

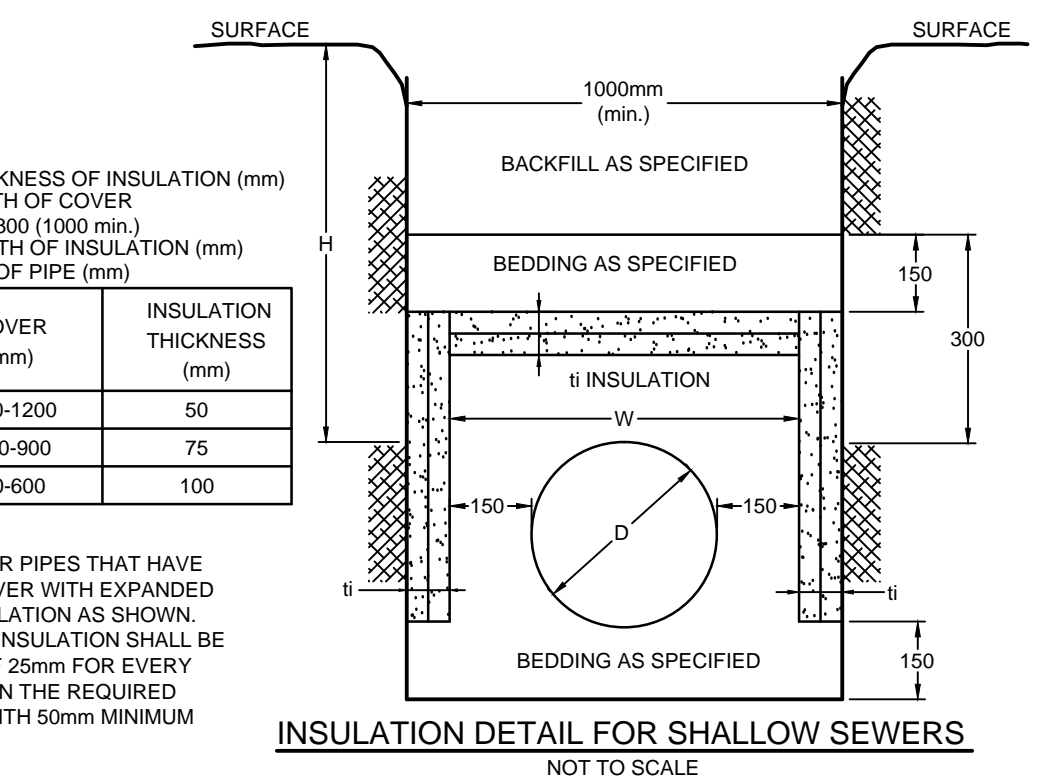
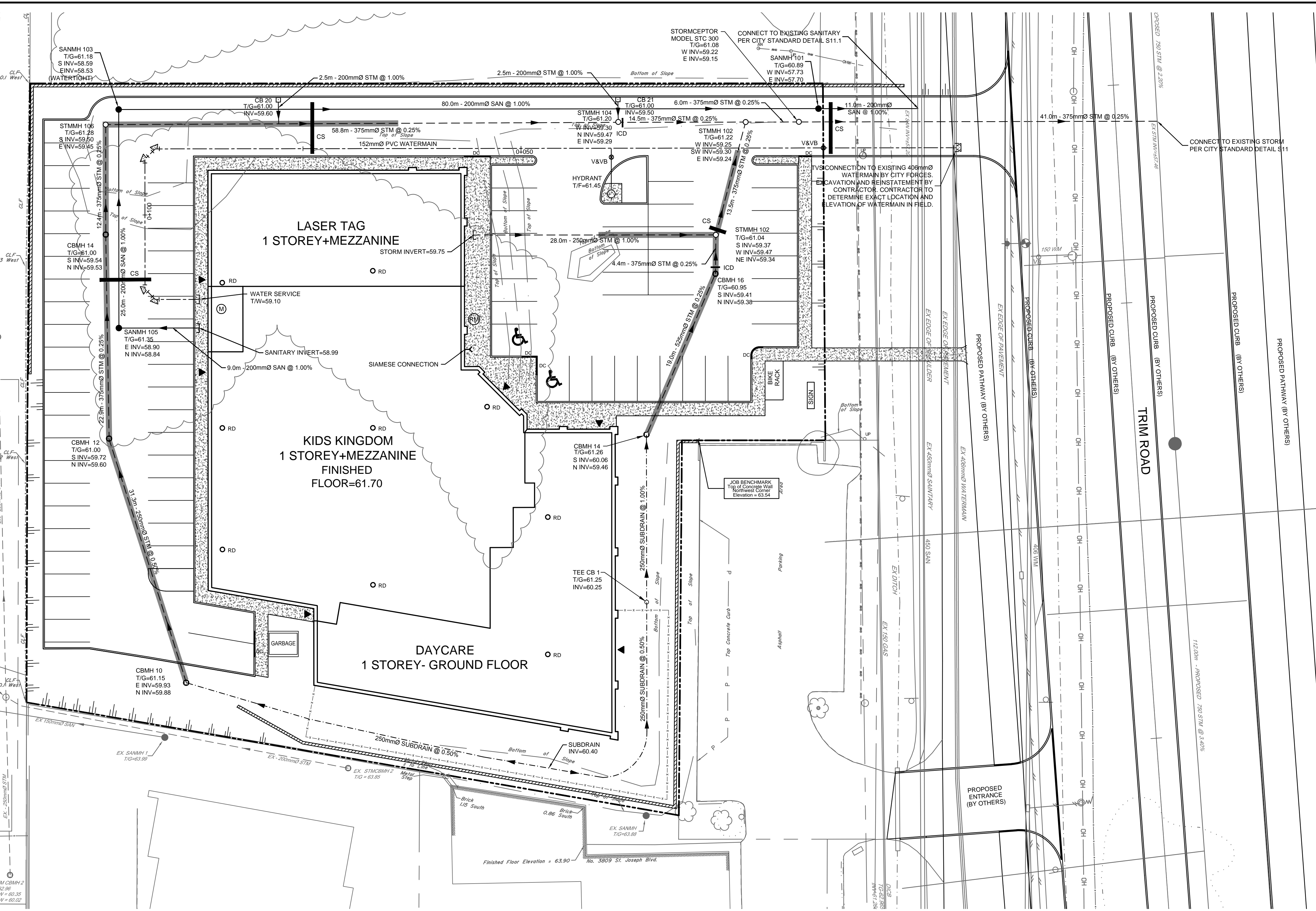
- GENERAL NOTES:**
- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
 - DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
 - OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
 - BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$2,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
 - RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
 - 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 ELEVATIONS ARE GEODETIC.
 - REFER TO GEOTECHNICAL INVESTIGATION BY PATERSON GROUP PG3287-LET 01 DATED JULY 28, 2014 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.
 - REFER TO THE DEVELOPMENT SERVICES STUDY AND STORMWATER MANAGEMENT REPORT (R-2014-109) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
 - SAW CUT AND KEY GRIND ASPHALT AT ALL ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).

- SEWER NOTES:**
- SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
STORM / SANITARY MANHOLE (12000)	701.010	OPSD
CATCH-BASIN (800x600mm)	705.010	OPSD
CB. FRAME & COVER	400.020	OPSD
STORM / SANITARY MH FRAME & COVER	401.010	OPSD
SEWER TRENCH	S6 & S7	CITY OF OTTAWA
STORM SEWER	PVC SDR 35	
SANITARY SEWER	PVC DR 35	
WATERTIGHT FRAME & COVER	401.030	OPSD
ELBOW CB	S31	CITY OF OTTAWA
TEE CB	S30	CITY OF OTTAWA
 - SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
 - FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX, POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
 - DYE TESTING IS TO BE COMPLETED ON SANITARY SERVICE TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN.
 - STORM MANHOLES AND CBMHS ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
 - ALL CATCHBASINS AND CATCHBASIN MANHOLES TO BE PROVIDED WITH MINIMUM 3 METER LONG PERFORATED SUBDRAINS WHICH EXTEND IN FOUR ORTHOGONAL DIRECTIONS OR LONGITUDINALLY WHEN PLACED ALONG A CURB. SUBDRAIN INVERTS SHOULD BE APPROXIMATELY 300mm BELOW SUBGRADE LEVEL. THE SUBGRADE SURFACE SHOULD BE SHAPED TO PROMOTE WATER FLOW TO THE DRAINAGE LINES.
 - CONTRACTOR TO TELEVISION (CCTV) ALL PROPOSED SEWERS, 200mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.

- WATERMAIN NOTES:**
- SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
WATERMAIN	PVC DR18	
 - SUPPLY AND CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
 - WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
 - WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.



NOTES:

- INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 1.5m COVER WITH EXPANDED POLYSTYRENE INSULATION AS SHOWN.
- THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER WITH 50mm MINIMUM (SEE TABLE)

COVER (mm)	INSULATION THICKNESS (mm)
1500-1200	50
1200-900	75
900-600	100

Outlet Location	Controlled Release (L/s)	Top of Grate (m)	Ponding Depth (m)	Invert or Pan Elev. (m)	Pipe dia (if plug type) (mm)	Head on Orifice (if plug) (m)	Diameter of Orifice (mm)	Ipex Tempest LMF ICD Model	Head on Ipex ICD
STMMH 104	4.8	61.00	0.23	59.29	381	1.75	41	Vortex	1.94
CBMH 16	7.8	60.95	0.24	59.38	381	1.62	53	Vortex	1.81
ROOF	9.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FREE FLOW	3.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

STATION	ELEVATION	ELEVATION	DESCRIPTION
0+000	60.30	58.50	CONNECTION TO EXISTING 406mmØ WATERMAIN
0+015.3	61.14	58.74	VALVE AND VALVE BOX
0+039.6	61.25	58.85	152mmØ HYDRANT LEAD
0+054.6	61.45	59.05	TOP OF WATERMAIN
0+077.5	61.12	58.72	TOP OF WATERMAIN
0+091.9	61.27	58.87	45° BEND
0+093.6	61.24	58.84	45° BEND
0+102.3	61.17	58.77	TOP OF WATERMAIN
0+108.5	61.25	58.85	45° BEND
0+110.2	61.32	58.92	45° BEND
0+115.2	61.50	59.10	SERVICE 1.0m FROM BUILDING

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, 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.

SCALE	DESIGN	FOR REVIEW ONLY	
1:250	LSC		LOCATION 1290 TRIM ROAD KIDS COSMIC KINGDOM DRAWING NAME GENERAL PLAN OF SERVICES PROJECT No. 114016 REV #1 DRAWING No. 114016-GP
	MS		
	LSC		
	MS		
	MS		
1. ISSUED FOR SITE PLAN APPLICATION	AUG 14/14	MS	
No.	REVISION	DATE	BY

 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	PROJECT No. 114016 REV #1 DRAWING No. 114016-GP
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