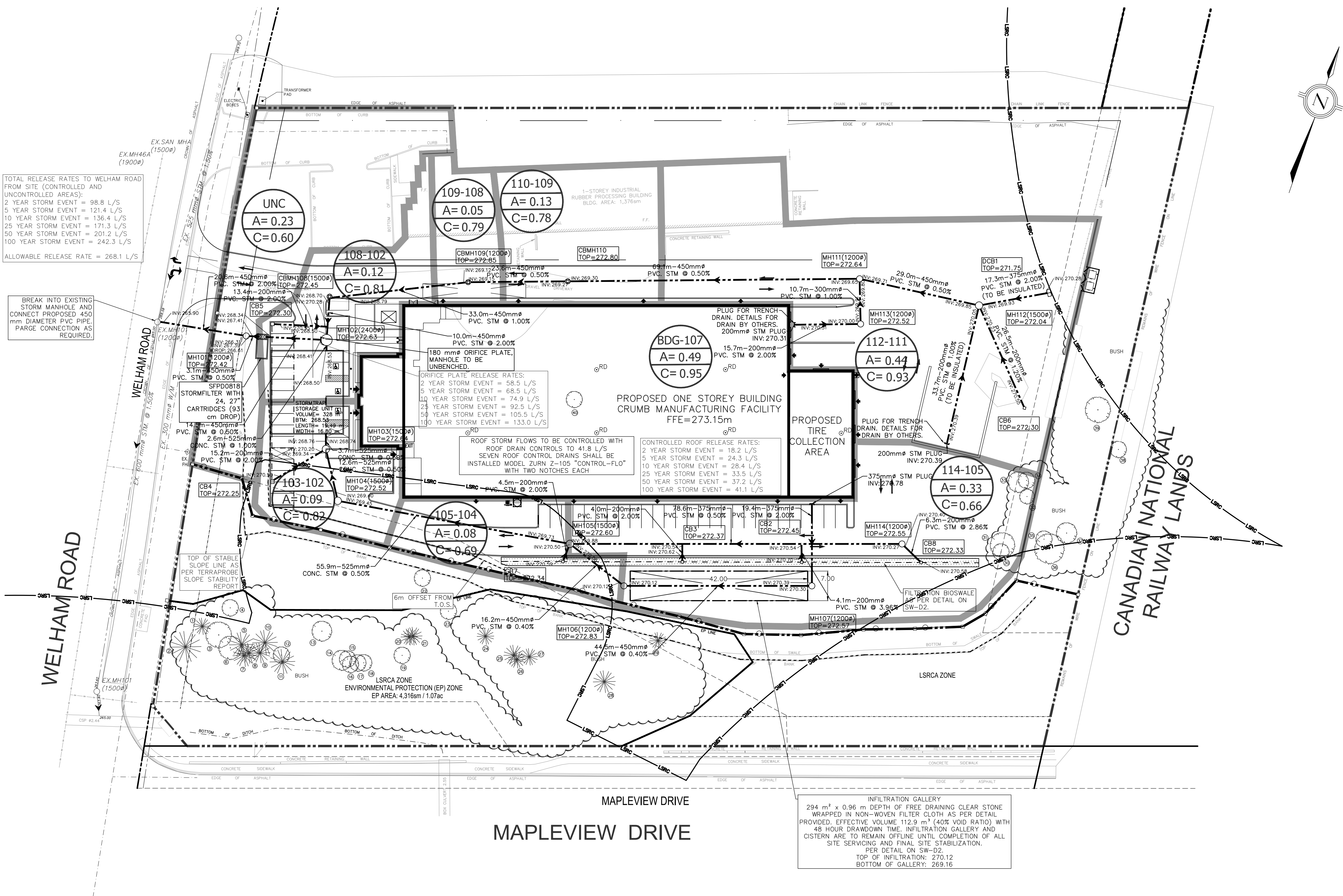




TOTAL RELEASE RATES TO WELHAM ROAD FROM SITE (CONTROLLED AND UNCONTROLLED AREAS):
2 YEAR STORM EVENT = 98.8 L/S
5 YEAR STORM EVENT = 121.4 L/S
10 YEAR STORM EVENT = 136.4 L/S
25 YEAR STORM EVENT = 171.3 L/S
50 YEAR STORM EVENT = 201.2 L/S
100 YEAR STORM EVENT = 242.3 L/S
ALLOWABLE RELEASE RATE = 268.1 L/S

BREAK INTO EXISTING STORM MANHOLE AND CONNECT PROPOSED 450 mm DIAMETER PVC PIPE. PARALLEL CONNECTION AS REQUIRED.

MAPLEVIEW DRIVE

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Rainfall Data: a, b, c Values

a	5 year	853.81
b		4.699
c		0.785

Manning's Roughness Coefficient (All pipes)=

0.013

1	2	4	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Notes	From Node	To Node	Diam. (nominal) (mm)	Length Pipe (m)	Slope Pipe (%)	Area (ha)	C	A x C (ha)	Accum A x C (ha)	Rainfall Intensity (mm/hr)	Time of Conc. (Tc) (min)	Area Flow Q (l/s)	Controlled Flows (l/s)	Total Flow (l/s)	Diameter Actual (mm)	Pipe Area (sq.m)	Hydraulic Radius (m)	Pipe Mat.	Pipe Capacity (l/s)	Velocity (m/s)	Time of Flow (min)	Ratio Q/Q full	Cap. Check
112-111	MH112	MH111	450	25.0	0.50%	0.439	0.83	0.407	0.407	108.9	10.00	123.0	0.0	123.0	0.448	0.16	0.112	PVC	199.2	1.26	0.38	0.82	OK
	CBMH110		450	66.1	0.50%	0.000	0.00	0.000	0.407	106.5	10.38	120.6	0.0	120.6	0.448	0.16	0.112	PVC	199.2	1.26	0.91	0.61	OK
110-109	CBMH110	CBMH109	450	23.6	0.50%	0.125	0.78	0.097	0.503	102.1	11.29	142.8	0.0	142.8	0.448	0.16	0.112	PVC	199.2	1.26	0.31	0.72	OK
109-108	CBMH109	CBMH108	450	33.0	1.00%	0.052	0.79	0.041	0.545	100.6	11.60	152.3	0.0	152.3	0.448	0.16	0.112	PVC	281.7	1.79	0.31	0.54	OK
108-102	CBMH108	MH102	450	10.0	2.00%	0.117	0.81	0.094	0.639	96.2	11.91	176.0	0.0	176.0	0.448	0.16	0.112	PVC	398.4	2.53	0.07	0.44	OK
114-105	CBMH114	MH105	375	78.6	0.50%	0.330	0.66	0.217	0.217	108.9	10.00	65.7	0.0	65.7	0.381	0.11	0.095	PVC	129.3	1.13	1.15	0.51	OK
BDG-107	BDLG	MH107	375	19.4	2.00%	0.490	0.95	0.466	0.000	108.9	10.00	0.0	24.3	24.3	0.381	0.11	0.095	PVC	258.7	2.27	0.14	0.09	OK
	MH106		450	43.5	0.40%	0.000	0.00	0.000	0.000	108.1	10.14	0.0	24.3	24.3	0.448	0.16	0.112	PVC	178.2	1.13	0.64	0.14	OK
	MH106	MH105	450	16.2	0.50%	0.000	0.00	0.000	0.000	104.7	10.78	0.0	24.3	24.3	0.448	0.16	0.112	PVC	199.2	1.26	0.21	0.12	OK
105-104	MH105	MH104	525	55.9	0.50%	0.084	0.69	0.058	0.275	102.8	11.15	78.6	24.3	102.9	0.533	0.22	0.133	CONC	317.2	1.42	0.66	0.32	OK
	MH103		525	12.6	0.50%	0.000	0.00	0.000	0.275	96.6	11.81	76.2	24.3	100.5	0.533	0.22	0.133	CONC	317.2	1.42	0.15	0.32	OK
103-102	MH103	Storage Tank	525	1.9	1.00%	0.093	0.82	0.076	0.351	96.0	11.96	96.6	24.3	120.9	0.533	0.22	0.133	CONC	448.7	2.01	0.02	0.27	OK
103-102	MH102	Storage Tank	525	2.6	1.00%	0.000	0.00	0.000	0.351	96.9	11.97	96.6	24.3	120.9	0.533	0.22	0.133	CONC	448.7	2.01	0.02	0.27	OK
	MH102	Stormfilter	450	14.5	0.50%	0.000	0.00	0.000	0.000	96.0	11.96	0.0	68.5	68.5	0.448	0.16	0.112	PVC	199.2	1.26	0.19	0.34	OK
	MH101		450	3.1	0.50%	0.000	0.00	0.000	0.000	96.1	12.15	0.0	68.5	68.5	0.448	0.16	0.112	PVC	199.2	1.26	0.04	0.34	OK
	MH101	EX.MH101	450	20.6	2.00%	0.000	0.00	0.000	0.000	97.9	12.19	0.0	68.5	68.5	0.448	0.16	0.112	PVC	398.4	2.53	0.14	0.17	OK

Note: MH102 to MH101 controlled "Other Flows" is the design controlled flow downstream of the orifice plate at MH102 during the 5-year storm event.

LEGAL & TOPOGRAPHY

PROVIDED BY: RUDY MAK SURVEYING LTD.
89 BIG BAY POINT RD. BARRIE, ON
705-722-3845

BENCHMARK NOTE:

SITE BENCHMARK IS THE TOP OF SPINDLE OF THE THE FIRE HYDRANT AT THE NORTH SIDE OF MAPLEVIEW DRIVE HAVING AN ELEVATION OF 264.77.

DISTANCES

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9999XXX.

CONTROL MONUMENTS

COMBINED 00119713848: THE HORIZONTAL MONUMENT IS LOCATED ON THE WEST SIDE OF HURONIA ROAD JUST SOUTH OF ELLIS DRIVE, APPROX. 350m SOUTH OF BIG BAY POINT ROAD. NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP. (ELEVATION=261.68, NORTHING 4911611.018 METRES, EASTING 606450.422 METRES).

HORIZONTAL 03120040012: THE HORIZONTAL MONUMENT IS LOCATED ON THE NORTH SIDE OF SAUNDERS ROAD AT TOP OF BANK AND SOUTH SIDE OF DITCH, OPPOSITE THE DRIVEWAY TO #231 SAUNDERS ROAD AND APPROXIMATELY 0.5 KM EAST OF BAYVIEW DRIVE. NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP. (NORTHING 4909810.870 METRES, EASTING 605984.432 METRES)

VERTICAL 03120030030: BARRIE MOLSON CENTRE - 555 BAYVIEW DR. THE VERTICAL CONTROL MONUMENT IS SET FLUSH IN THE CONCRETE FOUNDATION TO BUILDING VENTILATION SHAFT AT THE SOUTH-EAST CORNER OF THE BARRIE MOLSON CENTRE. THE TABLET IS 230 mm BELOW THE TOP OF THE FOUNDATION SHAFT WALL AND 110 mm WEST OF THE EAST SIDE OF THE SOUTH-EAST CORNER OF THE VENTILATION SHAFT WALL. (ELEVATION=287.04, NORTHING 4910231 METRES, EASTING 605468 METRES).

NOTE: THE HORIZONTAL COORDINATE SYSTEM IS NAD-1983 ORIGINAL AND VERTICAL SYSTEM IS CGVD28-78.

KEY PLAN

LEGEND

- EXISTING CONC. CURB
- EXISTING CATCH BASIN
- EXISTING STORM SEWER
- PROPOSED STORM SEWER AND MH
- PROPOSED CATCHBASIN
- PROPOSED STORM SEWER AND CBMH
- PROPERTY LINE
- DRAINAGE BOUNDARY
- BDG-107
- A= 0.49
- C= 0.95
- DRAINAGE ID
- DRAINAGE AREA (ha)
- RUNOFF COEFFICIENT

5. ISSUED FOR SPA #3

4. ISSUED FOR SPA #2

3. RE-ISSUED FOR SITE ALTERATION PERMIT

2. ISSUED FOR SITE ALTERATION PERMIT

1. ISSUED FOR SPA

JAN. 28/21

NOV. 19/20

OCT. 30/20

OCT. 9/20

JUNE 25/20

GR

GR

GR

GR

BJ

No.

REVISIONS/ISSUED

DATE

BY

CITY

counterpoint

ENGINEERING

COUNTERPOINT ENGINEERING INC.

8395 Jane St., Suite 100, Vaughan, ON L4K 5Y2 Phone 905.326.1404 Fax 905.326.1405

LICENSED PROFESSIONAL ENGINEER

G. ROUBY

90262840

Jan. 27, 2011

PROVINCE OF ONTARIO

ENGINEER'S STAMP

APPLICANT:

JNC ARCHITECT INC.

10 BUR OAK AVENUE, UNIT 3

MARKHAM, ON

L6C 0A2

SITE LOCATION:

PROPOSED INDUSTRIAL DEVELOPMENT

CRUMB MANUFACTURING FACILITY

571 WELHAM ROAD

BARRIE, ON

SITE PLAN FILE No.:

DESIGNED BY: GR

DRAWING BY: BJ

SWM BY: GR

SCALE:

CHECKED BY: JY

CHECKED BY: JY

CHECKED BY: JY

0m 5m 10m 20m 30m

1:500m

DATE: JANUARY 2020

PROJECT NO.

20005

DRAWING NO.

SW-STM