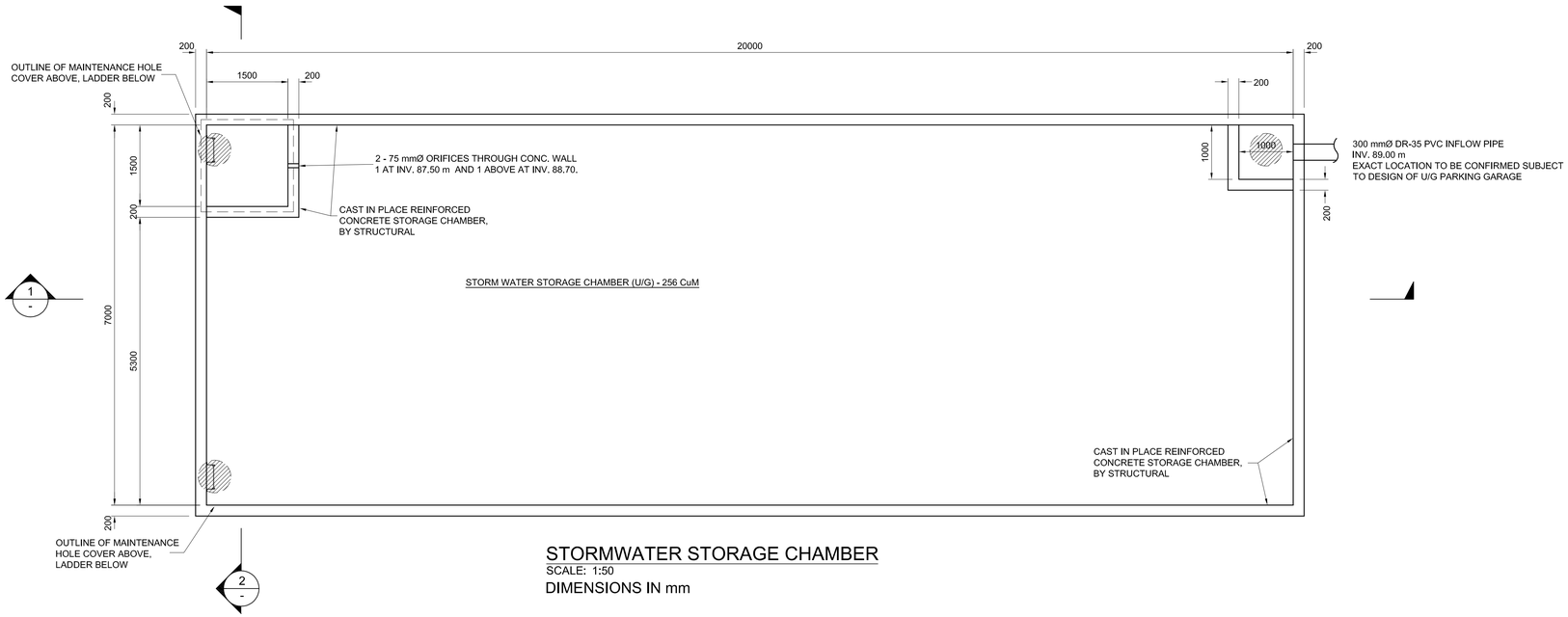
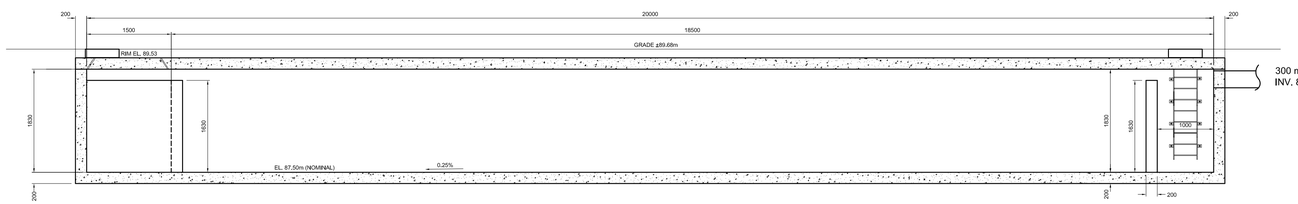


STORMWATER STORAGE CHAMBER

SCALE: 1:50

DIMENSIONS IN mm

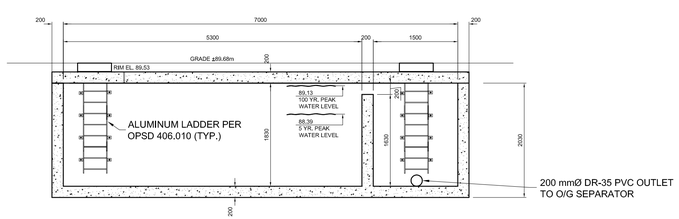
LOCKING FRAME & COVER AS PER OPSD 401.060 (TYP.)



SECTION 1

SCALE: 1:50

DIMENSIONS IN mm



SECTION 2

SCALE: 1:50

DIMENSIONS IN mm

GENERAL

1. LOCATION AND SIZE OF EXISTING UTILITIES WAS DERIVED FROM QUARTEK TOPOGRAPHIC SURVEY VARIOUS DRAWINGS FROM OTHERS. THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN AND, WHERE SHOWN, THE ACCURACY OF THE LOCATION SHOWN OF SUCH UTILITIES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL CONTACT ALL SUCH UTILITIES INVOLVED AND INFORM HIMSELF AS TO THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME LIABILITY FOR DAMAGE TO THEM. CONTRACTOR TO REPORT ANY CONFLICTS OR DISCREPANCIES WITH THIS DRAWING TO THE ENGINEER IMMEDIATELY.
2. ALL MEASUREMENTS ARE IN METRES UNLESS OTHERWISE NOTED.
3. ALL WORK SHALL BE IN ACCORDANCE WITH THE RELEVANT SECTIONS OF THE TOWN MUNICIPAL ENGINEERING STANDARDS, THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS, AND THE NIAGARA PENINSULA STANDARD CONTRACT DOCUMENT (NPSCD) UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS.
4. COMPUTER DRAWING FILE CO-ORDINATES FOR THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION LAYOUT UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER.
5. ALL GRANULAR MATERIAL SHALL BE COMPACTED TO 100% STANDARD PROCTOR DENSITY AND ALL NATIVE BACKFILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY UNLESS OTHERWISE NOTED.
6. ALL CONSTRUCTION SHALL BE CARRIED OUT IN SUCH A WAY THAT SILTATION OR OTHER DAMAGE TO WATER COURSES DOES NOT OCCUR. THE REQUIREMENTS OF THE MINISTRY OF NATURAL RESOURCES ARE TO BE ADHERED TO IN THIS RESPECT. AT A MINIMUM, PROVIDE SILT FENCE AND STABILIZED CONSTRUCTION ACCESS AND MAINTAIN SAME FOR DURATION OF CONSTRUCTION.
7. ALL EXCAVATION IN EXISTING ROADWAYS OR OTHER PAVED SURFACES SHALL BE BACKFILLED WITH GRANULAR 'A' COMPACTED TO 100% SPD. MINIMUM
8. PROPOSED GRADES SHALL NOT ADVERSELY AFFECT ADJACENT PROPERTIES.
9. REFER TO SITE PLAN FOR SITE DIMENSIONS.
10. ALL AREA OF DISTURBED SOIL SHALL BE STABILIZED AND RE-VEGETATED WITH A NATIVE SEED MIX IMMEDIATELY UPON COMPLETION OF WORK AND RESTORED TO A PRE-DISTURBED STATE OR BETTER.

WATER SUPPLY

11. CONTRACTOR SHALL OBTAIN EXPLICIT APPROVAL FROM TOWNSHIP OF NIAGARA ON THE LAKE WATER DEPARTMENT PRIOR TO MAKING A CONNECTION TO THE EXISTING WATERMAIN. TOWN STAFF TO OPERATE ALL EXISTING MUNICIPAL WATER VALVES.
12. A MINIMUM CLEAR HORIZONTAL SEPARATION OF 2.5m SHALL BE MAINTAINED BETWEEN ANY SEWER & ANY PARALLEL WATERMAIN. A MINIMUM CLEAR VERTICAL SEPARATION OF 0.15m IF W/M CROSSING OVER SAN.
13. WATERMAINS & SERVICES SMALLER THAN 150mmø SHALL BE TYPE 'K' SOFT COPPER OR MUNICIPEX OR APPROVED EQUIVALENT. MINIMUM FINISHED COVER OVER WATERMAINS & SERVICES SHALL BE 1.7m UNLESS OTHERWISE INDICATED.
14. ALL WATER SUPPLY AND DISTRIBUTION PIPING SHALL BE FLUSHED, PRESSURE TESTED & DISINFECTED IN ACCORDANCE WITH OPSS 441 & NPSCD SPC-D13 UNDER THE DIRECTION OF THE TOWN'S ENGINEERING PERSONNEL & TO THE SATISFACTION OF THE TOWN DIRECTOR OF PUBLIC WORKS.
15. FOR ALL NON-METALLIC WATERMAINS AND SERVICES, 8-GAUGE COPPER TRACING WIRE SHALL BE INSTALLED ALONG THE CROWN AT 3mm INTERVALS ALONG ITS ENTIRE LENGTH, ALONG HYDRANT LEAD AND EXTENDED ABOVE EXPOSED FLANGE AT HYDRANT.
16. ALL EXISTING HYDRANTS ON SITE TO BE INSPECTED BY QUALIFIED PERSONNEL AND REPLACED IF NOT COMPLIANT WITH CURRENT MUNICIPAL AND C.S.A. STANDARDS, AND OPSS 1105.010

ROADS AND EARTHWORKS

17. FILL FOR ROADWAY AND PARKING AREAS TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 201 IN 200mm THICK LIFTS, USING SUITABLE NATIVE EXCAVATED OR IMPORTED MATERIAL APPROVED BY CONTRACT ADMINISTRATOR AND GEOTECHNICAL ENGINEER. THE SUBSOIL BELOW ANY ROADWAY OR PARKING AREA SHALL BE COMPACTED, PROOF ROLLED AND INSPECTED BY THE GEOTECHNICAL ENGINEER OR HIS DESIGNATE PRIOR TO THE PLACEMENT OF ANY GRANULAR MATERIAL.THE UPPER 1.0m BELOW ANY RIGID OR PAVED SURFACE SHALL BE COMPACTED TO 100% SPD MIN.
18. WHERE DISTURBED OR DAMAGED, REINSTATEMENT OF EXISTING ROADS SHALL COMPLY WITH THE REQUIREMENT OF THE ROAD AUTHORITY. PAVEMENT REINSTATEMENT SHALL COMPLY WITH OPSD 509.010 AND OPSS 310.
19. CONCRETE CURBS WHERE SPECIFIED, TO COMPLY WITH OPSD 600.110 AND OPSS.MUNI 353.
20. SUBDRAIN TO BE 100mmø HDPE PERFORATED FILTER-WRAPPED TILE, PER OPSD 216.021, DISCHARGING TO AN EXISTING DITCH OR OTHER DRAINAGE OUTLET.
21. MINIMUM ASPHALT AND GRANULAR THICKNESS FOR NEW AND WIDENED DRIVEWAYS AND PARKING AREAS PER OPSS 310 & 314 AS FOLLOWS:

	HEAVY DUTY	LIGHT DUTY
SURFACE COURSE	40mm HL3	40mm HL3
BINDER COURSE	65mm HL8	50mm HL8
GRANULAR BASE	150mm GRAN. 'A'	150mm GRAN. 'A'
GRANULAR SUBBASE	350mm GRAN. 'B'	200mm GRAN. 'B'
TOTAL THICKNESS	605mm	440mm

22. AREAS TO BE SODDED SHALL INCLUDE MINIMUM 75mm TOPSOIL PER OPSS 802 AND NPSCD SPC-B21. SOD TO BE IN ACCORDANCE WITH OPSS 803 AND NPSCD SPC-B21. NATIVE BACKFILLED AREAS TO BE SODDED SHALL BE FREE OF GRANULAR PARTICLES OR OTHER MATERIALS DELETERIOUS TO PLANT GROWTH.

SEWERS

23. ALL SEWERS, LEADS AND LATERALS SHALL HAVE CLASS 'B' BEDDING PER OPSD 802.010, GRANULAR 'A' COVER MATERIAL AND SELECT NATIVE BACKFILL UNLESS OTHERWISE NOTED.
24. ALL STORM SEWERS AND CATCHBASIN LEADS TO BE CONCRETE, CLASS III PER CSA A257.2 WITH CLASS "B" BEDDING TO OPSD 802.030 OR PVC DR-35 PER CSA 182.1 WITH GRANULAR 'A' BEDDING TO OPSD 802.010 UNLESS OTHERWISE NOTED.
25. SEWER MAINTENANCE HOLES SHALL BE PRECAST CONCRETE PER OPSD 701.010 WITH FRAME & COVER PER OPSD 401.010 TYPE 'A', AND SHALL COMPLY WITH TOWNSHIP MUNICIPAL ENGINEERING STANDARDS, INCLUDING WATERPROOFING AND INSTALLATION OF A RAIN DISH.
26. OIL GRIT SEPARATOR TO BE STORMCEPTOR® STC750 OR APPROVED EQUIVALENT, CAPABLE OF ACHIEVING 70% tss REMOVAL FOR TOTAL CATCHMENT AREA OF 1.16ha AND 82% IMPERVIOUS AREA, AND A BY-PASS FLOW FOR 100-YR RETURN PERIOD STORM OF 0.018cms.
27. LANDSCAPE CATCHBASINS TO BE NDS MODEL NDS900, 9" (225mm) SQUARE, OR APPROVED EQUIVALENT, WITH MODEL 990 GRATES IN NON-VEHICULAR AREAS AND MODEL 1210 GRATES IN VEHICULAR TRAFFIC AREAS. OUTLETS TO BE 3" (75mm) WITH 90° BEND DOWN THROUGH U/G PARKING GARAGE CONCRETE ROOF DECK.
28. AREA OVER U/G PARKING GARAGE TO BE DRAINED WITH NETWORK OF 100mmø RIBBED PVC, FILTER-CLOTH WRAPPED SUBDRAIN OUTLETTING TO LANDSCAPE CATCHBASINS. SPACING BETWEEN PARALLEL SUBDRAIN LINES TO BE 10m MAXIMUM.

Issue	Issued for	date	init.
B	SITE PLAN APPROVAL	31 OCT 2017	WE
A	REVIEW	30 OCT 2017	WE

seal

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Quartek

• Architects • Planners
• Engineers • Project Managers

T 905 984 8676
89 - 91 St. Paul Street, Suite 100.
St. Catharines, ON. L2R 3M3
www.quartekgroup.com

project title

RANDWOOD HOTEL RESORT

JOHN STREET, Niagara-on-the-Lake

drawing title

SITE SERVICES AND GRADING DETAILS

drawn by	designed by
WE	DP
scale	date
AS NOTED	2017-11-03
job number	issue
16322	B

drawing number

16332-D

24-30P Mono

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plotted by: BJackson on Nov 21, 2017 - 1:34pm