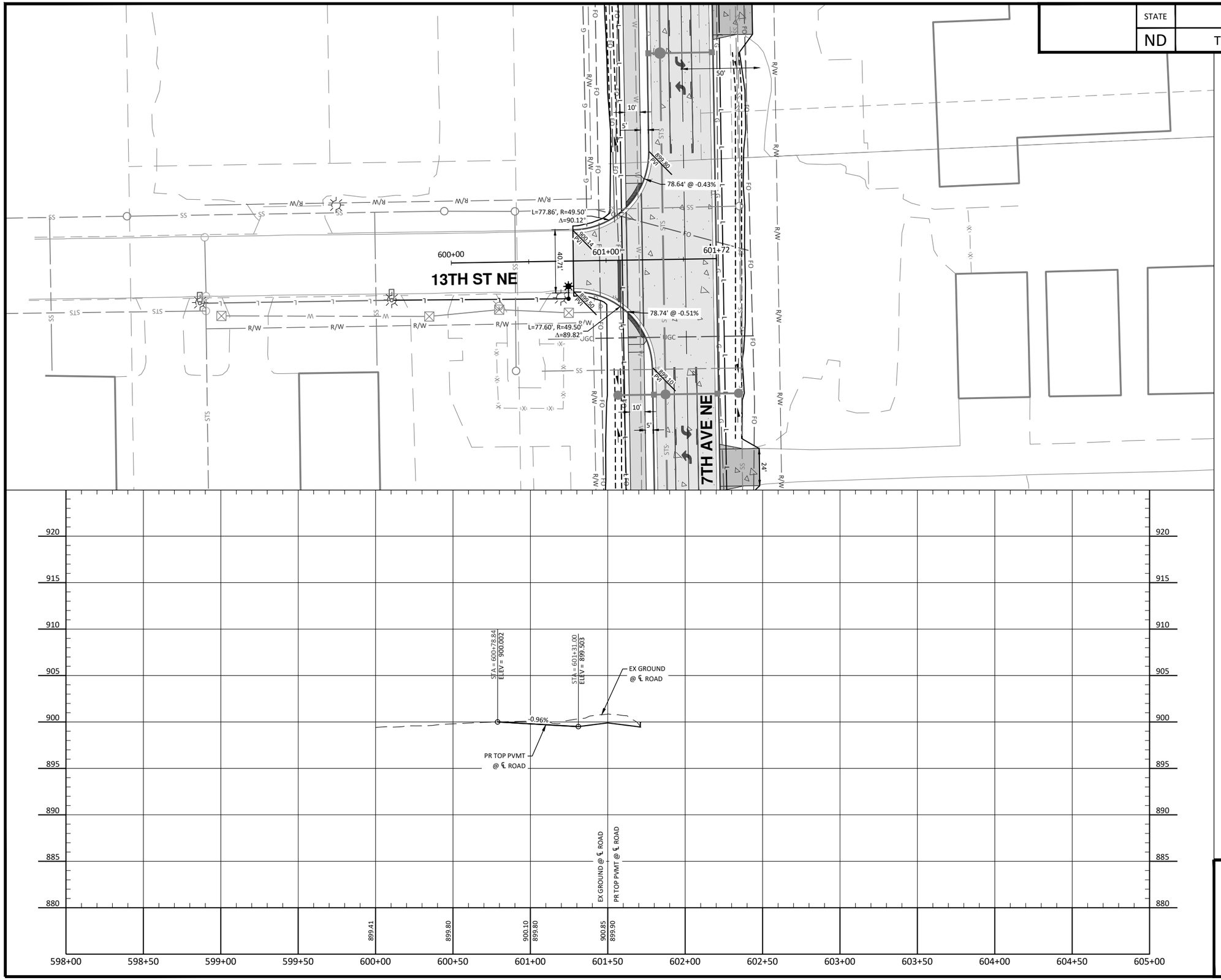
8/13/2025

Plan & Profile - 10th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\BN\8600\86541\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - Side Roads P & P.dwg-10th St (5)-8/13/2025 2:11 PM-(jerickson)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	23



N

30 0 30 60
Scale Feet

NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
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LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

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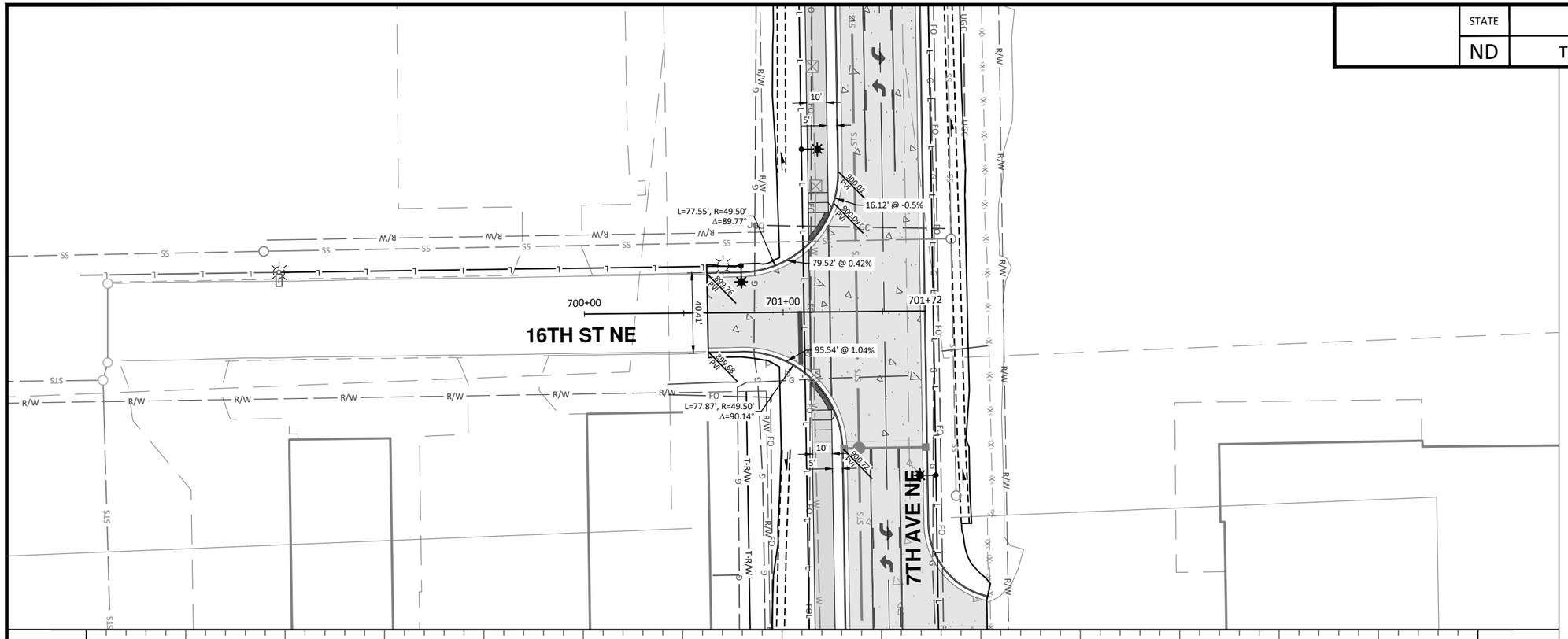
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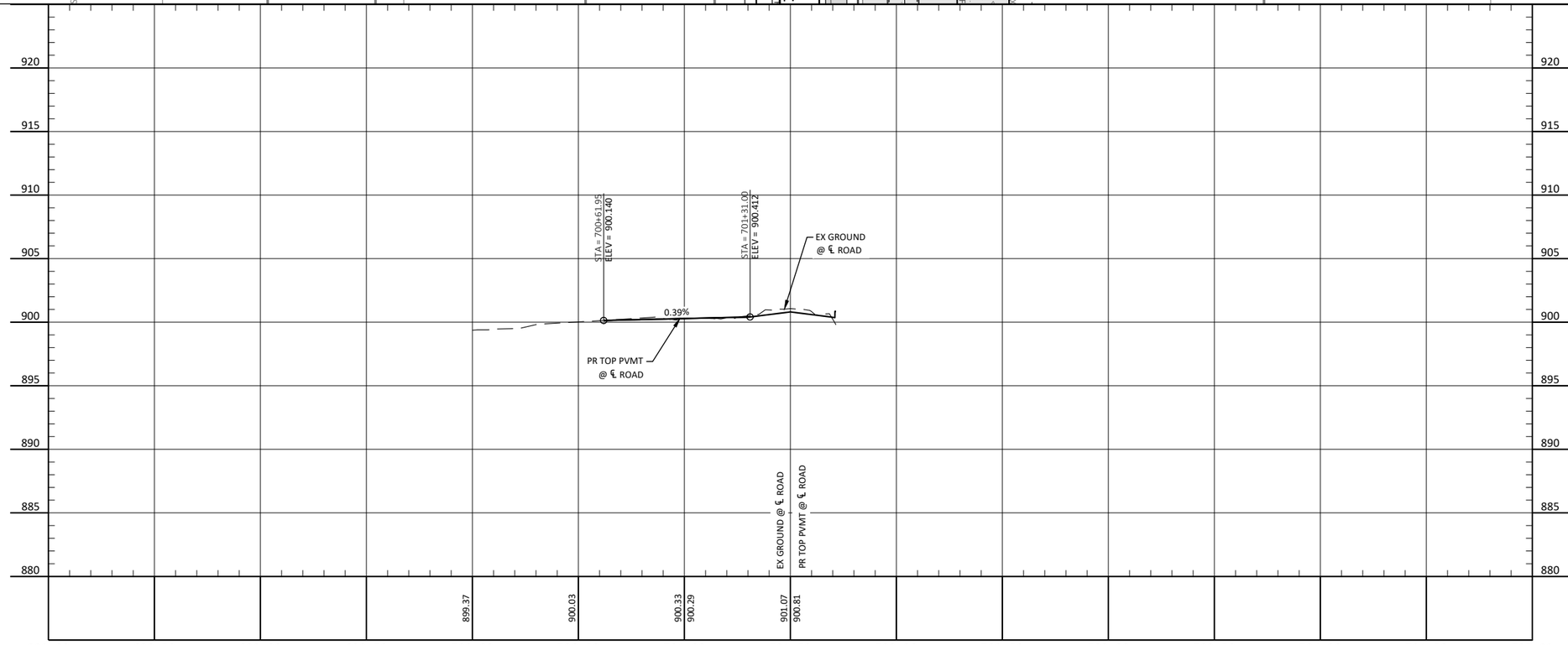
Plan & Profile - 13th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	24





N

30 0 30 60
Scale Feet

NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
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LEGEND

EXISTING RIGHT OF WAY	R/W
PROPOSED RIGHT OF WAY	R/W
TEMPORARY RIGHT OF WAY	T-R/W
DITCH BOTTOM	
GRADING TIE LINE	
CURB & GUTTER - TYPE I	
10IN NON REINF CONCRETE PVMT CL AE-DOWELED	
SIDEWALK CONCRETE 5IN	
DRIVEWAY CONCRETE (7IN)	
PIGMENTED IMPRINTED CONCRETE (4IN)	
AGGREGATE BASE COURSE CL 13 (4IN)	
CONCRETE MEDIAN NOSE PAVING	
DETECTABLE WARNING PANELS	

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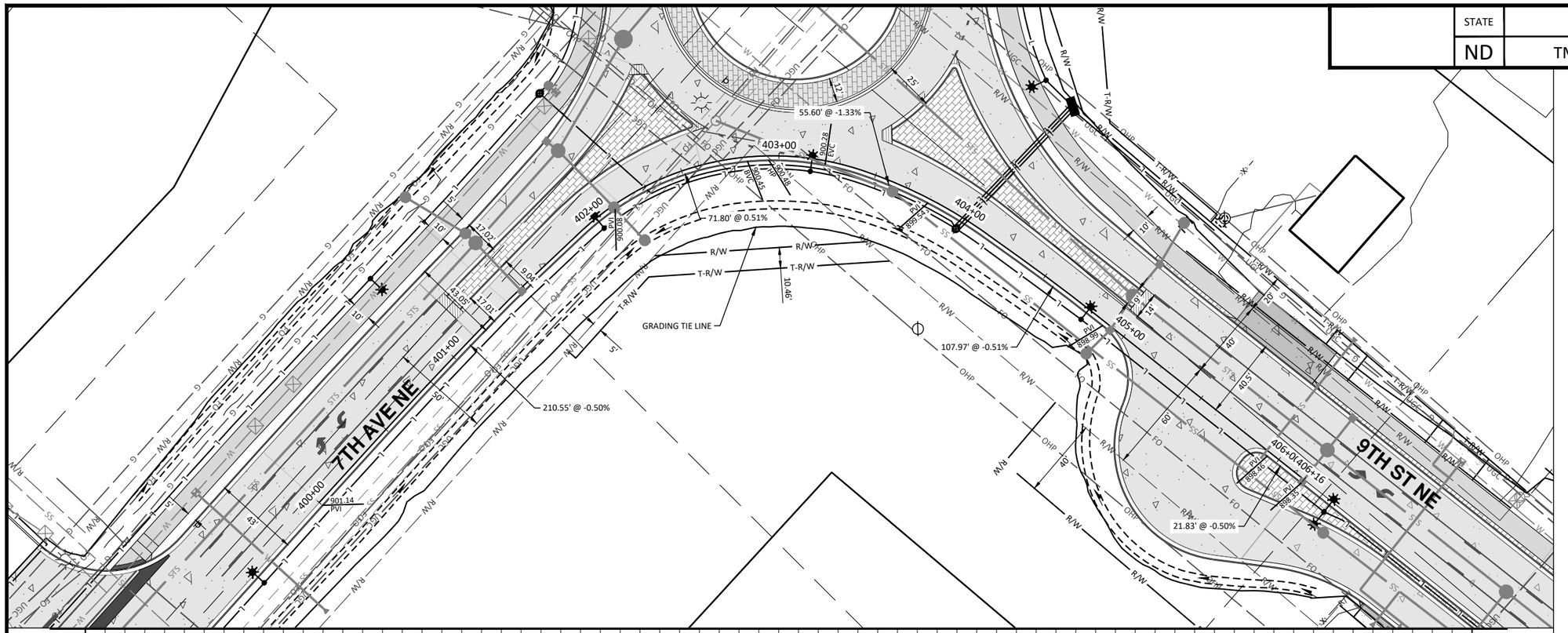
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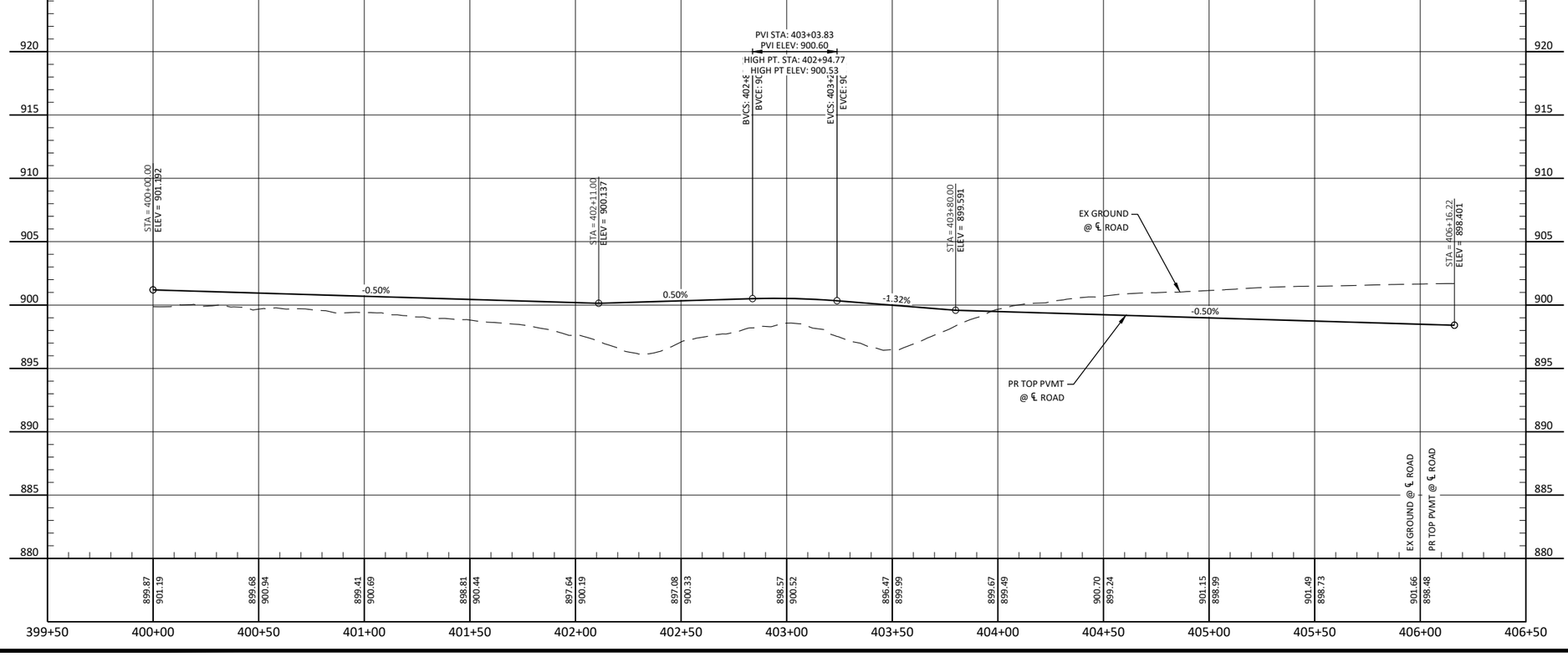
Plan & Profile - 16th St NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	25





Scale: 30 0 30 60 Feet

NOTES:

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LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

CITY OF WEST FARGO

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NORTH DAKOTA

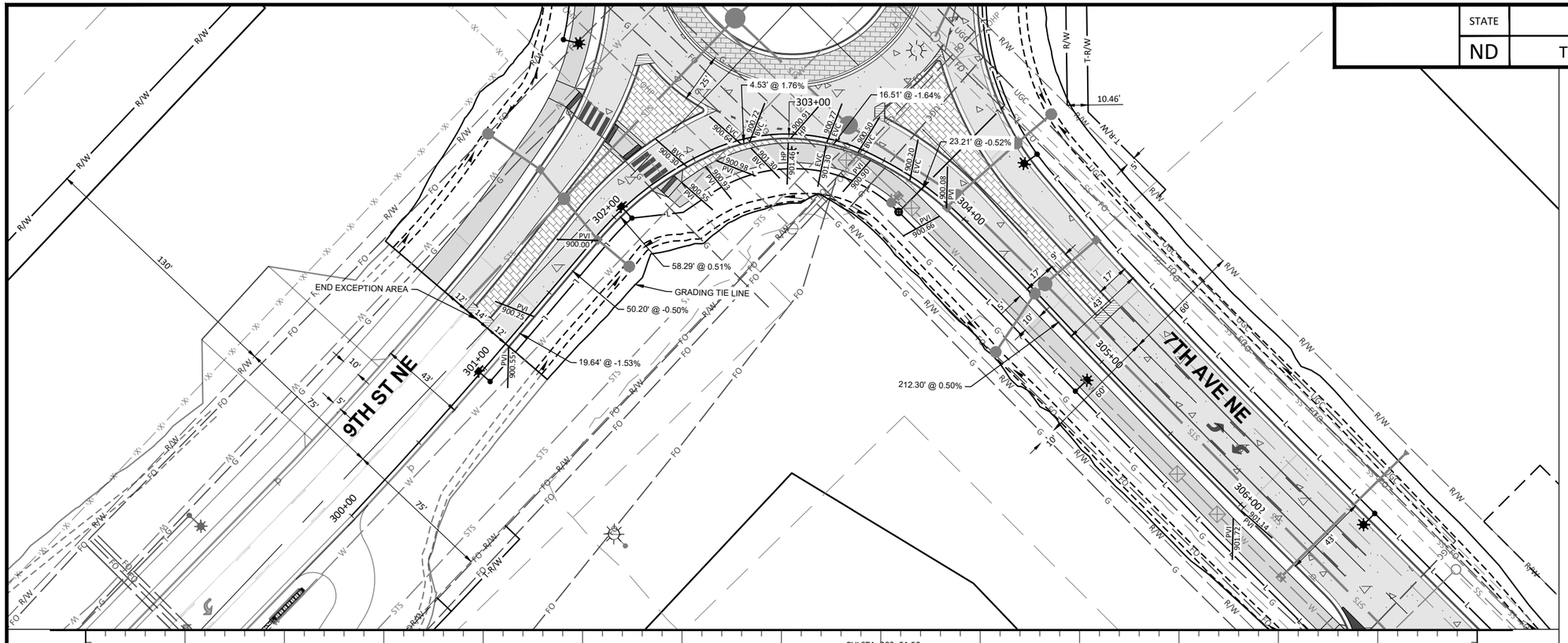
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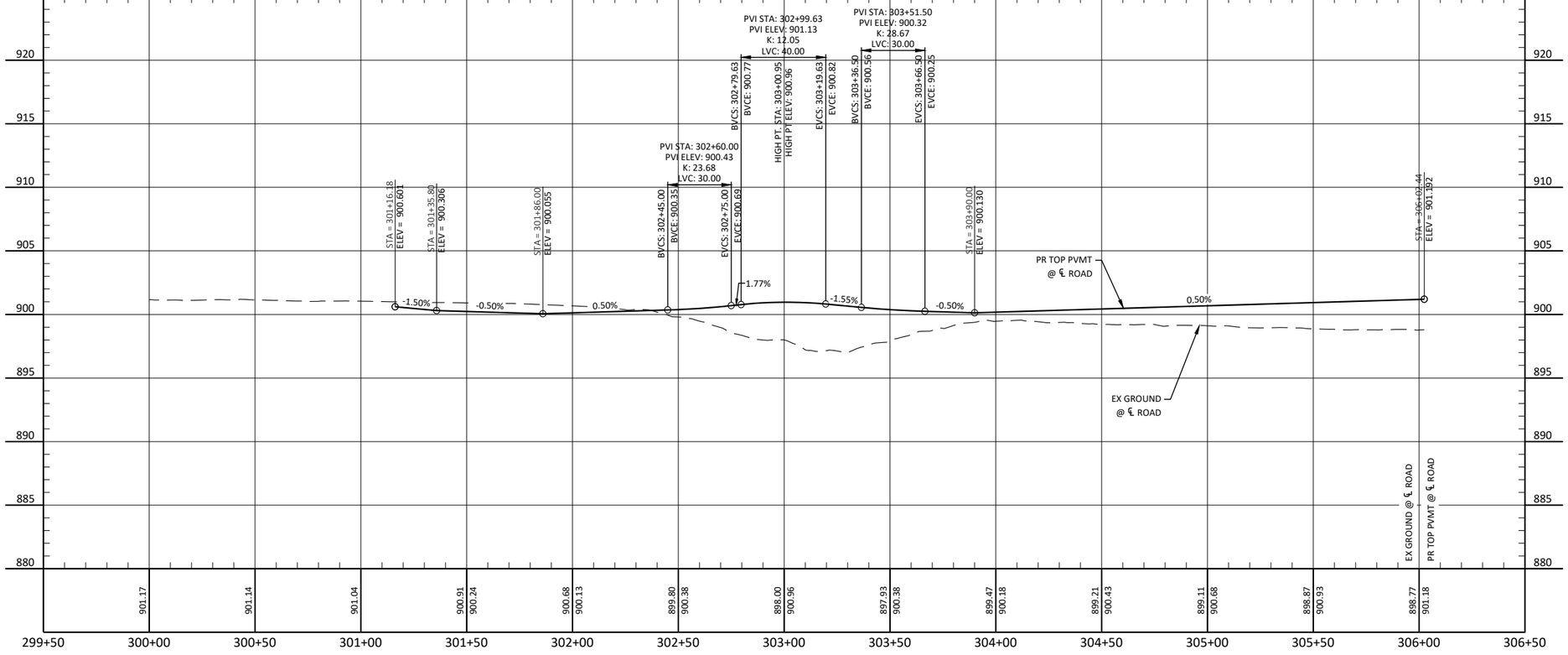
Plan & Profile - 7th Ave Roundabout NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\BN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - NE RAB P & P.dwg RAB (NE) 8/13/2025 2:12 PM (jerickson)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	26







NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING RIGHT OF WAY — R/W —
- PROPOSED RIGHT OF WAY — R/W —
- TEMPORARY RIGHT OF WAY — T-R/W —
- DITCH BOTTOM
- GRADING TIE LINE
- CURB & GUTTER - TYPE I
- 10IN NON REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- DRIVEWAY CONCRETE (7IN)
- PIGMENTED IMPRINTED CONCRETE (4IN)
- AGGREGATE BASE COURSE CL 13 (4IN)
- CONCRETE MEDIAN NOSE PAVING
- DETECTABLE WARNING PANELS

CITY OF WEST FARGO

HOUSTON engineering, inc.

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

REGISTERED PROFESSIONAL ENGINEER
ADAM M. RUUD
PE-10407
DATE
NORTH DAKOTA

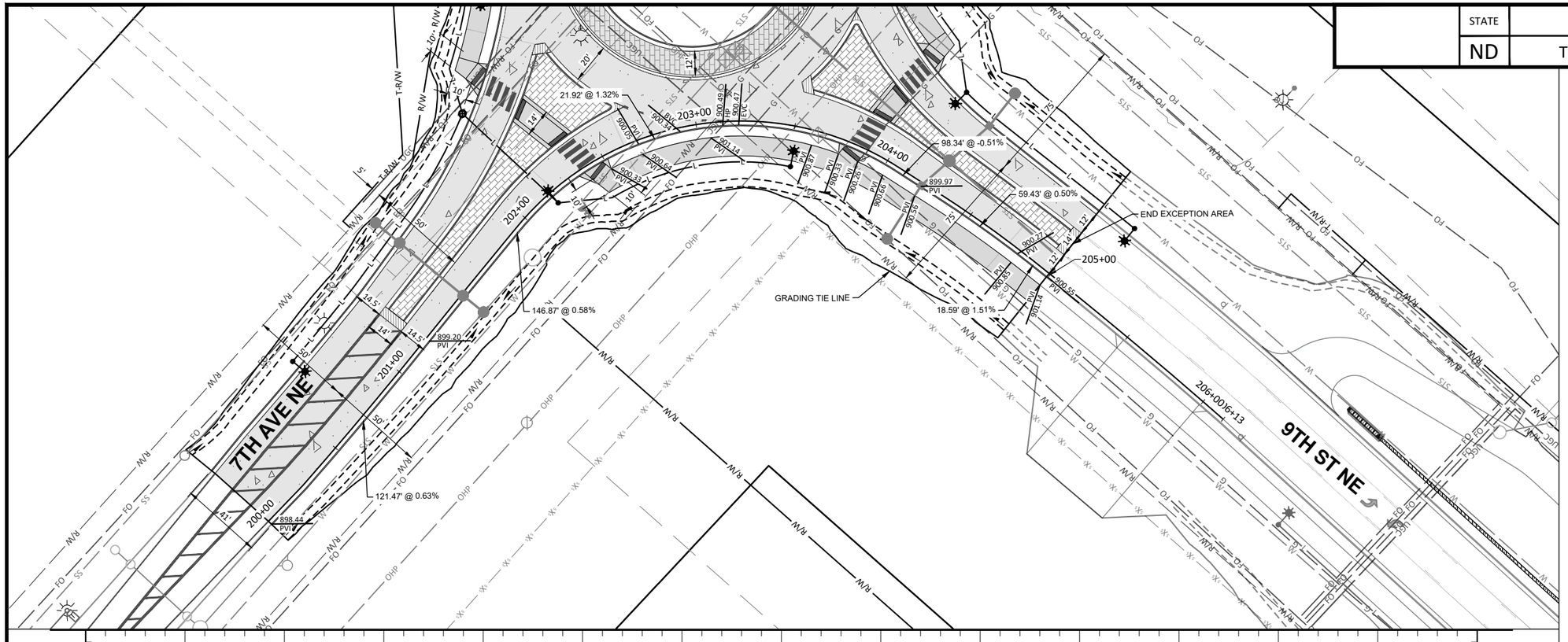
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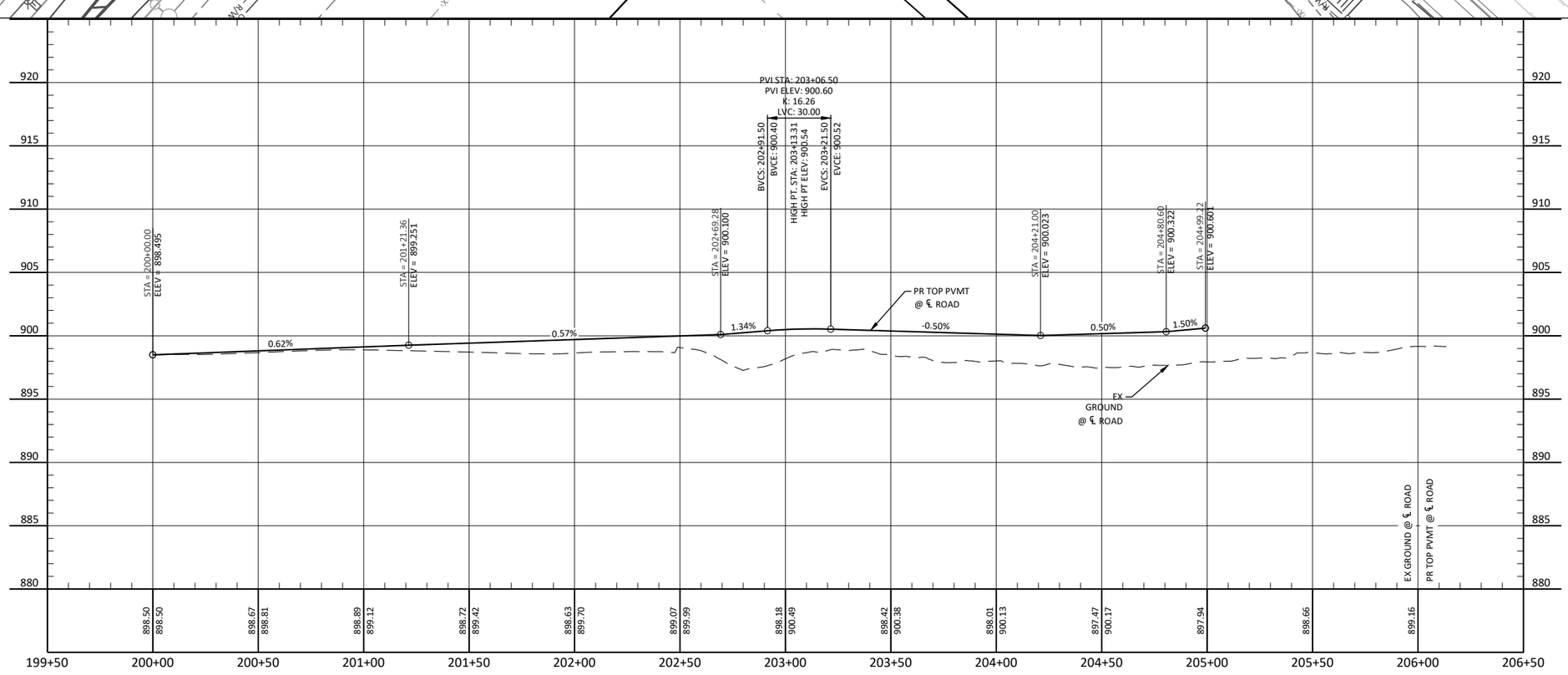
Plan & Profile - 7th Ave Roundabout SE

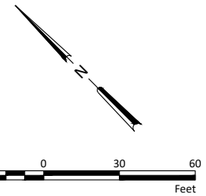
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - SE RAB P & P.dwg-RAB (SE)-8/13/2025 2:13 PM-(jerickson)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	27







NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING RIGHT OF WAY — R/W
- PROPOSED RIGHT OF WAY — R/W
- TEMPORARY RIGHT OF WAY — T-R/W
- DITCH BOTTOM
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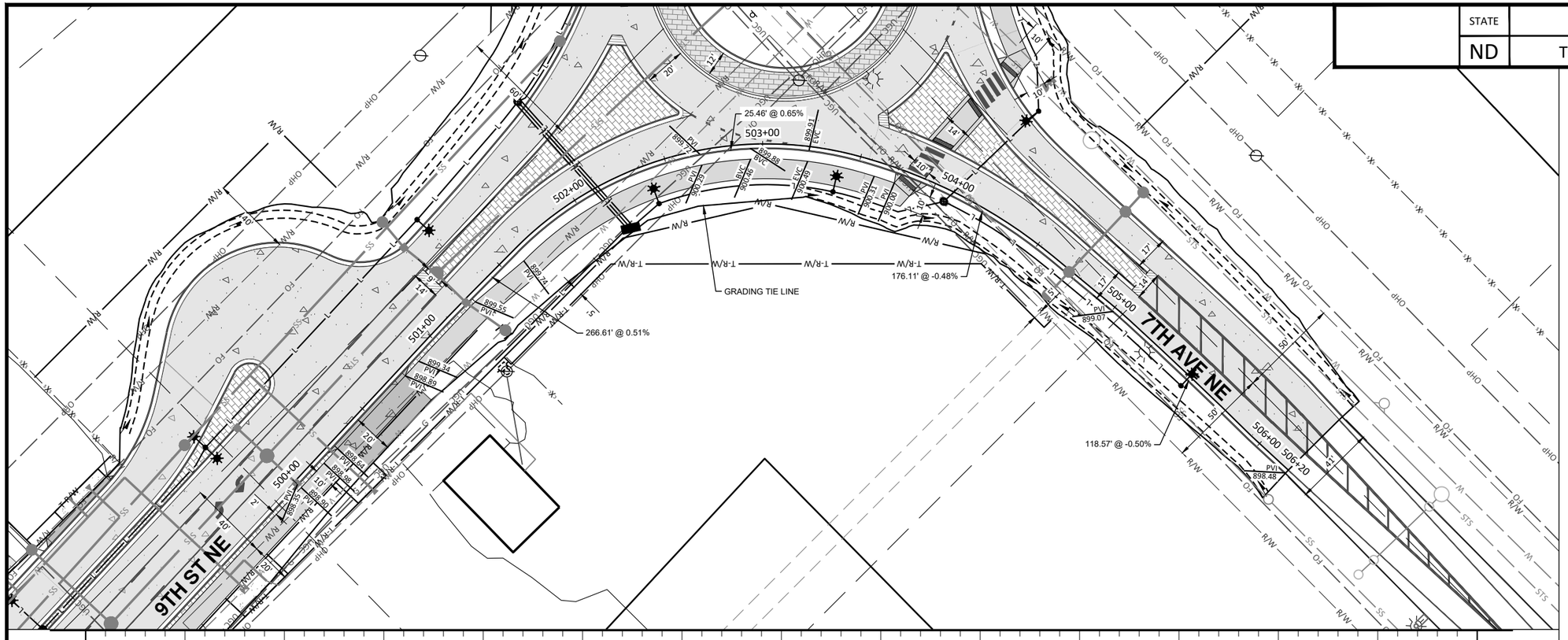
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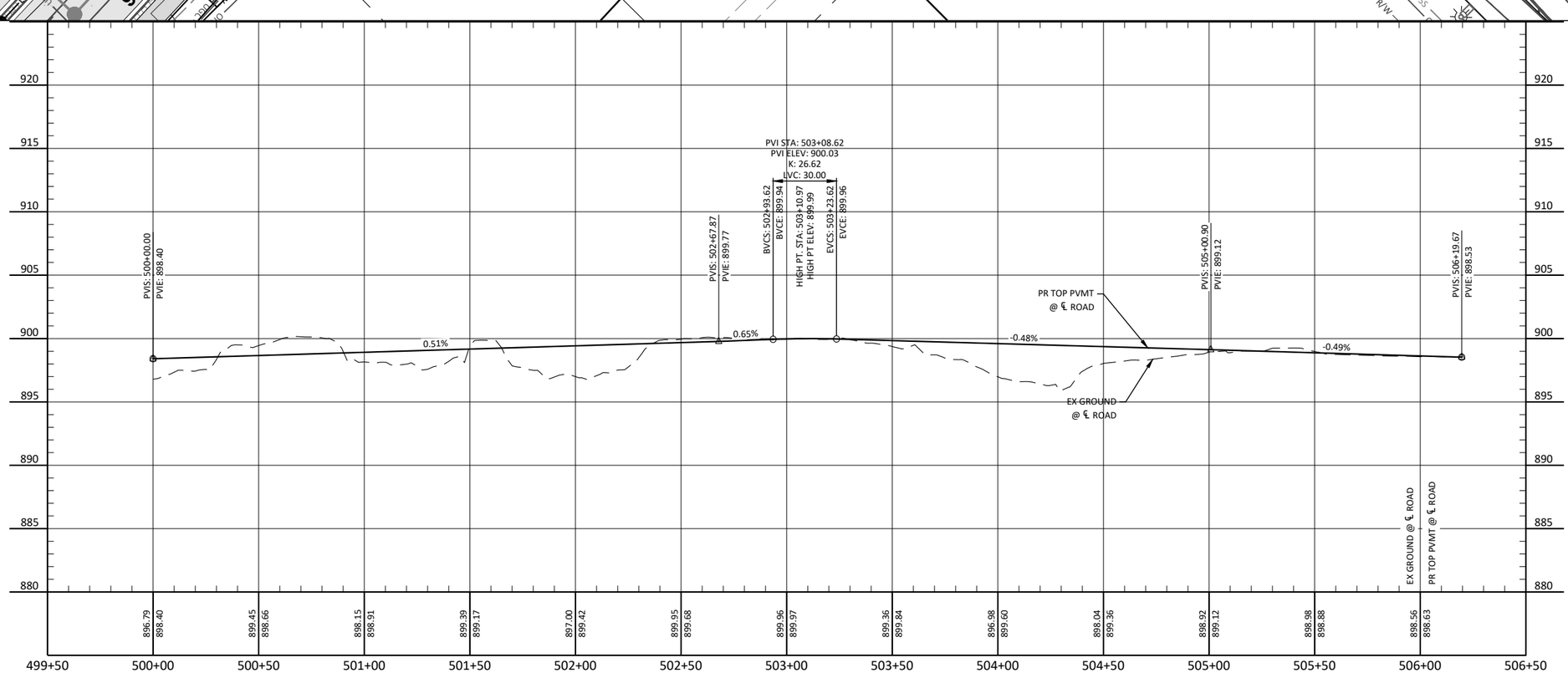
Plan & Profile - 7th Ave Roundabout SW

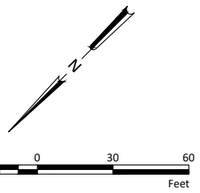
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - SW RAB P & P.dwg RAB (SW) 8/13/2025 2:13 PM (jerickson)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TMA-SU-FXP-8-992(045)	60	28







NOTES:

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LEGEND

- EXISTING RIGHT OF WAY — R/W
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CITY OF WEST FARGO

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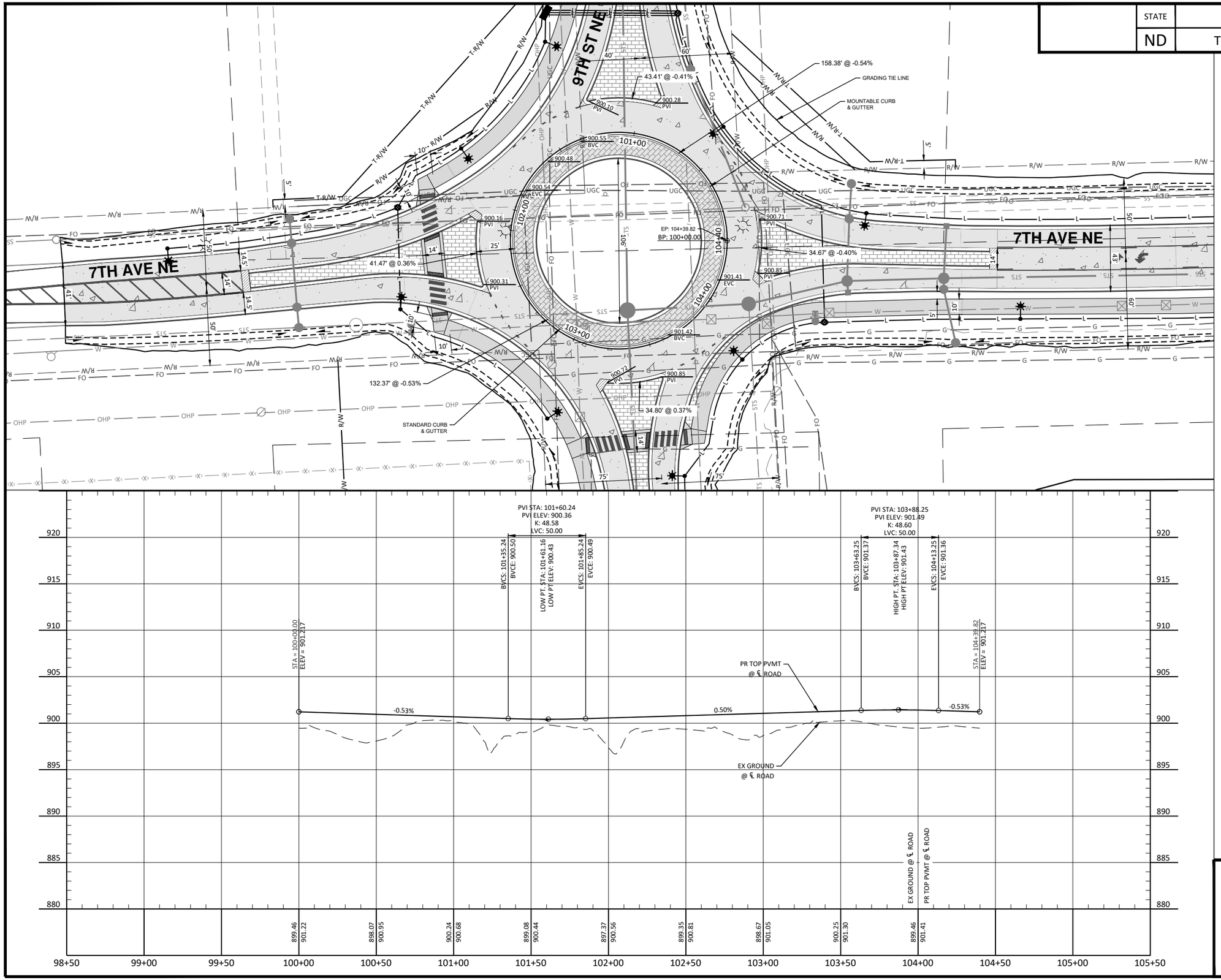
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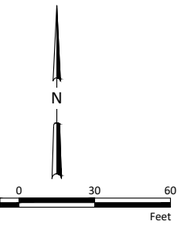
Plan & Profile - 7th Ave Roundabout NW

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - NW RAB P & P.dwg RAB (NW) 8/13/2025 2:14 PM (jerickson)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	29





NOTES:

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LEGEND

- EXISTING RIGHT OF WAY — R/W
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CITY OF WEST FARGO

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DATE
NORTH DAKOTA

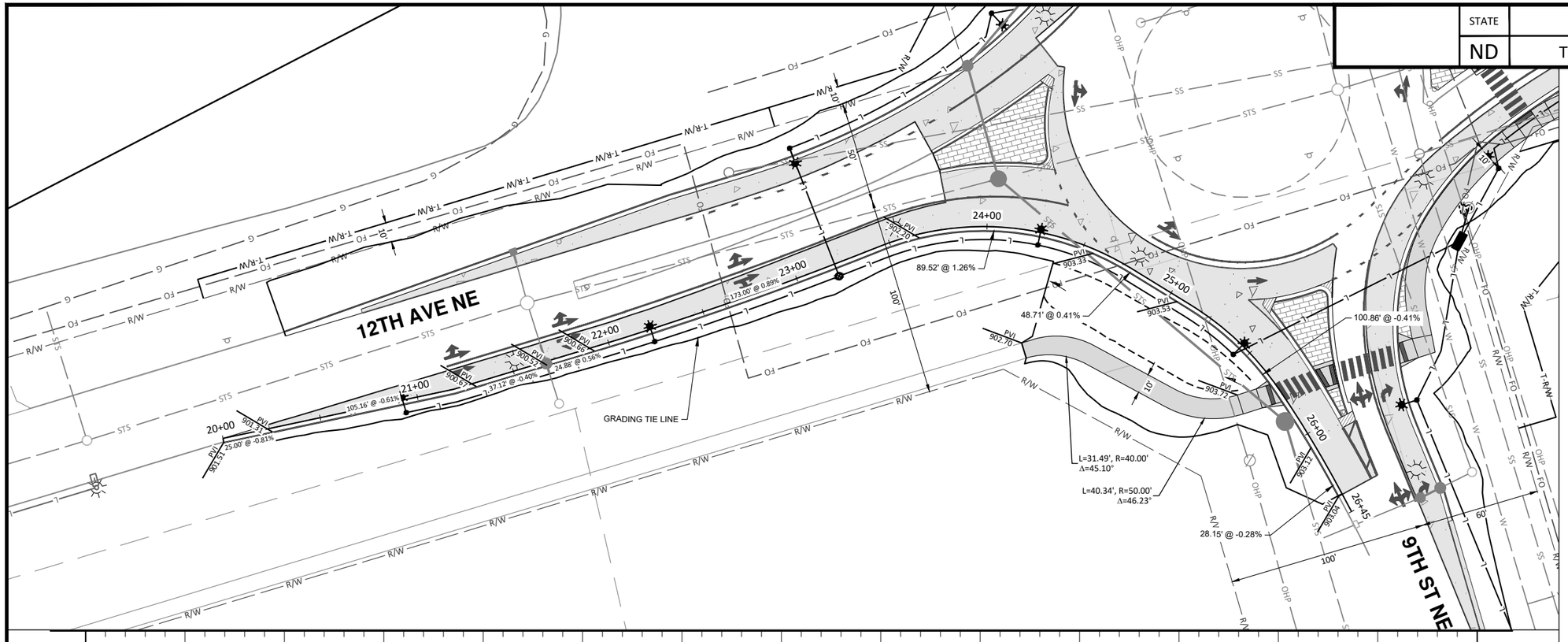
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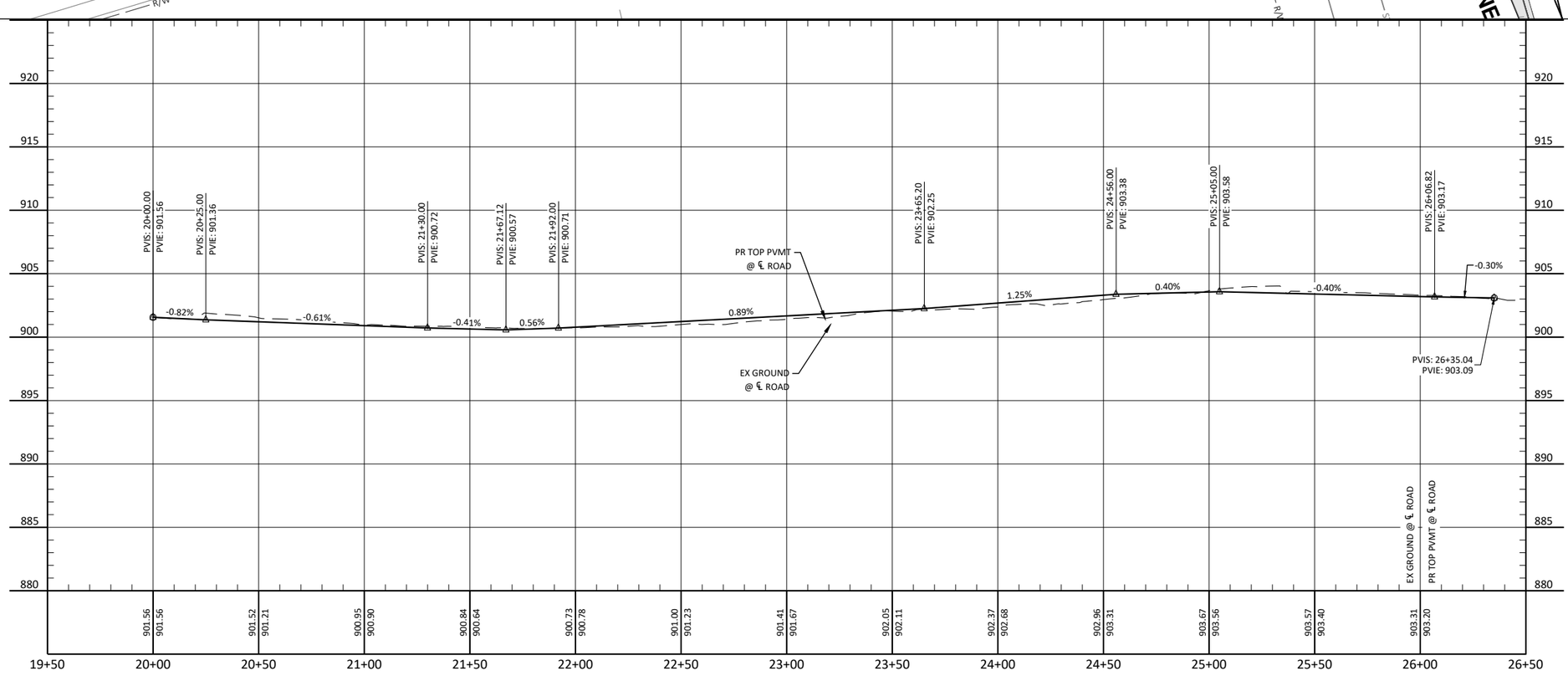
Plan & Profile - 7th Ave
Roundabout Incsribed Circle

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - Middle RAB P & P.dwg-RAB (Middle) 8/13/2025 2:14 PM (jerickson)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	30





N

30 0 30 60

Scale Feet

NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
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LEGEND

- EXISTING RIGHT OF WAY — R/W —
- PROPOSED RIGHT OF WAY — R/W —
- TEMPORARY RIGHT OF WAY — T-R/W —
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CITY OF WEST FARGO

HOUSTON engineering, inc.

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NORTH DAKOTA

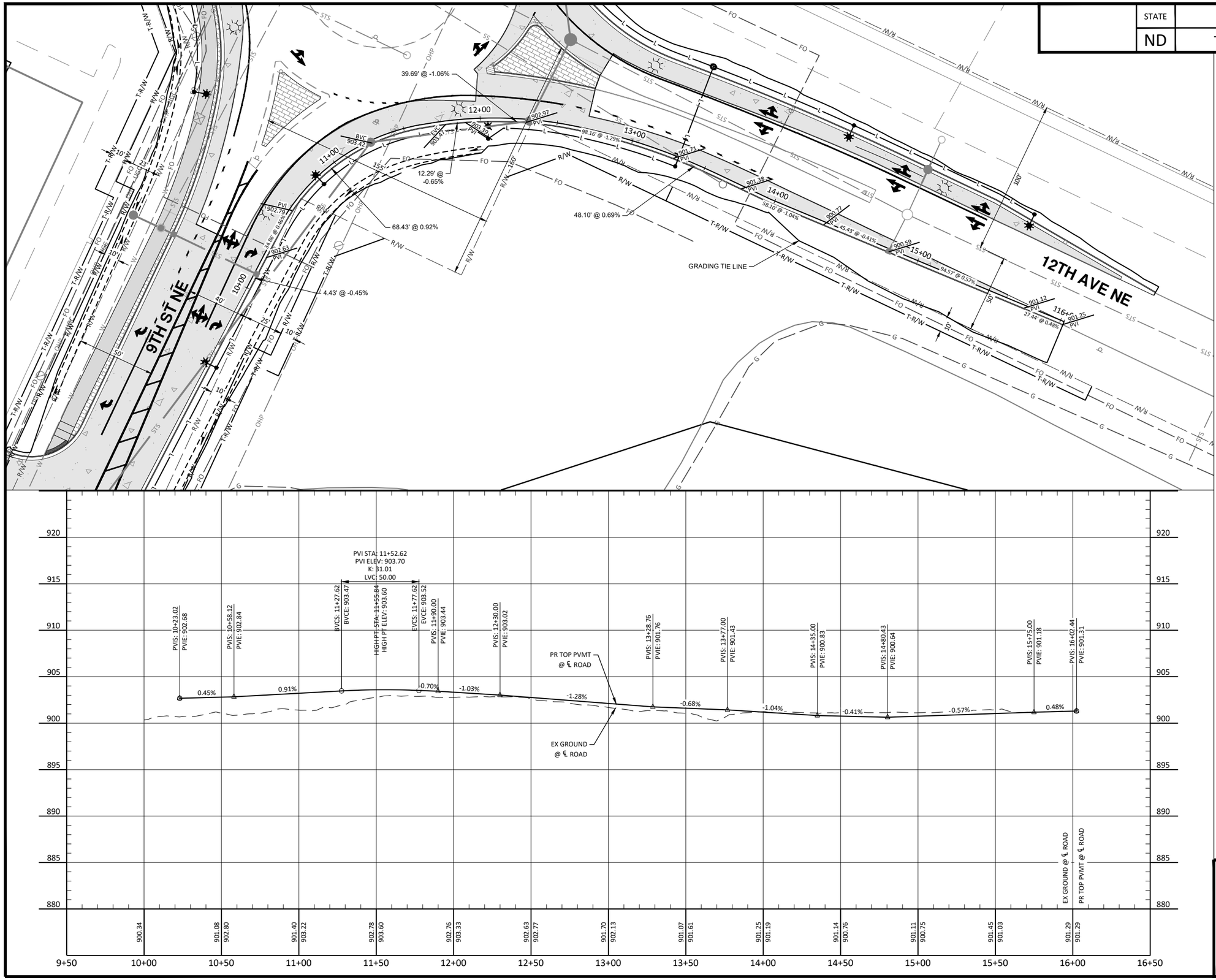
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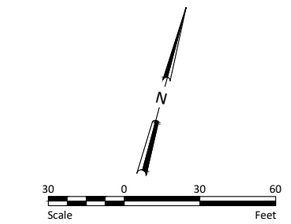
Plan & Profile - 12th Ave Roundabout NE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - 12th Ave NE RAB P & P.dwg 12th Ave RAB (NE) 8/13/2025 2:15 PM (jerickson)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	31





NOTES:

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LEGEND

- EXISTING RIGHT OF WAY — R/W
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CITY OF WEST FARGO

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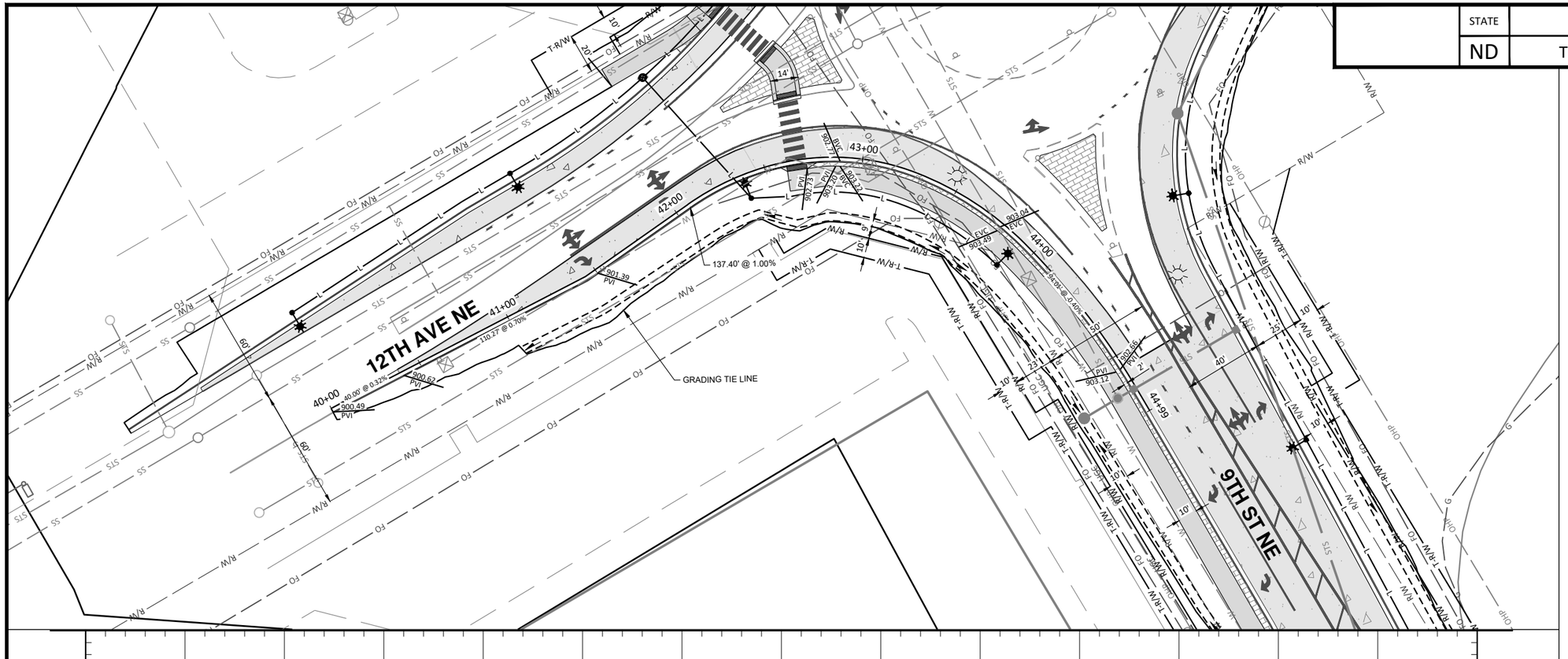
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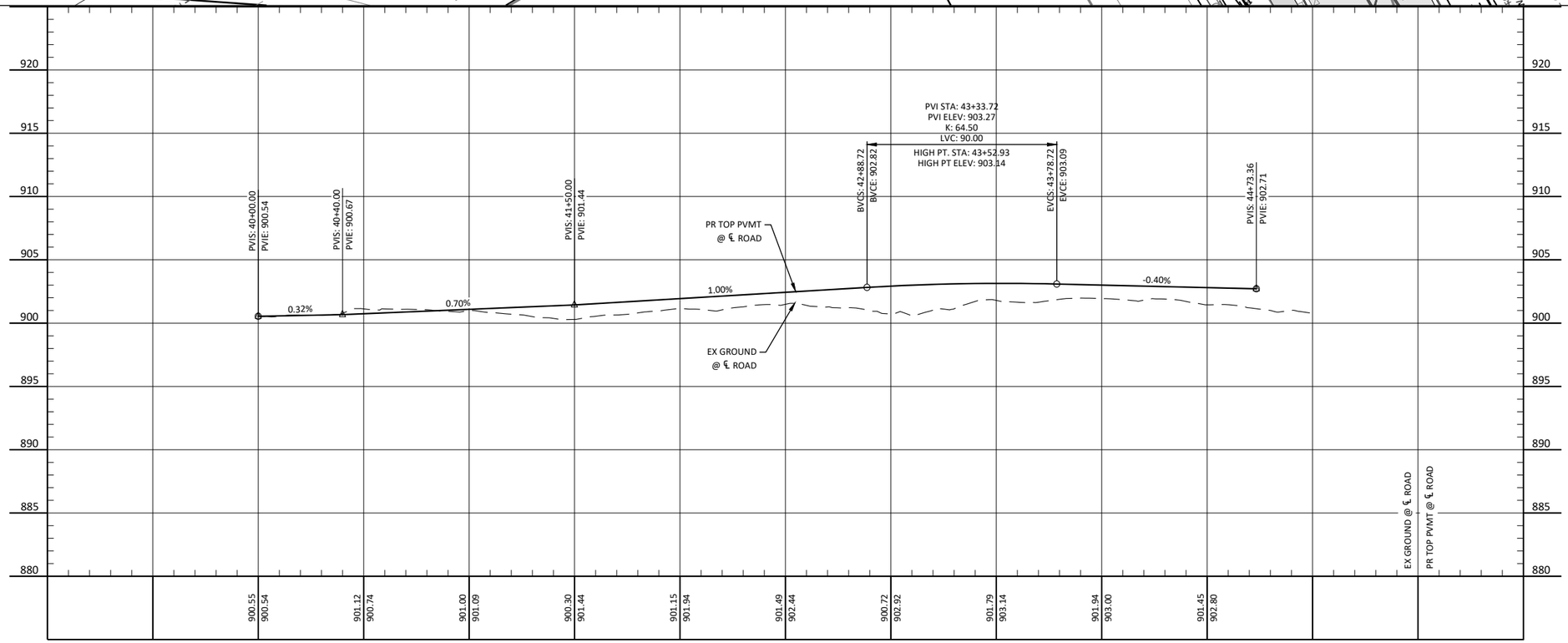
Plan & Profile - 12th Ave Roundabout SE

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - 12th Ave SE RAB P & P.dwg-12th Ave RAB (SE)-8/13/2025 2:15 PM-(jerickson)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	32





N

30 0 30 60
Scale Feet

NOTES:

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LEGEND

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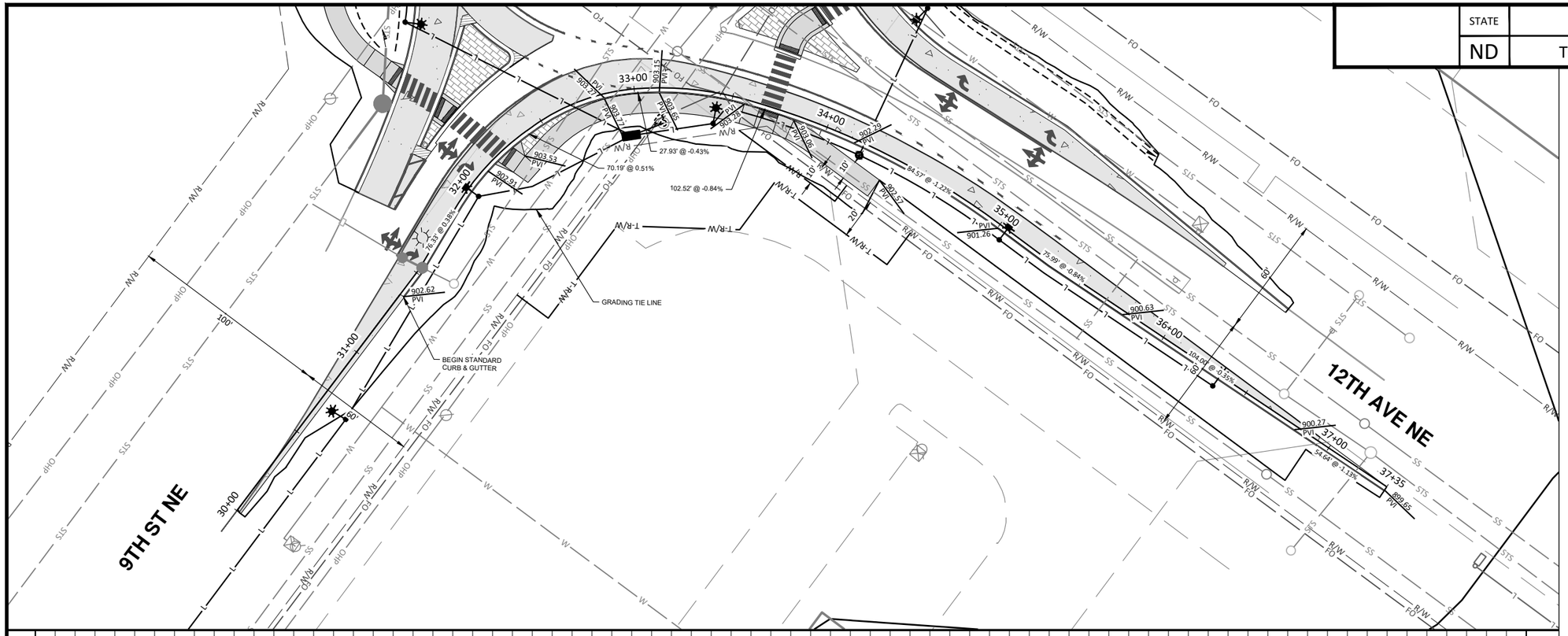
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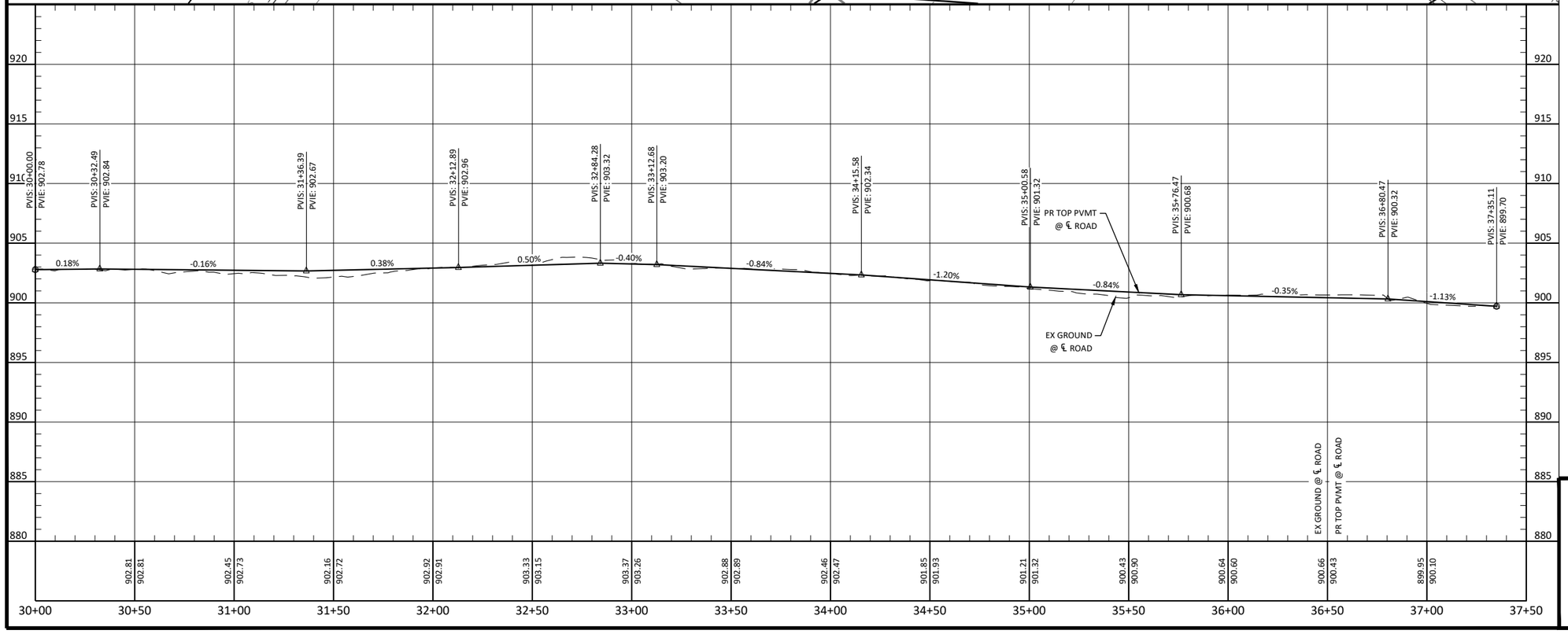
Plan & Profile - 12th Ave Roundabout SW

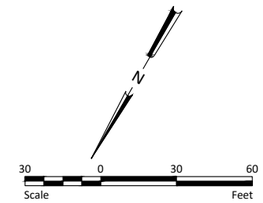
9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TMA-SU-FXP-8-992(045)	60	33







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LEGEND

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ADAM M. RUUD
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DATE
NORTH DAKOTA

8/13/2025

Plan & Profile - 12th Ave Roundabout NW

9th St NE from Main Ave to 12th Ave N
7th Ave NE from 9th St NE to 45th St N

H:\JBN\8600\8654\8654_0004 9th St\CAD\0_CITY PROJECT\Plans\060 - 12th Ave NW RAB P & P.dwg-12th Ave RAB (NW)-8/13/2025 2:16 PM-(jerickson)