

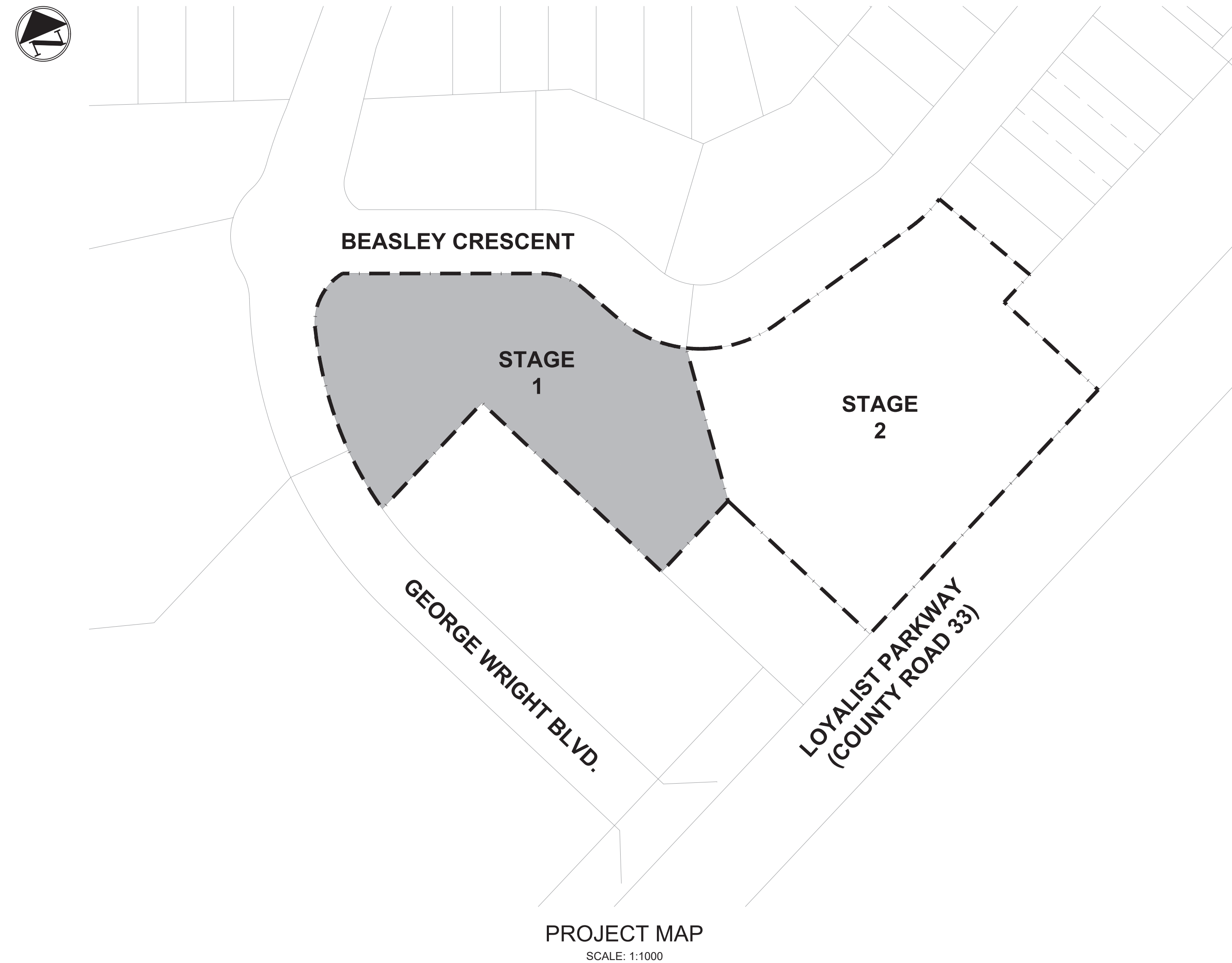
VICINITY MAP  
SCALE: N.T.S

# WEST MEADOW APARTMENTS SITE PLAN STAGE 1 (BLOCK 44) PICTON, ON



## DRAWING INDEX

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PROJECT MAP  
SCALE: 1:1000



PROJECT NUMBER: 22-104  
ISSUED FOR SITE PLAN AGREEMENT  
MAY 28, 2025

**PROJECT BENCHMARK:**

1. PROJECT BENCHMARK ELEVATION 106.917: TOP NUT OF FIRE HYDRANT LOCATED WITHIN TALBOT STREET RIGHT-OF-WAY TO THE EAST OF THE SITE APPROXIMATELY 260M EAST OF WHERE THE MILLENNIUM TRAIL CROSSES TALBOT STREET.

2. PROJECT BENCHMARK ELEVATION 103.67: THE CORNER OF CONCRETE VAULT AT THE END OF THE CUL DE SAC.

**PROJECT NOTES:**

1. THE TOPOGRAPHIC SURVEY WAS COMPLETED BY IBW IN 2023, AND THE PROPERTY BOUNDARY SURVEY WAS COMPLETED BY IBW.

2. THE PROJECT GEOTECHNICAL REPORT WAS COMPLETED BY CAMBIUM DATED NOVEMBER 8, 2023.

**NOTES TO CONTRACTOR:**

1. THE CONTRACTOR SHALL COMPLETE ALL WORKS IN IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT. THE CONTRACTOR SHALL ERECT CONSTRUCTION SIGNING IN CONFORMANCE WITH THE ONTARIO TRAFFIC MANUAL.

2. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL LOCATIONS OF EXISTING BURIED SERVICES PRIOR TO START OF CONSTRUCTION, AS THE EXISTING SERVICES SHOWN ON THE DRAWINGS IS NOT NECESSARILY ACCURATE.

3. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROLS AND ERECT CONSTRUCTION SIGNING IN CONFORMANCE WITH BOOK 7 OF THE ONTARIO HIGHWAY TRAFFIC MANUAL. EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED AT ALL TIMES.

4. NO VARIATION FROM THE APPROVED ENGINEERING DESIGN DRAWINGS AND OTHER APPROVED PLANS AND DRAWINGS SHALL BE PERMITTED UNLESS SUCH VARIATION IS AUTHORIZED IN WRITING BY THE MUNICIPAL ENGINEER (VIA THE CONTRACT ADMINISTRATOR).

5. THE CONTRACTOR SHALL PAY THE COST OF REPAIRING ANY DAMAGE TO ANY EXISTING SERVICES AND/OR ROADS CAUSED BY CONSTRUCTION ACTIVITIES AT THE CONTRACTOR'S EXPENSE. REPAIRS SHALL BE TO THE SATISFACTION OF THE MUNICIPAL ENGINEER AND/OR THE AUTHORITIES RESPONSIBLE FOR SUCH SERVICES.

6. THE CONTRACTOR SHALL, AT ALL TIMES DURING THE TERM OF HIS CONTRACT, ENSURE THAT ALL PUBLIC ROADS ABUTTING THE SUBJECT LANDS AND ALL PUBLIC ROADS USED FOR ACCESS TO THE SUBJECT LANDS, DURING ANY CONSTRUCTION ON THE SUBJECT LANDS, SHALL BE MAINTAINED IN A CONDITION EQUAL TO THAT NOW EXISTING AND TO THE APPROVAL OF THE MUNICIPAL ENGINEER. IF DAMAGED, THE CONTRACTOR AGREES TO RESTORE IMMEDIATELY, AT ITS EXPENSE, SUCH ROAD TO A CONDITION EQUAL TO THAT EXISTING AT THE TIME OF SUCH DAMAGE AND TO THE APPROVAL OF THE MUNICIPAL ENGINEER. ALL TRUCKS MAKING DELIVERY TO, OR TAKING MATERIALS FROM, THE SUBJECT LANDS SHALL BE COVERED OR LOADED SO AS NOT TO SCATTER SUCH MATERIALS ON ANY PUBLIC ROAD. IN THE EVENT THAT ANY MUD, DUST, REFUSE, RUBBISH AND/OR OTHER LITTER OF ANY TYPE RESULTING FROM THE DEVELOPMENT OF THE SUBJECT LANDS IS FOUND UPON HIGHWAYS OUTSIDE OF THE SUBJECT LANDS, THE CONTRACTOR SHALL CLEAN UP SAME TO THE SATISFACTION OF THE MUNICIPALITY WITHIN 24 HOURS OF THE GIVING OF NOTICE TO THE OWNER OR ITS AGENT BY THE MUNICIPALITY. IF THE CONTRACTOR HAS NOT CAUSED SAME TO BE CLEANED UP WITHIN 24 HOURS AS AFORESAID, IT IS AGREED THAT THE MUNICIPALITY MAY, AT ITS SOLE OPTION, CARRY OUT THE REQUIRED CLEAN-UP WORK AT THE CONTRACTOR'S EXPENSE PLUS THIRTY PER CENT (30%) OF THE TOTAL COST HEREOF FOR INCONVENIENCE CAUSED TO THE MUNICIPALITY. ALL CONSTRUCTION VEHICLES GOING TO AND FROM THE SUBJECT LANDS SHALL USE THE ACCESS ROUTES, IF ANY, DESIGNATED BY THE MUNICIPAL ENGINEER.

7. THE CONTRACTOR IS RESPONSIBLE FOR ALL VERTICAL AND HORIZONTAL CONTROLS AND FOR LAYOUT OF WORKS.

8. ALL CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH THE APPLICABLE MUNICIPAL POLICIES AND BY-LAWS RELATED TO HOURS OF WORK, MUD TRACKING, FIRE PERMITS, ROAD CUT PERMITS, CONSTRUCTION ACCESS, ETC.

**GENERAL CONSTRUCTION SPECIFICATIONS**

1. UNLESS OTHERWISE NOTED, THE ONTARIO PROVINCIAL STANDARDS FOR ROADS AND PUBLIC WORKS (OPS) SHALL BE USED BY THE CONTRACTOR FOR CONSTRUCTION SPECIFICATIONS, MATERIAL SPECIFICATIONS, AS WELL AS REFERENCE TO DRAWINGS FOR ROADS, SEWERS AND WATERMANS.

2. ALL WORKS SHOULD BE IN COMPLIANCE WITH THE MUNICIPAL GUIDELINES.

3. MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH OPSS 407 CONSTRUCTION SPECIFICATION FOR NEW MAINTENANCE HOLE, CATCH BASIN, DITCH INLET, AND VALVE CHAMBER INSTALLATION.

4. TRANSPORTATION SYSTEMS SHALL BE INSTALLED, INSPECTED AND TESTED AS PER ONTARIO PROVINCIAL STANDARDS (OPS), ONTARIO TRAFFIC MANUALS (OTMS) AND MUNICIPAL CONSTRUCTION SYSTEMS MANUAL FOR SUB-GRADE, GRANULAR MATERIAL, ASPHALT, CONCRETE, STRUCTURES, STRUCTURAL STEEL, REINFORCING STEEL, ELECTRICAL /ATMS, ENVIRONMENTAL, TRAFFIC AND ASSOCIATED INFRASTRUCTURE.

**DRAWING MEASUREMENTS**

1. UNLESS OTHERWISE SPECIFIED, ALL DRAWING MEASUREMENTS ARE IN METRES AND PIPE SIZES ARE IN MILLIMETERS.

2. ELEVATIONS ARE GEODETIC CGVD28

3. DRAWING COORDINATES ARE ZONE 18 UTM NAD83

**CONTRACTOR SUBMISSIONS**

1. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL STORM, SANITARY, WATER STRUCTURES AND MATERIAL SPECIFICATIONS TO THE CONTRACT ADMINISTRATOR FOR APPROVAL PRIOR TO MATERIAL ORDERING.

2. SHOP DRAWINGS FOR RETAINING WALLS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER.

3. THE CONTRACTOR SHALL MAINTAIN ACCURATE RECORDS OF CONSTRUCTION AND SUBMIT AS-BUILT DRAWINGS UPON CONTRACT COMPLETION.

**EARTHWORKS, SEDIMENT AND EROSION CONTROLS**

1. THE CONTRACTOR SHALL UPON REQUEST OF THE CONTRACT ADMINISTRATOR, TAKE SUCH EROSION CONTROL MEASURES AND CONSTRUCT SUCH EROSION CONTROL WORKS AS DIRECTED IN WRITING DIRECT. SUCH EROSION CONTROL MEASURES MAY, WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, INCLUDE:

- TEMPORARY SODDING OR SEEDING;
- TEMPORARY GRADING MEASURES;
- USE OF BARRIERS, FENCING AND EMBANKMENTS;
- PERMANENT PLANTING, SEEDING, OR SODDING;
- USE OF RIP-RAP OR OTHER SIMILAR METHODS;
- CONSTRUCTION OF CULVERTS, DRAINS AND SPILLWAYS; AND/OR
- SEDIMENTATION PONDS, RETENTION PONDS, DETENTION PONDS OR SILTATION PONDS.

2. THE CONTRACTOR SHALL PROCEED WITH CONSTRUCTION IN ACCORDANCE WITH RECOMMENDATIONS FROM THE PROJECT GEOTECHNICAL REPORT, INCLUDING:

- GROUNDWATER CONTROLS.
- PIPE EXCAVATION TRENCHES, BEDDING AND BACKFILL
- SUITABILITY OF MATERIAL FOR REUSE AS SUBGRADE BELOW ROADWAYS
- ANTI-SEEPAGE COLLARS
- ROAD PAVEMENT INCLUDING SUBGRADE

3. THE CONTRACTOR SHALL CARRY OUT SUCH GRADING AND/OR DRAINAGE WORKS AS MAY BE NECESSARY TO PREVENT OR ELIMINATE THE PONDING OF SURFACE WATER OR OTHER CONDITIONS WHICH MAY, IN THE OPINION OF THE MEDICAL OFFICER OF HEALTH, BE FAVOURABLE TO THE BREEDING OF MOSQUITOES. THIS WORK SHALL BE DONE BEFORE THE MONTH OF JUNE EACH YEAR. NO WORK SHALL BE REQUIRED FROM OCTOBER TO MAY.

4. IF DIRECTED BY THE CONTRACT ADMINISTRATOR, THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS MATERIAL IN ACCORDANCE WITH OPSS 180 AND THE PROVINCE OF ONTARIO'S MANAGEMENT OF EXCESS SOIL - A GUIDE FOR BEST MANAGEMENT PRACTICES. THE CONTRACTOR SHALL CONSULT WITH THE LOCAL MINISTRY OF ENVIRONMENT OFFICE AS NECESSARY TO ENSURE THEIR REQUIREMENTS ARE SATISFIED IN RESPECT TO EXCESS SOIL MANAGEMENT AND DISPOSAL.

5. IF THE RECEIVER IS A LICENSED LANDFILL, PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE WRITTEN CONFIRMATION OF WHERE THE MATERIAL WILL BE DISPOSED; THAT THEY ARE ABLE TO RECEIVE THE AMOUNT OF MATERIAL ANTICIPATED; AND THAT THEY ARE SUITABLY LICENSED TO RECEIVE THE TYPE OF MATERIAL ANTICIPATED.

6. IF THE RECEIVER IS NOT A LICENSED LANDFILL, PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A MINISTRY APPROVED FILL MANAGEMENT PLAN, COMPLETED BY A QUALIFIED PERSON WHICH WILL BE FOLLOWED BY THE CONTRACTOR(S) FOR THE DURATION OF THE WORKS.

7. ALL SPILLS ARE TO BE REPORTED TO THE ENVIRONMENTAL SPILLS AND ACTION CENTRE (1-800-268-6060).

8. ANY DECOMMISSIONING OF WATER WELLS (DRILLED OF DUG) SHALL BE COMPLETED IN ACCORDANCE WITH ONTARIO REGULATIONS 903.

**MINIMUM SEPARATION BETWEEN SEWER AND WATERMAIN**

1. WATERMANS SHOULD CROSS ABOVE SEWERS WHEREVER POSSIBLE.

2. THE MINIMUM HORIZONTAL SEPARATION BETWEEN ANY SEWER OR SEWER MANHOLE AND WATERMANS SHALL BE 2.5 M; THE DISTANCE SHALL BE MEASURED FROM THE NEAREST EDGES (OUTSIDE EDGE TO OUTSIDE EDGE OF PIPE).

3. WHERE IT IS NOT PRACTICAL TO MAINTAIN A SEPARATE TRENCH AND A MINIMUM HORIZONTAL SEPARATION DISTANCE, AND WHETHER THE WATERMAIN IS ABOVE OR BELOW THE SEWER, A MINIMUM VERTICAL DISTANCE OF 0.5M BETWEEN THE OUTSIDE OF THE WATERMAIN AND THE OUTSIDE OF THE SEWER SHOULD BE PROVIDED TO ALLOW FOR PROPER BEDDING AND STRUCTURAL SUPPORT OF THE WATERMAIN AND SEWER PIPES. SUFFICIENT STRUCTURAL SUPPORT FOR SEWER PIPES SHOULD BE PROVIDED TO PREVENT EXCESSIVE DEFLECTION OF THE JOINTS AND SETTLING. THE LENGTH OF WATER PIPE SHOULD BE CENTERED AT THE POINT OF CROSSING SO THAT JOINTS IN THE WATERMAIN WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER. THE CROSSING SHOULD BE PERPENDICULAR IS POSSIBLE.

4. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, ONE OF THE FOLLOWING METHODS SHALL BE SPECIFIED:

• THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER PIPE AND SHOULD BE PRESSURE TESTED AT 350 KPA AS PER OPSS701 TO ASSURE WATER TIGHTNESS; AND/OR,

• EITHER THE WATERMAIN OR THE SEWER LINE SHOULD BE ENCASED IN A WATERTIGHT CARRIER PIPE WHICH EXTENDS 3 M ON BOTH SIDES OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATERMAIN.

**OBC 7.3.5.7. SPATIAL SEPARATION OF WATER SERVICE PIPES**

(1) EXCEPT AS PERMITTED IN SENTENCES (2) AND (3), A BURIED WATER SERVICE PIPE SHALL BE SEPARATED FROM THE BUILDING DRAIN, BUILDING SEWER AND A PRIVATE SEWAGE DISPOSAL SYSTEM, BY NOT LESS THAN 2 440 MM MEASURED HORIZONTALLY, OF UNDISTURBED OR COMPACTED EARTH.

(2) THE WATER SERVICE PIPE MAY BE CLOSER THAN 2 440 MM OR BE PLACED IN THE SAME TRENCH WITH THE BUILDING DRAIN OR BUILDING SEWER IF,

(A) THE FOLLOWING CONDITIONS ARE MET:

(I) THE BOTTOM OF THE WATER SERVICE PIPE AT ALL POINTS IS AT LEAST 500 MM ABOVE THE TOP OF THE BUILDING DRAIN OR BUILDING SEWER, AND

(II) WHEN IN A COMMON TRENCH WITH THE BUILDING DRAIN OR BUILDING SEWER, THE WATER SERVICE PIPE IS PLACED ON A SHELF AT ONE SIDE OF THE COMMON TRENCH,

(B) THE WATER SERVICE PIPE IS CONSTRUCTED OF A SINGLE RUN OF PIPE WITH NO JOINTS OR FITTINGS BETWEEN THE STREET LINE OR SOURCE OF SUPPLY ON THE PROPERTY AND THE INSIDE FACE OF THE BUILDING, OR

(C) THE BUILDING DRAIN OR BUILDING SEWER IS CONSTRUCTED OF PIPING WHICH IS PRESSURE TESTED IN ACCORDANCE WITH SUBSECTION 7.3.7. AT 345 KPA.

**MINIMUM SEPARATION BETWEEN SEWERS**

1. THE MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PARALLEL SEWERS IN A SEPARATE TRENCH SHALL BE 2.5M, THE DISTANCE SHALL BE MEASURED FROM THE NEAREST EDGES (OUTSIDE EDGE TO OUTSIDE EDGE OF PIPE).

2. THE MINIMUM VERTICAL SEPARATION BETWEEN TWO SEWERS SHALL BE 0.5 M. STORM SEWERS SHOULD CROSS ABOVE SANITARY SEWERS WHEREVER POSSIBLE.

3. WHEN SANITARY AND STORM SEWERS ARE CONSTRUCTED IN A COMMON TRENCH, THE STORM SEWER WILL BE CONSTRUCTED PARALLEL TO THE SANITARY SEWER WITH 1 M MINIMUM SEPARATION BETWEEN THE OUTSIDE WALL OF THE TWO PIPES.

**CLAY SEALS ON SEWERS**

1. WHERE THERE EXISTS A POSSIBILITY THAT GROUNDWATER MAY BE DIVERTED AND FOLLOW THE PATH OF THE NEW SEWER, THE SEEPAGE PATTERNS MUST BE ANALYSED. GROUNDWATER BARRIERS SHOULD BE CONSIDERED AND DESIGNED IN ADEQUATE NUMBERS TO PREVENT GROUNDWATER MIGRATION DOWN SEWER TRENCHES. SPECIAL ATTENTION IS REQUIRED AT CROSSINGS WITH OTHER UTILITIES WHICH RELY ON THE STABILITY OF THE EXISTING SEWER.

2. THE FOLLOWING CONDITIONS ARE TO BE CONSIDERED AS SUFFICIENT REASONS FOR DISCUSSING THE NEED FOR ADDITIONAL SEEPAGE CONTROLS ALONG THE PIPE ALIGNMENT:

- THE NATURAL SUB-BASE AND CULVERT FOUNDATION MATERIALS ARE OF A GRANULAR NATURE;
- THE EMBANKMENT MATERIAL IS OF A NON-COHESIVE NATURE;
- SIGNIFICANT HYDRAULIC HEAD BETWEEN ENDS OF THE CULVERT.

3. CLAY SEALS SHALL BE INSTALLED AT 50 M INTERVALS. CLAY SEALS TO EXTEND THE FULL TRENCH WIDTH AND FROM BOTTOM OF TRENCH EXCAVATION TO UNDERSIDE OF ROAD STRUCTURE WITH A MINIMUM THICKNESS OF ONE METRE LONG PIPE. SEE OPSP 802.095.

**MAINTENANCE HOLES**

1. ALL MAINTENANCE HOLE FRAMES AND GRATES SHALL BE SET FLUSH WITH THE FINISHED GRADE OF THE SOD SURFACE.

2. BENCHING

• FULL HEIGHT BENCHING IS REQUIRED IN MAINTENANCE HOLES FOR PIPES 300 MM OR LESS IN DIAMETER. THREE-QUARTER HEIGHT BENCHING IS REQUIRED IN MAINTENANCE HOLES FOR PIPES GREATER THAN 300 MM IN DIAMETER;

• STEPS IN MAINTENANCE HOLE BENCHING WILL BE REQUIRED WHEN THE PIPE DIAMETER IS GREATER THAN 450 MM

• FLOW CHANNELS SHALL HAVE A STEEL TROWEL FINISH WHILE BENCHING SHOULD HAVE A WOODEN FLOAT FINISH. BENCHING SHALL BE AT A SLOPE OF 8:1 TOWARDS THE CHANNEL.

**3. CONNECTIONS**

• FLEXIBLE PIPE JOINT SHALL BE PROVIDED WITHIN 0.3 M FROM THE OUTSIDE EDGE OF MAINTENANCE HOLES WHERE A PIPE CONNECTS TO A STRUCTURE (FLEXIBLE AND RIGID PIPE);

• JOINTS BETWEEN MAINTENANCE HOLE SECTIONS, AND INLET AND OUTLET PIPES SHALL BE SEALED WITH GASKETED FLEXIBLE WATERTIGHT CONNECTIONS;

• FOR SERVICE CONNECTIONS TO EXISTING TRUNK OR INTERCEPTOR SEWERS, THE INVERT OF THE SERVICE CONNECTION INSPECTION CHAMBER SHALL BE A MINIMUM OF 1 M ABOVE THE CROWN OF THE TRUNK OR INTERCEPTOR SEWERS. IF THE HYDRAULIC ELEVATION OF ANY POTENTIAL SURCHARGE IN THE TRUNK OR INTERCEPTOR SEWER IS KNOWN, THE INVERT OF THE INSPECTION CHAMBER ON THE SERVICE CONNECTION MUST BE ABOVE THE SURCHARGE ELEVATION.

**4. FROST HEAVE PREVENTION**

• FROST STRAPS (INTERNAL OR EXTERNAL) SHALL BE PROVIDED TO HOLD MAINTENANCE HOLE SECTIONS TOGETHER (AT LEAST TWO (2) BETWEEN EACH SECTION), EXTERNAL STRAPS SHALL EXTEND VERTICALLY FROM TOP TO BOTTOM AND FOR DEEP MAINTENANCE HOLES EXTENDED AT LEAST 1 M BELOW FROST DEPTH.

5. MAINTENANCE HOLE FRAME AND COVERS (PER OPSP 701 SERIES AND 704.010)

• A SELF-LEVELLING FRAME AND COVER SHALL BE USED FOR ALL NEW MAINTENANCE HOLES THAT ARE WITHIN AN ASPHALT ROADWAY.

• MAINTENANCE HOLE FRAME AND COVERS ARE REQUIRED FOR ALL MAINTENANCE HOLES AND WILL BE IN ACCORDANCE WITH OPSP 401.010 TYPE 'A' CLOSED.

• ALL MAINTENANCE HOLE CHAMBER OPENINGS WILL BE LOCATED ON THE UPSTREAM SIDE OF THE MAINTENANCE HOLE.

• WATERTIGHT MAINTENANCE HOLES AND SEALED MAINTENANCE HOLE LIDS ARE REQUIRED WHERE STRUCTURES ARE BELOW THE EXPECTED GROUNDWATER TABLE, AND IN AREAS PRONE TO PONDING AND/OR FLOODING.

• LOCKABLE MAINTENANCE HOLES COVERS SHALL BE CONSIDERED IN AREAS OF ISOLATED EASEMENT LOCATIONS OR WHERE VANDALISM MAYBE A PROBLEM.

6. MAINTENANCE HOLE DROP STRUCTURES

• DROP MAINTENANCE HOLES SHALL BE USED WHERE THE INVERT LEVELS OF THE INLET AND OUTLET SEWERS DIFFER BY 610 MM OR MORE. WHERE THE INVERT LEVELS OF THE INLET AND OUTLET SEWERS IS LESS THAN 610 MM, BENCHING IS REQUIRED TO PREVENT SOLIDS DEPOSITION.

• DROP STRUCTURES SHALL BE EXTERNAL UNLESS THE MAINTENANCE HOLE DIAMETER IS INCREASED BY ONE SIZE, IT IS SHOWN THAT ACCESS AND MAINTENANCE IS NOT COMPROMISED AND IT IS SHOWN THAT USE OF AN EXTERNAL DROP PIPE IS NOT POSSIBLE.

• THE EXTERNAL DROP PIPE WILL BE ONE SIZE SMALLER THAN THE SEWER LINE WITH A MINIMUM DIAMETER OF 200 MM.

7. MAINTENANCE HOLE SAFETY LANDINGS (PER OPSP 404.020)

• WHEN THE DEPTH FROM INVERT TO TOP OF MAINTENANCE HOLE EXCEEDS 4.5 M, A SAFETY PLATFORM SHALL BE PROVIDED. SAFETY GRATES WILL BE NOT MORE THAN 4.5 M APART. THE PLATFORM WILL BE LOCATED 2 M BELOW THE MAINTENANCE HOLE COVER AND 2.8 M ABOVE THE MAINTENANCE HOLE INVERT. INCOMING PIPES ARE TO BE BELOW LANDINGS, WHERE POSSIBLE. ACCESS HATCHES IN SAFETY GRATINGS ARE TO LINE UP TO ALLOW PROPER USE OF FALL ARREST EQUIPMENT.

**SANITARY SEWERS**

1. THE MINIMUM DEPTH OF THE SANITARY SEWER SHALL BE 2.5 M MEASURED FROM THE CENTRE LINE ELEVATION OF THE ROAD TO OBVERT OF THE SEWER. SHALLOW SEWERS (LESS THAN 1.6 M COVER) SHALL BE INSULATED AS PER OPSP1109.030 TO PREVENT FREEZING.

2. SANITARY MAINTENANCE HOLES INSTALLED BELOW SEASONALLY HIGH GROUNDWATER TABLE (SHGWT) SHALL BE EXTERNALLY WRAPPED WITH WATERPROOF MEMBRANE PLACED EXTERNALLY AROUND PRECAST JOINTS, INCLUDING JOINTS BELOW THE MAINTENANCE HOLE FRAME AND COVER, WITH A MINIMUM 300 MM WIDE STRIP. IF SHGWT IS UNKNOWN MAINTENANCE HOLES SHALL BE DESIGNED WITH THE ASSUMPTION THAT THEY ARE INSTALLED 0.6 M BELOW SHGWT.

**3. PIPE MATERIALS**

• SANITARY MAINS, PUBLIC AND PRIVATE SIDE LATERALS SEWERS SHALL BE COLOUR CODED GREEN;

• ULTRA-RIB PIPE IS NOT APPROVED FOR USE AS A SANITARY SEWER;

• THE MINIMUM PIPE CLASS FOR REINFORCED CONCRETE SANITARY PIPE SEWER SHALL BE 65-D

• BEDDING DESIGN SHALL BE COMPATIBLE WITH THE PIPE MATERIAL USED;

• ONLY PVC PIPE MATERIAL WILL BE ALLOWED FOR INDUSTRIAL AREAS;

• TRACER WIRE SHALL BE #8 AWG INSULATED UNDERGROUND APPLICATION COPPER TRACER WIRE;

• FUSED HDPE PIPE SHALL BE UTILIZED FOR INSTALLATIONS UNDER WATERCOURSE CROSSINGS.

Type of Pipe	Specification	Diameter	Approved Use
DR 35 PVC	CSA B182.2 320 kPa stiffness and larger	200 mm	Mainline
DR 28 PVC	CSA B182.2 625 kPa stiffness	100 mm to 150 mm	Service Laterals
Reinforced Concrete	CSA A257.2 Minimum Pipe Class 65-D	300 mm and larger	Mainline

**SANITARY SEWER LATERALS**

1. SINGLE UNIT SEWER LATERALS SHALL BE 125MM DIAMETER.

2. SERVICES SHOWN WITH BENDS SHALL BE SWEEPING BENDS, NOT ANGLED.

3. ALL CONNECTIONS TO NEW SANITARY MAINS SHALL BE APPROVED FACTORY-MADE CONNECTIONS. CONNECTIONS TO EXISTING SANITARY SEWER SHALL BE MADE WITH APPROVED FACTORY-MADE TEES OR SADDLES IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS.

4. ALL SANITARY SERVICES SHALL BE INSTALLED WITH TRACEABLE APPURTENANCES TO THE SATISFACTION OF THE MUNICIPALITY. SANITARY TRACER WIRE SHALL BE LOCATED IN A TEST BOX (25 MM CONDUIT, COLOUR CODED "GREEN"), INSTALLED AT 50 MM ABOVE FINISHED GRADE AT THE PROPERTY LINE.

5. SANITARY SEWER CLEANOUTS AS PER PSD-007 SHALL BE PROVIDED IN THE MUNICIPAL ROW FOR ALL RESIDENTIAL DEVELOPMENTS TO FACILITATE INSPECTION. CLEANOUTS SHALL NOT BE INSTALLED IN DRIVEWAYS. CLEANOUTS SHALL BE LOCATED, WITH A MINIMUM OF 1.5 M CLEARANCE AWAY FROM ANY OTHER SERVICE.

6. SERVICE RISERS WHEN REQUIRED SHALL BE TAKEN OFF AT AN ANGLE NOT LESS THAN 45 DEG (INSTALLED AT MAXIMUM 1:1 SLOPE WHERE FEASIBLE) FROM THE VERTICAL, MOVED TO THE VERTICAL BY AN APPROPRIATE ELBOW AND VERTICAL SECTION PROVIDED WITH A SLIDE FITTING SHALL BE UTILIZED WHEN THE INVERT DEPTH OF THE SEWER MAIN EXCEEDS 4 M. THE RISER SHALL NOT EXCEED 3 M IN HEIGHT WITHOUT APPROVAL FROM THE MUNICIPALITY. INSTALL AS PER OPSP 1006.010.

7. THE MINIMUM COVER AT THE PROPERTY LINE MEASURED FROM THE FINISHED CENTRE LINE ROAD ELEVATION SHALL BE 2.3 M. HOWEVER, IN SITUATIONS WHERE ACHIEVING 2.3 M AT PROPERTY LINE IS NOT POSSIBLE; 1.8 M COVER IS ACCEPTABLE.

8. SHALLOW SERVICE CONNECTIONS (LESS THAN 1.6 M COVER) SHALL BE INSULATED AS PER OPSP1109.030 TO PREVENT FREEZING.

**TRACER WIRE FOR SANITARY**

1. TRACER WIRE SHALL BE #8 AWG INSULATED UNDERGROUND APPLICATION COPPER TRACER WIRE;

2. TRACER WIRE SHALL BE INSTALLED ON ALL NON-METALLIC FORCEMAINS, SANITARY LATERALS /SERVICES ALONG FULL LENGTH OF PIPE TO PROVIDE A MEANS OF LOCATING THE PIPES;

3. TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 3 M INTERVALS;

4. NO BREAKS OR CUTS IN THE TRACER WIRE OR TRACER WIRE INSULATION SHALL BE PERMITTED;

5. AT SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE PLACED BETWEEN THE SADDLE AND THE SEWER MAIN;

6. EXCEPT FOR APPROVED SPLICED IN CONNECTIONS, TRACER WIRE SHALL BE CONTINUOUS;

7. ALL SANITARY SERVICES SHALL BE INSTALLED WITH TRACEABLE APPURTENANCES TO THE SATISFACTION OF THE MUNICIPALITY. SANITARY TRACER WIRE SHALL BE LOCATED IN A TEST BOX (25 MM CONDUIT, COLOUR CODED "GREEN") AFFIXED TO THE SANITARY CLEANOUT, INSTALLED AT 50 MM ABOVE FINISHED GRADE AT THE PROPERTY LINE;

8. TRACER WIRE FOR NON-METALLIC FORCEMAINS SHALL BROUGHT TO THE SURFACE USING 50 MM DIAMETER VALVE BOXES WITH LIDS LABELLED "SEWER";

9. AT SANITARY SERVICE CONNECTIONS, WHERE THERE IS NO TRACER WIRE ON THE EXISTING SEWER MAIN, TRACER WIRE SHALL BE THERMITE WELDED TO THE SEWER MAIN CONNECTION AND SHALL BE CONFIGURED AS STATED ABOVE. TRACER SHALL BE LEFT WITH A MINIMUM OF 1 M OF SLACK;

10. AT THE POINT OF CONNECTION BETWEEN METALLIC AND NON-METALLIC SEWER MAIN, THE TRACER WIRE SHALL BE PROPERLY CONNECTED TO THE METALLIC PIPE WITH A THERMITE WELD OR APPROVED EQUIVALENT. PROTECTIVE COATING SHALL BE APPLIED TO ALL THERMITE WELDS;

11. ALL TRACER WIRE WELDS ONTO METALLIC PIPE SHALL BE COMPLETELY SEALED WITH THE USE OF AN APPROVED MASTIC TYPE SEALER SPECIFICALLY MANUFACTURED FOR UNDERGROUND USE. THE MASTIC SHALL BE TO MASTIC (TAPECOAT OF CANADA) OR APPROVED EQUIVALENT AND SHALL BE APPLIED IN A THICK COAT, A MINIMUM OF 12 MM THICK AND SHALL BE PROTECTED FROM CONTAMINATION BY BACKFILL MATERIAL WITH USE OF A PLASTIC MEMBRANE. AS AN ALTERNATIVE, ROYSTON HANDY CAP PREFABRICATED ASSEMBLIES USED IN CONJUNCTION WITH ROYSTON ROYBOND 747 PRIMER MAY BE USED. IN ALL CASES, THE PIPE IS TO BE PROPERLY CLEANED AND MATERIAL APPLICATIONS SHALL BE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

12. FOR DIRECTIONAL DRILLING, AUGURING OR BORING INSTALLATIONS, FOUR (4) #8 AWG TRACER WIRES SHALL BE INSTALLED WITH THE PIPE AND CONNECTED TO THE TRACER WIRE AT BOTH ENDS, OR THERMITE WELDED TO THE EXISTING METALLIC PIPE AT BOTH ENDS;

13. THE DEVELOPER SHALL CONDUCT A TRACER WIRE CONDUCTIVITY TEST AND CERTIFY THAT THE ENTIRE TRACER WIRE SYSTEM IS INSTALLED AND FUNCTIONING PROPERLY PRIOR TO ASSUMPTION. IF DEFICIENCIES ARE FOUND IN THE TRACER WIRE SYSTEM WHEN TESTED BY THE MUNICIPALITY, THE DEVELOPER SHALL BE CHARGED THE FULL COST INCURRED BY THE MUNICIPALITY FOR ALL SUBSEQUENT VISITS TO SITE TO CONFIRM FUNCTIONALITY AND ACCEPTABILITY OF THE TRACER WIRE SYSTEM.

14. REFER TO WATERMAIN SECTION FOR THE FIGURE TO ILLUSTRATES THE TRACER WIRE INSTALLATION.

**STORM SEWER**

1. OF 1.5 M COVER BELOW CENTRELINE OF ROAD TO OBVERT OF PIPE SHALL BE PROVIDED FOR STORM SEWERS. A MAXIMUM DEPTH FOR STORM SEWERS SHALL BE AS PER OPSP 807.010, OPSP 807.030 AND OPSP 806.040.

**PIPE MATERIALS**

1. STORM SEWERS SHALL BE COLOUR CODED WHITE;

2. THE MINIMUM PIPE CLASS FOR REINFORCED CONCRETE STORM PIPE SEWER SHALL BE 65-D;

3. BEDDING DESIGN SHALL BE COMPATIBLE WITH THE PIPE MATERIAL USED;

4. RIGID PIPE IS RECOMMENDED IN AREAS OF HIGH UTILITY CONGESTION, WHEN RISK OF BEDDING UNDERMINING EXISTS;

5. ULTRA-RIB PIPE IS NOT APPROVED FOR USE AS A STORM SEWER.

Type of Pipe	Specification	Diameter	Approved Use
DR 35 PVC	CSA B182.2 320 kPa stiffness and larger	250 mm	Mainline
Reinforced Concrete	CSA A257.2 Minimum Pipe Class 65-D	300 mm and larger	Mainline

**CATCHBASINS**

1. CATCHBASIN FRAME AND COVERS SHALL BE AS PER OPSP 400.020

2. ALL CATCHBASINS SHALL BE DESIGNED WITH A MINIMUM 0.9 M SUMP.

3. THE MINIMUM DEPTH OF COVER OVER A CATCHBASIN LEAD SHALL BE 1.5M

4. SINGLE CATCHBASIN: MINIMUM LEAD SHALL BE 300 MM DIAMETER WITH 1 % MINIMUM GRADE;

5. DOUBLE CATCHBASIN: MINIMUM LEAD SHALL BE 375 MM DIAMETER WITH 0.7 % MINIMUM GRADE;

**CLIENT**



PROJECT 22-104

**WEST MEADOW APARTMENTS SITE PLAN**

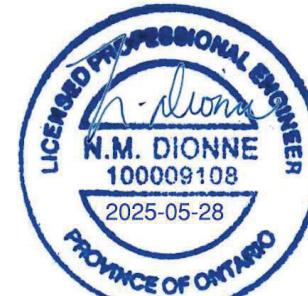
**KEY MAP**

**LEGEND**



DRAWN BY: D.YIN

DESIGNED BY: N.DIONNE, P.ENG



**REVISIONS**

# M/D/Y BY ISSUED FOR

#	M/D/Y	BY	ISSUED FOR
2	05/28/25	N.D	SITE PLAN AGREEMENT
1	11/20/24	N.D	SITE PLAN AGREEMENT

**DRAWING TITLE**

**NOTES & SPECIFICATIONS**

## WATERMANS AND WATER SERVICES

- ALL WATER BOXES, VALVE BOXES ETC. SHALL BE SET FLUSH WITH THE FINISHED GRADE OF THE SOD SURFACE.
- WATERMANS SHALL BE INSTALLED WITH A MINIMUM DEPTH OF 1.8 M MEASURED FROM TOP OF WATERMAIN TO THE CENTRE LINE OF ROAD. THE MAXIMUM DEPTH ON A WATERMAIN PIPE, UNLESS IT OCCURS AT THE CROSSING OF A WATERCOURSE OR A STRUCTURE IS 2.3 M. THE MINIMUM SLOPE FOR TRANSMISSION WATERMAIN INSTALLATION IS 0.5 %.
- WATERMANS WHICH CANNOT BE CONSTRUCTED WITH THE SPECIFIED MINIMUM DEPTH SHALL BE INSULATED WITH RIGID FOAM SLAB INSULATION. IN GENERAL, THE THICKNESS OF THE INSULATION SHOULD BE 50 MM FOR EVERY 300 MM REDUCTION IN THE DEPTH OF COVER. SHALLOW INSTALLATIONS OF WATERMAIN SHALL NOT BE LESS THAN 0.8 M IN DEPTH. THE INSULATION MATERIAL SHALL BE POLYSTYRENE FOAM HI 60 OR PLASTISPAN 60.

### WATER MATERIALS:

- ALL WATERMAIN PIPE AND FITTINGS SHALL BE CERTIFIED TO NSF/ANSI 61. WATERMANS, PUBLIC AND PRIVATE SIDE LATERALS SHALL BE COLOUR CODED BLUE;
- BEDDING DESIGN SHALL BE COMPATIBLE WITH THE PIPE MATERIAL USED;
- FUSED HDPE PIPE SHALL BE UTILIZED FOR INSTALLATIONS UNDER WATERCOURSE CROSSINGS.

Watermain Pipe (300 mm and smaller)	Size/Condition	Specification
	PVC	AWWA C900, DR 18, CSA B137.3
Pipe (larger than 300 mm)	Ductile Iron with Polyethylene Encasement	Class 52 or Class 350, AWWA C150, AWWA C151 - Cement mortar interior lining (AWWA C104) with Tyton Joints
	PVC	AWWA C905, DR 18, CSA B137.3
Fittings	PVC	Push-on rubber gasketed Joint, AWWA C907, CSA B137.3
	Ductile Iron	Push-on rubber gasketed joints, ASTM A536, AWWA C111, AWWA C153, Mechanical Joint, Ductile Iron Body and Glands cement lined seal coat to AWWA C104
Joint Restraints	PVC	ASTM F1674 and ULC standard testing procedures 1,2
	Ductile Iron	ASTM A536, AWWA C151 and ULC standard testing procedures
Tracer Wire	Non-Metallic Components	#8 AWG insulated underground application copper tracer wire

NOTE: 1- MECHANICAL JOINT RESTRAINING DEVICES SHALL PROVIDE 3600 CIRCUMFERENTIAL CONTACT AND SUPPORT THE PIPE. DEVICES THAT EMPLOY LUG OR WEDGE ACTION AND ADD POINT LOADING TO THE PIPE OR DEVICES ARE NOT PERMITTED. 2- TIE ROADS SHALL BE STAINLESS STEEL.

- TAPPING SLEEVES AND VALVES SHALL BE IN ACCORDANCE WITH MUNICIPAL DESIGN GUIDELINES.
- REDUCED PRESSURE BACKFLOW PREVENTORS SHALL BE AS PER CSA B64.10 AND B64.10.01.
- BLOWOFF ASSEMBLY SHALL BE IN ACCORDANCE WITH OPSD 1104.030.
- SAMPLE HYDRANT SHALL BE COMPLETED WITH BOSHAUT INDUSTRIES 304 STAINLESS STEEL PIPE, BRONZE, VALVE BODY, NSF/ANSI 372 CERTIFIED SERVICE BOX BASES (TYPE #8) TO BE USED OVER A BRONZE STOP. K-COPPER TO BE USED FOR SUPPLY LINE TO THE SAMPLE HYDRANT.

### HYDRANTS:

- HYDRANTS SHALL MAINTAIN A MINIMUM CLEARANCE OF 1.5 M FROM THE EDGE OF CURBS AND DRIVEWAYS, AND 0.5 M FROM SIDEWALK INFRASTRUCTURE OR ANY ABOVE GRADE OBSTACLES.
- THE HYDRANT LEAD SHALL HAVE A MINIMUM DIAMETER OF 150 MM. AUXILIARY VALVES (ISOLATION VALVES) SHALL BE INSTALLED ON ALL HYDRANT LEADS. HYDRANT VALVES SHALL OPEN IN SAME DIRECTION AS THE MAINLINE WATERMAIN VALVE AND BE A MINIMUM 0.7 M AWAY FROM THE FIRE HYDRANT.
- HYDRANT FLANGE ELEVATIONS SHALL BE SET AT A GRADE THAT WILL GIVE A FLANGE ELEVATION OF 50 MM TO 100 MM ABOVE FINAL GRADE.
- HYDRANTS SHALL BE AS FOLLOWS OR APPROVED EQUIVALENT: CANADA VALVE - CENTURY, OR CLOW-MCAVITY - BRIGADIER M67
- ALL HYDRANTS SHALL BE ACCORDING TO AWWA C502 AND NSF/ANSI 61 FOR DRY BARREL HYDRANTS AND OPEN COUNTER CLOCKWISE. HYDRANTS WILL HAVE TAPPED DRAIN PORTS, 150 MM MECHANICAL JOINT INLET WITH BRASS TO BRASS FITTINGS ON THE MAIN VALVE SEAT, TWO 63.5 MM HOSE NOZZLES SPREAD 180 DEGREES APART AND A 114.3 MM PUMPER NOZZLE WITH A 100 MM ULC 5543 APPROVED STORZ CONNECTION. HYDRANTS WILL BE CONNECTED TO THE WATERMAIN USING A 150 MM LEAD, 150 MM GATE VALVE AND ANCHOR TEE. HYDRANTS SHALL BE SUPPLIED FOR A MINIMUM BURY DEPTH OF 1.8 M.
- HYDRANT EXTENSIONS REQUIRED TO ADJUST THE LENGTH OF THE HYDRANT BARREL ARE TO BE OBTAINED FROM THE HYDRANT MANUFACTURER OR APPROVED SUPPLIER.
- HYDRANT PAINT WILL BE HIGH GLOSS EXTERIOR CHROME YELLOW AND SHALL BE APPLIED OVER A QUALITY DRY RED OXIDE PRIMER. STORZ NOZZLES SHALL BE PAINTED BLACK.

### VALVES:

- VALVES SHALL BE OF THE SAME SIZE AS THE WATERMAIN. ALL VALVES SHALL OPEN IN THE COUNTER-CLOCKWISE DIRECTION.
- GATE VALVES SHALL BE USED ON ALL WATERMANS UP TO AND INCLUDING 500 MM IN DIAMETER.
- ALL VALVES ON WATERMANS UP TO AND INCLUDING 500 MM IN DIAMETER SHALL BE INSTALLED WITH VALVE BOXES. VALVE BOXES SHALL BE USED ON ALL WATER SERVICES
- THE MINIMUM CLEARANCE FROM ABOVE GROUND OBSTRUCTIONS TO VALVE BOXES OR VALVE CHAMBERS SHALL BE 1.5 M.
- ALL VALVES SHALL BE AS PER AWWA C509 OR C515.
- VALVE SIZED 100 MM TO 500 MM INCLUSIVE SHALL BE AS FOLLOWS OR APPROVED EQUIVALENT: MUELLER - RESILIENT SEAT GATE VALVE A2361 OR A2362, CLOW - RESILIENT SEAT GATE VALVE F-6100, AVK - RESILIENT SEAT GATE VALVE SERIES 65 - UPTO 300 MM AND SERIES 45 - UPTO 400 MM, CLOW MCAVITY II - 20075
- ALL VALVES WILL BE MANUFACTURED AS PER AWWA C509 OR C515. ALL VALVES ARE TO HAVE INSIDE SCREW NON-RISING SPINDLE, 50 MM SQUARE OPERATING NUT, COMPLETE WITH A FLANGED END WITH A MALE SPIGOT AND A MECHANICAL JOINT AT THE OTHER END. DIRECTION TO OPEN VALVE IS COUNTER-CLOCKWISE. ALL VALVES MUST BE INTERIOR COATED WITH FUSION BONDED EPOXY ACCORDING TO AWWA C550. ALL UNPROTECTED NUTS AND BOLTS, USED IN THE BONNET AND VALVE STEM ASSEMBLY WILL BE MADE OF STAINLESS STEEL. ALL 100 MM DIAMETER VALVES MUST BE SUPPLIED WITH STAINLESS STEEL STEM.
- VALVE TIE-DOWNS TO BE PRE-FABRICATED, AS APPROVED BY ENGINEER. VALVE TIE-DOWNS TO BE GALVANIZED AND SUPPLIED WITH STAINLESS STEEL NUTS AND BOLTS.
- VALVE BOX FOR SERVICE VALVES ON WATERMANS SMALLER OR EQUAL TO 300 MM DIAMETER SHALL BE 105 MM, REGULAR STYLE, AND SLIDE TYPE WITH GUIDE PLATE AND WITH 149 MM DIAMETER COVER. VALVE BOXES SHALL BE AS FOLLOWS OR APPROVED EQUIVALENT: BIBBY-STE-CROIX - VB1200, MUELLER CANADA - MVB - BOTTOM SECTION ONLY

## TRACER WIRE FOR WATER SYSTEM

- TRACER WIRE SHALL BE #8 AWG INSULATED UNDERGROUND APPLICATION COPPER TRACER WIRE;
- TRACER WIRE SHALL BE INSTALLED ON ALL NON-METALLIC WATERMANS, HYDRANT LATERALS AND WATER SERVICES EXCEPT WHERE SUCH WATER SERVICE PIPE IS OF COPPER MATERIAL ALONG FULL LENGTH OF PIPE TO PROVIDE A MEANS OF LOCATING THE PIPES;
- TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 3 M INTERVALS;
- NO BREAKS OR CUTS IN THE TRACER WIRE OR TRACER WIRE INSULATION SHALL BE PERMITTED;
- AT SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE PLACED BETWEEN THE SADDLE AND THE WATERMAIN;
- EXCEPT FOR APPROVED SPLICED IN CONNECTIONS, TRACER WIRE SHALL BE CONTINUOUS AND WITHOUT SPLICES FROM VALVE CHAMBER TO VALVE CHAMBER, VALVE CHAMBER TO FIRE HYDRANT OR FIRE HYDRANT TO FIRE HYDRANT;
- AT FIRE HYDRANTS, NO SPLICED IN TRACER WIRE CONNECTIONS ARE PERMITTED REGARDLESS OF THE TYPE OF MATERIAL OF THE HYDRANT LATERAL. THE MAIN LINE TRACER SHALL FOLLOW AND BE SECURED TO THE HYDRANT LATERAL UP TO AND BACK FROM THE HYDRANT AND THEN CONTINUE ALONG THE WATERMAIN. THE TRACER WIRE SHALL BE WRAPPED NEATLY AROUND THE HYDRANT ABOVE GRADE AND ABOVE THE BREAKAWAY FLANGE WITH ATLEAST 2 M OF SLACK IN THE TRACER WIRE ABOVE GRADE;
- AT NON-METALLIC WATER SERVICE CONNECTIONS, WHERE THERE IS NO TRACER WIRE ON THE EXISTING WATERMAIN, TRACER WIRE SHALL BE THERMITE WELDED TO THE WATERMAIN TEE OR TAPPING VALVE AND PLACED ALONG THE WATER SERVICE TO A POINT WHERE THE WATER SERVICE ENTERS EITHER INSIDE THE BUILDING OR WATER METER CHAMBER AND SHALL BE CONFIGURED AT THE VALVE BOX AS STATED BEFORE. TRACER WIRE INSIDE THE WATER METER CHAMBER SHALL BE BROUGHT UP AND ATTACHED UNDER THE ACCESS COVER. TRACER WIRE BROUGHT INTO THE BUILDING SHALL BE LEFT WITH A MINIMUM OF 1 M OF SLACK;
- IN VALVE CHAMBERS, A 12 MM DIAMETER STAINLESS STEEL EYEBOLT COMPLETE WITH STAINLESS NUT AND 50 MM DIAMETER STAINLESS STEEL FLAT WASHER SHALL BE INSTALLED BETWEEN THE LAYERS OF FRAME AND COVER ADJUSTMENT RINGS. THE EYEBOLT SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE NUT AND WASHER TO BE POSITIONED ON THE OUTSIDE OF THE ADJUSTMENT RINGS. THE TRACER WIRE IS TO BE SECURELY AFFIXED TO THE EYE OF THE BOLT WITH ENOUGH SLACK IN THE WIRE TO EXTEND A MINIMUM OF 1 M ABOVE GRADE. THE TRACER WIRE SHALL BE BROUGHT THROUGH THE WALL INTO THE CHAMBER WITH THE PIPE AND PLACED NEATLY ALONG THE INSIDE WALL OF THE CHAMBER AND BROUGHT UP THE EYEBOLT.
- WHERE A VALVE BOX IS USED INSTEAD OF A VALVE CHAMBER, THE TRACER WIRE FROM BOTH DIRECTIONS SHALL BE SECURED EVERY 500 MM TO THE OUTSIDE OF THE VALVE BOX AND BE BROUGHT UP ON THE OUTSIDE OF THE VALVE BOX TO A POINT 100 MM BELOW GRADE AND THEN BROUGHT INTO THE VALVE BOX AND LEFT WITH AN ADDITIONAL 500 MM OF SLACK;
- AT THE POINT OF CONNECTION BETWEEN METALLIC AND NON-METALLIC WATERMAIN, THE TRACER WIRE SHALL BE PROPERLY CONNECTED TO THE METALLIC PIPE WITH A THERMITE WELD OR APPROVED EQUIVALENT. PROTECTIVE COATING SHALL BE APPLIED TO ALL THERMITE WELDS;
- ALL TRACER WIRE WELDS ONTO METALLIC PIPE SHALL BE COMPLETELY SEALED WITH THE USE OF AN APPROVED MASTIC TYPE SEALER SPECIFICALLY MANUFACTURED FOR UNDERGROUND USE. THE MASTIC SHALL BE TC MASTIC (TAPECOAT OF CANADA) OR APPROVED EQUIVALENT AND SHALL BE APPLIED IN A THICK COAT, A MINIMUM OF 12 MM THICK AND SHALL BE PROTECTED FROM CONTAMINATION BY BACKFILL MATERIAL WITH USE OF A PLASTIC MEMBRANE. AS AN ALTERNATIVE, ROYSTON HANDY CAP PRE-FABRICATED ASSEMBLIES USED IN CONJUNCTION WITH ROYSTON ROYBOND 747 PRIMER MAY BE USED. IN ALL CASES, THE PIPE IS TO BE PROPERLY CLEANED AND MATERIAL APPLICATIONS SHALL BE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
- AT ALL WATERMAIN END CAPS, A MINIMUM OF 2 M OF TRACER WIRE SHALL BE EXTENDED BEYOND THE END OF THE PIPE, COILED AND SECURED FOR FUTURE CONNECTIONS. THE END OF THE TRACER WIRE SHALL BE SPLICED TO THE WIRE OF A 2.7 KG ZINC ANODE AND IS TO BE BURIED AT THE SAME ELEVATION AS THE WATERMAIN.
- FOR DIRECTIONAL DRILLING, AUGURING OR BORING INSTALLATIONS, FOUR (4) #8 AWG TRACER WIRES SHALL BE INSTALLED WITH THE PIPE AND CONNECTED TO THE TRACER WIRE AT BOTH ENDS, OR THERMITE WELDED TO THE EXISTING METALLIC PIPE AT BOTH ENDS;
- THE DEVELOPER SHALL CONDUCT A TRACER WIRE CONDUCTIVITY TEST AND CERTIFY THAT THE ENTIRE TRACER WIRE SYSTEM IS INSTALLED AND FUNCTIONING PROPERLY PRIOR TO ASSUMPTION. IF DEFICIENCIES ARE FOUND IN THE TRACER WIRE SYSTEM WHEN TESTED BY THE MUNICIPALITY, THE DEVELOPER SHALL BE CHARGED THE FULL COST INCURRED BY THE MUNICIPALITY FOR ALL SUBSEQUENT VISITS TO SITE TO CONFIRM FUNCTIONALITY AND ACCEPTABILITY OF THE TRACER WIRE SYSTEM.
- THE FIGURE BELOW ILLUSTRATES THE TRACER WIRE INSTALLATION:

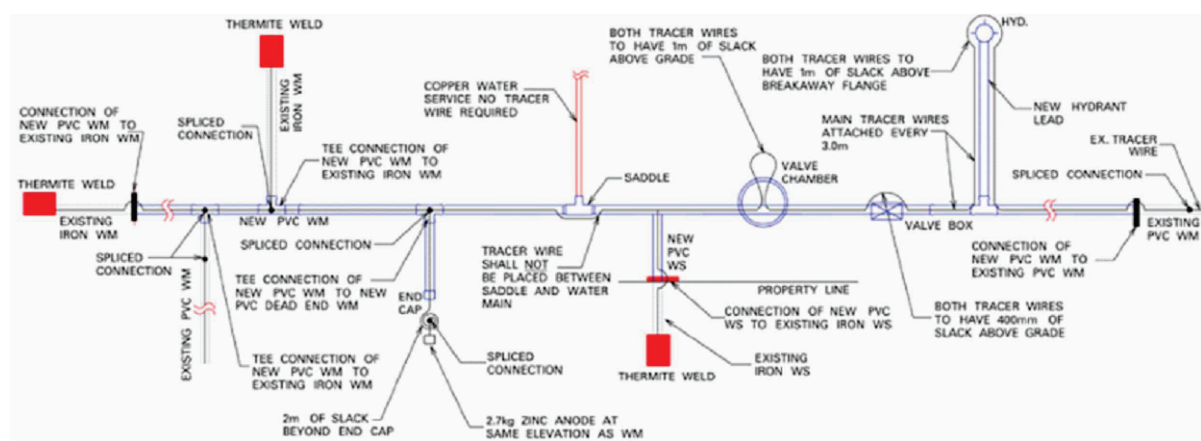
- ALL TRACER WIRE WELDS ONTO METALLIC PIPE SHALL BE COMPLETELY SEALED WITH THE USE OF AN APPROVED MASTIC TYPE SEALER SPECIFICALLY MANUFACTURED FOR UNDERGROUND USE. THE MASTIC SHALL BE TC MASTIC (TAPECOAT OF CANADA) OR APPROVED EQUIVALENT AND SHALL BE APPLIED IN A THICK COAT, A MINIMUM OF 12 MM THICK AND SHALL BE PROTECTED FROM CONTAMINATION BY BACKFILL MATERIAL WITH USE OF A PLASTIC MEMBRANE. AS AN ALTERNATIVE, ROYSTON HANDY CAP PRE-FABRICATED ASSEMBLIES USED IN CONJUNCTION WITH ROYSTON ROYBOND 747 PRIMER MAY BE USED. IN ALL CASES, THE PIPE IS TO BE PROPERLY CLEANED AND MATERIAL APPLICATIONS SHALL BE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

- AT ALL WATERMAIN END CAPS, A MINIMUM OF 2 M OF TRACER WIRE SHALL BE EXTENDED BEYOND THE END OF THE PIPE, COILED AND SECURED FOR FUTURE CONNECTIONS. THE END OF THE TRACER WIRE SHALL BE SPLICED TO THE WIRE OF A 2.7 KG ZINC ANODE AND IS TO BE BURIED AT THE SAME ELEVATION AS THE WATERMAIN.

- FOR DIRECTIONAL DRILLING, AUGURING OR BORING INSTALLATIONS, FOUR (4) #8 AWG TRACER WIRES SHALL BE INSTALLED WITH THE PIPE AND CONNECTED TO THE TRACER WIRE AT BOTH ENDS, OR THERMITE WELDED TO THE EXISTING METALLIC PIPE AT BOTH ENDS;

- THE DEVELOPER SHALL CONDUCT A TRACER WIRE CONDUCTIVITY TEST AND CERTIFY THAT THE ENTIRE TRACER WIRE SYSTEM IS INSTALLED AND FUNCTIONING PROPERLY PRIOR TO ASSUMPTION. IF DEFICIENCIES ARE FOUND IN THE TRACER WIRE SYSTEM WHEN TESTED BY THE MUNICIPALITY, THE DEVELOPER SHALL BE CHARGED THE FULL COST INCURRED BY THE MUNICIPALITY FOR ALL SUBSEQUENT VISITS TO SITE TO CONFIRM FUNCTIONALITY AND ACCEPTABILITY OF THE TRACER WIRE SYSTEM.

- THE FIGURE BELOW ILLUSTRATES THE TRACER WIRE INSTALLATION:



NOT TO SCALE

FIGURE 1: TRACER WIRE INSTALLATION

### WATER SERVICE CONNECTIONS

- CURB STOP AND BOX SHALL BE LOCATED A MINIMUM 1.5 M AWAY FROM DRIVEWAYS.
- ALL SERVICE CONNECTIONS TO NEW MAINS SHALL BE MADE WITH MANUFACTURED TEES OR DRY TAPPING. ALL SERVICE CONNECTIONS OFF NON-METALLIC MAINS SHALL REQUIRE SERVICE SADDLES.
- TRACER WIRE SHALL BE INSTALLED FOR EVERY NON-METALLIC WATER SERVICE PIPE OR FIRE SERVICE MAIN.

### SERVICE SADDLES

- ALL SERVICE SADDLES SHALL BE MADE OF A STAINLESS STEEL BAND FASTENED WITH MINIMUM DOUBLE BOLT MECHANISM, TAPERED RUBBER GASKETS AND SUPPLIED WITH STAINLESS STEEL NUTS, BOLTS, AND NON-CORROSIVE WASHERS.
- FOR EXISTING METALLIC PIPES, SERVICE SADDLE IS REQUIRED FOR 19 MM, 25 MM, 32 MM, 38 MM, AND 50 MM DIAMETER MAIN STOPS - ALL AWWA TAPERED THREADS.
- FOR PVC PIPE SERVICE SADDLES MUST BE USED FOR 19 MM, 25 MM, 32 MM, 38 MM, AND 50 MM DIAMETER MAIN STOPS - ALL AWWA TAPERED THREADS.
- SERVICE SADDLES SHALL BE AS FOLLOWS OR APPROVED EQUIVALENT: ROMAC - 306, SMITH BLAIR - 372, MUELLER - SERVI-SEAL 521 TO 529 SERIES, FORD - FS303, CAMBRIDGE BRASS - TECK SERIES 403, ROBAR - 2616DB, ROBAR - 2706

## RESIDENTIAL WATER SERVICE

- SERVICE MARKERS PAINTED BLUE SHALL BE INSTALLED TO INDICATE CURB STOP LOCATIONS AT PROPERTY LINES.
- THE MINIMUM SIZE OF WATER SERVICE SHALL BE 19 MM DIAMETER FOR SINGLE RESIDENTIAL CONNECTIONS. IF THE DISTANCE IS GREATER THAN 30 M TO THE EXISTING BUILDING FACE, THE WATER SERVICE SHALL BE REPLACED WITH A 25 MM DIAMETER COPPER SERVICE.
- ALL WATER SERVICES SHALL BE INSTALLED WITH A MINIMUM COVER OF 1.8 M AND NO MORE THAN 2 M OF COVER FROM THE FINAL SURFACE GRADE.
- ALL SERVICES 50 MM AND SMALLER IN DIAMETER, SHALL HAVE A MAIN STOP ADJACENT TO THE WATERMAIN BURIED, AND A VALVE INSTALLED AT THE PROPERTY LINE (150 MM AWAY FROM THE LOT LINE, IN THE MUNICIPAL ROW) COMPLETE WITH CURB STOP AND SERVICE BOX TO FINISHED GRADE. ALL MAIN STOPS, CURB STOPS, METER VALVES, AND SHUTOFF VALVES SHALL BE BALL VALVES.
- NO COUPLINGS SHALL BE PERMITTED BETWEEN THE WATERMAIN AND CURB STOP FOR SERVICES 50 MM AND SMALLER IN DIAMETER.
- THE STANDARD WATER SERVICE DIAMETERS ARE 19MM, 25MM, 32MM, 38MM, AND 50MM. COPPER WILL BE ASTM B88-03 (ASTMB88-05 FOR METRIC SIZES) TYPE 'K' SOFT COPPER. POLYETHYLENE WATER SERVICE SHALL BE MUNICIPEX, BLUE 904 (AWWA C904).
- ALL SERVICE LINE VALVES, MAIN STOPS, CURB STOPS AND COUPLINGS SHALL BE ACCORDING TO AWWA C800.
- ALL MAIN STOPS WILL HAVE A COMPRESSION JOINT AS FOLLOWS OR APPROVED EQUIVALENT: CAMBRIDGE BRASS - SERIES 301NL, A.Y.MCDONALD - 4701T, FORD - F-1000 AND F-600, MUELLER - H15008.
- ALL CURB STOPS WILL HAVE A COMPRESSION JOINT AS FOLLOWS OR APPROVED EQUIVALENT: CAMBRIDGE BRASS - CENTURY BALL VALVE, FORD - BALL VALVE B-44 SERIES, MUELLER - H15209, A.Y.MCDONALD - 6100 T BALL VALVE.
- ALL COUPLINGS WILL HAVE A COMPRESSION JOINT AS FOLLOWS OR APPROVED EQUIVALENT: CAMBRIDGE BRASS - SERIES 118, FORD - C-44, MUELLER - H15403, A.Y.MCDONALD - 4758T.
- SERVICE BOXES WILL BE MADE OF CAST IRON AND WILL SUIT THE RESPECTIVE CURB STOP. THE BOXES WILL BE ADJUSTABLE FROM 1.8 M TO 2.1 M BURY.
- THE RODS WILL BE 1125 MM LONG, MADE OF PASSIVATED #304 STAINLESS STEEL WITH M5 X 70 MM BRASS COTTER PINS.
- THE PLUG MUST BE BRASS AND SCREW TYPE.
- WHERE FURTHER EXTENSION IS REQUIRED FOR THE BOX BECAUSE OF EXTRA DEPTH, THE EXTENSION AND THE COUPLING MUST BE OF THREADED TYPE.
- IF THE FINAL GRADE IS MORE THAN 1 M ABOVE THE TOP OF ROD, THEN ROD MUST BE REPLACED WITH ONE WHICH IS MADE OF CONTINUOUS PASSIVATED #304 STAINLESS STEEL.
- BOX TOP TO BE STAMPED "WATER".
- SELF-DRAINING STOP AND DRAIN SHALL BE AS FOLLOWS OR APPROVED EQUIVALENT: EMCO - SERIES 15790, MUELLER - H15219

### PETROLATUM TAPE SYSTEMS

- ANTI-CORROSION WRAP SHALL BE AS SUPPLIED BY DENSO NORTH AMERICA INC. OR TRENTON TAPE. ONLY MATERIAL FROM ONE SUPPLIER EXCLUSIVELY SHALL BE USED ON AN INSTALLATION. AT NO TIME WILL MATERIALS FROM EITHER SYSTEM BE UTILIZED WITH THE OTHER.
- DENSO COATINGS MATERIAL WILL CONSIST OF DENSO PASTE OR DENSO PRIMING SOLUTION FOR COLD TEMPERATURE APPLICATION, DENSO PROFILING MASTIC OR DENSO MASTIC BLANKET AND DENSO LT TAPE.
- TRENTON TAPE COATING MATERIAL WILL CONSIST OF TECTAPE PRIMER, FILL PUTTY, AND TECTAPE PETROLATUM TAPE.

### MECHANICAL RESTRAINTS AND THRUST BLOCKS

- MECHANICAL RESTRAINTS SHALL BE THE ONLY ACCEPTABLE METHOD OF RESTRAINING WATERMAIN JOINTS AND SHALL BE POSITIONED AT ALL FITTINGS, BENDS, TEES, VALVES, HYDRANTS, CROSSES, REDUCERS AND PLUGGED OR CAPPED DEAD ENDS. HORIZONTAL OR VERTICAL BENDS DEFLECTING 11.250 OR GREATER, AND CONNECTIONS GREATER THAN 50 MM IN DIAMETER.
- ALL JOINTS WITHIN A WATERMAIN ENCASEMENT SHALL BE RESTRAINED. IN ADDITION, THE FIRST JOINT OUTSIDE OF THE WATERMAIN ENCASEMENT SHALL BE RESTRAINED.
- ALL JOINTS ON A FIRE HYDRANT LEAD SHALL BE RESTRAINED.
- IN AREAS OF ENGINEERED FILL, RECONSTRUCTION PROJECTS OR CONGESTED WORKS THAT WILL EXPOSE THE WATERMAIN, THE WATERMAIN SHALL BE RESTRAINED WITH MECHANICAL THRUST RESTRAINTS.
- MECHANICAL THRUST RESTRAINTS REQUIRED AFTER A FITTING ON A WATERMAIN PIPE ARE AS FOLLOWS:

Joint Type	Restraint Required
Tee or Cross	Fitting and next pipe joint
Bend (11.25° or Greater)	Fitting and next pipe joint
Increaser/Reducer	Fitting and next pipe joint
Valve	Fitting and next pipe joint
Cap /Plug	Fitting and next pipe joint

Note: 1- If pipe length less than 6.1 m, then any joint within 6.1 m of a fitting shall be restrained

- STAINLESS STEEL STRAPS, TIE-RODS, ANGLES, NUTS, AND BOLTS USED WITH CONCRETE THRUST BLOCKS SHALL BE ACCORDING TO ASTM A276/A276M, TYPE 316 STAINLESS STEEL.

### CORROSION PROTECTION

- ALL NON-PLASTIC WATERMAIN MATERIALS AND ASSOCIATED APPURTENANCES SHALL BE PROTECTED FROM CORROSION, IN ACCORDANCE WITH MUNICIPAL DESIGN GUIDELINES.
- SACRIFICIAL ANODE LOCATION AND TYPE FOR ALL NON-METALLIC WATERMAIN 300 MM AND SMALLER IN DIAMETER:
  - FOR ALL NON-METALLIC WATERMAIN 300 MM AND SMALLER IN DIAMETER: ALL VALVES AND METALLIC FITTINGS SHALL BE PROTECTED WITH ONE (1) 5.4 KG ZINC ANODE INSTALLED ON EVERY VALVE AND METALLIC FITTING.
  - FOR METALLIC AND NON-METALLIC WATERMANS GREATER THAN 300 MM: REFER TO MUNICIPAL DESIGN GUIDELINES.
- EACH COPPER SERVICES SHALL BE PROTECTED WITH ONE (1) 5.4 KG ZINC ANODE;
- EACH CURB STOP SHALL BE PROTECTED WITH ONE (1) 5.4 KG ZINC ANODE;
- TRACER WIRES SHALL BE PROTECTED WITH ONE (1) 10.8 KG ZINC ANODE SPACED NOT MORE THAN 1000 M APART;
- EACH FIRE HYDRANT SHALL BE PROTECTED WITH ONE (1) 10.8 KG ZINC ANODE.

### LOT GRADING

- SIDE YARD AND REAR YARD SWALES SHALL HAVE A MINIMUM DEPTH OF 200 MM AND A MAXIMUM DEPTH OF 500 MM, WITH MAXIMUM SIDE SLOPES NO GREATER THAN 3:1;
- ALL RETAINING WALLS OVER 1.0 M IN HEIGHT REQUIRE A GUARDRAIL AND MUST BE DESIGNED BY, AND THE INSTALLATION CERTIFIED BY A PROFESSIONAL STRUCTURAL ENGINEER. A BUILDING PERMIT IS REQUIRED. A MINIMUM SETBACK OF 0.5 M SHALL BE MAINTAINED FROM THE TIEBACKS OF RETAINING WALLS TO THE FOUNDATION OF ANY STRUCTURE.

## ROADS

- ROAD PAVEMENT STRUCTURE SHALL BE AS FOLLOWS:

ROAD CLASSIFICATION	FLEXIBLE PAVEMENT STRUCTURE (MINIMUM)	
	EARTH	ROCK
LOCAL	40 mm -HL 3 / SP 12.5 -Surface Course	40 mm -HL 3 / SP 12.5 -Surface Course
	50 mm -HL 8 / SP 19.0 -Base Course	50 mm -HL 8 / SP 19.0 -Base Course
	150 mm -Granular 'A'	150 mm -Granular 'A'
	300 mm -Granular 'B'	150 mm -Granular 'B'
		Over 300 mm Rock Shatter

- CONCRETE CURB AND GUTTER SHALL BE AS PER OPSD 600.040 AND OPSS.MUNI 353.
- ROAD SUBDRAINS SHALL BE CONSTRUCTED ALONG BOTH SIDES OF ALL ROADS WITH CURB AND GUTTER. SUBDRAINS SHALL CONSTRUCTED AS PER OPSD 216.021, PSD-026 AND OPSS.MUNI 405. SUBDRAIN PIPE SHALL BE WITH KNITTED SOCK GEOTEXTILE.
- SIDEWALKS
  - SIDEWALKS SHALL BE AS PER OPSD SERIES 310 AND OPSS.MUNI 351.
  - ALL SIDEWALKS SHALL CONFORM WITH ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT (AODA).
  - ALL NEW SIDEWALK RAMPS AT INTERSECTIONS SHALL INCLUDE TACTILE WARNING SURFACE INDICATORS AS PER OPSD 310.039.
  - BEDDING SHALL BE GRANULAR 'A' WITH MINIMUM THICKNESS OF 150 MM.
  - CONCRETE SIDEWALK RAMP LOCATIONS TAKE PRECEDENCE OVER PROPOSED DRIVEWAY LOCATIONS.
- WALKWAYS
  - ALL WALKWAYS SHALL CONFORM WITH ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT (AODA). WALKWAYS SHALL BE A MINIMUM OF 1.5 M WIDE. WALKWAYS SHALL BE RAISED 0.15 M AND HARD SURFACED WITH MATERIAL OTHER THAN ASPHALT TO ENSURE PEDESTRIANS CAN DISTINGUISH FROM PARKING AREAS.
  - MINIMUM THICKNESS, BEDDING AND COMPRESSIVE STRENGTH REQUIREMENTS SHALL CONFORM WITH CONCRETE SIDEWALK STANDARD.
- BOULEVARDS
  - BOULEVARD IS THE AREA BETWEEN THE PROPERTY LINE AND BACK OF CURB. ALL BOULEVARDS SHALL BE SODDED UNLESS OTHERWISE APPROVED BY THE MUNICIPALITY. TOPSOIL AND SOD SHALL CONFORM WITH OPSS.MUNI 802 AND 803.
  - BOULEVARDS SHALL BE CONSTRUCTED TO MAINTAIN POSITIVE DRAINAGE AT THE SAME SLOPE AS THE DRIVEWAY.
- PAVEMENT MARKINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL (OTM), AND INSTALLED PER OPSD 710.
- STREET SIGNS AND REGULATORY SIGNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MUNICIPALITY'S BY-LAWS AND SPECIFICATIONS.
- ALL DRIVEWAYS SHALL BE ASPHALT WITH THE FOLLOWING MINIMUM CONSOLIDATED DEPTH REQUIREMENTS:
  - HL 3 ASPHALT - 50 MM; AND
  - 150 MM OF GRANULAR 'A'

### MUNICIPAL INSPECTION AND TESTING REQUIREMENTS

- THE CONTRACTOR SHALL FACILITATE TESTING AS REQUIRED FOR PROJECT CERTIFICATIONS, INCLUDING MATERIALS TESTING FOR SUBGRADE, ASPHALT, GRANULAR AND CONCRETE TESTING.
- WHERE TESTING OF MATERIALS OR INSTALLATIONS FAILS TO MEET PROJECT SPECIFICATIONS, THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING AND REINSTALLING COMPLIANT MATERIALS AT THEIR OWN EXPENSE.
- ALL REQUIREMENTS AS PER SECTION 7.0: DOCUMENTATION AND SECTION 8: INSPECTION AND TESTING FOR SANITARY SEWERS, STORM SEWERS AND FORCEMANS OF THE MOST CURRENT VERSION OF THE MECP MANUAL "DESIGN CRITERIA FOR SANITARY SEWERS, STORM SEWERS AND FORCEMANS FOR ALTERATIONS AUTHORIZED UNDER ENVIRONMENTAL COMPLIANCE APPROVAL" ARE MET TO THE SATISFACTION OF THE MUNICIPAL ENGINEER OR DESIGNATE.
- LOW PRESSURE AIR TEST IS NOT RECOMMENDED WHEN GROUNDWATER ELEVATION IS 600 MM OR GREATER ABOVE THE CROWN OF THE PIPE BEING TESTED AT THE TIME OF TESTING. WHERE GROUNDWATER ELEVATION IS LESS THAN OR EQUAL TO 600 MM TEST PRESSURE SHALL BE ADJUSTED TO COMPENSATE FOR GROUND WATER PRESSURE.

### WATER SYSTEMS

- PRIOR TO CONSTRUCTION OF WATERMAIN AND ASSOCIATED APPURTENANCES, THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE MUNICIPAL ENGINEER OR DESIGNATE 48 HOURS IN ADVANCE.
- DURING CONSTRUCTION ALL WATERMAIN AND ASSOCIATED APPURTENANCES SHALL BE INSTALLED, INSPECTED AND TESTED AS PER OPSD 402, 408, 441, 442, 462, 493, 1351, 1853, 1854, MUNICIPAL WATER SYSTEMS MANUAL AND MECP "2020 WATER DISINFECTION PROCEDURE".
- WATERMANS AND ASSOCIATED APPURTENANCES SHALL BE COMMISSIONED AS PER THE MUNICIPAL "WATERMAIN COMMISSIONING MANUAL" (LATEST VERSION TO BE OBTAINED FROM THE MUNICIPAL ENGINEER OR DESIGNATE).
- A TRACER WIRE CONDUCTIVITY TEST SHALL BE CONDUCTED AS STATED IN THE MUNICIPAL "WATER SYSTEMS MANUAL".
- DEFLECTION TESTING FOR HDPE PIPE SHALL BE COMPLETED IN ACCORDANCE WITH OPSS MUNI 438.

### SANITARY AND STORM SYSTEMS

- CLEANING AND FLUSHING SHALL BE OPSS 411. LIQUID SHALL BE FILTERED AND DISCHARGED INTO STORM SEWER SYSTEM AND OUTFALL. DEBRIS SHALL BE DISPOSED AT AN APPROVED FACILITY OFF SITE.
- CCTV AND LEAKAGE TESTING FOR SANITARY SEWERS, FORCEMANS, MAINTENANCE HOLES AND ASSOCIATED INFRASTRUCTURE SHALL BE INSTALLED, INSPECTED AND TESTED AS PER OPSD 402, 407, 408, 410, 411, 412, 1351, 1853, 1854 AND MUNICIPAL SANITARY SYSTEMS MANUAL;
- CATCHBASINS AND MAINTENANCE HOLES SHALL BE THOROUGHLY FLUSHED AND CLEANED TO REMOVE ALL SEDIMENTS
- A TRACER WIRE CONDUCTIVITY TEST SHALL BE CONDUCTED AS STATED IN THE MUNICIPAL "SANITARY SYSTEMS MANUAL".

## CLIENT



PROJECT 22-104

## WEST MEADOW APARTMENTS SITE PLAN

## KEY MAP

- ALL WALKWAYS SHALL CONFORM WITH ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT (AODA). WALKWAYS SHALL BE A MINIMUM OF 1.5 M WIDE. WALKWAYS SHALL BE RAISED 0.15 M AND HARD SURFACED WITH MATERIAL OTHER THAN ASPHALT TO ENSURE PEDESTRIANS CAN DISTINGUISH FROM PARKING AREAS.

- MINIMUM THICKNESS, BEDDING AND COMPRESSIVE STRENGTH REQUIREMENTS SHALL CONFORM WITH CONCRETE SIDEWALK STANDARD.

- BOULEVARDS SHALL BE CONSTRUCTED TO MAINTAIN POSITIVE DRAINAGE AT THE SAME SLOPE AS THE DRIVEWAY.

- PAVEMENT MARKINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL (OTM), AND INSTALLED PER OPSD 710.

- STREET SIGNS AND REGULATORY SIGNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MUNICIPALITY'S BY-LAWS AND SPECIFICATIONS.

- ALL DRIVEWAYS SHALL BE ASPHALT WITH THE FOLLOWING MINIMUM CONSOLIDATED DEPTH REQUIREMENTS:

# INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN  
DESIGNED BY: N.DIONNE, P.ENG



## REVISIONS

# M/D/Y BY ISSUED FOR

#	M/D/Y	BY	ISSUED FOR
2	05/28/25	N.D	SITE PLAN AGREEMENT
1	11/20/24	N.D	SITE PLAN AGREEMENT

## DRAWING TITLE

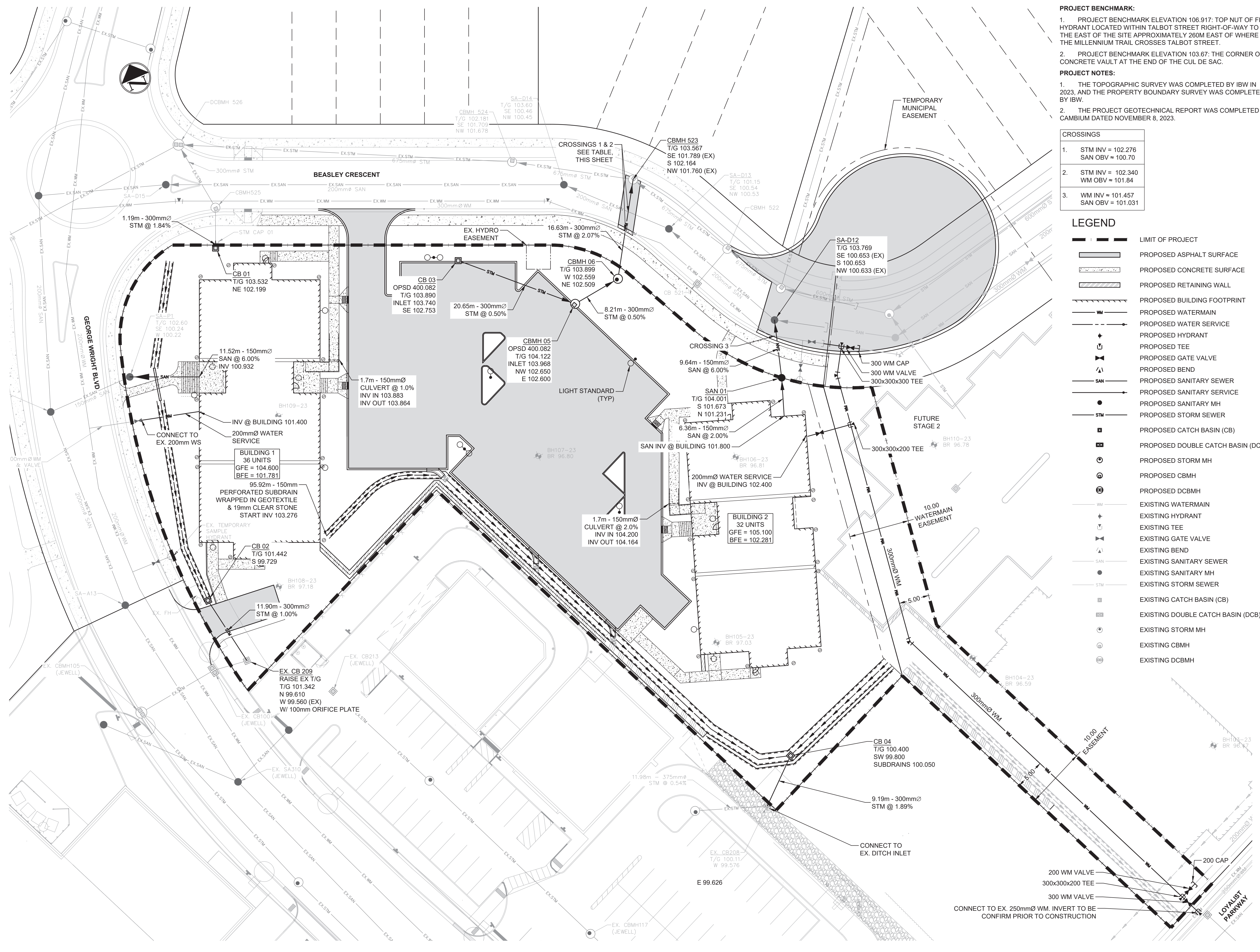
## NOTES & SPECIFICATIONS

SCALE N/A DWG. NO.

SIZE ANSI D (22"X34") C-GEN-2



C:\USERS\DIONNE\DRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\22-104 WEST MEADOW PH2 SITE PLAN\DRAWING\02 LAYOUTS\22-104 - SERVICING PLAN.DWG



**PROJECT BENCHMARK:**

- PROJECT BENCHMARK ELEVATION 106.917: TOP NUT OF FIRE HYDRANT LOCATED WITHIN TALBOT STREET RIGHT-OF-WAY TO THE EAST OF THE SITE APPROXIMATELY 260M EAST OF WHERE THE MILLENNIUM TRAIL CROSSES TALBOT STREET.
- PROJECT BENCHMARK ELEVATION 103.67: THE CORNER OF CONCRETE VAULT AT THE END OF THE CUL DE SAC.

**PROJECT NOTES:**

- THE TOPOGRAPHIC SURVEY WAS COMPLETED BY IBW IN 2023, AND THE PROPERTY BOUNDARY SURVEY WAS COMPLETED BY IBW.
- THE PROJECT GEOTECHNICAL REPORT WAS COMPLETED BY CAMBIUM DATED NOVEMBER 8, 2023.

**CROSSINGS**

1.	STM INV = 102.276 SAN OBV = 100.70
2.	STM INV = 102.340 WM OBV = 101.84
3.	WM INV = 101.457 SAN OBV = 101.031

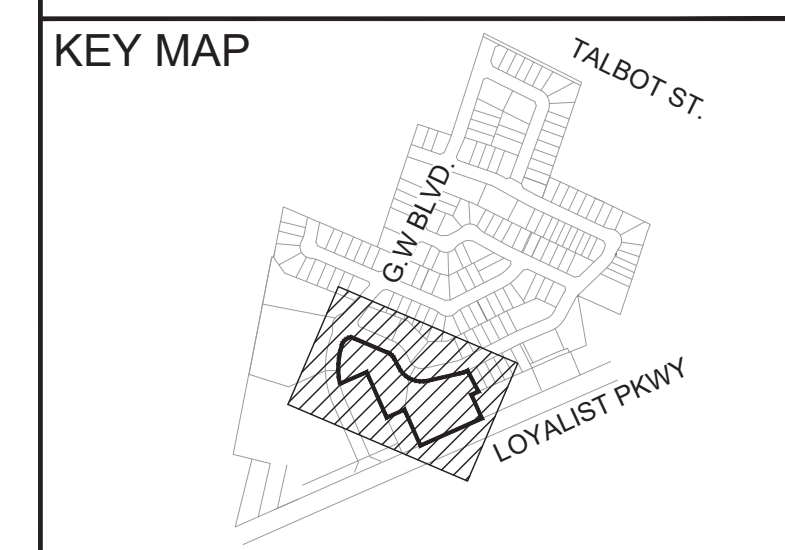
**LEGEND**

	LIMIT OF PROJECT
	PROPOSED ASPHALT SURFACE
	PROPOSED CONCRETE SURFACE
	PROPOSED RETAINING WALL
	PROPOSED BUILDING FOOTPRINT
	PROPOSED WATERMAIN
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
	PROPOSED HYDRANT
	PROPOSED TEE
	PROPOSED GATE VALVE
	PROPOSED BEND
	PROPOSED SANITARY SEWER
	PROPOSED SANITARY MH
	PROPOSED STORM SEWER
	PROPOSED CATCH BASIN (CB)
	PROPOSED DOUBLE CATCH BASIN (DCB)
	PROPOSED STORM MH
	PROPOSED CBMH
	PROPOSED DCBMH
	EXISTING WATERMAIN
	EXISTING HYDRANT
	EXISTING TEE
	EXISTING GATE VALVE
	EXISTING BEND
	EXISTING SANITARY SEWER
	EXISTING SANITARY MH
	EXISTING STORM SEWER
	EXISTING CATCH BASIN (CB)
	EXISTING DOUBLE CATCH BASIN (DCB)
	EXISTING STORM MH
	EXISTING CBMH
	EXISTING DCBMH



PROJECT 22-104

## WEST MEADOW APARTMENTS SITE PLAN



**LEGEND**

	EXISTING BOREHOLE LOCATION
--	----------------------------

**INSITE**  
PROJECT CONSULTING INC.

DRAWN BY: D.YIN  
DESIGNED BY: N.DIONNE, P.ENG

**REVISIONS**

#	M/D/Y	BY	ISSUED FOR
4	05/28/25	N.D	SITE PLAN AGREEMENT
3	11/20/24	N.D	SITE PLAN AGREEMENT
2	07/12/24	N.D	REZONING
1	01/08/24	N.D	REZONING

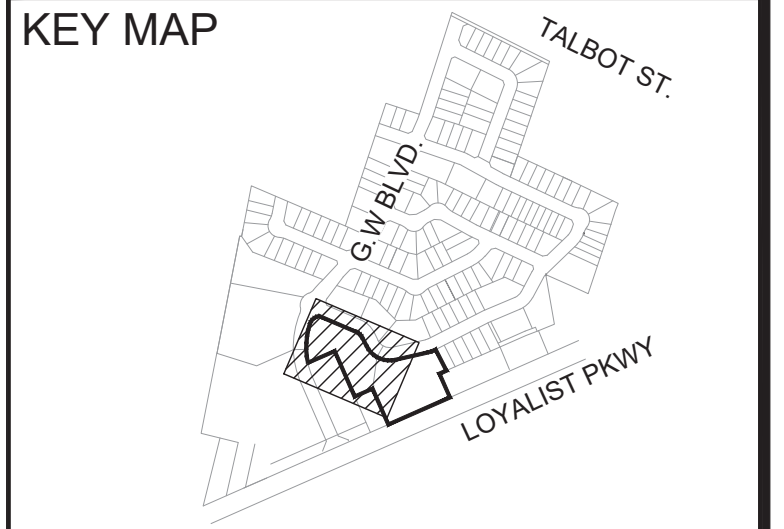
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### SERVICING PLAN - STAGE 1

SCALE **1:300** DWG. NO. **C-SVC-1**

SIZE ANSI D (22"X34")

200 WM VALVE  
300x300x200 TEE  
300 WM VALVE  
200 CAP  
CONNECT TO EX. 250mm WM. INVERT TO BE CONFIRMED PRIOR TO CONSTRUCTION



LEGEND

(DS)	PROPOSED DOWNSPOUT LOCATION
BF	PROPOSED BARRIER FREE ENTRY
+	EXISTING BOREHOLE LOCATION

**INSITE**  
PROJECT CONSULTING INC.

DRAWN BY: D.YIN  
DESIGNED BY: N.DIONNE, P.ENG



REVISIONS

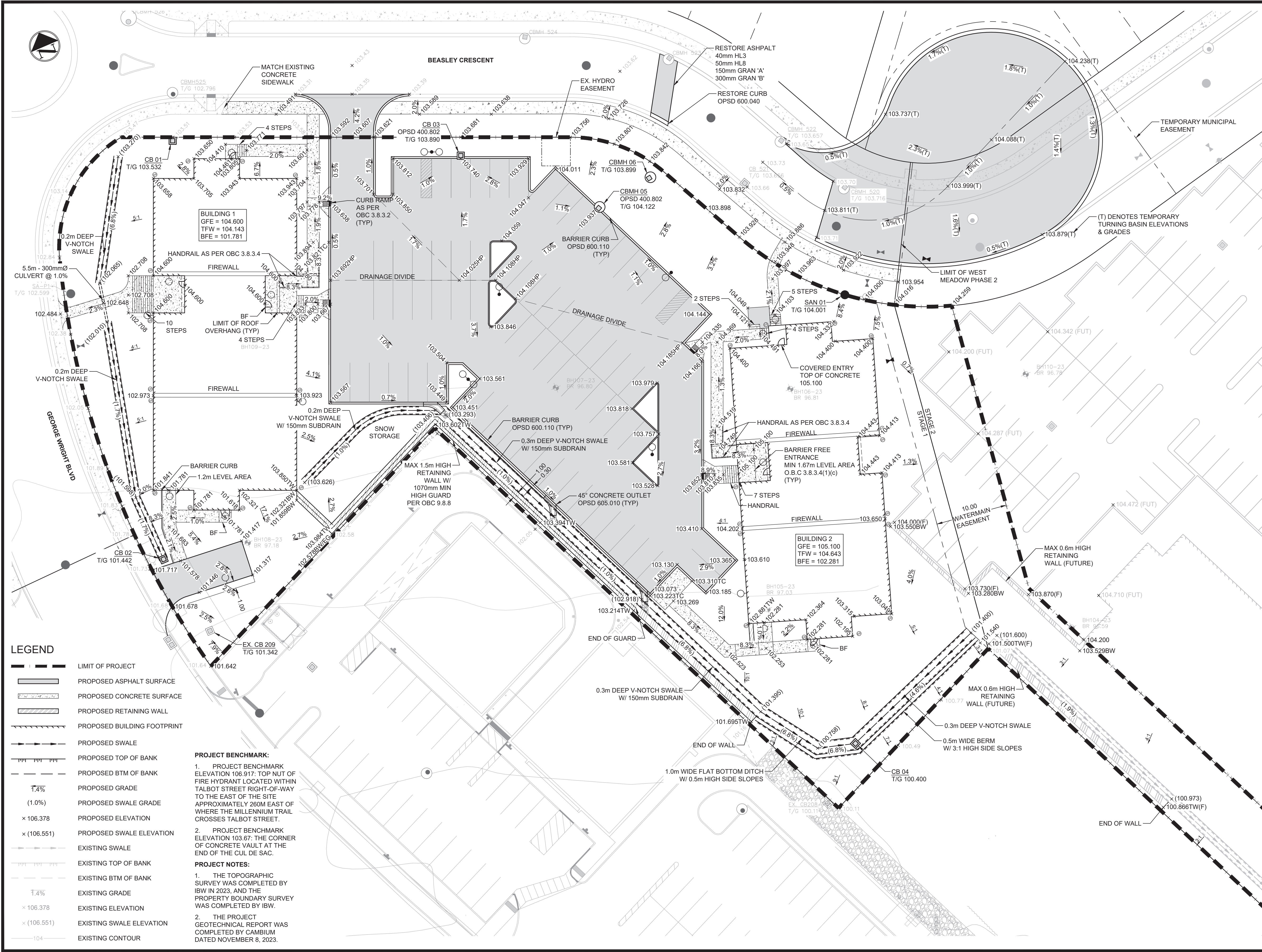
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4	05/28/25	N.D	SITE PLAN AGREEMENT
3	11/20/24	N.D	SITE PLAN AGREEMENT
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1	01/08/24	N.D	REZONING

DRAWING TITLE

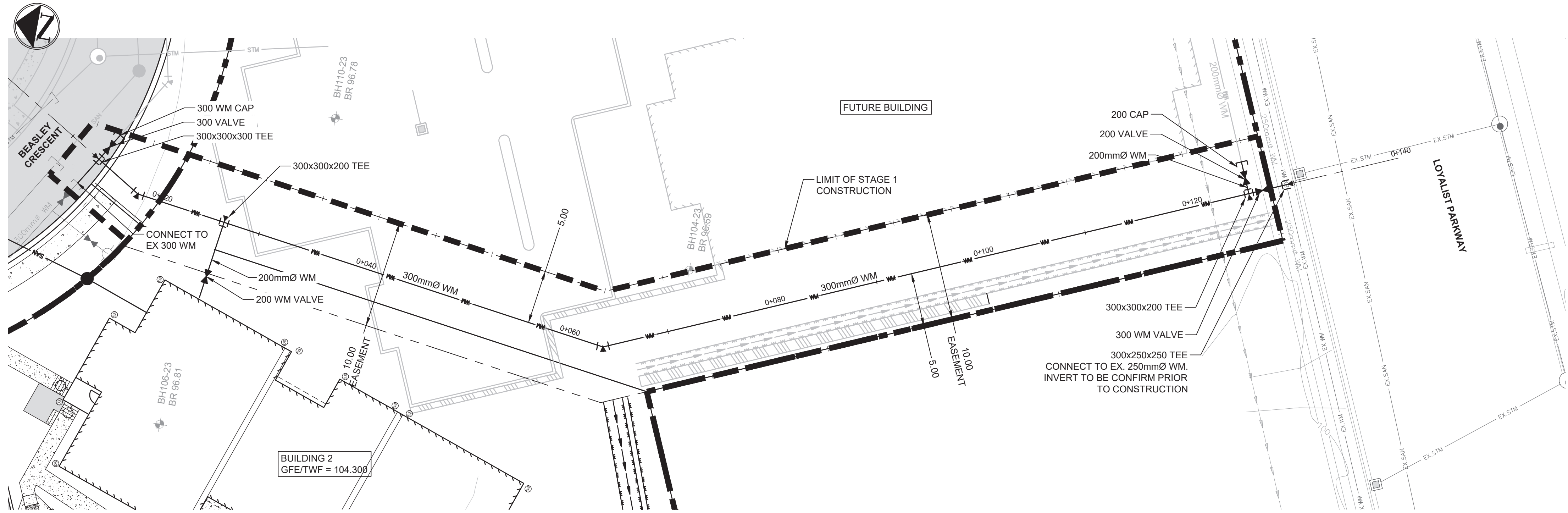
**GRADING PLAN  
- STAGE 1**

SCALE **1:250** DWG. NO. **C-GR-1**

SIZE ANSI D (22"X34")



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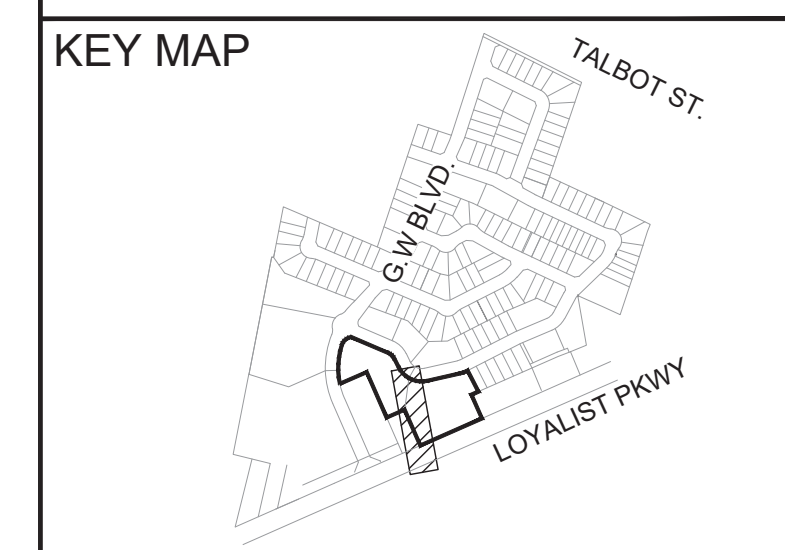


- LEGEND**
- LIMIT OF PROJECT
  - PROPOSED BUILDING FOOTPRINT
  - WM PROPOSED WATERMAIN
  - PROPOSED WATER SERVICE
  - PROPOSED HYDRANT
  - PROPOSED TEE
  - PROPOSED GATE VALVE
  - PROPOSED BEND
  - SAN PROPOSED SANITARY SEWER
  - PROPOSED SANITARY SERVICE
  - PROPOSED SANITARY MH
  - STM PROPOSED STORM SEWER
  - PROPOSED CATCH BASIN (CB)
  - PROPOSED STORM MH
  - ⊙ PROPOSED CBMH
  - EXISTING WATERMAIN
  - EXISTING HYDRANT
  - EXISTING TEE
  - EXISTING GATE VALVE
  - EXISTING BEND
  - EXISTING SANITARY SEWER
  - EXISTING SANITARY MH
  - EXISTING STORM SEWER
  - EXISTING CATCH BASIN (CB)
  - EXISTING STORM MH
  - ⊙ EXISTING CBMH

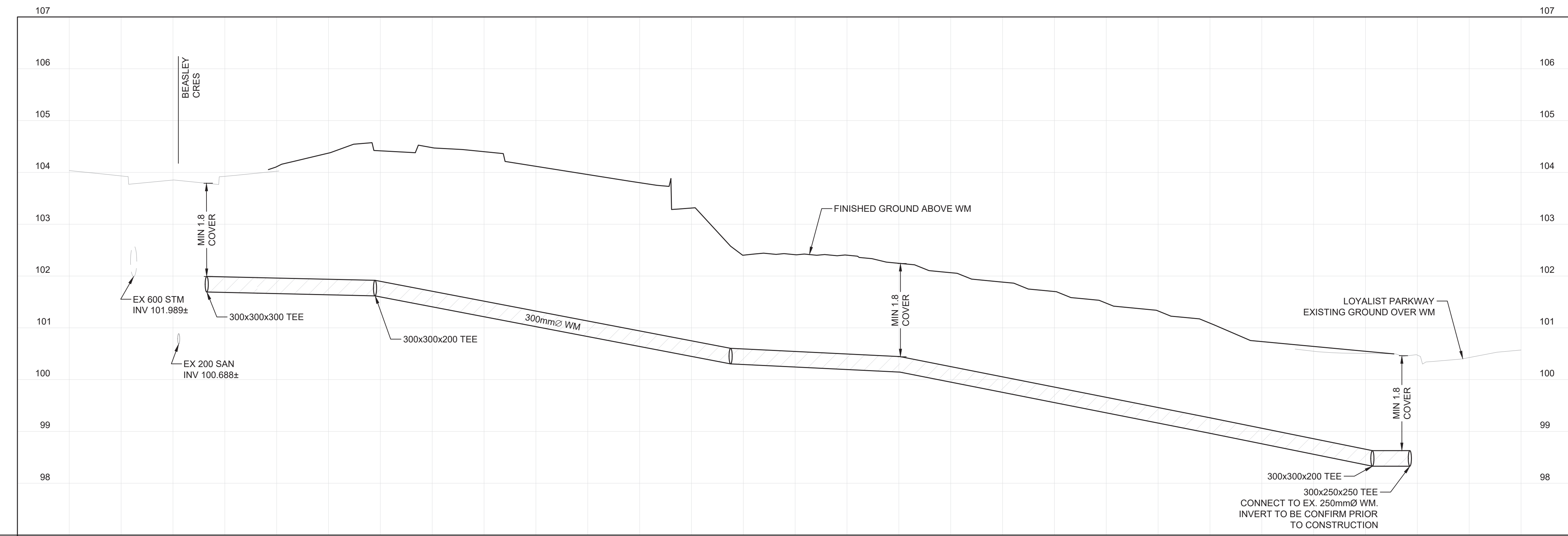


PROJECT 22-104

**WEST MEADOW APARTMENTS SITE PLAN**



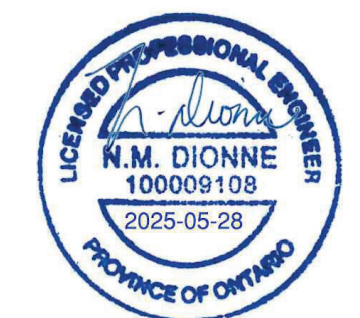
- LEGEND**
- ⊕ EXISTING BOREHOLE LOCATION



TOP OF WM	101.991	16.23m - 300mmØ WM @ 0.46%	101.917	34.29m - 300mmØ WM @ 3.83%	100.604	16.33m - 300mmØ WM @ 0.97%	100.445	29.89m - 300mmØ WM @ 3.95%	99.264	15.67m - 300mmØ WM @ 4.05%	98.630	3.60m - 300mmØ WM @ 0.00%	98.630
SANITARY SEWER													
STORM SEWER													
PROPOSED													
EXISTING													



DRAWN BY: D.YIN  
DESIGNED BY: N.DIONNE, P.ENG



REVISIONS

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**PLAN & PROFILE - WM CONNECTION**

SCALE **1:250** DWG. NO. **C-PP-1**

SIZE ANSI D (22"X34")

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POST DEVELOPMENT DRAINAGE TO EXISTING SEWER ON GEORGE WRIGHT BLVD SHALL NOT EXCEED PEAK FLOW BASED ON:  
 A = 0.40 Ha  
 $R_{100YR} = 0.25$   
 $T_c = 17.4$  min  
 (JEWELL SWM REPORT, FEB. 11, 2019)

POST DEVELOPMENT DRAINAGE TO COMMERCIAL BLOCK OGS & UNDERGROUND STORAGE SHALL NOT EXCEED PEAK FLOW BASED ON:  
 A = 2.19 Ha  
 $R_{100YR} = 0.25$   
 $T_c = 33.3$  min  
 (JEWELL SWM REPORT, FEB. 11, 2019)

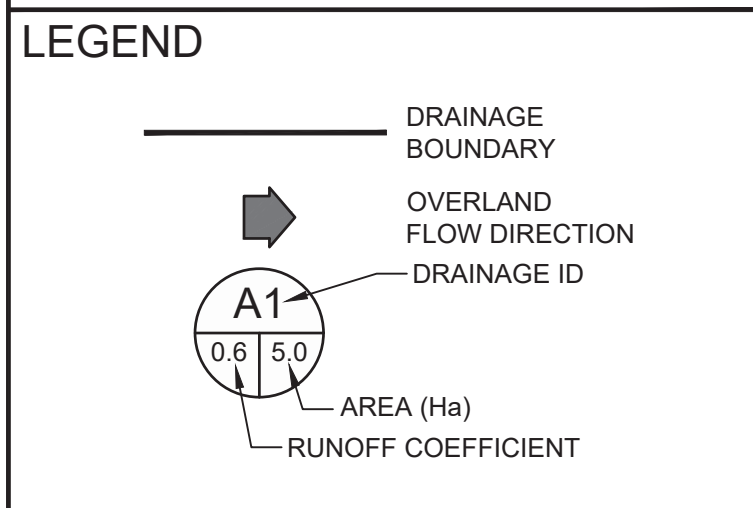
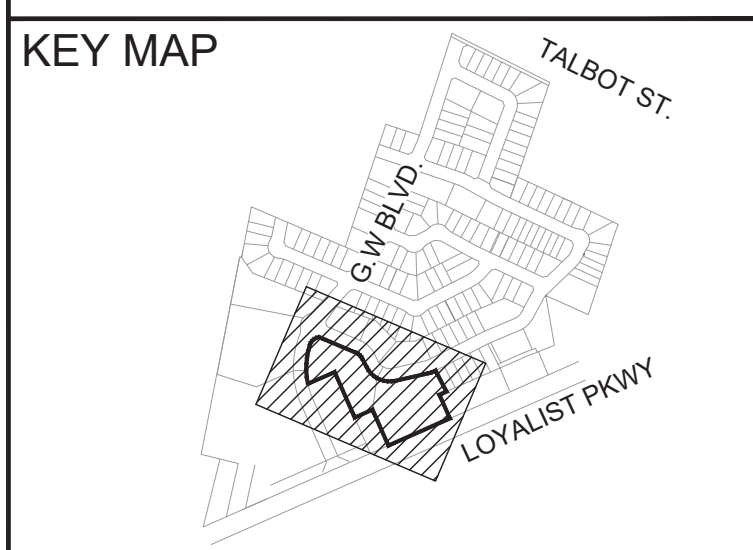
POST DEVELOPMENT DRAINAGE TO EXISTING D1102 SHALL NOT EXCEED PEAK FLOW BASED ON:  
 A = 0.62Ha  
 $R_{100YR} = 0.44$   
 $T_c = 8.70$  min  
 (JEWELL SWM REPORT, FEB. 11, 2019)

- A DRAINAGE BOUNDARY TO RETAIL DEVELOPMENT OGS & UNDERGROUND STORAGE
- B DRAINAGE BOUNDARY TO SWM POND
- C DRAINAGE BOUNDARY TO LOYALIST PKWY EXISTING STORM SEWER
- D DRAINAGE BOUNDARY TO EXISTING STORM SEWER ON GEORGE WRIGHT BLVD

RUNOFF COEFFICIENTS	
LAND USE	C
FOREST AND DENSE WOODED AREAS	0.25
PARKS, OPEN SPACE AND PLAYGROUNDS	0.35
SINGLE RESIDENTIAL	0.45
SEMI-DETACHED RESIDENTIAL	0.6
MULTI-RESIDENTIAL APARTMENTS	0.7
INDUSTRIAL	0.75
COMMERCIAL	0.85
INSTITUTIONAL	0.75
DENSELY BUILT, PAVED ASPHALT, CONCRETE, ROOF AREAS	0.95



CLIENT  
 PROJECT 22-104  
**WEST MEADOW APARTMENTS**  
**SITE PLAN**



DRAWN BY: D.YIN  
 DESIGNED BY: N.DIONNE, P.ENG



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DRAWING TITLE  
**POST DEVELOPMENT STORM DRAINAGE**

SCALE **1:500** DWG. NO. **C-DRP-1**  
 SIZE ANSI D (22"X34")

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