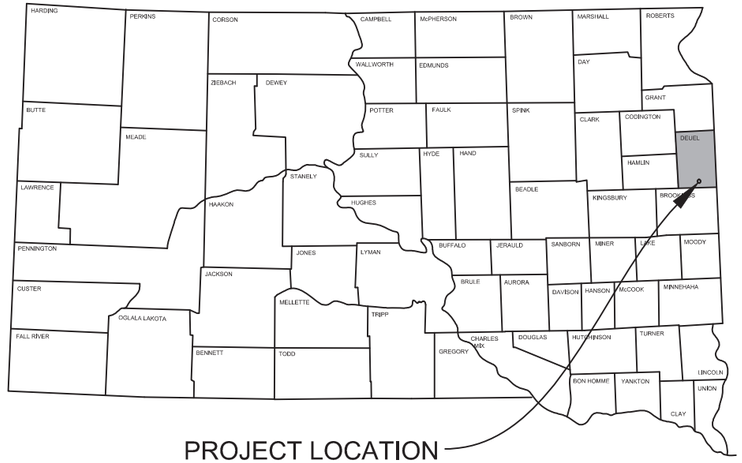
TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	1	24

FILE: 674110_TITLE SHEET
PLOTTING DATE: 9/18/2025 REVISED:

FOR BIDDING PURPOSES ONLY



TOWN OF TORONTO

PLANS FOR PROPOSED

HIGHWAY 28 WATER MAIN REPLACEMENT

DEUEL COUNTY

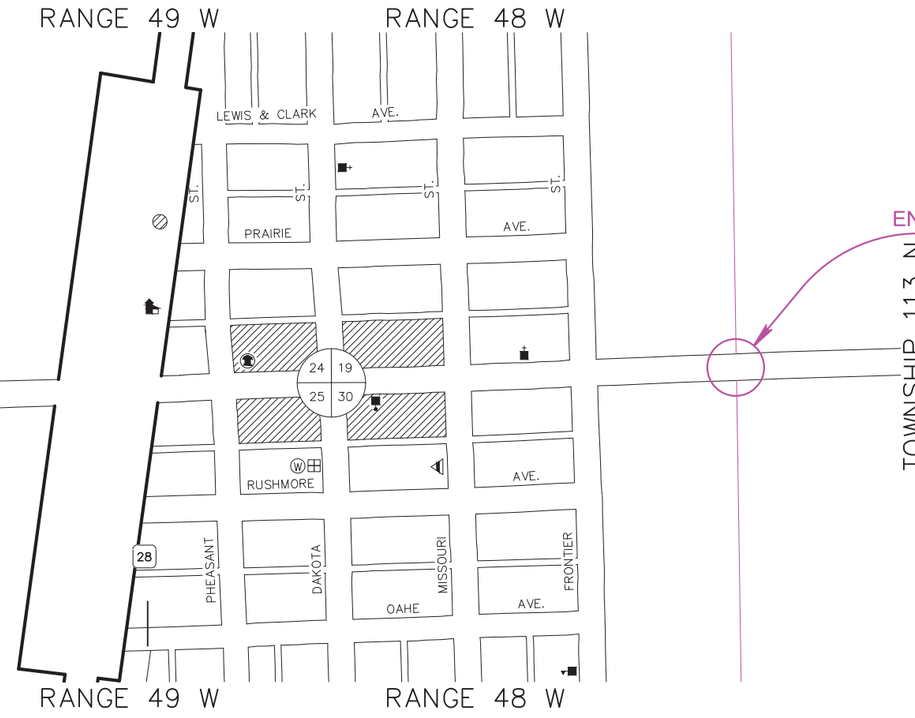
WATER MAIN

PCN X06V
PROJECT 674110

Plans By:

DGR ENGINEERING
1300 S HIGHLINE AVENUE
SIOUX FALLS, SD 57110
(605) 339-4157 office
(605) 339-4175 fax
www.dgr.com

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
16520
RYAN AJ
WOOD
SOUTH DAKOTA
9/18/25



INDEX OF SHEETS

DRAWING INDICATES GENERAL UTILITY LOCATIONS ONLY.
NEITHER THE CORRECTNESS OR COMPLETENESS OF LOCATIONS ARE GUARANTEED. CONTACT SOUTH DAKOTA ONE CALL PRIOR TO EXCAVATIONS.
(1-800-781-7474)
INFORMATION ON SECTION-TOWNSHIP-RANGE SHOWN ON LOCATION MAP ON THIS SHEET.

I, Ryan A.J. Wood, hereby certify that these 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 South Dakota.

Ryan Wood 9/18/25

Ryan A.J. Wood | S.D. No. 16520 | Date

STORM WATER
MAJOR RECEIVING BODY OF WATER: SIX MILE CREEK/NORTH DEER CREEK
AREA DISTURBED: 1.5 ACRES
TOTAL PROJECT AREA: 1.5 ACRES

2

February 18, 2026

FILE: P:\06\74\110\674110\5_DRAWINGS\PLANS\674110_TITLE SHEET

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0370	Remove Curb Stop	14	Each
110E1910	Remove Fire Hydrant	6	Each
110E1960	Remove Valve Box	10	Each
110E1970	Remove Water Main	224	Ft
451E0401	1" High Density Polyethylene Pipe	1,019	Ft
451E0604	4" PVC Water Main	22	Ft
451E0606	6" PVC Water Main	1,972	Ft
451E0608	8" PVC Water Main	20	Ft
451E0656	6" PVC Restrained Joint Water Main	750	Ft
451E0658	8" PVC Restrained Joint Water Main	132	Ft
451E2206	6"x4" Pipe Tee	2	Each
451E2207	6"x6" Pipe Tee	8	Each
451E2214	8"x8" Pipe Tee	1	Each
451E2307	6"x6" Pipe Cross	2	Each
451E2406	6"x4" Pipe Reducer	2	Each
451E2802	1" Corporation Stop with Tapping Saddle	25	Each
451E2902	1" Curb Stop with Box	25	Each
451E3004	4" Pipe Bend	1	Each
451E3006	6" Pipe Bend	13	Each
451E3008	8" Pipe Bend	2	Each
451E3106	6" Pipe Cap	7	Each
451E3108	8" Pipe Cap	2	Each
451E3414	8" Pipe Plug	1	Each
451E3604	4" Pipe Sleeve	1	Each
451E3606	6" Pipe Sleeve	6	Each
451E3608	8" Pipe Sleeve	3	Each
451E4204	4" Gate Valve with Box	1	Each
451E4206	6" Gate Valve with Box	24	Each
451E4208	8" Gate Valve with Box	1	Each
451E4360	Valve Box Extension	5	Each
451E4400	Pipe Insulation	100	SqFt
451E4506	6" Fire Hydrant Extension	1	Each
451E4512	12" Fire Hydrant Extension	1	Each
451E4580	Standard Fire Hydrant	7	Each
451E4581	Temporary Fire Hydrant	2	Each
451E4926	Water Main Bedding Material	2,896	Ft
451E5106	Bore and Jack 6" Pipe	60	Ft
451E5108	Bore and Jack 8" Pipe	30	Ft
451E6050	Temporary Water Service	15	Each
451E6075	Adjust Curb Stop Box	25	Each
451E6080	Adjust Water Valve Box	26	Each
451E6100	Reconnect Water Service	22	Each

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
451E6106	Cut and Tie to Existing Water Main	11	Each
451E7500	Locate Utilities	15	Each
734E5005	Dewatering	Lump Sum	LS

PROJECT SCOPE

These notes refer to the water main installation on Main Avenue/SD HWY 28 from the western town limits to Frontier Street. For grading, surfacing, erosion control, signing, or other utility improvements, see the SDDOT plan sections. This project consists of Town of Toronto's water main in coordination with the SDDOT project.

SPECIFICATIONS TO BE USED

Standard Specifications for Roads and Bridges, 10-1-25 Version, Required Provisions, and Special Provisions as included in the Proposal. The Standard Specifications for Roads and Bridges are available for download and viewing at https://dot.sd.gov/doing-business/contractors/standard-specifications.

ELECTRONIC DESIGN FILES

Electronic design files WILL be available to the Contractor prior to the bid letting if requested, subject to the following conditions:

a. A signed disclaimer agreement shall be required from each Contractor requesting the electronic design files prior to distribution.

b. Electronic design files will be distributed as .dwg files and .xml files. The Contractor will be responsible for obtaining the appropriate software to open, analyze, and/or convert these file formats for their own use, and understand the risks and limitations associated with that software.

c. The electronic design files for distribution may be limited to the following: existing survey line work, existing ground surface model, proposed design utility and surfacing line work, and finished ground surface model. Additional information may be distributed at the Engineer's discretion.

d. The electronic design files will not include any modifications due to addenda unless specifically noted in an addendum.

e. The electronic design files are provided for reference only. In the event of a discrepancy between the electronic design files and the contract documents, the contract documents shall prevail.

Requests for the electronic design files should be made by signing the disclaimer agreement provided by the Engineer with the request.

CONSTRUCTION LIMITS

The construction limits will be within the right-of-way and easement areas. Material storage, construction vehicles, and equipment traffic shall be limited to the construction limits. All paved streets adjacent to the project are to be cleaned at the end of each working day.

It will be the responsibility of the Contractor to coordinate with the property owners relating to access to their property and any subsequent damages.

CONSTRUCTION STAKES AND BENCHMARKS

All staking required for water main will be completed by others and will not be part of this contract.

Reference points, lines, grade stakes, and benchmarks set by the Engineer in connection with the work will be carefully preserved by the Contractor and will not be disturbed or moved from the exact position and elevation as set by the Engineer. No excavated material will be placed over or against said stakes and, except where necessary to remove the stakes as the work progresses, stakes must be carefully preserved in the original position and elevation until the work has been accepted. Stakes which must be removed as the work progresses will be removed only upon concurrence by the Engineer.

Staking required to complete the work will be completed by the Engineer unless otherwise noted. Staking will be completed one time for each work item. Stakes disturbed or removed through the carelessness of the Contractor will be restaked by the Engineer and may result in a price adjustment to the Contractor's contract.

SUBMITTALS

The following documents will be submitted by the Contractor. Documentation requirements elsewhere in the contract are not waived if not listed in the following table.

Submittals	Date Submitted
Water Main Shop drawings	
Construction schedule	
South Dakota State sewer and water plumbing contractor's license	
Discharge chlorinated water plan	
Dewatering plan for groundwater	
Temporary water main layout (if needed)	

ACCEPTANCE TESTING

The Town will be responsible for taking the first acceptance test and a backup test if required. All subsequent tests required, due to failures, will be paid by the Contractor by deducting the cost from the pay request unless otherwise specified.

The Town reserves the right to require work or material that does not meet specifications, whether subject to acceptance testing or not, to be removed and replaced. The Town also reserves the right to assess a price deduction in lieu of removal and replacement at the Town's sole discretion. The method of assessing a price deduction for work not meeting specifications will be at the sole discretion of the Town.

The Engineer and/or their representatives will always have access to all parts of the job. The Contractor must furnish them with such facilities and materials as are necessary for them to make whatever tests and inspections that the Engineer deems necessary.

UTILITIES

All utilities will be verified by the Contractor prior to starting work. Any time existing utilities impede the progress of work, the Contractor will immediately notify the Engineer.

All utilities, whether privately or publicly owned, will be moved, relocated, and/or replaced as necessary, by the respective utility company or companies except as noted in the plans. These modifications will take place in advance of construction when applicable or when advised by the Engineer. No payment will be made to the Contractor unless specified in the contract documents.

The Contractor will safeguard all utilities and coordinate his efforts to coincide with utility work by others in order to minimize inconvenience to the public and utility companies. When pipe utility installation crosses existing utilities, the Contractor will be responsible for supporting the utilities in a manner that is acceptable to the owner of the utility. Any damage caused to the utilities due to Contractor carelessness will be repaired at the Contractor's expense to the satisfaction of the utility owner.

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10/1/25

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UTILITIES, Continued.

Abandoned utilities (gas lines, telephone lines, etc.) encountered during construction will be removed and disposed of by the Contractor. Costs associated with this work will be incidental to the various bid items associated with work adjacent to the abandoned utility.

The Contractor will be responsible for the coordination of all work associated with the disturbance, removal, or replacement of unidentified metallic natural gas mains or services when encountered. The Contractor will, in advance and prior to proceeding with the work, coordinate with the Town of Toronto and all companies related to the associated work.

Existing utility locations shown on drawings are approximate. There is no guarantee that the utilities shown include all such utilities or that the locations indicated are exact. The Contractor will contact South Dakota One Call system, utility companies, and the Town of Toronto to verify locations of all existing utilities prior to excavation.

The Contractor will be responsible for notifying South Dakota One Call 1-800-781-7474 to have utilities field located.

See the SDDOT plan sections for the list of utility companies and any planned utility adjustments.

CONTRACTOR INSTALLED UTILITIES

The Contractor will be responsible for locating Town utilities installed with the project until final acceptance is granted. All costs associated with locating Town utilities installed with the project until final acceptance will be incidental to the project.

PROTECTION OF EXISTING WATER MAIN, SANITARY SEWER, AND STORM SEWER SYSTEMS

For the protection of existing public underground utilities and the surrounding work area, consideration will be given to isolating portions of the existing water distribution system within the construction limits while maintaining fire protection. During underground utility installation such as, but not limited to, sanitary sewer, water main, storm sewer, sump pump drain, etc., in the proximity of existing water main and/or water services, the existing water main distribution will be isolated within the work area. Upon receiving notice from the Contractor 24 hours in advance of any work, Town staff will operate designated water valves, where appropriate, to isolate the work area as much as reasonably possible. The Contractor must become aware of the location and status (open/closed) of any designated isolation valve(s). Town of Toronto Water Maintenance staff must be notified immediately in the event of a water service emergency or interruption. It will be permissible for the Contractor to operate the designated valve(s) in the event of a water main or water service failure within the construction area. The

Contractor is required to have a valve operating key on site in the event of such a failure. Town of Toronto Water Maintenance must be notified immediately after the shutdown. Town crews will operate the valves after repairs have been made and inspections have been completed.

Existing sanitary sewer lines and manholes within the construction limits must be protected at all times during construction. The upstream ends of existing sanitary sewer lines downstream from new sanitary sewer construction must be plugged at locations to be approved by the Engineer. Water, stone, dirt, gravel, asphalt, concrete or any other debris shall not be allowed to enter the Town's sanitary sewer system during flushing operations or at any other time. Construction taking place in the vicinity of any existing Town sanitary sewer lines or manholes must not cause any inflow of surface water, ground water, water from damaged water lines, or debris to enter the Town's sanitary sewer system. The Contractor will be responsible for any damages or costs incurred to the Town's sanitary sewer system, and/or private property, and any actions imposed by SDDANR due to spills, overflows, inflows, lift station surcharges, Town water discharge, sanitary sewer discharges to surface waters, sanitary sewer backups into homes, etc.

Existing storm sewer inlets and pipes within the construction limits will be protected from the entrance of stone, dirt, gravel, asphalt, concrete or any other debris during construction. The SWPPP must be followed at all times.

LOCATING UTILITY

This work consists of excavating material to locate a utility line, (Private or Public), when the utility owner cannot find said line, or utility line is not within four (4) feet either side of markings established by the utility owner. Payment for this item will be at the contract unit price per each. 15 locates are estimated for this project with 10 known locates to be performed at the following locations:

1. 106+86.96-79.59'LT
2. 113+36.64-43.62'LT
3. 115+03.57-29.61'LT
4. 117+31.99-31.63'RT
5. 117+72.23-31.63'RT
6. 120+60.26-31.17'LT
7. 121+20.16-32.15'RT
8. 121+37.47-32.15'RT
9. 121+86.95-32.15'RT
10. 126+12.18-33.51'RT

ADJUSTMENT OF VALVE BOXES

The Contractor will adjust valve boxes to the extent necessary on this project. Under these items of work, the water main valve boxes are to be adjusted in accordance with the applicable standard plate. The elevation of the valve boxes will be set at the proposed elevation of the adjacent new pavement or surrounding ground. All valve boxes will be adjusted to the satisfaction of the Engineer and Town.

All existing frames, lids, and/or valve box tops and sections that are cracked or broken through the carelessness of the Contractor's forces will be replaced with new frames, lids, and/or adjusting rings that conform to the Specifications at the Contractor's expense.

WASTE DISPOSAL SITE

All material generated from this project for disposal must be disposed of at a state-permitted solid waste disposal site. Depending on what material is generated and whether it is contaminated or uncontaminated will determine which permitted facility can accept it. Permitted facilities include construction and demolition debris sites, restricted use sites, and regional landfills.

All costs associated with disposing of waste will be incidental to the various contract items.

DEWATERING

It is anticipated that groundwater may be encountered during excavation. Dewatering may be needed to perform the contract work. Dewatering will be paid for under the contract lump sum price for "Dewatering" and will be full compensation for all permits, materials, equipment, and labor needed to perform the work.

It will be the responsibility of the Contractor to discharge and dispose of the water in an approved manner. No water will be allowed to enter the sanitary sewer. The Contractor

will dispose of water in a suitable manner without damage to adjacent property. The water must be filtered using an approved method to remove sand and fine-sized soil particles before disposal into any drainage system. Discharge from dewatering operations will be controlled to prevent erosion and scour.

The Contractor is responsible for obtaining a Temporary Water Use Permit from the SD DANR prior to commencing dewatering operations. Prior to excavating, the Contractor will submit for review a dewatering plan to be approved by the Engineer.

WATER

WATER MAIN - GENERAL

1. Water main work on the project consists of installation of 6" PVC water main from the western town limits to the Frontier Street intersection on SD HWY 28/Main Street. Improvements will also include new fire hydrants, valves, and water services.

2. Contractors License. The Contractor will obtain a "South Dakota State Sewer and Water Plumbing Contractor's License" prior to commencing construction.

WATER MAIN AND APPURTENANCES

All valve operation will be done by the Town of Toronto or Brookings Deuel Rural Water.

The Contractor will coordinate connection of the proposed water main to existing water main to minimize the time of shutoff. The Contractor will have all materials for the connection on the site and to the extent possible will have fittings assembled and tied prior to cutting the existing water main and making the connection.

All water main will be installed with a minimum depth of cover of six (6) feet from finished grade except at connection points to existing facilities where depth will be governed by existing pipe elevation or as shown on the plans.

All mechanical joints will be restrained. All materials, gaskets, bolts, and any additional items and labor for joint restraint shall be incidental to the item.

All ductile iron pipe and fittings will be wrapped with polyethylene tube material to protect the pipe from any future corrosion. The poly material will be installed as detailed in the supplemental specifications and the ductile iron handbook from DIPRA and ANSI A21.5 (AWWA C105). Polyethylene will be V-bio as manufactured by DIPRA, or pre-bid approved equal. In addition, polyethylene encasement will consist of three layers of co-extruded linear low-density polyethylene (LLDPE), fused into a single thickness of not less than 8 mils. The inside surface of the polyethylene wrap to be in contact with the pipe exterior will be infused with a blend of antimicrobial biocide to mitigate microbiologically influenced corrosion and a volatile corrosion inhibitor to control galvanic corrosion. Polyethylene encasement will be installed in accordance with AWWA C600 and ANSI/AWWA C105/A21.5 and also in accordance with all recommendations and practices of the AWWA M41, Manual of Water Supply Practices – Ductile Iron Pipe and Fittings. The Polyethylene encasement will extend 1 ft. beyond the fitting and all ends will be secured with adhesive tape. The polyethylene will be gathered and lapped to provide a snug fit and shall be secured at quarter points and each end with polyethylene tape. The polyethylene will prevent contact between the pipe and bedding material but is not intended to be a completely airtight and watertight enclosure. Damaged polyethylene must be repaired in a workmanlike manner using polyethylene tape or will be replaced. Polyethylene encasement is considered incidental with no separate measurement or payment to be made.

All valve boxes will have mud plugs installed in them. Mud plugs will be incidental to the contract unit price for "Adjust Valve Box".

All water distribution materials must meet NSF / ANSI Standard 61 – Drinking Water System Components, Health Effects, NSF/ANSI 61, and NSF/ANSI 372.

Tracer wire will be placed on all new water mains as detailed in the plans. Payment to place tracer wire as detailed in the plans will be incidental to the water main installation. All tracer wire shall conform to the special provision for trenchless construction.

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WATER MAIN DEPTH

The water main will be installed to the depths shown on the plans. No extra compensation will be given for water main installed at a depth greater than 6'. Any extra costs for the extra depth water main will be included in the contract unit price per each for the appropriate size water main bid item.

At locations where the water main valves have a 10' or greater bury depth, the Contractor will install valve nut extensions to extend the top operation nut of the valve. All costs for the furnishing and installing the valve nut extensions to extend the top operation nut of the valve will be incidental to the per each unit bid price for "Valve Box".

WATER MAIN PARALLELING OR CROSSING SEWERS

Installation of water mains parallel to sanitary or storm sewer lines will be completed in a manner such that the water mains will be laid at least 10 feet horizontal distance when measured edge to edge from any existing or proposed sanitary sewer, storm sewer, or sewer manhole. Where water mains cross above storm sewers or sanitary sewers, there will be at least 18 inches vertical clearance between the bottom of the water main and the top of the sewer pipe and one full length of water pipe must be located so both joints will be as far from the sewer as possible.

A water main may cross below a non-perforated sewer main if minimum vertical separation of 18 inches is provided and the sewer main is of acceptable water main pipe material and is a continuous piece of at least 20 feet in length with the length of the water pipe located so both joints are as far as possible from the sewer main. A water main may cross either above or below a non-perforated sewer line with a vertical separation of less than 18 inches if either the water or sewer line is encased in PVC or steel for at least 10 feet each side of the crossing. If PVC or steel is used as encasement material, the ends will be adequately sealed with a rubber boot. Where water mains are to be installed in parallel with a sewer or a sewer manhole that is less than 10 feet away horizontally and is not at least 18 inches below the water main, the water main will be encased in PVC or steel for the entire distance that the sewer is too close to the water main. If PVC or steel is used as encasement material, the ends shall be adequately sealed with a rubber boot. Payment for crossings will be incidental to the contract unit prices for the water main items.

VALVE BOX MARKER

Valve box markers shall be supplied for all valves and curb stops located outside of pavement. These shall be incidental to the item for which they are required.

WATER MAIN DISINFECTION

See Specifications for disinfection procedures.

When minor water main work occurs (i.e. tie-in connections of new water main to existing water main, water main adjustments, installation of new valves on existing main or any other work deemed minor by the Engineer) the existing main, prior to the completion of the bacteria testing, may be returned to service once the line has been flushed and a boil order has been issued. The boil order will be rescinded with the passing of the bacteria test.0

Water that is discharged during water main flushing will not reach a stream, river or water way if the chlorine residual exceeds 0.05 mg/L.

The Town or its representative will notify all consumers affected by any interruption of water service at least 24 hours before the interruption of water service. Consumers will be verbally notified when possible. In the event a consumer cannot be verbally notified, a door hanger will be secured to the most frequently used entrance by the Town or its representative.

DISCHARGE OF CHLORINATED WATER

Water from the Town's Water Distribution System that is drained into work areas or open trenches must be discharged without impact to the environment. The Contractor will review locations of discharge hydrants relative to open areas and will meet with property owners to discuss discharge locations and obtain property owner approval if water will be discharged across their private property. The following is a prioritized list for the disposition of chlorinated or heavily chlorinated water from the distribution system:

a. If the discharge location is close to Waters of the State, discuss excavation of depressions or berms (BMP's) with the Town and property owner(s) to accommodate discharge volumes. Water from the distribution system will be pumped or flushed to these BMP's and will be stored and discharged through infiltration. Overland flow is not allowed.

b. Water from the distribution system may be pumped into vactor trucks or septic tank trucks and hauled to the Water Reclamation Plant or other facility permitted by (DANR) to accept such discharge.

c. Permission must be obtained by the Town for the discharge of Water from the distribution system into Town's sanitary sewer system. Contractor is responsible for verifying hydraulic loading on existing sanitary sewer system during trench dewatering operations to ensure that sewer backups do not occur.

WATER MAIN CONNECTION

Contractor shall use caution when exposing or connecting to an existing water main to prevent movement or damage of existing fittings and/or pipe. Contractor shall field verify depth, location, and size of existing water main prior to installation.

RESTRAINED JOINT WATER MAIN

Restrained joint water main shall be placed at the locations specified in the plan sheets. All restrained joint pipe shall be DR 18 PVC conforming to AWWA C900. Boltless, flexible, push-on restrained joints shall conform to the Specifications. All costs for the restrained joint water main shall be incidental to the water main bid items.

TRENCHLESS CONSTRUCTION – WATER

Trenchless construction will be performed as specified in the Special Provisions for Trenchless Construction. The Contractor shall be responsible for choosing the trenchless construction method. Additional payment will not be made to the Contractor in the event the trenchless construction method chosen by the Contractor fails, thus requiring the Contractor to change the trenchless construction method. This would include abandoning or removing the materials installed prior to failure and filling the annular space with controlled low strength material.

TEMPORARY FIRE HYDRANT

Contractor shall coordinate placement of the temporary fire hydrant with the location of pavement removal and replacement to ensure adequate fire protection is provided between paving phases. Contractor may utilize the future permanent hydrant as the temporary hydrant, but shall ensure no damage occurs to the hydrant before moving the hydrant to its final location during Phase 2 pavement construction. All costs associated with installation and removal of the temporary fire hydrant shall be incidental to the bid item.

TEMPORARY RECONNECT WATER SERVICE

Water services located outside of Phase 1 pavement construction shall be connected to the new water main with new service line during Phase 1. This service line shall remain in place until the final connection and replacement of the existing curb stop can be completed during Phase 2 pavement reconstruction.

SEQUENCE OF CONNECTIONS

Water mains crossing SD Highway 28 / Main Ave shall be constructed so that there are always two (2) active water main connections between the north and south side of Main Ave. Contractor shall coordinate installations with the Pavement Reconstruction project to ensure water main and service installation provide a consistent supply of water to all water customers with shutdowns of less than 1 day at each occurrence. Multiple shutdowns are acceptable.

Contractor shall coordinate all connections with the Engineer and the Town a minimum of 48 hours in advance so coordination can be had with the affected users.

REMOVE FIRE HYDRANT

The Contractor shall salvage all hydrants to the Town. If the Town determines the item is not needed, the contractor shall dispose of per the waste disposal requirements.

WATER MAIN ABANDONMENT

Water main abandonment shall be completed as shown on the plans. Contractor may abandon water mains by installation of a cap, pouring a concrete plug, or other Engineer approved method. All materials for abandonment shall be incidental to the project.

WATER FOR CONSTRUCTION

Contractor shall supply all water for construction. If the Contractor wishes to use Town or Rural water for construction, they shall coordinate with the entity and meter all water used in order to reimburse the Town or Rural water system.

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LEGEND

FOR BIDDING PURPOSES ONLY

TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	5	24

FILE: 674110_TITLE SHEET
PLOTTING DATE: 9/18/2025 REVISED:

- W — EXISTING WATER MAIN
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- S — EXISTING SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MANHOLE
- S — EXISTING STORM SEWER
- EXISTING STORM SEWER MANHOLE
- G — UNDERGROUND GAS
- GAS VALVE OR GAS
- T — UNDERGROUND TELEPHONE
- TELEPHONE PEDESTAL OR VAULT
- TV — UNDERGROUND TELEVISION
- TELEVISION PEDESTAL
- T/F — FIBER OPTIC
- P — UNDERGROUND ELECTRIC
- OH — OVERHEAD UTILITY
- GUY POLE
- GUY WIRE
- POWER POLE
- POWER POLE WITH LIGHT
- POWER POLE WITH TRANSFORMER
- POWER POLE WITH LIGHT AND TRANSFORMER
- TRAFFIC SIGNAL POLE
- ELECTRIC BOX OR VAULT
- ELECTRICAL MANHOLE
- ELECTRICAL METER

- FENCE
- FENCE POST
- RETAINING WALL
- SIGN
- CONIFEROUS TREE
- DECIDUOUS TREE
- STUMP
- TREE LINE
- FLAG POLE
- MAILBOX
- ROCK PILE
- RIP RAP
- PROPERTY LINE
- RIGHT OF WAY LINE
- PROPERTY PIN
- B — BENCHMARK
- CONTROL POINT
- DRAINAGE ARROW

- W — PROPOSED RESTRAINED JOINT WATER MAIN
- W — PROPOSED WATER MAIN
- B — PROPOSED ELBOW
- C — PROPOSED CAP
- X — PROPOSED CROSS
- CS — PROPOSED CURB STOP
- H — PROPOSED HYDRANT
- R — PROPOSED REDUCER
- SL — PROPOSED SLEEVE
- T — PROPOSED TEE
- V — PROPOSED VALVE
- ABANDON WATER MAIN
- PROPOSED STORM SEWER (BY OTHERS)
- PROPOSED STORM INLET (BY OTHERS)
- REMOVE AND SALVAGE ITEM

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FILE: P:\067\411\0\674110\5_DRAWINGS\PLANS\674110_TITLE SHEET

TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	6	24

FILE: 674110_UTILITY PLAN AND PROFILE
PLOTTING DATE: 10/1/2025 REVISED: 10/1/2025

SD HWY 28 / MAIN AVE UTILITY PLAN

FOR BIDDING PURPOSES ONLY

0 20 40

REMOVE FIRE HYDRANT
Sta. 109+79.24-46.45'RT
Sta. 111+89.51-40.21'LT

REMOVE CURB STOP
Sta. 106+96.09 - RT
Sta. 107+51.43 - RT
Sta. 109+73.60 - RT

INSTALL WATER MAIN

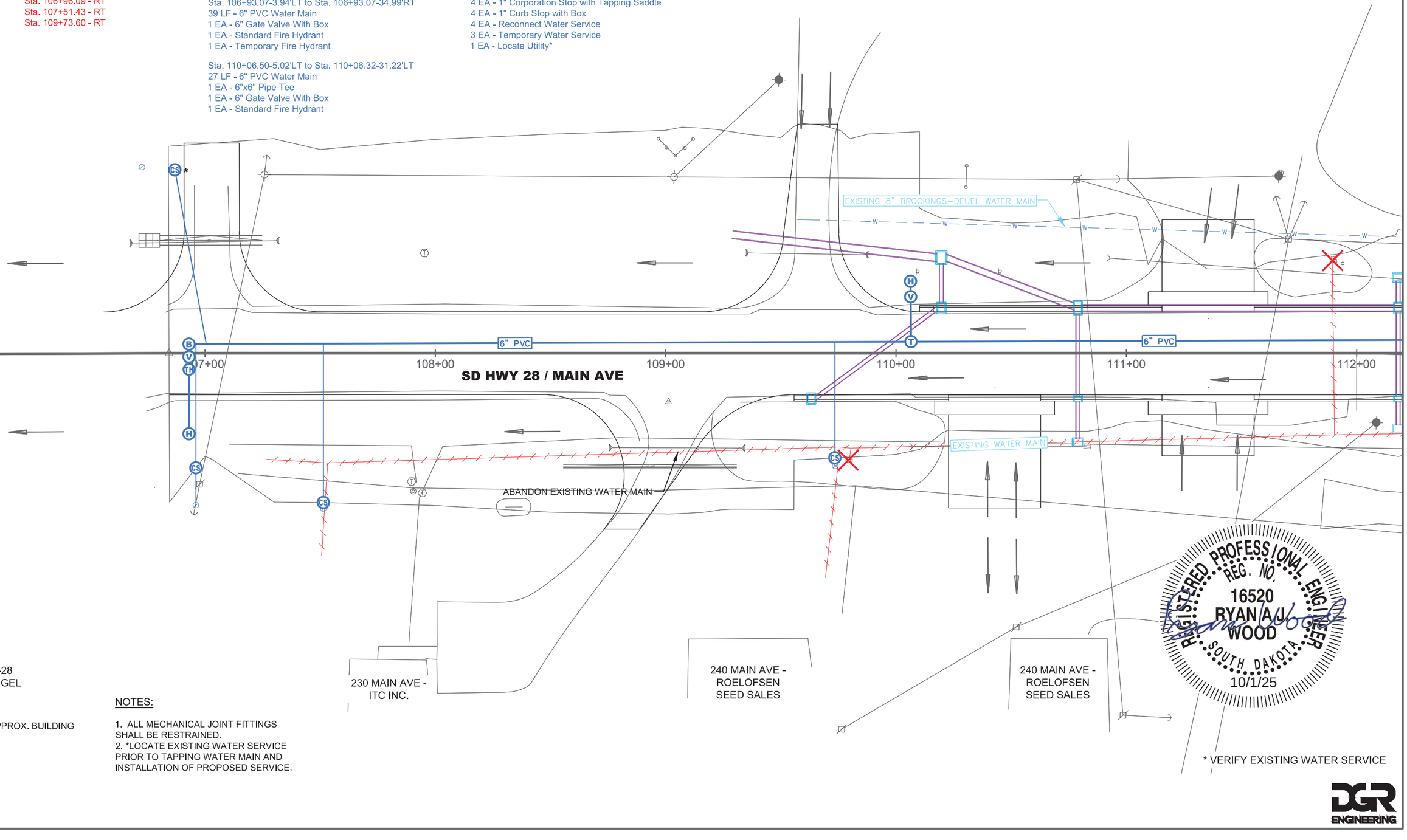
Sta. 106+93.07-3.94'LT to Sta. 112+00.00-5.69'LT
507 LF - 6" PVC Water Main
1 EA - 6" Pipe Bend (90°)

Sta. 106+93.07-3.94'LT to Sta. 106+93.07-34.99'RT
39 LF - 6" PVC Water Main
1 EA - 6" Gate Valve With Box
1 EA - Standard Fire Hydrant
1 EA - Temporary Fire Hydrant

Sta. 110+06.50-5.02'LT to Sta. 110+06.32-31.22'LT
27 LF - 6" PVC Water Main
1 EA - 6"x6" Pipe Tee
1 EA - 6" Gate Valve With Box
1 EA - Standard Fire Hydrant

INSTALL 1" WATER SERVICE

Sta. 106+86.96-79.59'LT - 77 LF
Sta. 106+96.06-49.79'RT - 54 LF
Sta. 107+51.39-64.84'RT - 69 LF
Sta. 109+73.49-45.44'RT - 51 LF
4 EA - 1" Corporation Stop with Tapping Saddle
4 EA - 1" Curb Stop with Box
4 EA - Reconnect Water Service
3 EA - Temporary Water Service
1 EA - Locate Utility*



NOTES:

1. ALL MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED.
2. *LOCATE EXISTING WATER SERVICE PRIOR TO TAPPING WATER MAIN AND INSTALLATION OF PROPOSED SERVICE.

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
16520
RYAN A.J.
WOOD
SOUTH DAKOTA
10/1/25

* VERIFY EXISTING WATER SERVICE

DGR ENGINEERING

FILE: P:\06\74110\674110\5_DRAWINGS\PLANS\674110_UTILITY PLAN AND PROFILE

FOR BIDDING PURPOSES ONLY

TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	7	24

FILE: 674110_UTILITY PLAN AND PROFILE
PLOTTING DATE: 9/18/2025 REVISED:

2040 2035 2030 2025 2020 2015 2010 2005 2000 1995 1990 1985 1980 1975 1970 1965 1960 1955 1950

PROPOSED CL PROFILE

36" RCP 0.5000%

18" RCP 0.5000%

30" RCP 0.5000%

30" RCP 0.5000%

6' MIN.

18" MIN.

PROPOSED 6" WATERMAIN

16
97+62.32-81.21' L
Rebar 3' East of Powerpole
Elev 1971.33

15
109+01.28-21.14' R
PK Nail in asphalt driveway
Elev 1990.67

1990.59 1990.72 1990.85 1990.98 1991.11 1991.24 1991.37 1991.50 1991.63 1991.76 1991.87 1991.96 1992.03 1992.10 1992.17 1992.24 1992.31 1992.38 1992.45 1992.52 1992.59 1992.69 1992.81 1992.95 1993.10 1993.24 1993.38

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

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
16520
RYAN A.J.
WOOD
SOUTH DAKOTA
9/18/25

DGR ENGINEERING

FILE: P:\067\A1\10\674110\5_DRAWINGS\PLANS\674110_UTILITY PLAN AND PROFILE

SD HWY 28 / MAIN AVE UTILITY PLAN

FOR BIDDING PURPOSES ONLY

TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	8	24

FILE: 674110_UTILITY PLAN AND PROFILE
PLOTTING DATE: 10/1/2025 REVISED: 10/1/2025

0 20 40

REMOVE WATER MAIN
Sta. 116+08.49-39.39'LT to Sta. 116+28.48-38.82'LT
20 FT - Remove Water Main
Sta. 116+62.64-48.18'RT to Sta. 116+62.88-38.12'RT
10 FT - Remove Water Main
Sta. 116+65.06-54.91'LT to Sta. 116+65.23-43.54'LT
12 FT - Remove Water Main
Sta. 116+65.71-38.11'RT to Sta. 116+65.95-48.11'RT
10 FT - Remove Water Main

REMOVE VALVE BOX
116+65.15-38.53'LT
116+65.71-37.76'RT

REMOVE FIRE HYDRANT
114+92.86-39.41'LT

REMOVE CURB STOP
Sta. 115+07.01'LT

INSTALL WATER MAIN
Sta. 112+00.00-5.69'LT to Sta. 116+70.55-7.31'LT
431 LF - 6" PVC Water Main
40 LF - 6" PVC Restrained Joint Water Main
1 EA - 6" Gate Valve with Box

Sta. 116+70.51-16.55'LT to Sta. 118+00.00-16.57'LT
90 LF - 6" PVC Water Main
40 LF - 6" PVC Restrained Joint Water Main
1 EA - 6" Gate Valve with Box

Sta. 116+65.06-54.91'LT to Sta. 116+65.95-48.11'RT
5 LF - 4" PVC Water Main
29 LF - 6" PVC Water Main
82 LF - 6" PVC Restrained Joint Water Main
2 EA - 6"x6" Pipe Tee
3 EA - 6" Gate Valve With Box
4 EA - 6" Pipe Bends (90°)
1 EA - 6"x4" Pipe Reducer
1 EA - 4" Pipe Sleeve
1 EA - 6" Pipe Sleeve
2 EA - 6" Pipe Cap
30 LF - Bore and Jack 6" Pipe
2 EA - Cut and Tie to Existing Water Main

Sta. 113+31.90-6.14'LT to Sta. 113+31.90-26.12'LT
20 LF - 6" PVC Water Main
1 EA - 6"x6" Pipe Tee
1 EA - 6" Gate Valve With Box
1 EA - Standard Fire Hydrant

Sta. 116+08.49-39.39'LT to Sta. 116+62.64-48.18'RT
20 LF - 8" PVC Water Main
132 LF - 8" PVC Restrained Joint Water Main
1 EA - 8"x8" Pipe Tee
1 EA - 8" Gate Valve With Box
2 EA - 8" Pipe Bends (90°)
3 EA - 8" Pipe Sleeve
2 EA - Cut and Tie to Existing Water Main
2 EA - 8" Pipe Cap
1 EA - 8" Pipe Plug
30 LF - Bore and Jack 8" Pipe

Sta. 116+26.06-7.16'LT to Sta. 116+26.18-32.59'RT
40 LF - 6" PVC Water Main
1 EA - 6"x6" Pipe Tee
1 EA - 6" Gate Valve With Box
1 EA - Standard Fire Hydrant
1 EA - Temporary Fire Hydrant

INSTALL 1" WATER SERVICE
Sta. 113+39.64-43.62'LT - 38 LF
Sta. 115+03.57-29.61'LT - 23 LF
Sta. 117+27.93-39.45'LT - 23 LF
Sta. 117+31.99-31.63'RT - 49 LF
Sta. 117+72.23-31.63'RT - 49 LF
5 EA - 1" Corporation Stop with Tapping Saddle
5 EA - 1" Curb Stop with Box
4 EA - Reconnect Water Service
2 EA - Termporary Water Service
4 EA - Locate Utility*

375 MAIN AVE
DEUEL COUNTY FARMERS
UNION OIL COMPANY

EXISTING GAS TANKS (3)

425 MAIN AVE
RICHARD & VICKIE ROELOFSEN

4" EXISTING WATER MAIN

CONNECT TO EXISTING WATER MAIN,
SEE SHEET 24 FOR CONNECTION DETAIL

EXISTING 8" BROOKINGS–DEUEL WATER MAIN

CONNECT TO EXISTING WATER MAIN,
SEE SHEET 22 FOR CONNECTION DETAIL

ABANDON EXISTING WATER MAIN

6" PVC

8" PVC

30' BORE

112+00 113+00 114+00 115+00 116+00 117+00 118+00

SD HWY 28 / MAIN AVE

EXISTING WATER MAIN

ABANDON EXISTING WATER MAIN

CONNECT TO EXISTING WATER MAIN,
SEE SHEET 24 FOR CONNECTION DETAIL

CONNECT TO EXISTING WATER MAIN,
SEE SHEET 22 FOR CONNECTION DETAIL

EXISTING 8" BROOKINGS–DEUEL WATER MAIN

6" EXISTING WATER MAIN

645 PHEASANT ST
BRADLEY & CARIE
KNUTSON

655 PHEASANT ST
DAVID ROSS

PHEASANT STREET

400 MAIN AVE
JACKIE PETERSON &
BRANDON M ROSS

420 MAIN AVE
KING AG LLC

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
16520
RYAN A. J.
WOOD
SOUTH DAKOTA
10/1/25

NOTES:

1. ALL MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED.
2. *LOCATE EXISTING WATER SERVICE PRIOR TO TAPPING WATER MAIN AND INSTALLATION OF PROPOSED SERVICE.

* VERIFY EXISTING WATER SERVICE

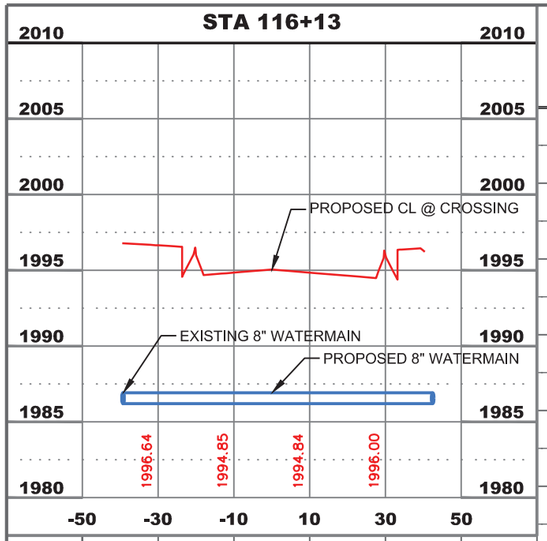
DGR ENGINEERING

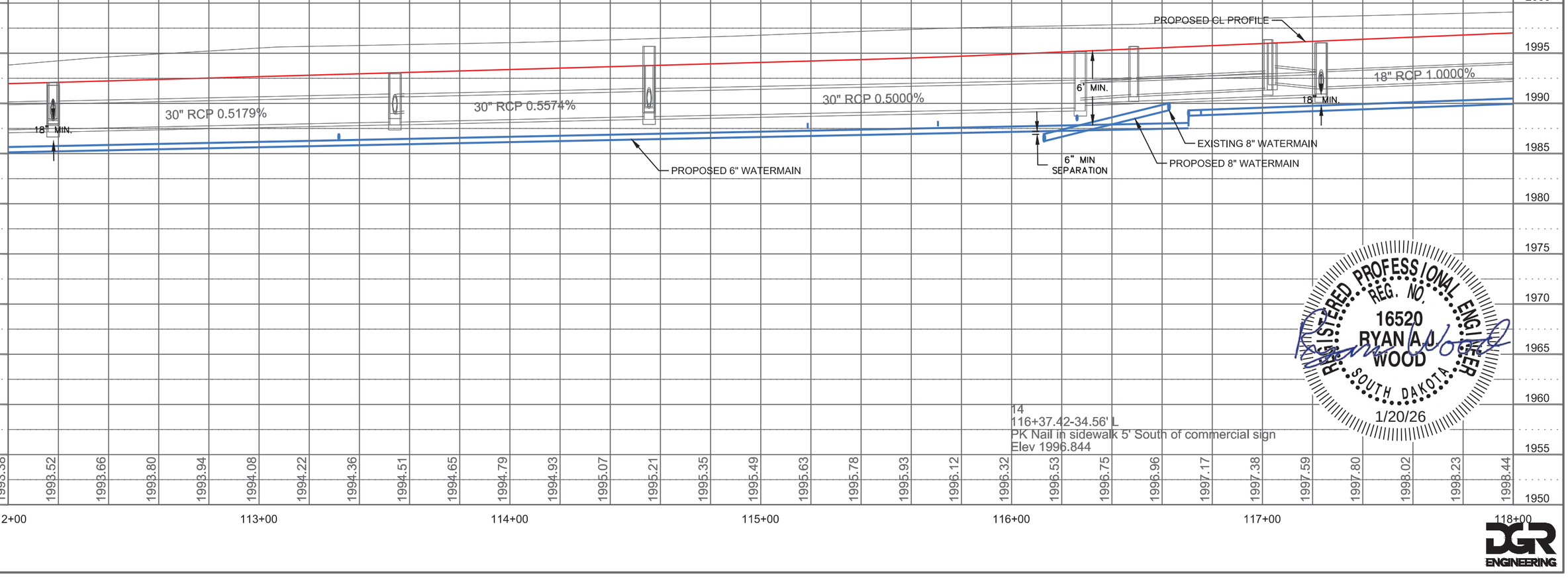
FILE: P:\06\74110\674110\5_DRAWINGS\PLANS\674110_UTILITY PLAN AND PROFILE

FOR BIDDING PURPOSES ONLY

TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	9	24

FILE: 674110_UTILITY PLAN AND PROFILE
PLOTTING DATE: 1/20/2026 REVISED: 1/20/2026 RAW





14
116+37.42-34.56' L
PK Nail in sidewalk 5' South of commercial sign
Elev 1996.844

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
16520
RYAN A.J.
WOOD
SOUTH DAKOTA
1/20/26

DGR ENGINEERING

FILE: P:\06\74\110\674110\5_DRAWINGS\PLANS\674110_UTILITY PLAN AND PROFILE

SD HWY 28 / MAIN AVE UTILITY PLAN

FOR BIDDING PURPOSES ONLY

TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	10	24

FILE: 674110_UTILITY PLAN AND PROFILE
PLOTTING DATE: 10/1/2025 REVISED: 10/1/2025

0 20 40

REMOVE WATER MAIN
Sta. 119+88.92-39.85'LT to Sta. 119+89.53-48.55'LT
9 FT - Remove Water Main
Sta. 119+87.71-36.17'RT to Sta. 119+87.81-46.17'RT
10 FT - Remove Water Main
Sta. 123+70.88-51.17'LT to Sta. 123+71.35-59.64'LT
9 FT - Remove Water Main
Sta. 123+67.80-37.62'RT Sta. 123+67.65-46.51'RT
9 FT - Remove Water Main

REMOVE VALVE BOX
119+58.55-28.25'LT
119+63.07-11.10'LT
119+81.81-6.63'LT
123+38.57-26.54'LT
123+71.10-7.44'LT

REMOVE FIRE HYDRANT
119+58.41-30.83'LT
123+38.55-31.20'LT

REMOVE CURB STOP
Sta. 118+50.95 - LT
Sta. 118+55.10 - RT
Sta. 119+29.77 - LT
Sta. 119+47.21 - RT
Sta. 120+50.88 - LT
Sta. 121+16.96 - LT
Sta. 121+96.05 - LT
Sta. 122+39.94 - RT

INSTALL WATER MAIN
Sta. 118+00.00-16.57'LT to Sta. 124+00.00-15.94'LT
460 LF - 6" PVC Water Main
140 LF - 6" PVC Restrained Joint Water Main
4 EA - 6" Gate Valve with Box

Sta. 119+89.53-48.55'LT to Sta. 119+87.81-46.17'RT
105 LF - 6" PVC Restrained Joint Water Main
3 EA - 6" Gate Valve with Box
1 EA - 6"x6" Pipe Cross
4 EA - 6" Pipe Bend (90°)
2 EA - 6" Pipe Sleeve
2 EA - Cut and Tie to Existing Water Main
2 EA - 6" Pipe Cap

Sta. 123+71.35-59.64'LT to Sta. 123+67.65-46.51'RT
118 LF - 6" PVC Restrained Joint Water Main
3 EA - 6" Gate Valve with Box
1 EA - 6"x6" Pipe Cross
4 EA - 6" Pipe Bend (90°)
2 EA - 6" Pipe Sleeve
2 EA - Cut and Tie to Existing Water Main
2 EA - 6" Pipe Cap

Sta. 119+43.43-16.57'LT to Sta. 119+43.43-33.16'LT
17 LF - 6" PVC Water Main
1 EA - 6"x6" Pipe Tee
1 EA - 6" Gate Valve With Box
1 EA - Standard Fire Hydrant

Sta. 123+37.98-16.24'LT to Sta. 123+37.93-33.18'LT
17 LF - 6" PVC Water Main
1 EA - 6"x6" Pipe Tee
1 EA - 6" Gate Valve With Box
1 EA - Standard Fire Hydrant

INSTALL 1" WATER SERVICE
Sta. 118+50.53-32.15'LT - 16 LF
Sta. 118+58.38-32.30'RT - 49 LF
Sta. 118+68.41-32.15'LT - 16 LF
Sta. 119+29.30-32.16'LT - 16 LF
Sta. 119+47.97-32.15'RT - 49 LF
Sta. 120+60.25-32.17'LT - 16 LF
Sta. 120+78.97-32.15'RT - 49 LF
Sta. 121+20.16-32.15'RT - 49 LF
Sta. 121+37.47-32.15'RT - 49 LF
Sta. 121+86.95-32.15'RT - 49 LF
Sta. 121+95.50-32.16'LT - 16 LF
Sta. 122+39.42-32.14'RT - 49 LF
Sta. 122+90.72-32.26'RT - 49LF
13 EA - 1" Corporation Stop with Tapping Saddle
13 EA - 1" Curb Stop with Box
11 EA - Reconnect Water Service
8 EA - Temporary Water Service
4 EA - Locate Utility*

445 MAIN AVE
FIRST BANK TRUST
MILBANK

485 MAIN AVE
TORONTO CAFE
& LOUNGE

6" PVC

CONNECT TO EXISTING WATER MAIN,
SEE SHEET 22 FOR CONNECTION DETAIL

595 MAIN AVE
ROELOTSON
IMPLEMENT, INC

CONNECT TO EXISTING WATER MAIN(1),
SEE SHEET 23 FOR CONNECTION DETAIL

118+00 119+00 120+00 121+00 122+00 123+00 124+00

ABANDON EXISTING WATER MAIN

SD HWY 28 / MAIN AVE

30" BORE

MISSOURI STREET

CONNECT TO EXISTING WATER MAIN,
SEE SHEET 22 FOR CONNECTION DETAIL

460 MAIN AVE
TOWN OF TORONTO

480 MAIN AVE
BUCH'S

6" PVC

DAKOTA STREET

500 MAIN AVE
TROOIEN AUTO
CENTER

APPROX. BUILDING

540 MAIN AVE
POST OFFICE

550 MAIN AVE
CARLSON'S GARAGE

APPROX. BUILDING

570 MAIN AVE
ERIC & MICHELLE
OFTEDAHL

BRADLEY
& CARIE
KNUTSON

CONNECT TO EXISTING WATER MAIN(1),
SEE SHEET 23 FOR CONNECTION DETAIL

305 MAIN AVE
DANIELLE
KROSCHEL

APPROX. BUILDING

NOTES:

1. ALL MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED.
2. *LOCATE EXISTING WATER SERVICE PRIOR TO TAPPING WATER MAIN AND INSTALLATION OF PROPOSED SERVICE.

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
16520
RYAN A.J.
WOOD
SOUTH DAKOTA
10/1/25

* VERIFY EXISTING WATER SERVICE

DGR ENGINEERING

FILE: P:\06\674110\674110\5_DRAWINGS\PLANS\674110_UTILITY PLAN AND PROFILE

FOR BIDDING PURPOSES ONLY

TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	11	24

FILE: 674110_UTILITY PLAN AND PROFILE
PLOTTING DATE: 9/18/2025 REVISED:

2045
2040
2035
2030
2025
2020
2015
2010
2005
2000
1995
1990
1985
1980
1975
1970
1965
1960
1955

FLL (S) 1993.45

PROPOSED CL PROFILE

18" RCP 1.0000%

18" RCP 1.2500%

18" RCP 0.5000%

6' MIN.

18" RCP 0.5000%

18" MIN.

18" MIN.

18" MIN.

18" MIN.

PROPOSED 6" WATERMAIN

1998.44 1998.65 1998.86 1999.07 1999.29 1999.50 1999.69 1999.85 2000.00 2000.11 2000.21 2000.28 2000.32 2000.35 2000.34 2000.32 2000.27 2000.21 2000.15 2000.08 1999.97 1999.83 1999.66 1999.45 1999.21 1998.97 1998.72 1998.47 1998.22 1997.98 1997.73

118+00 119+00 120+00 121+00 122+00 123+00 124+00

13
119+67.70-34.75' L
PK Nail in sidewalk 4' NW power pole
Elev 1999.960

12
123+36.22-34.
PK Nail in sidewa... power pole
Elev 1998.671

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
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WOOD
SOUTH DAKOTA
9/18/25

DGR ENGINEERING

FILE: P:\067\A1\10\674110\5_DRAWINGS\PLANS\674110_UTILITY PLAN AND PROFILE

TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	12	24

FILE: 674110_UTILITY PLAN AND PROFILE
PLOTTING DATE: 10/1/2025 REVISED: 10/1/2025

FOR BIDDING PURPOSES ONLY

SD HWY 28 / MAIN AVE UTILITY PLAN

0 20 40

REMOVE WATER MAIN
Sta. 127+40.86-31.22'LT to Sta. 127+93.74-44.50'LT
135 FT - Remove Water Main

REMOVE VALVE BOX
Sta. 127+28.06-8.39'LT
Sta. 127+43.81-31.20'LT
Sta. 127+59.74-32.08'LT

REMOVE FIRE HYDRANT
127+40.86-31.22'LT

REMOVE CURB STOP
Sta. 124+58.62 - RT
Sta. 125+40.55 - LT

INSTALL WATER MAIN
Sta. 127+47.83-7.83'LT
1 EA - 6" Pipe Cap

Sta. 124+00.00-15.94'LT to Sta. 127+54.37-12.38'LT
295 LF - 6" PVC Water Main
60 LF - 6" PVC Restrained Joint Water Main
1 EA - 6" Gate Valve with Box

Sta. 127+54.77-34.04'LT to Sta. 128+10.54-33.08'LT
12 LF - 4" PVC Water Main
56 LF - 6" PVC Restrained Joint Water Main
1 EA - 6"x4" Pipe Tee
1 EA - 4" Pipe Bend (22.5°)
1 EA - 6" Gate Valve With Box
1 EA - Standard Fire Hydrant
1 EA - Cut and Tie to Existing Water Main

Sta. 127+54.86-40.60'LT to Sta. 127+53.67-31.31'RT
5 LF - 4" PVC Water Main
69 LF - 6" PVC Restrained Joint Water Main
1 EA - 4" Gate Valve with Box
1 EA - 6" Gate Valve with Box
1 EA - 6"x4" Pipe Tee
1 EA - 6"x6" Pipe Tee
1 EA - 6"x4" Pipe Reducer
1 EA - 6" Pipe Sleeve
2 EA - Cut and Tie to Existing Water Main

INSTALL 1" WATER SERVICE
Sta. 124+58.62-32.13'RT - 48 LF
Sta. 125+40.55-32.16'LT - 18 LF
Sta. 126+12.18-33.51'RT - 48 LF
3 EA - 1" Corporation Stop with Tapping Saddle
3 EA - 1" Curb Stop with Box
3 EA - Reconnect Water Service
2 EA - Temporary Water Service
1 EA - Locate Utility*

655 MAIN AVE
LEGANGER EVANGELICAL
LUTHERAN CHURCH

4" EXISTING WATER MAIN

CONNECT TO EXISTING WATER MAIN
SEE SHEET 24 FOR CONNECTION DETAIL

6" PVC

ABANDON EXISTING WATER MAIN

124+00 125+00 126+00 127+00 128+00 129+00 130+00

SD HWY 28 / MAIN AVE

6" EXISTING WATER MAIN

CONNECT TO EXISTING WATER MAIN
SEE SHEET 24 FOR CONNECTION DETAIL

600 MAIN AVE
TORONTO I-STOP

650 MAIN AVE
OVERBY BROS.

FRONTIER STREET

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
16520
RYAN A.J.
WOOD
SOUTH DAKOTA
10/1/25

NOTES:

1. ALL MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED.
2. *LOCATE EXISTING WATER SERVICE PRIOR TO TAPPING WATER MAIN AND INSTALLATION OF PROPOSED SERVICE.

* VERIFY EXISTING WATER SERVICE

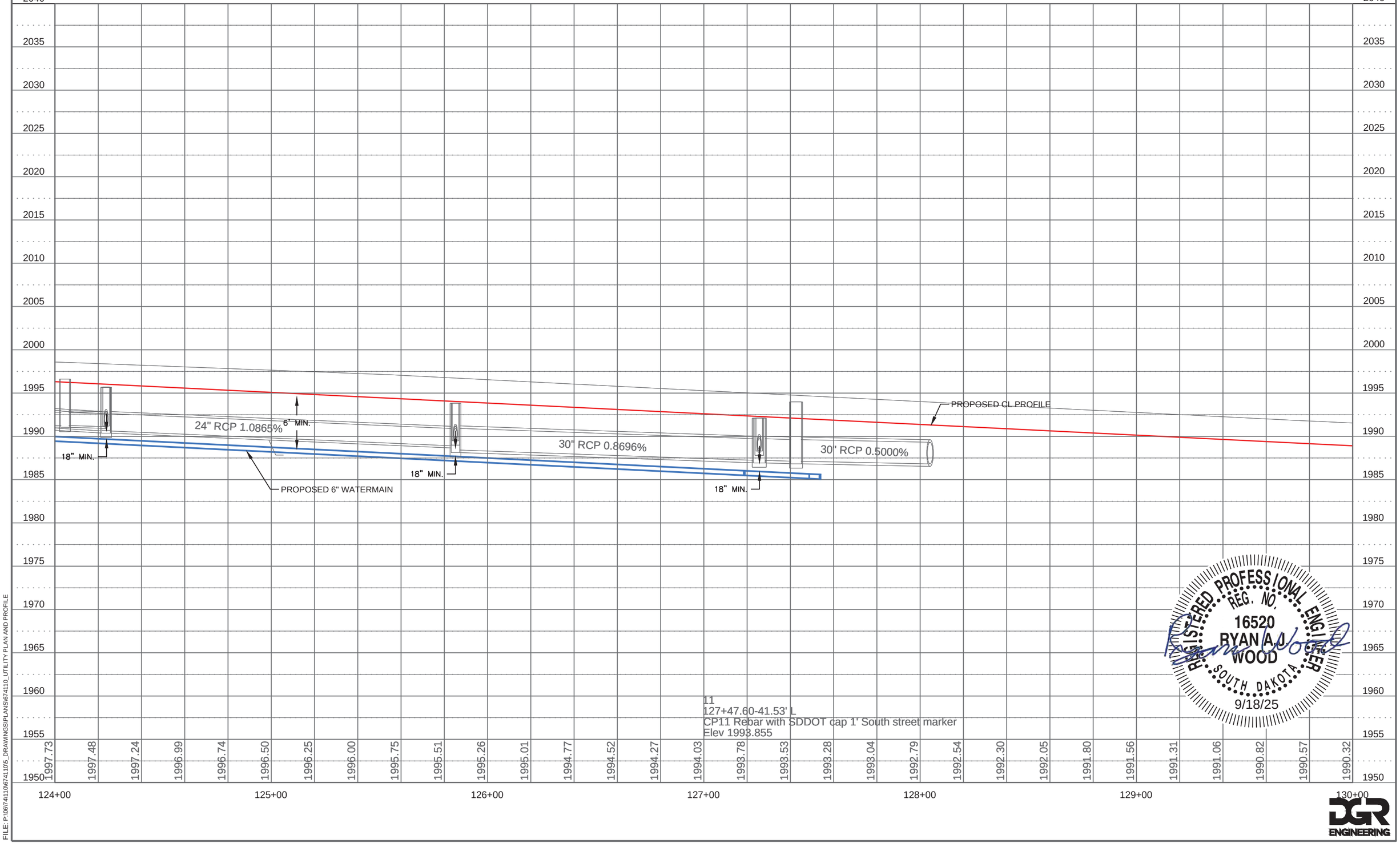
DGR ENGINEERING

FILE: P:\06\74\110\674110\5_DRAWINGS\PLANS\674110_UTILITY PLAN AND PROFILE

FOR BIDDING PURPOSES ONLY

TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	13	24

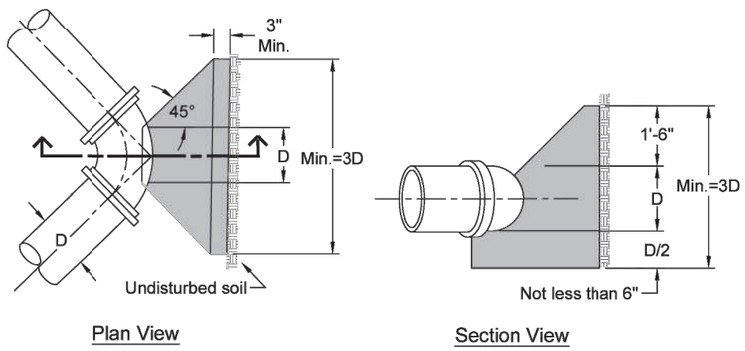
FILE: 674110_UTILITY PLAN AND PROFILE
PLOTTING DATE: 9/18/2025 REVISED:



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
16520
RYAN A.J.
WOOD
SOUTH DAKOTA
9/18/25

DGR ENGINEERING

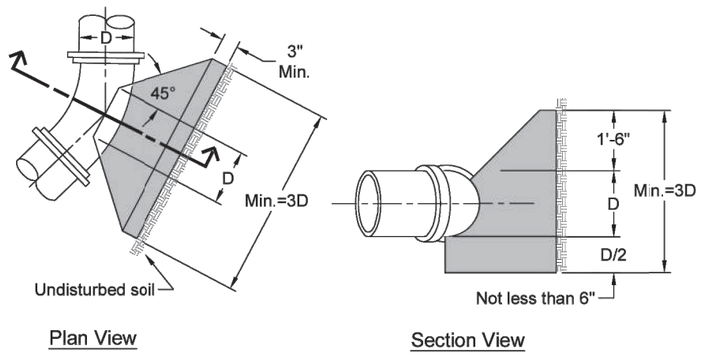
FILE: P:\06\74\110\674110\5_DRAWINGS\PLANS\674110_UTILITY PLAN AND PROFILE



Plan View

Section View

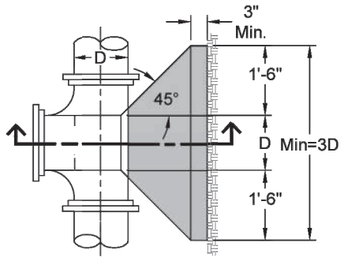
90 - Degree Bend



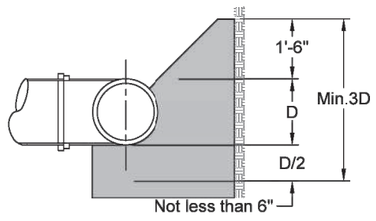
Plan View

Section View

11 1/4 - Degree, 22 1/2 - Degree and 45 - Degree Bends

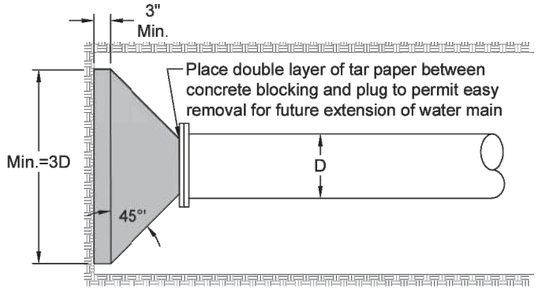


Plan View



Section View

Tee



S.J./M.J. Plug

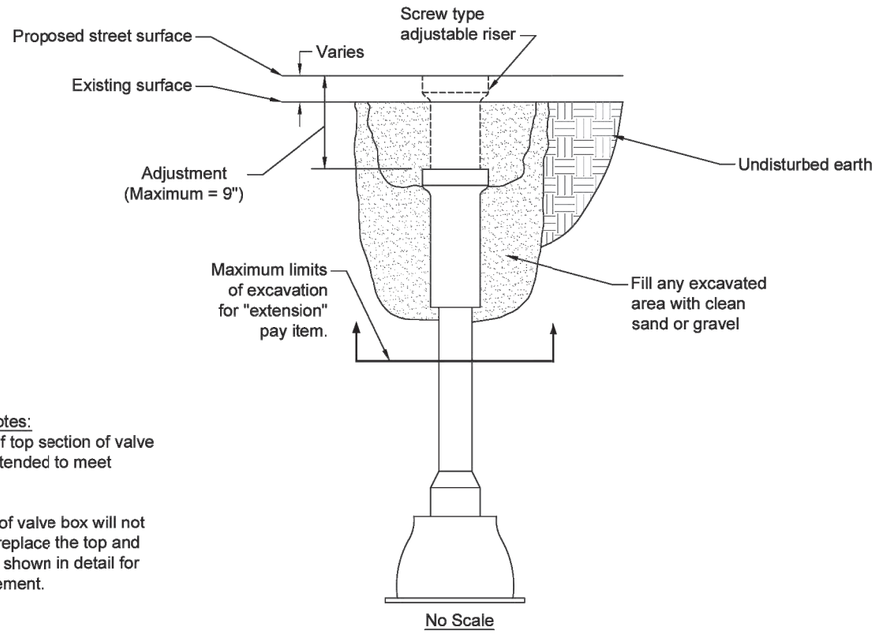
REGISTERED PROFESSIONAL ENGINEER
REG. NO.
16520
RYAN AJ
WOOD
SOUTH DAKOTA
9/18/25

CONCRETE THRUST BLOCKS

DGR ENGINEERING

FILE: P:\0674\110\674110\5_DRAWINGS\PLANS\674110_DETAILS

Valve Box Extension
(or replacement of top section)

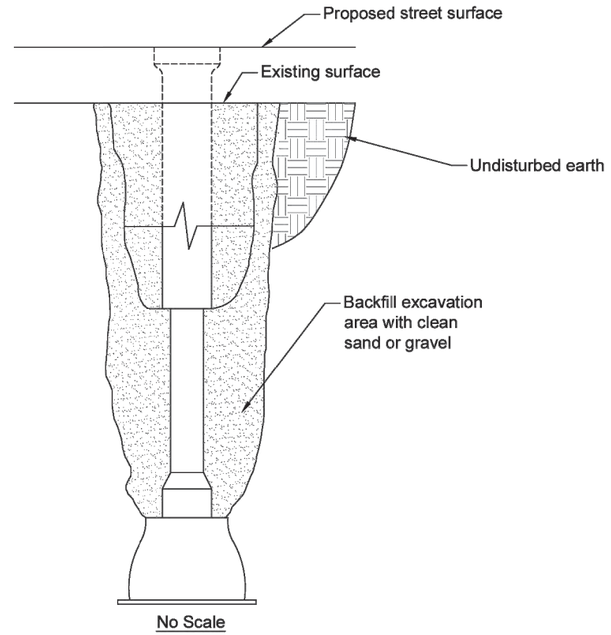


No Scale

Valve Box Extension Notes:

1. Use this method if top section of valve box cannot be extended to meet proposed grade.
2. If the top section of valve box will not accept the riser, replace the top and center section as shown in detail for valve box replacement.

Valve Box Installation



No Scale

General Notes:

1. Non-threaded adjustments will not be allowed.
2. Plumb valve box prior to backfilling. All valve boxes shall be adjusted to be flush with the pavement surface prior to placement of the pavement surfacing. The allowable vertical tolerance between the pavement surface and any part of the valve box shall be 0" to $\frac{1}{2}$" low. In no case shall the valve box be above the surface of the pavement.
3. It shall be the contractor's responsibility to provide a system to prevent material from entering the valve box during the work.
4. All adjustments shall be completed prior to opening up the street to traffic.

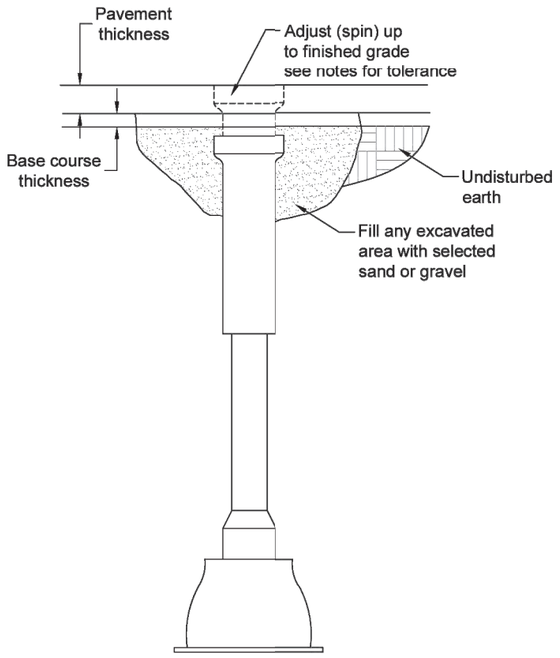
VALVE BOX EXTENSION AND INSTALLATION

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
16520
RYAN A J
WOOD
SOUTH DAKOTA
9/18/25

DGR ENGINEERING

FILE: P:\0674110\674110\5_DRAWINGS\PLANS\674110_DETAILS

Spin Up Method



No Scale

Spin Up Method:

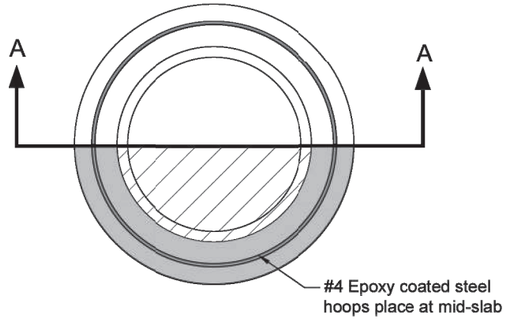
1. Use this method if top section of valve box can be adjusted to finished grade.

2. If the 0" to 1/2" tolerance cannot be met by the "spin up" method on asphalt streets, then the contractor shall be required to adjust the valve box by the circular cutout method. This additional work, if required, shall be incidental to the "valve box adjustment" bid item.

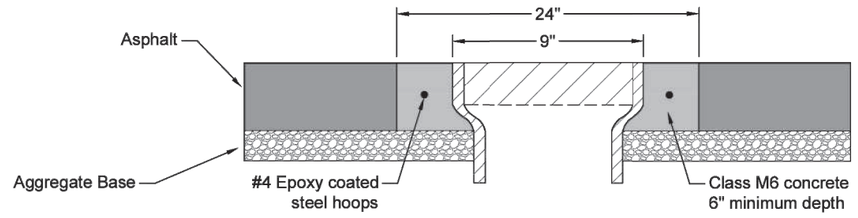
3. If the 0" to 1/2" tolerance can not be met by the "spin up" method on concrete streets, the repair method will be determined by the engineer. This additional work shall be incidental to the "valve box adjustment" bid item.

4. If the valve box needs minor adjustment, a minimal amount of heat can be applied to break the bond between the valve box and the asphalt. Full depth heating of the asphalt will not be allowed. If the asphalt appears to show signs of deterioration, it will be at the discretion of the engineer to require the cut out method.

Cutout Method



Circular Valve Box Cutout



Section A-A

Cut Out Method:

1. The circular concrete cutout shall be centered on the valve box frame.

2. The circular concrete cutout shall be constructed after the installation of the top lift of asphalt. The pavement shall be sawed full depth with a vertical face. The contractor shall ensure that the adjacent asphalt surface is left intact and undamaged when removing the circular cutout.

3. The circular concrete cutout diameter shall be 24".

4. Apply tack coat to the vertical asphalt surfaces prior to placement of concrete cutout.

5. Class M6 concrete shall be used for the cutout. Fast track concrete may be used at the discretion of the engineer.

6. Steel reinforcing shall be epoxy coated grade 40.

7. Steel reinforcing shall consists of #4 hoops (variable length) supported by approved chairs.

8. Maintain a minimum of 2" clearance on all steel reinforcing.

9. All work associated with constructing the circular concrete cutout, including, but not limited to: all materials, sawing, steel reinforcing, chairs, concrete, labor, tools, removal and replacement, excavation and backfilling and other appurtenances shall be incidental to the "valve box adjustment" bid item.

General Notes:

1. Non-threaded adjustments will not be allowed.
2. Plumb valve box prior to backfilling. All valve boxes shall be adjusted to be flush with the pavement surface prior to placement of the pavement surfacing. The allowable vertical tolerance between the pavement surface and any part of the valve box shall be 0" to $\frac{1}{2}$" low. In no case shall the valve box be above the surface of the pavement.
3. It shall be the contractor's responsibility to provide a system to prevent material from entering the valve box during the work.
4. All adjustments shall be completed prior to opening up the street to traffic.

VALVE BOX ADJUSTMENT

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9/18/25

DGR ENGINEERING

FOR BIDDING PURPOSES ONLY

TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	17	24

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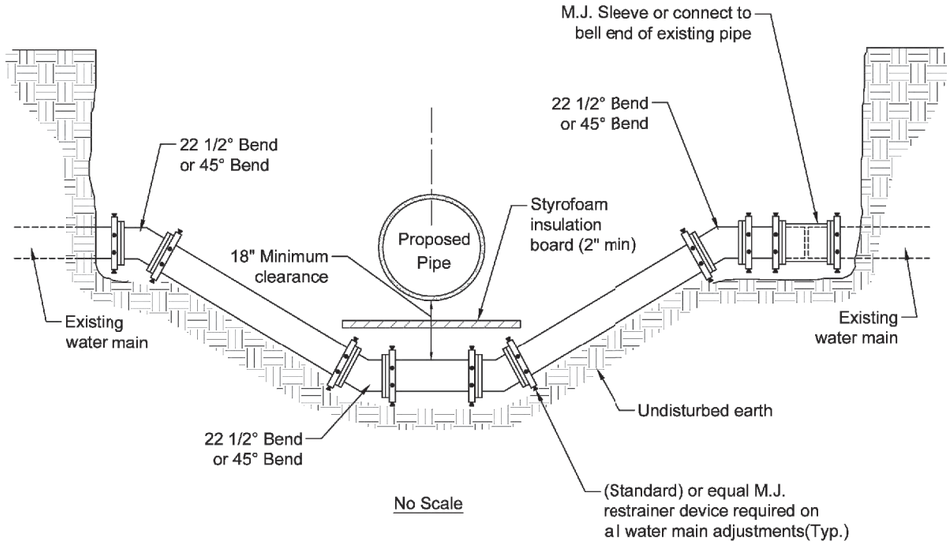
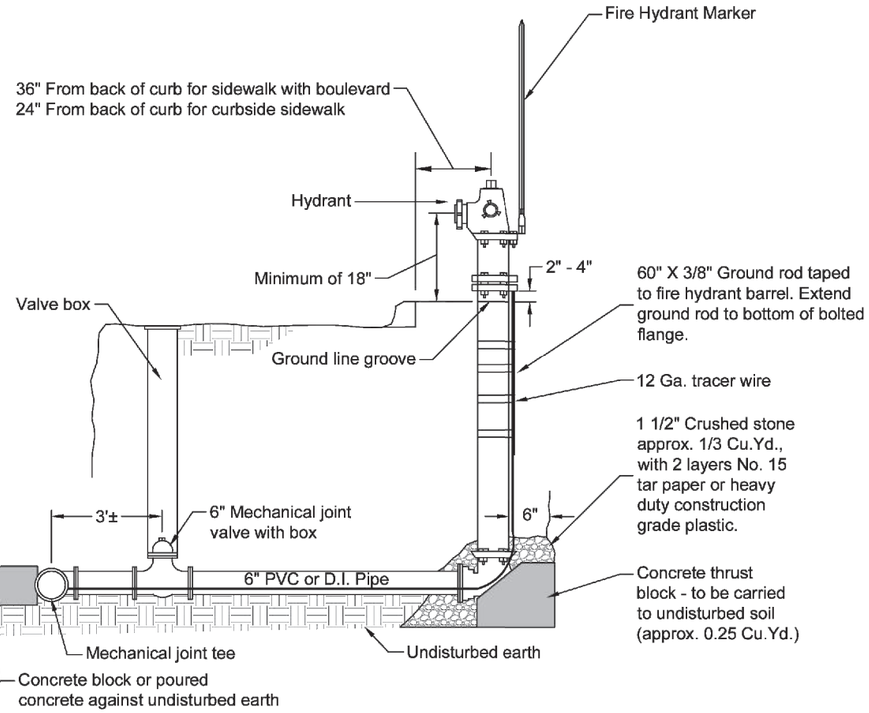


General Notes:

1. The pipe, fittings and restrainer devices shall be bid as separate items from the water main adjustment.
2. All exposed pipe joints shall be restrained

WATER MAIN ADJUSTMENT



General Notes:

1. Hydrant grade to be shown on plans.
2. Valve on fire hydrant lateral shall be restrained.
3. All exposed pipe joints shall be restrained on hydrant lateral.
4. Install V-bio polywrap on fire hydrant barrel to the ground surface before installing tracer wire system. Do not cover weep holes with polywrap.

HYDRANT CONNECTION

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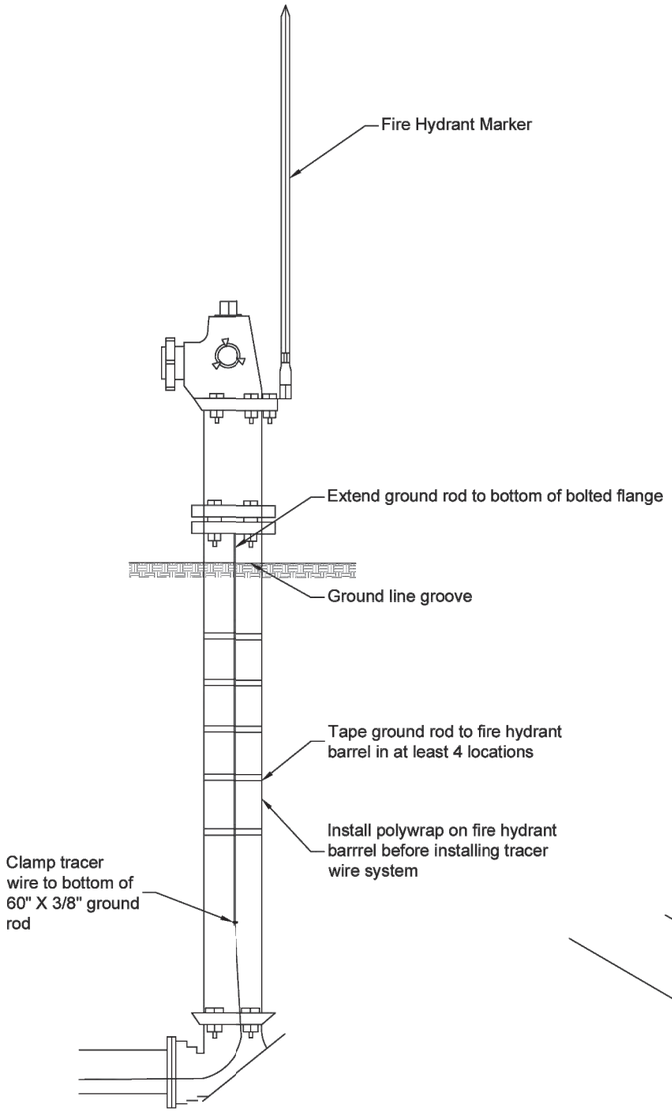
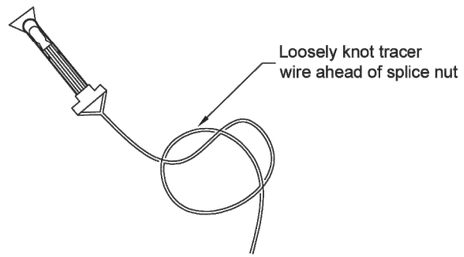
TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	18	24

FILE: 674110_DETAILS
PLOTTING DATE: 9/18/2025 REVISED:



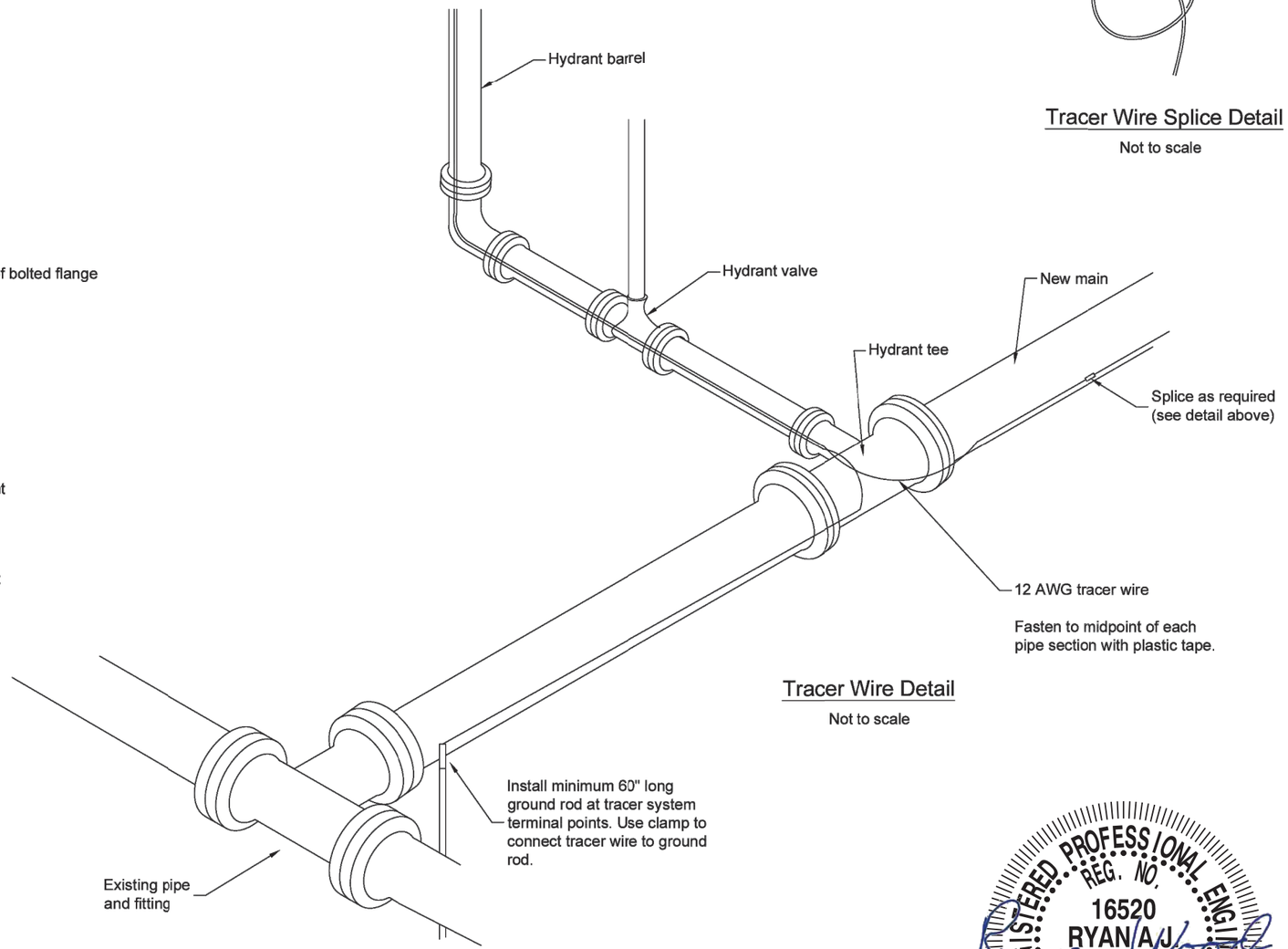
Tracer Wire Detail at Fire Hydrant

Not to scale



Tracer Wire Splice Detail

Not to scale



Tracer Wire Detail

Not to scale

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TRACER WIRE

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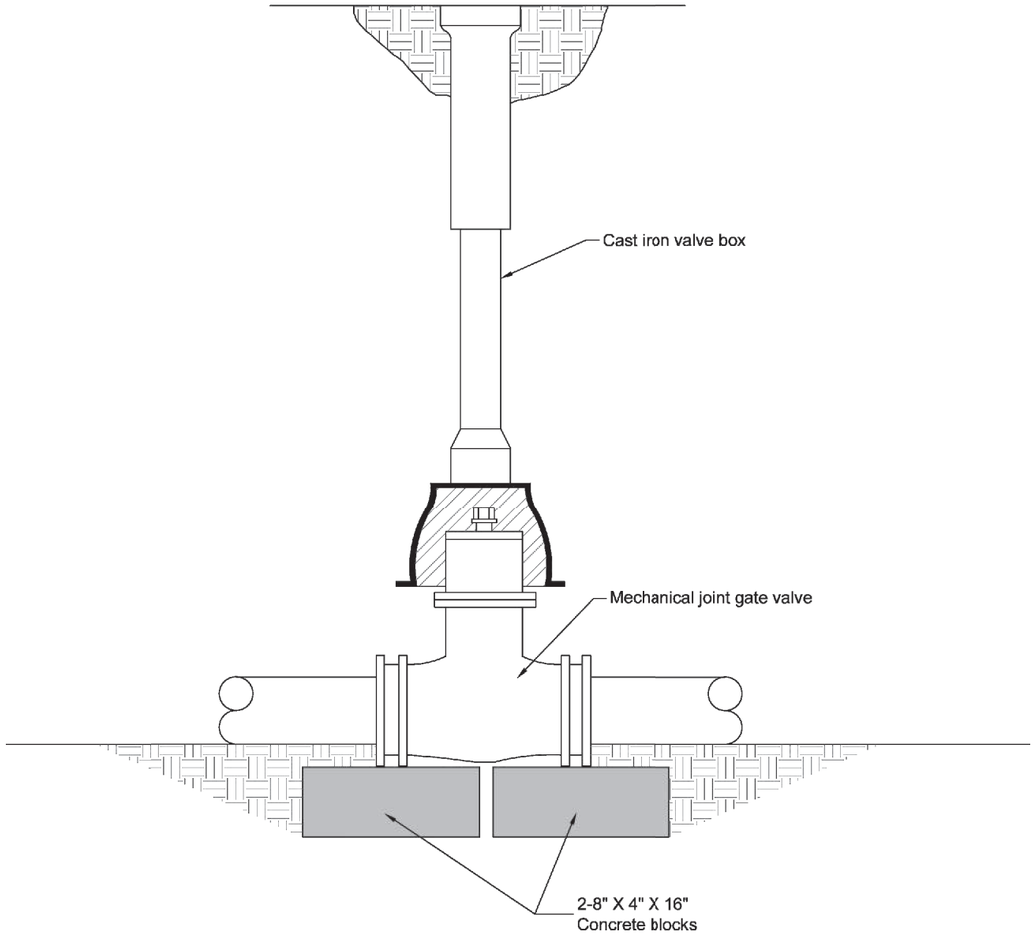
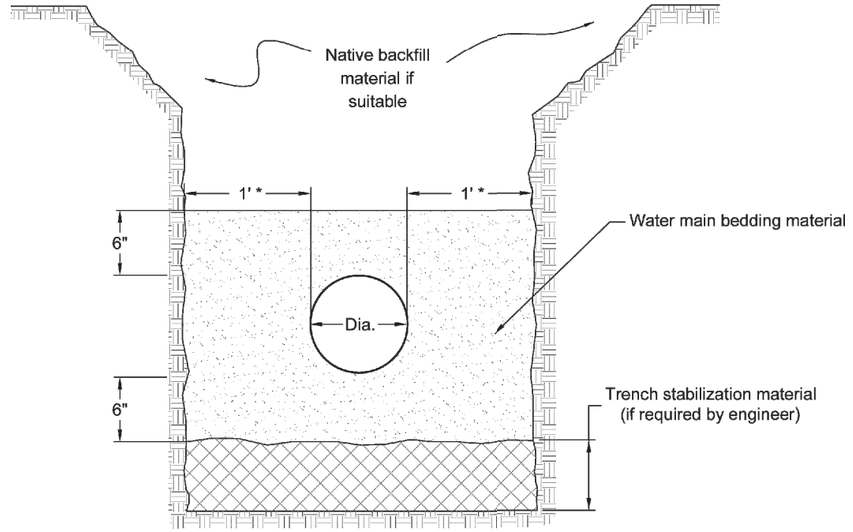
TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	19	24

FILE: 674110_DETAILS
PLOTTING DATE: 9/18/2025 REVISED:



PVC GATE VALVE INSTALLATION



Pipe Size Diameter	Trench Width	Trench Height	Trench Area	Pipe Area	Water Main Bedding Mat. Area	Water Main Bedding Mat. Tons/LF
4"	28"	16"	3.11 Sq.Ft.	.09 Sq.Ft.	3.02 Sq.Ft.	0.21
6"	30"	18"	3.75 Sq.Ft.	.20 Sq.Ft.	3.55 Sq.Ft.	0.25
8"	32"	20"	4.44 Sq.Ft.	.35 Sq.Ft.	4.10 Sq.Ft.	0.29
10"	34"	22"	5.19 Sq.Ft.	.55 Sq.Ft.	4.65 Sq.Ft.	0.33
12"	36"	24"	6.00 Sq.Ft.	.79 Sq.Ft.	5.22 Sq.Ft.	0.37
16"	40"	28"	7.78 Sq.Ft.	1.40 Sq.Ft.	6.38 Sq.Ft.	0.45
20"	44"	32"	9.78 Sq.Ft.	2.18 Sq.Ft.	7.60 Sq.Ft.	0.53
24"	48"	36"	12.00 Sq.Ft.	3.14 Sq.Ft.	8.86 Sq.Ft.	0.62
30"	60"	42"	17.50 Sq.Ft.	4.91 Sq.Ft.	12.59 Sq.Ft.	0.88

* If >30" use dia./2 on each side of water main pipe.

* Length based on one (1) foot of main.

WATER MAIN BEDDING

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TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	20	24

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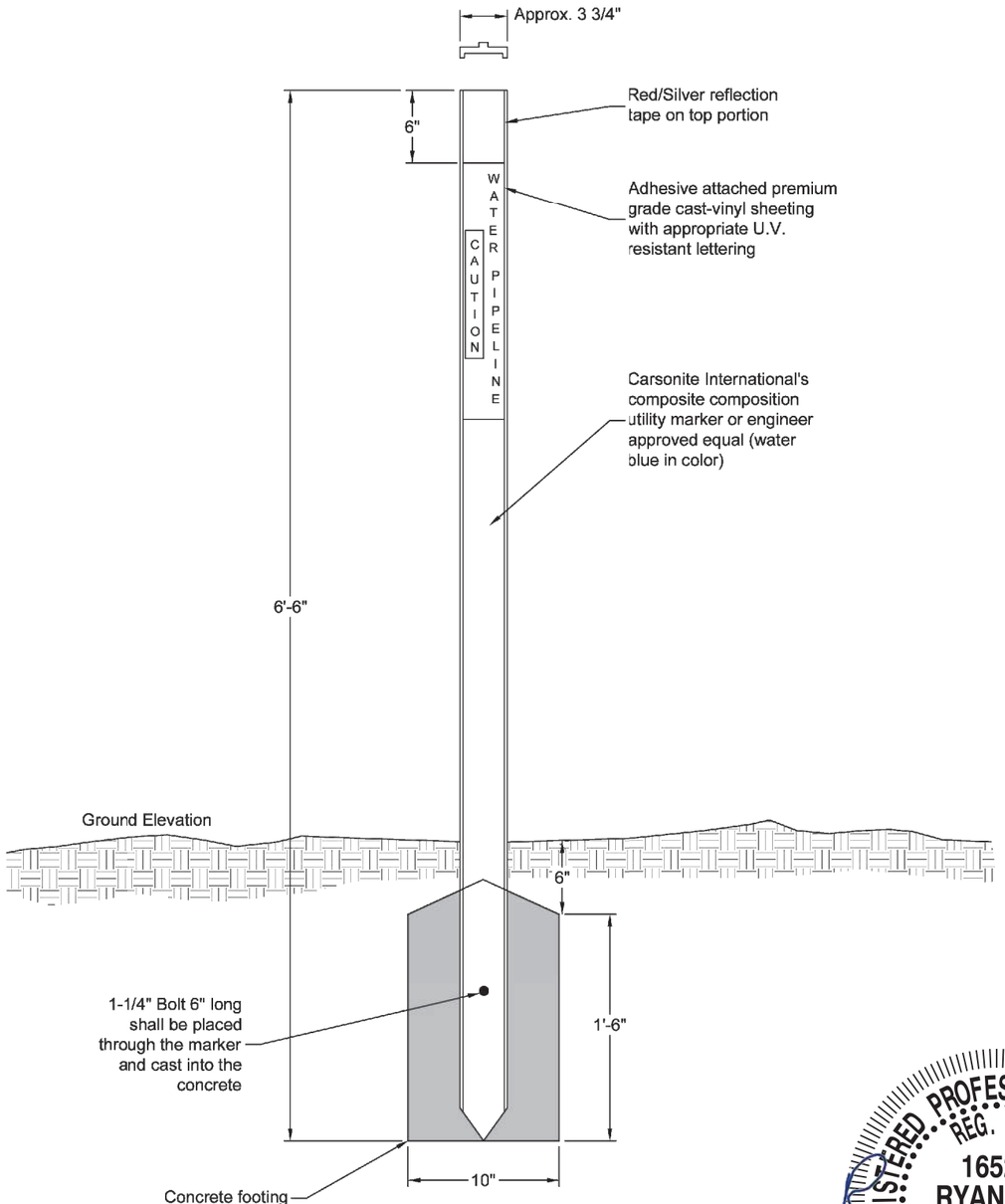
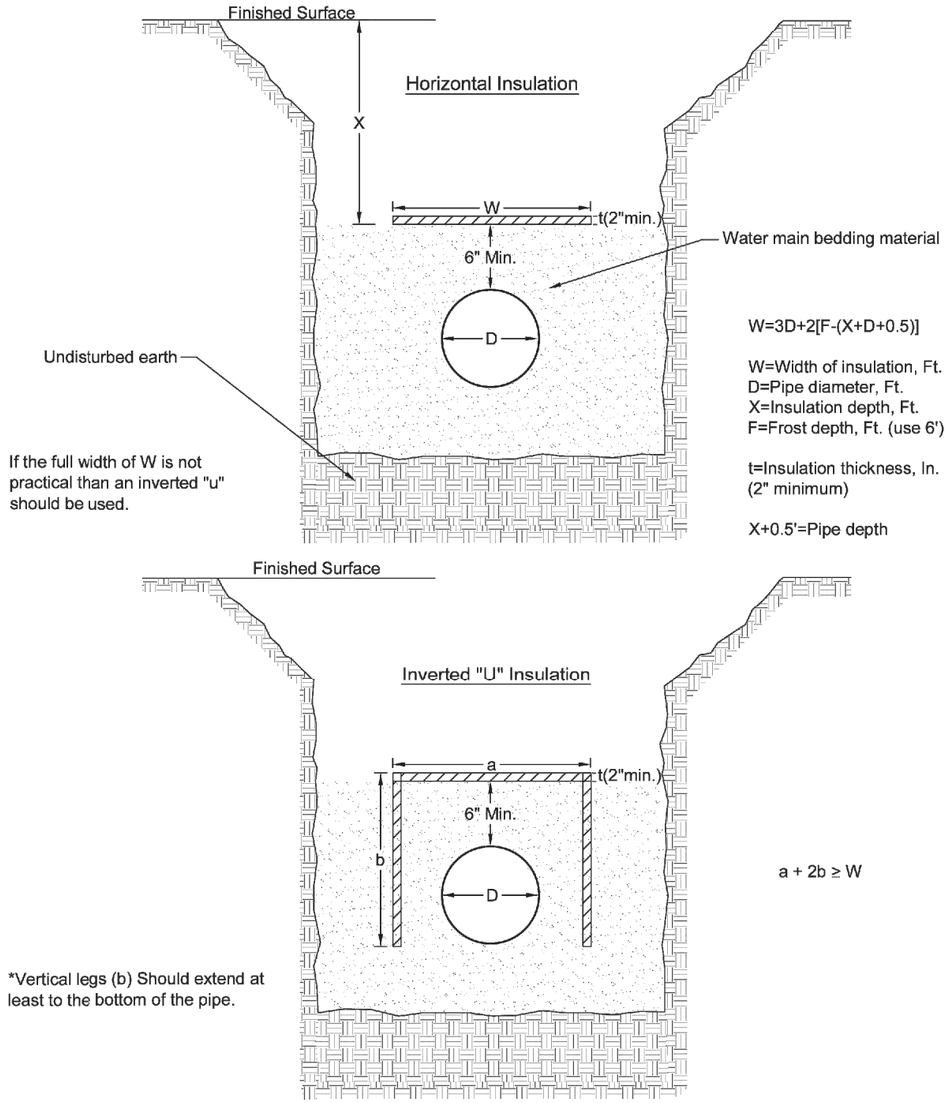
FILE: 674110_DETAILS
PLOTTING DATE: 9/18/2025 REVISED:

NOTES:

Valve box markers shall be placed near any valve or curb stop located outside of pavement. This shall be incidental to the item it is placed near.



VALVE BOX MARKER



*Vertical legs (b) Should extend at least to the bottom of the pipe.

**This detail is a general guideline. Insulation of water main will be determined on a case by case situation depending on the following factors: depth, pipe diameter, flow, location, and proximity to bedrock. Insulation material and installation methods should follow the water main supplemental specification Sec. 300.

WATER MAIN INSULATION

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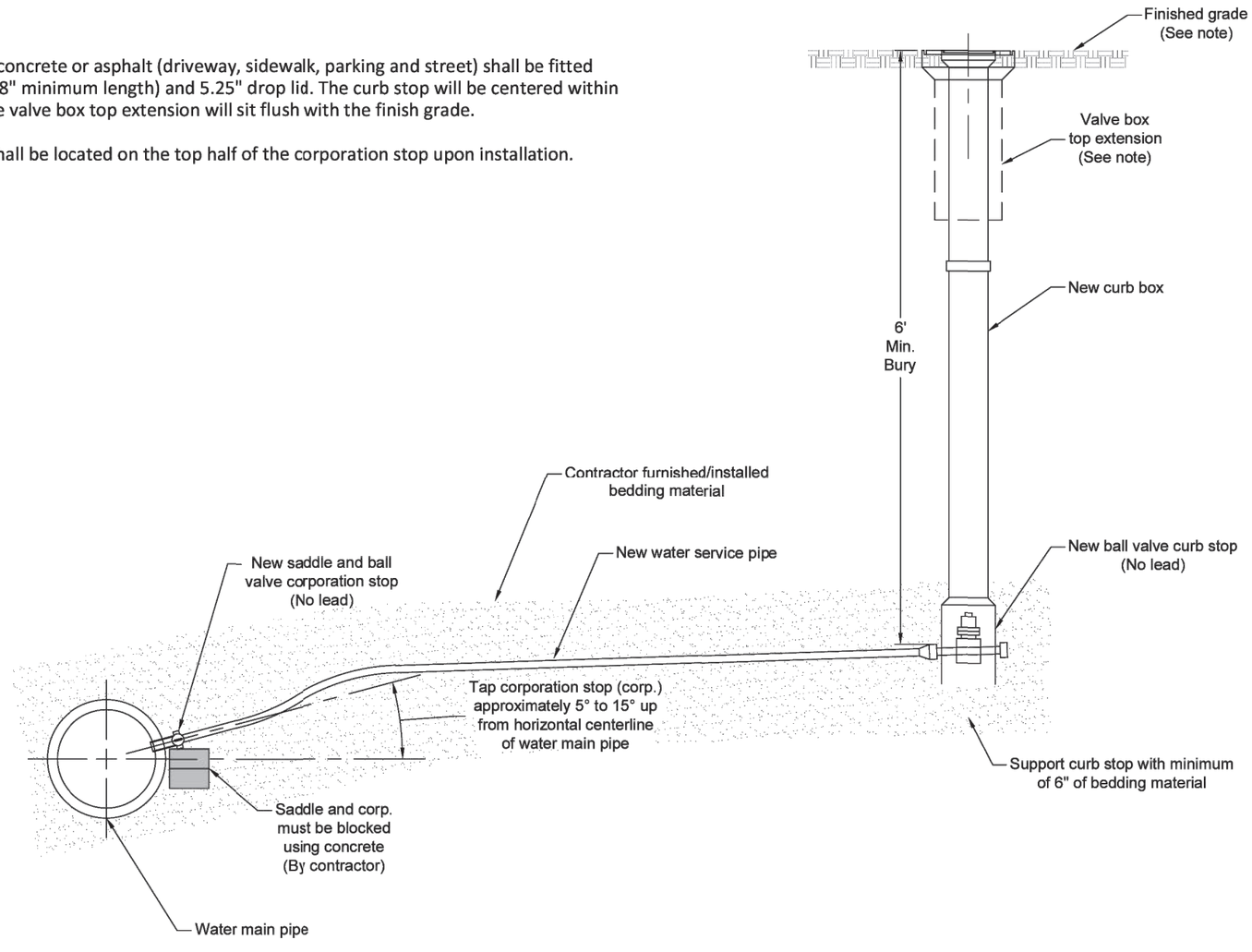
TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	21	24

FILE: 674110_DETAILS
PLOTTING DATE: 9/18/2025 REVISED:

General Notes:

1. Curb stop boxes located within concrete or asphalt (driveway, sidewalk, parking and street) shall be fitted with a valve box top extension (8" minimum length) and 5.25" drop lid. The curb stop will be centered within the valve box top extension. The valve box top extension will sit flush with the finish grade.

2. The ball valve operational nut shall be located on the top half of the corporation stop upon installation.



WATER SERVICE INSTALLATION

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9/18/25

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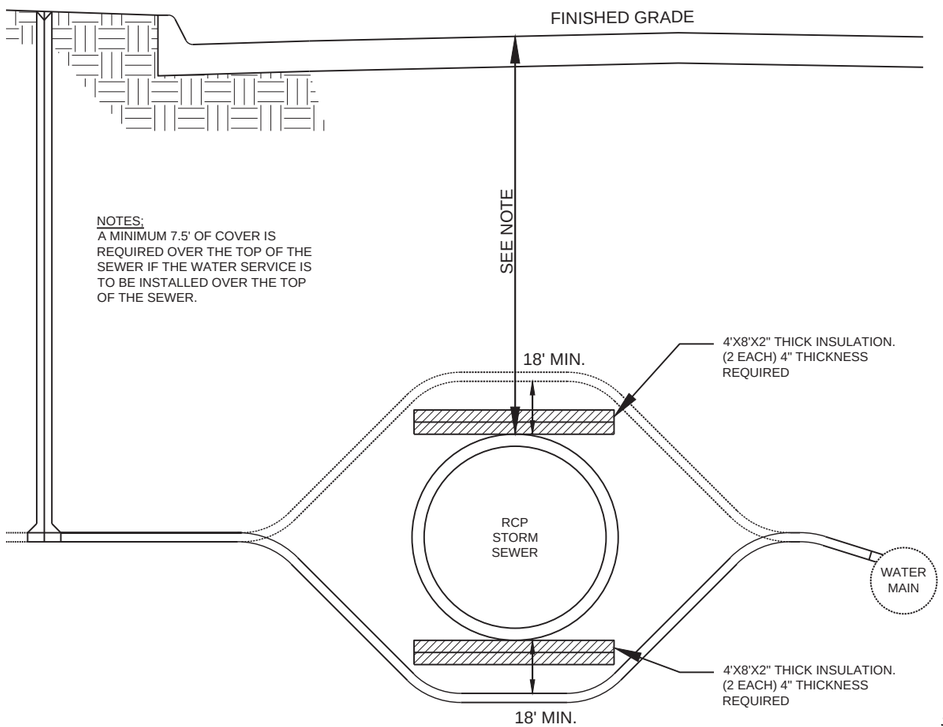
GENERAL

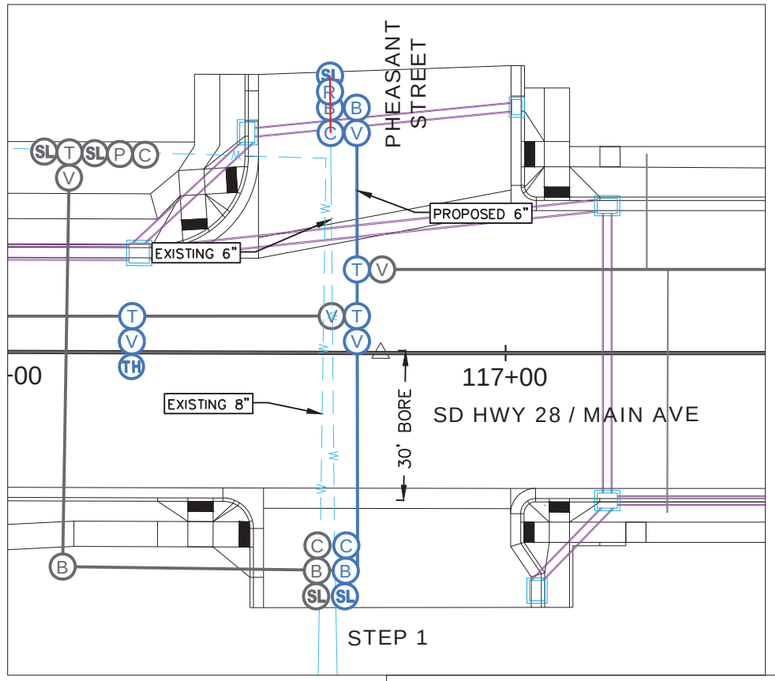
1. STYROFOAM INSULATION WILL BE A RIGID, EXTRUDED POLYSTYRENE BOARD INSULATION MEETING THE REQUIREMENTS OF ASTM C578 TYPE IV WITH A COMPRESSIVE STRENGTH OF 25 PSI (ASTM D1621). THE STYROFOAM INSULATION BOARD WILL BE INSTALLED ACCORDING TO THIS DETAIL OR AS DIRECTED BY THE ENGINEER.

2. WATER SERVICE INSTALLATION WILL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR WATER MAIN CONSTRUCTION.

3. ADDITIONAL WATER SERVICE AND STYROFOAM INSULATION USED IN THE WATER SERVICE ADJUSTMENT WILL BE PAID FOR PER THE RESPECTIVE BID ITEM. ALL OTHER ADDITIONAL LABOR, EQUIPMENT, AND MATERIAL REQUIRED TO MAKE THIS WATER SERVICE ADJUSTMENT WILL BE INCIDENTAL TO THE PROJECT.



WATER SERVICE ADJUSTMENT

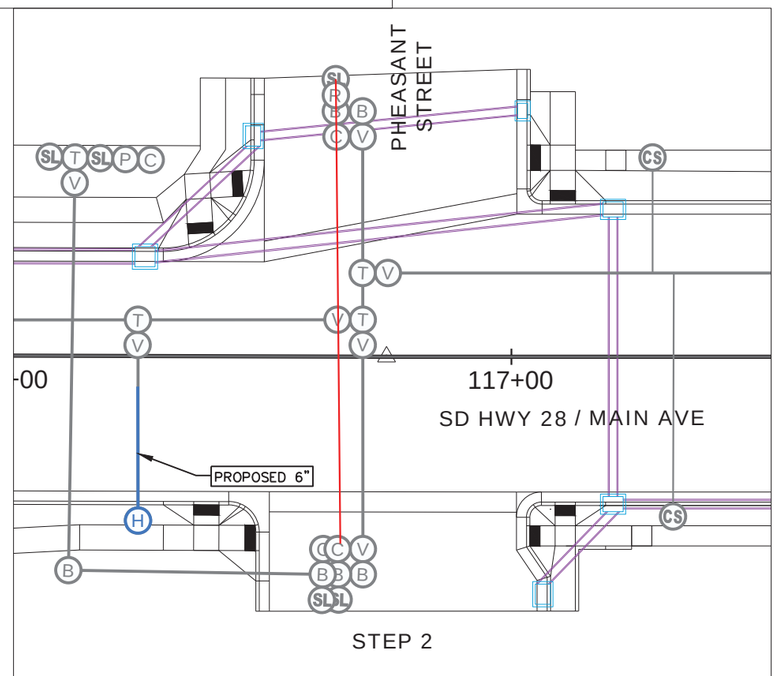


NOTES:

STEP 1 - Contractor shall install 6" water main along Pheasant street, north and south of Main avenue in Phase 1. The 6" water main shall be bored under the live roadway during Phase 1. A temporary hydrant shall be placed north of the live road during construction.

NOTES:

STEP 2 - Contractor shall remove temporary fire hydrant and install permanent fire hydrant after pavement removals for Phase 2 have been completed.



CONNECTION DETAIL A

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9/18/25

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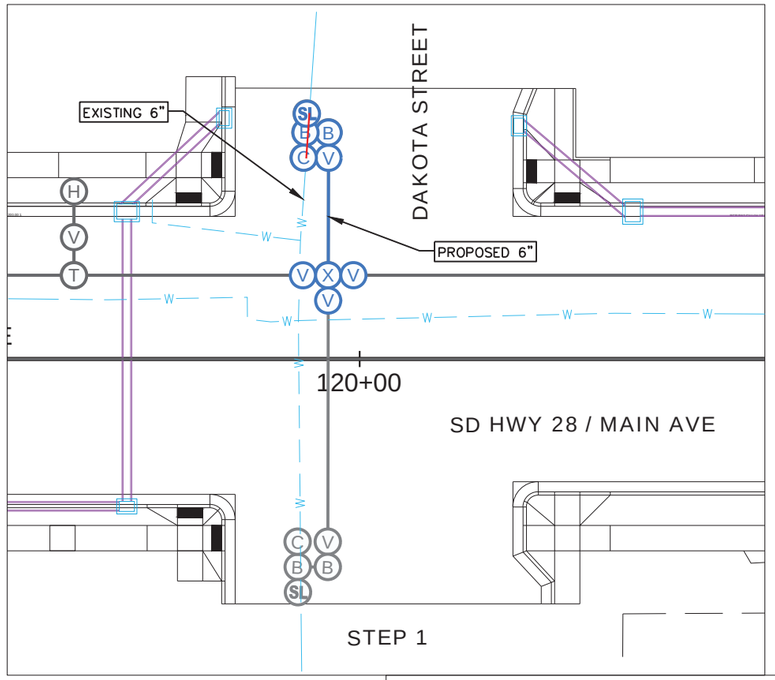
TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	23	24

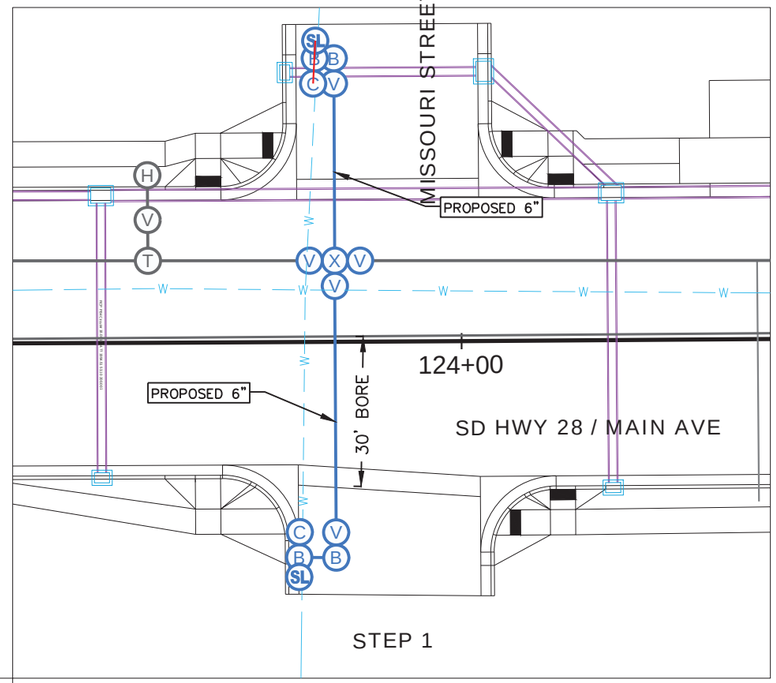
FILE: 674110_DETAILS
PLOTTING DATE: 9/18/2025 REVISED:



0 15 30

NOTES:

STEP 1 - Contractor shall install 6" water main along Dakota Street, north of Main avenue in Phase 1. Installation shall stop short of the live roadway.



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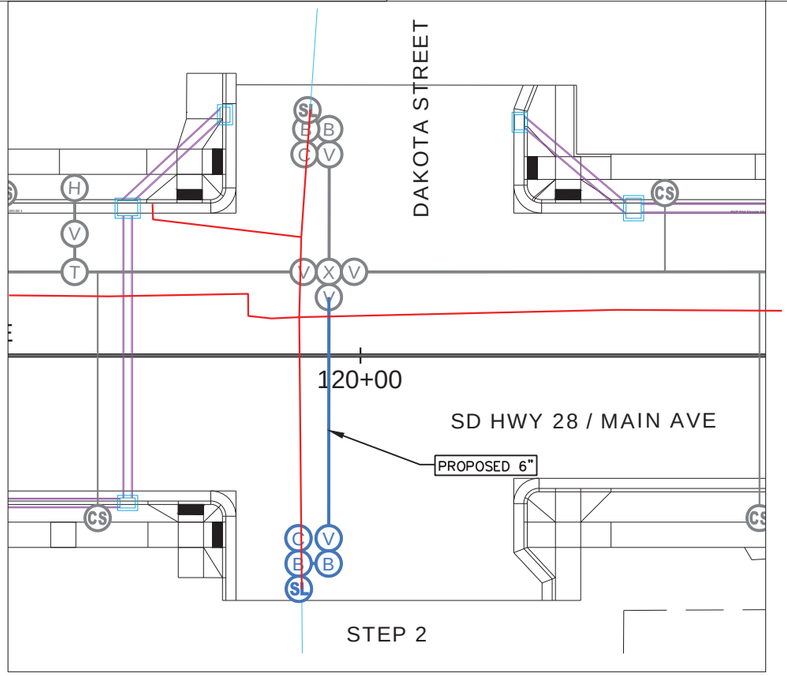
NOTES:

STEP 1 - Contractor shall install 6" water main along Missouri Street, north and south of Main avenue in Phase 1. The 6" water main shall be bored under the live roadway during Phase 1.

CONNECTION DETAIL C

NOTES:

STEP 2 - Contractor shall install 6" water main along Dakota Street, south of Main avenue in Phase 2.



CONNECTION DETAIL B

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9/18/25

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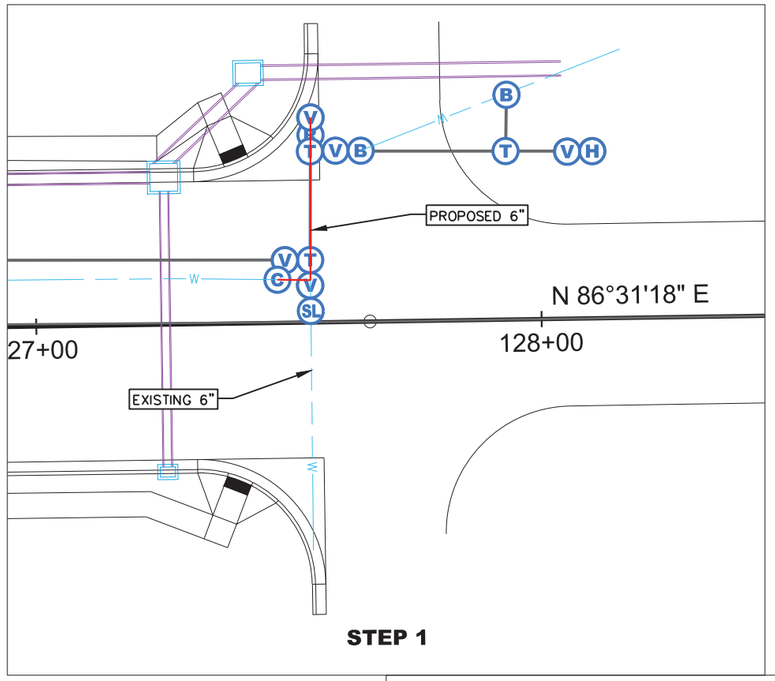
TOWN OF TORONTO	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0028(47)367	24	24

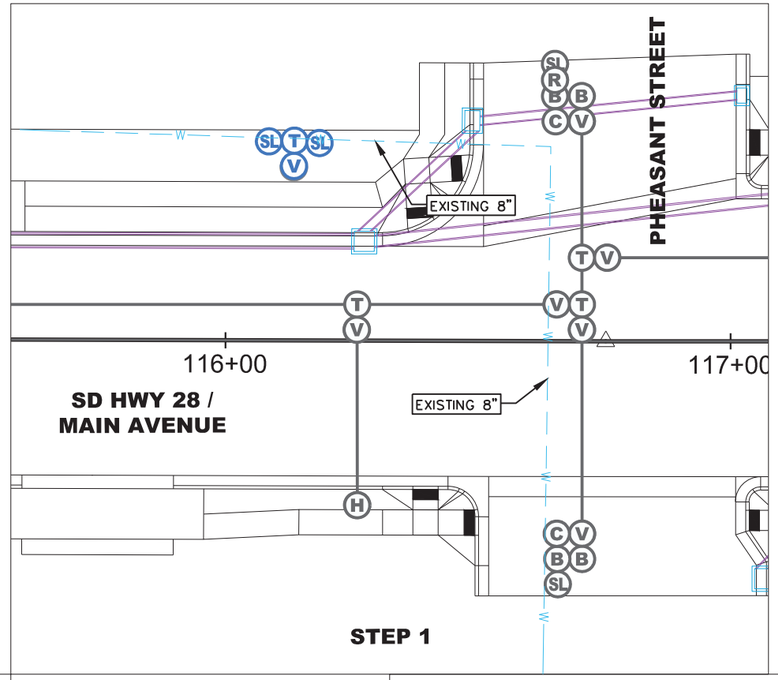
FILE: 674110_DETAILS
PLOTTING DATE: 1/20/2026 REVISED: 1/20/2026 RAW



STEP 1

NOTES:

STEP 1 - Contractor shall install 6" water main along Frontier Street, north of Main avenue in Phase 1. Installation shall stop short of the live roadway.



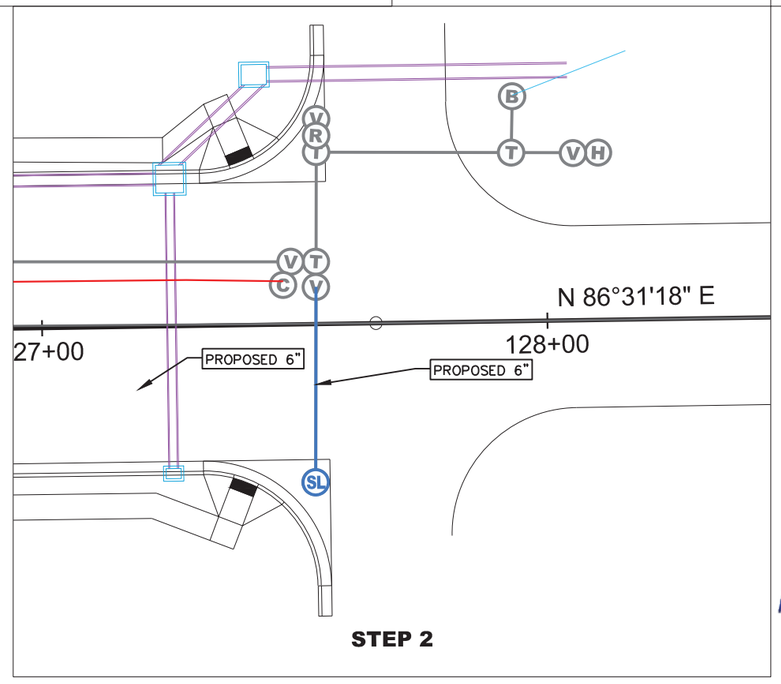
STEP 1

NOTES:

STEP 1 - Contractor shall install 8"x8" MJ Tee, with sleeve and Valve during Phase 1.

NOTES:

STEP 2 - Contractor shall install 6" water main along Frontier Street, south of Main avenue in Phase 2 after pavement removals for Phase 2 have been completed.



STEP 2

CONNECTION DETAIL D

NOTES:

STEP 2 - Contractor shall install 8" water main across Main Avenue during Phase 1. Contractor shall bore water main under live roadway to make connection.

Tee north of main avenue shall be plugged after connection to the live 8" main has been made.

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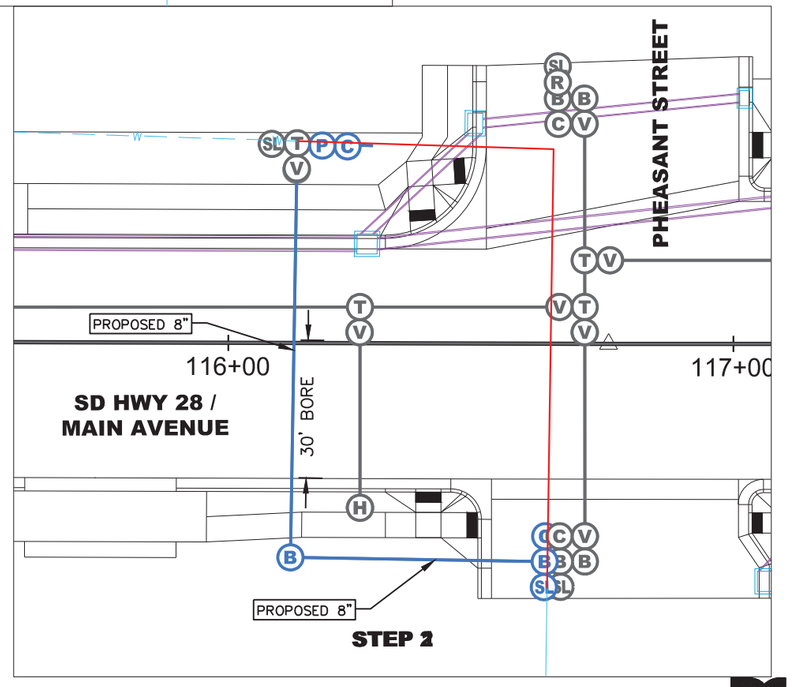
1/20/26



STEP 2

CONNECTION DETAIL F

DGR ENGINEERING

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