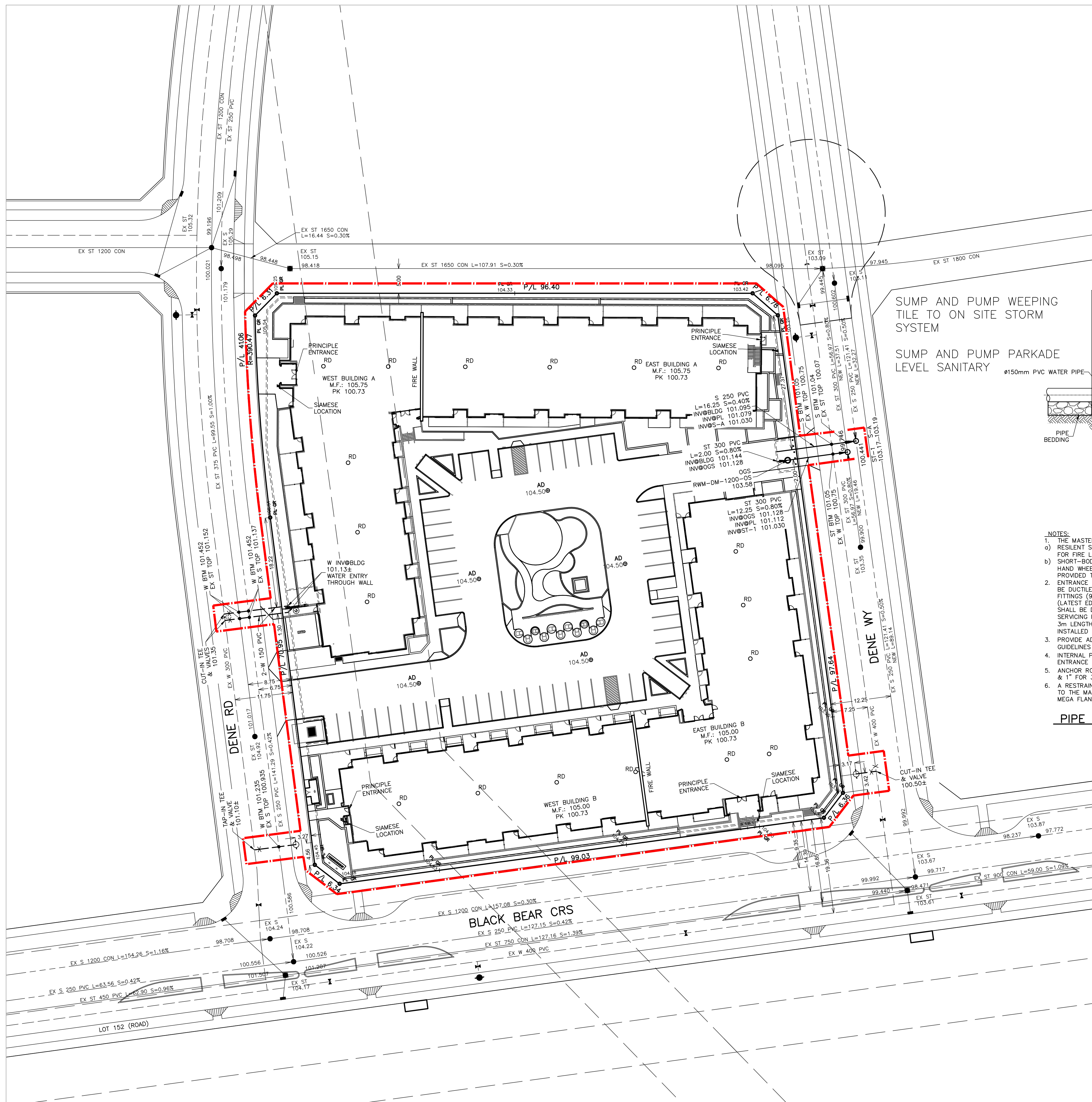
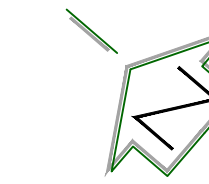


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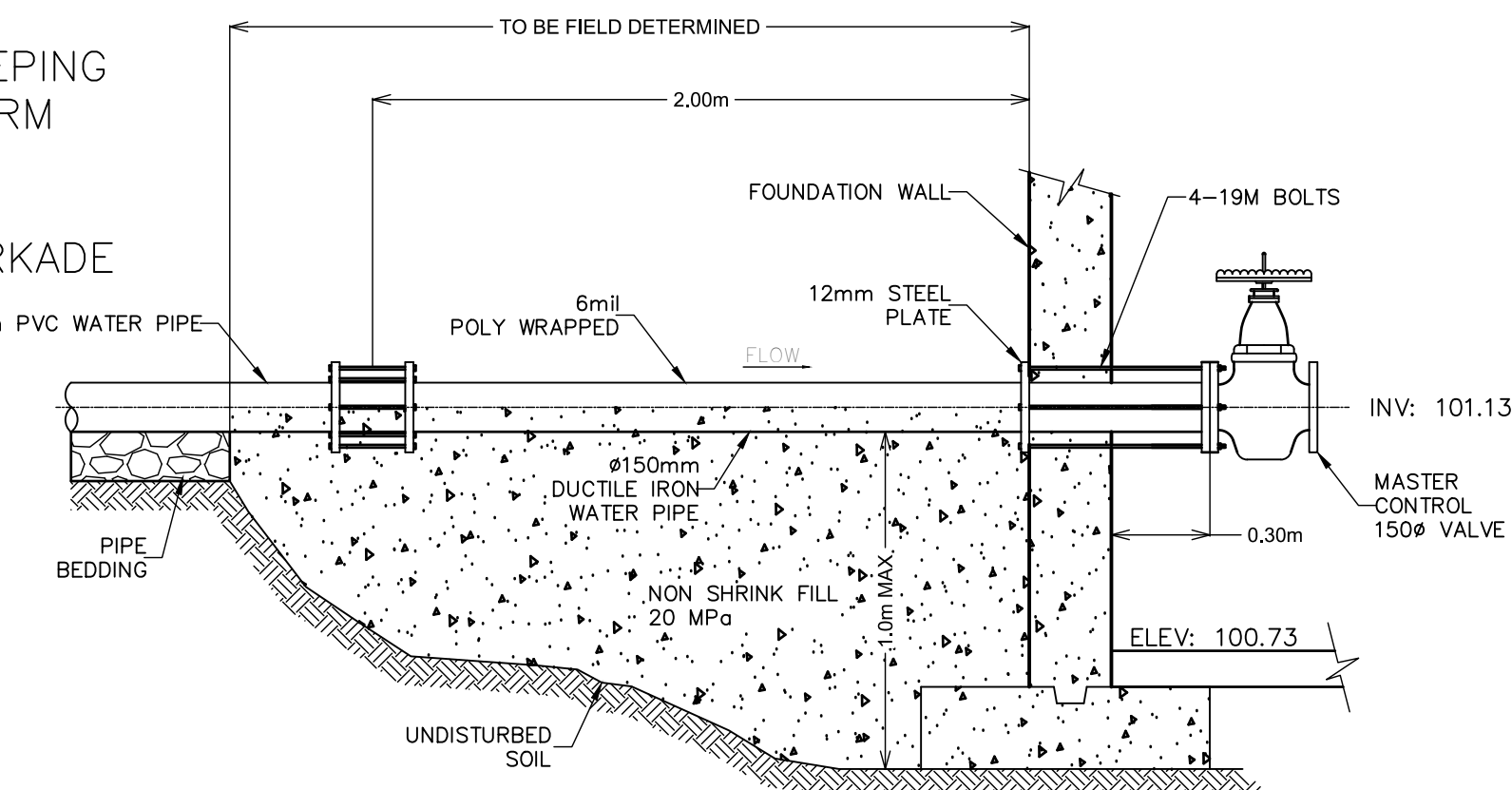
DEVELOPMENT IS TO BE BUILT TO THE CITY APPROVED STAMPED DSSP DRAWINGS. SHOULD ANY INCONSISTENCIES EXIST BETWEEN THIS DRAWING AND THE CITY STAMPED APPROVED DSSP DRAWINGS, PLEASE NOTIFY THE ENGINEER IMMEDIATELY. THE CITY OF CALGARY STAMPED ENGINEERING DRAWINGS GOVERN WHEN ANY INCONSISTENCIES ARE FOUND BETWEEN DRAWINGS. DSSP PLANS TO MATCH DP PLANS WHEN ALL IS COMPLETE

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SUMP AND PUMP WEeping TILE TO ON SITE STORM SYSTEM

SUMP AND PUMP PARKADE LEVEL SANITARY



ANCHORAGE THROUGH WALL

- NOTES:**
- THE MASTER CONTROL VALVE SHALL BE ONE OF THE FOLLOWING:
 - RESILIENT SEATED RISING SPINDLE (OS & Y) FLANGE GATE VALVE (UL or ULC LISTED) FOR FIRE LINES AND CSA APPROVED FOR DOMESTIC LINES.
 - SHORT-BODY, RUBBER SEATED FLANGED OR LUG WATER TYPE BUTTERFLY VALVE c/w HAND WHEEL, REDUCTION GEAR OPERATOR, POSITION INDICATOR (UL or ULC LISTED) PROVIDED THEY ARE NOT IN A SUCTION LINE FOR FIRE PUMP(S).
 - ENTRANCE PIPE MATERIAL THROUGH THE OUTSIDE WALL AND THROUGH THE FLOOR SHALL BE DUCTILE IRON PIPE AWWA C153 (LATEST EDITION) CLASS 53 OR APPROVED EQUAL BURIED FITTINGS (90° ELBOW) SHALL BE CAST OR DUCTILE IRON CONFORMING TO AWWA C110 (LATEST EDITION) OR APPROVED EQUAL. ALL SERVICE ENTRIES (INCLUDING ANCHOR DETAILS) SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER AND DETAILED ON THE DEVELOPMENT SITE SERVICING PLAN (DSSP). (ANCHOR RODS SHALL BE 18-8 304 STAINLESS STEEL, WHERE A STANDARD 3m LENGTH OF ROD REQUIRES EXTENSION, AN APPROVED STAINLESS HEXAGON NUT COUPLING SHALL BE INSTALLED AT THE UPPER END OF THE ROD).
 - PROVIDE ADEQUATE PIPE SUPPORT. REFER TO DEVELOPMENT SITE SERVICING PLAN (DSSP) GUIDELINES (2.8.8.3 PIPING SUPPORT)
 - INTERNAL PLUMBING STUB TO TERMINATE A MINIMUM OF 2.0m OUT FROM EXTERNAL WALL OR FOOTING. ENTRANCE OF PIPE THROUGH WALL SHALL BE PERPENDICULAR (90°) TO WALL.
 - ANCHOR RODS TO BE 3/4" FOR 100mm - 200mm SERVICE, 7/8" 250mm - 300mm SERVICE & 1" FOR 350mm 400mm SERVICE. ANCHOR ROD AND NUTS TO BE TYPE "304" STAINLESS STEEL.
 - A RESTRAINED FLANGE ADAPTOR MAY BE USED TO CONNECT THE RISER OR WALL ENTRY PIPE TO THE MASTER CONTROL VALVE. RESTRAINED FLANGE ADAPTOR SHALL BE EBAA SERIES 2100 MEGA FLANGE OR APPROVED EQUAL.

PIPE ANCHOR DETAIL
N.T.S.

PERMIT _____ STAMP _____

- NOTES**
- All elevations referenced to 1000m Geodetic Datum.
 - Hydrants, valves, check valves, manholes, sewer lines, water lines etc., to be installed to City of Calgary standards.
 - All manholes to be S.R.C.
 - Match crown minimum at all sewer connections.
 - All sewer distribution pipes to be SDR 35 PVC. All sewer service pipes <= to 150mm to be SDR 28 PVC. Sewer service pipes > than 150mm to be SDR 35.
 - Sewer lines to minimum slopes as per City of Calgary Standards.
 - Use City of Calgary Type 2 installation, Class 1A bedding for sewer pipes unless unwise noted.
 - Insulation required for sanitary sewers if cover less than 2.50m on mains.
 - Insulation required for storm sewers if cover less than 1.20m as per City of Calgary Standards.
 - All water mains to be DR 18 PVC unless otherwise noted.
 - Use City of Calgary Type 1 installation, Class 1A bedding for water mains, Type 2 installation, class "B" bedding for services.
 - Depth of bury for water lines to conform with City of Calgary standards.
 - No trees to be planted over water line(s).
 - Protection of Potable Water Supply From Contamination: All Cross connections or potential cross connections must be either eliminated or protected against backflow by the installation of a cross connection control device. All cross connection control devices must be installed in accordance with the Water Utility By-law 22M82 and the National Plumbing Code of Canada.
 - For building locations and dimensions refer to latest Architectural drawings. The contractor is responsible for locating all shallow utilities.
 - The contractor is to verify the location of existing sanitary storm and water services and confirm existing inverts prior to installation within the project area. The Engineer should be notified immediately of any discrepancies.
 - Weeping Tile & Free Flow area drains to be tied to unrestricted free flow storm sewer.
 - All Civil Scope of Work Ends at 1.00m away from the Building Foot Print.

LEGEND

	Existing hydrant
	Proposed hydrant
	Existing valve
	Valve
	Watermain
	Sanitary sewer
	Storm sewer
	Existing manhole
	Proposed manhole
	Manhole with plastic inserts
	Grated top manhole
	Catch basin
	Water meter location
	Existing elevation
	Sanitary manhole number & elevation
	CB/GT/ST-1 manhole number & elevation
	M.F. 000.00
	T.F. 000.00
	S sanitary sewer invert at bidg

REVISIONS

No.	DATE	DESCRIPTION	WB
5			
4			
3			
2			
1	30APR26	ISSUED FOR 30%	

ISSUED FOR

No.	DATE	DESCRIPTION	DATE	APP.
4		AS-BUILT		
3		FOR CONSTRUCTION		
2		FOR TENDER		
1		DEVELOPMENT PERMIT		
No.		DRAWING STATUS		

CLIENT
CRYSTAL CREEK HOMES

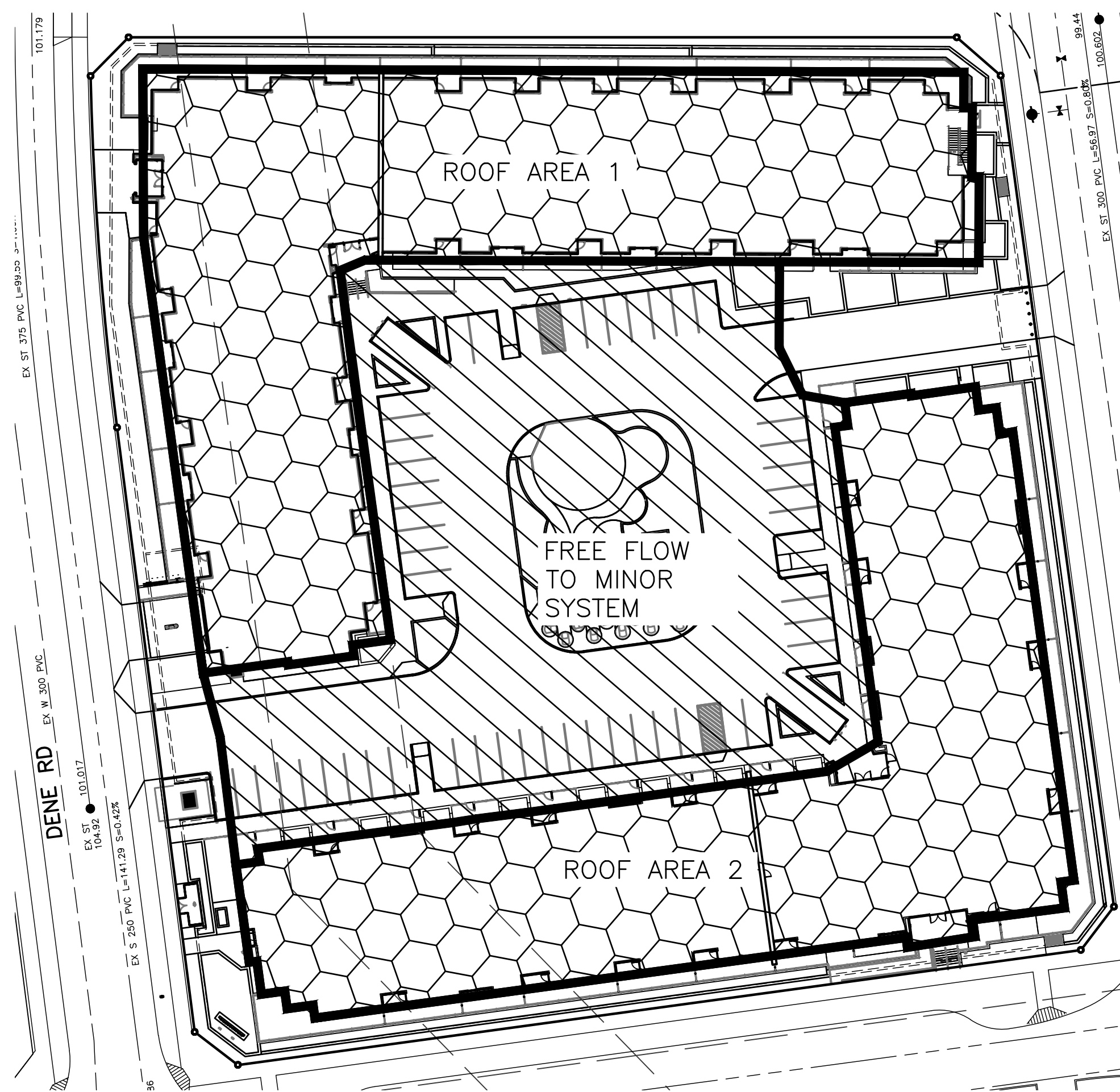
PROJECT
**BLACK BEAR CROSSING - BLACK BIRCH HEIGHTS
345 UNITS
TAZA PARK, TSUU T'INA NATION 145**

TITLE
SITE SERVICING PLAN

MUNICIPAL ADDRESS
Tsuu T'ina Nation 145
AB

LEGAL DESCRIPTION
LOT 27
PLAN 113913 CLSR, N 1/2
SEC. 36-23-2-W5M

DESIGN BY: DV	SCALE: 1:400	JOB NUMBER: 25-160
DRAWN BY: WB		
CHECKED BY: DV	REV NO.: 1	DRAWING NUMBER: SP1
DATE: 29-Apr-26		



STORMWATER MANAGEMENT CATCHMENT AREAS
SCALE 1:500

REMAINING SITE AREA INCLUDED IN BUFFER
FROM TAZA STAGE 3A PHASE 6A SUBDIVISION

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NOT FOR TENDER OR CONSTRUCTION.

ROOF AREA 1		Roof Pond 1	
C1 = 0.414	(coefficient of runoff to main)	H1 = NA	m (interior top of pipe @ low end) - (pipe invert + pipe diameter)
I = 82.55	mm/hr (intensity)	H2 = NA	m (top of pond/trap low elevation)
I100 = 100	mm/hr (year event)	L = NA	m (length of retention pipe)
SH = $\frac{I_2 - I_1}{L}$	= NA	SH = NA	(hydraulic slope)
Arc = 3181.47	sq m (Area of Roof Controlled)	dia = NA	mm (pipe diameter)
Ap = 0.00	sq m (Area of Paving)	n = NA	roughness coefficient (CCN = 0.013, PVC = 0.011)
Al = 0.00	sq m (Area of Landscaping)	Qa = NA	l/s (actual discharge)
Ag = 0.00	sq m (Area of Gravel)	H = NA	m (head on C/D/V)
At = 0.3181	ha (Total Site Area)	Qaf = 2.838	l/s USE 9 ROOF DRAINS @ 5 GPM
Allowable Discharge to Main:		CT = 0.039	
Q1 = C1 x I x A x 2.78		C2/CT = 25.717	
Q1 = 30.224	l/s	SVF = 8.09	storage volume factor
C-values: 1.00 0.90 0.15 0.50		V100 = 112.45	cu m (storage volume required for 1:100 year event)
C2 = $\frac{(Aru \times 1.0) + (Ap \times 0.90) + (Al \times 0.15) + (Ag \times 0.50)}{At}$			
C2 = 1.000		Apond = 3115.20	sq m
Q2 = C2 x I x At x 2.78		Depth = 0.15	m
Q2 = 73.011	l/s	Va = (Apond x Depth) / 3	
		Va = 155.76	cu m
		Total Volume = 155.76	cu m

ROOF AREA 2		Roof Pond 2	
C1 = 0.414	(coefficient of runoff to main)	H1 = NA	m (interior top of pipe @ low end) - (pipe invert + pipe diameter)
I = 82.55	mm/hr (intensity)	H2 = NA	m (top of pond/trap low elevation)
I100 = 100	mm/hr (year event)	L = NA	m (length of retention pipe)
SH = $\frac{I_2 - I_1}{L}$	= NA	SH = NA	(hydraulic slope)
Arc = 2784.84	sq m (Area of Roof Controlled)	dia = NA	mm (pipe diameter)
Ap = 0.00	sq m (Area of Paving)	n = NA	roughness coefficient (CCN = 0.013, PVC = 0.011)
Al = 0.00	sq m (Area of Landscaping)	Qa = NA	l/s (actual discharge)
Ag = 0.00	sq m (Area of Gravel)	H = NA	m (head on C/D/V)
At = 0.2785	ha (Total Site Area)	Qaf = 2.838	l/s USE 9 ROOF DRAINS @ 5 GPM
Allowable Discharge to Main:		CT = 0.044	
Q1 = C1 x I x A x 2.78		C2/CT = 22.509	
Q1 = 26.454	l/s	SVF = 7.91	storage volume factor
C-values: 1.00 0.90 0.15 0.50		V100 = 97.80	cu m (storage volume required for 1:100 year event)
C2 = $\frac{(Aru \times 1.0) + (Ap \times 0.90) + (Al \times 0.15) + (Ag \times 0.50)}{At}$			
C2 = 1.000		Apond = 2721.11	sq m
Q2 = C2 x I x At x 2.78		Depth = 0.15	m
Q2 = 83.904	l/s	Va = (Apond x Depth) / 3	
		Va = 136.06	cu m
		Total Volume = 136.06	cu m

TOTAL ROOF		Roof Pond 2	
C1 = 0.414	(coefficient of runoff to main)	H1 = NA	m (interior top of pipe @ low end) - (pipe invert + pipe diameter)
I = 82.55	mm/hr (intensity)	H2 = NA	m (top of pond/trap low elevation)
I100 = 100	mm/hr (year event)	L = NA	m (length of retention pipe)
SH = $\frac{I_2 - I_1}{L}$	= NA	SH = NA	(hydraulic slope)
Arc = 5966.12	sq m (Area of Roof Controlled)	dia = NA	mm (pipe diameter)
Ap = 0.00	sq m (Area of Paving)	n = NA	roughness coefficient (CCN = 0.013, PVC = 0.011)
Al = 0.00	sq m (Area of Landscaping)	Qa = NA	l/s (actual discharge)
Ag = 0.00	sq m (Area of Gravel)	H = NA	m (head on C/D/V)
At = 0.5966	ha (Total Site Area)	Qaf = 5.676	l/s USE 18 ROOF DRAINS @ 5 GPM
Allowable Discharge to Main:		CT = 0.041	
Q1 = C1 x I x A x 2.78		C2/CT = 24.113	
Q1 = 56.678	l/s	SVF = 8.50	storage volume factor
C-values: 1.00 0.90 0.15 0.50		V100 = 210.25	cu m (storage volume required for 1:100 year event)
C2 = $\frac{(Aru \times 1.0) + (Ap \times 0.90) + (Al \times 0.15) + (Ag \times 0.50)}{At}$			
C2 = 1.000			
Q2 = C2 x I x At x 2.78			
Q2 = 136.816	l/s		

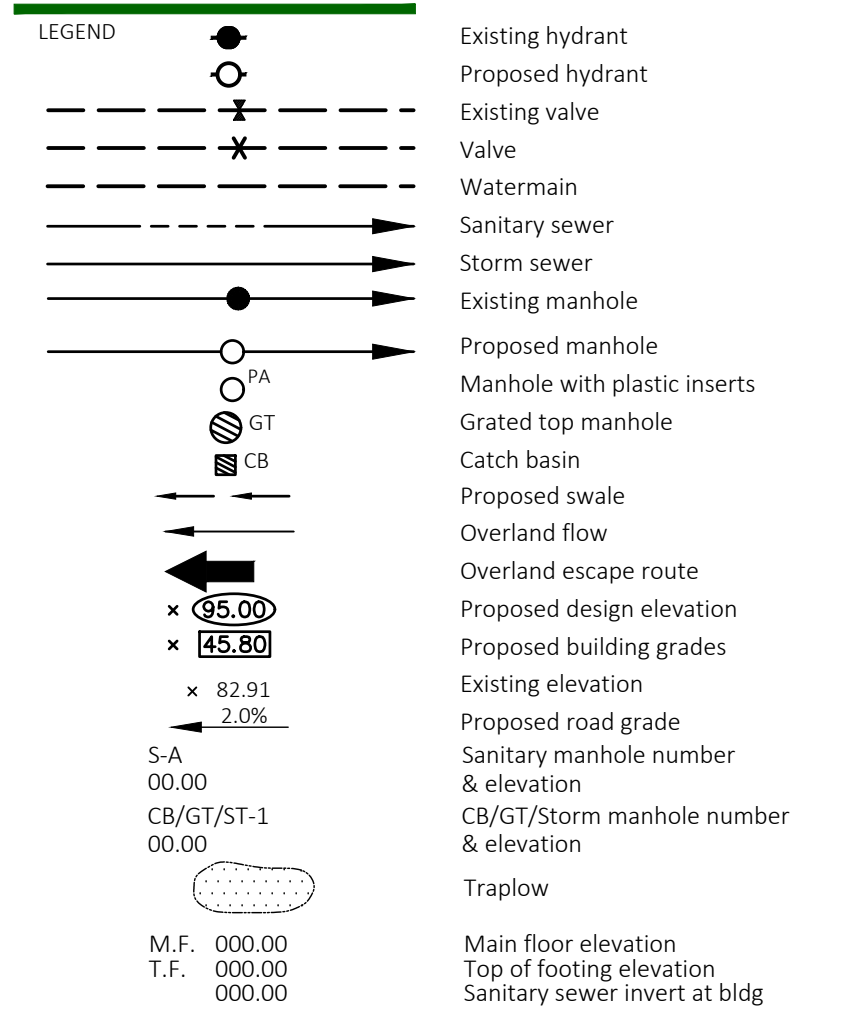
FREEFLOW TO MINOR SYSTEM	
C1 = 0.414	(coefficient of runoff to main)
I = 82.55	mm/hr (intensity)
I100 = 100	mm/hr (year event)
Aru = 0.00	sq m (Area of Roof)
Ap = 3157.26	sq m (Area of Paving)
Al = 658.67	sq m (Area of Landscaping)
Ag = 0.00	sq m (Area of Gravel)
At = 0.3816	ha (Total Site Area)
Allowable Discharge to Main:	
Q1 = C1 x I x A x 2.78	
Q1 = 36.251	l/s
C-values: 1.00 0.90 0.15 0.50	
C2 = $\frac{(Aru \times 1.0) + (Ap \times 0.90) + (Al \times 0.15) + (Ag \times 0.50)}{At}$	
C2 = 0.771	
Q2 = C2 x I x At x 2.78	
Q2 = 67.477	l/s

TOTAL SITE AREA	
C1 = 0.414	(coefficient of runoff to main)
I = 82.55	mm/hr (intensity)
I100 = 100	mm/hr (year event)
Arc = 5966.12	sq m (Area of Roof)
Ap = 3157.26	sq m (Area of Paving)
Al = 658.67	sq m (Area of Landscaping)
Ag = 0.00	sq m (Area of Gravel)
At = 0.9782	ha (Total Site Area)
Allowable Discharge to Main:	
Q1 = C1 x I x A x 2.78	
Q1 = 92.929	l/s
C-values: 1.00 0.90 0.15 0.50	
C2 = $\frac{(Aru \times 1.0) + (Ap \times 0.90) + (Al \times 0.15) + (Ag \times 0.50)}{At}$	
C2 = 0.910	
Q2 = C2 x I x At x 2.78	
Q2 = 204.993	l/s

STORM CALCULATION SUMMARY	
Qallow = 95	l/s/ha
Total Site Area = 0.9782	ha
Qallow = 92.929	l/s (site allow able discharge to main)
Qallow = C1(7) x (82.55 mm/hr) x A x 2.78	
C1 = 0.414	
SITE DISCHARGE	
Qaf (Total Roof) = 5.678	
Qaf = 67.477	
ACTUAL DISCHARGE	
73.155	l/s
75	l/s/ha
TOTAL REQUIRED VOLUME	
210.25	cu m
Roof Only	
Roof Pond 1:	155.76 cu m
Roof Pond 2:	136.06 cu m
TOTAL VOLUME	
291.82	cu m
ADD 300mm OF DEEP BASED TOPSPILL TO ALL LANDSCAPED AREAS TO PROMOTE INFILTRATION	

PERMIT _____ STAMP _____

NOTES
1. All elevations referenced to 1000m Geodetic Datum.



REVISIONS			
5			
4			
3			
2			
1	30APR26	ISSUED FOR 30%	WB
No.	DATE	DESCRIPTION	BY
ISSUED FOR			
4	AS-BUILT		
3	FOR CONSTRUCTION		
2	FOR TENDER		
1	DEVELOPMENT PERMIT		
No.	DRAWING STATUS	DATE	APP.

CLIENT
CRYSTAL CREEK HOMES
PROJECT
BLACK BEAR CROSSING - BLACK BIRCH HEIGHTS
345 UNITS
TAZA PARK, TSUU T'INA NATION 145
TITLE
STORM CALCULATIONS

DESIGN BY: DV		SCALE: 1:400		JOB NUMBER: 25-160	
DRAWN BY: WB					
CHECKED BY: DV		REV NO.: 1		DRAWING NUMBER: SP3	
DATE: 29-Apr-26					

MUNICIPAL ADDRESS
Tsuu T'ina Nation 145
AB
LEGAL DESCRIPTION
LOT 27
PLAN 113913 CLSR, N 1/2
SEC. 36-23-2-W5M

LEGEND	
	Existing hydrant
	Proposed hydrant
	Existing valve
	Valve
	Watermain
	Sanitary sewer
	Storm sewer
	Existing manhole
	Proposed manhole
	Manhole with plastic inserts
	Grated top manhole
	Catch basin
	Proposed swale
	Overland flow
	Overland escape route
	Proposed design elevation
	Proposed building grades
	Existing elevation
	Proposed road grade
	Sanitary manhole number & elevation
	CB/GT/Storm manhole number & elevation
	Traplow
	M.F. 000.00 Main floor elevation
	T.F. 000.00 Top of footing elevation
	Sanitary sewer invert at bldg

REVISIONS			
5			
4			
3			
2			
1	30APR26	ISSUED FOR 30%	WB
No.	DATE	DESCRIPTION	BY

ISSUED FOR			
4	AS-BUILT		
3	FOR CONSTRUCTION		
2	FOR TENDER		
1	DEVELOPMENT PERMIT		
No.	DRAWING STATUS	DATE	APP.

CLIENT
CRYSTAL CREEK HOMES

PROJECT
**BLACK BEAR CROSSING - BLACK BIRCH HEIGHTS
345 UNITS
TAZA PARK, TSUU T'INA NATION 145**

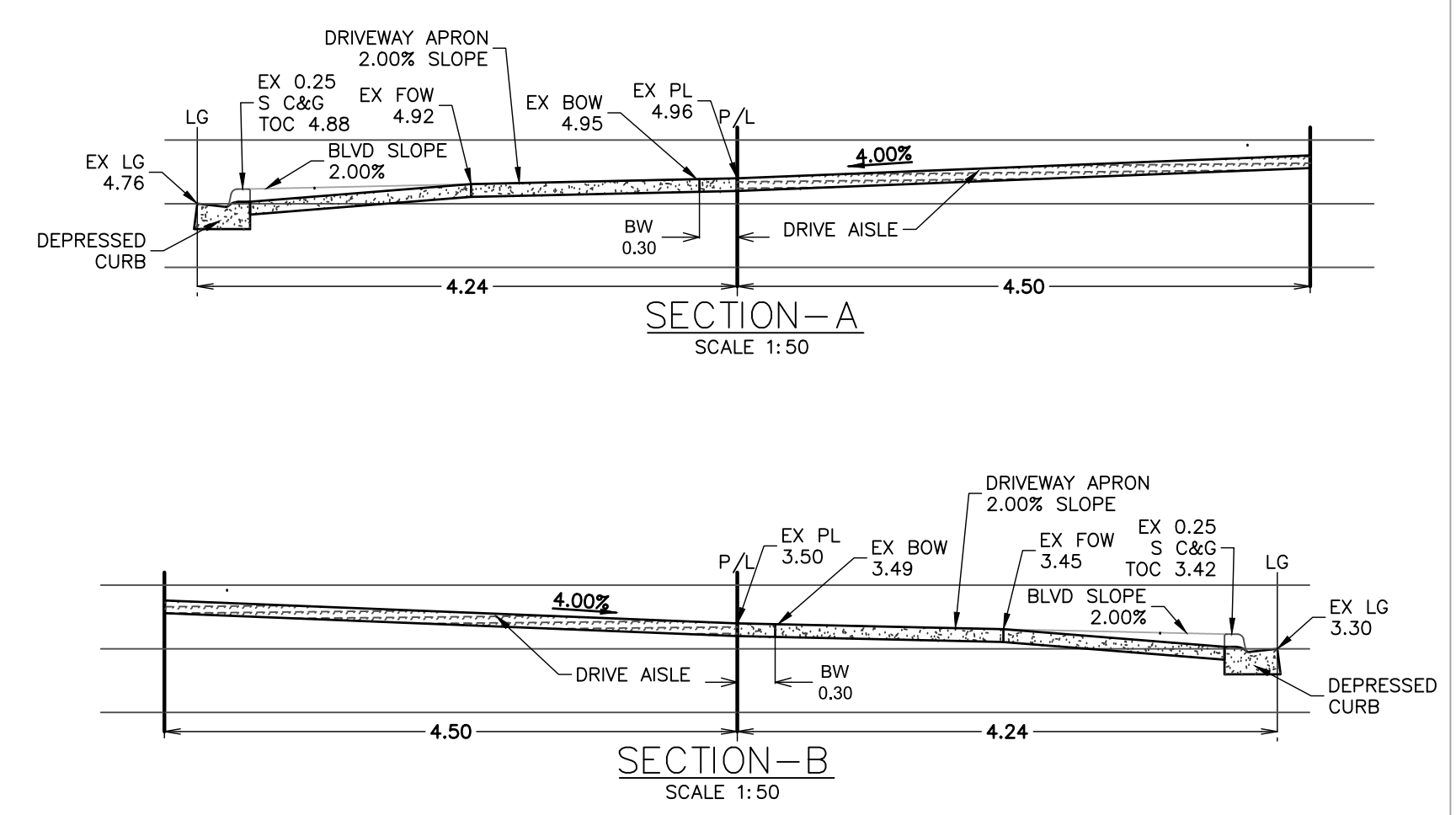
TITLE
SECTIONS AND DETAILS

DESIGN BY:	DV	SCALE:	JOB NUMBER:
DRAWN BY:	WB	AS SHOWN	25-160
CHECKED BY:	DV	REV NO.:	DRAWING NUMBER:
DATE:	29-Apr-26	1	SP4

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Engineering Specification

Job Name _____ Contractor _____
Job Location _____ Approval _____
Engineer _____ Contractor's P.O. No. _____
Approval _____ Representative _____

FD-530
Large Capacity Offset
Parking Area Drain

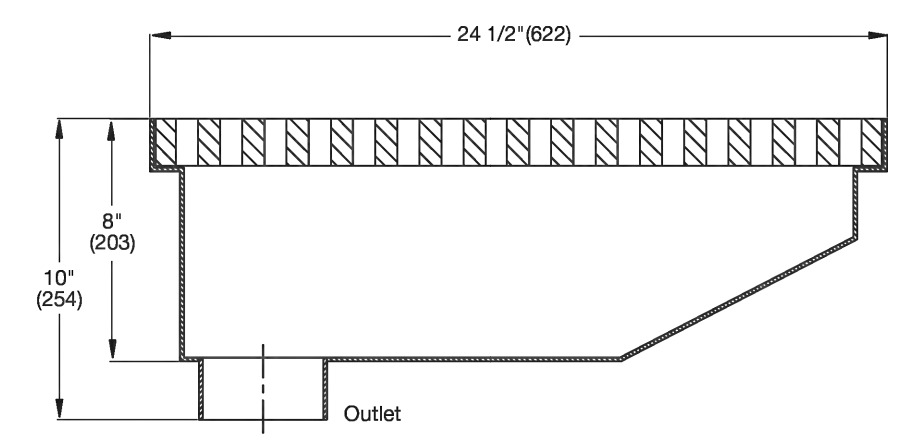


Watts FD-530 epoxy coated offset parking area drain with fabricated steel body, extra heavy duty 24 1/2" x 24 1/2" (622x622) two-section ductile iron grate, and no hub (standard) outlet.

Suffix	Pipe Sizing	Description
3	3" (76)	Pipe Size <input type="checkbox"/>
4	4" (102)	Pipe Size <input type="checkbox"/>
6	6" (152)	Pipe Size <input type="checkbox"/>
8	8" (203)	Pipe Size <input type="checkbox"/>
10	10" (254)	Pipe Size <input type="checkbox"/>

Suffix	Options	Description
-C	Membrane Clamp	<input type="checkbox"/>
-T	Threaded Outlet	<input type="checkbox"/>
-S	Sediment Bucket	<input type="checkbox"/>
-6	Vandal Proof	<input type="checkbox"/>
-38	Solid Retaining Baffle	<input type="checkbox"/>

Load Rating	Free Area
XHD	Sq. In.



NOTICE
The load classifications are in accordance with the American National Standard ASME A112.6.3
ASME Ratings are as follows:
XHD Safe Live Load 7500-10000 lbs. (3375-4500 kg)
The above categories are given as a guide only. Please consult factory.

NOTICE
The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



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ES-WD-FD-530 2234

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WATTS Adjustable Accutrol Weir Adjustable Flow Control for Roof Drains

Tag: _____

ADJUSTABLE ACCUTROL (for Large Sump Roof Drains only)

For more flexibility in controlling flow with heads deeper than 2", Watts Drainage offers the Adjustable Accutrol. The Adjustable Accutrol Weir is designed with a single parabolic opening that can be covered to restrict flow above 2" of head to less than 5 gpm per inch, up to 6" of head. To adjust the flow rate for depths over 2" of head, set the slot in the adjustable upper cone according to the flow rate required. Refer to Table 1 below.
Note: Flow rates are directly proportional to the amount of weir opening that is exposed.

EXAMPLE:
For example, if the adjustable upper cone is set to cover 1/2 of the weir opening, flow rates above 2" of head will be restricted to 2-1/2 gpm per inch of head.

Therefore, at 3" of head, the flow rate through the Accutrol Weir that has 1/2 the slot exposed will be:
[5 gpm (per inch of head) x 2 inches of head] + 2-1/2 gpm (for the third inch of head) = 12-1/2 gpm.

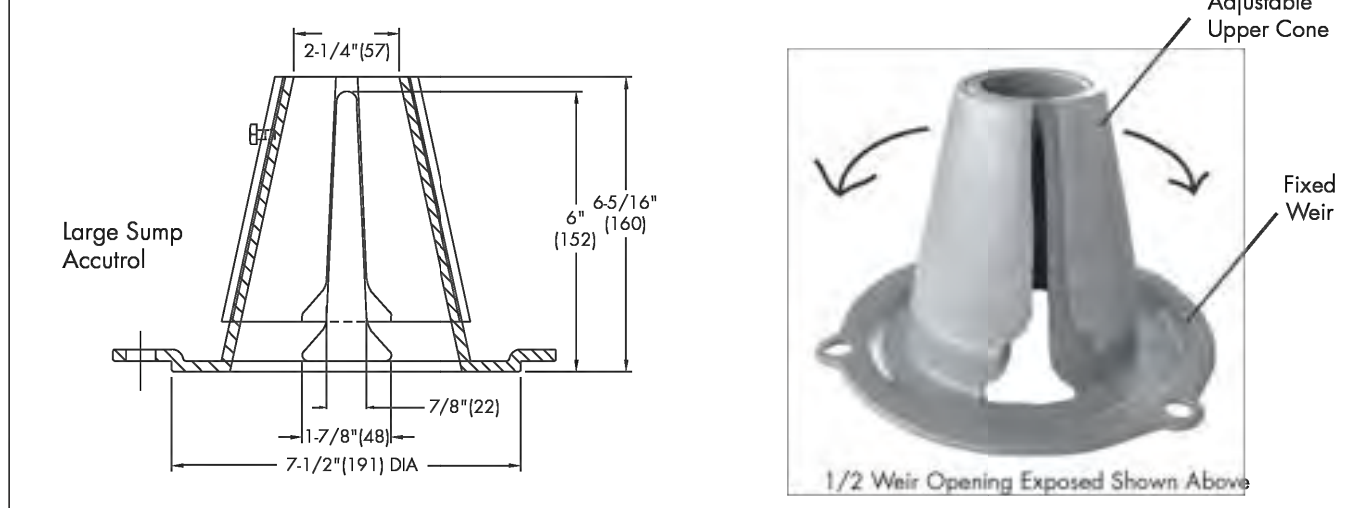


TABLE 1. Adjustable Accutrol Flow Rate Settings

Weir Opening Exposed	1"	2"	3"	4"	5"	6"
Fully Exposed	5	10	15	20	25	30
3/4	5	10	13.75	17.5	21.25	25
1/2	5	10	12.5	15	17.5	20
1/4	5	10	11.25	12.5	13.75	15
Closed	5	5	5	5	5	5

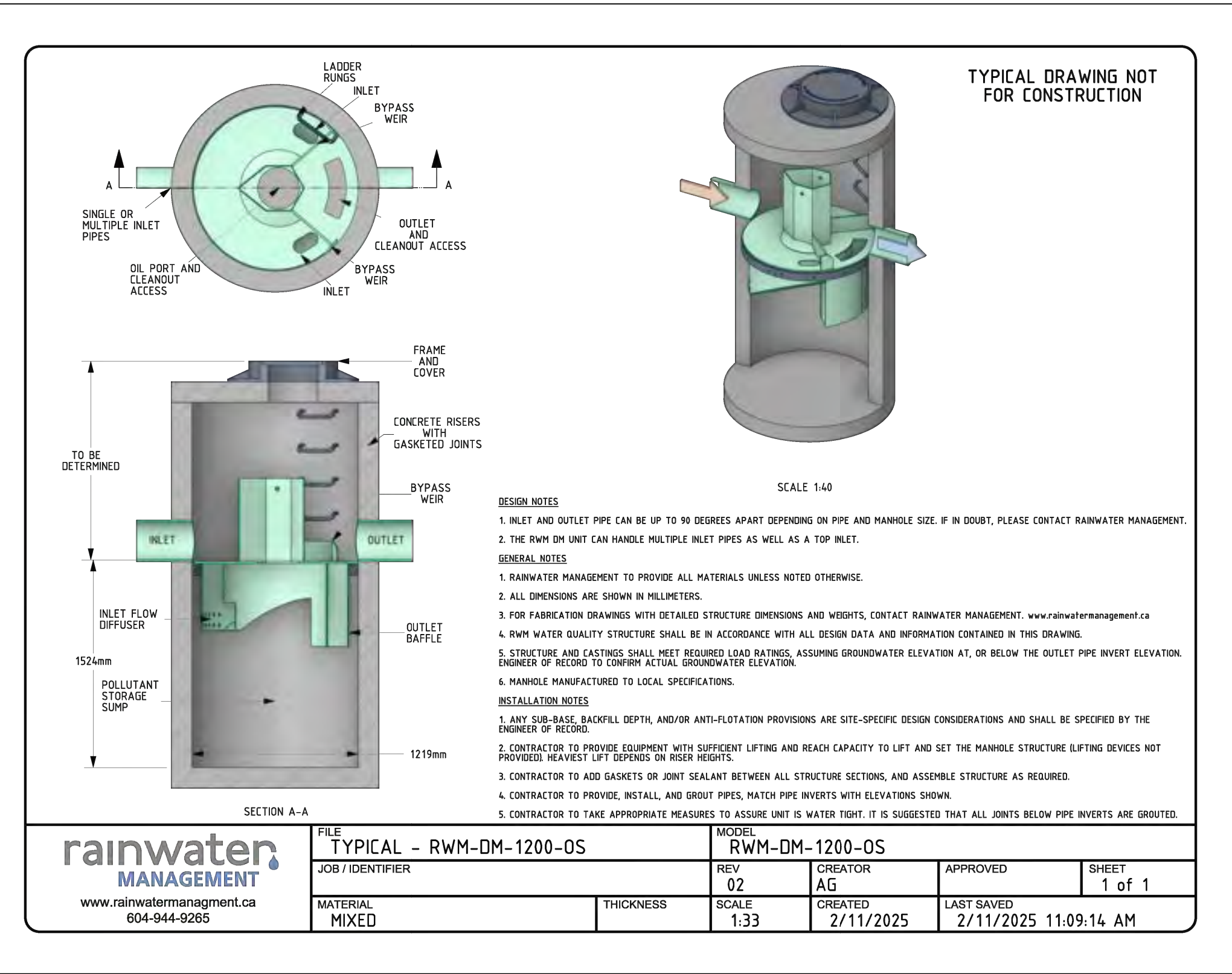
Job Name _____ Contractor _____
Job Location _____ Contractor's P.O. No. _____
Engineer _____ Representative _____

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ES-WD-RD-ACCUTROLADJ-CAN 1615

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rainwater MANAGEMENT		MODEL: RWM-DM-1200-OS	
www.rainwatermanagement.ca	604-944-9265	REV 02	CREATED 2/11/2025
JOB / IDENTIFIER	THICKNESS	SCALE	LAST SAVED
	MIXED	1:33	2/11/2025 11:09:14 AM
CREATOR AG	APPROVED	SHEET 1 of 1	

MUNICIPAL ADDRESS
Tsuu T'ina Nation 145
AB

LEGAL DESCRIPTION
LOT 27
PLAN 113913 CLSR, N 1/2
SEC. 36-23-2-W5M

ISSUED FOR
COORDINATION

NO. ISSUE/REVISION DATE
1 30% Review 2026-04-30

PROJECT MANAGER DRAWN
K.V T.K/G.T
PROJECT LEAD CHECKED
J.P/G.U J.P/G.U/K.V

BLACK BEAR
CROSSING - BLACK
BIRCH HEIGHTS

BLACK BEAR CROSSING SW, TSUU
T'INA NATION 145 AB

PROJECT # 25141.1
CITY FILE #



SITE PLAN
SHALLOW SERVICES
LAYOUT

SCALE

ME10-00-01

PROJECT INFORMATION:

LEGAL DESCRIPTION:
MUNICIPAL ADDRESS:

GRADING INFORMATION IS FOR REFERENCE ONLY.
REFER TO CIVIL ENGINEERS DRAWINGS FOR ALL
DEEP SERVICE INFORMATION.

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TO CIVIL ENGINEERS DRAWINGS FOR ALL DEEP
SERVICE INFORMATION.

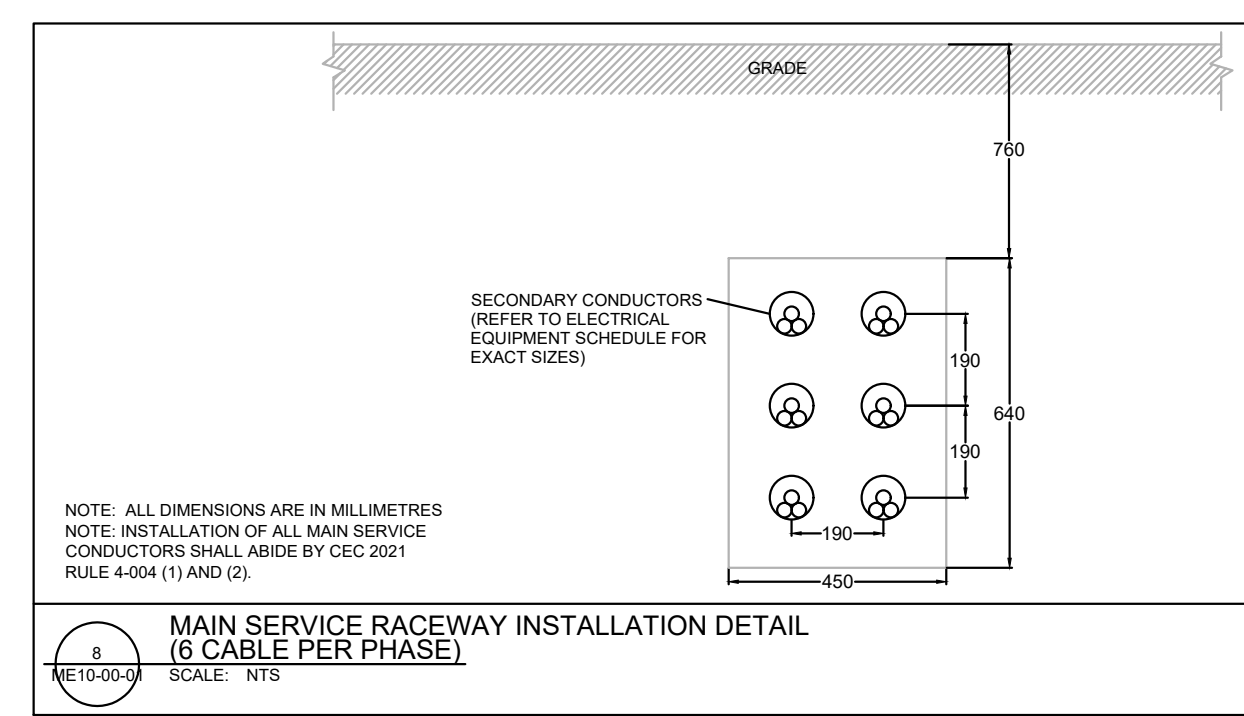
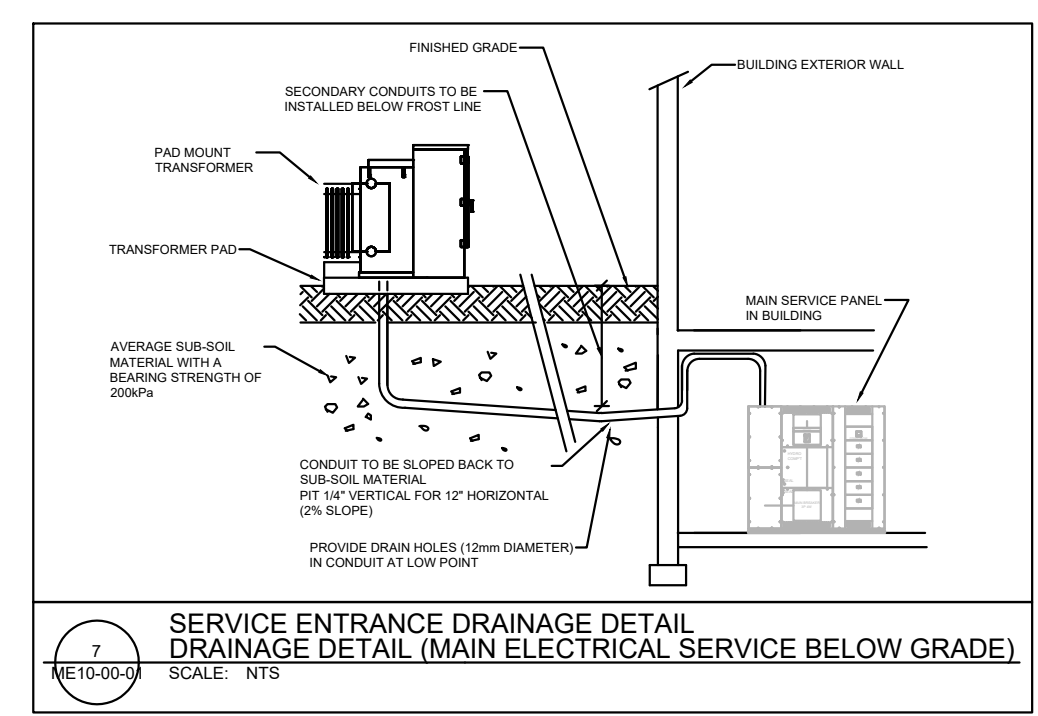
REFER TO SHALLOW SERVICE DESIGN DRAWINGS FOR ALL
SHALLOW SERVICE INFORMATION FOR EACH BUILDING.

SITE DRAWING KEY NOTES:

1. PROVIDE AND INSTALL 1" CONDUIT AND JUNCTION BOX FOR EXTERIOR SIGNAGE AT LOCATIONS SHOWN. COORDINATE EXACT LOCATIONS OF EXTERIOR SIGNAGE AND ELECTRICAL REQUIREMENTS WITH SIGNAGE CONTRACTOR AND OWNER.
2. PROPOSED LOCATION OF UTILITY TRANSFORMER.

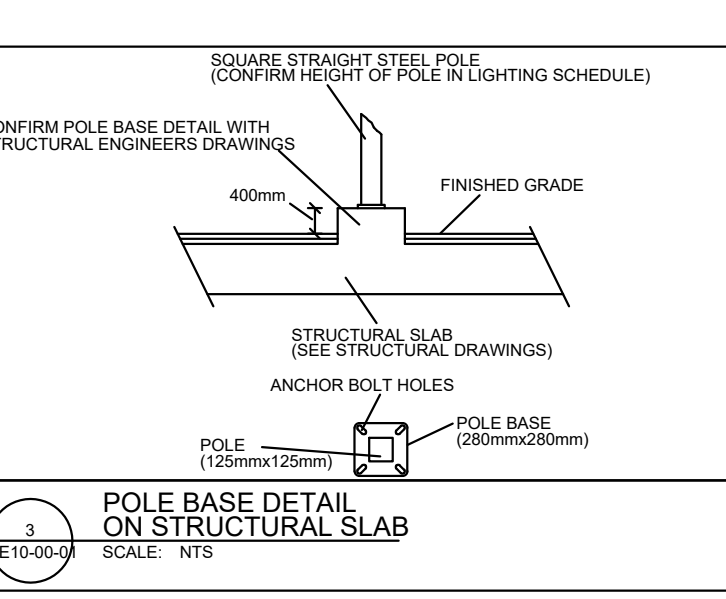
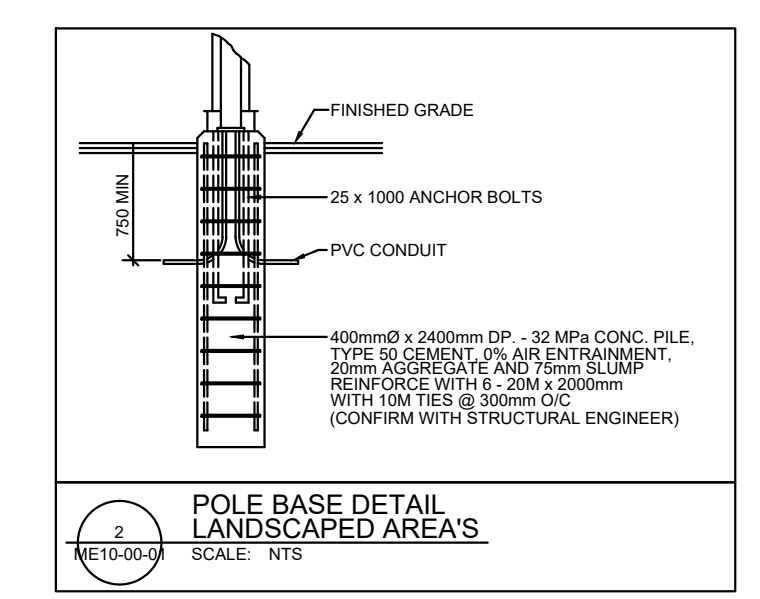
GENERAL ELECTRICAL SITE NOTES:

1. MAINTAIN POWER, TELEPHONE AND CATV PRIMARY CONDUITS / CABLE 1.0 METERS FROM BUILDING AND 3.0 METERS FROM DEEP SERVICES.
2. PROVIDE AN INSTALL CONDUITS FROM THE UTILITY TRANSFORMER, TELEPHONE PEDESTAL AND CATV PEDESTAL TO THE PROPERTY LINE TO A LOCATION THAT HAS BEEN COORDINATED WITH THE UTILITY COMPANIES. REFER TO UTILITY COMPANY STANDARDS FOR CONDUIT / WIRING INSTALLATION STANDARDS.
3. ENSURE THE POWER TRANSFORMER IS MINIMUM 3.0 METERS FROM ANY COMBUSTIBLE OR METALLIC OBJECT ON OR AROUND THE BUILDING.
4. COORDINATE ALL PRIMARY SERVICE INSTALLATIONS FOR ALL SHALLOW SERVICES WITH THE UTILITY COMPANIES AS REQUIRED. ENSURE ALL SHALLOW SERVICES MAINTAIN PROPER CLEARANCES FROM ALL OTHER SERVICES ON SITE.
5. CONTRACTOR TO INSTALL PULL ROPES IN ALL DUCTS.
6. PRIMARY ELECTRICAL CONDUIT / WIRING SHALL BE ENCASED IN CONCRETE WHERE CLEARANCE TO MANHOLES ARE LESS THEN 3.0 METERS.
7. ALLOW FOR UNDERGROUND CONDUITS COMPLETE WITH WIRING TO ALL AREA LIGHTS ON SITE.
8. REFER TO LANDSCAPE ARCHITECTS DRAWINGS FOR EXACT LOCATIONS OF ALL AREA LIGHTS ON SITE.
9. THE CLEARANCE SHOWN AROUND THE UTILITY TRANSFORMER IS THE MINIMUM OPERATING CLEARANCE.
10. NO UP SLOPES ARE ALLOWED FROM UTILITY TRANSFORMER. SLOPE SHALL BE NO MORE THAN 9 DEGREES AWAY.
11. ANY VEGETATION THAT GROWS ON OR INTO THE MINIMUM OPERATING CLEARANCE OF UTILITY TRANSFORMERS MUST BE A TYPE THAT CAN BE TRIMMED SO CLEARANCES ARE MAINTAINED.
12. ANY FENCE ALONG THE MINIMUM OPERATING CLEARANCE SHALL ALLOW DIRECT ACCESS TO ANY UTILITY TRANSFORMER FROM A MINIMUM OF TWO UNRESTRICTED DIRECTIONS. METAL FENCES OR WALLS ARE NOT PERMITTED WITH-IN 3.0m OF ANY UTILITY TRANSFORMER.
13. NO OBSTACLES SHALL BE LOCATED ABOVE UTILITY TRANSFORMER.
14. NO CURBS SHALL BE LOCATED WITH-IN THE MINIMUM OPERATING CLEARANCE OF UTILITY TRANSFORMER.
15. SWITCHING CUBICLES MUST BE LOCATED A MINIMUM OF 0.9m FROM EXISTING OR PLANNED PEDESTRIAN WALKWAYS.



SITE LIGHTING LEGEND

SYMBOL	DESCRIPTION
○	AREA LIGHT
⊕	BOLLARD LIGHT
⊙	POST TOP LIGHT
⊗	EXTERIOR WALL MOUNTED LIGHT
⊘	RECESSED WALL LIGHT
⊚	SOFFIT DOWN LIGHT



EXTERIOR LIGHTING SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MANUFACTURERS CATALOGUE NUMBER	LAMP	LUMENS	QUANTITY	TOTAL WATTS	MOUNTING	VOLTS	REMARKS
CPD1	POLE MOUNTED AREA LIGHT	LUMENPULSE	PUR100-120-CSL-M110-30K-CR1-80-3-BK-DIM-S12	82W LED	10483	6	52	POLE	120	TO BE MOUNTED ON 16' POLE, P14 ARM STYLE
CPD2	MAIN ENTRANCE SOFFIT LIGHT	COOPER - PORTFOLIO	LD42B-10-2R30-80-30-D010	11W LED	1000	16	176	RECESSED	120	
CPD3	EXIT DOOR WALL LIGHT	LITHONIA	WEDGE 1 LED P1 30K-80CR-VW MVOLT SRM DBLXD	10W LED	1163	1	10	WALL	120	
CPD4	RECESSED RAMP LIGHT	BECA	4.9W LED	561	2	9.8	RECESSED	120		
CPD5	BOLLARD LIGHT	LITHONIA	RADB LED P3 30K-ASY MVOLT BTDBLXD BCCBLXD H30 DBLXD	13W LED	1088	6	78	BOLLARD	120	
CPD6	RECESSED STEP LIGHT	BECA	33 053	4.1W LED	231	9	38.9	RECESSED	120	
CPD7	POST TOP LIGHT	LUMENPULSE	PUR100-120-CSL-S40-30K-CR1-80-3-BK-DIM-P11-S1X-5	31W LED	4229	1	31	POLE	120	MOUNTED ON 12' POLE, P11-S1X MOUNTING OPTION
CPD8	PARKADE ENTRANCE WALL LIGHT	LITHONIA	WDGE2 LED P3 30K-VF MVOLT SRM DBLXD	29W LED	3015	1	23	WALL	120	

NOTE: ALL FIXTURE SELECTIONS TO BE CONFIRMED WITH CLIENT.

