

November 5, 2025

ADDENDUM 1 – JOB 23645

TO: All prospective bidders on Project HEU-1-981(134), Job No. 23645 scheduled for the November 14, 2025 bid opening.

This addendum has been issued for the above referenced Job, Please see the attached summary from Derek D. Pfeifer, P.E. dated November 5, 2025 for an explanation of changes.

This addendum is to be incorporated into the bidder's proposal for this project. If there are bid item changes the AASHTOWare Project Bids files should be updated by downloading the addendum file from the Bid Express on-line bidding exchange at <http://www.bidx.com/> and load it into the AASHTOWare Project Bids program.



PHILLIP MURDOFF, P.E. – CONSTRUCTION SERVICES ENGINEER

80: jwj

Enclosure

PLAN ADDENDUM SUMMARY AND APPROVAL

PROJECT INFORMATION		
Date: 11/4/2025	Project: HEU-1-981(134)	PCN: 23645
Lead Designer: Aaron Schmidt	Technical Support: Seng Marohl	
Bid Opening Date: 11/14/2025	Job Number: 23645	Addendum Number: 1

PLAN SHEET CHANGES		
Section	Sheet(s)	Description
6	1	Revised plan notes 202-P01 and 202-P02. Plan note 202-P03 moved to next sheet.
6	2	Added plan note 203-P01 "Common Excavation". Some of plan note 722-P03 moved to next sheet.
6	3-8	Plan notes moved but no changes to text.
8	1	Added new bid item: <ul style="list-style-type: none"> • 203 0113 COMMON EXCAVATION-WASTE Revised quantity for bid items: <ul style="list-style-type: none"> • 302 0120 AGGREGATE BASE COURSE CL 5 • 709 0151 GEOSYNTHETIC MATERIAL TYPE R1
10	1	Revised sheet to include new table titled "Earthwork Summary".
30	1	Revised Century Avenue "Eastbound Turn Lanes" and "Westbound Turn Lanes" typical sections to include excavation area and corresponding note.
30	4	Revised "19 th Street Northbound Turn Lane" typical section Aggregate Base Course depth. Revised "19 th Street Southbound Turn Lane" typical section to exclude Aggregate Base Course (see revised plan note 202-P01 from section 6 sheet 1 for reasoning).
90	1-2	Revised sheet quantities for bid items: <ul style="list-style-type: none"> • 302 0120 AGGREGATE BASE COURSE CL 5 • 709 0151 GEOSYNTHETIC MATERIAL TYPE R1 Included bollard coordination note on plan view

BID ITEMS CHANGES					
Spec	Code	Description	Unit	Previous Quantity	Revised Quantity
203	0113	COMMON EXCAVATION-WASTE	CY	0	660
302	0120	AGGREGATE BASE COURSE CL 5	TON	1,728	1,275
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	1,289	622

APPROVAL


Derek D. Pfeifer, P.E. – Local Government Engineer

11/5/2025

Date

BID ITEMS

Project: HEU-1-981(134) (PCN-23645)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
001	103	0100	CONTRACT BOND	L SUM	1.				
002	201	0352	REMOVAL OF TREES & BRUSH	L SUM	1.				
003	202	0114	REMOVAL OF CONCRETE PAVEMENT	SY	859.				
004	202	0130	REMOVAL OF CURB & GUTTER	LF	1,343.				
005	203	0113	COMMON EXCAVATION-WASTE	CY	660.				
006	252	0100	SOD	SY	408.				
007	302	0120	AGGREGATE BASE COURSE CL 5	TON	1,275.				
008	550	0300	8IN NON-REINF CONCRETE PVMT CL AE-DOWELED	SY	883.				
009	702	0100	MOBILIZATION	L SUM	1.				
010	704	0100	FLAGGING	MHR	15.				
011	704	1000	TRAFFIC CONTROL SIGNS	UNIT	1,343.				
012	704	1054	SIDEWALK BARRICADE	EA	7.				
013	704	1058	PEDESTRIAN WALKWAY	LF	362.				
014	704	1060	DELINEATOR DRUMS	EA	20.				
015	704	1067	TUBULAR MARKERS	EA	111.				
016	704	1085	SEQUENCING ARROW PANEL-TYPE A	EA	2.				

BID ITEMS

Project: HEU-1-981(134) (PCN-23645)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
017	704	1500	OBLITERATION OF PAVEMENT MARKING	SF	599.				
018	704	2108	TEMPORARY CURB RAMP	EA	6.				
019	708	1540	INLET PROTECTION-SPECIAL	EA	8.				
020	709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	622.				
021	722	6140	ADJUST GATE VALVE BOX	EA	2.				
022	722	6200	ADJUST MANHOLE	EA	2.				
023	722	6240	ADJUST UTILITY APPURTENANCE	EA	2.				
024	722	6241	ADJUST SPRINKLER SYSTEM	L SUM	1.				
025	748	0140	CURB & GUTTER-TYPE I	LF	1,394.				
026	748	0520	CURB-TYPE I	LF	105.				
027	750	0030	PIGMENTED IMPRINTED CONCRETE	SY	37.				
028	750	0115	SIDEWALK CONCRETE 4IN	SY	115.				
029	750	0140	SIDEWALK CONCRETE 6IN	SY	265.				
030	750	0200	CONCRETE MEDIAN PAVING	SY	137.				
031	750	0210	CONCRETE MEDIAN NOSE PAVING	SY	21.				
032	750	2115	DETECTABLE WARNING PANELS	SF	134.				

BID ITEMS

Project: HEU-1-981(134) (PCN-23645)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
033	754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	42.				
034	754	0193	FLEXIBLE DELINEATORS-TYPE D	EA	13.				
035	754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	56.				
036	754	0592	RESET SIGN PANEL	EA	6.				
037	754	0593	RESET SIGN SUPPORT	EA	2.				
038	762	0122	PREFORMED PATTERNED PVMT MK-MESSAGE(GROOVED)	SF	128.				
039	762	0424	SHORT TERM 8IN LINE-TYPE R	LF	307.				
040	762	0440	SHORT TERM MESSAGE-TYPE R	SF	144.				
041	762	1255	PREFORMED THERMO PLASTIC PVMT MK 6IN LINE	LF	626.				
042	762	1270	PREFORMED THERMO PLASTIC PVMT MK 24IN LINE	LF	202.				
043	762	1309	PREFORMED PATTERNED PVMT MK 8IN LINE-GROOVED	LF	1,526.				
044	770	4525	REVISE LIGHTING SYSTEM	EA	1.				
045	772	9811	TRAFFIC SIGNAL SYSTEM - SITE 1	EA	1.				
			TOTAL SUM BID						

NOTES

Revised 11/3/25

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	6	1

100-P01 **COMPLETION DATES:**
Substantial Completion Date: October 23rd, 2026. Complete all work required in the contract except for landscaping and surface restoration. Liquidated damages will be assessed per Section 108.07 B for each calendar day that expires after October 23rd, 2026.

Final Completion Date: November 6, 2026. Complete all landscaping and surface restoration. Liquidated damages will be assessed per Section 108.07 B for each calendar day that expires after November 6, 2026.

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.

107-P01 **MAINTAINING TRAFFIC DROP-OFFS:** If, at the end of the workday, drop-offs greater than 2 inches and less than 18 inches steeper than 4:1 existing between the edge of a traffic lane and the outside edge of the proposed roadway, perform one of the following actions:

- Construct a traversable wedge in the area of the drop-off or steep slope; or
- Close the lane adjacent to the drop-off or steep slope

When constructing a wedge, construct a wedge composed of aggregate materials with a 4:1 or flatter slope along the entire length of the area. Compact materials using Type C compaction, as specified in 203.04 E.4, "Compaction Control Type C".

Install stackable vertical panels that meet the requirements of Section 704.03 H, "Stackable Vertical Panels", along the edge of the driving lane closest to the wedge.

The Engineer will measure stackable vertical panels as specified in Section 704.05, "Method of Measurement" and will pay for panels as specified in Section 704.06, "Basis of Payment".

The Engineer will not measure material used to construct the wedge. Include the cost of materials, equipment, labor, and incidentals required for this operation in the price bid for aggregate pay items.

The requirements of Section 704.04 O, "Traffic Control for Uneven Pavement" apply to drop-offs created by milling or paving operations.

107-P02 **NOISE ORDINANCE:** Construction activities are not permitted between the hours of 11:00 p.m. to 7:00 a.m. unless the Contractor obtains written permission from the Engineer. Request permission a minimum of 30 days prior to the work taking place.

The Contractor is allowed to green saw the concrete without written permission from the Engineer if the following stipulations are met:

Prior to the start of construction provide one written notice to all residential dwellings within 500 feet of the project site. Include in the notice increased noise levels may be experienced at night. Use best practices to minimize the sawing of concrete pavement between the hours of 11:00 p.m. to 7:00 a.m.

107-P03 **ACCESS:** Provide access to all businesses and homeowners at all times and maintain access to driveways at all times.

107-P04 **LANDSCAPING PRECAUTIONS:** Use care when working near landscaping and trees. Protect the trees and the root zone during construction.

- Minimize equipment on the boulevards and in the medians. Use common access points when possible.
- Roots over 2" diameter that are to be cut will require an inspection by a City Forestry Department Arborist or the Engineer.
- Cut, clean, and backfill exposed tree roots as quickly as possible to avoid drying out.
- Avoid unnecessary grading.
- Mitigate any project related impacts as identified by the City Forestry Department at no extra cost.

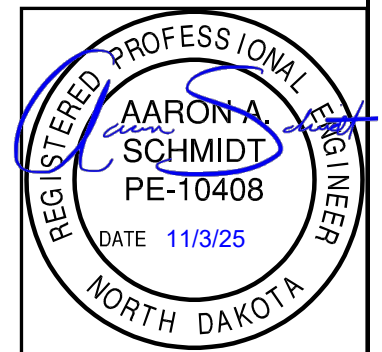
108-100 **WEEKLY PLANNING & REPORTING MEETING:** A weekly planning and reporting meeting is required.

202-P01 **REMOVAL OF CONCRETE:** Removal of concrete pavement consists of removing concrete pavements and sidewalks. The depth of concrete pavement and sidewalks may vary in thickness. There will be no additional compensation for removal of extra thickness.

Minimize disturbance to the subgrade/subbase when removing concrete pavement so that the existing base can be re-used. Remove concrete without damaging the adjacent concrete that is to remain. Repair any damage to remaining adjacent concrete during removal operations at the Contractor's expense by a method approved by the Engineer. During removals, prevent concrete debris from damaging property and from entering adjacent travel lanes that are open to traffic. Replace and compact with aggregate base any over depth removal unauthorized by the Engineer, at the Contractor's expense.

Include all costs for removal and disposal of existing concrete in the bid price for "REMOVAL OF CONCRETE PAVEMENT".

202-P02 **REMOVAL OF CURB & GUTTER:** Curb and gutter designated for removal may vary in thickness. There will be no additional compensation for removal of extra thickness. Remove curb and gutter with minimal disturbance to the subgrade/subbase



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	6	2

NOTES

and without damaging adjacent concrete that is to remain. Repair any damage to remaining adjacent concrete during removal operations at the Contractor's expense by a method approved by the Engineer. Replace and compact with aggregate base any over depth removal unauthorized by the Engineer, at the Contractor's expense.

Include all costs for removal and disposal of existing curb and gutter in the bid price for "REMOVAL OF CURB & GUTTER".

202-P03 REMOVAL OF CONCRETE BOLLARDS: Remove concrete bollards to full depth. Include all costs for removal and disposal of existing concrete bollards in the bid price for "REMOVAL OF CONCRETE PAVEMENT".

203-P01 COMMON EXCAVATION: Use equipment with a smooth cutting edge to minimize disturbance of underlying soils and materials. Do not scarify the bottom of the subcut or subgrade. Excess excavation must be disposed of off-site by the Contractor. Payment for bid item "COMMON EXCAVATION-WASTE" will be plan quantity.

251-P01 SEEDING CLASS III: Provide seeding in all disturbed areas, except the medians, with the following:

Use: Boulevards and other areas requiring salt resistance		
Application Rate: 6 PLS/1000 sf		
Variety and Species of Seed	% by Weight	% Pure Live Seed
Fairway Crested	50	85
Sheep Fescue	30	85
Perennial Ryegrass	20	85

Include all costs, labor, materials, and equipment necessary for seeding in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1".

302-P01 WATER: Include the equipment, labor, and water used to control dust and to compact aggregate bases in the cost for "AGGREGATE BASE COURSE CL 5".

550-P01 CONCRETE PAVEMENT AND CURB & GUTTER: Keyways will only be allowed when placing concrete forms.

Pour curb & gutter separate from adjacent concrete pavement.

Jointing, rebar, dowels, and sealing are to be included in the price bid for "CONCRETE PAVEMENT" and "CURB & GUTTER".

704-100 TRAFFIC CONTROL SUPERVISOR: Provide a traffic control supervisor.

704-P01 TRAFFIC CONTROL: Maintain one through lane of traffic in all directions at all times. The basis of estimate and work zone traffic control plans are shown in Section 100. Should the Contractor elect to proceed in a manner other than as shown in Section

100, approval is needed by the Engineer and no additional compensation will be made for addition traffic control devices.

It may be necessary for the existing traffic signal system to be powered down during different phases of the work (conversion to the new signal system, etc.). During these times, provide all-way stop control at the intersection. Limit down time of existing traffic signal operation / all-way stop control to 3 days per instance.

Coordinate with the Engineer and Bismarck Public Works Electrical Department (Paul Lies 701-391-1698) for video detection changes during different phases of traffic control during the work.

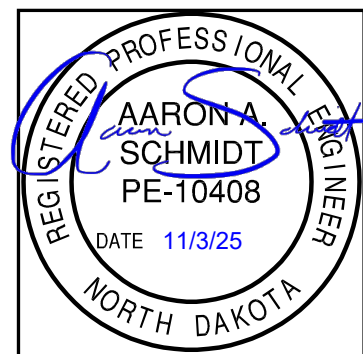
708-P01 INLET PROTECTION SPECIAL: Place inlet protection into inlets prior to the start of construction. Inlet Protection Special to be Top Guard by ERTEC, Flexstorm, Dandy Curb Sack, or approved equivalent. Include all costs for furnishing, installing, maintaining (cleaning), and removal of a drainage inlet filter assembly to collect sediment in surface storm water runoff. The item also includes the disposal of debris or silt that has accumulated in the bag. Include periodic cleaning of the filter in the bid price.

Keep the filter in place until after the gradient surfaces are stabilized and the surrounding street is clean of debris. Include all costs related to the material, installation, maintenance, replacement and removal in the price bid for "INLET PROTECTION-SPECIAL".

722-P01 ADJUST MANHOLE: This bid item provides for the adjustment of various existing castings to the proper grade. A maximum of six rings will be allowed. "ADJUST MANHOLE" shall be used when adjustments can be made by adding or removing adjustment rings. Replace castings with new castings as stated in note 722-P02. Include all labor, materials, and equipment necessary to complete the adjustment in the price bid for "ADJUST MANHOLE".

722-P02 MANHOLE CASTINGS: Provide Neenah Foundry Company R-1955-1 floating castings or East Jordan Iron Works Number 3025 with concealed pick holes and self-sealing platen lid, or approved equivalent. Place flush all castings to within 1/8 inch below the pavement that lie within the roadway. See Standard Drawing D-722-5A Floating Manhole Casting.

722-P03 MEDIAN SPRINKLER SYSTEM: The medians have existing underground irrigation systems that will be impacted by the project. Locations are shown in Section 40 & 85. The installation of the new concrete medians requires the existing sprinkler systems to be adjusted, relocated, removed, reconfigured, and/or repaired. Include in the price bid for "ADJUST SPRINKLER SYSTEM" all labor, materials, and equipment necessary for the median sprinkler systems to be fully operational as shown on the plans upon construction completion. This includes, but is not limited to, system



NOTES

Revised 11/3/25

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	6	3

shutdown, removal of existing components, salvaging materials, connections, capping ends, lowering lines, installation of new waterlines and components, fittings, sprinkler heads, trenching, backfilling, electrical wiring, electrical configuration, and testing of the system as identified in the plans and by the Engineer.

Provide new system components and materials that are compatible with existing systems and materials. Repair any sprinklers damaged during construction operations at the Contractor's expense. Materials and quantities listed are approximate and for guidance only. Determine and furnish total materials, accessories, equipment, and items necessary to conform to the intent and purpose outlined in the plans.

Coordinate with the City of Bismarck Public Works Department (Chad Schiermeister 701-400-6314) to determine the components of the system that will be impacted prior to construction. Notify Public Works Department 48 hours prior to needing the irrigation system(s) shut off. The components removed shall be salvaged to the City of Bismarck.

Provide work drawings to the Engineer for approval prior to installation. Acceptable irrigation manufacturers are Hunter, Toro, RainBird, or approved equivalent. Installation methods, procedures, and materials shall be in accordance with manufacturer's recommendations. Test the completed system under full line pressure and repair any leaks or faulty components prior to acceptance. Include all costs for this work in the price bid for "ADJUST SPRINKLER SYSTEM".

748-P01 CURB & GUTTER: Construct curb & gutter separate from adjacent concrete pavement unless shown otherwise on the plans. Match existing curb height when connecting to existing curb & gutter. Include jointing, rebar, dowels, and sealing in the price bid for "CURB & GUTTER-TYPE 1".

748-P02 CONCRETE MEDIAN NOSE PAVING: Drill and epoxy tie bars and dowel bars where existing pavement abuts new pavement and curb & gutter. Clean the holes with compressed air before injecting the epoxy resin. Rotate bars 180 degrees to 360 degrees during insertion. Match the placement of proposed joints with the location of existing joints where possible.

Include all costs for labor, materials, and equipment necessary for drilling and installing tie bars, jointing, rebar, dowels, and joint sealing in the price bid for "CONCRETE MEDIAN NOSE PAVING".

750-P01 PIGMENTED IMPRINTED CONCRETE: Install pigmented and imprinted concrete at locations shown in the plans. Develop a mix design using any size coarse aggregate specified in Section 802.01 C.2, "Coarse Aggregate" and with a 60-40 fine aggregate coarse aggregate ratio.

Form a pattern in the concrete using platform stamping pads or rollers to obtain the brick pattern. Stamp the surface after it is troweled and floated, and while the concrete is still in the plastic state. Do not trowel the surface more than once. Provide a 6-inch by 12-inch brick pattern. Other brick dimensions require approval. Use a form release

agent on the equipment used to stamp the concrete. Match sawed joints to the adjacent sidewalk.

Provide a pigment to the concrete at the ratio recommended by the manufacturer and add the pigment directly into the mixer along with the aggregate, cement, and water. Add pigment while the mixer is operating at mixing speed. Continue mixing between 50 and 100 revolutions. Cure and seal concrete using slip and fade resistant curing compound. Apply two coats per manufacturers recommendations. Provide a pigment from the list below.

- Number 413 Terra Cotta, produced by Soloman Colors, Inc.
- Number 1117 Tile Red, produced by Davis Colors

Include all labor, equipment, and materials required to complete this work in the price bid for "PIGMENTED IMPRINTED CONCRETE".

750-P02 DETECTABLE WARNING PANELS: Provide unpainted, cast iron detectable warning panels as specified in Section 885 of the Specifications manufactured by EJ Iron Works, Neenah Foundry, or approved equivalent.

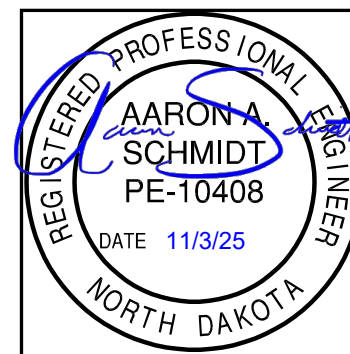
754-P01 FLEXIBLE DELINEATORS-TYPE D: Provide and install yellow Omega Post High Speed Delineator from Impact Recovery Systems or approved equal, with surface mount base and 36" height.

754-P02 SIGN SLEEVE: Install 3" PVC sign sleeve, at the thickness of the concrete to be placed in the sidewalk or median concrete, for the installation of permanent signs at locations shown on the plans. Include all costs for and material and labor in the bid price for "SIDEWALK CONCRETE ()IN", "PIGMENTED IMPRINTED CONCRETE", and "CONCRETE MEDIAN PAVING".

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

762-P01 TEMPORARY ROADWAY PAVEMENT MARKING: If permanent markings are unable to be placed because of weather conditions in the late fall, use temporary painted markings. Place temporary painted markings in such a manner that they will not be under plastic pavement markings, except when grooved markings are specified. When grooving is specified, place temporary markings in the same location, as the grooving will remove the painted markings. Permanent pavement marking that may be subject to temporary painted marking will not be paid for separately. Include all costs in the price bid for "PREFORMED PATTERNED PVMT MK-MESSAGE(GROOVED)", "PREFORMED THERMO PLASTIC PVMT MK () IN LINE-GROOVED" or "PREFORMED PATTERNED PVMT MK ()IN LINE-GROOVED".

770-P01 REVISE LIGHTING SYSTEM: Include in the price bid for "REVISE LIGHTING SYSTEM" all labor, materials, and



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	6	4

NOTES

equipment necessary for the revised lighting system to be fully operational as shown in the plans upon construction completion. This includes but is not limited to, removal of select existing components, removing and relocating light standards, light standards, light foundations, connections, pull boxes, conduit, and underground conductors as identified in the plans and by the Engineer.

Remove street light standards from their present locations and install at new locations where specifically shown in the plans. Disconnect the conductor to the luminaire at the fuses, remove and salvage the light standard and luminaire. Remove and dispose of existing concrete foundations, anchor bolts, and ground rods. Backfill and compact after removing existing light standard foundation. Restore the surface to match adjacent areas. Install new concrete foundation and anchor bolts according to the plans and Standard Drawing D-770-1. Foundation depth shall be per the "Lighting Foundation Table" as shown on the plans in Section 140. New anchor bolt dimensions and material grade to match existing anchor bolts (field verify). Reset existing light standard on new foundation and reconnect relocated light standard to the existing light circuit using new connectors. Relocated light standards do not need to be repainted. Include a breakaway transformer base for each relocated light standard.

Remove existing conductor and abandon in place existing conduit not otherwise re-used unless otherwise shown on the plans. Remove conduit to a point two feet below grade, fill with grout, and cap. Provide new underground conductors as shown on the plans.

Remove light standard, concrete foundation, and luminaires at Sta 27+24. Salvage light standard and luminaires and coordinate delivery with the City of Bismarck Public Works, Paul Lies at 701-355-1700. Include all costs for labor, materials, and necessary equipment for removal, salvaging, delivery, and all other work in the price bid for "REVISE LIGHTING SYSTEM".

770-P02 EXISTING LIGHTING SYSTEM: Maintain the existing lighting system during the work. Include all costs to keep the existing lighting system operational in the price bid for "REVISE LIGHTING SYSTEM".

770-P03 LIGHT STANDARD 40FT MOUNTING HEIGHT BREAKAWAY: Provide a one-piece, 40-foot davit type steel pole with aluminum breakaway transformer base and 6-foot mast arm. Mast arm to have tenon adaptor to mount specific luminaire. Pole and mast arm to have a galvanized finish. Anchor bolts are to conform to ASTM F1554 Grade 55. Provide anchor bolt templates for foundations. Each foundation, rebar, conduit stub-ins, anchor bolts and ground rods are required to be inspected by the Engineer prior to pouring concrete. Transformer base handhole fasteners to have anti-seize applied prior to installation.

Manufacturer and model number:

- Millerbernd Manufacturing, RLDA6-400ND
- Valmont Industries, Inc. DS90 RTS

770-P04 PULL BOXES: Duct seal all conduits entering and exiting pull boxes. New circuit conductors shall be looped and unspliced if no junction is required.

770-P05 MARKER TAPE: Marker tape shall be installed 5" below finished grade in cable trenches above underground conductors. Marker tape shall be 6-inch wide red plastic tape marked "Caution – Buried Electric Cable."

770-P06 SPLICE CONNECTORS: Use Homic, Type RAB-X-URD-BUSS submersible insulated subsurface terminal for copper conductor or approved equivalent for splice connectors within pull boxes for multiple connections.

Use ILSCO PBTS, or approved equivalent (with 3/16 hex size) for splice connectors at pole handholes.

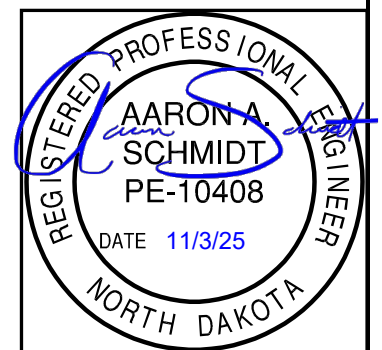
770-P07 UNDERGROUND SPLICES: Underground splices are not permitted unless approved by the Engineer.

770-P08 IN-LINE FUSE AND FUSE HOLDER: The fuse holder shall be FEB, Ferraz Shawmut, rated for 600Vac and 30 amps, or approved equivalent. Provide a fuse that is a fast-acting midget fuse with an interrupt rating of 10kA at 600Vac, 5 amp by Bussmann, Littelfuse or approved equivalent.

772-P01 EXISTING TRAFFIC SIGNAL SYSTEM: Keep the existing traffic signal system operational during the work. Remove all existing traffic signal equipment as shown on the plans including:

- Traffic signal cabinet, foundation, and internal components
- Disconnect and transfer switch assembly (relocate to new location)
- Traffic signal poles, mast arms, heads, pushbuttons, signs, combo light standards, extensions, and luminaires
- Traffic signal foundations, anchor bolt assemblies, rebar, and ground rod to a minimum depth of 3.5-feet below surrounding grade. Backfill and compact after removing existing signal standard foundation. Restore the surface to match adjacent areas.
- Conductor in conduits. Abandon in place existing conduit not otherwise re-used, remove conduit to a point two feet below grade and plugged/capped
- Pull boxes

Salvage all existing traffic signal equipment that is deemed salvageable by the Engineer to the City of Bismarck Public Works Building at 601 26th Street. Coordinate delivery with City of Bismarck Signal Shop Foreman, Paul Lies at 701-355-1719 a minimum of 24 hours in advance of delivery. The remaining equipment becomes the property of the Contractor. Include all costs to keep the existing traffic signal system operational and for the removal, salvage, and delivery of the existing traffic signal system equipment in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1".



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	6	5

NOTES

772-P02 TRAFFIC SIGNAL SYSTEM: Replace the existing traffic signal system with a new traffic signal system as part of the work. Include in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1" all labor and equipment necessary for the revised signal system to be fully operational as shown in the plans upon construction completion. This includes, but is not limited to, the installation of the following features; controller cabinet and all necessary internal components including traffic signal controller, battery backup system, transformer base galvanized traffic signal standards and foundations, vehicular and pedestrian heads, pedestrian pushbuttons, pedestrian pushbutton signs, law enforcement confirmation lights, video detection system, emergency vehicle pre-emption system including confirmation lights, wiring, testing, programming, troubleshooting, and all cable, conduit, pull boxes, and appurtenances to install the traffic signal system completely.

772-P03 TRAFFIC SIGNAL CABINET: Furnish and install traffic signal cabinet as specified in Standard Specifications Section 896.10 and the following:

- Econolite A-Type P65 cabinet (65"H x 44"W x 27"D) or approved equivalent.
- Document drawer (mounted on the lowest shelf)
- A minimum of three removable shelves that are a minimum of 10-inches deep
- GPS timeclock
- LED cabinet lighting
- Two quad-outlets (positioned toward the top, one on each side of the inside of the cabinet)
- Emerson Brand type (plug and go) surge protection with green and red LED confirmation lights
- RENO/EDI brand type switches and load switch flasher (with input & output LEDs on each channel of the switches)
- LED indicators for the flash transfer relay
- Cabinet door with:
 - a) Filter/heater mounting assembly with a spring-loaded flip latch or twist lever latch
 - b) Threaded bolt/nut types are not acceptable
 - c) Separate thermostats for fan and heater
- Arc flash plexiglass cover over AC components

Install cabinet on concrete foundation and provide concrete working slab as shown on the plans. Orientate the cabinet door to open as shown on the plans. Install a minimum of three spare conduits into the cabinet and label with direction. Seal all conduits inside the cabinet. Seal spare conduits with mechanical duct plugs.

Fasten the disconnect and transfer switch assembly with Unistrut or approved equivalent.

Include all costs for labor, materials, and equipment necessary for furnishing and installing the traffic signal cabinet in the contract price for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P04 TRAFFIC SIGNAL CONTROLLER: Furnish and install an Econolite EOS Cobalt C Series Type 1 controller that operates with Centrac Software. The controller will be a NEMA Standard ATC volume density controller with the traffic counting capability operational.

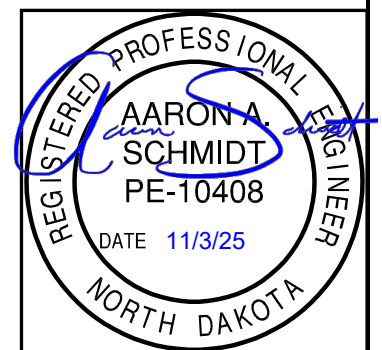
The price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1" includes all labor, materials, and equipment necessary for furnishing and installing the new controller, load switches, malfunction management unit, BUS interface units, emergency vehicle pre-emption equipment, video detection equipment, signal timing plans, programming, support, and other ancillary equipment as required to provide a fully functional traffic signal controller.

772-P05 BATTERY BACKUP SYSTEM: Provide a battery backup system for the traffic signal system in a separate cabinet located on the new traffic signal cabinet foundation, and include the following:

- Full battery backup for the traffic signal controller under normal and flash operation
- Flash activation contacts to ensure the longest battery life possible
- Power conditioning and transient filtering
- True Sine wave output with $\pm 2\%$ voltage regulation
- Power management and diagnostic functions
- Ethernet port with software to monitor or download data logs of the battery backup system
- Ethernet cable run from the battery backup ethernet port into the traffic signal cabinet fiber Optic Moxa switch and ready for future use
- System suitable for operation in -40°F to 120°F conditions
- Battery backup for a minimum of 2 hours in full signalization mode and 8 hours in flash operation
- Uninterruptible power supply (UPS) to include an external bypass switch rated at 30 amps 250 Vac and use 30 amp relays
- Generator hookups (confirm connection type with City of Bismarck Electrical Department)

Include all costs for labor, materials, and equipment necessary for furnishing and installing the battery backup system in the contract price for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P06 TRAFFIC SIGNAL POLES: Provide galvanized steel traffic signal poles, transformer bases, mast arms, luminaire extensions, and pedestrian pushbutton poles as shown on the plans and in accordance with Standard Specification 896.05. Provide traffic signal poles with rotatable mast arms, 6 anchor bolt mounting type, and galvanized "T" transformer bases manufactured by Millerbernd, Valmont Industries, or pre-approved equivalent.



NOTES

Revised 11/3/25

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	6	6

Provide rodent protection in the transformer base using wire mesh. Place wire mesh continuously around the anchor bolts to protect rodents from entering the base. Provide steel signal pedestal adapters/collars for Type II signal standards.

Mount a terminal strip on a 1/2" thick white plastic backing material and provide a terminal strip protection pipe within the transformer base. Provide a 3" to 3 1/2" PVC protection pipe with a minimum length of 12" to cover the entire terminal strip. Cap one end of the PVC pipe. Place the terminal strip within the PVC pipe with the cap side facing up inside the T base. The conductor shall chamfer/smooth the edges of the terminal strip tubes that are required inside the signal poles.

772-P07 TRAFFIC SIGNAL FOUNDATIONS: Provide traffic signal foundations in accordance with NDDOT Standard Specifications. Foundation depth shall be per the "Traffic Signal Foundation Table" as shown on the plans in Section 150. The foundation diameter shall be the largest of either the anchor bolt circle diameter plus 12" or 24". See Standard Drawing D-770-1 for additional information.

772-P08 SIGNAL COMPONENT COLOR: Provide traffic signal system components with the following colors:

- Vehicle and pedestrian signal head housing – black
- Signal head mounting hardware – unpainted
- Pedestrian pushbutton housing – black

772-P09 VEHICULAR TRAFFIC SIGNAL HEADS & BACK PLATES: Provide vehicular traffic signal heads with 12-inch polycarbonate housings and doors and aluminum 12-inch cap-style visors. Provide stainless steel fasteners and use anti-seize lubricant on all threaded components.

Mount mast arm mounted vehicular heads with a two-point system using Astro Brackets, Sky Brackets, or approved equivalent. Plumbizer mounting will not be allowed.

Provide louvered aluminum traffic signal head back plates with a yellow Type XI retroreflective border. Install a 1-inch yellow border around the perimeter of the face of the backplate. Install backplates with stainless steel fasteners including a washer. Apply anti-seize lubricant to the threads.

Include all costs for labor, materials, and equipment necessary for furnishing and installing vehicular traffic signal heads and back plates in the contract price for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P10 COUNTDOWN PEDESTRIAN SIGNAL HEADS: Provide single piece countdown pedestrian signal heads with 16" x 18" polycarbonate housings and doors and aluminum tunnel-style visors. Side mount pedestrian signal heads to Type II signal standards. Top mounting will not be allowed.

Include all costs for labor, materials, and equipment necessary for furnishing and installing pedestrian signal heads in the contract price for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P11 LED INDICATIONS: Provide LED indications for all traffic signal and pedestrian heads with a minimum 15-year warranty. The external lens of the traffic signal modules shall be curved and smooth on the outside to prevent excessive dirt/dust/snow buildup and to minimize sun phantom reflections and shall be UV stabilized polycarbonate. Use anti-capillary type wire for all external wiring utilized in the LED traffic signal modules to prevent wicking of moisture to the interior of the module or equip them with mounting lugs that are molded into the back of the housing to prevent moisture entering the unit.

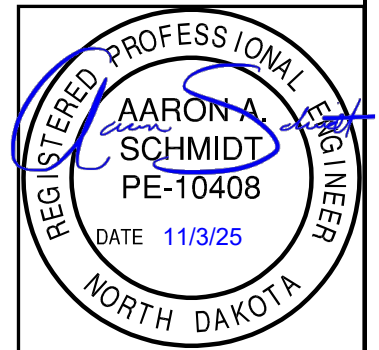
The module shall not protrude more than 4-inches between the inside flange to the back of the module housing, allowing more space to clear cables and terminal blocks.

772-P12 VIDEO DETECTION SYSTEM: Provide Autoscope Vision for video detection equipment, or approved equivalent, with the following requirements:

- Thermostatically controlled indium tin oxide (ITO) heater applied directly on the interior surface to keep the faceplate clear of condensation, snow, ice, and frost.
- Include management software for configuration, monitoring, and data collection purposes.
- 100% compatible with Centrac's Traffic Management Software System with all communications to the video detection system from the traffic management software being to a single IP address. An Ethernet port shall also be provided to connect to a remote traffic management center.
- 802.11g Wi-Fi access point shall allow wireless connection to the video detection system at the cabinet for setup and maintenance purposes. All communications to the video detection system through the Wi-Fi access point shall be to a single IP Address. The Wi-Fi access point shall turn itself off automatically after a period of inactivity from connected devices. In addition to the ability to view video streams in the traffic management software, it shall be possible to view video, from individual sensors or to view the quad-view, from the communications interface panel using a third-party video player application on a tablet, smartphone or laptop computer with a wireless connection.
- Program for technical support and software updates from the manufacturer, following the expiration of the warranty period, at no additional cost to the City.

Provide an extra camera for the video detection system and deliver to City of Bismarck Public Works Department (601 South 26th Street, 701-355-1700).

Install cable between the cameras and the controller cabinet, aim cameras and setup the video detection system. Provide presence detection zones behind the stop bars for all actuated traffic movements. Program detection zones and verify the reliability of operation. The location of the cameras in the plans



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	6	7

NOTES

is for reference only. The cameras should be installed on the mast arm as recommended by the manufacturer for optimal detection.

Include all costs for labor, material, and equipment necessary for the video detection system to be fully operational, including technical support and software updates for at least 5-years, in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P13 EMERGENCY VEHICLE PRE-EMPTION (EVP): Provide EVP phase selector with four-channel dual priority, multimode, encoded signal device designed for use with both infrared system emitters and GPS radio/GPS intersection units. Phase selector to include Ethernet port on the front panel. Furnish and install 4 receivers and 4 confirmation lights for 4-way emergency vehicle pre-emption. Provide EVP equipment fully compatible with controllers and pre-emption equipment used in the City of Bismarck. Place the confirmation light at the same location on the mast arm as the EVP detectors. No splices are allowed between the controller cabinet and the EVP equipment. Provide LED indicator lamps.

Notify the fire chief Joel Boespflug (701-355-1400) when the EVP systems are tested and operable. The City of Bismarck is responsible for setting the range of the system.

Include all costs for labor, material, and equipment necessary for furnishing and installing the EVP system in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P14 LAW ENFORCEMENT CONFIRMATION LIGHTS: Provide blue omni-directional LED law enforcement confirmation lights which must be visible from 360° when mounted on the signal heads. Provide a lens for the confirmation light in which the blue tint is integrated into the lens. Blue coating is not allowed. Provide law enforcement confirmation lights that are manufactured specifically for use as law enforcement confirmation lights and have been used for the sole purpose. Required temperature rating is -40°C to 60°C. Furnish Keystone KT-LED12HID-E26-840-D lamp for each confirmation light.

Mount the law enforcement confirmation lights on a riser to the traffic signal heads as shown in the plans. Provide un-brushed aluminum risers that are capable of adjusting the height and angle of the confirmation lights. The confirmation lights must be visible above or below the signal head backplate as indicated in the Section 150 details. The riser must not protrude or be visible above or below the signal head backplate. Provide a waterproof connection between the riser and traffic signal head that is weather proof and will not allow moisture into the traffic signal head. Connect the law enforcement confirmation lights to the red indication in the corresponding traffic signal head. Place anti-seize compound on all threaded components.

Include all costs for labor, material, and equipment necessary for furnishing and installing law enforcement confirmation lights in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P15 ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSHBUTTON & SIGN: Provide Polara EZ Comm APS pedestrian pushbuttons meeting the requirements of accessible pedestrian signal (APS) pushbuttons.

Include the cost for the accessible pedestrian pushbutton and sign in the bid item "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P16 PEDESTRIAN PUSHBUTTON POSTS: Provide 2" intermediate metal pedestrian pushbutton post consisting of an above grade section of pipe with threaded bottom inserted into a 2" coupling set 1/8" above the surrounding concrete or grade. Connect the coupling to a 2" rigid steel sweep underground. The design intent is to replace the upper portion if hit by a vehicle without impacting the 2" coupling or sweep embedded in the concrete and earth below. Submit work drawings prior to ordering materials. Include all labor, materials, and equipment necessary to provide and install the pushbutton post in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P17 CONDUIT: Install new conduit and re-use existing conduit, as shown on the plans. Use UL listed HDPE conduit when boring. Seal all conduit with duct seal at the controller cabinet, pull boxes, and at the traffic signal standard foundations. Install one spare 2-inch conduit sweep in each traffic signal foundation. Cap spare conduits with a mechanical plug and label as to which direction they face.

Include all costs for labor, material, and equipment necessary for furnishing and installing conduit in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1".

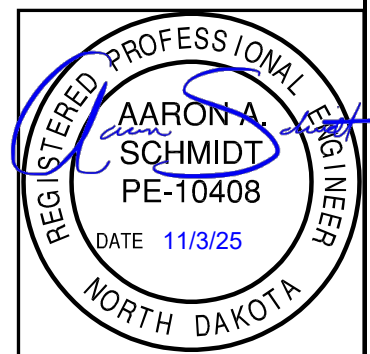
772-P18 TRAFFIC SIGNAL PULL BOXES: Provide pull boxes that are made of lightweight, high-density polymer concrete, UL listed, and are resistant to sunlight, weathering, chemicals, and unaffected by freeze-thaw cycles to -50°F. Provide a cover with stainless steel hex bolts and nuts that is clearly marked as "Traffic Signal". See standard drawing D-770-3 for details. Duct seal all conduits entering and exiting pull boxes. No splicing is allowed in pull boxes. Plug spare conduits with mechanical duct plugs.

Re-use existing pull boxes as shown on the plans

Include all costs for labor, material, and equipment necessary for furnishing and installing pull boxes in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P19 WIRE SPLICING: No splicing is allowed in pull boxes. Splicing may only take place at the signal transformer base terminal strip, controller cabinet terminal blocks, and traffic signal head terminal blocks.

772-P20 TRAFFIC SIGNAL TRACER WIRE: Install tracer wires directly from the traffic signal cabinet to each of the traffic signal standards. Use a single, yellow, 14 AWG TW/THW solid wire and run each tracer wire continuously from the traffic signal



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	6	8

NOTES

cabinet to each of the traffic signal standards separately, with no splices. Ground each tracer wire at each traffic signal (end of the run).

772-P21 LABEL ALL FIELD CABLES: Provide labeling materials that are plastic and printed on both sides that are readable without moving the cables. Label field cables with the signal field terminal number as shown in the wiring diagram supplied by the signal equipment supplier and laced with the following cable designations:

TYPE	LABEL	LABEL LOCATION
Communication cable	Comm./address of other end	Within 12" of conduit
Pedestrian push button	Phase/location (i.e. NW, SW, etc.)	Within 6" of terminals
Video detection cable	Approach Detection (i.e. NW, SW, etc.)	Within 6" of terminals
Control cable (Main cable)	Terminal number & location (i.e. NW, SW, etc.)	Within 12" of conduit
Control cable (Individual strands)	Terminal number (i.e. 1G, 1Y, etc.)	Within 6" of terminals
Opticom cable	Pre-empt number/location (i.e. NW, SW, etc.)	Within 6" of terminals

- Tracer wire to be labeled in the controller cabinet

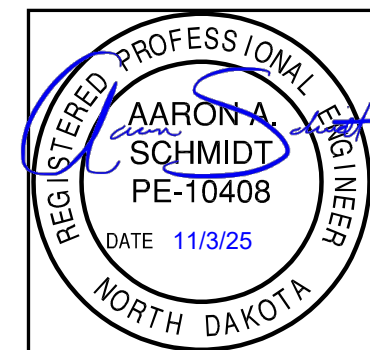
Not a separate pay item, cost to be included in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P22 CONTROLLER CABINET WIRING DIAGRAM: Label the following items on the cabinet wiring diagram, in addition to information required by NDDOT Standard Specification.

- Label the camera number (i.e., D2-1) from the plan on the detector panel drawing adjacent to the point for termination.
- Label the field wire terminals for the vehicle/pedestrian head control cables with the phase number and direction (i.e., Ø2, SB).
- Label the field wire terminals for the Opticom cable with the pre-empt number (i.e., P.E. #1).
- Label the field wire terminal for the pre-empt indicator lamps with the pre-empt number and direction (i.e., P.E. #1, NB).
- Label the field wire terminals for the pedestrian push-button cables with the phase number (i.e., Ø8 PED).
- Provide an intersection diagram on cabinet door showing phasing of intersection and camera numbering and detection zone numbering
- Provide a CAD drawing file of the as-built cabinet wiring diagram.

Use a heat-shrink labeling system. Do not strip the cables back from the connection more than 12 to 18 inches. This work is not a separate pay item and include the cost in the price bid for "TRAFFIC SIGNAL SYSTEM – SITE 1".

772-P23 CONFLICT MONITOR TESTING: Perform a complete controller conflict monitor test prior to unveiling the traffic heads. Supply the conflict monitor maintenance record test form along with instructions that must be followed completely before the signals are put into operation. Include all materials, labor and equipment necessary to conduct the conflict monitor testing in the price bid "TRAFFIC SIGNAL SYSTEM – SITE 1".



Estimated Quantities

Revised 11/3/2025	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HEU-1-981(134)	8	1

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY	TOTAL
103	0100	CONTRACT BOND	L SUM	1	1
201	0352	REMOVAL OF TREES & BRUSH	L SUM	1	1
202	0114	REMOVAL OF CONCRETE PAVEMENT	SY	859	859
202	0130	REMOVAL OF CURB & GUTTER	LF	1343	1343
203	0113	COMMON EXCAVATION-WASTE	CY	660	660
252	0100	SOD	SY	408	408
302	0120	AGGREGATE BASE COURSE CL 5	TON	1275	1275
550	0300	8IN NON-REINF CONCRETE PVMT CL AE-DOWELED	SY	883	883
702	0100	MOBILIZATION	L SUM	1	1
704	0100	FLAGGING	MHR	15	15
704	1000	TRAFFIC CONTROL SIGNS	UNIT	1343	1343
704	1054	SIDEWALK BARRICADE	EA	7	7
704	1058	PEDESTRIAN WALKWAY	LF	362	362
704	1060	DELINEATOR DRUMS	EA	20	20
704	1067	TUBULAR MARKERS	EA	111	111
704	1085	SEQUENCING ARROW PANEL-TYPE A	EA	2	2
704	1500	OBLITERATION OF PAVEMENT MARKING	SF	599	599
704	2108	TEMPORARY CURB RAMP	EA	6	6
708	1540	INLET PROTECTION-SPECIAL	EA	8	8
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	622	622
722	6140	ADJUST GATE VALVE BOX	EA	2	2
722	6200	ADJUST MANHOLE	EA	2	2
722	6240	ADJUST UTILITY APPURTENANCE	EA	2	2
722	6241	ADJUST SPRINKLER SYSTEM	L SUM	1	1
748	0140	CURB & GUTTER-TYPE I	LF	1394	1394
748	0520	CURB-TYPE I	LF	105	105
750	0030	PIGMENTED IMPRINTED CONCRETE	SY	37	37
750	0115	SIDEWALK CONCRETE 4IN	SY	115	115
750	0140	SIDEWALK CONCRETE 6IN	SY	265	265
750	0200	CONCRETE MEDIAN PAVING	SY	137	137
750	0210	CONCRETE MEDIAN NOSE PAVING	SY	21	21
750	2115	DETECTABLE WARNING PANELS	SF	134	134
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	42	42
754	0193	FLEXIBLE DELINEATORS-TYPE D	EA	13	13
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	56	56
754	0592	RESET SIGN PANEL	EA	6	6
754	0593	RESET SIGN SUPPORT	EA	2	2
762	0122	PREFORMED PATTERNED PVMT MK-MESSAGE(GROOVED)	SF	128	128
762	0424	SHORT TERM 8IN LINE-TYPE R	LF	307	307
762	0440	SHORT TERM MESSAGE-TYPE R	SF	144	144
762	1255	PREFORMED THERMO PLASTIC PVMT MK 6IN LINE	LF	626	626
762	1270	PREFORMED THERMO PLASTIC PVMT MK 24IN LINE	LF	202	202
762	1309	PREFORMED PATTERNED PVMT MK 8IN LINE-GROOVED	LF	1526	1526
770	4525	REVISE LIGHTING SYSTEM	EA	1	1
772	9811	TRAFFIC SIGNAL SYSTEM - SITE 1	EA	1	1

Revised 11/4/25

STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	23645	10	1

BASIS OF ESTIMATE

AGGREGATE BASE COURSE CL 5 @ 1.875 TON/CY

TOPSOIL

Topsoil shall be removed from excavation and embankment areas at an assumed depth of 4 inches. Replace topsoil at a depth of 4 inches in all disturbed areas excluding hard surfaced areas.

SEEDING

All disturbed areas excluding hard surfaced areas and medians that are to receive sod.

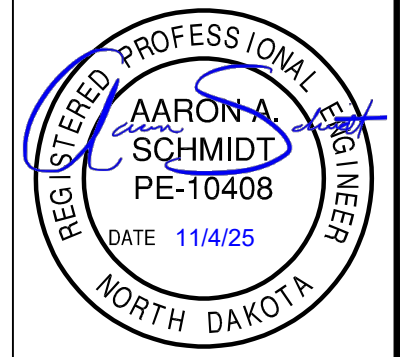
MULCHING

All disturbed areas excluding hard surfaced areas and medians that are to receive sod.

EARTHWORK SUMMARY

LOCATION	COMMON EXCAVATION
West Side Median Area	311 CY *
East Side Median Area	310 CY *
NW Curb Ramp	12 CY
NE Curb Ramp	10 CY
SE Island	6 CY
SE Curb Ramp	2 CY
SW Curb Ramp	9 CY
TOTAL	660 CY

- This computation report is for reference only and is not a balance sheet. The Contractor shall calculate their own balance of materials.
- * Quantity includes existing topsoil

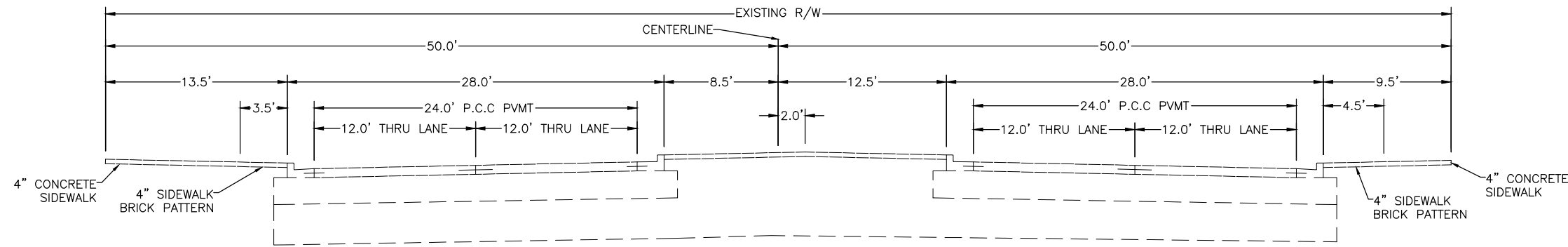


BASIS OF ESTIMATE

CENTURY AVENUE & 19TH STREET

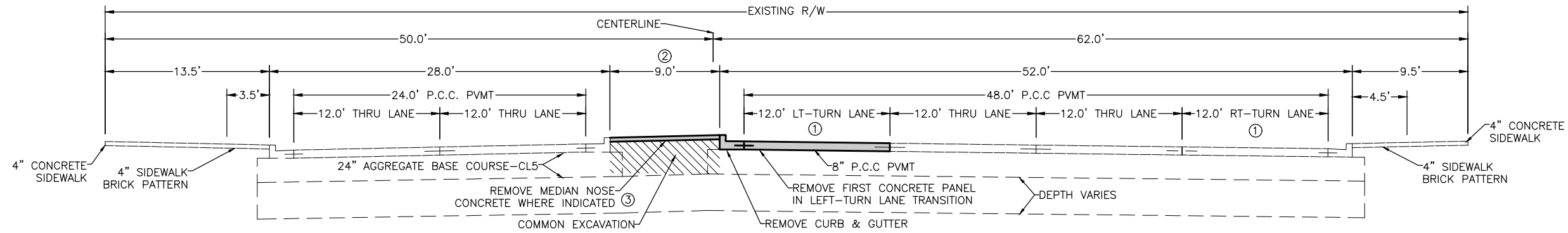
Revised 11/3/25

STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	23645	30	1

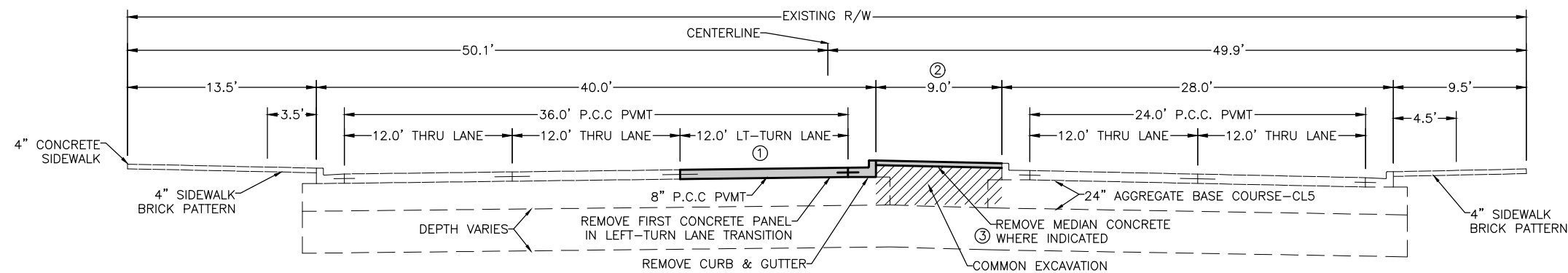


- ① LANE WIDTH VARIES IN TRANSITION AREA
- ② MEDIAN WIDTH VARIES IN TRANSITION AREA
- ③ GRASS MEDIAN EXISTS EXCEPT FOR MEDIAN NOSE

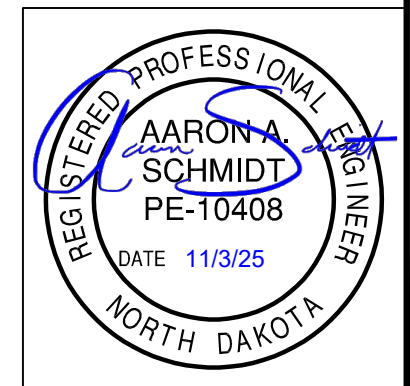
STA. 22+56 TO 23+40
 STA. 29+84 TO 30+54
 CENTURY AVENUE
 (MAINLINE)



STA. 23+40 TO 26+38
 CENTURY AVENUE
 (EASTBOUND TURN LANES)



STA. 26+38 TO 29+84
 CENTURY AVENUE
 (WESTBOUND TURN LANE)



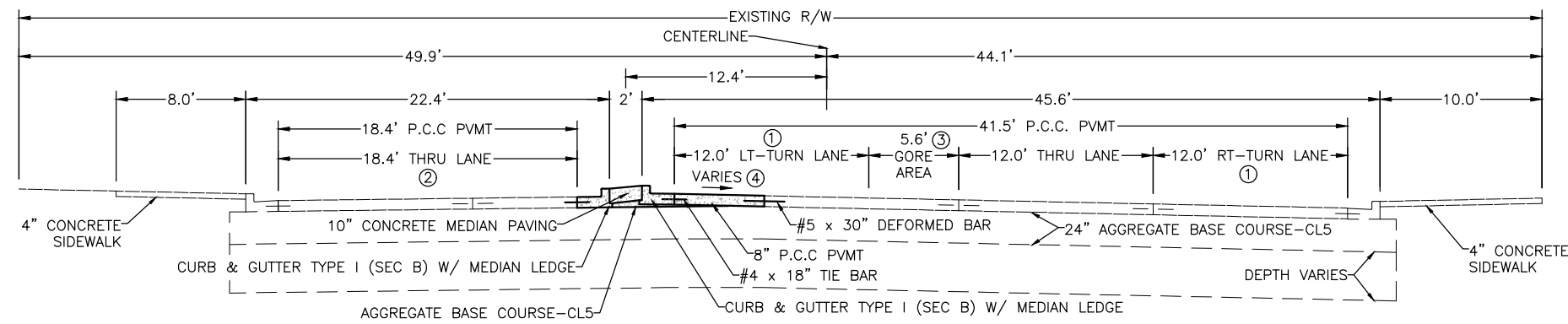
TYPICAL SECTIONS

EXISTING TYPICAL SECTIONS
 CENTURY AVENUE & 19TH STREET

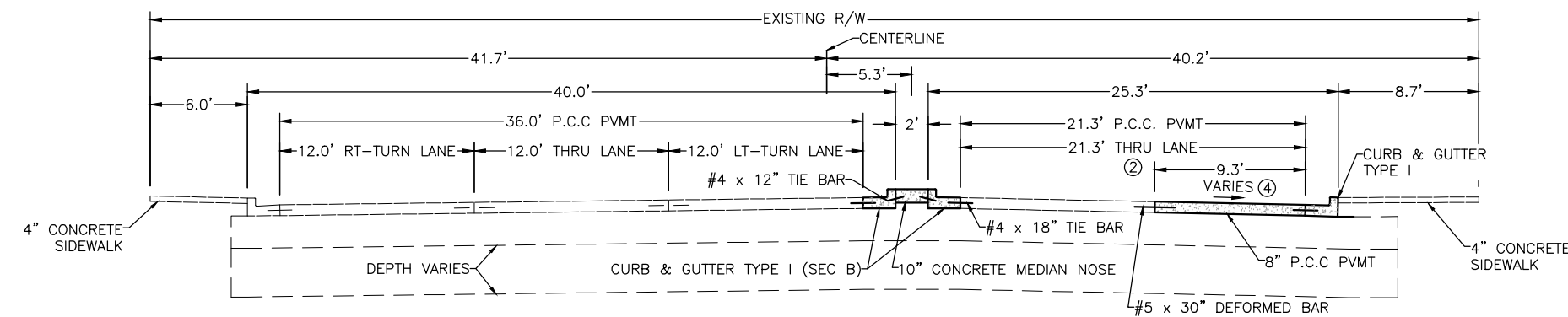
Revised 11/3/25

STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	23645	30	4

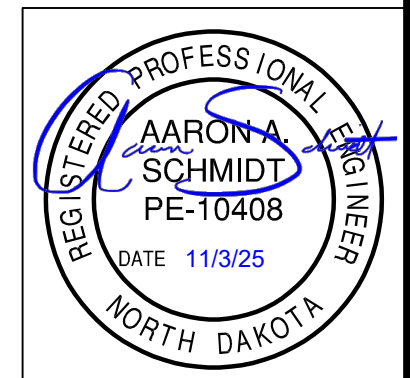
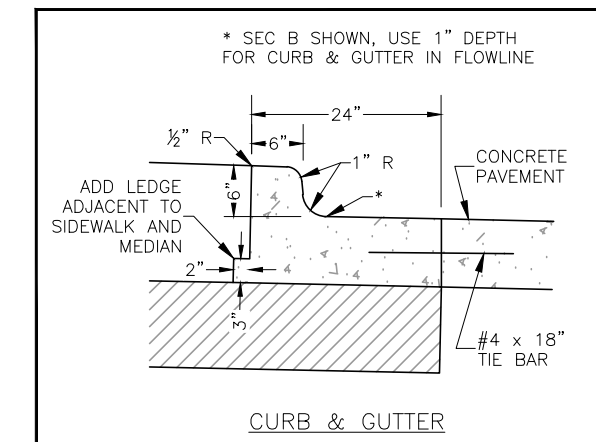
- ① LANE WIDTH VARIES IN TRANSITION AREA
- ② LANE WIDTH VARIES
- ③ GORE AREA WIDTH VARIES IN TRANSITION AREA
- ④ CROSS SLOPE TO MATCH EX. ADJACENT PANEL



STA. 20+89 TO 22+52
19TH STREET
(NORTHBOUND TURN LANE)



STA. 23+61 TO 23+80
19TH STREET
(SOUTHBOUND TURN LANE)



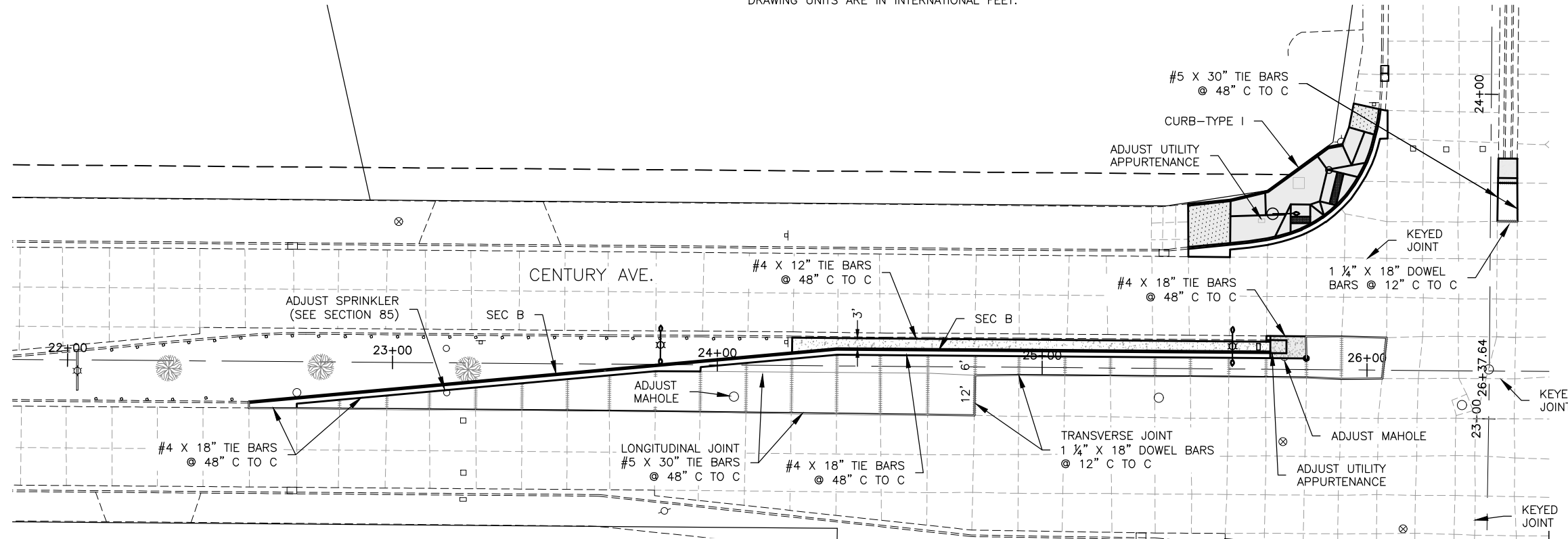
TYPICAL SECTIONS

PROPOSED TYPICAL SECTIONS
CENTURY AVENUE & 19TH STREET

HORIZONTAL DATUM IS NAD 83 (86 ADJUSTMENT) BASED ON CITY OF BISMARCK MONUMENTS AND ADJUSTED TO GROUND DISTANCE. VERTICAL DATUM IS NGVD 29. DRAWING UNITS ARE IN INTERNATIONAL FEET.

Revised 11/3/25

STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	23645	90	1



- NOTES:
1. MATCH EXISTING PAVEMENT DEPTH (MINIMUM 8").
 2. MATCH EXISTING JOINT SPACING.
 3. SEE SECTION 80 FOR CURB RAMP DETAILS.
 4. FOR MEDIAN ISLAND AND NOSE: SEE TYPICAL SECTIONS AND DETAILS FOR MORE INFORMATION.

LEGEND

	CONCRETE PAVEMENT 8IN
	PIGMENTED IMPRINTED CONCRETE 6IN
	SIDEWALK CONCRETE 4IN
	SIDEWALK CONCRETE 6IN
	CONCRETE MEDIAN NOSE PAVING
	CONCRETE MEDIAN PAVING
	DETECTABLE WARNING PANEL
	CURB AND GUTTER
	2" DIA CORE HOLE

<u>302 0120 AGGREGATE BASE COURSE CL 5</u>	
STA 22+56 TO 26+06 (CENTURY MDN/PVMT)	588 TON
STA 20+89 TO 22+52 (19TH MDN/PVMT S.)	12 TON
STA 23+61 TO 23+80 (19TH MDN/PVMT N.)	1 TON
NW QUAD. (4" DEPTH)	21 TON
SW QUAD. (4" DEPTH)	21 TON
TOTAL	643 TON

<u>748 0140 CURB & GUTTER-TYPE I</u>	
STA 22+56 TO 25+70 (RT OF CENTURY MDN)	315 LF
STA 25+69 TO 25+70 (LT OF CENTURY MDN)	1 LF
STA 20+95 TO 22+37 (RT OF 19TH MDN)	142 LF
STA 20+95 TO 22+37 (LT OF 19TH MDN)	142 LF
NW QUAD.	82 LF
SW QUAD.	70 LF
TOTAL	752 LF

<u>550 0300 8IN NON-REIN CONC PVMT CL AE-DOWELED</u>	
STA 22+71 TO 26+05 (CENTURY)	369 SY
STA 21+01 TO 22+52 (19TH SOUTH)	94 SY
STA 23+61 TO 23+73 (19TH NORTH)	8 SY
TOTAL	471 SY

<u>748 0520 CURB-TYPE I</u>	
NW QUAD.	53 LF

<u>709 0151 GEOSYNTHETIC MATERIAL TYPE R1</u>	
STA 22+71 TO 26+05 (CENTURY MDN/PVMT)	311 SY

<u>750 0115 SIDEWALK CONCRETE 4IN</u>	
NW QUAD.	26 SY
SW QUAD.	15 SY
TOTAL	41 SY

<u>722 6140 ADJUST GATE VALVE BOX</u>	
STA 25+92 (RT)	1 EA

<u>750 0140 SIDEWALK CONCRETE 6IN</u>	
NW QUAD.	77 SY
SW QUAD.	87 SY
TOTAL	164 SY

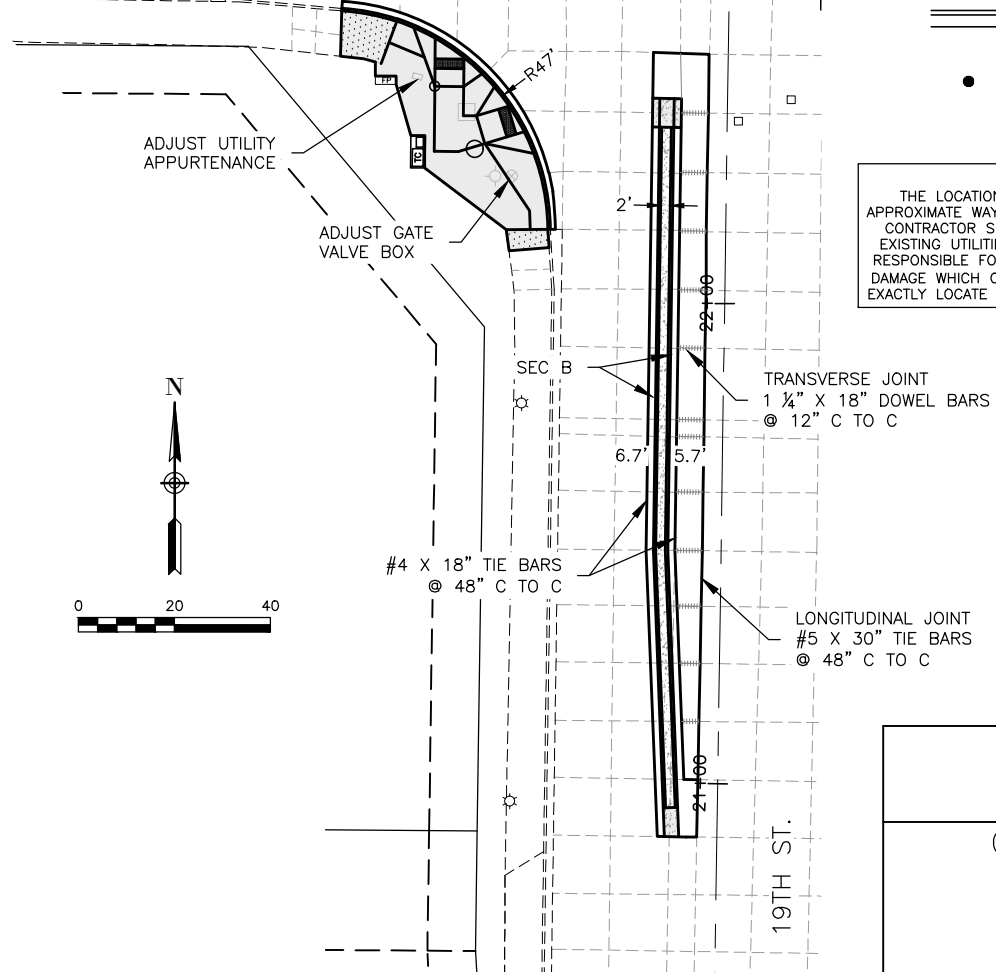
<u>722 6200 ADJUST MANHOLE</u>	
STA 24+05 (RT)	1 EA
STA 25+75 (LT)	1 EA

<u>750 0200 CONCRETE MEDIAN PAVING</u>	
STA 24+23 TO 25+70 (CENTURY)	51 SY
STA 20+95 TO 22+37 (19TH)	32 SY
TOTAL	83 SY

<u>722 6240 ADJUST UTILITY APPURTENANCE</u>	
STA 25+67 (LT)	1 EA
STA 25+73 (RT)	1 EA

<u>750 0210 CONCRETE MEDIAN NOSE PAVING</u>	
STA 25+70 TO 25+81 (CENTURY)	8 SY
STA 20+89 TO 20+95 (19TH SOUTH)	2 SY
STA 22+37 TO 22+43 (19TH SOUTH)	2 SY
STA 23+73 TO 23+80 (19TH NORTH)	4 SY
TOTAL	16 SY

<u>750 2115 DETECTABLE WARNING PANELS</u>	
NW QUAD.	32 SF
SW QUAD.	24 SF



CAUTION
THE LOCATIONS OF EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. NOT ALL EXISTING UTILITIES ARE SHOWN. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES OR REPAIRING ANY DAMAGE WHICH OCCURS DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

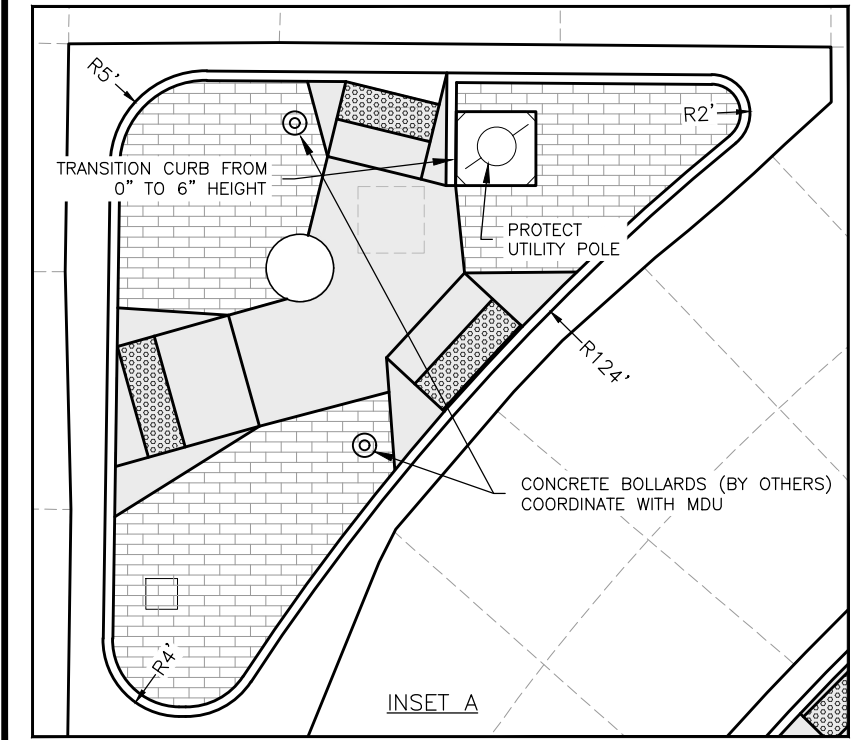
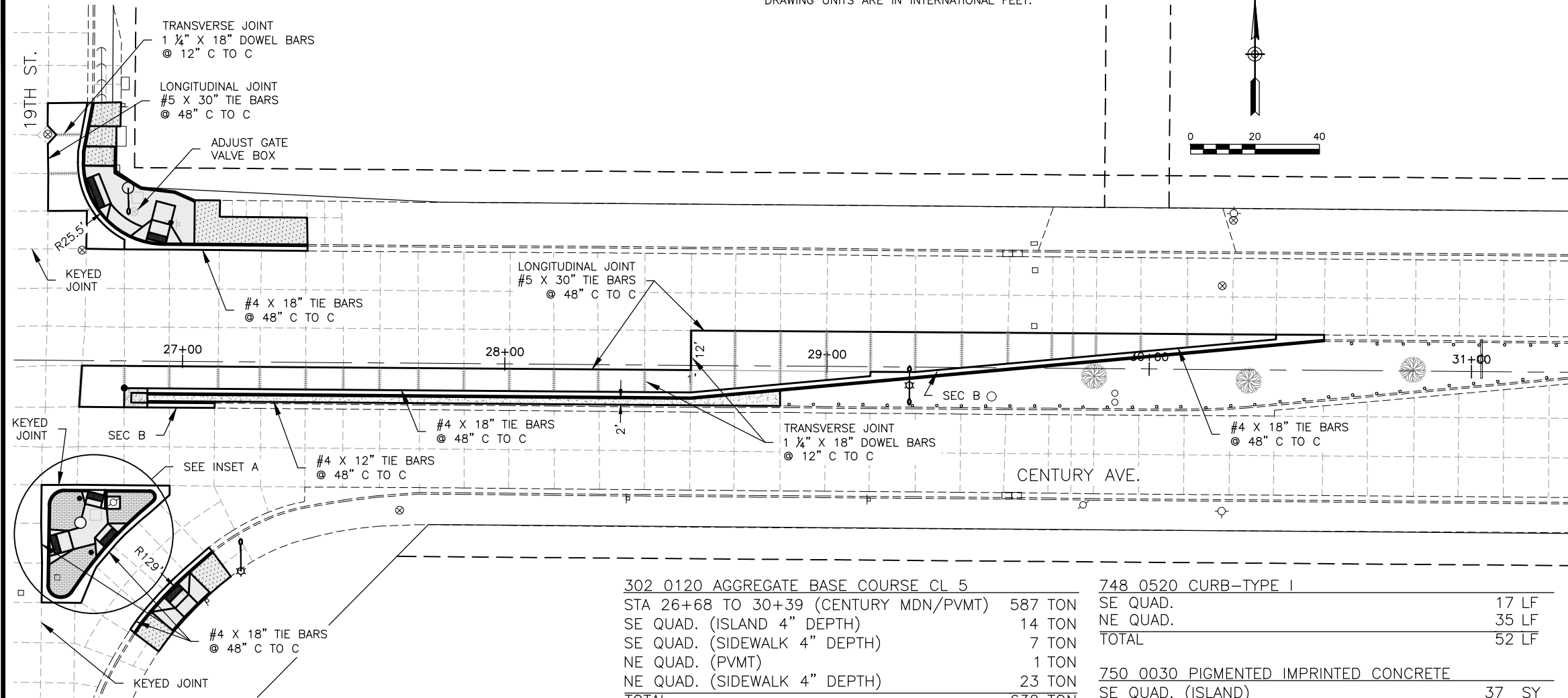


Bismarck ENGINEERING
CENTURY AVENUE
PAVING LAYOUTS
STA 22+00 - 26+50

HORIZONTAL DATUM IS NAD 83 (86 ADJUSTMENT) BASED ON CITY OF BISMARCK MONUMENTS AND ADJUSTED TO GROUND DISTANCE. VERTICAL DATUM IS NGVD 29. DRAWING UNITS ARE IN INTERNATIONAL FEET.

Revised 11/4/25

STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	HEU-1-981(134)	23645	90	2



- NOTES:
1. MATCH EXISTING PAVEMENT DEPTH (MINIMUM 8").
 2. MATCH EXISTING JOINT SPACING.
 3. SEE SECTION 80 FOR CURB RAMP DETAILS.
 4. FOR MEDIAN ISLAND AND NOSE: SEE TYPICAL SECTIONS AND DETAILS FOR MORE INFORMATION.

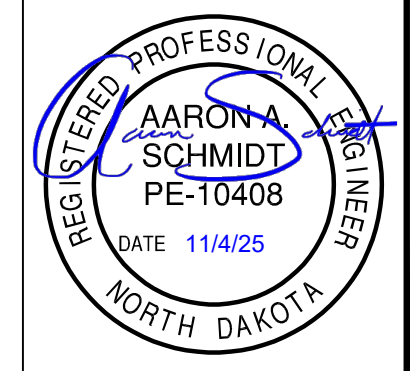
LEGEND

	CONCRETE PAVEMENT 8IN
	PIGMENTED IMPRINTED CONCRETE 6IN
	SIDEWALK CONCRETE 4IN
	SIDEWALK CONCRETE 6IN
	CONCRETE MEDIAN NOSE PAVING
	CONCRETE MEDIAN PAVING
	DETECTABLE WARNING PANEL
	CURB AND GUTTER
	2" DIA CORE HOLE

CAUTION
 THE LOCATIONS OF EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. NOT ALL EXISTING UTILITIES ARE SHOWN. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES OR REPAIRING ANY DAMAGE WHICH OCCURS DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

<u>302 0120 AGGREGATE BASE COURSE CL 5</u>	
STA 26+68 TO 30+39 (CENTURY MDN/PVMT)	587 TON
SE QUAD. (ISLAND 4" DEPTH)	14 TON
SE QUAD. (SIDEWALK 4" DEPTH)	7 TON
NE QUAD. (PVMT)	1 TON
NE QUAD. (SIDEWALK 4" DEPTH)	23 TON
TOTAL	632 TON
<u>550 0300 8IN NON-REIN CONC PVMT CL AE-DOWELED</u>	
STA 26+68 TO 30+26 (CENTURY)	363 SY
NE QUAD. (PVMT)	49 SY
TOTAL	412 SY
<u>709 0151 GEOSYNTHETIC MATERIAL TYPE R1</u>	
STA 26+68 TO 30+39 (CENTURY MDN/PVMT)	311 SY
<u>722 6140 ADJUST GATE VALVE BOX</u>	
STA 26+85 (LT)	1 EA
<u>748 0140 CURB & GUTTER-TYPE I</u>	
STA 26+89 TO 27+10 (RT OF CENTURY MDN)	21 LF
STA 26+89 TO 30+40 (LT OF CENTURY MDN)	366 LF
SE QUAD. (ISLAND PERIMETER)	117 LF
SE QUAD. (SIDEWALK)	35 LF
NE QUAD. (SIDEWALK)	103 LF
TOTAL	642 LF

<u>748 0520 CURB-TYPE I</u>	
SE QUAD.	17 LF
NE QUAD.	35 LF
TOTAL	52 LF
<u>750 0030 PIGMENTED IMPRINTED CONCRETE</u>	
SE QUAD. (ISLAND)	37 SY
<u>750 0115 SIDEWALK CONCRETE 4IN</u>	
SE QUAD.	17 SY
NE QUAD.	57 SY
TOTAL	74 SY
<u>750 0140 SIDEWALK CONCRETE 6IN</u>	
SE QUAD.	16 SY
NE QUAD.	57 SY
SE QUAD. (ISLAND)	28 SY
TOTAL	101 SY
<u>750 0200 CONCRETE MEDIAN PAVING</u>	
STA 26+89 TO 29+27 (CENTURY)	54 SY
<u>750 0210 CONCRETE MEDIAN NOSE PAVING</u>	
STA 26+82 TO 26+89 (CENTURY)	5 SY
<u>750 2115 DETECTABLE WARNING PANELS</u>	
NE QUAD.	32 SF
SE QUAD.	46 SF



Bismarck ENGINEERING

CENTURY AVENUE

PAVING LAYOUTS

STA 26+50 - 31+00