

**EROSION AND SEDIMENT CONTROL MEASURES:**

**\*\* CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES \*\***

**\*\*\*THE SEDIMENT AND EROSION CONTROL MEASURES MAY BE MODIFIED IN THE FIELD AT THE DISCRETION OF THE CITY OF OTTAWA SITE INSPECTOR OR CONSERVATION AUTHORITY\*\*\***

**1. PRIOR TO START OF CONSTRUCTION:**

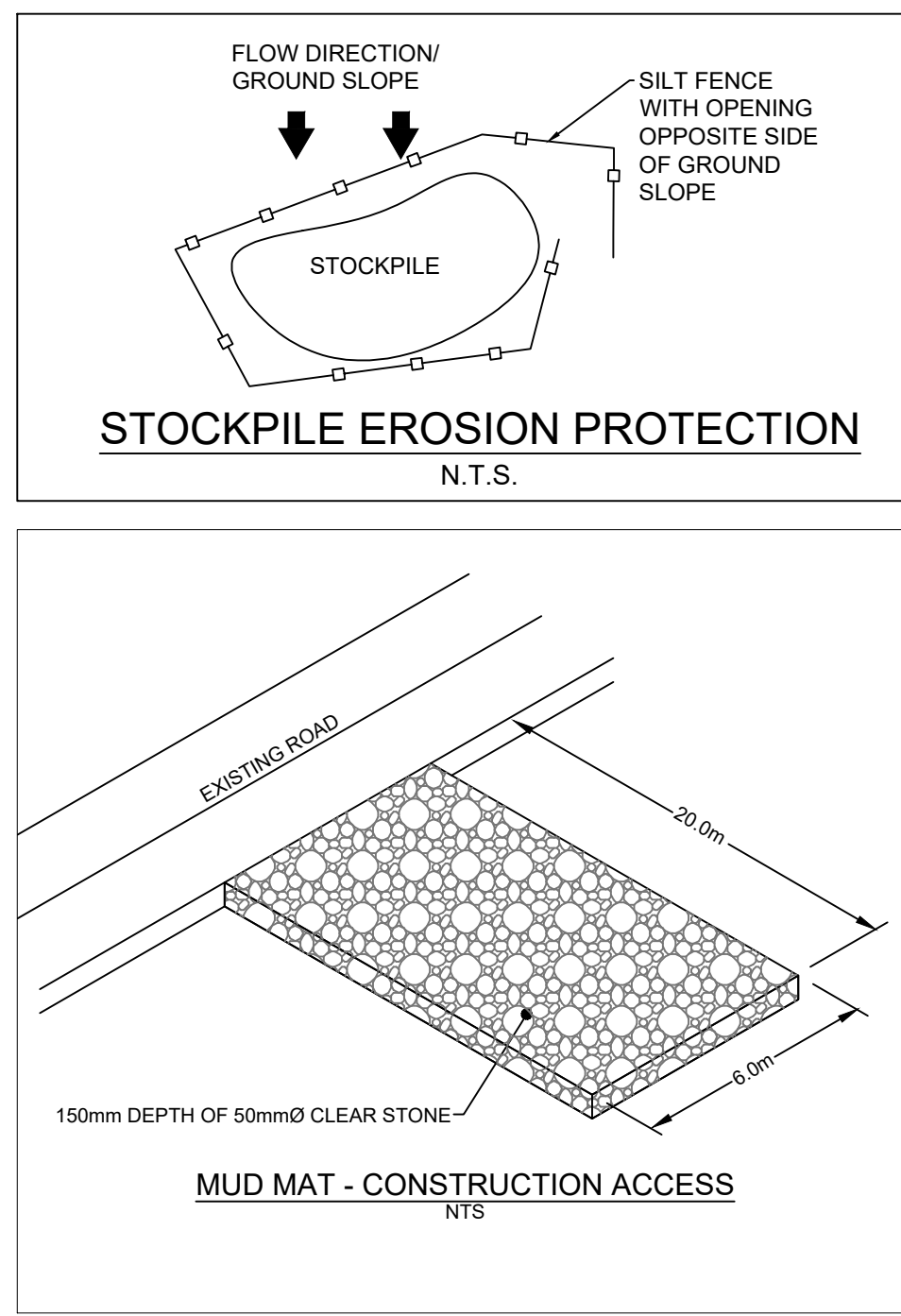
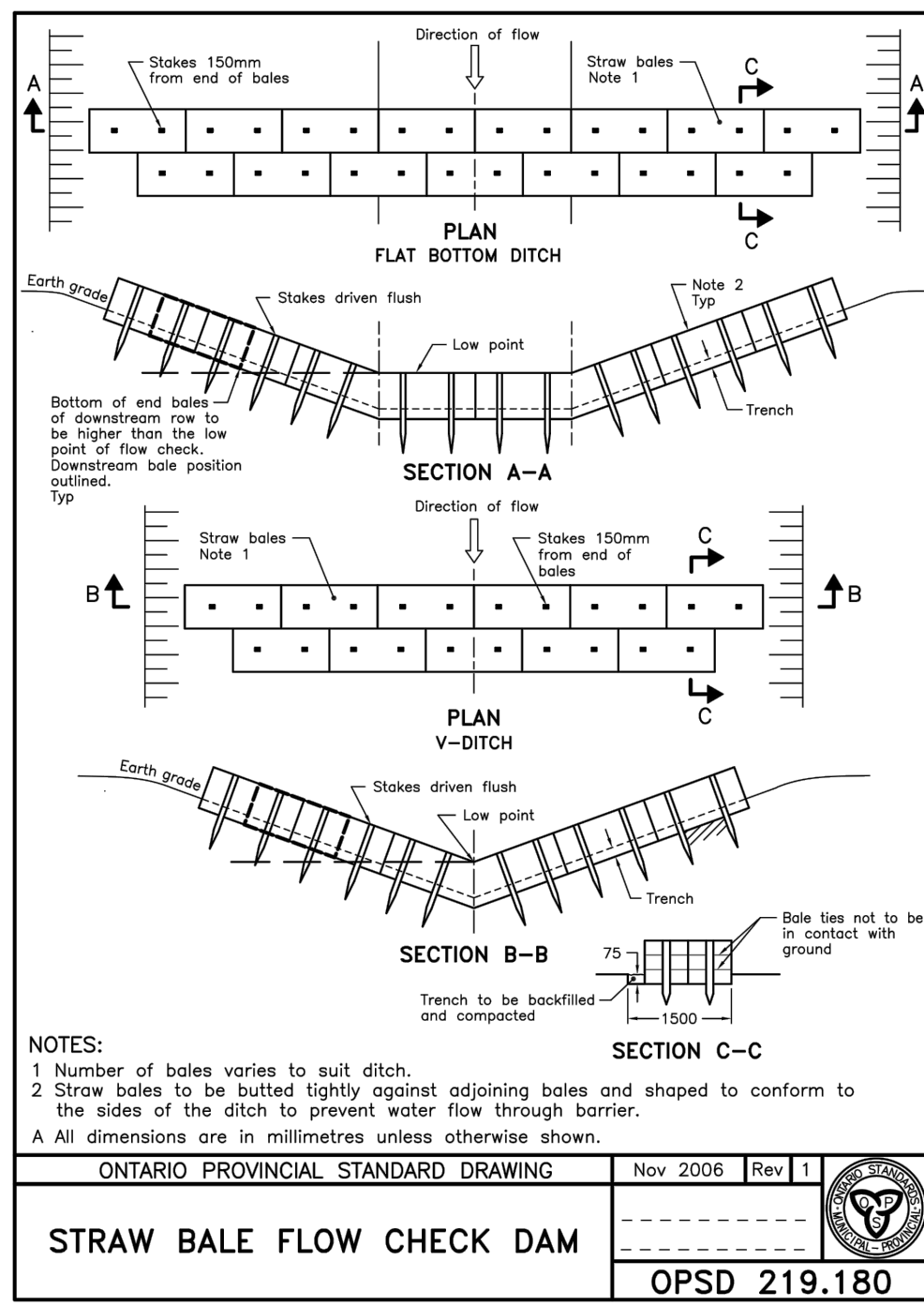
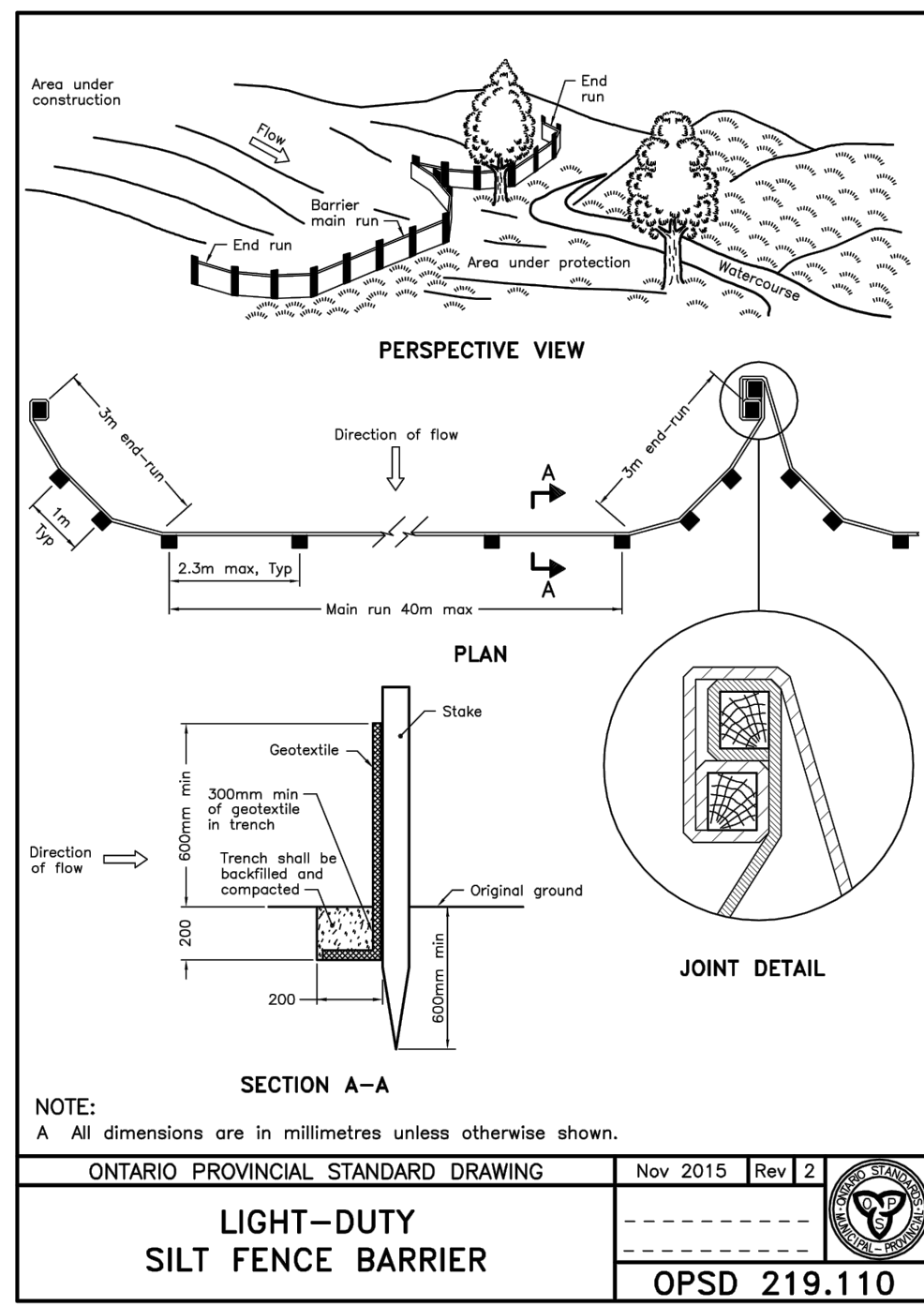
- PRIOR TO THE REMOVAL OF ANY VEGETATIVE COVER, MOVING OF SOIL AND CONSTRUCTION:
- INSTALL SILT FENCE IMMEDIATELY DOWNSTREAM FROM AREAS TO BE DISTURBED (SEE PLAN FOR LOCATION).
- INSTALL GEOSOCK INSERTS WITH AN OVERFLOW IN ALL THE DOWNSTREAM CATCHBASINS AND MANHOLES
- INSTALL SILT TRAP FILTERS IN ALL CONCRETE CATCH BASIN STRUCTURES
- INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.

**2. DURING CONSTRUCTION:**

- WORK TO BE DONE IN THE VICINITY OF MAJOR WATERWAYS TO BE CARRIED OUT FROM JULY TO SEPTEMBER ONLY.
- MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE.
- PROTECT DISTURBED AREAS FROM RUNOFF.
- PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED WITHIN 30 DAYS.
- INSPECT SILT FENCES, FILTER CLOTHS AND CATCH BASIN SUMPS WEEKLY AND AFTER EVERY MAJOR STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY.
- CONSTRUCT SWALES AS PER DETAIL.
- PLAN TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION
- EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
- DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE PAVED BEFORE THE PILE IS REMOVED. ALL TOPSOIL PILES ARE TO BE SEEDED IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS).
- CONTROL WIND-BLOWN DUST OFF SITE TO ACCEPTABLE LEVELS BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED).
- ALL EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER.
- NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THIS CONSULTING ENGINEER AND THE CITY DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR RESPONSIBLE FOR CITY ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING ETC. AT THE END OF EACH WORK DAY.
- PROVIDE GRAVEL ENTRANCE WHEREVER EQUIPMENT LEAVES THE SITE TO PREVENT MUD TRACKING ONTO PAVED SURFACES. GRAVEL BED SHALL BE A MINIMUM OF 15m LONG, 4M WIDE AND 0.3m DEEP AND SHALL CONSIST OF COARSE (50mm CRUSHER-RUN LIMESTONE) MATERIAL. MAINTAIN GRAVEL ENTRANCE IN CLEAN CONDITION.
- DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPPED.
- ANY MUD/MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER.
- TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ADJUTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.

**3. AFTER CONSTRUCTION:**

- PROVIDE PERMANENT COVER CONSISTING OF TOPSOIL AND SEED TO DISTURBED AREAS.
- REMOVE STRAW BALE FLOW CHECK DAMS, SILT FENCES AND FILTER CLOTHS ON CATCH BASINS AND MANHOLE COVERS AFTER DISTURBED AREAS HAVE BEEN REHABILITATED AND STABILIZED.
- INSPECT AND CLEAN CATCH BASIN SUMPS AND STORM SEWERS.



**LEGEND:**

	EXISTING PROPERTY LINE
	PROPOSED CURB
	PROPOSED DEPRESSED CURB
	PROPOSED TERRACING (3:1 MAX.)
	PROPOSED SILT FENCE AS PER OPSD 219.110
	PROPOSED STRAW BALE CHECK DAM AS PER OPSD 219.180
	PROPOSED DOOR ENTRANCE/EXIT
	PROPOSED LANDSCAPED AREA
	PROPOSED CONCRETE FEATURES/SLAB
	PROPOSED HEAVY-DUTY ASPHALT
	PROPOSED LIGHT-DUTY ASPHALT
	PROPOSED RIP RAP
	PROPOSED ELEVATION
	PROPOSED STORM SEWER
	PROPOSED SANITARY SEWER
	PROPOSED WATERMAIN
	EXISTING STORM SEWER
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN
	EXISTING MANHOLE
	EXISTING CATCHBASIN
	PROPOSED CATCHBASIN-MANHOLE/CATCHBASIN
	PROPOSED STC300
	PROPOSED CURB STOP
	PROPOSED PIPE INSULATION
	PROPOSED 20m SETBACK
	PROPOSED 100 YEAR HIGH WATER LEVEL
	STORM WATERSHED EXTENT
	WATERSHED NAME
	RUNOFF COEFFICIENT
	AREA IN HECTARES

**GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE THE SCOPE AND INTENT OF THE DRAWING. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES AND RECORDS BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA AND THE PROVINCE OF ONTARIO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA AND THE PROVINCE OF ONTARIO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA AND THE PROVINCE OF ONTARIO.**

**UNAUTHORIZED CHANGES:**

IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRI ASSOCIATES LTD. (LRI) WITHOUT THE WRITTEN APPROVAL OF LRI, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA AND THE PROVINCE OF ONTARIO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA AND THE PROVINCE OF ONTARIO.

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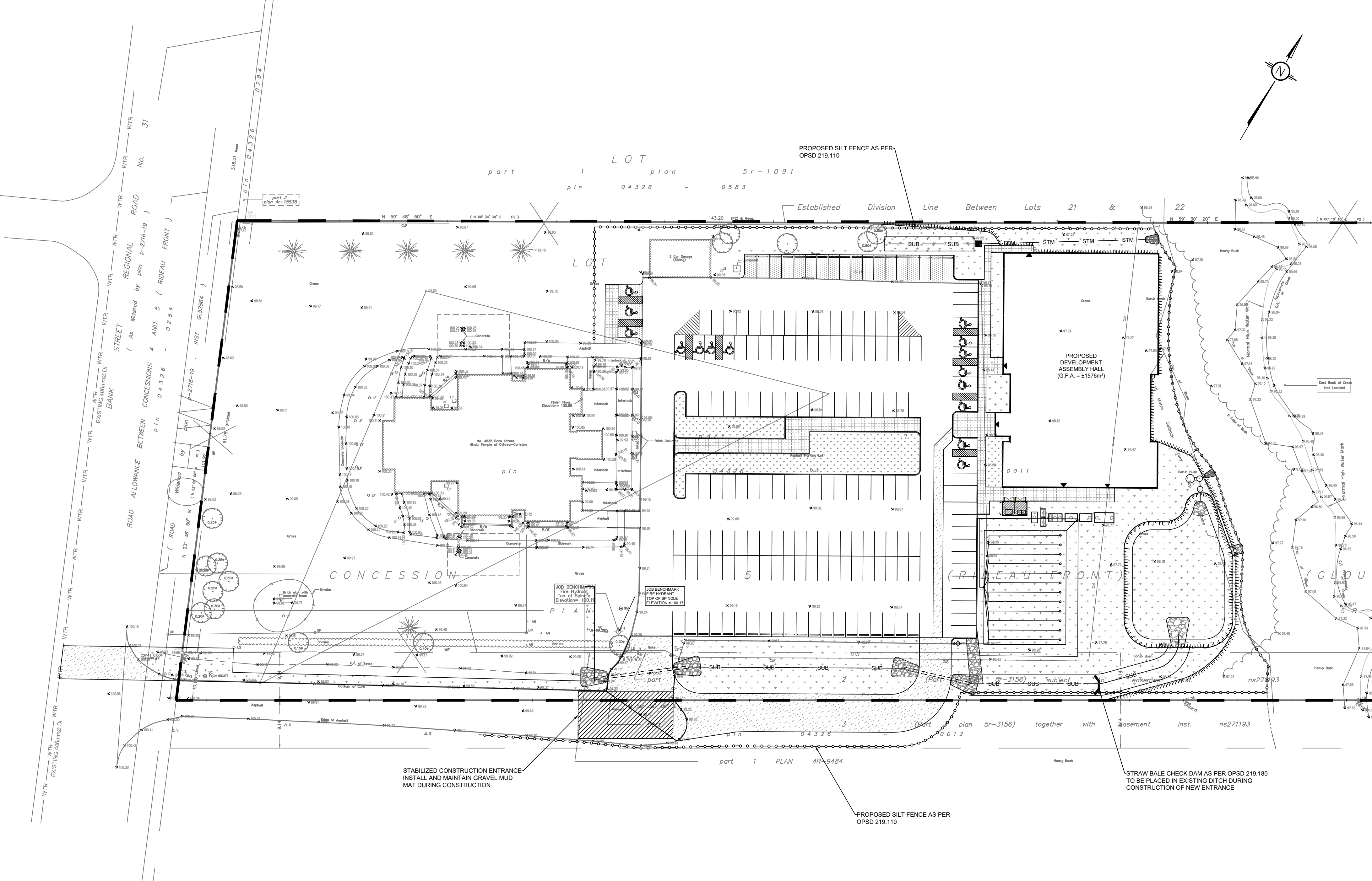
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CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.

THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

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10m 0 10 20m  
SCALE: 1:500



**TOPOGRAPHIC INFORMATION**  
 TOPOGRAPHIC INFORMATION PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBECK LTD.  
 PROJECT NO. 19814-17 HINDU TEMPLE  
 DATED APRIL 21st 2017, REVISED NOVEMBER 29th 2017

**ELEVATION NOTES**

1. Elevations shown are geodetic and are referred to the CGVD28 geodetic datum.
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that its relative elevation and description agrees with the information shown on this drawing.
3. Elevations derived from benchmark 019119680388 having an elevation of 92.16 metres.

**UTILITY NOTES**

1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plants by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

Bearings are grid, and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (original).  
 For Bearing Comparisons, (P1) and (P2) are Astronomic Plans.  
 SITE AREA = 4.048 Hectares.

No.	REVISIONS	BY	DATE
05	RE-ISSUED FOR SITE PLAN APPLICATION	K.H.	31 OCT 2022
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03	RE-ISSUED FOR SITE PLAN APPLICATION	K.H.	23 DEC 2020
02	ISSUED FOR CLIENT REVIEW	K.H.	11 DEC 2020
01	ISSUED FOR CLIENT APPROVAL	K.H.	11 MAR 2020

NOT AUTHENTIC UNLESS SIGNED AND DATED

**LRI**  
 ENGINEERING | INGENIERIE  
 5430 Canotek Road | Ottawa, ON, K1J 9G2  
 www.lri.ca | (613) 842-3434

CLIENT: **THE HINDU HERITAGE CENTRE OF OTTAWA CARLETON**

DESIGNED BY: P.P. DRAWN BY: K.H. APPROVED BY: M.B.

PROJECT: **PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA**

DRAWING TITLE: **EROSION AND SEDIMENT CONTROL PLAN**

PROJECT NO: 170132  
 DATE: JAN2020

**C101**

File no.: D017-12-20-0059





**KEY PLAN**  
N.T.S.

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	PROPOSED ELEVATION
	PROPOSED HIGH POINT ELEVATION
	PROPOSED SWALE ELEVATION
	PROPOSED BOTTOM OF CURB ELEVATION
	PROPOSED TOP OF CURB ELEVATION
	MATCH INTO EXISTING ELEVATION
	EXISTING ELEVATION
	PROPOSED OVERLAND MAJOR FLOW ROUTE
	PROPOSED 100mmØ PERFORATED SUBDRAIN
	PROPOSED STORM SEWER
	PROPOSED SANITARY SEWER
	PROPOSED WATERMAIN
	EXISTING STORM SEWER
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**USE AND INTERPRETATION OF DRAWINGS**

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE THE SCOPE AND INTENT OF THE DRAWINGS. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENTS, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE BINDING AS IF REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAILED SIMILARLY AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.

BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER CONFIRMS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR CONFIRMS THAT HE HAS VISITED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

AS INSTRUMENTS OF SERVICE, ALL DRAWINGS, SPECIFICATIONS, CAD FILES OR OTHER ELECTRONIC MEDIA AND COPIES THERE OF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT, INCLUDING REPEATS OF THE PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.

UNLESS THE REVISION TITLE IS "ISSUED FOR CONSTRUCTION", THESE DRAWINGS SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.

THESE DRAWINGS ILLUSTRATE THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THESE DRAWINGS EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS A KNOWLEDGEABLE ACCEPTANCE OF THE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

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IN ADDITION, THE CLIENT AGREES TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRI FROM ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

IN ADDITION, THE CLIENT AGREES TO INCLUDE IN ANY CONTRACTS FOR CONSTRUCTION APPROPRIATE LANGUAGE THAT PROHIBITS THE CONTRACTOR OR ANY SUBCONTRACTORS OF ANY TIER FROM MAKING ANY CHANGES OR MODIFICATIONS TO LRI'S CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN APPROVAL OF LRI AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY BOTH LRI AND THE CLIENT FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

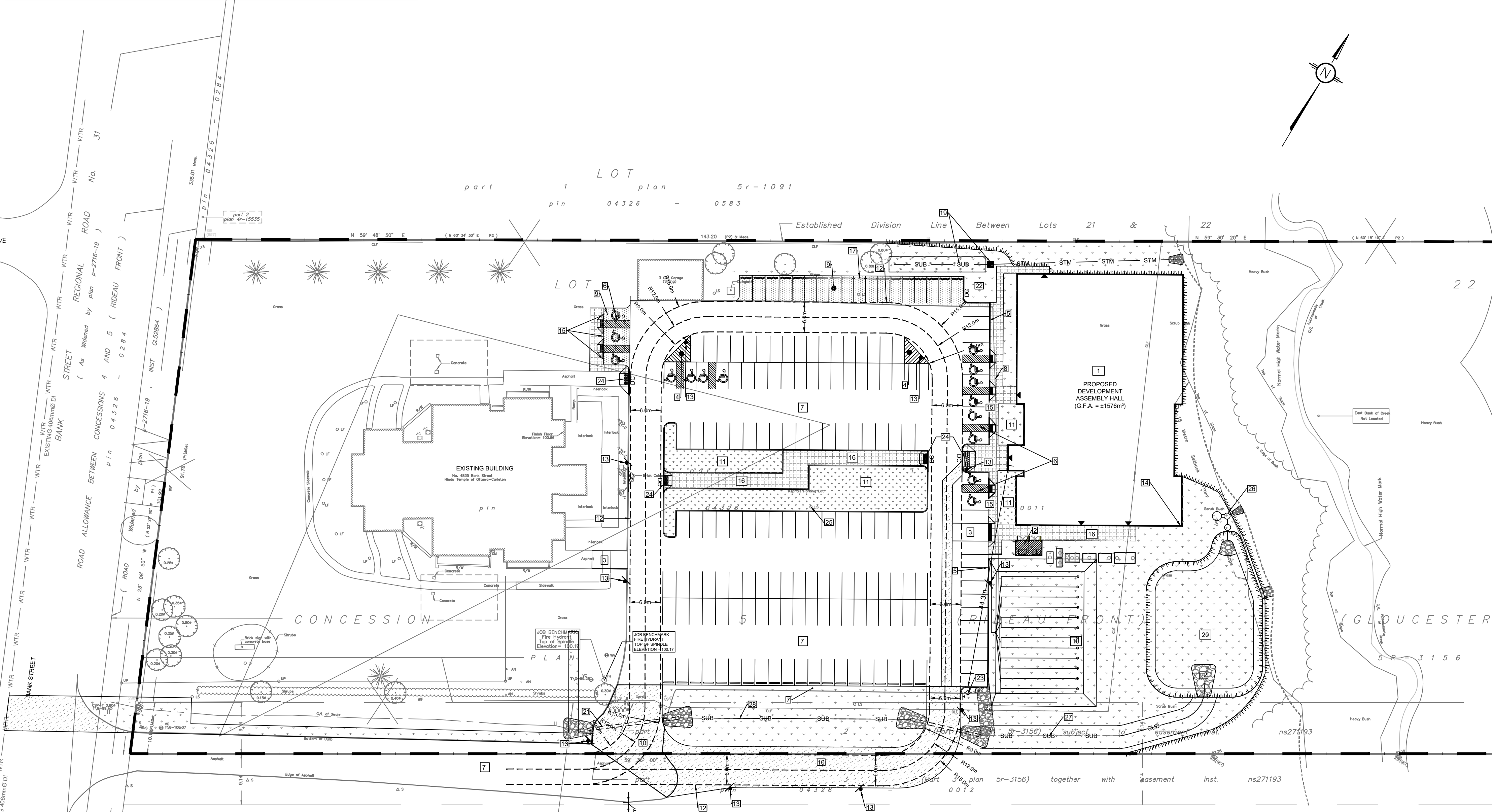
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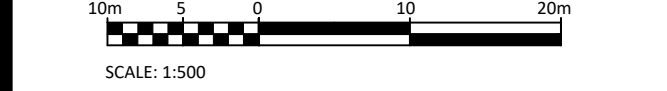
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**SITE PLAN NOTES:**

- PROPOSED DEVELOPMENT
- PROPOSED GARBAGE / WASTE CONTAINERS LOCATION (REFER TO ARCH SITE PLAN)
- PROPOSED NO PARKING AREA FOR GARBAGE & LOADING AREA (WITH NO PARKING SIGNS/PAVEMENT MARKINGS)
- PROPOSED PAVEMENT MARKINGS FOR FIRE ROUTE
- PROPOSED CONCRETE BARRIER CURB AS PER OPSD 600.110
- PROPOSED ACCESSIBLE SPACES C/W LINE PAINTING
- EXISTING ASPHALT TO REMAIN
- EXISTING ASPHALT PARKING LOT TO BE REMOVED & REPLACED WITH 100mm TOPSOIL & SOD
- PROPOSED LIGHT DUTY PAVEMENT STRUCTURE
- PROPOSED HEAVY TRAFFIC PAVEMENT STRUCTURE
- PROPOSED LANDSCAPING (AS PER LANDSCAPING PLAN)
- PROPOSED FIRE ROUTE
- PROPOSED FIRE ROUTE SIGNAGE
- PROPOSED ROOF DRAINAGE OUTLET
- 30 x 45 cm "DISABLED PARKING PERMIT" SIGN (Rb-83) AS PER MTO BOOK 5 AND AS PER SECTION 11 OF THE ONTARIO REGULATION 581/90. SIGN TO BE MOUNTED ON BUILDING WALL OR POST
- PROPOSED CONCRETE WALKWAY, AND VEHICULAR ACCESS ROUTE TO REAR SITE
- PROPOSED PRECAST CONCRETE BUMPER CURBS
- PROPOSED SEPTIC TANKS & LEACHING BED (REFER TO SEPTIC DESIGN BY GREEN VALLEY ENVIRONMENTAL)
- PROPOSED CATCHBASIN & INFILTRATION GALLERY
- PROPOSED STORMWATER DETENTION AREA
- EXISTING CULVERT TO BE REMOVED AND REPLACED
- PROP RIP-RAP FOR DEPRESSED CURBS & PIPE OUTLET
- PROPOSED FIRE HYDRANT
- PROPOSED TACTILE WALKING SURFACE INDICATOR AS PER CITY OF OTTAWA ACCESSIBILITY DESIGN STANDARDS SECTIONS 2.7 & 3.4.6.
- EXISTING LIGHT STANDARD TO REMAIN
- PROPOSED STORMWATER QUANTITY CONTROL AND TREATMENT UNITS
- PROPOSED DITCH W/ SUBDRAIN

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CLIENT: **THE HINDU HERITAGE CENTRE OF OTTAWA CARLETON**

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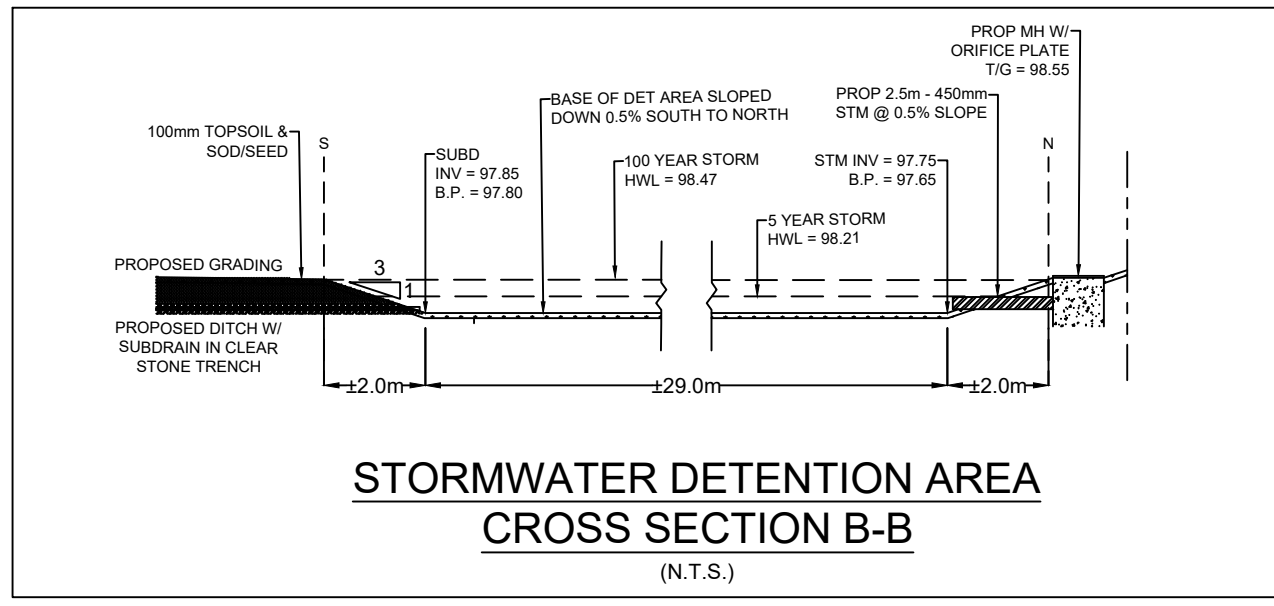
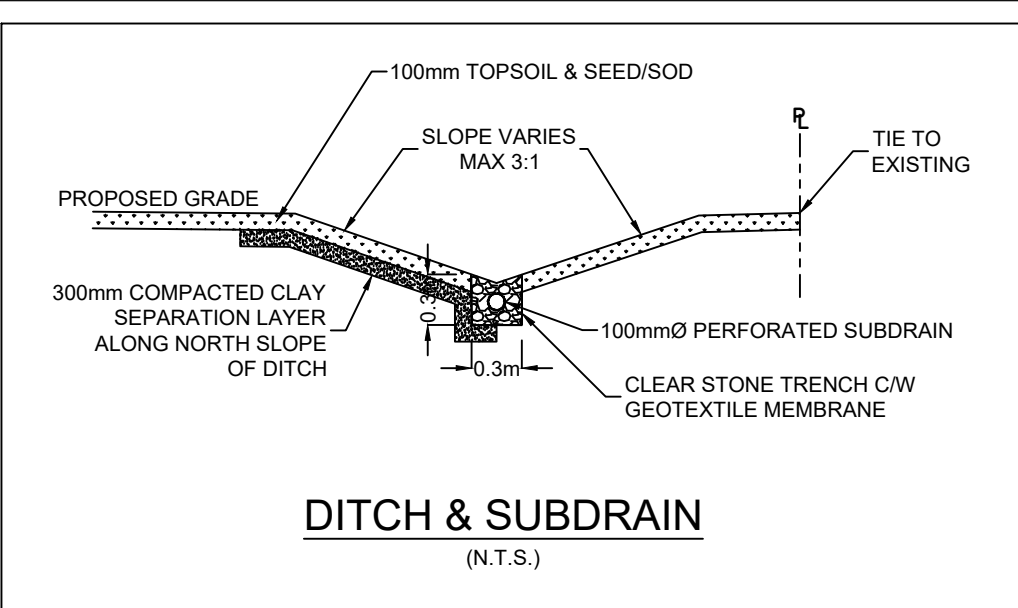
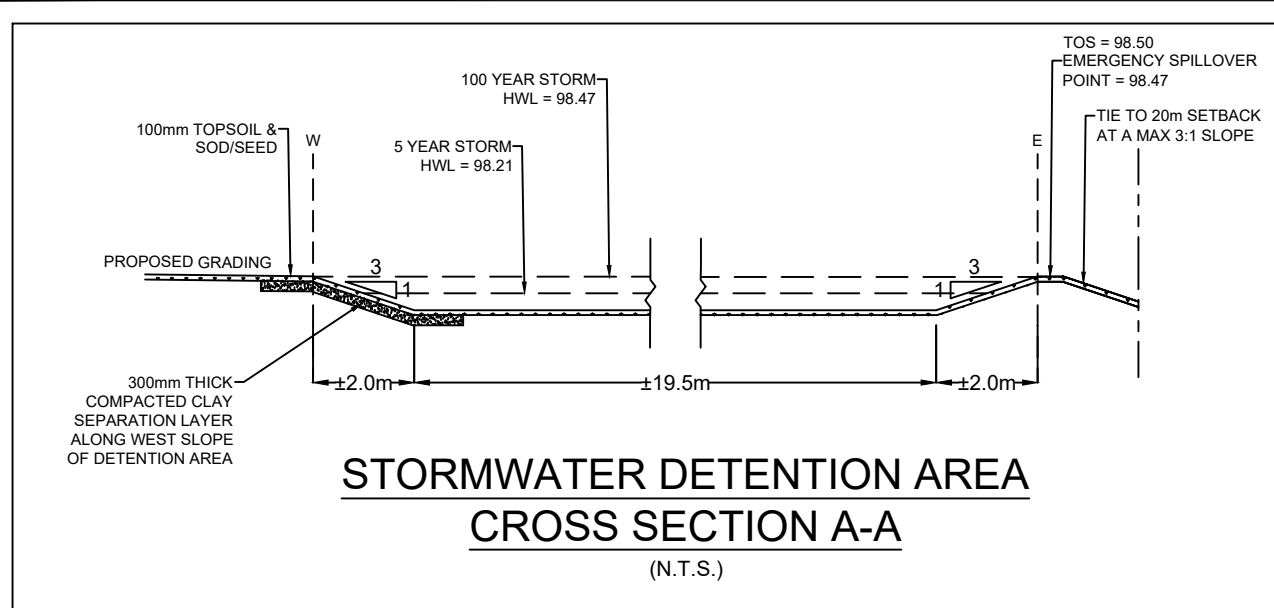
PROJECT: **PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA**

DRAWING TITLE: **SITE DEVELOPMENT PLAN**

PROJECT NO. 170132  
DATE: JAN 2020







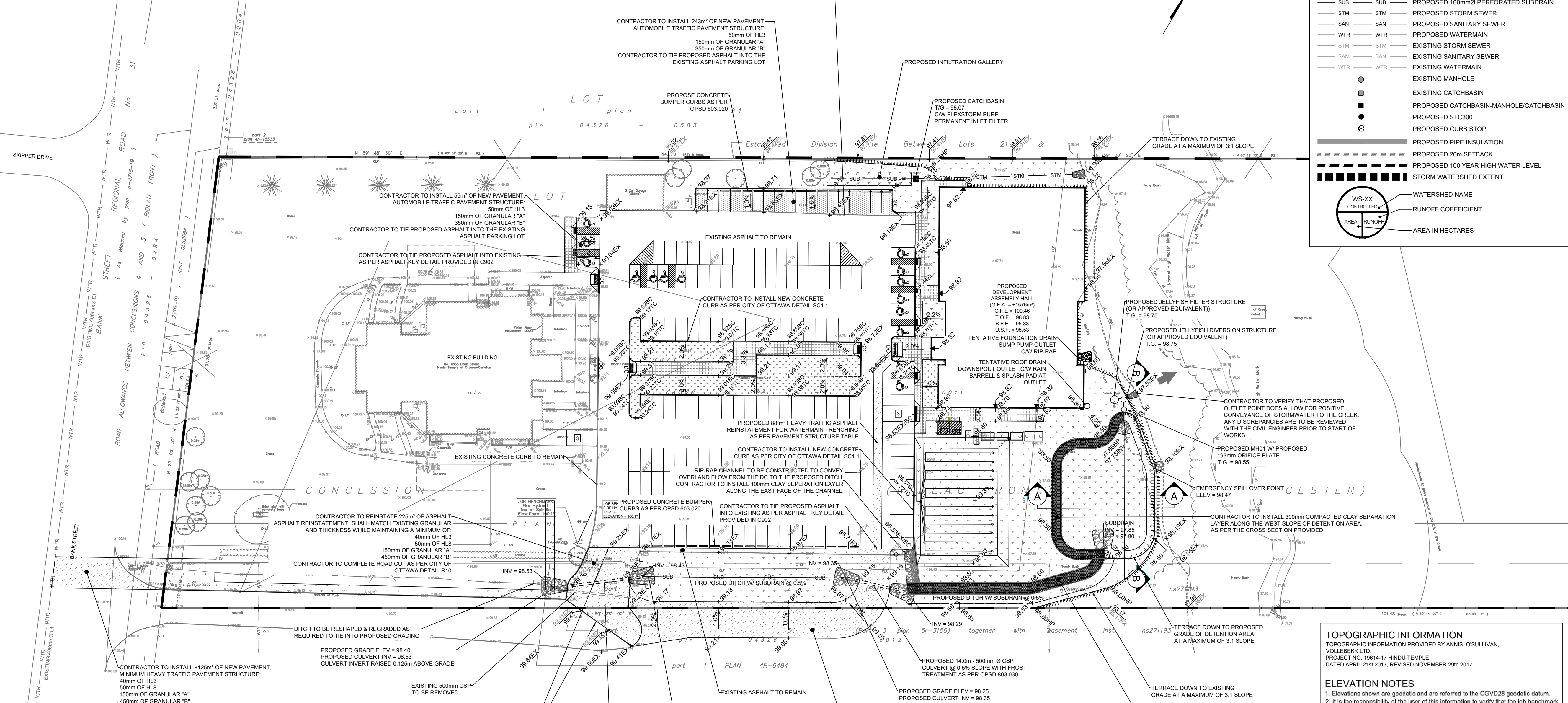
**PAVEMENT STRUCTURE**

COURSE	MATERIAL	THICKNESS (mm)	
		AUTOMOBILE PARKING	TRUCK ROUTE (HEAVY TRAFFIC)
SURFACE	HL.3 A/C (PG 58-34)	50	40
BINDER	HL.8 A/C (PG 58-34)	--	50
BASECOURSE	GRANULAR "A"	150	150
SUBBASE	GRANULAR "B" TYPE II	350	450

NOTE: IN PREPARATION FOR PAVEMENT CONSTRUCTION AT THIS SITE, ANY SURFICIAL OR NEAR SURFACE/SUBGRADE LEVEL TOPSOIL AND ANY SOFT, WET OR DELETERIOUS MATERIALS SHOULD BE REMOVED FROM THE PROPOSED PAVED AREAS. THE EXPOSED SUBGRADE SHOULD BE INSPECTED AND APPROVED BY GEOTECHNICAL PERSONNEL AND ANY SOFT AREAS EVIDENT SHOULD BE SUBCAVATED AND REPLACED WITH SUITABLE EARTH BORROW APPROVED BY THE GEOTECHNICAL ENGINEER. THE SUBGRADE SHOULD BE SHAPED AND CROWNED TO PROMOTE DRAINAGE OF THE SITE DRAINAGE STRUCTURES. FOLLOWING APPROVAL OF THE PREPARATION OF THE SUBGRADE, THE PAVEMENT GRANULARS MAY BE PLACED. PAVEMENT STRUCTURE AS PER THE GEOTECHNICAL REPORT PREPARED BY LRL ASSOCIATES DATED NOVEMBER 2019.

**LEGEND:**

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- ▽50.00 PROPOSED ELEVATION
- ▽50.00HP PROPOSED HIGH POINT ELEVATION
- ▽50.00SW PROPOSED SWALE ELEVATION
- ▽50.00BC PROPOSED BOTTOM OF CURB ELEVATION
- ▽50.00TC PROPOSED TOP OF CURB ELEVATION
- ▽50.00EX MATCH INTO EXISTING ELEVATION
- EXISTING ELEVATION
- PROPOSED OVERLAND MAJOR FLOW ROUTE
- SUB PROPOSED 100mm PERFORATED SUBDRAIN
- STM PROPOSED STORM SEWER
- SAN PROPOSED SANITARY SEWER
- WTR PROPOSED WATERMAIN
- STM EXISTING STORM SEWER
- SAN EXISTING SANITARY SEWER
- WTR EXISTING WATERMAIN
- EXISTING MANHOLE
- EXISTING CATCHBASIN
- PROPOSED CATCHBASIN-MANHOLE/CATCHBASIN
- PROPOSED STC300
- PROPOSED CURB STOP
- PROPOSED PIPE INSULATION
- PROPOSED 20m SETBACK
- PROPOSED 100 YEAR HIGH WATER LEVEL
- STORM WATERSHED EXTENT
- WS-XX WATERSHED NAME
- CONTROLLED RUNOFF COEFFICIENT
- AREA IN HECTARES



**TOPOGRAPHIC INFORMATION**  
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10m 5 10 20m  
 SCALE: 1:500

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05	RE-ISSUED FOR SITE PLAN APPLICATION	K.H.	31 OCT 2022
04	RE-ISSUED FOR SITE PLAN APPLICATION	K.H.	22 SEPT 2021
03	RE-ISSUED FOR SITE PLAN APPLICATION	K.H.	23 DEC 2020
02	ISSUED FOR CLIENT REVIEW	K.H.	11 DEC 2020
01	ISSUED FOR CLIENT APPROVAL	K.H.	11 MAR 2020

**PROFESSIONAL ENGINEER**  
 M. BASNET  
 100501990  
 PROVINCE OF ONTARIO

**LRL**  
 ENGINEERING | INGENIERIE  
 5430 Canotek Road | Ottawa, ON, K1J 9G2  
 www.lrl.ca | (613) 842-3434

CLIENT: **THE HINDU HERITAGE CENTRE OF OTTAWA CARLETON**

DESIGNED BY: P.P. DRAWN BY: K.H. APPROVED BY: M.B.

PROJECT: **PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA**

DRAWING TITLE: **GRADING AND DRAINAGE PLAN**

PROJECT NO. 170132  
 DATE: JAN2020  
**C301**



**NOTES: GENERAL**

- CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
- ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
- JOB BENCH MARK - CONFIRM WITH LRL PRIOR TO UTILIZATION.
- ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE, CATCH BASIN OUTLETS AND/OR STORM DETENTION AREAS ARE PROVIDED.
- STRIP AND REMOVE ALL TOPSOIL FROM IMPROVED AREAS.
- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A CLEAN STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM.
- CURBS TO BE BARRIER, CONSTRUCTED AS PER OPSD 600.110.
- ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSD STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSD 206, 310 & 314. MATERIALS TO OPSD 1001, 1003 & 1010.
- ABUTTING PROPERTY GRADE TO BE MATCHED.
- OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
- MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
- FILTER FABRIC TO BE INSTALLED AND MAINTAINED BETWEEN THE FRAME AND COVER OF ALL CATCHBASINS, CATCHBASIN MANHOLES AND MANHOLES DURING THE CONSTRUCTION PERIOD TO MINIMIZE SEDIMENTS ENTERING THE STORM SEWER SYSTEM. ALL GRASSED AREAS MUST BE COMPLETED PRIOR TO THE REMOVAL OF THE FILTER FABRIC IN THE DRAINAGE STRUCTURES.
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS, IF ANY, LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
- THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS BUT NOT LIMITED TO: ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC.
- AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
- ALL SIDEWALK CONSTRUCTION TO BE AS PER OPSD 310.010 & OPSD 310.050.

**NOTES: SEWERS**

- SEWER BEDDING AS PER PIPE TRENCH DETAIL WITH GRANULAR 'A' BEDDING COMPACTED TO 95% OF ITS SPMD.
- ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSD 407, AND 410.
- CONTRACTOR TO CONFIRM ELEVATION OF EXISTING SEWERS AT PROPOSED CONNECTION POINTS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE COMMENCING ANY WORK.
- ALL SEWERS WITH LESS THAN 2.0m OF COVER ARE SUBJECT TO INSULATION DETAIL.

**NOTES: WATER SERVICE**

- PROPOSED WATER SERVICE TO BE INSULATED WHEN COVER IS LESS THAN 2.4m AS PER DETAIL PROVIDED IN C901.

**TOPOGRAPHIC INFORMATION**

TOPOGRAPHIC INFORMATION PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBECK LTD.  
PROJECT NO. 19814-17 HINDU TEMPLE  
DATED APRIL 21st 2017, REVISED NOVEMBER 29th 2017

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Existing Watermain Table				
Location	Station	Min. Obv	Grade	Notes
Connection to Existing Water Service	0+130.5	97.40	99.80	
Connection to Proposed Building	0+151.5	EX	99.63	

Proposed Watermain Table				
Main Line				
Location	Station	Min. Obv	Grade	Notes
Connection to City WM	0+000.0	Match Ex WM OBV	100.24	
Tee Fitting 1	0+034.4	97.65	100.05	
Tee Fitting 2	0+111.5	96.92	99.32	
45° Elbow Fitting 1	0+180.5	96.60	99.00	
45° Elbow Fitting 2	0+186.5	96.75	99.15	
Tee Fitting 3	0+191.2	96.40	98.80	
Fire Hydrant 1	0+195.5*	96.16	98.56	*diverges at Tee Fitting 3
45° Elbow Fitting 3	0+232.5	96.30	98.70	
45° Elbow Fitting 4	0+237.2	96.25	98.65	
Connection to Proposed Building	0+245.7	96.42	98.82	

Branch NW off Tee Fitting 1 @ 0+034.4				
Location	Station	Min. Obv	Grade	Notes
Tee Fitting 1	0+034.4	96.92	99.32	
Elbow Fitting 5	0+037.6	96.86	99.26	
Elbow Fitting 6	0+040.4	97.03	99.43	
Connection to City WM	0+072.5	Match Ex WM OBV	100.28	

Branch NW off Tee Fitting 2 @ 0+111.5				
Location	Station	Min. Obv	Grade	Notes
Tee Fitting 2	0+111.5	96.92	99.32	
Tee Fitting 4	0+122.9	96.9	99.30	
Existing Fire Hydrant	0+129.0*	96.88	99.28	**diverges at Tee Fitting 4
Connection to Existing Water Service	0+130.5	Match EX WTR OBV	99.46	

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- PROPOSED HIGH POINT ELEVATION
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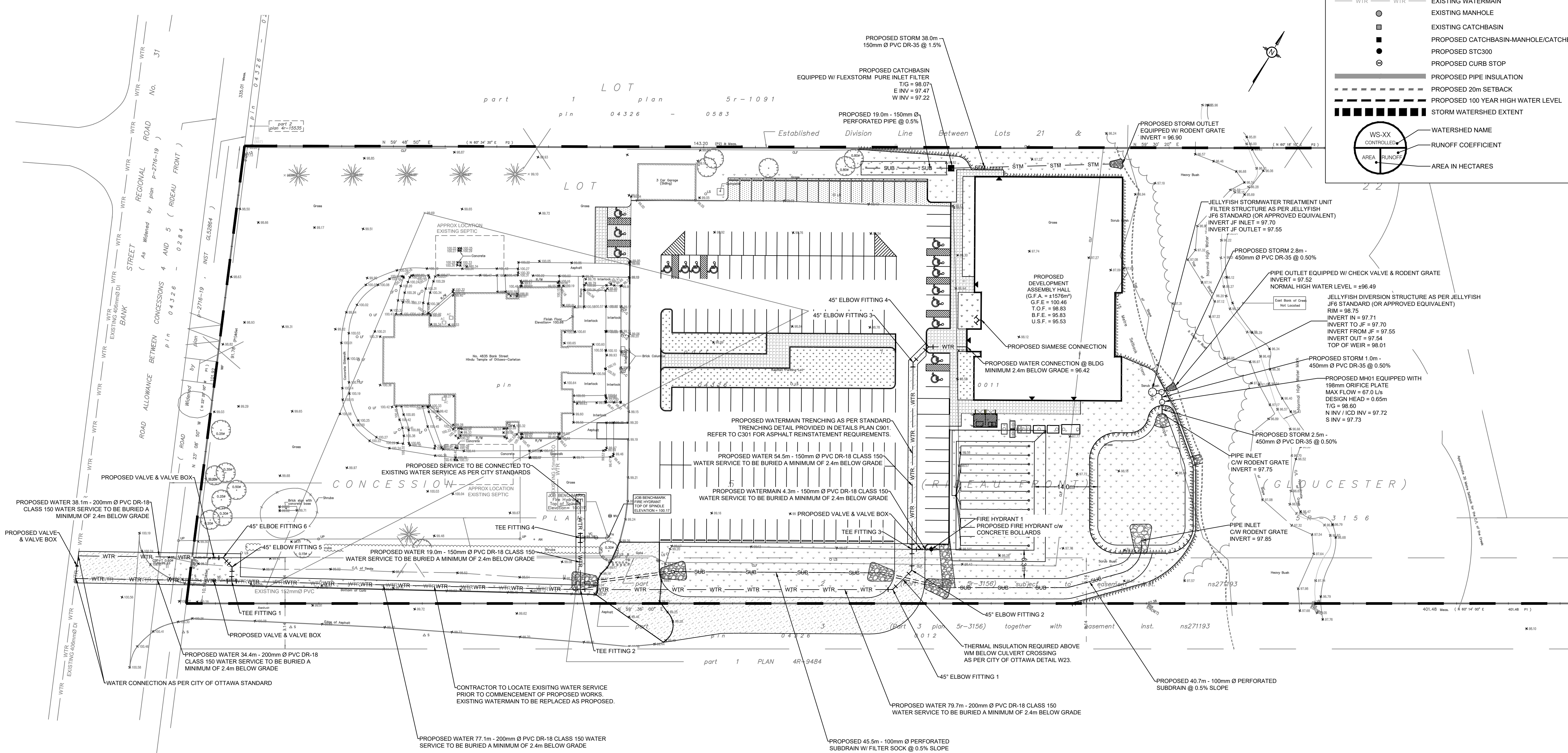
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NOT AUTHENTIC UNLESS SIGNED AND DATED

**LRL**  
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5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lrl.ca | (613) 842-3434

CLIENT: THE HINDU HERITAGE CENTRE OF OTTAWA CARLETON

DESIGNED BY: P.P. DRAWN BY: K.H. APPROVED BY: M.B.

PROJECT: PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA

DRAWING TITLE: SERVICING PLAN

PROJECT NO: 170132  
DATE: JAN2020





**TOPOGRAPHIC INFORMATION**  
 TOPOGRAPHIC INFORMATION PROVIDED BY ANNIS, O'SULLIVAN,  
 VOLLEBEK LTD.  
 PROJECT NO. 19614-17 HINDU TEMPLE  
 DATED APRIL 21st 2017, REVISED NOVEMBER 29th 2017

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10m 0 5 10 20m  
 SCALE: 1:500

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02	ISSUED FOR CLIENT REVIEW	K.H.	11 DEC 2020
01	ISSUED FOR CLIENT APPROVAL	K.H.	11 MAR 2020

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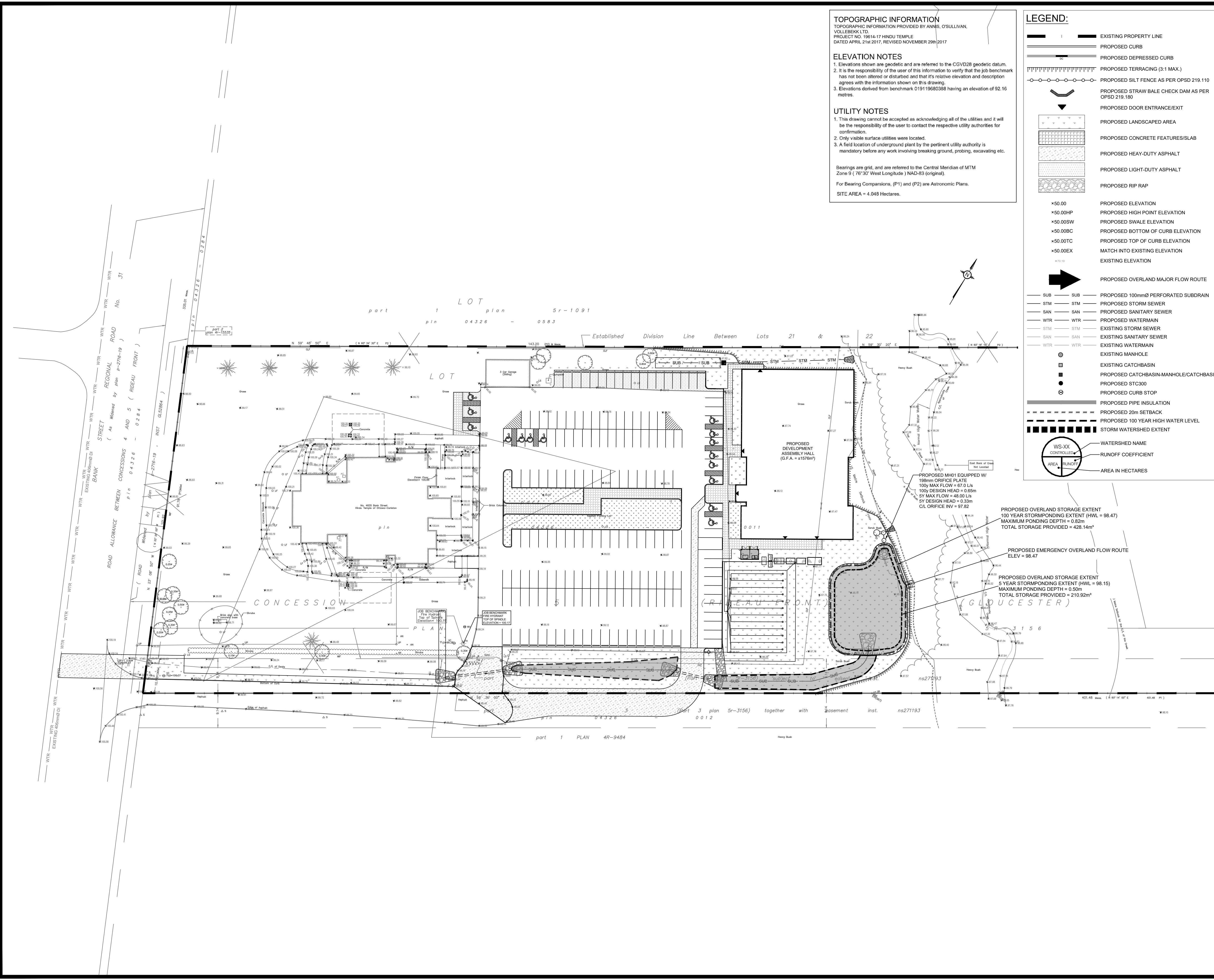
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CLIENT: THE HINDU HERITAGE CENTRE OF OTTAWA CARLETON  
 DESIGNED BY: P.P. DRAWN BY: K.H. APPROVED BY: M.B.  
 PROJECT: PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA  
 DRAWING TITLE: STORMWATER MANAGEMENT PLAN  
 PROJECT NO.: 170132  
 DATE: JAN2020

PROPOSED ASSEMBLY HALL  
 4835 BANK STREET, OTTAWA

PROJECT NO.: 170132  
 DATE: JAN2020  
 C601



File no.: D017-12-20-0059



**TOPOGRAPHIC INFORMATION**  
 TOPOGRAPHIC INFORMATION PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEK LTD.  
 PROJECT NO. 19614-17 HINDU TEMPLE  
 DATED APRIL 21st 2017, REVISED NOVEMBER 29th 2017

**ELEVATION NOTES**  
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 For Bearing Comparisons, (P1) and (P2) are Astronomic Plans.  
 SITE AREA = 4.048 Hectares.

**LEGEND:**

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- PROPOSED CURB
- PROPOSED DEPRESSED CURB
- PROPOSED TERRACING (3:1 MAX.)
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- PROPOSED RIP RAP
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- EXISTING ELEVATION
- PROPOSED OVERLAND MAJOR FLOW ROUTE
- SUB PROPOSED 100mmØ PERFORATED SUBDRAIN
- STM PROPOSED STORM SEWER
- SAN PROPOSED SANITARY SEWER
- WTR PROPOSED WATERMAIN
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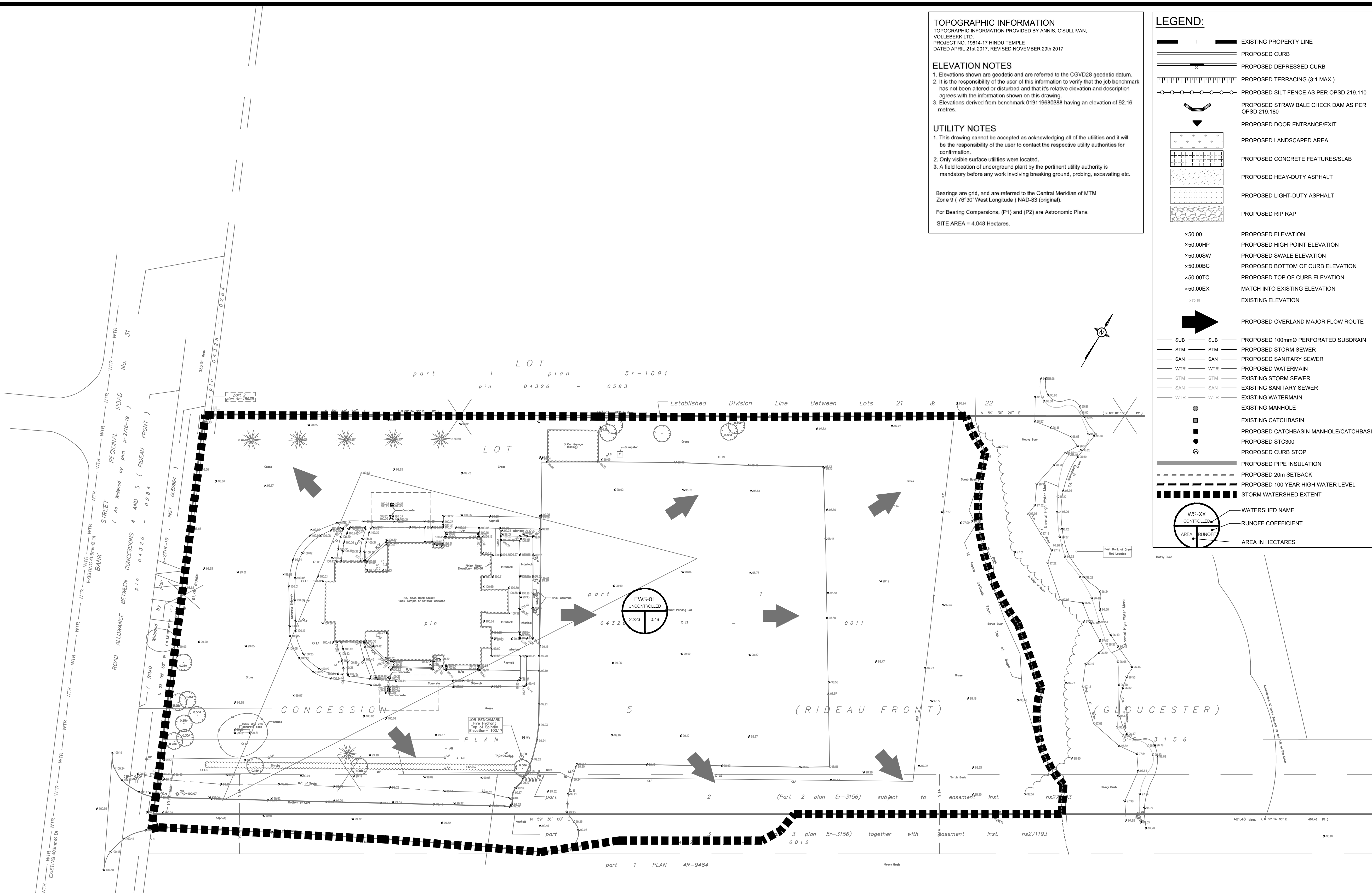
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**LRJ**  
 ENGINEERING | INGENIERIE  
 5430 Canotek Road | Ottawa, ON, K1J 9G2  
 www.lrl.ca | (613) 842-3434

CLIENT: THE HINDU HERITAGE CENTRE OF OTTAWA CARLETON

DESIGNED BY: P.P. DRAWN BY: K.H. APPROVED BY: M.B.

PROJECT: PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA

DRAWING TITLE: PRE-DEVELOPMENT WATERSHED PLAN

PROJECT NO: 170132  
 DATE: JAN2020



File no.: D017-12-20-0059



**TOPOGRAPHIC INFORMATION**  
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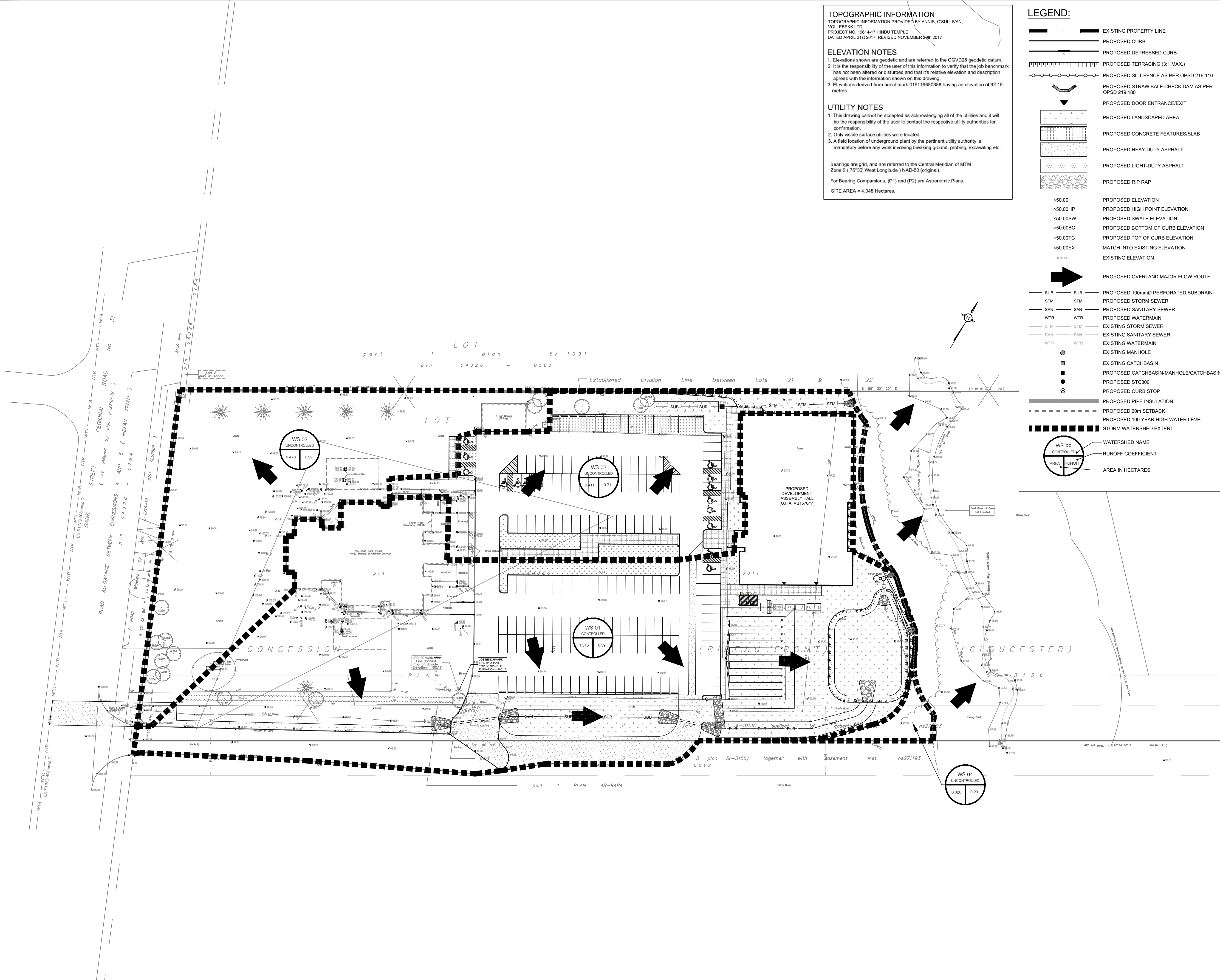
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CLIENT: THE HINDU HERITAGE CENTRE OF OTTAWA CARLETON  
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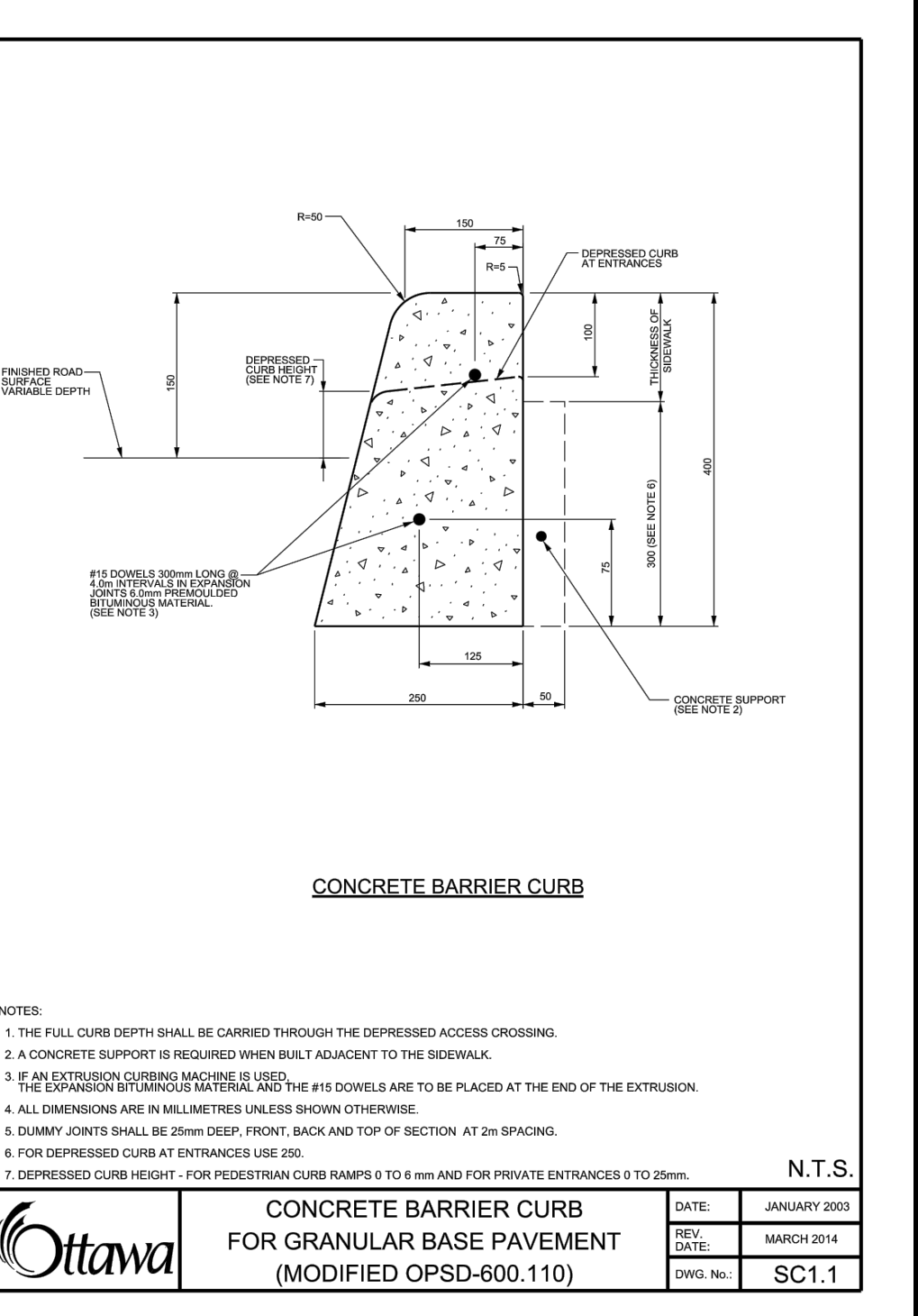
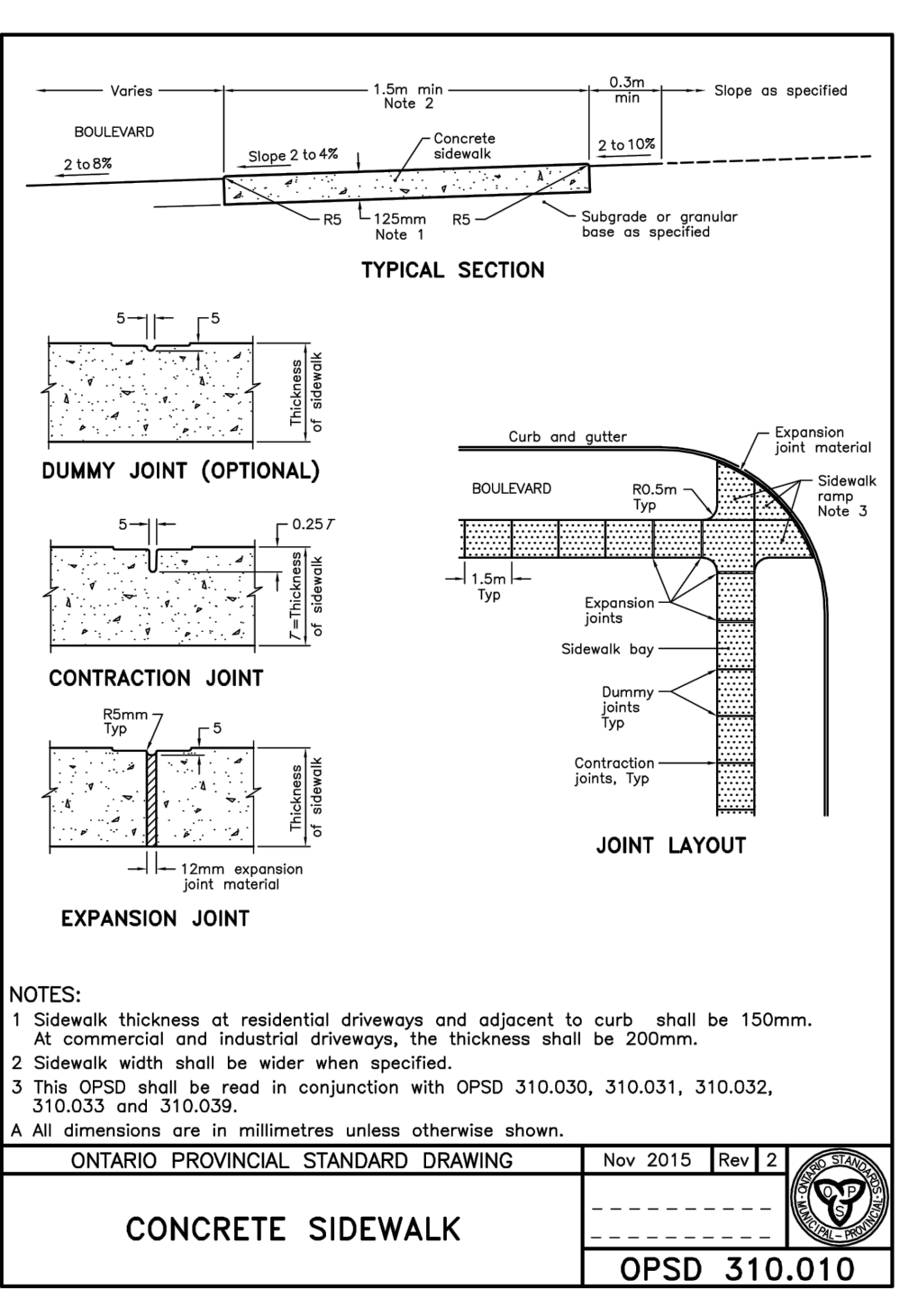
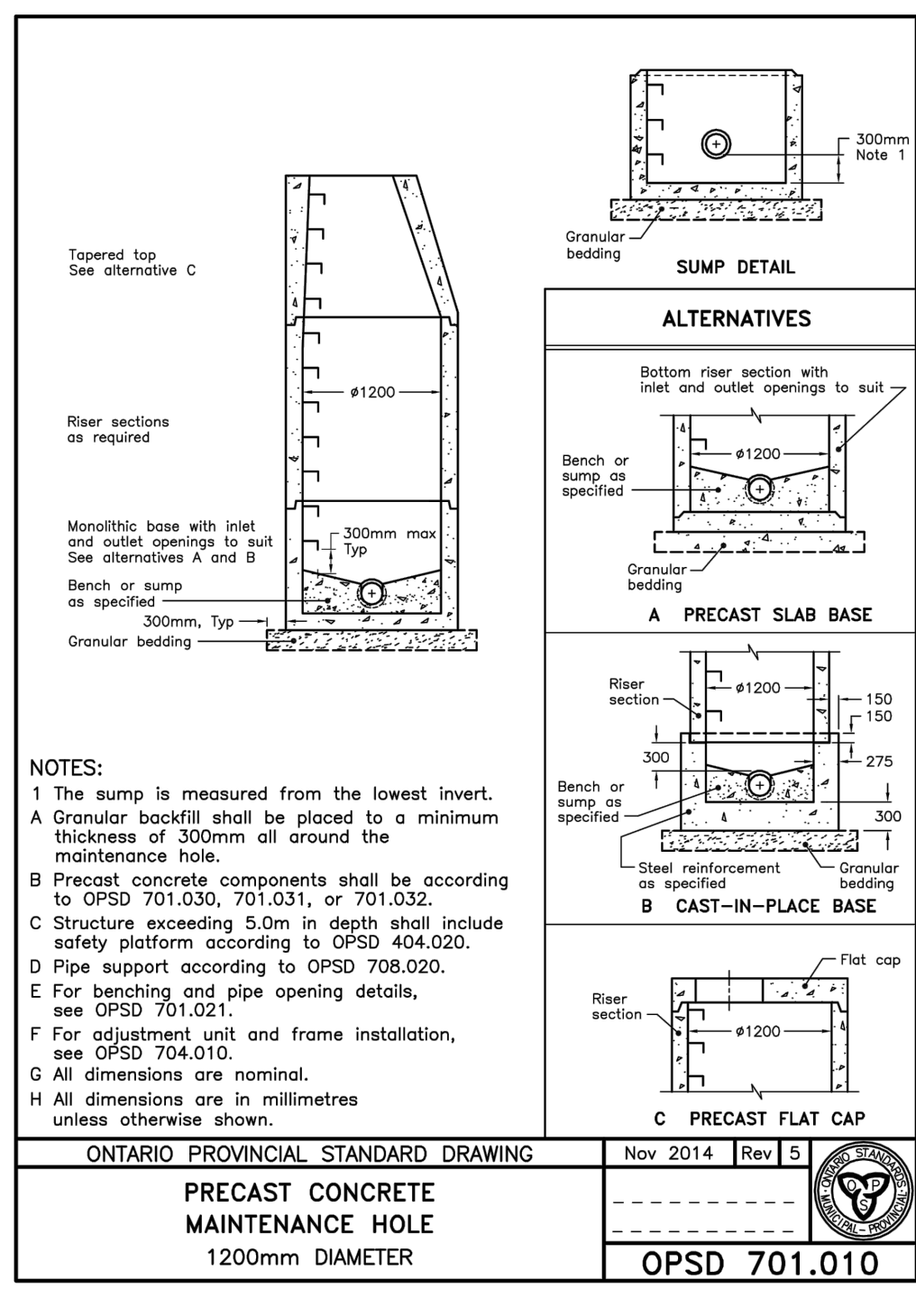
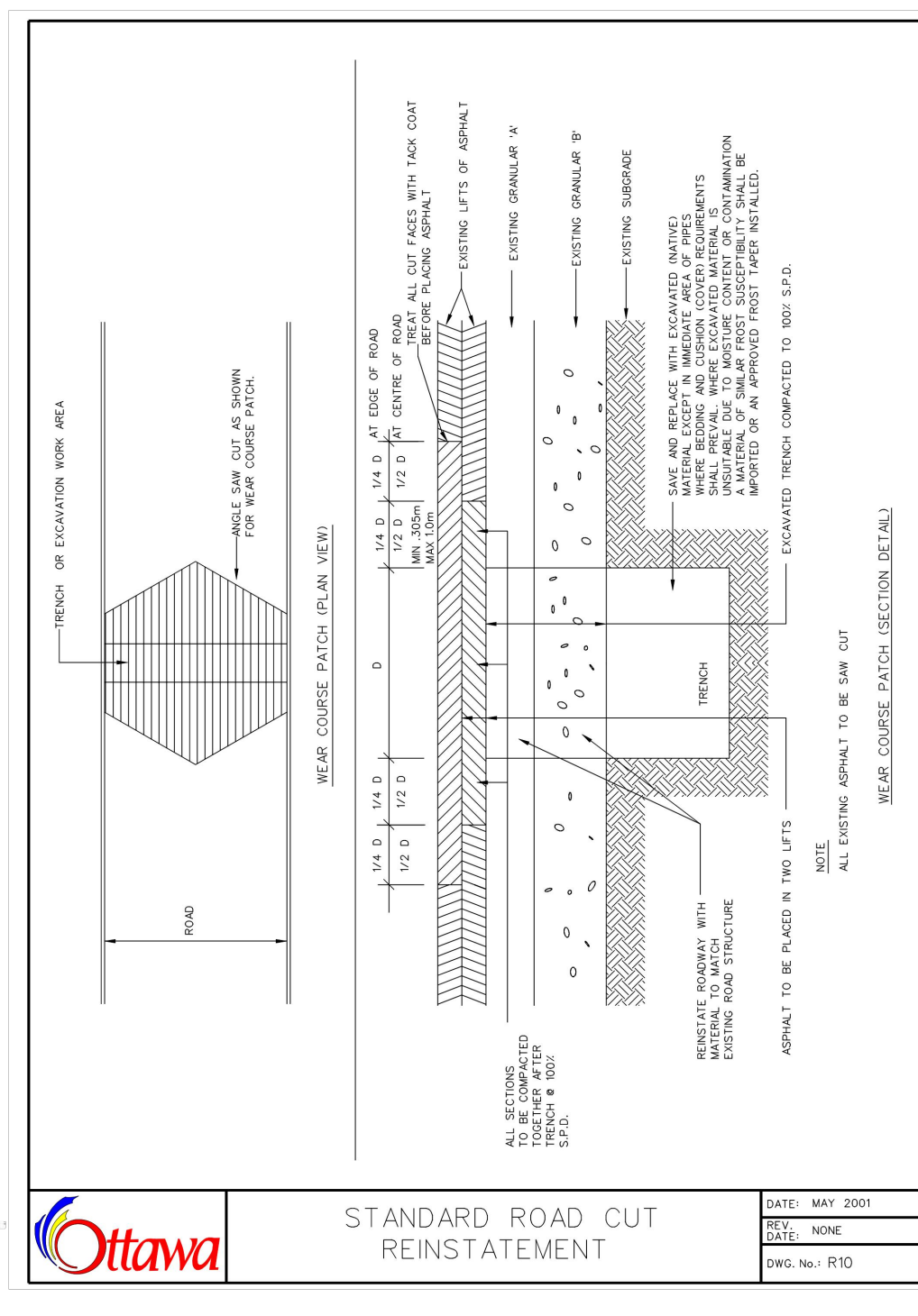
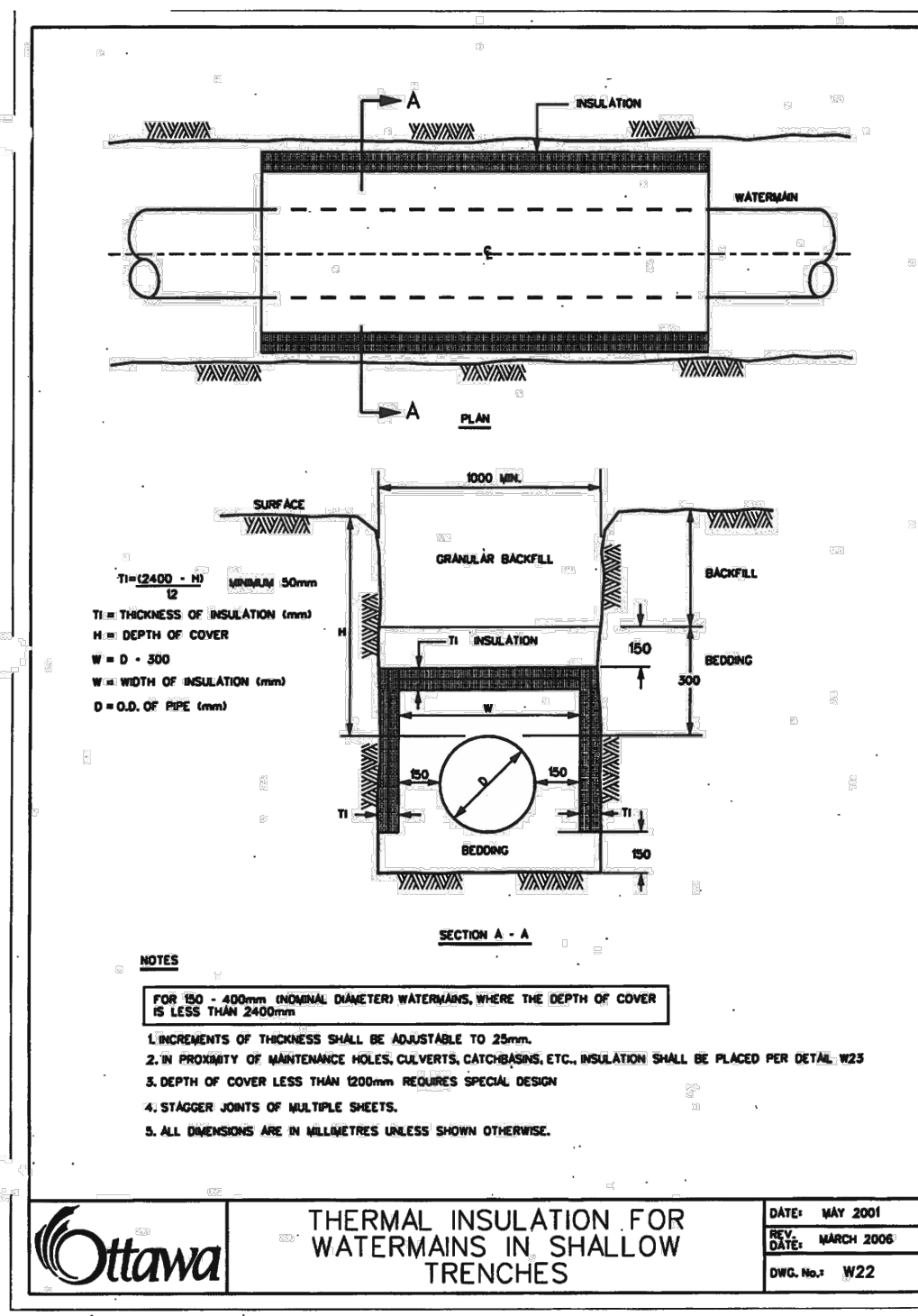
PROJECT: PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA

DRAWING TITLE: POST-DEVELOPMENT WATERSHED PLAN

PROJECT NO: 170132  
 DATE: JAN2020  
**C702**

File no.: D017-12-20-0069





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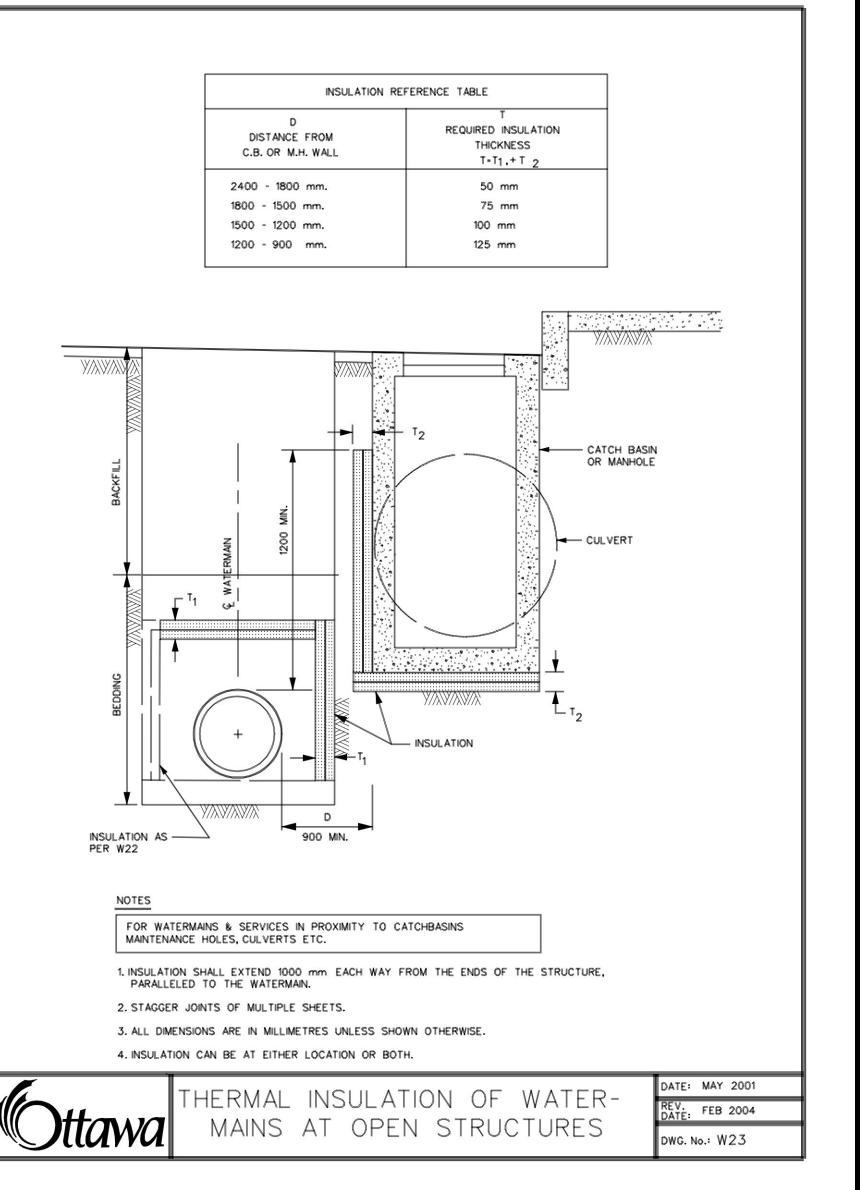
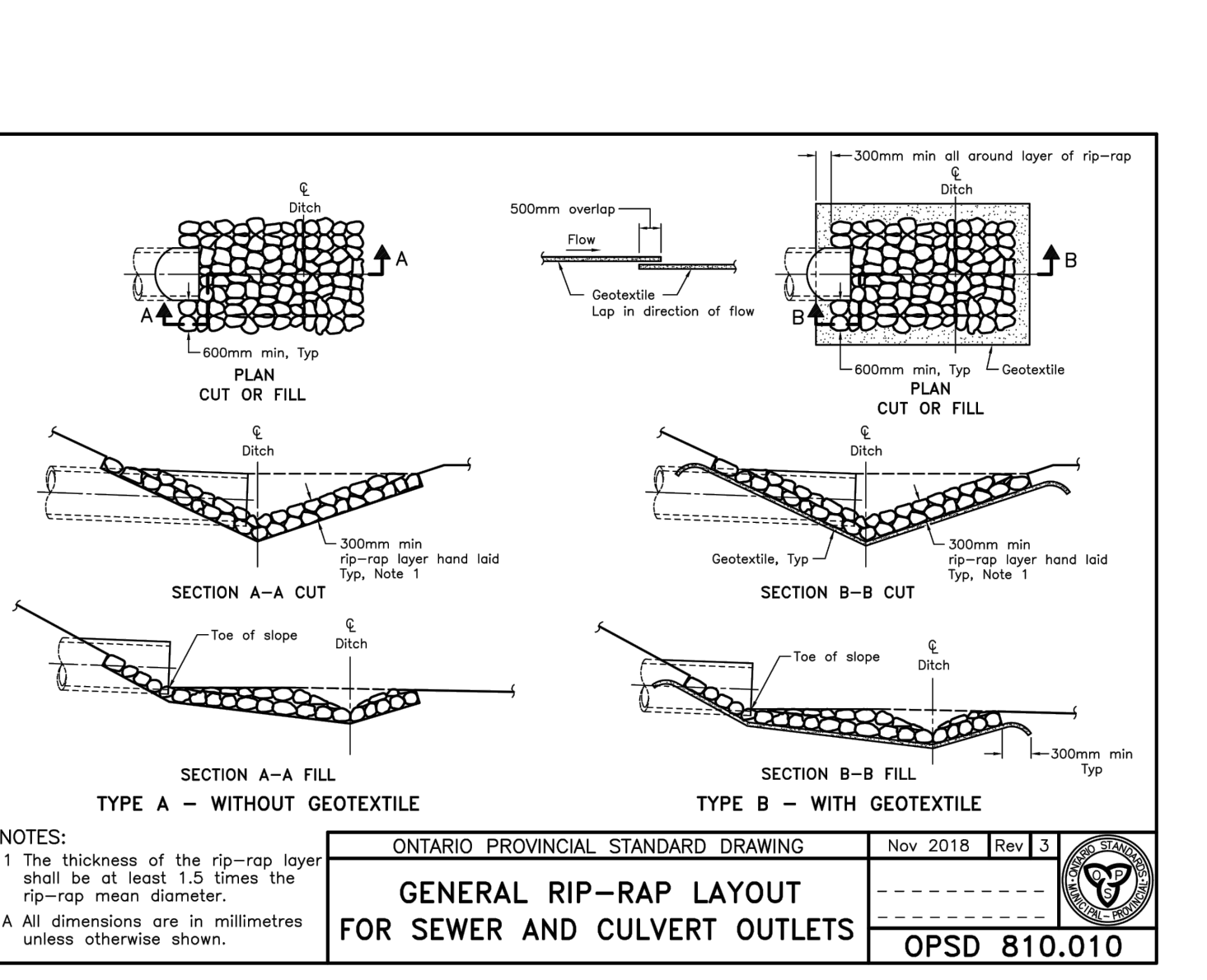
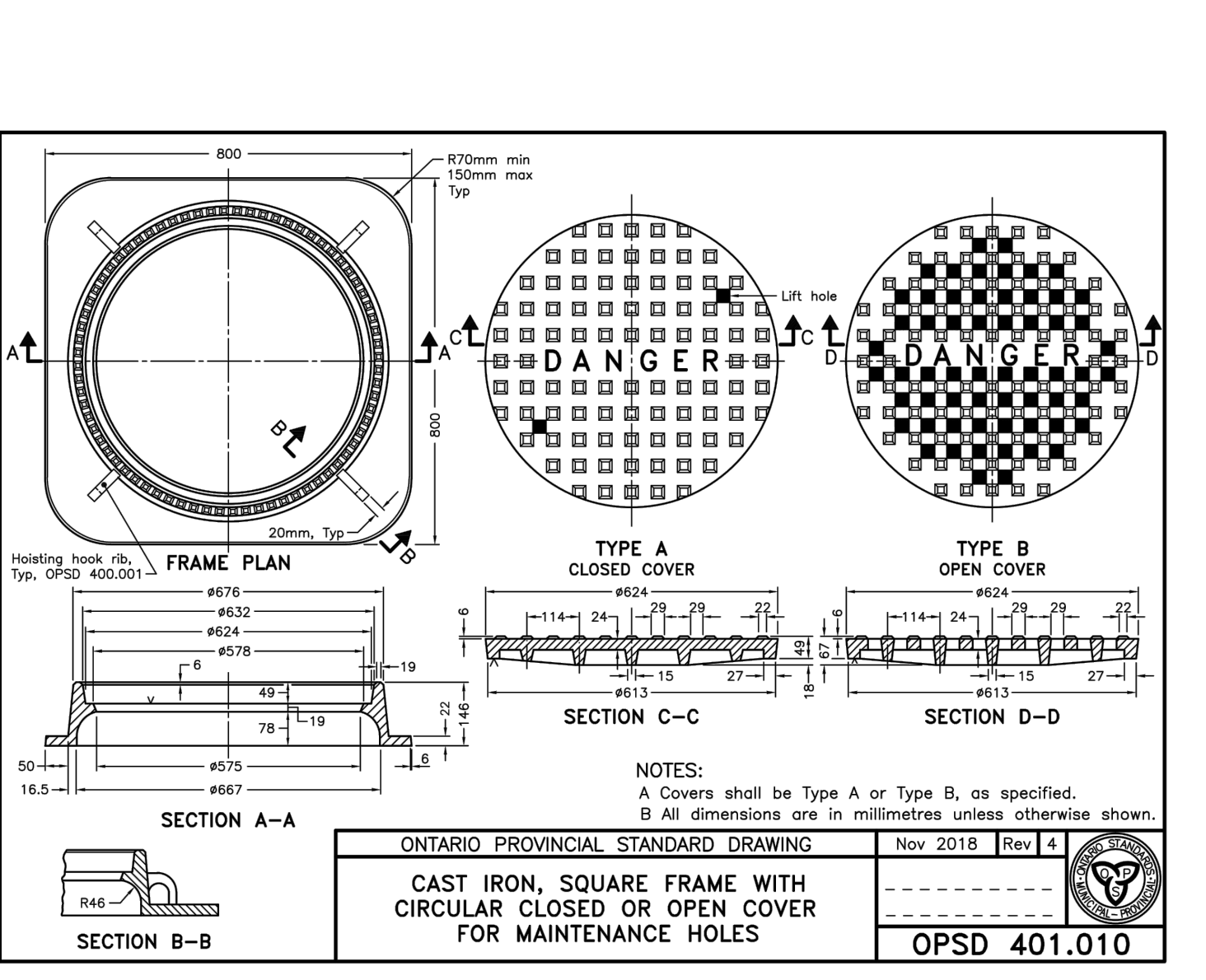
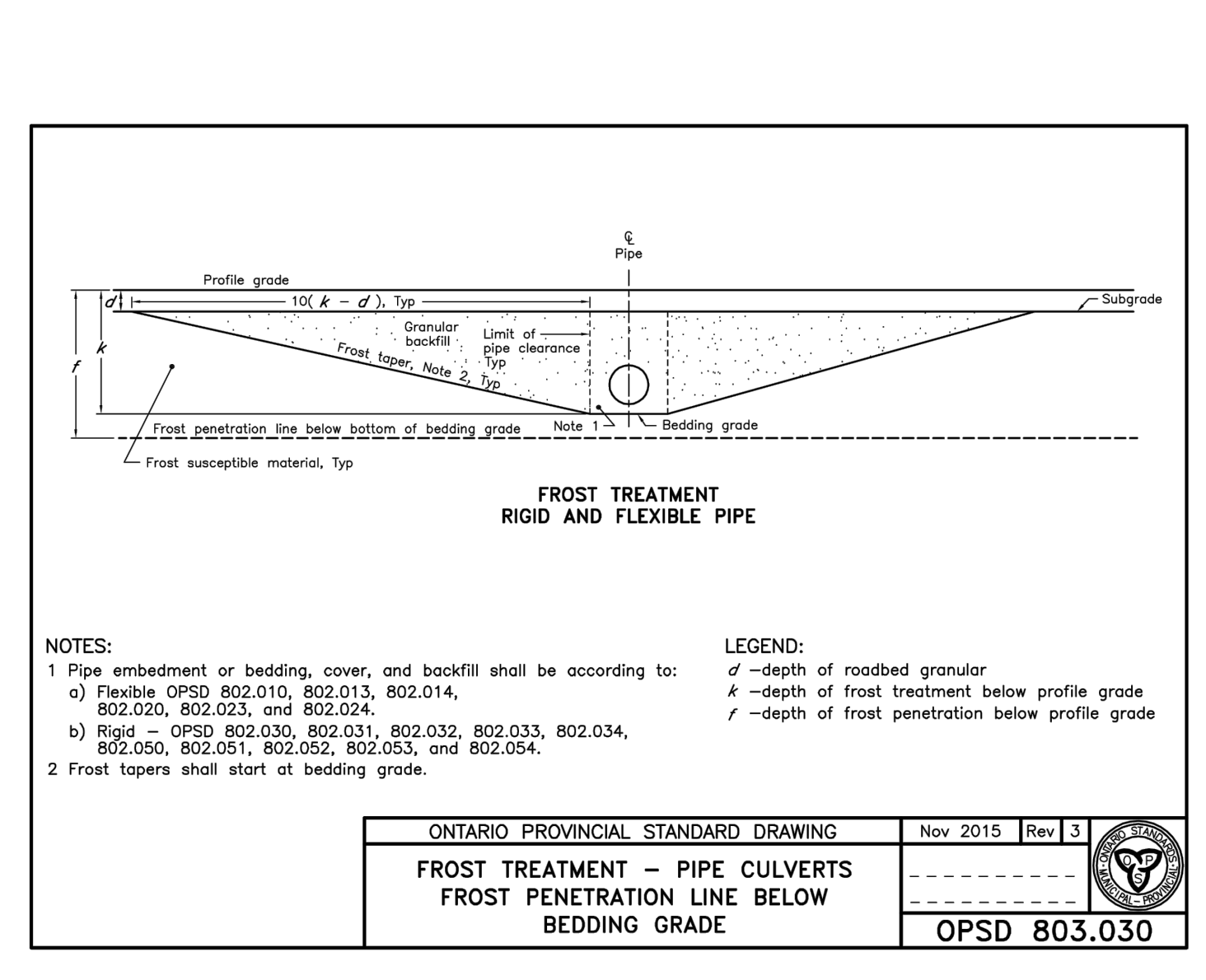
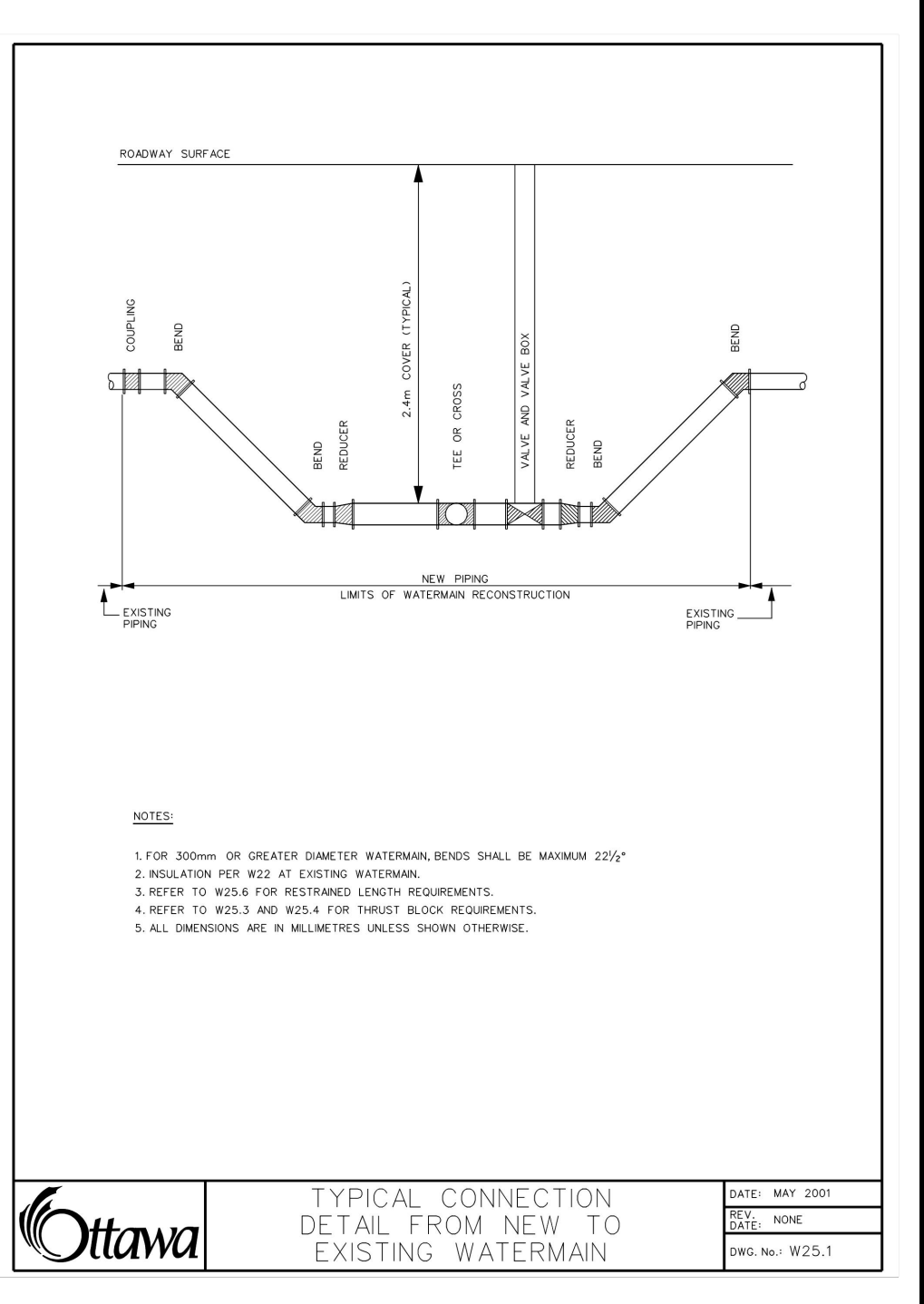
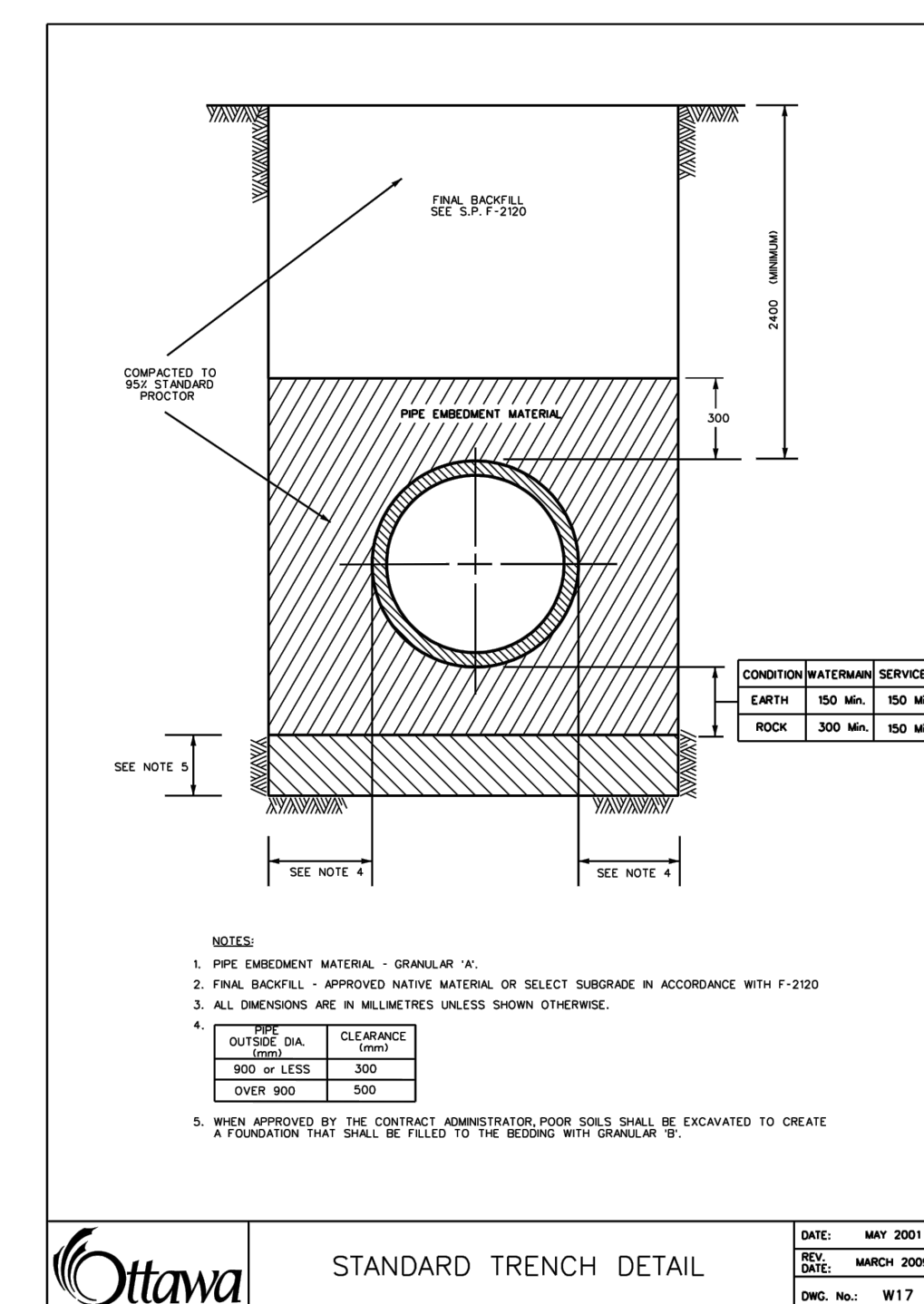
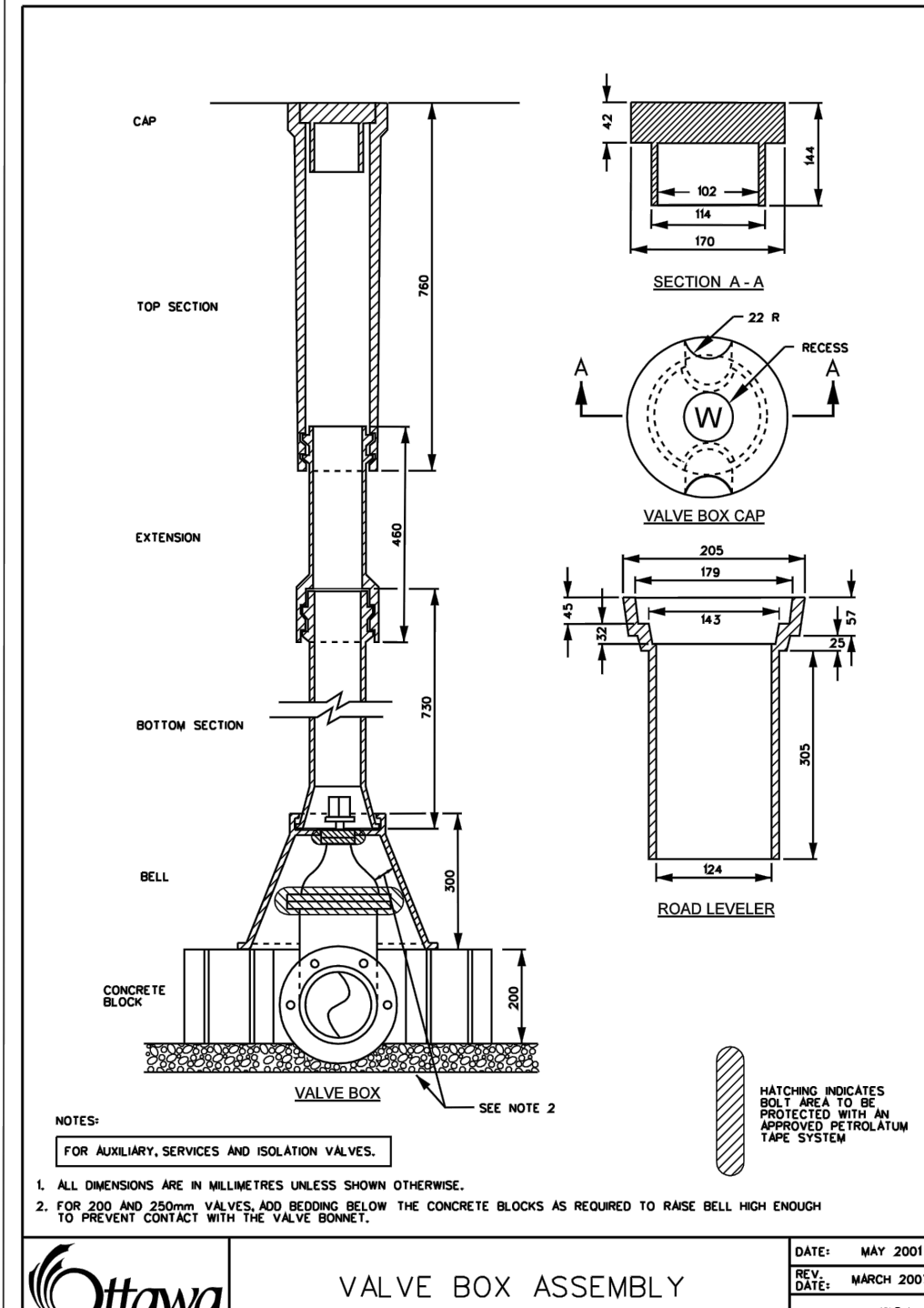
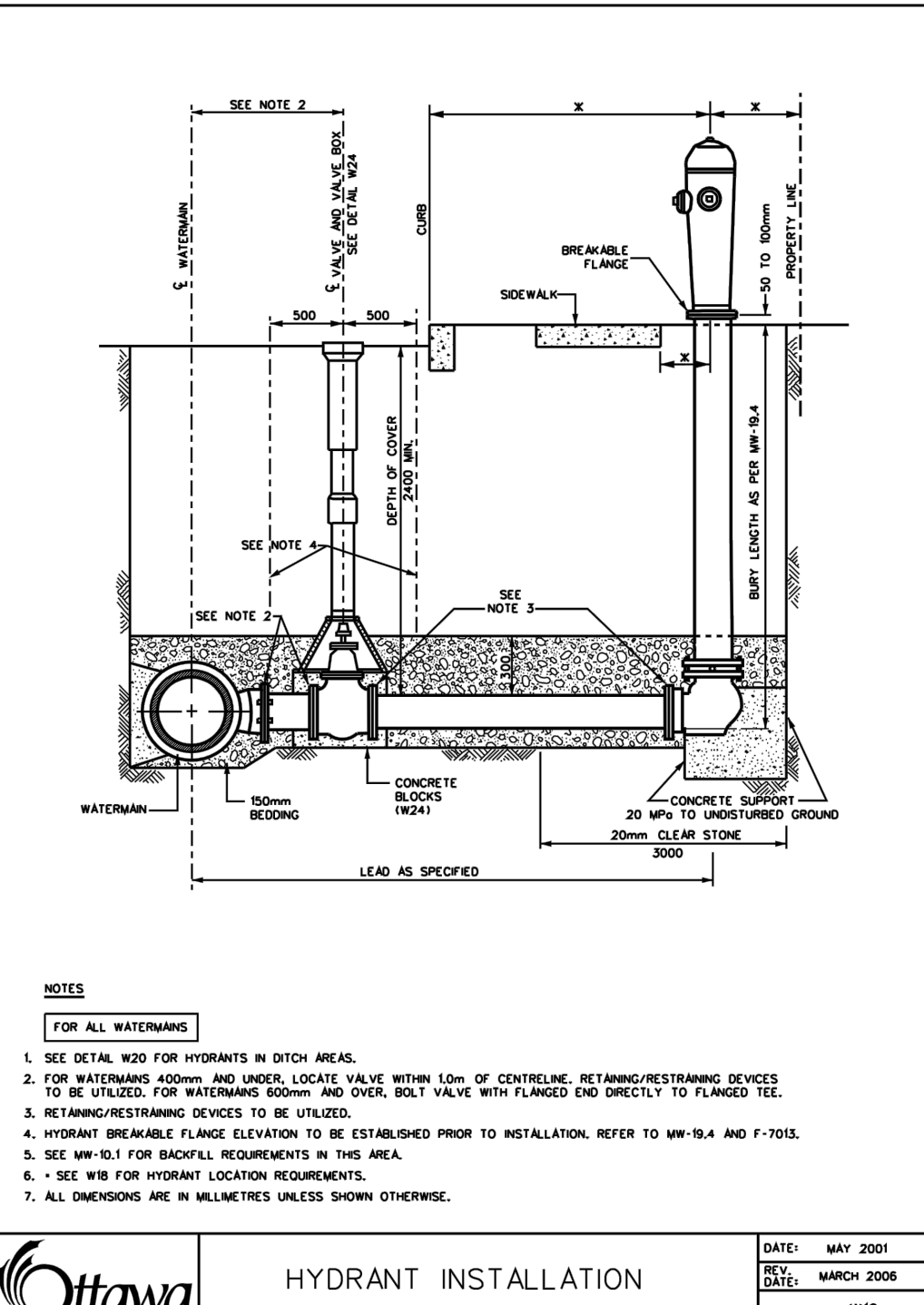
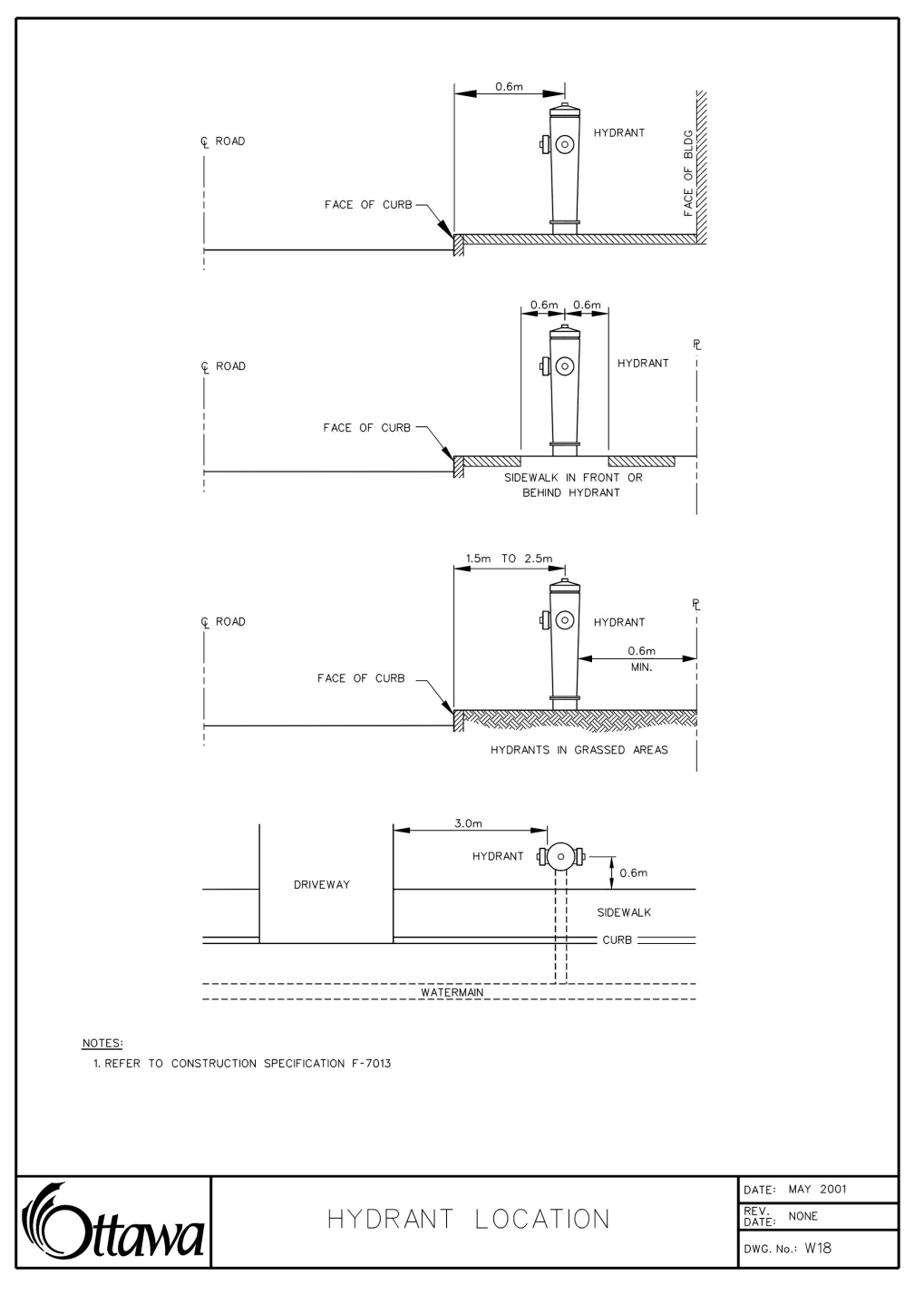
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CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.



**REVISIONS**

No.	REVISIONS	BY	DATE
05	RE-ISSUED FOR SITE PLAN APPLICATION	K.H.	31 OCT 2022
04	RE-ISSUED FOR SITE PLAN APPLICATION	K.H.	22 SEPT 2021
03	RE-ISSUED FOR SITE PLAN APPLICATION	K.H.	23 DEC 2020
02	ISSUED FOR CLIENT REVIEW	K.H.	11 DEC 2020
01	ISSUED FOR CLIENT APPROVAL	K.H.	11 MAR 2020

**PROFESSIONAL ENGINEER**  
**M. BASNET**  
100501986  
2022 (01/21)  
PROVINCE OF ONTARIO

**CLIENT:** THE HINDU HERITAGE CENTRE OF OTTAWA CARLETON

**DESIGNED BY:** P.P. **DRAWN BY:** K.H. **APPROVED BY:** M.B.

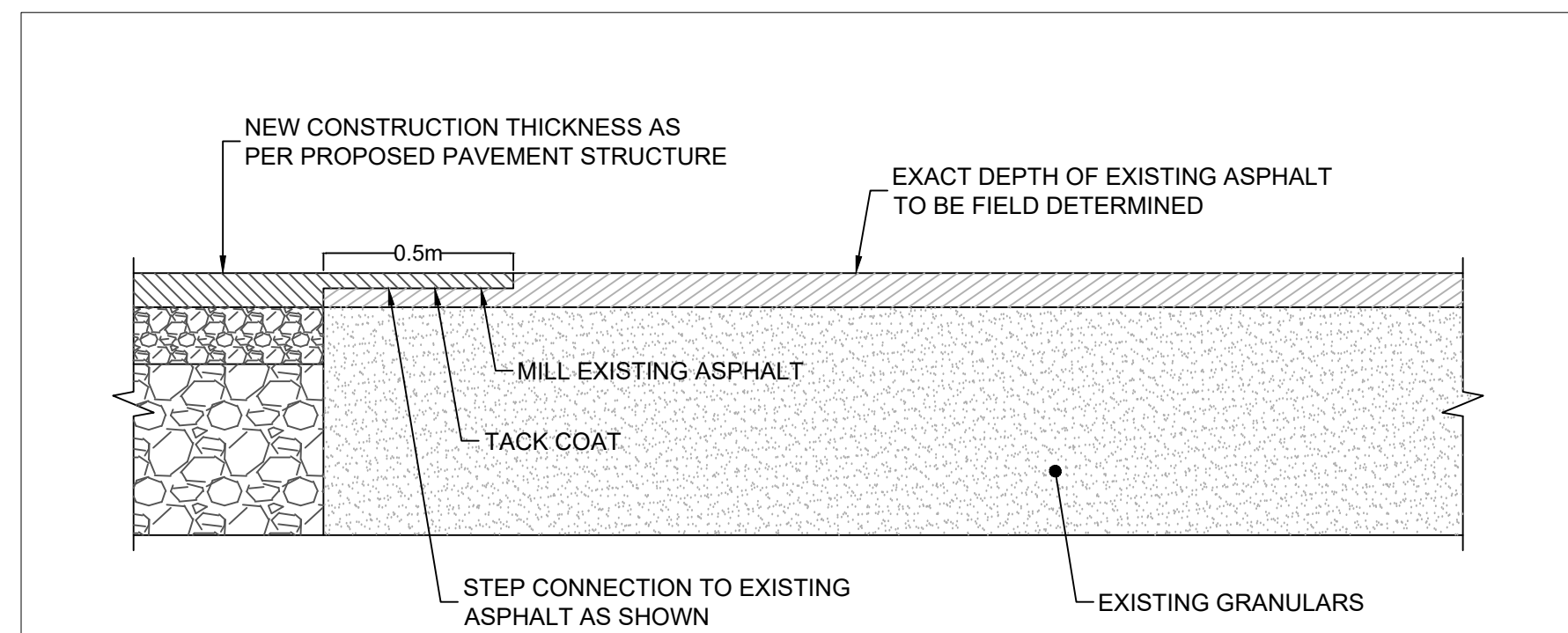
**PROJECT:** PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA

**DRAWING TITLE:** CONSTRUCTION DETAIL PLAN

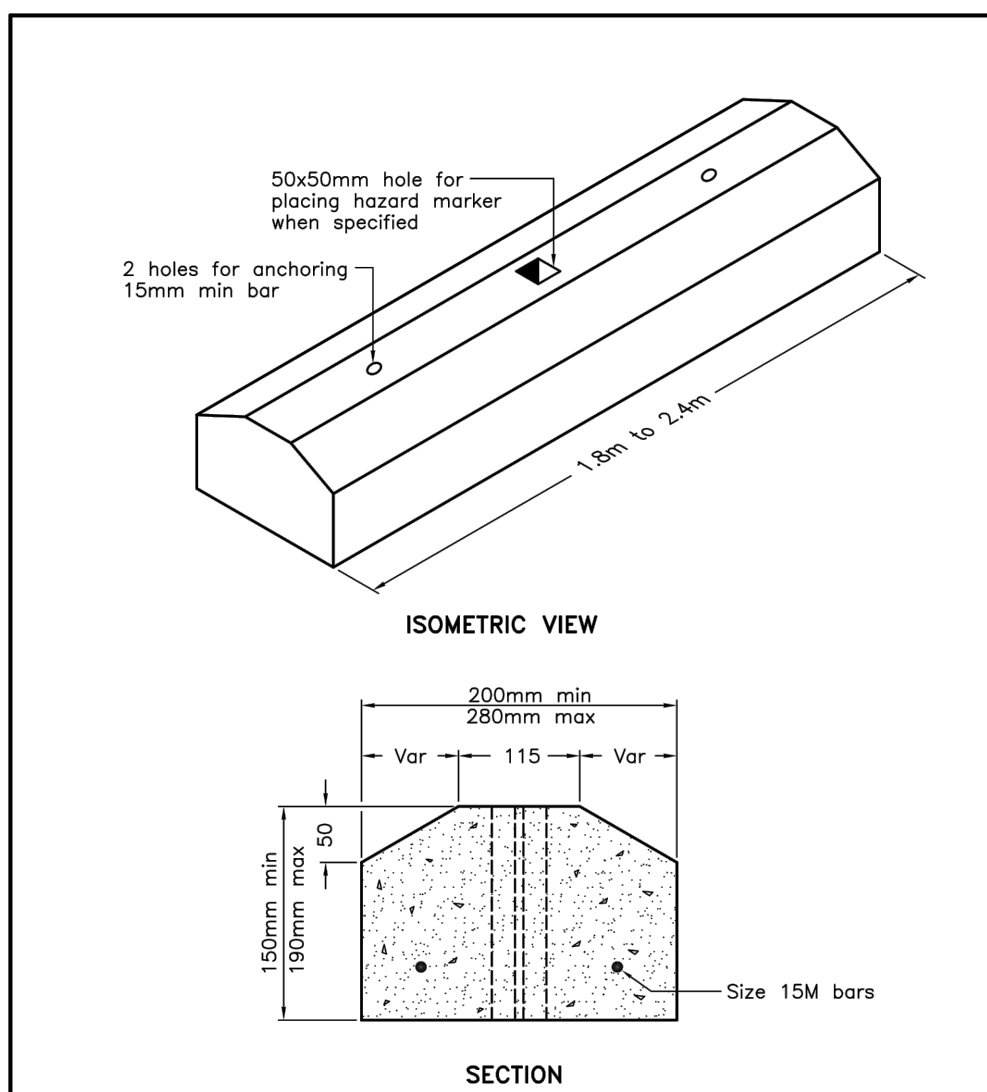
**PROJECT NO.:** 170132  
**DATE:** JAN 2020

**C901**



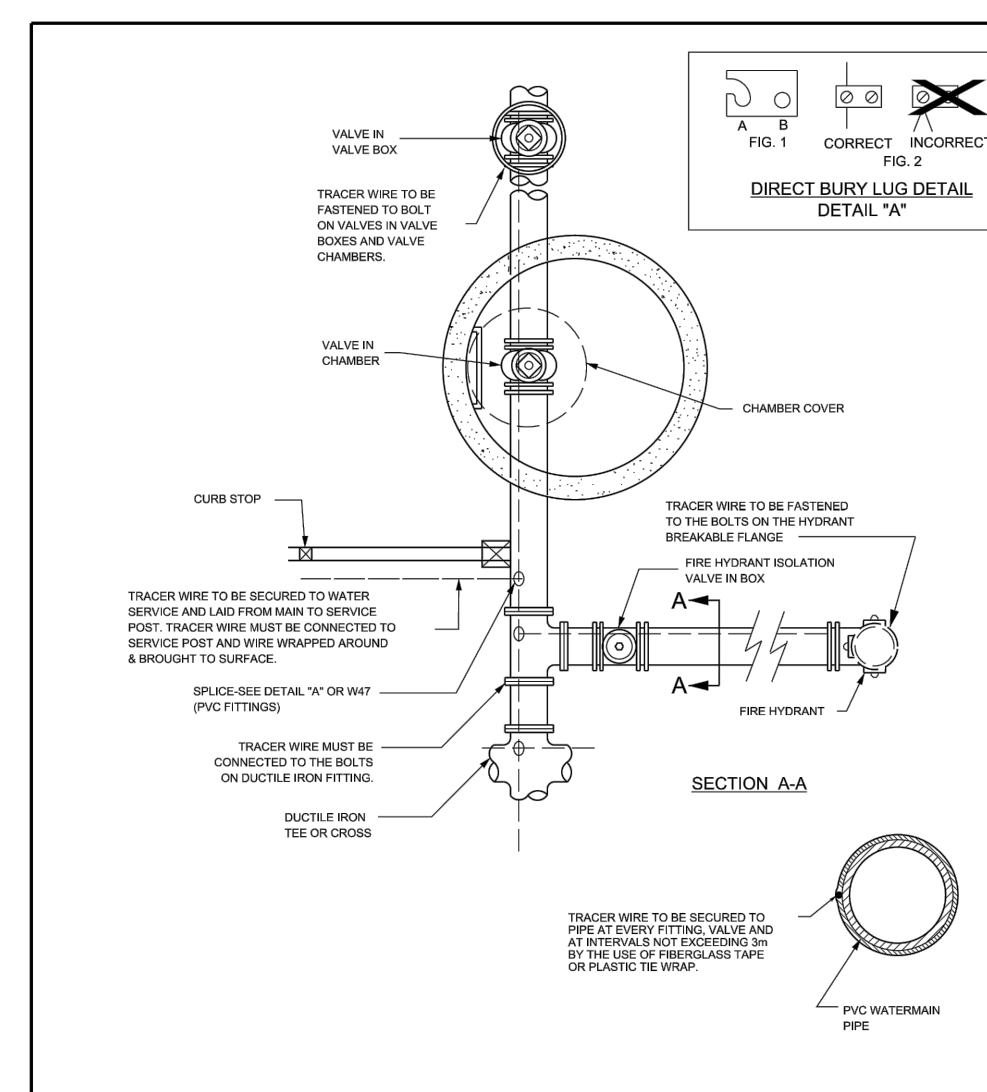


TYPICAL KEY CONNECTION TO EXISTING ASPHALT (N.T.S.)



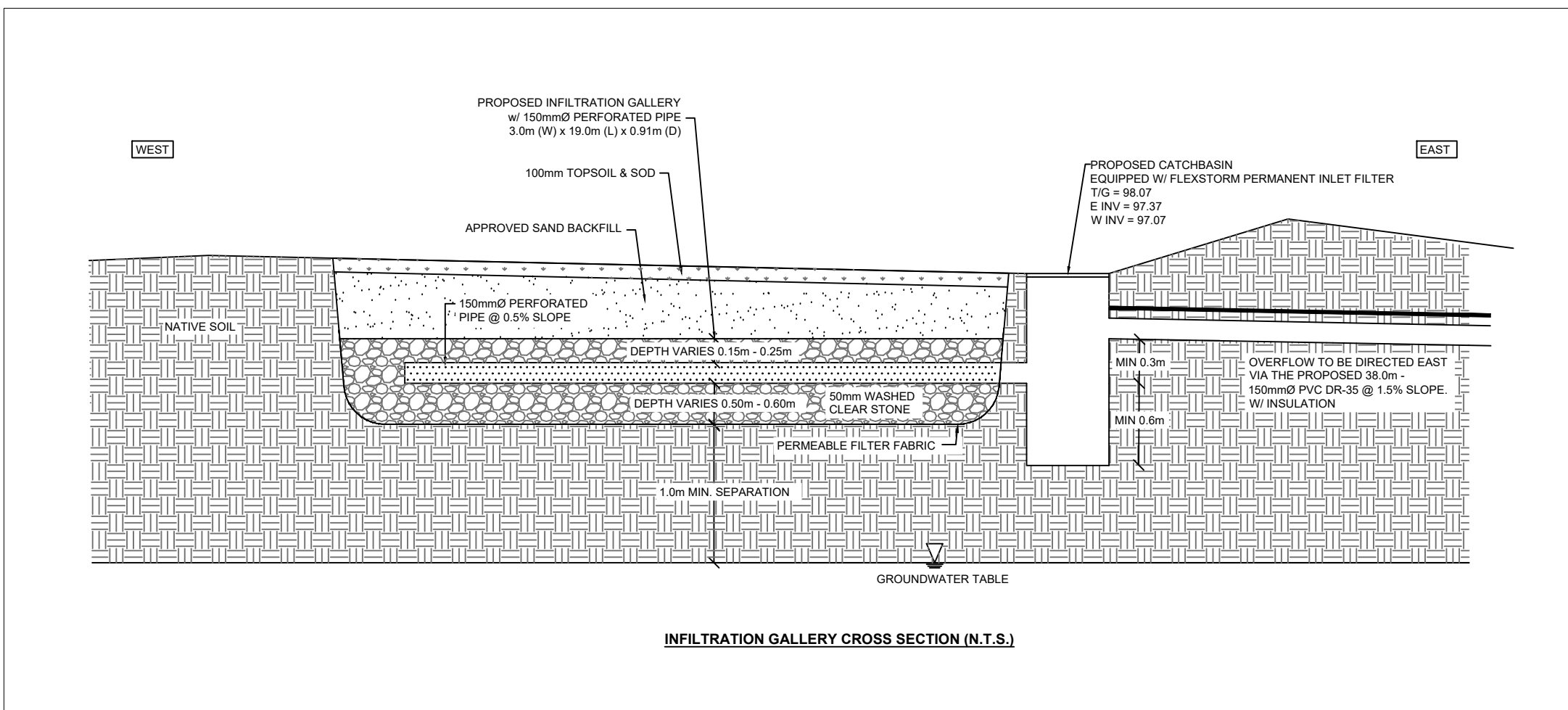
NOTES:  
A Class of concrete shall be C2 according to CSA A23.1.  
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2006 Rev 1  
PRECAST CONCRETE CURB  
OPSD 603.020

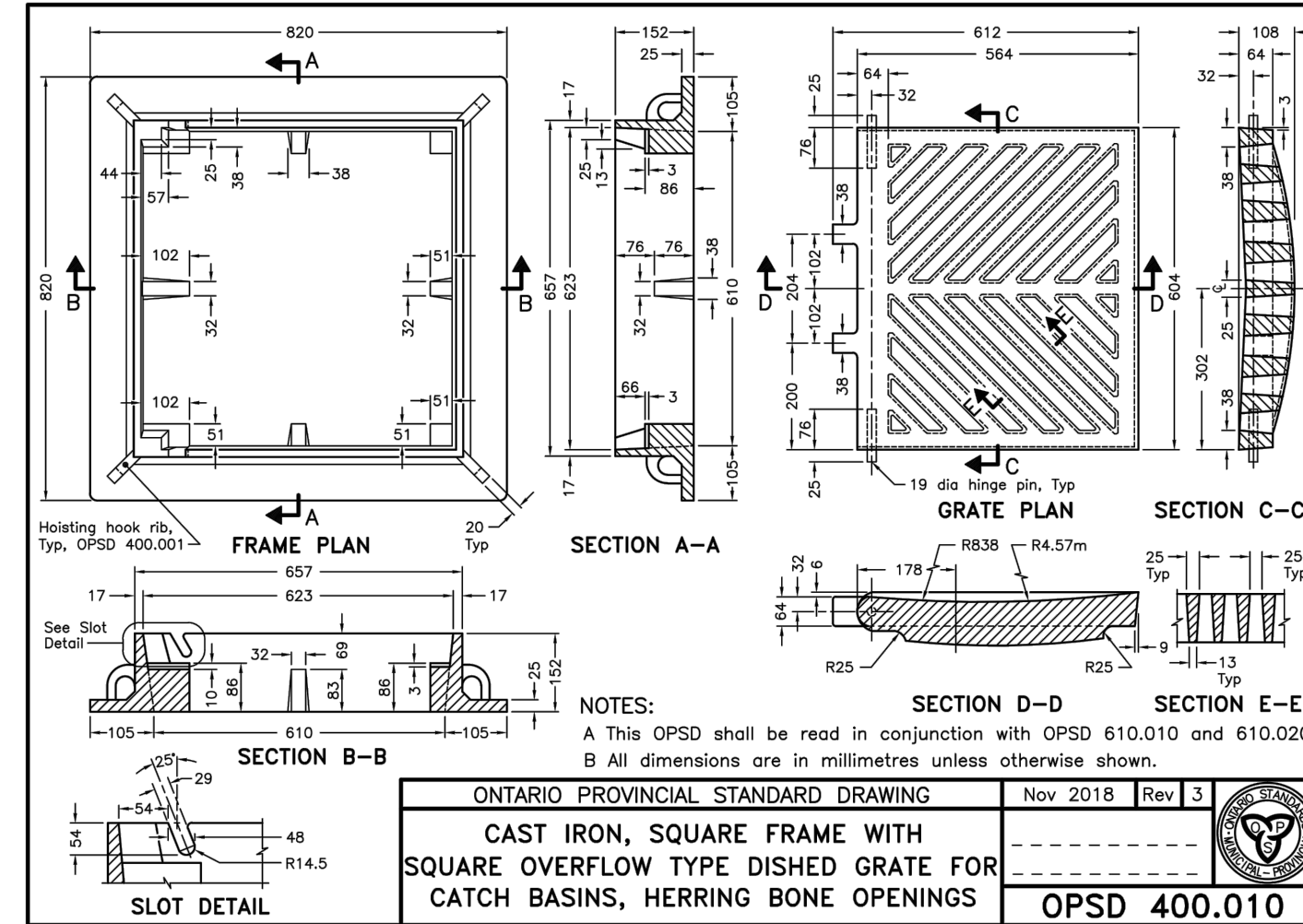


NOTES:  
1. ALL CONNECTIONS MUST BE WATERPROOFED.  
2. SPRINGS OF MAIN TRACER WIRE IS NOT ALLOWED UNLESS SPECIFIED OR APPROVED.  
3. TRACER WIRE CONTINUITY OF CURRENT MUST BE TESTED AND VERIFIED.  
4. FOR PIPES TO DUCTILE IRON CONNECTIONS, THE TRACER WIRE MUST BE ATTACHED TO THE ELECTRIC IRON PIPE BY GALVANIZED IRON RODS.  
5. FOR SPILLOWS WITH DIRECT BURRY LUGS, STEP BOTH LUGS AND CLIP TAP WIRE TO WIDTH OF LUG (MIN), PLACE BRASS WIRE INTO LUGS, ALLOWING WIRE UNTIL HOUSING LID IS FULLY LATCHED.  
6. DISCARD: CLOSE HOUSING, ALLOWING WIRE UNTIL HOUSING LID IS FULLY LATCHED.

DATE: MAY 2001  
REV: MARCH 2011  
DWG No.: W36  
N.T.S.  
Ottawa TRACER WIRE INSTALLATION

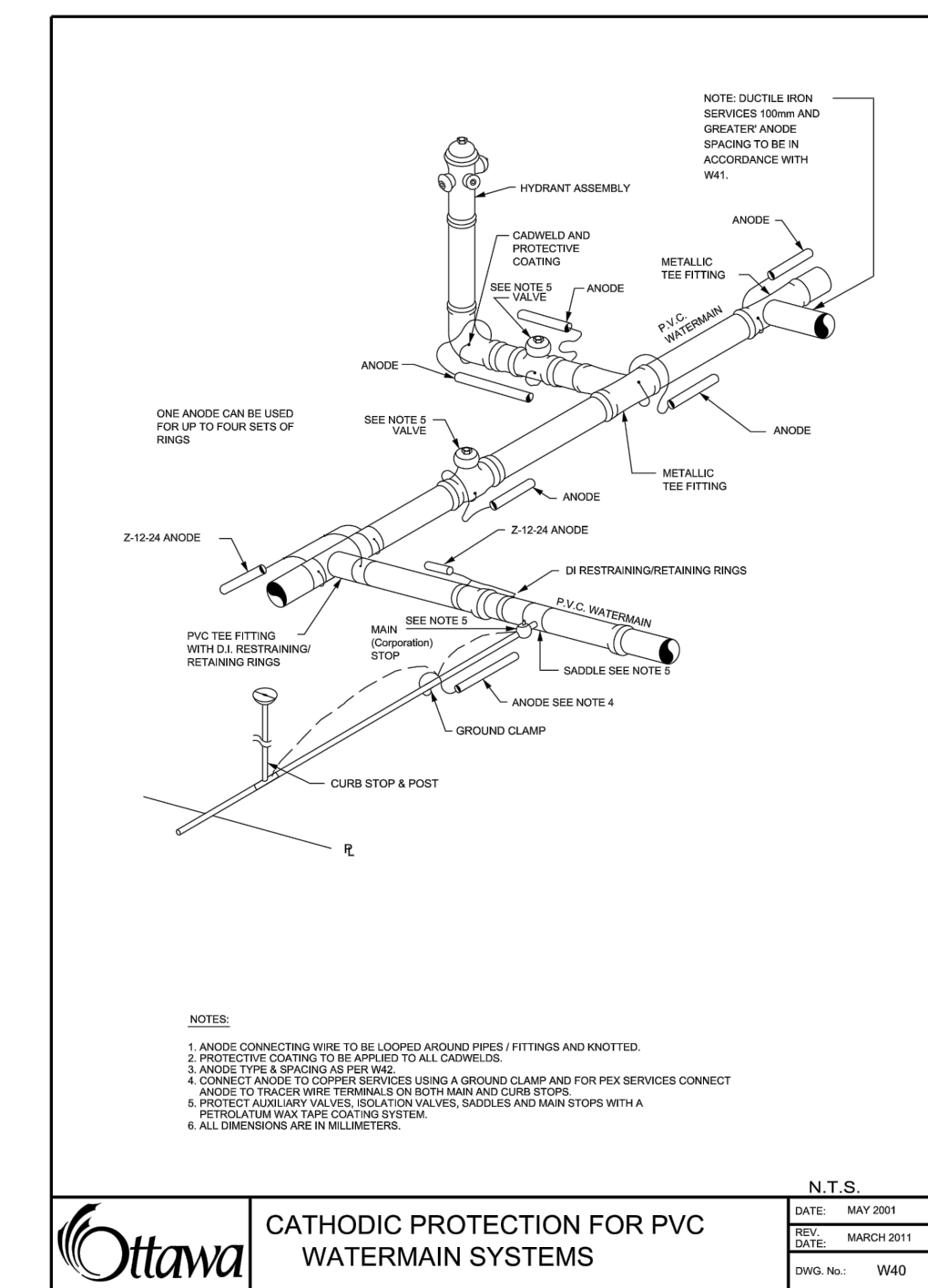


INFILTRATION GALLERY CROSS SECTION (N.T.S.)

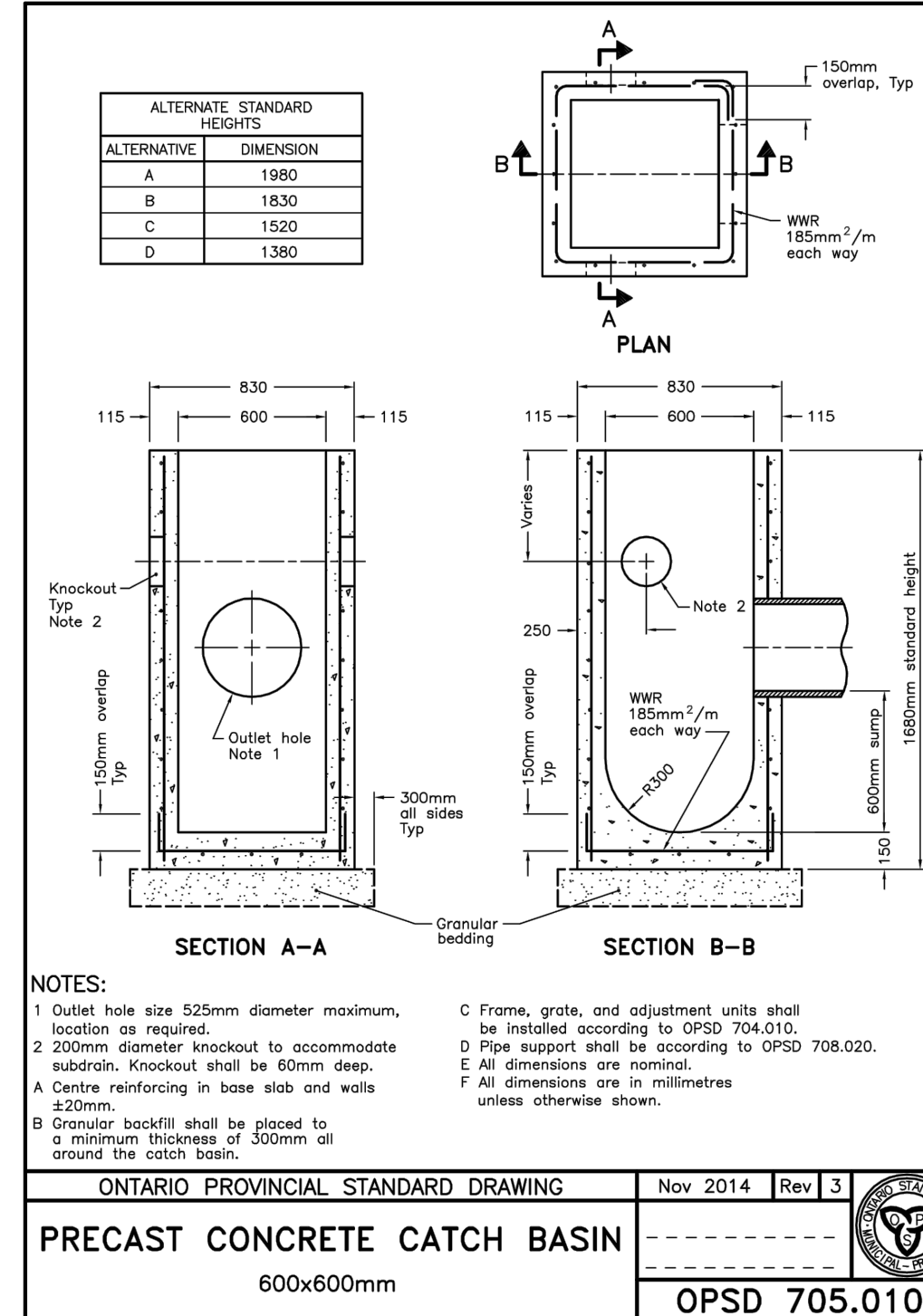


NOTES:  
A This OPSD shall be read in conjunction with OPSD 610.010 and 610.020.  
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2018 Rev 3  
CAST IRON, SQUARE FRAME WITH SQUARE OVERFLOW TYPE DISHED GRATE FOR CATCH BASINS, HERRING BONE OPENINGS  
OPSD 400.010

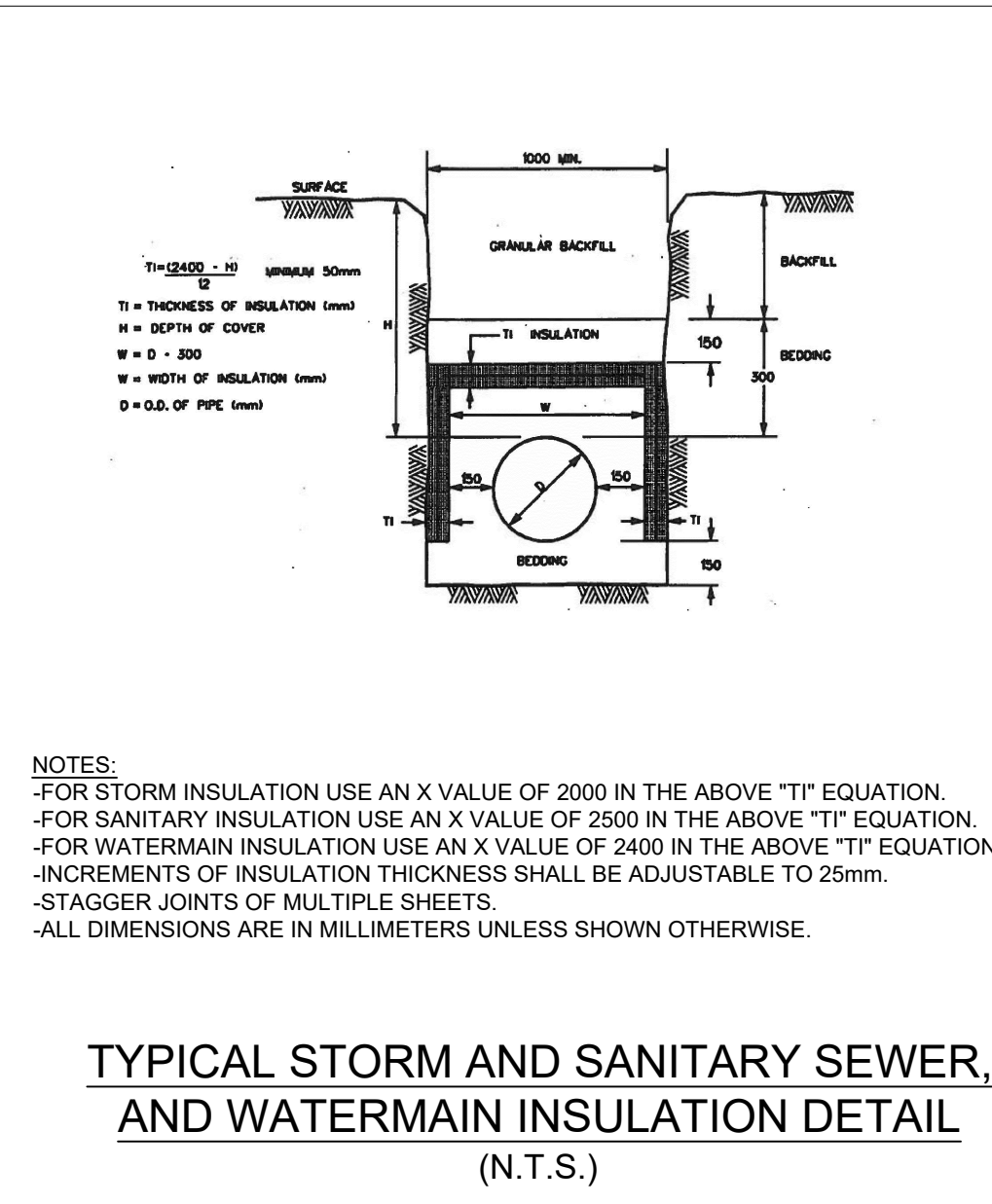


DATE: MAY 2001  
REV: MARCH 2011  
DWG No.: W40  
N.T.S.  
Ottawa CATHODIC PROTECTION FOR PVC WATERMAIN SYSTEMS



NOTES:  
1. Outlet hole size 525mm diameter maximum, location as required.  
2. 200mm diameter knockout to accommodate substrate. Knockout shall be 60mm deep.  
A Centre reinforcing in base slab and walls 2X20mm.  
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.  
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.  
D Pipe support shall be according to OPSD 708.020.  
E All dimensions are nominal.  
F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 3  
PRECAST CONCRETE CATCH BASIN  
600x600mm  
OPSD 705.010



NOTES:  
-FOR STORM INSULATION USE AN X VALUE OF 2000 IN THE ABOVE "TI" EQUATION.  
-FOR SANITARY INSULATION USE AN X VALUE OF 2500 IN THE ABOVE "TI" EQUATION.  
-FOR WATERMAIN INSULATION USE AN X VALUE OF 2400 IN THE ABOVE "TI" EQUATION.  
-INCREMENTS OF INSULATION THICKNESS SHALL BE ADJUSTABLE TO 25mm.  
-STAGGER JOINTS OF MULTIPLE SHEETS.  
-ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.

TYPICAL STORM AND SANITARY SEWER, AND WATERMAIN INSULATION DETAIL (N.T.S.)

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWING. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENTS, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE BINDING AS REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAIL AS SHOWN UNLESS OTHERWISE SHOWN COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.

BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER CONFIRMS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR CONFIRMS THAT HE HAS VISITED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

AS INSTRUMENTS OF SERVICE ALL DRAWINGS, SPECIFICATIONS, CAD FILES OR OTHER ELECTRONIC MEDIA AND COPIES THERE OF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT, INCLUDING REPEATS OF THE PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.

UNLESS THE REVISION TITLE IS "ISSUED FOR CONSTRUCTION", THESE DRAWINGS SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.

THESE DRAWINGS ILLUSTRATE THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THESE DRAWINGS EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS ACKNOWLEDGEMENT OF THE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

UNAUTHORIZED CHANGES:  
IN THE EVENT OF THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRL ASSOCIATES LTD. (LRL) WITHOUT OBTAINING LRL'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES. THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRL AND TO RELEASE LRL FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.

IN ADDITION, THE CLIENT AGREES TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

GENERAL NOTES:  
EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT MAY NOT BE COMPLETE OR TO DATE. CONTRACTOR SHALL VERIFY IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING OR PERFORMING WORK.

CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.

THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

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NOT AUTHENTIC UNLESS SIGNED AND DATED

**LRJ**  
ENGINEERING | INGENIERIE  
5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lrl.ca | (613) 842-3434

CLIENT  
**THE HINDU HERITAGE CENTRE OF OTTAWA CARLETON**

DESIGNED BY: P.P. DRAWN BY: K.H. APPROVED BY: M.B.

PROJECT  
**PROPOSED ASSEMBLY HALL  
4835 BANK STREET, OTTAWA**

DRAWING TITLE  
**CONSTRUCTION DETAIL PLAN**

PROJECT NO.  
170132

DATE  
JAN2020

**C902**

File no.: D017-12-20-0069



# DRAWING NOT TO BE USED FOR CONSTRUCTION

## GENERAL NOTES

1. ALL DIMENSIONS INDICATED ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.
2. JELLYFISH STRUCTURE INLET AND OUTLET PIPE SIZE AND ORIENTATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
3. UNLESS OTHERWISE NOTED, INFRASTRUCTURE SUCH AS ALL UPSTREAM DIVERSION STRUCTURES, CONNECTING STRUCTURES, OR PIPE CONDUITS CONNECTING TO COMPLETE THE JELLYFISH SYSTEM SHALL BE PROVIDED AND ADDRESSED SEPARATELY.
4. DRAWING FOR INFORMATION PURPOSES ONLY. REFER TO ENGINEERS SITEABILITY PLAN FOR STRUCTURE ORIENTATION.
5. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED TO DAVIS PRIOR TO PROJECTS BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

## JELLYFISH STRUCTURE & DESIGN NOTES

1. THE MAXIMUM MAINTENANCE ACCESS WALL TO BE USED FOR CLEANOUT AND ACCESS BELOW CARTRIDGE DECK.
2. CASTINGS OR DOORS OF THE JELLYFISH MANHOLE STRUCTURE TO EXTEND TO DESIGN FINISH GRADE. DEPTHS IN EXCESS OF 3.81 M (12') MAY REQUIRE THE DESIGN AND INSTALLATION OF INTERMEDIATE SAFETY GRATES OR OTHER STRUCTURAL ELEMENTS.
3. CASTINGS AND GRADE INGS, OR DOORS AND DOOR RISERS, OR BOTH SHALL BE GROUTED FOR WATER TIGHTNESS.
4. STRUCTURE SHALL MEET ASHOTO 1000 LOAD RATING AND BE CAST WITH THE UNDER LOGS.
5. ALL STRUCTURAL SECTIONS AND PARTS TO MEET OR EXCEED ASTM C-476, ASTM C-443, AND ASTM A-607 CORRESPONDING TO ASHOTO SPECIFICATIONS, AND ANY OTHER SITE OR LOCAL STANDARDS.
6. CONCRETE RISER SECTIONS FROM BOTTOM TO TOP WILL BE ADDED AS REQUIRED INCLUDING TRANSITION PIECES TO SMALLER DIAMETER RISERS FOR STRUCTURE ACCESSING TO CARTRIDGE DECK TO BOTTOM OF STRUCTURE. TOP SLAB SHALL BE REINFORCED TO WITHSTAND WINDY ELEVATIONS OR OTHER SITE CONSTRAINTS. ALTERNATIVE HATCH CONFIGURATIONS MAY BE AVAILABLE. HATCH DOORS SHOULD BE SIZED TO PROVIDE FULL ACCESS ABOVE THE CARTRIDGES TO ACCOMMODATE MAINTENANCE.
7. STEPS TO BE APPROXIMATELY 300 MM (12") APART AND DIMENSIONS MUST MEET LOCAL STANDARDS. STEPS MUST BE INSTALLED AFTER CARTRIDGE DECK IS IN PLACE.
8. COMPARTMENTS OF INLET AND OUTLET PIPE CAPACITY TO MEET SITE NEEDS. IT IS THE RESPONSIBILITY OF OTHERS TO PROPERLY PROTECT THE TREATMENT DEVICE AND KEEP THE DEVICE OPERATIONAL DURING CONSTRUCTION. FILTER CARTRIDGES SHALL NOT BE INSTALLED UNTIL THE PROJECT SITE IS CLEAN AND FREE OF DEBRIS. BY OTHERS, THE PROJECT SITE INCLUDES ANY SURFACE THAT CONTRIBUTES TO RUNOFF TO THE TREATMENT DEVICE. CARTRIDGES SHALL BE FURNISHED NEW, AT THE TIME OF FINAL ACCEPTANCE. THIS DRAWING MUST BE VIEWED IN CONJUNCTION WITH THE STANDING JELLYFISH SPECIFICATION, AND STORMWATER QUALITY FILTER TREATMENT JELLYFISH DOCUMENTS.

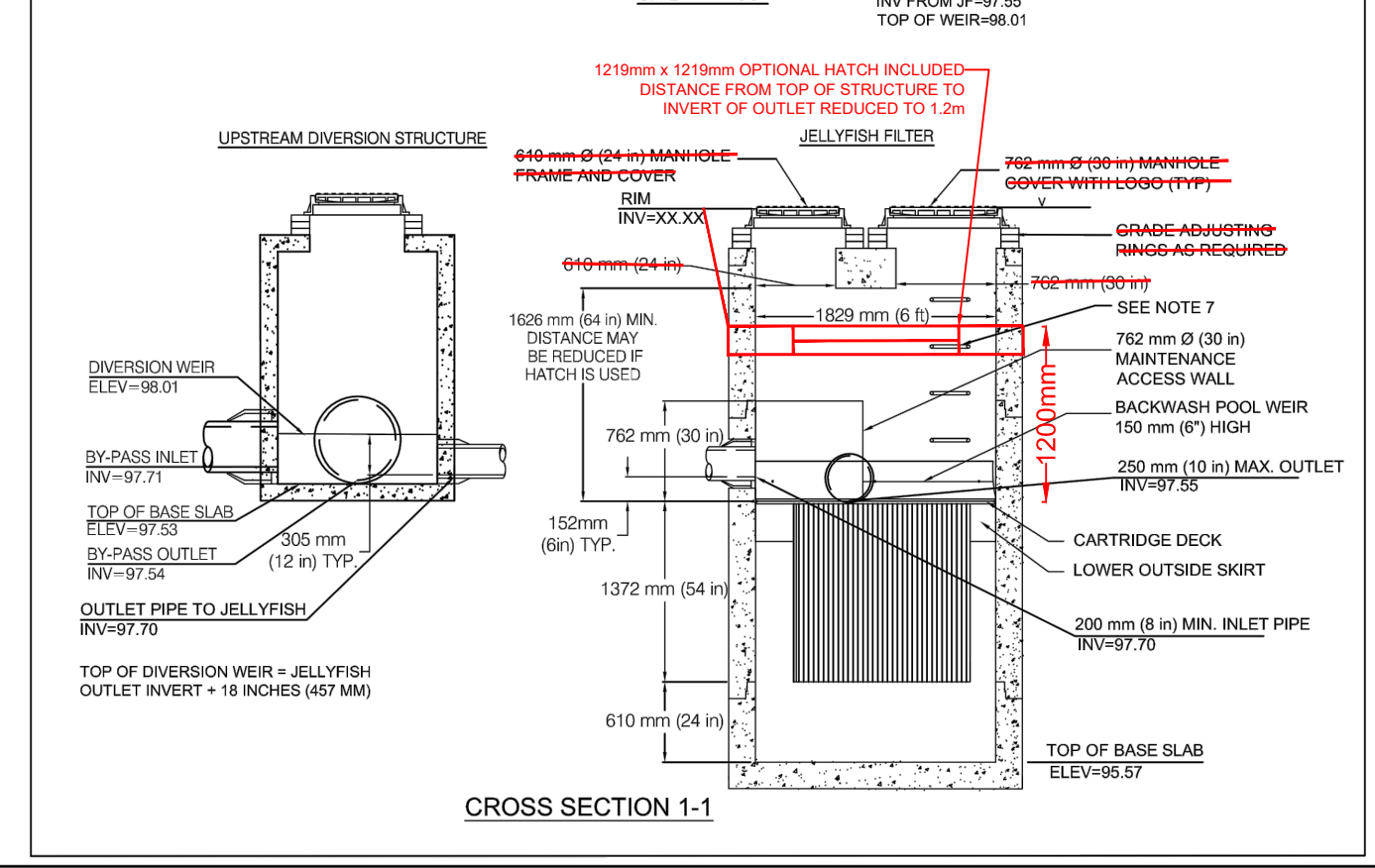
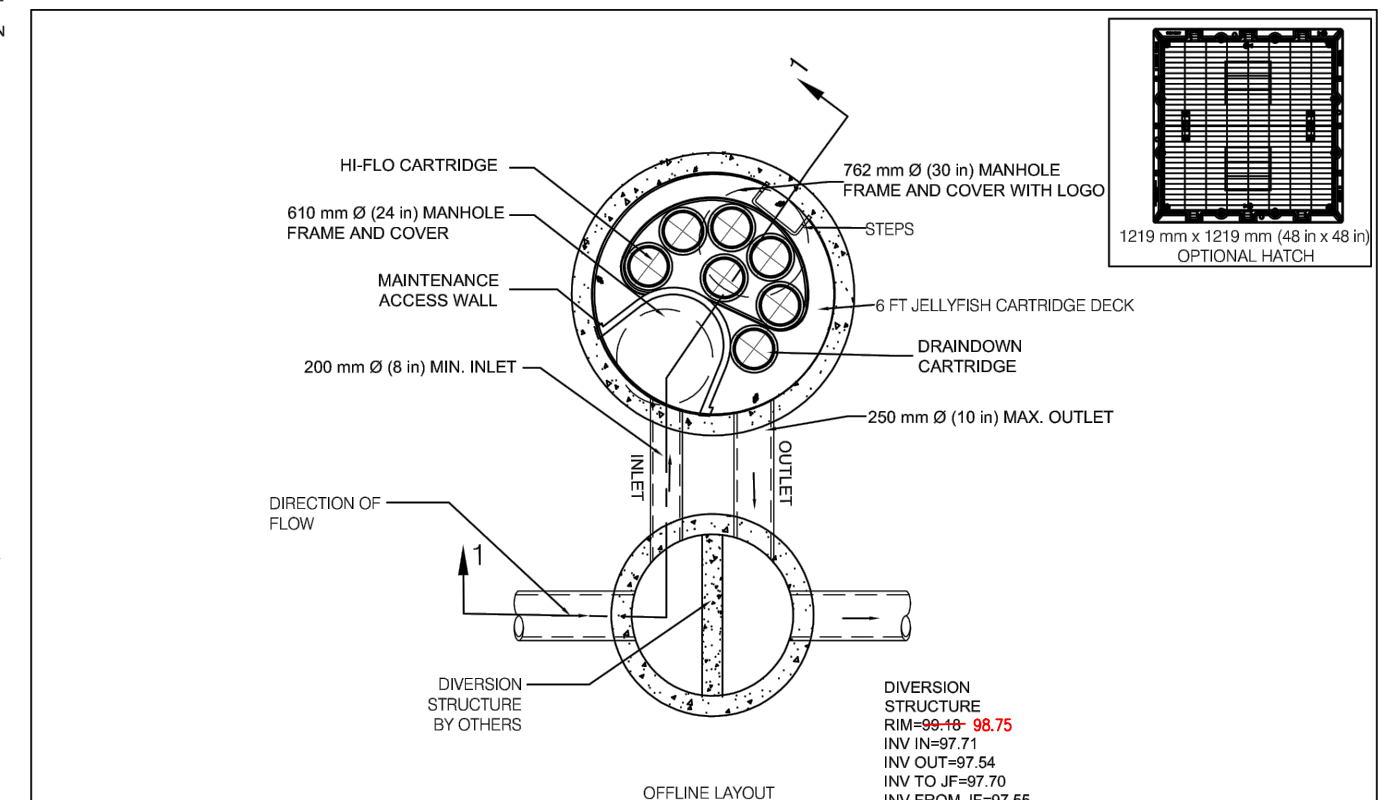
## INSTALLATION NOTES

- A. ALL STRUCTURE, HATCH, DEPTH, AND/OR ANTI-FILTRATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- C. CONSTRUCTION WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS NON-SHIPPING GROUT WITH APPROVED WATERPROOF OR FLEXIBLE BOOT).
- D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
- E. CARTRIDGE INSTALLATION BY AIRBRUSH SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT MANUFACTURER TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

## STANDARD OFFLINE JELLYFISH RECOMMENDED PIPE DIAMETERS

NO. OF CARTRIDGES	INLET PIPE DIA. (mm)	OUTLET PIPE DIA. (mm)	MANHOLE DIA. (mm)
1	100	100	150
2	150	150	200
3	200	200	250
4	250	250	300
5	300	300	350
6	350	350	400
7	400	400	450
8	450	450	500

FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT YOUR LOCAL JELLYFISH FILTER REPRESENTATIVE. SITE SPECIFIC DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME. SOME FIELD REVISIONS TO THE SYSTEM LOCATION OR CONNECTIONS MAY BE NECESSARY BASED ON AVAILABLE SPACE OR SITE CONFIGURATION REVISIONS. ELEVATIONS SHOULD BE MAINTAINED EXCEPT WHERE NOTED ON BYPASS STRUCTURE.



### JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY AS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDING MANHOLE STYLE IS SHOWN. (800 mm (31.5") MANHOLE, JELLYFISH PEAK TREATMENT CAPACITY IS 2.8 L/s (1.16 CFS). TREATMENT FLOW RATE IS BASED ON 40% CARTRIDGE DEPTH.

CARTRIDGE DEPTH	15'	27'	40'	54'	67'	81'	94'	108'	121'	135'	148'	161'	174'	187'	200'
MANHOLE DIA. (mm)	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850
MAX. CAPACITY (L/s)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5
MAX. CAPACITY (CFS)	0.004	0.008	0.012	0.016	0.020	0.024	0.028	0.032	0.036	0.040	0.044	0.048	0.052	0.056	0.060

**Jellyfish**  
 J16 STANDARD  
 Scale - 1:30

### JELLYFISH FILTER - SPECIFICATIONS

**GENERAL**

- A. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL FUNCTION TO REMOVE POLLUTANTS BY THE FOLLOWING UNIT TREATMENT PROCESSES: SEDIMENTATION, FLotation, AND MEMBRANE FILTRATION.
- B. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL REMOVE OIL, DEBRIS, TRASH, COARSE AND FINE PARTICULATES, PARTICULATES, AND POLLUTANTS METALS AND NUTRIENTS FROM STORMWATER DURING RUNOFF EVENTS.
- C. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL TYPICALLY UTILIZE AN EXTERNAL BYPASS TO DIVERT EXCESSIVE FLOWS. INTERNAL BYPASS SYSTEMS SHALL BE EQUIPPED WITH A FLOATABLE Baffle, AND MUST PASS WATER OVER THE CARTRIDGE DECK AND AVOID PASSAGE THROUGH THE SAAP AND/OR CARTRIDGE RESTRICTION ZONE.
- D. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL TYPICALLY BE DESIGNED TO HANDLE WATER QUALITY TREATMENT FLOW BASED ON A MAXIMUM TREATMENT FLOW RATE (GRAFFICE LOADS RATE) ACROSS THE MEMBRANE FILTER CARTRIDGES NOT TO EXCEED 2.5 GPM/FT<sup>2</sup> (0.10 L/S/CM<sup>2</sup>) IN FULL FLOW.
- E. AT A MINIMUM, THE STORMWATER QUALITY FILTER DEVICE SHALL HAVE BEEN FIELD TESTED AND VERIFIED WITH A MINIMUM 25 QUALIFYING STORM EVENTS AND FIELD PERFORMANCE CONDUCTED ACCORDING TO THE TEST TIER 9 OR TAME FIELD TEST PROTOCOL, AND HAVE RECEIVED NCA VERIFICATION.
- F. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL HAVE DEMONSTRATED A MINIMUM MEDIAN TSS REMOVAL EFFICIENCY OF 95% AND A MINIMUM MEDIAN TOTAL PHOSPHORUS REMOVAL OF 95%.
- G. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL HAVE DEMONSTRATED THE ABILITY TO CAPTURE FINE PARTICLES AS INDICATED BY A MINIMUM MEDIAN REMOVAL EFFICIENCY OF 75% FOR THE PARTICLES FINER THAN 20 MICRONS, AN EFFLUENT DOB OF 15 MICRONS OR LOWER FOR ALL MONITORED STORM EVENTS, AND AN EFFLUENT TURBIDITY OF 15 NTU OR LOWER.
- H. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL HAVE DEMONSTRATED A MINIMUM MEDIAN TOTAL PHOSPHORUS REMOVAL OF 95% AND A MINIMUM MEDIAN TOTAL NITROGEN REMOVAL OF 90%.
- I. THE STORMWATER QUALITY FILTER TREATMENT DEVICE SHALL HAVE DEMONSTRATED A MINIMUM MEDIAN TOTAL ZINC REMOVAL OF 90% AND A MINIMUM MEDIAN TOTAL COPPER REMOVAL OF 75%.

**INSPECTION AND MAINTENANCE**

- A. A SCHEDULE OF VISIBILITIES ARE SUBJECT TO GOOD HANDLING PRACTICES DURING INSPECTION AND MAINTENANCE (REPAIR, RINSING, AND REINJECTION EVENTS), AND SITE SPECIFIC CONDITIONS THAT MAY HAVE HEAVIER OR LIGHTER LOADS ON THE CARTRIDGES AND POLLUTANT VARIABILITY THAT MAY IMPACT THE MEMBRANE TREATMENT EFFICIENCY. MEMBRANE MAINTENANCE AND REPLACEMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- B. INSPECTION WHICH INCLUDES TRASH AND FLOUTABLES COLLECTION, SEGMENT DEPTH, DETERMINATION, AND VISIBLE DETERMINATION OF BACKWASH POOL DEPTH SHALL BE EASILY CONDUCTED FROM GRADE (OUTSIDE THE STRUCTURE).
- C. MANUAL RINSING OF THE REUSABLE FILTER CARTRIDGES SHALL PROMOTE RESTORATION OF THE FLOW CAPACITY AND SEDIMENT CAPACITY OF THE FILTER CARTRIDGES, EXTENDING CARTRIDGE SERVICE LIFE.
- D. SEDIMENT REMOVAL FROM THE FILTER TREATMENT DEVICE SHALL BE ABLE TO BE CONDUCTED USING A STANDARD MAINTENANCE TRUCK AND VACUUM APPARATUS, AND A MINIMUM ONE POINT OF ENTRY TO THE SAAP THAT IS UNOBSTRUCTED BY FILTER CARTRIDGES.
- E. MAINTENANCE ACCESS SHALL HAVE A MINIMUM CLEAR HEIGHT OF 6' OVER ALL OF THE FILTER CARTRIDGES, OR BE ACCESSIBLE BY A HATCH OR OTHER MECHANISM THAT PROVIDES MINIMUM 6' VERTICAL CLEAR SPACE OVER ALL OF THE FILTER CARTRIDGES. FILTER CARTRIDGES SHALL BE ABLE TO BE LIFTED STRAIGHT VERTICALLY OUT OF THE RECEPTABLES AND DECK FOR THE ENTIRE LENGTH OF THE CARTRIDGE.
- F. FILTER CARTRIDGES SHALL BE ABLE TO MAINTAINED WITHOUT THE USE OF ADDITIONAL LIFTING EQUIPMENT.

**EXCEPTION**

- A. THE INSTALLATION OF A WATER TIGHT PRECAST CONCRETE DEVICE SHALL CONFORM TO ASTM C 811 AND TO ANY STATE HIGHWAY, MUNICIPAL, OR LOCAL SPECIFICATIONS FOR THE CONSTRUCTION OF MANHOLES, WHICH EVER IS MORE STRINGENT. SEGMENT SECTIONS OF A GENERAL SPECIFICATION THAT ARE APPLICABLE ARE ILLUSTRATED BELOW.
  - a. AGGREGATE BASE
  - b. TREATMENT CHAMBER AND CARTRIDGE DECK RISER SECTIONS
  - c. BYPASS SECTION
  - d. CONCRETE RISER SECTIONS AND/OR TRANSITION SLAB (IF REQUIRED)
  - e. MAINTENANCE RISER SECTION (IF REQUIRED)
  - f. FRAME AND ACCESS COVER
- B. INLET AND OUTLET PIPES SHOULD BE SECURELY SET INTO THE DEVICE USING APPROVED PIPE SLEEVES (FLEXIBLE BOOT CONNECTIONS), WHERE APPLICABLE, SO THAT THE STRUCTURE IS WATER TIGHT, AND SUCH THAT ANY PIPE INTRUSION INTO THE DEVICE DOES NOT IMPACT THE DEVICE FUNCTIONALITY.
- C. ADJUSTMENT UNITS (E.G. GRADE INGS) SHOULD BE INSTALLED TO SET THE FRAME AND COVER AT THE REQUIRED ELEVATION. THE ADJUSTMENT UNITS SHOULD BE LAD IN A FULL BED OF MORTAR WITH SUFFICIENT UNITS BEING JOINED USING BEAMT RECOMMENDED BY THE MANUFACTURER. FRAMES FOR THE COVER SHOULD BE SET IN A FULL BED OF MORTAR AT THE ELEVATION SPECIFIED.
- D. IN SOME INSTANCES THE MAINTENANCE ACCESS WALL, IF PROVIDED, SHALL REQUIRE AN EXTENSION ATTACHMENT AND SEALING TO THE PRECAST WALL AND CARTRIDGE DECK AT THE JOB SITE, RATHER THAN AT THE PRECAST FACTORY. IN THIS INSTANCE, INSTALLATION OF THESE COMPONENTS SHALL BE PERFORMED ACCORDING TO INSTRUCTIONS PROVIDED BY THE MANUFACTURER.
- E. FILTER CARTRIDGES SHALL BE INSTALLED IN THE CARTRIDGE DECK AFTER THE CONSTRUCTION SITE IS FULLY STABILIZED AND IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND RECOMMENDATIONS. CONTRACTOR TO DELIVER TO THE MANUFACTURER TO SCHEDULE CARTRIDGE DELIVERY AND REVIEW PROCEDURES/REQUIREMENTS TO BE COMPLETED TO THE DEVICE PRIOR TO INSTALLATION OF THE CARTRIDGES AND ACTIVATION OF THE SYSTEM.
- F. MANUFACTURER SHALL COORDINATE DELIVERY OF FILTER CARTRIDGES AND OTHER INTERNAL COMPONENTS WITH CONTRACTOR. FILTER CARTRIDGES SHALL BE DELIVERED AND PACKED COMPLETE AFTER SITE IS STABILIZED AND LIFT READY TO ACCEPT CARTRIDGES. UNIT IS READY TO ACCEPT CARTRIDGES AFTER IT HAS BEEN CLEANED OUT AND ANY STANDING WATER, DEBRIS, AND OTHER MATERIALS HAVE BEEN REMOVED. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT THE FILTER CARTRIDGES, RECEPTABLES AND FILTER CARTRIDGES FROM DAMAGE DURING CONSTRUCTION, AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND GUIDANCE. THE SYSTEM WITH CARTRIDGES INSTALLED PRIOR TO FULL SITE STABILIZATION AND PRIOR TO SYSTEM ACTIVATION. THE CONTRACTOR CAN FILL INLET AND OUTLET PIPES TO PREVENT STORMWATER AND OTHER INFLUENT FROM ENTERING THE DEVICE. FLUSH MUST BE PERFORMED DURING THE ACTIVATION PROCESS.
- G. THE MANUFACTURER SHALL PROVIDE AN OWNER'S MANUAL UPON REQUEST.
- H. AFTER CONSTRUCTION AND INSTALLATION, AND DURING OPERATION, THE DEVICE SHALL BE INSPECTED AND CLEANED AS NECESSARY BASED ON THE MANUFACTURER'S RECOMMENDED INSPECTION AND MAINTENANCE GUIDELINES AND THE LOCAL REGULATORY AGENCY BODY.
- I. WHEN REPLACEMENT MEMBRANE FILTER ELEMENTS AND/OR OTHER PARTS ARE REQUIRED, ONLY MEMBRANE FILTER ELEMENTS AND PARTS APPROVED BY THE MANUFACTURER FOR USE WITH THE STORMWATER QUALITY FILTER DEVICE SHALL BE INSTALLED.

**Jellyfish**  
 J16 STANDARD  
 Scale - 1:30

DATE: 000000  
 DESIGNED: DRAIN  
 CHECKED: BSP  
 PROJECT: PROJECT NAME  
 SHEET: OF 2

REVISION DESCRIPTION  
 NO. DATE BY

01 ISSUED FOR CLIENT APPROVAL K.H. 11 MAR 2020

02 ISSUED FOR CLIENT REVIEW K.H. 11 DEC 2020

03 RE-ISSUED FOR SITE PLAN APPLICATION K.H. 23 DEC 2020

04 RE-ISSUED FOR SITE PLAN APPLICATION K.H. 22 SEPT 2021

05 RE-ISSUED FOR SITE PLAN APPLICATION K.H. 31 OCT 2022

No. REVISIONS BY DATE

NOT AUTHENTIC UNLESS SIGNED AND DATED

**LRJ**  
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 5430 Canotek Road | Ottawa, ON, K1J 9G2  
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CLIENT: THE HINDU HERITAGE CENTRE OF OTTAWA CARLETON

DESIGNED BY: P.P. DRAWN BY: K.H. APPROVED BY: M.B.

PROJECT: PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA

DRAWING TITLE: CONSTRUCTION DETAIL PLAN

PROJECT NO.: 170132 DATE: JAN 2020

C903

File no.: D017-12-20-0059