

NOTE: THE POSITION OF ALL POLES, 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.				10. ISSUED FOR MYLARS				SEPT 2018				BCS			
				9. REVISED AND REISSUED FOR SITE PLAN CONTROL				AUG 23/18				BHB			
				No.				REVISION				DATE			
				BY				No.				REVISION			
				DATE				BY				DATE			
				8. REVISED AND REISSUED FOR SITE PLAN CONTROL				JULY 10/18				BHB			
				7. ISSUED FOR PRICING				APR 30/18				BHB			
				6. REVISED AND REISSUED FOR SITE PLAN CONTROL				MAR 09/18				BHB			
				5. ISSUED FOR SITE PLAN CONTROL				NOV 01/17				BHB			
				4. REISSUED FOR OPA AND REZONING				AUG 11/16				BHB			
				3. ISSUED FOR COORDINATION				APR 20/16				BHB			
				2. ISSUED FOR OPA AND REZONING				AUG 18/15				BHB			
				1. ISSUED FOR COORDINATION				AUG 08/15				BHB			

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 \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
- 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 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 FACILITY.
- ALL ELEVATIONS ARE GEODETIC.
- REFER TO ARCHITECTS AND LANDSCAPE ARCHITECTS DRAWINGS FOR BUILDING AND LANDSCAPE AREAS AND DIMENSIONS.
- REFER TO SURVEYING BRIEF AND STORMWATER MANAGEMENT REPORT (R-2015-100 DATED JULY 2016) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
- SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
- PROVIDE LINEPAVING PAINTING.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL SERVICES AS BUILT INFORMATION SHOWN ON THIS PLAN AS BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND TIE ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, TBM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS. ONTARIO PROVINCIAL STANDARDS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.
- ALL PRIVATE APPROACHES MUST BE CONSTRUCTED AS PER CITY SPECIFICATION SC7.1.

GRADING NOTES:

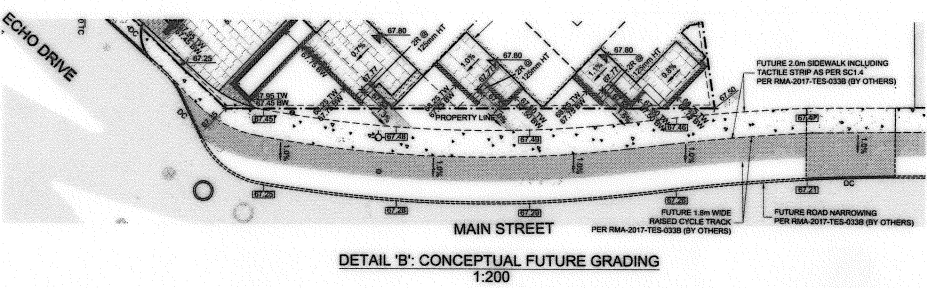
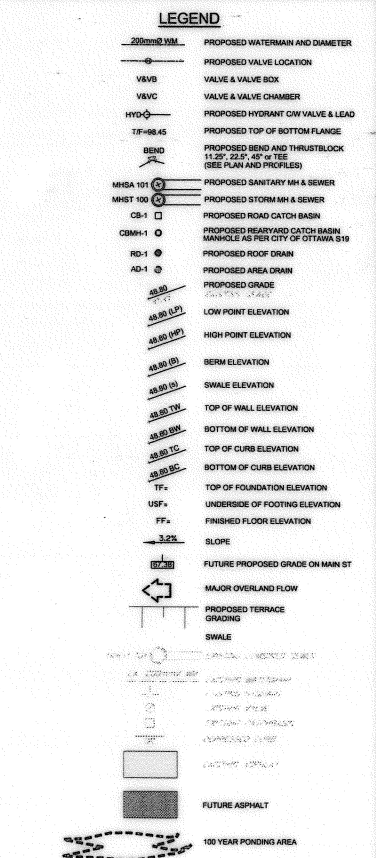
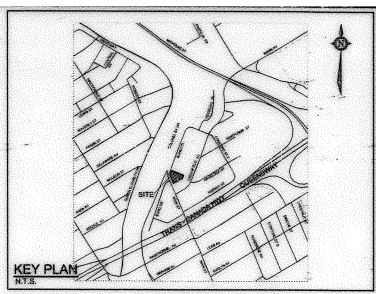
- ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED PAVED AREAS.
- EXPOSED SUBGRADE IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER AND INSPECTED BY THE GEOTECHNICAL CONSULTANT.
- ANY SOFT AREAS EVIDENT FROM THE PROOF ROLLING SHOULD BE SUBEXCAVATED AND REPLACED WITH SUITABLE MATERIAL THAT IS FROST COMPATIBLE WITH THE EXISTING SOILS.
- THE GRANULAR BASE SHOULD BE COMPACTED TO AT LEAST 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE. ANY ADDITIONAL GRANULAR FILL USED BELOW THE PROPOSED PAVEMENT SHOULD BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE.
- GRADE AND/OR FILL BEHIND PROPOSED CURBS AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE.
- MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
- ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
- ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
- REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.

GEOTECHNICAL NOTES:

- FOR GEOTECHNICAL DATA REFER TO REPORT BY PATTERSON GROUP INC. REPORT NO. PGR-14-1, "GEOTECHNICAL INVESTIGATION - PROPOSED MULTISTORY BUILDING 113 & 115 ECHO DRIVE, OTTAWA, ONTARIO" DATED JANUARY 15, 2014. REFER TO REPORT 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.

EROSION AND SEDIMENT CONTROL:

- ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED TO THE SATISFACTION OF THE ENGINEER, THE CITY OF OTTAWA, AND THE RIDEAU VALLEY CONSERVATION AUTHORITY. THEY ARE TO BE APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION. THESE PRACTICES ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL, SUCH AS BUT NOT LIMITED TO: INSTALLING FILTER CLOTH ACROSS MANHOLE/CATCH BASIN LIDS TO PREVENT SEDIMENT FROM ENTERING STRUCTURES AND INSTALLING AND MAINTAINING A LIGHT DUTY SILT FENCE BARRIER AS REQUIRED AS PER OPSD 219-110.
- TO PREVENT SURFACE EROSION FROM ENTERING THE STORM SYSTEM DURING CONSTRUCTION, FILTER CLOTH WILL BE PLACED UNDER ALL PROPOSED AND NEAR BY CATCHBASINS AND MANHOLES. THE FILTER CLOTH WILL REMAIN IN PLACE UNTIL VEGETATION HAS BEEN ESTABLISHED AND CONSTRUCTION COMPLETES.
- TO LIMIT EROSION, MINIMIZE THE AMOUNT OF EXPOSED SOILS AT ANY GIVEN TIME. REVEGETATE EXPOSED AREAS AND SLOPES AS SOON AS POSSIBLE AND PROTECT EXPOSED SLOPES WITH NATURAL OR SYNTHETIC MULCHES.
- ANY ON-SITE STOCKPILES SHALL BE LOCATED IN AREAS TO BE DESIGNATED BY THE ENGINEER AND WELL AWAY FROM DRAINAGE SWALES AND OUTLET DITCHES.
- THE CONTRACTOR SHALL IMPLEMENT SEQUENTIAL MEASURES ARRANGED SO AS TO ACHIEVE THE REQUIRED LEVEL OF SEDIMENT AND RUNOFF CONTROL. SOME ON-SITE MEASURES INCLUDE, BUT ARE NOT LIMITED TO: SEDIMENT PONDS, SILT FENCES, STRAW BALES, FILTER CLOTHS, CATCHBASIN FILTERS, DAMS AND/OR BERMES, OR OTHER RECOMMENDED TECHNOLOGIES. SPECIFIC MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF OPSD 97 WHERE APPROPRIATE, OR IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- EROSION AND SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED DURING CONSTRUCTION. IN ACCORDANCE WITH THE "GUIDELINES ON EROSION AND SEDIMENT CONTROL FOR URBAN CONSTRUCTION SITES" (GOVERNMENT OF ONTARIO, MAY 1997), THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEETING ALL REGULATORY AGENCY REQUIREMENTS.
- WHERE, IN THE OPINION OF THE ENGINEER OR REGULATORY AGENCY, THE INSTALLED CONTROL MEASURES FAIL TO PERFORM ACCURATELY, THE CONTRACTOR SHALL SUPPLY AND INSTALL ADDITIONAL OR ALTERNATIVE MEASURES AS DIRECTED BY THE ENGINEER OR THE REGULATORY AGENCY. THE ENGINEER OR THE REGULATORY AGENCY HAS THE RIGHT TO IMMEDIATELY WITHDRAW ITS PERMISSION TO CONTINUE THE WORK UPON BEING SATISFIED THAT THE DETAILS OR DEFICIENCIES HAVE BEEN RECTIFIED.
- A VISUAL INSPECTION OF THE SEDIMENT CONTROL MEASURES WILL BE PERFORMED ONLY BY THE CONTRACTOR. THE CONTRACTOR SHALL SUBMIT TO THE CONTRACT ADMINISTRATOR VISUAL INSPECTION REPORTS DURING THE SPECIFIED AND REQUIRED PERFORMANCE OF THE INSTALLED MEASURES. THE CONTRACTOR SHALL PERIODICALLY, AND WHEN REQUESTED BY THE ENGINEER, CLEAN OUT ACCUMULATED SEDIMENT DEPOSITS AS REQUIRED AT THE SEDIMENT CONTROL DEVICES WITHOUT DAMAGING THE DEVICES OR CAUSING DISCHARGE INTO THE SEWERS OR NEARBY WATERCOURSES.
- THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE ENGINEER, THE MEASURE OR MEASURES IS NO LONGER REQUIRED. NO CONTROL MEASURE MAY BE PERMANENTLY REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
- THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER ANY ACCIDENTAL DISCHARGES OF SEDIMENT MATERIAL INTO ANY DITCH OR STORM SEWER SYSTEM. APPROPRIATE RESPONSE MEASURES, INCLUDING ANY REPAIRS TO EXISTING CONTROL MEASURES OR THE IMPLEMENTATION OF ADDITIONAL CONTROL MEASURES, SHALL BE CARRIED OUT BY THE CONTRACTOR WITHOUT DELAY.
- THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- COMMERCIAL DRIVE AND CENTRUM BOULEVARD TO BE SWEEP WEEKLY FOR THE DURATION OF CONSTRUCTION. SURROUNDING STREETS TO BE SWEEP REGULARLY AS REQUIRED OR AS DIRECTED BY THE ENGINEER AND/OR CITY OF OTTAWA.
- THE CONTRACTOR SHALL ENSURE THAT ALL WORKS, INCLUDING SUB-CONTRACTORS, IN THE WORKING AREA ARE AWARE OF THE IMPORTANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES AND INFORMED OF THE CONSEQUENCES OF THE FAILURE TO COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AGENCIES AND THE SPECIFICATIONS DETAILED HEREIN.
- THE CONTRACTOR SHALL MONITOR ALL WEATHER FORECASTS AND SCHEDULE THE WORK IN ORDER TO MINIMIZE THE RISK OF SEDIMENT LASH RUNOFF ENTERING ANY WATERCOURSE OR SEWER SYSTEM.
- THE CONTRACTOR SHALL KEEP MATERIAL FOR ADDITIONAL EROSION AND SEDIMENT CONTROLS ON-SITE AT ALL TIMES. THESE MATERIALS INCLUDE, BUT ARE NOT LIMITED TO: SILT FENCES, STRAW BALES, SEDIMENT BAGS AND CLEAR STONE. A CONTINGENCY PLAN TO INCLUDE THE PROVISION OF ADDITIONAL LABOUR, EQUIPMENT OR MATERIALS TO INSTALL ADDITIONAL CONTROL MEASURES, AS WELL AS PROVIDE AN EMERGENCY RESPONSE PLAN IN CASE OF AN ACCIDENTAL EVENT, AS SUCH, THE CONTRACTOR SHALL HAVE ADDITIONAL CONTROL MATERIALS ON-SITE AT ALL TIMES WHICH ARE EASILY ACCESSIBLE AND MAY BE IMPLEMENTED AT A MOMENT'S NOTICE.
- IN ADDITION TO ANY OTHER REMEDY AND/OR PENALTY PROVIDED BY LAW, WHERE THERE HAS BEEN DEFAULT OR NON-COMPLIANCE WITH ANY OF THE TERMS SPECIFIED HEREIN AND THE CONTRACTOR REFUSES TO PERFORM OR RECTIFY SAME WITHIN FORTY-EIGHT (48) HOURS OF THE RECEIPT OF THE WRITTEN DEMAND OF THE CONTRACT ADMINISTRATOR TO DO SO, THE OWNER IS HEREBY ENTITLED TO ENTER, UPON THE WORKING AREA AND EITHER COMPLETE THE WORK IN CONFORMITY WITH THE CONTRACT OR HAVE THE WORK DONE THAT IT CONSIDERS NECESSARY TO COMPLETE THE WORK TO ITS INTENDED CONDITION, WHICHEVER, IN THE OWNER'S SOLE OPINION, IS THE MOST REASONABLE COURSE OF ACTION. THE WORK SHALL BE RETAINED BY THE OWNER FROM MONIES OTHERWISE DUE TO THE CONTRACTOR.
- ENSURE PROPER DUST CONTROL WITH (AT MINIMUM) THE APPLICATION OF WATER (AND IF REQUIRED, CALCIUM CHLORIDE) DURING DRY PERIODS.
- IF REQUIRED, ON-SITE DEWATERING TO BE DIRECTED TO A SEDIMENT TRAP AND/OR GRAVEL SPLASH PAD AND DISCHARGED SAFELY TO AN AREA AS DIRECTED BY THE ENGINEER.
- IF REQUIRED, SEDIMENT AND EROSION CONTROL MEASURES MAY BE MODIFIED IN THE FIELD AT THE DISCRETION OF THE CITY OF OTTAWA SITE INSPECTOR OR THE CONSERVATION AUTHORITY.



FOR REVIEW ONLY

AS SHOWN

SCALE

DESIGN

CHECKED

APPROVED

NOVATECH

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CITY OF OTTAWA
115 ECHO DRIVE

DRAWING NAME
GRADING & EROSION AND
SEDIMENT CONTROL PLAN

PROJ. NO.
115105-00

REV. #10
115105-GR