



PROCUREMENT SERVICES SECTION
City of Surrey, Surrey City Hall
13450 – 104 Avenue
Surrey, B.C., V3T 1V8
Tel: 604-590-7274
E-mail: purchasing@surrey.ca

ADDENDUM No. 2

REQUEST FOR QUOTATIONS (RFQ) No.:	1220-040-2020-055
TITLE:	Outdoor Pool Drainage Upgrades
ADDENDUM ISSUE DATE:	October 08, 2020
REVISED CLOSING DATE:	Prefer to receive Quotations on or before October 15, 2020.

INFORMATION FOR CONTRACTORS

Contractors are advised that Addendum No. 2 to RFQ No. 1220-040-2020-055 is hereby issued by the City. This addendum shall form part of the contract documents and is to be read, interpreted and coordinated with all other parts. The following information is provided to answer questions raised by Contractors for the above-named project, to the extent referenced and shall become a part thereof. No consideration will be allowed for extras due to the Contractors or any sub-contractor not being familiar with this addendum. This Addendum No.2 contains six (6) pages in total.

CLARIFICATION:

See attached revisions to civil scope to Holly Pool from the Consultant.

- END OF ADDENDUM -

All Addenda will become part of the Contract Documents.

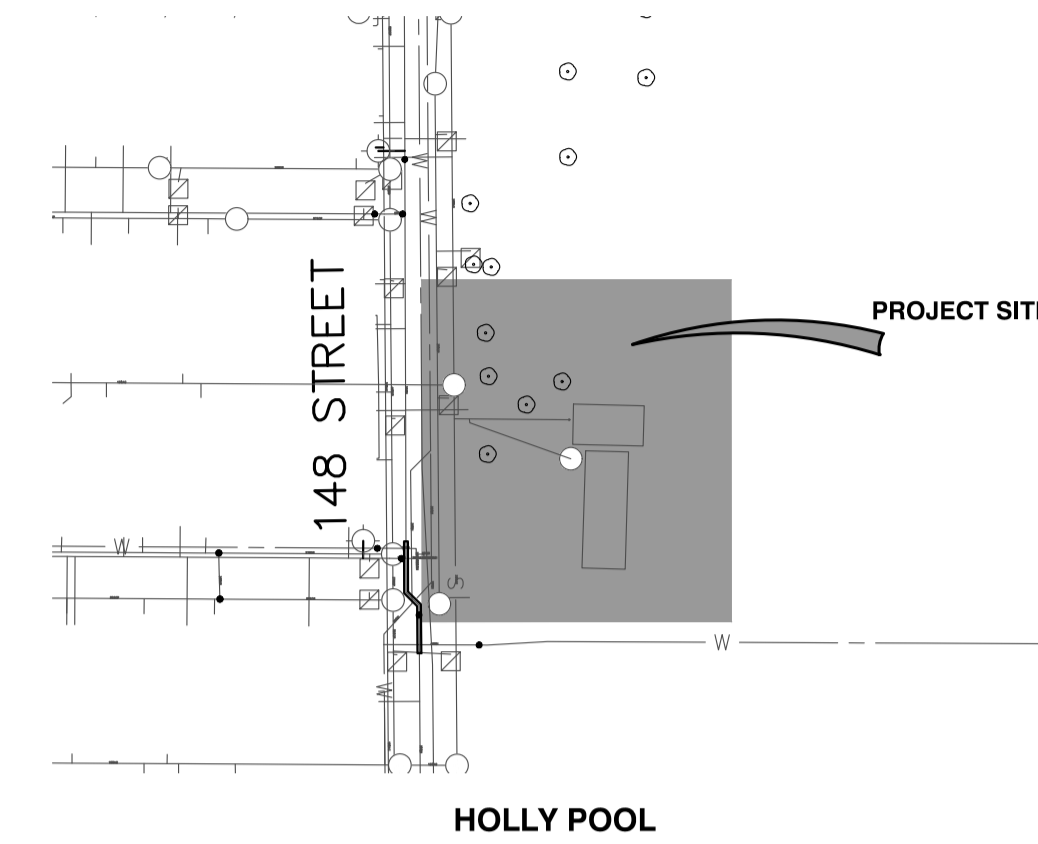
1. **CIVIL Drawing 19-5003-C03:** New proposed storm main alignment to avoid existing onsite trees by moving south of the existing park bench. Location of manhole D02 has changed. See drawing C03 Rev. 05 (05/10/2020) Issued for Tender, Addendum #1.
2. **CIVIL Drawing 19-5003-C03A:** Pump Station modified to incorporate a rail guide system for lifting the pump, a 3-float alarm sensor system, EYS seal moved above the junction box, & Tie-In of the high-level alarm to the existing onsite security system. See drawing C03A Rev. 05 (05/10/2020) Issued for Tender, Addendum #1.



APLIN MARTIN

ENGINEERING ARCHITECTURE PLANNING SURVEYING

201 - 12448 82 Avenue, Surrey, B.C. Canada V3W 3E9
Tel: (604) 597-9058, Fax: (604) 597-9061, Email: general@aplinmartin.com



CLIENT:

CITY OF SURREY

13450 104th AVE
SURREY, BC V3T 1V8
TEL: 604-591-4238
FAX: 604-591-8693

PROJECT:

HOLLY POOL

10700 148th STREET, SURREY, BC V3R 3X6

Sheet List Table	
Sheet Number	Sheet Title
C01	COVER SHEET
C02	STANDARD NOTES
C03	HOLLY POOL
C03A	HOLLY POOL – CALCULATIONS & DRAINAGE DETAILS

MUNICIPAL PROJECT No. UNKNOWN

APLIN & MARTIN PROJECT No. 19-5003

ENGINEERING DRAWING NOTES

A. CITY GENERAL NOTES

- CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE CITY OF SURREY HIGHWAY AND TRAFFIC BYLAW NO. 13007, SUBDIVISION BYLAW NO. 8830 AND THE APPLICABLE MUNICIPAL MASTER SPECIFICATIONS AND STANDARD DETAIL DRAWINGS, CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS, SUPPLEMENTARY SPECIFICATIONS & STANDARD DRAWINGS AND CITY DESIGN CRITERIA.
- TRAFFIC CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR AND THE CONTRACTOR SHALL COMPLY WITH SECTION 52 OF THE INDUSTRIAL HEALTH AND SAFETY REGULATIONS OF THE WORKERS' COMPENSATION BOARD OF B.C. AND THE INSTRUCTIONS OUTLINED ON THE CITY ROAD AND RIGHT-OF-WAY PERMIT AND TRAFFIC OBSTRUCTION PERMIT ISSUED BY THE CITY. THE CONTRACTOR IS TO HAVE, ON SITE, A COPY OF THE CURRENT "B.C. TRAFFIC CONTROL MANUAL FOR WORK ON ROADWAYS" AS PUBLISHED BY THE MINISTRY OF TRANSPORTATION AND HIGHWAYS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CITY PERMITS FOR WORK WITHIN THE CITY ROAD ALLOWANCE.
- WHERE UTILITY OR SERVICE CROSSINGS ARE REQUIRED ACROSS EXISTING PAVEMENTS, AN UNDERGROUND METHOD OF INSTALLATION IS REQUIRED UNLESS SPECIAL APPROVAL IS GIVEN FROM THE CITY FOR AN OPEN CUT OPERATION. ALL EXISTING PAVEMENTS, BOULEVARDS, DRIVEWAYS, ETC., ARE TO BE REINSTATED TO ORIGINAL OR BETTER CONDITION AND IN ACCORDANCE WITH CITY SPECIFICATIONS AND THE PAVEMENT CUT POLICY.
- SURREY'S ISA MONUMENT(S) ARE TO BE PROTECTED AND SHOULD THEY REQUIRE RAISING OR RELOCATING, THE CONTRACTOR WILL NOTIFY SURREY'S SURVEY DEPARTMENT AT LEAST THREE WORKING DAYS IN ADVANCE OF SCHEDULING WORK AFFECTING THEM. ANY ISA MONUMENT DISTURBED BY THE CONTRACTOR SHALL BE REPLACED BY THE CITY OR A CITY APPROVED BCLS ALL AT THE CONTRACTOR'S EXPENSE. THE CITY WILL INVOICE THE CONTRACTOR A FEE OF \$1,820.00 FOR EACH ISA MONUMENT DISTURBED AS FOLLOWS:
 (1) LOWERS THE GRADE OF THE ROAD AT THE LOCATION OF AN ISA MONUMENT(S)
 (2) RAISES THE GRADE OF THE ROAD AT THE LOCATION OF AN ISA MONUMENT(S), OR
 (3) INSTALLS ANY UNDERGROUND UTILITIES (INCLUDING BC GAS, BC HYDRO, BC TELEPHONE, CVRD WATER/SANITARY SEWER/OR DRAINAGE ETC.) WITHIN 1.500 METER RADIUS OF THE ISA MONUMENT(S).
- ANY HPN MONUMENT DISTURBED BY THE CONTRACTOR SHALL BE REPLACED BY THE CITY OR A CITY APPROVED BCLS ALL AT THE CONTRACTOR'S EXPENSE. THE CITY WILL INVOICE THE CONTRACTOR A FEE OF \$7,535.00 FOR EACH HPN MONUMENT DISTURBED.
- ANY SECONDARY BENCHMARK DISTURBED BY THE CONTRACTOR SHALL BE REPLACED BY THE CITY OR A CITY APPROVED BCLS ALL AT THE CONTRACTOR'S EXPENSE. THE CITY WILL INVOICE THE CONTRACTOR A FEE OF \$3,275.00 FOR EACH SECONDARY BENCHMARK DISTURBED.
- ALL STREET, TRAFFIC, AND ADVISORY SIGNS, PAVEMENT MARKINGS AND NO-POST GUARDRAILS REQUIRED BUT NOT NECESSARILY SHOWN ON THE DRAWINGS, SHALL BE INSTALLED BY THE CITY AT THE CONTRACTOR'S COST.
- WHERE INFILLING OF EXISTING DITCHES IS REQUIRED OR WHERE SERVICES ARE CONSTRUCTED IN A FILL SECTION, FILL MATERIAL IS TO BE IN ACCORDANCE WITH CITY SPECIFICATIONS AND IS TO BE COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY.
- DRIVEWAY BOULEVARD CROSSINGS TO EACH OF THE PROPOSED LOTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARD DRAWINGS.

- RESIDENTS DIRECTLY AFFECTED BY CONSTRUCTION OF THIS PROJECT MUST BE GIVEN 48 HOURS WRITTEN NOTICE OF THE PROPOSED START OF CONSTRUCTION. THE CONTRACTOR WILL REQUIRE WRITTEN AUTHORIZATION FROM A PRIVATE PROPERTY OWNER, WITH A COPY TO THE CITY, PRIOR TO ANY ENTRY ONTO PRIVATE PROPERTY AND A WRITTEN RELEASE, FROM THE PROPERTY OWNER, WHEN COMPLETED.
- WHEN NATIVE SITE GRANULAR BACKFILL IS PROPOSED FOR USE IN TRENCHES THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL ENGINEER WITH EXPERIENCE IN GEOTECHNICAL ENGINEERING FOR PERFORMANCE OF IN PLACE DENSITY AND SIEVE TESTING. SELECTION OF THE PROFESSIONAL ENGINEER AND USE OF THE SITE MATERIAL IS TO BE APPROVED BY THE CITY. THE SITE MATERIAL MUST FALL WITHIN ONE OF THE GRANULAR BACKFILL MATERIAL SPECIFICATIONS. RIVER SAND IS NOT ACCEPTABLE AS TRENCH BACKFILL MATERIAL.
- THE CONTRACTOR SHALL FACILITATE AND SUPPLY ALL NECESSARY SAFETY EQUIPMENT REQUIRED UNDER THE WCB REGULATIONS FOR THE CITY OR IT'S REPRESENTATIVES OR THE ENGINEER OF RECORD TO INSPECT THE SANITARY SEWER AND STORM SEWER SYSTEMS. THE EQUIPMENT SHALL BE SUPPLIED UNTIL SUCH TIME AS A CERTIFICATE OF COMPLETION IS ISSUED BY THE CITY.
- CONTRACTOR IS TO VERIFY THE LOCATION AND ELEVATION OF ALL PIPES, OR OTHER UTILITY CROSSINGS, PRIOR TO CONSTRUCTION AND SHALL NOTIFY THE ENGINEER OF RECORD OF ANY CONFLICTS.
- THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL ENGINEER TO DESIGN, INSTALL AND MAINTAIN A SEDIMENT AND EROSION CONTROL SYSTEM ON THE SITE IN ORDER TO PREVENT SILT DISCHARGES TO THE STORM DRAINAGE SYSTEM AND WATERCOURSES.
- THE "TREE CUTTING AND PRESERVATION BYLAW NO. 12880" REQUIRES THAT A CUTTING PERMIT BE OBTAINED BEFORE ANY TREES ARE REMOVED FORM THE SITE. OTHER PROVISIONS OF THE BYLAW MAY ALSO BE APPLICABLE.

B. CITY ROADWORK NOTES

- THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL ENGINEER WITH EXPERIENCE IN GEOTECHNICAL ENGINEERING FOR PERFORMANCE OF IN PLACE TESTING DURING THE PREPARATION OF THE SUBGRADE AND CONSTRUCTION OF THE ROAD STRUCTURE TO VERIFY THE ADEQUACY OF THE PROPOSED AND EXISTING ROAD STRUCTURE AND SUBGRADE. SELECTION OF THE PROFESSIONAL ENGINEER IS TO BE APPROVED BY THE CITY.
- EXISTING VALVE BOXES, MANHOLES, ETC., WITHIN THE ROAD ALLOWANCE MUST BE ADJUSTED TO SUIT THE PROPOSED FINISHED GRADE.
- ALL LOOSE, ORGANIC, OTHERWISE DELETERIOUS MATERIALS OR SOFT SPOT(S) ARE TO BE EXCAVATED AND REMOVED FROM THE ROADWAY AND UTILITY TRENCHES IN THE ROADWAY AS PER THE GEOTECHNICAL CONSULTANT'S REPORT OR AS DIRECTED BY THE CITY.

C. CITY SANITARY SEWER AND STORM SEWER NOTES

- UNLESS PRIOR APPROVAL IS GIVEN TO THE CONTRACTOR BY THE CITY, TIE-INS AND CONNECTIONS TO EXISTING SANITARY SEWERS ARE TO BE PERFORMED BY THE CITY.
- ALL SERVICE CONNECTIONS SHALL BE MADE TO THE MAIN WHEREVER POSSIBLE. SHOULD A CONNECTION HAVE TO BE MADE TO A MANHOLE, THE CONNECTION INVERT SHALL BE AT THE SAME ELEVATION AS THE CROWN OF THE HIGHEST SEWER MAIN.
- ALL MANHOLES ARE TO BE A MINIMUM OF 1050mm DIAMETER UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE PRECAST. MANHOLE COVERS & FRAMES TO BE TYPE 1 OR 2 HEIGHT ADJUSTABLE PER ASTM A48-03, CLASS 35B GRAY CAST IRON; OR ASTM A536 GRADE 65/45/12 DUCTILE IRON PER CoS SUPPLEMENTARY SPECIFICATION TO MMCD, SECTION 33 44 01.
- ALL SANITARY SEWER AND STORM SEWER SERVICE CONNECTIONS ARE TO BE A MINIMUM 150mm & 200mm DIAMETER RESPECTIVELY.
- ALL GRANULAR PIPE BEDDING SHALL BE EITHER TYPE 1 OR TYPE 2 ONLY AS PER THE CITY SPECIFICATIONS.
- STORM INSPECTION CHAMBERS ARE TO BE INSTALLED PER CoS SUPPLEMENTARY STANDARD DRAWING G.1.1 & MMCD DRAWING S10 AS APPLICABLE.

APLIN & MARTIN CONSULTANTS LTD.

A. GENERAL NOTES:

- ALL TOPSOIL AND SEEDING TO BE IN ACCORDANCE WITH MASTER MUNICIPAL SPECIFICATIONS AND STANDARD DETAIL DRAWINGS, CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS, GENERAL CONDITIONS, SUPPLEMENTARY SPECIFICATIONS AND STANDARD DRAWINGS.

B. ROADWORKS NOTES:

- CHANGES OF GRADE SHALL BE FORMED BY SMOOTH CURVES.
- ALL SUBGRADE AND GRANULAR BASE MATERIALS TO BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
- THE CONDITIONS FOR PLACING ASPHALT PAVEMENT AND P.C. CONCRETE SHALL BE IN ACCORDANCE WITH MASTER MUNICIPAL SPECIFICATIONS AND STANDARD DETAIL DRAWINGS, CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS, GENERAL CONDITIONS, SUPPLEMENTARY SPECIFICATIONS AND STANDARD DRAWINGS APPLICABLE AT THE TIME OF CONSTRUCTION. SHOULD DEVIANCE BE ALLOWED FROM THESE SPECIFICATIONS, THE CONTRACTOR IS TO ASSUME ALL RESPONSIBILITY FOR THESE PRODUCTS.
- FULL DEPTH OF ROAD PAVEMENT CAN BE RESTORED AT THE TIME OF CONSTRUCTION. ROAD RESTORATION IN ACCORDANCE WITH CoS SUPPLEMENTARY STANDARD DRAWING SSD-G.5.

C. STORM SEWER NOTES:

- STORM SEWERS ARE TO BE POLYVINYL CHLORIDE (PVC) STANDARD DIMENSION RATIO (SDR) 35 PER CoS SUPPLEMENTARY SPECIFICATIONS MMCD 33 40 01 TO BE USED FOR ALL ONSITE & SERVICE CONNECTION MAINS UNLESS OTHERWISE NOTED.
- STORM SEWERS ARE TO BE POLYVINYL CHLORIDE (PVC) STANDARD DIMENSION RATIO (SDR) 28 PER MMCD 33 40 01 TO BE USED FOR ALL ONSITE SERVICE CONNECTIONS THAT ARE 100mm AND 150mm IN DIAMETER.
- STORM FORCE MAIN TO BE HIGH DENSITY POLYETHYLENE (HDPE) DIMENSION RATIO (DR) 17.
- INSPECTION CHAMBERS REQUIRE MR10 STYLE CAST IRON COVER WHEN CHAMBER IS IN TRAVELLED AREA OR WITHIN 2.0m OF DRIVEWAYS.
- ALL JOINTS WHERE 100 YEAR HGL IS ABOVE PIPE SHALL BE CLOSED JOINTS, ALL OTHER JOINTS SHALL BE OPEN JOINTS.

LEGEND FOR CONSTRUCTION DRAWINGS

PROPOSED	EXISTING	DESCRIPTION
		TEST HOLES
		IRON PROPERTY PIN
		BENCH MARK - GEODETIC DATUM
		EDGE OF PAVEMENT
		CURB & GUTTER
		SANITARY SEWER
		SANITARY CONNECTION & INSPECTION CHAMBER
		STORM SEWER
		STORM CONNECTION & INSPECTION CHAMBER
		STORM SEWER SERVICE
		FRENCH DRAIN
		CATCH BASIN - TOP INLET & SIDE INLET
		LAWN DRAIN
		SWALE
		DITCH
		SIDEWALK (ASPHALT)
		SIDEWALK (CONCRETE)
		TIMBER VEHICLE BARRIER
		WATERMAIN
		WATER SERVICE CONNECTION
		WATER VALVE
		AIR VALVE
		HYDRANT & VALVE ASSEMBLY
		CAPPED END
		WATER METER
		BLOW-OFF
		UNDERGROUND TELEPHONE & MANHOLE
		UNDERGROUND ELECTRICAL & MANHOLE
		GASMAIN
		TRAFFIC SIGNAL & STREET LIGHT U/G DUCTS
		ORNAMENTAL STREET LIGHT - DAVIT
		ORNAMENTAL STREET LIGHT - POST TOP
		UTILITY POLE
		UTILITY POLE W/LIGHT
		JUNCTION BOX
		FUTURE PROPOSED PUMP CONNECTIONS

ENGINEER'S CERTIFICATION

I, _____, PROFESSIONAL ENGINEER, IN GOOD STANDING IN AND FOR THE PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY THAT THE WORKS AS HEREIN SET OUT ON THE ATTACHED DRAWINGS HAVE BEEN DESIGNED TO GOOD ENGINEERING STANDARDS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF SURREY DESIGN CRITERIA MANUAL, THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD), AND THE CITY OF SURREY STANDARD CONSTRUCTION DOCUMENTS (GENERAL CONDITIONS, SUPPLEMENTARY SPECIFICATIONS AND SUPPLEMENTARY STANDARD DRAWINGS), ADOPTED BY THE CITY OF SURREY.

EXCEPTION TO THE CITY SPECIFICATIONS AND DESIGN CRITERIA MANUAL:

DATE _____ SIGNATURE _____

THE ENGINEERING DEPARTMENT ACKNOWLEDGES THE RECEIPT OF THE ATTACHED PLANS WHICH MAY PROCEED TO CONSTRUCTION PROVIDED PAYMENTS, SERVICE AGREEMENT AND RIGHT-OF-WAY REQUIREMENTS ARE PROCESSED TO THE SATISFACTION OF THE GENERAL MANAGER OF ENGINEERING.

DATE _____ SIGNATURE _____

NOTICE TO CONTRACTOR

IT IS THE RESPONSIBILITY OF THE CONTRACTOR'S SURVEYOR TO VERIFY THAT ALL LEGAL SURVEY DIMENSIONS SHOWN ON THE ENGINEERS DRAWINGS AGREE WITH THOSE ON THE REGISTERED LEGAL SURVEY PLAN. SHOULD THERE BE ANY DISCREPANCIES, THEN IMMEDIATELY NOTIFY THE ENGINEER OF RECORD

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LEGEND

4	05/10/2020	ISSUED FOR TENDER, ADDENDUM#1		MBU
3	28/08/2020	ISSUED FOR BP		MBU
2	07/08/2020	ISSUED FOR TENDER		MBU
1	21/01/2020	ISSUED FOR COORDINATION		MBU
REV	DATE	DESCRIPTION		BY
LEGAL DESCRIPTION				
ENGINEER STAMP			BENCHMARK	



Aplin & Martin Consultants Ltd.
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CLIENT
CITY OF SURREY
 13450 - 104th AVE SURREY, BC

PROJECT
HOLLY POOL
 10700 148th STREET, SURREY, BC V3R 3X6

NOTES & LEGENDS

DESIGN MBU	DATE 21/01/2020	SCALE N/A
DRAWN MBU	PROJECT NO. 19-5003	

CHECKED RSL	DRAWING NO. C02	REV. 4
APPROVED RSL		

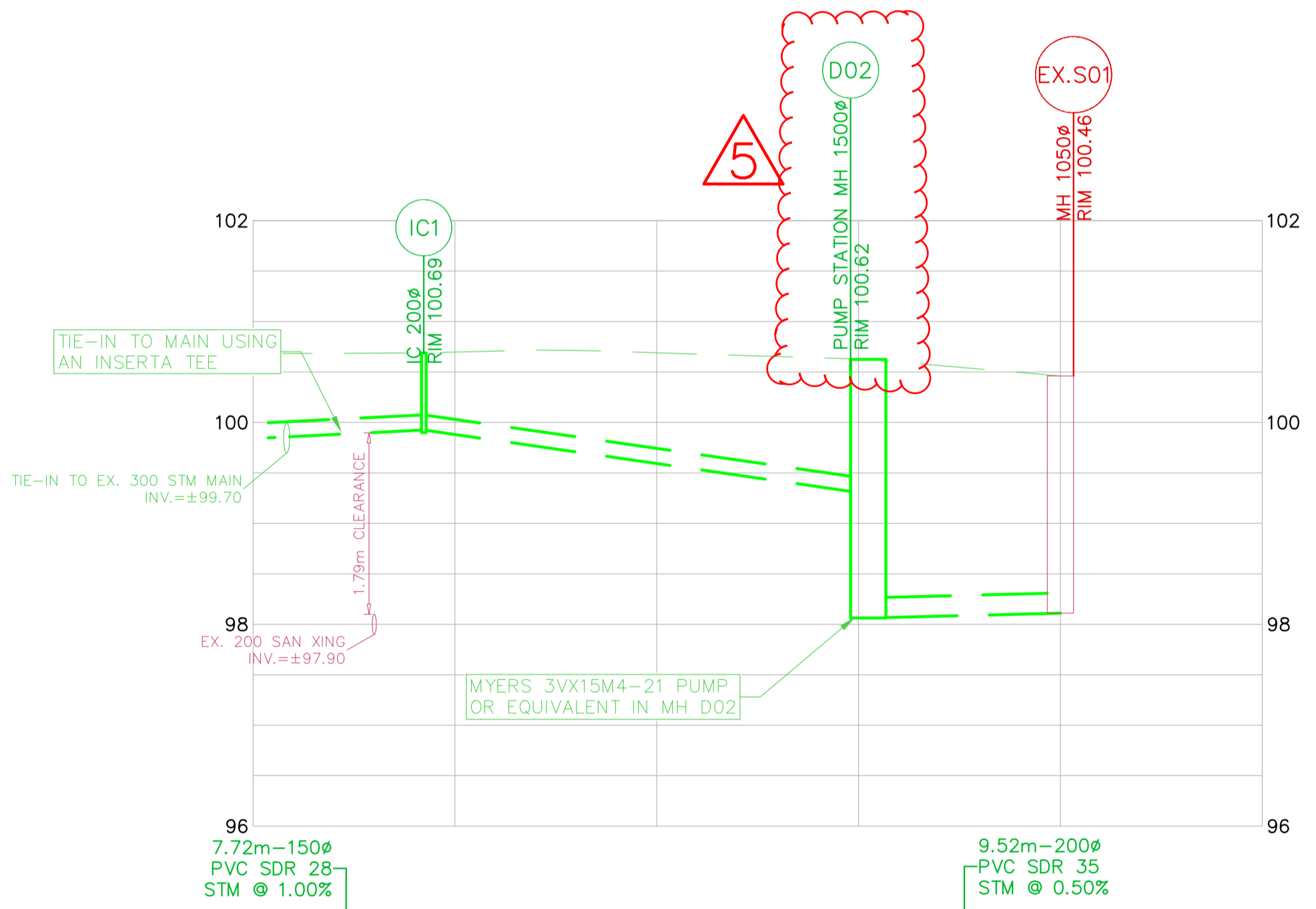
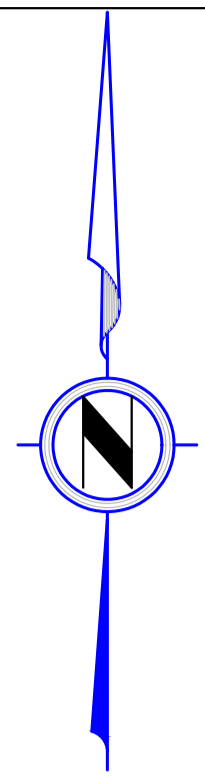
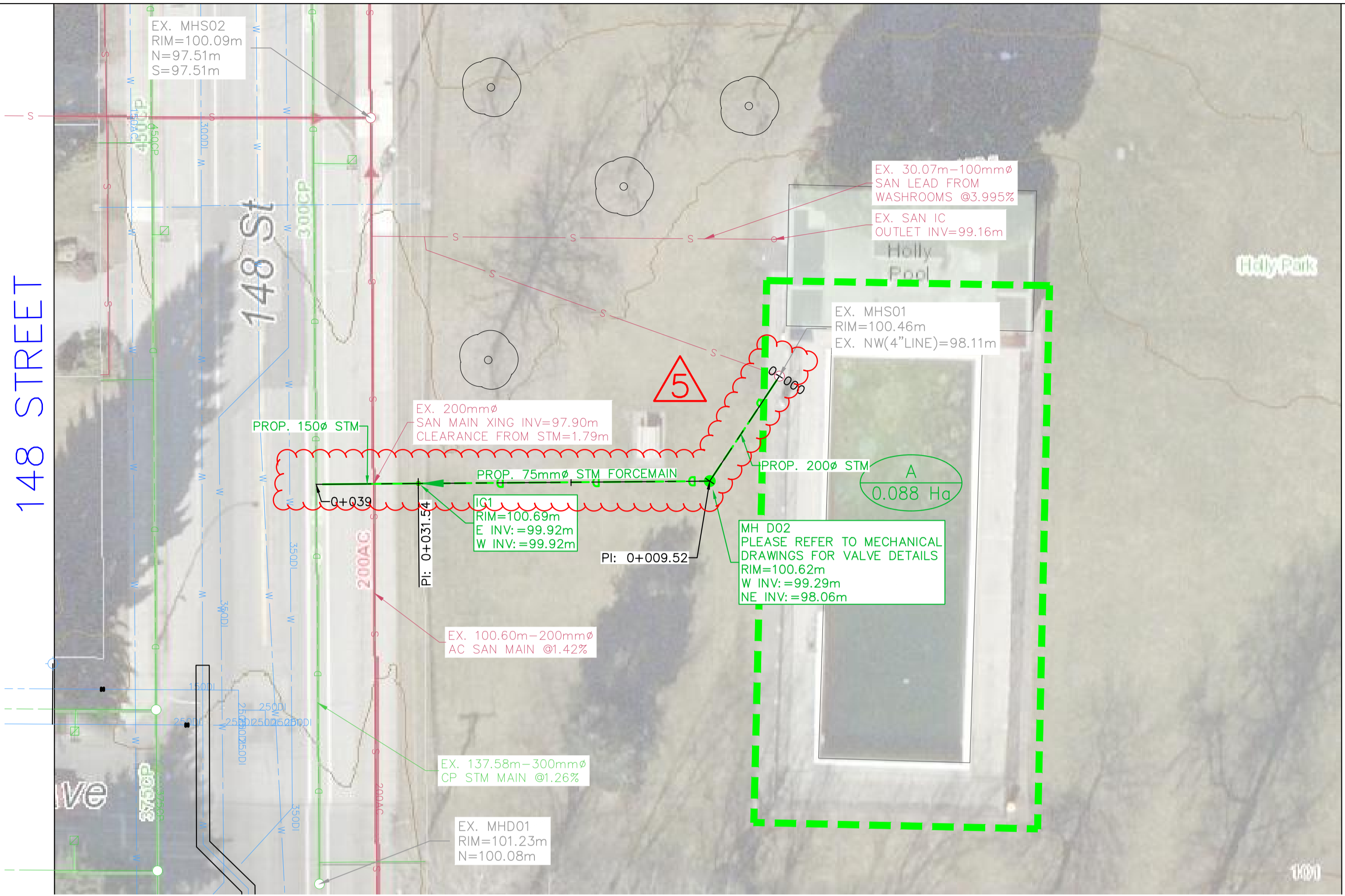
19-5003-02-SS STANDARD NOTES AND LEGENDS ONLY AS FURNISHED NOTES - 02-SS STANDARD NOTES AND LEGENDS ONLY AS FURNISHED NOTES - 02-SS STANDARD NOTES AND LEGENDS ONLY AS FURNISHED NOTES

LEGEND

CATCHMENT AREA CATCHMENT # AREA (ha)

PROPOSED STORM MAIN

CATCHMENT BOUNDARY LINE



STORM LENGTH, SIZE, TYPE AND GRADE	CHAINAGE
7.72m-150# PVC SDR 28 STM @ 1.00%	0+040 to 0+031.54
22.02m-75# FORCEMAIN HDPE DR17 STM @ -2.87%	0+031.54 to 0+009.52
9.52m-200# PVC SDR 35 STM @ 0.50%	0+009.52 to 0+000

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LEGEND

REV	DATE	DESCRIPTION	BY
5	05/10/2020	ISSUED FOR TENDER, ADDENDUM#1	MBU
4	28/08/2020	ISSUED FOR BP	MBU
3	07/08/2020	ISSUED FOR TENDER	MBU
2	24/07/2020	REV. & ISSUED FOR COORDINATION	MBU
1	05/04/2020	ISSUED FOR COORDINATION	MBU

ENGINEER STAMP	BENCHMARK
LEGAL DESCRIPTION	

APLIN MARTIN
 ENGINEERING ARCHITECTURE PLANNING SURVEYING

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CLIENT
CITY OF SURREY
 13450 - 104th AVE SURREY, BC

PROJECT
HOLLY POOL
 10700 148th STREET, SURREY, BC V3R 3X6

DRAWING TITLE
HOLLY POOL

DESIGN	DATE	SCALE
MBU	24/07/2020	H: 1:250 V: 1:50
DRAWN	PROJECT NO.	
MBU	19-5003	
CHECKED	DRAWING NO.	REV.
RSL	C03	5
APPROVED		
RSL		

NOTICE TO CONTRACTOR
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR'S SURVEYOR TO VERIFY THAT ALL LEGAL SURVEY DIMENSIONS SHOWN ON THE ENGINEER'S DRAWINGS AGREE WITH THOSE ON THE REGISTERED LEGAL SURVEY PLAN. SHOULD THERE BE ANY DISCREPANCIES, THEN IMMEDIATELY NOTIFY THE ENGINEER OF RECORD

2020-11-12: Mr. V. VAN VLIET
 2020-08-28: Mr. V. VAN VLIET
 2020-07-24: Mr. V. VAN VLIET
 2020-07-07: Mr. V. VAN VLIET
 2020-05-10: Mr. V. VAN VLIET

5 YEAR STORM EVENT CALCULATIONS		A&M Project No:	19-5003
PROJECT TITLE:	Holly Pool Project	Sheet:	1 of 1
	Surrey	By:	BU
		Date:	Oct-5-20
		Chk:	RSL

Using City of Surrey's IDF Curve for Kwantlen Park Region

Objective : Determine 5 Year Storm flow for onsite pumping up to Storm Main on 148th street using Rational Method; determine total differential head a pump must generate for 5 year storm flow for onsite pumping up to CoS storm main on 148th Street.

1.0 Catchment Area

Total Lot	=	878.13	sq.m.
Impervious Area (Buildings, Driveway, Walkways)	=	878.13	sq.m.
Percent Impervious Area	=	100.0%	

2.0 Runoff Coefficient

Impervious Area Runoff Coefficient	=	0.80	-
R = Runoff Coefficient (weighted avg. based on area)	=	0.80	-

3.0 Time of Concentration (Tc = Ti + T1)

Tc = Time of Concentration	=	10.00	minutes
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4.0 Rainfall Intensity (For a 5-year Storm using City of Surrey's IDF Curve for Kwantlen Park Region) 10700 148 St Drive falls within "Kwantlen Park Region"

I = Rainfall Intensity (See "CoS Rainfall IDF Data")	=	43.9	mm/hr
--	---	------	-------

5.0 Peak Flow (Rational Method: $Q = R * A * I * N$)

R = Runoff coefficient	=	0.80	-
A = Area of catchment	=	0.0878	ha
I = Rainfall Intensity	=	43.9	mm/hr
N = 1/360	=	0.0028	-

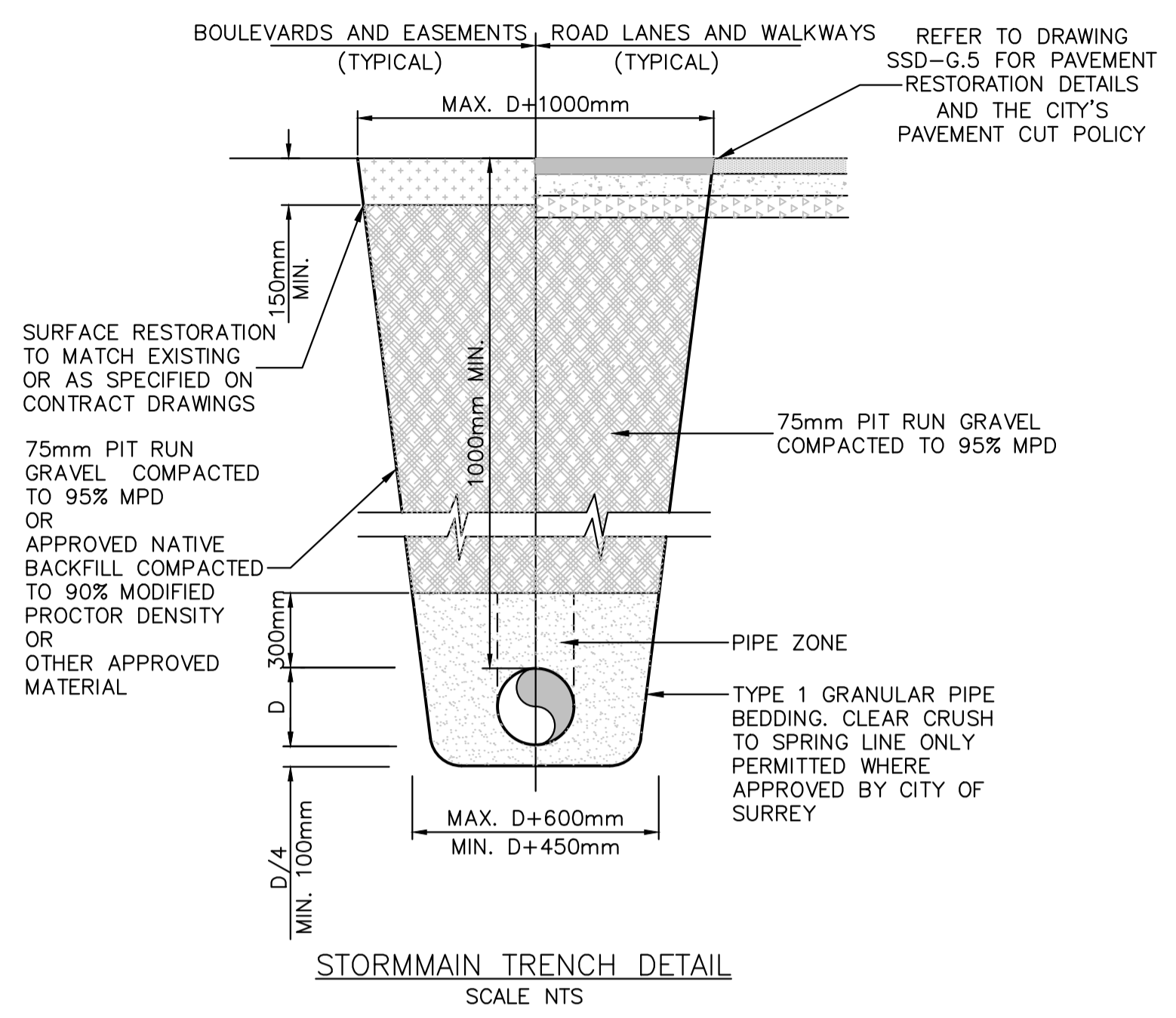
Q = Peak Flow	=	0.0086	cu. m./sec
	=	8.57	L/s

6.0 Total Dynamic Head

Static Head	=	2.91	m
Total Friction Head Loss	=	1.65	m

TDH = Static Head + Friction Loss	=	4.56	m
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STORM ANALYSIS - PROPOSED PIPE



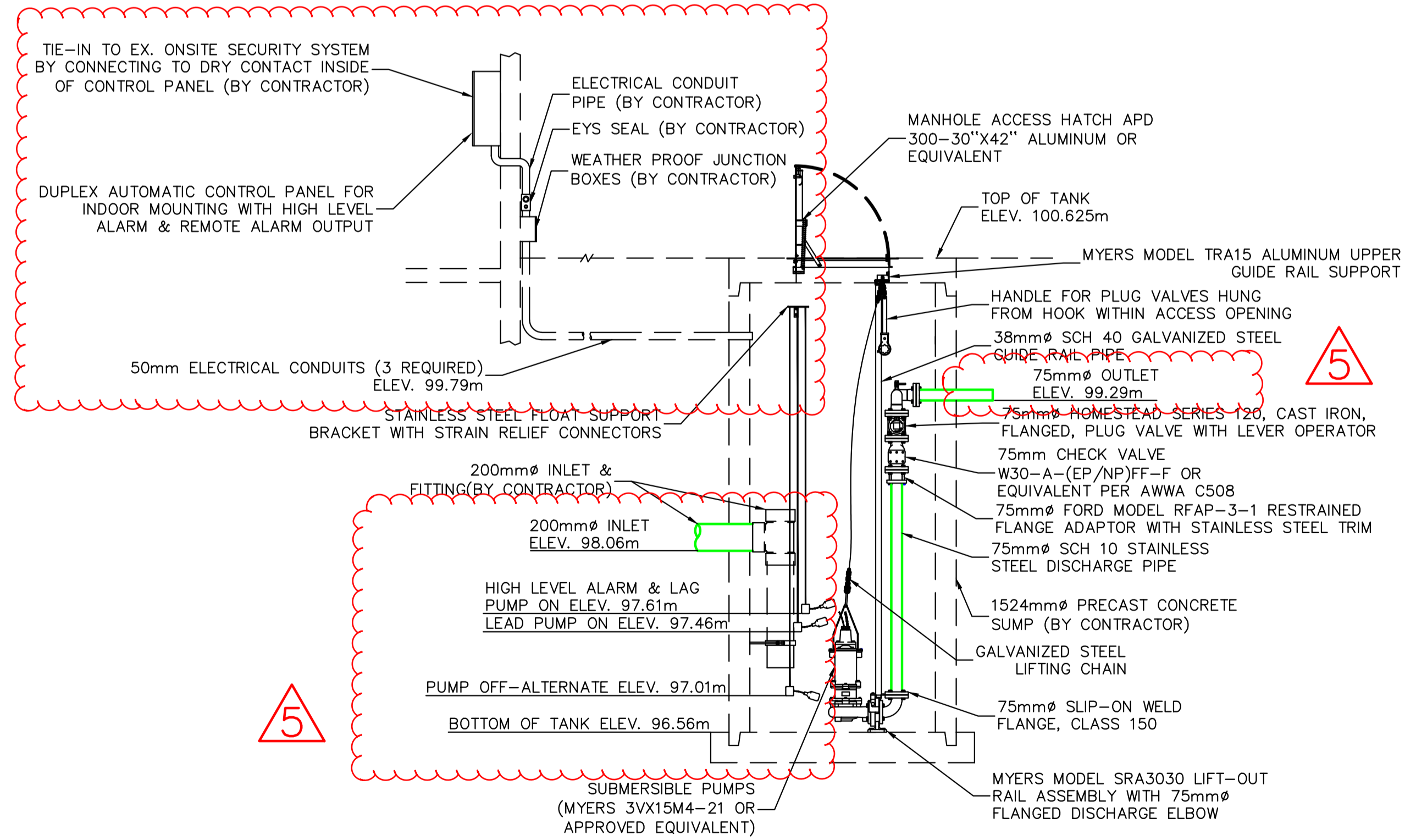
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1	05/04/2020	ISSUED FOR COORDINATION	MBU

5



5

5

MH D02 SUMP WITH MECHANICAL PUMPS - SECTIONAL ELEVATION N.T.S.

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ENGINEER STAMP	BENCHMARK

LEGAL DESCRIPTION

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PROJECT

HOLLY POOL
10700 148th STREET, SURREY, BC V3R 3X6

DRAWING TITLE

HOLLY POOL - DRAINAGE ANALYSIS & DETAILS

DESIGN	DATE	SCALE
MBU	24/07/2020	N/A
DRAWN	PROJECT NO.	
MBU	19-5003	

NOTICE TO CONTRACTOR		
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CHECKED	DRAWING NO.	REV.
RSL	C03A	5
APPROVED		
RSL		

SHEET 05 - 2020 - 11-12.cdw - Mr. VIKRAM VORA (V3R-0003) - Utility - Calculations & Drainage Details - Details - MBU@apl