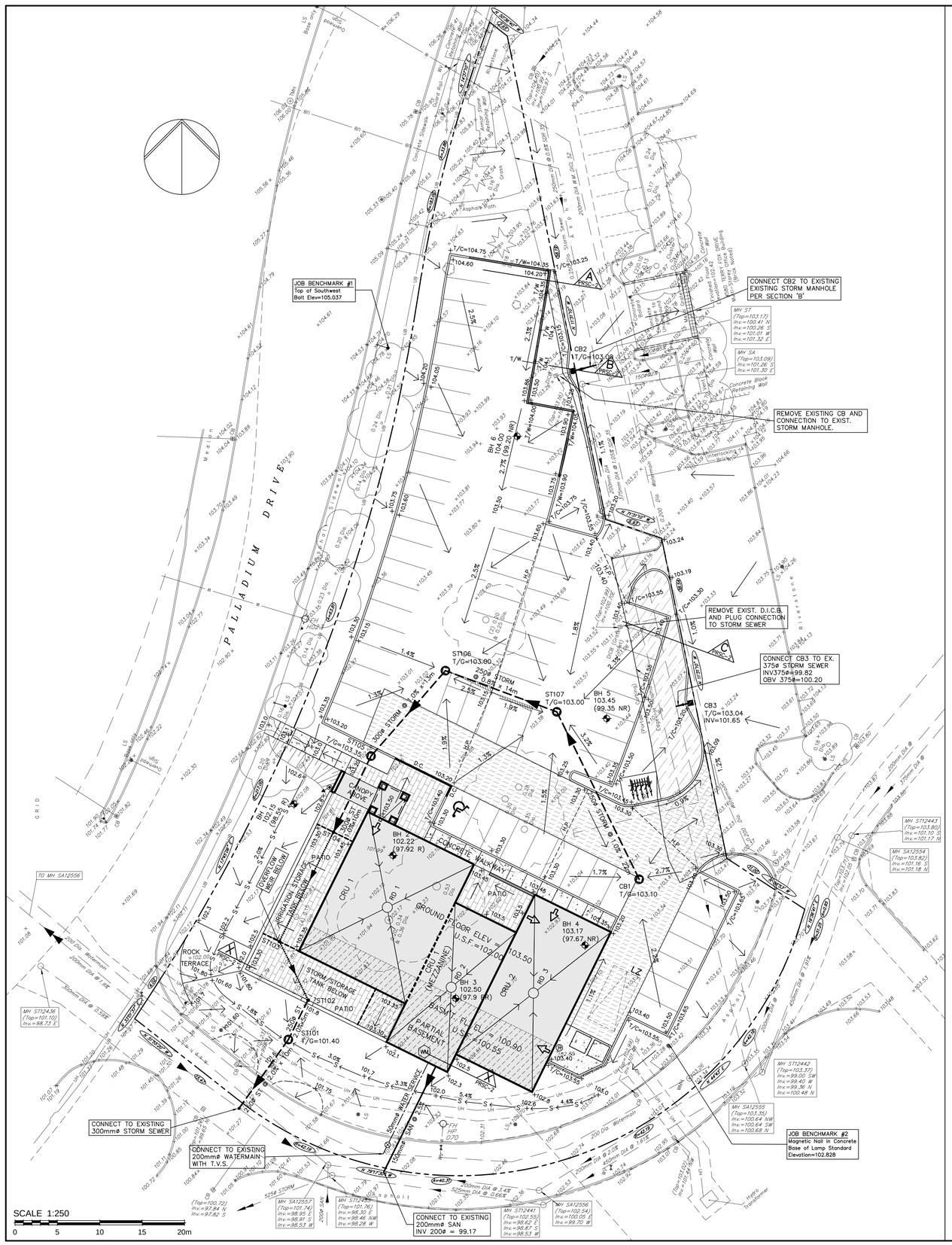

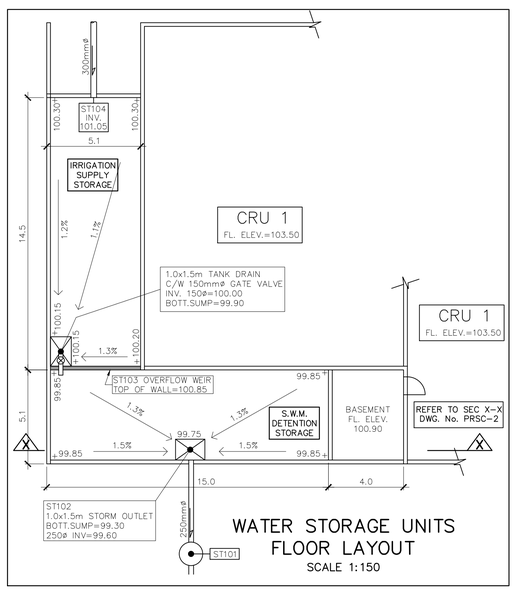

NOTES & SPECIFICATIONS

1. GENERAL
SITE INFORMATION COMPILED FROM EXISTING CITY RECORDS, TOPO AND SITE BOUNDARY SURVEY BY OTHERS AND ENGINEER'S FIELD NOTES. REPORT ALL DISCREPANCIES PRIOR TO ANY WORK.

2. MODIFICATIONS/REVISIONS
NO MODIFICATIONS TO THIS DRAWING AND SPECIFICATIONS AND NO MATERIALS SUBSTITUTION IS PERMITTED WITHOUT THE WRITTEN AUTHORIZATION OF BOTH THE ENGINEER AND THE OWNER.

3. ENGINEERS STAMP
USE OF THIS DRAWING WITHOUT THE ENGINEER'S SIGNED STAMP CURRENT TO THE LATEST REVISION IS NOT ALLOWED AND SHOULD ANY SUCH USE OCCUR, THE ENGINEER IS RELEASED OF ANY RESPONSIBILITY.

4. SITE BOUNDARIES
FOR SITE BOUNDARY DIMENSIONS REFER TO TOPOGRAPHICAL PLAN BY FAIRHALL, MOFFATT AND WOODLAND, O.L.S. (SURVEY COMPLETED JUNE 9, 2015.)

5. SITE BENCHMARK
ALL ELEVATIONS SHOWN ON THIS PLAN ARE TO GEODETIC DATUM AND ARE REFERENCED TO JOB BENCHMARKS No. 1 AND No. 2 SHOWN ON THE PLAN.

6. EXISTING CONDITIONS
6.1 SURFACE: EXISTING GROUND SURFACE ELEVATIONS SHOWN ON THIS DRAWING ARE TAKEN FROM THE TOPOGRAPHICAL PLAN REFERRED TO IN NOTE 4. ABOVE.
6.2 SUBSURFACE: REFER TO GEOTECHNICAL INVESTIGATION REPORT BY DST CONSULTING ENGINEERS INC. DATED OCTOBER 2015 (REPORT No. IN-SO-021872).

7. LAYOUT
ALL DIMENSIONS ARE SHOWN IN METRES UNLESS OTHERWISE NOTED. REFER TO ARCHITECT'S SITE PLAN FOR HORIZONTAL LAYOUT DIMENSIONS OF MAJOR SITE FEATURES INCLUDING BUILDINGS, ENTRANCE ROADWAY, DRIVEWAYS, SIDEWALKS AND RETAINING WALLS. THE CONTRACTOR IS RESPONSIBLE FOR LAYOUT OF ALL UNDERGROUND SERVICES, GRADING, ROADWAYS, DRIVEWAYS, SIDEWALKS AND RETAINING WALLS. REFER TO THIS PLAN FOR LAYOUT OF PROPOSED GRADES.

8. PERMITS
THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL CONSTRUCTION RELATED PERMITS, FEES, APPROVALS AND INSPECTIONS REQUIRED BY THE CITY AND THE PROVINCE.

9. SPECIFICATIONS (GENERAL)
ALL MATERIALS, CONSTRUCTION, TESTING AND DISINFECTION OF ON-SITE AND OFF-SITE UNDERGROUND SERVICES FOR WATER SUPPLY, SANITARY AND STORM DRAINAGE SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SPECIFICATIONS CURRENTLY IN EFFECT (PUBLIC SERVICES & WORKS DEPARTMENT, INFRASTRUCTURE SERVICES BRANCH), BY REFERENCE TO ONTARIO STANDARDS OPSS & OPSD AND BY REFERENCE TO CSA, ASTM AND AWWA STANDARDS.

10. CONNECTION TO BOUNDARY SERVICES (PRIVATE)
10.1: THE CONTRACTOR SHALL CONFIRM LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND SERVICES AND STRUCTURES FOR CONNECTION OF SITE SERVICES AND DETERMINE ANY DAMAGE OR POSSIBLE CONFLICT PRIOR TO CONSTRUCTION OF NEW SEWER AND WATER WORKS. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY ERRORS, DISCREPANCIES, CONFLICTS OR OMISSIONS THAT ARE UNCOVERED.
10.2: THE CONTRACTOR SHALL NOTIFY CITY INSPECTION STAFF PRIOR TO EXCAVATING FOR CONNECTING TO SEWERS AND WATERMAINS. CITY STAFF SHALL MAKE ALL CONNECTIONS TO WATERMAINS. NO CONNECTION SHALL BE MADE TO SEWERS UNTIL CITY STAFF HAS INSPECTED THE UNCOVERED PIPES AND NO BACKFILLING SHALL BE COMMENCED UNTIL CITY STAFF HAS INSPECTED THE COMPLETED CONNECTION ASSEMBLY

11. WATER SERVICE CONNECTIONS
- CONNECT TO EXISTING 300mm DIA DICL (1990) MAIN WITH 102mm DIA USING T.V.S. INSTALLED BY CITY STAFF WITH EXCAVATION BEDDING AND BACKFILL AND ROAD, CURB RESTORATION BY THE CONTRACTOR.
- TRENCHING, BEDDING, BACKFILLING, CATHODIC PROTECTION, TESTING AND DISINFECTION PER CITY STANDARDS AND SPECIFICATIONS.
- WATER SERVICE TO BE 102mm DIA PVC DR 18, PRESSURE CLASS 150 INSTALLED WITH 2.4m COVER BELOW PROPOSED SURFACE GRADE.
- WATER METER AND REMOTE READOUT TO BE INSTALLED BY MECHANICAL CONTRACTOR.

12. SANITARY SERVICE CONNECTION
- EXCAVATE TO EXPOSE EXISTING PVC SANITARY SEWER PIPE ON PRIVATE ROADWAY AND RECORD ELEVATION OF TOP OF PIPE TO CONFIRM THE EXISTING GRADE SHOWN ON THIS DRAWING. IF THE EXISTING ELEVATION IS HIGHER THAN INDICATED, CONTACT THE ENGINEER PRIOR TO PROCEEDING WITH INSTALLATION OF THE CONNECTING PIPE.
- CONNECT TO EXISTING 200mm DIA PVC PIPE SEWER USING 200x200x150mm DIA MANUFACTURED TEE AND SLEEVE.
- CONNECTION PIPE MATERIAL TO BE 150mm DIA, P.V.C. SDR-35 (CSA-B-182.2) C/W NITRILE GASKETS.
- INSTALL SANITARY SERVICE TO BUILDING WALL AFTER EXPOSING EXISTING U/G HYDRO PRIMARY DUCT.
- PIPE BEDDING AND BACKFILL PER CITY STD. S6.

13. STORM SERVICE CONNECTION
- EXCAVATE TO EXPOSE EXISTING 300mm DIA PVC STORM SEWER PIPE ON PRIVATE ROADWAY AND RECORD ELEVATION OF TOP OF PIPE TO CONFIRM THE EXISTING GRADE SHOWN ON THIS DRAWING. IF THE EXISTING ELEVATION IS HIGHER THAN INDICATED, CONTACT THE ENGINEER PRIOR TO PROCEEDING WITH INSTALLATION OF THE CONNECTING PIPE.
- CONNECT TO EXISTING 300mm DIA PVC STORM SEWER PIPE USING 300x300x250mm DIA MANUFACTURED TEE AND SLEEVE.
- CONNECTION PIPE MATERIAL TO BE 250mm DIA P.V.C. SDR-35 C/W NITRILE GASKETS.
- INSTALL 250mm DIA STORM SERVICE TO MH ST101 PER PROFILE SHOWN AFTER EXPOSING U/G HYDRO PRIMARY DUCT TO CONFIRM CLEARANCE.

14. INSULATION
WATERMAINS INSTALLED TO 2.4m DEPTH: NO INSULATION REQUIRED. STORM AND SANITARY SEWERS INSTALLED TO LESS THAN 1.5m IN DEPTH TO OBVERT UNDER PAVEMENT AREAS TO BE INSULATED WITH 50mm THICKNESS ACROSS WIDTH OF TRENCH AT 150mm ABOVE TOP OF PIPE. INSULATE BETWEEN WATERMAIN/SEWER CROSSINGS AND SEWER/SEWER CROSSINGS AND BETWEEN WATERMAINS AND OPEN STRUCTURES AS PER CITY STANDARDS.

15. LEAKAGE TESTING
LEAKAGE TESTING FOR ALL SANITARY AND STORM SEWERS AND SEWER SERVICES TO BE COMPLETED IN ACCORDANCE WITH O.P.S.S. 410.07.26. FIELD TESTS MUST BE WITNESSED BY THE ENGINEER AND A CERTIFIED COPY OF THE TEST RESULTS SUPPLIED BY THE CONTRACTOR.

16. ROOF DRAIN DISCHARGE
ROOF DRAIN PIPING SHALL BE ROUTED TO DISCHARGE DIRECTLY TO TANKS BELOW THE PATIO AREA AS FOLLOWS:
RD 1 – DIRECT TO IRRIGATION STORAGE TANK
RD 2 AND RD 3 – DIRECT TO STORM/STORAGE TANK.

17. INLET CONTROL DEVICES (ICD)
IMMEDIATELY UPON COMPLETION OF ALL ROOF DRAINS AND PARKING LOT PAVING, INSTALL A PLUG-TYPE CIRCULAR ORIFICE CENTERED ON THE 250mm DIA STORM SERVICE OUTLET AT MH ST101. ICD TO HAVE 134mm DIA CIRCULAR ORIFICE (SHARP EDGED) WITH 45ºBEVEL ON DOWNSTREAM SIDE. RELEASE RATE TO BE 43.3L/sec @ 1.28m HEAD.

18. EXTERIOR PAVEMENT SURFACES
- REFER TO ARCHITECTURAL AND LANDSCAPE DRAWINGS FOR LOCATION WIDTH AND SPECIFATION OF PATIO UNIT PAVERS AND SIDEWALKS. CONSTRUCT CONCRETE SIDEWALKS AND CURBS TO CITY STANDARDS SC1.1 (BARRIER CURB), SC2 (MONOLITHIC CURB AND SIDEWALK), SC4 (SIDEWALK ALONE).
- ALL CONCRETE FOR SIDEWALKS AND CURBS SHALL BE 32MPa CLASS C-2 CONCRETE MIX PER CITY SPECIFICATION F-3510. CONSTRUCT PARKING LOT AND ACCESS AISLES USING PAVEMENT STRUCTURE STANDARDS AS FOLLOWS:

HEAVY DUTY	PARKING ONLY
40mm WEAR COURSE — SUPERPAVE 12.5 A.C.*	50mm WEAR COURSE
50mm BINDER — SUPERPAVE 19.5 A.C.*	
150mm BASE — OPSS GRAN 'A' CRUSHED STONE	150mm BASE
400mm SUB-BASE — OPSS GRAN 'A' TYPE II	300mm SUB-BASE

19. PAVEMENT CUTS AND RESTORATION
PAVEMENT CUTS FOR SERVICES INSTALLATION SHALL BE TEMPORARILY REINSTATED TO MATCH EXISTING PAVEMENT STRUCTURE AND PAVEMENT SURFACES SHALL BE PERMANENTLY REINSTATED FOLLOWING REINSTATEMENT OF ADJACENT CONCRETE CURBS.

20. RETAINING WALLS
- CONSTRUCT MODULAR PRE-CAST RETAINING WALLS AT THE LOCATIONS AND GRADES SHOWN ON THIS PLAN AND TO THE MANUFACTURER'S DETAIL SPECIFICATIONS INCLUDING BACKFILL AND WALL BASE PERFORATED PIPE DRAINAGE REQUIREMENTS.
- FOR PRODUCT MATERIAL SPECIFICATIONS REFER TO LANDSCAPE DRAWING.

21. SITE GRADING AND DRAINAGE
- PROPOSED GRADES SHOWN ON THIS PLAN ARE DESIGNED TO MEET SPECIFIC REQUIREMENTS OF THE CITY OF OTTAWA RELATING TO STORMWATER MANAGEMENT (SWM).
- FINAL GRADING OF ALL OUTSIDE SURFACES MUST BE IN ACCORDANCE WITH THE PROPOSED GRADES AND SURFACE SLOPE DIRECTION ARROWS SHOWN ON THIS DRAWING IN ORDER TO ALLOW THE SWM SYSTEM TO FUNCTION AS INTENDED BY THE APPROVED DESIGN.

22. SPECIAL NOTE/OTHER DRAWINGS
THIS DRAWING MUST BE READ TOGETHER WITH THE LATEST REVISIONS OF THE FOLLOWING OTHER DRAWINGS IN ORDER TO PROPERLY CONSTRUCT THE WORKS:

DWG. TITLE	DWG No.	BY
PROFILES & SEDIMENT CONTROL	PRSC-2	ERION ASSOCIATES
SITE PLAN	A100	KWC ARCHITECT INC.
LANDSCAPE PLAN	L-1	GINO J. AIELLO LANDSCAPE ARCHITECT

23. DESIGN CALCULATIONS
FOR DESIGN CALCULATIONS, REFER TO "SITE SERVICES AND STORMWATER MANAGEMENT DESIGN BRIEF" BY ERION ASSOCIATES, PROJECT EA 14-288.

CAUTION:
THE EXACT LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES IS APPROXIMATE ONLY AND MAY BE INCOMPLETE. THE CONTRACTOR IS RESPONSIBLE TO CONTACT ALL MUNICIPAL AUTHORITIES AND UTILITY COMPANIES TO DETERMINE EXACT LOCATION OF ALL SEWERS, WATERMAINS, GAS, ELECTRICAL AND COMMUNICATIONS, CABLE TV AND OTHER UNDERGROUND INSTALLATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROTECTION AGAINST DAMAGE OF ALL EXISTING INSTALLATIONS AND IS LIABLE FOR ALL COST SHOULD DAMAGE OCCUR.

LEGEND

- PROPERTY LINE
- EXISTING GRADE BY FAIRHALL, MOFFATT AND WOODLAND (×102.53 / ×102.6)
- PROPOSED GRADE
- T/C=103.55 — TOP OF CURB GRADE
- T/W=104.00 — TOP OF WALL GRADE
- (18.21) — SITE BOUNDARY DIMENSION
- PROPOSED SANITARY SERVICE
- PROPOSED STORM SERVICE
- PROPOSED WATER SERVICE
- RD 3 — ROOF DRAIN
- WM — PROPOSED WATER METER
- R — PROPOSED REMOTE METER READOUT
- DIRECTION OF SURFACE SLOPE (DOWN)
- S — SWALE
- DOWNSPOUT AND DISCHARGE DIRECTION
- POURED CONCRETE RETAINING WALL (SEE STRUCTURAL DRAWINGS)
- P.C. CONCRETE RETAINING WALL
- DEPRESSED CURB PER SC2
- CONCRETE SURFACE
- PAVERS
- HEAVY DUTY PAVEMENT PER NOTE No. 18
- EXISTING ASPHALT SURFACE TO BE REMOVED
- PROPOSED BIKE RACK (SEE LANDSCAPE FOR DETAILS)
- H.P. — PROPOSED UTILITY POLE RELOCATION
- UH — EXISTING U/G HYDRO
- H — PROPOSED U/G HYDRO
- B/C — PROPOSED U/G BELL/CABLE
- GR — GAS — PROPOSED GAS REGULATOR
- BH 5 88.44 (82.34 NR) — BOREHOLE WITH NUMBER TOP ELEVATION BOTTOM ELEV. R=REFUSAL NR=NO REFUSAL BR=BEDROCK

PROPOSED SEWER STRUCTURE DATA

I.D. No.	PROPOSED GRADE TOP	PROPOSED GRADE INVERT	SPECIFICATIONS STRUCTURE	SPECIFICATIONS FRAME & COVER	DETAILS
STORM					
ST101	101.40	99.55 (250 N) 99.35 (250 S)	CBMH/701.010	S28.1/S25	300mm SUMP 125mmø ICD ⊕ CENTER OF 250ø OUTLET, PLUG TYPE SEE NOTE # 17
ST102	99.90 FL. ELEV.	99.60 (250 S)	1000×1500 CONC. SUMP		300mm SUMP BELOW INV. OF 250mmø PIPE
ST103	101.85	N/A	OVERFLOW WEIR		200mm THICK x 800mm HIGH REINFORCED CONC. WALL
ST104	N/A	101.05 (300ø)			NORTH WALL OF IRRIGATION TANK
ST105	103.35	101.20 (300 NE) 101.15 (300 S)	CBMH/701.010	S28.1/S25	300mm SUMP
ST106	103.00	101.33 (300 SW) 101.39 (250 E)	CBMH/701.010	S28.1/S25	300mm SUMP
ST107	103.00	101.53 (250 SE) 101.50 (250 W)	CBMH/701.010	S28.1/S25	300mm SUMP
CB1	103.10	101.75 (250 NW)	705.010	S19	600mm SUMP
CB2	103.00	101.60 (200)	705.010	S19	600mm SUMP
CB3	103.04	101.65 (200)	705.010	S19	600mm SUMP

KEY PLAN N.T.S.

no.	date	revision
2	29 OCT/15	SITE PLAN APPLICATION
1	19 OCT/15	FOR CLIENT REVIEW
0	11 SEPT/15	FOR CLIENT REVIEW

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project
PROPOSED COMMERCIAL BUILDING
301 PALLADIUM DRIVE
KANATA ONTARIO

drawing title
SITE SERVICES AND GRADING PLAN (COMPOSITE)

drawn	date	scale
MarCAD	SEPT 2015	AS NOTED

PROFESSIONAL ENGINEERS PROVINCE OF ONTARIO — CIVIL — K. M. ERION — 29/10/15

project EA 14-288

drawing no. SSG-1

revision no. 2