

200mmØ WATERMAIN TABLE - CAR DEALERSHIP

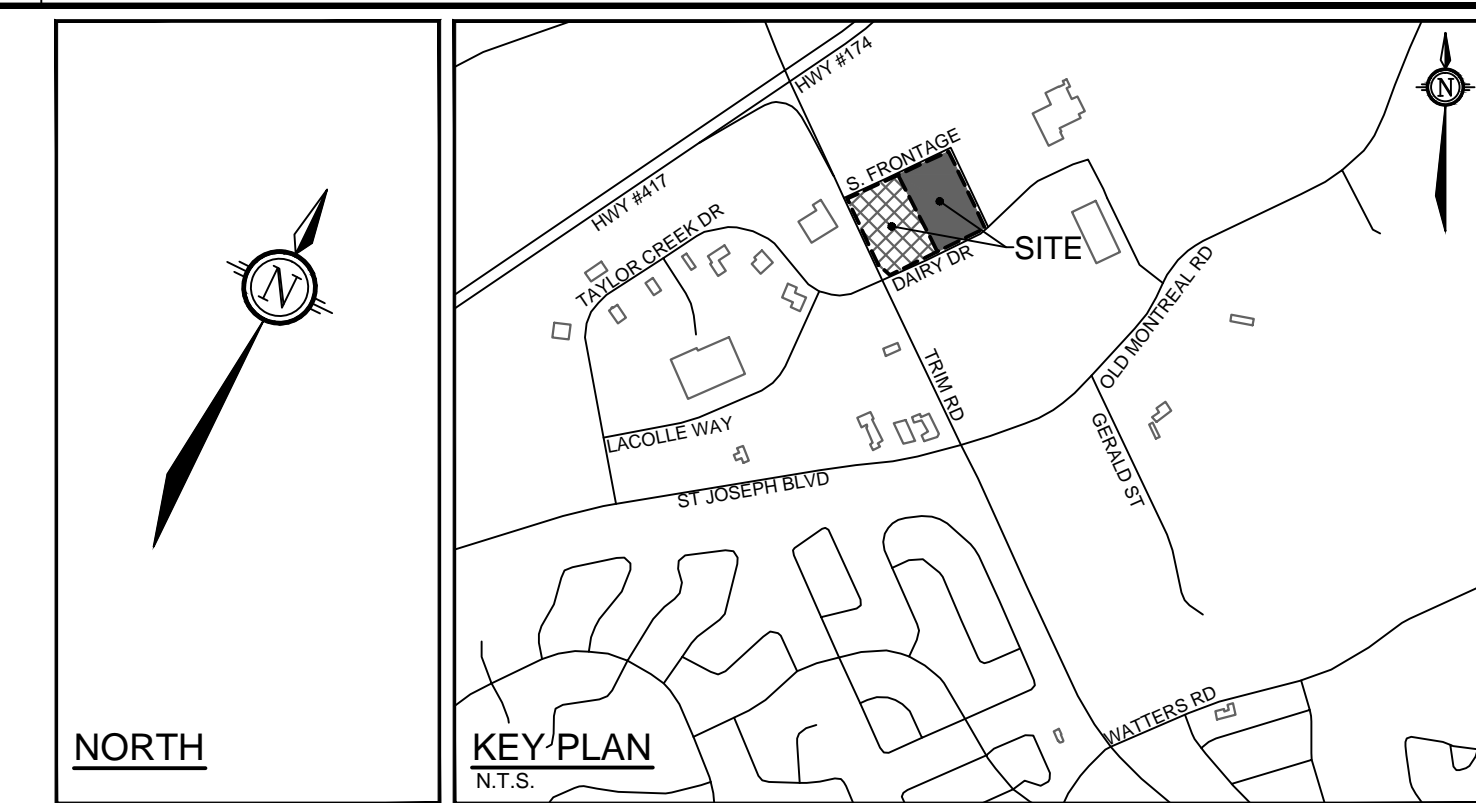
STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
1+000.0	56.61	54.28	CONNECT TO EXISTING 400mmØ WATERMAIN
1+001.5	56.63	54.25	22.5° VERTICAL BEND
1+003.0	56.68	53.38	CROSS ABOVE EXISTING 375mmØ SAN SEWER (EX SAN INV = 49.87)
1+004.6	56.64	52.98	22.5° VERTICAL BEND
1+005.9	56.61	52.98	CROSS BELOW EXISTING 600mmØ STM SEWER (EX STM INV = 53.48)
1+009.0	56.60	52.98	CROSS BELOW FUTURE 1200mmØ STM SEWER (STM INV = 54.21)
1+010.6	56.60	52.98	22.5° VERTICAL BEND
1+012.5	56.20	53.80	22.5° VERTICAL BEND
1+019.0	56.61	54.21	V&VB AT PROPERTY LINE
1+020.0	56.55	54.55	---
1+030.0	56.59	54.30	---
1+040.0	56.74	54.34	---
1+047.9	56.86	54.46	150mmØ SERVICE
1+050.0	56.90	54.50	---
1+060.0	57.02	54.62	---
1+070.0	57.02	54.62	---
1+080.0	56.92	54.52	---
1+090.0	56.83	54.43	---
1+100.0	56.70	54.30	---
1+101.3	56.70	54.30	150mm TEE
1+101.9	56.70	54.30	50mmØ WATERMAIN
1+102.5	56.70	54.30	CAP

150mmØ WATERMAIN TABLE - HYDRANT LEAD

STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
2+000.0	56.60	54.20	CONNECTION TO 200mmØ WATERMAIN
2+001.8	56.69	54.20	22.5° VERTICAL BEND
2+003.7	56.66	54.06	22.5° VERTICAL BEND
2+004.6	56.66	54.96	CROSSING ABOVE 375mmØ STORM SEWER (STM INV = 54.30)
2+005.5	56.66	54.96	22.5° VERTICAL BEND
2+007.8	56.60	54.20	22.5° VERTICAL BEND
2+010.6	56.60	54.00	---
2+020.0	56.20	53.99	---
2+030.0	56.49	54.09	---
2+040.0	56.48	54.08	---
2+047.5	56.40	54.10	---
2+060.0	56.45	54.05	---
2+070.0	56.40	54.00	---
2+080.0	56.52	54.12	---
2+087.5	56.45	54.15	V&VB
2+087.5	56.55	54.15	HYDRANT

WATERMAIN NOTES:

- SPECIFICATIONS:
 - ITEM: WATERMAIN TRENCHING
 - ITEM: THERMAL INSULATION IN SHALLOW TRENCHES
 - ITEM: THERMAL INSULATION OF WATERMAIN AT OPEN STRUCTURES
 - ITEM: WATERMAIN CROSSING BELOW SEWER
 - ITEM: HYDRANT INSTALLATION
 - ITEM: WATERMAIN
- SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. 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.
- 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.



AREA A8 - INLET CONTROL DEVICE DATA - CBMH 7

DESIGN EVENT	IPEX TEMPEST ICD	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	UPSTREAM HEAD (m)	SURFACE PONDING (m)	VOLUME (m³)
1.5 YR LOW, MEDIUM FLOW (LMF)	300	2.8	0.28	11.5	11.5	9.7
1.100 YR LOW, MEDIUM FLOW (LMF)	300	4.0	0.53	26.1	26.1	26.1

AREA A9 - INLET CONTROL DEVICE DATA - CBMH 2

DESIGN EVENT	IPEX TEMPEST ICD	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	UPSTREAM HEAD (m)	SURFACE PONDING (m)	VOLUME (m³)
1.5 YR LOW, MEDIUM FLOW (LMF)	300	5.8	2.75	0.05	116.1	116.1
1.100 YR LOW, MEDIUM FLOW (LMF)	300	6.0	2.82	0.12	260.2	260.2

AREA B3 - INLET CONTROL DEVICE DATA - CBMH 13

DESIGN EVENT	IPEX TEMPEST ICD	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	UPSTREAM HEAD (m)	SURFACE PONDING (m)	VOLUME (m³)
1.5 YR LOW, MEDIUM FLOW (LMF)	200	7.6	0.10	0.10	8.7	8.7
1.100 YR LOW, MEDIUM FLOW (LMF)	200	7.7	1.90	0.20	26.7	26.7

AREA B4 - INLET CONTROL DEVICE DATA - CBMH 11

DESIGN EVENT	IPEX TEMPEST ICD	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	UPSTREAM HEAD (m)	SURFACE PONDING (m)	VOLUME (m³)
1.5 YR LOW, MEDIUM FLOW (LMF)	300	5.2	1.15	---	40.0	40.0
1.100 YR LOW, MEDIUM FLOW (LMF)	300	6.0	2.65	0.17	81.9	81.9

AREA B5 - INLET CONTROL DEVICE DATA - ACCESS MH 1

DESIGN EVENT	IPEX TEMPEST ICD	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	UPSTREAM HEAD (m)	SURFACE PONDING (m)	VOLUME (m³)
1.5 YR LOW, MEDIUM FLOW (LMF)	300	5.2	1.15	---	233.1	233.1
1.100 YR LOW, MEDIUM FLOW (LMF)	300	6.9	2.27	0.20	483.0	483.0

ROOF DRAIN TABLE - RD 11 - 18

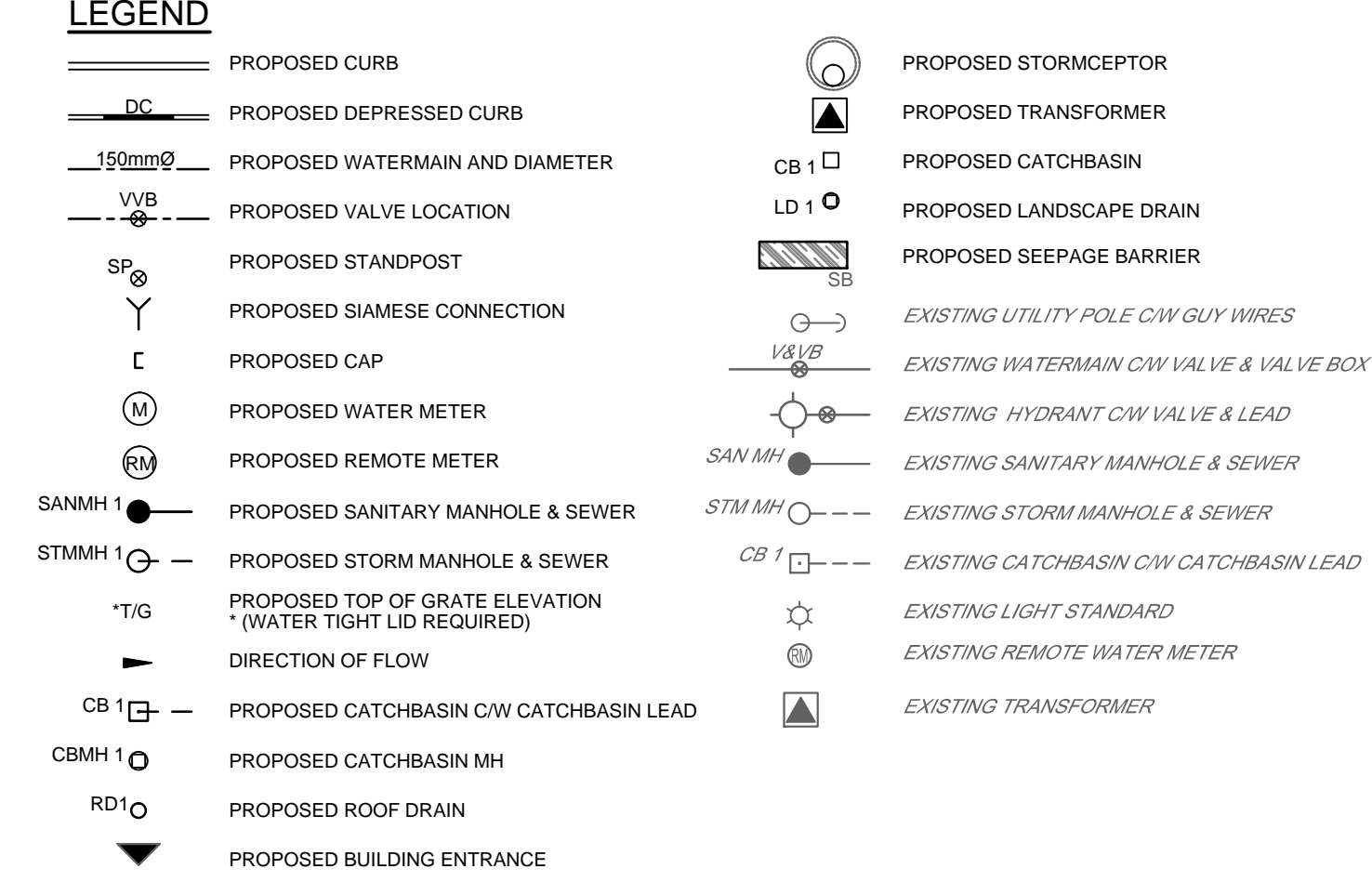
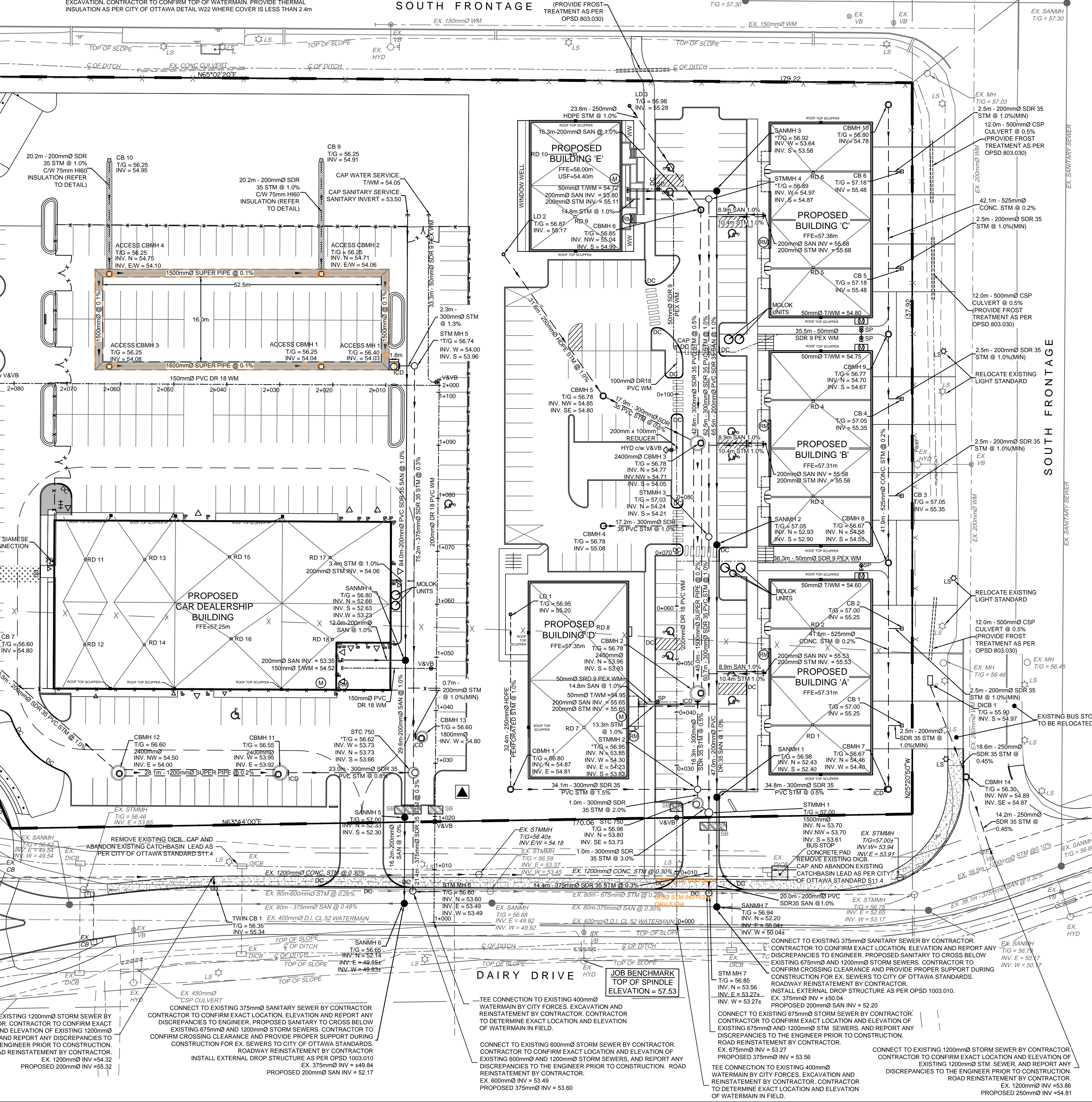
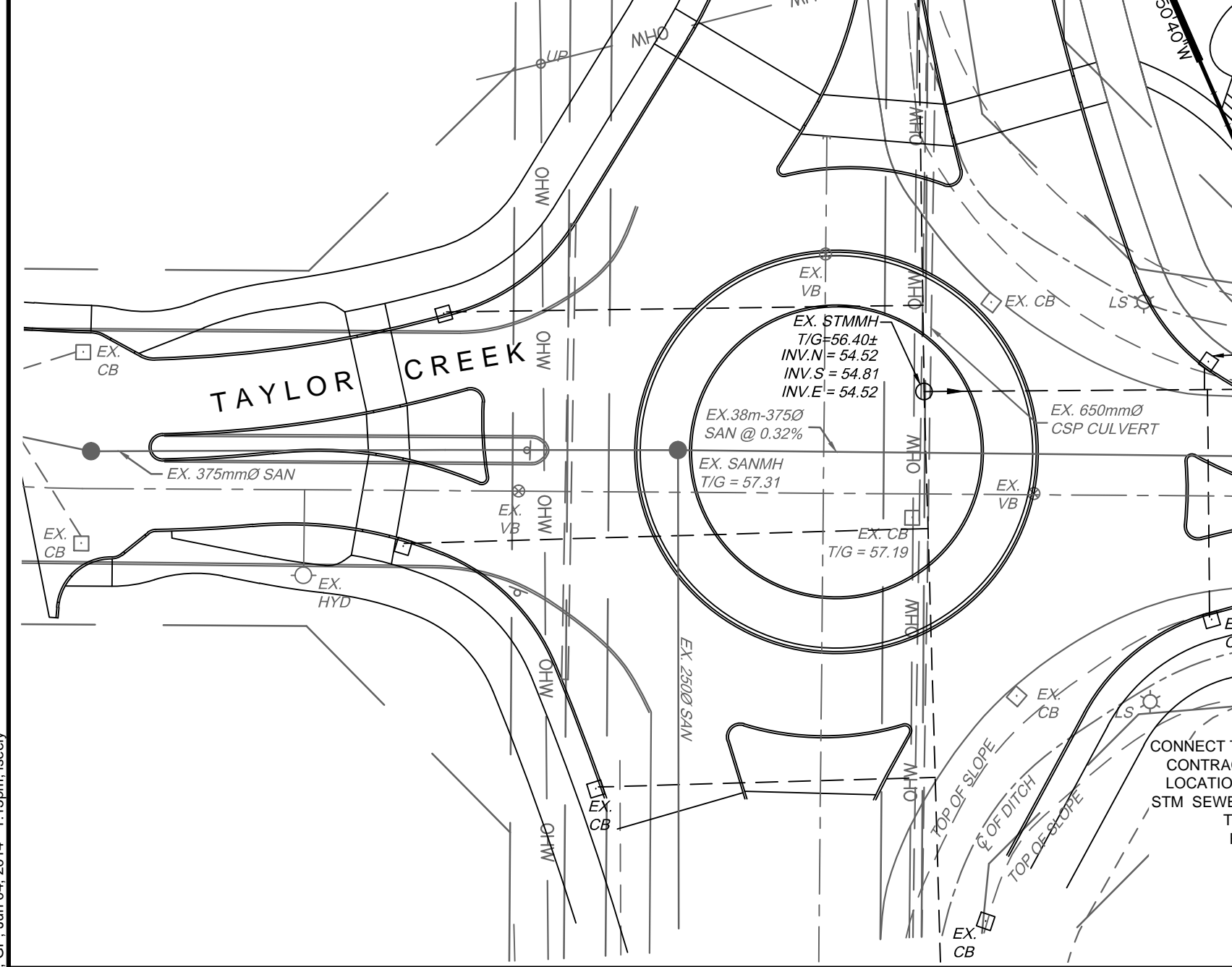
ROOF DRAIN NO.	ROOF DRAINS OPENING	1.5 YEAR RELEASE RATE	APPROX. 5 YR PONDING DEPTH	1.100 YEAR RELEASE RATE	APPROX. 100 YR PONDING DEPTH
RD 11	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.15 m
RD 12	1/4 EXPOSED	0.96 L/s	0.11 m	1.14 L/s	0.15 m
RD 13	CLOSED	0.76 L/s	0.11 m	0.76 L/s	0.14 m
RD 14	CLOSED	0.76 L/s	0.11 m	0.76 L/s	0.14 m
RD 15	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.14 m
RD 16	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.14 m
RD 17	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.15 m
RD 18	CLOSED	0.76 L/s	0.11 m	0.76 L/s	0.15 m

ALL PROPOSED ROOF DRAINS TO BE WATTS ACCUTROL ADJUSTABLE FLOW CONTROL ROOF DRAINS. REFER TO APPENDIX 'F' IN THE STORMWATER MANAGEMENT REPORT (R-2013-105) FOR ROOF DRAIN DETAIL SHEET.
**MAXIMUM PONDING DEPTH ON BUILDING ROOF WILL NOT EXCEED 0.15m PRIOR TO SPILL OFF TROUGH ROOF TOP SCUPPERS

200mmØ / 100mmØ WATERMAIN TABLE

STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
0+000.0	56.84	54.00	CONNECT TO EXISTING 400mmØ WATERMAIN
0+001.6	56.84	54.00	22.5° VERTICAL BEND
0+003.4	56.91	53.59	CROSSING ABOVE EXISTING 375mmØ SAN SEWER (EX SAN INV = 50.40)
0+004.5	56.91	52.78	22.5° VERTICAL BEND
0+005.9	56.84	52.78	CROSSING BELOW EXISTING 675mmØ STM SEWER (EX STM INV = 53.28)
0+009.1	56.72	52.78	CROSSING BELOW FUTURE 1200mmØ STM SEWER (STM INV = 54.07)
0+010.7	56.72	52.78	22.5° VERTICAL BEND
0+014.3	56.72	54.32	22.5° VERTICAL BEND
0+020.1	56.66	54.26	V&VB AT PROPERTY LINE
0+023.2	57.05	54.26	22.5° VERTICAL BEND
0+024.2	57.05	53.87	22.5° VERTICAL BEND
0+025.4	57.04	53.87	CROSSING BELOW PROPOSED 300mmØ STORM SEWER (STM INV = 54.37)
0+026.6	57.03	53.87	22.5° VERTICAL BEND
0+028.5	57.02	54.62	22.5° VERTICAL BEND
0+030.0	56.99	54.59	---
0+041.1	56.96	54.46	CROSSING BELOW PROPOSED BUILDING 'D' SAN AND STM SERVICES
0+041.9	56.96	54.46	50mmØ SERVICE
0+050.0	56.85	54.45	---
0+060.0	56.98	54.58	---
0+065.5	57.09	54.69	50mmØ SERVICE
0+070.0	57.07	54.67	---
0+075.1	57.00	54.60	CROSSING BELOW PROPOSED 300mmØ STORM SEWER (STM INV = 54.84)
0+080.0	56.97	54.57	---
0+089.4	56.89	54.49	HYDRANT LEAD
0+089.7	56.89	54.49	200mm X 100mm REDUCER
0+100.0	56.95	54.55	50mmØ SERVICE
0+107.9	57.07	54.67	50mmØ SERVICE
0+109.1	57.07	54.67	50mmØ SERVICE
0+109.7	57.07	54.67	CAP

EXACT DEPTH OF EXISTING WATERMAIN TO BE DETERMINED AT TIME OF EXCAVATION. CONTRACTOR TO CONFIRM TOP OF WATERMAIN. PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W22 WHERE COVER IS LESS THAN 2.4m



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 NOVATECH ENGINEERS AND ARCHITECTS AS CO-INSURED.
- RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ADJACENT 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 CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL SITE.
- ALL ELEVATIONS ARE GEODETIC.
- REFER TO GEOTECHNICAL REPORT (No. 13-083, DATED AUGUST, 2013), PREPARED BY HOULE CHEVRIER ENGINEERING 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 ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACE AREAS AND DIMENSIONS.
- REFER TO DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT (R-2013-106) 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).
- PAVING LINE/PARKING PAINTING.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND TIG ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, TWM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.

SEWER SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
STORM/SANITARY MANHOLE	701.010, 701.011, 1200x, 1500x, 1800x, 2400x	OPSD 701.010, 701.011, 701.012, 701.013
CATCHBASIN (600x600mm)	705.010	OPSD 705.010
CB, FRAME & COVER	400.020	OPSD 400.020
STORM/SANITARY MH FRAME & COVER	S28.024	CITY OF OTTAWA S28.1
CATCHBASIN MH FRAME & COVER	S6 & S7	CITY OF OTTAWA S6 & S7
SEWER TRENCH	PVC DR 26, CONC CLASS 60	CITY OF OTTAWA PVC DR 26, CONC CLASS 60
STORM SEWER	PVC DR 35	CITY OF OTTAWA PVC DR 35
SANITARY SEWER	ULTRALOX 2.8mm ALUMINIZED SUPER PIPE	ULTRALOX 2.8mm ALUMINIZED SUPER PIPE

ROOF DRAIN TABLE - RD 1 - 10

ROOF DRAIN NO.	ROOF DRAINS OPENING	1.5 YEAR RELEASE RATE	APPROX. 5 YR PONDING DEPTH	1.100 YEAR RELEASE RATE	APPROX. 100 YR PONDING DEPTH
RD 1	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.15 m
RD 2	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.15 m
RD 3	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.15 m
RD 4	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.15 m
RD 5	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.15 m
RD 6	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.15 m
RD 7	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.15 m
RD 8	1/4 EXPOSED	0.95 L/s	0.11 m	1.14 L/s	0.15 m
RD 9	CLOSED	0.76 L/s	0.10 m	0.76 L/s	0.15 m
RD 10	CLOSED	0.76 L/s	0.10 m	0.76 L/s	0.15 m

ALL PROPOSED ROOF DRAINS TO BE WATTS ACCUTROL ADJUSTABLE FLOW CONTROL ROOF DRAINS. REFER TO APPENDIX 'F' IN THE STORMWATER MANAGEMENT REPORT (R-2013-105) FOR ROOF DRAIN DETAIL SHEET.
**MAXIMUM PONDING DEPTH ON BUILDING ROOF WILL NOT EXCEED 0.15m PRIOR TO SPILL OFF TROUGH ROOF TOP SCUPPERS

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.

FOR REVIEW ONLY

NO.	REVISION	DATE	BY	SCALE	CHECKED	APPROVED
6.	ISSUED FOR SITE PLAN APPROVAL	JUN 4/14	MS	1:400	CJO	FOR REVIEW ONLY
5.	ISSUED FOR MOC APPROVAL	MAY 27/14	MS		CJO	
4.	REVISED AS PER CITY COMMENTS	MAY 26/14	MS		MTM	
3.	REVISED PER CITY OF OTTAWA COMMENTS	MAY 13/14	MS		MTM	
2.	REVISED PER CITY OF OTTAWA COMMENTS	FEB 7/14	MS		CJO	
1.	ISSUED FOR SITE PLAN APPLICATION	NOV 5/13	MS		CJO	

NOVATECH ENGINEERING CONSULTANTS LTD.
113071-00
113071-GP

GENERAL PLAN OF SERVICES

LOCATION: 955 DAIRY DRIVE, CITY OF OTTAWA
VW ORLEANS / TRIMERRA DEVELOPMENTS

DRAWING NAME: _____
PROJECT NO.: 113071-00
REV: 113071-00
REV # 06