



REGIONAL MUNICIPALITY OF HALTON

AMENDMENTS TO THE

ONTARIO PROVINCIAL STANDARD

SPECIFICATION

(OPSS)

NOTE: These amendments apply to and are to be read in conjunction with the latest Ontario Provincial Standard Specifications & Drawings.

SECTION	OPSS No.	REVISIONS OR ADDITIONS
ELECTRICAL WORK	106	<p>GENERAL</p> <ul style="list-style-type: none"> For all amendments to section 106, please refer to the current version of "Uniform Traffic Control Specifications and Standards for Operating Authorities Within the Region of Halton"
EXPLOSIVES	120	<p>GENERAL</p> <ul style="list-style-type: none"> Use of explosives are not permitted without prior approval from the regulating authority and the Region of Halton
BORROW	212	<p>GENERAL</p> <ul style="list-style-type: none"> Halton will accept select Subgrade Material conforming to OPSS MUNI.1010, Table 2
HOT MIX ASPHALT	310	<p>GENERAL</p> <ul style="list-style-type: none"> Halton Region's "SPECIFICATIONS FOR HOT MIX ASPHALT PAVING, MATERIALS, SAMPLING, AND TESTING" takes precedence over this specification
ASPHALT SIDEWALK, DRIVEWAY, AND BOULEVARD AND FOR SIDEWALK RESURFACING	311	<p>GENERAL</p> <ul style="list-style-type: none"> Halton Region's "SPECIFICATIONS FOR HOT MIX ASPHALT PAVING, MATERIALS, SAMPLING, AND TESTING" takes precedence over this specification
CONCRETE FOR PAVEMENT AND CONCRETE BASE	350	<p>GENERAL</p> <ul style="list-style-type: none"> Should Halton permit work to be done when the temperature is at about or below 0 degrees Celsius, the contractor shall furnish all necessary equipment and fuel for heating all materials required. The contractor shall also adequately protect the work from damage by frost during and after laying or placing to the entire satisfaction of the Region. Cold weather concrete work shall be done in accordance with the latest revision of OPSS 350.
CONCRETE SIDEWALK	351	<p>GENERAL</p> <ul style="list-style-type: none"> Should Halton permit work to be done when the temperature is at about or below 0 degrees Celsius, the contractor shall furnish all necessary equipment and fuel for heating all materials required. The contractor shall also adequately protect the work from damage by frost during and after laying or placing to the entire satisfaction of the Region. Cold weather concrete work shall be done in accordance with the latest revision of OPSS 350.

SECTION	OPSS No.	REVISIONS OR ADDITIONS
CONCRETE CURB AND GUTTER	353	<p>GENERAL</p> <ul style="list-style-type: none"> Should Halton permit work to be done when the temperature is at about or below 0 degrees Celsius, the contractor shall furnish all necessary equipment and fuel for heating all materials required. The contractor shall also adequately protect the work from damage by frost during and after laying or placing to the entire satisfaction of the Region. Cold weather concrete work shall be done in accordance with the latest revision of OPSS 350.
SUPPORT SYSTEMS	404.10.01	<p>SUPPORT SYSTEMS</p> <ul style="list-style-type: none"> Payment will be made for ordinary sheeting and for all braces, shores and stringers or whaling strips and for all sheet piling left in place by written order of the Engineer for the length and the amount actually left at the current market rate to be set and reviewed by the Engineer.
PIPE SUBDRAINS	405.07.08	<p>CLOSED-CIRCUIT TELEVISION INSPECTION</p> <ul style="list-style-type: none"> CCTV shall be done in accordance with Halton Region specifications and not OPSS 409
MAINTENANCE HOLE, CATCH BASIN, DITCH INLET, AND VALVE CHAMBER INSTALLATION	407.07.15	<p>INSTALLATION OF ADJUSTMENT UNITS</p> <ul style="list-style-type: none"> Halton permits the use of Butyl tape or any other approved tape or coating, for adjustment units.
	407.05.08 & 407.07.17	<p>ALUMINUM SAFETY PLATFORMS & INSTALLATION OF ALUMINUM SAFETY PLATFORMS</p> <ul style="list-style-type: none"> Halton Region does not permit safety platforms in Manholes
	407.10.01	<p>MAINTENANCE HOLES, "TYPE, SIZE" - ITEM CATCH BASINS "TYPE, SIZE" - ITEM DITCH INLETS "SIZE" - ITEM VALVE CHAMBERS "SIZE" - ITEM MAINTENANCE HOLE LEAKAGE TESTING - ITEM</p> <ul style="list-style-type: none"> Replace 150 mm with 300 mm.
ADJUSTING OR REBUILDING MAINTENANCE HOLES, CATCH BASINS, DITCH INLETS, AND VALVE CHAMBERS	408.05.08 & 408.07.01	<p>ALUMINUM SAFETY PLATFORMS & CONSTRUCTION – GENERAL</p> <ul style="list-style-type: none"> Halton Region does not permit safety platforms in Manholes

SECTION	OPSS No.	REVISIONS OR ADDITIONS
CLOSED-CIRCUIT TELEVISION INSPECTION OF PIPELINES	409	<p>GENERAL</p> <ul style="list-style-type: none"> • CCTV shall be done in accordance with Halton Region specifications and not OPSS 409 • All sewers and service connections installed are subject to inspection by closed circuit television. • Halton may carry out a TV inspection and the contractor shall provide, at no additional cost, such assistance as the Engineer may require. Halton will bear the cost of the first TV inspection, operators, equipment rental and any other costs related to this operation. • All debris and crust shall be removed from the pipe and manhole interior before closed circuit TV inspection. • In case the TV inspection reveals any defects in the work, the contractor will repair the same at his cost to the entire satisfaction of the Engineer. Any second or subsequent inspection shall be at the cost of the contractor
PIPE INSTALLATION	410.07.12.01	<p>GENERAL</p> <ul style="list-style-type: none"> • All tees or stubs shall be plugged with flexible jointing caps or acceptable alternate securely fastened to withstand the internal test pressure. Such plugs or caps shall be readily removable and their removal shall provide a socket suitable for making a flexible jointed service connection or extension. • Replace “150 mm” with “300 mm”
	410.07.13	<p>SERVICE CONNECTIONS</p> <ul style="list-style-type: none"> • Halton requires a minimum grade of 2% to be maintained. • Wyes are NOT permitted in Halton Region • All plugs required shall be mechanical stoppers and shall be approved by the Engineer. • Inspection Chamber/Cleanout required as per RH 304.010
	410.07.16.05	<p>DEFLECTION TESTING OF PIPE SEWERS</p> <ul style="list-style-type: none"> • The maximum pipe deflection shall be 70% of the pipe manufacturer's recommendation or a maximum of 5% which ever is less
SEWAGE FORCEMAIN INSTALLATION IN OPEN CUT	412.05.06	<p>STEEL PIPE</p> <ul style="list-style-type: none"> • Steel pipe is not permitted in Halton Region

SECTION	OPSS No.	REVISIONS OR ADDITIONS
SEWAGE FORCEMAIN INSTALLATION IN OPEN CUT Cont'd	412.05.07.01	VALVES – GENERAL - SIZES 100 MM TO 300 MM <ul style="list-style-type: none"> • All drain valves shall conform to AWWA C509 or C515 • Intended position of valve in line is vertical. • Operation nut is to be 49.2 mm square at top, 50 mm square at base, and 45 mm high. The nuts shall have flanged base upon which is cast an arrow to indicate the direction to open. • Type 316 Stainless steel bolts, studs and nuts are required on all valves used in chambers
	412.05.07.04	KNIFE GATE VALVES <ul style="list-style-type: none"> • Knife gate valves are not permitted in Halton Region.
	412.05.10	STAINLESS STEEL STRAPS, TIE-RODS, ANGLES, NUTS, AND BOLTS <ul style="list-style-type: none"> • Concrete thrust blocks are not permitted in Halton Region.
	412.07.12.06	STEEL PIPE <ul style="list-style-type: none"> • Steel pipe is not permitted in Halton Region.
	412.07.14.03	POLYVINYL CHLORIDE (PVC) PRESSURE PIPE <ul style="list-style-type: none"> • Maximum of 50% of the pipe manufacturers recommendation for pipe deflection; fusible PVC pipe is allowed in Halton
PIPELINE AND UTILITY INSTALLATION BY TUNNELLING	415.07.04	TUNNELLING <ul style="list-style-type: none"> • The tunnelling supervisor must have a minimum of 3 years of supervisory tunnelling experience.
PIPELINE AND UTILITY INSTALLATION BY JACKING AND BORING	416.07.05	PIPELINE INSTALLATION <ul style="list-style-type: none"> • The space between the casing pipe and the carrier pipe shall be filled according to the Contract Documents • The carrier pipe shall be supported according to the Contract Documents
WATERMAIN INSTALLATION IN OPEN CUT	441.05.08	COMPOSITE PIPE <ul style="list-style-type: none"> • Composite pipe is not permitted in Halton Region.
	441.05.09	VALVES <ul style="list-style-type: none"> • All valves shall conform to AWWA C509 & C515 • Operating nut is to be 49.2 mm square at top, 50 mm square at base and 45 mm high. The nut shall have a flanged base upon which is cast an arrow to indicate the direction to open. • All direct bury valves shall be mechanical joint, valves in chambers shall be flanged • Type 316 stainless steel nuts, bolts & studs are required to be used in chambers

SECTION	OPSS No.	REVISIONS OR ADDITIONS
WATERMAIN INSTALLATION IN OPEN CUT Cont'd	441.05.10	<p>HYDRANTS</p> <ul style="list-style-type: none"> • Hydrants shall include the following standards: <ul style="list-style-type: none"> <u>Nozzles - Hose Nozzles</u> 2 - 63.5 mm CSA hose nozzles 63.5 mm I.D. 79.4 mm O.D. 5 threads per 25 mm 31.75 mm square operating nut <u>Storz Pumper Connection</u> 1-100 mm Storz Pumper Connection (CAN/ULC #S-520) 31.75 mm square operating nut Storz Cap painted black <p>COLOUR CODING</p> <ul style="list-style-type: none"> • All hydrants shall be colour coded as follows: <ul style="list-style-type: none"> ○ Barrel below ground to be a non-toxic bituminous black coating. ○ Barrel above ground to be painted fire red. ○ Bonnets and nozzle caps to be painted danger yellow. ○ Storz Nozzle Cap to be painted black. ○ All hydrants with bottom drains sealed or plugged shall have a blue band painted around the top flange <p>PAINT COLOURS</p> <ul style="list-style-type: none"> • Ferox Instant Dry Metal Coat Paints to be used or an approved equivalent.
	441.05.12	<p>SERVICE CONNECTION FITTINGS AND APPURTENANCES</p> <ul style="list-style-type: none"> • Tapping sleeves shall be used on all PVC pipe installations. • All main stops, curb stops and couplings shall be lead free.
	441.05.13	<p>CONCRETE</p> <ul style="list-style-type: none"> • Concrete thrust blocks are not permitted in Halton Region.
	441.07.07	<p>TRANSPORTING, UNLOADING, STORING, AND HANDLING PIPE</p> <ul style="list-style-type: none"> • Remove <i>"up to and including 600 mm diameter"</i>.
	441.07.14	<p>INSTALLATION OF PIPE</p> <ul style="list-style-type: none"> • Replace <i>"150 mm"</i> with <i>"300 mm"</i>.
	441.07.15.04	<p>POLYVINYL CHLORIDE PRESSURE PIPE - PVC AND PVCO</p> <ul style="list-style-type: none"> • Halton allows the use thermal butt fusion of PVC pipe.

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WATERMAIN INSTALLATION IN OPEN CUT Cont'd	441.07.17.01	DUCTILE IRON PIPE <ul style="list-style-type: none"> Halton permits 50% of the manufacturers recommended deflections in pipe jointing.
	441.07.17.03	POLYVINYL CHLORIDE PIPE - PVC AND PVCO <ul style="list-style-type: none"> Halton permits 50% of the manufacturers recommended deflections.
	441.07.18	INSTALLATION OF VALVES AND FITTINGS <ul style="list-style-type: none"> Intended position of valve in line is to be vertical.
	441.07.19	INSTALLATION OF HYDRANT SETS <ul style="list-style-type: none"> The entire length of the hydrant lateral shall be mechanically restrained RAISING HYDRANTS <ul style="list-style-type: none"> For new or existing non-conforming hydrants, extensions must be made from the bottom of the hydrant, at the boot, as to not affect the length of the operating rod.
	441.07.20	INSTALLATION OF SERVICE CONNECTIONS <ul style="list-style-type: none"> Halton requires a vertical "goose neck" on services 20 mm and 25 mm
	441.07.21	SHUTTING DOWN OR CHARGING MAINS <ul style="list-style-type: none"> Only Halton Water Distribution staff shall operate valves and hydrants on the existing water distribution system.
	441.07.23	THRUST RESTRAINTS <ul style="list-style-type: none"> Halton only accepts mechanical joint thrust restraints.
	441.07.24	HYDROSTATIC TESTING <ul style="list-style-type: none"> Water used to be supplied by Halton. Cross connection prevention measures must be used to protect the live system.
	441.07.24.01	GENERAL <ul style="list-style-type: none"> Change "2" hours to "3" hours.
441.07.24.03	OTHER PIPE <ul style="list-style-type: none"> Change "2" hours to "3" hours Change "0.082 litres per millimetre" to 0.123" litres per millimetre". 	

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WATERMAIN INSTALLATION IN OPEN CUT Cont'd	441.07.25	<p>FLUSHING AND DISINFECTING WATERMAINS</p> <ul style="list-style-type: none"> Care should be exercised to ensure that the flushed wastewater shall be disposed of in such a manner to protect the environment. Dosage charge for Dry Granular Hypochlorite (based on 65% available chlorine). <table data-bbox="740 533 1382 840"> <thead> <tr> <th><u>Watermain Size</u></th> <th><u>Quantity per 50 m of Pipe</u></th> </tr> </thead> <tbody> <tr><td>150 mm</td><td>50 g</td></tr> <tr><td>200 mm</td><td>95 g</td></tr> <tr><td>250 mm</td><td>140 g</td></tr> <tr><td>300 mm</td><td>185 g</td></tr> <tr><td>350 mm</td><td>280 g</td></tr> <tr><td>400 mm</td><td>325 g</td></tr> <tr><td>500 mm</td><td>515 g</td></tr> <tr><td>600 mm</td><td>750 g</td></tr> <tr><td>750 mm</td><td>1.2 kg</td></tr> </tbody> </table> <ul style="list-style-type: none"> Water used for flushing, disinfecting and testing shall be supplied by Halton. 	<u>Watermain Size</u>	<u>Quantity per 50 m of Pipe</u>	150 mm	50 g	200 mm	95 g	250 mm	140 g	300 mm	185 g	350 mm	280 g	400 mm	325 g	500 mm	515 g	600 mm	750 g	750 mm	1.2 kg
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CORROSION PROTECTION OF NEW AND EXISTING WATERMAINS	442.05.01.01	<p>ZINC ANODE CASTINGS</p> <ul style="list-style-type: none"> All zinc anodes shall be made of high grade electrolytic zinc 99.9% pure. 																				
	442.07	<p>ANODE INSTALLATION</p> <ul style="list-style-type: none"> Metallic watermain pipes shall be fitted with a minimum anode weight of 14.5 kg and length of 500 mm. Fittings and appurtenances shall have a minimum anode weight of 11 kg. 																				
	Table 4 & 5	<p>TABLE 4 & 5</p> <ul style="list-style-type: none"> For Copper services and watermains replace "Z-12-24" with "Z-24-48" 																				
PIPELINE AND UTILITY INSTALLATION IN SOIL BY HORIZONTAL DIRECTIONAL DRILLING	450.04	<p>DESIGN AND SUBMISSION REQUIREMENTS</p> <ul style="list-style-type: none"> The HDD supervisor must have a minimum of 3 years of supervisory HDD experience. 																				
	450.07.10	<p>PILOT BORE</p> <ul style="list-style-type: none"> Equipment to confirm location and depth of drilling head must be used at all times. 																				

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PIPELINE AND UTILITY INSTALLATION IN SOIL BY HORIZONTAL DIRECTIONAL DRILLING Cont'd	450.05.03 450.07.12.01	<p>TRACER WIRE & PRODUCT INSTALLATION -GENERAL</p> <ul style="list-style-type: none"> Tracer Wire shall be reinforced specifically for HDD and Pipe Bursting meeting the following standards: <p>WIRE Material: 7x7 stranded copper clad steel Rating: 30 volts maximum, 4700lb. break load Thickness: bare outside diameter 0.208" and outside diameter including 50mil insulation 0.258"</p> <p>INSULATION Material: High Molecular Weight, High Density Polyethylene (HMW-HDPE) Thickness: 0.050" minimum (50mil) Rating: 600 volt maximum Colour: APWA Uniform Colour Code</p> <p>MARKINGS Surface legend print on insulation to repeat at intervals of every two linear feet.</p> <ol style="list-style-type: none"> Wire Type Insulation Material Identification Pipe Bursting and Horizontal Directional Drill Direct Burial use only
PIPELINE REHABILITATION BY CURED-IN-PLACE PIPE	460.04.02	<p>SUBMISSION REQUIREMENTS</p> <ul style="list-style-type: none"> Change "7 Days" to "14 Days".
	460.07.01	<p>CONSTRUCTION - GENERAL</p> <ul style="list-style-type: none"> Change "7 Days" to "14 Days" Change 24 hours to 48 hours"
	460.07.12	<p>CLOSED-CIRCUIT TELEVISION (CCTV) INSPECTION</p> <ul style="list-style-type: none"> Post-Lining Final Video Inspection shall be done in accordance with Halton Regional CCTV inspections Specifications.
	460.07.14	<p>CURING</p> <ul style="list-style-type: none"> Halton Region accepts UV curing, if recommended by the manufacturer.
PIPELINE AND CONDUIT INSTALLATION BY PIPE BURSTING	463.07.17	<p>CLOSED-CIRCUIT TELEVISION INSPECTION</p> <ul style="list-style-type: none"> All CCTV inspections shall follow Halton Regional Specifications"
TEMPORARY POTABLE WATER SUPPLY SERVICES	493.07.01	<p>CONSTRUCTION -GENERAL</p> <ul style="list-style-type: none"> Change "24 hours" to "48 hours"

SECTION	OPSS No.	REVISIONS OR ADDITIONS
DUST SUPPRESSANTS	506.10	<p>CALCIUM CHLORIDE FOR DUST CONTROL</p> <ul style="list-style-type: none"> Halton does not pay for calcium chloride when used for compaction
REMOVAL	510	<p>GENERAL</p> <ul style="list-style-type: none"> All materials identified for removal, unless identified for salvage, shall be disposed of by the contractor under the appropriate removal item.
	510.07.03.11	<p>REMOVAL OF HYDRANTS, VALVES, AND WATERMAIN APPURTENANCES</p> <ul style="list-style-type: none"> Salvaged hydrants with boot intact shall be returned to the nearest Halton Region operations yard.
TRAFFIC CONTROL SIGNING	706.07.03	<p>SEASONAL SHUTDOWN</p> <ul style="list-style-type: none"> During Seasonal Shutdowns, Contractor will be responsible for all maintenance and replacement of signs.
PAVEMENT MARKING	710.07.04	<p>PRE-MARKING</p> <ul style="list-style-type: none"> Pre-markers to be reviewed and approved by contract administrator prior to permanent placement.
STEEL BEAM GUIDE RAIL AND CABLE GUIDE RAIL	721	<p>GENERAL</p> <ul style="list-style-type: none"> Cable guide rail is not permitted in Halton Region.
PROTECTION OF TREES	801	<p>GENERAL</p> <ul style="list-style-type: none"> When performing work on non-Regional roads and where available, Local Tree protection guidelines shall apply.
	801.07	<p>CONSTRUCTION</p> <ul style="list-style-type: none"> All vegetation within the tree barrier protection zone shall be maintained, including cutting and weeding, by the contractor until the completion of the contract. The height of grass shall not exceed 100 mm.
	801.09	<p>MEASUREMENT FOR PAYMENT</p> <ul style="list-style-type: none"> All maintenance of vegetation within the tree barrier protection zone, shall be included in the Barrier for Tree Protection Item.
TOPSOIL	802.05.01	<p>TOPSOIL</p> <ul style="list-style-type: none"> Topsoil shall be screened to ensure no material is greater than 25 mm.
	802.07.03	<p>PLACEMENT OF TOPSOIL</p> <ul style="list-style-type: none"> Depth of topsoil shall be 100mm when compacted.
	802.09	<p>MEASUREMENT FOR PAYMENT</p> <ul style="list-style-type: none"> Payment for topsoil is included in the seed/sod items.

SECTION	OPSS No.	REVISIONS OR ADDITIONS
SODDING	803.07.05	MAINTENANCE OF COMPLETED SODDING <ul style="list-style-type: none"> • For Regional projects, sod shall be maintained, including cutting and weeding, until the completion of the contract. The height of grass shall not exceed 100 mm.
	803.10.01	SOD - ITEM <ul style="list-style-type: none"> • Water for sod is included in Halton's sod payment item.
SEED AND COVER	804.07.02	SURFACE PREPARATION FOR SEEDING <ul style="list-style-type: none"> • Depth of topsoil shall be 100mm when compacted.
	804.09	MEASUREMENT FOR PAYMENT <ul style="list-style-type: none"> • Water for seed and mulch is included in Halton's payment item.
TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES	805.07.03	LIGHT-DUTY SEDIMENT BARRIERS, GENERAL <ul style="list-style-type: none"> • Halton Region does not permit Light-Duty Sediment Barriers.
	805.07.04	HEAVY DUTY SEDIMENT BARRIERS, GENERAL <ul style="list-style-type: none"> • Heavy Duty Silt Fence Barrier refer to RH 200.040.
	805.07.05.01	STRAW BALE FLOW CHECK DAMS <ul style="list-style-type: none"> • Halton Region does not allow Straw Bale Flow Check Dams unless approved by Local Conservation Authority.

Tracking Changes to OPSS Amendments

Cancelled/Removed	Revised/New	Remarks/Comments
Release of OPSS – December 2013		
	Borrow 212	<ul style="list-style-type: none"> Changed OPSS 1010 to OPSS MUNI. 1010 as OPS changed the specification location
Safety Platforms 407.05.08 & 407.07.17		<ul style="list-style-type: none"> Removed reference to RH drawings, the RH drawings no longer exist – removed as part of Design Manual review
Adjustment Units 407.05.05		<ul style="list-style-type: none"> Removed entire Amendment – no longer required
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Safety Platforms 408.05.08 & 408.07.01		<ul style="list-style-type: none"> Removed reference to RH drawings, the RH drawings no longer exist – removed as part of Design Manual review
	Pipe Installation 410.07.13	<ul style="list-style-type: none"> New Amendment – “Inspection Chamber/Cleanout required as per RH 304.010”
	Sewage Forcemain Installation on Open Cut 412.05.07.01	<ul style="list-style-type: none"> Replaced “This standard covers iron body bronze...” with “All drain valves shall conform to AWWA C509 or C515” Removed “All exposed parts of the valve are to be coated...” – covered by statement above Changed last point to match Watermain version and reworded
	Watermain in Open Cut 441.05.09	<ul style="list-style-type: none"> Replaced “All exposed parts of the valve are to be coated with a non-toxic bituminous coating for corrosion control” with “All valves shall conform to AWWA C509 or C515” Replaced Washers with Studs in the last bullet point
	Hydrants 441.05.10	<ul style="list-style-type: none"> Removed reference to Gloss Fixed text format & spelling
	Pipeline and Utility 450.05.03 450.07.12.01	<ul style="list-style-type: none"> Removed entire section Created entire new standard
	Heavy Duty Sediment Barriers, General 805.07.04	<ul style="list-style-type: none"> Heavy Duty Silt Fence Barrier refer to RH 200.040.
	Straw Bale Flow Check dams 805.07.05.01	<ul style="list-style-type: none"> Changed Conservation Halton to Local Conservation Authority.