GENERAL NOTES

Watermains

Legislation, Regulation and Codes

- 1 All work within the City right-of-way shall be constructed according to the latest City of Toronto standard drawings and specifications. Ontario Provincial Standard drawings and specifications may, subject to the approval of the City of Toronto, be used where no City standard or enerification is available
- 2 All work shall be completed according to the current Occupational Health and Safety Act and Regulations for Construction Projects The general contractor shall be deemed to be the constructor as defined in the act.
- 3 All temporary traffic control and signage during construction shall be according to the current. Ontario Traffic Manual Book 7: Temporary Conditions Field Edition.
- 4 Any person authorized to carry out work on watermains, shall comply with the Quality Management System (QMS) and the current "City of Foronto Drivingin Water Works Permit (DWWP) and Municipal Drinking Water Licence (MDWL) Conditions specific to Watermain Persultbrider Alteration" document
- Any person authorized to carry out work on or operate any aspect of the sanitary sewage collection system, shall comply with the current City of Toronto Environmental Compliance Approval for a Municipal Sewage Collection System, ECA Number 010-W601.
- Any person authorized to carry out work on or operate any aspect of the stormwater management system, shall comply with the current City of Toronto Environmental Compliance Approval for a Municipal Stormwater Management System, ECA Number 010-S701.

Construction Notes

(Delete or append construction notes as required)

- All areas disturbed during construction within the City's right-of-way shall be restored to original or better conditis and to the satisfaction of the contract administrator. Gress areas shall be treaded with 100 mm of topsoil and shall be sodied according to TS 5.00 and TS 5.10.
- 2 All existing utilities shown on drawings (plan and profile are for reference purposes only. The contractor shall satisfy themselves as to the actual location and depth of any utility and shall be liable for all or any damage.
- 3 Any discrepancies between site conditions and construction drawings must be reported to the CIty prior to commencement of construction and appropriate action taken to the satisfaction of the contract administrator.
- 4 All survey stake layout points shall be verified in the field by the contractor prior to construction. Any discrepancies between the drawings and the layout shall be immediately reported to the City.
- 5 Attention is directed to the possibility of existing private sprinklers and ighting systems within the right-o-kway, which are not shown on the plans. Locating, working around and protecting these systems shall be completed at no extra cast to the Chy.
- 6 All dimensions are expressed in metres (m) and pipe sizes are expressed in millimetres (mm) unless otherwise noted.
- 7 All material for sewer, forcemain, watermain, hydrants and appurtenances, shall be according to City of Toronto material/manufacturer specifications are required by Chapter 6, Material Specifications from Design Criteria. In: Sewers
- 8 Utility separation shall be according to Appendix 'D' of the City of Toronto Design Criteria for Sewers and Watermaline Menual
- Service connections and utility cuts made in road pavements shall be backfilled with unshrinkable fill according to TS 4.60.
- 10 At all locations where the proposed watermain crosses under or above the existing servers, or utilities, Granular A Nattee or Granular A RCM bedding match is to extend from the lower pipe to the top of the upper pipe, Granular A Nattee or Granular A RCM to be compacted to minimum 98% of maximum end optimized.
- 11 Contractor to provide adequate support during construction between the new watermain and existing gas mains. Maintain 300 mm the new Waterham rand existing gas matrix, manana soorimi minimum vortical clearances between the new watermain and existing gas mains less than 300 mm in diameter. Maintain 600 minimum vortical clearance between the new watermain and existing gas mains equal to or greater than 300 mm in diamete
- 12 All existing watermains and sewer pipes larger than 300 mm dameter shall be supported according to drawing T-1007.01-4.

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Contact Information

ete or append contact information as required)

- Prior to commencing any work within the municipal right-of -way, the contractor shall apply for a road occupancy perm from the City's right-of-way management unit district office. 2 All TTC traffic is to be maintained during construction of this
- All TTC traffic is to be maintained during construction of this {watermain, sewer or road}. In order to co-ordinate all disruptions in service, contractor to email TTCClosuresandDiversions@ttc.ca at least 48 hours prior to commencing construction.
- 3 Notify Toronto Water, Water Treatment and Supply at 416-397-0187 or send an e-mail message to trunkwater@toronto.ce two weeks prior to excavation near any transmission watermain so that a Toronto Water inspector may be present.
- During the construction of (watermain / services or sewer / laterals) close to an existing transmission watermain, contractor to notify Toronto Water at 416-397-0187 at least 48 hours orfor to construction.

Original Data Source

- 1 Planlmetric mapping data obtained from aerial photography
- 2 Survey data updated Month Day Year
- 3 Legal boundary obtained from Surveys and Mapping SSARA Month, Day, Year.

Road Reconstruction

General TTC Notes (Only show when TTC work is involved)

Contractor to exercise extreme caution while excavating in the vicinity of the twin 500 MCM bonding cables located on ______St at the Intersection of ______Ave and _____Rd. These cables are not to be disturbed and hand

Ind. Inese cables are not to be disturbed and hand digging may be required. Each cable consists of an 18 mm diameter copper wire encased in a 25 mm black plastic protective casing. Approximate depth of cover is 600 mm.

2 Note that overhead wires for Toronto Transit Commissio (TTC) street cars are present throughout scope of proje

4 Existing buried track drain chambers may be present in the track allowance and are to be removed completely.

5 Remove and dispose of offsite existing track drain, supply

and instal new track drain where indicated. Include making good connection to existing outlet. See TTC standard drawing No. W2S-2598 and City drawing No. DT-1012.

- Reconstruction of driveway entrances shall be according to T-310.050-8.
- 2 Limits of sidewalk / curb reconstruction are approximate, actual limits are to be confirmed in the field by the contract administrator
- 3 Chainage is established from the centreline of construction and gutter grades are calculated along the gutter line. 4 Height of curb faces may vary along length of gutter, as shown on profile, or to be confirmed in the field.
- 5 Adjust all structures (maintenance holes, catch basins, etc.) to suit new design elevations including breaking down and removal of portion of top of structures to allow for minimum 150 mm adjustments.
- 6 All curb shall be constructed with a ledge at the back of the curb to facilitate future skiewalk construction.
- 7 Full depth saw-cuts are required at construction limits of existing curb, sidewalk and pavement unless otherwise shown.
- 8 Saw cut existing pavement, sidewalk, curb, gutter, driveways, walkways, etc. at construction limits to provide a clean joint for the proposed work
- 9 Construct pedestrian sidewalk ramps with tactile walking surface Indicators according to T-310.030-7, T-310.030-8, T-310.030-9, T-310.030-10 and T-310.030-11.
- 10 Existing entrance ramps to be re-instated. Vehicular sidewalk ramp shall be according to T-310.050-1
- 11 Adjustment of approaches, walkways, and steps may be required. I limits are to be determined in the field by the contract administrato
- 12 Existing asphalt thickness may vary, taper to match existing at construction limits (minimum 2.0 m).
 - 13 Ellier fabric to be placed under grates on all catchbasins to rap sediment. Silt traps are to be cleaned regularly and are to to be removed until such time as the curbs are constructed. and the boulevards are sodded or backyards graded and sodded. Filter fabric for silt control to be Terra Fix 270R or approved equivalent.
- 14 Raised Intersection and crosswalk ramps according to T-310.030-12 to T-310.0303-20.

- - 1 PVC watermains shall be minimum DR 18 Class 235 (AWWA) CS00-07 or molecularly ortheride polyvity) chloride (PVCO) pipes ranging in size from 100 mm to 300 mm in diameter Pressure Class 235 AWWA C300-06. PVC pipes ranging in size from 350 mm through 500 mm in diameter, shall be pressure rating 235, DR 19, according to AWWA C505-10.
 - Embedment material for flexible pipe shall be according to OPSD 802.010 and using Granular A Native or Granular A RCM according to T5 1010 and compacted to minimum 98% of maximu dry density.
 - 3 Minimum cover on watermains shall be 1.8 m 4 All hydranite shall be constructed according to T-1105.01
 - 5 Hydrant leads shall be minimum DR 18 Class 235 (AWWA) C900-07 or Pressure Class 235 AMM/A C900-09
 - 6 All service connections shall be constructed according to T-1104.01, T-1104.02-1, T-1104.02-3, T-1105.02-1 and T-1105.02-2.
 - 7 Single water service connections shall be a minimum of 19
 - 9 Mechanical thrust restraints shall be installed at all fittings, bends, tees, crosses, reducers, valves, caps and plugs for all watermain sizes. Mechanical restraints at joints shall be installed at every pipe joint within 6.1 m of either side of all fittings for watermains 100 mm dameter or larger.
 - 10 Watermains must follow the Ontario Ministry of the Environment procedure F-8-1 that govern the separation of severs and watermains. A minimum vertical clearance of 0.30 m when crossing over and 0.5 m when crossing under severs and at other utilities is required. Must also maintain 2.5 m horizontal separation with severe

 - 11 Al valves less than 400 mm will be in a valve and box according to T-1101.02-2. All valves 400 mm and larger shall be in a chamber.
 - 12 Sacrificial anodes shall be installed on all metallic pipes and appurtenances, water services and fittings according to T-1106.04, T-1106.05, T-1106.06 and TS 7.22.
 - 13 Tracer wire installation shall be according to TS 7.40.
 - 14 Hydrostatic pressure test and leakage testing of the watermain shall be according to TS 441.
 - 15 The new watermain shall be isolated according to T-1104.03-3 or T-1104.03-4 until bacteriological tests are satisfactory completed.
 - 16 Provisions for flushing the water main prior to testing and so forth must be provided with at least a 50 nm outlet on 100 nm and larger lines according to T-1104.03-1. Copper water services atl have flushing points at the end, the same size as the line. On fire lines, flushing outlet to be 50 nm diameter mirrimum or a hydrant.
 - 17 Disinfection of the watermain shall be according to TS 7.30 and shall include all new water services 100 mm dia and larg
 - Toronto Water requires that the new distribution system remain isolated until satisfactory bacteriological sample results are received. ECS Contract Administrator shall notify Toronto Water when sample results have passed in order to proceed with removal of the blow-off and back filling of the access pt.
 - 19 After satisfactory disinfection of the new watermain is achieved, permanent connections to the existing watermain(s) with a filler piece shall be made according to TS 7.70.
 - 20 City in-service water valves, curb stops, fire hydrants can only be
 - 21 All new watermains shall be insulated where the cover is less than 1.65 m according to T-708.01-4
 - 22 The contractor shall connect or reconnect all stray current drainage cables connected to the TTC electrified rall system encountered during watermain construction.

- Watermain Fill Areas <Contract administrator to decide whether to use> 1 Pipes are not to be laid on fill until the field density test
- 2 Fill to be placed to a minimum of 600 mm above the watermain grades and to 3 m minimum on each side prior to watermain laying compacted to a minimum of 100 % of maximum dry density in 300 mm lifts.
- 3 Soi density tests shall be taken along centreline of the watermain and on lines 1.5 m on either side of same at a maximum interval of 30 m. Tests to be taken at each 600 mm lift.
- 4 All hydrants, tees, valves, bends, plugs and each pipe joint
- 5 Dine joint deflections are not allowed
- Frosion and Sediment Control
- 1 Erector and Sodiment Control (ESC) measures will be Erosion and Sedment Control (ESC) measures will be implemented prior to, and maintained during construction phases, to prevent entry of sediment into the water. All damaged erosion and sediment control measures should be replated or replaced within 48 hours of inspection or both.
- 2 All disturbed areas will be minimized to the extent possible, and temporarily or permanently stabilized or restored as the
- 3 The evolution and a destinant control extragation called on the same base on control in a science of control and science of control and science of control and science of the science
- 4 All activities including maintenance procedures will be An advance, including financiance proceedies, while controlled to prevent the entry of perforeum products, debrts, rubble, concrete or other deleterlous substances into the water, vehicular refueling and maintenance and refueling will be conducted a minimum of 30 m from the water.
- 5 All grades within the regulatory flood plan will be maintained or matched
- 16 Connection detail for sewer pipe at catchbasins and maintenance holes shall be according to T-708.020.

CONSULTANTS - -

2 Sanitary service connections shall be single, 150 mm diameter mhlmum, PVC DR 28 Installed at 2 percent and the colour shall be green, for single residential dwellings.

SanItary and Storm Sewers

1 Main line PVC pipe shall be DR 35.

- 3 Embedment material for flexible pipe shall be according to OPSD 802.010 and using Granular A Native or Granular A RCM according to TS 1010 and compacted to minimum 98% of maximum dry density.
- 4 Bedding for rigid pipe shall be Class B bedding material according to OPSD 802.031 and using Granular A Native or Granular A RCM bedding material according to TS 1010 and compacted to minimum 98 % of maximum dry density.
- 5 Ultra-rib pipe is not permitted within the municipal right-of-way
- 6 Maintenance holes shall be according to T-701.010 (1200 mm), T-701.011 (1500 mm), T-701.0121 (1800 mm) or T-701.013 (2400 mm). Frame and cover shal be according to OPSD 401.010 Type A closed (saritary and storm).
- Maintenance hole chamber openings must be located on the upstream skie of the maintenance hole
- 8 Benching details shall be according to T-701.021 or as shown on the drawings
- 9 Drop structures shall be according to T-1003.01 (external) and T-1003.01-2 (internal).
- 10 Sanitary maintenance holes shall have watertight frames and covers in ponding areas according to OPSD 401.030.
- Reinforced concrete pipe shall be minimum 65-D. Height of fill to be verified using OPSD tables 807.010 and 807.030.
- 12 Non-reinforced concrete pipe 150 mm to 250 mm shall be Class 3. Height of fill to be verified using OPSD table 807.040.
- 13 Single catchbasins shall be according to T-705.010 complete with goss trap, where specified. Frame and cover shall be according to OPSD 400 070
- 14 Double catchbasins shall be according to T-705.020 complete with goss trap, where specified.
- 15 Catchbasin leads to be 250 mm PVC DR 35 for single catchbasins and 300 mm PVC DR 35 for double catchbasins.

	01/02/202	4 Legislation, Regulations and Codes: New note 5 and 6	JP	- A -											
	01/02/202	4 Construction Notes: Revise Note 10, Contact Information: Revise Note 2	JP] IN TORONTO ENG											
	01/02/202	4 Road Reconstruction: New Note 14	JP												
	01/02/202	4 Watermains: Revise Note 2 and 9; Delete Note 10 and renumber accordingly	JP				GENERAL NOTES SAMPLE								
	7/25/2022	Legislation, Regulation and Codes: New note 4	BV	1	1										
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