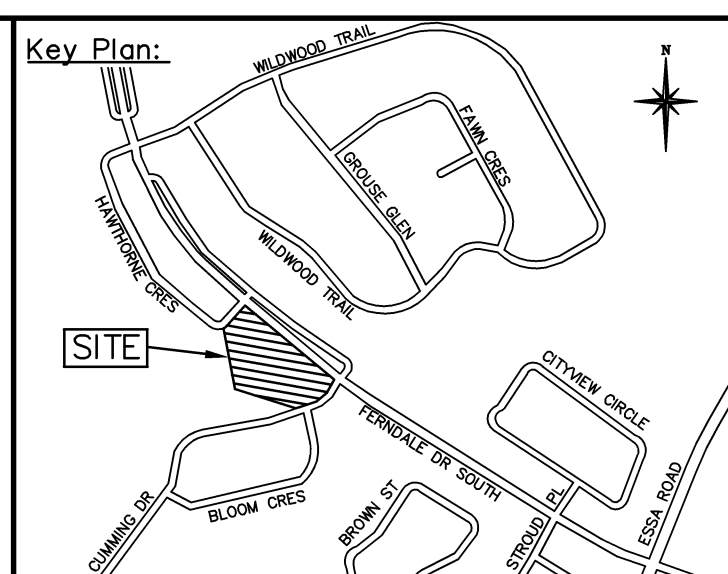
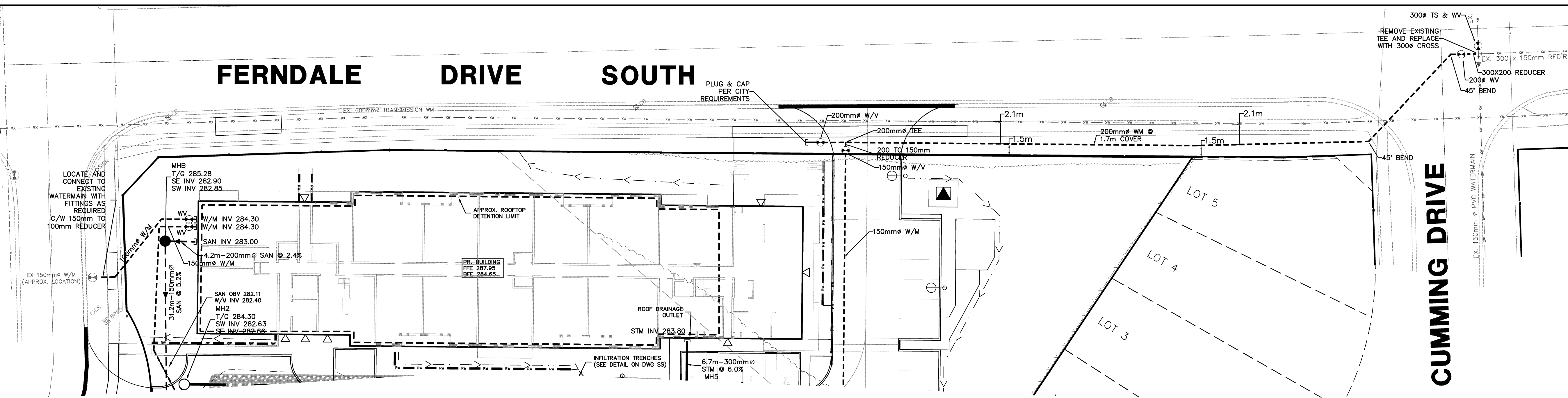


FERNDALE DRIVE SOUTH



Legend:

EXISTING FEATURES (EX)

- EX SIB EX STD IRON BAR
- EX IB EX IRON BAR
- EX UP EX UTILITY POLE
- EX BELL PED
- EX HYDRO TRANSFORMER
- EX SAN @ 0.0%
- EX STM @ 0.0%
- EX WS EX WATER SERVICE
- EX HYD EX FIRE HYD.
- NS EX ST NAME SIGN
- SS EX STOP SIGN
- EX ELEVATION
- EX FENCE
- EX U/G GASMAIN
- EX U/G BELL
- EX WATERMAIN & VALVE
- EX SAN SEWER & MH
- EX STM SEWER & MH

PROPOSED FEATURES (PR)

- NS PR STREET NAME SIGN
- SS PR STOP SIGN
- SF PR SILT FENCE
- PR STREET LIGHT
- PR WATER SERVICE
- PR SAN SERVICE
- PR STM SERVICE
- PR HYDRO TRANSFORMER
- PR WATERMAIN
- PR FIRE HYDRANT
- PR WATER VALVE
- PR SAN SEWER
- MH K PR SANITARY MANHOLE
- CBMH 4 PR CATCHBASIN MANHOLE
- MH 4 PR MANHOLE
- CB 4 PR CATCHBASIN
- x 000.00 PROPOSED ELEVATION
- x (000.00) PR MATCH EXISTING ELEVATION (INTERPOLATED)
- PR SWALE

- WATERMAINS:**
- WATERMAIN PIPES, FITTINGS, HYDRANTS, SERVICE PIPE TYPES & MANUFACTURERS ARE TO BE IN ACCORDANCE WITH MUNICIPAL STANDARDS.
 - TRACER WIRE (#12 STRANDED COPPER WIRE WITH OUTER PLASTIC COATING) SHALL BE INSTALLED ALONG THE ENTIRE LENGTH OF PVC WATERMAIN, SECURED TO FITTINGS AT INTERVALS NOT EXCEEDING 3m, AND BROUGHT UP AND LOOPED AT EACH VALVE BOX, CHAMBER AND HYDRANT SUCH THAT CONTINUITY IS MAINTAINED.
 - WATERMAIN BEDDING AS PER OPSD 802.010 (FLEXIBLE PIPE) OR 802.030 (RIGID PIPE).
 - SERVICE CONNECTIONS SHALL BE IN ACCORDANCE WITH OPSD 1104.010 AND 1104.020.
 - THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE WATERMAIN / WATER SERVICES AND THE SANITARY / STORM SEWER IS TO BE 2.5m.
 - A MINIMUM OF 0.5m VERTICAL CLEARANCE BETWEEN THE WATERMAIN / WATER SERVICES AND ALL UTILITIES SHALL BE MAINTAINED, WHILE MAINTAINING A MINIMUM DEPTH OF COVER AT ALL TIMES. WATERMAIN & WATER SERVICE TO BE INSULATED WITH HI-40 INSULATION AND/OR CONCRETE ENCASED AT THE ENGINEER'S DISCRETION WHERE 0.5m SEPARATION CANNOT BE MAINTAINED.
 - WATERMAIN / WATER SERVICE COVER LESS THAN 1.7m TO PIPE OBVERT WILL REQUIRE FROST PROTECTION INSULATION (SEE DETAIL).
 - VALVES SHALL BE INSTALLED IN ACCORDANCE WITH OPSD STANDARDS.
 - CONTRACTOR IS RESPONSIBLE FOR ALL TIE-INS INCLUDING MATERIALS, EXCAVATION AND BACKFILL AS REQUIRED TO FACILITATE THE SWABBING AND TESTING OF THE NEW WATERMAINS UNDER THE SUPERVISION OF THE ENGINEER.
 - FIRE HYDRANTS AND VALVES SHALL ONLY BE OPERATED BY MUNICIPAL WATER DEPARTMENT STAFF.
 - THE CONTRACTOR SHALL PRESSURE TEST, CHLORINATE AND FLUSH THE NEW WATERMAINS. ANY PRESSURE TESTING, CHLORINATING AND FLUSHING BEYOND THE INITIAL PROCEDURE WILL BE THE CONTRACTORS' RESPONSIBILITY. TESTING PROCEDURES TO BE IN ACCORDANCE WITH MUNICIPAL STANDARDS OR AS DIRECTED BY MUNICIPAL WATER DEPARTMENT STAFF.
 - THE PRIVATE ON-SITE FIRE HYDRANT IS TO BE INSTALLED AS PER BSD-507 AND IS TO BE PAINTED RED.
 - THE REQUIRED PRV TO BE PER CITY STANDARD AS DETAILED IN BSD-523.

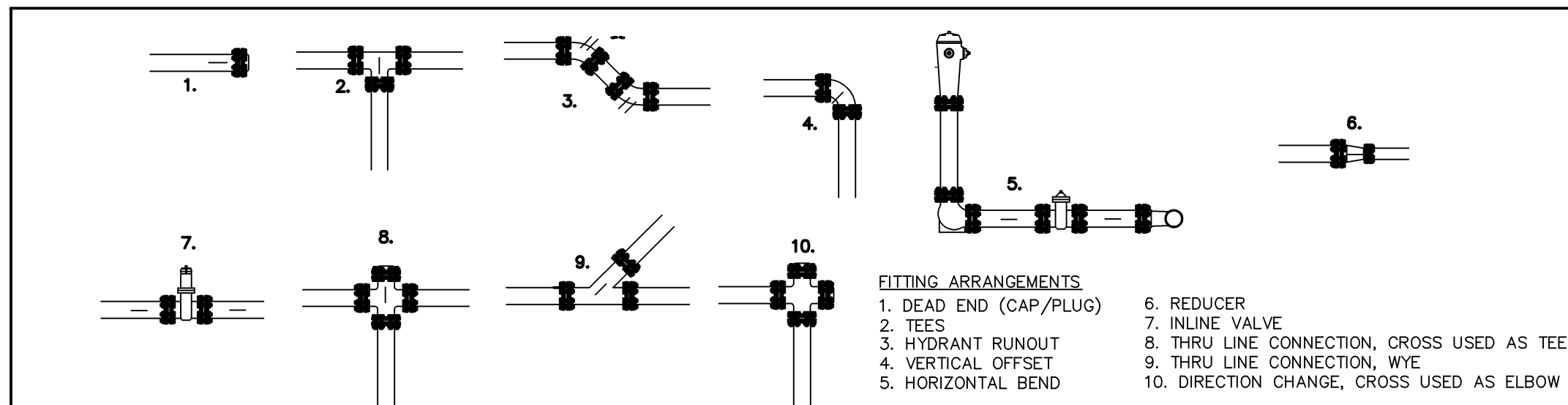
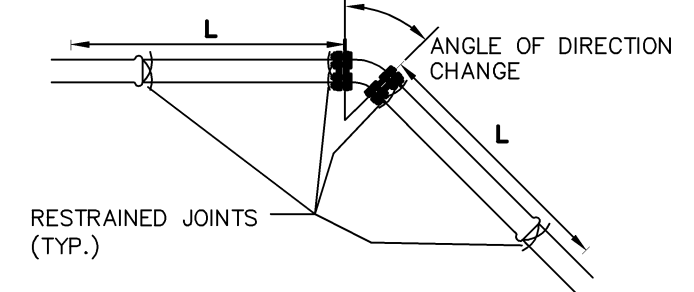


TABLE 1.0

L - MIN. LENGTH TO BE RESTRAINED ON EACH SIDE OF FITTING ARRANGEMENTS (M)

PIPE DIA.	ELBOWS (DEG.) FITTING ARRANGEMENT No. 3 & 4				INLINE VALVES, TEEs & TEES FITTING ARRANGEMENTS No. 2, 7 & 9		DEADENDS FITTING ARRANGEMENTS No. 1, 5, 8 & 10		REDUCER FITTING ARRANGEMENTS No. 6	
	11 1/4	22 1/2	45	90						
100	8.0	8.0	8.0	8.0	8.0		12.4		8.0	
150	8.0	8.0	8.0	8.0	8.0		17.8		9.2	
200	8.0	8.0	8.0	8.0	8.7		23.1		9.5	
250	8.0	8.0	8.0	8.7	13.6		28.3		9.7	
300	8.0	8.0	8.0	10.2	18.0		33.5		9.8	
350	8.0	8.0	8.0	11.7	23.7		38.7		9.9	
400	8.0	8.0	8.0	13.3	28.6		43.6		10	

* NOTE THE MINIMUM LENGTH OF PIPE ALLOWED ON EACH SIDE OF THE FITTING (BEFORE NEXT FITTING) TO BE 1.5m



- NOTE:**
- ALL JOINTS MUST BE RESTRAINED IN ALL APPLICATIONS. TABLE 1 SHOWS RESTRAINED JOINTS REQUIRED ON BOTH SIDE OF THE RESTRAINED FITTINGS.
 - WHERE CONNECTING TO EXISTING WATERMAIN, EXCAVATE AND INSTALL RESTRAINTS ON EXISTING WATERMAIN FOR LENGTHS IDENTIFIED IN TABLE 1.0
 - LENGTHS TO BE RESTRAINED SHOWN IN TABLE 1.0 ARE MINIMUMS. CONTRACTOR TO CONFIRM WITH RESTRAINT AND/OR PIPE SUPPLIER THE NEED FOR ADDITIONAL RESTRAINT. MINIMUM FACTOR OF SAFETY TO BE USED IS 2.5 FOR A TEST PRESSURE OF 1034kPa (150 psi)

RESTRAINED JOINTS DETAIL

N.T.S.

CITY OF BARRIE CONTROL MONUMENT DESCRIPTIONS:

THE HORIZONTAL MONUMENT (03120040017) IS LOCATED ON THE WEST SIDE OF FERNDALE DRIVE SOUTH, SOUTH-EAST OF HAWTHORN CRESCENT, IN THE BOULEVARD SIDEWALK OPPOSITE #323 *NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.

THE HORIZONTAL MONUMENT (03120040024) IS LOCATED ON THE SOUTH CURB LINE OF FERNDALE DRIVE SOUTH, APPROXIMATELY 150m NORTH-WEST OF STROUD PLACE AND OPPOSITE FROM A "MAXIMUM 50km" SIGN. *NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.

03120030009: ST. CATHERINE OF SIENA SCHOOL - 111 SUMMERSSET DRIVE. THE VERTICAL CONTROL MONUMENT IS SET FLUSH IN THE EAST FACE OF THE CONCRETE FLAG POLE BASE. THE FLAG POLE IS 9.5m NORTH OF THE BUILDING FACE AND 8.5m EAST OF THE MAIN ENTRANCE.

ST. 03120030021: FERNDALE WOODS ELEMENTARY SCHOOL - 170 FERNDALE DRIVE. THE VERTICAL CONTROL MONUMENT IS SET FLUSH IN THE CONCRETE FOUNDATION TO A SUPPORT COLUMN TO ROOFED ENTRANCE WALK AT THE SOUTH-WEST CORNER OF THE SCHOOL. THE TABLETS IS 100mm BELOW THE BRICK WORK AND CENTERED IN THE COLUMN.

GENERAL NOTES:

- BASEPLAN INFORMATION OBTAINED FROM THE SITE PLAN PREPARED BY HUMPHREYS & PARTNERS ARCHITECTS / CANADA INC.
- REFER TO DRAWINGS PREPARED BY D.G. BIDDLE & ASSOCIATES FOR LIGHTING INFORMATION.
- EXISTING SERVICES INFORMATION OBTAINED FROM CITY OF BARRIE DRAWINGS AND SERVICE LOCATE SHEETS.
- ANY AND ALL WELL AND SEPTIC SYSTEMS SHALL BE DECOMMISSIONED PER MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE (MOECC) STANDARDS AND A REPORT BE PROVIDED TO THE CITY OF BARRIE.
- ALL SWALES ARE 0.15m DEPTH WITH 3:1 SIDE SLOPES UNLESS OTHERWISE NOTED.
- REFER TO LANDSCAPE PLANS FOR TREE PRESERVATION, SOFT & HARD LANDSCAPING DETAILS

ROOFTOP DETENTION NOTES:

PROVIDE ROOF DRAINAGE & DETENTION AS PER THE FOLLOWING SCHEDULE. REFER TO MECHANICAL ENGINEERS DRAWINGS FOR ROOF DRAIN LOCATIONS, SCUPPER DRAIN DETAILS & OTHER PLUMBING DETAILS.

DETAILS:

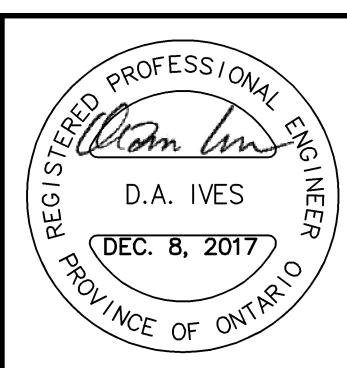
- 4-ZURN CONTROL-FLO ROOF DRAINS (2-105) OR APPROVED EQUIVALENT
- (4 DRAINS c/w 2 NOTCHES PER DRAIN)
- 100-YEAR MAX. STORAGE = 73.9m³
- 100-YEAR MAX RELEASE RATE = 5.6L/S
- 5-YEAR MAX RELEASE RATE = 3.0L/S
- MAX DRAIN-DOWN TIME = 2HRS

GENERAL SERVICING NOTES:

- ENSURE 0.5m VERTICAL SEPARATION IS MAINTAINED BETWEEN WATERMAINS, SEWERS, AND SERVICES AT CROSSINGS UNLESS OTHERWISE SHOWN. CONTRACTOR TO CONFIRM EXISTING WATERMAIN, SANITARY, AND STORM SEWER ELEVATIONS PRIOR TO CONSTRUCTION.

CAUTION
CONTRACTOR TO DETERMINE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

- Notes:**
- Unless noted otherwise, the measurements and distances shown on this drawing are shown in meters.
 - Do not scale drawings.
 - It is the contractor's responsibility to verify all dimensions, levels and datums on site and report any discrepancies or omissions to WMI & Associates Ltd. prior to construction.
 - This drawing is to be read and understood in conjunction with all other relevant documents applicable to this project.
 - This drawing is the exclusive property of WMI & Associates Ltd. and the reproduction of any part of this document without prior written consent is strictly prohibited.



No.	Issue / Revision	Date
1	ISSUE FOR SPA	APR. 18, 2017
2	ISSUE FOR SPA	JULY 21, 2017
3	ISSUE FOR BUILDING PERMIT	AUG. 24, 2017
4	ISSUE FOR SPA	NOV. 2, 2017
5	FIRE LINE CONNECTION REVISIONS	DEC. 6, 2017
6	ISSUE FOR SPA	DEC. 8, 2017

400 FERNDALE DRIVE SOUTH
SITE SERVICING PLAN

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Scale: 1:300

Checked By: DAI
Project No.: 14-293

Drawing No.: WM