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Site Servicing Report

NAVAN RESIDENTIAL AND COMMERCIAL BLOCK 14 2983 Navan Road



Site Servicing Report

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1.0 INTRODUCTION

1.1 General

In 2023, J.L. Richards & Associates Limited (JLR) was retained by 12714001 Canada Inc. (the Owner) to prepare the detailed design of municipal infrastructure for Site Plan Approval (SPA) of the Mixed-Use Site Plan (Block 14). This Site Servicing Report (SSR) presents the servicing constraints and strategies for water, wastewater, stormwater servicing, and stormwater management in accordance with the City of Ottawa Design Guidelines, the associated technical bulletins and relevant design excerpts.

1.2 Site Description

The Mixed-Use Site Plan (Block 14) is located within the City of Ottawa's Official Plan boundary and consists of a 0.57 ha parcel bounded by Brian Coburn to the northwest, existing Page properties to the northeast and the proposed East Ridge Orleans Subdivision in the remaining directions (refer to the East Ridge Orleans Subdivision Site Servicing Report prepared by J.L. Richards and Associates, dated September 22, 2023). The legal description of the subject property can be found in the Draft Plan of Subdivision attached to Appendix A.

A topographical survey was completed by Stantec Inc. in August 2023 (Appendix A1). The survey indicates that the existing ground surface generally slopes in a southerly direction towards the future subdivision lands.

1.3 Proposed Development

The proposed development will consist of two mid-rise residential condominiums (Building A and B) with combined underground parking garage. Building A has 48 units whereas Building B has 36 units and one (1) storey of commercial space on the first floor. The Concept Plan for the Mixed-Use Site Plan (Block 14) is attached to Appendix A.

1.4 Proposed Connections to Existing Infrastructure

Block 14 is proposed to be serviced by the infrastructure that is part of the East Ridge Orleans Subdivision. One sanitary, storm and water service lateral will extend to the parking garage footprint from the subdivision as shown in the servicing drawings.

1.5 Consultation and Permits

A pre-consultation meeting was held on September 13, 2023, to discuss the planning process, design criteria, and servicing constraints. A copy of the pre-consultation meeting notes and the site servicing checklist has been provided in Appendix B.

2.0 WATER SERVICING

2.1 Water Supply Design Criteria

A Hydraulic Network Analysis (HNA) was completed as part of the detailed design for the East Ridge Orleans subdivision to confirm that the proposed watermain could provide adequate supply while complying with both the Ottawa Design Guidelines for Water Distribution (July 2010) and Technical Bulletins ISDTB-2014-02, ISTB-2018-02 and ISTB-2021-03. These documents are herein referred to as the Design Guidelines and TB-2014-02, TB-2018-02, and TB-2021-03, respectively.

The HNA completed as part of the East Ridge Orleans Subdivision design included water demands for the Mixed Used Site Plan (Block 14). The HNA has since been updated to reflect the proposed water service lateral for Block 14 but is based on the same demands and the boundary conditions used in the original East Ridge Orleans Subdivision HNA (refer to Appendix C for a copy of City correspondence for boundary conditions).

Section 4.2.2 of the Design Guidelines states the following criteria for development additions to the public water distribution system:

- Under maximum hourly demand conditions (peak hour), the residual pressures shall not be less than 276 kPa (40 psi);
- During periods of maximum day and fire flow demand, the residual pressure at any point in the distribution system shall not be less than 140 kPa (20 psi);
- In accordance with the Ontario Building Code (OBC) in areas that may be occupied, the static pressure at any fixture shall not exceed 552 kPa (80 psi);
- The maximum pressure at any point in the distribution system in unoccupied areas shall not exceed 689 kPa (100 psi); and
- Feeder mains, which have been provided primarily for the purpose of redundancy, shall meet, at a minimum, the basic day plus fire flow demand.

2.2 Domestic Water Demands

The water demands presented in this section are based on the site layout and unit count shown in the Site Plan (Appendix A) and commercial flows. Domestic water demands were calculated for 84 apartment units with an average density of 1.8 persons per unit, giving a total population of 151 people. Commercial flows were calculated for a commercial area of 0.09 ha.

The residential and commercial consumption rates for average day, maximum day, and peak hour demand were set in accordance with Table 4-2 of the Design Guidelines. Table 1 summarizes the water consumption rates and peaking factors used in the HNA.

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Table 1: Water Demands

Demand Scenario	Residential Water Consumption or Peaking Factor	Commercial Water Consumption or Peaking Factor	Total Demands (L/s)
Average Day Demand	280 L/c/d	28,000 L/ ha /d	0.52
Maximum Day Demand	2.5 x Avg Day	1.5 x Avg Day	1.27
Peak Hour Demand	2.2 x Max Day	1.8 x Max Day	2.78

2.3 Fire Flow Requirements

The City has specified that the Fire Underwriters Survey (FUS) method shall be used for any public or private site where new fire hydrants are being designed. Specifically, the required fire flow (RFF) for each structure was calculated in accordance with TB-2018-02.

The required fire flow for the Mixed-Use Site Plan (Block 14) was calculated to be 233 L/s. Refer to Appendix C for the detailed RFF calculations for the critical fire area.

Both buildings within Block 14 will be equipped with a fully supervised automatic sprinkler designed and installed in accordance with NFPA 13. In the analysis, a sprinkler flow of 1500 L/min (25 L/s) was applied to each building as recommended by the Owner's Mechanical Engineer (refer to Appendix C).

2.4 Proposed Water Servicing, Boundary Conditions and Water Model

2.4.1 Proposed Water Servicing

Water will be supplied to the Mixed-Use Site Plan (Block 14) by a 150 mm diameter water service that will connect to the 200 mm diameter watermain loop within the East Ridge Orleans subdivision. Fire protection will be provided by each building's sprinkler system, proposed hydrants within the East Ridge Orleans Subdivision, and a new proposed hydrant for Block 14 off the 150 mm diameter water service lateral. The Siamese connection for each building is shown on the Servicing Drawings and is located no more than 45 m away from a hydrant as required by the OBC (refer to hydrant coverage markup in Appendix C).

2.4.2 Boundary Conditions

Hydraulic boundary conditions were provided by the City at the two proposed connection locations for the East Ridge Orleans subdivision (Connection 1-Page Road and Connection 2-Navan Road East). Table 2 summarizes the hydraulic boundary conditions received (refer to Appendix C for a copy of the City correspondence).

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The City boundary condition for fire flow demand scenario #3 was used in this HNA (Max Day plus Fire Flow #3), as this considers the most critical fire flow of 233 L/s required for Block 14.

Table 2: Hydraulic Boundary Conditions

Demand Scenarios	Connection 1 Head (m)	Connection 2 Head (m)
Maximum HGL	130.7	130.7
Peak Hour	127.0	126.8
Max Day plus Fire Flow #3 14,000 L/min (233 L/s)	124.9	122.7

2.4.3 Water Model

A hydraulic water model within the WaterCAD® software platform was used to carry out the HNA (refer to the overall schematic presented in Appendix C). The water demands from Table 1 and the boundary conditions from Table 2 were input into the model for each demand scenario. Table 3 summarizes the watermain diameters and roughness coefficients used in the model, based on Sections 4.2.12 and 4.3.5 of the Design Guidelines.

Table 3: Watermain Internal Diameters and C-Factors

Nominal Diameter	Inside Diameter	C-Factor
150 mm	155 mm	100
200 mm	204 mm	110
300 mm	297 mm	120

2.5 Simulation Results

The HNA was carried out under steady-state peak hour, maximum day plus fire flow, and maximum pressure conditions to confirm that the proposed water servicing can meet the design criteria outlined in Section 2.1.

2.5.1 Peak Hour

The simulation results found the minimum pressure at the site (node J-22 in the model) during the peak hour condition to be 396 kPa (57.44 psi) (refer to Appendix C), which exceeds the minimum pressure criterion of 276 kPa (40 psi) per the Design Guidelines.

2.5.2 Maximum Day Plus Fire Flow

Fire water supply will be provided by the fully automatic sprinkler system, the hydrants within the East Ridge Orleans subdivision, and by a proposed hydrant off the 150 mm

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diameter water lateral within Block 14. To ensure adequate fire protection, the maximum day demand shown in Table 1 was analyzed simultaneously with the fire flow requirements. As mentioned in Section 2.3, a sprinkler system flow of 1500 L/min (25 L/s) was applied for Block 14, and it was assumed that only one (1) building would require fire flow at once.

Once the maximum day demands, the sprinkler system demands and the 14,000 L/min (233 L/s) boundary condition provided by the City (refer to Table 2) were input in the model, the fire flow simulation was carried out by allowing WaterCAD® to calculate the available fire flow that can be drawn from a hydrant without allowing any part of the system to experience pressures less than 140 kPa (20 psi).

From the simulation results, the system is expected to deliver 14,000 L/min (233 L/s) to the site through the contribution of the sprinkler system and the nearby hydrants. Attached to Appendix C is a map of the hydrant coverage for Block 14 which confirms that both buildings within the block meet the RFF of 233 L/s through the aggregate sum of hydrant flows. Based on Appendix I of TB-2018-02 hydrants within 75 m of a building can provide 95 L/s of fire flow and hydrants within 75 to 150 m of a building can provide 63 L/s of fire flow.

2.5.3 Maximum Pressure

Based on a zero (0 L/s) demand condition, the simulation results found the maximum pressure at the site (node J-22) to be 435 kPa (63.09 psi). This value is below the maximum pressure constraint of 552 kPa (80 psi), therefore pressure reducing valves (PRVs) are not anticipated to be required.

2.6 Internal Pumping Requirements

Based on the results presented above, internal building pumps are anticipated to be required due to the height of the building. The pumps should be designed by the Owner's mechanical engineer.

2.7 Summary and Conclusions

Based on the water simulation results, the proposed development can be serviced by the proposed 150 mm water service lateral connected to the 200 mm watermain loop within the East Ridge Orleans Subdivision. Furthermore, adequate fire water supply can be achieved with the proposed hydrants within the East Ridge Orleans Subdivision and the proposed hydrant off the 150 mm water lateral servicing Block 14. Internal building pumps are anticipated to be required.

3.0 WASTEWATER SERVICING

3.1 Design Criteria

The sanitary sewer system within the Mixed-Use Site Plan (Block 14) is designed in accordance with the Ottawa Sewer Design Guidelines and subsequent technical bulletins. The design parameters are applied under two scenarios as per ISTB Technical Bulletin 2018-01. The key design parameters have been summarized in the table below.

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Table 4: Wastewater Key Design Parameters

Design Parameter	Design Value
Commercial Average Flow	28,000 L/gross ha/Day
Residential Average Flow	280 L/Cap/Day
Residential Peaking Factor	Harmon's Formula
Commercial Peaking Factor	1.5
Harmon's Correction Factor (K)	0.8
Infiltration Allowance	0.33 L/s/ha
Manning's Roughness Coefficient (n)	0.013
Allowable Slopes	Varies (Refer to Section 6.1.2.2 of ODSG)
Allowable Velocities	0.6 m/s – 3.0 m/s
Allowable Freeboard	-

3.2 Proposed Sanitary Servicing and Design Flows

Wastewater generated from Block 14 will be conveyed via a proposed 200 mm diameter sanitary service lateral, which will then discharge into the East Ridge Orleans Subdivision. Based on the design criteria above and the site constraints, a total design peak flow of 1.97 L/s is calculated for the development. The table below summarizes the peak sanitary flow for the site plan. A detailed design sheet can be found in Appendix E.

Table 5: Sanitary Design Flow Summary

Area	Site Area	Unit Count	Unit Density	Pop.	Harmon's Peaking Factor	Res. Peak Flow	Comm. Peak Flow	Infilt. Flow	Total Flow
Block 14	0.57 ha	84	1.8 ppu	151 persons	3.55	1.74 L/s	0.05 L/s	0.19 L/s	1.97 L/s

A 200 mm diameter sanitary service lateral is expected to have sufficient capacity to convey the wastewater flows for the site. The flows from this block were already incorporated in the design of the sanitary sewer for the subdivision (refer to the East Ridge Orleans Subdivision Site Servicing Report prepared by J.L. Richards and Associates, dated February 16, 2024). As shown in this report, the subdivision will consist of 200 mm diameter pipes which will have, at minimum, 20.24 L/s of capacity. Furthermore, the overall subdivision inclusive of the Site Plan Blocks 14, 15 and 17 is expected to generate 12.98 L/s of wastewater flows which is less than the minimum expected capacity of the pipes by 35%. Therefore, it is anticipated that the sanitary sewer system downstream will have sufficient capacity for the 1.97 L/s of wastewater flows generated by Block 14.

Furthermore, it has been confirmed by the Owner's Mechanical Engineer that a 200mm diameter service will be sufficient to convey the flows generated by the mechanical fixtures (refer to Appendix E).

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3.3 Summary and Conclusions

Wastewater servicing for Block 14 will be designed in accordance with the City of Ottawa Sewer Design Guidelines, the associated technical bulletins, and various background documents as highlighted throughout this section. Wastewater will be conveyed via a proposed 200 mm diameter sanitary service lateral which will then discharge into the East Ridge Orleans Subdivision. It is recommended that this wastewater servicing plan be implemented to provide adequate sanitary servicing for the proposed development.

4.0 STORM SERVICING AND STORMWATER MANAGEMENT

4.1 Design Criteria

Storm and stormwater management servicing for the Mixed-Use Site Plan (Block 14) was developed in accordance with the City of Ottawa 2012 Sewer Design Guidelines (OSDG) and the more recent Technical Bulletin PIEDTB-2016-01 (September 6, 2016). These two documents are herein referred to as the Design Guidelines in this section. A summary of the key storm and stormwater management criteria follows:

- Control minor system flows to the allowable release rates of 58 L/s as identified in Table 5-3 Site Servicing Report 2983, 3053 and 3079 Navan Road & 2690 Pagé Road, Ottawa, Ontario (JLR November 2024);
- The runoff coefficients (C-factors) to be calculated based on the ratio of pervious and impervious surfaces depicted on proposed site plans;
- Minimum roadway slope of 0.1% from crest-to-crest for overland flow route;
- Minimum rear yard slope in the absence of perforated pipe system of 1.5% along with swale side slopes of 3 horizontal to 1 vertical;
- Maximum parking ponding depth of 350 mm (static and dynamic) as per the Design Guidelines and maximum depth of surface flow to be 300 mm;
- Minimum vertical clearance of 0.15 m between the spill elevation on the street and the finished grade (garage elevation);
- Minimum vertical clearance of 0.30 m between the surface spill elevation and the ground elevation at the building in the rear yards;
- Major system flows, up to and including the 1:100-year design storm event, are contained within the site using the parking lot area and surface drainage.
- Quality control will be accommodated by Pond #3 to meet an MECP Enhanced Level of Protection (80% TSS removal) as identified in Site Servicing Report 2983, 3053 and 3079 Navan Road & 2690 Pagé Road, Ottawa, Ontario (JLR November 2024).
- Provide measures to ensure that site preparation and construction is in accordance with the current Best Management Practices for Erosion and Sediment Control.

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4.2 Proposed Stormwater Management Approach

In order to achieve the allowable release rates, the stormwater management of the site will include:

- Rooftop control with rooftop storage and released at a cumulative controlled release rate of 2 L/s for each building; per WATTS RD-200 detail for Small Area Roof Drain (Appendix D) and as recommended by the landowner's mechanical engineer.
- Surface storage within the parking lots in greater than a 1:2-year event with captured flows conveyed to the building plumbing system and internal cistern;
- Ramp runoff captured and conveyed to the building plumbing system and internal cistern;
- Storage in the building cistern with flows pumped at a controlled rate to the minor system with a backwater valve at the connection; and,
- Controlled release of the flows captured in the ditch drainage system for the surrounding landscaped areas.

Foundation drains will be connected to the internal building plumbing system therefore no HGL analysis is required.

4.3 Proposed Minor System Servicing

A minor system connection will be provided from the building envelope to the minor system within the subdivision. The connection will be sized based on the 1:2-year release from the site. The runoff coefficient is based on the ratio of impervious surfaces and grassed or landscaped areas. The breakdown between pervious and impervious surfaces is shown on the figure entitled Overall Site Imperviousness in Appendix D. A design sheet for sizing of the connection is provided in Appendix D.

4.4 Stormwater Management Modelling Approach

4.4.1 Dual Drainage Model

The analysis of both major and minor drainage systems was carried out to demonstrate their compliance with respect to the design criteria described in Section 4.1. The performance of the major overland system and minor storm sewer system was analyzed with PCSWMM. This software is a dynamic model which allows both hydrologic and hydraulic components to be simulated in the same platform and also allows the simulation of the interaction between the major and minor systems. The PCSWMM software platform was used to:

- Generate the surface runoff hydrograph for each sub-area under various recurrences.
- Subdivide each inflow hydrograph into its minor and major system components based on the proposed inlet capture rates and roadway sag storage.
- Assess cascading, if any, and carry out dynamic routing of storm flows to determine flow depths along the roadways. As previously stated, the maximum

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major overland flow depths within the parking lot areas are to be limited to 350 mm or less, as per Technical Bulletin PIEDTB-2016-01.

PCSWMM was set-up to evaluate the proposed servicing as detailed on Drawing C01 and C02. Subcatchments were delineated for the structure roof areas, parking lot low points and landscaped low points. Model schematics are prepared in Appendix D.

4.4.2 Boundary Conditions

Boundary conditions are taken from the downstream subdivision model issued as part of the Site Servicing Report 2983, 3053 and 3079 Navan Road & 2690 Pagé Road, Ottawa, Ontario (JLR 2023).

The downstream 1:100-year HGL at the connection to the Subdivision at MH525 from the building internal system outlet is identified as 81.17 m, which is lower than the proposed building connection and therefore there is no backflow from the boundary condition and no impacts on the system.

There are two connections to the subdivision system from landscaped areas, one connection is a T-connection into the pipe from MH526-MH525 which has controlled release. The HGL at this point in the system is 81.45 m which is below the catchbasin invert of 83.09m and therefore there is no backflow from the boundary condition and no impacts on HGL.

A second landscaped area connection is a connection directly into MH 527 upstream of the inline ICD. The HGL at this manhole is 85.11m which is higher than the catch basin invert of 83.9 meters. For this reason, a timeseries representing the head in the manhole over the storm period has been applied to the outfall representing MH 527 in the Block 14 PCSWMM model.

4.4.3 Hydrological Modelling Parameters

The following parameters were used in the hydrologic component of PCSWMM:

- **Areas and Imperviousness:** Catchment ID and drainage areas used by PCSWMM match those shown on either Drawing DST or Figure E-1 (Appendix E1).
- **Catchment Width:** The catchment width is estimated at the width of overland sheet flow based on the grading of the catchment and slope direction.
- **Manning's Roughness Coefficient:** Manning's Roughness Coefficients of 0.013 and 0.25 were used for the impervious and pervious surfaces, respectively.

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- **Horton Infiltration parameters:** City of Ottawa OSDG Horton Infiltration Parameters have been used in the modelling.
- **Initial Abstraction:** Initial abstraction of 4.67 mm and 1.57 mm was used for the pervious and impervious surfaces respectively, consistent with the OSDG.

4.4.4 Simulation of Storm Distributions

To assess peak flow rates and peak volume storage requirements the 3-hour Chicago storm has been simulated for the site for the 1:2-year event and 1:100-year event and the 24-hour SCS storms for the 1:100-year event.

4.5 Simulation Results

4.5.1 Low Point Ponding Analysis

Ponding depths in the low points in the parking area and landscaped areas are shown in Table 6.

Table 6: Catchbasin Ponding Depths

Low Point ID	Top of Grate (m)	Maximum Static Depth (mm)	3-hour Chicago 1:2 year Depth (mm)	3-hour Chicago 1:100 year Depth (mm)	24-hour SCS 1:100 year Depth (mm)
1	85.70	150	20*	40	30
2	85.50	150	20*	40	30
3	85.60	300	0	130	130
4	85.65	300	0	80	80
5	85.05	250	0	230	210
6	85.70	150	20*	30	20

Those values marked with * are greater than 0 mm in the 2-year event due to the model setup. In order to represent the Zurn inlet control device, the orifice has been set at the top of grate elevation as the control is at the surface. Therefore, the model requires a head buildup over the structure for simulation of flows.

The simulation results compiled in Table 6 shows that:

- No ponding nor dynamic flow will occur in the 1:2-year event;
- Maximum ponding depth of 230 mm during the 1:100-year event; and,
- There is no spill from the site in the 1:100-year event.

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4.5.2 Roof Drainage

The roof drainage system is to be designed by the Mechanical Engineer to achieve a flow rate of 2L/s from each roof structure. The maximum depth of ponding required, assuming storage across 60% of the rooftop area, is 90 mm.

4.5.3 Parking Lot Drainage

The parking lot drainage system connects to the building cistern and is controlled by the ZURN_Z150F-6NH (detail provided in Appendix D) to allow the 1:2-year event to drain and for the surface to provide storage during greater events up to the 1:100 year. Capture rates are shown in Table 7.

Table 7: Parking Area ICD Capture Analysis

Low Point	Control Structure	1:2 year Rational Flow (l/s)	1:100 year 3-hour Chicago Flow (l/s)	1:100 year 3-hour Chicago Head (m)
1	ZURN_Z150F-6NH	9	24	0.04
2		11	30	0.04
6		7	19	0.03

The table shows that the parking lot control structures capture the 1:2-year design flow.

4.5.4 Landscaped Drainage

The landscaped drainage consists of two outlets into the subdivision minor system. The drainage system represents a typical rear yard system of swales and perforated pipes. At one downstream end the MHF_IPEX_TYPE_B ICD provides flow control to 38 L/s and discharges into the pipe downstream of MH 526 in the 1:100-year event with a head of 2.19 m. The release is greater than the rational method 1:2-year design flow of 14 L/s for the combined upstream catchments.

At the second outlet, the Vortex ICD 70 provides flow control to 6 L/s into MH 527 in the 1:100-year event with a head of 1.83 m. The release rare meets the 1:2-year rational flow of 6 L/s for the upstream catchments.

Low Point	Control Structure	1:2 year Rational Flow (l/s)	1:100 year 3-hour Chicago Flow (l/s)	1:100 year 3-hour Chicago Head (m)
3	NO ICD	4	6	1.53
4	Vortex ICD 70	2		1.83
5	MHF_IPEX_TYPE_B	14	38	2.19
Total:		20	44	-

The table shows that the landscaped control structures capture the 1:2-year design flow.

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4.5.5 Building Release Rates

To maintain overall release rate from the site at the allowable flow rate of 58 L/s, the building drainage system must be controlled to 10 L/s. Based on a pumped rate of 10 L/s a cistern size of 64 m³ is required in the building basement.

4.6 Summary and Conclusions

The stormwater servicing achieves a release rate from the site to the minor system limited to the allowable release rate and contains up to the 1:100 year on site.

5.0 Erosion and Sedimentation Control

Erosion and sediment control measures, as outlined in the Ontario Ministry of Natural Resources (MNR) Guidelines on Erosion and Sediment Control for Urban Construction Sites, will be implemented to trap sediment on site. The following erosion and sediment control measures can be implemented during construction as shown on the Erosion and Sediment Control Plan (Drawing ESC):

- Supply and installation of a silt fence barrier, as per OPSD 219.110.
- Supply and installation of siltsack or sentinel CB inserts between the frame and cover of catch basins and maintenance holes adjacent to the project area during construction, to prevent sediment from entering the sewer system.
- Stockpiling of material during construction is to be located along flat areas away from drainage paths. For material placed on sloped areas, stockpiles are to be enclosed with a silt fence to protect watercourses.
- All catch basins are to be equipped with sumps, inspected frequently, and cleaned as required.
- Temporary ICD to be placed blocking part of the sanitary sewer pipe in the connecting maintenance holes to eliminate construction debris from entering the existing sanitary sewer system. The ICDs are to be removed after the proposed sanitary sewers have been fully cleaned.

The proposed removal and reinstatement measures as well as the erosion control measures shall conform to the following documents:

- “Guidelines on Erosion and Sediment Control for Urban Construction Sites” published by Ontario Ministries of Natural Resources, Environment, Municipal Affairs, and Transportation & Communication, Association of Construction Authorities of Ontario and Urban Development Institute, Ontario, May 1987.
- “MTO Drainage Manual”, Chapter F: “Erosion of Materials and Sediment Control”, Ministry of Transportation & Communications, 1985.
- “Erosion and Sediment Control” Training Manual by Ministry of Environment, Spring 1998.
- Applicable Regulations and Guidelines of the Ministry of Natural Resources.

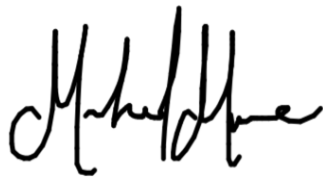
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2983, 3053 and 3079 Navan Road & 2690 Pagé Road, Ottawa, Ontario

Appendix A

Concept Plan, Draft Plan of
Subdivision and Topographical
Survey

NAVAN ROAD
DEVELOPMENT2983, Navan Road, Orleans,
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3070, CHEMIN DES QUATRE-BORGEAIS
QUÉBEC (QC) G1W 2M4
PMAARCHITECTES.COM53, BOUL. SAINT-RAYMOND,
GATINEAU, QC J8Y 1R8

ENGINEERS / PLANNER



ENGINEERS - ARCHITECTS - PLANNERS

1965 CARLING AVENUE, SUITE 700,
OTTAWA, ON K2J 8R1

SURVEYOR

1331 CLYDE AVENUE, SUITE 400,
OTTAWA, ON K2C 3G4

KEY PLAN

ARCHITECT SEAL

REVISIONS

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NOTICE
IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON THE SITE AND TO REPORT ALL ERRORS AND/OR OMISSIONS TO THE ARCHITECT. ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS. DO NOT SCALE DRAWINGS.

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DO NOT USE FOR
CONSTRUCTION

DATE	DESIGNED
2024-07-17	P.POMERLEAU

DRAWN BY
P. POMERLEAU

CHECKED
P. MARTIN

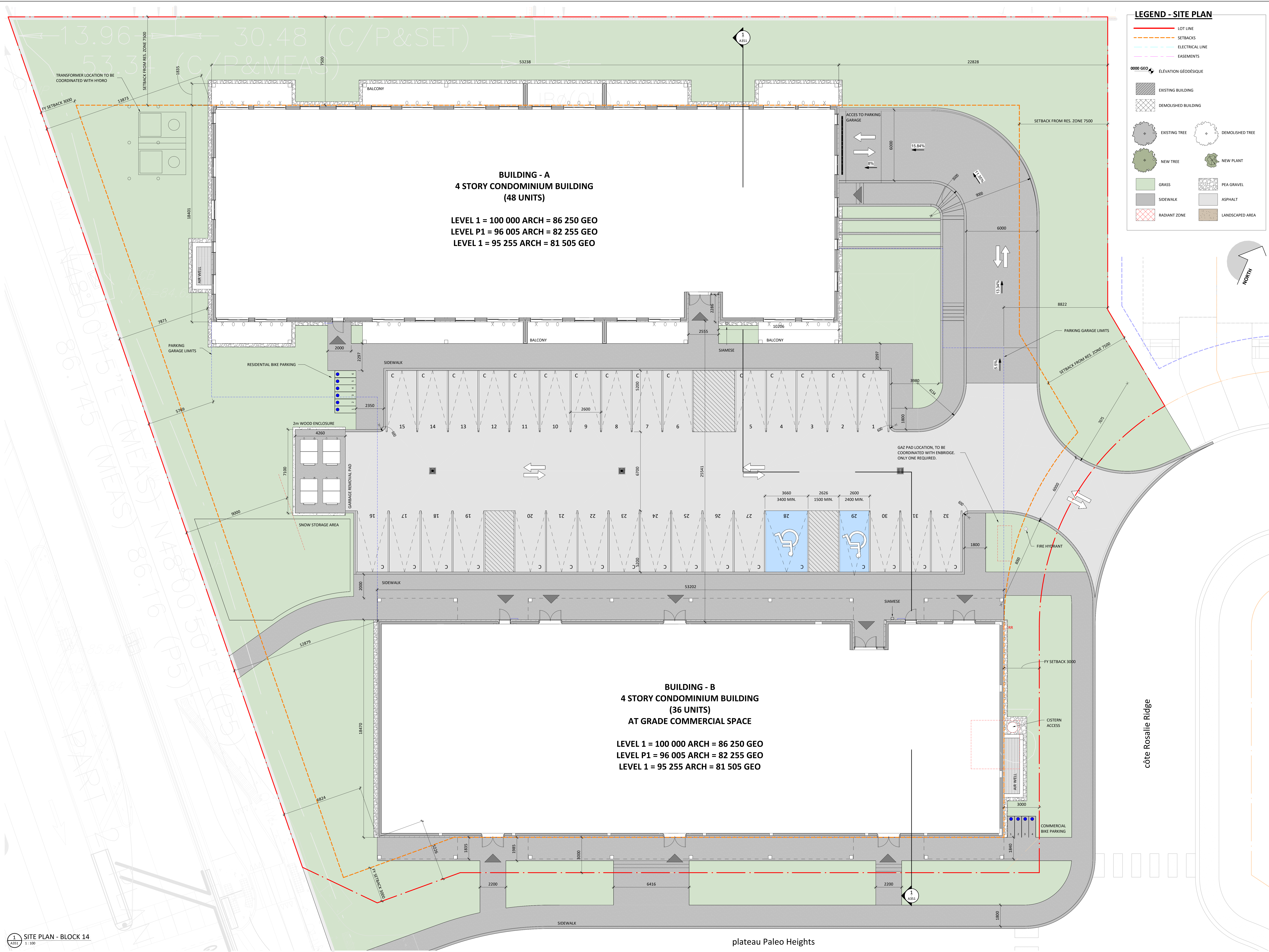
DOI: 10.1002/for

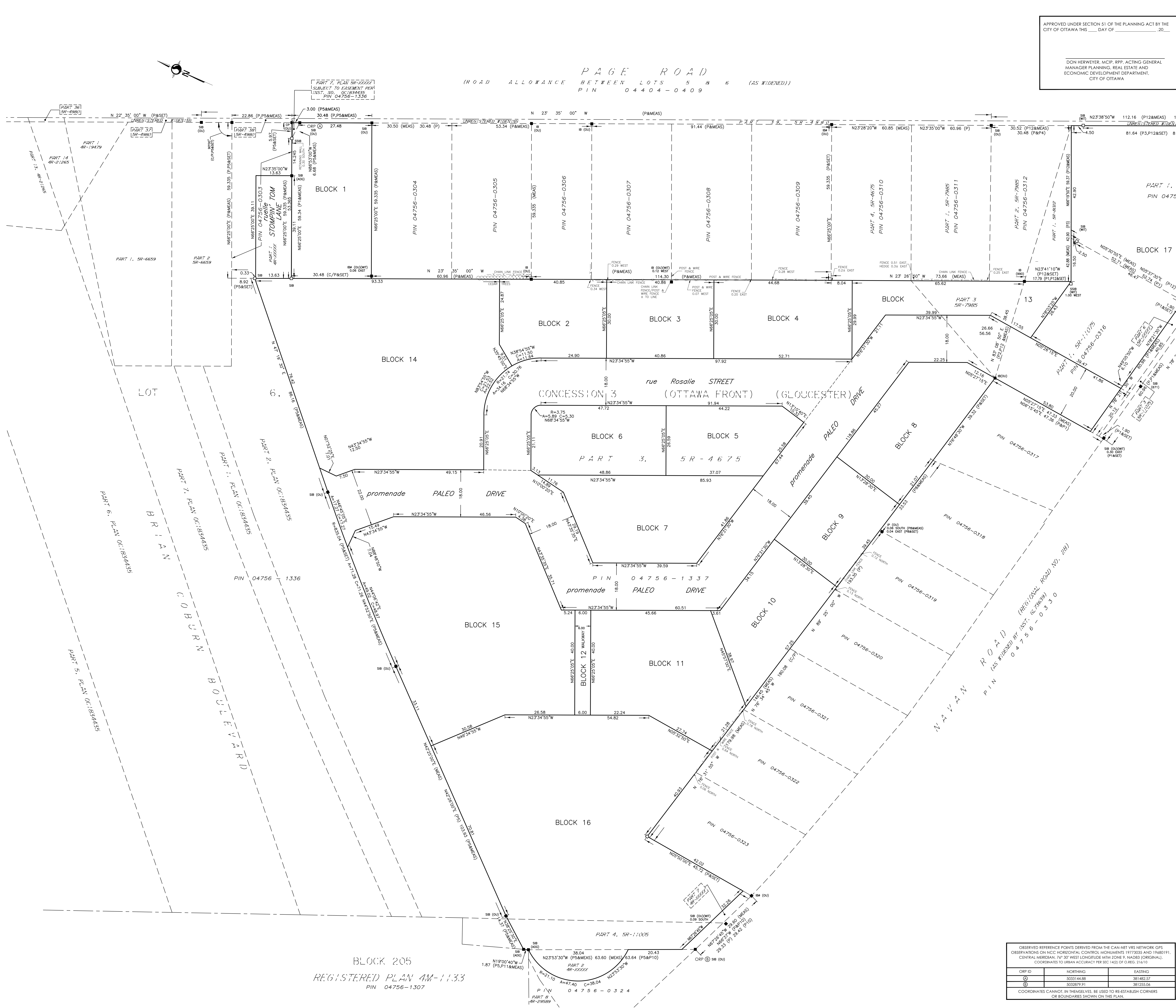
SHEET TITLE

SITE PLAN

SHEET NO.

A101





APPROVED UNDER SECTION 51 OF THE PLANNING ACT BY THE
CITY OF OTTAWA THIS ____ DAY OF _____, 20____.

DON HERWEYER, MCIP, RPP, ACTING GENERAL
MANAGER PLANNING, REAL ESTATE AND
ECONOMIC DEVELOPMENT DEPARTMENT,
CITY OF OTTAWA

PLAN 4M-

I HEREBY CERTIFY THAT THIS PLAN 4M-_____ IS REGISTERED IN THE
LAND REGISTRY OFFICE FOR THE LAND TITLES DIVISION OF
OTTAWA-CARLETON (No.4) AT _____ O'CLOCK ON THE _____ DAY OF
_____, 2023 AND ENTERED IN THE REGISTER FOR P.L.N.'s
04756-0303, 04756-0315, 04756-0316 & 04756-1337, AND THE REQUIRED
CONSENTS ARE REGISTERED AS PLAN DOCUMENT NUMBER
OC-_____.

REPRESENTATIVE FOR LAND REGISTRAR

THIS PLAN COMPRISES OF ALL OF PINS 04756-0303, 04756-0315, 04756-0316 & 04756-1337.

DRAFT PLAN OF SUBDIVISION OF
**PART OF LOT 6
CONCESSION 3 (OTTAWA FRONT)**
(GEOGRAPHIC TOWNSHIP OF GLOUCESTER)
CITY OF OTTAWA

Scale 1:500
0 5 10 20 30 METERS

METRIC CONVERSION
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES
AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

GRID SCALE CONVERSION
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING
BY THE COMBINED SCALE FACTOR OF 0.999994

BEARING NOTE
BEARINGS ARE GRID, DERIVED FROM CAN-NET VRS NETWORK GPS OBSERVATIONS
ON NCC HORIZONTAL CONTROL MONUMENTS 1977035 AND 19480191, CENTRAL
MERIDIAN, 74° 30' WEST LONGITUDE WITH ZONE 9, NAD83 (ORIGINAL).
FOR BEARING COMPARISONS, BEARINGS ON PLANS P. P1, P2 & P3 HAVE BEEN
ROTATED 0°41'30" COUNTERCLOCKWISE.

LEGEND

DENOTES	FOUND MONUMENTS
■	SET MONUMENTS (SB)
□	UNLESS OTHERWISE NOTED
IB	IRON BAR
IBD	ROUND IRON BAR
SB	STANDARD IRON BAR
SSB	SHORT STANDARD IRON BAR
CC	CUT CROSS
CP	CONCRETE PIN
WIT	WITNESS
PN	MEASURED
MEAS	PROPERTY IDENTIFICATION NUMBER
PROP	PROPORTIONED
OU	ORIGIN UNKNOWN
SG	STANTEC GEOMATICS LTD.
ORP	OBSERVED REFERENCE POINT
P	PLAN SR-4475
P1	PLAN SR-11075
P2	PLAN SR-7995
P3	PLAN SR-9893
P4	PLAN SR-8022
P5	PLAN OC183445
P6	PLAN SR-4900
P7	PLAN SR-6659
P8	PLAN BY FRM DATED SEPTEMBER 9, 2015
P9	PLAN BY 1175 DATED SEPTEMBER 30, 1987
P10	PLAN SR-11065
P11	REGISTERED PLAN 4M-1133
P12	PLAN BY 1465 DATED DECEMBER 10, 2020
C/P	CALCULATION FOR

NOTES

1. ALL PLANTED MONUMENTS SHOWN HEREON ARE IRON BARS (IB) UNLESS OTHERWISE NOTED.

OWNER'S CERTIFICATE

ALL OF PINS 04756-0303, 04756-0315, 04756-0316 & 04756-1337.
THIS IS TO CERTIFY THAT:

1. BLOCKS 1 TO 11, BOTH INCLUSIVE, BLOCKS 13 TO 17, BOTH INCLUSIVE, THE STREETS,
NAMESLY PROMENADE PALEO DRIVE, RUE ROSALIE STREET AND RUE STOMPIN TOM
LANE AND LANE, NAMESLY BLOCK 12, HAVE BEEN LAID OUT IN ACCORDANCE WITH
OUR INSTRUCTIONS.

2. THE STREETS ARE DEDICATED TO CITY OF OTTAWA AS PUBLIC HIGHWAYS.

DATE _____

I HAVE THE AUTHORITY TO BIND THE CORPORATION

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT,
THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER
THEM.

2. THE SURVEY WAS COMPLETED ON THE ____-th DAY OF _____, 2023.

DATE _____

I HAVE THE AUTHORITY TO BIND THE CORPORATION

Stantec Geomatics Ltd.
CANADIAN SURVEYORS
OTTAWA LAND SURVEYORS
1331 CLOVE AVENUE, SUITE 300
OTTAWA, ONTARIO, K1C 3Z4
TEL: 416-752-4400 FAX: 416-722-2799
stantec.com

DRAWN: ME/MTM CHECKED: _____ PK: _____ FIELD: BSL/G PROJECT NO.: 161614345-132

OBSERVED REFERENCE POINTS DERIVED FROM THE CAN-NET VRS NETWORK GPS OBSERVATIONS ON NCC HORIZONTAL CONTROL MONUMENTS 1977035 AND 19480191, CENTRAL MERIDIAN, 74° 30' WEST LONGITUDE WITH ZONE 9, NAD83 (ORIGINAL). COORDINATES TO UTM ACCURACY PER SEC 1401 OF 0.000 25410		
ORP ID	NORTHING	EASTING
①	933144.88	381482.57
②	933287.91	381255.06
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.		

Site Servicing Report

2983, 3053 and 3079 Navan Road & 2690 Pagé Road, Ottawa, Ontario

Appendix B

Pre Consultation Meeting
Notes and Site Servicing Report
Checklist

Carmine Zayoun
12714001 Canada Inc (Zayoun Group)
Via email: carmine@zayoungroup.com

**Subject: Pre-Consultation: Meeting Feedback
Proposed Site Plan Application – 2983 Navan Road
Four residential and two mixed-use buildings – PC2023-0226**

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on September 13, 2023.

Pre-Consultation Preliminary Assessment

1 ☐	2 ☐	3 ☐	4 ☒	5 ☐
----------------------------	----------------------------	----------------------------	---------------------------------------	----------------------------

One (1) indicates that considerable major revisions are required while five (5) suggests that the proposal appears to meet the City's key land use policies and guidelines. This assessment is purely advisory and does not consider technical aspects of the proposal or in any way guarantee application approval.

Next Steps

1. A review of the proposal and materials submitted for the above-noted pre-consultation has been undertaken. Please proceed to complete a Phase 2 / Phase 3 Pre-consultation Application Form and submit it together with the necessary studies and/or plans to planningcirculations@ottawa.ca.
2. In your subsequent pre-consultation submission, please ensure that all comments or issues detailed herein are addressed. A detailed cover letter stating how each issue has been addressed must be included with the submission materials. Please coordinate the numbering of your responses within the cover letter with the comment number(s) herein.
3. Please note, if your development proposal changes significantly in scope, design, or density before the Phase 3 pre-consultation, you may be required to complete or repeat the Phase 2 pre-consultation process.

Supporting Information and Material Requirements

1. The attached **Study and Plan Identification List** outlines the information and material that has been identified, during this phase of pre-consultation, as either required (R) or advised (A) as part of a future complete application submission.
 - a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline

the specific requirements that must be met for each plan or study to be deemed adequate.

Consultation with Technical Agencies

1. You are encouraged to consult with technical agencies early in the development process and throughout the development of your project concept. A list of technical agencies and their contact information is enclosed.

Planning

Comments:

1. In the Official Plan the subject site is designated as Neighbourhood is modified with the Evolving Neighbourhood overlay. Brian Coburn Boulevard is also designated as a Minor Corridor. The property is further identified as Low-density residential in the EUC – Phases 1 Community Design Plans (CDP). The subject lands are currently zoned GM[2546]H(14.5) General Mixed-Use, Exception and DR Development Reserve.

2. Committee of Adjustment

No variances have been identified at this point. I would be supportive of reducing the parking requirement for the residential units if it will result in addition landscaping and tree cover. Staff will set up a meeting with a Committee of Adjustment Plan if any required.

3. Design guidelines

The following guidelines are meant as a starting place to help guide the design. I realize that they are specifically related to your project. [Urban Design Guidelines for Low-rise Infill Housing](#)

4. Landscape requirements

All required yards are to be landscaped with parking located between the buildings. Green spaces and tree canopy needs to be maximized.

5. Parking requirements

Parking should comply with Sections 100, 101, 106, 109 and 111

Vehicle and bicycle parking should be situated with easily access while minimizing pavement.

6. Easements

Will there be any easements required?

7. Commercial units should be orientated to the streets as much as possible.
8. Provide locations of signage and ensure that space is made available for tree planting

Urban Design

9. This proposal does not run along or does not meet the threshold in one of the City's Design Priority Areas and need not attend the City's UDRP. Staff will be responsible for evaluating the Urban Design Brief and providing design direction.
10. An Urban Design Brief is a required submittal Re-zoning applications. The Urban Design Brief should be structured by generally following the headings highlighted under Section 3 – Contents of these Terms of Reference. Please see the Urban Design Brief Terms of Reference provided.
11. We recommend further detail be provided about the low-rise apartments to better understand their relationship to the surrounding buildings and properties.
12. If this site is located outside the greenbelt, a shadow analysis will be required.
13. We recommend the low-rise buildings fronting City streets consider grade related units accessed from the street to further 'fit-in' with the surrounding low-rise residential community where feasible.
14. We recommend additional landscaping detail be provided around the low-rise apartments to better understand how the buildings relate to their context.
15. We recommend additional detail be provided of the front yards of the townhouse units facing City streets to better understand how they will integrate with the public realm.
16. We recommend tree planting in front yards facing public right-of-way.
17. When a wind and/or shadow studies are required please refer to the Terms of Reference for the wind analysis and shadow analysis to conduct the studies and evaluate the impacts.
18. Note. The Urban Design Brief submittal should have a section which addresses these pre-consultation comments.



This is an exciting project in an area full of potential. We look forward to helping you achieve its goals with the highest level of design resolution. We are happy to assist and answer any questions regarding the above. Feel free to contact the Urban Design Planner, Christopher Moise, at Christopher.Moise@ottawa.ca, for follow-up questions

Engineering

Comments:

19. The Stormwater Management Criteria, for the subject site, is to be based on the following:

- a. The 5-yr storm event using the IDF information derived from the Meteorological Services of Canada rainfall data, taken from the MacDonald Cartier Airport, collected 1966 to 1997.
- b. For separated sewer system built pre-1970 the design of the storm sewers are based on a 2 year storm.
- c. The pre-development runoff coefficient or a maximum equivalent 'C' of 0.5, whichever is less (§ 8.3.7.3).
- d. A calculated time of concentration (Cannot be less than 10 minutes).
- e. Flows to the storm sewer in excess of the 5-year storm release rate, up to and including the 100-year storm event, must be detained on site.
- f. For a combined sewer system the maximum C= 0.4 or the pre-development C value, whichever is less. In the absence of other information the allowable release rate shall be based on a 2 year storm event.

20. Deep Services (Storm, Sanitary & Water Supply)

- a. Provide existing servicing information and the recommended location for the proposed connections. Services should ideally be grouped in a common trench to minimize the number of road cuts.
- b. Connections to trunk sewers and easement sewers are typically not permitted.
- c. Provide information on the monitoring manhole requirements – should be located in an accessible location on private property near the property line (ie. Not in a parking area).
- d. Review provision of a high-level sewer.

- e. Sewer connections to be made above the springline of the sewermain as per:
 - i. Std Dwg S11.1 for flexible main sewers – connections made using approved tee or wye fittings.
 - ii. Std Dwg S11 (For rigid main sewers) – lateral must be less than 50% the diameter of the sewermain,
 - iii. Std Dwg S11.2 (for rigid main sewers using bell end insert method) – for larger diameter laterals where manufactured inserts are not available; lateral must be less than 50% the diameter of the sewermain,
 - iv. Connections to manholes permitted when the connection is to rigid main sewers where the lateral exceeds 50% the diameter of the sewermain. – Connect obvert to obvert with the outlet pipe unless pipes are a similar size.
 - v. No submerged outlet connections.

21. Water Boundary condition requests must include the location of the service (map or plan with connection location(s) indicated) and the expected loads required by the proposed development, including calculations. Please provide the following information:

no BCR will be requested for res site plans, no watermains built, navaan connection already provided as part of subdivision

- a. Location of service
- b. Type of development and the amount of fire flow required (as per FUS).
- c. Average daily demand: ____ l/s.
- d. Maximum daily demand: ____ l/s.
- e. Maximum hourly daily demand: ____ l/s.

22. An MECP Environmental Compliance Approval **[Industrial Sewage Works or Municipal/Private Sewage Works]** will be required for the proposed development. Please contact the Ministry of the Environment, Conservation and Parks, Ottawa District Office to arrange a pre-submission consultation:

- a. Charlie Primeau at (613) 521-3450, ext. 251 or Charlie.Primeau@ontario.ca
- b. Emily Diamond at (613) 521-3450, ext. 238 or Emily.Diamond@ontario.ca

General Comments:

23. Review of the Phase 3 submission for this application will not occur until the detailed design of the subdivision that it is within (D07-16-21-0027) is approved.
24. At the stage of site plan approval, a condition will be imposed detailing that a commence work notification will not be issued until the subdivision's infrastructure is in-service.
25. Engineering Studies:
26. All engineering studies (detailed in the Study and Plan Identification List form) are to follow the to be approved draft plan of subdivision D07-16-21-0027

Feel free to contact Derek Unrau, Infrastructure Project Manager, for follow-up questions.

Noise

Comments:

27. Noise report is required to identify and mitigate traffic noise from Brian Coburn Boulevard and Navan Road

Feel free to contact the Senior Transportation Engineer, Mike Giampa, at Mike.Giampa@ottawa.ca , for follow-up questions.

Transportation

Comments:

- a. A full TIA is not required as this site is covered under the recent subdivision TIA.
- b. A memo including the pertinent subdivision trips is sufficient.
- c. The right of way protection on Brian Coburn and Navan Roads is 40m and 37.5m, respectively

Feel free to contact the Senior Transportation Engineer, Mike Giampa, at Mike.Giampa@ottawa.ca , for follow-up questions.

Planning Forestry

Comments:

- 28. A Tree Conservation Report and Landscape Plan must be submitted with both SPC applications
- 29. A permit is required prior to any tree removal on site. The tree permit will be released upon site plan approval. Please contact the File Lead or the Planning Forester, Hayley Murray (hayley.murray@ottawa.ca) for information on obtaining the tree permit.
- 30. If marine clay soils are present, setbacks on City properties must adhere to the 2017 SMC guidelines (attached). The Geotechnical report must address the implications of these soils, if present, on tree planting in relation to private land.
- 31. If underground parking is planned, a design must be provided for the site to support tree planting
- 32. We expect a very strong landscape plan to re-establish canopy cover across the properties. Tree planting and protecting existing urban forest canopy is imperative to reach the City's target of 40% canopy cover.

Feel free to contact Hayley Murray, Planning Forester, for follow-up questions.

Parkland

Comments:

- 33. Parkland contributions were made through the Subdivision process.

Feel free to contact Jessica Button, Parks Planner, for follow-up questions

Conservation Authority

Comments:

- 34. The Rideau Valley Conservation authority will be commenting on this application

Feel free to contact RVCA, for follow-up questions.

Other

- 35. The High Performance Development Standard (HPDS) is a collection of voluntary and required standards that raise the performance of new building projects to achieve sustainable and resilient design. The HPDS was passed by Council on April 13, 2022.



- a. At this time, the HPDS is not in effect and Council has referred the 2023 HPDS Update Report back to staff with direction to bring forward an updated report to Committee with recommendations for revised phasing timelines, resource requirements and associated amendments to the Site Plan Control By-law by no later than Q1 2024.
- b. Please refer to the HPDS information attached and ottawa.ca/HPDS for more information.

Submission Requirements and Fees

1. Outlines the application type/subtype required and the associated fees
 - a. Additional information regarding fees related to planning applications can be found [here](#).
2. The attached **Study and Plan Identification List** outlines the information and material that has been identified as either required (R) or advised (A) as part of a future complete application submission.
 - a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.
3. All of the above comments or issues should be addressed to ensure the effectiveness of the application submission review.

Should there be any questions, please do not hesitate to contact myself or the contact identified for the above areas / disciplines.

Yours Truly,
Steve Belan

cc.

Tim Chadder
Raad Akrawi
Madelen Fellows
Karla Ferrey
Tatyana Roumie
Christopher Moise
Derek Unrau
Mike Giampa
Haley Murray
Jessica Button

12714001 Canada Inc – Mixed Use Site Plan (Block 14)
2983, 3053 and 3079 Navan Road & 2690 Pagé Road
SITE SERVICING REPORT CHECKLIST

REFERENCED STUDIES AND REPORTS	REFERENCE
Site Servicing Report for 12714001 Canada Inc, Mixed Used Site Plan (Block 14) 2983, 3053 and 3079 Navan Road & 2690 Pagé Road (J.L. Richards & Associates Limited, December 8, 2023)	Site Servicing Report

4.1	GENERAL CONTENT	REFERENCE
☐	Executive Summary (for larger reports only).	N/A
☒	Date and revision number of the report.	Site Servicing Report
☒	Location map and plan showing municipal address, boundary, and layout of proposed development.	Site Servicing Report (Appendix A) All Drawings
☒	Plan showing the site and location of all existing services.	Servicing Plan
☒	Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to which individual developments must adhere.	Site Servicing Report
☒	Summary of Pre-consultation Meetings with City and other approval agencies.	Site Servicing Report (Appendix 'A')
☒	Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defensible design criteria.	Reference made to Stantec 2005 EUC ISSU
☒	Statement of objectives and servicing criteria.	Site Servicing Report
☒	Identification of existing and proposed infrastructure available in the immediate area.	Site Servicing Report Servicing Plan
☐	Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available).	N/A

☒	Concept level master grading plan to confirm existing and proposed grades in the development. This is required to confirm the feasibility of proposed stormwater management and drainage, soil removal and fill constraints, and potential impacts to neighbouring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths.	Grading Plan
☐	Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts.	N/A
☐	Proposed phasing of the development, if applicable.	N/A
☒	Reference to geotechnical studies and recommendations concerning servicing.	Site Servicing Report and Drawings
☒	All preliminary and formal site plan submissions should have the following information: ▪ Metric scale ▪ North arrow (including construction North) ▪ Key plan ▪ Name and contact information of applicant and property owner ▪ Property limits, including bearings and dimensions ▪ Existing and proposed structures and parking areas ▪ Easements, road widening and rights-of-way ▪ Adjacent street names	All Drawings

4.2	SITE SERVICING REPORT: WATER	REFERENCE
☐	Confirm consistency with Master Servicing Study, if available.	N/A
☒	Availability of public infrastructure to service proposed development.	Site Servicing Report (Section 2.0) Servicing Plan
☒	Identification of system constraints.	Site Servicing Report (Section 2.0) Servicing Plan
☒	Identify boundary conditions.	Site Servicing Report (Section 2.0)
☒	Confirmation of adequate domestic supply and pressure.	Site Servicing Report (Section 2.0)
☒	Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter's Survey. Output should show available fire flow at locations throughout the development.	Site Servicing Report (Section 2.0)
☒	Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves.	Site Servicing Report (Section 2.0)

☐	Definition of phasing constraints. Hydraulic modelling is required to confirm servicing for all defined phases of the project, including the ultimate design.	N/A
☒	Address reliability requirements, such as appropriate location of shutoff valves.	Site Servicing Report (Section 2.0)
☐	Check on the necessity of a pressure zone boundary modification.	N/A
☒	Reference to water supply analysis to show that major infrastructure can deliver sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range.	Site Servicing Report (Section 2.0)
☒	Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants), including special metering provisions.	Site Servicing Report (Section 2.0) Servicing Plan
☐	Description of off-site required feeder mains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.	N/A
☒	Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.	Site Servicing Report (Section 2.0)
☒	Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.	Site Servicing Report (Section 2.0)

4.3	SITE SERVICING REPORT: WASTEWATER	REFERENCE
☒	Summary of proposed design criteria (Note: Wet weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed infrastructure).	Site Servicing Report (Section 3.0,
☐	Confirm consistency with Master Servicing Study and/or justifications for deviations.	Stantec 2005 EUC ISSU
☐	Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the Guidelines. This includes groundwater and soil conditions, and age and condition of sewers.	N/A
☒	Description of existing sanitary sewer available for discharge of wastewater from proposed development.	Site Servicing Report (Section 3.0) Servicing Plan

☒	Verify available capacity in downstream sanitary sewer and/or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable.)	Site Servicing Report (Section 3.0)
☒	Calculations related to dry weather and wet weather flow rates from the development in standard MOE sanitary sewer design table (Appendix 'C') format.	Site Servicing Report (Section 3.0)
☒	Description of proposed sewer network, including sewers, pumping stations and forcemains.	Site Servicing Report (Section 3.0) Servicing Plan
☐	Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality).	N/A
☐	Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.	N/A
☐	Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.	N/A
☐	Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.	N/A
☐	Special considerations, such as contamination, corrosive environment, etc.	N/A

4.4	SITE SERVICING REPORT: STORMWATER	REFERENCE
☒	Description of drainage outlets and downstream constraints, including legality of outlets (i.e., municipal drain, right-of-way, watercourse, or private property).	Site Servicing Report (Section 4.0)
☒	Analysis of available capacity in existing public infrastructure.	Site Servicing Report (Section 4.0)
☒	A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.	Servicing, Grading and Drainage Plans
☒	Water quantity control objective (e.g. controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5 year event (dependent on the receiving sewer design) to 100 year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects.	Site Servicing Report (Section 4.0)

☒	Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.	Site Servicing Report (Section 4.0)
☒	Description of the stormwater management concept with facility locations and descriptions with references and supporting information.	Site Servicing Report (Section 4.0) Servicing, Grading and Drainage Plans
☐	Setback from private sewage disposal systems.	N/A
☐	Watercourse and hazard lands setbacks.	N/A
☒	Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.	Site Servicing Report (Appendix 'A')
☐	Confirm consistency with subwatershed and Master Servicing Study, if applicable study exists.	Stantec 2005 EUC ISSU
☒	Storage requirements (complete with calculations) and conveyance capacity for minor events (1:2 year return period) and major events (1:100 year return period).	Site Servicing Report (Section 4.0)
☐	Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	N/A
☒	Calculate pre- and post-development peak flow rates, including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions.	Site Servicing Report (Section 4.0)
☒	Any proposed diversion of drainage catchment areas from one outlet to another.	Site Servicing Report (Section 4.0)
☒	Proposed minor and major systems, including locations and sizes of stormwater trunk sewers, and stormwater management facilities.	Servicing, Grading and Drainage Plans
☐	If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event.	Quantity control proposed per Site Servicing Report (Section 4.0)
☐	Identification of potential impacts to receiving watercourses.	N/A
☐	Identification of municipal drains and related approval requirements.	N/A
☒	Description of how the conveyance and storage capacity will be achieved for the development.	Site Servicing Report (Section 4.0)

☒	100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	Site Servicing Report (Section 4.0) Servicing, Grading and Drainage Plans
☒	Inclusion of hydraulic analysis, including hydraulic grade line elevations.	Site Servicing Report (Section 4.0)
☒	Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.	Site Servicing Report (Section 5.0) Servicing Plan
☐	Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.	N/A
☐	Identification of fill constraints related to floodplain and geotechnical investigation.	N/A

4.5	APPROVAL AND PERMIT REQUIREMENTS	REFERENCE
The Site Servicing Report shall provide a list of applicable permits and regulatory approvals necessary for the proposed development, as well as the relevant issues affecting such approval. The approval and permitting shall include but not be limited to the following:		
☐	Conservation Authority as the designated approval agency for modification of floodplain, potential impact on fish habitat, proposed works in or adjacent to a watercourse, cut/fill permits and Approval under Lakes and Rivers Improvement Act. The Conservation Authority is not the approval authority for the Lakes and Rivers Improvement Act. Where there are Conservation Authority regulations in place, approval under the Lakes and Rivers Improvement Act is not required, except in cases of dams, as defined in the Act.	N/A
☐	Application for Environmental Compliance Approval (ECA) under the Ontario Water Resources Act.	As part of future submission
☐	Changes to Municipal Drains.	N/A
☐	Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation, etc.).	N/A

4.6	CONCLUSION CHECKLIST	REFERENCE
☒	Clearly stated conclusions and recommendations.	Site Servicing Report
☒	Comments received from review agencies, including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.	Not yet applicable

☒	All draft and final reports shall be signed and stamped by a Professional Engineer registered in Ontario.	Site Servicing Report All Drawings

Site Servicing Report

2983, 3053 and 3079 Navan Road & 2690 Pagé Road, Ottawa, Ontario

Appendix C

Water Servicing

WATERMAIN DEMAND CALCULATION SHEET

PROJECT : NAVAN ROAD DEVELOPMENT PROJECT
LOCATION : CITY OF OTTAWA
DEVELOPER : 12714001 Canada Inc.

NODE	RESIDENTIAL			NON-RESIDENTIAL COMM (ha.)	AVERAGE DAILY DEMAND (l/s)			MAXIMUM DAILY DEMAND (l/s)			PEAK HOUR DEMAND (l/s)		
	UNITS		POP'N		Res.	Non-res.	Total	Res.	Non-res.	Total	Res.	Non-res.	Total
	Townhouses (TH)	Condo Units (CU)											
J-22	0	84	151	0.09	0.49	0.03	0.52	1.23	0.05	1.27	2.70	0.08	2.78
TOTALS	0	84	151	0.09	0.49	0.03	0.52	1.23	0.05	1.27	2.70	0.08	2.78

ASSUMPTIONS			
RESIDENTIAL DENSITIES		AVG. DAILY DEMAND	
- Townhouse (TH)	2.7 p / p / u	- Residential	280 l / cap / day
		- Institutional	28,000 l / ha / day
- Condo Units (CU)	1.8 p / p / u	- Commercial	28,000 l / ha / day
		MAX. DAILY DEMAND	
	p / p / u	- Residential	700 l / cap / day
		- Institutional	42,000 l / ha / day
		- Commercial	42,000 l / ha / day
		MAX. HOURLY DEMAND	
		- Residential	1,540 l / cap / day
		- Institutional	75,600 l / ha / day
		- Commercial	75,600 l / ha / day

FUS Fire Flow Calculations

NAVAN ROAD DEVELOPMENT PROJECT - Commercial Building (JLR 29899-002)

Step	Parameter	Value		Note
A	Type of Construction	Wood Frame		Building A (4 Story Mixed Use Condominium Building)
	Coefficient (C)	1.5		
B	Ground Floor Area	929	m ²	
C	Height in storeys	4	storeys	Basements are excluded.
	Total Floor Area	3716	m ²	
D	Fire Flow Formula	F=220C√A		
	Fire Flow	20116	L/min	
	Rounded Fire Flow	20000	L/min	Flow rounded to nearest 1000 L/min.
E	Occupancy Class	Limited Combustible		Residential buildings have a limited combustible occupancy.
	Occupancy Charge	-15%		
	Occupancy Increase or Decrease	-3000		
	Fire Flow	17000	L/min	No rounding applied.
F	Sprinkler Protection	Automatic Fully Supervised		
	Sprinkler Credit	-50%		
	Decrease for Sprinkler	-8500	L/min	
G	North Side Exposure			
	Exposing Wall:	Wood Frame		Building A Townhomes
	Exposed Wall:	Wood Frame		
	Length of Exposed Wall:	15.1	m	
	Height of Exposed Wall:	2	storeys	
	Length-Height Factor	30.1	m-storeys	
	Separation Distance	10.41	m	
	North Side Exposure Charge			
	12%			
	East Side Exposure			
	Exposing Wall:	Wood Frame		Building A Townhomes
	Exposed Wall:	Wood Frame		
	Length of Exposed Wall:	14.4	m	
	Height of Exposed Wall:	0	storeys	
	Length-Height Factor	0.0	m-storeys	
	Separation Distance	25.84	m	
	East Side Exposure Charge			
	8%			
	South Side Exposure			
	Exposing Wall:	Wood Frame		Building A Building B
	Exposed Wall:	Wood Frame		
	Length of Exposed Wall:	39.2	m	
	Height of Exposed Wall:	4	storeys	
	Length-Height Factor	156.8	m-storeys	
	Separation Distance	25.25	m	
	South Side Exposure Charge			
	10%			
	West Side Exposure			
	Exposing Wall:	Wood Frame		
	Exposed Wall:	Wood Frame		
	Length of Exposed Wall:	0.0	m	
	Height of Exposed Wall:	0	storeys	
	Length-Height Factor	0.0	m-storeys	
	Separation Distance	50	m	
West Side Exposure Charge				
0%				
Total Exposure Charge				
30%				
The total exposure charge is below the maximum value of 75%.				
Increase for Exposures				
5100 L/min				
H	Fire Flow	13600	L/min	
	Rounded Fire Flow	14000	L/min	Flow rounded to nearest 1000 L/min.
City Cap	Required Fire Flow (RFF)	14000	L/min	
		233	L/s	

Fire Underwriters Survey (FUS) Fire Flow Calculations

In accordance with City of Ottawa Technical Bulletin ISTB-2018-02 dated March 21, 2018

FUS Fire Flow Calculations

NAVAN ROAD DEVELOPMENT PROJECT - Commercial Building (JLR 29899-002)

Step	Parameter	Value		Note
A	Type of Construction	Wood Frame		Building B (4 Story Mixed Use Condominium Building)
	Coefficient (C)	1.5		
B	Ground Floor Area	929	m ²	
C	Height in storeys	4	storeys	Basements are excluded.
	Total Floor Area	3716	m ²	
D	Fire Flow Formula	F=220C√A		
	Fire Flow	20116	L/min	
	Rounded Fire Flow	20000	L/min	Flow rounded to nearest 1000 L/min.
E	Occupancy Class	Limited Combustible		Residential buildings have a limited combustible occupancy.
	Occupancy Charge	-15%		
	Occupancy Increase or Decrease	-3000		
	Fire Flow	17000	L/min	No rounding applied.
F	Sprinkler Protection	Automatic Fully Supervised		
	Sprinkler Credit	-50%		
	Decrease for Sprinkler	-8500	L/min	
G	North Side Exposure			
	Exposing Wall:	Wood Frame		Building B
	Exposed Wall:	Wood Frame		Building A
	Length of Exposed Wall:	39.2	m	
	Height of Exposed Wall:	4	storeys	
	Length-Height Factor	156.8	m-storeys	
	Separation Distance	25.25	m	
	North Side Exposure Charge	10%		
	East Side Exposure			
	Exposing Wall:	Wood Frame		Building B
	Exposed Wall:	Wood Frame		Townhomes
	Length of Exposed Wall:	14.3	m	
	Height of Exposed Wall:	0	storeys	
	Length-Height Factor	0.0	m-storeys	
	Separation Distance	28.76	m	
	East Side Exposure Charge	8%		
	South Side Exposure			
	Exposing Wall:	Wood Frame		Building B
	Exposed Wall:	Wood Frame		Building C
	Length of Exposed Wall:	36.1	m	
	Height of Exposed Wall:	4	storeys	
	Length-Height Factor	144.5	m-storeys	
	Separation Distance	26.02	m	
	South Side Exposure Charge	10%		
	West Side Exposure			
	Exposing Wall:	Wood Frame		
	Exposed Wall:	Wood Frame		
	Length of Exposed Wall:	0.0	m	
	Height of Exposed Wall:	0	storeys	
	Length-Height Factor	0.0	m-storeys	
	Separation Distance	50	m	
	West Side Exposure Charge	0%		
	Total Exposure Charge	28%		The total exposure charge is below the maximum value of 75%.
	Increase for Exposures	4760	L/min	
H	Fire Flow	13260	L/min	
	Rounded Fire Flow	13000	L/min	Flow rounded to nearest 1000 L/min.
City Cap	Required Fire Flow (RFF)	13000	L/min	
		217	L/s	

Fire Underwriters Survey (FUS) Fire Flow Calculations

In accordance with City of Ottawa Technical Bulletin ISTB-2018-02 dated March 21, 2018

NAVAN ROAD
DEVELOPMENT2983, Navan Road, Orleans,
ON K1C 7G4

OWNER

788, BOUL. SAINT-JOSEPH, SUITE 100
GATINEAU, QC J8Y 4B8

ARCHITECTURAL

(416) 851-8954
INFO@PMAARCHITECTS.COM
3070, CHEMIN DES QUATRE-BOURGEOIS
QUÉBEC, QC G1V 2M4
PMAARCHITECTS.COM53, BOUL. SAINT-RAYMOND,
GATINEAU, QC J8Y 1R8

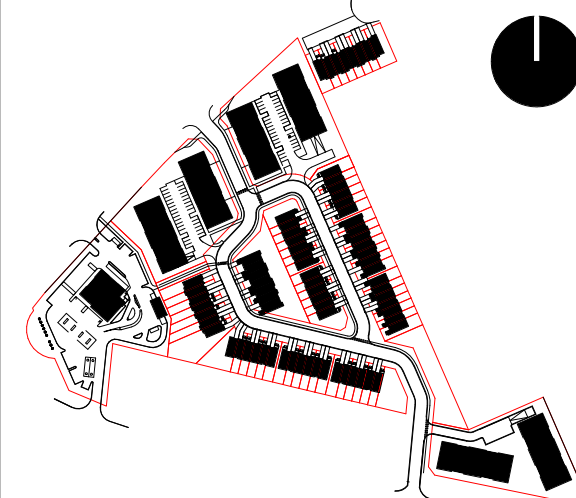
ENGINEERS / PLANNER

1565 CARLING AVENUE, SUITE 700,
OTTAWA, ON K1Z 6R1

SURVEYOR

1331 GLYDE AVENUE, SUITE 400,
OTTAWA, ON K2C 3G4

KEY PLAN



ARCHITECT SEAL

REVISIONS

NO	DESCRIPTION	DATE
1	FOR CITY REVIEW	2022-11-28
2	FOR COORDINATION	2022-11-08
3	FOR COORDINATION	2022-11-01
4	FOR COORDINATION	2022-10-14
5	FOR COORDINATION	2022-11-03
6	FOR COORDINATION	2022-11-03
7	FOR COORDINATION	2022-11-03
8	FOR COORDINATION	2022-11-03
9	FOR COORDINATION	2022-11-03
10	FOR COORDINATION	2022-11-03

NOTE

IT IS THE RESPONSIBILITY OF THE APPROPRIATE
CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS
ON THE SITE AND TO REPORT ALL ERRORS AND/OR
OMISSIONS TO THE ARCHITECT. ALL CONTRACTORS
MUST COMPLY WITH ALL PERTINENT CODES AND BY-
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DATE

DESIGNED

PP

DRAWN

PP

PROJECT NO

CHECKED

PM

SHEET TITLE

SITE PLAN

SHEET NO

A100

LOTS AREAS		LOT NUMBER	
LOT NUMBER	AREAS (M2)	LOT NUMBER	AREAS (M2)
B01-1	394	B06-4	154
B01-2	184	B06-5	163
B01-3	184	B06-6	154
B01-4	189	B06-7	369
B01-5	189	B07	2,002
B01-6	184	B08-1	525
B01-7	184	B08-2	174
B01-8	299	B08-3	184
B02-1	281	B08-4	174
B02-2	176	B08-5	184
B02-3	184	B08-6	174
B02-4	184	B08-7	234
B02-5	174	B09-1	234
B02-6	233	B09-2	174
B03-1	250	B09-3	184
B03-2	182	B09-4	184
B03-3	182	B09-5	174
B03-4	182	B09-6	234
B03-5	182	B10-1	234
B03-6	182	B10-2	174
B03-7	250	B10-3	184
B04-1	233	B10-4	184
B04-2	174	B10-5	174
B04-3	184	B10-6	487
B04-4	174	B11-1	748
B04-5	184	B11-2	286
B04-6	174	B11-3	265
B04-7	278	B11-4	246
B05-1	368	B11-5	242
B05-2	154	B11-6	242
B05-3	163	B11-7	321
B05-4	163	B12	240
B05-5	154	B13	1,232
B05-6	206	B14	5,728
B06-1	206	B15	5,399
B06-2	154	B16	7,811
B06-3	163	B17	5,312

SITE PLAN LEGEND

	EXISTING BUILDING		LOT LINE
	NEW BUILDING		SETBACKS
	NEW BUILDING WITH COMMERCIAL SPACE AT-GRADE		NEW TREE
	GRASS		FIREWALL
	ASPHALT		SIDEWALK

SITE INFORMATION & DEVELOPMENT STATISTICS

LOTS	PIN
	04756 - 0303
	04756 - 0315
	04756 - 0316
	04756 - 1337
ZONING	GM(2546) H(14.5)
SITE AREA	
TOTAL SITE AREA:	~53,441.14 m ² (5.34ha)
TOTAL DEVELOPABLE AREA:	~45,956.28 m ² (4.59ha)
NET SITE AREA:	~38,956.28 m ² (3.89ha)
UNITS	
TOWNHOUSES:	67 UNITS
BLOCK 01:	
1 X RESIDENTIAL APARTMENT BUILDING	48 UNITS
1 X MIXED USE BUILDING	
RESIDENTIAL:	36 UNITS
COMMERCIAL SPACES:	~929 m ²
BLOCK 02:	
1 X RESIDENTIAL APARTMENT BUILDING	47 UNITS
1 X MIXED USE BUILDING	
RESIDENTIAL:	36 UNITS
COMMERCIAL SPACES:	~929 m ²
BLOCK 03:	
2 X RESIDENTIAL APARTMENT BUILDING	96 UNITS
TOTAL NUMBER OF UNITS:	330 UNITS
TOTAL COMMERCIAL SPACES:	~1,858 m ²

	REQUIRED	PROVIDED
MAXIMUM DENSITY	NO MAX.	84.8 units/net ha
MINIMUM LOT WIDTH	NO MIN.	5.8 m
MINIMUM LOT AREA	NO MIN.	174 m ²
MAXIMUM BUILDING HEIGHT	14.5 m	14.5 m
SETBACKS		
MINIMUM FRONT YARD:	3 m	3 m
MINIMUM CORNER SIDE YARD:	3 m	3 m
MINIMUM INTERIOR SIDE YARD:		
NON-RESIDENTIAL OR MIXED-USE:	5 m	5 m
LOW-RISE RESIDENTIAL :	1.2 m	1.2 m
MID-RISE RESIDENTIAL :	3 m	3 m
MINIMUM REAR YARD:		
ABUTTING A STREET:	3 m	3 m
FROM A RESIDENTIAL ZONE:	7.5 m	7.5 m
FOR A RESIDENTIAL BUILDING:	7.5 m	7.5 m

PARKING RATES		
R9 - TOWNHOUSES:	1 p/unit = 67	67 (GARAGES)
VISITOR:	0	67 DRIVE AISLES
BLOCK 14:		
R12 - APARTEMENTS	1.2 p/unit = 101	101 (UNDERGROUND)
VISITOR:	0.2 p/unit = 17	17 (UNDERGROUND)
N79 - RETAIL STORE:	3.4 p/100 m ² GFA = 32	32 (EXTERIOR)
TOTAL:		150
BLOCK 15:		
R12 - APARTEMENTS	1.2 p/unit = 100	100 (UNDERGROUND)
VISITOR:	0.2 p/unit = 17	17 (UNDERGROUND)
N79 - RETAIL STORE:	3.4 p/100 m ² GFA = 32	32 (EXTERIOR)
TOTAL:		150
BLOCK 18:		
R12 - APARTEMENTS	1.2 p/unit = 116	145 (UNDERGROUND)
VISITOR:	0.2 p/unit = 17	17 (8 EXT. + 12 UND.)
TOTAL:		162

GROSS FLOOR AREA	
TOWNHOUSE A:	267 m ²
TOWNHOUSE B:	239 m ²
TOWNHOUSE C:	232 m ²
TOWNHOUSE C (CORNER UNIT):	236 m ²
TOWNHOUSE D:	225 m ²
TOTAL MODEL 01 (ABBBBBA)	1,968 m ²
TOTAL MODEL 02 (ABBBBBA)	1,729 m ²
TOTAL MODEL 03 (ABBBBA)	1,490 m ²
TOTAL MODEL 04 (CCDCDC)	1,611 m ²
TOTAL MODEL 05 (CCDCDC)	1,386 m ²

MIXED USE BUILDING (TOTAL OF 2 BUILDINGS):	TOTAL: 4,130 m ²
RESIDENTIAL:	3,201 m ²
COMMERCIAL:	929 m ²
RESIDENTIAL APARTMENT BUILDING (TOTAL OF 4 BUILDINGS) :	TOTAL: 4,130 m ²
RESIDENTIAL:	4,130 m ²

NOTE

1. ASSUMES TYPICAL RESIDENTIAL FLOOR HEIGHT OF 3m.
2. THE BASE PLAN (LOT LINES, EXISTING ROADS AND SURROUNDING AREAS) IS BASED ON THE TOPOGRAPHICAL PLAN OF SURVEY, SURVEYED STANTEC GEOMATICS LTD.
3. DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.



20 0 20 40m

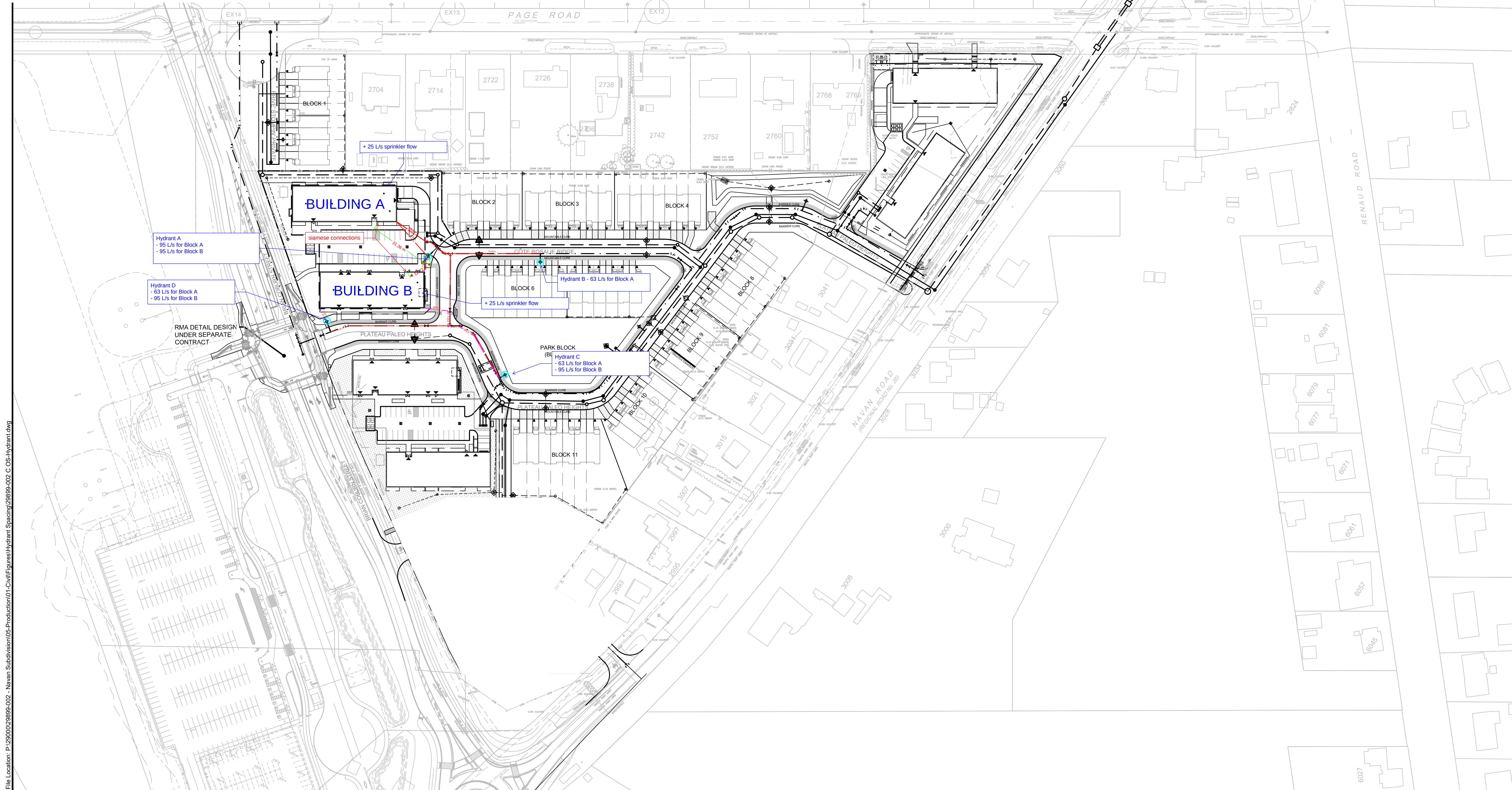
1 2983, NAVAN ROAD - SITE PLAN
1:500

Table 1. Maximum flow to be considered from a given hydrant		
Hydrant Class	Distance to asset/structure/building (m) ^a	Contribution to required fire flow (L/min) ^b
AA	≤ 75	5,700
	> 75 and ≤ 150	3,800
A	≤ 75	3,800
	> 75 and ≤ 150	2,850
B	≤ 75	1,900
	> 75 and ≤ 150	1,500
C	≤ 75	800
	> 75 and ≤ 150	800

^a Distance of contributing hydrant from the structure, measured in accordance with NFPA 1 (Appendix A).

^b Maximum flow contribution to be considered for a given asset/structure/building, at a residual pressure of 20 psi, measured at the location of the main, at ground level.

Block 14
Required Fire Flow = 233 L/s



KEY PLAN
N.T.S.

LEGEND

- PROPOSED WATERMAIN, VALVE & HYDRANT
- EXISTING WATERMAIN, VALVE & HYDRANT
- EXISTING SANITARY SEWER & MANHOLE
- EXISTING STORM SEWER & MANHOLE
- PROPOSED SANITARY SEWER & MANHOLE
- PROPOSED STORM SEWER & MANHOLE
- STEPPED FOOTING
- FIREWALL
- PROPOSED CULVERT
- DRAWING NUMBER
- RIP-RAP TO OPSD 810.010 (TYPE B)
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN c/w ICD
- PROPOSED CATCH BASIN & LEAD
- PROPOSED TEE CATCH BASIN
- PROPOSED S-WAY CATCH BASIN
- CONC. SIDEWALK
- ASPHALT
- INFILTRATION TRENCH
- TACTILE WALKING SURFACE INDICATOR (TWSI)
- SPEED HUMP PER CITY DETAIL R19

Draft Print

04 2024-07-24 8:19:37 AM 04/03/24

03 RE-ISSUED TO CITY FOR ENGINEERING REVIEW (SECOND SUBMISSION) 16/02/24

02 ISSUED FOR MUNICIPAL CONSENT 09/02/24

01 ISSUED TO CITY FOR ENGINEERING REVIEW 22/09/23

No. ISSUE / REVISION DD/MM/YY

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SCALE: 1:1000

CLIENT:

Heafey GROUP

CONSULTANT:

J.L. RichardsENGINEERS - ARCHITECTS - PLANNERS

CONSULTANT:

PROFESSIONAL STAMP

PROJECT NORTH

PROJECT:

NAVAN SUBDIVISION

2983, 3053, & 3079 NAVAN ROAD & 2690 PAGE ROAD
OTTAWA, ONTARIO

DRAWING:

OVERALL SERVICING

DESIGN: TR

DRAWN: KT

CHECKED: KF

JLR #: 29899-002

DRAWING #:

OS

File Location: P:\2000\029899-002 - Navan Subdivision\05-Production\01-Civil\Figures\Hydrant Spacing\29899-002 C OS-Hydrant.dwg

Plot Date: July 24, 2024 8:08:48 AM
CITY PLAN No. 18572 CITY FILE No. D07-16-21-0027

William Rugamba

From: William Rugamba
Sent: July 22, 2024 8:18 AM
To: William Rugamba
Subject: FW: Re-confirmation of Mechanical Items for Servicing Report

William Rugamba, M.Eng., B.A.Sc., EIT
Civil Engineering Graduate
Ottawa, ON
Work: [343-804-4374](tel:343-804-4374)

From: Sarith Lopez <slopez@qmeengineering.com>
Sent: Wednesday, July 17, 2024 8:07 PM
To: Mahad Musse <mmusse@jlrichards.ca>; Chuck Clark <CWC@qmeengineering.com>
Cc: Karla Ferrey <kferrey@jlrichards.ca>; Raad Akrawi <rakrawi@groupeheafey.com>; Carmine Zayoun <carmine@zayoungroup.com>
Subject: RE: Re-confirmation of Mechanical Items for Servicing Report

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Hi Mahad,

All items below confirmed

Regards

Sarith López
Project Manager

9 Gurdwara Road, Unit 200
Ottawa, ON K2E 7X6
T: 613-366-4763 ext. 129
slopez@qmeengineering.com



From: Mahad Musse <mmusse@jlrichards.ca>

Sent: Tuesday, July 16, 2024 3:08 PM

To: Sarith Lopez <slopez@qmeengineering.com>; Chuck Clark <CWC@qmeengineering.com>

Cc: Karla Ferrey <kferrey@jlrichards.ca>; Raad Akrawi <rakrawi@groupeheafey.com>; Carmine Zayoun <carmine@zayoungroup.com>

Subject: Re-confirmation of Mechanical Items for Servicing Report

Hi Sarith/Chuck,

Thank you for the information below and in our meetings. I understand all these items have been discussed before but we need to submit something as part of our report. Can you just re-confirm the following questions below and then we will attach your confirmation to the Report.

1. Please confirm that the sanitary service size of 200mm diameter for the Site Plan Blocks (Block 14, 15 and 17) is preferred by the mechanical engineer on file;
2. Please confirm that a sprinkler flow of 25 L/s can be assumed for the Site Plan Blocks (Block 14, 15 and 17) at this stage.

Thanks
Mahad



Mahad Musse, B.Eng., EIT
Civil Engineering Graduate

1000-343 Preston Street
Ottawa, ON, K1S 1N4

Work: [343-633-1501](tel:343-633-1501)
mmusse@jlrichards.ca

William Rugamba

From: William Rugamba
Sent: July 15, 2024 4:00 PM
To: William Rugamba
Subject: FW: Navan Subdivision - Boundary Condition Request
Attachments: NavanSubdivision_Boundary Condition(4july2024).docx

William Rugamba, M.Eng., B.A.Sc., EIT
Civil Engineering Graduate
Ottawa, ON
Work: [343-804-4374](tel:343-804-4374)

From: Polyak, Alex <alex.polyak@ottawa.ca>
Sent: Monday, July 15, 2024 10:12 AM
To: Mahad Musse <mmusse@jlrichards.ca>
Cc: Karla Ferrey <kferrey@jlrichards.ca>; Raad Akrawi <rakrawi@groupeheafey.com>; Carmine Zayoun <carmine@zayoungroup.com>; Armstrong, Justin <justin.armstrong@ottawa.ca>; Tatyana Roumie <troumie@jlrichards.ca>
Subject: RE: Navan Subdivision - Boundary Condition Request

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Good morning Mahad,

Please find the boundary conditions attached.

Regards,

Oleksandr (Alex) Polyak, B.Eng., C.E.T., P.Eng. 

Project Manager, Infrastructure Approvals, Development Review East Branch | Gestionnaire de projet, Direction de l'examen des projets d'aménagement – Est.
Planning, Development and Building Services Department (PDBS) | Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB)

City of Ottawa | Ville d'Ottawa
110 Laurier Ave., 4th Fl East, Ottawa ON K1P 1J1
Email: alex.polyak@ottawa.ca
Cell : 613-857-4380
www.Ottawa.ca



From: Mahad Musse <mmusse@jlrichards.ca>

Sent: July 12, 2024 1:31 PM

To: Polyak, Alex <alex.polyak@ottawa.ca>

Cc: Karla Ferrey <kferrey@jlrichards.ca>; Raad Akrawi <rakrawi@groupeheafey.com>; Carmine Zayoun <carmine@zayoungroup.com>; Armstrong, Justin <justin.armstrong@ottawa.ca>; Tatyana Roumie <troumie@jlrichards.ca>

Subject: RE: Navan Subdivision - Boundary Condition Request

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Hi Alex,

Just wondering if you have a status update for the boundary conditions for Navan.

Thanks
Mahad



Mahad Musse, B.Eng., EIT
Civil Engineering Graduate

1000-343 Preston Street
Ottawa, ON, K1S 1N4

Work: [343-633-1501](tel:343-633-1501)
mmusse@jlrichards.ca

From: Mahad Musse <mmusse@jlrichards.ca>

Sent: Wednesday, July 3, 2024 11:02 AM

To: Polyak, Alex <alex.polyak@ottawa.ca>

Cc: Karla Ferrey <kferrey@jlrichards.ca>; Raad Akrawi <rakrawi@groupeheafey.com>; Carmine Zayoun <carmine@zayoungroup.com>; Armstrong, Justin <justin.armstrong@ottawa.ca>; Tatyana Roumie <troumie@jlrichards.ca>

Subject: RE: Navan Subdivision - Boundary Condition Request

Good morning Alex,

As we discussed last week our Client is looking into the option of converting the row townhouse units into duplex units (townhouse units with apartments in the basement). As a result, this will increase the total demand on the site and we will therefore require new water boundary conditions. We'd like to note that the footprint of the blocks will not change and neither will their layout or any of the offsets.

As a summary:

- Domestic demands were calculated based on a daily consumption rate of 280 L/cap/day with peaking factors consistent with City of Ottawa Guidelines
- Required Fire Flow (RFF) was calculated in accordance to the Fire Underwriters Survey (FUS) Water Supply for Public Fire Protection and the City of Ottawa FUS protocol (Bulletin ISDTB-2014-02 & Bulletin ISDTB-2018-02), which considers material, expose distance & height. We have attached the calculation spreadsheet and the figure.

We request boundary conditions under high pressure, peak hour, and maximum day + fire flow conditions (for each of the below fire flows). Domestic demand and fire flow calculations are attached. Please provide the boundary conditions at the proposed connection locations as shown in the attached figure.

Average Day Demand: 6.74 L/s

Maximum Day Demand: 10.53 L/s

Peak Hour Demand: 18.17 L/s

Required Fire Flow (per FUS): 6,000 L/min (100 L/s)

Required Fire Flow (per FUS): 10,000 L/min (167 L/s)

Required Fire Flow (per FUS): 14,000 L/min (233 L/s)

Required Fire Flow (per FUS): 15,000 L/min (250 L/s)

For your reference, the previous boundary condition received from the City is attached and below is the email chain.

If you have any questions or comments please let us know.

Thanks
Mahad



Mahad Musse, B.Eng., EIT
Civil Engineering Graduate

1000-343 Preston Street
Ottawa, ON, K1S 1N4

Work: [343-633-1501](tel:343-633-1501)
mmusse@jlrichards.ca

From: Polyak, Alex <alex.polyak@ottawa.ca>

Sent: Thursday, August 17, 2023 3:01 PM

To: William Rugamba <wrugamba@jlrichards.ca>

Cc: Karla Ferrey <kferrey@jlrichards.ca>; Raad Akrawi <rakrawi@groupeheafey.com>; Carmine Zayoun <carmine@zayoungroup.com>; Shahira Jalal <sjalal@jlrichards.ca>

Subject: RE: Navan Subdivision - Boundary Condition Request

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Hello William,

Sorry that I missed your call, I was in a meeting. The boundary conditions are attached.

Regards,

Oleksandr (Alex) Polyak, B.Eng., P.Eng

Project Manager, Infrastructure Approvals, Development Review East Branch | Gestionnaire de projet, Direction de l'examen des projets d'aménagement – Est.
Planning, Real Estate and Economic Development Department | Direction générale de la planification, des biens immobiliers et du développement économique

City of Ottawa | Ville d'Ottawa
110 Laurier Ave., 4th Fl East, Ottawa ON K1P 1J1
Email: alex.polyak@ottawa.ca
Cell : 613-857-4380
www.Ottawa.ca



From: William Rugamba <wrugamba@jlrichards.ca>
Sent: August 15, 2023 9:26 AM
To: Polyak, Alex <alex.polyak@ottawa.ca>
Cc: Karla Ferrey <kferrey@jlrichards.ca>; Raad Akrawi <rakrawi@groupeheafey.com>; Carmine Zayoun <carmine@zayoungroup.com>; Shahira Jalal <sjalal@jlrichards.ca>
Subject: RE: Navan Subdivision - Boundary Condition Request

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Good morning Alex,

Just wanted to follow up on the status of this boundary request. Please let me know if you need anything else from us.

Thanks,
William

William Rugamba, M.Eng.
Civil Engineering Intern

J.L. Richards & Associates Limited
1000-343 Preston Street, Ottawa, ON K1S 1N4
Direct: 343-804-4374



From: Tatyana Roumie
Sent: Tuesday, July 25, 2023 3:53 PM
To: 'alex.polyak@ottawa.ca' <alex.polyak@ottawa.ca>
Cc: Karla Ferrey <kferrey@jlrichards.ca>; Raad Akrawi <rakrawi@groupeheafey.com>; carmine@zayoungroup.com; Shahira Jalal <sjalal@jlrichards.ca>
Subject: Navan Subdivision - Boundary Condition Request

Hello Alex.

To support our upcoming detailed design for the site, we are requesting updated boundary conditions for the 3079 Navan Road Development.

As a brief history, we received boundary conditions from the City in July 2021 (attached, but with incorrect connection locations) and again in April 2022 (also attached) in support of the functional servicing design. We understand from the April 2022 boundary conditions that the maximum available fire flow for the site is 250 L/s.

We are currently requesting updated boundary conditions for this site as we are commencing the detailed servicing design and this request will accommodate the recent site plan changes and proposed connection points. This request is also applicable to the upcoming site plan designs which will be submitted as separate applications.

We request boundary conditions under high pressure, peak hour, and maximum day + fire flow conditions (for each of the below fire flows). Domestic demand and fire flow calculations are attached. Please provide the boundary conditions at the proposed connection locations as shown in the attached figure.

Average Day Demand: 6.44 L/s
Maximum Day Demand: 9.77 L/s
Peak Hour Demand: 16.50 L/s
Required Fire Flow (per FUS): 6,000 L/min (100 L/s)
Required Fire Flow (per FUS): 10,000 L/min (167 L/s)
Required Fire Flow (per FUS): 14,000 L/min (233 L/s)
Required Fire Flow (per FUS): 15,000 L/min (250 L/s)

Thanks,
Tatyana

This e-mail originates from the City of Ottawa e-mail system. Any distribution, use or copying of this e-mail or the information it contains by other than the intended recipient(s) is unauthorized. Thank you.

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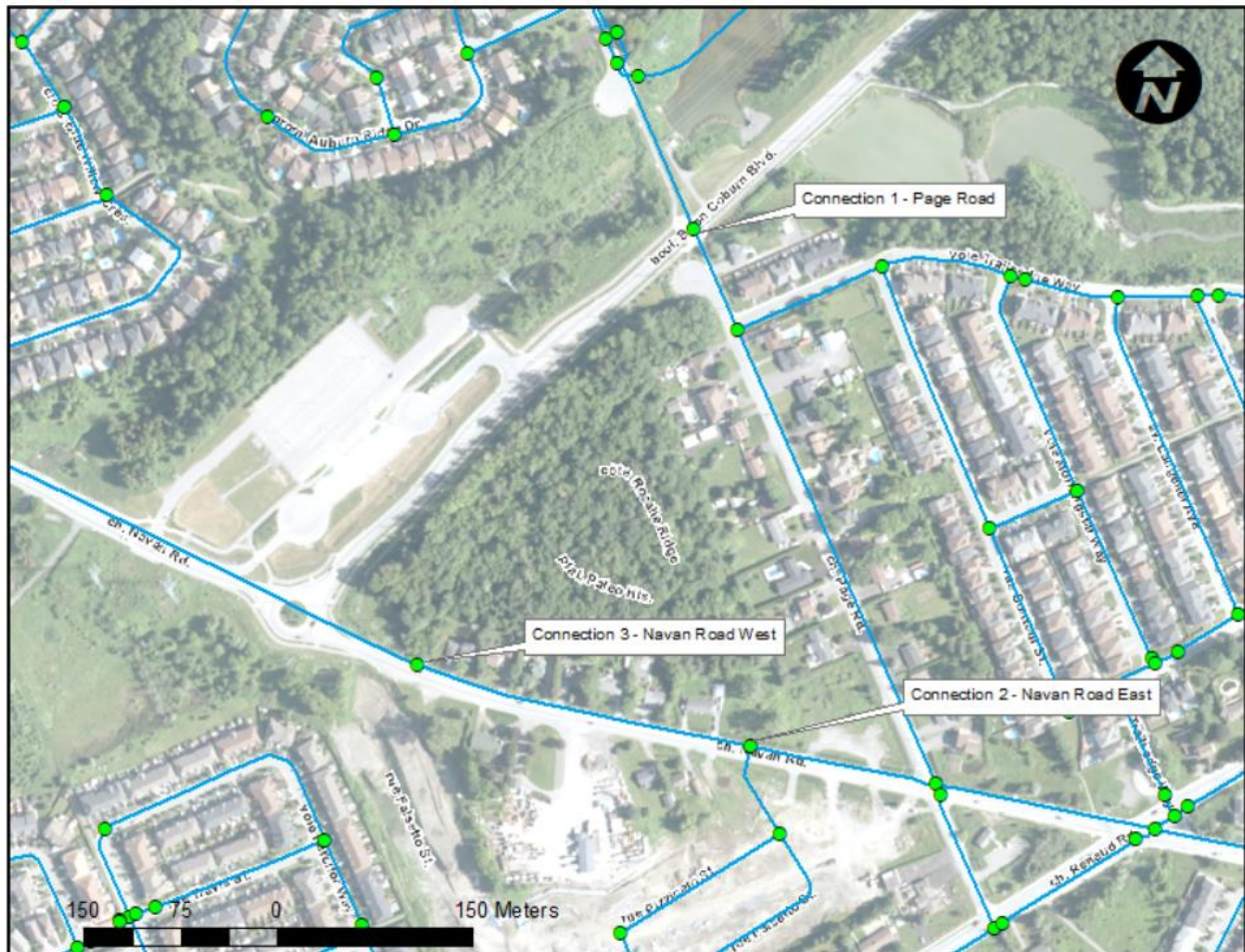
'

Boundary Conditions Navan Subdivision

Provided Information

Scenario	Demand	
	L/min	L/s
Average Daily Demand	404	6.74
Maximum Daily Demand	632	10.53
Peak Hour	1,090	18.17
Fire Flow Demand #1	6,000	100.00
Fire Flow Demand #2	10,000	166.67
Fire Flow Demand #3	14,000	233.33
Fire Flow Demand #4	15,000	250.00

Location



Results

Connection 1 - Page Road

Demand Scenario	Head (m)	Pressure ¹ (psi)
Maximum HGL	130.7	64.0
Peak Hour	127.0	58.6
Max Day plus Fire Flow #1	128.2	60.4
Max Day plus Fire Flow #2	126.8	58.3
Max Day plus Fire Flow #3	124.9	55.7
Max Day plus Fire Flow #4	124.4	55.0

¹ Ground Elevation = 85.7 m

Connection 2 - Navan Road East

Demand Scenario	Head (m)	Pressure ¹ (psi)
Maximum HGL	130.7	71.4
Peak Hour	126.8	65.9
Max Day plus Fire Flow #1	127.7	67.1
Max Day plus Fire Flow #2	125.5	64.1
Max Day plus Fire Flow #3	122.7	60.1
Max Day plus Fire Flow #4	121.9	58.9

¹ Ground Elevation = 80.5 m

Connection 3 - Navan Road West

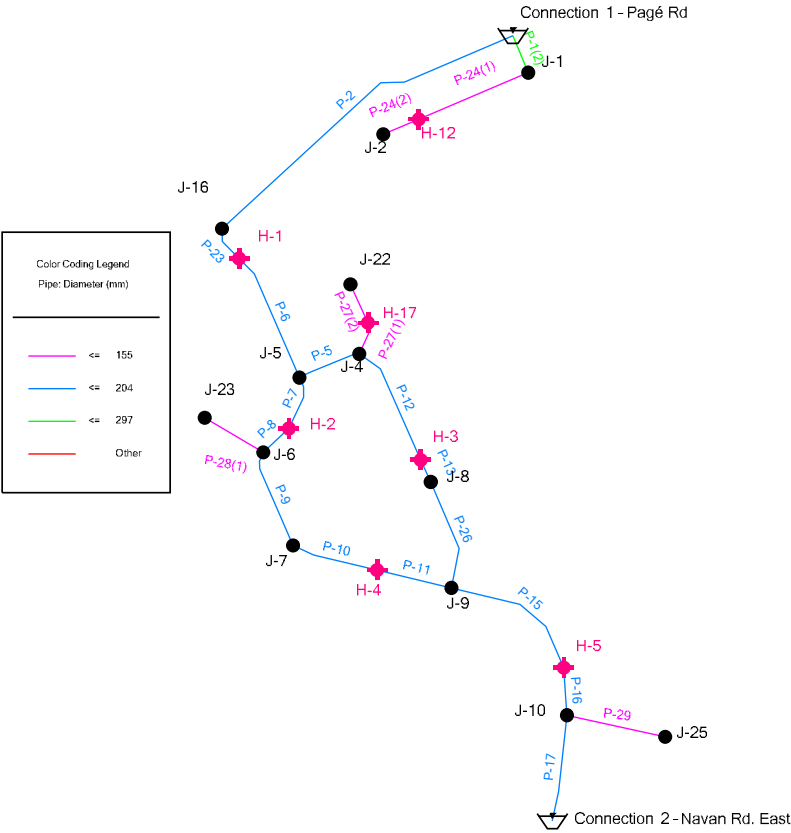
Demand Scenario	Head (m)	Pressure ¹ (psi)
Maximum HGL	130.7	69.3
Peak Hour	126.8	63.8
Max Day plus Fire Flow #1	127.3	64.5
Max Day plus Fire Flow #2	124.6	60.6
Max Day plus Fire Flow #3	120.9	55.3
Max Day plus Fire Flow #4	119.8	53.8

¹ Ground Elevation = 81.9 m

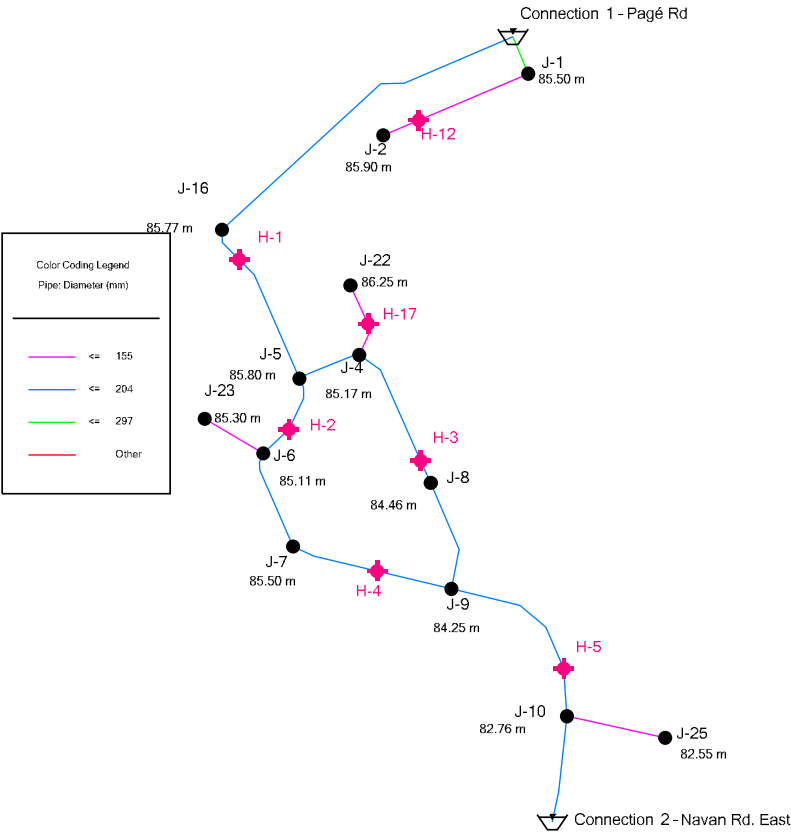
Disclaimer

The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermain deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account.

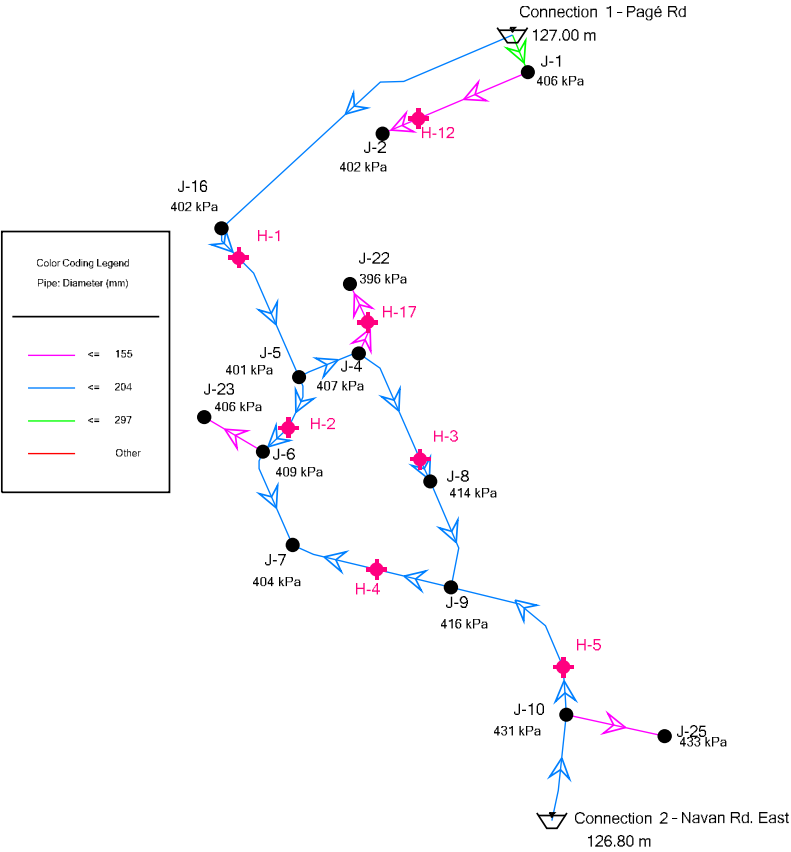
Mixed-Use Site Plan (Block 14)
Model Schematic



Mixed-Use Site Plan (Block 14)
Model Schematic
Elevation Model



Mixed-Use Site Plan (Block 14)
Peak Hour Demand



Mixed-Use Site Plan (Block 14)
Peak Hour Demand
Junction Table

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)
J-22	86.25	2.78	126.76	396
J-5	85.80	0.00	126.78	401
J-16	85.77	0.00	126.85	402
J-2	85.90	0.58	127.00	402
J-7	85.50	4.95	126.77	404
J-23	85.30	2.74	126.76	406
J-1	85.50	0.00	127.00	406
J-4	85.17	0.00	126.78	407
J-6	85.03	0.00	126.77	409
J-8	84.46	1.90	126.77	414
J-9	84.25	1.46	126.77	416
J-10	82.76	0.00	126.78	431
J-25	82.55	3.08	126.76	433

Mixed-Use Site Plan (Block 14)

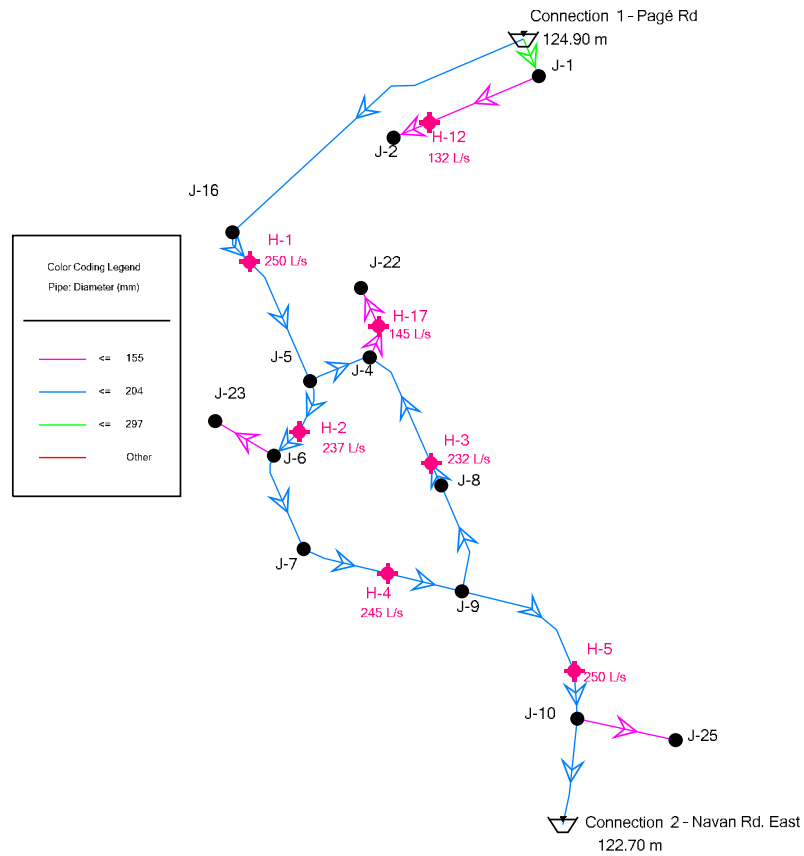
Peak Hour Demand

Pipe Table

ID	Label	Length (Scaled) (m)	Diameter (mm)	Material	Hazen-Williams C	Flow (L/s)	Velocity (m/s)
114	P-1(2)	19	297	PVC	120.0	-1	0.01
49	P-2	168	204	PVC	110.0	10	0.32
52	P-5	31	204	PVC	110.0	-5	0.15
82	P-6	64	204	PVC	110.0	-10	0.32
85	P-7	26	204	PVC	110.0	5	0.17
86	P-8	16	204	PVC	110.0	5	0.17
54	P-9	48	204	PVC	110.0	3	0.08
91	P-10	41	204	PVC	110.0	-2	0.07
92	P-11	36	204	PVC	110.0	-2	0.07
104	P-12	59	204	PVC	110.0	2	0.07
105	P-13	11	204	PVC	110.0	2	0.07
108	P-15	70	204	PVC	110.0	-3	0.10
109	P-16	23	204	PVC	110.0	-3	0.10
97	P-17	50	204	PVC	110.0	-6	0.20
110	P-23	17	204	PVC	110.0	10	0.32
129	P-24(1)	56	155	PVC	100.0	1	0.03
130	P-24(2)	18	155	PVC	100.0	1	0.03
123	P-26	53	204	PVC	110.0	0	0.01
154	P-27(1)	16	155	PVC	100.0	3	0.15
155	P-27(2)	20	155	PVC	100.0	3	0.15
171	P-28(1)	32	155	PVC	100.0	3	0.15
183	P-29	47	155	PVC	100.0	3	0.16

Mixed-Use Site Plan (Block 14)

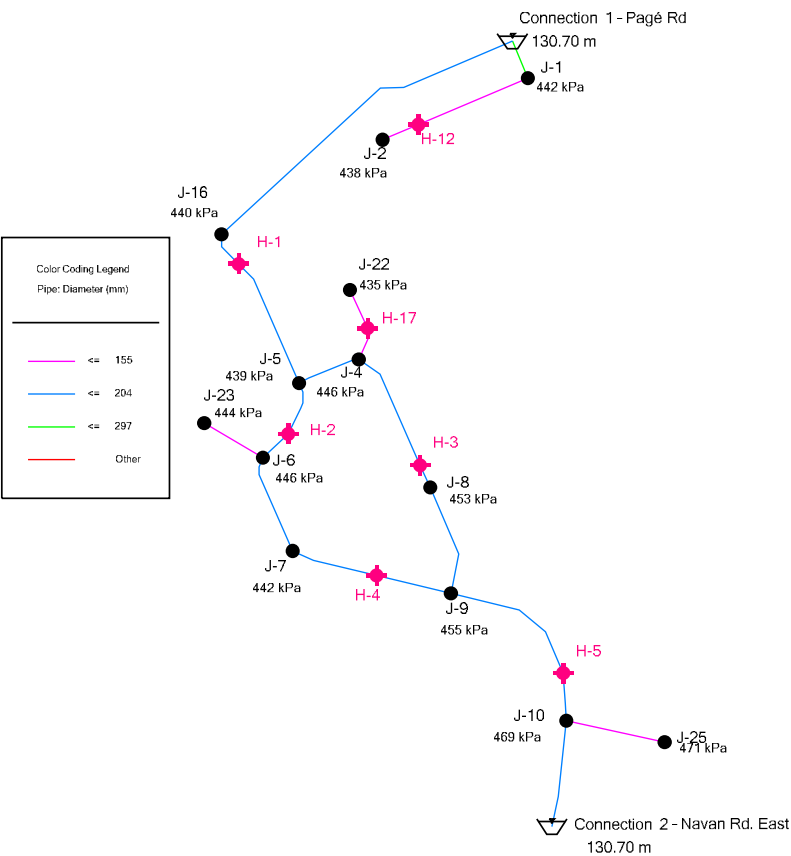
Max Day + Fire Flow Requirement



Mixed-Use Site Plan (Block 14)
Max Day + Fire Flow Requirement

Label	Satisfies Fire Flow Constraints?	Fire Flow (Available) (L/s)	Flow (Total Available) (L/s)	Pressure (Residual Lower Limit) (kPa)	Pressure (Calculated Residual) (kPa)	Pressure (Calculated System Lower Limit) (kPa)	Junction w/ Minimum Pressure (System)
H-1	True	250	250	140	152	177	J-16
H-2	True	237	237	140	140	151	J-23
H-4	True	245	245	140	140	144	J-7
H-3	True	232	232	140	140	155	J-22
H-5	True	250	250	140	256	238	J-22
H-12	True	132	132	140	142	140	J-2
H-17	True	145	145	140	147	140	J-22

Mixed-Use Site Plan (Block 14)
Maximum Pressure Analysis



Mixed-Use Site Plan (Block 14)

Maximum Pressure Analysis

Junction Table

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)
J-22	86.25	0	130.70	435
J-2	85.90	0	130.70	438
J-5	85.80	0	130.70	439
J-16	85.77	0	130.70	440
J-7	85.50	0	130.70	442
J-1	85.50	0	130.70	442
J-23	85.30	0	130.70	444
J-4	85.17	0	130.70	446
J-6	85.11	0	130.70	446
J-8	84.46	0	130.70	453
J-9	84.25	0	130.70	455
J-10	82.76	0	130.70	469
J-25	82.55	0	130.70	471

Mixed-Use Site Plan (Block 14)

Maximum Pressure Analysis

Pipe Table

ID	Label	Length (Scaled) (m)	Diameter (mm)	Material	Hazen-Williams C	Flow (L/s)	Velocity (m/s)
114	P-1(2)	19	297	PVC	120.0	0	0.00
49	P-2	168	204	PVC	110.0	0	0.00
52	P-5	31	204	PVC	110.0	0	0.00
82	P-6	64	204	PVC	110.0	0	0.00
85	P-7	26	204	PVC	110.0	0	0.00
86	P-8	16	204	PVC	110.0	0	0.00
54	P-9	48	204	PVC	110.0	0	0.00
91	P-10	41	204	PVC	110.0	0	0.00
92	P-11	36	204	PVC	110.0	0	0.00
104	P-12	59	204	PVC	110.0	0	0.00
105	P-13	11	204	PVC	110.0	0	0.00
108	P-15	70	204	PVC	110.0	0	0.00
109	P-16	23	204	PVC	110.0	0	0.00
97	P-17	50	204	PVC	110.0	0	0.00
110	P-23	17	204	PVC	110.0	0	0.00
129	P-24(1)	56	155	PVC	100.0	0	0.00
130	P-24(2)	18	155	PVC	100.0	0	0.00
123	P-26	53	204	PVC	110.0	0	0.00
154	P-27(1)	16	155	PVC	100.0	0	0.00
155	P-27(2)	20	155	PVC	100.0	0	0.00
171	P-28(1)	32	155	PVC	100.0	0	0.00
183	P-29	47	155	PVC	100.0	0	0.00

Site Servicing Report

2983, 3053 and 3079 Navan Road & 2690 Pagé Road, Ottawa, Ontario

Appendix D

Stormwater Management

LOCATION		PIPE REACH		PEAK FLOW ESTIMATION METHODS										PEAK FLOWS										SEWER DATA										UPSTREAM GEOMETRY										DOWNSIDE GEOMETRY										SELF CLEANSING VELOCITY			
		C-Factor (1.2 Year)		Total Area (ha)	Cum. Total Area (ha)	Inlet Time (min)	In Pipe Flow Time (min)	Total Time	1.2 Year Peak Flow (L/s)		1.2 Year Peak Flow (m³/hr)		1.2 Year Peak Flow (m³/hr)	ICD Flow** EXIST MH527 (L/s)	ICD Flow** EXIST CB150 (L/s)	Roof Drain Flow (L/s)	Cistern Flow (L/s)	Total Peak Flow (L/s)	Type	Nominal Dia. (mm)	Actual Dia. (mm)	Slope	Length (m)	Q Full (L/s)	V Full (m/s)	Residual Capacity** (L/s)	% Full	T to From	Obvert	Invert	Cover	T to To	Obvert	Invert	Cover	Q10 Ratio	Flow Depth (mm)	Actual Velocity** (m/s)	Flow Depth to Ratio (D10)																		
		0.20	0.30						0.80	2.7BAR	C 2.7BAR	1.2 Year Peak Flow (L/s)																												1.2 Year Peak Flow (m³/hr)																	
EAST ORLANDS RIDGE SUBDIVISION		UPSTREAMEXIST MH527		Refer to Note 8		0.14	16.90	0.54	16.54	4.00	2.76	76.91	19.73	Refer to Note 8				14.60	CONCRETE	676	666.02	0.026%	57.39	6.50	1.76	636.62	3%	Refer to Note 8																													
Block 14	EXIST MH527	EXIST MH526	0.09	0.01	0.01	0.24	15.54	1.80	12.34	0.07	0.33	74.79	24.14	14.00			14.60	PVC	300	304.80	0.36%	89.06	6.19	0.82	35.78	41%	55.31	82.30	81.61	3.81	85.83	81.68	81.30	3.34																							
Block 14	EXIST MH526	EXIST MH525	0.06	0.16	0.01	0.23	14.37	12.34	0.65	12.99	0.18	0.31	68.85	35.14	38.00			52.69	PVC	300	304.80	0.36%	69.56	65.28	0.76	26.11	64%	80.83	81.08	81.68	3.84	85.68	81.68	81.36	4.02	0.94	235.00	9.86	9.77																		
Block 14	EXIST MH525	EXIST MH524	0.02	0.36	0.36	0.38	16.00	0.05	16.05	0.91	0.91	76.81	70.00			4.00	15.00	14.60	PVC	300	304.80	0.26%	150.85	142.67	1.96	72.67	69%	85.85	81.54	81.34	3.81	85.75	81.42	81.12	4.33	0.10	64.31	1.24	0.21																		
EAST ORLANDS RIDGE SUBDIVISION		EXIST MH525		EXIST MH524		0.64	12.99	0.21	13.20	0.20	1.42	65.05	95.20					66.00	CONCRETE	460	457.20	0.29%	11.83	148.72	4.91	53.82	45%	55.75	81.58	81.12	4.37	84.90	81.05	80.95	3.55	0.40	213.00	9.85	9.47																		

Notes on Peak Flow and Pipe Sizing

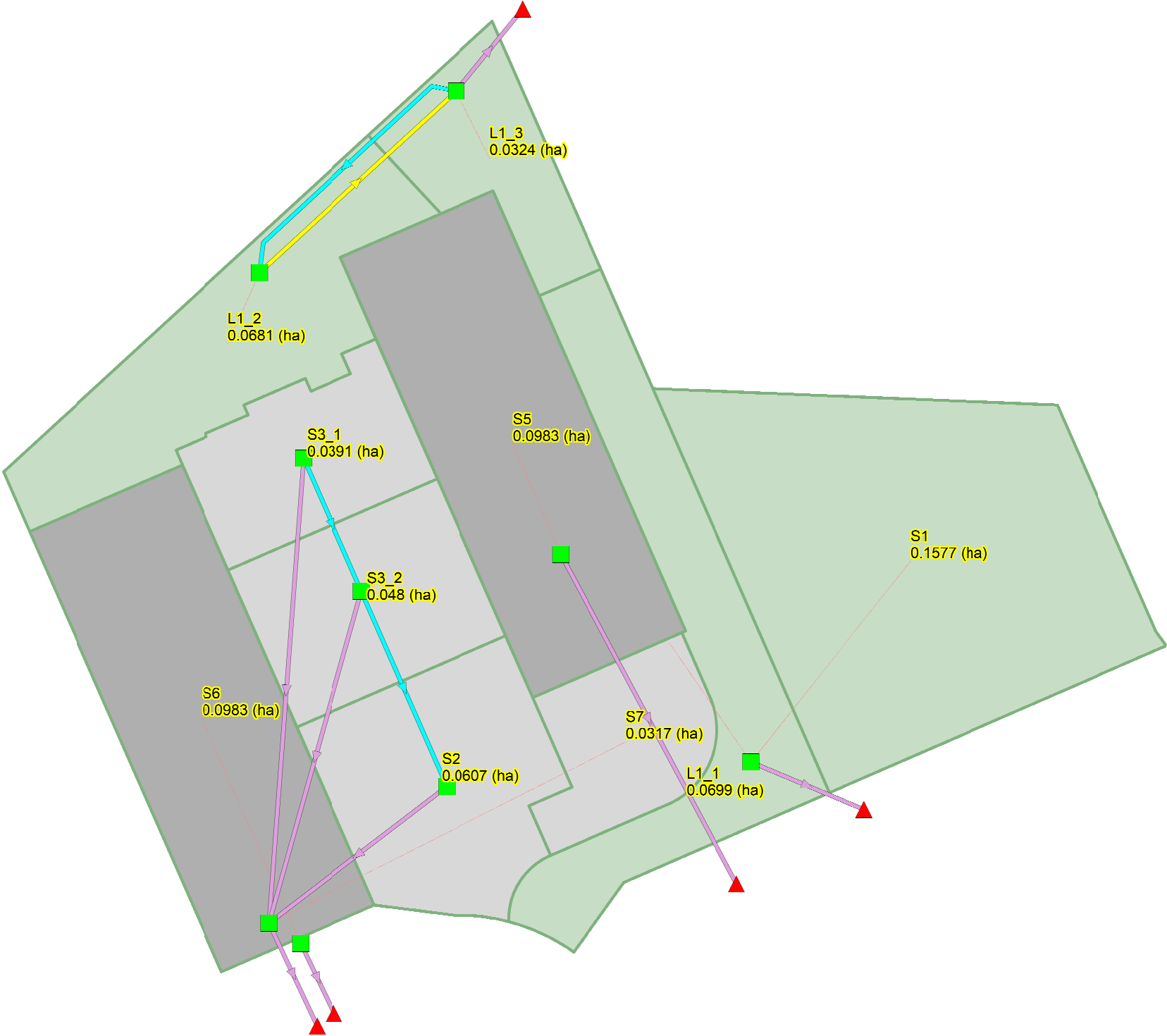
Note that peak flow (66 L/s) is a sum of the allowable release rate of 58 L/s (which is made of 6 L/s from CB101, 10 L/s from Cistern, 4 L/s from Roof Drain and 38 L/s from CB100) as well as the remaining control from upstream of MH527

(5) Actual Velocities based on actual peak flow rate of 66 L/s

(6) Pipes are conservatively sized for 1.2 Year Peak Flow Rate

(7) Details from Existing Sewers Upstream of EXST MH527 can be found within East Orleans Ridge Subdivision Design Sheet. This line is only used to carry over the upstream values for time of concentration and 1.2 year peak flow

REAR YARD CATCH BASIN TABLE														
LOCATION	CB ID Number	T/G	Inlet					Outlet					CATCH BASIN TYPE	ICD TYPE
			Pipe Dia. (mm)	Pipe Length (m)	Pipe Slope (%)	Invert	COVER (m)	Pipe Dia. (mm)	Pipe Length (m)	Pipe Slope (%)	Invert	COVER (m)		
BLOCK 14	CB102	85.60	-	-	-	-	-	250	29.7	1.0	84.20	1.15	CATCH BASIN ELBOW PER CITY STANDARD S30	NO ICD
	CB101	85.65	250	29.7	1.0	83.90	1.50	250	5.75	0.5	83.90	1.50	600 mm x 600 mm CATCH BASIN PER OPSD 705.010	Vortex_ICD_70
	CB100	85.05	-	-	-	-	-	250	4.6	0.5	83.09	1.71	600 mm x 600 mm CATCH BASIN PER OPSD 705.010	MHF_IPEX_TYPE_B



▲ Outfalls

■ Storages

— Conduits

— Weirs

— Outlets

Legend

Subcatchments

■ Rear-Yard

■ Parking Lot Area

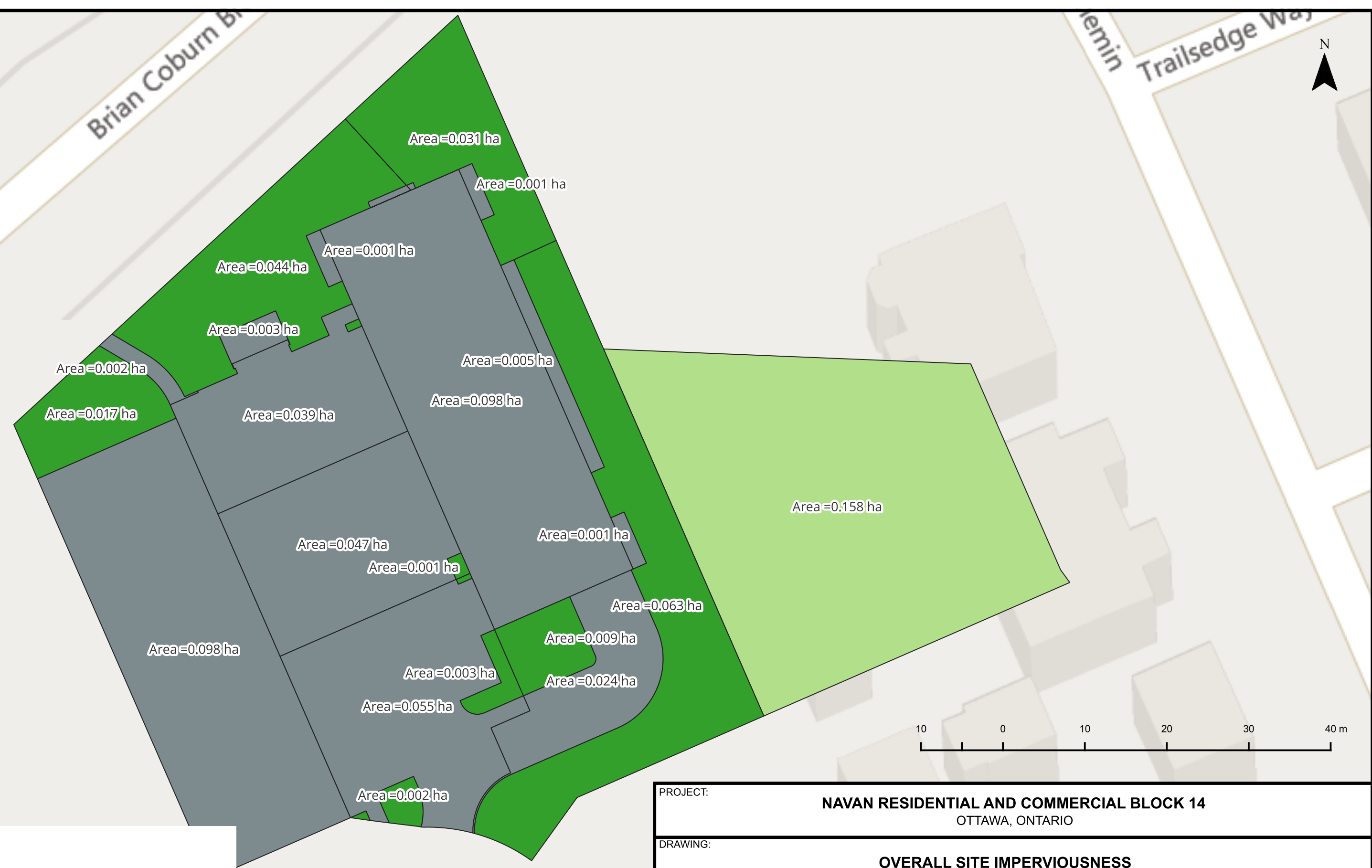
■ Ramp to Garage

■ Building

N

150 m

PROJECT: NAVAN RESIDENTIAL AND COMMERCIAL SITE PLAN - BLOCK 14 Ottawa, ON			
DRAWING: Overall System Model Schematic			
J.L. Richards ENGINEERS · ARCHITECTS · PLANNERS	DESIGN:	ML	JLR NO.: 29899-002
	DRAWN:	ML	DRAWING NO.: Figure 1
	CHECKED:	BP	
This drawing is copyright protected and may not be reproduced or use for purposes other than execution of the described work without the express written consent of J.L. Richards & Associates Limited.			



Legend

IMP

- Landscaped Areas (C-Factor - 0.2)
- Pavement Areas (C-Factor - 0.9)
- Area Tributary to Subdivision (C-Factor - 0.3)

PROJECT:				NAVAN RESIDENTIAL AND COMMERCIAL BLOCK 14 OTTAWA, ONTARIO			
DRAWING:				OVERALL SITE IMPERVIOUSNESS			
 J.L.Richards ENGINEERS · ARCHITECTS · PLANNERS		This drawing is copyright protected and may not be reproduced or used for purposes other than execution of the described work without express written consent of J.L. Richards & Associates Limited.		DESIGN: ML		JLR NO: 29899-002	
				DRAWN: ML		DRAWING NO: Figure	
				CHECKED: BP			

Post-Development 3-hour Chicago 1:2 year Event

[TITLE]										W1	0	St_P1	St_P2	TRANSVERSE	85.85	1.84	NO
;;Project Title/Notes										W2	0	SU1	St_P1	TRANSVERSE	85.87	1.84	NO
[OPTIONS]																	
;;Option		Value															
FLOW_UNITS		CMS															
INFILTRATION		HORTON															
FLOW_ROUTING		DYNWAVE															
LINK_OFFSETS		ELEVATION															
MIN_SLOPE		0															
ALLOW_PONDING		NO															
SKIP_STEADY_STATE		NO															
START_DATE		01/01/2000															
START_TIME		00:00:00															
REPORT_START_DATE		01/01/2000															
REPORT_START_TIME		00:00:00															
END_DATE		01/01/2000															
END_TIME		06:00:00															
SWEEP_START		01/01															
SWEEP_END		12/31															
DRY_DAYS		0															
REPORT_STEP		00:01:00															
WET_STEP		00:01:00															
DRY_STEP		00:01:00															
ROUTING_STEP		1															
RULE_STEP		00:00:00															
INERTIAL_DAMPING		PARTIAL															
NORMAL_FLOW_LIMITED		BOTH															
FORCE_MAIN_EQUATION		H-W															
VARIABLE_STEP		0.75															
LENGTHENING_STEP		0															
MIN_SURFAREA		0															
MAX_TRIALS		8															
HEAD_TOLERANCE		0.0015															
SYS_FLOW_TOL		5															
LAT_FLOW_TOL		5															
MINIMUM_STEP		0.5															
THREADS		12															
[EVAPORATION]																	
;;Data Source		Parameters															
CONSTANT		0.0															
DRY_ONLY		NO															
[RAINGAGES]																	
;;Name		Format	Interval	SCF	Source												
Rainfall		INTENSITY	0:10	1.0	TIMESERIES 3CHI2												
[SUBCATCHMENTS]																	
;;Name		Rain Gage	Outlet		Area	%Imperv	Width	%Slope	CurbLen								
SnowPack																	
[SUBAREAS]																	
;;Subcatchment		N-Imperv	N-Perv	S-Imperv	S-Perv	PctZero	RouteTo	PctRouted									
[INFILTRATION]																	
;;Subcatchment		Param1	Param2	Param3	Param4	Param5											
L1_1		76.2	13.2	4.14	7	0											
L1_2		76.2	13.2	4.14	7	0											
L1_3		76.2	13.2	4.14	7	0											
S1		76.2	13.2	4.14	7	0											
S2		76.2	13.2	4.14	7	0											
S3_1		76.2	13.2	4.14	7	0											
S3_2		76.2	13.2	4.14	7	0											
S5		76.2	13.2	4.14	7	0											
S6		76.2	13.2	4.14	7	0											
S7		76.2	13.2	4.14	7	0											
[OUTFALLS]																	
;;Name		Elevation	Type	Stage Data	Gated	Route To											
S27_ (P-Stm)		81.228	TIMESERIES	527_CHI2yr	NO												
OF1		80.67	FIXED	81.17	NO												
OF2		80.911	FIXED	81.46	NO												
OF3		80.67	FIXED	81.17	NO												
OF7		80.67	FIXED	81.17	NO												
[STORAGE]																	
;;Name		Elev.	MaxDepth	InitDepth	Shape	Curve Name/Params											
SurDepth Evap		Psi	Ksat	IMD													
[CONDUITS]																	
;;Name		From Node	To Node	Length	Roughness	InOffset	OutOffset										
InitFlow		MaxFlow															
[WEIRS]																	
;;Name		From Node	To Node	Type	CrestHt	Qcoeff	Gated										
EndCoeff		Surcharge	RoadWidth	RoadSurf	Coeff. Curve												
[OUTLETS]																	
;;Name		From Node	To Node	Offset	Type	QTable/Qcoeff											
Qexpon		Gated															
[XSECTIONS]																	
;;Link		Shape	Geom1	Geom2	Geom3	Geom4	Barrels										
Culvert																	
[LOSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											
[INFLOWS]																	
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern										
[CURVES]																	
;;Name		Type	X-Value	Y-Value													
[LOSSSES]																	
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage											

MHF_IPEX_TYPE_C	0.1	0.0106				Vortex_ICD_45	0.6	0.0014
MHF_IPEX_TYPE_C	0.2	0.015				Vortex_ICD_45	0.7	0.0015
MHF_IPEX_TYPE_C	0.3	0.0183				Vortex_ICD_45	0.8	0.0016
MHF_IPEX_TYPE_C	0.4	0.0212				Vortex_ICD_45	0.9	0.0017
MHF_IPEX_TYPE_C	0.5	0.0237				Vortex_ICD_45	1	0.0018
MHF_IPEX_TYPE_C	0.6	0.0259				Vortex_ICD_45	1.2	0.002
MHF_IPEX_TYPE_C	0.7	0.028				Vortex_ICD_45	1.4	0.0021
MHF_IPEX_TYPE_C	0.8	0.0299				Vortex_ICD_45	1.6	0.0023
MHF_IPEX_TYPE_C	0.9	0.0317				Vortex_ICD_45	1.8	0.0024
MHF_IPEX_TYPE_C	1	0.0335				Vortex_ICD_45	2	0.0026
MHF_IPEX_TYPE_C	1.2	0.0366				Vortex_ICD_45	2.5	0.0029
MHF_IPEX_TYPE_C	1.4	0.0396				Vortex_ICD_45	3	0.0031
MHF_IPEX_TYPE_C	1.6	0.0423						
MHF_IPEX_TYPE_C	1.8	0.0449				;Tempest Rating	Curve for Vortex ICD 50	No grade allowance
MHF_IPEX_TYPE_C	2	0.0473				Vortex_ICD_50	Rating	0
MHF_IPEX_TYPE_C	2.5	0.0529				Vortex_ICD_50	0.1	0.0007
MHF_IPEX_TYPE_C	3	0.0579				Vortex_ICD_50	0.2	0.001
						Vortex_ICD_50	0.3	0.0012
						Vortex_ICD_50	0.4	0.0014
						Vortex_ICD_50	0.5	0.0016
						Vortex_ICD_50	0.6	0.0018
						Vortex_ICD_50	0.7	0.0019
						Vortex_ICD_50	0.8	0.002
						Vortex_ICD_50	0.9	0.0021
						Vortex_ICD_50	1	0.0023
						Vortex_ICD_50	1.2	0.0025
						Vortex_ICD_50	1.4	0.0027
						Vortex_ICD_50	1.6	0.0029
						Vortex_ICD_50	1.8	0.003
						Vortex_ICD_50	2	0.0032
						Vortex_ICD_50	2.5	0.0036
						Vortex_ICD_50	3	0.0039
						;Tempest Rating	Curve for Vortex ICD 55	No grade allowance
						Vortex_ICD_55	Rating	0
						Vortex_ICD_55	0.1	0.0003
						Vortex_ICD_55	0.2	0.0012
						Vortex_ICD_55	0.3	0.0015
						Vortex_ICD_55	0.4	0.0017
						Vortex_ICD_55	0.5	0.0019
						Vortex_ICD_55	0.6	0.0021
						Vortex_ICD_55	0.7	0.0023
						Vortex_ICD_55	0.8	0.0024
						Vortex_ICD_55	0.9	0.0026
						Vortex_ICD_55	1	0.0027
						Vortex_ICD_55	1.2	0.003
						Vortex_ICD_55	1.4	0.0032
						Vortex_ICD_55	1.6	0.0034
						Vortex_ICD_55	1.8	0.0036
						Vortex_ICD_55	2	0.0038
						Vortex_ICD_55	2.5	0.0043
						Vortex_ICD_55	3	0.0047
						;Tempest Rating	Curve for Vortex ICD 60	No grade allowance
						Vortex_ICD_60	Rating	0
						Vortex_ICD_60	0.1	0.0011
						Vortex_ICD_60	0.2	0.0015
						Vortex_ICD_60	0.3	0.0018
						Vortex_ICD_60	0.4	0.0021
						Vortex_ICD_60	0.5	0.0023
						Vortex_ICD_60	0.6	0.0025
						Vortex_ICD_60	0.7	0.0027
						Vortex_ICD_60	0.8	0.0029
						Vortex_ICD_60	0.9	0.0031
						Vortex_ICD_60	1	0.0032
						Vortex_ICD_60	1.2	0.0036
						Vortex_ICD_60	1.4	0.0038
						Vortex_ICD_60	1.6	0.0041
						Vortex_ICD_60	1.8	0.0043
						Vortex_ICD_60	2	0.0046
						Vortex_ICD_60	2.5	0.0051
						Vortex_ICD_60	3	0.0056
						;Tempest Rating	Curve for Vortex ICD 65	No grade allowance
						Vortex_ICD_65	Rating	0
						Vortex_ICD_65	0.1	0.0012
						Vortex_ICD_65	0.2	0.0016
						Vortex_ICD_65	0.3	0.002
						Vortex_ICD_65	0.4	0.0023
						Vortex_ICD_65	0.5	0.0025
						Vortex_ICD_65	0.6	0.0026
						Vortex_ICD_65	0.7	0.003
						Vortex_ICD_65	0.8	0.0032
						Vortex_ICD_65	0.9	0.0034
						Vortex_ICD_65	1	0.0036
						Vortex_ICD_65	1.2	0.004
						Vortex_ICD_65	1.4	0.0043
						Vortex_ICD_65	1.6	0.0046
						Vortex_ICD_65	1.8	0.0049
						Vortex_ICD_65	2	0.0051
						Vortex_ICD_65	2.5	0.0057
						Vortex_ICD_65	3	0.0063
						;Tempest Rating	Curve for Vortex ICD 70	No grade allowance
						Vortex_ICD_70	Rating	0
						Vortex_ICD_70	0.1	0.0013
						Vortex_ICD_70	0.2	0.0019
						Vortex_ICD_70	0.3	0.0023
						Vortex_ICD_70	0.4	0.0027
						Vortex_ICD_70	0.5	0.003
						Vortex_ICD_70	0.6	0.0033
						Vortex_ICD_70	0.7	0.0036
						Vortex_ICD_70	0.8	0.0038
						Vortex_ICD_70	0.9	0.0041
						Vortex_ICD_70	1	0.0043
						Vortex_ICD_70	1.2	0.0047
						Vortex_ICD_70	1.4	0.0051
						Vortex_ICD_70	1.6	0.0055
						Vortex_ICD_70	1.8	0.0058
						Vortex_ICD_70	2	0.0061
						Vortex_ICD_70	2.5	0.0068
						Vortex_ICD_70	3	0.0075
						;Tempest Rating	Curve for Vortex ICD 75	No grade allowance
						Vortex_ICD_75	Rating	0
						Vortex_ICD_75	0.1	0.0016
						Vortex_ICD_75	0.2	0.0022
						Vortex_ICD_75	0.3	0.0027
						Vortex_ICD_75	0.4	0.0032
						Vortex_ICD_75	0.5	0.0035
						Vortex_ICD_75	0.6	0.0039
						Vortex_ICD_75	0.7	0.0042
						Vortex_ICD_75	0.8	0.0045
						Vortex_ICD_75	0.9	0.0048
						Vortex_ICD_75	1	0.005
						Vortex_ICD_75	1.2	0.0055
						Vortex_ICD_75	1.4	0.0059
						Vortex_ICD_75	1.6	0.0063
						Vortex_ICD_75	1.8	0.0067
						Vortex_ICD_75	2	0.0071
						Vortex_ICD_75	2.5	0.0079
						Vortex_ICD_75	3	0.0087
						;Tempest Rating	Curve for Vortex ICD 80	No grade allowance
						Vortex_ICD_80	Rating	0
						Vortex_ICD_80	0.1	0.0018
						Vortex_ICD_80	0.2	0.0026
						Vortex_ICD_80	0.3	0.0031
						Vortex_ICD_80	0.4	0.0036
						Vortex_ICD_80	0.5	0.004
						Vortex_ICD_80	0.6	0.0044
						Vortex_ICD_80	0.7	0.0048
						Vortex_ICD_80	0.8	0.0051
						Vortex_ICD_80	0.9	0.0054
						Vortex_ICD_80	1	0.0057
						Vortex_ICD_80	1.2	0.0063
						Vortex_ICD_80	1.4	0.0068
						Vortex_ICD_80	1.6	0.0072
						Vortex_ICD_80	1.8	0.0077

Vortex_ICD_80	2	0.0081	24SCS10	01/01/2000	12:00:00	10.368	
Vortex_ICD_80	2.5	0.009	24SCS10	01/01/2000	12:15:00	10.368	
Vortex_ICD_80	3	0.0099	24SCS10	01/01/2000	12:30:00	5.328	
;Tempest Rating Curve for Vortex ICD 85, No grate allowance							
Vortex_ICD_85	Rating	0	24SCS10	01/01/2000	12:45:00	5.328	
Vortex_ICD_85	0.1	0.002	24SCS10	01/01/2000	13:00:00	3.888	
Vortex_ICD_85	0.2	0.0029	24SCS10	01/01/2000	13:15:00	3.888	
Vortex_ICD_85	0.3	0.0035	24SCS10	01/01/2000	13:30:00	3.024	
Vortex_ICD_85	0.4	0.0041	24SCS10	01/01/2000	14:15:00	2.304	
Vortex_ICD_85	0.5	0.0045	24SCS10	01/01/2000	14:30:00	2.304	
Vortex_ICD_85	0.6	0.005	24SCS10	01/01/2000	14:45:00	2.304	
Vortex_ICD_85	0.7	0.0054	24SCS10	01/01/2000	15:00:00	2.016	
Vortex_ICD_85	0.8	0.0057	24SCS10	01/01/2000	15:15:00	2.016	
Vortex_ICD_85	0.9	0.0061	24SCS10	01/01/2000	15:30:00	2.016	
Vortex_ICD_85	1	0.0064	24SCS10	01/01/2000	15:45:00	2.016	
Vortex_ICD_85	1.2	0.007	24SCS10	01/01/2000	16:00:00	1.584	
Vortex_ICD_85	1.4	0.0076	24SCS10	01/01/2000	16:15:00	1.584	
Vortex_ICD_85	1.6	0.0081	24SCS10	01/01/2000	16:30:00	1.584	
Vortex_ICD_85	1.8	0.0086	24SCS10	01/01/2000	16:45:00	1.584	
Vortex_ICD_85	2	0.0091	24SCS10	01/01/2000	17:00:00	1.656	
Vortex_ICD_85	2.5	0.0101	24SCS10	01/01/2000	17:15:00	1.656	
Vortex_ICD_85	3	0.0111	24SCS10	01/01/2000	17:30:00	1.656	
;Tempest Rating Curve for Vortex ICD 90, No grate allowance							
Vortex_ICD_90	Rating	0	24SCS10	01/01/2000	17:45:00	1.656	
Vortex_ICD_90	0.1	0.0022	24SCS10	01/01/2000	18:00:00	1.08	
Vortex_ICD_90	0.2	0.0032	24SCS10	01/01/2000	18:15:00	1.08	
Vortex_ICD_90	0.3	0.0039	24SCS10	01/01/2000	18:30:00	1.08	
Vortex_ICD_90	0.4	0.0045	24SCS10	01/01/2000	19:00:00	0.864	
Vortex_ICD_90	0.5	0.0051	24SCS10	01/01/2000	19:15:00	0.864	
Vortex_ICD_90	0.6	0.0055	24SCS10	01/01/2000	19:30:00	0.864	
Vortex_ICD_90	0.7	0.006	24SCS10	01/01/2000	20:00:00	1.224	
Vortex_ICD_90	0.8	0.0064	24SCS10	01/01/2000	20:15:00	1.224	
Vortex_ICD_90	0.9	0.0068	24SCS10	01/01/2000	20:30:00	1.224	
Vortex_ICD_90	1	0.0072	24SCS10	01/01/2000	20:45:00	1.224	
Vortex_ICD_90	1.2	0.0079	24SCS10	01/01/2000	21:00:00	0.792	
Vortex_ICD_90	1.4	0.0085	24SCS10	01/01/2000	21:15:00	0.792	
Vortex_ICD_90	1.6	0.0091	24SCS10	01/01/2000	21:30:00	0.792	
Vortex_ICD_90	1.8	0.0096	24SCS10	01/01/2000	21:45:00	0.792	
Vortex_ICD_90	2	0.0102	24SCS10	01/01/2000	22:00:00	0.72	
Vortex_ICD_90	2.5	0.0114	24SCS10	01/01/2000	22:15:00	0.72	
Vortex_ICD_90	3	0.0125	24SCS10	01/01/2000	22:30:00	0.72	
;Tempest Rating Curve for Vortex ICD 95, No grate allowance							
Vortex_ICD_95	Rating	0	24SCS10	01/01/2000	22:45:00	0.72	
Vortex_ICD_95	0.1	0.0026	24SCS10	01/01/2000	23:00:00	0.72	
Vortex_ICD_95	0.2	0.0036	24SCS10	01/01/2000	23:15:00	0.72	
Vortex_ICD_95	0.3	0.0044	24SCS10	01/01/2000	23:30:00	0.72	
Vortex_ICD_95	0.4	0.0051	24SCS10	01/01/2000	23:45:00	0.72	
Vortex_ICD_95	0.5	0.0057	24SCS10	01/01/2000	23:59:00	0.72	
Vortex_ICD_95	0.6	0.0062	24SCS10	01/01/2000	00:00:00	0	
Vortex_ICD_95	0.7	0.0067	24SCS100	01/01/2000	00:00:00	1.548	
Vortex_ICD_95	0.8	0.0071	24SCS100	01/01/2000	00:15:00	1.548	
Vortex_ICD_95	0.9	0.0076	24SCS100	01/01/2000	00:30:00	1.548	
Vortex_ICD_95	1	0.008	24SCS100	01/01/2000	00:45:00	1.548	
Vortex_ICD_95	1.2	0.0087	24SCS100	01/01/2000	01:00:00	0.7224	
Vortex_ICD_95	1.4	0.0094	24SCS100	01/01/2000	01:15:00	0.7224	
Vortex_ICD_95	1.6	0.0101	24SCS100	01/01/2000	01:30:00	0.7224	
Vortex_ICD_95	1.8	0.0107	24SCS100	01/01/2000	01:45:00	0.7224	
Vortex_ICD_95	2	0.0113	24SCS100	01/01/2000	02:15:00	1.3416	
Vortex_ICD_95	2.5	0.0126	24SCS100	01/01/2000	02:30:00	1.3416	
Vortex_ICD_95	3	0.0138	24SCS100	01/01/2000	02:45:00	1.3416	
;From Zurn Manual RD178							
ZURN_Z150F-GNH	Rating	0	24SCS100	01/01/2000	03:15:00	1.3416	
ZURN_Z150F-GNH	0.0127	0.00503838308477861	24SCS100	01/01/2000	03:30:00	1.3416	
ZURN_Z150F-GNH	0.0257	0.0132420013231177	24SCS100	01/01/2000	03:45:00	1.3416	
ZURN_Z150F-GNH	0.0384	0.0234992054543888	24SCS100	01/01/2000	04:15:00	1.7544	
ZURN_Z150F-GNH	0.0508	0.0357128365761305	24SCS100	01/01/2000	04:30:00	1.7544	
ZURN_Z150F-GNH	0.0765	0.042501972611045	24SCS100	01/01/2000	04:45:00	1.7544	
ZURN_Z150F-GNH	0.1024	0.0433196215564931	24SCS100	01/01/2000	05:00:00	1.548	
St_L1	Storage	0	24SCS100	01/01/2000	05:15:00	1.548	
St_L1	1.4	0.073	24SCS100	01/01/2000	05:30:00	1.548	
St_L1	1.7	198.79	24SCS100	01/01/2000	05:45:00	1.548	
St_L2	Storage	0	24SCS100	01/01/2000	06:00:00	2.064	
St_L2	0.36	0.36	24SCS100	01/01/2000	06:15:00	2.064	
St_L2	1.75	0.36	24SCS100	01/01/2000	06:30:00	2.064	
St_L2	2.05	129.41	24SCS100	01/01/2000	06:45:00	2.064	
St_L2	2.1	129.41	24SCS100	01/01/2000	07:15:00	2.064	
St_L3	Storage	0	24SCS100	01/01/2000	07:30:00	2.064	
St_L3	0.36	0.36	24SCS100	01/01/2000	07:45:00	2.064	
St_L3	1.96	0.36	24SCS100	01/01/2000	08:00:00	2.7864	
St_L3	2.21	62.31	24SCS100	01/01/2000	08:15:00	2.7864	
St_P1	Storage	0	24SCS100	01/01/2000	08:30:00	2.7864	
St_P1	0.36	0.36	24SCS100	01/01/2000	08:45:00	2.7864	
St_P1	0.15	114.4	24SCS100	01/01/2000	09:00:00	3.3024	
St_P1	0.31	114.4	24SCS100	01/01/2000	09:15:00	3.3024	
St_P2	Storage	0	24SCS100	01/01/2000	09:30:00	3.7152	
St_P2	0.36	0.36	24SCS100	01/01/2000	09:45:00	3.7152	
St_P2	0.15	100.57	24SCS100	01/01/2000	10:00:00	4.7472	
St_P3	Storage	0	24SCS100	01/01/2000	10:15:00	4.7472	
St_P3	0.36	0.36	24SCS100	01/01/2000	10:30:00	6.3984	
St_P3	0.15	92.14	24SCS100	01/01/2000	10:45:00	6.3984	
St_P3	0.25	92.14	24SCS100	01/01/2000	11:00:00	9.9072	
[TIMESERIES]							
;;Name Date Time Value							
;;-----							
;Rainfall (mm/hr)							
24SCS10	01/01/2000	00:00:00	1.08	24SCS100	01/01/2000	12:00:00	14.8608
24SCS10	01/01/2000	00:15:00	1.08	24SCS100	01/01/2000	12:15:00	14.8608
24SCS10	01/01/2000	00:30:00	1.08	24SCS100	01/01/2000	12:30:00	7.6368
24SCS10	01/01/2000	00:45:00	1.08	24SCS100	01/01/2000	12:45:00	7.6368
24SCS10	01/01/2000	01:00:00	0.504	24SCS100	01/01/2000	13:00:00	5.728
24SCS10	01/01/2000	01:15:00	0.504	24SCS100	01/01/2000	13:15:00	5.728
24SCS10	01/01/2000	01:30:00	0.504	24SCS100	01/01/2000	13:30:00	4.3344
24SCS10	01/01/2000	01:45:00	0.504	24SCS100	01/01/2000	13:45:00	4.3344
24SCS10	01/01/2000	02:00:00	0.936	24SCS100	01/01/2000	14:00:00	4.3344
24SCS10	01/01/2000	02:15:00	0.936	24SCS100	01/01/2000	14:15:00	3.3024
24SCS10	01/01/2000	02:30:00	0.936	24SCS100	01/01/2000	14:30:00	3.3024
24SCS10	01/01/2000	02:45:00	0.936	24SCS100	01/01/2000	14:45:00	3.3024
24SCS10	01/01/2000	03:00:00	0.936	24SCS100	01/01/2000	15:00:00	2.8896
24SCS10	01/01/2000	03:15:00	0.936	24SCS100	01/01/2000	15:15:00	2.8896
24SCS10	01/01/2000	03:30:00	0.936	24SCS100	01/01/2000	15:30:00	2.8896
24SCS10	01/01/2000	03:45:00	0.936	24SCS100	01/01/2000	15:45:00	2.8896
24SCS10	01/01/2000	04:00:00	1.224	24SCS100	01/01/2000	16:00:00	2.2704
24SCS10	01/01/2000	04:15:00	1.224	24SCS100	01/01/2000	16:15:00	2.2704
24SCS10	01/01/2000	04:30:00	1.224	24SCS100	01/01/2000	16:30:00	2.2704
24SCS10	01/01/2000	04:45:00	1.224	24SCS100	01/01/2000	16:45:00	2.2704
24SCS10	01/01/2000	05:00:00	1.08	24SCS100	01/01/2000	17:00:00	2.3736
24SCS10	01/01/2000	05:15:00	1.08	24SCS100	01/01/2000	17:15:00	2.3736
24SCS10	01/01/2000	05:30:00	1.08	24SCS100	01/01/2000	17:30:00	2.3736
24SCS10	01/01/2000	05:45:00	1.08	24SCS100	01/01/2000	17:45:00	2.3736
24SCS10	01/01/2000	06:00:00	1.44	24SCS100	01/01/2000	18:00:00	1.548
24SCS10	01/01/2000	06:15:00	1.44	24SCS100	01/01/2000	18:15:00	1.548
24SCS10	01/01/2000	06:30:00	1.44	24SCS100	01/01/2000	18:30:00	1.548
24SCS10	01/01/2000	06:45:00	1.44	24SCS100	01/01/2000	18:45:00	1.548
24SCS10	01/01/2000	07:00:00	1.44	24SCS100	01/01/2000	19:00:00	1.2384
24SCS10	01/01/2000	07:15:00	1.44	24SCS100	01/01/2000	19:15:00	1.2384
24SCS10	01/01/2000	07:30:00	1.44	24SCS100	01/01/2000	19:30:00	1.2384
24SCS10	01/01/2000	07:45:00	1.44	24SCS100	01/01/2000	19:45:00	1.23

;Rainfall (mm/hr)				24SCS2	01/01/2000	12:15:00	6.912
24SCS120	01/01/2000	00:00:00	1.8576	24SCS2	01/01/2000	12:30:00	3.552
24SCS120	01/01/2000	00:15:00	1.8576	24SCS2	01/01/2000	12:45:00	3.552
24SCS120	01/01/2000	00:30:00	1.8576	24SCS2	01/01/2000	13:00:00	2.592
24SCS120	01/01/2000	00:45:00	1.8576	24SCS2	01/01/2000	13:15:00	2.592
24SCS120	01/01/2000	01:00:00	0.86688	24SCS2	01/01/2000	13:30:00	2.016
24SCS120	01/01/2000	01:15:00	0.86688	24SCS2	01/01/2000	13:45:00	2.016
24SCS120	01/01/2000	01:30:00	0.86688	24SCS2	01/01/2000	14:00:00	1.536
24SCS120	01/01/2000	01:45:00	0.86688	24SCS2	01/01/2000	14:15:00	1.536
24SCS120	01/01/2000	02:00:00	1.60992	24SCS2	01/01/2000	14:30:00	1.536
24SCS120	01/01/2000	02:15:00	1.60992	24SCS2	01/01/2000	14:45:00	1.536
24SCS120	01/01/2000	02:30:00	1.60992	24SCS2	01/01/2000	15:00:00	1.344
24SCS120	01/01/2000	02:45:00	1.60992	24SCS2	01/01/2000	15:15:00	1.344
24SCS120	01/01/2000	03:00:00	1.60992	24SCS2	01/01/2000	15:30:00	1.344
24SCS120	01/01/2000	03:15:00	1.60992	24SCS2	01/01/2000	15:45:00	1.344
24SCS120	01/01/2000	03:30:00	1.60992	24SCS2	01/01/2000	16:00:00	1.056
24SCS120	01/01/2000	03:45:00	1.60992	24SCS2	01/01/2000	16:15:00	1.056
24SCS120	01/01/2000	04:00:00	2.10528	24SCS2	01/01/2000	16:30:00	1.056
24SCS120	01/01/2000	04:15:00	2.10528	24SCS2	01/01/2000	16:45:00	1.056
24SCS120	01/01/2000	04:30:00	2.10528	24SCS2	01/01/2000	17:00:00	1.104
24SCS120	01/01/2000	04:45:00	2.10528	24SCS2	01/01/2000	17:15:00	1.104
24SCS120	01/01/2000	05:00:00	1.8576	24SCS2	01/01/2000	17:30:00	1.104
24SCS120	01/01/2000	05:15:00	1.8576	24SCS2	01/01/2000	17:45:00	1.104
24SCS120	01/01/2000	05:30:00	1.8576	24SCS2	01/01/2000	18:00:00	0.72
24SCS120	01/01/2000	05:45:00	1.8576	24SCS2	01/01/2000	18:15:00	0.72
24SCS120	01/01/2000	06:00:00	2.4768	24SCS2	01/01/2000	18:30:00	0.72
24SCS120	01/01/2000	06:15:00	2.4768	24SCS2	01/01/2000	18:45:00	0.72
24SCS120	01/01/2000	06:30:00	2.4768	24SCS2	01/01/2000	19:00:00	0.576
24SCS120	01/01/2000	06:45:00	2.4768	24SCS2	01/01/2000	19:15:00	0.576
24SCS120	01/01/2000	07:00:00	2.4768	24SCS2	01/01/2000	19:30:00	0.576
24SCS120	01/01/2000	07:15:00	2.4768	24SCS2	01/01/2000	19:45:00	0.576
24SCS120	01/01/2000	07:30:00	2.4768	24SCS2	01/01/2000	20:00:00	0.816
24SCS120	01/01/2000	07:45:00	2.4768	24SCS2	01/01/2000	20:15:00	0.816
24SCS120	01/01/2000	08:00:00	3.34368	24SCS2	01/01/2000	20:30:00	0.816
24SCS120	01/01/2000	08:15:00	3.34368	24SCS2	01/01/2000	20:45:00	0.816
24SCS120	01/01/2000	08:30:00	3.34368	24SCS2	01/01/2000	21:00:00	0.528
24SCS120	01/01/2000	08:45:00	3.34368	24SCS2	01/01/2000	21:15:00	0.528
24SCS120	01/01/2000	09:00:00	3.96288	24SCS2	01/01/2000	21:30:00	0.528
24SCS120	01/01/2000	09:15:00	3.96288	24SCS2	01/01/2000	21:45:00	0.528
24SCS120	01/01/2000	09:30:00	4.45824	24SCS2	01/01/2000	22:00:00	0.48
24SCS120	01/01/2000	09:45:00	4.45824	24SCS2	01/01/2000	22:15:00	0.48
24SCS120	01/01/2000	10:00:00	5.69664	24SCS2	01/01/2000	22:30:00	0.48
24SCS120	01/01/2000	10:15:00	5.69664	24SCS2	01/01/2000	22:45:00	0.48
24SCS120	01/01/2000	10:30:00	7.67808	24SCS2	01/01/2000	23:00:00	0.48
24SCS120	01/01/2000	10:45:00	7.67808	24SCS2	01/01/2000	23:15:00	0.48
24SCS120	01/01/2000	11:00:00	11.88864	24SCS2	01/01/2000	23:30:00	0.48
24SCS120	01/01/2000	11:15:00	11.88864	24SCS2	01/01/2000	23:45:00	0.48
24SCS120	01/01/2000	11:30:00	51.51744	24SCS2	01/02/2000	00:00:00	0
24SCS120	01/01/2000	11:45:00	136.71193	;Rainfall (mm/hr)			
24SCS120	01/01/2000	12:00:00	17.83296	24SCS25	01/01/2000	00:00:00	1.26
24SCS120	01/01/2000	12:15:00	17.83296	24SCS25	01/01/2000	00:15:00	1.26
24SCS120	01/01/2000	12:30:00	9.16416	24SCS25	01/01/2000	00:30:00	1.26
24SCS120	01/01/2000	12:45:00	9.16416	24SCS25	01/01/2000	00:45:00	1.26
24SCS120	01/01/2000	13:00:00	6.68736	24SCS25	01/01/2000	01:00:00	0.588
24SCS120	01/01/2000	13:15:00	6.68736	24SCS25	01/01/2000	01:15:00	0.588
24SCS120	01/01/2000	13:30:00	5.20128	24SCS25	01/01/2000	01:30:00	0.588
24SCS120	01/01/2000	13:45:00	5.20128	24SCS25	01/01/2000	01:45:00	0.588
24SCS120	01/01/2000	14:00:00	3.96288	24SCS25	01/01/2000	02:00:00	1.092
24SCS120	01/01/2000	14:15:00	3.96288	24SCS25	01/01/2000	02:15:00	1.092
24SCS120	01/01/2000	14:30:00	3.96288	24SCS25	01/01/2000	02:30:00	1.092
24SCS120	01/01/2000	14:45:00	3.96288	24SCS25	01/01/2000	02:45:00	1.092
24SCS120	01/01/2000	15:00:00	3.46752	24SCS25	01/01/2000	03:00:00	1.092
24SCS120	01/01/2000	15:15:00	3.46752	24SCS25	01/01/2000	03:15:00	1.092
24SCS120	01/01/2000	15:30:00	3.46752	24SCS25	01/01/2000	03:30:00	1.092
24SCS120	01/01/2000	15:45:00	3.46752	24SCS25	01/01/2000	03:45:00	1.092
24SCS120	01/01/2000	16:00:00	2.72448	24SCS25	01/01/2000	04:00:00	1.428
24SCS120	01/01/2000	16:15:00	2.72448	24SCS25	01/01/2000	04:15:00	1.428
24SCS120	01/01/2000	16:30:00	2.72448	24SCS25	01/01/2000	04:30:00	1.428
24SCS120	01/01/2000	16:45:00	2.72448	24SCS25	01/01/2000	04:45:00	1.428
24SCS120	01/01/2000	17:00:00	2.84832	24SCS25	01/01/2000	05:00:00	1.26
24SCS120	01/01/2000	17:15:00	2.84832	24SCS25	01/01/2000	05:15:00	1.26
24SCS120	01/01/2000	17:30:00	2.84832	24SCS25	01/01/2000	05:30:00	1.26
24SCS120	01/01/2000	17:45:00	2.84832	24SCS25	01/01/2000	05:45:00	1.26
24SCS120	01/01/2000	18:00:00	1.8576	24SCS25	01/01/2000	06:00:00	1.68
24SCS120	01/01/2000	18:15:00	1.8576	24SCS25	01/01/2000	06:15:00	1.68
24SCS120	01/01/2000	18:30:00	1.8576	24SCS25	01/01/2000	06:30:00	1.68
24SCS120	01/01/2000	18:45:00	1.8576	24SCS25	01/01/2000	06:45:00	1.68
24SCS120	01/01/2000	19:00:00	1.48608	24SCS25	01/01/2000	07:00:00	1.68
24SCS120	01/01/2000	19:15:00	1.48608	24SCS25	01/01/2000	07:15:00	1.68
24SCS120	01/01/2000	19:30:00	1.48608	24SCS25	01/01/2000	07:30:00	1.68
24SCS120	01/01/2000	19:45:00	1.48608	24SCS25	01/01/2000	07:45:00	1.68
24SCS120	01/01/2000	20:00:00	2.10528	24SCS25	01/01/2000	08:00:00	2.268
24SCS120	01/01/2000	20:15:00	2.10528	24SCS25	01/01/2000	08:15:00	2.268
24SCS120	01/01/2000	20:30:00	2.10528	24SCS25	01/01/2000	08:30:00	2.268
24SCS120	01/01/2000	20:45:00	2.10528	24SCS25	01/01/2000	08:45:00	2.268
24SCS120	01/01/2000	21:00:00	1.36224	24SCS25	01/01/2000	09:00:00	2.688
24SCS120	01/01/2000	21:15:00	1.36224	24SCS25	01/01/2000	09:15:00	2.688
24SCS120	01/01/2000	21:30:00	1.36224	24SCS25	01/01/2000	09:30:00	3.024
24SCS120	01/01/2000	21:45:00	1.36224	24SCS25	01/01/2000	09:45:00	3.024
24SCS120	01/01/2000	22:00:00	1.2384	24SCS25	01/01/2000	10:00:00	3.864
24SCS120	01/01/2000	22:15:00	1.2384	24SCS25	01/01/2000	10:15:00	3.864
24SCS120	01/01/2000	22:30:00	1.2384	24SCS25	01/01/2000	10:30:00	5.208
24SCS120	01/01/2000	22:45:00	1.2384	24SCS25	01/01/2000	10:45:00	5.208
24SCS120	01/01/2000	23:00:00	1.2384	24SCS25	01/01/2000	11:00:00	8.064
24SCS120	01/01/2000	23:15:00	1.2384	24SCS25	01/01/2000	11:15:00	8.064
24SCS120	01/01/2000	23:30:00	1.2384	24SCS25	01/01/2000	11:30:00	34.944
24SCS120	01/01/2000	23:45:00	1.2384	24SCS25	01/01/2000	11:45:00	92.736
24SCS120	01/02/2000	00:00:00	0	24SCS25	01/01/2000	12:00:00	12.096
;Rainfall (mm/hr)				24SCS25	01/01/2000	12:15:00	12.096
24SCS2	01/01/2000	00:00:00	0.72	24SCS25	01/01/2000	12:30:00	6.216
24SCS2	01/01/2000	00:15:00	0.72	24SCS25	01/01/2000	12:45:00	6.216
24SCS2	01/01/2000	00:30:00	0.72	24SCS25	01/01/2000	13:00:00	4.536
24SCS2	01/01/2000	00:45:00	0.72	24SCS25	01/01/2000	13:15:00	4.536
24SCS2	01/01/2000	01:00:00	0.336	24SCS25	01/01/2000	13:30:00	3.528
24SCS2	01/01/2000	01:15:00	0.336	24SCS25	01/01/2000	13:45:00	3.528
24SCS2	01/01/2000	01:30:00	0.336	24SCS25	01/01/2000	14:00:00	2.688
24SCS2	01/01/2000	01:45:00	0.336	24SCS25	01/01/2000	14:15:00	2.688
24SCS2	01/01/2000	02:00:00	0.624	24SCS25	01/01/2000	14:30:00	2.688
24SCS2	01/01/2000	02:15:00	0.624	24SCS25	01/01/2000	14:45:00	2.688
24SCS2	01/01/2000	02:30:00	0.624	24SCS25	01/01/2000	15:00:00	2.352
24SCS2	01/01/2000	02:45:00	0.624	24SCS25	01/01/2000	15:15:00	2.352
24SCS2	01/01/2000	03:00:00	0.624	24SCS25	01/01/2000	15:30:00	2.352
24SCS2	01/01/2000	03:15:00	0.624	24SCS25	01/01/2000	15:45:00	2.352
24SCS2	01/01/2000	03:30:00	0.624	24SCS25	01/01/2000	16:00:00	1.848
24SCS2	01/01/2000	03:45:00	0.624	24SCS25	01/01/2000	16:15:00	1.848
24SCS2	01/01/2000	04:00:00	0.816	24SCS25	01/01/2000	16:30:00	1.848
24SCS2	01/01/2000	04:15:00	0.816	24SCS25	01/01/2000	16:45:00	1.848
24SCS2	01/01/2000	04:30:00	0.816	24SCS25	01/01/2000	17:00:00	1.932
24SCS2	01/01/2000	04:45:00	0.816	24SCS25	01/01/2000	17:15:0	

24SCS5	01/01/2000	00:00:00	0.936	24SCS50	01/01/2000	12:30:00	6.9264
24SCS5	01/01/2000	00:15:00	0.936	24SCS50	01/01/2000	12:45:00	6.9264
24SCS5	01/01/2000	00:30:00	0.936	24SCS50	01/01/2000	13:00:00	5.0544
24SCS5	01/01/2000	00:45:00	0.936	24SCS50	01/01/2000	13:15:00	5.0544
24SCS5	01/01/2000	01:00:00	0.4368	24SCS50	01/01/2000	13:30:00	3.9312
24SCS5	01/01/2000	01:15:00	0.4368	24SCS50	01/01/2000	13:45:00	3.9312
24SCS5	01/01/2000	01:30:00	0.4368	24SCS50	01/01/2000	14:00:00	2.9952
24SCS5	01/01/2000	01:45:00	0.4368	24SCS50	01/01/2000	14:15:00	2.9952
24SCS5	01/01/2000	02:00:00	0.8112	24SCS50	01/01/2000	14:30:00	2.9952
24SCS5	01/01/2000	02:15:00	0.8112	24SCS50	01/01/2000	14:45:00	2.9952
24SCS5	01/01/2000	02:30:00	0.8112	24SCS50	01/01/2000	15:00:00	2.6208
24SCS5	01/01/2000	02:45:00	0.8112	24SCS50	01/01/2000	15:15:00	2.6208
24SCS5	01/01/2000	03:00:00	0.8112	24SCS50	01/01/2000	15:30:00	2.6208
24SCS5	01/01/2000	03:15:00	0.8112	24SCS50	01/01/2000	15:45:00	2.6208
24SCS5	01/01/2000	03:30:00	0.8112	24SCS50	01/01/2000	16:00:00	2.0592
24SCS5	01/01/2000	03:45:00	0.8112	24SCS50	01/01/2000	16:15:00	2.0592
24SCS5	01/01/2000	04:00:00	1.0608	24SCS50	01/01/2000	16:30:00	2.0592
24SCS5	01/01/2000	04:15:00	1.0608	24SCS50	01/01/2000	16:45:00	2.0592
24SCS5	01/01/2000	04:30:00	1.0608	24SCS50	01/01/2000	17:00:00	2.1528
24SCS5	01/01/2000	04:45:00	1.0608	24SCS50	01/01/2000	17:15:00	2.1528
24SCS5	01/01/2000	05:00:00	0.936	24SCS50	01/01/2000	17:30:00	2.1528
24SCS5	01/01/2000	05:15:00	0.936	24SCS50	01/01/2000	17:45:00	2.1528
24SCS5	01/01/2000	05:30:00	0.936	24SCS50	01/01/2000	18:00:00	1.404
24SCS5	01/01/2000	05:45:00	0.936	24SCS50	01/01/2000	18:15:00	1.404
24SCS5	01/01/2000	06:00:00	1.248	24SCS50	01/01/2000	18:30:00	1.404
24SCS5	01/01/2000	06:15:00	1.248	24SCS50	01/01/2000	18:45:00	1.404
24SCS5	01/01/2000	06:30:00	1.248	24SCS50	01/01/2000	19:00:00	1.1232
24SCS5	01/01/2000	06:45:00	1.248	24SCS50	01/01/2000	19:15:00	1.1232
24SCS5	01/01/2000	07:00:00	1.248	24SCS50	01/01/2000	19:30:00	1.1232
24SCS5	01/01/2000	07:15:00	1.248	24SCS50	01/01/2000	19:45:00	1.1232
24SCS5	01/01/2000	07:30:00	1.248	24SCS50	01/01/2000	20:00:00	1.5912
24SCS5	01/01/2000	07:45:00	1.248	24SCS50	01/01/2000	20:15:00	1.5912
24SCS5	01/01/2000	08:00:00	1.6848	24SCS50	01/01/2000	20:30:00	1.5912
24SCS5	01/01/2000	08:15:00	1.6848	24SCS50	01/01/2000	20:45:00	1.5912
24SCS5	01/01/2000	08:30:00	1.6848	24SCS50	01/01/2000	21:00:00	1.0296
24SCS5	01/01/2000	08:45:00	1.6848	24SCS50	01/01/2000	21:15:00	1.0296
24SCS5	01/01/2000	09:00:00	1.9968	24SCS50	01/01/2000	21:30:00	1.0296
24SCS5	01/01/2000	09:15:00	1.9968	24SCS50	01/01/2000	21:45:00	1.0296
24SCS5	01/01/2000	09:30:00	2.2464	24SCS50	01/01/2000	22:00:00	0.936
24SCS5	01/01/2000	09:45:00	2.2464	24SCS50	01/01/2000	22:15:00	0.936
24SCS5	01/01/2000	10:00:00	2.8704	24SCS50	01/01/2000	22:30:00	0.936
24SCS5	01/01/2000	10:15:00	2.8704	24SCS50	01/01/2000	22:45:00	0.936
24SCS5	01/01/2000	10:30:00	3.8688	24SCS50	01/01/2000	23:00:00	0.936
24SCS5	01/01/2000	10:45:00	3.8688	24SCS50	01/01/2000	23:15:00	0.936
24SCS5	01/01/2000	11:00:00	5.9904	24SCS50	01/01/2000	23:30:00	0.936
24SCS5	01/01/2000	11:15:00	5.9904	24SCS50	01/01/2000	23:45:00	0.936
24SCS5	01/01/2000	11:30:00	25.9584	24SCS50	01/02/2000	00:00:00	0
24SCS5	01/01/2000	11:45:00	68.8896				
24SCS5	01/01/2000	12:00:00	8.9856	;Rainfall (mm/hr)			
24SCS5	01/01/2000	12:15:00	8.9856	3CHI10	01/01/2000	00:00:00	3.755
24SCS5	01/01/2000	12:30:00	4.6176	3CHI10	01/01/2000	00:10:00	4.478
24SCS5	01/01/2000	12:45:00	4.6176	3CHI10	01/01/2000	00:20:00	5.593
24SCS5	01/01/2000	13:00:00	3.3696	3CHI10	01/01/2000	00:30:00	7.551
24SCS5	01/01/2000	13:15:00	3.3696	3CHI10	01/01/2000	00:40:00	11.936
24SCS5	01/01/2000	13:30:00	2.6208	3CHI10	01/01/2000	00:50:00	30.856
24SCS5	01/01/2000	13:45:00	2.6208	3CHI10	01/01/2000	01:00:00	122.142
24SCS5	01/01/2000	14:00:00	1.9968	3CHI10	01/01/2000	01:10:00	35.237
24SCS5	01/01/2000	14:15:00	1.9968	3CHI10	01/01/2000	01:20:00	18.159
24SCS5	01/01/2000	14:30:00	1.9968	3CHI10	01/01/2000	01:30:00	12.238
24SCS5	01/01/2000	14:45:00	1.9968	3CHI10	01/01/2000	01:40:00	9.269
24SCS5	01/01/2000	15:00:00	1.7472	3CHI10	01/01/2000	01:50:00	7.492
24SCS5	01/01/2000	15:15:00	1.7472	3CHI10	01/01/2000	02:00:00	6.309
24SCS5	01/01/2000	15:30:00	1.7472	3CHI10	01/01/2000	02:10:00	5.465
24SCS5	01/01/2000	15:45:00	1.7472	3CHI10	01/01/2000	02:20:00	4.831
24SCS5	01/01/2000	16:00:00	1.3728	3CHI10	01/01/2000	02:30:00	4.338
24SCS5	01/01/2000	16:15:00	1.3728	3CHI10	01/01/2000	02:40:00	3.942
24SCS5	01/01/2000	16:30:00	1.3728	3CHI10	01/01/2000	02:50:00	3.617
24SCS5	01/01/2000	16:45:00	1.3728	3CHI10	01/01/2000	03:00:00	0
24SCS5	01/01/2000	17:00:00	1.4352	;Rainfall (mm/hr)			
24SCS5	01/01/2000	17:15:00	1.4352	3CHI100	01/01/2000	00:00:00	5.339
24SCS5	01/01/2000	17:30:00	1.4352	3CHI100	01/01/2000	00:10:00	6.376
24SCS5	01/01/2000	17:45:00	1.4352	3CHI100	01/01/2000	00:20:00	7.977
24SCS5	01/01/2000	18:00:00	0.936	3CHI100	01/01/2000	00:30:00	10.797
24SCS5	01/01/2000	18:15:00	0.936	3CHI100	01/01/2000	00:40:00	17.136
24SCS5	01/01/2000	18:30:00	0.936	3CHI100	01/01/2000	00:50:00	45.128
24SCS5	01/01/2000	18:45:00	0.936	3CHI100	01/01/2000	01:00:00	178.107
24SCS5	01/01/2000	19:00:00	0.7488	3CHI100	01/01/2000	01:10:00	51.051
24SCS5	01/01/2000	19:15:00	0.7488	3CHI100	01/01/2000	01:20:00	26.163
24SCS5	01/01/2000	19:30:00	0.7488	3CHI100	01/01/2000	01:30:00	17.571
24SCS5	01/01/2000	19:45:00	0.7488	3CHI100	01/01/2000	01:40:00	13.277
24SCS5	01/01/2000	20:00:00	1.0608	3CHI100	01/01/2000	01:50:00	10.712
24SCS5	01/01/2000	20:15:00	1.0608	3CHI100	01/01/2000	02:00:00	9.008
24SCS5	01/01/2000	20:30:00	1.0608	3CHI100	01/01/2000	02:10:00	7.793
24SCS5	01/01/2000	20:45:00	1.0608	3CHI100	01/01/2000	02:20:00	6.883
24SCS5	01/01/2000	21:00:00	0.6864	3CHI100	01/01/2000	02:30:00	6.174
24SCS5	01/01/2000	21:15:00	0.6864	3CHI100	01/01/2000	02:40:00	5.607
24SCS5	01/01/2000	21:30:00	0.6864	3CHI100	01/01/2000	02:50:00	5.142
24SCS5	01/01/2000	21:45:00	0.6864	3CHI100	01/01/2000	03:00:00	0
24SCS5	01/01/2000	22:00:00	0.624	;Rainfall (mm/hr)			
24SCS5	01/01/2000	22:15:00	0.624	3CHI120	01/01/2000	00:00:00	6.406801
24SCS5	01/01/2000	22:30:00	0.624	3CHI120	01/01/2000	00:10:00	7.6512
24SCS5	01/01/2000	22:45:00	0.624	3CHI120	01/01/2000	00:20:00	9.572401
24SCS5	01/01/2000	23:00:00	0.624	3CHI120	01/01/2000	00:30:00	12.9564
24SCS5	01/01/2000	23:15:00	0.624	3CHI120	01/01/2000	00:40:00	20.5632
24SCS5	01/01/2000	23:30:00	0.624	3CHI120	01/01/2000	00:50:00	54.1536
24SCS5	01/01/2000	23:45:00	0.624	3CHI120	01/01/2000	01:00:00	213.7284
24SCS5	01/02/2000	00:00:00	0	3CHI120	01/01/2000	01:10:00	61.2672
;Rainfall (mm/hr)				3CHI120	01/01/2000	01:20:00	31.3956
24SCS50	01/01/2000	00:00:00	1.404	3CHI120	01/01/2000	01:30:00	21.0852
24SCS50	01/01/2000	00:15:00	1.404	3CHI120	01/01/2000	01:40:00	15.9324
24SCS50	01/01/2000	00:30:00	1.404	3CHI120	01/01/2000	01:50:00	12.8544
24SCS50	01/01/2000	00:45:00	1.404	3CHI120	01/01/2000	02:00:00	10.8096
24SCS50	01/01/2000	01:00:00	0.6552	3CHI120	01/01/2000	02:10:00	9.351601
24SCS50	01/01/2000	01:15:00	0.6552	3CHI120	01/01/2000	02:20:00	8.259601
24SCS50	01/01/2000	01:30:00	0.6552	3CHI120	01/01/2000	02:30:00	7.4088
24SCS50	01/01/2000	01:45:00	0.6552	3CHI120	01/01/2000	02:40:00	6.7284
24SCS50	01/01/2000	02:00:00	1.2168	3CHI120	01/01/2000	02:50:00	6.170401
24SCS50	01/01/2000	02:15:00	1.2168	3CHI120	01/01/2000	03:00:00	0
24SCS50	01/01/2000	02:30:00	1.2168	;Rainfall (mm/hr)			
24SCS50	01/01/2000	02:45:00	1.2168	3CHI2	01/01/2000	00:00:00	2.491
24SCS50	01/01/2000	03:00:00	1.2168	3CHI2	01/01/2000	00:10:00	2.966
24SCS50	01/01/2000	03:15:00	1.2168	3CHI2	01/01/2000	00:20:00	3.696
24SCS50	01/01/2000	03:30:00	1.2168	3CHI2	01/01/2000	00:30:00	4.976
24SCS50	01/01/2000	03:45:00	1.2168	3CHI2	01/01/2000	00:40:00	7.828
24SCS50	01/01/2000	04:00:00	1.5912	3CHI2	01/01/2000	00:50:00	19.966
24SCS50	01/01/2000	04:15:00	1.5912	3CHI2	01/01/2000	01:00:00	76.805
24SCS50	01/01/2000	04:30:00	1.5912	3CHI2	01/01/2000	01:10:00	22.777
24SCS50	01/01/2000	04:45:00	1.5912	3CHI2	01/01/2000	01:20:00	11.852
24SCS50	01/01/2000	05:00:00	1.404	3CHI2	01/01/2000	01:30:00	8.025
24SCS50	01/01/2000	05:15:00	1.404	3CHI2	01/01/2000	01:40:00	6.096
24SCS50	01/01/2000	05:30:00	1.404	3CHI2	01/01/2000	01:50:00	4.938
24SCS50	01/01/2000	05:4					

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InfiltratedInflow	01/01/2000	03:56:00	0						
InfiltratedInflow	01/01/2000	03:57:00	0						
InfiltratedInflow	01/01/2000	03:58:00	0						
InfiltratedInflow	01/01/2000	03:59:00	0	[MAP]					
InfiltratedInflow	01/01/2000	04:00:00	0	DIMENSIONS	381360.7266	5033019.65495	381502.5034	5033143.67005	
InfiltratedInflow	01/01/2000	04:01:00	0	UNITS	Meters				
InfiltratedInflow	01/01/2000	04:02:00	0						
InfiltratedInflow	01/01/2000	04:03:00	0	[COORDINATES]					
InfiltratedInflow	01/01/2000	04:04:00	0	;;Node	X-Coord		Y-Coord		
InfiltratedInflow	01/01/2000	04:05:00	0	;;					
InfiltratedInflow	01/01/2000	04:06:00	0	527 (P-Stm)	381424.754		5033138.033		
InfiltratedInflow	01/01/2000	04:07:00	0	OF1	381401.916		5033025.292		
InfiltratedInflow	01/01/2000	04:08:00	0	OF2	381462.548		5033049.302		
InfiltratedInflow	01/01/2000	04:09:00	0	OF3	381403.805		5033026.688		
InfiltratedInflow	01/01/2000	04:10:00	0	OF7	381448.424		5033041.047		
InfiltratedInflow	01/01/2000	04:11:00	0	Roof1	381400.098		5033034.455		
InfiltratedInflow	01/01/2000	04:12:00	0	Roof2	381428.95		5033077.584		
InfiltratedInflow	01/01/2000	04:13:00	0	St_L1	381395.548		5033108.81		
InfiltratedInflow	01/01/2000	04:14:00	0	St_L2	381417.381		5033128.938		
InfiltratedInflow	01/01/2000	04:15:00	0	St_L3	381450.027		5033054.56		
InfiltratedInflow	01/01/2000	04:16:00	0	St_P1	381406.853		5033073.521		
InfiltratedInflow	01/01/2000	04:17:00	0	St_P2	381416.312		5033051.852		
InfiltratedInflow	01/01/2000	04:18:00	0	St_UnGrd	381396.599		5033036.713		
InfiltratedInflow	01/01/2000	04:19:00	0	SU1	381400.429		5033088.237		
InfiltratedInflow	01/01/2000	04:20:00	0						
InfiltratedInflow	01/01/2000	04:21:00	0	[VERTICES]					
InfiltratedInflow	01/01/2000	04:22:00	0	;;Link	X-Coord		Y-Coord		
InfiltratedInflow	01/01/2000	04:23:00	0	;;					
InfiltratedInflow	01/01/2000	04:24:00	0	W_L1	381414.65		5033129.488		
InfiltratedInflow	01/01/2000	04:25:00	0	W_L1	381395.979		5033112.147		
InfiltratedInflow	01/01/2000	04:26:00	0						
InfiltratedInflow	01/01/2000	04:27:00	0	[POLYGONS]					
InfiltratedInflow	01/01/2000	04:28:00	0	;;Subcatchment	X-Coord		Y-Coord		
InfiltratedInflow	01/01/2000	04:29:00	0	;;					
InfiltratedInflow	01/01/2000	04:30:00	0	L1_1	381426.561		5033106.239		
InfiltratedInflow	01/01/2000	04:31:00	0	L1_1	381433.371		5033109.212		
InfiltratedInflow	01/01/2000	04:32:00	0	L1_1	381439.156		5033095.96		
InfiltratedInflow	01/01/2000	04:33:00	0	L1_1	381458.719		5033051.155		
InfiltratedInflow	01/01/2000	04:34:00	0	L1_1	381435.920		5033041.204		
InfiltratedInflow	01/01/2000	04:35:00	0	L1_1	381430.376		5033033.492		
InfiltratedInflow	01/01/2000	04:36:00	0	L1_1	381429.744		5033033.928		
InfiltratedInflow	01/01/2000	04:37:00	0	L1_1	381429.096		5033034.342		
InfiltratedInflow	01/01/2000	04:38:00	0	L1_1	381428.435		5033034.734		
InfiltratedInflow	01/01/2000	04:39:00	0	L1_1	381427.76		5033035.102		
InfiltratedInflow	01/01/2000	04:40:00	0	L1_1	381427.074		5033035.446		
InfiltratedInflow	01/01/2000	04:41:00	0	L1_1	381426.375		5033035.767		
InfiltratedInflow	01/01/2000	04:42:00	0	L1_1	381425.758		5033036.025		
InfiltratedInflow	01/01/2000	04:43:00	0	L1_1	381425.134		5033036.264		
InfiltratedInflow	01/01/2000	04:44:00	0	L1_1	381424.503		5033036.484		
InfiltratedInflow	01/01/2000	04:45:00	0	L1_1	381423.865		5033036.685		
InfiltratedInflow	01/01/2000	04:46:00	0	L1_1	381423.221		5033036.865		
InfiltratedInflow	01/01/2000	04:47:00	0	L1_1	381423.215		5033037.128		
InfiltratedInflow	01/01/2000	04:48:00	0	L1_1	381423.218		5033037.391		
InfiltratedInflow	01/01/2000	04:49:00	0	L1_1	381423.23		5033037.654		
InfiltratedInflow	01/01/2000	04:50:00	0	L1_1	381423.251		5033037.916		
InfiltratedInflow	01/01/2000	04:51:00	0	L1_1	381423.281		5033038.178		
InfiltratedInflow	01/01/2000	04:52:00	0	L1_1	381423.32		5033038.438		
InfiltratedInflow	01/01/2000	04:53:00	0	L1_1	381423.368		5033038.696		
InfiltratedInflow	01/01/2000	04:54:00	0	L1_1	381423.425		5033038.953		
InfiltratedInflow	01/01/2000	04:55:00	0	L1_1	381423.49		5033039.208		
InfiltratedInflow	01/01/2000	04:56:00	0	L1_1	381423.564		5033039.46		
InfiltratedInflow	01/01/2000	04:57:00	0	L1_1	381423.647		5033039.71		
InfiltratedInflow	01/01/2000	04:58:00	0	L1_1	381423.738		5033039.957		
InfiltratedInflow	01/01/2000	04:59:00	0	L1_1	381423.838		5033040.2		
InfiltratedInflow	01/01/2000	05:00:00	0	L1_1	381423.946		5033040.44		
InfiltratedInflow	01/01/2000	05:01:00	0	L1_1	381424.062		5033040.676		
InfiltratedInflow	01/01/2000	05:02:00	0	L1_1	381424.186		5033040.908		
InfiltratedInflow	01/01/2000	05:03:00	0	L1_1	381424.318		5033041.136		
InfiltratedInflow	01/01/2000	05:04:00	0	L1_1	381424.458		5033041.359		
InfiltratedInflow	01/01/2000	05:05:00	0	L1_1	381424.605		5033041.577		
InfiltratedInflow	01/01/2000	05:06:00	0	L1_1	381424.76		5033041.79		
InfiltratedInflow	01/01/2000	05:07:00	0	L1_1	381424.921		5033041.997		
InfiltratedInflow	01/01/2000	05:08:00	0	L1_1	381425.09		5033042.199		
InfiltratedInflow	01/01/2000	05:09:00	0	L1_1	381425.266		5033042.395		
InfiltratedInflow	01/01/2000	05:10:00	0	L1_1	381425.448		5033042.584		
InfiltratedInflow	01/01/2000	05:11:00	0	L1_1	381425.637		5033042.768		
InfiltratedInflow	01/01/2000	05:12:00	0	L1_1	381425.831		5033042.945		
InfiltratedInflow	01/01/2000	05:13:00	0	L1_1	381426.032		5033043.115		
InfiltratedInflow	01/01/2000	05:14:00	0	L1_1	381426.239		5033043.278		
InfiltratedInflow	01/01/2000	05:15:00	0	L1_1	381426.45		5033043.434		
InfiltratedInflow	01/01/2000	05:16:00	0	L1_1	381426.668		5033043.582		
InfiltratedInflow	01/01/2000	05:17:00	0	L1_1	381426.89		5033043.723		
InfiltratedInflow	01/01/2000	05:18:00	0	L1_1	381427.116		5033043.857		
InfiltratedInflow	01/01/2000	05:19:00	0	L1_1	381427.348		5033043.982		
InfiltratedInflow	01/01/2000	05:20:00	0	L1_1	381427.583		5033044.1		
InfiltratedInflow	01/01/2000	05:21:00	0	L1_1	381427.822		5033044.209		
InfiltratedInflow	01/01/2000	05:22:00	0	L1_1	381440.834		5033049.891		
InfiltratedInflow	01/01/2000	05:23:00	0	L1_1	381441.12		5033050.021		
InfiltratedInflow	01/01/2000	05:24:00	0	L1_1	381441.401		5033050.162		
InfiltratedInflow	01/01/2000	05:25:00	0	L1_1	381441.677		5033050.313		
InfiltratedInflow	01/01/2000	05:26:00	0	L1_1	381441.947		5033050.472		
InfiltratedInflow	01/01/2000	05:27:00	0	L1_1	381442.212		5033050.642		
InfiltratedInflow	01/01/2000	05:28:00	0	L1_1	381442.471		5033050.82		
InfiltratedInflow	01/01/2000	05:29:00	0	L1_1	381442.723		5033051.008		
InfiltratedInflow	01/01/2000	05:30:00	0	L1_1	381442.969		5033051.204		
InfiltratedInflow	01/01/2000	05:31:00	0	L1_1	381443.207		5033051.408		
InfiltratedInflow	01/01/2000	05:32:00	0	L1_1	381443.438		5033051.621		
InfiltratedInflow	01/01/2000	05:33:00	0	L1_1	381443.662		5033051.841		
InfiltratedInflow	01/01/2000	05:34:00	0	L1_1	381443.878		5033052.07		
InfiltratedInflow	01/01/2000	05:35:00	0	L1_1	381444.086		5033052.305		
InfiltratedInflow	01/01/2000	05:36:00	0	L1_1	381444.285		5033052.548		
InfiltratedInflow	01/01/2000	05:37:00	0	L1_1	381444.476		5033052.798		
InfiltratedInflow	01/01/2000	05:38:00	0	L1_1	381444.658		5033053.054		
InfiltratedInflow	01/01/2000	05:39:00	0	L1_1	381444.831		5033053.316		
InfiltratedInflow	01/01/2000	05:40:00	0	L1_1	381444.995		5033053.585		
InfiltratedInflow	01/01/2000	05:41:00	0	L1_1	381445.149		5033053.858		
InfiltratedInflow	01/01/2000	05:42:00	0	L1_1	381445.294		5033054.137		
InfiltratedInflow	01/01/2000	05:43:00	0	L1_1	381445.428		5033054.421		
InfiltratedInflow	01/01/2000	05:44:00	0	L1_1	381445.553		5033054.71		
InfiltratedInflow	01/01/2000	05:45:00	0	L1_1	381445.668		5033055.002		
InfiltratedInflow	01/01/2000	05:46:00	0	L1_1	381445.772		5033055.299		
InfiltratedInflow	01/01/2000	05:47:00	0	L1_1	381445.866		5033055.598		
InfiltratedInflow	01/01/2000	05:48:00	0	L1_1	381445.95		5033055.901		
InfiltratedInflow	01/01/2000	05:49:00	0	L1_1	381446.022		5033056.207		
InfiltratedInflow	01/01/2000	05:50:00	0	L1_1	381446.085		5033056.515		
InfiltratedInflow	01/01/2000	05:51:00	0	L1_1	381446.136		5033056.825		
InfiltratedInflow	01/01/2000	05:52:00	0	L1_1	381446.176		5033057.137		
InfiltratedInflow	01/01/2000	05:53:00	0	L1_1	381446.206		5033057.449		
InfiltratedInflow	01/01/2000	05:54:00	0	L1_1	381446.224		5033057.763		
InfiltratedInflow	01/01/2000	05:55:00	0	L1_1	381446.232		5033058.077		
InfiltratedInflow	01/01/2000	05:56:00	0	L1_1	381446.229		5033058.392		
InfiltratedInflow	01/01/2000	05:57:00	0	L1_1	381446.215		5033058.705		
InfiltratedInflow	01/01/2000	05:58:00	0	L1_1	381446.189		5033059.019		
InfiltratedInflow	01/01/2000	05:59:00	0	L1_1	381446.153		5033059.331		
InfiltratedInflow	01/01/2000	06:00:00	0	L1_1	381446.106		5033059.641		
				L1_1	381446.048		5033059.95		
				L1_1	381445.98		5033060.257		
				L1_1	381445.901		5033060.561		
				L1_1	381445.811		5033060.862		
				L1_1	381445.711		5033061.16		
				L1_1	381445.6		5033061.454		
				L1_1	3814				

L1_2	381373.676	5033092.727	S7	381427.822	5033044.209
L1_2	381375.266	5033094.193	S7	381425.421	5033049.708
L1_2	381382.117	5033100.508	S7	381430.18	5033051.785
L1_2	381407.635	5033124.034	S7	381425.847	5033061.708
L1_3	381425.929	5033107.688			
L1_3	381421.474	5033117.892			
L1_3	381415.643	5033115.347			
L1_3	381407.635	5033124.034			
L1_3	381421.373	5033136.698			
L1_3	381433.371	5033109.212			
L1_3	381426.561	5033106.239			
L1_3	381425.929	5033107.688			
S1	381496.059	5033067.453			
S1	381458.719	5033051.155			
S1	381439.156	5033095.96			
S1	381463.973	5033094.136			
S1	381494.933	5033069			
S1	381496.059	5033067.453			
S2	381422.855	5033068.564			
S2	381425.847	5033061.708			
S2	381430.18	5033051.785			
S2	381425.421	5033049.708			
S2	381427.822	5033044.209			
S2	381427.583	5033044.099			
S2	381427.347	5033043.982			
S2	381427.116	5033043.856			
S2	381426.889	5033043.723			
S2	381426.667	5033043.582			
S2	381426.45	5033043.433			
S2	381426.238	5033043.278			
S2	381426.032	5033043.114			
S2	381425.831	5033042.944			
S2	381425.636	5033042.768			
S2	381425.448	5033042.584			
S2	381425.266	5033042.395			
S2	381425.09	5033042.199			
S2	381424.921	5033041.997			
S2	381424.759	5033041.789			
S2	381424.605	5033041.577			
S2	381424.458	5033041.359			
S2	381424.318	5033041.136			
S2	381424.186	5033040.908			
S2	381424.062	5033040.676			
S2	381423.946	5033040.44			
S2	381423.838	5033040.2			
S2	381423.738	5033039.957			
S2	381423.647	5033039.71			
S2	381423.564	5033039.46			
S2	381423.49	5033039.208			
S2	381423.425	5033038.953			
S2	381423.368	5033038.696			
S2	381423.32	5033038.438			
S2	381423.281	5033038.177			
S2	381423.251	5033037.916			
S2	381423.23	5033037.654			
S2	381423.218	5033037.391			
S2	381423.215	5033037.128			
S2	381423.221	5033036.865			
S2	381422.554	5033037.03			
S2	381421.883	5033037.174			
S2	381421.207	5033037.296			
S2	381420.528	5033037.397			
S2	381419.846	5033037.477			
S2	381419.162	5033037.535			
S2	381418.476	5033037.571			
S2	381417.789	5033037.586			
S2	381417.102	5033037.579			
S2	381408.289	5033038.705			
S2	381399.672	5033058.444			
S2	381422.855	5033068.564			
S3_1	381386.988	5033087.5			
S3_1	381386.265	5033089.146			
S3_1	381389.672	5033090.633			
S3_1	381389.532	5033090.954			
S3_1	381394.298	5033093.034			
S3_1	381393.818	5033094.134			
S3_1	381400.599	5033097.094			
S3_1	381401.22	5033095.674			
S3_1	381405.665	5033097.614			
S3_1	381404.701	5033099.821			
S3_1	381408.488	5033101.475			
S3_1	381415.264	5033085.953			
S3_1	381392.081	5033075.833			
S3_1	381386.988	5033087.5			
S3_2	381392.081	5033075.833			
S3_2	381415.264	5033085.953			
S3_2	381422.855	5033068.564			
S3_2	381399.672	5033058.444			
S3_2	381392.081	5033075.833			
S5	381421.474	5033117.892			
S5	381432.346	5033092.987			
S5	381442.775	5033069.097			
S5	381425.847	5033061.708			
S5	381404.547	5033110.503			
S5	381421.474	5033117.892			
S6	381386.988	5033087.5			
S6	381408.289	5033038.705			
S6	381391.361	5033031.316			
S6	381370.061	5033080.111			
S6	381386.988	5033087.5			
S7	381425.847	5033061.708			
S7	381436.845	5033066.509			
S7	381442.344	5033068.909			
S7	381445.479	5033061.744			
S7	381445.6	5033061.454			
S7	381445.711	5033061.16			
S7	381445.811	5033060.862			
S7	381445.901	5033060.561			
S7	381445.98	5033060.257			
S7	381446.048	5033059.95			
S7	381446.106	5033059.641			
S7	381446.153	5033059.331			
S7	381446.189	5033059.019			
S7	381446.215	5033058.705			
S7	381446.229	5033058.392			
S7	381446.232	5033058.077			
S7	381446.224	5033057.763			
S7	381446.206	5033057.449			
S7	381446.176	5033057.137			
S7	381446.136	5033056.825			
S7	381446.085	5033056.515			
S7	381446.022	5033056.207			
S7	381445.95	5033055.901			
S7	381445.866	5033055.598			
S7	381445.772	5033055.299			
S7	381445.668	5033055.002			
S7	381445.553	5033054.71			
S7	381445.428	5033054.421			
S7	381445.294	5033054.137			
S7	381445.149	5033053.858			
S7	381444.995	5033053.585			
S7	381444.831	5033053.316			
S7	381444.658	5033053.054			
S7	381444.476	5033052.798			
S7	381444.285	5033052.548			
S7	381444.086	5033052.305			
S7	381443.878	5033052.07			
S7	381443.662	5033051.841			
S7	381443.438	5033051.621			
S7	381443.207	5033051.408			
S7	381442.969	5033051.204			
S7	381442.723	5033051.008			
S7	381442.471	5033050.82			
S7	381442.212	5033050.642			
S7	381441.947	5033050.472			
S7	381441.677	5033050.313			
S7	381441.401	5033050.162			
S7	381441.12	5033050.021			
S7	381440.834	5033049.891			

STORM WATER MANAGEMENT MODEL - VERSION 5.2 (Build 5.2.3)										Continuity Error (%)													
*****										*****													
Element Count										Time-Step Critical Elements													
*****										*****													
Number of rain gages 1										None													
Number of subcatchments ... 10										*****													
Number of nodes 14										Highest Flow Instability Indexes													
Number of links 12										*****													
Number of pollutants 0										Link ROOF1 (3)													
Number of land uses 0										Link ROOF2 (3)													
*****										*****													
Raingage Summary										Most Frequent Nonconverging Nodes													
*****										*****													
Name										Data Source		Data Type		Recording Interval									
Rainfall										3CHI2		INTENSITY		10 min.									
*****										*****													
Subcatchment Summary										Routing Time Step Summary													
*****										*****													
Name										Area		Width		%Imperv		%Slope		Rain Gage		Outlet			
L1_1										0.07		134.06		10.01		2.0000		Rainfall		St_L3			
L1_2										0.07		15.82		8.45		2.0000		Rainfall		St_L1			
L1_3										0.03		77.61		3.89		2.0000		Rainfall		St_L2			
S1										0.16		38.49		14.29		2.0000		Rainfall		St_L3			
S2										0.06		16.17		90.74		2.0000		Rainfall		St_P2			
S3_1										0.04		10.81		99.29		2.0000		Rainfall		SU1			
S3_2										0.05		13.27		98.96		2.0000		Rainfall		St_P1			
S5										0.10		22.12		100.00		1.0000		Rainfall		Roof2			
S6										0.10		22.12		100.00		1.0000		Rainfall		Roof1			
S7										0.03		28.53		72.19		15.0000		Rainfall		St_UnGrd			
*****										*****													
Node Summary										Subcatchment Runoff Summary													
*****										*****													
Name										Type		Invert Elev.		Max. Depth		Ponded Area		External Inflow					
527_(P-Stm)										OUTFALL		81.23		0.00		0.0							
OF1										OUTFALL		80.67		0.00		0.0							
OF2										OUTFALL		80.91		0.00		0.0							
OF3										OUTFALL		80.67		0.00		0.0							
OF7										OUTFALL		80.67		0.00		0.0							
Roof1										STORAGE		96.85		0.15		0.0							
Roof2										STORAGE		96.85		0.15		0.0							
St_L1										STORAGE		84.20		1.70		0.0							
St_L2										STORAGE		83.90		2.10		0.0							
St_L3										STORAGE		83.09		2.21		0.0							
St_P1										STORAGE		85.70		0.31		0.0							
St_P2										STORAGE		85.50		0.15		0.0							
St_UnGrd										STORAGE		81.97		1.00		0.0		Yes					
SU1										STORAGE		85.70		0.25		0.0							
*****										*****													
Link Summary										Total													
*****										*****													
Name										From Node		To Node		Type		Length		%Slope					
Roughness																							
C1										St_L1		St_L2		CONDUIT		33.1		0.9050					
0.0130																							
W_L1										St_L2		St_L1		WEIR									
W1										St_P1		St_P2		WEIR									
W2										SU1		St_P1		WEIR									
O_St_L3										St_L3		OF2		OUTLET									
OL1										SU1		St_UnGrd		OUTLET									
OL2										St_P1		St_UnGrd		OUTLET									
OL3										St_P2		St_UnGrd		OUTLET									
OL4										St_L2		527_(P-Stm)		OUTLET									
OR1										St_UnGrd		OF1		OUTLET									
ROOF1										Roof1		OF3		OUTLET									
ROOF2										Roof2		OF7		OUTLET									
*****										*****													
Cross Section Summary										Node Depth Summary													
*****										*****													
Conduit										Shape		Full Depth		Full Area		Hyd. Rad.		Max. Width		No. of Barrels		Full Flow	
C1										CIRCULAR		0.25		0.05		0.06		0.25		1		0.06	
*****										*****													
Analysis Options										Node Inflow Summary													
*****										*****													
Flow Units CMS										*****													
Process Models:										*****													
Rainfall/Runoff YES										*****													
RDII NO										*****													
Snowmelt NO										*****													
Groundwater NO										*****													
Flow Routing YES										*****													
Ponding Allowed NO										*****													
Water Quality NO										*****													
Infiltration Method HORTON										*****													
Flow Routing Method DYNWAVE										*****													
Surcharge Method EXTRAN										*****													
Starting Date 01/01/2000 00:00:00										*****													
Ending Date 01/01/2000 06:00:00										*****													
Antecedent Dry Days 0.0										*****													
Report Time Step 00:01:00										*****													
Wet Time Step 00:01:00										*****													
Dry Time Step 00:01:00										*****													
Routing Time Step 1.00 sec										*****													
Variable Time Step YES										*****													
Maximum Trials 8										*****													
Number of Threads 1										*****													
Head Tolerance 0.001500 m										*****													
*****										*****													
Runoff Quantity Continuity										*****													
*****										*****													
Volume										Depth													
hectare-m										mm													
Total Precipitation										0.022		31.879											
Evaporation Loss										0.000		0.000											
Infiltration Loss										0.010		14.896											
Surface Runoff										0.011		16.108											
Final Storage										0.001		0.893											
Continuity Error (%)										-0.053													
*****										*****													
Flow Routing Continuity										*****													
*****										*****													
Volume										Volume													
hectare-m										10 ⁶ ltr													
Dry Weather Inflow										0.000		0.000											
Wet Weather Inflow										0.011		0.113											
Groundwater Inflow										0.000		0.000											
RDII Inflow										0.000		0.000											
External Inflow										0.000		0.000											
External Outflow										0.011		0.114											
Flooding Loss										0.000		0.000											
Evaporation Loss										0.000		0.000											
Exfiltration Loss										0.000		0.000											
*****										*****													
Initial Stored Volume 0.000										0.000													
Final Stored Volume 0.000										0.000													
Continuity Error (%) 0.000										0.000													
*****										*****													
Time-Step Critical Elements										*****													
*****										*****													
None										*****													
*****										*****													
Highest Flow Instability Indexes										*****													
*****										*****													
Link ROOF1 (3)										*****													
Link ROOF2 (3)										*****													
*****										*****													
Most Frequent Nonconverging Nodes										*****													
*****										*****													
Convergence obtained at all time steps.										*****													
*****										*****													
Routing Time Step Summary										*****													
*****										*****													
Minimum Time Step										:		0.50 sec											
Average Time Step										:		1.00 sec											
Maximum Time Step										:		1.00 sec											
% of Time in Steady State										:		0.00											
Average Iterations per Step										:		2.00											
% of Steps Not Converging										:		0.00											
Time Step Frequencies										:													
St_L1										:		1.000 - 0.871 sec		:		100.00 %							
St_L2										:		0.871 - 0.758 sec		:		0.00 %							
St_L3										:		0.758 - 0.660 sec		:		0.00 %							
St_P2										:		0.660 - 0.574 sec		:		0.00 %							
SU1										:		0.574 - 0.500 sec		:		0.00 %							
*****										*****													
Subcatchment Runoff Summary										*****													
*****										*****													
Total										Runoff		Total		Total		Total		Total		Imperv		Perov	
mm										Subcatchment		Peak		Total		Total		Total		Total		Total	
mm										10 ⁶ ltr		CMS		mm		mm		mm		mm		mm	
L1_1										0.00		0.00		31.88		0.00		0.00		30.21		3.04	
L1_2										0.00		0.00		31.88		0.00		0.00		31.38		2.56	
L1_3										0.00		0.00		31.88		0.00		0.00		31.14		1.18	
S1										0.00		0.00		31.88		0.00		0.00		30.14		4.34	
S2										0.00		0.00		31.88		0.00		0.00		2.93		27.52	
S3_1										0.02		0.01		0.864		0.00		0.00		0.22		30.11	
S3_1										0.01		0.01		0.945		0.00		0.00		0.00		0.01	
S3_2										0.01		0.01		0.942		0.00		0.00		0.33		30.01	
S5										0.03		0.02		31.88		0.00		0.00		0.00		30.31	
S6										0.03		0.02		31.88		0.00		0.00		0.00		30.31	
S7										0.03		0.02		0.951		0.00		0.00		0.00		30.31	
22.06										0.01		0.01		0.692		0.00		0.00		8.73		21.92	
*****										*****													
Node Depth Summary										*****													
*****										*****													
Node										Type		Average Depth		Maximum Depth		Maximum HGL		Time of Max Occurrence		Reported Max Depth			
527_(P-Stm)										OUTFALL		0.43		1.04		82.27		0 01:34		1.04			
OF1										OUTFALL		0.50		0.50		81.17		0 00:00		0.50			
OF2										OUTFALL		0.55		0.55		81.46		0 00:00		0.55			
OF3										OUTFALL		0.50		0.50		81.17		0 00:00		0.50			
OF7										OUTFALL		0.50		0.50		81.17		0 00:00		0.50			
Roof1										STORAGE		0.01		0.03		96.88		0 01:43		0.03			
Roof2										STORAGE		0.01		0.03		96.88		0 01:43		0.03			
St_L1										STORAGE		0.00		0.01		84.21		0 01:11		0.01			
St_L2										STORAGE		0.00		0.05		83.95		0 01:13		0.05			
St_L3										STORAGE		0.00		0.06		83.15		0 01:10		0.06			
St_P1										STORAGE		0.00		0.02		85.72		0 01:10		0.02			
St_P2										STORAGE		0.00		0.02		85.52		0 01:10		0.02			
St_UnGrd										STORAGE		0.00		0.25		82.22		0 01:20		0.25			
SU1										STORAGE		0.00		0.02		85.72		0 01:10		0.02			
*****										*****													
Node Inflow Summary										*****													
*****										*****													
Flow										Maximum		Maximum		Maximum		Time of Max		Lateral		Total			
Balance										Lateral		Total		Time of Max		Inflow		Inflow		Inflow			
Error										Inflow		Inflow		Occurrence		Volume		Volume					
Percent										Type		CMS		CMS		days hr:min		10 ⁶ ltr		10 ⁶ ltr			
527_(P-Stm)										OUTFALL		0.000		0.001		0 01:13		0		0.000476			
OF1										OUTFALL		0.000		0.010		0 01:00		0		0.0503			
OF2										OUTFALL		0.000		0.005		0 01:10		0		0.00347			
OF3										OUTFALL		0.000		0.002		0 00:52		0		0.0298			
OF7										OUTFALL		0.000		0.002		0 00:52		0		0.0298			
Roof1										STORAGE		0.021		0.021		0 01:10		0.0298		0.0298			
Roof2										STORAGE		0.021		0.021		0 01:10		0.0298		0.0298			
St_L1										STORAGE		0.000		0.000		0 01:10		0.000253		0.000253			
St_L2										STORAGE		0.001		0.001		0 01:10		0.000224		0.000477			
St_L3										STORAGE		0.005		0.005		0 01:10		0.00347		0.00347			
St_P1										STORAGE		0.010		0.010		0 01:10		0.0144		0.0144			
St_P2										STORAGE		0.012		0.012		0 01:10		0.0167		0.0167			
St_UnGrd										STORAGE		0.005		0.036		0 01:10		0.00743		0.0503			
SU1										STORAGE		0											

Node Surcharge Summary

No nodes were surcharged.

Node Flooding Summary

No nodes were flooded.

Storage Volume Summary

Maximum Average Avg Evap Exfil Maximum Max Time of Max
Outflow Volume Pcnt Pcnt Pcnt Volume Pcnt Occurrence
Storage Unit 1000 m³ Full Loss Loss 1000 m³ Full days hr:min
CMS

Roof1 0.007 8.4 0.0 0.0 0.017 20.5 0 01:43
0.002
Roof2 0.007 8.4 0.0 0.0 0.017 20.5 0 01:43
0.002
St_L1 0.000 0.0 0.0 0.0 0.000 0.0 0 01:11
0.000
St_L2 0.000 0.0 0.0 0.0 0.000 0.1 0 01:13
0.001
St_L3 0.000 0.0 0.0 0.0 0.000 0.3 0 01:10
0.005
St_P1 0.000 0.0 0.0 0.0 0.000 0.6 0 01:10
0.010
St_P2 0.000 0.1 0.0 0.0 0.000 2.5 0 01:10
0.012
St_UnGrd 0.002 2.7 0.0 0.0 0.016 24.8 0 01:20
0.010
SU1 0.000 0.0 0.0 0.0 0.000 0.6 0 01:10
0.008

Outfall Loading Summary

Outfall Node Flow Avg Max Total

Post-Development 3-hour Chicago 1:100 year Event

[TITLE]										[TITLE]										[TITLE]									
;;Project Title/Notes										;;Project Title/Notes										;;Project Title/Notes									
[OPTIONS]										[OPTIONS]										[OPTIONS]									
;;Option		Value								W_L1		0	St_L2		NO	St_L1		TRANSVERSE		85.95	1.84	NO							
FLOW_UNITS		CMS								W1		0	St_P1		NO	St_P2		TRANSVERSE		85.85	1.84	NO							
INFILTRATION		HORTON								W2		0	SUI		NO	St_P1		TRANSVERSE		85.87	1.84	NO							
FLOW_ROUTING		DYNWAVE								W2		0	YES																
LINK_OFFSETS		ELEVATION								[OUTLETS]																			
MIN_SLOPE		0								;;Name		Gated		From Node		To Node		Offset		Type		QTable/Qcoeff							
ALLOW_PONDING		NO								;;																			
SKIP_STEADY_STATE		NO								;;																			
START_DATE		01/01/2000								O_St_L3																			
START_TIME		00:00:00								NO																			
REPORT_START_DATE		01/01/2000								OL1																			
REPORT_START_TIME		00:00:00								NO																			
END_DATE		01/01/2000								OL2																			
END_TIME		06:00:00								St_P1																			
SWEEP_START		01/01								NO																			
SWEEP_END		12/31								OL3																			
DRY_DAYS		0								NO																			
REPORT_STEP		00:01:00								OL4																			
WET_STEP		00:01:00								NO																			
DRY_STEP		00:01:00								St_L2																			
ROUTING_STEP		1								527_(P-Stm)																			
RULE_STEP		00:00:00								83.9																			
										TABULAR/HEAD																			
										Vortex_ICD_70																			
										OR1																			
										St_UnGrd																			
										OF1																			
										81.971																			
										TABULAR/HEAD																			
										O_St_UnGrd																			
										NO																			
										Roof1																			
										OF3																			
										96.85																			
										TABULAR/HEAD																			
										O_Roof1																			
										NO																			
										Roof2																			
										OF7																			
										96.85																			
										TABULAR/HEAD																			
										O_Roof2																			
										INERTIAL_DAMPING																			
										PARTIAL																			
										NORMAL_FLOW_LIMITED																			
										BOTH																			
										FORCE_MAIN_EQUATION																			
										H-W																			
										VARIABLE_STEP																			
										0.75																			
										LENGTHENING_STEP																			
										0																			
										MIN_SURFAREA																			
										0																			
										MAX_TRIALS																			
										8																			
										HEAD_TOLERANCE																			
										0.0015																			
										SYS_FLOW_TOL																			
										5																			
										LAT_FLOW_TOL																			
										5																			
										MINIMUM_STEP																			
										0.5																			
										THREADS																			
										12																			
[EVAPORATION]										[LOSSES]																			
;;Data Source		Parameters								;;Link		Kentry		Kexit		Kavg		Flap Gate		Seepage									
CONSTANT		0.0								;;Node																			
DRI_ONLY		NO								[INFLOWS]		Constituent		Time Series		Type		Mfactor		Sfactor									
										[RAINGAGES]																			
;;Name		Format		Interval		SCF		Source		[RAINGAGES]																			
;;										[RAINGAGES]																			
Rainfall		INTENSITY		0:10		1.0		TIMESERIES 3CHI100		[RAINGAGES]																			
										[SUBCATCHMENTS]																			
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[illegible]

Vortex_ICD_80	0.7	0.0048	24SCS10	01/01/2000	10:00:00	3.312	
Vortex_ICD_80	0.8	0.0051	24SCS10	01/01/2000	10:15:00	3.312	
Vortex_ICD_80	0.9	0.0054	24SCS10	01/01/2000	10:30:00	4.464	
Vortex_ICD_80	1	0.0057	24SCS10	01/01/2000	10:45:00	4.464	
Vortex_ICD_80	1.2	0.0063	24SCS10	01/01/2000	11:00:00	6.912	
Vortex_ICD_80	1.4	0.0068	24SCS10	01/01/2000	11:15:00	6.912	
Vortex_ICD_80	1.6	0.0072	24SCS10	01/01/2000	11:30:00	29.952	
Vortex_ICD_80	1.8	0.0077	24SCS10	01/01/2000	11:45:00	79.488	
Vortex_ICD_80	2	0.0081	24SCS10	01/01/2000	12:00:00	10.368	
Vortex_ICD_80	2.5	0.009	24SCS10	01/01/2000	12:15:00	10.368	
Vortex_ICD_80	3	0.0099	24SCS10	01/01/2000	12:30:00	5.328	
;Tempest Rating Curve for Vortex ICD 85, No grate allowance							
Vortex_ICD_85	Rating	0	24SCS10	01/01/2000	13:00:00	3.888	
Vortex_ICD_85	0.1	0.002	24SCS10	01/01/2000	13:15:00	3.888	
Vortex_ICD_85	0.2	0.0029	24SCS10	01/01/2000	13:30:00	3.024	
Vortex_ICD_85	0.3	0.0035	24SCS10	01/01/2000	13:45:00	3.024	
Vortex_ICD_85	0.4	0.0041	24SCS10	01/01/2000	14:00:00	2.304	
Vortex_ICD_85	0.5	0.0045	24SCS10	01/01/2000	14:30:00	2.304	
Vortex_ICD_85	0.6	0.005	24SCS10	01/01/2000	14:45:00	2.304	
Vortex_ICD_85	0.7	0.0054	24SCS10	01/01/2000	15:00:00	2.016	
Vortex_ICD_85	0.8	0.0057	24SCS10	01/01/2000	15:15:00	2.016	
Vortex_ICD_85	0.9	0.0061	24SCS10	01/01/2000	15:30:00	2.016	
Vortex_ICD_85	1	0.0064	24SCS10	01/01/2000	15:45:00	2.016	
Vortex_ICD_85	1.2	0.007	24SCS10	01/01/2000	16:00:00	1.584	
Vortex_ICD_85	1.4	0.0076	24SCS10	01/01/2000	16:15:00	1.584	
Vortex_ICD_85	1.6	0.0081	24SCS10	01/01/2000	16:30:00	1.584	
Vortex_ICD_85	1.8	0.0086	24SCS10	01/01/2000	16:45:00	1.584	
Vortex_ICD_85	2	0.0091	24SCS10	01/01/2000	17:00:00	1.656	
Vortex_ICD_85	2.5	0.0101	24SCS10	01/01/2000	17:15:00	1.656	
Vortex_ICD_85	3	0.0111	24SCS10	01/01/2000	17:30:00	1.656	
;Tempest Rating Curve for Vortex ICD 90, No grate allowance							
Vortex_ICD_90	Rating	0	24SCS10	01/01/2000	17:45:00	1.656	
Vortex_ICD_90	0.1	0.0022	24SCS10	01/01/2000	18:00:00	1.08	
Vortex_ICD_90	0.2	0.0032	24SCS10	01/01/2000	18:15:00	1.08	
Vortex_ICD_90	0.3	0.0039	24SCS10	01/01/2000	18:30:00	1.08	
Vortex_ICD_90	0.4	0.0045	24SCS10	01/01/2000	19:00:00	0.864	
Vortex_ICD_90	0.5	0.0051	24SCS10	01/01/2000	19:15:00	0.864	
Vortex_ICD_90	0.6	0.0055	24SCS10	01/01/2000	19:30:00	0.864	
Vortex_ICD_90	0.7	0.006	24SCS10	01/01/2000	20:00:00	1.224	
Vortex_ICD_90	0.8	0.0064	24SCS10	01/01/2000	20:15:00	1.224	
Vortex_ICD_90	0.9	0.0068	24SCS10	01/01/2000	20:30:00	1.224	
Vortex_ICD_90	1	0.0072	24SCS10	01/01/2000	20:45:00	1.224	
Vortex_ICD_90	1.2	0.0079	24SCS10	01/01/2000	21:00:00	0.792	
Vortex_ICD_90	1.4	0.0085	24SCS10	01/01/2000	21:15:00	0.792	
Vortex_ICD_90	1.6	0.0091	24SCS10	01/01/2000	21:30:00	0.792	
Vortex_ICD_90	1.8	0.0096	24SCS10	01/01/2000	21:45:00	0.792	
Vortex_ICD_90	2	0.0102	24SCS10	01/01/2000	22:00:00	0.72	
Vortex_ICD_90	2.5	0.0114	24SCS10	01/01/2000	22:15:00	0.72	
Vortex_ICD_90	3	0.0125	24SCS10	01/01/2000	22:30:00	0.72	
;Tempest Rating Curve for Vortex ICD 95, No grate allowance							
Vortex_ICD_95	Rating	0	24SCS10	01/01/2000	22:45:00	0.72	
Vortex_ICD_95	0.1	0.0026	24SCS10	01/01/2000	23:00:00	0.72	
Vortex_ICD_95	0.2	0.0036	24SCS10	01/01/2000	23:15:00	0.72	
Vortex_ICD_95	0.3	0.0044	24SCS10	01/01/2000	23:30:00	0.72	
Vortex_ICD_95	0.4	0.0051	24SCS10	01/01/2000	23:45:00	0.72	
Vortex_ICD_95	0.5	0.0057	24SCS10	01/01/2000	23:59:00	0.72	
Vortex_ICD_95	0.6	0.0062	24SCS10	01/02/2000	00:00:00	0	
Vortex_ICD_95	0.7	0.0067	24SCS10	01/01/2000	00:15:00	1.548	
Vortex_ICD_95	0.8	0.0071	24SCS10	01/01/2000	00:30:00	1.548	
Vortex_ICD_95	0.9	0.0076	24SCS10	01/01/2000	00:45:00	1.548	
Vortex_ICD_95	1	0.008	24SCS10	01/01/2000	01:00:00	0.7224	
Vortex_ICD_95	1.2	0.0087	24SCS10	01/01/2000	01:05:00	0.7224	
Vortex_ICD_95	1.4	0.0094	24SCS10	01/01/2000	01:30:00	0.7224	
Vortex_ICD_95	1.6	0.0101	24SCS10	01/01/2000	01:45:00	0.7224	
Vortex_ICD_95	1.8	0.0107	24SCS10	01/01/2000	02:00:00	1.3416	
Vortex_ICD_95	2	0.0113	24SCS10	01/01/2000	02:15:00	1.3416	
Vortex_ICD_95	2.5	0.0126	24SCS10	01/01/2000	02:30:00	1.3416	
Vortex_ICD_95	3	0.0138	24SCS10	01/01/2000	02:45:00	1.3416	
;From Zurn Manual RD178							
ZURN_Z150F-6NH	Rating	0	24SCS10	01/01/2000	03:00:00	1.3416	
ZURN_Z150F-6NH	0.0127	0.00503838308477861	24SCS10	01/01/2000	03:15:00	1.3416	
ZURN_Z150F-6NH	0.0257	0.0132420013231177	24SCS10	01/01/2000	03:30:00	1.3416	
ZURN_Z150F-6NH	0.0384	0.0234992054543888	24SCS10	01/01/2000	03:45:00	1.7544	
ZURN_Z150F-6NH	0.0508	0.0357128365761305	24SCS10	01/01/2000	04:30:00	1.7544	
ZURN_Z150F-6NH	0.0765	0.0425019726111045	24SCS10	01/01/2000	04:45:00	1.7544	
ZURN_Z150F-6NH	0.1024	0.0433196215564931	24SCS10	01/01/2000	05:00:00	1.548	
St_L1	Storage	0	24SCS10	01/01/2000	05:15:00	1.548	
St_L1	1.4	0.073	24SCS10	01/01/2000	05:30:00	1.548	
St_L1	1.7	198.79	24SCS10	01/01/2000	05:45:00	1.548	
St_L2	Storage	0	24SCS10	01/01/2000	06:00:00	2.064	
St_L2	1.75	0.36	24SCS10	01/01/2000	06:15:00	2.064	
St_L2	2.05	129.41	24SCS10	01/01/2000	06:30:00	2.064	
St_L2	2.1	129.41	24SCS10	01/01/2000	07:15:00	2.064	
St_L3	Storage	0	24SCS10	01/01/2000	07:30:00	2.064	
St_L3	1.96	0.36	24SCS10	01/01/2000	07:45:00	2.064	
St_L3	2.21	62.31	24SCS10	01/01/2000	08:00:00	2.7864	
St_P1	Storage	0	24SCS10	01/01/2000	08:15:00	2.7864	
St_P1	0.15	114.4	24SCS10	01/01/2000	08:30:00	2.7864	
St_P1	0.31	114.4	24SCS10	01/01/2000	08:45:00	3.3024	
St_P2	Storage	0	24SCS10	01/01/2000	09:15:00	3.3024	
St_P2	0.15	100.57	24SCS10	01/01/2000	09:30:00	3.7152	
St_P2	0.15	100.57	24SCS10	01/01/2000	09:45:00	3.7152	
St_P3	Storage	0	24SCS10	01/01/2000	10:00:00	4.7472	
St_P3	0.15	92.14	24SCS10	01/01/2000	10:15:00	4.7472	
St_P3	0.25	92.14	24SCS10	01/01/2000	10:30:00	6.3984	
St_P3	0.25	92.14	24SCS10	01/01/2000	10:45:00	6.3984	
St_P3	0.25	92.14	24SCS10	01/01/2000	11:00:00	9.9072	
St_P3	0.25	92.14	24SCS10	01/01/2000	11:15:00	9.9072	
[TIMESERIES]							
;Name	Date	Time	Value	24SCS10	01/01/2000	11:30:00	42.9312
;Name	Date	Time	Value	24SCS10	01/01/2000	11:45:00	113.9328
;Name	Date	Time	Value	24SCS10	01/01/2000	12:00:00	14.8608
;Name	Date	Time	Value	24SCS10	01/01/2000	12:15:00	14.8608
;Name	Date	Time	Value	24SCS10	01/01/2000	12:30:00	7.6368
;Name	Date	Time	Value	24SCS10	01/01/2000	12:45:00	7.6368
;Name	Date	Time	Value	24SCS10	01/01/2000	13:00:00	5.5728
;Name	Date	Time	Value	24SCS10	01/01/2000	13:15:00	5.5728
;Name	Date	Time	Value	24SCS10	01/01/2000	13:30:00	4.3344
;Name	Date	Time	Value	24SCS10	01/01/2000	13:45:00	4.3344
;Name	Date	Time	Value	24SCS10	01/01/2000	14:00:00	3.3024
;Name	Date	Time	Value	24SCS10	01/01/2000	14:15:00	3.3024
;Name	Date	Time	Value	24SCS10	01/01/2000	14:30:00	3.3024
;Name	Date	Time	Value	24SCS10	01/01/2000	14:45:00	3.3024
;Name	Date	Time	Value	24SCS10	01/01/2000	15:00:00	2.8896
;Name	Date	Time	Value	24SCS10	01/01/2000	15:15:00	2.8896
;Name	Date	Time	Value	24SCS10	01/01/2000	15:30:00	2.8896
;Name	Date	Time	Value	24SCS10	01/01/2000	15:45:00	2.8896
;Name	Date	Time	Value	24SCS10	01/01/2000	16:00:00	2.2704
;Name	Date	Time	Value	24SCS10	01/01/2000	16:15:00	2.2704
;Name	Date	Time	Value	24SCS10	01/01/2000	16:30:00	2.2704
;Name	Date	Time	Value	24SCS10	01/01/2000	16:45:00	2.2704
;Name	Date	Time	Value	24SCS10	01/01/2000	17:00:00	2.3736
;Name	Date	Time	Value	24SCS10	01/01/2000	17:15:00	2.3736
;Name	Date	Time	Value	24SCS10	01/01/2000	17:30:00	2.3736
;Name	Date	Time	Value	24SCS10	01/01/2000	17:45:00	2.3736
;Name	Date	Time	Value	24SCS10	01/01/2000	18:00:00	1.548
;Name	Date	Time	Value	24SCS10	01/01/2000	18:15:00	1.548
;Name	Date	Time	Value	24SCS10	01/01/2000	18:30:00	1.548
;Name	Date	Time	Value	24SCS10	01/01/2000	18:45:00	1.548
;Name	Date	Time	Value	24SCS10	01/01/2000	19:00:00	1.2384
;Name	Date	Time	Value	24SCS10	01/01/2000	19:15:00	1.2384
;Name	Date	Time	Value	24SCS10	01/01/2000	19:30:00	1.2384
;Name	Date	Time	Value	24SCS10	01/01/2000	19:45:00	1.2384
;Name	Date	Time	Value	24SCS10	01/01/2000	20:00:00	1.7544
;Name	Date	Time	Value	24SCS10	01/01/		

24SCS100	01/01/2000	22:30:00	1.032	24SCS2	01/01/2000	10:15:00	2.208
24SCS100	01/01/2000	22:45:00	1.032	24SCS2	01/01/2000	10:30:00	2.976
24SCS100	01/01/2000	23:00:00	1.032	24SCS2	01/01/2000	10:45:00	2.976
24SCS100	01/01/2000	23:15:00	1.032	24SCS2	01/01/2000	11:00:00	4.608
24SCS100	01/01/2000	23:30:00	1.032	24SCS2	01/01/2000	11:15:00	4.608
24SCS100	01/01/2000	23:45:00	1.032	24SCS2	01/01/2000	11:30:00	19.968
24SCS100	01/02/2000	00:00:00	0	24SCS2	01/01/2000	11:45:00	52.992
;Rainfall (mm/hr)				24SCS2	01/01/2000	12:00:00	6.912
24SCS120	01/01/2000	00:00:00	1.8576	24SCS2	01/01/2000	12:15:00	6.912
24SCS120	01/01/2000	00:15:00	1.8576	24SCS2	01/01/2000	12:30:00	3.552
24SCS120	01/01/2000	00:30:00	1.8576	24SCS2	01/01/2000	12:45:00	3.552
24SCS120	01/01/2000	00:45:00	1.8576	24SCS2	01/01/2000	13:00:00	2.592
24SCS120	01/01/2000	01:00:00	0.86688	24SCS2	01/01/2000	13:15:00	2.592
24SCS120	01/01/2000	01:15:00	0.86688	24SCS2	01/01/2000	13:30:00	2.016
24SCS120	01/01/2000	01:30:00	0.86688	24SCS2	01/01/2000	13:45:00	2.016
24SCS120	01/01/2000	01:45:00	0.86688	24SCS2	01/01/2000	14:00:00	1.536
24SCS120	01/01/2000	02:00:00	1.60992	24SCS2	01/01/2000	14:15:00	1.536
24SCS120	01/01/2000	02:15:00	1.60992	24SCS2	01/01/2000	14:30:00	1.536
24SCS120	01/01/2000	02:30:00	1.60992	24SCS2	01/01/2000	14:45:00	1.536
24SCS120	01/01/2000	02:45:00	1.60992	24SCS2	01/01/2000	15:00:00	1.344
24SCS120	01/01/2000	03:00:00	1.60992	24SCS2	01/01/2000	15:15:00	1.344
24SCS120	01/01/2000	03:15:00	1.60992	24SCS2	01/01/2000	15:30:00	1.344
24SCS120	01/01/2000	03:30:00	1.60992	24SCS2	01/01/2000	15:45:00	1.344
24SCS120	01/01/2000	03:45:00	1.60992	24SCS2	01/01/2000	16:00:00	1.056
24SCS120	01/01/2000	04:00:00	2.10528	24SCS2	01/01/2000	16:15:00	1.056
24SCS120	01/01/2000	04:15:00	2.10528	24SCS2	01/01/2000	16:30:00	1.056
24SCS120	01/01/2000	04:30:00	2.10528	24SCS2	01/01/2000	16:45:00	1.056
24SCS120	01/01/2000	04:45:00	2.10528	24SCS2	01/01/2000	17:00:00	1.104
24SCS120	01/01/2000	05:00:00	1.8576	24SCS2	01/01/2000	17:15:00	1.104
24SCS120	01/01/2000	05:15:00	1.8576	24SCS2	01/01/2000	17:30:00	1.104
24SCS120	01/01/2000	05:30:00	1.8576	24SCS2	01/01/2000	17:45:00	1.104
24SCS120	01/01/2000	05:45:00	1.8576	24SCS2	01/01/2000	18:00:00	0.72
24SCS120	01/01/2000	06:00:00	2.4768	24SCS2	01/01/2000	18:15:00	0.72
24SCS120	01/01/2000	06:15:00	2.4768	24SCS2	01/01/2000	18:30:00	0.72
24SCS120	01/01/2000	06:30:00	2.4768	24SCS2	01/01/2000	18:45:00	0.72
24SCS120	01/01/2000	06:45:00	2.4768	24SCS2	01/01/2000	19:00:00	0.576
24SCS120	01/01/2000	07:00:00	2.4768	24SCS2	01/01/2000	19:15:00	0.576
24SCS120	01/01/2000	07:15:00	2.4768	24SCS2	01/01/2000	19:30:00	0.576
24SCS120	01/01/2000	07:30:00	2.4768	24SCS2	01/01/2000	19:45:00	0.576
24SCS120	01/01/2000	07:45:00	2.4768	24SCS2	01/01/2000	20:00:00	0.816
24SCS120	01/01/2000	08:00:00	3.34368	24SCS2	01/01/2000	20:15:00	0.816
24SCS120	01/01/2000	08:15:00	3.34368	24SCS2	01/01/2000	20:30:00	0.816
24SCS120	01/01/2000	08:30:00	3.34368	24SCS2	01/01/2000	20:45:00	0.816
24SCS120	01/01/2000	08:45:00	3.34368	24SCS2	01/01/2000	21:00:00	0.528
24SCS120	01/01/2000	09:00:00	3.96288	24SCS2	01/01/2000	21:15:00	0.528
24SCS120	01/01/2000	09:15:00	3.96288	24SCS2	01/01/2000	21:30:00	0.528
24SCS120	01/01/2000	09:30:00	4.45824	24SCS2	01/01/2000	21:45:00	0.528
24SCS120	01/01/2000	09:45:00	4.45824	24SCS2	01/01/2000	22:00:00	0.48
24SCS120	01/01/2000	10:00:00	5.69664	24SCS2	01/01/2000	22:15:00	0.48
24SCS120	01/01/2000	10:15:00	5.69664	24SCS2	01/01/2000	22:30:00	0.48
24SCS120	01/01/2000	10:30:00	7.67808	24SCS2	01/01/2000	22:45:00	0.48
24SCS120	01/01/2000	10:45:00	7.67808	24SCS2	01/01/2000	23:00:00	0.48
24SCS120	01/01/2000	11:00:00	11.88864	24SCS2	01/01/2000	23:15:00	0.48
24SCS120	01/01/2000	11:15:00	11.88864	24SCS2	01/01/2000	23:30:00	0.48
24SCS120	01/01/2000	11:30:00	51.51744	24SCS2	01/01/2000	23:45:00	0.48
24SCS120	01/01/2000	11:45:00	136.7193	24SCS2	01/02/2000	00:00:00	0
24SCS120	01/01/2000	12:00:00	17.83296	;Rainfall (mm/hr)			
24SCS120	01/01/2000	12:15:00	17.83296	24SCS25	01/01/2000	00:00:00	1.26
24SCS120	01/01/2000	12:30:00	9.16416	24SCS25	01/01/2000	00:15:00	1.26
24SCS120	01/01/2000	12:45:00	9.16416	24SCS25	01/01/2000	00:30:00	1.26
24SCS120	01/01/2000	13:00:00	6.68736	24SCS25	01/01/2000	00:45:00	1.26
24SCS120	01/01/2000	13:15:00	6.68736	24SCS25	01/01/2000	01:00:00	0.588
24SCS120	01/01/2000	13:30:00	5.20128	24SCS25	01/01/2000	01:15:00	0.588
24SCS120	01/01/2000	13:45:00	5.20128	24SCS25	01/01/2000	01:30:00	0.588
24SCS120	01/01/2000	14:00:00	3.96288	24SCS25	01/01/2000	01:45:00	0.588
24SCS120	01/01/2000	14:15:00	3.96288	24SCS25	01/01/2000	02:00:00	1.092
24SCS120	01/01/2000	14:30:00	3.96288	24SCS25	01/01/2000	02:15:00	1.092
24SCS120	01/01/2000	14:45:00	3.96288	24SCS25	01/01/2000	02:30:00	1.092
24SCS120	01/01/2000	15:00:00	3.46752	24SCS25	01/01/2000	02:45:00	1.092
24SCS120	01/01/2000	15:15:00	3.46752	24SCS25	01/01/2000	03:00:00	1.092
24SCS120	01/01/2000	15:30:00	3.46752	24SCS25	01/01/2000	03:15:00	1.092
24SCS120	01/01/2000	15:45:00	3.46752	24SCS25	01/01/2000	03:30:00	1.092
24SCS120	01/01/2000	16:00:00	2.72448	24SCS25	01/01/2000	03:45:00	1.092
24SCS120	01/01/2000	16:15:00	2.72448	24SCS25	01/01/2000	04:00:00	1.428
24SCS120	01/01/2000	16:30:00	2.72448	24SCS25	01/01/2000	04:15:00	1.428
24SCS120	01/01/2000	16:45:00	2.72448	24SCS25	01/01/2000	04:30:00	1.428
24SCS120	01/01/2000	17:00:00	7.84832	24SCS25	01/01/2000	04:45:00	1.428
24SCS120	01/01/2000	17:15:00	2.84832	24SCS25	01/01/2000	05:00:00	1.26
24SCS120	01/01/2000	17:30:00	2.84832	24SCS25	01/01/2000	05:15:00	1.26
24SCS120	01/01/2000	17:45:00	2.84832	24SCS25	01/01/2000	05:30:00	1.26
24SCS120	01/01/2000	18:00:00	1.8576	24SCS25	01/01/2000	05:45:00	1.26
24SCS120	01/01/2000	18:15:00	1.8576	24SCS25	01/01/2000	06:00:00	1.68
24SCS120	01/01/2000	18:30:00	1.8576	24SCS25	01/01/2000	06:15:00	1.68
24SCS120	01/01/2000	18:45:00	1.8576	24SCS25	01/01/2000	06:30:00	1.68
24SCS120	01/01/2000	19:00:00	1.48608	24SCS25	01/01/2000	06:45:00	1.68
24SCS120	01/01/2000	19:15:00	1.48608	24SCS25	01/01/2000	07:00:00	1.68
24SCS120	01/01/2000	19:30:00	1.48608	24SCS25	01/01/2000	07:15:00	1.68
24SCS120	01/01/2000	19:45:00	1.48608	24SCS25	01/01/2000	07:30:00	1.68
24SCS120	01/01/2000	20:00:00	2.10528	24SCS25	01/01/2000	07:45:00	1.68
24SCS120	01/01/2000	20:15:00	2.10528	24SCS25	01/01/2000	08:00:00	2.268
24SCS120	01/01/2000	20:30:00	2.10528	24SCS25	01/01/2000	08:15:00	2.268
24SCS120	01/01/2000	20:45:00	2.10528	24SCS25	01/01/2000	08:30:00	2.268
24SCS120	01/01/2000	21:00:00	1.36224	24SCS25	01/01/2000	08:45:00	2.268
24SCS120	01/01/2000	21:15:00	1.36224	24SCS25	01/01/2000	09:00:00	2.688
24SCS120	01/01/2000	21:30:00	1.36224	24SCS25	01/01/2000	09:15:00	2.688
24SCS120	01/01/2000	21:45:00	1.36224	24SCS25	01/01/2000	09:30:00	3.024
24SCS120	01/01/2000	22:00:00	1.2384	24SCS25	01/01/2000	09:45:00	3.024
24SCS120	01/01/2000	22:15:00	1.2384	24SCS25	01/01/2000	10:00:00	3.864
24SCS120	01/01/2000	22:30:00	1.2384	24SCS25	01/01/2000	10:15:00	3.864
24SCS120	01/01/2000	22:45:00	1.2384	24SCS25	01/01/2000	10:30:00	5.208
24SCS120	01/01/2000	23:00:00	1.2384	24SCS25	01/01/2000	10:45:00	5.208
24SCS120	01/01/2000	23:15:00	1.2384	24SCS25	01/01/2000	11:00:00	8.064
24SCS120	01/01/2000	23:30:00	1.2384	24SCS25	01/01/2000	11:15:00	8.064
24SCS120	01/01/2000	23:45:00	1.2384	24SCS25	01/01/2000	11:30:00	34.944
24SCS120	01/02/2000	00:00:00	0	24SCS25	01/01/2000	11:45:00	92.736
;Rainfall (mm/hr)				24SCS25	01/01/2000	12:00:00	12.096
24SCS2	01/01/2000	00:00:00	0.72	24SCS25	01/01/2000	12:15:00	12.096
24SCS2	01/01/2000	00:15:00	0.72	24SCS25	01/01/2000	12:30:00	6.216
24SCS2	01/01/2000	00:30:00	0.72	24SCS25	01/01/2000	12:45:00	6.216
24SCS2	01/01/2000	00:45:00	0.72	24SCS25	01/01/2000	13:00:00	4.536
24SCS2	01/01/2000	01:00:00	0.336	24SCS25	01/01/2000	13:15:00	4.536
24SCS2	01/01/2000	01:15:00	0.336	24SCS25	01/01/2000	13:30:00	3.528
24SCS2	01/01/2000	01:30:00	0.336	24SCS25	01/01/2000	13:45:00	3.528
24SCS2	01/01/2000	01:45:00	0.336	24SCS25	01/01/2000	14:00:00	2.688
24SCS2	01/01/2000	02:00:00	0.624	24SCS25	01/01/2000	14:15:00	2.688
24SCS2	01/01/2000	02:15:00	0.624	24SCS25	01/01/2000	14:30:00	2.688
24SCS2	01/01/2000	02:30:00	0.624	24SCS25	01/01/2000	14:45:00	2.688
24SCS2	01/01/2000	02:45:00	0.624	24SCS25	01/01/2000	15:00:00	2.352
24SCS2	01/01/2000	03:00:00	0.624	24SCS25	01/01/2000	15:15:	

24SCS25	01/01/2000	22:45:00	0.84	24SCS50	01/01/2000	10:30:00	5.803199
24SCS25	01/01/2000	23:00:00	0.84	24SCS50	01/01/2000	10:45:00	5.803199
24SCS25	01/01/2000	23:15:00	0.84	24SCS50	01/01/2000	11:00:00	8.9856
24SCS25	01/01/2000	23:30:00	0.84	24SCS50	01/01/2000	11:15:00	5.9856
24SCS25	01/01/2000	23:45:00	0.84	24SCS50	01/01/2000	11:30:00	38.9376
24SCS25	01/02/2000	00:00:00	0	24SCS50	01/01/2000	11:45:00	103.3344
;Rainfall (mm/hr)				24SCS50	01/01/2000	12:00:00	13.4784
24SCS5	01/01/2000	00:00:00	0.936	24SCS50	01/01/2000	12:15:00	13.4784
24SCS5	01/01/2000	00:15:00	0.936	24SCS50	01/01/2000	12:30:00	6.9264
24SCS5	01/01/2000	00:30:00	0.936	24SCS50	01/01/2000	12:45:00	6.9264
24SCS5	01/01/2000	00:45:00	0.936	24SCS50	01/01/2000	13:00:00	5.0544
24SCS5	01/01/2000	01:00:00	0.4368	24SCS50	01/01/2000	13:15:00	5.0544
24SCS5	01/01/2000	01:15:00	0.4368	24SCS50	01/01/2000	13:30:00	3.9312
24SCS5	01/01/2000	01:30:00	0.4368	24SCS50	01/01/2000	13:45:00	3.9312
24SCS5	01/01/2000	01:45:00	0.4368	24SCS50	01/01/2000	14:00:00	2.9952
24SCS5	01/01/2000	02:00:00	0.8112	24SCS50	01/01/2000	14:15:00	2.9952
24SCS5	01/01/2000	02:15:00	0.8112	24SCS50	01/01/2000	14:30:00	2.9952
24SCS5	01/01/2000	02:30:00	0.8112	24SCS50	01/01/2000	14:45:00	2.9952
24SCS5	01/01/2000	02:45:00	0.8112	24SCS50	01/01/2000	15:00:00	2.6208
24SCS5	01/01/2000	03:00:00	0.8112	24SCS50	01/01/2000	15:15:00	2.6208
24SCS5	01/01/2000	03:15:00	0.8112	24SCS50	01/01/2000	15:30:00	2.6208
24SCS5	01/01/2000	03:30:00	0.8112	24SCS50	01/01/2000	15:45:00	2.6208
24SCS5	01/01/2000	03:45:00	0.8112	24SCS50	01/01/2000	16:00:00	2.0592
24SCS5	01/01/2000	04:00:00	1.0608	24SCS50	01/01/2000	16:15:00	2.0592
24SCS5	01/01/2000	04:15:00	1.0608	24SCS50	01/01/2000	16:30:00	2.0592
24SCS5	01/01/2000	04:30:00	1.0608	24SCS50	01/01/2000	16:45:00	2.0592
24SCS5	01/01/2000	04:45:00	1.0608	24SCS50	01/01/2000	17:00:00	2.1528
24SCS5	01/01/2000	05:00:00	0.936	24SCS50	01/01/2000	17:15:00	2.1528
24SCS5	01/01/2000	05:15:00	0.936	24SCS50	01/01/2000	17:30:00	2.1528
24SCS5	01/01/2000	05:30:00	0.936	24SCS50	01/01/2000	18:00:00	1.404
24SCS5	01/01/2000	05:45:00	0.936	24SCS50	01/01/2000	18:15:00	1.404
24SCS5	01/01/2000	06:00:00	1.248	24SCS50	01/01/2000	18:30:00	1.404
24SCS5	01/01/2000	06:15:00	1.248	24SCS50	01/01/2000	18:45:00	1.404
24SCS5	01/01/2000	06:30:00	1.248	24SCS50	01/01/2000	19:00:00	1.1232
24SCS5	01/01/2000	06:45:00	1.248	24SCS50	01/01/2000	19:15:00	1.1232
24SCS5	01/01/2000	07:00:00	1.248	24SCS50	01/01/2000	19:30:00	1.1232
24SCS5	01/01/2000	07:15:00	1.248	24SCS50	01/01/2000	19:45:00	1.1232
24SCS5	01/01/2000	07:30:00	1.248	24SCS50	01/01/2000	20:00:00	1.5912
24SCS5	01/01/2000	07:45:00	1.248	24SCS50	01/01/2000	20:15:00	1.5912
24SCS5	01/01/2000	08:00:00	1.6848	24SCS50	01/01/2000	20:30:00	1.5912
24SCS5	01/01/2000	08:15:00	1.6848	24SCS50	01/01/2000	20:45:00	1.5912
24SCS5	01/01/2000	08:30:00	1.6848	24SCS50	01/01/2000	21:00:00	1.0296
24SCS5	01/01/2000	08:45:00	1.6848	24SCS50	01/01/2000	21:15:00	1.0296
24SCS5	01/01/2000	09:00:00	1.9968	24SCS50	01/01/2000	21:30:00	1.0296
24SCS5	01/01/2000	09:15:00	1.9968	24SCS50	01/01/2000	21:45:00	1.0296
24SCS5	01/01/2000	09:30:00	2.2464	24SCS50	01/01/2000	22:00:00	0.936
24SCS5	01/01/2000	09:45:00	2.2464	24SCS50	01/01/2000	22:15:00	0.936
24SCS5	01/01/2000	10:00:00	2.8704	24SCS50	01/01/2000	22:30:00	0.936
24SCS5	01/01/2000	10:15:00	2.8704	24SCS50	01/01/2000	22:45:00	0.936
24SCS5	01/01/2000	10:30:00	3.8688	24SCS50	01/01/2000	23:00:00	0.936
24SCS5	01/01/2000	10:45:00	3.8688	24SCS50	01/01/2000	23:15:00	0.936
24SCS5	01/01/2000	11:00:00	5.9904	24SCS50	01/01/2000	23:30:00	0.936
24SCS5	01/01/2000	11:15:00	5.9904	24SCS50	01/01/2000	23:45:00	0.936
24SCS5	01/01/2000	11:30:00	25.9584	24SCS50	01/02/2000	00:00:00	0
24SCS5	01/01/2000	11:45:00	68.8896	;Rainfall (mm/hr)			
24SCS5	01/01/2000	12:00:00	8.9856	3CHI10	01/01/2000	00:00:00	3.755
24SCS5	01/01/2000	12:15:00	8.9856	3CHI10	01/01/2000	00:10:00	4.478
24SCS5	01/01/2000	12:30:00	4.6176	3CHI10	01/01/2000	00:20:00	5.593
24SCS5	01/01/2000	12:45:00	4.6176	3CHI10	01/01/2000	00:30:00	7.551
24SCS5	01/01/2000	13:00:00	3.3696	3CHI10	01/01/2000	00:40:00	11.936
24SCS5	01/01/2000	13:15:00	3.3696	3CHI10	01/01/2000	00:50:00	30.856
24SCS5	01/01/2000	13:30:00	2.6208	3CHI10	01/01/2000	01:00:00	122.142
24SCS5	01/01/2000	13:45:00	2.6208	3CHI10	01/01/2000	01:10:00	35.237
24SCS5	01/01/2000	14:00:00	1.9968	3CHI10	01/01/2000	01:20:00	18.159
24SCS5	01/01/2000	14:15:00	1.9968	3CHI10	01/01/2000	01:30:00	12.238
24SCS5	01/01/2000	14:30:00	1.9968	3CHI10	01/01/2000	01:40:00	9.269
24SCS5	01/01/2000	14:45:00	1.9968	3CHI10	01/01/2000	01:50:00	7.492
24SCS5	01/01/2000	15:00:00	1.7472	3CHI10	01/01/2000	02:00:00	6.309
24SCS5	01/01/2000	15:15:00	1.7472	3CHI10	01/01/2000	02:10:00	5.465
24SCS5	01/01/2000	15:30:00	1.7472	3CHI10	01/01/2000	02:20:00	4.831
24SCS5	01/01/2000	15:45:00	1.7472	3CHI10	01/01/2000	02:30:00	4.338
24SCS5	01/01/2000	16:00:00	1.3728	3CHI10	01/01/2000	02:40:00	3.942
24SCS5	01/01/2000	16:15:00	1.3728	3CHI10	01/01/2000	02:50:00	3.617
24SCS5	01/01/2000	16:30:00	1.3728	3CHI10	01/01/2000	03:00:00	0
24SCS5	01/01/2000	16:45:00	1.3728	;Rainfall (mm/hr)			
24SCS5	01/01/2000	17:00:00	1.4352	3CHI100	01/01/2000	00:00:00	5.339
24SCS5	01/01/2000	17:15:00	1.4352	3CHI100	01/01/2000	00:10:00	6.376
24SCS5	01/01/2000	17:30:00	1.4352	3CHI100	01/01/2000	00:20:00	7.977
24SCS5	01/01/2000	17:45:00	1.4352	3CHI100	01/01/2000	00:30:00	10.797
24SCS5	01/01/2000	18:00:00	0.936	3CHI100	01/01/2000	00:40:00	17.136
24SCS5	01/01/2000	18:15:00	0.936	3CHI100	01/01/2000	00:50:00	45.128
24SCS5	01/01/2000	18:30:00	0.936	3CHI100	01/01/2000	01:00:00	178.107
24SCS5	01/01/2000	18:45:00	0.936	3CHI100	01/01/2000	01:10:00	51.056
24SCS5	01/01/2000	19:00:00	0.7488	3CHI100	01/01/2000	01:20:00	26.163
24SCS5	01/01/2000	19:15:00	0.7488	3CHI100	01/01/2000	01:30:00	17.571
24SCS5	01/01/2000	19:30:00	0.7488	3CHI100	01/01/2000	01:40:00	13.277
24SCS5	01/01/2000	19:45:00	0.7488	3CHI100	01/01/2000	01:50:00	10.712
24SCS5	01/01/2000	20:00:00	1.0608	3CHI100	01/01/2000	02:00:00	9.008
24SCS5	01/01/2000	20:15:00	1.0608	3CHI100	01/01/2000	02:10:00	7.793
24SCS5	01/01/2000	20:30:00	1.0608	3CHI100	01/01/2000	02:20:00	6.883
24SCS5	01/01/2000	20:45:00	1.0608	3CHI100	01/01/2000	02:30:00	6.174
24SCS5	01/01/2000	21:00:00	0.6864	3CHI100	01/01/2000	02:40:00	5.607
24SCS5	01/01/2000	21:15:00	0.6864	3CHI100	01/01/2000	02:50:00	5.142
24SCS5	01/01/2000	21:30:00	0.6864	3CHI100	01/01/2000	03:00:00	0
24SCS5	01/01/2000	22:00:00	0.624	;Rainfall (mm/hr)			
24SCS5	01/01/2000	22:15:00	0.624	3CHI120	01/01/2000	00:00:00	6.406801
24SCS5	01/01/2000	22:30:00	0.624	3CHI120	01/01/2000	00:10:00	7.6512
24SCS5	01/01/2000	22:45:00	0.624	3CHI120	01/01/2000	00:20:00	9.572401
24SCS5	01/01/2000	23:00:00	0.624	3CHI120	01/01/2000	00:30:00	12.9564
24SCS5	01/01/2000	23:15:00	0.624	3CHI120	01/01/2000	00:40:00	20.5632
24SCS5	01/01/2000	23:30:00	0.624	3CHI120	01/01/2000	00:50:00	54.1536
24SCS5	01/02/2000	00:00:00	0	3CHI120	01/01/2000	01:00:00	213.7284
;Rainfall (mm/hr)				3CHI120	01/01/2000	01:10:00	61.2672
24SCS50	01/01/2000	00:00:00	1.404	3CHI120	01/01/2		

3CHI25	01/01/2000	01:20:00	21.286	InfiltratedInflow	01/01/2000	01:19:00	6.991814E-05
3CHI25	01/01/2000	01:30:00	14.308	InfiltratedInflow	01/01/2000	01:20:00	6.865804E-05
3CHI25	01/01/2000	01:40:00	10.818	InfiltratedInflow	01/01/2000	01:21:00	6.748195E-05
3CHI25	01/01/2000	01:50:00	8.732	InfiltratedInflow	01/01/2000	01:22:00	6.638427E-05
3CHI25	01/01/2000	02:00:00	7.345	InfiltratedInflow	01/01/2000	01:23:00	6.535978E-05
3CHI25	01/01/2000	02:10:00	6.356	InfiltratedInflow	01/01/2000	01:24:00	6.44036E-05
3CHI25	01/01/2000	02:20:00	5.615	InfiltratedInflow	01/01/2000	01:25:00	6.351116E-05
3CHI25	01/01/2000	02:30:00	5.038	InfiltratedInflow	01/01/2000	01:26:00	6.267823E-05
3CHI25	01/01/2000	02:40:00	4.576	InfiltratedInflow	01/01/2000	01:27:00	6.190084E-05
3CHI25	01/01/2000	02:50:00	4.197	InfiltratedInflow	01/01/2000	01:28:00	6.117527E-05
3CHI25	01/01/2000	03:00:00	0	InfiltratedInflow	01/01/2000	01:29:00	6.049809E-05
;Rainfall (mm/hr)				InfiltratedInflow	01/01/2000	01:30:00	5.986604E-05
3CHI15	01/01/2000	00:00:00	3.256	InfiltratedInflow	01/01/2000	01:31:00	5.927615E-05
3CHI15	01/01/2000	00:10:00	3.881	InfiltratedInflow	01/01/2000	01:32:00	5.872558E-05
3CHI15	01/01/2000	00:20:00	4.844	InfiltratedInflow	01/01/2000	01:33:00	5.821172E-05
3CHI15	01/01/2000	00:30:00	6.532	InfiltratedInflow	01/01/2000	01:34:00	5.773212E-05
3CHI15	01/01/2000	00:40:00	10.308	InfiltratedInflow	01/01/2000	01:35:00	5.728449E-05
3CHI15	01/01/2000	00:50:00	26.792	InfiltratedInflow	01/01/2000	01:36:00	5.686672E-05
3CHI15	01/01/2000	01:00:00	103.93	InfiltratedInflow	01/01/2000	01:37:00	5.64768E-05
3CHI15	01/01/2000	01:10:00	30.286	InfiltratedInflow	01/01/2000	01:38:00	5.611287E-05
3CHI15	01/01/2000	01:20:00	15.655	InfiltratedInflow	01/01/2000	01:39:00	5.577321E-05
3CHI15	01/01/2000	01:30:00	10.568	InfiltratedInflow	01/01/2000	01:40:00	5.545619E-05
3CHI15	01/01/2000	01:40:00	8.013	InfiltratedInflow	01/01/2000	01:41:00	5.516031E-05
3CHI15	01/01/2000	01:50:00	6.482	InfiltratedInflow	01/01/2000	01:42:00	5.488416E-05
3CHI15	01/01/2000	02:00:00	5.462	InfiltratedInflow	01/01/2000	01:43:00	5.462642E-05
3CHI15	01/01/2000	02:10:00	4.733	InfiltratedInflow	01/01/2000	01:44:00	5.438587E-05
3CHI15	01/01/2000	02:20:00	4.186	InfiltratedInflow	01/01/2000	01:45:00	5.416135E-05
3CHI15	01/01/2000	02:30:00	3.76	InfiltratedInflow	01/01/2000	01:46:00	5.39518E-05
3CHI15	01/01/2000	02:40:00	3.418	InfiltratedInflow	01/01/2000	01:47:00	5.375623E-05
3CHI15	01/01/2000	02:50:00	3.137	InfiltratedInflow	01/01/2000	01:48:00	5.357369E-05
3CHI15	01/01/2000	03:00:00	0	InfiltratedInflow	01/01/2000	01:49:00	5.340332E-05
;Rainfall (mm/hr)				InfiltratedInflow	01/01/2000	01:50:00	5.324431E-05
3CHI50	01/01/2000	00:00:00	4.828	InfiltratedInflow	01/01/2000	01:51:00	5.309591E-05
3CHI50	01/01/2000	00:10:00	5.766	InfiltratedInflow	01/01/2000	01:52:00	5.29574E-05
3CHI50	01/01/2000	00:20:00	7.214	InfiltratedInflow	01/01/2000	01:53:00	5.282812E-05
3CHI50	01/01/2000	00:30:00	9.763	InfiltratedInflow	01/01/2000	01:54:00	5.270747E-05
3CHI50	01/01/2000	00:40:00	15.496	InfiltratedInflow	01/01/2000	01:55:00	5.259485E-05
3CHI50	01/01/2000	00:50:00	40.401	InfiltratedInflow	01/01/2000	01:56:00	5.248975E-05
3CHI50	01/01/2000	01:00:00	161.471	InfiltratedInflow	01/01/2000	01:57:00	5.239165E-05
3CHI50	01/01/2000	01:10:00	46.17	InfiltratedInflow	01/01/2000	01:58:00	5.23001E-05
3CHI50	01/01/2000	01:20:00	23.66	InfiltratedInflow	01/01/2000	01:59:00	5.221464E-05
3CHI50	01/01/2000	01:30:00	15.89	InfiltratedInflow	01/01/2000	02:00:00	5.213489E-05
3CHI50	01/01/2000	01:40:00	12.006	InfiltratedInflow	01/01/2000	02:01:00	5.206045E-05
3CHI50	01/01/2000	01:50:00	9.687	InfiltratedInflow	01/01/2000	02:02:00	5.199098E-05
3CHI50	01/01/2000	02:00:00	8.146	InfiltratedInflow	01/01/2000	02:03:00	5.192613E-05
3CHI50	01/01/2000	02:10:00	7.047	InfiltratedInflow	01/01/2000	02:04:00	5.186562E-05
3CHI50	01/01/2000	02:20:00	6.224	InfiltratedInflow	01/01/2000	02:05:00	5.180913E-05
3CHI50	01/01/2000	02:30:00	5.583	InfiltratedInflow	01/01/2000	02:06:00	5.175642E-05
3CHI50	01/01/2000	02:40:00	5.07	InfiltratedInflow	01/01/2000	02:07:00	5.170721E-05
3CHI50	01/01/2000	02:50:00	4.649	InfiltratedInflow	01/01/2000	02:08:00	5.166129E-05
3CHI50	01/01/2000	03:00:00	0	InfiltratedInflow	01/01/2000	02:09:00	5.161843E-05
;Head (m)				InfiltratedInflow	01/01/2000	02:10:00	5.157843E-05
527_CHI100yrr	01/01/2000	00:01:00	81.228	InfiltratedInflow	01/01/2000	02:11:00	5.154109E-05
527_CHI100yrr	01/01/2000	00:02:00	81.228	InfiltratedInflow	01/01/2000	02:12:00	5.150625E-05
527_CHI100yrr	01/01/2000	00:03:00	81.228	InfiltratedInflow	01/01/2000	02:13:00	5.147372E-05
527_CHI100yrr	01/01/2000	00:04:00	81.228	InfiltratedInflow	01/01/2000	02:14:00	5.144337E-05
527_CHI100yrr	01/01/2000	00:05:00	81.228	InfiltratedInflow	01/01/2000	02:15:00	5.141504E-05
527_CHI100yrr	01/01/2000	00:06:00	81.228	InfiltratedInflow	01/01/2000	02:16:00	5.13886E-05
527_CHI100yrr	01/01/2000	00:07:00	81.228	InfiltratedInflow	01/01/2000	02:17:00	5.136392E-05
527_CHI100yrr	01/01/2000	00:08:00	81.228	InfiltratedInflow	01/01/2000	02:18:00	5.134088E-05
527_CHI100yrr	01/01/2000	00:09:00	81.228	InfiltratedInflow	01/01/2000	02:19:00	5.131938E-05
527_CHI100yrr	01/01/2000	00:10:00	81.228	InfiltratedInflow	01/01/2000	02:20:00	5.129932E-05
527_CHI100yrr	01/01/2000	00:11:00	81.228	InfiltratedInflow	01/01/2000	02:21:00	5.12806E-05
.....				InfiltratedInflow	01/01/2000	02:22:00	5.126312E-05
Too many data points (2160 in total).				InfiltratedInflow	01/01/2000	02:23:00	5.124681E-05
;Sum of Infiltrated flow from above the garage slab calculated from Infiltration graphs for S7				InfiltratedInflow	01/01/2000	02:24:00	5.123158E-05
multiplied by the total pervious area above the garage.				InfiltratedInflow	01/01/2000	02:25:00	5.120411E-05
InfiltratedInflow	01/01/2000	00:01:00	2.063542E-05	InfiltratedInflow	01/01/2000	02:26:00	5.119173E-05
InfiltratedInflow	01/01/2000	00:02:00	2.063542E-05	InfiltratedInflow	01/01/2000	02:27:00	5.118017E-05
InfiltratedInflow	01/01/2000	00:03:00	2.063542E-05	InfiltratedInflow	01/01/2000	02:28:00	5.116939E-05
InfiltratedInflow	01/01/2000	00:04:00	2.063542E-05	InfiltratedInflow	01/01/2000	02:29:00	5.115933E-05
InfiltratedInflow	01/01/2000	00:05:00	2.063542E-05	InfiltratedInflow	01/01/2000	02:30:00	5.114993E-05
InfiltratedInflow	01/01/2000	00:06:00	2.063542E-05	InfiltratedInflow	01/01/2000	02:31:00	5.114117E-05
InfiltratedInflow	01/01/2000	00:07:00	2.063542E-05	InfiltratedInflow	01/01/2000	02:32:00	5.113299E-05
InfiltratedInflow	01/01/2000	00:08:00	2.063542E-05	InfiltratedInflow	01/01/2000	02:33:00	5.112535E-05
InfiltratedInflow	01/01/2000	00:09:00	2.063542E-05	InfiltratedInflow	01/01/2000	02:34:00	5.111822E-05
InfiltratedInflow	01/01/2000	00:10:00	2.464346E-05	InfiltratedInflow	01/01/2000	02:35:00	5.111575E-05
InfiltratedInflow	01/01/2000	00:11:00	2.464346E-05	InfiltratedInflow	01/01/2000	02:36:00	5.110536E-05
InfiltratedInflow	01/01/2000	00:12:00	2.464346E-05	InfiltratedInflow	01/01/2000	02:37:00	5.109957E-05
InfiltratedInflow	01/01/2000	00:13:00	2.464346E-05	InfiltratedInflow	01/01/2000	02:38:00	5.109416E-05
InfiltratedInflow	01/01/2000	00:14:00	2.464346E-05	InfiltratedInflow	01/01/2000	02:39:00	5.108911E-05
InfiltratedInflow	01/01/2000	00:15:00	2.464346E-05	InfiltratedInflow	01/01/2000	02:40:00	5.10844E-05
InfiltratedInflow	01/01/2000	00:16:00	2.464346E-05	InfiltratedInflow	01/01/2000	02:41:00	4.413902E-05
InfiltratedInflow	01/01/2000	00:17:00	2.464346E-05	InfiltratedInflow	01/01/2000	02:42:00	2.167125E-05
InfiltratedInflow	01/01/2000	00:18:00	2.464346E-05	InfiltratedInflow	01/01/2000	02:43:00	2.167125E-05
InfiltratedInflow	01/01/2000	00:19:00	2.464346E-05	InfiltratedInflow	01/01/2000	02:44:00	2.167125E-05
InfiltratedInflow	01/01/2000	00:20:00	3.083138E-05	InfiltratedInflow	01/01/2000	02:45:00	2.167125E-05
InfiltratedInflow	01/01/2000	00:21:00	3.083138E-05	InfiltratedInflow	01/01/2000	02:46:00	2.167125E-05
InfiltratedInflow	01/01/2000	00:22:00	3.083138E-05	InfiltratedInflow	01/01/2000	02:47:00	2.167125E-05
InfiltratedInflow	01/01/2000	00:23:00	3.083138E-05	InfiltratedInflow	01/01/2000	02:48:00	1.987401E-05
InfiltratedInflow	01/01/2000	00:24:00	3.083138E-05	InfiltratedInflow	01/01/2000	02:49:00	1.987401E-05
InfiltratedInflow	01/01/2000	00:25:00	3.083138E-05	InfiltratedInflow	01/01/2000	02:50:00	1.987401E-05
InfiltratedInflow	01/01/2000	00:26:00	3.083138E-05	InfiltratedInflow	01/01/2000	02:51:00	1.987401E-05
InfiltratedInflow	01/01/2000	00:27:00	3.083138E-05	InfiltratedInflow	01/01/2000	02:52:00	1.987401E-05
InfiltratedInflow	01/01/2000	00:28:00	3.083138E-05	InfiltratedInflow	01/01/2000	02:53:00	1.987401E-05
InfiltratedInflow	01/01/2000	00:29:00	3.083138E-05	InfiltratedInflow	01/01/2000	02:54:00	1.987401E-05
InfiltratedInflow	01/01/2000	00:30:00	4.173077E-05	InfiltratedInflow	01/01/2000	02:55:00	1.987401E-05
InfiltratedInflow	01/01/2000	00:31:00	4.173077E-05	InfiltratedInflow			

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L1_2	381393.818	5033094.134	S7	381442.723	5033051.008
L1_2	381394.298	5033093.034	S7	381442.471	5033050.82
L1_2	381389.532	5033090.954	S7	381442.212	5033050.642
L1_2	381389.672	5033090.633	S7	381441.947	5033050.472
L1_2	381386.265	5033089.146	S7	381441.677	5033050.313
L1_2	381386.988	5033087.5	S7	381441.401	5033050.162
L1_2	381370.061	5033080.111	S7	381441.12	5033050.021
L1_2	381367.171	5033086.731	S7	381442.212	5033049.891
L1_2	381373.676	5033092.727	S7	381427.822	5033044.209
L1_2	381375.266	5033094.193	S7	381425.421	5033049.708
L1_2	381382.117	5033100.508	S7	381430.18	5033051.785
L1_2	381407.635	5033124.034	S7	381425.847	5033061.708
L1_2	381425.929	5033107.688			
L1_3	381421.474	5033117.892	;;Storage Node X-Coord Y-Coord		
L1_3	381415.643	5033115.347	;;		
L1_3	381407.635	5033124.034	{SYMBOLS]		
L1_3	381421.373	5033136.698	;;Gage X-Coord Y-Coord		
L1_3	381433.371	5033109.212	;;		
L1_3	381426.561	5033106.239			
L1_3	381425.929	5033107.688			
S1	381496.059	5033067.453			
S1	381458.719	5033051.155			
S1	381439.156	5033095.96			
S1	381483.973	5033094.136			
S1	381494.933	5033069			
S1	381496.059	5033067.453			
S2	381422.855	5033068.564			
S2	381425.847	5033061.708			
S2	381430.18	5033051.785			
S2	381425.421	5033049.708			
S2	381427.822	5033044.209			
S2	381427.583	5033044.099			
S2	381427.347	5033043.982			
S2	381427.116	5033043.856			
S2	381426.889	5033043.723			
S2	381426.667	5033043.582			
S2	381426.45	5033043.433			
S2	381426.238	5033043.278			
S2	381426.032	5033043.114			
S2	381425.831	5033042.944			
S2	381425.636	5033042.768			
S2	381425.448	5033042.584			
S2	381425.266	5033042.395			
S2	381425.09	5033042.199			
S2	381424.921	5033041.997			
S2	381424.759	5033041.789			
S2	381424.605	5033041.577			
S2	381424.458	5033041.359			
S2	381424.318	5033041.136			
S2	381424.186	5033040.908			
S2	381424.062	5033040.676			
S2	381423.946	5033040.44			
S2	381423.838	5033040.2			
S2	381423.738	5033039.957			
S2	381423.647	5033039.71			
S2	381423.564	5033039.46			
S2	381423.49	5033039.208			
S2	381423.425	5033038.953			
S2	381423.368	5033038.696			
S2	381423.32	5033038.438			
S2	381423.281	5033038.177			
S2	381423.251	5033037.916			
S2	381423.23	5033037.654			
S2	381423.218	5033037.391			
S2	381423.215	5033037.128			
S2	381423.221	5033036.865			
S2	381422.554	5033037.03			
S2	381421.883	5033037.174			
S2	381421.207	5033037.296			
S2	381420.528	5033037.397			
S2	381419.846	5033037.477			
S2	381419.162	5033037.535			
S2	381418.476	5033037.571			
S2	381417.789	5033037.586			
S2	381417.102	5033037.579			
S2	381408.289	5033038.705			
S2	381399.672	5033058.444			
S2	381422.855	5033068.564			
S3_1	381386.988	5033087.5			
S3_1	381386.265	5033089.146			
S3_1	381389.672	5033090.633			
S3_1	381389.532	5033090.954			
S3_1	381394.298	5033093.034			
S3_1	381393.818	5033094.134			
S3_1	381400.599	5033097.094			
S3_1	381401.22	5033095.674			
S3_1	381405.665	5033097.614			
S3_1	381404.701	5033099.821			
S3_1	381408.488	5033101.475			
S3_1	381415.264	5033085.953			
S3_1	381392.081	5033075.833			
S3_1	381386.988	5033087.5			
S3_2	381392.081	5033075.833			
S3_2	381415.264	5033085.953			
S3_2	381422.855	5033068.564			
S3_2	381399.672	5033058.444			
S3_2	381392.081	5033075.833			
S5	381421.474	5033117.892			
S5	381432.346	5033092.987			
S5	381442.775	5033069.097			
S5	381425.847	5033061.708			
S5	381404.547	5033110.503			
S5	381421.474	5033117.892			
S6	381386.988	5033087.5			
S6	381408.289	5033038.705			
S6	381391.361	5033031.316			
S6	381370.061	5033080.111			
S7	381386.988	5033087.5			
S7	381425.847	5033061.708			
S7	381436.845	5033066.509			
S7	381442.344	5033068.909			
S7	381445.479	5033061.744			
S7	381445.6	5033061.454			
S7	381445.711	5033061.16			
S7	381445.811	5033060.862			
S7	381445.901	5033060.561			
S7	381445.98	5033060.257			
S7	381446.048	5033059.95			
S7	381446.106	5033059.641			
S7	381446.153	5033059.331			
S7	381446.189	5033059.019			
S7	381446.215	5033058.705			
S7	381446.229	5033058.392			
S7	381446.232	5033058.077			
S7	381446.224	5033057.763			
S7	381446.206	5033057.449			
S7	381446.176	5033057.137			
S7	381446.136	5033056.825			
S7	381446.085	5033056.515			
S7	381446.022	5033056.207			
S7	381445.95	5033055.901			
S7	381445.866	5033055.598			
S7	381445.772	5033055.299			
S7	381445.668	5033055.002			
S7	381445.553	5033054.71			
S7	381445.428	5033054.421			
S7	381445.294	5033054.137			
S7	381445.149	5033053.858			
S7	381444.995	5033053.585			
S7	381444.831	5033053.316			
S7	381444.658	5033053.054			
S7	381444.476	5033052.798			
S7	381444.285	5033052.548			
S7	381444.086	5033052.305			
S7	381443.878	5033052.07			
S7	381443.662	5033051.841			
S7	381443.438	5033051.621			
S7	381443.207	5033051.408			
S7	381442.969	5033051.204			

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.2 (Build 5.2.3)

***** Element Count *****						
Number of rain gages	1					
Number of subcatchments ...	10					
Number of nodes	14					
Number of links	12					
Number of pollutants	0					
Number of land uses	0					
***** Raingage Summary *****						
Name	Data Source		Data Type		Recording Interval	
Rainfall	3CHI100		INTENSITY		10 min.	
***** Subcatchment Summary *****						
Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
L1_1	0.07	134.06	10.01	2.0000	Rainfall	St_L3
L1_2	0.07	15.82	8.45	2.0000	Rainfall	St_L1
L1_3	0.03	77.61	3.89	2.0000	Rainfall	St_L2
S1	0.16	38.49	14.29	2.0000	Rainfall	St_L3
S2	0.06	16.17	90.74	2.0000	Rainfall	St_P2
S3_1	0.04	10.81	99.29	2.0000	Rainfall	SU1
S3_2	0.05	13.27	98.96	2.0000	Rainfall	St_P1
S5	0.10	22.12	100.00	1.0000	Rainfall	Roof2
S6	0.10	22.12	100.00	1.0000	Rainfall	Roof1
S7	0.03	28.53	72.19	15.0000	Rainfall	St_UnGrd
***** Node Summary *****						
Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow	
S27_(P-Stm)	OUTFALL	81.23	0.00	0.0		
OF1	OUTFALL	80.67	0.00	0.0		
OF2	OUTFALL	80.91	0.00	0.0		
OF3	OUTFALL	80.67	0.00	0.0		
OF7	OUTFALL	80.67	0.00	0.0		
Roof1	STORAGE	96.85	0.15	0.0		
Roof2	STORAGE	96.85	0.15	0.0		
St_L1	STORAGE	84.20	1.70	0.0		
St_L2	STORAGE	83.90	2.10	0.0		
St_L3	STORAGE	83.09	2.21	0.0		
St_P1	STORAGE	85.70	0.31	0.0		
St_P2	STORAGE	85.50	0.15	0.0		
St_UnGrd	STORAGE	81.97	1.00	0.0	Yes	
SU1	STORAGE	85.70	0.25	0.0		
***** Link Summary *****						
Name	From Node	To Node	Type	Length	%Slope	
Roughness						
-						
C1	St_L1	St_L2	CONDUIT	33.1	0.9050	
0.0130						
W_L1	St_L2	St_L1	WEIR			
W1	St_P1	St_P2	WEIR			
W2	SU1	St_P1	WEIR			
O_St_L3	St_L3	OF2	OUTLET			
OL1	SU1	St_UnGrd	OUTLET			
OL2	St_P1	St_UnGrd	OUTLET			
OL3	St_P2	St_UnGrd	OUTLET			
OL4	St_L2	S27_(P-Stm)	OUTLET			
OR1	St_UnGrd	OF1	OUTLET			
ROOF1	Roof1	OF3	OUTLET			
ROOF2	Roof2	OF7	OUTLET			
***** Cross Section Summary *****						
Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels
C1	CIRCULAR	0.25	0.05	0.06	0.25	1
***** Analysis Options *****						
Flow Units	CMS					
Process Models:						
Rainfall/Runoff	YES					
RDII	NO					
Snowmelt	NO					
Groundwater	NO					
Flow Routing	YES					
Ponding Allowed	NO					
Water Quality	NO					
Infiltration Method	HORTON					
Flow Routing Method	DYNWAVE					
Surcharge Method	EXTRAN					
Starting Date	01/01/2000 00:00:00					
Ending Date	01/01/2000 06:00:00					
Antecedent Dry Days	0.0					
Report Time Step	00:01:00					
Wet Time Step	00:01:00					
Dry Time Step	00:01:00					
Routing Time Step	1.00 sec					
Variable Time Step	YES					
Maximum Trials	8					
Number of Threads	1					
Head Tolerance	0.001500 m					
***** Runoff Quantity Continuity *****						
	Volume	Depth				
	hectare-m	mm				
Total Precipitation	0.050	71.708				
Evaporation Loss	0.000	0.000				
Infiltration Loss	0.014	20.257				
Surface Runoff	0.036	50.621				
Final Storage	0.001	0.893				
Continuity Error (%)	-0.089					
***** Flow Routing Continuity *****						
	Volume	Volume				
	hectare-m	1006 ltr				
Dry Weather Inflow	0.000	0.000				
Wet Weather Inflow	0.036	0.356				
Groundwater Inflow	0.000	0.000				
RDII Inflow	0.000	0.000				
External Inflow	0.000	0.001				
External Outflow	0.030	0.299				
Flooding Loss	0.000	0.000				
Evaporation Loss	0.000	0.000				
Exfiltration Loss	0.000	0.000				

Initial Stored Volume	0.000	0.000				
Final Stored Volume	0.006	0.058				
Continuity Error (%)	0.000					
***** Time-Step Critical Elements *****						
None						
***** Highest Flow Instability Indexes *****						
All links are stable.						
***** Most Frequent Nonconverging Nodes *****						
Convergence obtained at all time steps.						
***** Routing Time Step Summary *****						
Minimum Time Step	:	0.50 sec				
Average Time Step	:	1.00 sec				
Maximum Time Step	:	1.00 sec				
% of Time in Steady State	:	0.00				
Average Iterations per Step	:	2.00				
% of Steps Not Converging	:	0.00				
Time Step Frequencies	:					
1.000 - 0.871 sec	:	100.00 %				
0.871 - 0.758 sec	:	0.00 %				
0.758 - 0.660 sec	:	0.00 %				
0.660 - 0.574 sec	:	0.00 %				
0.574 - 0.500 sec	:	0.00 %				
***** Subcatchment Runoff Summary *****						

Total	Total	Peak	Total	Total	Total	
Runoff	Runoff	Runoff	Runoff	Runon	Evap	
Subcatchment	10^6 ltr	CMS	Coeff	mm	mm	
mm			mm			
L1_1			71.71	0.00	0.00	
31.27	0.02	0.03	0.436			
L1_2			71.71	0.00	0.00	
28.03	0.02	0.01	0.391			
L1_3			71.71	0.00	0.00	
29.46	0.01	0.01	0.411			
S1	0.05	0.04	0.427			
30.65			71.71	0.00	0.00	
S2			71.71	0.00	0.00	
66.33	0.04	0.03	0.925			
S3_1			71.71	0.00	0.00	
69.91	0.03	0.02	0.975			
S3_2			71.71	0.00	0.00	
69.77	0.03	0.02	0.973			
S5			71.71	0.00	0.00	
70.17	0.07	0.05	0.979			
S6			71.71	0.00	0.00	
70.17	0.07	0.05	0.979			
S7			71.71	0.00	0.00	
58.68	0.02	0.02	0.818			
***** Node Depth Summary *****						

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
S27_(P-Stm)	OUTFALL	1.63	3.88	85.11	0 01:57	3.88
OF1	OUTFALL	0.50	0.50	81.17	0 00:00	0.50
OF2	OUTFALL	0.55	0.55	81.46	0 00:00	0.55
OF3	OUTFALL	0.50	0.50	81.17	0 00:00	0.50
OF7	OUTFALL	0.50	0.50	81.17	0 00:00	0.50
Roof1	STORAGE	0.06	0.09	96.94	0 02:24	0.09
Roof2	STORAGE	0.06	0.09	96.94	0 02:24	0.09
St_L1	STORAGE	0.40	1.53	85.73	0 01:35	1.53
St_L2	STORAGE	0.51	1.83	85.73	0 01:36	1.83
St_L3	STORAGE	0.14	2.19	85.28	0 01:14	2.19
St_P1	STORAGE	0.00	0.04	85.74	0 01:10	0.04
St_P2	STORAGE	0.00	0.04	85.54	0 01:10	0.04
St_UnGrd	STORAGE	0.30	0.98	82.95	0 01:32	0.98
SU1	STORAGE	0.00	0.03	85.73	0 01:10	0.03
***** Node Inflow Summary *****						

Flow		Maximum	Maximum		Lateral	Total
Balance		Lateral	Total	Time of Max	Inflow	Inflow
		Inflow	Inflow	Occurrence	Volume	Volume
Error						
Node	Type	CMS	CMS	days hr:min	10^6 ltr	10^6 ltr
Percent						

S27_(P-Stm)	OUTFALL	0.000	0.006	0 01:24	0	0.0286
0.000						
OF1	OUTFALL	0.000	0.010	0 00:51	0	0.12
0.000						
OF2	OUTFALL	0.000	0.038	0 01:14	0	0.0702
0.000						
OF3	OUTFALL	0.000	0.002	0 00:36	0	0.0398
0.000						
OF7	OUTFALL	0.000	0.002	0 00:36	0	0.0398
0.000						
Roof1	STORAGE	0.049	0.049	0 01:10	0.069	0.069
0.004						
Roof2	STORAGE	0.049	0.049	0 01:10	0.069	0.069
0.004						
St_L1	STORAGE	0.013	0.021	0 01:11	0.0191	0.0197
0.090						
St_L2	STORAGE	0.014	0.019	0 01:09	0.00955	0.0293
0.049						
St_L3	STORAGE	0.066	0.066	0 01:10	0.0702	0.0702
0.011						
St_P1	STORAGE	0.024	0.024	0 01:10	0.0335	0.0335
0.006						
St_P2	STORAGE	0.030	0.030	0 01:10	0.0403	0.0403
0.005						
St_UnGrd	STORAGE	0.015	0.088	0 01:10	0.0192	0.12
0.005						
SU1	STORAGE	0.019	0.019	0 01:10	0.0273	0.0273
0.007						
***** Node Surcharge Summary *****						

No nodes were surcharged.										

Node Flooding Summary										

No nodes were flooded.										

Storage Volume Summary										

Maximum	Average	Avg	Evap	Exfil	Maximum	Max	Time of Max			
	Volume	Pcnt	Pcnt	Pcnt	Volume	Pcnt	Occurrence			
Outflow										
Storage Unit	1000 m³	Full	Loss	Loss	1000 m³	Full	days hr:min			
CMS										

Roof1	0.035	42.0	0.0	0.0	0.051	60.3	0 02:24			
0.002										
Roof2	0.035	42.0	0.0	0.0	0.051	60.3	0 02:24			
0.002										
St_L1	0.001	3.1	0.0	0.0	0.006	19.7	0 01:35			
0.006										
St_L2	0.000	1.4	0.0	0.0	0.002	7.8	0 01:36			
0.014										
St_L3	0.000	3.2	0.0	0.0	0.007	86.0	0 01:14			
0.038										
St_P1	0.000	0.1	0.0	0.0	0.001	2.2	0 01:10			
0.024										
St_P2	0.000	0.4	0.0	0.0	0.001	9.0	0 01:10			
0.030										
St_UnGrd	0.019	30.3	0.0	0.0	0.063	98.3	0 01:32			
0.010										
SU1	0.000	0.1	0.0	0.0	0.000	2.2	0 01:10			
0.019										

Outfall Loading Summary										

Outfall Node	Flow	Avg	Max	Total						
	Freq	Flow	Flow	Flow						
	Pcnt	CMS	CMS	Volume						

527_(P-Stm)	40.19	0.003	0.006	0.029						
OF1	65.18	0.009	0.010	0.120						
OF2	45.47	0.007	0.038	0.070						
OF3	94.60	0.002	0.002	0.040						
OF7	94.60	0.002	0.002	0.040						

System	68.01	0.023	0.058	0.299						

Link Flow Summary										

Link	Type	Maximum	Time of Max	Maximum	Max/	Max/				
		Flow	Occurrence	Veloc	Full	Full				
		CMS	days hr:min	m/sec	Flow	Depth				

C1	CONDUIT	0.008	0 01:05	0.21	0.14	1.00				
W_L1	WEIR	0.000	0 00:00			0.00				
W1	WEIR	0.000	0 00:00			0.00				
W2	WEIR	0.000	0 00:00			0.00				
O_St_L3	DUMMY	0.038	0 01:14							
OL1	DUMMY	0.019	0 01:10							
OL2	DUMMY	0.024	0 01:10							
OL3	DUMMY	0.030	0 01:10							
OL4	DUMMY	0.006	0 01:24							
OR1	DUMMY	0.010	0 00:51							
ROOF1	DUMMY	0.002	0 00:36							
ROOF2	DUMMY	0.002	0 00:36							

Flow Classification Summary										

Conduit	Adjusted	-----		Fraction of Time in Flow Class						
	/Actual	Dry	Up	Down	Sub	Sup	Up			
	Length	Dry	Dry	Crit	Crit	Crit	Down			

C1	1.00	0.17	0.00	0.00	0.83	0.00	0.00			

Conduit Surcharge Summary										

Conduit	-----	Hours Full	-----	Hours	Hours	Hours				
	Both Ends	Upstream	Dnstream	Above Full	Normal Flow	Capacity				

C1	1.81	1.81	2.07	0.01		0.01				

Analysis begun on: Tue Oct 8 09:00:27 2024										
Analysis ended on: Tue Oct 8 09:00:28 2024										
Total elapsed time: 00:00:01										

Post-Development 24-hour SCS 1:100-year Event

[TITLE]									
;;Project Title/Notes									
[OPTIONS]									
;;Option		Value							
FLOW_UNITS		CMS							
INFILTRATION		HORTON							
FLOW_ROUTING		DYNWAVE							
LINK_OFFSETS		ELEVATION							
MIN_SLOPE		0							
ALLOW_PONDING		NO							
SKIP_STEADY_STATE		NO							
START_DATE		01/01/2000							
START_TIME		00:00:00							
REPORT_START_DATE		01/01/2000							
REPORT_START_TIME		00:00:00							
END_DATE		01/02/2000							
END_TIME		00:00:00							
SWEEP_START		01/01							
SWEEP_END		12/31							
DRY_DAYS		0							
REPORT_STEP		00:01:00							
WET_STEP		00:01:00							
DRY_STEP		00:01:00							
ROUTING_STEP		1							
RULE_STEP		00:00:00							
INERTIAL_DAMPING		PARTIAL							
NORMAL_FLOW_LIMITED		BOTH							
FORCE_MAIN_EQUATION		H-W							
VARIABLE_STEP		0.75							
LENGTHENING_STEP		0							
MIN_SURFAREA		0							
MAX_TRIALS		8							
HEAD_TOLERANCE		0.0015							
SYS_FLOW_TOL		5							
LAT_FLOW_TOL		5							
MINIMUM_STEP		0.5							
THREADS		12							
[EVAPORATION]									
;;Data Source		Parameters							

;;									
CONSTANT		0.0							
DRY_ONLY		NO							
[RAINGAGES]									
;;Name		Format	Interval	SCF	Source				
Rainfall		INTENSITY	0:15	1.0	TIMESERIES 24SCS100				
[SUBCATCHMENTS]									
;;Name		Rain Gage	Outlet	Area	%Imperv	Width	%Slope	CurbLen	
SnowPack									

L1_1		Rainfall	St_L3	0.0699	10.014	134.062	2	0	
L1_2		Rainfall	St_L1	0.0681	8.447	15.82	2	0	
L1_3		Rainfall	St_L2	0.0324	3.893	77.605	2	0	
S2		Rainfall	St_L3	0.1577	14.286	38.49	2	0	
S2		Rainfall	St_P2	0.0607	90.737	16.17	2	0	
S3_1		Rainfall	SUI	0.0391	99.287	10.808	2	0	
S3_2		Rainfall	St_P1	0.048	98.957	13.267	2	0	
S6		Rainfall	Roof2	0.0983	100	22.118	1	0	
S6		Rainfall	Roof1	0.0983	100	22.118	1	0	
S7		Rainfall	St_UnGrd	0.0317	72.194	28.53	15	0	
[SUBAREAS]									
;;Subcatchment		N-Imperv	N-Perv	S-Imperv	S-Perv	PctZero	RouteTo	PctRouted	
L1_1		0.013	0.25	1.57	4.67	0	PERVIOUS	100	
L1_2		0.013	0.25	1.57	4.67	0	PERVIOUS	100	
L1_3		0.013	0.25	1.57	4.67	0	PERVIOUS	100	
S1		0.013	0.25	1.57	4.67	0	PERVIOUS	80	
S2		0.013	0.25	1.57	4.67	0	OUTLET		
S3_1		0.013	0.25	1.57	4.67	0	OUTLET		
S3_2		0.013	0.25	1.57	4.67	0	OUTLET		
S5		0.013	0.25	1.57	4.67	0	OUTLET		
S6		0.013	0.25	1.57	4.67	0	OUTLET		
S7		0.013	0.25	1.57	4.67	0	OUTLET		
[INFILTRATION]									
;;Subcatchment		Param1	Param2	Param3	Param4	Param5			
L1_1		76.2	13.2	4.14	7	0			
L1_2		76.2	13.2	4.14	7	0			
L1_3		76.2	13.2	4.14	7	0			
S1		76.2	13.2	4.14	7	0			
S2		76.2	13.2	4.14	7	0			
S3_1		76.2	13.2	4.14	7	0			
S3_2		76.2	13.2	4.14	7	0			
S5		76.2	13.2	4.14	7	0			
S6		76.2	13.2	4.14	7	0			
S7		76.2	13.2	4.14	7	0			
[OUTFALLS]									
;;Name		Elevation	Type	Stage Data	Gated	Route To			
527_ (P-Stm)		81.228	TIMESERIES	527_24SCS100	NO				
OF1		80.67	FIXED	81.17	NO				
OF2		80.911	FIXED	81.46	NO				
OF3		80.67	FIXED	81.17	NO				
OF7		80.67	FIXED	81.17	NO				
[STORAGE]									
;;Name		Elev.	MaxDepth	InitDepth	Shape	Curve Name/Params			
SurDepth Evap		Psi	Ksat	IMD					
Roof1		96.85	0.15	0	FUNCTIONAL	0	0	559.44	0
Roof2		96.85	0.15	0	FUNCTIONAL	0	0	559.44	0
St_L1		84.2	1.7	0	TABULAR	St_L1			0
St_L2		83.9	2.1	0	TABULAR	St_L2			0
St_L3		83.09	2.21	0	TABULAR	St_L3			0
St_P1		85.7	0.31	0	TABULAR	St_P1			0
St_P2		85.5	0.15	0	TABULAR	St_P2			0
St_UnGrd		81.971	1	0	FUNCTIONAL	0	0	64	0
SUI		85.7	0.25	0	TABULAR	St_P3			0
[CONDUITS]									
;;Name		From Node	To Node	Length	Roughness	InOffset	OutOffset		
InitFlow		MaxFlow							
C1		0.04	St_L1	St_L2	33.149	0.013	84.2	83.9	
[WEIRS]									
;;Name		From Node	To Node	Type	CrestHt	Qcoeff	Gated		
EndCon		EndCoeff	Surcharge	RoadWidth	RoadSurf	Coeff. Curve			

W_L1	0	St_L2	St_L1	TRANSVERSE	85.95	1.84	NO
W1	0	St_P1	St_P2	TRANSVERSE	85.85	1.84	NO
W2	0	SU1	St_P1	TRANSVERSE	85.87	1.84	NO
W2	0	YES					
[OUTLETS]							
;;Name		From Node	To Node	Offset	Type	QTable/Qcoeff	
;;							
Q_St_L3		St_L3	OF2	83.09	TABULAR/HEAD	MHF_IPEX_TYPE_B	
NO		SU1	St_UnGrd	85.7	TABULAR/HEAD	ZURN_2150F-6NH	
OL1			St_UnGrd	85.7	TABULAR/HEAD	ZURN_2150F-6NH	
NO		St_P1	St_UnGrd	85.5	TABULAR/HEAD	ZURN_2150F-6NH	
OL3		St_P2	St_UnGrd	83.9	TABULAR/HEAD	Vortex_ICD_70	
NO		St_L2	527_(P-Stm)	81.971	TABULAR/HEAD	O_St_UnGrd	
OL4		St_UnGrd	OF1	96.85	TABULAR/HEAD	O_Roof1	
NO		Roof1	OF3	96.85	TABULAR/HEAD	O_Roof2	
ROOF1		Roof2	OF7				
NO							
[XSECTIONS]							
;;Link		Shape	Geom1	Geom2	Geom3	Geom4	Barrels
;;							
C1		CIRCULAR	0.25	0	0	0	1
W_L1		RECT_OPEN	0.05	3	0	0	
W1		RECT_OPEN	0.16	15	0	0	
W2		RECT_OPEN	0.08	15	0	0	
[LOSSES]							
;;Link		Kentry	Kexit	Kavg	Flap Gate	Seepage	
;;							
[INFLOWS]							
;;Node		Constituent	Time Series	Type	Mfactor	Sfactor	Baseline Pattern
St_UnGrd		FLOW	InfiltratedInflow	FLOW	1.0	1	0
[CURVES]							
;;Name		Type	X-Value	Y-Value			
;;							
CBMH Inlet Capture Curve based on the OSDG Appendix 7-A							
CBMH		Rating	0	0			
CBMH			0.122	0.06			
CBMH			0.183	0.073			
CBMH			0.2	0.076			
CBMH			0.243	0.084			
CBMH			0.305	0.094			
DI_GRATE_A_OPSD403.01		Rating	0.02	0.00762			
DI_GRATE_A_OPSD403.01			0.04	0.01524			
DI_GRATE_A_OPSD403.01			0.08	0.0381			
DI_GRATE_A_OPSD403.01			0.12	0.06858			
DI_GRATE_A_OPSD403.01			0.2	0.1524			
DI_GRATE_A_OPSD403.01			0.26	0.23622			
DI_GRATE_A_OPSD403.01			0.36	0.4572			
DI_GRATE_A_OPSD403.01			0.46	0.6858			
DI_GRATE_C_OPSD403.01		Rating	0.02	0.01465			
DI_GRATE_C_OPSD403.01			0.04	0.0293			
DI_GRATE_C_OPSD403.01			0.08	0.07325			
DI_GRATE_C_OPSD403.01			0.12	0.13185			
DI_GRATE_C_OPSD403.01			0.2	0.293			
DI_GRATE_C_OPSD403.01			0.26	0.45415			
DI_GRATE_C_OPSD403.01			0.36	0.879			
DI_GRATE_C_OPSD403.01			0.46	1.3185			
Les Produits MURPHCO Ltée		Rating	0	0			
Les Produits MURPHCO Ltée			0.0127	4E-05			
Les Produits MURPHCO Ltée			0.0254	0.00019			
Les Produits MURPHCO Ltée			0.0381	0.00032			
Les Produits MURPHCO Ltée			0.0508	0.00051			
Les Produits MURPHCO Ltée			0.0635	0.00064			
Les Produits MURPHCO Ltée			0.0762	0.00083			
Les Produits MURPHCO Ltée			0.0889	0.00093			
Les Produits MURPHCO Ltée			0.1016	0.00101			
Les Produits MURPHCO Ltée			0.1143	0.00111			
Les Produits MURPHCO Ltée			0.127	0.0012			
Les Produits MURPHCO Ltée			0.1397	0.00128			
Les Produits MURPHCO Ltée			0.1524	0.00135			
;Reversed Flow from rear yard manhole_Lid to the Street							
Manhole_Lid		Rating	0	0			
Manhole_Lid			0.11	0			
Manhole_Lid			0.2	0.187			
Manhole_Lid			0.3	0.395			
Manhole_Lid			0.4	0.602			
Manhole_Lid			0.5	0.81			
Manhole_Lid			0.6	1.128			
Manhole_Lid			0.7	1.225			
Manhole_Lid			0.8	1.433			
Manhole_Lid			0.9	1.641			
Manhole_Lid			1	1.848			
;Tempest Rating Curve for MHF IPEX TYPE A, No grate allowance							
MHF_IPEX_TYPE_A		Rating	0	0			
MHF_IPEX_TYPE_A			0.1	0.0057			
MHF_IPEX_TYPE_A			0.2	0.0081			
MHF_IPEX_TYPE_A			0.3	0.0099			
MHF_IPEX_TYPE_A			0.4	0.0114			
MHF_IPEX_TYPE_A			0.5	0.0128			
MHF_IPEX_TYPE_A			0.6	0.014			
MHF_IPEX_TYPE_A			0.7	0.0151			
MHF_IPEX_TYPE_A			0.8	0.0162			
MHF_IPEX_TYPE_A			0.9	0.0172			
MHF_IPEX_TYPE_A			1	0.0181			
MHF_IPEX_TYPE_A			1.2	0.0198			
MHF_IPEX_TYPE_A			1.4	0.0214			
MHF_IPEX_TYPE_A			1.6	0.0229			
MHF_IPEX_TYPE_A			1.8	0.0243			
MHF_IPEX_TYPE_A			2	0.0256			
MHF_IPEX_TYPE_A			2.5	0.0286			
MHF_IPEX_TYPE_A			3	0.0313			
;Tempest Rating Curve for MHF IPEX TYPE B, No grate allowance							
MHF_IPEX_TYPE_B		Rating	0	0			
MHF_IPEX_TYPE_B			0.1	0.0081			
MHF_IPEX_TYPE_B			0.2	0.0115			
MHF_IPEX_TYPE_B			0.3	0.0141			
MHF_IPEX_TYPE_B			0.4	0.0162			
MHF_IPEX_TYPE_B			0.5	0.0182			
MHF_IPEX_TYPE_B			0.6	0.0199			
MHF_IPEX_TYPE_B			0.7	0.0215			
MHF_IPEX_TYPE_B			0.8	0.023			
MHF_IPEX_TYPE_B			0.9	0.0244			
MHF_IPEX_TYPE_B			1	0.0257			
MHF_IPEX_TYPE_B			1.2	0.0281			
MHF_IPEX_TYPE_B			1.4	0.0304			
MHF_IPEX_TYPE_B			1.6	0.0325			
MHF_IPEX_TYPE_B			1.8	0.0344			
MHF_IPEX_TYPE_B			2	0.0363			
MHF_IPEX_TYPE_B			2.5	0.0406			
MHF_IPEX_TYPE_B			3	0.0445			
;Tempest Rating Curve for MHF IPEX TYPE C, No grate allowance							
MHF_IPEX_TYPE_C		Rating	0	0			

MHF_IPEX_TYPE_C	0.1	0.0106	Vortex_ICD_45	0.6	0.0014
MHF_IPEX_TYPE_C	0.2	0.015	Vortex_ICD_45	0.7	0.0015
MHF_IPEX_TYPE_C	0.3	0.0183	Vortex_ICD_45	0.8	0.0016
MHF_IPEX_TYPE_C	0.4	0.0212	Vortex_ICD_45	0.9	0.0017
MHF_IPEX_TYPE_C	0.5	0.0237	Vortex_ICD_45	1	0.0018
MHF_IPEX_TYPE_C	0.6	0.0259	Vortex_ICD_45	1.2	0.002
MHF_IPEX_TYPE_C	0.7	0.028	Vortex_ICD_45	1.4	0.0021
MHF_IPEX_TYPE_C	0.8	0.0299	Vortex_ICD_45	1.6	0.0023
MHF_IPEX_TYPE_C	0.9	0.0317	Vortex_ICD_45	1.8	0.0024
MHF_IPEX_TYPE_C	1	0.0335	Vortex_ICD_45	2	0.0026
MHF_IPEX_TYPE_C	1.2	0.0366	Vortex_ICD_45	2.5	0.0029
MHF_IPEX_TYPE_C	1.4	0.0396	Vortex_ICD_45	3	0.0031
MHF_IPEX_TYPE_C	1.6	0.0423			
MHF_IPEX_TYPE_C	1.8	0.0449	;Tempest Rating Curve for Vortex ICD 50, No grate allowance		
MHF_IPEX_TYPE_C	2	0.0473	Vortex_ICD_50	Rating	0
MHF_IPEX_TYPE_C	2.5	0.0528	Vortex_ICD_50	0	0.0007
MHF_IPEX_TYPE_C	3	0.0579	Vortex_ICD_50	0.2	0.001
			Vortex_ICD_50	0.3	0.0012
			Vortex_ICD_50	0.4	0.0014
			Vortex_ICD_50	0.5	0.0016
			Vortex_ICD_50	0.6	0.0018
			Vortex_ICD_50	0.7	0.0019
			Vortex_ICD_50	0.8	0.002
			Vortex_ICD_50	0.9	0.0021
			Vortex_ICD_50	1	0.0023
			Vortex_ICD_50	1.2	0.0025
			Vortex_ICD_50	1.4	0.0027
			Vortex_ICD_50	1.6	0.0029
			Vortex_ICD_50	1.8	0.003
			Vortex_ICD_50	2	0.0032
			Vortex_ICD_50	2.5	0.0036
			Vortex_ICD_50	3	0.0039
			;Tempest Rating Curve for Vortex ICD 55, No grate allowance		
			Vortex_ICD_55	Rating	0
			Vortex_ICD_55	0.1	0.0009
			Vortex_ICD_55	0.2	0.0012
			Vortex_ICD_55	0.3	0.0015
			Vortex_ICD_55	0.4	0.0017
			Vortex_ICD_55	0.5	0.0019
			Vortex_ICD_55	0.6	0.0021
			Vortex_ICD_55	0.7	0.0023
			Vortex_ICD_55	0.8	0.0024
			Vortex_ICD_55	0.9	0.0026
			Vortex_ICD_55	1	0.0027
			Vortex_ICD_55	1.2	0.003
			Vortex_ICD_55	1.4	0.0032
			Vortex_ICD_55	1.6	0.0034
			Vortex_ICD_55	1.8	0.0036
			Vortex_ICD_55	2	0.0038
			Vortex_ICD_55	2.5	0.0043
			Vortex_ICD_55	3	0.0047
			;Tempest Rating Curve for Vortex ICD 60, No grate allowance		
			Vortex_ICD_60	Rating	0
			Vortex_ICD_60	0.1	0.0011
			Vortex_ICD_60	0.2	0.0015
			Vortex_ICD_60	0.3	0.0018
			Vortex_ICD_60	0.4	0.0021
			Vortex_ICD_60	0.5	0.0023
			Vortex_ICD_60	0.6	0.0025
			Vortex_ICD_60	0.7	0.0027
			Vortex_ICD_60	0.8	0.0029
			Vortex_ICD_60	0.9	0.0031
			Vortex_ICD_60	1	0.0032
			Vortex_ICD_60	1.2	0.0036
			Vortex_ICD_60	1.4	0.0038
			Vortex_ICD_60	1.6	0.0041
			Vortex_ICD_60	1.8	0.0043
			Vortex_ICD_60	2	0.0046
			Vortex_ICD_60	2.5	0.0051
			Vortex_ICD_60	3	0.0056
			;Tempest Rating Curve for Vortex ICD 65, No grate allowance		
			Vortex_ICD_65	Rating	0
			Vortex_ICD_65	0.1	0.0012
			Vortex_ICD_65	0.2	0.0016
			Vortex_ICD_65	0.3	0.002
			Vortex_ICD_65	0.4	0.0023
			Vortex_ICD_65	0.5	0.0025
			Vortex_ICD_65	0.6	0.0028
			Vortex_ICD_65	0.7	0.003
			Vortex_ICD_65	0.8	0.0032
			Vortex_ICD_65	0.9	0.0034
			Vortex_ICD_65	1	0.0036
			Vortex_ICD_65	1.2	0.004
			Vortex_ICD_65	1.4	0.0043
			Vortex_ICD_65	1.6	0.0046
			Vortex_ICD_65	1.8	0.0049
			Vortex_ICD_65	2	0.0051
			Vortex_ICD_65	2.5	0.0057
			Vortex_ICD_65	3	0.0063
			;Tempest Rating Curve for Vortex ICD 70, No grate allowance		
			Vortex_ICD_70	Rating	0
			Vortex_ICD_70	0.1	0.0013
			Vortex_ICD_70	0.2	0.0019
			Vortex_ICD_70	0.3	0.0023
			Vortex_ICD_70	0.4	0.0027
			Vortex_ICD_70	0.5	0.003
			Vortex_ICD_70	0.6	0.0033
			Vortex_ICD_70	0.7	0.0036
			Vortex_ICD_70	0.8	0.0038
			Vortex_ICD_70	0.9	0.0041
			Vortex_ICD_70	1	0.0043
			Vortex_ICD_70	1.2	0.0047
			Vortex_ICD_70	1.4	0.0051
			Vortex_ICD_70	1.6	0.0055
			Vortex_ICD_70	1.8	0.0058
			Vortex_ICD_70	2	0.0061
			Vortex_ICD_70	2.5	0.0068
			Vortex_ICD_70	3	0.0075
			;Tempest Rating Curve for Vortex ICD 75, No grate allowance		
			Vortex_ICD_75	Rating	0
			Vortex_ICD_75	0.1	0.0016
			Vortex_ICD_75	0.2	0.0022
			Vortex_ICD_75	0.3	0.0027
			Vortex_ICD_75	0.4	0.0032
			Vortex_ICD_75	0.5	0.0035
			Vortex_ICD_75	0.6	0.0039
			Vortex_ICD_75	0.7	0.0042
			Vortex_ICD_75	0.8	0.0045
			Vortex_ICD_75	0.9	0.0048
			Vortex_ICD_75	1	0.005
			Vortex_ICD_75	1.2	0.0055
			Vortex_ICD_75	1.4	0.0059
			Vortex_ICD_75	1.6	0.0063
			Vortex_ICD_75	1.8	0.0067
			Vortex_ICD_75	2	0.0071
			Vortex_ICD_75	2.5	0.0079
			Vortex_ICD_75	3	0.0087
			;Tempest Rating Curve for Vortex ICD 80, No grate allowance		
			Vortex_ICD_80	Rating	0
			Vortex_ICD_80	0.1	0.0018
			Vortex_ICD_80	0.2	0.0026
			Vortex_ICD_80	0.3	0.0031
			Vortex_ICD_80	0.4	0.0036
			Vortex_ICD_80	0.5	0.004
			Vortex_ICD_80	0.6	0.0044
			Vortex_ICD_80	0.7	0.0048
			Vortex_ICD_80	0.8	0.0051
			Vortex_ICD_80	0.9	0.0054
			Vortex_ICD_80	1	0.0057
			Vortex_ICD_80	1.2	0.0063
			Vortex_ICD_80	1.4	0.0068
			Vortex_ICD_80	1.6	0.0072
			Vortex_ICD_80	1.8	0.0077

Vortex_ICD_80	2	0.0081	24SCS10	01/01/2000	12:00:00	10.368	
Vortex_ICD_80	2.5	0.009	24SCS10	01/01/2000	12:15:00	10.368	
Vortex_ICD_80	3	0.0099	24SCS10	01/01/2000	12:30:00	5.328	
;Tempest Rating Curve for Vortex ICD 85, No grate allowance							
Vortex_ICD_85	Rating	0	24SCS10	01/01/2000	12:45:00	5.328	
Vortex_ICD_85	0.1	0.002	24SCS10	01/01/2000	13:00:00	3.888	
Vortex_ICD_85	0.2	0.0029	24SCS10	01/01/2000	13:15:00	3.888	
Vortex_ICD_85	0.3	0.0035	24SCS10	01/01/2000	13:30:00	3.024	
Vortex_ICD_85	0.4	0.0041	24SCS10	01/01/2000	14:15:00	2.304	
Vortex_ICD_85	0.5	0.0045	24SCS10	01/01/2000	14:30:00	2.304	
Vortex_ICD_85	0.6	0.005	24SCS10	01/01/2000	14:45:00	2.304	
Vortex_ICD_85	0.7	0.0054	24SCS10	01/01/2000	15:00:00	2.016	
Vortex_ICD_85	0.8	0.0057	24SCS10	01/01/2000	15:15:00	2.016	
Vortex_ICD_85	0.9	0.0061	24SCS10	01/01/2000	15:30:00	2.016	
Vortex_ICD_85	1	0.0064	24SCS10	01/01/2000	15:45:00	2.016	
Vortex_ICD_85	1.2	0.007	24SCS10	01/01/2000	16:00:00	1.584	
Vortex_ICD_85	1.4	0.0076	24SCS10	01/01/2000	16:15:00	1.584	
Vortex_ICD_85	1.6	0.0081	24SCS10	01/01/2000	16:30:00	1.584	
Vortex_ICD_85	1.8	0.0086	24SCS10	01/01/2000	16:45:00	1.584	
Vortex_ICD_85	2	0.0091	24SCS10	01/01/2000	17:00:00	1.656	
Vortex_ICD_85	2.5	0.0101	24SCS10	01/01/2000	17:15:00	1.656	
Vortex_ICD_85	3	0.0111	24SCS10	01/01/2000	17:30:00	1.656	
;Tempest Rating Curve for Vortex ICD 90, No grate allowance							
Vortex_ICD_90	Rating	0	24SCS10	01/01/2000	17:45:00	1.656	
Vortex_ICD_90	0.1	0.0022	24SCS10	01/01/2000	18:00:00	1.08	
Vortex_ICD_90	0.2	0.0032	24SCS10	01/01/2000	18:15:00	1.08	
Vortex_ICD_90	0.3	0.0039	24SCS10	01/01/2000	18:30:00	1.08	
Vortex_ICD_90	0.4	0.0045	24SCS10	01/01/2000	19:00:00	0.864	
Vortex_ICD_90	0.5	0.0051	24SCS10	01/01/2000	19:15:00	0.864	
Vortex_ICD_90	0.6	0.0055	24SCS10	01/01/2000	19:30:00	0.864	
Vortex_ICD_90	0.7	0.006	24SCS10	01/01/2000	20:00:00	1.224	
Vortex_ICD_90	0.8	0.0064	24SCS10	01/01/2000	20:15:00	1.224	
Vortex_ICD_90	0.9	0.0068	24SCS10	01/01/2000	20:30:00	1.224	
Vortex_ICD_90	1	0.0072	24SCS10	01/01/2000	20:45:00	1.224	
Vortex_ICD_90	1.2	0.0079	24SCS10	01/01/2000	21:00:00	0.792	
Vortex_ICD_90	1.4	0.0085	24SCS10	01/01/2000	21:15:00	0.792	
Vortex_ICD_90	1.6	0.0091	24SCS10	01/01/2000	21:30:00	0.792	
Vortex_ICD_90	1.8	0.0096	24SCS10	01/01/2000	21:45:00	0.792	
Vortex_ICD_90	2	0.0102	24SCS10	01/01/2000	22:00:00	0.72	
Vortex_ICD_90	2.5	0.0114	24SCS10	01/01/2000	22:15:00	0.72	
Vortex_ICD_90	3	0.0125	24SCS10	01/01/2000	22:30:00	0.72	
;Tempest Rating Curve for Vortex ICD 95, No grate allowance							
Vortex_ICD_95	Rating	0	24SCS10	01/01/2000	22:45:00	0.72	
Vortex_ICD_95	0.1	0.0026	24SCS10	01/01/2000	23:00:00	0.72	
Vortex_ICD_95	0.2	0.0036	24SCS10	01/01/2000	23:15:00	0.72	
Vortex_ICD_95	0.3	0.0044	24SCS10	01/01/2000	23:30:00	0.72	
Vortex_ICD_95	0.4	0.0051	24SCS10	01/01/2000	23:45:00	0.72	
Vortex_ICD_95	0.5	0.0057	24SCS10	01/01/2000	23:59:00	0.72	
Vortex_ICD_95	0.6	0.0062	24SCS10	01/01/2000	00:00:00	0	
Vortex_ICD_95	0.7	0.0067	24SCS100	01/01/2000	00:00:00	1.548	
Vortex_ICD_95	0.8	0.0071	24SCS100	01/01/2000	00:00:00	1.548	
Vortex_ICD_95	0.9	0.0076	24SCS100	01/01/2000	00:00:00	1.548	
Vortex_ICD_95	1	0.008	24SCS100	01/01/2000	00:00:00	1.548	
Vortex_ICD_95	1.2	0.0087	24SCS100	01/01/2000	01:00:00	0.7224	
Vortex_ICD_95	1.4	0.0094	24SCS100	01/01/2000	01:00:00	0.7224	
Vortex_ICD_95	1.6	0.0101	24SCS100	01/01/2000	01:00:00	0.7224	
Vortex_ICD_95	1.8	0.0107	24SCS100	01/01/2000	01:00:00	0.7224	
Vortex_ICD_95	2	0.0113	24SCS100	01/01/2000	02:00:00	1.3416	
Vortex_ICD_95	2.5	0.0126	24SCS100	01/01/2000	02:00:00	1.3416	
Vortex_ICD_95	3	0.0138	24SCS100	01/01/2000	02:00:00	1.3416	
;From Zurn Manual RD178							
ZURN_Z150F-GNH	Rating	0	24SCS100	01/01/2000	03:00:00	1.3416	
ZURN_Z150F-GNH	0.0127	0.00503838308477861	24SCS100	01/01/2000	03:00:00	1.3416	
ZURN_Z150F-GNH	0.0257	0.0132420013231177	24SCS100	01/01/2000	03:00:00	1.3416	
ZURN_Z150F-GNH	0.0384	0.0234992054543888	24SCS100	01/01/2000	04:00:00	1.7544	
ZURN_Z150F-GNH	0.0508	0.0357128365761305	24SCS100	01/01/2000	04:00:00	1.7544	
ZURN_Z150F-GNH	0.0765	0.0425019726111045	24SCS100	01/01/2000	04:00:00	1.7544	
ZURN_Z150F-GNH	0.1024	0.0433196215564931	24SCS100	01/01/2000	05:00:00	1.548	
St_L1	Storage	0	24SCS100	01/01/2000	05:15:00	1.548	
St_L1	1.4	0.073	24SCS100	01/01/2000	05:30:00	1.548	
St_L1	1.7	198.79	24SCS100	01/01/2000	05:45:00	1.548	
St_L2	Storage	0	24SCS100	01/01/2000	06:00:00	2.064	
St_L2	1.75	0.36	24SCS100	01/01/2000	06:30:00	2.064	
St_L2	2.05	129.41	24SCS100	01/01/2000	07:00:00	2.064	
St_L2	2.1	129.41	24SCS100	01/01/2000	07:15:00	2.064	
St_L3	Storage	0	24SCS100	01/01/2000	07:30:00	2.064	
St_L3	1.96	0.36	24SCS100	01/01/2000	07:45:00	2.064	
St_L3	2.21	62.31	24SCS100	01/01/2000	08:00:00	2.7864	
St_P1	Storage	0	24SCS100	01/01/2000	08:30:00	2.7864	
St_P1	0.15	114.4	24SCS100	01/01/2000	08:45:00	2.7864	
St_P1	0.31	114.4	24SCS100	01/01/2000	09:00:00	3.3024	
St_P2	Storage	0	24SCS100	01/01/2000	09:15:00	3.3024	
St_P2	0.15	0.36	24SCS100	01/01/2000	09:30:00	3.7152	
St_P2	0.15	100.57	24SCS100	01/01/2000	09:45:00	3.7152	
St_P3	Storage	0	24SCS100	01/01/2000	10:00:00	4.7472	
St_P3	0.15	92.14	24SCS100	01/01/2000	10:30:00	6.3984	
St_P3	0.25	92.14	24SCS100	01/01/2000	10:45:00	6.3984	
[TIMESERIES]							
;;Name Date Time Value							
;;-----							
;Rainfall (mm/hr)							
24SCS10	01/01/2000	00:00:00	1.08	24SCS100	01/01/2000	09:00:00	3.7152
24SCS10	01/01/2000	00:15:00	1.08	24SCS100	01/01/2000	09:15:00	3.7152
24SCS10	01/01/2000	00:30:00	1.08	24SCS100	01/01/2000	09:30:00	3.7152
24SCS10	01/01/2000	00:45:00	1.08	24SCS100	01/01/2000	09:45:00	3.7152
24SCS10	01/01/2000	01:00:00	0.504	24SCS100	01/01/2000	10:00:00	4.7472
24SCS10	01/01/2000	01:15:00	0.504	24SCS100	01/01/2000	10:15:00	4.7472
24SCS10	01/01/2000	01:30:00	0.504	24SCS100	01/01/2000	10:30:00	4.7472
24SCS10	01/01/2000	01:45:00	0.504	24SCS100	01/01/2000	10:45:00	4.7472
24SCS10	01/01/2000	02:00:00	0.936	24SCS100	01/01/2000	11:00:00	9.9072
24SCS10	01/01/2000	02:15:00	0.936	24SCS100	01/01/2000	11:15:00	9.9072
24SCS10	01/01/2000	02:30:00	0.936	24SCS100	01/01/2000	11:30:00	42.9312
24SCS10	01/01/2000	02:45:00	0.936	24SCS100	01/01/2000	11:45:00	113.9328
24SCS10	01/01/2000	03:00:00	0.936	24SCS100	01/01/2000	12:00:00	14.8608
24SCS10	01/01/2000	03:15:00	0.936	24SCS100	01/01/2000	12:15:00	14.8608
24SCS10	01/01/2000	03:30:00	0.936	24SCS100	01/01/2000	12:30:00	7.6368
24SCS10	01/01/2000	03:45:00	0.936	24SCS100	01/01/2000	12:45:00	7.6368
24SCS10	01/01/2000	04:00:00	1.224	24SCS100	01/01/2000	13:00:00	5.728
24SCS10	01/01/2000	04:15:00	1.224	24SCS100	01/01/2000	13:15:00	5.728
24SCS10	01/01/2000	04:30:00	1.224	24SCS100	01/01/2000	13:30:00	4.3344
24SCS10	01/01/2000	04:45:00	1.224	24SCS100	01/01/2000	13:45:00	4.3344
24SCS10	01/01/2000	05:00:00	1.08	24SCS100	01/01/2000	14:00:00	3.3024
24SCS10	01/01/2000	05:15:00	1.08	24SCS100	01/01/2000	14:15:00	3.3024
24SCS10	01/01/2000	05:30:00	1.08	24SCS100	01/01/2000	14:30:00	3.3024
24SCS10	01/01/2000	05:45:00	1.08	24SCS100	01/01/2000	14:45:00	3.3024
24SCS10	01/01/2000	06:00:00	1.44	24SCS100	01/01/2000	15:00:00	2.8896
24SCS10	01/01/2000	06:15:00	1.44	24SCS100	01/01/2000	15:15:00	2.8896
24SCS10	01/01/2000	06:30:00	1.44	24SCS100	01/01/2000	15:30:00	2.8896
24SCS10	01/01/2000	06:45:00	1.44	24SCS100	01/01/2000	15:45:00	2.8896
24SCS10	01/01/2000	07:00:00	1.44	24SCS100	01/01/2000	16:00:00	2.2704
24SCS10	01/01/2000	07:15:00	1.44	24SCS100	01/01/2000	16:15:00	2.2704
24SCS10	01/01/2000	07:30:00	1.44	24SCS100	01/01/2000	16:30:00	2.2704
24SCS10	01/01/2000	07:45:00	1.44	24SCS100	01/01/2000	16:45:00	2.2704
24SCS10	01/01/2000	08:00:00	1.944	24SCS100	01/01/2000	17:00:00	2.3736
24SCS10	01/01/2000	08:15:00	1.944	24SCS100	01/01/2000	17:15:00	2.3736
24SCS10	01/						

;Rainfall (mm/hr)				24SCS2	01/01/2000	12:15:00	6.912
24SCS120	01/01/2000	00:00:00	1.8576	24SCS2	01/01/2000	12:30:00	3.552
24SCS120	01/01/2000	00:15:00	1.8576	24SCS2	01/01/2000	12:45:00	3.552
24SCS120	01/01/2000	00:30:00	1.8576	24SCS2	01/01/2000	13:00:00	2.592
24SCS120	01/01/2000	00:45:00	1.8576	24SCS2	01/01/2000	13:15:00	2.592
24SCS120	01/01/2000	01:00:00	0.86688	24SCS2	01/01/2000	13:30:00	2.016
24SCS120	01/01/2000	01:15:00	0.86688	24SCS2	01/01/2000	13:45:00	2.016
24SCS120	01/01/2000	01:30:00	0.86688	24SCS2	01/01/2000	14:00:00	1.536
24SCS120	01/01/2000	01:45:00	0.86688	24SCS2	01/01/2000	14:15:00	1.536
24SCS120	01/01/2000	02:00:00	1.60992	24SCS2	01/01/2000	14:30:00	1.536
24SCS120	01/01/2000	02:15:00	1.60992	24SCS2	01/01/2000	14:45:00	1.536
24SCS120	01/01/2000	02:30:00	1.60992	24SCS2	01/01/2000	15:00:00	1.344
24SCS120	01/01/2000	02:45:00	1.60992	24SCS2	01/01/2000	15:15:00	1.344
24SCS120	01/01/2000	03:00:00	1.60992	24SCS2	01/01/2000	15:30:00	1.344
24SCS120	01/01/2000	03:15:00	1.60992	24SCS2	01/01/2000	15:45:00	1.344
24SCS120	01/01/2000	03:30:00	1.60992	24SCS2	01/01/2000	16:00:00	1.056
24SCS120	01/01/2000	03:45:00	1.60992	24SCS2	01/01/2000	16:15:00	0.056
24SCS120	01/01/2000	04:00:00	2.10528	24SCS2	01/01/2000	16:30:00	1.056
24SCS120	01/01/2000	04:15:00	2.10528	24SCS2	01/01/2000	16:45:00	1.056
24SCS120	01/01/2000	04:30:00	2.10528	24SCS2	01/01/2000	17:00:00	1.104
24SCS120	01/01/2000	04:45:00	2.10528	24SCS2	01/01/2000	17:15:00	1.104
24SCS120	01/01/2000	05:00:00	1.8576	24SCS2	01/01/2000	17:30:00	1.104
24SCS120	01/01/2000	05:15:00	1.8576	24SCS2	01/01/2000	17:45:00	1.104
24SCS120	01/01/2000	05:30:00	1.8576	24SCS2	01/01/2000	18:00:00	0.72
24SCS120	01/01/2000	05:45:00	1.8576	24SCS2	01/01/2000	18:15:00	0.72
24SCS120	01/01/2000	06:00:00	2.4768	24SCS2	01/01/2000	18:30:00	0.72
24SCS120	01/01/2000	06:15:00	2.4768	24SCS2	01/01/2000	18:45:00	0.72
24SCS120	01/01/2000	06:30:00	2.4768	24SCS2	01/01/2000	19:00:00	0.576
24SCS120	01/01/2000	06:45:00	2.4768	24SCS2	01/01/2000	19:15:00	0.576
24SCS120	01/01/2000	07:00:00	2.4768	24SCS2	01/01/2000	19:30:00	0.576
24SCS120	01/01/2000	07:15:00	2.4768	24SCS2	01/01/2000	19:45:00	0.576
24SCS120	01/01/2000	07:30:00	2.4768	24SCS2	01/01/2000	20:00:00	0.816
24SCS120	01/01/2000	07:45:00	2.4768	24SCS2	01/01/2000	20:15:00	0.816
24SCS120	01/01/2000	08:00:00	3.34368	24SCS2	01/01/2000	20:30:00	0.816
24SCS120	01/01/2000	08:15:00	3.34368	24SCS2	01/01/2000	20:45:00	0.816
24SCS120	01/01/2000	08:30:00	3.34368	24SCS2	01/01/2000	21:00:00	0.528
24SCS120	01/01/2000	08:45:00	3.34368	24SCS2	01/01/2000	21:15:00	0.528
24SCS120	01/01/2000	09:00:00	3.96288	24SCS2	01/01/2000	21:30:00	0.528
24SCS120	01/01/2000	09:15:00	3.96288	24SCS2	01/01/2000	21:45:00	0.528
24SCS120	01/01/2000	09:30:00	4.45824	24SCS2	01/01/2000	22:00:00	0.48
24SCS120	01/01/2000	09:45:00	4.45824	24SCS2	01/01/2000	22:15:00	0.48
24SCS120	01/01/2000	10:00:00	5.69664	24SCS2	01/01/2000	22:30:00	0.48
24SCS120	01/01/2000	10:15:00	5.69664	24SCS2	01/01/2000	22:45:00	0.48
24SCS120	01/01/2000	10:30:00	7.67808	24SCS2	01/01/2000	23:00:00	0.48
24SCS120	01/01/2000	10:45:00	7.67808	24SCS2	01/01/2000	23:15:00	0.48
24SCS120	01/01/2000	11:00:00	11.88864	24SCS2	01/01/2000	23:30:00	0.48
24SCS120	01/01/2000	11:15:00	11.88864	24SCS2	01/01/2000	23:45:00	0.48
24SCS120	01/01/2000	11:30:00	51.51744	24SCS2	01/02/2000	00:00:00	0
24SCS120	01/01/2000	11:45:00	136.71193				
24SCS120	01/01/2000	12:00:00	17.83296	;Rainfall (mm/hr)			
24SCS120	01/01/2000	12:15:00	17.83296	24SCS25	01/01/2000	00:00:00	1.26
24SCS120	01/01/2000	12:30:00	9.16416	24SCS25	01/01/2000	00:15:00	1.26
24SCS120	01/01/2000	12:45:00	9.16416	24SCS25	01/01/2000	00:30:00	1.26
24SCS120	01/01/2000	13:00:00	6.68736	24SCS25	01/01/2000	00:45:00	1.26
24SCS120	01/01/2000	13:15:00	6.68736	24SCS25	01/01/2000	01:00:00	0.588
24SCS120	01/01/2000	13:30:00	5.20128	24SCS25	01/01/2000	01:15:00	0.588
24SCS120	01/01/2000	13:45:00	5.20128	24SCS25	01/01/2000	01:30:00	0.588
24SCS120	01/01/2000	14:00:00	3.96288	24SCS25	01/01/2000	01:45:00	0.588
24SCS120	01/01/2000	14:15:00	3.96288	24SCS25	01/01/2000	02:00:00	1.092
24SCS120	01/01/2000	14:30:00	3.96288	24SCS25	01/01/2000	02:15:00	1.092
24SCS120	01/01/2000	14:45:00	3.96288	24SCS25	01/01/2000	02:30:00	1.092
24SCS120	01/01/2000	15:00:00	3.46752	24SCS25	01/01/2000	02:45:00	1.092
24SCS120	01/01/2000	15:15:00	3.46752	24SCS25	01/01/2000	03:00:00	1.092
24SCS120	01/01/2000	15:30:00	3.46752	24SCS25	01/01/2000	03:15:00	1.092
24SCS120	01/01/2000	15:45:00	3.46752	24SCS25	01/01/2000	03:30:00	1.092
24SCS120	01/01/2000	16:00:00	2.72448	24SCS25	01/01/2000	03:45:00	1.092
24SCS120	01/01/2000	16:15:00	2.72448	24SCS25	01/01/2000	04:00:00	1.428
24SCS120	01/01/2000	16:30:00	2.72448	24SCS25	01/01/2000	04:15:00	1.428
24SCS120	01/01/2000	16:45:00	2.72448	24SCS25	01/01/2000	04:30:00	1.428
24SCS120	01/01/2000	17:00:00	2.84832	24SCS25	01/01/2000	04:45:00	1.428
24SCS120	01/01/2000	17:15:00	2.84832	24SCS25	01/01/2000	05:00:00	1.26
24SCS120	01/01/2000	17:30:00	2.84832	24SCS25	01/01/2000	05:15:00	1.26
24SCS120	01/01/2000	17:45:00	2.84832	24SCS25	01/01/2000	05:30:00	1.26
24SCS120	01/01/2000	18:00:00	1.8576	24SCS25	01/01/2000	05:45:00	1.26
24SCS120	01/01/2000	18:15:00	1.8576	24SCS25	01/01/2000	06:00:00	1.68
24SCS120	01/01/2000	18:30:00	1.8576	24SCS25	01/01/2000	06:15:00	1.68
24SCS120	01/01/2000	18:45:00	1.8576	24SCS25	01/01/2000	06:30:00	1.68
24SCS120	01/01/2000	19:00:00	1.48608	24SCS25	01/01/2000	06:45:00	1.68
24SCS120	01/01/2000	19:15:00	1.48608	24SCS25	01/01/2000	07:00:00	1.68
24SCS120	01/01/2000	19:30:00	1.48608	24SCS25	01/01/2000	07:15:00	1.68
24SCS120	01/01/2000	19:45:00	1.48608	24SCS25	01/01/2000	07:30:00	1.68
24SCS120	01/01/2000	20:00:00	2.10528	24SCS25	01/01/2000	07:45:00	1.68
24SCS120	01/01/2000	20:15:00	2.10528	24SCS25	01/01/2000	08:00:00	2.268
24SCS120	01/01/2000	20:30:00	2.10528	24SCS25	01/01/2000	08:15:00	2.268
24SCS120	01/01/2000	20:45:00	2.10528	24SCS25	01/01/2000	08:30:00	2.268
24SCS120	01/01/2000	21:00:00	1.36224	24SCS25	01/01/2000	08:45:00	2.268
24SCS120	01/01/2000	21:15:00	1.36224	24SCS25	01/01/2000	09:00:00	2.688
24SCS120	01/01/2000	21:30:00	1.36224	24SCS25	01/01/2000	09:15:00	2.688
24SCS120	01/01/2000	21:45:00	1.36224	24SCS25	01/01/2000	09:30:00	3.024
24SCS120	01/01/2000	22:00:00	1.2384	24SCS25	01/01/2000	09:45:00	3.024
24SCS120	01/01/2000	22:15:00	1.2384	24SCS25	01/01/2000	10:00:00	3.864
24SCS120	01/01/2000	22:30:00	1.2384	24SCS25	01/01/2000	10:15:00	3.864
24SCS120	01/01/2000	22:45:00	1.2384	24SCS25	01/01/2000	10:30:00	5.208
24SCS120	01/01/2000	23:00:00	1.2384	24SCS25	01/01/2000	10:45:00	5.208
24SCS120	01/01/2000	23:15:00	1.2384	24SCS25	01/01/2000	11:00:00	8.064
24SCS120	01/01/2000	23:30:00	1.2384	24SCS25	01/01/2000	11:15:00	8.064
24SCS120	01/01/2000	23:45:00	1.2384	24SCS25	01/01/2000	11:30:00	34.944
24SCS120	01/02/2000	00:00:00	0	24SCS25	01/01/2000	11:45:00	92.736
;Rainfall (mm/hr)				24SCS25	01/01/2000	12:00:00	12.096
24SCS2	01/01/2000	00:00:00	0.72	24SCS25	01/01/2000	12:15:00	12.096
24SCS2	01/01/2000	00:15:00	0.72	24SCS25	01/01/2000	12:30:00	6.216
24SCS2	01/01/2000	00:30:00	0.72	24SCS25	01/01/2000	12:45:00	6.216
24SCS2	01/01/2000	00:45:00	0.72	24SCS25	01/01/2000	13:00:00	4.536
24SCS2	01/01/2000	01:00:00	0.336	24SCS25	01/01/2000	13:15:00	4.536
24SCS2	01/01/2000	01:15:00	0.336	24SCS25	01/01/2000	13:30:00	3.528
24SCS2	01/01/2000	01:30:00	0.336	24SCS25	01/01/2000	13:45:00	3.528
24SCS2	01/01/2000	01:45:00	0.336	24SCS25	01/01/2000	14:00:00	2.688
24SCS2	01/01/2000	02:00:00	0.624	24SCS25	01/01/2000	14:15:00	2.688
24SCS2	01/01/2000	02:15:00	0.624	24SCS25	01/01/2000	14:30:00	2.688
24SCS2	01/01/2000	02:30:00	0.624	24SCS25	01/01/2000	14:45:00	2.688
24SCS2	01/01/2000	02:45:00	0.624	24SCS25	01/01/2000	15:00:00	2.352
24SCS2	01/01/2000	03:00:00	0.624	24SCS25	01/01/2000	15:15:00	2.352
24SCS2	01/01/2000	03:15:00	0.624	24SCS25	01/01/2000	15:30:00	2.352
24SCS2	01/01/2000	03:30:00	0.624	24SCS25	01/01/2000	15:45:00	2.352
24SCS2	01/01/2000	03:45:00	0.624	24SCS25	01/01/2000	16:00:00	1.848
24SCS2	01/01/2000	04:00:00	0.816	24SCS25	01/01/2000	16:15:00	1.848
24SCS2	01/01/2000	04:15:00	0.816	24SCS25	01/01/2000	16:30:00	1.848
24SCS2	01/01/2000	04:30:00	0.816	24SCS25	01/01/2000	16:45:00	1.848
24SCS2	01/01/2000	04:45:00	0.816	24SCS25	01/01/2000	17:00:00	1.932
24SCS2	01/01						

24SCS55	01/01/2000	00:00:00	0.936	24SCS50	01/01/2000	12:30:00	6.9264
24SCS55	01/01/2000	00:15:00	0.936	24SCS50	01/01/2000	12:45:00	6.9264
24SCS55	01/01/2000	00:30:00	0.936	24SCS50	01/01/2000	13:00:00	5.0544
24SCS55	01/01/2000	00:45:00	0.936	24SCS50	01/01/2000	13:15:00	5.0544
24SCS55	01/01/2000	01:00:00	0.4368	24SCS50	01/01/2000	13:30:00	3.9312
24SCS55	01/01/2000	01:15:00	0.4368	24SCS50	01/01/2000	13:45:00	3.9312
24SCS55	01/01/2000	01:30:00	0.4368	24SCS50	01/01/2000	14:00:00	2.9952
24SCS55	01/01/2000	01:45:00	0.4368	24SCS50	01/01/2000	14:15:00	2.9952
24SCS55	01/01/2000	02:00:00	0.8112	24SCS50	01/01/2000	14:30:00	2.9952
24SCS55	01/01/2000	02:15:00	0.8112	24SCS50	01/01/2000	14:45:00	2.9952
24SCS55	01/01/2000	02:30:00	0.8112	24SCS50	01/01/2000	15:00:00	2.6208
24SCS55	01/01/2000	02:45:00	0.8112	24SCS50	01/01/2000	15:15:00	2.6208
24SCS55	01/01/2000	03:00:00	0.8112	24SCS50	01/01/2000	15:30:00	2.6208
24SCS55	01/01/2000	03:15:00	0.8112	24SCS50	01/01/2000	15:45:00	2.6208
24SCS55	01/01/2000	03:30:00	0.8112	24SCS50	01/01/2000	16:00:00	2.0592
24SCS55	01/01/2000	03:45:00	0.8112	24SCS50	01/01/2000	16:15:00	2.0592
24SCS55	01/01/2000	04:00:00	1.0608	24SCS50	01/01/2000	16:30:00	2.0592
24SCS55	01/01/2000	04:15:00	1.0608	24SCS50	01/01/2000	16:45:00	2.0592
24SCS55	01/01/2000	04:30:00	1.0608	24SCS50	01/01/2000	17:00:00	2.1528
24SCS55	01/01/2000	04:45:00	1.0608	24SCS50	01/01/2000	17:15:00	2.1528
24SCS55	01/01/2000	05:00:00	0.936	24SCS50	01/01/2000	17:30:00	2.1528
24SCS55	01/01/2000	05:15:00	0.936	24SCS50	01/01/2000	17:45:00	2.1528
24SCS55	01/01/2000	05:30:00	0.936	24SCS50	01/01/2000	18:00:00	1.404
24SCS55	01/01/2000	05:45:00	0.936	24SCS50	01/01/2000	18:15:00	1.404
24SCS55	01/01/2000	06:00:00	1.248	24SCS50	01/01/2000	18:30:00	1.404
24SCS55	01/01/2000	06:15:00	1.248	24SCS50	01/01/2000	18:45:00	1.404
24SCS55	01/01/2000	06:30:00	1.248	24SCS50	01/01/2000	19:00:00	1.1232
24SCS55	01/01/2000	06:45:00	1.248	24SCS50	01/01/2000	19:15:00	1.1232
24SCS55	01/01/2000	07:00:00	1.248	24SCS50	01/01/2000	19:30:00	1.1232
24SCS55	01/01/2000	07:15:00	1.248	24SCS50	01/01/2000	19:45:00	1.1232
24SCS55	01/01/2000	07:30:00	1.248	24SCS50	01/01/2000	20:00:00	1.5912
24SCS55	01/01/2000	07:45:00	1.248	24SCS50	01/01/2000	20:15:00	1.5912
24SCS55	01/01/2000	08:00:00	1.6848	24SCS50	01/01/2000	20:30:00	1.5912
24SCS55	01/01/2000	08:15:00	1.6848	24SCS50	01/01/2000	20:45:00	1.5912
24SCS55	01/01/2000	08:30:00	1.6848	24SCS50	01/01/2000	21:00:00	1.0296
24SCS55	01/01/2000	08:45:00	1.6848	24SCS50	01/01/2000	21:15:00	1.0296
24SCS55	01/01/2000	09:00:00	1.9968	24SCS50	01/01/2000	21:30:00	1.0296
24SCS55	01/01/2000	09:15:00	1.9968	24SCS50	01/01/2000	21:45:00	1.0296
24SCS55	01/01/2000	09:30:00	2.2464	24SCS50	01/01/2000	22:00:00	0.936
24SCS55	01/01/2000	09:45:00	2.2464	24SCS50	01/01/2000	22:15:00	0.936
24SCS55	01/01/2000	10:00:00	2.8704	24SCS50	01/01/2000	22:30:00	0.936
24SCS55	01/01/2000	10:15:00	2.8704	24SCS50	01/01/2000	22:45:00	0.936
24SCS55	01/01/2000	10:30:00	3.8688	24SCS50	01/01/2000	23:00:00	0.936
24SCS55	01/01/2000	10:45:00	3.8688	24SCS50	01/01/2000	23:15:00	0.936
24SCS55	01/01/2000	11:00:00	5.9904	24SCS50	01/01/2000	23:30:00	0.936
24SCS55	01/01/2000	11:15:00	5.9904	24SCS50	01/01/2000	23:45:00	0.936
24SCS55	01/01/2000	11:30:00	25.9584	24SCS50	01/02/2000	00:00:00	0
24SCS55	01/01/2000	11:45:00	68.8896				
24SCS55	01/01/2000	12:00:00	8.9856	;Rainfall (mm/hr)			
24SCS55	01/01/2000	12:15:00	8.9856	3CHI10	01/01/2000	00:00:00	3.755
24SCS55	01/01/2000	12:30:00	4.6176	3CHI10	01/01/2000	00:10:00	4.478
24SCS55	01/01/2000	12:45:00	4.6176	3CHI10	01/01/2000	00:20:00	5.593
24SCS55	01/01/2000	13:00:00	3.3696	3CHI10	01/01/2000	00:30:00	7.551
24SCS55	01/01/2000	13:15:00	3.3696	3CHI10	01/01/2000	00:40:00	11.936
24SCS55	01/01/2000	13:30:00	2.6208	3CHI10	01/01/2000	00:50:00	30.856
24SCS55	01/01/2000	13:45:00	2.6208	3CHI10	01/01/2000	01:00:00	122.142
24SCS55	01/01/2000	14:00:00	1.9968	3CHI10	01/01/2000	01:10:00	35.237
24SCS55	01/01/2000	14:15:00	1.9968	3CHI10	01/01/2000	01:20:00	18.159
24SCS55	01/01/2000	14:30:00	1.9968	3CHI10	01/01/2000	01:30:00	12.238
24SCS55	01/01/2000	14:45:00	1.9968	3CHI10	01/01/2000	01:40:00	9.269
24SCS55	01/01/2000	15:00:00	1.7472	3CHI10	01/01/2000	01:50:00	7.492
24SCS55	01/01/2000	15:15:00	1.7472	3CHI10	01/01/2000	02:00:00	6.309
24SCS55	01/01/2000	15:30:00	1.7472	3CHI10	01/01/2000	02:10:00	5.465
24SCS55	01/01/2000	15:45:00	1.7472	3CHI10	01/01/2000	02:20:00	4.831
24SCS55	01/01/2000	16:00:00	1.3728	3CHI10	01/01/2000	02:30:00	4.338
24SCS55	01/01/2000	16:15:00	1.3728	3CHI10	01/01/2000	02:40:00	3.942
24SCS55	01/01/2000	16:30:00	1.3728	3CHI10	01/01/2000	02:50:00	3.617
24SCS55	01/01/2000	16:45:00	1.3728	3CHI10	01/01/2000	03:00:00	0
24SCS55	01/01/2000	17:00:00	1.4352	;Rainfall (mm/hr)			
24SCS55	01/01/2000	17:15:00	1.4352	3CHI100	01/01/2000	00:00:00	5.339
24SCS55	01/01/2000	17:30:00	1.4352	3CHI100	01/01/2000	00:10:00	6.376
24SCS55	01/01/2000	17:45:00	1.4352	3CHI100	01/01/2000	00:20:00	7.977
24SCS55	01/01/2000	18:00:00	0.936	3CHI100	01/01/2000	00:30:00	10.797
24SCS55	01/01/2000	18:15:00	0.936	3CHI100	01/01/2000	00:40:00	17.136
24SCS55	01/01/2000	18:30:00	0.936	3CHI100	01/01/2000	00:50:00	45.128
24SCS55	01/01/2000	18:45:00	0.936	3CHI100	01/01/2000	01:00:00	178.107
24SCS55	01/01/2000	19:00:00	0.7488	3CHI100	01/01/2000	01:10:00	51.051
24SCS55	01/01/2000	19:15:00	0.7488	3CHI100	01/01/2000	01:20:00	26.163
24SCS55	01/01/2000	19:30:00	0.7488	3CHI100	01/01/2000	01:30:00	17.571
24SCS55	01/01/2000	19:45:00	0.7488	3CHI100	01/01/2000	01:40:00	13.277
24SCS55	01/01/2000	20:00:00	1.0608	3CHI100	01/01/2000	01:50:00	10.712
24SCS55	01/01/2000	20:15:00	1.0608	3CHI100	01/01/2000	02:00:00	9.008
24SCS55	01/01/2000	20:30:00	1.0608	3CHI100	01/01/2000	02:10:00	7.793
24SCS55	01/01/2000	20:45:00	1.0608	3CHI100	01/01/2000	02:20:00	6.883
24SCS55	01/01/2000	21:00:00	0.6864	3CHI100	01/01/2000	02:30:00	6.174
24SCS55	01/01/2000	21:15:00	0.6864	3CHI100	01/01/2000	02:40:00	5.607
24SCS55	01/01/2000	21:30:00	0.6864	3CHI100	01/01/2000	02:50:00	5.142
24SCS55	01/01/2000	21:45:00	0.6864	3CHI100	01/01/2000	03:00:00	0
24SCS55	01/01/2000	22:00:00	0.624	;Rainfall (mm/hr)			
24SCS55	01/01/2000	22:15:00	0.624	3CHI120	01/01/2000	00:00:00	6.406801
24SCS55	01/01/2000	22:30:00	0.624	3CHI120	01/01/2000	00:10:00	7.6512
24SCS55	01/01/2000	22:45:00	0.624	3CHI120	01/01/2000	00:20:00	9.572401
24SCS55	01/01/2000	23:00:00	0.624	3CHI120	01/01/2000	00:30:00	12.9564
24SCS55	01/01/2000	23:15:00	0.624	3CHI120	01/01/2000	00:40:00	20.5632
24SCS55	01/01/2000	23:30:00	0.624	3CHI120	01/01/2000	00:50:00	54.1536
24SCS55	01/01/2000	23:45:00	0.624	3CHI120	01/01/2000	01:00:00	213.7284
24SCS55	01/02/2000	00:00:00	0	3CHI120	01/01/2000	01:10:00	61.2672
;Rainfall (mm/hr)				3CHI120	01/01/2000	01:20:00	31.3956
24SCS50	01/01/2000	00:00:00	1.404	3CHI120	01/01/2000	01:30:00	21.0852
24SCS50	01/01/2000	00:15:00	1.404	3CHI120	01/01/2000	01:40:00	15.9324
24SCS50	01/01/2000	00:30:00	1.404	3CHI120	01/01/2000	01:50:00	12.8544
24SCS50	01/01/2000	00:45:00	1.404	3CHI120	01/01/2000	02:00:00	10.8096
24SCS50	01/01/2000	01:00:00	0.6552	3CHI120	01/01/2000	02:10:00	9.351601
24SCS50	01/01/2000	01:15:00	0.6552	3CHI120	01/01/2000	02:20:00	8.259601
24SCS50	01/01/2000	01:30:00	0.6552	3CHI120	01/01/2000	02:30:00	7.4088
24SCS50	01/01/2000	01:45:00	0.6552	3CHI120	01/01/2000	02:40:00	6.7284
24SCS50	01/01/2000	02:00:00	1.2168	3CHI120	01/01/2000	02:50:00	6.170401
24SCS50	01/01/2000	02:15:00	1.2168	3CHI120	01/01/2000	03:00:00	0
24SCS50	01/01/2000	02:30:00	1.2168	;Rainfall (mm/hr)			
24SCS50	01/01/2000	02:45:00	1.2168	3CHI2	01/01/2000	00:00:00	2.491
24SCS50	01/01/2000	03:00:00	1.2168	3CHI2	01/01/2000	00:10:00	2.966
24SCS50	01/01/2000	03:15:00	1.2168	3CHI2	01/01/2000	00:20:00	3.696
24SCS50	01/01/2000	03:30:00	1.2168	3CHI2	01/01/2000	00:30:00	4.976
24SCS50	01/01/2000	03:45:00	1.5912	3CHI2	01/01/2000	00:40:00	7.828
24SCS50	01/01/2000	04:00:00	1.5912	3CHI2	01/01/2000	00:50:00	19.966
24SCS50	01/01/2000	04:15:00	1.5912	3CHI2	01/01/2000	01:00:00	76.805
24SCS50	01/01/2000	04:30:00	1.5912	3CHI2	01/01/2000	01:10:00	22.777
24SCS50	01/01/2000	04:45:00	1.404	3CHI2	01/01/2000	01:20:00	11.852
24SCS50	01/01/2000	05:00:00	1.404	3CHI2	01/01/2000	01:30:00	8.025
24SCS50	01/01/2000	05:15:00	1.404	3CHI2	01/01/2000	01:40:00	6.096
24SCS50	01/01/2000	05:30:00	1.404</				

3CHI25	01/01/2000	02:40:00	4.576	L1_1	381423.215	5033037.128
3CHI25	01/01/2000	02:50:00	4.197	L1_1	381423.218	5033037.391
3CHI25	01/01/2000	03:00:00	0	L1_1	381423.223	5033037.654
;Rainfall (mm/hr)				L1_1	381423.251	5033037.916
3CHI5	01/01/2000	00:00:00	3.256	L1_1	381423.32	5033038.178
3CHI5	01/01/2000	00:10:00	3.881	L1_1	381423.368	5033038.438
3CHI5	01/01/2000	00:20:00	4.844	L1_1	381423.425	5033038.696
3CHI5	01/01/2000	00:30:00	6.532	L1_1	381423.49	5033038.953
3CHI5	01/01/2000	00:40:00	10.308	L1_1	381423.564	5033039.208
3CHI5	01/01/2000	00:50:00	26.792	L1_1	381423.647	5033039.46
3CHI5	01/01/2000	01:00:00	103.93	L1_1	381423.738	5033039.71
3CHI5	01/01/2000	01:10:00	30.286	L1_1	381423.838	5033039.957
3CHI5	01/01/2000	01:20:00	15.655	L1_1	381423.946	5033040.2
3CHI5	01/01/2000	01:30:00	10.568	L1_1	381424.062	5033040.44
3CHI5	01/01/2000	01:40:00	8.013	L1_1	381424.186	5033040.676
3CHI5	01/01/2000	01:50:00	6.482	L1_1	381424.318	5033040.908
3CHI5	01/01/2000	02:00:00	5.462	L1_1	381424.458	5033041.136
3CHI5	01/01/2000	02:10:00	4.733	L1_1	381424.605	5033041.359
3CHI5	01/01/2000	02:20:00	4.186	L1_1	381424.76	5033041.577
3CHI5	01/01/2000	02:30:00	3.76	L1_1	381424.921	5033041.79
3CHI5	01/01/2000	02:40:00	3.418	L1_1	381425.09	5033041.997
3CHI5	01/01/2000	02:50:00	3.137	L1_1	381425.266	5033042.199
3CHI5	01/01/2000	03:00:00	0	L1_1	381425.448	5033042.395
;Rainfall (mm/hr)				L1_1	381425.637	5033042.584
3CHI50	01/01/2000	00:00:00	4.828	L1_1	381425.831	5033042.768
3CHI50	01/01/2000	00:10:00	5.766	L1_1	381425.831	5033042.945
3CHI50	01/01/2000	00:20:00	7.214	L1_1	381426.032	5033043.115
3CHI50	01/01/2000	00:30:00	9.763	L1_1	381426.239	5033043.278
3CHI50	01/01/2000	00:40:00	15.496	L1_1	381426.45	5033043.434
3CHI50	01/01/2000	00:50:00	40.401	L1_1	381426.668	5033043.582
3CHI50	01/01/2000	01:00:00	161.471	L1_1	381426.89	5033043.723
3CHI50	01/01/2000	01:10:00	46.17	L1_1	381427.116	5033043.857
3CHI50	01/01/2000	01:20:00	23.66	L1_1	381427.348	5033043.982
3CHI50	01/01/2000	01:30:00	15.89	L1_1	381427.583	5033044.1
3CHI50	01/01/2000	01:40:00	12.006	L1_1	381427.822	5033044.209
3CHI50	01/01/2000	01:50:00	9.687	L1_1	381440.834	5033049.891
3CHI50	01/01/2000	02:00:00	8.146	L1_1	381441.12	5033050.021
3CHI50	01/01/2000	02:10:00	7.047	L1_1	381441.401	5033050.162
3CHI50	01/01/2000	02:20:00	6.224	L1_1	381441.677	5033050.313
3CHI50	01/01/2000	02:30:00	5.583	L1_1	381442.212	5033050.442
3CHI50	01/01/2000	02:40:00	5.07	L1_1	381442.471	5033050.82
3CHI50	01/01/2000	02:50:00	4.649	L1_1	381442.723	5033051.008
3CHI50	01/01/2000	03:00:00	0	L1_1	381442.969	5033051.204
;Head (m)				L1_1	381443.207	5033051.408
527_24SCS100	01/01/2000	00:01:00	81.228	L1_1	381443.438	5033051.621
527_24SCS100	01/01/2000	00:02:00	81.228	L1_1	381443.662	5033051.841
527_24SCS100	01/01/2000	00:03:00	81.228	L1_1	381443.878	5033052.07
527_24SCS100	01/01/2000	00:04:00	81.228	L1_1	381444.086	5033052.205
527_24SCS100	01/01/2000	00:05:00	81.228	L1_1	381444.285	5033052.548
527_24SCS100	01/01/2000	00:06:00	81.228	L1_1	381444.476	5033052.798
527_24SCS100	01/01/2000	00:07:00	81.228	L1_1	381444.658	5033053.054
527_24SCS100	01/01/2000	00:08:00	81.228	L1_1	381444.831	5033053.316
527_24SCS100	01/01/2000	00:09:00	81.228	L1_1	381444.995	5033053.585
527_24SCS100	01/01/2000	00:10:00	81.228	L1_1	381445.149	5033053.858
527_24SCS100	01/01/2000	00:11:00	81.228	L1_1	381445.294	5033054.137
.....				L1_1	381445.428	5033054.421
Too many data points (1440 in total).				L1_1	381445.553	5033054.71
;Sum of Infiltrated flow from above the garage slab calculated from Infiltration graphs for S7				L1_1	381445.668	5033055.002
multiplied by the total pervious area above the garage.				L1_1	381445.772	5033055.299
InfiltratedInflow	01/01/2000	00:01:00	5.983073E-06	L1_1	381445.866	5033055.598
InfiltratedInflow	01/01/2000	00:02:00	5.983073E-06	L1_1	381445.95	5033055.901
InfiltratedInflow	01/01/2000	00:03:00	5.983073E-06	L1_1	381446.022	5033056.207
InfiltratedInflow	01/01/2000	00:04:00	5.983073E-06	L1_1	381446.085	5033056.515
InfiltratedInflow	01/01/2000	00:05:00	5.983073E-06	L1_1	381446.136	5033056.825
InfiltratedInflow	01/01/2000	00:06:00	5.983073E-06	L1_1	381446.176	5033057.137
InfiltratedInflow	01/01/2000	00:07:00	5.983073E-06	L1_1	381446.206	5033057.449
InfiltratedInflow	01/01/2000	00:08:00	5.983073E-06	L1_1	381446.224	5033057.763
InfiltratedInflow	01/01/2000	00:09:00	5.983073E-06	L1_1	381446.232	5033058.077
InfiltratedInflow	01/01/2000	00:10:00	5.983073E-06	L1_1	381446.229	5033058.392
InfiltratedInflow	01/01/2000	00:11:00	5.983073E-06	L1_1	381446.215	5033058.705
.....				L1_1	381446.189	5033059.019
Too many data points (1440 in total).				L1_1	381446.153	5033059.331
[REPORT]				L1_1	381446.106	5033059.641
;;Reporting Options				L1_1	381446.048	5033059.95
INPUT YES				L1_1	381445.98	5033060.257
CONTROLS NO				L1_1	381445.901	5033060.561
SUBCATCHMENTS ALL				L1_1	381445.811	5033060.862
NODES ALL				L1_1	381445.711	5033061.16
LINKS ALL				L1_1	381445.6	5033061.454
[TAGS]				L1_1	381445.479	5033061.744
Subcatch	L1_1	Landscape		L1_1	381442.344	5033068.909
Subcatch	L1_2	Landscape		L1_1	381442.775	5033069.097
Subcatch	L1_3	Landscape		L1_1	381426.561	5033106.239
Subcatch	S2	Parking_Lot		L1_2	381407.635	5033124.034
Subcatch	S3_1	Parking_Lot		L1_2	381415.643	5033115.347
Subcatch	S3_2	Parking_Lot		L1_2	381404.547	5033110.503
Subcatch	S5	Building		L1_2	381408.488	5033101.475
Subcatch	S6	Building		L1_2	381404.701	5033099.821
Subcatch	S7	Ramp		L1_2	381405.665	5033097.614
Node	St_L1	RYCB		L1_2	381401.22	5033095.674
Node	St_L2	RYCB		L1_2	381400.599	5033097.094
Node	St_L3	RYCB		L1_2	381393.818	5033094.134
Node	St_UnGrd	Uncderground_Storage		L1_2	381394.298	5033093.034
Link	C1	RV_Storm		L1_2	381389.532	5033090.954
[MAP]				L1_2	381389.672	5033090.633
DIMENSIONS				L1_2	381386.265	5033089.146
UNITS				L1_2	381386.988	5033087.5
[COORDINATES]				L1_2	381370.061	5033080.111
;;Node				L1_2	381367.171	5033086.731
;;-----				L1_2	381373.676	5033092.727
527_ (P-Stm)				L1_2	381375.266	5033094.193
OF1	381401.916	5033025.292		L1_2	381382.117	5033100.508
OF2	381462.548	5033049.302		L1_2	381407.635	5033124.034
OF3	381403.805	5033026.688		L1_3	381425.929	5033107.688
OF7	381448.424	5033041.047		L1_3	381421.474	5033117.892
Roof1	381400.098	5033034.455		L1_3	381415.643	5033115.347
Roof2	381428.95	5033077.584		L1_3	381407.635	5033124.034
St_L1	381395.548	5033108.811		L1_3	381421.373	5033136.698
St_L2	381417.381	5033128.938		L1_3	381433.371	5033109.212
St_L3	381450.027	5033054.56		L1_3	381426.561	5033106.239
St_P1	381406.853	5033073.521		L1_3	381425.929	5033107.688
St_P2	381416.312	5033051.852		S1	381496.059	5033067.453
St_UnGrd	381396.599	5033036.713		S1	381458.719	5033051.155
SUI	381400.429	5033088.237		S1	381439.156	5033095.96
[VERTICES]				S1	381483.973	5033094.136
;;Link				S1	381494.933	5033069
;;-----				S1	381496.059	5033067.453
W_L1				S2	381422.853	5033068.561
[POLYGONS]				S2	381425.847	5033061.708
;;Subcatchment				S2	381430.18	5033051.785
;;-----				S2	381425.421	5033049.708
L1_1				S2	381427.822	5033044.209
L1_1	381426.561	5033106.239		S2	381427.583	5033044.099
L1_1	381433.371	5033109.212		S2	381427.347	5033043.982
L1_1	381439.156	5033095.96		S2	381427.116	5033043.856
L1_1	381458.719	5033051.155		S2	381426.889	5033043.723
L1_1	381435.928	5033041.204		S2	381426.667	5033043.582
L1_1	381430.376	5033033.492		S2	381426.45	5033043.433
L1_1	381429.744	5033033.928		S2	381426.238	5033043.278
L1_1	381429.096	5033034.342		S2	381426.032	5033043.114
L1_1	381428.435	5033034.734		S2	381425.831	5033042.944
L1_1	381427.76	5033035.102		S2	381425.636	5033042.768
L1_1	381427.074	5033035.446		S2	381425.448	5033042.584
L1_1	381426.375	5033035.767		S2	381425.266	5033042.395
L1_1	381425.758	5033036.025		S2	381425.09	5033042.199
L1_1	381425.134	5033036.264		S2	381424.921	5033041.997
L1_1	381424.503	5033036.484		S2	381424.759	5033041.789
L1_1	381423.865	5033036.685		S2	381424.605	5033041.577
L1_1	381423.221	5033036.865		S2	381424.458	5033041.359
				S2	381424.318	5033041.136

S2	381423.425	5033038.953
S2	381423.368	5033038.696
S2	381423.32	5033038.438
S2	381423.281	5033038.177
S2	381423.251	5033037.916
S2	381423.23	5033037.654
S2	381423.218	5033037.391
S2	381423.215	5033037.128
S2	381423.221	5033036.865
S2	381422.554	5033037.03
S2	381421.883	5033037.174
S2	381421.207	5033037.296
S2	381420.528	5033037.397
S2	381419.846	5033037.477
S2	381419.162	5033037.535
S2	381418.476	5033037.571
S2	381417.789	5033037.586
S2	381417.102	5033037.579
S2	381408.289	5033038.705
S2	381399.672	5033058.444
S2	381422.855	5033068.564
S3.1	381386.988	5033087.5
S3.1	381386.265	5033089.146
S3.1	381389.672	5033090.633
S3.1	381389.532	5033090.954
S3.1	381394.298	5033093.034
S3.1	381393.818	5033094.134
S3.1	381400.599	5033097.094
S3.1	381401.22	5033095.674
S3.1	381405.665	5033097.614
S3.1	381404.701	5033099.821
S3.1	381408.488	5033101.475
S3.1	381415.264	5033085.953
S3.1	381392.081	5033075.833
S3.1	381386.988	5033087.5
S3.2	381392.081	5033075.833
S3.2	381415.264	5033085.953
S3.2	381422.855	5033068.564
S3.2	381399.672	5033058.444
S3.2	381392.081	5033075.833
S5	381421.474	5033117.892
S5	381432.346	5033092.987
S5	381442.775	5033069.097
S5	381425.847	5033061.708
S5	381404.547	5033110.503
S5	381421.474	5033117.892
S6	381386.988	5033087.5
S6	381408.289	5033038.705
S6	381391.361	5033031.316
S6	381370.061	5033080.111
S6	381386.988	5033087.5
S7	381425.847	5033061.708
S7	381436.845	5033066.509
S7	381442.344	5033068.909
S7	381445.479	5033061.744
S7	381445.6	5033061.454
S7	381445.711	5033061.16
S7	381445.811	5033060.862
S7	381445.901	5033060.561
S7	381445.98	5033060.257
S7	381446.048	5033059.95
S7	381446.106	5033059.641
S7	381446.153	5033059.331
S7	381446.189	5033059.019
S7	381446.215	5033058.705
S7	381446.229	5033058.392
S7	381446.232	5033058.077
S7	381446.224	5033057.763
S7	381446.206	5033057.449
S7	381446.176	5033057.137
S7	381446.136	5033056.825
S7	381446.085	5033056.515
S7	381446.022	5033056.207
S7	381445.95	5033055.901
S7	381445.866	5033055.598
S7	381445.772	5033055.299
S7	381445.668	5033055.002
S7	381445.553	5033054.71
S7	381445.428	5033054.421
S7	381445.294	5033054.137
S7	381445.149	5033053.858
S7	381444.995	5033053.585
S7	381444.831	5033053.316
S7	381444.658	5033053.054
S7	381444.476	5033052.798
S7	381444.285	5033052.548
S7	381444.086	5033052.305
S7	381443.878	5033052.07
S7	381443.662	5033051.841
S7	381443.438	5033051.621
S7	381443.207	5033051.408
S7	381442.969	5033051.204
S7	381442.723	5033051.008
S7	381442.471	5033050.82
S7	381442.212	5033050.642
S7	381441.947	5033050.472
S7	381441.677	5033050.313
S7	381441.401	5033050.162
S7	381441.12	5033050.021
S7	381440.834	5033049.891
S7	381427.822	5033044.209
S7	381425.421	5033049.708
S7	381430.18	5033051.785
S7	381425.847	5033061.708

;;Storage Node X-Coord Y-Coord
;;

[SYMBOLS] X-Coord Y-Coord
;;

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.2 (Build 5.2.3)							

Element Count							

Number of rain gages 1							
Number of subcatchments ... 10							
Number of nodes 14							
Number of links 12							
Number of pollutants 0							
Number of land uses 0							

Raingage Summary							

Name	Data Source		Data Type	Recording Interval			
Rainfall	24SCS100		INTENSITY	15 min.			

Subcatchment Summary							

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet	

L1_1	0.07	134.06	10.01	2.0000	Rainfall	St_L3	
L1_2	0.07	15.82	8.45	2.0000	Rainfall	St_L1	
L1_3	0.03	77.61	3.89	2.0000	Rainfall	St_L2	
S1	0.16	38.49	14.29	2.0000	Rainfall	St_L3	
S2	0.06	16.17	90.74	2.0000	Rainfall	St_P2	
S3_1	0.04	10.81	99.29	2.0000	Rainfall	SUI	
S3_2	0.05	13.27	98.96	2.0000	Rainfall	St_P1	
S5	0.10	22.12	100.00	1.0000	Rainfall	Roof2	
S6	0.10	22.12	100.00	1.0000	Rainfall	Roof1	
S7	0.03	28.53	72.19	15.0000	Rainfall	St_UnGrd	

Node Summary							

Name	Type		Invert Elev.	Max. Depth	Ponded Area	External Inflow	

527_(P-Stm)	OUTFALL		81.23	0.00	0.0		
OF1	OUTFALL		80.67	0.00	0.0		
OF2	OUTFALL		80.91	0.00	0.0		
OF3	OUTFALL		80.67	0.00	0.0		
OF7	OUTFALL		80.67	0.00	0.0		
Roof1	STORAGE		96.85	0.15	0.0		
Roof2	STORAGE		96.85	0.15	0.0		
St_L1	STORAGE		84.20	1.70	0.0		
St_L2	STORAGE		83.90	2.10	0.0		
St_L3	STORAGE		83.09	2.21	0.0		
St_P1	STORAGE		85.70	0.31	0.0		
St_P2	STORAGE		85.50	0.15	0.0		
St_UnGrd	STORAGE		81.97	1.00	0.0	Yes	
SUI	STORAGE		85.70	0.25	0.0		

Link Summary							

Name	From Node	To Node	Type	Length	%Slope		
Roughness							

C1	St_L1	St_L2	CONDUIT	33.1	0.9050		
0.0130	W_L1	St_L2	WEIR				
W1	St_P1	St_P2	WEIR				
W2	SUI	St_P1	WEIR				
O_St_L3	St_L3	OF2	OUTLET				
OL1	SUI	St_UnGrd	OUTLET				
OL2	St_P1	St_UnGrd	OUTLET				
OL3	St_P2	St_UnGrd	OUTLET				
OL4	St_L2	527_(P-Stm)	OUTLET				
OR1	St_UnGrd	OF1	OUTLET				
ROOF1	Roof1	OF3	OUTLET				
ROOF2	Roof2	OF7	OUTLET				

Cross Section Summary							

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1	CIRCULAR	0.25	0.05	0.06	0.25	1	0.06

Analysis Options							

Flow Units CMS							
Process Models:							
Rainfall/Runoff YES							
RDII NO							
Snowmelt NO							
Groundwater NO							
Flow Routing YES							
Ponding Allowed NO							
Water Quality NO							
Infiltration Method HORTON							
Flow Routing Method DYNWAVE							
Surcharge Method EXTRAN							
Starting Date 01/01/2000 00:00:00							
Ending Date 01/02/2000 00:00:00							
Antecedent Dry Days 0.0							
Report Time Step 00:01:00							
Wet Time Step 00:01:00							
Dry Time Step 00:01:00							
Routing Time Step 1.00 sec							
Variable Time Step YES							
Maximum Trials 8							
Number of Threads 1							
Head Tolerance 0.001500 m							

Runoff Quantity Continuity							

		Volume	Depth				
		hectare-m	mm				
Total Precipitation		0.073	103.200				
Evaporation Loss		0.000	0.000				
Infiltration Loss		0.025	36.112				
Surface Runoff		0.047	66.091				
Final Storage		0.001	1.034				
Continuity Error (%)		-0.036					

Flow Routing Continuity							

		Volume	Volume				
		hectare-m	10^6 ltr				
Dry Weather Inflow		0.000	0.000				
Wet Weather Inflow		0.047	0.465				
Groundwater Inflow		0.000	0.000				
RDII Inflow		0.000	0.000				
External Inflow		0.000	0.001				
External Outflow		0.047	0.466				
Flooding Loss		0.000	0.000				
Evaporation Loss		0.000	0.000				
Exfiltration Loss		0.000	0.000				
Initial Stored Volume		0.000	0.000				
Final Stored Volume		0.000	0.000				

Continuity Error (%)		0.000						
***** Time-Step Critical Elements ***** None								
***** Highest Flow Instability Indexes ***** All links are stable.								
***** Most Frequent Nonconverging Nodes ***** Convergence obtained at all time steps.								
***** Routing Time Step Summary *****								
Minimum Time Step		:	0.50 sec					
Average Time Step		:	1.00 sec					
Maximum Time Step		:	1.00 sec					
% of Time in Steady State		:	0.00					
Average Iterations per Step		:	2.00					
% of Steps Not Converging		:	0.00					
Time Step Frequencies		:						
1.000 - 0.871 sec		:	100.00 %					
0.871 - 0.758 sec		:	0.00 %					
0.758 - 0.660 sec		:	0.00 %					
0.660 - 0.574 sec		:	0.00 %					
0.574 - 0.500 sec		:	0.00 %					
***** Subcatchment Runoff Summary *****								

Total Runoff Subcatchment mm	Total Runoff 10^6 ltr	Peak Runoff CMS	Total Runoff Precip Coeff mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm

L1_1			103.20	0.00	0.00	73.20	10.18	29.88
29.88	0.02	0.02	0.289	0.00	0.00			
L1_2			103.20	0.00	0.00	76.53	8.59	26.55
26.55	0.02	0.01	0.257	0.00	0.00			
L1_3			103.20	0.00	0.00	74.35	3.95	28.83
28.83	0.01	0.01	0.279	0.00	0.00			
S1			103.20	0.00	0.00	73.26	14.52	26.83
29.73	0.05	0.03	0.288	0.00	0.00			
S2			103.20	0.00	0.00	6.95	92.05	2.61
94.66	0.06	0.02	0.917	0.00	0.00			
S3_1			103.20	0.00	0.00	0.53	100.71	0.20
100.92	0.04	0.01	0.978	0.00	0.00			
S3_2			103.20	0.00	0.00	0.78	100.38	0.30
100.68	0.05	0.02	0.976	0.00	0.00			
S5			103.20	0.00	0.00	0.00	101.33	0.00
101.33	0.10	0.03	0.982	0.00	0.00			
S6			103.20	0.00	0.00	0.00	101.33	0.00
101.33	0.10	0.03	0.982	0.00	0.00			
S7			103.20	0.00	0.00	20.80	73.39	7.91
81.30	0.03	0.01	0.788					
***** Node Depth Summary *****								

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters		
527_(P-Stm)	OUTFALL	0.59	3.67	84.90	0 12:28	3.67		
OF1	OUTFALL	0.50	0.50	81.17	0 00:00	0.50		
OF2	OUTFALL	0.55	0.55	81.46	0 00:00	0.55		
OF3	OUTFALL	0.50	0.50	81.17	0 00:00	0.50		
OF7	OUTFALL	0.50	0.50	81.17	0 00:00	0.50		
Roof1	STORAGE	0.02	0.07	96.92	0 13:00	0.07		
Roof2	STORAGE	0.02	0.07	96.92	0 13:00	0.07		
St_L1	STORAGE	0.08	1.53	85.73	0 12:13	1.53		
St_L2	STORAGE	0.11	1.83	85.73	0 12:15	1.83		
St_L3	STORAGE	0.03	2.17	85.26	0 12:01	2.17		
St_P1	STORAGE	0.00	0.03	85.73	0 12:00	0.03		
St_P2	STORAGE	0.00	0.03	85.53	0 12:00	0.03		
St_UnGrd	STORAGE	0.05	0.77	82.75	0 12:05	0.77		
SU1	STORAGE	0.00	0.02	85.72	0 12:00	0.02		
***** Node Inflow Summary *****								

Flow		Maximum Lateral	Maximum Total	Time of Max		Lateral	Total	
Balance		Inflow	Inflow	Occurrence		Inflow	Inflow	
Error Node Percent	Type	CMS	CMS	days hr:min		10^6 ltr	10^6 ltr	

527_(P-Stm)	OUTFALL	0.000	0.006	0 12:08		0	0.0274	
0.000								
OF1	OUTFALL	0.000	0.010	0 11:32		0	0.172	
0.000								
OF2	OUTFALL	0.000	0.038	0 12:01		0	0.0678	
0.000								
OF3	OUTFALL	0.000	0.002	0 11:05		0	0.0995	
0.000								
OF7	OUTFALL	0.000	0.002	0 11:05		0	0.0995	
0.000								
Roof1	STORAGE	0.031	0.031	0 12:00		0.0996	0.0996	
0.000								
Roof2	STORAGE	0.031	0.031	0 12:00		0.0996	0.0996	
0.000								
St_L1	STORAGE	0.014	0.018	0 11:56		0.0181	0.0187	
0.090								
St_L2	STORAGE	0.009	0.015	0 11:55		0.00934	0.028	
0.065								
St_L3	STORAGE	0.054	0.054	0 12:00		0.0678	0.0678	
0.003								
St_P1	STORAGE	0.015	0.015	0 12:00		0.0483	0.0483	
0.000								
St_P2	STORAGE	0.019	0.019	0 12:00		0.0575	0.0575	
0.000								
St_UnGrd	STORAGE	0.010	0.056	0 12:00		0.0268	0.172	
0.001								
SU1	STORAGE	0.012	0.012	0 12:00		0.0395	0.0395	
0.000								
***** Node Surcharge Summary *****								

nodes were surcharged.							
***** Node Flooding Summary *****							
No nodes were flooded.							
***** Storage Volume Summary *****							

Maximum	Average	Avg	Evap	Exfil	Maximum	Max	Time of Max
Outflow	Volume	Pcnt	Pcnt	Pcnt	Volume	Pcnt	Occurrence
Storage Unit	1000 m³	Full	Loss	Loss	1000 m³	Full	days hr:min

Roof1	0.010	12.1	0.0	0.0	0.041	48.3	0 13:00
Roof2	0.010	12.1	0.0	0.0	0.041	48.3	0 13:00
St_L1	0.000	0.6	0.0	0.0	0.006	18.8	0 12:13
St_L2	0.000	0.3	0.0	0.0	0.002	7.3	0 12:15
St_L3	0.000	0.5	0.0	0.0	0.006	73.6	0 12:01
St_P1	0.000	0.0	0.0	0.0	0.000	1.2	0 12:00
St_P2	0.000	0.1	0.0	0.0	0.000	4.9	0 12:00
St_UnGrd	0.003	4.8	0.0	0.0	0.050	77.5	0 12:05
SU1	0.000	0.0	0.0	0.0	0.000	1.2	0 12:00
***** Outfall Loading Summary *****							

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr			

527_(P-Stm)	9.11	0.003	0.006	0.027			
OF1	95.58	0.002	0.010	0.172			
OF2	41.64	0.002	0.038	0.068			
OF3	94.85	0.001	0.002	0.100			
OF7	94.85	0.001	0.002	0.100			

System	67.21	0.010	0.058	0.466			
***** Link Flow Summary *****							

Link	Type	Maximum Flow CMS	Time of Max Occurrence days hr:min	Maximum Veloc m/sec	Max/ Full Flow	Max/ Full Depth	

C1	CONDUIT	0.006	0 11:56	0.13	0.11	1.00	
W_L1	WEIR	0.000	0 00:00			0.00	
W1	WEIR	0.000	0 00:00			0.00	
W2	WEIR	0.000	0 00:00			0.00	
O_St_L3	DUMMY	0.038	0 12:01				
OL1	DUMMY	0.012	0 12:00				
OL2	DUMMY	0.015	0 12:00				
OL3	DUMMY	0.019	0 12:00				
OL4	DUMMY	0.006	0 12:08				
OR1	DUMMY	0.010	0 11:32				
ROOF1	DUMMY	0.002	0 11:05				
ROOF2	DUMMY	0.002	0 11:05				
***** Flow Classification Summary *****							

Conduit	Adjusted /Actual Length	Fraction of		Time in Flow Class			
		Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit

C1	1.00	0.48	0.00	0.00	0.52	0.00	0.00
***** Conduit Surcharge Summary *****							

Conduit	Both Ends	Hours Full Upstream	Hours Full Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited		

C1	1.53	1.53	1.76	0.01	0.01		
Analysis begun on: Mon Oct 7 14:30:08 2024 Analysis ended on: Mon Oct 7 14:30:08 2024 Total elapsed time: < 1 sec							

Engineering Specification

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

Tag _____

RD-200

Small Area Roof Drain

Specification

Watts RD-200 epoxy coated cast iron roof drain with flashing clamp with integral gravel stop, self-locking polyethylene dome (standard), and no hub (standard) outlet.

Suffix	Pipe Sizing Description	
2	2"(51) Pipe Size	☐
3	3"(76) Pipe Size	☐
4	4"(102) Pipe Size (NH Only)	☐

Suffix	Outlet Type Description	
NH	No Hub (MJ)	☐
P	Push On	☐
T	Threaded	☐
X	Inside Caulk	☐

Suffix	Options Description	
-13	Galvanized Body & Flashing Clamp	☐
-B	Sump Receiver	☐
-D	Underdeck Clamp	☐
-F	Deck Flange/Adj. Extension	☐
-GSS	Stainless Steel Ballast Guard	☐
-K	Ductile Iron Dome	☐
-K13	Galvanized Dome	☐
-K80	Aluminum Dome	☐
-K81	Rough Bronze Dome	☐
-K83	SS Mesh Covered Dome	☐
-L	Vandal Proof Dome	☐
-R	2" External Water Dam	☐
-SO	Side Outlet	☐
-W	Adjustable Internal Water Dam	☐

Suffix	Optional Body Material Description	
-60	PVC Body w/Socket Outlet	☐
-61	ABS Body w/Socket Outlet	☐

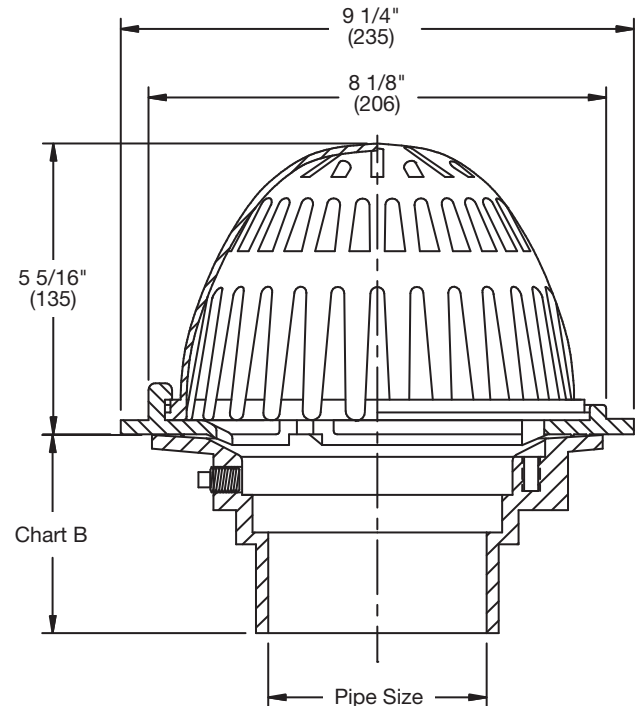


Chart B

Pipe Size	Std. No Hub	P Push On	T Female Thread	X Inside Caulk	60/61 PVC/ABS
2"(51)	3 5/8"(92)	4 1/4"(108)	4 1/4"(108)	4 1/2"(108)	4"(102)
3"(76)	3 5/8"(92)	4 1/4"(108)	4 1/4"(108)	4 1/2"(108)	4"(102)
4"(102)	3 5/8"(92)	4 1/4"(108)	4 1/4"(108)	4 1/2"(108)	4"(102)

Deck Opening 6 1/2"(165)
with Sump Receiver 8"(203)

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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Adjustable Accutrol Weir

Tag: _____

Adjustable Flow Control for Roof Drains

ADJUSTABLE ACCUTROL (for Large Sump Roof Drains only)

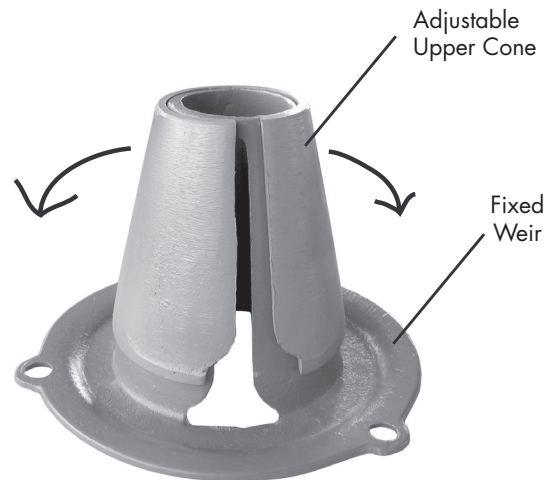
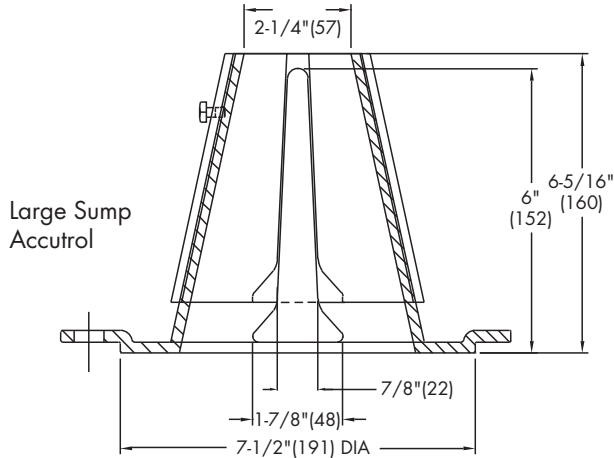
For more flexibility in controlling flow with heads deeper than 2", Watts Drainage offers the Adjustable Accutrol. The Adjustable Accutrol Weir is designed with a single parabolic opening that can be covered to restrict flow above 2" of head to less than 5 gpm per inch, up to 6" of head. To adjust the 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.



1/2 Weir Opening Exposed Shown Above

TABLE 1. Adjustable Accutrol Flow Rate Settings

Weir Opening Exposed	1"	2"	3"	4"	5"	6"
	Flow Rate (gallons per minute)					
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 _____

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.

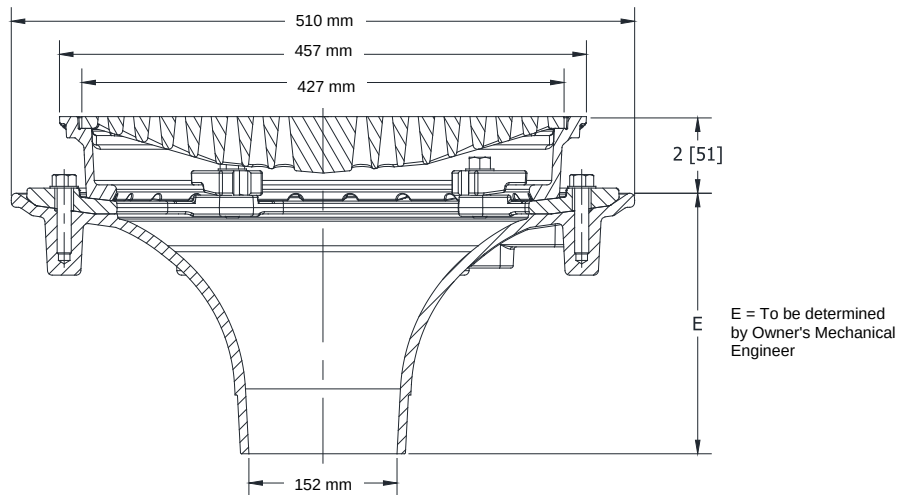
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A Watts Water Technologies Company

**Z150F****FLOFORCE™ HIGH PERFORMANCE PROMENADE DECK
DRAIN WITH ROTATABLE FRAME AND HEEL-PROOF GRATE****SPECIFICATION SHEET****TAG** _____

Design and Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



4 [102] No-Hub Illustrated

A Outlet Size In. [mm]	B Body Diameter In [mm]	C Frame Size In [mm]	D Grate Size In [mm]	Weight lbs [kg]	Grate Open Area Sq. In. [cm ²]
2,3,4 [51,76,102]	16-9/16 [421]	14 [356]	12-13/16 [325]	66 [30]	44 [284]
6,8 [152, 203]	20-3/32 [510]	18 [457]	16-13/16 [427]	94 [43]	70 [452]

ENGINEERING SPECIFICATION: ZURN Z150F

FLOFORCE™ High efficient flow performing roof drain for promenade deck roof drain applications. Drain incorporates a smooth funnel-shaped interior surface, providing a seamless transition to outlet connection and eliminating internal obstructions within the body. Complete with Dura-Coated cast iron body with membrane flashing clamp, rotatable square promenade frame, seepage openings, securing clamps, and heavy-duty ductile iron heel-proof grate.

OPTIONS (Check/specify appropriate options)**PIPE SIZE**(Specify size/type) **OUTLET****E BODY HT. DIM.**

2, 3, 4 [51, 76, 102]	NH	No-Hub	6-15/16 [176]
6, 8 [152, 203]	NH	No-Hub	7-7/16 [189]
2, 3, 4 [51, 76, 102]	NL	Neo-Loc	7-3/8 [187]
6 [152]	NL	Neo-Loc	8-1/32 [204]
2, 3, 4 [51, 76, 102]	IP	Threaded	5-15/16, 6-3/16, 6-5/16 [151, 157, 160]
6, 8 [152, 203]	IP	Threaded	6-11/16, 6-3/4 [170, 171]
3, 4 [76, 102]	IC	Inside Caulk	5-13/16 [148]
6 [152]	IC	Inside Caulk	6-1/16 [154]

PREFIXES

___ Z	D.C.C.I. Body and Frame with Ductile Iron Grate*
___ ZN	D.C.C.I. Body and Frame with Ductile Iron Grate and Polished Nickel Bronze Veneer Finish

SUFFIXES

___ -AR	Acid Resistant Epoxy Coated	___ -R	Roof Sump Receiver
___ -C	Underdeck Clamp	___ -SC	Secondary Clamp Collar
___ -DP	Top-Set® Deck Plate (Replaces both the -C and -R)	___ -TC	Neo-Loc Test Cap Gasket (2, 3, 4 [51, 76, 102] NL Bottom Outlet Only)
___ -DR	Top-Set® Drain Riser	___ -VP	Vandal-Proof Secured Top
___ -E	Static Extension 1 [25] thru 4 [102] (Specify Ht.)	___ -Y	Type 304 [CF8] SS Sediment Bucket
___ -EA	Adjustable Extension Assembly 2-1/8 [54] thru 3-1/2 [89]	___ -85	Type 304 [CF8] Stainless Steel Perforated Extension
___ -G	Galvanized Cast Iron	___ -89	2 [51] High Overflow Dam and Low-Profile Pedestal Paver Dome
___ -PD	Low-Profile Pedestal Paver Dome		

* Regularly furnished unless otherwise specified

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Zurn Industries, LLC | Specification Drainage Operation
1801 Pittsburgh Avenue, Erie, PA 16502, Ph. 855.663.9876

In Canada | Zurn Industries Limited
7900 Goreway Drive, Unit 10, Brampton, Ontario L6T 5W6, Ph. 877.892.5216

www.zurn.com

Rev. -
Date: 08/08/2022
C.N. No. 144780
Prod. | Dwg. No. Z150F FLOFORCE™ Page 1 of 1

Site Servicing Report

2983, 3053 and 3079 Navan Road & 2690 Pagé Road, Ottawa, Ontario

Appendix E

Sanitary Servicing

JLR NO. 20999-002 (NAYAN BLOCK 14)

Street Name	Pipe Reach							Commercial/Institutional				Infiltration			Peak Design Flow L/s	Pipe Data								Upstream Geometry				Downstream Geometry					Self Cleansing Velocities				
	From	To	Apartments	Pop.	Cum. Pop.	Peaking Factor	Residential Flow (L/s)	Area (ha)	Cum. Area (ha)	Peaking Factor	Inst. Flow (L/s)	Area (ha)	Cum. Area (ha)	Peak Extr. Flow L/s		Dia	Type	Actual Diameter	Slope	Q Full (L/s)	V Full	Length	Residual Capacity	% Full	TG From	Obvert	Invert	Cover	TG TO	Drop	Obvert	Invert	Cover	Q/Qf Ratio	Flow Depth (mm)	Actual Velocity (m/s)	Flow Depth to Dia. Ratio (d/D)
BLOCK 14	BLOCK 14	18	84	151	151	3.55	1.74	0.09	0.09	1.50	0.05	0.57	0.57	0.19	1.97	200	Circular	203.20	1.50%	41.91	1.29	4.50	39.53	5%	85.850	82.615	82.412	3.235	85.840	0.060	82.547	82.344	3.293	0.05	29.87	0.66	0.15
EAST ORLEANS RIDGE SUBDIVISION	18	17			151	3.55	1.74	0.09	0.09	1.50	0.05	0.57	0.57	0.19	1.97	200	Circular	203.20	1.50%	41.91	1.29	11.60	39.53	5%	85.840	82.487	82.284	3.353	84.940		82.313	82.110	2.627	0.05	26.87	0.66	0.15

Design Parameters		
Apartments Population	1.8	Cap/Unit
Residential Flow	280	L/Cap/Day
Infiltration Flow	0.33	L/ha
Harmon's Correction Factor	0.8	unitless
Commercial Peak Factor	1.5	unitless
Institutional/Commercial Average Flow	28000	L/gross ha/d
Manning Coefficient	0.013	unitless

William Rugamba

From: William Rugamba
Sent: July 22, 2024 8:18 AM
To: William Rugamba
Subject: FW: Re-confirmation of Mechanical Items for Servicing Report

William Rugamba, M.Eng., B.A.Sc., EIT
Civil Engineering Graduate
Ottawa, ON
Work: [343-804-4374](tel:343-804-4374)

From: Sarith Lopez <slopez@qmeengineering.com>
Sent: Wednesday, July 17, 2024 8:07 PM
To: Mahad Musse <mmusse@jlrichards.ca>; Chuck Clark <CWC@qmeengineering.com>
Cc: Karla Ferrey <kferrey@jlrichards.ca>; Raad Akrawi <rakrawi@groupeheafey.com>; Carmine Zayoun <carmine@zayoungroup.com>
Subject: RE: Re-confirmation of Mechanical Items for Servicing Report

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Hi Mahad,

All items below confirmed

Regards

Sarith López
Project Manager

9 Gurdwara Road, Unit 200
Ottawa, ON K2E 7X6
T: 613-366-4763 ext. 129
slopez@qmeengineering.com



From: Mahad Musse <mmusse@jlrichards.ca>

Sent: Tuesday, July 16, 2024 3:08 PM

To: Sarith Lopez <slopez@qmeengineering.com>; Chuck Clark <CWC@qmeengineering.com>

Cc: Karla Ferrey <kferrey@jlrichards.ca>; Raad Akrawi <rakrawi@groupeheafey.com>; Carmine Zayoun <carmine@zayoungroup.com>

Subject: Re-confirmation of Mechanical Items for Servicing Report

Hi Sarith/Chuck,

Thank you for the information below and in our meetings. I understand all these items have been discussed before but we need to submit something as part of our report. Can you just re-confirm the following questions below and then we will attach your confirmation to the Report.

1. Please confirm that the sanitary service size of 200mm diameter for the Site Plan Blocks (Block 14, 15 and 17) is preferred by the mechanical engineer on file;
2. Please confirm that a sprinkler flow of 25 L/s can be assumed for the Site Plan Blocks (Block 14, 15 and 17) at this stage.

Thanks
Mahad



Mahad Musse, B.Eng., EIT
Civil Engineering Graduate

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Ottawa, ON, K1S 1N4

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