

	PROPERTY LINE		OHW	EXISTING OVERHEAD WIRES
	PROPOSED SANITARY SERVICE			EXISTING CONCRETE CURB
	PROPOSED STORM SERVICE		SMMH	EXISTING SANITARY MANHOLE & SERVICE
	PROPOSED CONTROLLED FLOW ROOF DRAIN		CBMH	EXISTING CATCHBASIN MANHOLE
	PROPOSED DECK DRAIN		SMMH	EXISTING STORM MANHOLE & SERVICE
	PROPOSED WATER METER AND REMOTE METER		CB	EXISTING CATCHBASIN C/W CATCHBASIN LEAD
	PROPOSED BARRIER CURB		HYD	EXISTING HYDRANT & VALVE
	PROPOSED DEPRESSED CURB		EX UP	EXISTING TREES / VEGETATION
	PROPOSED WATER SERVICE AND DIAMETER			EXISTING UTILITY POLE
	PROPOSED VALVE & VALVE BOX		300mmØ MM	EXISTING FENCE
	PROPOSED CAP		HYD	EXISTING WATERMAIN
	PROPOSED BUILDING ENTRANCE		HYD	EXISTING HYDRANT C/W VALVE & LEAD
	REMOVALS	FFE		FINISHED FLOOR ELEVATION
	THERMAL INSULATION FOR SHALLOW SEWERS	T/FND		TOP OF FOUNDATION WALL ELEVATION
	PROPOSED FENCE / GUARD	USF		UNDERSIDE OF FOOTING ELEVATION
	PROPOSED SITE LIGHTING			

1. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
2. DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
3. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
4. BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
5. RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF MUNICIPAL AUTHORITIES.
6. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
7. ALL ELEVATIONS ARE GEODETIC.
8. REFER TO GEOTECHNICAL INVESTIGATION (PG4799-1), DATED AUGUST 1, 2019, PREPARED BY PATERSON GROUP FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
9. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACED AREAS AND DIMENSIONS.
10. REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2019-105) PREPARED BY NOVATECH.
11. SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE-IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).

1. SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

2. SPECIFICATIONS:

ITEM	SPEC. No.
STORM SERVICE	PVC DR 35
SANITARY SERVICE	PVC DR 35
SEWER TRENCH	
BEDDING (GRANULAR 'A') COVER (GRANULAR 'A' OR GRANULAR 'B' TYPE 1) WITH MAXIMUM PARTICLE SIZE=25mm	

3. THE SANITARY SERVICE LATERAL SHALL BE EQUIPPED WITH BACKFLOW PREVENTERS WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14.1 OR S14.2. REFER TO MECHANICAL PLANS FOR DETAILS.

4. THE STORM SERVICE LATERAL SHALL BE EQUIPPED WITH A BACKFLOW PREVENTER WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14. REFER TO MECHANICAL PLANS FOR DETAILS.

5. PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.

6. INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 1.5m COVER WITH UP TO 125mm THICK HI-40 RIGID INSULATION.

7. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL APPLICABLE SERVICES AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND TIO ELEVATIONS, STRUCTURE LOCATIONS AND ANY ENVIRONMENT CHANGES, ETC.

8. THE OWNER SHALL REQUIRE THAT THE SITE SUPERVISOR/CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.



1. SUPPLY AND CONSTRUCT ALL WATERMAIN AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
2. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION BY OPEN STRUCTURES	W23	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWERS	W25	CITY OF OTTAWA
WATERMAIN MATERIAL	PVC DR 18 (100mm AND LARGER)	
3. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS. EXCAVATION, INSTALLATION OF SERVICE, BACKFILL AND RESTORATION BY THE CONTRACTOR.
4. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
5. PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS, UNLESS OTHERWISE INDICATED.
6. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

PROPOSED 150mmØ WATER SERVICE TABLE			
STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
0+00	71.15z	68.60z *	150mmØ WM CONNECTION TO EX. 300mmØ WM
0+01.4	71.16	68.76	CROSS ABOVE EX. BELL LINE
0+02.4	71.17	68.87 **	CROSS ABOVE 250mmØ SAN (±0.4m CLEARANCE)
0+03.9	71.13	68.82	CROSS BELOW 525mmØ STM (±0.8m CLEARANCE)
0+05.9 - 0+07.1	71.10	68.80	CROSS BELOW ABANDONED GAS LINES
0+07.8	71.21	68.80 **	22.5" VERTICAL BEND
0+011.1	71.35	70.15 **	22.5" VERTICAL BEND
0+11.4	71.35	70.15 **	PROPERTY LINE / 150mmØ V&VB
0+12.1	71.38	70.18 **	CAP AT FOUNDATION WALL. ***

- \* CONNECTION TO EXISTING 300mmØ WATERMAIN. EXACT ELEVATIONS TO BE FIELD DETERMINED
- \*\* PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W22 IN SHALLOW TRENCHES AND/OR CITY OF OTTAWA DETAIL W23 ADJACENT TO OPEN STRUCTURES.
- \*\*\* WATER SERVICE TO ENTER BUILDING AT A REDUCED DEPTH TO MINIMIZE EXCAVATION AND UNDERPINNING OF THE HERITAGE BUILDING FOUNDATION WALLS.

ROOF DRAIN TABLE: AREA R-1 (ROOF DRAINS 1 to 7)						
AREA ID -	ROOF DRAIN NO. (WATTS MODEL)	ROOF DRAIN OPENING DRAIN SEALING	1:5 YEAR RELEASE RATE	APPROX. 5 YR PONDING DEPTH	1:100 YEAR RELEASE RATE	APPROX. 100 YR PONDING DEPTH
R-1	RD 1 (RD-100-A-ADJ)	CLOSED	0.32 L/s	10 cm	0.32 L/s	14 cm
R-1	RD 2 (RD-100-A-ADJ)	CLOSED	0.32 L/s	10 cm	0.32 L/s	15 cm
R-1	RD 3 (RD-100-A-ADJ)	CLOSED	0.32 L/s	11 cm	0.32 L/s	13 cm
R-1	RD 4 (RD-100-A-ADJ)	CLOSED	0.32 L/s	11 cm	0.32 L/s	15 cm
R-1	RD 5 (RD-100-A-ADJ)	CLOSED	0.32 L/s	10 cm	0.32 L/s	15 cm
R-1	RD 6 (RD-100-A-ADJ)	CLOSED	0.32 L/s	10 cm	0.32 L/s	13 cm
R-1	RD 7 (RD-100-A-ADJ)	1/4 EXPOSED	0.79 L/s	11 cm	0.95 L/s	14 cm

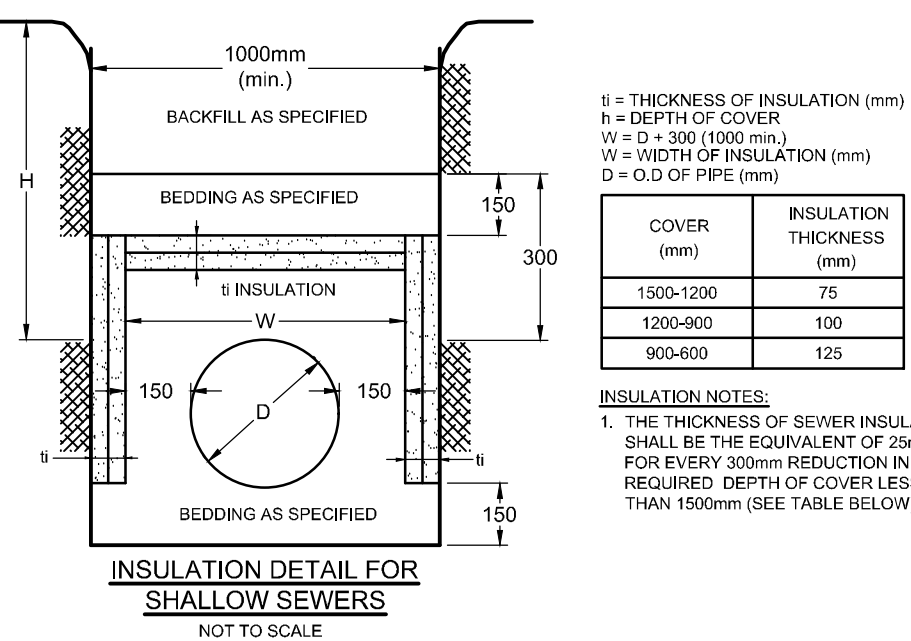
\* REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2019-105) PREPARED BY NOVATECH FOR DRAINAGE AREA IDENTIFIERS AND STORMWATER MANAGEMENT DETAILS.

\*\*ALL CONTROLLED FLOW ROOF DRAINS FOR THE PROPOSED BUILDING TO BE WATTS 'ADJUSTABLE ACCUTROL' ROOF DRAINS

INTERNAL SWM STORAGE SYSTEM			
DESIGN EVENT	STORAGE SYSTEM CONTROLLED FLOW	STORAGE VOLUMES	
		REQUIRED	PROVIDED
1:5 YR	4.7 L/s	6.7 m³	> 24.0 m³
1:100 YR	4.7 L/s	18.2 m³	
1:100+20%	4.7 L/s	23.7 m³	

NOTES:

1. ALL DRAINAGE FROM AREA R-2 (PROPOSED AMENITY AREA DECK DRAINS AND ALL PATIO DRAINS) TO BE DIRECTED TO THE INTERNAL STORMWATER STORAGE SYSTEM. REFER TO THE ARCHITECTURAL AND MECHANICAL PLANS FOR DETAILS.
2. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR EXACT SIZE AND DETAILS OF INTERNAL STORMWATER STORAGE SYSTEM.
3. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR LOCATION AND CONNECTIONS AND DETAILS OF THE INTERNAL STORMWATER STORAGE SYSTEM.



**INSULATION NOTES:**  
1. THE THICKNESS OF SEWER INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER LESS THAN 1500mm (SEE TABLE BELOW)

**NOTE:**  
THE POSITION OF ALL POLE LINES, CONDUITS,  
WATERMAINS, SEWERS AND OTHER  
UNDERGROUND AND OVERGROUND UTILITIES AND  
STRUCTURES IS NOT NECESSARILY SHOWN ON  
THE CONTRACT DRAWINGS, AND WHERE SHOWN,  
THE ACCURACY OF THE POSITION OF SUCH  
UTILITIES AND STRUCTURES IS NOT GUARANTEED.  
BEFORE STARTING WORK, DETERMINE THE EXACT  
LOCATION OF ALL SUCH UTILITIES AND  
STRUCTURES AND ASSUME ALL LIABILITY FOR  
DAMAGE TO THEM.

**OWNER INFORMATION**  
POLO IV PROPERTIES INC.  
2120 WOODCREST ROAD,  
OTTAWA, ONTARIO, K1H 6H8  
c/o AK GLOBAL MANAGEMENT INC.  
TONY KAZARIAN  
PHONE: (613) 592-5960  
tony.k@akmanagement.com

					<b>SCALE</b>	DESIGN <b>SM</b>
6	ISSUED WITH REVISED DSS & SWM REPORT	NOV 11/20	FST	1:150		CHECKED <b>FST</b>
5	ISSUED FOR TENDER	AUG 14/20	FST			DRAWN <b>BF / SM</b>
4	RE-ISSUED FOR SITE PLAN APPROVAL	JUN 18/20	FST			CHECKED
3	RE-ISSUED FOR SITE PLAN APPROVAL	APR 15/20	FST			<b>FST</b>
2	REVISED PER CITY COMMENTS	JAN 8/20	FST			APPROVED <b>FST</b>
1	ISSUED FOR SITE PLAN APPROVAL	AUG 9/19	FST			
No.	REVISION	DATE	BY			

**FOR REVIEW ONLY**



**NOVATECH**  
Engineers, Planners & Landscape Architects  
Suite 200, 240 Michael Cowpland Drive  
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643  
Facsimile (613) 254-5867  
Website [www.novatech-eng.com](http://www.novatech-eng.com)

LOCATION  
CITY OF OTTAWA  
280 O'CONNOR STREET

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 118074-00

REV # 6  
DRAWING No.

118074-GP

**D07-12-19-0146**