

**SERVICING & STORMWATER MANAGEMENT
IMPLEMENTATION REPORT**

**FLATO EDGEWOOD GREENS
FLATO EAST COMMERCIAL BLOCK
FLATO DEVELOPMENTS INC.**

TOWNSHIP OF SOUTHGATE

**PREPARED BY:
CROZIER CONSULTING ENGINEERS
40 HURON STREET, SUITE 301
COLLINGWOOD, ONTARIO
L9Y 4R3**

NOVEMBER 2020

CFCA FILE NO. 1060-5384



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TABLE OF CONTENTS

| | | |
|-----|---|---|
| 1.0 | INTRODUCTION | 1 |
| 2.0 | SITE DESCRIPTION..... | 1 |
| 3.0 | BACKGROUND | 1 |
| 4.0 | PROPOSED SERVICING STRATEGY | 2 |
| 4.1 | Sanitary Servicing | 2 |
| 4.2 | Domestic Water Servicing | 3 |
| 4.3 | Utility Servicing..... | 3 |
| 5.0 | STORMWATER MANAGEMENT & SITE DRAINAGE | 3 |
| 5.1 | Design Criteria | 3 |
| 5.2 | Pre-Development Drainage Conditions | 4 |
| 5.3 | Proposed Drainage Conditions..... | 4 |
| 5.4 | Stormwater Quality Control | 5 |
| 5.5 | Stormwater Management (SWM) Analysis | 5 |
| 6.0 | EROSION & SEDIMENTATION CONTROLS DURING CONSTRUCTION..... | 7 |
| 7.0 | CONCLUSIONS & RECOMMENDATIONS..... | 8 |

LIST OF FIGURES

| | |
|---------------|--|
| Figure 1: | Site Location Plan |
| Figure 2: | Site Plan |
| Figure 3: | External General Servicing Plan |
| Figure 4: | Pre-Development Drainage Plan |
| Figure 5: | Storm Area Drainage Plan |
| Figure 6: | External Storm Drainage Plan |
| Drawing C101: | General Site Servicing Plan |
| Drawing C102: | Site Grading and Sediment Control Plan |

APPENDICES

| | |
|-------------|--|
| Appendix A: | Equivalent Population Calculations |
| Appendix B: | Preliminary Sanitary Flow Rate Calculations |
| Appendix C: | Phase 8 Sanitary Sewer Design Sheet |
| Appendix D: | Preliminary Domestic Water Flow Rate Calculations Fire Suppression Flow Rate Calculations |
| Appendix E: | Commercial Block Storm Design Sheet |
| Appendix F: | Hydrological Parameters |
| Appendix G: | SWM Facility #3 Calculations |
| Appendix H: | SWMHYMO Modelling Data |

1.0 INTRODUCTION

Crozier Consulting Engineers ("Crozier") has been retained by Flato Developments Inc. ("Developer") to complete a Servicing and Stormwater Management Implementation Report and engineering design to support the Site Plan Application for a proposed commercial development known as Flato East Commercial Block, referred to hereafter as the ("Subject Development"). The Subject Development is located in the Village of Dundalk, Township of Southgate. The general location of the Subject Development is shown on Figure 1.

The Flato Commercial Block site is legally described as Part of Lot 233 and Lot 234, Concession 1, Village of Dundalk, Township of Southgate, County of Grey. The Subject Development is located within the Draft Plan Approved Dundalk Meadows East Subdivision, herein referred to as ("Flato East"). Within the Flato East Subdivision, the Subject Development is bounded by future Colgan Crescent to the north, future Symington Street to the west, future Milliner Avenue to the south, and Highway 10 to the east.

The Subject Development is approximately 0.67 ha, and is comprised of one single-story 12 unit commercial building with a gross floor area (GFA) of 1,448 square meters, and a parking lot consisting of 75 parking spaces and 2 drive lane entrances. The Subject Development also includes stormwater management infrastructure, as well as water, sanitary, and typical utility servicing. Refer to Figure 2 for the proposed Site Plan.

Contained within this report is a description of the existing site conditions (Section 2.0); a review of the project background information (Section 3.0); proposed sanitary servicing, water distribution, and utilities servicing strategies (Section 4.0); stormwater management and water quality control elements (Section 5.0); and a summary of the recommended erosion and sediment controls to be implemented prior to and during construction (Section 6.0).

2.0 SITE DESCRIPTION

The 70 ha Flato Edgewood Greens Development in the southeast end of the Village of Dundalk is comprised of three Draft Plan Approved subdivisions; Dundalk Meadows West, East and North. The Subject Development is located within the Dundalk Meadows East Subdivision, which is bounded by the Flato Meadows North Development to the north, Highway 10 to the east, open space to the south, and the Dundalk Meadows West Development to the west.

The Subject Development is currently characterized by vacant land and is located at the east end of the Flato East Development area. Within Flato East, the Subject Development is bounded by future Milliner Avenue to the south, future Symington Street to the west, future Colgan Crescent to the north, and Highway 10 to the east.

Based on the Soil Survey map of Grey County (1979), the site is underlain by Parkhill Loam, a medium textured soil derived from dolomitic limestone till, and Listowel Silt Loam, which carries the same characteristics as the Parkhill Loam. Both soils are known to have poor drainage and are classified within the hydrologic soil group BC (Ministry of Transportation, 1997).

3.0 BACKGROUND

The Subject Development is designated by the Corporation of the Township of Southgate as "Neighbourhood Area with Exceptions" as of the September 2020 Amendment No. 26 to By-law 2020-103.

It is understood that in 2016, a Development Permit Application was submitted to the Township of Southgate for the Flato East Development within which the Commercial Block site is now proposed. The development commenced in September 2017, and following the buildout of the previous phases, the Developer would like to move forward development of the Commercial Block.

4.0 PROPOSED SERVICING STRATEGY

4.1 Sanitary Servicing

4.1.1 Future External Infrastructure

Upon completion of Phase 11 of the Flato East Subdivision, municipal gravity sanitary sewers will be available adjacent to the Subject Development with a 200 mm diameter service stub constructed on the northwestern limit of the site along future Colgan Crescent. Final location and elevation of this stub will be provided once installation of the Colgan Crescent Sewer is complete. The service stub will discharge into the Colgan Crescent sanitary manhole. From this manhole sanitary flows will flow west to Symington Street then north to the Morgan Avenue sanitary line where flows will be conveyed to the Sanitary Pumping Station which is currently under design by Crozier in support of Phases 7-11 of the overall Edgewood Greens development. Please reference the General Site External Servicing Plan presented in Figure 3 for the future external civil infrastructure.

4.1.2 Proposed Servicing Strategy

Sanitary servicing of the proposed commercial building is to be provided by 200 mm and 150 mm diameter internal sanitary sewers connecting the building's internal plumbing systems to the future 200 mm diameter sanitary stub. The General Site Servicing Plan is presented in Drawing C101.

Preliminary sanitary flows for the site were estimated using the Ministry of Environment, Conservation and Parks (MOECP) criteria and Township of Southgate Municipal Standards:

- Average Flow Rate - 450 L/cap/day
- Infiltration – 0.15 L/s/ha
- Peaking Factor – 4.4 (Harmon)
- Equivalent Population – 19 persons based on conversion values provided by the Township. Please reference Appendix A for detailed calculations.

Based on these values it is estimated that peak sanitary flow from the site will be 0.53 L/s. Please reference Appendix B for the detailed peak flow calculations.

An analysis was completed to ensure the future external Flato East sanitary infrastructure maintains sufficient capacity for the newly proposed Commercial Block. This analysis consisted of a comparison of estimated flow between the Commercial Block and the previously proposed residential units. This comparison indicates that the replacement of the previously proposed residential units with the Commercial Block will result in a peak sanitary flow reduction of 1.42 L/s. Based on this analysis, there is sufficient sanitary capacity for the Subject Development. Please refer to Appendix C for the Phase 8 sanitary sewer design sheet.

Per the 2019 Reserve Capacity Study (Triton Engineering, April 2019), Phases 7-11 of the Flato East development represent 460 uncommitted equivalent residential units. Currently the Township's Waste Water Treatment Plant can support 410 uncommitted equivalent residential units. The EA process to increase wastewater capacity is ongoing, however our office notes that the proposed change to commercial usage will facilitate a modest reduction in equivalent residential units associated with the Flato East Development.

4.2 Domestic Water Servicing

The future water distribution infrastructure to be provided to the Commercial Block consists of two 200 mm diameter stubs coming off the mains on Morgan Avenue and Colgan Crescent at the Southwest and northeast entrances respectively. The a 200 mm diameter line with connect these two stubs to provide looping through the site with a 200mm x 200mm x 200mm service 'T' coming from this through line to provide Water Servicing to the building itself. Separate domestic and fire water services will be provided to the building. Refer to Drawing C101 for General Site Servicing layouts.

Domestic water demands for the site were estimated using the Ministry of Environment, Conservation, and Parks (MOECP) criteria as specified in the Township of Southgate Municipal Standards:

- Average Flow Rate – 450 L/cap/day
- Peak Factors: Peak Day / Peak Hour – 2.75 / 4.1

Based on these values it is estimated that water demands for the site are as follows:

- Average Day – 0.1 L/s
- Max Day – 0.3 L/s
- Peak Hour – 0.4 L/s

Preliminary fire flows required to service the Commercial Block were determined to be 150 L/s as per the Fire Underwriters Survey, and 60 L/s as per the Office of the Fire Marshal. Refer to Appendix D for potable water servicing demand and fire flow demand calculations. Confirmation of the capacity of the watermain and future existing stubs to meet development needs will be subject to the Township completing a distribution analysis and updating their municipal model.

The Township has indicated that the watermain distribution network located in the privately held portions of the development will remain under private ownership, and will not be assumed by the municipality.

4.3 Utility Servicing

The Flato Commercial Block will be serviced with natural gas, telephone, cable TV and hydro. Coordination will be required with utility companies to ensure that sufficient capacity exists within future facilities along Morgan Avenue and/or Colgan Crescent.

5.0 STORMWATER MANAGEMENT & SITE DRAINAGE

5.1 Design Criteria

The stormwater management features for this site have been designed to comply with the policies and standards of the various agencies including the Township of Southgate, Ministry of the Environment, Conservation, and Parks, and the Grand River Conservation Authority.

The stormwater management strategies for the proposed development are listed below:

- Water Quantity Control
 - Capture and control of the post development flows to pre-development flows for all storm events from the 2 year to 100 year events.

- Water Quality Control
 - 80% removal efficiency of total suspended solids per MECP "Enhanced Protection" requirements.
- Development standards
 - Minor and major drainage system to convey frequent and infrequent rainfall and runoff events, respectively.

In meeting the applicable policies and standards of the aforementioned agencies, the development will also be required to meet the following criteria:

- Manage the internal stormwater by safely conveying peak flows to suitable outlets and provide the necessary water quality controls.
- Manage any external drainage entering the site by providing safe conveyance across the Subject Development.
- Ensuring the development lands are not susceptible to flood inundation during all storm events.

5.2 Pre-Development Drainage Conditions

The existing drainage patterns of the site have been reflected in the Pre-Development Drainage Plan presented in Figure 4. The topographic survey of the site indicates the site is generally raised in the middle and sloped to the east and west. As such, runoff will sheet flow towards Highway 10 to the east, and sheet flow towards the Foley Drain to the west. The Foley Drain then flows south ultimately discharging to the Grand River.

5.3 Proposed Drainage Conditions

The proposed Flato Commercial Block will consist of an 75 space parking lot, two entry ways, and a commercial building. The site is separated into three separate drainage areas to better represent stormwater management. Two of the three drainage areas delineated will be captured and conveyed to the storm outlet by the internal storm sewers, with the remaining drainage area sheet flowing onto the surrounding public roadways excluding Highway 10. Refer to Figure 5 for the proposed Storm Area Drainage Plan.

The internal drainage system for the proposed Flato Commercial Block will consist of surface catchbasins and storm sewers to collect and convey flow generated from minor storm events up to and including the five-year design storms. Please refer to Appendix E for the Internal Storm Design Sheets. The Subject Development will have overland flow routes designed to convey the major design storm flows, up to and including the 100-year and regional events.

The primary drainage areas consist of the parking lot area and building rooftop. The parking lot will be graded to direct minor storm event runoff towards the catchbasins. Runoff from the building rooftop will be directed into the storm sewer system using storm drains. Internal storm sewers will then convey storm flows to future external sewers established in Flato East Phase 11 along Milliner Avenue. Stormwater flows will then be conveyed to the future SWM Facility #3 for quantity and quality control, before discharging to the Foley Drain.

For major storm events exceeding the five-year event, an overland flow route using the south entrance as an outlet will allow storm runoff to discharge to the future Milliner Avenue Right of Way. The overland flow will then be conveyed along the future Milliner Avenue west towards the Flato East SWM Facility #3. The flow will subsequently be released from SWM Facility #3 into the Foley Drain system. Refer to Figure 6 for External Storm Drainage Plan.

5.4 Stormwater Quality Control

The water quality controls for the Subject Development will be provided by the future SWM Facility #3 constructed with Flato East Phase 11. After discharging from the Foley Drain, the Grand River is the ultimate receiver from the site; therefore, the development will incorporate measures to provide “enhanced protection” quality control (*Stormwater Management Planning and Design Manual*, Ministry of the Environment, 2003). Provisions will be made to ensure the SWM Facility #3 is designed to accommodate and provide both stormwater quality and quantity control for the Subject Development.

5.5 Stormwater Management (SWM) Analysis

As illustrated in the Site Plan (Figure 1), the proposed commercial block will impact Phase 11 of the Flato Edgewood Greens Development. Thirty-three (33) townhome units will be replaced by the commercial plaza. Due to the impervious nature of the proposed design, the development will result in a minor 2% increase in imperviousness within the impacted lands when compared to the previously proposed residential development and a insignificant increase to the overall Zone 3 Area. The below analysis was completed to confirm SWM Facility #3 capacity to handle to the predicted increase in runoff.

A preliminary design for SWM Facility #3 was completed by our office in 2016 and outlined in the Preliminary Stormwater Management and Floodplain Assessment Report. To ensure the preliminary design of this SWM Facility is sufficient to accommodate the increased levels of runoff from the commercial block, a hydrologic analysis was completed. To complete this analysis, the preliminary stage-storage discharge (SSD) relationship presented in the Preliminary SWM Report was used and the hydrologic model (SWMHYMO) catchment parameters were updated reflect the new impervious levels, which are characteristic of a commercial development.

The hydrologic analysis has been separated into two sections; Water Quality and Extended Detention, and Water Quantity.

5.5.1 Water Quality & Extended Detention (ED)

After updating the level of imperviousness for the contributing drainage area to SWM Facility #3 to account for the commercial block, the permanent pool and extended detention requirements were analyzed. Please refer to Appendix F for the updated hydrologic parameter sheets. As a result of the increased imperviousness, the required permanent pool and extended detention volumes increased. Based on the available storage of SWM Facility #3 (preliminary design), the facility is able to accommodate the increase of runoff and the previously designed outlet control structure (extended detention orifice) still meets the minimum 24-hour extended detention drawdown requirement. Water quality and extended detention calculations have been provided in Appendix G. A summary of the required and provided permanent pool and extended detention volumes has been provided in Table 1. Based on this analysis, the design of SWM Facility #3 is sufficient to meet the Ministry of Environment, Conservation, and Parks (MECP) enhanced protection water quality objectives.

Table 1: SWM Facility Quality Control Characteristics

| | Required Volume (m ³) | Provided Volume (m ³) |
|------------------------|-----------------------------------|-----------------------------------|
| Permanent Pool | 769 | 1262 |
| MOE Extended Detention | 452 | 1349 |
| Erosion Control | 1349 | 1349 |

5.5.2 5.5.2 Water Quantity

To determine if the SWM Facility still meets the water quantity “Post-to-Pre” control objectives for the Foley Drain, the hydrologic model (SWMHYMO) was updated. As mentioned above, only the catchment parameters of the contributing drainage area needed to be revised, as the ED orifice sizing did not need to change. As such, the SSD for SWM Facility #3, represented using the ROUTE RESERVOIR command in SWMHYMO, is consistent with the hydraulics presented in the Preliminary SWM Report. SWM Facility #2 also outlets to the Foley Drain. As such, the SWMHYMO model also includes the SSD for SWM Facility #2 based on the Phase 7, 8 and 10 detailed design and the SWM Facility #2 catchment area, however the design of this facility is unaffected by the introduction of the commercial block.

Based on the modelling results, the proposed commercial block did not substantially impact the design of SWM Facility #3, in that “Post-to-Pre” control is still met and the 100-year high water level (514.08 m) still remains below the emergency spillway invert (514.30 m).

As evidenced by Table 2 below, ‘Post-to-Pre’ peak stormwater flow rate control has been met at the point of interest for the Foley Drain.

Table 2: Summary of ‘Post-to-Pre’ Peak Flows in the Foley Drain

| Return Period (Years) | Pre-Development (m ³ /s) | Post Development (m ³ /s) |
|-----------------------|-------------------------------------|--------------------------------------|
| 2 yr Chicago | 1.44 | 1.44 |
| 5 yr Chicago | 2.86 | 2.82 |
| 10 yr Chicago | 3.98 | 3.90 |
| 25 yr Chicago | 5.52 | 5.43 |
| 50 yr Chicago | 6.80 | 6.69 |
| 100 yr Chicago | 8.10 | 7.97 |
| 2 yr SCS | 3.63 | 3.58 |
| 5 yr SCS | 6.41 | 6.33 |
| 10 yr SCS | 8.50 | 8.37 |
| 25 yr SCS | 11.32 | 11.14 |
| 50 yr SCS | 13.55 | 13.31 |
| 100 yr SCS | 15.79 | 15.48 |

As outlined in Table 3 below, the SWMHYMO results indicate that the 100-year high water level of SWM Facility #3 sits at approximately 85% of the ponds total storage, up to the invert of the emergency spillway based on this SWM analysis, no additional storage is required. SWMHYMO modelling input and output files have been provided in Appendix B.

Table 3: Summary of SWM Facility Operating Conditions

| SWM Facility #3 | Without Commercial Block | | With Commercial Block | |
|---------------------------|--------------------------|----------------------|-----------------------|----------------------|
| | Elevation | Storage | Elevation | Storage |
| Permanent Pool (Provided) | 512.40 m | 1262 m ³ | 512.40 m | 1262 m ³ |
| Permanent Pool (Required) | | 758 m ³ | | 769 m ³ |
| Extended Detention | 512.73 m | 1310 m ³ | 512.75 | 1349 m ³ |
| 100-year HWL | 514.08 m | 9044 m ³ | 514.08 m | 9100 m ³ |
| Emergency Spillway Invert | 514.30 m | 10757 m ³ | 514.30m | 10757 m ³ |
| Storage Used | 84% ¹ | | 85% ¹ | |

1. Up to the invert of the emergency spillway; not entire pond storage.

Based on this analysis, the proposed commercial block can be serviced from a stormwater management perspective using the approved SWM Facility #3 as it is adequately sized to handle the increased volume of runoff and stormwater flows generated by the Subject Development.

6.0 EROSION & SEDIMENTATION CONTROLS DURING CONSTRUCTION

Erosion and sediment controls will be implemented on-site prior to construction where required and as directed by the Developer and their site representative. See Drawing C102 for the site's Sediment Control Plan. The following controls are to be implemented:

- Stone Mud Mat
 - A mud mat will be installed to reduce the amount of mud tracking onto existing paved roadways during site servicing operations.
- Silt Fencing
 - Silt fencing will be constructed in accordance with GRCA's Typical Detail of Silt/Sediment Fence (BSD-23 Draft). It should be noted that additional silt fencing may be added based on field decisions by the Engineer and Developer prior to, during and following the earth works.
- Flow Check Dams
 - A temporary straw bale dam will be utilized on-site in order to prevent any silt mitigation off site during and after construction activities. This dam will promote settling of suspended solids and will reduce flow velocities. Sediment accumulation will be monitored and removed as necessary.

7.0 CONCLUSIONS & RECOMMENDATIONS

The analysis presented above provides a comprehensive servicing and stormwater management assessment in support of the proposed Flato Dundalk Meadows Commercial Block Site Plan Application.

- Stormwater management objectives for water quality control have been addressed in the design of the Flato Commercial Block. Quantity control up to and including the 100 year storm will be provided.
- Sanitary services for the Flato Commercial Block will be provided by a service extension from the sewer in the future Colgan Crescent. This sewer has adequate capacity for the Flato Commercial Block.
- An internal watermain system will be provided connecting the future Colgan Crescent and Morgan Avenue watermains to the proposed Commercial Block building. Internal watermain sizing is to be confirmed with the Town Water Distribution Model through the course of detailed design.
- Sediment and erosion controls as specified, will be effective in preventing and controlling sediment from migrating into nearby swales, ditches and watercourses.

Given the above noted conclusions, we support the development of the subject lands from the perspective of engineering servicing and stormwater management requirements.

Respectfully Submitted,

C.F. Crozier & Associates Inc.

C.F. Crozier & Associates Inc.



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Project Engineer



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APPENDIX A

EQUIVALENT POPULATION CALCULATIONS



File: 1060-5384
Date: 15-Oct-20
By: 03-Nov-20
Check By:

Flato Commercial - Equivalent Population

Developed Site Area 0.67 ha

Equivalent Daily Flow Calculations

Commercial
 $R = 1,635 \text{ sq.m} \times 5\text{L/day/sq.m}$ $R = 8175 \text{ L/day}$

Equivalent Persons Calculation

Per Capital Flow 450 L/C-day

Equivalent Persons
 $Peq = \text{Total/Per Capital Flow}$
 $Peq = (8175\text{L/day})/(450 \text{ L/C-day})$ $Peq = 18.17 \text{ Persons}$
 $Peq = 19.00 \text{ Persons}$

Total Design Sewage Flows

Equivalent Mixed Use Population 19 persons
Total Population 19 persons

APPENDIX B

PRELIMINARY SANITARY FLOW RATE CALCULATIONS



File: 1060-5384
Date: 15-Oct-20
By: 03-Nov-20
Check By:

Flato Commercial - Sanitary Flow Requirements

| | | | |
|------------------------------|------------------|-------------|--------------|
| Developed Site Area | | 0.67 | ha |
| Total Population | | 19 | persons |
| <u>Commercial</u> | | | |
| Per Capital Flow | | 450 | L/C-day |
| Average Daily Flow | | 0.10 | L/sec |
| Peak Factor | (Harmon Formula) | 4.4 | |
| Peak Flow | | 0.43 | L/sec |
| Total Peak Daily Flow | | 0.53 | L/sec |

APPENDIX C

PHASE 8 SANITARY SEWER DESIGN SHEET



EDGEWOOD GREENS - PUMP STATION CATCHMENT

SANITARY SEWER DESIGN MODEL - 2nd Submission

DESIGN: J.Korzeniowski
 CHECK: D. Tone, P. Eng./ B Powers

N = 0.013
 Population = 3.5 p.p.u.

Peak Factor (M) = $1+(14/4+(P/1000)^{0.5})$
 Avg. Daily/Capita Flow = 350 L/cap.d
 Q infiltration = 0.15 L/ha.s

| Catchment Area | FROM MH | TO MH | Length (m) | Inc. Area (Ha) | Cum. Area (Ha) | Lots | Inc. Pop | TOTAL trib pop | Peak Factor | Avg. Flow (l/s) | Max Flow (l/s) | Infil. (l/s) | Total Infil. | Combined (l/s) | Pipe Diam (mm) | Upper Inv. El. | Lower Inv. El. | Slope (%) | Cap. (l/s) | Vel. (m/s) | Ground Upper | Ground Lower | Cover Upper | Cover Lower |
|------------------------|---------|-------|------------|----------------|----------------|------|----------|----------------|-------------|-----------------|----------------|--------------|--------------|----------------|----------------|----------------|----------------|-----------|--------------|------------|--------------|--------------|-------------|-------------|
| 1 | Ex11A | 3A | 84.7 | 0.84 | 0.84 | 14 | 49 | 49 | 4.32 | 0.20 | 0.86 | 0.13 | 0.13 | 0.98 | 200 | 513.73 | 512.89 | 1.00% | 32.80 | 1.04 | 516.33 | 516.15 | 2.4 | 2.7 |
| 2 | 3A | 3 | 84.7 | 0.48 | 1.32 | 7 | 25 | 74 | 4.28 | 0.30 | 1.27 | 0.07 | 0.20 | 1.47 | 200 | 512.87 | 512.44 | 0.50% | 23.19 | 0.74 | 516.15 | 516.22 | 3.1 | 3.3 |
| 3 | 1 | 2 | 37.9 | 0.38 | 0.38 | 6 | 21 | 21 | 4.38 | 0.09 | 0.37 | 0.06 | 0.06 | 0.43 | 200 | 512.91 | 512.53 | 1.00% | 32.80 | 1.04 | 516.43 | 516.24 | 3.3 | 3.2 |
| 4 | 2 | 3 | 43.4 | 0.39 | 0.77 | 6 | 21 | 42 | 4.33 | 0.17 | 0.74 | 0.06 | 0.12 | 0.85 | 200 | 512.51 | 512.29 | 0.50% | 23.19 | 0.74 | 516.24 | 516.22 | 3.5 | 3.4 |
| 5 | 3 | 4 | 57.5 | 0.54 | 2.63 | 7 | 25 | 140 | 4.20 | 0.57 | 2.38 | 0.08 | 0.39 | 2.78 | 200 | 512.27 | 512.04 | 0.40% | 20.74 | 0.66 | 516.22 | 515.80 | 3.8 | 3.2 |
| 6 | 4 | 5 | 57.5 | 0.60 | 3.23 | 9 | 32 | 172 | 4.17 | 0.69 | 2.90 | 0.09 | 0.48 | 3.38 | 200 | 512.02 | 511.79 | 0.40% | 20.74 | 0.66 | 515.80 | 516.22 | 3.6 | 3.9 |
| 7 | 5 | 6 | 20.9 | 0.30 | 3.53 | 3 | 11 | 182 | 4.16 | 0.74 | 3.07 | 0.05 | 0.53 | 3.60 | 200 | 511.74 | 511.66 | 0.40% | 20.74 | 0.66 | 516.22 | 516.01 | 4.3 | 3.8 |
| 8 | 6 | 7 | 62.1 | 0.19 | 3.72 | 1 | 4 | 186 | 4.16 | 0.75 | 3.13 | 0.03 | 0.56 | 3.68 | 200 | 511.61 | 511.36 | 0.41% | 21.00 | 0.67 | 516.01 | 515.76 | 4.2 | 3.9 |
| 9 | 7 | 8 | 98.0 | 0.50 | 4.22 | 6 | 21 | 207 | 4.14 | 0.84 | 3.47 | 0.08 | 0.63 | 4.10 | 200 | 511.34 | 510.94 | 0.40% | 20.74 | 0.66 | 515.76 | 516.06 | 4.2 | 4.6 |
| FUT 26 | FUT 29 | FUT28 | 39.3 | 0.25 | 0.25 | 5 | 18 | 18 | 4.39 | 0.07 | 0.31 | 0.04 | 0.04 | 0.35 | 200 | N/A | N/A | 1.00% | 32.80 | 1.04 | N/A | N/A | N/A | N/A |
| FUT 25 | 25 | FUT28 | 82.0 | 0.55 | 0.55 | 11 | 39 | 39 | 4.34 | 0.16 | 0.68 | 0.08 | 0.08 | 0.76 | 200 | 518.03 | N/A | 1.56% | 40.97 | 1.30 | 520.63 | N/A | N/A | N/A |
| FUT 27 | FUT28 | FUT30 | 80.0 | 0.56 | 1.36 | 9 | 32 | 88 | 4.26 | 0.35 | 1.51 | 0.08 | 0.20 | 1.71 | 200 | N/A | N/A | 0.50% | 23.19 | 0.74 | N/A | N/A | N/A | N/A |
| FUT28 | FUT30 | FUT31 | 80.0 | 0.67 | 2.03 | 13 | 46 | 133 | 4.21 | 0.54 | 2.27 | 0.10 | 0.30 | 2.57 | 200 | N/A | N/A | 0.53% | 23.88 | 0.76 | N/A | N/A | N/A | N/A |
| FUT29 | FUT31 | 8 | 80.0 | 0.56 | 2.59 | 9 | 32 | 165 | 4.18 | 0.67 | 2.78 | 0.08 | 0.39 | 3.17 | 200 | N/A | 513.35 | 1.00% | 32.80 | 1.04 | N/A | 516.06 | N/A | N/A |
| 10 | 8 | 9 | 65.5 | 0.53 | 7.34 | 9 | 32 | 403 | 4.02 | 1.63 | 6.56 | 0.08 | 1.10 | 7.66 | 200 | 510.92 | 510.71 | 0.34% | 19.12 | 0.61 | 516.06 | 516.38 | 4.9 | 5.2 |
| 11 | 9 | 10 | 20.9 | 0.25 | 7.59 | 3 | 11 | 413 | 4.02 | 1.67 | 6.72 | 0.04 | 1.14 | 7.86 | 200 | 510.66 | 510.59 | 0.34% | 19.12 | 0.61 | 516.38 | 516.46 | 5.5 | 5.4 |
| 12 | 10 | 11 | 67.3 | 0.56 | 8.15 | 9 | 32 | 445 | 4.00 | 1.80 | 7.20 | 0.08 | 1.22 | 8.42 | 200 | 510.54 | 510.31 | 0.34% | 19.12 | 0.61 | 516.46 | 516.89 | 5.7 | 6.1 |
| 20 | 25 | 24 | 80.0 | 0.45 | 0.45 | 12 | 42 | 42 | 4.33 | 0.17 | 0.74 | 0.07 | 0.07 | 0.80 | 200 | 517.57 | 516.00 | 1.96% | 45.92 | 1.46 | 520.63 | 518.86 | 2.9 | 2.3 |
| 19 | 24 | 11 | 80.0 | 0.59 | 1.04 | 16 | 56 | 98 | 4.25 | 0.40 | 1.69 | 0.09 | 0.16 | 1.84 | 200 | 513.97 | 513.43 | 0.68% | 27.05 | 0.86 | 518.86 | 516.89 | 4.7 | 2.9 |
| 13 | 11 | 12 | 74.6 | 0.33 | 9.52 | 6 | 21 | 564 | 3.95 | 2.28 | 9.01 | 0.05 | 1.43 | 10.44 | 250 | 510.23 | 510.00 | 0.30% | 32.57 | 0.66 | 516.89 | 517.04 | 6.4 | 6.5 |
| 14 | 12 | 13 | 74.6 | 0.44 | 9.96 | 9 | 32 | 595 | 3.93 | 2.41 | 9.48 | 0.07 | 1.49 | 10.98 | 250 | 509.98 | 509.76 | 0.30% | 32.57 | 0.66 | 517.04 | 517.42 | 6.8 | 7.2 |
| FUT PHASE (11, 12, 13) | FUT 111 | 13 | 29.0 | 9.50 | 9.50 | 227 | 795 | 795 | 3.86 | 3.22 | 12.43 | 1.43 | 1.43 | 13.86 | 200 | 510.85 | 510.11 | 2.31% | 49.85 | 1.59 | N/A | 517.42 | N/A | 6.8 |
| 15 | 13 | 14 | 42.6 | 0.18 | 19.64 | 3 | 11 | 1400 | 3.70 | 5.67 | 20.99 | 0.03 | 2.95 | 23.94 | 250 | 509.68 | 509.55 | 0.30% | 32.57 | 0.66 | 517.42 | 517.41 | 7.5 | 7.4 |



EDGEWOOD GREENS - PUMP STATION CATCHMENT
 SANITARY SEWER DESIGN MODEL - 2nd Submission

DESIGN: J.Korzeniowski
 CHECK: D. Tone, P. Eng./ B Powers

N = 0.013
 Population = 3.5 p.p.u.

Peak Factor (M) = $1+(14/4+(P/1000)^{0.5})$
 Avg. Daily/Capita Flow = 350 L/cap.d
 Q infiltration = 0.15 L/ha.s

| Catchment Area | FROM MH | TO MH | Length (m) | Inc. Area (Ha) | Cum. Area (Ha) | Lots | Inc. Pop | TOTAL trib pop | Peak Factor | Avg. Flow (l/s) | Max Flow (l/s) | Infil. (l/s) | Total Infil. | Combined (l/s) | Pipe Diam (mm) | Upper Inv. El. | Lower Inv. El. | Slope (%) | Cap. (l/s) | Vel. (m/s) | Ground Upper | Ground Lower | Cover Upper | Cover Lower |
|----------------|---------|--------------|------------|----------------|----------------|------|----------|----------------|-------------|-----------------|----------------|--------------|--------------|----------------|----------------|----------------|----------------|-----------|--------------|------------|--------------|--------------|-------------|-------------|
| 21 | 25 | 32 | 71.8 | 0.43 | 0.43 | 11 | 39 | 39 | 4.34 | 0.16 | 0.68 | 0.06 | 0.06 | 0.74 | 200 | 517.83 | 516.84 | 1.38% | 38.53 | 1.23 | 520.63 | 520.04 | 2.6 | 2.7 |
| 22 | 32 | 33 | 65.7 | 0.45 | 0.88 | 11 | 39 | 77 | 4.27 | 0.31 | 1.33 | 0.07 | 0.13 | 1.46 | 200 | 516.82 | 515.39 | 2.18% | 48.43 | 1.54 | 520.04 | 518.56 | 3.0 | 2.7 |
| 23 | 33 | 34 | 16.6 | 0.31 | 1.19 | 3 | 11 | 88 | 4.26 | 0.35 | 1.51 | 0.05 | 0.18 | 1.69 | 200 | 515.34 | 514.83 | 3.06% | 57.37 | 1.83 | 518.56 | 518.13 | 3.0 | 2.8 |
| 24 | 34 | 27 | 68.3 | 0.61 | 1.80 | 10 | 35 | 123 | 4.22 | 0.50 | 2.09 | 0.09 | 0.27 | 2.36 | 200 | 514.78 | 514.10 | 1.00% | 32.80 | 1.04 | 518.13 | 517.42 | 3.2 | 2.8 |
| 18 | 24 | 26 | 80.6 | 0.40 | 0.40 | 12 | 42 | 42 | 4.33 | 0.17 | 0.74 | 0.06 | 0.06 | 0.80 | 200 | 516.10 | 515.02 | 1.33% | 37.83 | 1.20 | 518.86 | 518.05 | 2.6 | 2.5 |
| 17 | 26 | 27 | 68.6 | 0.28 | 0.68 | 8 | 28 | 70 | 4.28 | 0.28 | 1.21 | 0.04 | 0.10 | 1.32 | 200 | 515.00 | 514.32 | 1.00% | 32.80 | 1.04 | 518.05 | 517.42 | 2.8 | 2.6 |
| 16 | 27 | 14 | 37.4 | 0.18 | 2.66 | 3 | 11 | 203 | 4.15 | 0.82 | 3.41 | 0.03 | 0.40 | 3.81 | 200 | 514.08 | 513.63 | 1.21% | 36.08 | 1.15 | 517.42 | 517.41 | 3.1 | 3.3 |
| | 14 | Pump Station | 13.5 | | 22.30 | | | 1603 | 3.66 | 6.49 | 23.76 | | 3.35 | 27.10 | 250 | 509.47 | 509.43 | 0.30% | 32.57 | 0.66 | 517.41 | N/A | N/A | N/A |

APPENDIX D

PRELIMINARY DOMESTIC WATER FLOW RATE
CALCULATIONS
FIRE SUPPRESSION FLOW RATE CALCULATIONS

Flato Commercial - Water Flow Requirements

| | |
|--|------------------|
| Site Area | 0.67 ha |
| Equivalent Mixed Use Population (See Appendix A) | 19 persons |
| | |
| <u>Water Design Flows</u> | |
| Commercial | 450 L/C-day |
| | |
| <u>Total Domestic Water Design Flows</u> | |
| Average Daily Flow | 0.1 L/s |
| | |
| Max Day Peak Factor | 2.75 |
| Max Day Demand Flow | 0.3 L/s |
| | |
| Peak Hour Factor | 4.1 |
| Peak Hour Flow | 0.4 L/s |
| | |
| Fire Flow (per Fire Underwriters Survey) (note minimum fire flow per Town Standard is 57 L/sec) | 150 L/s |
| | |
| <u>Peak Design Flow</u> | 150.3 L/s |

* Based on Site Plan

Water Supply for Public Fire Protection - 1999
Fire Underwriters Survey

Part II - Guide for Determination of Required Fire Flow

1. An estimate of fire flow required for a given area may be determined by the formula:

$$F = 220 * C * \text{sqrt } A$$

where

- F = the required fire flow in litres per minute
- C = coefficient related to the type of construction
 - = 1.5 for wood frame construction (structure essentially all combustible)
 - = 1.0 for ordinary construction (brick or other masonry walls, combustible floor and interior)
 - = 0.8 for non-combustible construction (unprotected metal structural components)
 - = 0.6 for fire-resistive construction (fully protected frame, floors, roof)
- A = The total floor area in square metres (including all storeys, but excluding basements at least 50 percent below grade) in the building considered.

| | |
|-----------------------------|-----------------------|
| | Ordinary Construction |
| 1 number of floors | 0.8 C |
| 1635 sq.m. total floor area | |

Therefore F= 7,000 L/min (rounded to nearest 1000 L/min)

Fire flow determined above shall not exceed:

- 30,000 L/min for wood frame construction
- 30,000 L/min for ordinary construction
- 25,000 L/min for non-combustible construction
- 25,000 L/min for fire-resistive construction

2. Values obtained in No. 1 may be reduced by as much as 25% for occupancies having low contents fire hazard or may be increased by up to 25% surcharge for occupancies having a high fire hazard.

| | | | |
|---------------------|-----------|---------------|-----|
| Non-Combustible | -25% | Free Burning | 15% |
| Limited Combustible | -15% | Rapid Burning | 25% |
| Combustible | No Charge | | |

| | |
|---|--------------|
| Low fire Hazard occupancy for dwellings | 0% reduction |
| 0 L/min reduction | |

Note: Flow determined shall not be less than 2,000 L/min

3. Sprinklers - The value obtained in No. 2 above may be reduced by up to 50% for complete automatic sprinkler protection.

Automatic Sprinklers (30% Reduction)
0 L/min surcharge / reduction

* Based on Site Plan

Water Supply for Public Fire Protection - 1999
Fire Underwriters Survey

Part II - Guide for Determination of Required Fire Flow

4. Exposure - To the value obtained in No. 2, a percentage should be added for structures exposed within 45 metres by the fire area under consideration. The percentage shall depend upon the height, area, and construction of the building(s) being exposed, the separation, openings in the exposed building(s), the length and height of exposure, the provision of automatic sprinklers and/or outside sprinklers in the building(s) exposed, the occupancy of the exposed building(s) and the effect of hillside locations on the possible spread of fire.

| Separation | Charge | Separation | Charge |
|--------------|--------|--------------|--------|
| 0 to 3 m | 25% | 20.1 to 30 m | 10% |
| 3.1 to 10 m | 20% | 30.1 to 45 m | 5% |
| 10.1 to 20 m | 15% | | |

Exposed buildings

| Name | | Distance | | |
|------------------------------|---------------|----------|-----|------|
| Northwest | Town Houses | 8 | 20% | 1400 |
| Southeast | Single Houses | 27.5 | 10% | 700 |
| Northeast | N/A | | | |
| Southwest | Town Houses | 55 | 0% | 0 |
| 2,100 L/min Surcharge | | | | |

Determine Required Fire Flow

| | | |
|--------------------------------------|------------------------|-----------------------------|
| No. 1 | 7,000 | |
| No. 2 | 0 reduction | |
| No. 3 | 0 reduction | |
| No. 4 | <u>2,100</u> surcharge | |
| Required Flow: | 9,100 L/min | |
| Rounded to nearest 1000l/min: | 9,000 L/min | or 150.0 L/s 2,378 USGPM |

Required Duration of Fire Flow

| Flow Required L/min | Duration (hours) |
|------------------------|---------------------|
| 2,000 or less | 1.0 |
| 3,000 | 1.25 |
| 4,000 | 1.5 |
| 5,000 | 1.75 |
| 6,000 | 2.0 |
| 8,000 | 2.0 |
| 10,000 | 2.0 |
| 12,000 | 2.5 |
| 14,000 | 3.0 |
| 16,000 | 3.5 |
| 18,000 | 4.0 |
| 20,000 | 4.5 |
| 22,000 | 5.0 |
| 24,000 | 5.5 |
| 26,000 | 6.0 |
| 28,000 | 6.5 |
| 30,000 | 7.0 |
| 32,000 | 7.5 |
| 34,000 | 8.0 |
| 36,000 | 8.5 |
| 38,000 | 9.0 |
| 40,000 and over | 9.5 |

Determine Required Fire Storage Volume

| | |
|-------------------|---|
| Flow from above | 9,000 L/min |
| Required duration | 2.00 hours |
| Therefore: | 1,080,000 Litres or 1,080 cu.m. is the required fire storage volume. |

FLATO COMMERCIAL
Fire Protection Volume Calculation
CFCA File: 1060-5384

* Based on Site Plan

Calculation Check

Office of the Fire Marshall - Fire Protection Water Supply Guideline for Part 3 in the OBC (October 2006)

$$Q = KVS_{TOT}$$

Q = minimum supply of water in litres (L)

K = water supply coefficient

V = total building volume in cubic metres

S_{TOT} = total of spatial coefficient values from property line exposures on all sides

K = 16 Group C building with noncombustible construction (Table 1 Row 2)

V = 7357.5 h=4.5 m area= 1635 m² -> height from Table 5 Performance Standards #1 of Section 3: Performance Standards for Mid-Rise Building

S_{TOT} = 1 S_{TOT} Need Not Exceed 2.0

$$Q = 117720 \text{ L}$$

Table 2

3600 L/min

60 L/s

APPENDIX E

COMMERCIAL BLOCK STORM DESIGN SHEET

DUNDALK MEADOWS - COMMERCIAL BLOCK
5 YEAR - STORM SEWER DESIGN SHEET

| | | | | | | |
|-----------------------|-----------------|------------------------------|-----------------|--------------|-------------------------------|-----------------|
| FREQUENCY | | 5 YEARS - Dundalk IDF | | | 100 YEARS -Dundalk IDF | |
| 5 YEARS | Coef. A= | 30.6 | Coef. B= | -0.70 | Coef. A= | Coef. B= |
| TIME OF CONCENTRATION | | 10.00 | | MANNINGS "n" | | 0.013 |

| CATCHMENT AREA I.D. | FR | TO | RUN-OFF | | | Cummul. | TIME OF | | | PIPE | | VEL. | TIME | | | |
|---------------------|-------|--------|---------------|-------------------------|-------|---------|--------------|-----------|--------------------|-----------|-----------|---------|------------|---------------|------------------|--------------|
| | MH NO | MH NO | AREA (A) (Ha) | COEFF (C _s) | A x C | A x C | CONC. (min.) | I (mm/hr) | Q (RUNOFF) (l/sec) | SLOPE (%) | DIA. (mm) | (m/sec) | LENGTH (m) | OF FLOW (min) | CAPACITY (l/sec) | Percent Full |
| 4 | CB1 | CBMH2 | 0.09 | 0.98 | 0.092 | 0.092 | 10.00 | 107.07 | 27.29 | 0.40 | 300 | 0.87 | 40.00 | 0.77 | 61.16 | 44.6 |
| 3 | CBMH2 | CBMH1 | 0.08 | 0.98 | 0.078 | 0.170 | 10.77 | 101.65 | 48.07 | 0.40 | 300 | 0.87 | 29.00 | 0.56 | 61.16 | 78.6 |
| 2, Building 1 | CB2 | CBMH1 | 0.13 | 0.98 | 0.132 | 0.132 | 10.00 | 107.07 | 39.20 | 0.40 | 300 | 0.87 | 26.60 | 0.51 | 61.16 | 64.1 |
| 1 | CBMH1 | MH1 | 0.08 | 0.98 | 0.078 | 0.380 | 11.33 | 98.12 | 103.71 | 0.50 | 450 | 1.27 | 14.50 | 0.19 | 201.60 | 51.4 |
| 5, Building 2 | CBMH3 | MH1 | 0.18 | 0.98 | 0.181 | 0.181 | 10.00 | 107.07 | 53.88 | 0.40 | 300 | 90.30 | 19.00 | 0.00 | 6382.93 | 0.8 |
| | MH1 | OUTLET | 0.00 | 0.98 | 0.000 | 0.561 | 11.52 | 96.98 | 151.31 | 0.50 | 450 | 1.27 | 15.00 | 0.20 | 201.60 | 75.1 |

APPENDIX F

HYDROLOGICAL PARAMATER SHEETS



Project Name: Edgewood Greens
 Project Number: 1060-4892
 Date: February 12, 2019
 By: H. Birrell

D.A. NAME Ext 1
 D.A. AREA (ha) 41.2

**Hydrologic Parameters: NASHYD Command
 Pre-Development - Unnamed Tributary**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|-------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 74.15 | 30.55 |
| Harriston Silt Loam | Hs | B | 25.85 | 10.65 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area | | | | 41.20 |

| Impervious Landuses Present: | | | | | | | | | | | | Subtotals | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|------|-----------|--|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Area | A*CN | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | | |
| Ls | 3.0 | 98 | | 98 | | 98 | 4.4 | 98 | | 98 | 7.4 | 725.2 | |
| Hs | 0.3 | 98 | | 98 | | 98 | 0.3 | 98 | | 98 | 0.6 | 58.8 | |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| Subtotal Area | 3.3 | | 0 | | 0 | | 4.7 | | 0 | | | | |

| Pervious Landuses Present: | | | | | | | | | | | | Subtotals | |
|-----------------------------|-----------|------|-----------|----|-----------|----|--------------|----|------------|----|------------------------|-----------|--|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Area | A*CN | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | | |
| Ls | 4.62 | 60 | 6.48 | 65 | 0.00 | 50 | 5.01 | 69 | 7.05 | 74 | 23.15 | 1565.12 | |
| Hs | 0.92 | 60 | 0.00 | 65 | 0.00 | 50 | 5.53 | 69 | 3.60 | 74 | 10.05 | 703.15 | |
| | 0 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 | |
| | 0 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 | |
| Subtotal Area | 5.54 | | 6.48 | | 0.00 | | 10.53 | | 10.65 | | | | |
| Composite Area Calculations | | | | | | | | | | | Total Pervious Area | 33.20 | |
| | | | | | | | | | | | Total Impervious Area | 8 | |
| | | | | | | | | | | | % Impervious | 0.2 | |
| | | | | | | | | | | | Composite Curve Number | 74.1 | |
| | | | | | | | | | | | Total Area Check | 41.2 | |

Initial Abstraction and Tp Calculations

| Initial Abstraction | | | | Composite Curve Number | | | | | | | | |
|---------------------|---------|-----------|----------|------------------------------|------|---------------------|------|----|------|----|------|---------|
| Landuse | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | 0 | | 0 | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 5.541 | 55.41002 | 0.25 | 4.62 | 0.25 | 0.92 | | 0 | | 0 | 1.38525 |
| Meadow | 8 | 6.4765 | 51.81195 | 0.28 | 6.48 | | 0 | | 0 | | 0 | 1.81342 |
| Wetland | 16 | 0 | 0 | | 0.00 | | 0 | | 0 | | 0 | 0 |
| Lawn/Pasture | 5 | 10.534 | 52.6692 | 0.28 | 5.01 | 0.28 | 5.53 | | 0 | | 0 | 2.94948 |
| Cultivated | 7 | 10.649 | 74.54064 | 0.35 | 7.05 | 0.35 | 3.60 | | 0.00 | | 0 | 3.72703 |
| Impervious | 2 | 8 | 16 | 0.95 | 7.40 | 0.95 | 0.60 | | 0 | | 0 | 7.6 |
| Composite IA | | 41.2 | 6.078442 | Composite Runoff Coefficient | | | | | | | | 0.42415 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|--------------------------------------|------------|----------|-----------|--------------------|----------------|---------------------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 950 | 8.5 | 0.89% | 4.6 | 0.44 | 0.61 | 0.41 | 0.70 | 0.85 | 0.57 | 1.38 | 0.92 |
| Overland | 300 | 2 | 0.67% | 2.3 | 0.19 | 0.44 | 0.30 | | | | | |
| Appropriate calculated time to peak: | | | | | 0.57 | Appropriate Method: | | | Bransby Williams | | | |



Project Name: Edgewood Greens
 Project Number: 1060-4892
 Date: February 12, 2019
 By: H.B

D.A. NAME Pre 2
 D.A. AREA (ha) 14.85

**Hydrologic Parameters: NASHYD Command
 Pre-Development - Unnamed Tributary**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|-------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 14.85 |
| Harriston Silt Loam | Hs | B | 0.00 | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area | | | | 14.85 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-----------|------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Hs | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Subtotal Area | 0 | | 0 | | 0 | | 0 | | 0 | | | |

| Pervious Landuses Present: | | | | | | | | | | | | |
|-----------------------------|-----------|----|-----------|----|-----------|----|--------------|----|------------|------------------------|-----------|---------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 14.85 | 74 | 14.85 | 1098.90 |
| Hs | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 0.00 | 0.00 |
| | 0 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 |
| | 0 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 |
| Subtotal Area | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 14.85 | | | |
| Composite Area Calculations | | | | | | | | | | Total Pervious Area | 14.85 | |
| | | | | | | | | | | Total Impervious Area | 0 | |
| | | | | | | | | | | % Impervious | 0.0 | |
| | | | | | | | | | | Composite Curve Number | 74.0 | |
| | | | | | | | | | | Total Area Check | 14.85 | |

Initial Abstraction and Tp Calculations

| Initial Abstraction | | | | Composite Curve Number | | | | | | | | |
|---------------------|---------|-----------|--------|------------------------------|-------|---------------------|------|----|------|----|------|--------|
| Landuse | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | 0 | | 0 | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 0 | 0 | 0.25 | 0.00 | 0.25 | 0.00 | | 0 | | 0 | 0 |
| Meadow | 8 | 0 | 0 | 0.28 | 0.00 | | 0 | | 0 | | 0 | 0 |
| Wetland | 16 | 0 | 0 | | 0.00 | | 0 | | 0 | | 0 | 0 |
| Lawn/Pasture | 5 | 0 | 0 | 0.28 | 0.00 | 0.28 | 0.00 | | 0 | | 0 | 0 |
| Cultivated | 7 | 14.85 | 103.95 | 0.35 | 14.85 | 0.35 | 0.00 | | 0.00 | | 0 | 5.1975 |
| Impervious | 2 | 0 | 0 | 0.95 | 0.00 | 0.95 | 0.00 | | 0 | | 0 | 0 |
| Composite IA | | 14.85 | 7 | Composite Runoff Coefficient | | | | | | | | 0.35 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|--------------------------------------|------------|----------|-----------|--------------------|----------------|---------------------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 500 | 3.2 | 0.64% | 4.6 | 0.37 | 0.38 | 0.25 | 0.39 | 0.52 | 0.35 | 1.12 | 0.75 |
| Overland | 200 | 3 | 1.50% | 2.3 | 0.28 | 0.20 | 0.13 | | | | | |
| Appropriate calculated time to peak: | | | | | 0.75 | Appropriate Method: | | | Airport | | | |



Project Name: Edgewood Greens
 Project Number: 1060-4892
 Date: February 12, 2019
 By: HB

D.A. NAME Ext 3
 D.A. AREA (ha) 1.55

**Hydrologic Parameters: NASHYD Command
 Pre-Development - Unnamed Tributary**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|-------------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 1.55 |
| Harriston Silt Loam | Hs | B | 0.00 | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area | | | | 1.55 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Hs | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Subtotal Area | | 0 | | 0 | | 0 | | 0 | | 0 | | |

| Pervious Landuses Present: | | | | | | | | | | | | | |
|-----------------------------|-----------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|------------------------|-----------|-------|--|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Subtotals | | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN | |
| Ls | 1.55 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 1.55 | 93.00 | |
| Hs | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 0.00 | 0.00 | |
| | 0 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 0.00 | 0.00 | |
| | 0 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 0.00 | 0.00 | |
| Subtotal Area | | 1.55 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| Composite Area Calculations | | | | | | | | | | Total Pervious Area | | 1.55 | |
| | | | | | | | | | | Total Impervious Area | | 0 | |
| | | | | | | | | | | % Impervious | | 0.0 | |
| | | | | | | | | | | Composite Curve Number | | 60.0 | |
| | | | | | | | | | | Total Area Check | | 1.55 | |

Initial Abstraction and Tp Calculations

| Initial Abstraction | | | | Composite Curve Number | | | | | | | | |
|---------------------|---------|-------------|-----------|-------------------------------------|------|---------------------|------|----|------|----|------|-------------|
| Landuse | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | 0 | | 0 | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 1.55 | 15.5 | 0.25 | 1.55 | 0.25 | 0.00 | | 0 | | 0 | 0.3875 |
| Meadow | 8 | 0 | 0 | 0.28 | 0.00 | | 0 | | 0 | | 0 | 0 |
| Wetland | 16 | 0 | 0 | | 0.00 | | 0 | | 0 | | 0 | 0 |
| Lawn/Pasture | 5 | 0 | 0 | 0.28 | 0.00 | 0.28 | 0.00 | | 0 | | 0 | 0 |
| Cultivated | 7 | 0 | 0 | 0.35 | 0.00 | 0.35 | 0.00 | | 0.00 | | 0 | 0 |
| Impervious | 2 | 0 | 0 | 0.95 | 0.00 | 0.95 | 0.00 | | 0 | | 0 | 0 |
| Composite IA | | 1.55 | 10 | Composite Runoff Coefficient | | | | | | | | 0.25 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|--------------------------------------|------------|----------|-----------|--------------------|----------------|---------------------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 100 | 0.89 | 0.89% | 4.6 | 0.43 | 0.06 | 0.04 | 0.14 | 0.19 | 0.13 | 0.71 | 0.47 |
| Overland | 100 | 0.67 | 0.67% | 2.3 | 0.19 | 0.15 | 0.10 | 0.14 | | | | |
| Appropriate calculated time to peak: | | | | | 0.47 | Appropriate Method: | | | Airport | | | |



Project Name: Edgewood Greens
 Project Number: 1060-4892
 Date: February 12, 2019
 By: HB

D.A. NAME
 D.A. AREA (ha) **417.20**

**Hydrologic Parameters: NASHYD Command
 Pre-Development - Foley Drain**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|-----|------------------|--------|--------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 16.9 | 70.61 |
| Harriston Silt Loam | Hs | B | 52.1 | 217.30 |
| Parkhill Loam | Pal | C | 6.8 | 28.37 |
| Muck | M | D | 24.2 | 100.92 |
| Total Area | | | | 417.20 |

| Impervious Landuses Present: | | | | | | | | | | | Subtotals | |
|------------------------------|-----------|------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Area | A*CN |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | |
| Ls | 1.8 | 98 | | 98 | | 98 | | 98 | | 98 | 1.8167 | 178.0349 |
| Hs | 4.9 | 98 | | 98 | | 98 | | 98 | | 98 | 4.9195 | 482.1064 |
| Pal | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| M | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Subtotal Area | | 6.74 | | 0 | | 0 | | 0 | | 0 | | |

| Pervious Landuses Present: | | | | | | | | | | | Subtotals | |
|-----------------------------|-----------|--------|-----------|----|-----------|----|--------------|----|------------|------------------------|-----------|----------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Area | A*CN |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | |
| Ls | 19.44 | 60 | 3.04 | 65 | 0.01 | 50 | 4.13 | 69 | 42.17 | 74 | 68.79 | 4770.28 |
| Hs | 20.32 | 60 | 9.17 | 65 | 0.05 | 50 | 11.85 | 69 | 171.00 | 74 | 212.38 | 15289.03 |
| Pal | 2.82 | 73 | 4.43 | 76 | 0.00 | 50 | 0.97 | 79 | 20.14 | 82 | 28.37 | 2271.07 |
| M | 58.35 | 79 | 18.28 | 81 | 0.02 | 50 | 0.02 | 84 | 24.26 | 86 | 100.92 | 8178.53 |
| Subtotal Area | | 100.92 | 34.92 | | 0.08 | | 16.96 | | 257.57 | | | |
| Composite Area Calculations | | | | | | | | | | Total Pervious Area | 410.46 | |
| | | | | | | | | | | Total Impervious Area | 6.7361 | |
| | | | | | | | | | | % Impervious | 0.016 | |
| | | | | | | | | | | Composite Curve Number | 74.7 | |
| Total Area Check | | | | | | | | | | 417.2 | | |

Initial Abstraction and Tp Calculations

| Landuse | Initial Abstraction | | | Composite Curve Number | | | | | | | | |
|--------------|---------------------|-----------|--------|------------------------------|-------|---------------------|--------|---------------|-------|------|------|----------|
| | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | Parkhill Loam | | Muck | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 100.9 | 1009.2 | 0.25 | 19.44 | 0.25 | 20 | 0.35 | 3 | 0.35 | 58 | 31.34738 |
| Meadow | 8 | 34.9 | 279.4 | 0.28 | 3.04 | 0.28 | 9 | 0.40 | 4 | 0.40 | 18 | 12.50393 |
| Wetland | 16 | 0.1 | 1.3 | 0.05 | 0.01 | 0.05 | 0.05 | | 0 | 0.05 | 0.02 | 0.004182 |
| Lawn/Pasture | 5 | 17.0 | 84.8 | 0.28 | 4.13 | 0.28 | 12 | 0.40 | 1 | 0.40 | 0 | 4.867269 |
| Cultivated | 7 | 257.6 | 1803.0 | 0.35 | 42.17 | 0.35 | 171.00 | 0.55 | 20.14 | 0.55 | 24 | 99.03074 |
| Impervious | 2 | 6.7 | 13.5 | 0.95 | 1.82 | 0.95 | 5 | 0.95 | 0 | 0.95 | 0 | 6.399328 |
| Composite IA | | 417.2 | 7.65 | Composite Runoff Coefficient | | | | | | | | 0.369494 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|-----------------------|------------|----------|-----------|--------------------|----------------|---------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 4150 | 15 | 0.36% | 4.6 | 0.28 | 4.17 | 2.79 | 3.08 | | | | |
| Overland | 400 | 5 | 1.25% | 2.3 | 0.26 | 0.43 | 0.29 | | 2.79 | 1.87 | 3.51 | 2.35 |

Appropriate calculated time to peak: 1.87 Appropriate Method: Bransby Williams



Project Name: Edgewood Greens
 Project Number: 1060-4892
 Date: February 12, 2019
 By: HB

D.A. NAME Pre 3
 D.A. AREA (ha) 29.18

**Hydrologic Parameters: NASHYD Command
 Pre-Development - Foley Drain**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|-----|------------------|--------|-------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 73.0 | 21.30 |
| Harriston Silt Loam | Hs | B | 0.0 | 0.00 |
| Parkhill Loam | Pal | C | 27.0 | 7.88 |
| Muck | M | D | 0.0 | 0.00 |
| Total Area | | | | 29.18 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-----------|------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Hs | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Pal | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| M | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Subtotal Area | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

| Pervious Landuses Present: | | | | | | | | | | | | |
|-----------------------------|-----------|------|-----------|------|-----------|------|--------------|-------|------------|------------------------|-----------|---------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 21.30 | 74 | 21.30 | 1576.30 |
| Hs | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 0.00 | 0.00 |
| Pal | 0.00 | 73 | 0.00 | 76 | 0.00 | 50 | 0.00 | 79 | 7.88 | 82 | 7.88 | 646.05 |
| M | 0.00 | 79 | 0.00 | 81 | 0.00 | 50 | 0.00 | 84 | 0.00 | 86 | 0.00 | 0.00 |
| Subtotal Area | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 29.18 | | | | |
| Composite Area Calculations | | | | | | | | | | Total Pervious Area | | 29.18 |
| | | | | | | | | | | Total Impervious Area | | 0 |
| | | | | | | | | | | % Impervious | | 0.000 |
| | | | | | | | | | | Composite Curve Number | | 76.2 |
| | | | | | | | | | | Total Area Check | | 29.18 |

Initial Abstraction and Tp Calculations

| Landuse | Initial Abstraction | | | Composite Curve Number | | | | | | | | |
|--------------|---------------------|-----------|--------|------------------------------|-------|---------------------|------|---------------|------|------|------|----------|
| | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | Parkhill Loam | | Muck | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 0.0 | 0.0 | 0.25 | 0.00 | 0.25 | 0 | 0.35 | 0 | 0.35 | 0 | 0 |
| Meadow | 8 | 0.0 | 0.0 | 0.28 | 0.00 | 0.28 | 0 | 0.40 | 0 | 0.40 | 0 | 0 |
| Wetland | 16 | 0.0 | 0.0 | 0.05 | 0.00 | 0.05 | 0.00 | | 0 | 0.05 | 0.00 | 0 |
| Lawn/Pasture | 5 | 0.0 | 0.0 | 0.28 | 0.00 | 0.28 | 0 | 0.40 | 0 | 0.40 | 0 | 0 |
| Cultivated | 7 | 29.2 | 204.3 | 0.35 | 21.30 | 0.35 | 0.00 | 0.55 | 7.88 | 0.55 | 0 | 11.78872 |
| Impervious | 2 | 0.0 | 0.0 | 0.95 | 0.00 | 0.95 | 0 | 0.95 | 0 | 0.95 | 0 | 0 |
| Composite IA | | 29.2 | 7.0 | Composite Runoff Coefficient | | | | | | | | 0.40 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|-----------------------|------------|----------|-----------|--------------------|----------------|---------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 350 | 2 | 0.57% | 4.6 | 0.35 | 0.28 | 0.19 | 0.40 | | | | |
| Overland | 350 | 6 | 1.71% | 2.3 | 0.30 | 0.32 | 0.22 | | 0.46 | 0.31 | 0.96 | 0.64 |

Appropriate calculated time to peak: 0.64 Appropriate Method: Airport



Project Name: Edgewood Greens
 Project Number: 1060-4892
 Date: February 12, 2019
 By: HB

D.A. NAME
 D.A. AREA (ha) **6.30**

**Hydrologic Parameters: NASHYD Command
 Pre-Development - Foley Drain**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|-----|------------------|--------|------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 63.4 | 3.99 |
| Harriston Silt Loam | Hs | B | 0.0 | 0.00 |
| Parkhill Loam | Pal | C | 36.7 | 2.31 |
| Muck | M | D | 0.0 | 0.00 |
| Total Area | | | | 6.30 |

| Impervious Landuses Present: | | | | | | | | | | | | Subtotals | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|------|-----------|--|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Area | A*CN | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | | |
| Ls | 0.00 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| Hs | 0.00 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| Pal | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| M | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| Subtotal Area | 0 | | 0 | | 0 | | 0 | | 0 | | | | |

| Pervious Landuses Present: | | | | | | | | | | | | Subtotals | |
|-----------------------------|-----------|----|-----------|----|-----------|----|--------------|----|------------|------------------------|-------|-----------|--|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Area | A*CN | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | | |
| Ls | 3.99 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 3.99 | 239.46 | |
| Hs | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 0.00 | 0.00 | |
| Pal | 2.31 | 73 | 0.00 | 76 | 0.00 | 50 | 0.00 | 79 | 0.00 | 82 | 2.31 | 168.55 | |
| M | 0.00 | 79 | 0.00 | 81 | 0.00 | 50 | 0.00 | 84 | 0.00 | 86 | 0.00 | 0.00 | |
| Subtotal Area | 6.30 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | | | |
| Composite Area Calculations | | | | | | | | | | Total Pervious Area | 6.30 | | |
| | | | | | | | | | | Total Impervious Area | 0 | | |
| | | | | | | | | | | % Impervious | 0.000 | | |
| | | | | | | | | | | Composite Curve Number | 64.8 | | |
| | | | | | | | | | | Total Area Check | 6.3 | | |

Initial Abstraction and Tp Calculations

| Landuse | Initial Abstraction | | | Composite Curve Number | | | | | | | | |
|--------------|---------------------|-----------|--------|------------------------------|------|---------------------|------|---------------|------|------|------|----------|
| | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | Parkhill Loam | | Muck | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 6.3 | 63.0 | 0.25 | 3.99 | 0.25 | 0 | 0.35 | 2 | 0.35 | 0 | 1.805895 |
| Meadow | 8 | 0.0 | 0.0 | 0.28 | 0.00 | 0.28 | 0 | 0.40 | 0 | 0.40 | 0 | 0 |
| Wetland | 16 | 0.0 | 0.0 | 0.05 | 0.00 | 0.05 | 0.00 | | 0 | 0.05 | 0.00 | 0 |
| Lawn/Pasture | 5 | 0.0 | 0.0 | 0.28 | 0.00 | 0.28 | 0 | 0.40 | 0 | 0.40 | 0 | 0 |
| Cultivated | 7 | 0.0 | 0.0 | 0.35 | 0.00 | 0.35 | 0.00 | 0.55 | 0.00 | 0.55 | 0 | 0 |
| Impervious | 2 | 0.0 | 0.0 | 0.95 | 0.00 | 0.95 | 0 | 0.95 | 0 | 0.95 | 0 | 0 |
| Composite IA | | 6.3 | 10.0 | Composite Runoff Coefficient | | | | | | | | 0.28665 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|-----------------------|------------|----------|-----------|--------------------|----------------|---------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 100 | 0.65 | 0.65% | 4.6 | 0.37 | 0.07 | 0.05 | 0.34 | | | | |
| Overland | 400 | 5 | 1.25% | 2.3 | 0.26 | 0.43 | 0.29 | | 0.39 | 0.26 | 0.95 | 0.64 |

Appropriate calculated time to peak: 0.64 Appropriate Method: Airport

NOTE: REVISED TO INCLUDE PROPOSED COMMERCIAL BLOCK



Project Name: Edgewood Greens **D.A. NAME** **FB2**
 Project Number: 1060-5384 **D.A. AREA (ha)** **10.10**
 Date: 2020.11.03
 By: HB

**Hydrologic Parameters: STANDHYD Command
 Post-Development**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|-------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 10.10 |
| | | | | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area Check | | | | 10.10 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-----------|-------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 2.55 | 98 | | 98 | 0.60 | 98 | 2.69 | 98 | | 98 | 5.85 | 572.9 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| Subtotal Area | 2.55 | | 0 | | 0.60 | | 2.69 | | | | | |

| Pervious Landuses Present: | | | | | | | | | | | | |
|----------------------------|-----------|----|-----------|----|-----------|----|-----------|----|------------|----|-----------|------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0 | | 0 | | 0 | | 4.3 | 74 | 0 | | 4.25 | 315 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| Subtotal Area | 0 | | 0 | | 0 | | 4.25 | | 0 | | | |

| | | | |
|---------------------------------|------------------------------|-------------------------------------|------|
| Note: % X imp and % T imp given | Pervious Area Calculations | Total Pervious Area | 4.25 |
| | | Composite Pervious Curve Number (*) | 74.0 |
| | Impervious Area Calculations | Total Directly Connected Area | 3.15 |
| | | Total Indirectly Connected Area | 2.69 |
| | | Total Impervious Area | 5.85 |
| | | % X imp | 31.2 |
| | | % T imp | 57.9 |
| Total Area Check | | 10.1 | |

Initial Abstraction and Tp Calculations

| Landuse | IA (mm) | Area (ha) | A * IA |
|------------|---------|-----------|---------|
| Woodland | 10 | 0 | 0 |
| Meadow | 8 | 0 | 0 |
| Wetland | 16 | 0 | 0 |
| Lawn | 5 | 4.25 | 21.2715 |
| Cultivated | 7 | 0 | 0 |

| Land Use | IA (mm) | Slope (%) | Travel Length (m) | Manning's n |
|------------|---------|-----------|-------------------|-------------|
| Pervious | 5.0 | 2.0% | 40 | 0.25 |
| Impervious | 2.0 | 0.5% | 259 | 0.013 |

*Impervious travel length calculated by $LGI = (A/1.5)^{0.5}$



Project Name: Edgewood Greens **D.A. NAME**
 Project Number: 1060-5384 **D.A. AREA (ha)** **SWM #3**
 Date: 2020.01.13 **1.21**
 By: H. Birrell

**Hydrologic Parameters: STANDHYD Command
Post-Development**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 1.21 |
| | | | | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area Check | | | | 1.21 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|------|-----------|----|-----------|------|-----------|------|-----------|------|-----------|------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | | 98 | | 98 | | 98 | | 98 | 0.61 | 98 | 0.61 | 59.3 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| Subtotal Area | | 0.00 | | 0 | | 0.00 | | 0.00 | | 0.61 | 0.61 | 0.00 |

| Pervious Landuses Present: | | | | | | | | | | | | |
|----------------------------|-----------|----|-----------|----|-----------|----|-----------|------|------------|----|-----------|------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0 | | 0 | | 0 | | 0.61 | 74 | 0 | | 0.61 | 45 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| Subtotal Area | | 0 | | 0 | | 0 | | 0.61 | | 0 | | 0.00 |

| | | | |
|---------------------------------|------------------------------|-------------------------------------|------|
| Note: % X imp and % T imp given | Pervious Area Calculations | Total Pervious Area | 0.61 |
| | Impervious Area Calculations | Composite Pervious Curve Number (*) | 74.0 |
| | | Total Directly Connected Area | 0.61 |
| | | Total Indirectly Connected Area | 0.00 |
| | | Total Impervious Area | 0.61 |
| | | % X imp | 50.0 |
| % T imp | 50.0 | | |
| Total Area Check | | | 1.21 |

Initial Abstraction and Tp Calculations

| Landuse | IA (mm) | Area (ha) | A * IA |
|------------|---------|-----------|--------|
| Woodland | 10 | 0 | 0 |
| Meadow | 8 | 0 | 0 |
| Wetland | 16 | 0 | 0 |
| Lawn | 5 | 0.61 | 3.025 |
| Cultivated | 7 | 0 | 0 |

| Land Use | IA (mm) | Slope (%) | Travel Length (m) | Manning's n |
|------------|---------|-----------|-------------------|-------------|
| Pervious | 5.0 | 2.0% | 40 | 0.25 |
| Impervious | 2.0 | 0.5% | 90 | 0.013 |

*Impervious travel length calculated by $LGI = (A/1.5)^{0.5}$



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: HB

D.A. NAME Ext 4
 D.A. AREA (ha) 6.30

**Hydrologic Parameters: NASHYD Command
 Post-Development - Foley Drain**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|-----|------------------|--------|------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 63.4 | 3.99 |
| Harriston Silt Loam | Hs | B | 0.0 | 0.00 |
| Parkhill Loam | Pal | C | 36.7 | 2.31 |
| Muck | M | D | 0.0 | 0.00 |
| Total Area | | | | 6.30 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-----------|------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0.00 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Hs | 0.00 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Pal | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| M | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Subtotal Area | | 0 | | 0 | | 0 | | 0 | | 0 | | |

| Pervious Landuses Present: | | | | | | | | | | | | |
|-----------------------------|-----------|------|-----------|------|-----------|------|--------------|------|------------|------------------------|-----------|--------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 3.99 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 3.99 | 239.46 |
| Hs | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 0.00 | 0.00 |
| Pal | 2.31 | 73 | 0.00 | 76 | 0.00 | 50 | 0.00 | 79 | 0.00 | 82 | 2.31 | 168.55 |
| M | 0.00 | 79 | 0.00 | 81 | 0.00 | 50 | 0.00 | 84 | 0.00 | 86 | 0.00 | 0.00 |
| Subtotal Area | | 6.30 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | |
| Composite Area Calculations | | | | | | | | | | Total Pervious Area | | 6.30 |
| | | | | | | | | | | Total Impervious Area | | 0 |
| | | | | | | | | | | % Impervious | | 0.000 |
| | | | | | | | | | | Composite Curve Number | | 64.8 |
| | | | | | | | | | | Total Area Check | | 6.3 |

Initial Abstraction and Tp Calculations

| Initial Abstraction | | | | Composite Curve Number | | | | | | | | |
|---------------------|---------|-----------|--------|------------------------------|------|---------------------|------|---------------|------|------|------|----------|
| Landuse | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | Parkhill Loam | | Muck | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 6.3 | 63.0 | 0.25 | 3.99 | 0.25 | 0 | 0.35 | 2 | 0.35 | 0 | 1.805895 |
| Meadow | 8 | 0.0 | 0.0 | 0.28 | 0.00 | 0.28 | 0 | 0.40 | 0 | 0.40 | 0 | 0 |
| Wetland | 16 | 0.0 | 0.0 | 0.05 | 0.00 | 0.05 | 0.00 | | 0 | 0.05 | 0.00 | 0 |
| Lawn/Pasture | 5 | 0.0 | 0.0 | 0.28 | 0.00 | 0.28 | 0 | 0.40 | 0 | 0.40 | 0 | 0 |
| Cultivated | 7 | 0.0 | 0.0 | 0.35 | 0.00 | 0.35 | 0.00 | 0.55 | 0.00 | 0.55 | 0 | 0 |
| Impervious | 2 | 0.0 | 0.0 | 0.95 | 0.00 | 0.95 | 0 | 0.95 | 0 | 0.95 | 0 | 0 |
| Composite IA | | 6.3 | 10.0 | Composite Runoff Coefficient | | | | | | | | 0.28665 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|-----------------------|------------|----------|-----------|--------------------|----------------|---------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 100 | 0.65 | 0.65% | 4.6 | 0.37 | 0.07 | 0.05 | 0.34 | 0.39 | 0.26 | 0.95 | 0.64 |
| Overland | 400 | 5 | 1.25% | 2.3 | 0.26 | 0.43 | 0.29 | | | | | |

Appropriate calculated time to peak: 0.64 Appropriate Method: Airport



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: H. Birrell

D.A. NAME **FB Z1 - 2**
 D.A. AREA (ha) **5.68**

**Hydrologic Parameters: NASHYD Command
 Post-Development - West WS (Full Buildout)**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|-------------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 5.68 |
| Harriston Silt Loam | Hs | B | 0.00 | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area | | | | 5.68 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|------------|----|-----------|----|-----------|----|------------|----|-----------|----|-----------|------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0.1 | 98 | | 98 | | 98 | 0.6 | 98 | | 98 | 0.7 | 68.6 |
| Hs | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Subtotal Area | 0.1 | | 0 | | 0 | | 0.6 | | 0 | | | |

| Pervious Landuses Present: | | | | | | | | | | | | |
|----------------------------|-------------|------|-------------|------|-------------|------|--------------|------|-------------|------|-----------|--------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 74 | 4.98 | 74 | 4.98 | 368.52 |
| Hs | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 74 | 0.00 | 74 | 0.00 | 0.00 |
| | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Subtotal Area | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 4.98 | | | |

| Composite Area Calculations | | Total Pervious Area | 4.98 |
|-----------------------------|--|-------------------------|-------------|
| | | Total Impervious Area | 0.7 |
| | | % Impervious | 0.1 |
| | | Composite Curve Number | 77.0 |
| | | Total Area Check | 5.68 |

Initial Abstraction and Tp Calculations

| Initial Abstraction | | | | Composite Curve Number | | | | | | | | |
|---------------------|---------|-------------|------------|-------------------------------------|------|---------------------|------|----|------|----|------|----------------|
| Landuse | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | 0 | | 0 | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 0 | 0 | 0.25 | 0.00 | 0.25 | 0.00 | | 0 | | 0 | 0 |
| Meadow | 8 | 0 | 0 | 0.28 | 0.00 | | 0 | | 0 | | 0 | 0 |
| Wetland | 16 | 0 | 0 | | 0.00 | | 0 | | 0 | | 0 | 0 |
| Lawn/Pasture | 5 | 0 | 0 | 0.28 | 0.00 | 0.28 | 0.00 | | 0 | | 0 | 0 |
| Cultivated | 7 | 4.98 | 34.86 | 0.35 | 4.98 | 0.35 | 0.00 | | 0.00 | | 0 | 1.743 |
| Impervious | 2 | 0.7 | 1.4 | 0.95 | 0.70 | 0.95 | 0.00 | | 0 | | 0 | 0.665 |
| Composite IA | | 5.68 | 6.4 | Composite Runoff Coefficient | | | | | | | | 0.42394 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|--------------------------------------|------------|----------|-----------|--------------------|----------------|---------|---------|---------------------|------------------|------------------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 500 | 4.2 | 0.84% | 4.6 | 0.42 | 0.33 | 0.22 | 0.22 | 0.60 | 0.40 | 1.02 | 0.68 |
| Overland | 250 | 3 | 1.20% | 2.3 | 0.25 | | | | | | | |
| Appropriate calculated time to peak: | | | | | | 0.40 | | Appropriate Method: | | Bransby Williams | | |



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: HB

D.A. NAME MINOR
D.A. AREA (ha) 0.21

**Hydrologic Parameters: STANDHYD Command
 Post-Development**

Curve Number Calculation

| Soil Types Present: | | | | |
|-------------------------|----|------------------|--------|-------------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 0.21 |
| | | | | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area Check | | | | 0.21 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-------------|----|-----------|----|-------------|----|-------------|----|-----------|----|-----------|------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0.05 | 98 | | 98 | 0.08 | 98 | 0.00 | 98 | | 98 | 0.13 | 12.6 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| Subtotal Area | 0.05 | | 0 | | 0.08 | | 0.00 | | | | | |

| Pervious Landuses Present: | | | | | | | | | | | | |
|----------------------------|-----------|----|-----------|----|-----------|----|-------------|----|------------|----|-----------|------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0 | | 0 | | 0 | | 0.1 | 74 | 0 | | 0.08 | 6 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| Subtotal Area | 0 | | 0 | | 0 | | 0.08 | | 0 | | | |

| | | | | |
|---------------------------------|----------------------------|-------------------------------------|---------------------------------|------|
| Note: % X imp and % T imp given | Pervious Area Calculations | Total Pervious Area | 0.08 | |
| | | Composite Pervious Curve Number (*) | 74.0 | |
| | | Impervious Area Calculations | Total Directly Connected Area | 0.13 |
| | | | Total Indirectly Connected Area | 0.00 |
| | | | Total Impervious Area | 0.13 |
| | | | % X imp | 61.4 |
| % T imp | 61.4 | | | |
| Total Area Check | | 0.21 | | |

Initial Abstraction and Tp Calculations

| Landuse | IA (mm) | Area (ha) | A * IA |
|------------|---------|-----------|--------|
| Woodland | 10 | 0 | 0 |
| Meadow | 8 | 0 | 0 |
| Wetland | 16 | 0 | 0 |
| Lawn | 5 | 0.08 | 0.4 |
| Cultivated | 7 | 0 | 0 |

| Land Use | IA (mm) | Slope (%) | Travel Length (m) | Manning's n |
|------------|---------|-----------|-------------------|-------------|
| Pervious | 5.0 | 2.0% | 40 | 0.25 |
| Impervious | 2.0 | 0.5% | 37 | 0.013 |

*Impervious travel length calculated by $LGI = (A/1.5)^{0.5}$



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: HB

D.A. NAME
D.A. AREA (ha) **FBI-A**
0.33

**Hydrologic Parameters: STANDHYD Command
 Post-Development**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 0.33 |
| | | | | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area Check | | | | 0.33 |

| Impervious Landuses Present: | | | | | | | | | | | | | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-----------|------|--|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN | |
| Ls | 0.00 | 98 | | 98 | 0.00 | 98 | 0.13 | 98 | | 98 | 0.13 | 12.7 | |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| Subtotal Area | 0.00 | | 0 | | 0.00 | | 0.13 | | | | | | |

| Pervious Landuses Present: | | | | | | | | | | | | | |
|----------------------------|-----------|----|-----------|----|-----------|----|-----------|----|------------|----|-----------|------|--|
| Soils | Woodland | | Meadow | | Wetland | | Lawn | | Cultivated | | Subtotals | | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN | |
| Ls | 0 | | 0 | | 0 | | 0.2 | 74 | 0 | | 0.20 | 15 | |
| | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| Subtotal Area | 0 | | 0 | | 0 | | 0.20 | | 0 | | | | |

| | | | | |
|---------------------------------|----------------------------|-------------------------------------|---------------------------------|------|
| Note: % X imp and % T imp given | Pervious Area Calculations | Total Pervious Area | 0.20 | |
| | | Composite Pervious Curve Number (*) | 74.0 | |
| | | Impervious Area Calculations | Total Directly Connected Area | 0.00 |
| | | | Total Indirectly Connected Area | 0.13 |
| | | | Total Impervious Area | 0.13 |
| | | | % X imp | 0.0 |
| | | | % T imp | 39.4 |
| Total Area Check | 0.33 | | | |

Initial Abstraction and Tp Calculations

| Landuse | IA (mm) | Area (ha) | A * IA |
|------------|---------|-----------|--------|
| Woodland | 10 | 0 | 0 |
| Meadow | 8 | 0 | 0 |
| Wetland | 16 | 0 | 0 |
| Lawn | 5 | 0.20 | 1 |
| Cultivated | 7 | 0 | 0 |

| Land Use | IA (mm) | Slope (%) | Travel Length (m) | Manning's n |
|------------|---------|-----------|-------------------|-------------|
| Pervious | 5.0 | 2.0% | 40 | 0.25 |
| Impervious | 2.0 | 0.5% | 47 | 0.013 |

*Impervious travel length calculated by $LGI = (A/1.5)^{0.5}$



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: July 3, 2019
 By: HB

D.A. NAME **FBI**
D.A. AREA (ha) **14.70**

**Hydrologic Parameters: STANDHYD Command
 Post-Development**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|-------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 14.70 |
| | | | | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area Check | | | | 14.70 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-----------|-------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 4.50 | 98 | | 98 | 0.50 | 98 | 3.10 | 98 | | 98 | 8.10 | 793.8 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| Subtotal Area | 4.50 | | 0 | | 0.50 | | 3.10 | | | | | |

| Pervious Landuses Present: | | | | | | | | | | | | |
|----------------------------|-----------|----|-----------|----|-----------|----|-----------|----|------------|----|-----------|------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0 | | 0 | | 0 | | 6.6 | 74 | 0 | | 6.60 | 488 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| Subtotal Area | 0 | | 0 | | 0 | | 6.60 | | 0 | | | |

| | | | |
|---------------------------------|------------------------------|-------------------------------------|------|
| Note: % X imp and % T imp given | Pervious Area Calculations | Total Pervious Area | 6.60 |
| | | Composite Pervious Curve Number (*) | 74.0 |
| | Impervious Area Calculations | Total Directly Connected Area | 5.00 |
| | | Total Indirectly Connected Area | 3.10 |
| | | Total Impervious Area | 8.10 |
| | | % X imp | 34.0 |
| | | % T imp | 55.1 |
| Total Area Check | | 14.70 | |

Initial Abstraction and Tp Calculations

| Landuse | IA (mm) | Area (ha) | A * IA |
|------------|---------|-----------|--------|
| Woodland | 10 | 0 | 0 |
| Meadow | 8 | 0 | 0 |
| Wetland | 16 | 0 | 0 |
| Lawn | 5 | 6.60 | 33 |
| Cultivated | 7 | 0 | 0 |

| Land Use | IA (mm) | Slope (%) | Travel Length (m) | Manning's n |
|------------|---------|-----------|-------------------|-------------|
| Pervious | 5.0 | 2.0% | 40 | 0.25 |
| Impervious | 2.0 | 0.5% | 313 | 0.013 |

*Impervious travel length calculated by $LGI = (A/1.5)^{0.5}$



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: H. Birrell

D.A. NAME FB Z1 - 3
D.A. AREA (ha) 1.0

**Hydrologic Parameters: STANDHYD Command
 Post-Development (Full Buildout)**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 0.98 |
| | | | | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area Check | | | | 0.98 |

| Impervious Landuses Present: | | | | | | | | | | | | Subtotals | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|------|-----------|--|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Area | A*CN | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | | |
| Ls | 0.29 | 98 | | 98 | | 98 | 0.20 | 98 | | 98 | 0.49 | 48.0 | |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| Subtotal Area | 0.29 | | 0 | | 0.00 | | 0.20 | | 0.00 | | 0.49 | | |

| Pervious Landuses Present: | | | | | | | | | | | | Subtotals | |
|----------------------------|-----------|----|-----------|----|-----------|----|-----------|----|------------|----|------|-----------|--|
| Soils | Woodland | | Meadow | | Wetland | | Lawn | | Cultivated | | Area | A*CN | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | | |
| Ls | 0 | | 0 | | 0 | | 0.49 | 74 | 0 | | 0.49 | 36 | |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| Subtotal Area | 0 | | 0 | | 0 | | 0.49 | | 0 | | | | |

| | | | | |
|---------------------------------|----------------------------|-------------------------------------|---------------------------------|------|
| Note: % X imp and % T imp given | Pervious Area Calculations | Total Pervious Area | 0.49 | |
| | | Composite Pervious Curve Number (*) | 74.0 | |
| | | Impervious Area Calculations | Total Directly Connected Area | 0.29 |
| | | | Total Indirectly Connected Area | 0.20 |
| | | | Total Impervious Area | 0.49 |
| | | | % X imp | 30.0 |
| % T imp | 50.0 | | | |
| Total Area Check | | 0.98 | | |

Initial Abstraction and Tp Calculations

| Landuse | IA (mm) | Area (ha) | A * IA |
|------------|---------|-----------|--------|
| Woodland | 10 | 0 | 0 |
| Meadow | 8 | 0 | 0 |
| Wetland | 16 | 0 | 0 |
| Lawn | 5 | 0.49 | 2.45 |
| Cultivated | 7 | 0 | 0 |

| Land Use | IA (mm) | Slope (%) | Travel Length (m) | Manning's n |
|------------|---------|-----------|-------------------|-------------|
| Pervious | 5.0 | 2.0% | 40 | 0.25 |
| Impervious | 2.0 | 0.5% | 81 | 0.013 |

*Impervious travel length calculated by $LGI = (A/1.5)^{0.5}$



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 6, 2019
 By: H. Birrell

D.A. NAME FB Z1 - 1
D.A. AREA (ha) 12.4

**Hydrologic Parameters: STANDHYD Command
 Post-Development (Full Buildout)**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|-------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 12.37 |
| | | | | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area Check | | | | 12.37 |

| Impervious Landuses Present: | | | | | | | | | | | | Subtotals | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|------|-----------|--|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Area | A*CN | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | | |
| Ls | 3.71 | 98 | | 98 | | 98 | 2.47 | 98 | | 98 | 6.19 | 606.1 | |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| Subtotal Area | 3.71 | | 0 | | 0.00 | | 2.47 | | 0.00 | | 6.19 | | |

| Pervious Landuses Present: | | | | | | | | | | | | Subtotals | |
|----------------------------|-----------|----|-----------|----|-----------|----|-----------|----|------------|----|------|-----------|--|
| Soils | Woodland | | Meadow | | Wetland | | Lawn | | Cultivated | | Area | A*CN | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | | |
| Ls | 0 | | 0 | | 0 | | 6.185 | 74 | 0 | | 6.19 | 458 | |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| Subtotal Area | 0 | | 0 | | 0 | | 6.19 | | 0 | | | | |

| | | | | |
|---------------------------------|----------------------------|-------------------------------------|---------------------------------|------|
| Note: % X imp and % T imp given | Pervious Area Calculations | Total Pervious Area | 6.19 | |
| | | Composite Pervious Curve Number (*) | 74.0 | |
| | | Impervious Area Calculations | Total Directly Connected Area | 3.71 |
| | | | Total Indirectly Connected Area | 2.47 |
| | | | Total Impervious Area | 6.19 |
| | | | % X imp | 30.0 |
| % T imp | 50.0 | | | |
| Total Area Check | | 12.37 | | |

Initial Abstraction and Tp Calculations

| Landuse | IA (mm) | Area (ha) | A * IA |
|------------|---------|-----------|--------|
| Woodland | 10 | 0 | 0 |
| Meadow | 8 | 0 | 0 |
| Wetland | 16 | 0 | 0 |
| Lawn | 5 | 6.19 | 30.925 |
| Cultivated | 7 | 0 | 0 |

| Land Use | IA (mm) | Slope (%) | Travel Length (m) | Manning's n |
|------------|---------|-----------|-------------------|-------------|
| Pervious | 5.0 | 2.0% | 40 | 0.25 |
| Impervious | 2.0 | 0.5% | 287 | 0.013 |

*Impervious travel length calculated by $LGI = (A/1.5)^{0.5}$



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: July 3, 2019
 By: H. Birrell

D.A. NAME NAT
 D.A. AREA (ha) 6.51

**Hydrologic Parameters: NASHYD Command
 Pre-Development - Foley Drain**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|-----|------------------|--------|------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 73.0 | 4.75 |
| Harriston Silt Loam | Hs | B | 0.0 | 0.00 |
| Parkhill Loam | Pal | C | 27.0 | 1.76 |
| Muck | M | D | 0.0 | 0.00 |
| Total Area | | | | 6.51 |

| Impervious Landuses Present: | | | | | | | | | | | | | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-----------|-------|--|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN | |
| Ls | 0 | 98 | | 98 | | 98 | 0.79 | 98 | | 98 | 0.79 | 77.42 | |
| Hs | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| Pal | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| M | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| Subtotal Area | 0 | | 0 | | 0 | | 0.79 | | 0 | | | | |

| Pervious Landuses Present: | | | | | | | | | | | | | |
|----------------------------|-----------|----|-----------|----|-----------|----|--------------|----|------------|----|-----------|--------|--|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Subtotals | | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN | |
| Ls | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 3.96 | 74 | 3.96 | 293.21 | |
| Hs | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 0.00 | 0.00 | |
| Pal | 0.00 | 73 | 0.00 | 76 | 0.00 | 50 | 0.00 | 79 | 1.76 | 82 | 1.76 | 144.13 | |
| M | 0.00 | 79 | 0.00 | 81 | 0.00 | 50 | 0.00 | 84 | 0.00 | 86 | 0.00 | 0.00 | |
| Subtotal Area | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 5.72 | | | | |

| Composite Area Calculations | | Subtotals | |
|-----------------------------|--|-----------|--|
| Total Pervious Area | | 5.72 | |
| Total Impervious Area | | 0.79 | |
| % Impervious | | 0.121 | |
| Composite Curve Number | | 79.1 | |
| Total Area Check | | 6.51 | |

Initial Abstraction and Tp Calculations

| Initial Abstraction | | | | Composite Curve Number | | | | | | | | |
|---------------------|---------|-----------|--------|------------------------------|------|---------------------|------|---------------|------|------|------|---------|
| Landuse | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | Parkhill Loam | | Muck | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 0.0 | 0.0 | 0.25 | 0.00 | 0.25 | 0 | 0.35 | 0 | 0.35 | 0 | 0 |
| Meadow | 8 | 0.0 | 0.0 | 0.28 | 0.00 | 0.28 | 0 | 0.40 | 0 | 0.40 | 0 | 0 |
| Wetland | 16 | 0.0 | 0.0 | 0.05 | 0.00 | 0.05 | 0.00 | | 0 | 0.05 | 0.00 | 0 |
| Lawn/Pasture | 5 | 0.0 | 0.0 | 0.28 | 0.00 | 0.28 | 0 | 0.40 | 0 | 0.40 | 0 | 0 |
| Cultivated | 7 | 5.7 | 40.0 | 0.35 | 3.96 | 0.35 | 0.00 | 0.55 | 1.76 | 0.55 | 0 | 2.35354 |
| Impervious | 2 | 0.8 | 1.6 | 0.95 | 0.79 | 0.95 | 0 | 0.95 | 0 | 0.95 | 0 | 0.7505 |
| Composite IA | | 6.5 | 6.4 | Composite Runoff Coefficient | | | | | | | | 0.48 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|-----------------------|------------|----------|-----------|--------------------|----------------|---------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 350 | 2 | 0.57% | 4.6 | 0.35 | 0.28 | 0.19 | 0.40 | 0.54 | 0.36 | 0.86 | 0.57 |
| Overland | 350 | 6 | 1.71% | 2.3 | 0.30 | 0.32 | 0.22 | | | | | |

Appropriate calculated time to peak: 0.36 Appropriate Method: Bransby Williams



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: H. Birrell

D.A. NAME SWMF2
D.A. AREA (ha) 1.11

**Hydrologic Parameters: STANDHYD Command
 Post-Development**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 1.11 |
| | | | | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area Check | | | | 1.11 |

| Impervious Landuses Present: | | | | | | | | | | | | | |
|------------------------------|-----------|------|-----------|----|-----------|------|-----------|------|-----------|------|-----------|------|--|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN | |
| Ls | | 98 | | 98 | | 98 | | 98 | 0.56 | 98 | 0.56 | 54.9 | |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 | |
| Subtotal Area | | 0.00 | | 0 | | 0.00 | | 0.00 | | 0.56 | 0.56 | 0.00 | |

| Pervious Landuses Present: | | | | | | | | | | | | | |
|----------------------------|-----------|----|-----------|----|-----------|----|-----------|------|------------|----|-----------|------|--|
| Soils | Woodland | | Meadow | | Wetland | | Lawn | | Cultivated | | Subtotals | | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN | |
| Ls | 0 | | 0 | | 0 | | 0.6 | 74 | 0 | | 0.55 | 41 | |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 | |
| Subtotal Area | | 0 | | 0 | | 0 | | 0.56 | | 0 | 0.55 | 41 | |

| | | | |
|---------------------------------|------------------------------|-------------------------------------|------|
| Note: % X imp and % T imp given | Pervious Area Calculations | Total Pervious Area | 0.55 |
| | | Composite Pervious Curve Number (*) | 74.0 |
| | Impervious Area Calculations | Total Directly Connected Area | 0.56 |
| | | Total Indirectly Connected Area | 0.00 |
| | | Total Impervious Area | 0.56 |
| | | % X imp | 50.5 |
| | | % T imp | 50.5 |
| Total Area Check | | 1.11 | |

Initial Abstraction and Tp Calculations

| Landuse | IA (mm) | Area (ha) | A * IA |
|------------|---------|-----------|--------|
| Woodland | 10 | 0 | 0 |
| Meadow | 8 | 0 | 0 |
| Wetland | 16 | 0 | 0 |
| Lawn | 5 | 0.55 | 2.75 |
| Cultivated | 7 | 0 | 0 |

| Land Use | IA (mm) | Slope (%) | Travel Length (m) | Manning's n |
|------------|---------|-----------|-------------------|-------------|
| Pervious | 5.0 | 2.0% | 40 | 0.25 |
| Impervious | 2.0 | 0.5% | 86 | 0.013 |

*Impervious travel length calculated by $LGI = (A/1.5)^{0.5}$



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: H. Birrell

D.A. NAME Ext 5
 D.A. AREA (ha) 0.97

**Hydrologic Parameters: NASHYD Command
 Post-Development - Unnamed Tributary**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100 | 0.97 |
| Harriston Silt Loam | Hs | B | 0 | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area | | | | 0.97 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|------|-----------|----|-----------|------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | | 98 | | 98 | | 98 | 0.15 | 98 | | 98 | 0.15 | 14.7 |
| Hs | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Subtotal Area | | 0 | | 0 | | 0 | | 0.15 | | 0 | | |

| Pervious Landuses Present: | | | | | | | | | | | | |
|-----------------------------|-----------|------|-----------|------|-----------|------|--------------|------|------------|------|------------------------|-------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.82 | 74 | 0.00 | 74 | 0.82 | 60.68 |
| Hs | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 74 | 0.00 | 74 | 0.00 | 0.00 |
| | 0 | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| | 0 | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Subtotal Area | | 0.00 | | 0.00 | | 0.00 | | 0.82 | | 0.00 | | |
| Composite Area Calculations | | | | | | | | | | | Total Pervious Area | 0.8 |
| | | | | | | | | | | | Total Impervious Area | 0.2 |
| | | | | | | | | | | | % Impervious | 0.15 |
| | | | | | | | | | | | Composite Curve Number | 77.7 |
| | | | | | | | | | | | Total Area Check | 0.97 |

Initial Abstraction and Tp Calculations

| Initial Abstraction | | | | Composite Curve Number | | | | | | | | |
|---------------------|---------|-----------|----------|------------------------------|------|---------------------|------|----|------|----|------|----------|
| Landuse | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | 0 | | 0 | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 0 | 0 | 0.25 | 0.00 | 0.25 | 0.00 | | 0 | | 0 | 0 |
| Meadow | 8 | 0 | 0 | 0.28 | 0.00 | | 0 | | 0 | | 0 | 0 |
| Wetland | 16 | 0 | 0 | | 0.00 | | 0 | | 0 | | 0 | 0 |
| Lawn/Pasture | 5 | 0.82 | 4.1 | 0.28 | 0.82 | 0.28 | 0.00 | | 0 | | 0 | 0.2296 |
| Cultivated | 7 | 0 | 0 | 0.35 | 0.00 | 0.35 | 0.00 | | 0.00 | | 0 | 0 |
| Impervious | 2 | 0.15 | 0.3 | 0.95 | 0.15 | 0.95 | 0.00 | | 0 | | 0 | 0.1425 |
| Composite IA | | 0.97 | 4.536082 | Composite Runoff Coefficient | | | | | | | | 0.383608 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|-----------------------|------------|----------|-----------|--------------------|----------------|---------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Overland | 130 | 2 | 1.54% | 2.3 | 0.29 | 0.13 | 0.08 | 0.08 | 0.11 | 0.08 | 0.38 | 0.26 |

Appropriate calculated time to peak: 0.26 Appropriate Method: Airport



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: H. Birrell

D.A. NAME
 D.A. AREA (ha) **1.9**

**Hydrologic Parameters: STANDHYD Command
 Post-Development**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 1.90 |
| | | | | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area Check | | | | 1.90 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|------|-----------|----|-----------|------|-----------|------|-----------|------|-----------|------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | | 98 | | 98 | | 98 | | 98 | 0.95 | 98 | 0.95 | 93.1 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0.00 | 0.00 |
| Subtotal Area | | 0.00 | | 0 | | 0.00 | | 0.00 | | 0.95 | 0.95 | 0.00 |

| Pervious Landuses Present: | | | | | | | | | | | | |
|----------------------------|-----------|----|-----------|----|-----------|----|-----------|----|------------|----|-----------|------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0 | | 0 | | 0 | | 0.95 | 74 | 0 | | 0.95 | 70 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| 0 | 0 | | 0 | | 0 | | 0.00 | | 0 | | 0.00 | 0.00 |
| Subtotal Area | | 0 | | 0 | | 0 | 0.95 | | 0 | | 0.95 | 0.00 |

| | | | |
|---------------------------------|------------------------------|-------------------------------------|------|
| Note: % X imp and % T imp given | Pervious Area Calculations | Total Pervious Area | 0.95 |
| | | Composite Pervious Curve Number (*) | 74.0 |
| | Impervious Area Calculations | Total Directly Connected Area | 0.95 |
| | | Total Indirectly Connected Area | 0.00 |
| | | Total Impervious Area | 0.95 |
| | | % X imp | 50.0 |
| % T imp | 50.0 | | |
| Total Area Check | | | 1.90 |

Initial Abstraction and Tp Calculations

| Landuse | IA (mm) | Area (ha) | A * IA |
|------------|---------|-----------|--------|
| Woodland | 10 | 0 | 0 |
| Meadow | 8 | 0 | 0 |
| Wetland | 16 | 0 | 0 |
| Lawn | 5 | 0.95 | 4.75 |
| Cultivated | 7 | 0 | 0 |

| Land Use | IA (mm) | Slope (%) | Travel Length (m) | Manning's n |
|------------|---------|-----------|-------------------|-------------|
| Pervious | 5.0 | 2.0% | 40 | 0.25 |
| Impervious | 2.0 | 0.5% | 113 | 0.013 |

*Impervious travel length calculated by $LGI = (A/1.5)^{0.5}$



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: H. Birrell

D.A. NAME Ext 1
 D.A. AREA (ha) 41.2

**Hydrologic Parameters: NASHYD Command
 Pre-Development - Unnamed Tributary**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|-------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 74.15 | 30.55 |
| Harriston Silt Loam | Hs | B | 25.85 | 10.65 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area | | | | 41.20 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-----------|-------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 3.0 | 98 | | 98 | | 98 | 4.4 | 98 | | 98 | 7.4 | 725.2 |
| Hs | 0.3 | 98 | | 98 | | 98 | 0.3 | 98 | | 98 | 0.6 | 58.8 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| 0 | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Subtotal Area | 3.3 | | 0 | | 0 | | 4.7 | | 0 | | | |

| Pervious Landuses Present: | | | | | | | | | | | | |
|----------------------------|-----------|----|-----------|----|-----------|----|--------------|----|------------|----|-----------|---------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 4.62 | 60 | 6.48 | 65 | 0.00 | 50 | 5.01 | 69 | 7.05 | 74 | 23.15 | 1565.12 |
| Hs | 0.92 | 60 | 0.00 | 65 | 0.00 | 50 | 5.53 | 69 | 3.60 | 74 | 10.05 | 703.15 |
| 0 | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 |
| 0 | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 |
| Subtotal Area | 5.54 | | 6.48 | | 0.00 | | 10.53 | | 10.65 | | | |

| | | | | | | | | | | | |
|-----------------------------|--|--|--|--|--|--|--|--|--|------------------------|-------|
| Composite Area Calculations | | | | | | | | | | Total Pervious Area | 33.20 |
| | | | | | | | | | | Total Impervious Area | 8 |
| | | | | | | | | | | % Impervious | 0.2 |
| | | | | | | | | | | Composite Curve Number | 74.1 |
| | | | | | | | | | | Total Area Check | 41.2 |

Initial Abstraction and Tp Calculations

| Initial Abstraction | | | | Composite Curve Number | | | | | | | | |
|---------------------|---------|-----------|----------|------------------------------|------|---------------------|------|----|------|----|------|---------|
| Landuse | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | 0 | | 0 | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 5.54 | 55.41002 | 0.25 | 4.62 | 0.25 | 0.92 | | 0 | | 0 | 1.38525 |
| Meadow | 8 | 6.4765 | 51.81195 | 0.28 | 6.48 | | 0 | | 0 | | 0 | 1.81342 |
| Wetland | 16 | 0 | 0 | | 0.00 | | 0 | | 0 | | 0 | 0 |
| Lawn/Pasture | 5 | 10.534 | 52.6692 | 0.28 | 5.01 | 0.28 | 5.53 | | 0 | | 0 | 2.94948 |
| Cultivated | 7 | 10.649 | 74.54064 | 0.35 | 7.05 | 0.35 | 3.60 | | 0.00 | | 0 | 3.72703 |
| Impervious | 2 | 8 | 16 | 0.95 | 7.40 | 0.95 | 0.60 | | 0 | | 0 | 7.6 |
| Composite IA | | 41.2 | 6.078442 | Composite Runoff Coefficient | | | | | | | | 0.42415 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|-----------------------|------------|----------|-----------|--------------------|----------------|---------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 950 | 8.5 | 0.89% | 4.6 | 0.44 | 0.61 | 0.41 | | | | | |
| Overland | 300 | 2 | 0.67% | 2.3 | 0.19 | 0.44 | 0.30 | 0.70 | 0.85 | 0.57 | 1.38 | 0.92 |

Appropriate calculated time to peak: 0.57 Appropriate Method: Bransby Williams



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: H. Birrell

D.A. NAME Ext 3
 D.A. AREA (ha) 1.55

**Hydrologic Parameters: NASHYD Command
 Pre-Development - Unnamed Tributary**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|----|------------------|--------|------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 100.00 | 1.55 |
| Harriston Silt Loam | Hs | B | 0.00 | 0.00 |
| | | | | 0.00 |
| | | | | 0.00 |
| Total Area | | | | 1.55 |

| Impervious Landuses Present: | | | | | | | | | | | | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-----------|------|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Hs | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| | 0 | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 |
| Subtotal Area | | 0 | | 0 | | 0 | | 0 | | 0 | | |

| Pervious Landuses Present: | | | | | | | | | | | | |
|-----------------------------|-----------|------|-----------|------|-----------|------|--------------|------|------------|------|------------------------|-------|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Subtotals | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area | A*CN |
| Ls | 1.55 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 1.55 | 93.00 |
| Hs | 0.00 | 60 | 0.00 | 65 | 0.00 | 50 | 0.00 | 69 | 0.00 | 74 | 0.00 | 0.00 |
| | 0 | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| | 0 | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Subtotal Area | | 1.55 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | |
| Composite Area Calculations | | | | | | | | | | | Total Pervious Area | 1.55 |
| | | | | | | | | | | | Total Impervious Area | 0 |
| | | | | | | | | | | | % Impervious | 0.0 |
| | | | | | | | | | | | Composite Curve Number | 60.0 |
| | | | | | | | | | | | Total Area Check | 1.55 |

Initial Abstraction and Tp Calculations

| Initial Abstraction | | | | Composite Curve Number | | | | | | | | |
|---------------------|---------|-----------|--------|------------------------------|------|---------------------|------|----|------|----|------|--------|
| Landuse | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | 0 | | 0 | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 1.55 | 15.5 | 0.25 | 1.55 | 0.25 | 0.00 | | 0 | | 0 | 0.3875 |
| Meadow | 8 | 0 | 0 | 0.28 | 0.00 | | 0 | | 0 | | 0 | 0 |
| Wetland | 16 | 0 | 0 | | 0.00 | | 0 | | 0 | | 0 | 0 |
| Lawn/Pasture | 5 | 0 | 0 | 0.28 | 0.00 | 0.28 | 0.00 | | 0 | | 0 | 0 |
| Cultivated | 7 | 0 | 0 | 0.35 | 0.00 | 0.35 | 0.00 | | 0.00 | | 0 | 0 |
| Impervious | 2 | 0 | 0 | 0.95 | 0.00 | 0.95 | 0.00 | | 0 | | 0 | 0 |
| Composite IA | | 1.55 | 10 | Composite Runoff Coefficient | | | | | | | | 0.25 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|--------------------------------------|------------|----------|-----------|--------------------|----------------|---------------------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 100 | 0.89 | 0.89% | 4.6 | 0.43 | 0.06 | 0.04 | 0.14 | 0.19 | 0.13 | 0.71 | 0.47 |
| Overland | 100 | 0.67 | 0.67% | 2.3 | 0.19 | 0.15 | 0.10 | | | | | |
| Appropriate calculated time to peak: | | | | | 0.47 | Appropriate Method: | | | Airport | | | |



Project Name: Edgewood Greens
 Project Number: 1060-5177
 Date: June 24, 2019
 By: H. Birrell

D.A. NAME Ext 2
 D.A. AREA (ha) 417.20

**Hydrologic Parameters: NASHYD Command
 Pre-Development - Foley Drain**

Curve Number Calculation

| Soil Types Present: | | | | |
|---------------------|-----|------------------|--------|--------|
| Type | ID | Hydrologic Group | % Area | Area |
| Listowell Silt Loam | Ls | B | 16.9 | 70.61 |
| Harriston Silt Loam | Hs | B | 52.1 | 217.30 |
| Parkhill Loam | Pal | C | 6.8 | 28.37 |
| Muck | M | D | 24.2 | 100.92 |
| Total Area | | | | 417.20 |

| Impervious Landuses Present: | | | | | | | | | | | | Subtotals | |
|------------------------------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|--------|-----------|--|
| Soils | Roadway | | Sidewalk | | Driveway | | Building | | SWMF | | Area | A*CN | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | | |
| Ls | 1.8 | 98 | | 98 | | 98 | | 98 | | 98 | 1.8167 | 178.0349 | |
| Hs | 4.9 | 98 | | 98 | | 98 | | 98 | | 98 | 4.9195 | 482.1064 | |
| Pal | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| M | | 98 | | 98 | | 98 | | 98 | | 98 | 0 | 0 | |
| Subtotal Area | 6.74 | | 0 | | 0 | | 0 | | 0 | | | | |

| Pervious Landuses Present: | | | | | | | | | | | | Subtotals | |
|-----------------------------|-----------|----|-----------|----|-----------|----|--------------|----|------------|------------------------|--------|-----------|--|
| Soils | Woodland | | Meadow | | Wetland | | Lawn/Pasture | | Cultivated | | Area | A*CN | |
| | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | Area (ha) | CN | | | |
| Ls | 19.44 | 60 | 3.04 | 65 | 0.01 | 50 | 4.13 | 69 | 42.17 | 74 | 68.79 | 4770.28 | |
| Hs | 20.32 | 60 | 9.17 | 65 | 0.05 | 50 | 11.85 | 69 | 171.00 | 74 | 212.38 | 15289.03 | |
| Pal | 2.82 | 73 | 4.43 | 76 | 0.00 | 50 | 0.97 | 79 | 20.14 | 82 | 28.37 | 2271.07 | |
| M | 58.35 | 79 | 18.28 | 81 | 0.02 | 50 | 0.02 | 84 | 24.26 | 86 | 100.92 | 8178.53 | |
| Subtotal Area | 100.92 | | 34.92 | | 0.08 | | 16.96 | | 257.57 | | | | |
| Composite Area Calculations | | | | | | | | | | Total Pervious Area | 410.46 | | |
| | | | | | | | | | | Total Impervious Area | 6.7361 | | |
| | | | | | | | | | | % Impervious | 0.016 | | |
| | | | | | | | | | | Composite Curve Number | 74.7 | | |
| Total Area Check | | | | | | | | | | 417.2 | | | |

Initial Abstraction and Tp Calculations

| Initial Abstraction | | | | Composite Curve Number | | | | | | | | |
|---------------------|---------|-----------|--------|------------------------------|-------|---------------------|--------|---------------|-------|------|------|----------|
| Landuse | IA (mm) | Area (ha) | A * IA | Listowell Silt Loam | | Harriston Silt Loam | | Parkhill Loam | | Muck | | A*RC |
| | | | | RC | Area | RC | Area | RC | Area | RC | Area | |
| Woodland | 10 | 100.9 | 1009.2 | 0.25 | 19.44 | 0.25 | 20 | 0.35 | 3 | 0.35 | 58 | 31.34738 |
| Meadow | 8 | 34.9 | 279.4 | 0.28 | 3.04 | 0.28 | 9 | 0.40 | 4 | 0.40 | 18 | 12.50393 |
| Wetland | 16 | 0.1 | 1.3 | 0.05 | 0.01 | 0.05 | 0.05 | | 0 | 0.05 | 0.02 | 0.004182 |
| Lawn/Pasture | 5 | 17.0 | 84.8 | 0.28 | 4.13 | 0.28 | 12 | 0.40 | 1 | 0.40 | 0 | 4.867269 |
| Cultivated | 7 | 257.6 | 1803.0 | 0.35 | 42.17 | 0.35 | 171.00 | 0.55 | 20.14 | 0.55 | 24 | 99.03074 |
| Impervious | 2 | 6.7 | 13.5 | 0.95 | 1.82 | 0.95 | 5 | 0.95 | 0 | 0.95 | 0 | 6.399328 |
| Composite IA | | 417.2 | 7.65 | Composite Runoff Coefficient | | | | | | | | 0.369494 |

| Time to Peak Inputs | | | | | | Uplands | | | Bransby Williams | | Airport | |
|-----------------------|------------|----------|-----------|--------------------|----------------|---------|---------|---------------|------------------|---------|---------|---------|
| Flow Path Description | Length (m) | Drop (m) | Slope (%) | V/S ^{0.5} | Velocity (m/s) | Tc (hr) | Tp (hr) | TOTAL Tp (hr) | Tc (hr) | Tp (hr) | Tc (hr) | Tp (hr) |
| Channel | 4150 | 15 | 0.36% | 4.6 | 0.28 | 4.17 | 2.79 | 3.08 | 2.79 | 1.87 | 3.51 | 2.35 |
| Overland | 400 | 5 | 1.25% | 2.3 | 0.26 | 0.43 | 0.29 | | | | | |

Appropriate calculated time to peak: 1.87 Appropriate Method: Bransby Williams

APPENDIX G

STORMWATER MANAGEMENT FACILITY #3 CALCULATIONS



Water Quality Requirements

Project #: 1060-5384
Project: Dundalk Commercial
Date: 2020.01.17
By: HB

Post-development Scenario Water Quality Requirements for SWM Facility #3 Wetland

| Areas Contributing | Area (ha) | % Imp | 25mm RV (mm) | 25mm RV (m ³) |
|---|--------------|-----------|--------------|---------------------------|
| FB2 | 10.1 | 59 | 11.76 | 1188 |
| SWMF3 | 1.21 | 50 | 13.36 | 162 |
| TOTAL | 11.31 | 58 | | 1349 |
| MOE Total WQ Volume (m ³ /ha) | | | | 108 |
| MOE ED Volume (m ³ /ha) | | | | 40 |
| MOE ED Volume (m ³) | | | | 452 |
| MOE PP Volume (m ³ /ha) | | | | 68 |
| MOE PP Volume (m ³) | | | | 769 |
| Pond Required ED Volume (m ³) | | | | 1349 |
| Pond Required PP Volume (m ³) | | | | 769 |
| Available ED Volume | | | | 1349 |
| Provided PP Volume (m ³)* | | | | 1262 |

* $PP Vol = (Avg. PP Area in Forebay \times Forebay Depth) + (Avg. PP Area in Main Cell \times Main Cell Depth)$

$$PP Vol = \left(\frac{223m^2 + 721m^2}{2} \times 1m \right) + \left(\frac{2445m^2 + 2820m^2}{2} \times 0.3m \right) = 1262m^3$$



**CROZIER
& ASSOCIATES**
Consulting Engineers

Project: 1060-5384
Project No.: Dundalk Commercial
File: Extended Detention
Design by: HB
Date: 2020.01.17

EXTENDED DETENTION SPECIFICATIONS - SWM FACILITY #3

(Per MOECC)

| | | | |
|---|-----------------|-----|---------------|
| Extended Detention Volume (Area x runoff from 25mm event) | | | 1349 |
| t (drawdown time - seconds, <i>hours in italics</i>) | 37.5 | | 135000 |
| Ao (cross section area of orifice - sqm) | | | 0.0123 |
| h (maximum water elevation above orifice for extended detention- m) | | | 0.35 |
| C (discharge coefficient) | | | 0.64 |
| Ap (average surface area for extended detention - sqm) | | | 3997 |
| $t = 2 * A_p * (h^{0.5}) / (C * A_o * (g * 2)^{0.5})$ | | | |
| Ao = | 0.012357419 sqm | d = | 125 mm |
| Extended Detention Orifice Diameter (as designed) | | d = | 125 mm |



**CROZIER
& ASSOCIATES**
Consulting Engineers

Project: 1060-5384
 Project No.: Dundalk Commercial
 File: Stage Storage Discharge
 Design by: BH
 Date: June 1, 2016
 MOD: 2020.01.14

**SWM Facility #3 Pond Stage Storage Outflow Calculations
& Extended Detention Calculations (per GRCA)**

Outlet Structure Dimensions

E.D. Orifice Diameter: 0.125 m
 E.D. Orifice Invert Elevation: 512.4 m
 Spillway Elev. 514.3 m
 Spillway Bot. Width 20 m
 Trap. Side Slopes 6:1

| Pond Dimensions | | | | East Outlet Structure Discharge | | | | Total | | |
|-----------------|----------|-------|---------|---------------------------------|-----------------|-----------|-----------|-----------|--------------|--------------|
| Elev. | Depth | Area | Storage | ED Orifice | Spillway | Spillway | Total | ED Draw- | Total | Storage |
| (m) | Above PP | (sqm) | Volume | Discharge | Ave. Weir Width | Discharge | Discharge | down time | Discharge | (ha-m) |
| | (m) | | (cu.m) | (cu.m/s) | (m) | (cu.m/s) | (cu.m/s) | (hrs) | (cu.m/s) | |
| 512.40 | 0.00 | 3541 | 0 | 0.000 | 0.00 | 0.000 | 0.000 | | 0.000 | 0.000 |
| 512.50 | 0.10 | 3737 | 364 | 0.007 | 0.00 | 0.000 | 0.007 | 30.008 | 0.007 | 0.036 |
| 512.60 | 0.20 | 3933 | 747 | 0.013 | 0.00 | 0.000 | 0.013 | 10.849 | 0.013 | 0.075 |
| 512.68 | 0.28 | 4089 | 1068 | 0.016 | 1.00 | 0.000 | 0.016 | 6.121 | 0.016 | 0.107 |
| 512.70 | 0.30 | 4128 | 1150 | 0.017 | 10.40 | 0.000 | 0.017 | | 0.017 | 0.115 |
| 512.75 | 0.35 | 4226 | 1349 | 0.019 | 10.70 | 0.000 | 0.019 | | 0.019 | 0.135 |
| 512.80 | 0.40 | 4324 | 1573 | 0.020 | 11.00 | 0.000 | 0.020 | | 0.020 | 0.157 |
| 512.90 | 0.50 | 4520 | 2015 | 0.023 | 11.60 | 0.000 | 0.023 | | 0.023 | 0.202 |
| 513.00 | 0.60 | 4768 | 2480 | 0.026 | 12.20 | 0.000 | 0.0255 | | 0.026 | 0.248 |
| 513.05 | 0.65 | 4891 | 2721 | 0.027 | 12.50 | 0.000 | 0.027 | | 0.027 | 0.272 |
| 513.10 | 0.70 | 5015 | 2969 | 0.028 | 12.80 | 0.000 | 0.028 | | 0.028 | 0.297 |
| 513.20 | 0.80 | 5263 | 3483 | 0.030 | 13.40 | 0.000 | 0.030 | | 0.030 | 0.348 |
| 513.30 | 0.90 | 5510 | 4021 | 0.032 | 14.00 | 0.000 | 0.032 | | 0.032 | 0.402 |
| 513.40 | 1.00 | 5758 | 4585 | 0.034 | 14.60 | 0.000 | 0.034 | | 0.034 | 0.458 |
| 513.50 | 1.10 | 6006 | 5173 | 0.035 | 15.20 | 0.000 | 0.035 | | 0.035 | 0.517 |
| 513.60 | 1.20 | 6253 | 5786 | 0.037 | 15.80 | 0.000 | 0.037 | | 0.037 | 0.579 |
| 513.70 | 1.30 | 6501 | 6424 | 0.039 | 16.40 | 0.000 | 0.039 | | 0.039 | 0.642 |
| 513.80 | 1.40 | 6748 | 7086 | 0.040 | 17.00 | 0.000 | 0.040 | | 0.040 | 0.709 |
| 513.90 | 1.50 | 6996 | 7773 | 0.042 | 17.60 | 0.000 | 0.042 | | 0.042 | 0.777 |
| 514.00 | 1.60 | 7243 | 8485 | 0.043 | 18.20 | 0.000 | 0.043 | | 0.043 | 0.849 |
| 514.10 | 1.70 | 7491 | 9222 | 0.045 | 18.80 | 0.000 | 0.045 | | 0.045 | 0.922 |
| 514.20 | 1.80 | 7677 | 9980 | 0.046 | 19.40 | 0.000 | 0.046 | | 0.046 | 0.998 |
| 514.30 | 1.90 | 7863 | 10757 | 0.047 | 20.00 | 0.000 | 0.047 | | 0.047 | 1.076 |
| 514.40 | 2.00 | 8049 | 11553 | 0.048 | 20.60 | 1.199 | 1.247 | | 1.247 | 1.155 |

Total ED Draw Down Time (hrs) 46.978

APPENDIX H

SWMHYMO MODELLING DATA

```

00001 2 Metric units
00002 # Project Name: [Dundalk Meadows Phase 7 & 8] Project Number: [1060-5177]
00003 # Date: [2020.01.13]
00004 # Modeler: [R. Birrell]
00005 # Company: [C.F. Crozier & Associates Inc.]
00006 # License #: [370316]
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00181 # Previous surfaces: Iaper=5(mm), SLPF=2.0(%)
00182 # LGP=40(m), MNP=0.25(1), SCP=0(min),
00183 # Impervious surfaces: IImp=2(mm), SLPF=0.5(%)
00184 # LGI=37(m), MNI=0.013(1), SCT=0(min),
00185 # RAINFALL= , , , (mm/hr), END=1
00186 #
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Input File

```
00361 ADD HYD IDsum=9, NHYD="Foley Drain", Ids to add=[4+5+7+8]
00362 *#-----
00363 CALIB STANHYD ID=[4], NHYD="Ext 4", DT=[1]min, AREA=[6.3] (ha),
DWF=[0] (cm), CN/C=[64.8], IA=[10] (mm),
N=[3], TP=[0.41]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
00364 *#-----
00365 ADD HYD IDsum=[5], NHYD="Pc of IntP", Ids to add=[9+4]
00366 *#-----
00367 ADD HYD IDsum=[10], NHYD="* of IntP", Ids to add=[1+2+3+6]
00368 *#-----
00369 *#-----
00370 *#-----
00371 *#-----
00372 *#-----
00373 *#-----
00374 *#-----
00375 *# 2222 Y Y RRRR CCCC H H IIIIII
00376 *# 2 Y Y R R C H H I
00377 *# 222 Y RRRR H H H I
00378 *# 2 Y R R R C H H I
00379 *# 2222 Y R R CCCC H H IIIIII
00380 *#-----
00381 *#-----
00382 *#-----
00383 *#-----
00384 *#-----
00385 CHICAGO STORM IUNITS=[2], ID=[3] (hrs), FPAAT=[0.333], CSDF=[5] (min),
ICASEs=[2],
Enter ordinates of IDF curve below, at least seven points
TIME (min) Intensity (mm/hr)
00386 [5] [17.8]
00387 [10] [32.8]
00388 [15] [50.0]
00389 [30] [84.0]
00390 [60] [121.0]
00391 [120] [175.0]
00392 [180] [240.0]
00393 [240] [324.0]
00394 [300] [420.0]
00395 [360] [525.0]
00396 [420] [648.0]
00397 [480] [792.0]
00398 [-1 -1]
00399 *#-----
00400 *#-----
00401 *# Controlled Runoff From ZONE 1
00402 *#-----
00403 *#-----
00404 *#-----
00405 *#-----
00406 *#-----
00407 *#-----
00408 *# West Site Area -----
00409 *#-----
00410 CALIB NASHYD ID=[1], NHYD="Ext 5", DT=[1]min, AREA=[0.97] (ha),
DWF=[0] (cm), CN/C=[77.7], IA=[4.5] (mm),
N=[3], TP=[0.26]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
00411 *#-----
00412 *#-----
00413 *#-----
00414 *#-----
00415 CALIB STANHYD ID=[2], NHYD="FB 21-1", DT=[1]min, AREA=[12.37] (ha),
XIMP=[0.3], TMP=[0.50], DWF=[0] (cm), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
Impervious surfaces: IAImp=[2] (mm), SLP=[0.5] (%),
LGI=[287] (m), NHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
00416 *#-----
00417 *#-----
00418 *#-----
00419 *#-----
00420 *#-----
00421 *#-----
00422 *#-----
00423 *#-----
00424 CALIB STANHYD ID=[3], NHYD="FB 21-3", DT=[1]min, AREA=[0.98] (ha),
XIMP=[0.3], TMP=[0.50], DWF=[0] (cm), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
Impervious surfaces: IAImp=[2] (mm), SLP=[0.5] (%),
LGI=[140] (m), NHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
00425 *#-----
00426 *#-----
00427 *#-----
00428 *#-----
00429 *#-----
00430 *#-----
00431 *#-----
00432 *#-----
00433 CALIB STANHYD ID=[4], NHYD="SMMPF1", DT=[1]min, AREA=[1.9] (ha),
XIMP=[0.5], TMP=[0.5], DWF=[0] (cm), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
Impervious surfaces: IAImp=[2] (mm), SLP=[0.5] (%),
LGI=[140] (m), NHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
00434 *#-----
00435 *#-----
00436 *#-----
00437 *#-----
00438 *#-----
00439 *#-----
00440 *#-----
00441 *#-----
00442 *#-----
00443 *#-----
00444 *#-----
00445 *#-----
00446 *#-----
00447 *#-----
00448 *#-----
00449 *#-----
00450 *#-----
00451 *#-----
00452 *#-----
00453 *#-----
00454 *#-----
00455 *#-----
00456 *#-----
00457 *#-----
00458 *#-----
00459 *#-----
00460 *#-----
00461 *#-----
00462 *#-----
00463 *#-----
00464 *#-----
00465 *#-----
00466 *#-----
00467 *#-----
00468 *#-----
00469 *#-----
00470 *#-----
00471 *#-----
00472 *#-----
00473 *#-----
00474 *#-----
00475 *#-----
00476 *#-----
00477 *#-----
00478 *#-----
00479 *#-----
00480 *#-----
00481 *#-----
00482 *#-----
00483 *#-----
00484 *#-----
00485 *#-----
00486 *#-----
00487 *#-----
00488 *#-----
00489 *#-----
00490 *#-----
00491 *#-----
00492 *#-----
00493 *#-----
00494 *#-----
00495 *#-----
00496 *#-----
00497 *#-----
00498 *#-----
00499 CALIB NASHYD ID=[5], NHYD="FB 21-2", DT=[1]min, AREA=[5.68] (ha),
DWF=[0] (cm), CN/C=[74.1], IA=[6.1] (mm),
N=[3], TP=[0.47]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
00500 *#-----
00501 *#-----
00502 *#-----
00503 *#-----
00504 *#-----
00505 *#-----
00506 *#-----
00507 *#-----
00508 *#-----
00509 *#-----
00510 *#-----
00511 *#-----
00512 *#-----
00513 *#-----
00514 *#-----
00515 *#-----
00516 *#-----
00517 *#-----
00518 *#-----
00519 *#-----
00520 *#-----
00521 *#-----
00522 *#-----
00523 *#-----
00524 *#-----
00525 *#-----
00526 *#-----
00527 *#-----
00528 *#-----
00529 CALIB NASHYD ID=[6], NHYD="Ext 3", DT=[1]min, AREA=[1.55] (ha),
DWF=[0] (cm), CN/C=[60], IA=[10] (mm),
N=[3], TP=[0.47]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
00530 *#-----
00531 *#-----
00532 *#-----
00533 *#-----
00534 *#-----
00535 *#-----
00536 *#-----
00537 *#-----
00538 *#-----
00539 *#-----
00540 *#-----
```

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00541 *#-----
00542 *#-----
00543 *#-----
00544 CALIB STANHYD ID=[3], NHYD="FB1-A", DT=[1]min, AREA=[14.70] (ha),
XIMP=[0.3], TMP=[0.5], DWF=[0] (cm), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
Impervious surfaces: IAImp=[2] (mm), SLP=[0.5] (%),
LGI=[313] (m), NHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
00545 *#-----
00546 *#-----
00547 *#-----
00548 *#-----
00549 *#-----
00550 *#-----
00551 *#-----
00552 *#-----
00553 CALIB STANHYD ID=[4], NHYD="MINOR", DT=[1]min, AREA=[0.21] (ha),
XIMP=[0.6], TMP=[0.6], DWF=[0] (cm), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
Impervious surfaces: IAImp=[2] (mm), SLP=[0.5] (%),
LGI=[37] (m), NHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
00554 *#-----
00555 *#-----
00556 *#-----
00557 *#-----
00558 *#-----
00559 *#-----
00560 *#-----
00561 *#-----
00562 *#-----
00563 *#-----
00564 *#-----
00565 *#-----
00566 *#-----
00567 *#-----
00568 *#-----
00569 *#-----
00570 *#-----
00571 CALIB STANHYD ID=[4], NHYD="FB1-A", DT=[1]min, AREA=[0.33] (ha),
XIMP=[0.3], TMP=[0.38], DWF=[0] (cm), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
Impervious surfaces: IAImp=[2] (mm), SLP=[0.5] (%),
LGI=[287] (m), NHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
00572 *#-----
00573 *#-----
00574 *#-----
00575 *#-----
00576 *#-----
00577 *#-----
00578 *#-----
00579 *#-----
00580 CALIB STANHYD ID=[7], NHYD="SMMPF2", DT=[1]min, AREA=[1.1] (ha),
XIMP=[0.5], TMP=[0.5], DWF=[0] (cm), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
Impervious surfaces: IAImp=[2] (mm), SLP=[0.5] (%),
LGI=[86] (m), NHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
00581 *#-----
00582 *#-----
00583 *#-----
00584 *#-----
00585 *#-----
00586 *#-----
00587 *#-----
00588 *#-----
00589 *#-----
00590 ADD HYD IDsum=[8], NHYD="F2 In", Ids to add=[3+5+4+7]
00591 *#-----
00592 *#-----
00593 *#-----
00594 ROUTE RESERVOIR IDout=[3], NHYD="F2Out", IDin=[8],
RTD=[1] (min),
TABLE OF (OUTFLOW-STORAGE) values
(cm) - (ft-m)
[ 0.0, 0.0 ]
[ 0.008, 0.048 ]
[ 0.009, 0.123 ]
[ 0.036, 0.204 ]
[ 0.060, 0.261 ]
[ 0.080, 0.320 ]
[ 0.110, 0.350 ]
[ 0.140, 0.380 ]
[ 0.239, 0.443 ]
[ 0.349, 0.574 ]
[ 0.482, 0.642 ]
[ 1.134, 0.711 ]
[ 2.136, 0.782 ]
[ 1.746, 0.818 ]
[ 1.924, 0.847 ]
[ 1.984, 0.855 ]
[ 3.005, 0.940 ]
[ 4.349, 1.021 ]
[ 12.016, 1.330 ]
IDov=[4], NHYDov="F2Over"
00595 *#-----
00596 *#-----
00597 *#-----
00598 *#-----
00599 *#-----
00600 *#-----
00601 *#-----
00602 *#-----
00603 *#-----
00604 *#-----
00605 *#-----
00606 *#-----
00607 *#-----
00608 *#-----
00609 *#-----
00610 *#-----
00611 *#-----
00612 *#-----
00613 *#-----
00614 *#-----
00615 *#-----
00616 *#-----
00617 *#-----
00618 *#-----
00619 *#-----
00620 ADD HYD IDsum=[5], NHYD="F2 Out", Ids to add=[3+4]
00621 *#-----
00622 *#-----
00623 *#-----
00624 *#-----
00625 *#-----
00626 *#-----
00627 *#-----
00628 *#-----
00629 *#-----
00630 *#-----
00631 *#-----
00632 *#-----
00633 *#-----
00634 *#-----
00635 *#-----
00636 *#-----
00637 *#-----
00638 *#-----
00639 *#-----
00640 *#-----
00641 *#-----
00642 *#-----
00643 *#-----
00644 *#-----
00645 *#-----
00646 *#-----
00647 *#-----
00648 *#-----
00649 *#-----
00650 *#-----
00651 *#-----
00652 *#-----
00653 CALIB NASHYD ID=[5], NHYD="Ext-2", DT=[1]min, AREA=[41.2] (ha),
DWF=[0] (cm), CN/C=[74.7], IA=[7.65] (mm),
N=[3], TP=[0.87]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
00654 *#-----
00655 *#-----
00656 *#-----
00657 *#-----
00658 CALIB NASHYD ID=[7], NHYD="NAT", DT=[1]min, AREA=[6.51] (ha),
DWF=[0] (cm), CN/C=[79.1], IA=[6.4] (mm),
N=[3], TP=[0.16]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
00659 *#-----
00660 *#-----
00661 *#-----
00662 *#-----
00663 *#-----
00664 *#-----
00665 *#-----
00666 *#-----
00667 *#-----
00668 *#-----
00669 *#-----
00670 *#-----
00671 *#-----
00672 *#-----
00673 *#-----
00674 *#-----
00675 *#-----
00676 *#-----
00677 *#-----
00678 *#-----
00679 *#-----
00680 *#-----
00681 *#-----
00682 *#-----
00683 *#-----
00684 *#-----
00685 *#-----
00686 *#-----
00687 *#-----
00688 *#-----
00689 *#-----
00690 *#-----
00691 *#-----
00692 *#-----
00693 *#-----
00694 CALIB STANHYD ID=[7], NHYD="F2B", DT=[1]min, AREA=[10.1] (ha),
XIMP=[0.3], TMP=[0.578], DWF=[0] (cm), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
Impervious surfaces: IAImp=[2] (mm), SLP=[0.5] (%),
LGI=[40] (m), NHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
00695 *#-----
00696 *#-----
00697 *#-----
00698 *#-----
00699 *#-----
00700 *#-----
00701 *#-----
00702 *#-----
00703 CALIB STANHYD ID=[8], NHYD="SMMP3", DT=[1]min, AREA=[1.21] (ha),
XIMP=[0.5], TMP=[0.50], DWF=[0] (cm), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
Impervious surfaces: IAImp=[2] (mm), SLP=[0.5] (%),
LGI=[250] (m), NHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
00704 *#-----
00705 *#-----
00706 *#-----
00707 *#-----
00708 *#-----
00709 *#-----
00710 *#-----
00711 *#-----
00712 *#-----
00713 *#-----
00714 *#-----
00715 *#-----
00716 *#-----
00717 *#-----
00718 *#-----
00719 *#-----
00720 *#-----
```

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00721*      [ 0.0, 0.0 ]
00722*      [ 0.007, 0.0361 ]
00723*      [ 0.013, 0.075 ]
00724*      [ 0.016, 0.107 ]
00725*      [ 0.017, 0.135 ]
00726*      [ 0.023, 0.202 ]
00727*      [ 0.027, 0.282 ]
00728*      [ 0.030, 0.348 ]
00729*      [ 0.035, 0.517 ]
00730*      [ 0.040, 0.709 ]
00731*      [ 0.045, 0.922 ]
00732*      [ 1.247, 1.033 ]
00733*      [ -1, -1 ] (max twenty pts)
00734*      Idovf=[1], NHYDovf=["#2Over*"]
00735*      IDsum=[9], NHYD=["Foley Drain"], Ids to add=[4+5+7+8]
00736*      ADD HYD
00737*      CALIB NASHYD ID=[4], NHYD=["Ext 4"], DT=[1]min, AREA=[6.3] (ha),
DWF=[0] (cms), CN/C=[64.8], IA=[10] (mm),
N=[3], TP=[0.47]hrs,
RAINFALL=[ , , , ] (mm/hr), END=1
00740*      RAINFALL=[ , , , ] (mm/hr), END=1
00743*      ADD HYD IDsum=[5], NHYD=["Fc of Int#"], Ids to add=[9+4]
00744*      ADD HYD IDsum=[10], NHYD=["Fc of Int#"], Ids to add=[1+2+3+6]
00745*      ADD HYD
00747*      CHICAGO STORM
UNITS=[2], ID=[3] (hrs), FPAAT=[0.333], CSDT=[5] (min),
ICASE=[2],
ICASE=[2],
Enter ordinates of IDF curve below, at least seven points
TIME (min) Intensity (mm/hr)
00746*      [ 5 ] [ 138.4 ]
00747*      [ 10 ] [ 88.0 ]
00748*      [ 15 ] [ 74.0 ]
00749*      [ 30 ] [ 45.8 ]
00750*      [ 60 ] [ 28.3 ]
00751*      [ 120 ] [ 17.5 ]
00752*      [ 180 ] [ 8.2 ]
00753*      [ 270 ] [ 5.1 ]
00754*      [ 360 ] [ 3.1 ]
00755*      [ -1 ] [ -1 ]
00756*      Controlled Runoff From ZONE 1
00757*      SWM Facility #1 Area
00758*      West Site Area
00759*      CALIB NASHYD ID=[1], NHYD=["Ext 5"], DT=[1]min, AREA=[0.97] (ha),
DWF=[0] (cms), CN/C=[77.7], IA=[4.5] (mm),
N=[3], TP=[0.26]hrs,
RAINFALL=[ , , , ] (mm/hr), END=1
00780*      CALIB STANDHYD ID=[2], NHYD=["FB 21-1"], DT=[1] (min), AREA=[12.37] (ha),
XMP=[0.3], TWP=[0.50], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAIMP=[2] (mm), SLPF=[0.5] (%),
LGI=[287] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=1
00789*      CALIB STANDHYD ID=[3], NHYD=["FB 21-3"], DT=[1] (min), AREA=[0.98] (ha),
XMP=[0.3], TWP=[0.50], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAIMP=[2] (mm), SLPF=[0.5] (%),
LGI=[81] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=1
00800*      CALIB STANDHYD ID=[4], NHYD=["SWMP#1"], DT=[1] (min), AREA=[1.9] (ha),
XMP=[0.5], TWP=[0.5], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAIMP=[2] (mm), SLPF=[0.5] (%),
LGI=[113] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=1
00816*      ADD HYD IDsum=[5], NHYD=["F#1 In"], Ids to add=[1+2+3+4]
00817*      ADD HYD
00818*      SWM Facility #1
00819*      ROUTE RESERVOIR Idout=[1], NHYD=["#2 Out"], Idin=[5],
RT=[1] (min),
TABLE OF (OUTFLOW-STORAGE) values
(cms) - (ha-m)
00820*      [ 0.0, 0.0 ]
00821*      [ 0.005, 0.034 ]
00822*      [ 0.011, 0.114 ]
00823*      [ 0.013, 0.164 ]
00824*      [ 0.017, 0.297 ]
00825*      [ 0.018, 0.380 ]
00826*      [ 0.020, 0.523 ]
00827*      [ 0.022, 0.764 ]
00828*      [ 0.027, 0.848 ]
00829*      [ 0.252, 1.092 ]
00830*      [ -1, -1 ] (max twenty pts)
00831*      Idovf=[2], NHYDovf=["#2Over*"]
00832*      Watercourse Flows- ZONE 1
00833*      Small Unsewered Tributary
00834*      East Watercourse Area
00835*      Folley Drain
00836*      CALIB NASHYD ID=[3], NHYD=["Ext 1"], DT=[1]min, AREA=[41.2] (ha),
DWF=[0] (cms), CN/C=[74.1], IA=[6.1] (mm),
N=[3], TP=[0.47]hrs,
RAINFALL=[ , , , ] (mm/hr), END=1
00850*      ROUTE CHANNEL Idout=[4], NHYD=["SiteLag"], Idin=[3],
RDT=[1] (min),
CHSLOP=[150] (m), CHSLOPE=[0.96] (%),
FSSLOP=[0.96] (%),
NSEG=[3]
( SEGR008, SEDDIST (m)=[0.035,75.5 -0.045,78.5 0.035,151.0] NSEG Times
(DISTANCE (m), ELEVATION (m))=[ 31.0, 515.00 ]
00859*      [ 48.0, 514.81 ]
00860*      [ 60.0, 514.69 ]
00861*      [ 68.5, 514.54 ]
00862*      [ 75.5, 514.23 ]
00863*      [ 76.0, 514.06 ]
00864*      [ 77.5, 514.06 ]
00865*      [ 78.5, 514.36 ]
00866*      [ 79.5, 514.39 ]
00867*      [ 82.5, 514.49 ]
00868*      [ 103.5, 514.51 ]
00869*      [ 130.5, 514.67 ]
00870*      CALIB NASHYD ID=[5], NHYD=["FB 21-2"], DT=[1]min, AREA=[5.68] (ha),
DWF=[0] (cms), CN/C=[71], IA=[6.4] (mm),
N=[3], TP=[0.40]hrs,
RAINFALL=[ , , , ] (mm/hr), END=1
00879*      Total Flow at South Property Line
00880*      ADD HYD IDsum=[3], NHYD=["UNC PL"], Ids to add=[1+2+4+5]
00882*      ROUTE CHANNEL Idout=[1], NHYD=["DS Lag"], Idin=[3],
RDT=[1] (min),
CHSLOP=[150] (m), CHSLOPE=[0.96] (%),
FSSLOP=[0.96] (%),
NSEG=[3]
( SEGR008, SEDDIST (m)=[0.035,75.5 -0.045,78.5 0.035,151.0] NSEG Times
(DISTANCE (m), ELEVATION (m))=[ 31.0, 515.00 ]
00889*      [ 48.0, 514.81 ]
00890*      [ 60.0, 514.69 ]
00891*      [ 68.5, 514.54 ]
00892*      [ 75.5, 514.23 ]
00893*      [ 76.0, 514.06 ]
00894*      [ 77.5, 514.06 ]
00895*      [ 78.5, 514.36 ]
00896*      [ 79.5, 514.39 ]
00897*      [ 82.5, 514.49 ]
00898*      [ 103.5, 514.51 ]
00899*      [ 130.5, 514.67 ]

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00901*      [130.5, 514.50]
00902*      [131.0, 515.00]
00903*      CALIB NASHYD ID=[2], NHYD=["Ext 3"], DT=[1]min, AREA=[1.55] (ha),
DWF=[0] (cms), CN/C=[60], IA=[10] (mm),
N=[3], TP=[0.47]hrs,
RAINFALL=[ , , , ] (mm/hr), END=1
00908*      Controlled Runoff From ZONE 2
00910*      CALIB STANDHYD ID=[3], NHYD=["FB1"], DT=[1] (min), AREA=[14.70] (ha),
XMP=[0.33], TWP=[0.5], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAIMP=[2] (mm), SLPF=[0.5] (%),
LGI=[131] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=1
00920*      CALIB STANDHYD ID=[4], NHYD=["MINOR"], DT=[1] (min), AREA=[0.21] (ha),
XMP=[0.61], TWP=[0.41], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAIMP=[2] (mm), SLPF=[0.5] (%),
LGI=[37] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=1
00930*      DIVERGENT HYD ID=[4], NIDOUT=[2]max flow,
outflow hydrographs (ID, NHYD)=[5,"MINOR"/ 6,"MAJOR"]
flow distribution table: (modify as necessary)
Note: all flows are in (cms)
00941*      QDI + QDII = QTOTAL
00942*      [ 0.000 + 0.000 = 0.000 ]
00943*      [ 0.035 + 0.000 = 0.035 ]
00944*      [ 0.035 + 10.000 = 10.035]end
00945*      CALIB STANDHYD ID=[4], NHYD=["FB1-A"], DT=[1] (min), AREA=[0.33] (ha),
XMP=[0.01], TWP=[0.384], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAIMP=[2] (mm), SLPF=[0.5] (%),
LGI=[47] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=1
00954*      CALIB STANDHYD ID=[7], NHYD=["SWMP#2"], DT=[1] (min), AREA=[1.1] (ha),
XMP=[0.51], TWP=[0.51], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAIMP=[2] (mm), SLPF=[0.5] (%),
LGI=[86] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=1
00960*      ADD HYD IDsum=[8], NHYD=["#2 In"], Ids to add=[3+5+4+7]
00966*      ROUTE RESERVOIR Idout=[3], NHYD=["#2 Out"], Idin=[8],
RT=[1] (min),
TABLE OF (OUTFLOW-STORAGE) values
(cms) - (ha-m)
00970*      [ 0.0, 0.0 ]
00971*      [ 0.008, 0.048 ]
00972*      [ 0.009, 0.133 ]
00973*      [ 0.006, 0.204 ]
00974*      [ 0.006, 0.261 ]
00975*      [ 0.080, 0.320 ]
00976*      [ 0.110, 0.350 ]
00977*      [ 0.146, 0.380 ]
00978*      [ 0.239, 0.443 ]
00979*      [ 0.262, 0.574 ]
00980*      [ 0.828, 0.642 ]
00981*      [ 1.154, 0.711 ]
00982*      [ 1.746, 0.818 ]
00983*      [ 1.928, 0.847 ]
00984*      [ 1.984, 0.855 ]
00985*      [ 3.005, 0.940 ]
00986*      [ 4.349, 1.032 ]
00987*      [ 12.016, 1.330 ]
00988*      [ -1, -1 ] (max twenty pts)
00993*      Idovf=[4], NHYDovf=["#2Over*"]
00994*      ADD HYD IDsum=[5], NHYD=["#2 Out"], Ids to add=[3+4]
00995*      DIVERGENT HYD ID=[5], NIDOUT=[2]max flow,
outflow hydrographs (ID, NHYD)=[3,"#Two"/ 4,"#Two"]
flow distribution table: (modify as necessary)
Note: all flows are in (cms)
01001*      QDI + QDII = QTOTAL
01002*      [ 0.000 + 0.000 = 0.000 ]
01003*      [ 0.000 + 0.008 = 0.008 ]
01004*      [ 0.000 + 0.022 = 0.022 ]
01005*      [ 0.000 + 0.033 = 0.033 ]
01006*      [ 0.000 + 0.044 = 0.044 ]
01007*      [ 0.013 + 0.062 = 0.060 ]
01008*      [ 0.053 + 0.093 = 0.146 ]
01009*      [ 0.097 + 0.143 = 0.239 ]
01010*      [ 0.208 + 0.352 = 0.560 ]
01011*      [ 0.345 + 0.809 = 1.154 ]
01012*      [ 0.463 + 1.285 = 1.748 ]
01013*      [ 0.503 + 1.486 = 1.988 ]
01014*      [ 0.589 + 2.584 = 3.173 ]
01015*      [ 0.678 + 4.312 = 4.991 ]
01016*      [ 0.975 + 12.716 = 13.692] end
01018*      Watercourse Flows- ZONE 2
01019*      East Watercourse Area
01020*      Folley Drain
01021*      CALIB NASHYD ID=[5], NHYD=["Ext-2"], DT=[1]min, AREA=[41.2] (ha),
DWF=[0] (cms), CN/C=[74.7], IA=[7.65] (mm),
N=[3], TP=[0.47]hrs,
RAINFALL=[ , , , ] (mm/hr), END=1
01031*      CALIB NASHYD ID=[7], NHYD=["NA*"], DT=[1]min, AREA=[6.51] (ha),
DWF=[0] (cms), CN/C=[79.1], IA=[6.4] (mm),
N=[3], TP=[0.46]hrs,
RAINFALL=[ , , , ] (mm/hr), END=1
01037*      ADD HYD IDsum=[8], NHYD=["Fin"], Ids to add=[5+7]
01039*      ROUTE CHANNEL Idout=[5], NHYD=["SiteLag"], Idin=[8],
RDT=[1] (min),
CHSLOP=[150] (m), CHSLOPE=[0.65] (%),
FSSLOP=[0.65] (%),
NSEG=[3]
( SEGR008, SEDDIST (m)=[0.035,215.60 -0.045,221.70 0.035,266.50] NSEG times
(DISTANCE (m), ELEVATION (m))=[179.70, 514.50 ]
01047*      [ 196.60, 514.00 ]
01048*      [ 215.60, 513.59 ]
01049*      [ 216.55, 513.00 ]
01050*      [ 217.20, 512.50 ]
01051*      [ 217.45, 512.46 ]
01052*      [ 217.80, 512.50 ]
01053*      [ 218.35, 513.00 ]
01054*      [ 221.30, 513.50 ]
01055*      [ 221.70, 513.71 ]
01056*      [ 230.40, 513.71 ]
01057*      [ 243.80, 514.00 ]
01058*      [ 249.40, 514.12 ]
01059*      [ 259.50, 514.28 ]
01060*      [ 264.50, 514.50 ]
01061*      Controlled Runoff From ZONE 3
01062*      CALIB STANDHYD ID=[7], NHYD=["FB2"], DT=[1] (min), AREA=[10.1] (ha),
XMP=[0.32], TWP=[0.578], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: IAPER=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAIMP=[2] (mm), SLPF=[0.5] (%),
LGI=[250] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=1
01076*      CALIB STANDHYD ID=[8], NHYD=["SWMP3"], DT=[1] (min), AREA=[1.21] (ha),
XMP=[0.50], TWP=[0.50], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],

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01081# Pervious surfaces: Iaper=5(mm), SLPF=2.0(%)
01082# LGP=40(m), MNP=0.25, SCF=0(min),
01083# Imperious surfaces: IAlmp=2(mm), SLP=0.5(%)
01084# LGI=90(m), MNI=0.013, SCl=0(min),
01085# RAINFALL=[ , , , ](mm/hr), END=1
01086# -----
01087# ADD HYD IDsum=9, NHYD="Foley Drain", IDs to add={4+5+7+8}
01088# -----
01089# -----
01090# -----
01091# -----
01092# ROUTE RESERVOIR IDout={1}, NHYD="F#2Out", IDin={9},
01093# RDT={1}(min),
01094# -----
01095# TABLE of (OUTFLOW-STORAGE) values
01096# (cms) - (ha-m)
01097# [ 0.0, 0.0 ]
01098# [ 0.007, 0.161 ]
01099# [ 0.013, 0.075 ]
01100# [ 0.016, 0.107 ]
01101# [ 0.017, 0.115 ]
01102# [ 0.023, 0.202 ]
01103# [ 0.027, 0.212 ]
01104# [ 0.030, 0.348 ]
01105# [ 0.035, 0.537 ]
01106# [ 0.040, 0.708 ]
01107# [ 0.045, 0.922 ]
01108# [ 1.247, 11.355 ]
01109# [ -1, -1 ] (max twenty pts)
01110# IDovr={1}, NHYDovr="F#2Over"
01111# -----
01112# ADD HYD IDsum=9, NHYD="Foley Drain", IDs to add={4+5+7+8}
01113# -----
01114# CALIB NASHYD ID={4}, NHYD="Ext 4", DT={1}(min), AREA={6.3}(ha),
01115# XIMP={0}(cm), CN/C={64.8}, IA={10}(mm),
01116# N={3}, TP={0.47}hrs,
01117# RAINFALL=[ , , , ](mm/hr), END=1
01118# -----
01119# ADD HYD IDsum=5, NHYD="F# Int*", IDs to add={9+4}
01120# -----
01121# ADD HYD IDsum=10, NHYD="F# Int*", IDs to add={1+2+3+6}
01122# -----
01123# -----
01124# 11 000 Y Y RRRR CCCC H H IIIII
01125# 1 1 0 0 Y Y R R C H H H I
01126# 1 0 0 0 Y Y R R C H H H I
01127# 1 0 0 0 Y Y R R C H H H I
01128# 1 0 0 0 Y Y R R C H H H I
01129# 11111 000 Y R R CCCC H H IIIII
01130# -----
01131# -----
01132# -----
01133# CHICAGO STORM
01134# IUNIT={2}, ID={3}(hrs), FPRAT={0.333}, CSDT={5}(min),
01135# ICASC={2},
01136# Enter ordinates of IDF curve below, at least seven points
01137# TIME (min) Intensity(mm/hr)
01138# [ 5 ] [ 185.8 ]
01139# [ 15 ] [ 114.9 ]
01140# [ 30 ] [ 86.8 ]
01141# [ 60 ] [ 65.7 ]
01142# [ 90 ] [ 53.2 ]
01143# [ 120 ] [ 45.2 ]
01144# [ 180 ] [ 34.4 ]
01145# [ 270 ] [ 25.9 ]
01146# [ 360 ] [ 19.7 ]
01147# [ 450 ] [ 15.3 ]
01148# [ -1 ] [ -1 ]
01149# -----
01150# -----
01151# Controlled Runoff From ZONE 1
01152# -----
01153# -----
01154# -----
01155# -----
01156# -----
01157# -----
01158# -----
01159# -----
01160# CALIB NASHYD ID={1}, NHYD="Ext 5", DT={1}(min), AREA={0.97}(ha),
01161# XIMP={0}(cm), CN/C={77.7}, IA={4.5}(mm),
01162# N={3}, TP={0.26}hrs,
01163# RAINFALL=[ , , , ](mm/hr), END=1
01164# -----
01165# CALIB STANDHYD ID={2}, NHYD="F# 21*", DT={1}(min), AREA={12.37}(ha),
01166# XIMP={0.3}, TIMP={0.50}, DWF={0}(cms), LOSS={2},
01167# Pervious surfaces: Iaper=5(mm), SLPF=2.0(%)
01168# LGP=40(m), MNP=0.25, SCF=0(min),
01169# Imperious surfaces: IAlmp=2(mm), SLP=0.5(%)
01170# LGI=90(m), MNI=0.013, SCl=0(min),
01171# RAINFALL=[ , , , ](mm/hr), END=1
01172# -----
01173# CALIB STANDHYD ID={3}, NHYD="F# 21-3", DT={1}(min), AREA={0.98}(ha),
01174# XIMP={0.3}, TIMP={0.50}, DWF={0}(cms), LOSS={2},
01175# Pervious surfaces: Iaper=5(mm), SLPF=2.0(%)
01176# LGP=40(m), MNP=0.25, SCF=0(min),
01177# Imperious surfaces: IAlmp=2(mm), SLP=0.5(%)
01178# LGI=90(m), MNI=0.013, SCl=0(min),
01179# RAINFALL=[ , , , ](mm/hr), END=1
01180# -----
01181# CALIB STANDHYD ID={4}, NHYD="F# 21-4", DT={1}(min), AREA={1.91}(ha),
01182# XIMP={0.5}, TIMP={0.5}, DWF={0}(cms), LOSS={2},
01183# Pervious surfaces: Iaper=5(mm), SLPF=2.0(%)
01184# LGP=40(m), MNP=0.25, SCF=0(min),
01185# Imperious surfaces: IAlmp=2(mm), SLP=0.5(%)
01186# LGI=90(m), MNI=0.013, SCl=0(min),
01187# RAINFALL=[ , , , ](mm/hr), END=1
01188# -----
01189# CALIB STANDHYD ID={5}, NHYD="F# 21-5", DT={1}(min), AREA={1.91}(ha),
01190# XIMP={0.5}, TIMP={0.5}, DWF={0}(cms), LOSS={2},
01191# Pervious surfaces: Iaper=5(mm), SLPF=2.0(%)
01192# LGP=40(m), MNP=0.25, SCF=0(min),
01193# Imperious surfaces: IAlmp=2(mm), SLP=0.5(%)
01194# LGI=90(m), MNI=0.013, SCl=0(min),
01195# RAINFALL=[ , , , ](mm/hr), END=1
01196# -----
01197# ROUTE RESERVOIR IDout={1}, NHYD="F#1Out", IDin={5},
01198# RDT={1}(min),
01199# -----
01200# TABLE of (OUTFLOW-STORAGE) values
01201# (cms) - (ha-m)
01202# [ 0.0, 0.0 ]
01203# [ 0.005, 0.034 ]
01204# [ 0.011, 0.114 ]
01205# [ 0.013, 0.164 ]
01206# [ 0.017, 0.297 ]
01207# [ 0.018, 0.380 ]
01208# [ 0.020, 0.523 ]
01209# [ 0.022, 0.744 ]
01210# [ 0.027, 0.848 ]
01211# [ 0.252, 1.092 ]
01212# [ -1, -1 ] (max twenty pts)
01213# IDovr={2}, NHYDovr="F#1Over"
01214# -----
01215# Watercourse Flows- ZONE 1
01216# -----
01217# -----
01218# -----
01219# -----
01220# -----
01221# -----
01222# -----
01223# CALIB NASHYD ID={3}, NHYD="Ext 1", DT={1}(min), AREA={41.2}(ha),
01224# XIMP={0}(cm), CN/C={74.1}, IA={6.1}(mm),
01225# N={3}, TP={0.57}hrs,
01226# RAINFALL=[ , , , ](mm/hr), END=1
01227# -----
01228# ROUTE CHANNEL IDout={1}, NHYD="F#1Lag", IDin={3},
01229# RDT={1}(min),
01230# -----
01231# CHSLOPE={0.96}(%)
01232# FFSLOPE={0.96}(%)
01233# -----
01234# (SEGOORGE, SEGDIST (m))={0.035,75.5 -0.045,78.5 0.035,151.0} NSEG times
01235# (DISTANCE (m), ELEVATION (m))={31.0, 515.00}
01236# [ 48.0, 514.81 ]
01237# [ 60.0, 514.69 ]
01238# [ 68.5, 514.54 ]
01239# [ 75.5, 514.23 ]
01240# [ 76.0, 514.06 ]
01241# [ 77.5, 514.06 ]
01242# [ 78.5, 514.36 ]
01243# [ 79.5, 514.39 ]
01244# [ 82.5, 514.49 ]
01245# [ 103.5, 514.51 ]
01246# [ 118.5, 514.67 ]
01247# [ 130.5, 514.50 ]
01248# [ 151.0, 515.00 ]
01249# CALIB NASHYD ID={5}, NHYD="F# 21-2", DT={1}(min), AREA={5.68}(ha),
01250# XIMP={0}(cm), CN/C={71}, IA={6.1}(mm),
01251# N={3}, TP={0.40}hrs,
01252# RAINFALL=[ , , , ](mm/hr), END=1
01253# -----
01254# Total Flow at South Property Line
01255# -----
01256# ADD HYD IDsum={3}, NHYD="UNC PL", IDs to add={1+2+4+5}
01257# -----
01258# ROUTE CHANNEL IDout={1}, NHYD="F# Lag", IDin={3},
01259# RDT={1}(min),
01260# CHSLOPE={0.96}(%)

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01261# FFSLOPE={0.96}(%)
01262# -----
01263# SEGOORGE, SEGDIST (m))={0.035,75.5 -0.045,78.5 0.035,151.0} NSEG times
01264# (DISTANCE (m), ELEVATION (m))={31.0, 515.00}
01265# [ 48.0, 514.81 ]
01266# [ 60.0, 514.69 ]
01267# [ 68.5, 514.54 ]
01268# [ 75.5, 514.23 ]
01269# [ 76.0, 514.06 ]
01270# [ 77.5, 514.06 ]
01271# [ 78.5, 514.36 ]
01272# [ 79.5, 514.39 ]
01273# [ 82.5, 514.49 ]
01274# [ 103.5, 514.51 ]
01275# [ 118.5, 514.67 ]
01276# [ 130.5, 514.50 ]
01277# [ 151.0, 515.00 ]
01278# -----
01279# CALIB NASHYD ID={2}, NHYD="Ext 3", DT={1}(min), AREA={1.55}(ha),
01280# XIMP={0}(cm), CN/C={60}, IA={10}(mm),
01281# N={3}, TP={0.47}hrs,
01282# RAINFALL=[ , , , ](mm/hr), END=1
01283# -----
01284# -----
01285# -----
01286# -----
01287# -----
01288# -----
01289# Controlled Runoff From ZONE 2
01290# -----
01291# -----
01292# -----
01293# CALIB STANDHYD ID={3}, NHYD="F#1", DT={1}(min), AREA={14.70}(ha),
01294# XIMP={0.3}, TIMP={0.51}, DWF={0}(cms), LOSS={2},
01295# Pervious surfaces: Iaper=5(mm), SLPF=2.0(%)
01296# LGP=40(m), MNP=0.25, SCF=0(min),
01297# Imperious surfaces: IAlmp=2(mm), SLP=0.5(%)
01298# LGI=90(m), MNI=0.013, SCl=0(min),
01299# RAINFALL=[ , , , ](mm/hr), END=1
01300# -----
01301# CALIB STANDHYD ID={4}, NHYD="MINOR", DT={1}(min), AREA={0.21}(ha),
01302# XIMP={0.61}, TIMP={0.61}, DWF={0}(cms), LOSS={2},
01303# Pervious surfaces: Iaper=5(mm), SLPF=2.0(%)
01304# LGP=40(m), MNP=0.25, SCF=0(min),
01305# Imperious surfaces: IAlmp=2(mm), SLP=0.5(%)
01306# LGI=90(m), MNI=0.013, SCl=0(min),
01307# RAINFALL=[ , , , ](mm/hr), END=1
01308# -----
01309# CALIB STANDHYD ID={5}, NHYD="F# 21-1", DT={1}(min), AREA={1.91}(ha),
01310# XIMP={0.5}, TIMP={0.5}, DWF={0}(cms), LOSS={2},
01311# Pervious surfaces: Iaper=5(mm), SLPF=2.0(%)
01312# LGP=40(m), MNP=0.25, SCF=0(min),
01313# Imperious surfaces: IAlmp=2(mm), SLP=0.5(%)
01314# LGI=90(m), MNI=0.013, SCl=0(min),
01315# RAINFALL=[ , , , ](mm/hr), END=1
01316# -----
01317# CHICAGO STORM
01318# IUNIT={2}, ID={3}(hrs), FPRAT={0.333}, CSDT={5}(min),
01319# ICASC={2},
01320# Enter ordinates of IDF curve below, at least seven points
01321# TIME (min) Intensity(mm/hr)
01322# [ 5 ] [ 185.8 ]
01323# [ 15 ] [ 114.9 ]
01324# [ 30 ] [ 86.8 ]
01325# [ 60 ] [ 65.7 ]
01326# [ 90 ] [ 53.2 ]
01327# [ 120 ] [ 45.2 ]
01328# [ 180 ] [ 34.4 ]
01329# [ 270 ] [ 25.9 ]
01330# [ 360 ] [ 19.7 ]
01331# [ 450 ] [ 15.3 ]
01332# [ -1 ] [ -1 ]
01333# -----
01334# CALIB STANDHYD ID={4}, NHYD="F#1-A", DT={1}(min), AREA={0.33}(ha),
01335# XIMP={0.01}, TIMP={0.391}, DWF={0}(cms), LOSS={2},
01336# Pervious surfaces: Iaper=5(mm), SLPF=2.0(%)
01337# LGP=40(m), MNP=0.25, SCF=0(min),
01338# Imperious surfaces: IAlmp=2(mm), SLP=0.5(%)
01339# LGI=90(m), MNI=0.013, SCl=0(min),
01340# RAINFALL=[ , , , ](mm/hr), END=1
01341# -----
01342# CALIB STANDHYD ID={7}, NHYD="F# 21-2", DT={1}(min), AREA={1.11}(ha),
01343# XIMP={0.51}, TIMP={0.51}, DWF={0}(cms), LOSS={2},
01344# Pervious surfaces: Iaper=5(mm), SLPF=2.0(%)
01345# LGP=40(m), MNP=0.25, SCF=0(min),
01346# Imperious surfaces: IAlmp=2(mm), SLP=0.5(%)
01347# LGI=90(m), MNI=0.013, SCl=0(min),
01348# RAINFALL=[ , , , ](mm/hr), END=1
01349# -----
01350# ADD HYD IDsum={8}, NHYD="F# 21", IDs to add={3+4+4+7}
01351# -----
01352# ROUTE RESERVOIR IDout={3}, NHYD="F#2 Out", IDin={8},
01353# RDT={1}(min),
01354# -----
01355# TABLE of (OUTFLOW-STORAGE) values
01356# (cms) - (ha-m)
01357# [ 0.0, 0.0 ]
01358# [ 0.008, 0.048 ]
01359# [ 0.009, 0.133 ]
01360# [ 0.006, 0.204 ]
01361# [ 0.004, 0.261 ]
01362# [ 0.080, 0.320 ]
01363# [ 0.110, 0.350 ]
01364# [ 1.239, 0.432 ]
01365# [ 0.239, 0.443 ]
01366# [ 0.268, 0.574 ]
01367# [ 0.828, 0.642 ]
01368# [ 1.154, 0.711 ]
01369# [ 1.329, 0.782 ]
01370# [ 1.746, 0.818 ]
01371# [ 1.924, 0.847 ]
01372# [ 1.984, 0.855 ]
01373# [ 3.005, 0.940 ]
01374# [ 4.549, 1.032 ]
01375# [ 12.016, 1.330 ]
01376# [ 15.671, 1.511 ] (max twenty pts)
01377# IDovr={4}, NHYDovr="F#2Over"
01378# -----
01379# ADD HYD IDsum={5}, NHYD="F#2 Out", IDs to add={3+4}
01380# -----
01381# CHICAGO STORM
01382# IUNIT={2}, ID={3}(hrs), FPRAT={0.333}, CSDT={5}(min),
01383# ICASC={2},
01384# Enter ordinates of IDF curve below, at least seven points
01385# TIME (min) Intensity(mm/hr)
01386# [ 5 ] [ 185.8 ]
01387# [ 15 ] [ 114.9 ]
01388# [ 30 ] [ 86.8 ]
01389# [ 60 ] [ 65.7 ]
01390# [ 90 ] [ 53.2 ]
01391# [ 120 ] [ 45.2 ]
01392# [ 180 ] [ 34.4 ]
01393# [ 270 ] [ 25.9 ]
01394# [ 360 ] [ 19.7 ]
01395# [ 450 ] [ 15.3 ]
01396# [ -1 ] [ -1 ] (max twenty pts)
01397# IDovr={2}, NHYDovr="F#1Over"
01398# -----
01399# Watercourse Flows- ZONE 2
01400# -----
01401# -----
01402# -----
01403# -----
01404# -----
01405# -----
01406# -----
01407# -----
01408# CALIB NASHYD ID={7}, NHYD="Ext 2", DT={1}(min), AREA={41.2}(ha),
01409# XIMP={0}(cm), CN/C={74.7}, IA={7.65}(mm),
01410# N={3}, TP={0.57}hrs,
01411# RAINFALL=[ , , , ](mm/hr), END=1
01412# -----
01413# ROUTE CHANNEL IDout={1}, NHYD="F#1", IDin={7},
01414# RDT={1}(min),
01415# CHSLOPE={0.65}(%)
01416# FFSLOPE={0.65}(%)
01417# -----
01418# SEGOORGE, SEGDIST (m))={0.035,215.60 -0.045,221.70 0.035,266.50} NSEG times
01419# (DISTANCE (m), ELEVATION (m))={179.70, 514.50}
01420# [ 196.60, 514.00 ]
01421# [ 215.60, 513.59 ]
01422# [ 216.55, 513.00 ]
01423# [ 217.20, 512.50 ]
01424# [ 217.45, 512.46 ]
01425# [ 217.80, 514.00 ]
01426# [ 218.95, 513.00 ]
01427# [ 221.30, 513.50 ]
01428# [ 221.70, 513.71 ]
01429# [ 220.40, 513.71 ]
01430# [ 243.80, 514.00 ]
01431# [ 249.40, 514.12 ]
01432# [ 259.50, 514.28 ]
01433# [ 264.50, 514.00 ]
01434# -----
01435# -----
01436# -----
01437# -----
01438# -----
01439# -----
01440# Controlled Runoff From ZONE 3

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01441> *
01442> *
01443> *
01444> CALIB STANDHYD ID=[7], NHYD=["F#2"], DT=[1] (min), AREA=[10.1] (ha),
XIMP=[0.3], TWP=[0.7], DWF=[0] (cms), LOSS=[2],
01445> *
01446> *
01447> *
01448> *
01449> *
01450> *
01451> *
01452> *
01453> CALIB STANDHYD ID=[8], NHYD=["F#3"], DT=[1] (min), AREA=[1.21] (ha),
XIMP=[0.5], TWP=[0.5], DWF=[0] (cms), LOSS=[2],
01454> *
01455> *
01456> *
01457> *
01458> *
01459> *
01460> *
01461> *
01462> *
01463> *
01464> *
01465> *
01466> *
01467> ROUTE RESERVOIR IDout=[7], NHYD=["F#2Out"], IDin=[9],
01468> *
01469> *
01470> *
01471> *
01472> *
01473> *
01474> *
01475> *
01476> *
01477> *
01478> *
01479> *
01480> *
01481> *
01482> *
01483> *
01484> *
01485> *
01486> *
01487> *
01488> *
01489> *
01490> *
01491> *
01492> *
01493> *
01494> *
01495> *
01496> *
01497> *
01498> *
01499> *
01500> *
01501> *
01502> *
01503> *
01504> *
01505> *
01506> *
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01510> CHICAGO STORM ID=[1], NHYD=["F#1"], DT=[1] (min), AREA=[1.21] (ha),
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01512> *
01513> *
01514> *
01515> *
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01517> *
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01519> *
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01531> *
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01533> *
01534> *
01535> *
01536> *
01537> *
01538> *
01539> *
01540> CALIB STANDHYD ID=[2], NHYD=["F# 21-1"], DT=[1] (min), AREA=[12.37] (ha),
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01542> *
01543> *
01544> *
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01546> *
01547> *
01548> *
01549> CALIB STANDHYD ID=[3], NHYD=["F# 21-2"], DT=[1] (min), AREA=[0.98] (ha),
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01553> *
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01555> *
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01562> *
01563> *
01564> *
01565> *
01566> *
01567> *
01568> *
01569> *
01570> *
01571> ROUTE RESERVOIR IDout=[1], NHYD=["F#1Out"], IDin=[5],
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01573> *
01574> *
01575> *
01576> *
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01593> *
01594> *
01595> *
01596> *
01597> *
01598> *
01599> *
01600> *
01601> *
01602> *
01603> ROUTE CHANNEL IDout=[1], NHYD=["SiteLag"], IDin=[3],
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01605> *
01606> *
01607> *
01608> *
01609> *
01610> *
01611> *
01612> *
01613> *
01614> *
01615> *
01616> *
01617> *
01618> *
01619> *
01620> *

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01621> (130.5, 514.50)
01622> (131.0, 515.00)
01623> *
01624> CALIB NASHYD ID=[5], NHYD=["F# 21-2"], DT=[1] (min), AREA=[5.68] (ha),
01625> *
01626> *
01627> *
01628> *
01629> *
01630> *
01631> *
01632> *
01633> ROUTE CHANNEL IDout=[1], NHYD=["SiteLag"], IDin=[3],
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01643> *
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01646> *
01647> *
01648> *
01649> *
01650> *
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01669> CALIB STANDHYD ID=[3], NHYD=["F#1"], DT=[1] (min), AREA=[14.70] (ha),
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01718> *
01719> ROUTE RESERVOIR IDout=[3], NHYD=["F#2Out"], IDin=[8],
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01773> *
01774> *
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01778> CALIB NASHYD ID=[5], NHYD=["Ext-2"], DT=[1] (min), AREA=[417.2] (ha),
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01783> CALIB NASHYD ID=[7], NHYD=["Ext-1"], DT=[1] (min), AREA=[6.51] (ha),
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01790> *
01791> *
01792> *
01793> *
01794> *
01795> *
01796> *
01797> *
01798> *
01799> *
01800> *

```

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01801* [217.45, 512.46]
01802* [217.80, 512.50]
01803* [218.95, 513.00]
01804* [221.50, 513.50]
01805* [221.70, 513.71]
01806* [230.40, 513.71]
01807* [243.80, 514.00]
01808* [249.40, 514.12]
01809* [259.50, 514.28]
01810* [266.50, 514.50]
01811*
01812*
01813*
01814*
01815*
01816*
01817*
01818*
01819* CALIB STANDHYD ID=[7], NHVD=["F#2"], DT=[1] (min), AREA=[10.1] (ha),
01820* XMP=[0.3], TWP=[0.578], DWF=[0] (cms), LOSS=[2],
01821* SCS curve number CN=[74],
01822* Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (ft),
01823* LQP=[40] (m), MHP=[0.25], SCP=[0] (min),
01824* Impervious surfaces: Iamp=[2] (mm), SLP=[0.5] (ft),
01825* LQI=[133] (m), MH=[0.013], SCT=[0] (min),
01826* RAINFALL=[ , , , ] (mm/hr), END=-1
01827*
01828* CALIB STANDHYD ID=[8], NHVD=["SMRF#1"], DT=[1] (min), AREA=[1.21] (ha),
01829* XMP=[0.50], TWP=[0.50], DWF=[0] (cms), LOSS=[2],
01830* SCS curve number CN=[74],
01831* Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (ft),
01832* LQP=[40] (m), MHP=[0.25], SCP=[0] (min),
01833* Impervious surfaces: Iamp=[2] (mm), SLP=[0.5] (ft),
01834* LQI=[130] (m), MH=[0.013], SCT=[0] (min),
01835* RAINFALL=[ , , , ] (mm/hr), END=-1
01836*
01837* ADD HYD IDsum=[9], NHVD=["F#2"], IDs to add=[1+8]
01838*
01839*
01840*
01841*
01842* ROUTE RESERVOIR IDout=[7], NHVD=["F#2Out"], IDin=[9],
01843* RDT=[1] (min),
01844*
01845* TABLE OF (OUTFLOW-STORAGE) values
01846* (cms) - (ha-m)
01847* [ 0.0, 0.0 ]
01848* [ 0.007, 0.016 ]
01849* [ 0.013, 0.075 ]
01850* [ 0.016, 0.107 ]
01851* [ 0.023, 0.153 ]
01852* [ 0.027, 0.202 ]
01853* [ 0.030, 0.348 ]
01854* [ 0.035, 0.537 ]
01855* [ 0.040, 0.709 ]
01856* [ 0.045, 0.922 ]
01857* [ 1.247, 1.1203 ]
01858* [ -1, -1 ] (max twenty pts)
01859* IDovr=[8], NHVDovr=["F#2Over"]
01860*
01861* ADD HYD IDsum=[9], NHVD=["Foley Drain"], IDs to add=[1+7+8]
01862*
01863* CALIB NASHYD ID=[4], NHVD=["Ext 4"], DT=[1] (min), AREA=[6.3] (ha),
01864* DWF=[0] (cms), CN/C=[64.8], IA=[10] (mm),
01865* N=[3], TP=[0.47] hrs,
01866* RAINFALL=[ , , , ] (mm/hr), END=-1
01867*
01868* ADD HYD IDsum=[5], NHVD=["Pt of Int"], IDs to add=[9+4]
01869*
01870* ADD HYD IDsum=[10], NHVD=["* of Int"], IDs to add=[1+2+3+6]
01871*
01872*
01873*
01874*
01875*
01876*
01877*
01878*
01879*
01880*
01881*
01882*
01883*
01884* CHICAGO STORM IUNIT=[2], TD=[3] (hrs), TPAT=[0.333], CDDT=[5] (min),
01885* ICARE=[2],
01886* KBASE=ordinates of IDF curve below, at least seven points
01887* TIME (min) Intensity (mm/hr)
01888* [ 15 ] [ 245.1 ]
01889* [ 30 ] [ 151.7 ]
01890* [ 45 ] [ 114.6 ]
01891* [ 60 ] [ 90.9 ]
01892* [ 75 ] [ 74.3 ]
01893* [ 90 ] [ 63.9 ]
01894* [ 120 ] [ 47.2 ]
01895* [ 180 ] [ 32.7 ]
01896* [ 270 ] [ 21.9 ]
01897* [ 360 ] [ 14.9 ]
01898* [ 1440 ] [ 4.3 ]
01899* [ -1, -1 ]
01900*
01901*
01902*
01903*
01904*
01905*
01906*
01907*
01908*
01909*
01910* CALIB NASHYD ID=[1], NHVD=["Ext 5"], DT=[1] (min), AREA=[0.97] (ha),
01911* DWF=[0] (cms), CN/C=[77.7], IA=[4.5] (mm),
01912* N=[3], TP=[0.25] hrs,
01913* RAINFALL=[ , , , ] (mm/hr), END=-1
01914*
01915* CALIB STANDHYD ID=[2], NHVD=["F# 21-1"], DT=[1] (min), AREA=[12.37] (ha),
01916* XMP=[0.3], TWP=[0.50], DWF=[0] (cms), LOSS=[2],
01917* SCS curve number CN=[74],
01918* Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (ft),
01919* LQP=[40] (m), MHP=[0.25], SCP=[0] (min),
01920* Impervious surfaces: Iamp=[2] (mm), SLP=[0.5] (ft),
01921* LQI=[287] (m), MH=[0.013], SCT=[0] (min),
01922* RAINFALL=[ , , , ] (mm/hr), END=-1
01923*
01924* CALIB STANDHYD ID=[3], NHVD=["F# 21-3"], DT=[1] (min), AREA=[0.98] (ha),
01925* XMP=[0.3], TWP=[0.50], DWF=[0] (cms), LOSS=[2],
01926* SCS curve number CN=[74],
01927* Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (ft),
01928* LQP=[40] (m), MHP=[0.25], SCP=[0] (min),
01929* Impervious surfaces: Iamp=[2] (mm), SLP=[0.5] (ft),
01930* LQI=[131] (m), MH=[0.013], SCT=[0] (min),
01931* RAINFALL=[ , , , ] (mm/hr), END=-1
01932*
01933* CALIB STANDHYD ID=[4], NHVD=["SMRF#1"], DT=[1] (min), AREA=[1.9] (ha),
01934* XMP=[0.5], TWP=[0.5], DWF=[0] (cms), LOSS=[2],
01935* SCS curve number CN=[74],
01936* Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (ft),
01937* LQP=[40] (m), MHP=[0.25], SCP=[0] (min),
01938* Impervious surfaces: Iamp=[2] (mm), SLP=[0.5] (ft),
01939* LQI=[133] (m), MH=[0.013], SCT=[0] (min),
01940* RAINFALL=[ , , , ] (mm/hr), END=-1
01941*
01942* ADD HYD IDsum=[5], NHVD=["F#1 Int"], IDs to add=[1+2+3+4]
01943*
01944*
01945*
01946* ROUTE RESERVOIR IDout=[1], NHVD=["F#1Out"], IDin=[5],
01947* RDT=[1] (min),
01948*
01949* TABLE OF (OUTFLOW-STORAGE) values
01950* (cms) - (ha-m)
01951* [ 0.0, 0.0 ]
01952* [ 0.005, 0.034 ]
01953* [ 0.021, 0.114 ]
01954* [ 0.013, 0.164 ]
01955* [ 0.017, 0.297 ]
01956* [ 0.018, 0.380 ]
01957* [ 0.020, 0.523 ]
01958* [ 0.022, 0.714 ]
01959* [ 0.067, 0.848 ]
01960* [ 0.252, 1.092 ]
01961* [ -1, -1 ] (max twenty pts)
01962* IDovr=[2], NHVDovr=["F#1Over"]
01963*
01964*
01965*
01966*
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SEGNM=[1],
NEGE=[3]
(SEGROGGE, SEGDIST (m))=[0.035,75.5 -0.045,78.5 0.035,151.0] NEGE times
(DISTANCE (m), ELEVATION (m))=[ 31.0, 515.00]
[ 48.0, 514.81]
[ 60.0, 514.69]
[ 68.5, 514.54]
[ 75.5, 514.23]
[ 76.0, 514.06]
[ 75.5, 514.06]
[ 78.5, 514.36]
[ 79.5, 514.59]
[ 92.5, 514.49]
[ 103.5, 514.51]
[ 118.5, 514.67]
[ 130.5, 514.50]
[ 151.0, 515.00]
ID=[5], NHVD=["F# 21-2"], DT=[1] (min), AREA=[5.68] (ha),
DWF=[0] (cms), CN/C=[60], IA=[10] (mm),
N=[3], TP=[0.47] hrs,
RAINFALL=[ , , , ] (mm/hr), END=-1
Total Flow at South Property Line
IDsum=[3], NHVD=["UNC PL"], IDs to add=[1+2+4+5]
IDout=[1], NHVD=["Dc Lag"], IDin=[3],
RDT=[1] (min),
CHELSLOPE=[0.96] (ft),
F#SLOPE=[0.96] (ft),
SEGNM=[1],
NEGE=[3]
(SEGROGGE, SEGDIST (m))=[0.035,75.5 -0.045,78.5 0.035,151.0] NEGE times
(DISTANCE (m), ELEVATION (m))=[ 31.0, 515.00]
[ 48.0, 514.81]
[ 60.0, 514.69]
[ 68.5, 514.54]
[ 75.5, 514.23]
[ 76.0, 514.06]
[ 75.5, 514.06]
[ 78.5, 514.36]
[ 79.5, 514.59]
[ 92.5, 514.49]
[ 103.5, 514.51]
[ 118.5, 514.67]
[ 130.5, 514.50]
[ 151.0, 515.00]
ID=[2], NHVD=["Ext 3"], DT=[1] (min), AREA=[1.55] (ha),
DWF=[0] (cms), CN/C=[60], IA=[10] (mm),
N=[3], TP=[0.47] hrs,
RAINFALL=[ , , , ] (mm/hr), END=-1
ID=[2], NHVD=["Ext 3"], DT=[1] (min), AREA=[1.55] (ha),
DWF=[0] (cms), CN/C=[60], IA=[10] (mm),
N=[3], TP=[0.47] hrs,
RAINFALL=[ , , , ] (mm/hr), END=-1
ID=[4], NHVD=["MINOR"], DT=[1] (min), AREA=[0.21] (ha),
XMP=[0.61], TWP=[0.51], DWF=[0] (cms), LOSS=[2],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (ft),
LQP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iamp=[2] (mm), SLP=[0.5] (ft),
LQI=[131] (m), MH=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=-1
ID=[4], NHVD=["MINOR"], DT=[1] (min), AREA=[0.21] (ha),
XMP=[0.61], TWP=[0.51], DWF=[0] (cms), LOSS=[2],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (ft),
LQP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iamp=[2] (mm), SLP=[0.5] (ft),
LQI=[131] (m), MH=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=-1
IDout=[4], NIDout=[2] (max flow),
outflow hydrographs (ID, NHVD)=[5, "MINOR"/ 6, "MAJOR"]
flow distribution table: (modify as necessary)
Note: all flows are in (cms)
QID1 + QID1 = QTOTAL
[ 0.000 + 0.000 = 0.000 ]
[ 0.035 + 0.000 = 0.035 ]
[ 0.035 + 10.000 = 10.035 ] end
ID=[4], NHVD=["F#1-A"], DT=[1] (min), AREA=[0.33] (ha),
DWF=[0] (cms), CN/C=[74], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (ft),
LQP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iamp=[2] (mm), SLP=[0.5] (ft),
LQI=[47] (m), MH=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=-1
ID=[7], NHVD=["SMRF#2"], DT=[1] (min), AREA=[1.1] (ha),
XMP=[0.51], TWP=[0.51], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (ft),
LQP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iamp=[2] (mm), SLP=[0.5] (ft),
LQI=[133] (m), MH=[0.013], SCT=[0] (min),
RAINFALL=[ , , , ] (mm/hr), END=-1
IDsum=[8], NHVD=["F#2 Int"], IDs to add=[3+4+7]
IDout=[3], NHVD=["F#2Out"], IDin=[8],
RDT=[1] (min),
TABLE OF (OUTFLOW-STORAGE) values
(cms) - (ha-m)
[ 0.0, 0.0 ]
[ 0.008, 0.048 ]
[ 0.009, 0.133 ]
[ 0.008, 0.204 ]
[ 0.004, 0.261 ]
[ 0.080, 0.320 ]
[ 0.110, 0.350 ]
[ 0.105, 0.480 ]
[ 0.239, 0.443 ]
[ 0.560, 0.574 ]
[ 0.828, 0.642 ]
[ 1.154, 0.711 ]
[ 1.535, 0.782 ]
[ 1.746, 0.818 ]
[ 1.984, 0.855 ]
[ 3.005, 0.940 ]
[ 4.549, 1.032 ]
[ 10.016, 1.300 ]
IDovr=[4], NHVDovr=["F#2Over"]
IDsum=[5], NHVD=["F#2 Out"], IDs to add=[3+4]
IDout=[5], NIDout=[2] (max flow),
outflow hydrographs (ID, NHVD)=[3, "F#2Out"/ 4, "F#2Out"]
flow distribution table: (modify as necessary)
Note: all flows are in (cms)
QID1 + QID1 = QTOTAL
[ 0.000 + 0.000 = 0.000 ]
[ 0.000 + 0.022 = 0.022 ]
[ 0.005 + 0.033 = 0.038 ]
[ 0.000 + 0.044 = 0.044 ]
[ 0.019 + 0.062 = 0.081 ]
[ 0.053 + 0.093 = 0.146 ]
[ 0.097 + 0.143 = 0.240 ]
[ 0.208 + 0.252 = 0.460 ]
[ 0.345 + 0.809 = 1.154 ]
[ 0.463 + 1.285 = 1.748 ]
[ 0.503 + 1.486 = 1.989 ]
[ 0.589 + 2.584 = 3.173 ]
[ 0.679 + 4.312 = 4.991 ]
[ 0.975 + 12.716 = 13.692 ] end
ID=[3], NHVD=["Ext-2"], DT=[1] (min), AREA=[417.2] (ha),
DWF=[0] (cms), CN/C=[74.7], IA=[7.65] (mm),
N=[3], TP=[1.87] hrs,
RAINFALL=[ , , , ] (mm/hr), END=-1
ID=[7], NHVD=["NAT"], DT=[1] (min), AREA=[6.51] (ha),
DWF=[0] (cms), CN/C=[79.1], IA=[6.4] (mm),
N=[3], TP=[0.47] hrs,

```

```

02161 RAINFALL= , , , (mm/hr), END=1
02162
02163 ADD HYD IDsum=8, NHYD="Ftn", IDs to add=[5+7]
02164
02165 ROUTE CHANNEL IDout=5, NHYD="SiteLag", IDin=8,
02166 RDT=1 (min),
02167 CHLTR=150 (m), CHSLOPE=0.65 (4),
02168 FFSLOPE=0.65 (4),
02169 SECNUM=1, NSOG=3
02170 (SEGRDUM, SEGRIST (m))=[0.035,215.60 -0.045,221.70 0.035,246.50] NSOG times
02171 (DISTANCE (m), ELEVATION (m))=[179.70, 514.50]
02172 [136.60, 514.00]
02173 [215.60, 513.59]
02174 [216.55, 513.00]
02175 [217.40, 512.50]
02176 [217.45, 512.46]
02177 [217.80, 512.50]
02178 [218.95, 513.00]
02179 [221.30, 513.50]
02180 [222.70, 513.71]
02181 [230.40, 513.71]
02182 [243.60, 514.00]
02183 [249.40, 514.12]
02184 [259.50, 514.28]
02185 [266.50, 514.50]
02186
02187
02188 *
02189 *
02190 *
02191 *
02192 *
02193 *
02194 CALIB STANDHYD ID=[7], NHYD="F#2", DT=1 (min), AREA=[10.1] (ha),
02195 XIMP=[0.31], TIMP=[0.578], DWF=[0] (cms), LOSS=[2],
02196 SCS curve number CN=[74],
02197 Pervious surfaces: IApex=[5] (mm), SLPF=[2.0] (4),
02198 LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
02199 Impervious surfaces: IAImp=[2] (mm), SLPF=[0.5] (4),
02200 LGI=[127] (m), MHI=[0.013], SCl=[0] (min),
02201 RAINFALL= , , , (mm/hr), END=1
02202
02203 CALIB STANDHYD ID=[8], NHYD="F#3", DT=1 (min), AREA=[1.21] (ha),
02204 XIMP=[0.50], TIMP=[0.50], DWF=[0] (cms), LOSS=[2],
02205 SCS curve number CN=[74],
02206 Pervious surfaces: IApex=[5] (mm), SLPF=[2.0] (4),
02207 LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
02208 Impervious surfaces: IAImp=[2] (mm), SLPF=[0.5] (4),
02209 LGI=[90] (m), MHI=[0.013], SCl=[0] (min),
02210 RAINFALL= , , , (mm/hr), END=1
02211
02212 ADD HYD IDsum=9, NHYD="F#4", IDs to add=[7+8]
02213
02214 *
02215 *
02216 *
02217 ROUTE RESERVOIR IDout=7, NHYD="F#4Out", IDin=9,
02218 RDT=1 (min),
02219 TABLE of (OUTFLOW-STORAGE) values
02220 (cms) (ha-m)
02221 [ 0.0, 0.0 ]
02222 [ 0.007, 0.036 ]
02223 [ 0.013, 0.075 ]
02224 [ 0.016, 0.107 ]
02225 [ 0.017, 0.115 ]
02226 [ 0.023, 0.202 ]
02227 [ 0.027, 0.278 ]
02228 [ 0.030, 0.348 ]
02229 [ 0.035, 0.537 ]
02230 [ 0.040, 0.708 ]
02231 [ 0.045, 0.922 ]
02232 [ 1.247, 1.135 ]
02233 [ -1, -1 ] (max twenty pts)
02234 IDovr=[8], NHYDovr="F#2Over"
02235
02236 ADD HYD IDsum=9, NHYD="Foley Drain", IDs to add=[4+7+8]
02237
02238 CALIB NASHYD ID=[4], NHYD="Ext 4", DT=1 (min), AREA=[6.3] (ha),
02239 DWF=[0] (cms), CN/C=[64.8], IA=[10] (mm),
02240 N=[3], TP=[0.41] hrs, END=1
02241 RAINFALL= , , , (mm/hr), END=1
02242
02243 ADD HYD IDsum=10, NHYD="F# of Int", IDs to add=[9+4]
02244
02245 ADD HYD IDsum=10, NHYD="F# of Int", IDs to add=[1+2+3+4]
02246
02247
02248
02249
02250 *
02251 *
02252 *
02253 *
02254 *
02255 *
02256 *
02257 *
02258 *
02259 *
02260 *
02261 CHICAGO STORM IDIN=[2], TD=[3] (hrs), TPAT=[0.333], CSD=[5] (min),
02262 ICMS=[2],
02263 Enter ordinates of IDF curve below, at least seven points
02264 TIME (min) Intensity (mm/hr)
02265 [ 5 ] [ 270.2 ]
02266 [ 10 ] [ 167.2 ]
02267 [ 15 ] [ 126.3 ]
02268 [ 30 ] [ 78.2 ]
02269 [ 60 ] [ 48.4 ]
02270 [ 120 ] [ 30.0 ]
02271 [ 180 ] [ 14.0 ]
02272 [ 360 ] [ 7.1 ]
02273 [ 1440 ] [ 5.4 ]
02274
02275 *
02276 *
02277 *
02278 *
02279 *
02280 *
02281 *
02282 *
02283 *
02284 *
02285 *
02286 CALIB NASHYD ID=[1], NHYD="Ext 5", DT=1 (min), AREA=[0.97] (ha),
02287 DWF=[0] (cms), CN/C=[7.7], IA=[4.5] (mm),
02288 N=[3], TP=[0.26] hrs, END=1
02289 RAINFALL= , , , (mm/hr), END=1
02290
02291 CALIB STANDHYD ID=[2], NHYD="F# 21-1", DT=1 (min), AREA=[12.37] (ha),
02292 XIMP=[0.3], TIMP=[0.50], DWF=[0] (cms), LOSS=[2],
02293 SCS curve number CN=[74],
02294 Pervious surfaces: IApex=[5] (mm), SLPF=[2.0] (4),
02295 LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
02296 Impervious surfaces: IAImp=[2] (mm), SLPF=[0.5] (4),
02297 LGI=[127] (m), MHI=[0.013], SCl=[0] (min),
02298 RAINFALL= , , , (mm/hr), END=1
02299
02300 CALIB STANDHYD ID=[3], NHYD="F# 21-3", DT=1 (min), AREA=[0.98] (ha),
02301 XIMP=[0.3], TIMP=[0.50], DWF=[0] (cms), LOSS=[2],
02302 SCS curve number CN=[74],
02303 Pervious surfaces: IApex=[5] (mm), SLPF=[2.0] (4),
02304 LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
02305 Impervious surfaces: IAImp=[2] (mm), SLPF=[0.5] (4),
02306 LGI=[81] (m), MHI=[0.013], SCl=[0] (min),
02307 RAINFALL= , , , (mm/hr), END=1
02308
02309 CALIB STANDHYD ID=[4], NHYD="F#2", DT=1 (min), AREA=[1.9] (ha),
02310 XIMP=[0.3], TIMP=[0.51], DWF=[0] (cms), LOSS=[2],
02311 SCS curve number CN=[74],
02312 Pervious surfaces: IApex=[5] (mm), SLPF=[2.0] (4),
02313 LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
02314 Impervious surfaces: IAImp=[2] (mm), SLPF=[0.5] (4),
02315 LGI=[133.9] (m), MHI=[0.013], SCl=[0] (min),
02316 RAINFALL= , , , (mm/hr), END=1
02317
02318 ADD HYD IDsum=5, NHYD="F# Int", IDs to add=[1+2+3+4]
02319
02320 *
02321 *
02322 ROUTE RESERVOIR IDsum=11, NHYD="F#4Out", IDin=5,
02323 RDT=1 (min),
02324 TABLE of (OUTFLOW-STORAGE) values
02325 (cms) (ha-m)
02326 [ 0.0, 0.0 ]
02327 [ 0.005, 0.034 ]
02328 [ 0.011, 0.114 ]
02329 [ 0.013, 0.164 ]
02330 [ 0.017, 0.237 ]
02331 [ 0.018, 0.380 ]
02332 [ 0.020, 0.533 ]
02333 [ 0.022, 0.734 ]
02334 [ 0.027, 0.848 ]
02335 [ 0.292, 1.092 ]
02336 [ -1, -1 ] (max twenty pts)
02337 IDovr=[1], NHYDovr="F#4Over"
02338
02339 *
02340 *

```

```

02341 *
02342 *
02343 *
02344 *
02345 *
02346 *
02347 *
02348 *
02349 CALIB NASHYD ID=[3], NHYD="Ext 1", DT=1 (min), AREA=[41.2] (ha),
02350 DWF=[0] (cms), CN/C=[74.1], IA=[6.1] (mm),
02351 N=[3], TP=[0.57] hrs,
02352 RAINFALL= , , , (mm/hr), END=1
02353
02354 ROUTE CHANNEL IDout=4, NHYD="SiteLag", IDin=3,
02355 RDT=1 (min),
02356 CHLTR=[425] (m), CHSLOPE=[0.96] (4),
02357 FFSLOPE=[0.96] (4),
02358 SECNUM=[1], NSOG=[3]
02359 (SEGRDUM, SEGRIST (m))=[0.035,75.5 -0.045,78.5 0.035,151.0] NSOG times
02360 (DISTANCE (m), ELEVATION (m))=[31.0, 515.00]
02361 [ 48.0, 514.81 ]
02362 [ 60.0, 514.69 ]
02363 [ 68.5, 514.54 ]
02364 [ 75.5, 514.23 ]
02365 [ 75.5, 514.06 ]
02366 [ 77.5, 514.06 ]
02367 [ 78.5, 514.06 ]
02368 [ 79.5, 514.39 ]
02369 [ 92.5, 514.49 ]
02370 [ 103.5, 514.51 ]
02371 [ 118.5, 514.67 ]
02372 [ 130.5, 514.50 ]
02373 [ 151.0, 515.00 ]
02374
02375 CALIB NASHYD ID=[5], NHYD="F# 21-2", DT=1 (min), AREA=[5.68] (ha),
02376 DWF=[0] (cms), CN/C=[71], IA=[6.4] (mm),
02377 N=[3], TP=[0.41] hrs,
02378 RAINFALL= , , , (mm/hr), END=1
02379
02380 *
02381 *
02382 *
02383 *
02384 ROUTE CHANNEL IDout=11, NHYD="F# Lag", IDin=3,
02385 RDT=1 (min),
02386 CHLTR=[150] (m), CHSLOPE=[0.96] (4),
02387 FFSLOPE=[0.96] (4),
02388 SECNUM=[1], NSOG=[3]
02389 (SEGRDUM, SEGRIST (m))=[0.035,75.5 -0.045,78.5 0.035,151.0] NSOG times
02390 (DISTANCE (m), ELEVATION (m))=[31.0, 515.00]
02391 [ 48.0, 514.81 ]
02392 [ 60.0, 514.69 ]
02393 [ 68.5, 514.54 ]
02394 [ 75.5, 514.23 ]
02395 [ 75.5, 514.06 ]
02396 [ 77.5, 514.06 ]
02397 [ 78.5, 514.06 ]
02398 [ 79.5, 514.39 ]
02399 [ 92.5, 514.49 ]
02400 [ 103.5, 514.51 ]
02401 [ 118.5, 514.67 ]
02402 [ 130.5, 514.50 ]
02403 [ 151.0, 515.00 ]
02404
02405 CALIB NASHYD ID=[2], NHYD="Ext 3", DT=1 (min), AREA=[1.55] (ha),
02406 DWF=[0] (cms), CN/C=[60], IA=[10] (mm),
02407 N=[3], TP=[0.47] hrs,
02408 RAINFALL= , , , (mm/hr), END=1
02409
02410 *
02411 *
02412 *
02413 *
02414 *
02415 *
02416 *
02417 *
02418 *
02419
02420 CALIB STANDHYD ID=[3], NHYD="F#1", DT=1 (min), AREA=[14.70] (ha),
02421 XIMP=[0.35], TIMP=[0.55], DWF=[0] (cms), LOSS=[2],
02422 SCS curve number CN=[74],
02423 Pervious surfaces: IApex=[5] (mm), SLPF=[2.0] (4),
02424 LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
02425 Impervious surfaces: IAImp=[2] (mm), SLPF=[0.5] (4),
02426 LGI=[133] (m), MHI=[0.013], SCl=[0] (min),
02427 RAINFALL= , , , (mm/hr), END=1
02428
02429 CALIB STANDHYD ID=[4], NHYD="MINOR", DT=1 (min), AREA=[0.21] (ha),
02430 XIMP=[0.61], TIMP=[0.61], DWF=[0] (cms), LOSS=[2],
02431 SCS curve number CN=[74],
02432 Pervious surfaces: IApex=[5] (mm), SLPF=[2.0] (4),
02433 LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
02434 Impervious surfaces: IAImp=[2] (mm), SLPF=[0.5] (4),
02435 LGI=[57] (m), MHI=[0.013], SCl=[0] (min),
02436 RAINFALL= , , , (mm/hr), END=1
02437
02438 DIVERGENT HYD IDin=4, IDout=2 (max five,
02439 outflow hydrographs (ID, NHYD)=5, "MINOR" / 6, "MAJOR"
02440 flow distribution table (Modify as necessary)
02441 Note: all flows are in (cms)
02442 QDIA + QDIB = QTOTAL
02443 [ 0.000 + 0.000 = 0.000 ]
02444 [ 0.035 + 0.000 = 0.035 ]
02445 [ 0.035 + 10.000 = 10.035 ] end
02446
02447 CALIB STANDHYD ID=[4], NHYD="F# 21", DT=1 (min), AREA=[0.33] (ha),
02448 XIMP=[0.01], TIMP=[0.394], DWF=[0] (cms), LOSS=[2],
02449 SCS curve number CN=[74],
02450 Pervious surfaces: IApex=[5] (mm), SLPF=[2.0] (4),
02451 LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
02452 Impervious surfaces: IAImp=[2] (mm), SLPF=[0.5] (4),
02453 LGI=[47] (m), MHI=[0.013], SCl=[0] (min),
02454 RAINFALL= , , , (mm/hr), END=1
02455
02456 CALIB STANDHYD ID=[7], NHYD="F#2", DT=1 (min), AREA=[1.11] (ha),
02457 XIMP=[0.51], TIMP=[0.51], DWF=[0] (cms), LOSS=[2],
02458 SCS curve number CN=[74],
02459 Pervious surfaces: IApex=[5] (mm), SLPF=[2.0] (4),
02460 LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
02461 Impervious surfaces: IAImp=[2] (mm), SLPF=[0.5] (4),
02462 LGI=[86] (m), MHI=[0.013], SCl=[0] (min),
02463 RAINFALL= , , , (mm/hr), END=1
02464
02465 ADD HYD IDsum=8, NHYD="F#2 In", IDs to add=[3+5+7]
02466
02467 *
02468 *
02469 *
02470 ROUTE RESERVOIR IDsum=9, NHYD="F#2Out", IDin=8,
02471 RDT=1 (min),
02472 TABLE of (OUTFLOW-STORAGE) values
02473 (cms) (ha-m)
02474 [ 0.0, 0.0 ]
02475 [ 0.008, 0.048 ]
02476 [ 0.026, 0.123 ]
02477 [ 0.036, 0.204 ]
02478 [ 0.044, 0.261 ]
02479 [ 0.080, 0.320 ]
02480 [ 0.110, 0.350 ]
02481 [ 0.146, 0.380 ]
02482 [ 1.746, 0.443 ]
02483 [ 0.560, 0.574 ]
02484 [ 0.828, 0.642 ]
02485 [ 1.134, 0.711 ]
02486 [ 1.535, 0.782 ]
02487 [ 1.946, 0.818 ]
02488 [ 1.924, 0.847 ]
02489 [ 1.984, 0.855 ]
02490 [ 2.000, 0.840 ]
02491 [ 4.549, 1.032 ]
02492 [ 12.016, 1.300 ]
02493 [ -1, -1 ] (max twenty pts)
02494 IDovr=[4], NHYDovr="F#2Over"
02495
02496 ADD HYD IDsum=5, NHYD="F#2 Out", IDs to add=[3+4]
02497
02498 DIVERGENT HYD IDin=5, IDout=2 (max five,
02499 outflow hydrographs (ID, NHYD)=3, "F#2W" / 4, "F#2W"
02500 flow distribution table (Modify as necessary)
02501 Note: all flows are in (cms)
02502 QDIA + QDIB = QTOTAL
02503 [ 0.000 + 0.000 = 0.000 ]
02504 [ 0.000 + 0.008 = 0.008 ]
02505 [ 0.000 + 0.022 = 0.022 ]
02506 [ 0.000 + 0.033 = 0.033 ]
02507 [ 0.000 + 0.044 = 0.044 ]
02508 [ 0.019 + 0.062 = 0.080 ]
02509 [ 0.053 + 0.093 = 0.146 ]
02510 [ 0.087 + 0.143 = 0.230 ]
02511 [ 0.208 + 0.352 = 0.560 ]
02512 [ 0.243 + 0.579 = 1.155 ]
02513 [ 0.461 + 1.285 = 1.746 ]
02514 [ 0.503 + 1.486 = 1.989 ]
02515 [ 0.584 + 1.873 = 3.77 ]
02516 [ 0.679 + 4.312 = 4.991 ]
02517 [ 0.975 + 12.716 = 13.692 ] end
02518
02519 *
02520 *

```

```

025213 *#
025223 *#
025233 *#
025243 *#
025253 *#
025263 *#
025273 *#
025283 *#
025293 *#
025303 *#
025313 *#
025323 *#
025333 *#
025343 *#
025353 *#
025363 *#
025373 *#
025383 *#
025393 *#
025403 *#
025413 *#
025423 *#
025433 *#
025443 *#
025453 *#
025463 *#
025473 *#
025483 *#
025493 *#
025503 *#
025513 *#
025523 *#
025533 *#
025543 *#
025553 *#
025563 *#
025573 *#
025583 *#
025593 *#
025603 *#
025613 *#
025623 *#
025633 *#
025643 *#
025653 *#
025663 *#
025673 *#
025683 *#
025693 *#
025703 *#
025713 *#
025723 *#
025733 *#
025743 *#
025753 *#
025763 *#
025773 *#
025783 *#
025793 *#
025803 *#
025813 *#
025823 *#
025833 *#
025843 *#
025853 *#
025863 *#
025873 *#
025883 *#
025893 *#
025903 *#
025913 *#
025923 *#
025933 *#
025943 *#
025953 *#
025963 *#
025973 *#
025983 *#
025993 *#
026003 *#
026013 *#
026023 *#
026033 *#
026043 *#
026053 *#
026063 *#
026073 *#
026083 *#
026093 *#
026103 *#
026113 *#
026123 *#
026133 *#
026143 *#
026153 *#
026163 *#
026173 *#
026183 *#
026193 *#
026203 *#
026213 *#
026223 *#
026233 *#
026243 *#
026253 *#
026263 *#
026273 *#
026283 *#
026293 *#
026303 *#
026313 *#
026323 *#
026333 *#
026343 *#
026353 *#
026363 *#
026373 *#
026383 *#
026393 *#
026403 *#
026413 *#
026423 *#
026433 *#
026443 *#
026453 *#
026463 *#
026473 *#
026483 *#
026493 *#
026503 *#
026513 *#
026523 *#
026533 *#
026543 *#
026553 *#
026563 *#
026573 *#
026583 *#
026593 *#
026603 *#
026613 *#
026623 *#
026633 *#
026643 *#
026653 *#
026663 *#
026673 *#
026683 *#
026693 *#
026703 *#
026713 *#
026723 *#
026733 *#
026743 *#
026753 *#
026763 *#
026773 *#
026783 *#
026793 *#
026803 *#
026813 *#
026823 *#
026833 *#
026843 *#
026853 *#
026863 *#
026873 *#
026883 *#
026893 *#
026903 *#
026913 *#
026923 *#
026933 *#
026943 *#
026953 *#
026963 *#
026973 *#
026983 *#
026993 *#
027003 *#

```

```

ID=5], NHYD="Ext-2", DT=1[1min, AREA=417.2] (ha),
DWF=0] (cms), CN/C=174.7], IA=1] (4.5] (mm),
N=3], TP=11.87] hrs,
RAINFALL=, , , ] (mm/hr), END=1
ID=7], NHYD="Ext 1", DT=1[1min, AREA=6.5] (ha),
DWF=0] (cms), CN/C=174.7], IA=1] (4.5] (mm),
N=3], TP=10.36] hrs,
RAINFALL=, , , ] (mm/hr), END=1
IDsum=8], NHYD="Ftn", IDs to add=5]
IDout=5], NHYD="SiteLag", IDin=8],
ROT=1] (min),
CHLGTB=150] (m), CHSLOPE=0.65] (%),
FFSLOPE=0.65] (%),
SECNM=1], NSEGM=3]
( SEGR008H, SEGDIST (m)=0.035,75.5 -0.045,221.70 0.035,266.50] NSEGM times
( DISTANCE (m), ELEVATION (m))=1179.70, 514.50]
[196.60, 514.00]
[215.60, 513.59]
[216.55, 513.00]
[217.20, 512.50]
[217.45, 512.46]
[217.80, 512.50]
[218.95, 513.00]
[221.30, 513.50]
[221.70, 513.71]
[220.40, 512.71]
[243.80, 514.00]
[249.40, 514.12]
[249.50, 514.28]
[266.50, 514.50]
ID=7], NHYD="F22", DT=1] (min), AREA=10.1] (ha),
XMP=0.3], TWP=0.579], DWF=0] (cms), LOSS=2],
SCS curve number CN=74],
Pervious surfaces: IAPER=5] (mm), SLP=2.0] (%),
Impervious surfaces: IAIMP=2] (mm), SLP=0.5] (%),
LGI=259] (m), MHI=0.013], SCl=0] (min),
RAINFALL=, , , ] (mm/hr), END=1
ID=8], NHYD="F23", DT=1] (min), AREA=11.2] (ha),
XMP=0.3], TWP=0.50], DWF=0] (cms), LOSS=2],
SCS curve number CN=74],
Pervious surfaces: IAPER=5] (mm), SLP=2.0] (%),
Impervious surfaces: IAIMP=2] (mm), SLP=0.5] (%),
LGI=30] (m), MHI=0.013], SCl=0] (min),
RAINFALL=, , , ] (mm/hr), END=1
IDsum=9], NHYD="P31N", IDs to add=7+8]
IDout=9], NHYD="P3Out", IDin=9],
ROT=1] (min),
TABLE of (OUTFLOW-STORAGE) values
(cms) - (ha-m)
[ 0.0, 0.0 ]
[ 0.007, 0.036 ]
[ 0.013, 0.075 ]
[ 0.02, 0.107 ]
[ 0.017, 0.115 ]
[ 0.023, 0.121 ]
[ 0.027, 0.212 ]
[ 0.030, 0.348 ]
[ 0.035, 0.517 ]
[ 0.040, 0.709 ]
[ 0.045, 0.921 ]
[ 1.247, 1.155 ]
IDov=8], NHYDov="F22over"
IDsum=9], NHYD="F23", IDs to add=7+8]
ID=4], NHYD="Ext 4", DT=1] (min), AREA=6.3] (ha),
DWF=0] (cms), CN/C=174.7], IA=1] (4.5] (mm),
N=3], TP=10.41] hrs,
RAINFALL=, , , ] (mm/hr), END=1
IDsum=5], NHYD="Ft of Int", IDs to add=9+4]
IDsum=10], NHYD="Ft of Int", IDs to add=1+2+3+6]
ID=4], NHYD="F21-A", DT=1] (min), AREA=14.70] (ha),
XMP=0.35], TWP=0.384], DWF=0] (cms), LOSS=2],
SCS curve number CN=74],
Pervious surfaces: IAPER=5] (mm), SLP=2.0] (%),
Impervious surfaces: IAIMP=2] (mm), SLP=0.5] (%),
LGI=37] (m), MHI=0.013], SCl=0] (min),
RAINFALL=, , , ] (mm/hr), END=1
ID=7], NHYD="MINOR", DT=1] (min), AREA=0.21] (ha),
XMP=0.61], TWP=0.61], DWF=0] (cms), LOSS=2],
SCS curve number CN=74],
Pervious surfaces: IAPER=5] (mm), SLP=2.0] (%),
Impervious surfaces: IAIMP=2] (mm), SLP=0.5] (%),
LGI=186] (m), MHI=0.013], SCl=0] (min),
RAINFALL=, , , ] (mm/hr), END=1
ID=4], NIDOUT=2] (max flow),
outflow hydrographs (ID, NHYD="5", "MINOR" 6, "MAJOR"
flow distribution table: (Modify as necessary)
Note: all flows are in (cms)
QDI + QDI1 = QTOTAL
[ 0.000 + 0.000 = 0.000 ]
[ 0.035 + 0.000 = 0.035 ]
[ 0.035 + 10.000 = 10.035]end
ID=4], NHYD="F21-A", DT=1] (min), AREA=0.33] (ha),
XMP=0.61], TWP=0.384], DWF=0] (cms), LOSS=2],
SCS curve number CN=74],
Pervious surfaces: IAPER=5] (mm), SLP=2.0] (%),
Impervious surfaces: IAIMP=2] (mm), SLP=0.5] (%),
LGI=47] (m), MHI=0.013], SCl=0] (min),
RAINFALL=, , , ] (mm/hr), END=1
ID=7], NHYD="DMF#2", DT=1] (min), AREA=1.11] (ha),
XMP=0.51], TWP=0.51], DWF=0] (cms), LOSS=2],
SCS curve number CN=74],
Pervious surfaces: IAPER=5] (mm), SLP=2.0] (%),
Impervious surfaces: IAIMP=2] (mm), SLP=0.5] (%),
LGI=186] (m), MHI=0.013], SCl=0] (min),
RAINFALL=, , , ] (mm/hr), END=1
IDsum=8], NHYD="F2 In", IDs to add=3+5+4+7]
IDout=8], NHYD="F2 Out", IDin=8],
ROT=1] (min),
TABLE of (OUTFLOW-STORAGE) values
(cms) - (ha-m)
[ 0.0, 0.0 ]
[ 0.008, 0.048 ]
[ 0.024, 0.123 ]
[ 0.036, 0.204 ]
[ 0.044, 0.261 ]
[ 0.080, 0.320 ]
[ 0.114, 0.350 ]
[ 0.146, 0.380 ]
[ 0.239, 0.443 ]
[ 0.360, 0.574 ]
[ 0.828, 0.642 ]
[ 1.154, 0.711 ]
[ 1.535, 0.782 ]
[ 1.746, 0.818 ]
[ 1.984, 0.847 ]
[ 1.984, 0.855 ]
[ 3.005, 0.940 ]
[ 4.549, 1.032 ]
[ 12.016, 1.300 ]
IDov=4], NHYDov="F22over"
IDsum=5], NHYD="F2 Out", IDs to add=3+4]
ID=5], NIDOUT=2] (max flow),
outflow hydrographs (ID, NHYD="3", "FTWO" 4, "FTWO" 5
flow distribution table: (Modify as necessary)
Note: all flows are in (cms)
QDI + QDI1 = QTOTAL
[ 0.000 + 0.000 = 0.000 ]
[ 0.000 + 0.022 = 0.022 ]
[ 0.000 + 0.033 = 0.033 ]
[ 0.000 + 0.044 = 0.044 ]
[ 0.015 + 0.062 = 0.077 ]
[ 0.053 + 0.093 = 0.146 ]
[ 0.097 + 0.143 = 0.240 ]
[ 0.208 + 0.352 = 0.560 ]
[ 0.345 + 0.809 = 1.154 ]
[ 0.465 + 1.285 = 1.750 ]
[ 0.503 + 1.486 = 1.989 ]
[ 0.583 + 1.874 = 2.457 ]
[ 0.679 + 4.312 = 4.991 ]
[ 0.975 + 12.716 = 13.692] end

```

```

027013 *#
027023 *#
027033 *#
027043 *#
027053 *#
027063 *#
027073 *#
027083 *#
027093 *#
027103 *#
027113 *#
027123 *#
027133 *#
027143 *#
027153 *#
027163 *#
027173 *#
027183 *#
027193 *#
027203 *#
027213 *#
027223 *#
027233 *#
027243 *#
027253 *#
027263 *#
027273 *#
027283 *#
027293 *#
027303 *#
027313 *#
027323 *#
027333 *#
027343 *#
027353 *#
027363 *#
027373 *#
027383 *#
027393 *#
027403 *#
027413 *#
027423 *#
027433 *#
027443 *#
027453 *#
027463 *#
027473 *#
027483 *#
027493 *#
027503 *#
027513 *#
027523 *#
027533 *#
027543 *#
027553 *#
027563 *#
027573 *#
027583 *#
027593 *#
027603 *#
027613 *#
027623 *#
027633 *#
027643 *#
027653 *#
027663 *#
027673 *#
027683 *#
027693 *#
027703 *#
027713 *#
027723 *#
027733 *#
027743 *#
027753 *#
027763 *#
027773 *#
027783 *#
027793 *#
027803 *#
027813 *#
027823 *#
027833 *#
027843 *#
027853 *#
027863 *#
027873 *#
027883 *#
027893 *#
027903 *#
027913 *#
027923 *#
027933 *#
027943 *#
027953 *#
027963 *#
027973 *#
027983 *#
027993 *#
028003 *#
028013 *#
028023 *#
028033 *#
028043 *#
028053 *#
028063 *#
028073 *#
028083 *#
028093 *#
028103 *#
028113 *#
028123 *#
028133 *#
028143 *#
028153 *#
028163 *#
028173 *#
028183 *#
028193 *#
028203 *#
028213 *#
028223 *#
028233 *#
028243 *#
028253 *#
028263 *#
028273 *#
028283 *#
028293 *#
028303 *#
028313 *#
028323 *#
028333 *#
028343 *#
028353 *#
028363 *#
028373 *#
028383 *#
028393 *#
028403 *#
028413 *#
028423 *#
028433 *#
028443 *#
028453 *#
028463 *#
028473 *#
028483 *#
028493 *#
028503 *#
028513 *#
028523 *#
028533 *#
028543 *#
028553 *#
028563 *#
028573 *#
028583 *#
028593 *#
028603 *#
028613 *#
028623 *#
028633 *#
028643 *#
028653 *#
028663 *#
028673 *#
028683 *#
028693 *#
028703 *#
028713 *#
028723 *#
028733 *#
028743 *#
028753 *#
028763 *#
028773 *#
028783 *#
028793 *#
028803 *#

```

```

02881 *#----- Watercourse Flow- ZONE 2
02882 *#-----
02883 *#-----
02884 *#-----
02885 *#----- East Watercourse Area -----
02886 *#-----
02887 *#----- Foley Drain -----
02888 *#-----
02889 *#-----
02890 *#-----
02891 CALIB NASHYD ID=[5], NYVD=["Ext-2"], DT=[1]min, AREA=[417.2] (ha),
DWF=[0] (cms), CN/C=[74.7], IA=[7.65] (mm),
N=[3], TP=[1.87]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
02892 *#-----
02893 *#-----
02894 *#-----
02895 CALIB NASHYD ID=[7], NYVD=["Mnt-1"], DT=[1]min, AREA=[6.51] (ha),
DWF=[0] (cms), CN/C=[79.1], IA=[6.4] (mm),
N=[3], TP=[0.36]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
02900 *#-----
02901 ADD HYD IDsum=[8], NYVD=["Fin"], IDs to add=[5+7]
02902 *#-----
02903 ROUTE CHANNEL Idout=[5], NYVD=["SiteLag"], Idin=[8],
RD=[1] (min),
CHSLOP=[0.65] (%),
FSLOP=[0.65] (%),
NSM=[2]
SECND=[1],
NSEC=[3]
(SEGROGHE, SEGDIST (m))=[0.035,215.60 -0.045,221.70 0.035,266.50] NSEC times
(DISTANCE (m), ELEVATION (m))=[179.70, 514.50]
02904 *#-----
02905 *#-----
02906 *#-----
02907 *#-----
02908 *#-----
02909 *#-----
02910 *#-----
02911 *#-----
02912 *#-----
02913 *#-----
02914 *#-----
02915 *#-----
02916 *#-----
02917 *#-----
02918 *#-----
02919 *#-----
02920 *#-----
02921 *#-----
02922 *#-----
02923 *#-----
02924 *#-----
02925 *#-----
02926 *#-----
02927 *#-----
02928 *#-----
02929 *#-----
02930 *#-----
02931 *#-----
02932 CALIB STANDYD ID=[7], NYVD=["FBI-1"], DT=[1] (min), AREA=[10.3] (ha),
XIMP=[0.32], TIMP=[0.5791], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAlmp=[2] (mm), SLP=[0.5] (%),
LGI=[190] (m), MHI=[0.013], SCT=[0] (min),
LGI=[259] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
02933 *#-----
02934 *#-----
02935 *#-----
02936 *#-----
02937 *#-----
02938 *#-----
02939 *#-----
02940 *#-----
02941 CALIB STANDYD ID=[8], NYVD=["SMF1"], DT=[1] (min), AREA=[1.21] (ha),
XIMP=[0.50], TIMP=[0.50], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAlmp=[2] (mm), SLP=[0.5] (%),
LGI=[190] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
02942 *#-----
02943 *#-----
02944 *#-----
02945 *#-----
02946 *#-----
02947 *#-----
02948 *#-----
02949 *#-----
02950 ADD HYD IDsum=[9], NYVD=["P31m"], IDs to add=[7+8]
02951 *#-----
02952 *#-----
02953 *#-----
02954 *#-----
02955 ROUTE RESERVOIR Idout=[7], NYVD=["P31out"], Idin=[9],
RD=[1] (min),
TABLE OF (OUTFLOW-STORAGE) values
(cms - (ha-m)
02956 *#-----
02957 *#-----
02958 *#-----
02959 *#-----
02960 *#-----
02961 *#-----
02962 *#-----
02963 *#-----
02964 *#-----
02965 *#-----
02966 *#-----
02967 *#-----
02968 *#-----
02969 *#-----
02970 *#-----
02971 *#-----
02972 *#-----
02973 *#-----
02974 ADD HYD IDsum=[9], NYVD=["Foley Drain"], IDs to add=[4+5+7+8]
02975 *#-----
02976 CALIB NASHYD ID=[4], NYVD=["Ext-4"], DT=[1]min, AREA=[6.3] (ha),
DWF=[0] (cms), CN/C=[64.8], IA=[10] (mm),
N=[3], TP=[0.44]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
02977 *#-----
02978 *#-----
02979 *#-----
02980 ADD HYD IDsum=[5], NYVD=["Fc of Intp"], IDs to add=[9+4]
02981 *#-----
02982 *#-----
02983 ADD HYD IDsum=[10], NYVD=["Ft of Intp"], IDs to add=[1+2+3+6]
02984 *#-----
02985 *#-----
02986 *#-----
02987 *#-----
02988 *#-----
02989 *#-----
02990 *#-----
02991 *#-----
02992 *#-----
02993 *#-----
02994 *#-----
02995 *#-----
02996 *#-----
02997 MASS STORM FTOTL=[75.1] (min), CDD=[15] (min),
CURVE_FILENAM=[SCS24H.MET]
02998 *#-----
02999 *#-----
03000 *#-----
03001 *#-----
03002 *#-----
03003 *#-----
03004 *#-----
03005 *#-----
03006 *#-----
03007 *#-----
03008 *#-----
03009 *#-----
03010 CALIB NASHYD ID=[1], NYVD=["Ext-5"], DT=[1]min, AREA=[0.97] (ha),
DWF=[0] (cms), CN/C=[77.7], IA=[4.5] (mm),
N=[3], TP=[0.26]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
03011 *#-----
03012 *#-----
03013 *#-----
03014 CALIB STANDYD ID=[2], NYVD=["FBI-1"], DT=[1] (min), AREA=[12.37] (ha),
XIMP=[0.3], TIMP=[0.50], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAlmp=[2] (mm), SLP=[0.5] (%),
LGI=[190] (m), MHI=[0.013], SCT=[0] (min),
LGI=[287] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
03015 *#-----
03016 *#-----
03017 *#-----
03018 *#-----
03019 *#-----
03020 *#-----
03021 *#-----
03022 *#-----
03023 *#-----
03024 CALIB STANDYD ID=[3], NYVD=["FBI-1"], DT=[1] (min), AREA=[0.98] (ha),
XIMP=[0.3], TIMP=[0.50], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAlmp=[2] (mm), SLP=[0.5] (%),
LGI=[190] (m), MHI=[0.013], SCT=[0] (min),
LGI=[287] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
03025 *#-----
03026 *#-----
03027 *#-----
03028 *#-----
03029 *#-----
03030 *#-----
03031 *#-----
03032 *#-----
03033 CALIB STANDYD ID=[4], NYVD=["SMF1"], DT=[1] (min), AREA=[1.9] (ha),
XIMP=[0.5], TIMP=[0.5], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAlmp=[2] (mm), SLP=[0.5] (%),
LGI=[190] (m), MHI=[0.013], SCT=[0] (min),
LGI=[259] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
03034 *#-----
03035 *#-----
03036 *#-----
03037 *#-----
03038 *#-----
03039 *#-----
03040 *#-----
03041 *#-----
03042 ADD HYD IDsum=[5], NYVD=["FBI-1"], IDs to add=[3+4]
03043 *#-----
03044 *#-----
03045 *#-----
03046 ROUTE RESERVOIR Idout=[1], NYVD=["P21out"], Idin=[5],
RD=[1] (min),
TABLE OF (OUTFLOW-STORAGE) values
(cms - (ha-m)
03047 *#-----
03048 *#-----
03049 *#-----
03050 *#-----
03051 *#-----
03052 *#-----
03053 *#-----
03054 *#-----
03055 *#-----
03056 *#-----
03057 *#-----
03058 *#-----
03059 *#-----
03060 *#-----

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03061 *#-----
03062 *#-----
03063 *#-----
03064 *#-----
03065 *#-----
03066 *#-----
03067 *#-----
03068 *#-----
03069 *#-----
03070 *#-----
03071 *#-----
03072 *#-----
03073 CALIB NASHYD ID=[3], NYVD=["Ext 1"], DT=[1]min, AREA=[41.2] (ha),
DWF=[0] (cms), CN/C=[74.1], IA=[6.1] (mm),
N=[3], TP=[0.57]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
03074 *#-----
03075 *#-----
03076 *#-----
03077 *#-----
03078 ROUTE CHANNEL Idout=[4], NYVD=["SiteLag"], Idin=[3],
RD=[1] (min),
CHSLOP=[0.96] (%),
FSLOP=[0.96] (%),
NSM=[2]
SECND=[1],
NSEC=[3]
(SEGROGHE, SEGDIST (m))=[0.035,75.5 -0.045,78.5 0.035,151.0] NSEC times
(DISTANCE (m), ELEVATION (m))=[31.0, 515.00]
03079 *#-----
03080 *#-----
03081 *#-----
03082 *#-----
03083 *#-----
03084 *#-----
03085 *#-----
03086 *#-----
03087 *#-----
03088 *#-----
03089 *#-----
03090 *#-----
03091 *#-----
03092 *#-----
03093 *#-----
03094 *#-----
03095 *#-----
03096 *#-----
03097 *#-----
03098 *#-----
03099 CALIB NASHYD ID=[5], NYVD=["FBI-2"], DT=[1]min, AREA=[5.68] (ha),
DWF=[0] (cms), CN/C=[70], IA=[6.4] (mm),
N=[3], TP=[0.40]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
03100 *#-----
03101 *#-----
03102 *#-----
03103 *#-----
03104 *#-----
03105 *#-----
03106 ADD HYD IDsum=[3], NYVD=["DNC PL"], IDs to add=[1+2+4+5]
03107 *#-----
03108 ROUTE CHANNEL Idout=[1], NYVD=["DS Lag"], Idin=[3],
RD=[1] (min),
CHSLOP=[0.96] (%),
FSLOP=[0.96] (%),
NSM=[2]
SECND=[1],
NSEC=[3]
(SEGROGHE, SEGDIST (m))=[0.035,75.5 -0.045,78.5 0.035,151.0] NSEC times
(DISTANCE (m), ELEVATION (m))=[31.0, 515.00]
03109 *#-----
03110 *#-----
03111 *#-----
03112 *#-----
03113 *#-----
03114 *#-----
03115 *#-----
03116 *#-----
03117 *#-----
03118 *#-----
03119 *#-----
03120 *#-----
03121 *#-----
03122 *#-----
03123 *#-----
03124 *#-----
03125 *#-----
03126 *#-----
03127 *#-----
03128 *#-----
03129 CALIB NASHYD ID=[2], NYVD=["Ext-3"], DT=[1]min, AREA=[1.55] (ha),
DWF=[0] (cms), CN/C=[60], IA=[10] (mm),
N=[3], TP=[0.47]hrs,
RAINFALL=[, , , ] (mm/hr), END=1
03130 *#-----
03131 *#-----
03132 *#-----
03133 *#-----
03134 *#-----
03135 *#-----
03136 *#-----
03137 *#-----
03138 *#-----
03139 *#-----
03140 *#-----
03141 *#-----
03142 *#-----
03143 *#-----
03144 CALIB STANDYD ID=[3], NYVD=["FBI"], DT=[1] (min), AREA=[14.70] (ha),
XIMP=[0.35], TIMP=[0.5], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAlmp=[2] (mm), SLP=[0.5] (%),
LGI=[190] (m), MHI=[0.013], SCT=[0] (min),
LGI=[259] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
03145 *#-----
03146 *#-----
03147 *#-----
03148 *#-----
03149 *#-----
03150 *#-----
03151 *#-----
03152 *#-----
03153 CALIB STANDYD ID=[4], NYVD=["MINOR"], DT=[1] (min), AREA=[0.21] (ha),
XIMP=[0.61], TIMP=[0.61], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAlmp=[2] (mm), SLP=[0.5] (%),
LGI=[190] (m), MHI=[0.013], SCT=[0] (min),
LGI=[259] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
03154 *#-----
03155 *#-----
03156 *#-----
03157 *#-----
03158 *#-----
03159 *#-----
03160 *#-----
03161 *#-----
03162 *#-----
03163 *#-----
03164 *#-----
03165 *#-----
03166 *#-----
03167 *#-----
03168 *#-----
03169 *#-----
03170 *#-----
03171 CALIB STANDYD ID=[4], NYVD=["FBI-A"], DT=[1] (min), AREA=[0.33] (ha),
XIMP=[0.01], TIMP=[0.384], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAlmp=[2] (mm), SLP=[0.5] (%),
LGI=[190] (m), MHI=[0.013], SCT=[0] (min),
LGI=[47] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
03172 *#-----
03173 *#-----
03174 *#-----
03175 *#-----
03176 *#-----
03177 *#-----
03178 *#-----
03179 *#-----
03180 CALIB STANDYD ID=[7], NYVD=["SMF2"], DT=[1] (min), AREA=[1.1] (ha),
XIMP=[0.51], TIMP=[0.51], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: IAlmp=[2] (mm), SLP=[0.5] (%),
LGI=[190] (m), MHI=[0.013], SCT=[0] (min),
LGI=[190] (m), MHI=[0.013], SCT=[0] (min),
RAINFALL=[, , , ] (mm/hr), END=1
03181 *#-----
03182 *#-----
03183 *#-----
03184 *#-----
03185 *#-----
03186 *#-----
03187 *#-----
03188 *#-----
03189 *#-----
03190 ADD HYD IDsum=[8], NYVD=["P21 in"], IDs to add=[3+4+7]
03191 *#-----
03192 *#-----
03193 *#-----
03194 ROUTE RESERVOIR Idout=[3], NYVD=["P21out"], Idin=[8],
RD=[1] (min),
TABLE OF (OUTFLOW-STORAGE) values
(cms - (ha-m)
03195 *#-----
03196 *#-----
03197 *#-----
03198 *#-----
03199 *#-----
03200 *#-----
03201 *#-----
03202 *#-----
03203 *#-----
03204 *#-----
03205 *#-----
03206 *#-----
03207 *#-----
03208 *#-----
03209 *#-----
03210 *#-----
03211 *#-----
03212 *#-----
03213 *#-----
03214 *#-----
03215 *#-----
03216 *#-----
03217 *#-----
03218 *#-----
03219 *#-----
03220 ADD HYD IDsum=[5], NYVD=["P21 out"], IDs to add=[3+4]
03221 *#-----
03222 *#-----
03223 *#-----
03224 *#-----
03225 *#-----
03226 *#-----
03227 *#-----
03228 *#-----
03229 *#-----
03230 *#-----
03231 *#-----
03232 *#-----
03233 *#-----
03234 *#-----
03235 *#-----
03236 *#-----
03237 *#-----
03238 *#-----
03239 *#-----
03240 *#-----

```

```

03241> [ 0.975 + 12.716 = 13.692] end
03242> *-----
03243> *-----
03244> *-----
03245> *-----
03246> *-----
03247> *-----
03248> *-----
03249> *-----
03250> *-----
03251> *-----
03252> *-----
03253> CALIB NASHVD ID=5, NHVD="Ext-2", DT=1[1min, AREA=417.2] (ha),
03254> DWF=0[0] (cms), CN/C=74.7, IA=1[6.4] (mm),
03255> N=3, TP=1[47] hrs,
03256> RAINFALL= , , , (mm/hr), END=1
03257> *-----
03258> CALIB NASHVD ID=7, NHVD="MAT", DT=1[1min, AREA=6.5] (ha),
03259> DWF=0[0] (cms), CN/C=79.1, IA=6.4[6.4] (mm),
03260> N=3, TP=1[47] hrs,
03261> RAINFALL= , , , (mm/hr), END=1
03262> *-----
03263> ADD HYD IDsum=8, NHVD="Ftn", IDs to add=5[7]
03264> *-----
03265> ROUTE CHANNEL IDout=5, NHVD="SiteLaq", IDin=8,
03266> RDT=1[1] (min),
03267> CHSLOPE=1550 (mm), CHSLOPE=0.65 (4),
03268> FFSLOPE=0.65 (4),
03269> SEGM=11, NSEG=13
03270> ( SEGCOORD, SEGDIET (m))=0.035,215.60 -0.045,221.70 0.035,246.50 NSEG times
03271> ( DISTANCE (m), ELEVATION (m))=179.70, 514.50
03272> [ 136.60, 514.00
03273> [ 215.60, 513.59
03274> [ 216.55, 513.00
03275> [ 217.20, 512.50
03276> [ 217.45, 512.46
03277> [ 217.80, 512.50
03278> [ 218.95, 513.00
03279> [ 221.30, 513.50
03280> [ 221.70, 513.71
03281> [ 230.40, 513.71
03282> [ 243.80, 514.00
03283> [ 249.40, 514.12
03284> [ 259.50, 514.28
03285> [ 266.50, 514.50
03286> *-----
03287> *-----
03288> *-----
03289> *-----
03290> *-----
03291> *-----
03292> *-----
03293> *-----
03294> CALIB STANDHYD ID=7, NHVD="FB2", DT=1 (min), AREA=10.1 (ha),
03295> XIMP=0.51, TIMP=0.51, DWF=0 (cms), LOSS=2,
03296> Pervious surfaces: Iaper=5 (mm), SLP=2.0 (4),
03297> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03298> LGI=128 (m), MHI=0.013, SCT=0 (min),
03299> RAINFALL= , , , (mm/hr), END=1
03300> *-----
03301> *-----
03302> *-----
03303> CALIB STANDHYD ID=8, NHVD="SMF#1", DT=1 (min), AREA=1.21 (ha),
03304> XIMP=0.51, TIMP=0.51, DWF=0 (cms), LOSS=2,
03305> Pervious surfaces: Iaper=5 (mm), SLP=2.0 (4),
03306> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03307> LGI=140 (m), MHI=0.025, SCP=0 (min),
03308> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03309> LGI=90 (m), MHI=0.013, SCT=0 (min),
03310> RAINFALL= , , , (mm/hr), END=1
03311> *-----
03312> ADD HYD IDsum=9, NHVD="FDM", IDs to add=1[8]
03313> *-----
03314> *-----
03315> *-----
03316> *-----
03317> ROUTE RESERVOIR IDout=7, NHVD="F30ut", IDin=9,
03318> RDT=1 (min),
03319> *-----
03320> TABLE of (OUTFLOW-STORAGE) values
03321> (cms) - (ha-m)
03322> [ 0.0, 0.0 ]
03323> [ 0.007, 0.036 ]
03324> [ 0.013, 0.075 ]
03325> [ 0.016, 0.107 ]
03326> [ 0.017, 0.155 ]
03327> [ 0.023, 0.202 ]
03328> [ 0.030, 0.248 ]
03329> [ 0.035, 0.317 ]
03330> [ 0.040, 0.379 ]
03331> [ 0.045, 0.522 ]
03332> [ 1.247, 1.353 ]
03333> [ -1, -1 ] (max twenty pts)
03334> *-----
03335> ADD HYD IDsum=8, NHVDov=8["F#2over"]
03336> *-----
03337> *-----
03338> CALIB NASHVD ID=4, NHVD="Ext 4", DT=1[1min, AREA=6.3] (ha),
03339> DWF=0[0] (cms), CN/C=64.8, IA=10 (mm),
03340> N=3, TP=0.4[4] hrs,
03341> RAINFALL= , , , (mm/hr), END=1
03342> *-----
03343> ADD HYD IDsum=5, NHVD="Pt of Int", IDs to add=9[4]
03344> *-----
03345> ADD HYD IDsum=10, NHVD="Rt of Int", IDs to add=1[2+3+6]
03346> *-----
03347> *-----
03348> *-----
03349> *-----
03350> *-----
03351> *-----
03352> *-----
03353> *-----
03354> *-----
03355> *-----
03356> *-----
03357> *-----
03358> *-----
03359> MASS STORM FTOTAL=88.1 (mm), CSDT=15 (min),
03360> CURVE_F18=8["C184EM"]
03361> *-----
03362> *-----
03363> *-----
03364> *-----
03365> *-----
03366> *-----
03367> *-----
03368> *-----
03369> *-----
03370> *-----
03371> *-----
03372> CALIB NASHVD ID=1, NHVD="Ext 5", DT=1[1min, AREA=0.97] (ha),
03373> DWF=0[0] (cms), CN/C=77.7, IA=4.5 (mm),
03374> N=3, TP=0.26[26] hrs,
03375> RAINFALL= , , , (mm/hr), END=1
03376> *-----
03377> CALIB STANDHYD ID=2, NHVD="FB 21-1", DT=1 (min), AREA=12.37 (ha),
03378> XIMP=0.3, TIMP=0.51, DWF=0 (cms), LOSS=2,
03379> Pervious surfaces: Iaper=5 (mm), SLP=2.0 (4),
03380> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03381> LGI=140 (m), MHI=0.025, SCP=0 (min),
03382> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03383> LGI=287 (m), MHI=0.013, SCT=0 (min),
03384> RAINFALL= , , , (mm/hr), END=1
03385> *-----
03386> CALIB STANDHYD ID=3, NHVD="FB 21-3", DT=1 (min), AREA=0.98 (ha),
03387> XIMP=0.3, TIMP=0.51, DWF=0 (cms), LOSS=2,
03388> Pervious surfaces: Iaper=5 (mm), SLP=2.0 (4),
03389> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03390> LGI=140 (m), MHI=0.025, SCP=0 (min),
03391> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03392> LGI=121 (m), MHI=0.013, SCT=0 (min),
03393> RAINFALL= , , , (mm/hr), END=1
03394> *-----
03395> CALIB STANDHYD ID=4, NHVD="SMF#1", DT=1 (min), AREA=1.9 (ha),
03396> XIMP=0.51, TIMP=0.51, DWF=0 (cms), LOSS=2,
03397> Pervious surfaces: Iaper=5 (mm), SLP=2.0 (4),
03398> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03399> LGI=140 (m), MHI=0.025, SCP=0 (min),
04000> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
04001> LGI=113 (m), MHI=0.013, SCT=0 (min),
04002> RAINFALL= , , , (mm/hr), END=1
04003> *-----
04004> ADD HYD IDsum=5, NHVD="F#1 IN", IDs to add=1[2+3+4]
04005> *-----
04006> *-----
04007> *-----
04008> ROUTE RESERVOIR IDout=1, NHVD="F#30ut", IDin=5,
04009> RDT=1 (min),
04010> TABLE of (OUTFLOW-STORAGE) values
04011> (cms) - (ha-m)
04012> [ 0.0, 0.0 ]
04013> [ 0.005, 0.034 ]
04014> [ 0.011, 0.114 ]
04015> [ 0.013, 0.164 ]
04016> [ 0.017, 0.297 ]
04017> [ 0.018, 0.380 ]
04018> [ 0.020, 0.523 ]
04019> [ 0.022, 0.734 ]
04020> [ 0.067, 0.848 ]

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```

03421> [ 0.252, 1.092 ]
03422> *-----
03423> *-----
03424> *-----
03425> *-----
03426> *-----
03427> *-----
03428> *-----
03429> *-----
03430> *-----
03431> *-----
03432> *-----
03433> *-----
03434> CALIB NASHVD ID=3, NHVD="Ext 1", DT=1[1min, AREA=41.2] (ha),
03435> DWF=0[0] (cms), CN/C=74.1, IA=6.1 (mm),
03436> N=3, TP=0.5[5] hrs,
03437> RAINFALL= , , , (mm/hr), END=1
03438> *-----
03439> *-----
03440> ROUTE CHANNEL IDout=4, NHVD="SiteLaq", IDin=3,
03441> RDT=1[1] (min),
03442> CHSLOPE=1425 (mm), CHSLOPE=0.96 (4),
03443> FFSLOPE=0.96 (4),
03444> SEGM=11, NSEG=3
03445> ( SEGCOORD, SEGDIET (m))=0.035,75.5 -0.045,78.5 0.035,151.0 NSEG times
03446> ( DISTANCE (m), ELEVATION (m))=31.0, 515.00
03447> [ 48.0, 514.81
03448> [ 60.0, 514.69
03449> [ 68.5, 514.54
03450> [ 75.5, 514.23
03451> [ 76.0, 514.06
03452> [ 77.5, 514.06
03453> [ 78.5, 514.36
03454> [ 79.5, 514.39
03455> [ 82.5, 514.49
03456> [ 103.5, 514.51
03457> [ 118.5, 514.67
03458> [ 130.5, 514.50
03459> [ 151.0, 515.00
03460> *-----
03461> CALIB NASHVD ID=5, NHVD="FB 21-2", DT=1[1min, AREA=5.68] (ha),
03462> DWF=0[0] (cms), CN/C=71, IA=6.4 (mm),
03463> N=3, TP=0.4[4] hrs,
03464> RAINFALL= , , , (mm/hr), END=1
03465> *-----
03466> *-----
03467> *-----
03468> ADD HYD IDsum=3, NHVD="Dnc Pl", IDs to add=1[2+4+5]
03469> *-----
03470> ROUTE CHANNEL IDout=1, NHVD="Site Laq", IDin=3,
03471> RDT=1[1] (min),
03472> CHSLOPE=1350 (mm), CHSLOPE=0.96 (4),
03473> FFSLOPE=0.96 (4),
03474> SEGM=11, NSEG=3
03475> ( SEGCOORD, SEGDIET (m))=0.035,75.5 -0.045,78.5 0.035,151.0 NSEG times
03476> ( DISTANCE (m), ELEVATION (m))=31.0, 515.00
03477> [ 48.0, 514.81
03478> [ 60.0, 514.69
03479> [ 68.5, 514.54
03480> [ 75.5, 514.23
03481> [ 76.0, 514.06
03482> [ 77.5, 514.06
03483> [ 78.5, 514.36
03484> [ 79.5, 514.39
03485> [ 82.5, 514.49
03486> [ 103.5, 514.51
03487> [ 118.5, 514.67
03488> [ 130.5, 514.50
03489> [ 151.0, 515.00
03490> *-----
03491> CALIB NASHVD ID=2, NHVD="Ext 3", DT=1[1min, AREA=1.55] (ha),
03492> DWF=0[0] (cms), CN/C=60, IA=10 (mm),
03493> N=3, TP=0.4[4] hrs,
03494> RAINFALL= , , , (mm/hr), END=1
03495> *-----
03496> *-----
03497> *-----
03498> *-----
03499> *-----
03500> *-----
03501> *-----
03502> *-----
03503> *-----
03504> *-----
03505> *-----
03506> CALIB STANDHYD ID=3, NHVD="FB1", DT=1 (min), AREA=14.70 (ha),
03507> XIMP=0.35, TIMP=0.51, DWF=0 (cms), LOSS=2,
03508> Pervious surfaces: Iaper=5 (mm), SLP=2.0 (4),
03509> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03510> LGI=140 (m), MHI=0.025, SCP=0 (min),
03511> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03512> LGI=213 (m), MHI=0.013, SCT=0 (min),
03513> RAINFALL= , , , (mm/hr), END=1
03514> *-----
03515> CALIB STANDHYD ID=4, NHVD="MINOR", DT=1 (min), AREA=0.21 (ha),
03516> XIMP=0.61, TIMP=0.51, DWF=0 (cms), LOSS=2,
03517> Pervious surfaces: Iaper=5 (mm), SLP=2.0 (4),
03518> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03519> LGI=47 (m), MHI=0.013, SCT=0 (min),
03520> RAINFALL= , , , (mm/hr), END=1
03521> *-----
03522> *-----
03523> DIVERGENT HYD IDin=4, IDout=2[1max flow,
03524> outflow hydrograph (ID, NHVD)=5,"MINOR" / 6,"MAJOR"
03525> flow distribution table: (modify as necessary)
03526> Note: all flows are in (cms)
03527> *-----
03528> *-----
03529> *-----
03530> *-----
03531> *-----
03532> *-----
03533> CALIB STANDHYD ID=4, NHVD="FB1-A", DT=1 (min), AREA=0.33 (ha),
03534> XIMP=0.01, TIMP=0.394, DWF=0 (cms), LOSS=2,
03535> Pervious surfaces: Iaper=5 (mm), SLP=2.0 (4),
03536> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03537> LGI=140 (m), MHI=0.025, SCP=0 (min),
03538> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03539> LGI=47 (m), MHI=0.013, SCT=0 (min),
03540> RAINFALL= , , , (mm/hr), END=1
03541> *-----
03542> CALIB STANDHYD ID=7, NHVD="MINOR", DT=1 (min), AREA=1.11 (ha),
03543> XIMP=0.51, TIMP=0.51, DWF=0 (cms), LOSS=2,
03544> Pervious surfaces: Iaper=5 (mm), SLP=2.0 (4),
03545> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03546> LGI=140 (m), MHI=0.025, SCP=0 (min),
03547> Imperious surfaces: Iamp=2 (mm), SLP=0.5 (4),
03548> LGI=86 (m), MHI=0.013, SCT=0 (min),
03549> RAINFALL= , , , (mm/hr), END=1
03550> *-----
03551> *-----
03552> *-----
03553> *-----
03554> *-----
03555> *-----
03556> ROUTE RESERVOIR IDout=3,
03557> RDT=1 (min),
03558> *-----
03559> *-----
03560> *-----
03561> *-----
03562> *-----
03563> *-----
03564> *-----
03565> *-----
03566> *-----
03567> *-----
03568> *-----
03569> *-----
03570> *-----
03571> *-----
03572> *-----
03573> *-----
03574> *-----
03575> *-----
03576> *-----
03577> *-----
03578> *-----
03579> *-----
03580> *-----
03581> *-----
03582> *-----
03583> *-----
03584> DIVERGENT HYD IDin=5, IDout=2[1max flow,
03585> outflow hydrograph (ID, NHVD)=3,"P#1NM" / 4,"P#2NM"
03586> flow distribution table: (modify as necessary)
03587> Note: all flows are in (cms)
03588> *-----
03589> *-----
03590> *-----
03591> *-----
03592> *-----
03593> *-----
03594> *-----
03595> *-----
03596> *-----
03597> *-----
03598> *-----
03599> *-----
03600> *-----

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03601+ [ 0.589 + 2.584 = 3.173 ]
03602+ [ 0.478 + 4.322 = 4.801 ]
03603+ [ 0.975 + 12.716 = 13.692 ] end
03604+ #-----
03605+ #-----
03606+ #-----
03607+ #-----
03608+ #-----
03609+ #-----
03610+ #-----
03611+ #-----
03612+ #-----
03613+ #-----
03614+ #-----
03615+ CALIB NASHYD ID=[5], NHYD=["Ext 2"], DT=[1]min, AREA=[417.2] (ha),
DWF=[0] (cms), CN/C=[74.7], IA=[7.65] (mm),
N=[3], TP=[0.57]hrs,
RAINFALL=[ , , , ] (mm/hr), EMD=1
03616+ #-----
03617+ #-----
03618+ #-----
03619+ #-----
03620+ CALIB NASHYD ID=[7], NHYD=["Ext 1"], DT=[1]min, AREA=[6.51] (ha),
DWF=[0] (cms), CN/C=[79.1], IA=[6.4] (mm),
N=[3], TP=[0.57]hrs,
RAINFALL=[ , , , ] (mm/hr), EMD=1
03621+ #-----
03622+ #-----
03623+ #-----
03624+ #-----
03625+ ADD HYD IDsum=[8], NHYD=["Ftn"], Ids to add=[5+7]
03626+ #-----
03627+ ROUTE CHANNEL IDout=[5], NHYD=["SiteLag"], IDin=[8],
RDT=[1] (min),
CHSLOPE=[0.45] (%),
CHLGR=[550] (m),
03628+ #-----
03629+ #-----
03630+ #-----
03631+ #-----
03632+ #-----
03633+ #-----
03634+ #-----
03635+ #-----
03636+ #-----
03637+ #-----
03638+ #-----
03639+ #-----
03640+ #-----
03641+ #-----
03642+ #-----
03643+ #-----
03644+ #-----
03645+ #-----
03646+ #-----
03647+ #-----
03648+ #-----
03649+ #-----
03650+ #-----
03651+ #-----
03652+ #-----
03653+ #-----
03654+ #-----
03655+ #-----
03656+ CALIB STANDHYD ID=[7], NHYD=["F20"], DT=[1] (min), AREA=[10.1] (ha),
XIMP=[0.312], TIMP=[0.579], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iaimp=[2] (mm), SLPF=[0.5] (%),
LGI=[258] (m), MHI=[0.013], SCTI=[0] (min),
RAINFALL=[ , , , ] (mm/hr), EMD=1
03657+ #-----
03658+ #-----
03659+ #-----
03660+ #-----
03661+ #-----
03662+ #-----
03663+ #-----
03664+ #-----
03665+ CALIB STANDHYD ID=[8], NHYD=["SMHF3"], DT=[1] (min), AREA=[1.21] (ha),
XIMP=[0.50], TIMP=[0.50], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iaimp=[2] (mm), SLPF=[0.5] (%),
LGI=[90] (m), MHI=[0.013], SCTI=[0] (min),
RAINFALL=[ , , , ] (mm/hr), EMD=1
03667+ #-----
03668+ #-----
03669+ #-----
03670+ #-----
03671+ #-----
03672+ #-----
03673+ #-----
03674+ ADD HYD IDsum=[9], NHYD=["F31M"], Ids to add=[7+8]
03675+ #-----
03676+ #-----
03677+ #-----
03678+ #-----
03679+ ROUTE RESERVOIR IDout=[7], NHYD=["F30ut"], IDin=[9],
RDT=[1] (min),
TABLE of (OUTFLOW-STORAGE) values
(cms) = (ha-m)
03681+ [ 0.0, 0.0 ]
03682+ [ 0.007, 0.036 ]
03683+ [ 0.013, 0.079 ]
03684+ [ 0.016, 0.107 ]
03685+ [ 0.017, 0.13 ]
03686+ [ 0.023, 0.202 ]
03687+ [ 0.027, 0.272 ]
03688+ [ 0.030, 0.348 ]
03689+ [ 0.035, 0.517 ]
03690+ [ 0.040, 0.700 ]
03691+ [ 0.045, 0.922 ]
03692+ [ 1.247, 1.155 ]
03693+ [ -1, -1 ] (max twenty pts)
03694+ IDover=[8], NHYDover=["F20over"]
03695+ #-----
03696+ #-----
03697+ #-----
03698+ ADD HYD IDsum=[9], NHYD=["F31M"], Ids to add=[5+7+8]
03699+ #-----
03700+ CALIB NASHYD ID=[4], NHYD=["Ext 4"], DT=[1]min, AREA=[6.3] (ha),
DWF=[0] (cms), CN/C=[64.8], IA=[0] (mm),
N=[3], TP=[0.44]hrs,
RAINFALL=[ , , , ] (mm/hr), EMD=1
03701+ #-----
03702+ #-----
03703+ #-----
03704+ #-----
03705+ ADD HYD IDsum=[5], NHYD=["Ft of Int"], Ids to add=[9+4]
03706+ #-----
03707+ #-----
03708+ #-----
03709+ #-----
03710+ #-----
03711+ #-----
03712+ #-----
03713+ #-----
03714+ #-----
03715+ #-----
03716+ #-----
03717+ #-----
03718+ #-----
03719+ #-----
03720+ #-----
03721+ #-----
03722+ MASS STORM FFOCAL=[04.5] (min),
CURVE_FFLNAME=["SCS24.MST"]
03723+ #-----
03724+ #-----
03725+ #-----
03726+ #-----
03727+ #-----
03728+ #-----
03729+ #-----
03730+ #-----
03731+ #-----
03732+ #-----
03733+ #-----
03734+ #-----
03735+ CALIB NASHYD ID=[1], NHYD=["Ext 5"], DT=[1]min, AREA=[0.97] (ha),
DWF=[0] (cms), CN/C=[77.7], IA=[4.5] (mm),
N=[3], TP=[0.57]hrs,
RAINFALL=[ , , , ] (mm/hr), EMD=1
03736+ #-----
03737+ #-----
03738+ #-----
03739+ #-----
03740+ CALIB STANDHYD ID=[2], NHYD=["F21-1"], DT=[1] (min), AREA=[12.37] (ha),
XIMP=[0.3], TIMP=[0.50], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iaimp=[2] (mm), SLPF=[0.5] (%),
LGI=[287] (m), MHI=[0.013], SCTI=[0] (min),
RAINFALL=[ , , , ] (mm/hr), EMD=1
03741+ #-----
03742+ #-----
03743+ #-----
03744+ #-----
03745+ #-----
03746+ #-----
03747+ #-----
03748+ #-----
03749+ CALIB STANDHYD ID=[3], NHYD=["F21-2"], DT=[1] (min), AREA=[0.98] (ha),
XIMP=[0.3], TIMP=[0.50], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iaimp=[2] (mm), SLPF=[0.5] (%),
LGI=[81] (m), MHI=[0.013], SCTI=[0] (min),
RAINFALL=[ , , , ] (mm/hr), EMD=1
03749+ #-----
03750+ #-----
03751+ #-----
03752+ #-----
03753+ #-----
03754+ #-----
03755+ #-----
03756+ #-----
03757+ #-----
03758+ CALIB STANDHYD ID=[4], NHYD=["SMHF1"], DT=[1] (min), AREA=[1.9] (ha),
XIMP=[0.5], TIMP=[0.5], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iaimp=[2] (mm), SLPF=[0.5] (%),
LGI=[133] (m), MHI=[0.013], SCTI=[0] (min),
RAINFALL=[ , , , ] (mm/hr), EMD=1
03759+ #-----
03760+ #-----
03761+ #-----
03762+ #-----
03763+ #-----
03764+ #-----
03765+ #-----
03766+ #-----
03767+ #-----
03768+ #-----
03769+ #-----
03770+ #-----
03771+ ROUTE RESERVOIR IDout=[1], NHYD=["F20ut"], IDin=[5],
RDT=[1] (min),
TABLE of (OUTFLOW-STORAGE) values
(cms) = (ha-m)
03772+ [ 0.0, 0.0 ]
03773+ [ 0.005, 0.034 ]
03774+ [ 0.011, 0.114 ]
03775+ [ 0.013, 0.164 ]
03776+ [ 0.017, 0.287 ]
03777+ [ 0.018, 0.380 ]
03778+ #-----
03779+ #-----
03780+ #-----

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03781+ [ 0.020, 0.523 ]
03782+ [ 0.022, 0.734 ]
03783+ [ 0.067, 0.848 ]
03784+ [ 0.252, 1.092 ]
03785+ [ -1, -1 ] (max twenty pts)
03786+ IDovf=[2], NHYDovf=["F21over"]
03787+ #-----
03788+ #-----
03789+ #-----
03790+ #-----
03791+ #-----
03792+ #-----
03793+ #-----
03794+ #-----
03795+ #-----
03796+ #-----
03797+ #-----
03798+ CALIB NASHYD ID=[3], NHYD=["Ext 1"], DT=[1]min, AREA=[41.2] (ha),
DWF=[0] (cms), CN/C=[74.1], IA=[6.1] (mm),
N=[3], TP=[0.57]hrs,
RAINFALL=[ , , , ] (mm/hr), EMD=1
03799+ #-----
03800+ #-----
03801+ #-----
03802+ #-----
03803+ ROUTE CHANNEL IDout=[4], NHYD=["SiteLag"], IDin=[3],
RDT=[1] (min),
CHSLOPE=[0.96] (%),
CHLGR=[425] (m),
03804+ #-----
03805+ #-----
03806+ #-----
03807+ #-----
03808+ #-----
03809+ #-----
03810+ #-----
03811+ #-----
03812+ #-----
03813+ #-----
03814+ #-----
03815+ #-----
03816+ #-----
03817+ #-----
03818+ #-----
03819+ #-----
03820+ #-----
03821+ #-----
03822+ #-----
03823+ #-----
03824+ CALIB NASHYD ID=[5], NHYD=["F21-2"], DT=[1]min, AREA=[5.68] (ha),
DWF=[0] (cms), CN/C=[60], IA=[6.4] (mm),
N=[3], TP=[0.40]hrs,
RAINFALL=[ , , , ] (mm/hr), EMD=1
03825+ #-----
03826+ #-----
03827+ #-----
03828+ #-----
03829+ #-----
03830+ #-----
03831+ #-----
03832+ #-----
03833+ ROUTE CHANNEL IDout=[1], NHYD=["DS Lag"], IDin=[3],
RDT=[1] (min),
CHSLOPE=[0.96] (%),
CHLGR=[150] (m),
03834+ #-----
03835+ #-----
03836+ #-----
03837+ #-----
03838+ #-----
03839+ #-----
03840+ #-----
03841+ #-----
03842+ #-----
03843+ #-----
03844+ #-----
03845+ #-----
03846+ #-----
03847+ #-----
03848+ #-----
03849+ #-----
03850+ #-----
03851+ #-----
03852+ #-----
03853+ #-----
03854+ CALIB NASHYD ID=[2], NHYD=["Ext 3"], DT=[1]min, AREA=[1.55] (ha),
XIMP=[0.3], TIMP=[0.5], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iaimp=[2] (mm), SLPF=[0.5] (%),
LGI=[133] (m), MHI=[0.013], SCTI=[0] (min),
RAINFALL=[ , , , ] (mm/hr), EMD=1
03855+ #-----
03856+ #-----
03857+ #-----
03858+ #-----
03859+ #-----
03860+ #-----
03861+ #-----
03862+ #-----
03863+ #-----
03864+ #-----
03865+ #-----
03866+ #-----
03867+ #-----
03868+ #-----
03869+ CALIB STANDHYD ID=[3], NHYD=["FBI"], DT=[1] (min), AREA=[14.70] (ha),
XIMP=[0.35], TIMP=[0.5], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iaimp=[2] (mm), SLPF=[0.5] (%),
LGI=[133] (m), MHI=[0.013], SCTI=[0] (min),
RAINFALL=[ , , , ] (mm/hr), EMD=1
03870+ #-----
03871+ #-----
03872+ #-----
03873+ #-----
03874+ #-----
03875+ #-----
03876+ #-----
03877+ #-----
03878+ CALIB STANDHYD ID=[4], NHYD=["MINOR"], DT=[1] (min), AREA=[0.21] (ha),
XIMP=[0.61], TIMP=[0.61], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iaimp=[2] (mm), SLPF=[0.5] (%),
LGI=[37] (m), MHI=[0.013], SCTI=[0] (min),
RAINFALL=[ , , , ] (mm/hr), EMD=1
03879+ #-----
03880+ #-----
03881+ #-----
03882+ #-----
03883+ #-----
03884+ #-----
03885+ #-----
03886+ #-----
03887+ DIVERG HYD IDsum=[5], NHYD=["MINOR"/ 6, "MAJOR"]
outflow hydrographs (ID, NHYD)=[5, "MINOR"/ 6, "MAJOR"]
flow distribution table: (modify as necessary)
Note: all flows are in (cms)
03888+ QID1 + QID2 = QTOTAL
03889+ [ 0.000 + 0.000 = 0.000 ]
03890+ [ 0.035 + 0.000 = 0.035 ]
03891+ [ 0.035 + 10.000 = 10.035 ] end
03892+ #-----
03893+ #-----
03894+ #-----
03895+ #-----
03896+ CALIB STANDHYD ID=[4], NHYD=["FBI-A"], DT=[1] (min), AREA=[0.33] (ha),
XIMP=[0.01], TIMP=[0.384], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iaimp=[2] (mm), SLPF=[0.5] (%),
LGI=[47] (m), MHI=[0.013], SCTI=[0] (min),
RAINFALL=[ , , , ] (mm/hr), EMD=1
03897+ #-----
03898+ #-----
03899+ #-----
03900+ #-----
03901+ #-----
03902+ #-----
03903+ #-----
03904+ #-----
03905+ CALIB STANDHYD ID=[7], NHYD=["SMHF2"], DT=[1] (min), AREA=[1.11] (ha),
XIMP=[0.51], TIMP=[0.51], DWF=[0] (cms), LOSS=[2],
SCS curve number CN=[74],
Pervious surfaces: Iaper=[5] (mm), SLPF=[2.0] (%),
LGP=[40] (m), MHP=[0.25], SCP=[0] (min),
Impervious surfaces: Iaimp=[2] (mm), SLPF=[0.5] (%),
LGI=[86] (m), MHI=[0.013], SCTI=[0] (min),
RAINFALL=[ , , , ] (mm/hr), EMD=1
03906+ #-----
03907+ #-----
03908+ #-----
03909+ #-----
03910+ #-----
03911+ #-----
03912+ #-----
03913+ #-----
03914+ #-----
03915+ #-----
03916+ #-----
03917+ #-----
03918+ #-----
03919+ ROUTE RESERVOIR IDout=[3], NHYD=["F20ut"], IDin=[8],
RDT=[1] (min),
TABLE of (OUTFLOW-STORAGE) values
(cms) = (ha-m)
03920+ [ 0.0, 0.0 ]
03921+ [ 0.008, 0.048 ]
03922+ [ 0.026, 0.323 ]
03923+ [ 0.036, 0.204 ]
03924+ [ 0.046, 0.261 ]
03925+ [ 0.080, 0.320 ]
03926+ [ 0.110, 0.350 ]
03927+ [ 0.146, 0.380 ]
03928+ [ 0.239, 0.443 ]
03929+ [ 0.560, 0.574 ]
03930+ [ 0.828, 0.642 ]
03931+ [ 1.154, 0.711 ]
03932+ [ 1.539, 0.782 ]
03933+ [ 1.746, 0.818 ]
03934+ [ 1.937, 0.847 ]
03935+ [ 1.984, 0.855 ]
03936+ [ 3.005, 0.940 ]
03937+ [ 8.940, 1.021 ]
03938+ [ 12.016, 1.330 ]
03939+ [ -1, -1 ] (max twenty pts)
03940+ IDovf=[4], NHYDovf=["F20over"]
03941+ #-----
03942+ #-----
03943+ #-----
03944+ #-----
03945+ ADD HYD IDsum=[5], NHYD=["F20 ut"], Ids to add=[3+4]
03946+ #-----
03947+ #-----
03948+ #-----
03949+ #-----
03950+ #-----
03951+ #-----
03952+ #-----
03953+ #-----
03954+ #-----
03955+ #-----
03956+ #-----
03957+ #-----
03958+ #-----
03959+ #-----
03960+ #-----

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03961# [ 0.345 + 0.809 = 1.1544 ]
03962# [ 0.461 + 1.285 = 1.746 ]
03963# [ 0.503 + 1.486 = 1.989 ]
03964# [ 0.589 + 2.384 = 3.173 ]
03965# [ 0.878 + 4.312 = 5.19 ]
03966# [ 0.975 + 12.716 = 13.692 ] end
03967#
03968# *
03969# *
03970# *
03971# *
03972# *
03973# *
03974# *
03975# *
03976# *
03977# *
03978# CALIB NASHYD ID=5, NHYD="Ext-2", DT=1[1min, AREA=417.2(ha),
03979# DWF=0, CN/C=74.7, IA=17.65(mm),
03980# N=3, TP=1.471hrs,
03981# RAINFALL=, , , (mm/hr), END=1
03982#
03983# CALIB NASHYD ID=7, NHYD="Ext-1", DT=1[1min, AREA=6.51(ha),
03984# DWF=0, CN/C=79.1, IA=6.41(mm),
03985# N=3, TP=0.261hrs,
03986# RAINFALL=, , , (mm/hr), END=1
03987#
03988# ADD HYD Idsum=8, NHYD="Ftn", Ids to add=5+7
03989#
03990# ROUTE CHANNEL Idout=5, NHYD="SiteLaq", IDIn=8,
03991# RDT=1[1min,
03992# CHLSTR=1550(m),
03993# PFSLP=0.65(4),
03994# SECMIN=11, NREG=13
03995# ( SREGOUM, SEGMENT (m))=0.035,215.60,-0.045,221.70,0.035,246.50 NREG times
03996# ( DISTANCE (m), ELEVATION (m))=179.70, 514.50
03997# [ 136.60, 514.00
03998# [ 215.60, 513.59
03999# [ 216.55, 513.00
04000# [ 217.20, 512.80
04001# [ 217.45, 512.46
04002# [ 217.90, 512.50
04003# [ 218.95, 513.00
04004# [ 221.30, 513.50
04005# [ 221.70, 513.71
04006# [ 230.40, 513.71
04007# [ 243.80, 514.00
04008# [ 249.40, 514.12
04009# [ 259.50, 514.28
04010# [ 266.50, 514.30 ]
04011#
04012#
04013# *
04014# *
04015# *
04016# *
04017# *
04018# *
04019# CALIB STANDHYD ID=7, NHYD="F2", DT=1[1min, AREA=110.1(ha),
04020# XMP=0.312, TWP=0.579, DWF=0, CN/C=74.7,
04021# SCS curve number CN=74,
04022# Pervious surfaces: Iaper=5(mm), SLP=2.0(4),
04023# LQP=40(mm), MHP=0.25, SCP=0(min),
04024# Impervious surfaces: Iamp=2(mm), SLP=0.5(4),
04025# LGI=109(m), MHI=0.013, SCT=0(min),
04026# RAINFALL=, , , (mm/hr), END=1
04027#
04028# CALIB STANDHYD ID=8, NHYD="SMF3", DT=1[1min, AREA=1.21(ha),
04029# XMP=0.501, TWP=0.501, DWF=0, CN/C=74.7,
04030# SCS curve number CN=74,
04031# Pervious surfaces: Iaper=5(mm), SLP=2.0(4),
04032# LQP=40(mm), MHP=0.25, SCP=0(min),
04033# Impervious surfaces: Iamp=2(mm), SLP=0.5(4),
04034# LGI=90(m), MHI=0.013, SCT=0(min),
04035# RAINFALL=, , , (mm/hr), END=1
04036# *
04037# ADD HYD Idsum=9, NHYD="F3", Ids to add=1+8
04038#
04039# *
04040# *
04041# *
04042# ROUTE RESERVOIR Idout=7, NHYD="F3Out", IDIn=9,
04043# RDT=1[1min,
04044#
04045# TABLE of (OUTFLOW-STORAGE) values
04046# (cms) - (ha-m)
04047# [ 0.0, 0.0 ]
04048# [ 0.007, 0.006 ]
04049# [ 0.013, 0.075 ]
04050# [ 0.016, 0.107 ]
04051# [ 0.017, 0.115 ]
04052# [ 0.023, 0.202 ]
04053# [ 0.027, 0.172 ]
04054# [ 0.030, 0.348 ]
04055# [ 0.035, 0.577 ]
04056# [ 0.040, 0.708 ]
04057# [ 0.045, 0.922 ]
04058# [ 1.247, 1.237 ]
04059# [ -1, -1 ] (max twenty pts)
04060# Idov=8, NHYDov="F3Over"
04061#
04062# ADD HYD Idsum=9, NHYD="Foley Drain", Ids to add=1+5+7+8
04063#
04064# CALIB NASHYD ID=4, NHYD="Ext 4", DT=1[1min, AREA=6.3(ha),
04065# DWF=0, CN/C=64.8, IA=10(mm),
04066# N=3, TP=0.414hrs,
04067# RAINFALL=, , , (mm/hr), END=1
04068#
04069# ADD HYD Idsum=5, NHYD="Ft of Int", Ids to add=9+4
04070#
04071# ADD HYD Idsum=10, NHYD="Ft of Int", Ids to add=1+2+3+6
04072#
04073#
04074# *
04075# *
04076# *
04077# *
04078# *
04079# *
04080# *
04081# *
04082# *
04083# *
04084# MASS STORM FTOTAL=116.8(mm), CRT=15(min),
04085# CURVE_FILTRAM="FIC24.8M"
04086# *
04087# *
04088# *
04089# *
04090# *
04091# *
04092# *
04093# *
04094# *
04095# *
04096# *
04097# CALIB NASHYD ID=1, NHYD="Ext 5", DT=1[1min, AREA=0.97(ha),
04098# DWF=0, CN/C=77.7, IA=4.5(mm),
04099# N=3, TP=0.261hrs,
04100# RAINFALL=, , , (mm/hr), END=1
04101#
04102# CALIB STANDHYD ID=2, NHYD="F2 1-3", DT=1[1min, AREA=12.37(ha),
04103# XMP=0.3, TWP=0.501, DWF=0, CN/C=74.7,
04104# SCS curve number CN=74,
04105# Pervious surfaces: Iaper=5(mm), SLP=2.0(4),
04106# LQP=40(mm), MHP=0.25, SCP=0(min),
04107# Impervious surfaces: Iamp=2(mm), SLP=0.5(4),
04108# LGI=287(m), MHI=0.013, SCT=0(min),
04109# RAINFALL=, , , (mm/hr), END=1
04110#
04111# CALIB STANDHYD ID=3, NHYD="F2 1-3", DT=1[1min, AREA=0.98(ha),
04112# XMP=0.3, TWP=0.501, DWF=0, CN/C=74.7,
04113# SCS curve number CN=74,
04114# Pervious surfaces: Iaper=5(mm), SLP=2.0(4),
04115# LQP=40(mm), MHP=0.25, SCP=0(min),
04116# Impervious surfaces: Iamp=2(mm), SLP=0.5(4),
04117# LGI=181(m), MHI=0.013, SCT=0(min),
04118# RAINFALL=, , , (mm/hr), END=1
04119#
04120# CALIB STANDHYD ID=4, NHYD="SMF1", DT=1[1min, AREA=1.9(ha),
04121# XMP=0.5, TWP=0.5, DWF=0, CN/C=74.7,
04122# SCS curve number CN=74,
04123# Pervious surfaces: Iaper=5(mm), SLP=2.0(4),
04124# LQP=40(mm), MHP=0.25, SCP=0(min),
04125# Impervious surfaces: Iamp=2(mm), SLP=0.5(4),
04126# LGI=133(m), MHI=0.013, SCT=0(min),
04127# RAINFALL=, , , (mm/hr), END=1
04128#
04129# ADD HYD Idsum=5, NHYD="F2 1-3", Ids to add=1+2+3+4
04130#
04131# *
04132# *
04133# ROUTE RESERVOIR Idout=1, NHYD="F2Out", IDIn=5,
04134# RDT=1[1min,
04135#
04136# TABLE of (OUTFLOW-STORAGE) values
04137# (cms) - (ha-m)
04138# [ 0.0, 0.0 ]
04139# [ 0.005, 0.034 ]
04140# [ 0.011, 0.114 ]
04141# [ 0.013, 0.164 ]
04142#
04143#
04144#
04145#
04146#
04147#
04148#
04149#
04150#
04151#
04152#
04153#
04154#
04155#
04156#
04157#
04158#
04159#
04160#
04161#
04162#
04163#
04164#
04165#
04166#
04167#
04168#
04169#
04170#
04171#
04172#
04173#
04174#
04175#
04176#
04177#
04178#
04179#
04180#
04181#
04182#
04183#
04184#
04185#
04186# CALIB NASHYD ID=5, NHYD="F2 2-2", DT=1[1min, AREA=5.68(ha),
04187# DWF=0, CN/C=71, IA=6.4(mm),
04188# N=3, TP=0.401hrs,
04189# RAINFALL=, , , (mm/hr), END=1
04190#
04191# *
04192# *
04193# ADD HYD Idsum=3, NHYD="Unc PL", Ids to add=1+2+4+5
04194#
04195# ROUTE CHANNEL Idout=1, NHYD="SiteLaq", IDIn=3,
04196# RDT=1[1min,
04197# CHLSTR=150(m),
04198# PFSLP=0.96(4),
04199# SECMIN=11, NREG=3
04200# ( SREGOUM, SEGMENT (m))=0.035,75.5,-0.045,78.5,0.035,151.0 NREG times
04201# ( DISTANCE (m), ELEVATION (m))= 31.0, 515.00
04202# [ 48.0, 514.81
04203# [ 60.0, 514.69
04204# [ 68.5, 514.54
04205# [ 75.5, 514.23
04206# [ 76.0, 514.06
04207# [ 77.5, 514.06
04208# [ 78.5, 514.36
04209# [ 79.5, 514.39
04210# [ 82.5, 514.49
04211# [ 103.5, 514.51
04212# [ 118.5, 514.67
04213# [ 130.5, 514.50
04214# [ 151.0, 515.00 ]
04215#
04216# CALIB NASHYD ID=2, NHYD="Ext 3", DT=1[1min, AREA=1.55(ha),
04217# DWF=0, CN/C=50, IA=10(mm),
04218# N=3, TP=0.471hrs,
04219# RAINFALL=, , , (mm/hr), END=1
04220#
04221#
04222#
04223#
04224#
04225#
04226#
04227#
04228#
04229#
04230#
04231# CALIB STANDHYD ID=3, NHYD="FBI", DT=1[1min, AREA=14.70(ha),
04232# XMP=0.35, TWP=0.51, DWF=0, CN/C=74.7,
04233# SCS curve number CN=74,
04234# Pervious surfaces: Iaper=5(mm), SLP=2.0(4),
04235# LQP=40(mm), MHP=0.25, SCP=0(min),
04236# Impervious surfaces: Iamp=2(mm), SLP=0.5(4),
04237# LGI=213(m), MHI=0.013, SCT=0(min),
04238# RAINFALL=, , , (mm/hr), END=1
04239#
04240# CALIB STANDHYD ID=4, NHYD="MINOR", DT=1[1min, AREA=0.221(ha),
04241# XMP=0.61, TWP=0.61, DWF=0, CN/C=74.7,
04242# SCS curve number CN=74,
04243# Pervious surfaces: Iaper=5(mm), SLP=2.0(4),
04244# LQP=40(mm), MHP=0.25, SCP=0(min),
04245# Impervious surfaces: Iamp=2(mm), SLP=0.5(4),
04246# LGI=371(m), MHI=0.013, SCT=0(min),
04247# RAINFALL=, , , (mm/hr), END=1
04248#
04249# DIVERT HYD IDIn=4, IDOut=2[1max flow,
04250# outflow hydrograph (ID, NHYD)=5, "MINOR" / 6, "MAJOR"
04251# flow distribution table: (modify as necessary)
04252# Note: all flows are in (cms)
04253# QID1 + QID2 = QTOTAL
04254# 0.000 + 0.000 = 0.000
04255# 0.035 + 0.000 = 0.035
04256# 0.035 + 10.000 = 10.035end
04257#
04258# CALIB STANDHYD ID=4, NHYD="FBI-A", DT=1[1min, AREA=0.33(ha),
04259# XMP=0.011, TWP=0.394, DWF=0, CN/C=74.7,
04260# SCS curve number CN=74,
04261# Pervious surfaces: Iaper=5(mm), SLP=2.0(4),
04262# LQP=40(mm), MHP=0.25, SCP=0(min),
04263# Impervious surfaces: Iamp=2(mm), SLP=0.5(4),
04264# LGI=47(m), MHI=0.013, SCT=0(min),
04265# RAINFALL=, , , (mm/hr), END=1
04266#
04267# CALIB STANDHYD ID=7, NHYD="SMF2", DT=1[1min, AREA=1.11(ha),
04268# XMP=0.51, TWP=0.51, DWF=0, CN/C=74.7,
04269# SCS curve number CN=74,
04270# Pervious surfaces: Iaper=5(mm), SLP=2.0(4),
04271# LQP=40(mm), MHP=0.25, SCP=0(min),
04272# Impervious surfaces: Iamp=2(mm), SLP=0.5(4),
04273# LGI=86(m), MHI=0.013, SCT=0(min),
04274# RAINFALL=, , , (mm/hr), END=1
04275#
04276#
04277# ADD HYD Idsum=8, NHYD="F2 1-3", Ids to add=3+4+7
04278#
04279# *
04280# *
04281# ROUTE RESERVOIR Idout=3,
04282# NHYD="F2Out", IDIn=8,
04283# RDT=1[1min,
04284#
04285# TABLE of (OUTFLOW-STORAGE) values
04286# (cms) - (ha-m)
04287# [ 0.0, 0.0 ]
04288# [ 0.008, 0.048 ]
04289# [ 0.026, 0.133 ]
04290# [ 0.036, 0.204 ]
04291# [ 0.044, 0.261 ]
04292# [ 0.080, 0.320 ]
04293# [ 0.239, 0.443 ]
04294# [ 0.560, 0.574 ]
04295# [ 0.828, 0.642 ]
04296# [ 1.154, 0.711 ]
04297# [ 1.297, 0.782 ]
04298# [ 1.746, 0.818 ]
04299# [ 1.924, 0.847 ]
04300# [ 3.005, 0.851 ]
04301# [ 3.005, 0.940 ]
04302# [ 14.549, 1.032 ]
04303# [ 12.016, 1.330 ]
04304#
04305# Idov=4, NHYDov="F2Over"
04306#
04307# ADD HYD Idsum=8, NHYD="F2 1-3", Ids to add=3+4
04308#
04309# DIVERT HYD IDIn=5, IDOut=2[1max flow,
04310# outflow hydrograph (ID, NHYD)=3, "FBI" / 4, "FBI"
04311# flow distribution table: (modify as necessary)
04312# Note: all flows are in (cms)
04313# QID1 + QID2 = QTOTAL
04314# 0.000 + 0.000 = 0.000
04315# 0.000 + 0.008 = 0.008
04316# 0.000 + 0.022 = 0.022
04317# 0.000 + 0.033 = 0.033
04318# 0.000 + 0.044 = 0.044
04319# 0.019 + 0.062 = 0.081
04320# 0.053 + 0.093 = 0.146

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05041* [ 0.461 + 1.285 = 1.746 ]
05042* [ 0.503 + 1.486 = 1.989 ]
05043* [ 0.589 + 2.584 = 3.173 ]
05044* [ 0.679 + 4.312 = 4.991 ]
05045* [ 0.976 + 12.716 = 13.692] end
05046* #-----
05047* #-----
05048* #-----
05049* #-----
05050* #-----
05051* #-----
05052* #-----
05053* #-----
05054* #-----
05055* #-----
05056* #-----
05057* CALIB NASHYD ID=[5], NHYD=[F2*], DT=[1]min, AREA=[17.2] (ha),
05058* DWF=[0] (cms), CM/C=[74.7], IA=[7.65] (mm),
05059* N=[3], TP=[1.87]hrs,
05060* RAINFALL[ , , , ] (mm/hr), END=1
05061* #-----
05062* CALIB NASHYD ID=[7], NHYD=[F2*], DT=[1]min, AREA=[6.51] (ha),
05063* DWF=[0] (cms), CM/C=[79.1], IA=[6.4] (mm),
05064* N=[3], TP=[0.36]hrs,
05065* RAINFALL[ , , , ] (mm/hr), END=1
05066* #-----
05067* ADD HYD IDsum=[9], NHYD=[F2*], IDs to add=[9*]
05068* #-----
05069* ROUTE CHANNEL IDout=[5], NHYD=[F2*], IDins=[8],
05070* RTF=[1] (min),
05071* CHLGTB=[550] (m), CHSLOPE=[0.65] (%),
05072* PFELOW=[0.65] (ft),
05073* SEGNM=[1], NSEG=[3]
05074* ( SEGNMCH, SEGNIT (m)=[0.035,215.60 - 0.045,221.70 0.035,266.50] NSEG times
05075* ( DISTANCE (m), ELEVATION (m)=[179.70, 514.50]
05076* [196.60, 514.00]
05077* [215.60, 512.50]
05078* [216.55, 513.00]
05079* [217.20, 512.50]
05080* [217.45, 512.46]
05081* [217.80, 512.50]
05082* [218.25, 513.00]
05083* [221.30, 513.50]
05084* [221.70, 513.71]
05085* [230.40, 513.71]
05086* [243.80, 514.00]
05087* [249.40, 514.12]
05088* [259.50, 514.28]
05089* [266.50, 514.50]
05090* #-----
05091* #-----
05092* #-----
05093* #-----
05094* #-----
05095* #-----
05096* #-----
05097* #-----
05098* CALIB STANDHYD ID=[7], NHYD=[F2*], DT=[1] (min), AREA=[10.1] (ha),
05099* XIMP=[0.312], TIMP=[0.379], DWF=[0] (cms), LOSS=[2],
05100* SCS curve number CM=[74],
05101* Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
05102* LGF=[40] (m), MFI=[0.25], SCS=[0] (min),
05103* Impervious surfaces: Iaimp=[2] (mm), SLP=[0.5] (%),
05104* LGI=[29] (m), MFI=[0.013], SCS=[0] (min),
05105* RAINFALL[ , , , ] (mm/hr), END=1
05106* #-----
05107* CALIB STANDHYD ID=[8], NHYD=[F2*], DT=[1] (min), AREA=[121] (ha),
05108* XIMP=[0.50], TIMP=[0.50], DWF=[0] (cms), LOSS=[2],
05109* SCS curve number CM=[74],
05110* Pervious surfaces: Iaper=[5] (mm), SLP=[2.0] (%),
05111* LGF=[40] (m), MFI=[0.25], SCS=[0] (min),
05112* Impervious surfaces: Iaimp=[2] (mm), SLP=[0.5] (%),
05113* LGI=[90] (m), MFI=[0.013], SCS=[0] (min),
05114* RAINFALL[ , , , ] (mm/hr), END=1
05115* #-----
05116* ADD HYD IDsum=[9], NHYD=[F3*], IDs to add=[7+8]
05117* #-----
05118* #-----
05119* #-----
05120* #-----
05121* ROUTE RESERVOIR IDout=[7], NHYD=[F3*], IDins=[9],
05122* RTF=[1] (min),
05123* TABLE of ( OUTFLOW-STORAGE ) values
05124* ( cms ) - ( ha-m )
05125* [ 0.0 , 0.0 ]
05126* [ 0.007 , 0.036 ]
05127* [ 0.023 , 0.075 ]
05128* [ 0.016 , 0.107 ]
05129* [ 0.017 , 0.115 ]
05130* [ 0.023 , 0.202 ]
05131* [ 0.027 , 0.272 ]
05132* [ 0.030 , 0.348 ]
05133* [ 0.035 , 0.517 ]
05134* [ 0.040 , 0.709 ]
05135* [ 0.045 , 0.822 ]
05136* [ 1.247 , 1.155 ]
05137* [ -1 , -1 ] (max twenty pts)
05138* IDout=[8], NHYD=[F2*], IDins=[9]
05139* #-----
05140* ADD HYD IDsum=[9], NHYD=[Foley Drain*], IDs to add=[4+5+7+8]
05141* #-----
05142* CALIB NASHYD ID=[4], NHYD=[F2*], DT=[1]min, AREA=[6.3] (ha),
05143* DWF=[0] (cms), CM/C=[64.8], IA=[10] (mm),
05144* N=[3], TP=[0.64]hrs,
05145* RAINFALL[ , , , ] (mm/hr), END=1
05146* #-----
05147* ADD HYD IDsum=[5], NHYD=[F2*], IDs to add=[9+4]
05148* #-----
05149* ADD HYD IDsum=[10], NHYD=[F2*], IDs to add=[1+2+3+6]
05150* #-----
05151* #-----
05152* FINISH
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00361# R0001C00040-----Dtlm-ID:INBYD-----AREAh-QPEAKcMs-TpeakDate_hh:mm-----RvMm-R.C-----DWFCms
00362# CALIB STANDBYD 1.0 04:MINOR 1.90 .223 No.Date 1:01 16.87 .557 .000

00431#-----SWM Facility #3-----
00440# R0001C00065-----Dtlm-ID:INBYD-----AREAh-QPEAKcMs-TpeakDate_hh:mm-----RvMm-R.C-----DWFCms
00445# ROUTE RESERVOIR --> 1.0 05:EXT 1 11.31 .740 No.Date 3:22 15.00 n/a .000

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00721 + 1.0 05:MINOR 20 .035 NoDate 1:00 27.38 n/a .000
00722 + 1.0 04:PIA 1.33 .018 NoDate 1:10 15.42 n/a .000
00723 + 1.0 07:SMF#2 1.11 .203 NoDate 1:00 24.54 n/a .000
00724 SUM= 1.0 08:PF2 In 16.34 1.541 NoDate 1:03 22.52 n/a .000
00725 # SWM Facility #2
00726 #
00727 #
00728 R001C00089 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00729 ROUTE RESERVOIR --> 1.0 08:PF2 In 16.34 1.541 NoDate 1:03 22.52 n/a .000
00730 out <= 1.0 07:PF2 Out 16.34 .079 NoDate 3:10 22.51 n/a .000
00731 overflow <= 1.0 04:PTWoe 0.00 .000 NoDate 0:00 .00 n/a .000
00732 (MxSto&eas=2316E+00 m3, TotDvVol=0.000E+00 m3, N-Ovrs= 0, TotDvOvr= 0. hrs)
00733 #
00734 R001C00090 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00735 ADD HYD + 1.0 04:PTWoe 16.34 .079 NoDate 3:10 22.51 n/a .000
00736 + 1.0 04:PTWoe 0.00 .000 NoDate 0:00 .00 n/a .000
00737 SUM= 1.0 05:PF2 Out 16.34 .079 NoDate 3:10 22.51 n/a .000
00738 #
00739 R001C00091 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00740 DIVERST HYD --> 1.0 05:PF2 Out 16.34 .079 NoDate 3:10 22.51 n/a .000
00741 diverted <= 1.0 03:PTWoe .68 .019 NoDate 3:10 22.51 n/a .000
00742 diverted <= 1.0 04:PTWoe 15.15 .062 NoDate 3:10 22.51 n/a .000
00743 #
00744 #
00745 # Watercourse Flows- ZONE 2
00746 #
00747 #
00748 #
00749 # East Watercourse Area
00750 #
00751 #
00752 R001C00092 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00753 CALIB NASHYD 1.0 05:Ext-2 417.20 2.712 NoDate 3:35 9.05 .224 .000
00754 [CN= 74.7; N= 3.00; Tpe= 1.87]
00755 #
00756 R001C00093 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00757 CALIB NASHYD 6.51 .153 NoDate 1:00 11.46 .283 .000
00758 [CN= 79.1; N= 3.00; Tpe= .36]
00759 #
00760 R001C00094 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00761 ADD HYD 1.0 05:Ext-2 417.20 2.712 NoDate 3:35 9.05 n/a .000
00762 + 1.0 07:SMF#2 6.51 .153 NoDate 1:00 11.46 n/a .000
00763 SUM= 1.0 08:PF1 In 423.71 2.729 NoDate 3:32 9.09 n/a .000
00764 #
00765 R001C00095 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00766 ROUTE CHANNEL --> 1.0 08:PF1 423.71 2.729 NoDate 3:32 9.09 n/a .000
00767 (L/S/No= 550. / 650. / 035)
00768 + 1.0 03:SiteLag 423.71 2.718 NoDate 3:39 9.09 n/a .000
00769 (Vmax= 1.04; Dmax= 1.013)
00770 #
00771 #
00772 # Controlled Runoff From ZONE 3
00773 #
00774 #
00775 #
00776 R001C00096 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00777 CALIB STANDHYD 1.0 07:PF2 10.10 .934 NoDate 1:03 22.45 .555 .000
00778 [XMP= 31.7; TMP= .56]
00779 [LOS= 2 ; CN= 74.0]
00780 [Previous area: IArea= 5.00; SLP= 2.00; LQP= 40.0; MNF= 250; SCP= .0]
00781 [Impervious area: IAlmp= 2.00; SLP1= .50; LQ1= 90.0; MN1= 0.13; D1= .0]
00782 #
00783 #
00784 R001C00097 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00785 CALIB STANDHYD 1.0 08:SMF#3 5.21 .206 NoDate 1:01 24.26 .400 .000
00786 [XMP= 50.7; TMP= .50]
00787 [LOS= 2 ; CN= 74.0]
00788 [Previous area: IArea= 5.00; SLP= 2.00; LQP= 40.0; MNF= 250; SCP= .0]
00789 [Impervious area: IAlmp= 2.00; SLP1= .50; LQ1= 90.0; MN1= 0.13; D1= .0]
00790 #
00791 R001C00098 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00792 ADD HYD 1.0 07:SMF#2 50.10 .934 NoDate 1:03 22.45 n/a .000
00793 + 1.0 08:SMF#3 1.21 .206 NoDate 1:01 24.26 n/a .000
00794 SUM= 1.0 09:PF1 In 11.31 1.099 NoDate 1:02 22.64 n/a .000
00795 #
00796 #
00797 # SWM Facility #2
00798 #
00799 R001C00099 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00800 ROUTE RESERVOIR --> 1.0 07:PF1 In 11.31 1.099 NoDate 1:02 22.64 n/a .000
00801 out <= 1.0 07:PF2 Out 11.31 .025 NoDate 3:20 22.64 n/a .000
00802 overflow <= 1.0 04:PTWoe 0.00 .000 NoDate 0:00 .00 n/a .000
00803 (MxSto&eas=2316E+00 m3, TotDvVol=0.000E+00 m3, N-Ovrs= 0, TotDvOvr= 0. hrs)
00804 #
00805 R001C00100 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00806 ADD HYD 1.0 04:PTWoe 15.15 .062 NoDate 3:10 22.51 n/a .000
00807 + 1.0 07:SMF#2 423.71 2.718 NoDate 3:39 9.09 n/a .000
00808 + 1.0 07:PF2 Out 11.31 .025 NoDate 3:20 22.64 n/a .000
00809 + 1.0 08:PTWoe 0.00 .000 NoDate 0:00 .00 n/a .000
00810 SUM= 1.0 09:Poly Drain 450.17 2.802 NoDate 3:39 9.48 n/a .000
00811 #
00812 R001C00101 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00813 CALIB NASHYD 1.0 04:Ext 4 6.30 .047 NoDate 2:02 5.50 1.136 .000
00814 [CN= 64.8; N= 3.00; Tpe= .64]
00815 #
00816 R001C00102 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00817 ADD HYD 1.0 05:PF2 In 450.17 2.802 NoDate 3:39 9.48 n/a .000
00818 + 1.0 04:Ext 4 6.30 .047 NoDate 2:02 5.50 n/a .000
00819 SUM= 1.0 05:PF2 In 456.47 2.821 NoDate 3:37 9.82 n/a .000
00820 #
00821 R001C00103 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00822 ADD HYD 1.0 02:Ext 3 1.55 .011 NoDate 1:19 15.84 n/a .000
00823 + 1.0 03:PTWoe .68 .019 NoDate 3:10 22.51 n/a .000
00824 + 1.0 03:PTWoe .68 .019 NoDate 3:10 22.51 n/a .000
00825 SUM= 1.0 03:PTWoe 3.91 .049 NoDate 1:01 27.38 n/a .000
00826 #
00827 #
00828 #
00829 # 11 000 Y Y RRRR CCCC H H IIIII
00830 # 1 0 0 Y Y R R RRRR C HHHH H I
00831 # 1 0 0 Y R R R R C HHHH H I
00832 # 0 0 0 Y R R R R CCCC H H IIIII
00833 # 1111 000 Y R R CCCC H H IIIII
00834 #
00835 # 10-YEAR, 3 HOUR CHICAGO STORM
00836 #
00837 #
00838 #
00839 R001C00104 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00840 CHICAGO STORM
00841 [LOS= 5.00; SDR= 3.00; FTD= 47.31]
00842 [A/B/C= 663.823/ 1.500/ .719; R= .999]
00843 #
00844 #
00845 # Controlled Runoff From ZONE 1
00846 #
00847 #
00848 #
00849 #
00850 # SWM Facility #1 Area
00851 #
00852 # West Site Area
00853 #
00854 R001C00105 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00855 CALIB NASHYD 1.0 01:Ext 5 .97 .041 NoDate 1:19 15.84 .335 .000
00856 [CN= 77.1; N= 3.00; Tpe= .85]
00857 #
00858 R001C00106 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00859 CALIB STANDHYD 1.0 02:PF 21-1 12.37 1.297 NoDate 1:03 26.05 .551 .000
00860 [XMP= 30.7; TMP= .50]
00861 [LOS= 2 ; CN= 74.0]
00862 [Previous area: IArea= 5.00; SLP= 2.00; LQP= 40.0; MNF= 250; SCP= .0]
00863 [Impervious area: IAlmp= 2.00; SLP1= .50; LQ1= 90.0; MN1= 0.13; D1= .0]
00864 #
00865 R001C00107 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00866 CALIB STANDHYD 1.0 03:PF 21-1 1.90 .375 NoDate 1:01 29.46 .623 .000
00867 [XMP= 50.7; TMP= .50]
00868 [LOS= 2 ; CN= 74.0]
00869 [Previous area: IArea= 5.00; SLP= 2.00; LQP= 40.0; MNF= 250; SCP= .0]
00870 [Impervious area: IAlmp= 2.00; SLP1= .50; LQ1= 90.0; MN1= 0.13; D1= .0]
00871 #
00872 R001C00108 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00873 CALIB STANDHYD 1.0 04:SMF#1 1.90 .375 NoDate 1:01 29.46 .623 .000
00874 [XMP= 50.7; TMP= .50]
00875 [LOS= 2 ; CN= 74.0]
00876 [Previous area: IArea= 5.00; SLP= 2.00; LQP= 40.0; MNF= 250; SCP= .0]
00877 [Impervious area: IAlmp= 2.00; SLP1= .50; LQ1= 90.0; MN1= 0.13; D1= .0]
00878 #
00879 R001C00109 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00880 ADD HYD 1.0 01:Ext 5 .97 .041 NoDate 1:19 15.84 n/a .000
00881 + 1.0 03:PTWoe .68 .019 NoDate 3:10 22.51 n/a .000
00882 + 1.0 03:PTWoe .68 .019 NoDate 3:10 22.51 n/a .000
00883 SUM= 1.0 03:PTWoe 3.91 .049 NoDate 1:01 27.38 n/a .000
00884 #
00885 # SWM Facility #1
00886 #
00887 R001C00110 -----DtmIn-ID:HYD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R.C-----DWFCMS
00888 ROUTE RESERVOIR --> 1.0 05:PF1 In 16.22 1.728 NoDate 1:02 25.84 n/a .000
00889 out <= 1.0 07:PF2 Out 16.22 .018 NoDate 3:32 25.84 n/a .000
00890 overflow <= 1.0 02:PF1 Over 0.00 .000 NoDate 0:00 .00 n/a .000
00891 (MxSto&eas=4021E+00 m3, TotDvVol=0.000E+00 m3, N-Ovrs= 0, TotDvOvr= 0. hrs)
00892 #
00893 #
00894 # Watercourse Flows- ZONE 1
00895 #
00896 #
00897 #
00898 # East Watercourse Area
00899 #
00900 # Small Unnamed Tributary

```



```

01801 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01802 [Losses 2 C/M=74.0]
01803 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01804 R001C00233 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01805 CALIS STANDHYD 1.0 08:SWF#3 4.21 .400 No_date 1:00 47.12 480 .000
01806 [XIMP=50:TMP=50]
01807 [Losses 2 C/M=74.0]
01808 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01809 [Impervious area: IAlmp=2.00:SLPF=.50:LG=90.0:MH=.013:ICT=0]
01810 ADD HYD + 1.0 04:PTW#E 10.10 2.073 No_date 1:03 45.38 n/a .000
01811 R001C00234 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01812 ADD HYD + 1.0 04:PTW#E 10.10 2.073 No_date 1:03 45.38 n/a .000
01813 SIM# + 1.0 08:SWF#3 1.21 .400 No_date 1:00 47.12 n/a .000
01814 SUM# 11.31 2.358 No_date 1:02 46.10 n/a .000
01815 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01816 [Losses 2 C/M=74.0]
01817 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01818 [Impervious area: IAlmp=2.00:SLPF=.50:LG=90.0:MH=.013:ICT=0]
01819 R001C00235 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01820 ROUTE RESERVOIR -> 1.0 05:PI# IN 16.22 1.208 No_date 12:02 32.10 n/a .000
01821 out <= 1.0 04:PTW#E 11.31 .034 No_date 3:18 46.10 n/a .000
01822 overlow <= 1.0 04:PTW#E .00 .000 No_date 0:00 .00 n/a .000
01823 (MxStoUsed=.493E+00 m3, TotVol=0.000E+00 m3, N-Ovrf= 0, TotDurOvrf= 0 hrs)
01824 R001C00236 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01825 ADD HYD + 1.0 04:PTW#E 12.45 .256 No_date 2:12 45.65 n/a .000
01826 + 1.0 05:PI# IN 63.10 1.940 No_date 1:56 30.83 n/a .000
01827 + 1.0 07:PF#OUT 11.31 .034 No_date 3:18 46.10 n/a .000
01828 + 1.0 07:PF#OUT 11.31 .034 No_date 3:18 46.10 n/a .000
01829 + 1.0 08:SWF#3 .00 .000 No_date 0:00 .00 n/a .000
01830 SIM# 1.0 09:PI# IN 447.87 7.909 No_date 1:35 26.48 n/a .000
01831 R001C00237 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01832 CALIS NASHYD 1.0 04:EXT 4 6.30 .160 No_date 1:55 17.83 .257 .000
01833 [C/M=64.8 N=3.00: Tpe=.64]
01834 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01835 [Losses 2 C/M=74.0]
01836 R001C00238 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01837 ADD HYD + 1.0 04:EXT 4 6.30 .160 No_date 1:55 17.83 n/a .000
01838 + 1.0 04:EXT 4 6.30 .160 No_date 1:55 17.83 n/a .000
01839 SIM# 1.0 05:PT of Intf 453.77 7.966 No_date 3:34 26.75 n/a .000
01840 R001C00239 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01841 ADD HYD + 1.0 02:EXT 3 1.55 .041 No_date 1:40 15.38 n/a .000
01842 + 1.0 03:PTW#E 3.64 .157 No_date 2:12 45.65 n/a .000
01843 + 1.0 04:PTW#E .03 .056 No_date 1:00 51.56 n/a .000
01844 SIM# 1.0 10:PT of Intf 68.32 2.130 No_date 1:56 31.28 n/a .000
01845 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01846 [Losses 2 C/M=74.0]
01847 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01848 [Impervious area: IAlmp=2.00:SLPF=.50:LG=90.0:MH=.013:ICT=0]
01849 # 2222 Y Y RRRR SSSS CCCC SSSS
01850 # 2222 Y R R R S S S S C C C C S S S S
01851 # 2222 Y R R R S S S S C C C C S S S S
01852 # 2222 Y R R R S S S S C C C C S S S S
01853 # 2222 Y R R R S S S S C C C C S S S S
01854 # 2 YEAR
01855 #
01856 #
01857 #
01858 R001C00240 MASS STORM
01859 File Name C:\ENHANCED\Undak Commercial\SC240.MST
01860 Comment SCS Type 1 24 HR MASS CURVE
01861 [SFT=15.00:SUB= 24.00:FTC= 55.50]
01862 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01863 [Losses 2 C/M=74.0]
01864 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01865 [Impervious area: IAlmp=2.00:SLPF=.50:LG=90.0:MH=.013:ICT=0]
01866 # Controlled Runoff From Zone 1
01867 #
01868 #
01869 #
01870 # SWM Facility #1 Area
01871 # West Site Area
01872 #
01873 R001C00241 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01874 CALIS NASHYD 1.0 01:EXT 5 .97 .043 No_date 12:10 20.99 .378 .000
01875 [C/M=77.01 N=3.00: Tpe=.47]
01876 R001C00242 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01877 CALIS STANDHYD 1.0 02:PB 21-1 12.37 .918 No_date 12:03 32.37 .583 .000
01878 [XIMP=30:TMP=50]
01879 [Losses 2 C/M=74.0]
01880 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01881 [Impervious area: IAlmp=2.00:SLPF=.50:LG=90.0:MH=.013:ICT=0]
01882 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01883 [Losses 2 C/M=74.0]
01884 R001C00243 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01885 CALIS STANDHYD 1.0 03:PB 41-3 .98 .086 No_date 12:00 32.37 .583 .000
01886 [XIMP=30:TMP=50]
01887 [Losses 2 C/M=74.0]
01888 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01889 [Impervious area: IAlmp=2.00:SLPF=.50:LG=90.0:MH=.013:ICT=0]
01890 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01891 R001C00244 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01892 CALIS STANDHYD 1.0 04:SWF#1 1.90 .196 No_date 12:00 35.88 .446 .000
01893 [XIMP=50:TMP=50]
01894 [Losses 2 C/M=74.0]
01895 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01896 [Impervious area: IAlmp=2.00:SLPF=.50:LG=90.0:MH=.013:ICT=0]
01897 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01898 R001C00245 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01899 ADD HYD + 1.0 01:EXT 5 .97 .043 No_date 12:10 20.99 n/a .000
01900 + 1.0 02:PB 21-1 12.37 .918 No_date 12:03 32.37 n/a .000
01901 + 1.0 03:PB 21-3 .98 .086 No_date 12:00 32.37 n/a .000
01902 + 1.0 04:SWF#1 1.90 .196 No_date 12:00 35.88 n/a .000
01903 SIM# 1.0 05:PI# IN 16.22 1.208 No_date 12:02 32.10 n/a .000
01904 SUM# SWM Facility #1
01905 R001C00246 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01906 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01907 [Losses 2 C/M=74.0]
01908 R001C00246 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01909 ROUTE RESERVOIR -> 1.0 05:PI# IN 16.22 1.208 No_date 12:02 32.10 n/a .000
01910 out <= 1.0 04:PTW#E 16.22 .019 No_date 24:06 32.10 n/a .000
01911 overlow <= 1.0 04:PTW#E .00 .000 No_date 0:00 .00 n/a .000
01912 (MxStoUsed=.492E+00 m3, TotVol=0.000E+00 m3, N-Ovrf= 0, TotDurOvrf= 0 hrs)
01913 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01914 [Losses 2 C/M=74.0]
01915 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01916 # Watercourse Flows- ZONE 1
01917 #
01918 #
01919 # West Watercourse Area
01920 # Small Domestic Tributary
01921 #
01922 R001C00247 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01923 CALIS NASHYD 1.0 01:EXT 1 41.20 .862 No_date 12:32 17.66 .318 .000
01924 [C/M=74.11 N=3.00: Tpe=.57]
01925 R001C00248 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01926 ROUTE CHANNEL -> 1.0 03:PB 21 41.20 .862 No_date 12:32 17.66 n/a .000
01927 [RDT=1.00] out <= 1.0 04:SITE Lag 41.20 .827 No_date 12:41 17.66 n/a .000
01928 [L/S= 425 / .960 / .035]
01929 [Vmax= .76:Imax= .342]
01930 R001C00249 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01931 CALIS NASHYD 1.0 02:EXT 3 5.68 .170 No_date 12:19 19.29 .348 .000
01932 [C/M=77.01 N=3.00: Tpe=.40]
01933 # Total Flow at South Property Line
01934 #
01935 #
01936 R001C00250 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01937 ADD HYD + 1.0 01:EXT 3 16.22 .019 No_date 24:06 32.10 n/a .000
01938 + 1.0 02:PB 21-1 12.37 .918 No_date 12:03 32.37 n/a .000
01939 + 1.0 03:PB 21-3 .98 .086 No_date 12:00 32.37 n/a .000
01940 + 1.0 04:SWF#1 1.90 .196 No_date 12:00 35.88 n/a .000
01941 + 1.0 05:PI# IN 16.22 1.208 No_date 12:02 32.10 n/a .000
01942 SIM# 1.0 03:CT# IN 63.10 .973 No_date 12:02 31.52 n/a .000
01943 R001C00251 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01944 ROUTE CHANNEL -> 1.0 03:CT# IN 63.10 .973 No_date 12:38 31.52 n/a .000
01945 [RDT=1.00] out <= 1.0 04:SITE Lag 63.10 .968 No_date 12:41 21.52 n/a .000
01946 [L/S= 150 / .960 / .035]
01947 [Vmax= .776:Imax= .342]
01948 R001C00252 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01949 CALIS NASHYD 1.0 02:EXT 3 1.55 .019 No_date 12:16 9.64 .174 .000
01950 [C/M=60.0 N=3.00: Tpe=.47]
01951 # Controlled Runoff From Zone 2
01952 #
01953 #
01954 #
01955 #
01956 #
01957 #
01958 #
01959 R001C00253 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01960 CALIS STANDHYD 1.0 03:PB 14 14.70 1.176 No_date 12:03 34.19 .616 .000
01961 [XIMP=25:TMP=55]
01962 [Losses 2 C/M=74.0]
01963 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01964 [Impervious area: IAlmp=2.00:SLPF=.50:LG=90.0:MH=.013:ICT=0]
01965 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01966 [Losses 2 C/M=74.0]
01967 R001C00254 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01968 CALIS STANDHYD 1.0 04:MINOR .21 .027 No_date 12:00 39.75 .716 .000
01969 [XIMP=61:TMP=61]
01970 [Losses 2 C/M=74.0]
01971 [Previous area: IApex=5.00:SLPF=2.00:LG=40.0:MP=250:SCP=0]
01972 [Impervious area: IAlmp=2.00:SLPF=.50:LG=90.0:MH=.013:ICT=0]
01973 #
01974 R001C00255 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01975 DIVER HYD -> 1.0 01:MINOR .21 .027 No_date 12:00 39.75 n/a .000
01976 diverted <= 1.0 01:MINOR .21 .027 No_date 12:00 39.75 n/a .000
01977 overlow <= 1.0 04:MINOR .00 .000 No_date 0:00 .00 n/a .000
01978 SIM# 1.0 05:PI# IN 16.22 1.956 No_date 12:02 48.41 n/a .000
01979 R001C00256 DtmIn-ID:INVDYD AREAha-GFEARcm=PeakDate_hh:mm--RvM-R.C.--DWfms
01980 CALIS STANDHYD 1.0 04:PB 1 33 .023 No_date 12:05 25.96 .468 .000

```


Table with columns for station number, description, flow type, flow rate, and date. The table lists various hydrological data points including flow rates (e.g., 16.34, 3.84, 12.32), dates (e.g., 12/14, 12/10, 12/12), and flow directions (e.g., n/a, 0.00, 57.64). It includes detailed notes for specific stations like 'Watercourse Flows - ZONE 2', 'Controlled Runoff From ZONE 1', and 'Controlled Runoff From ZONE 3'. The table also contains flow accumulation calculations and routing parameters.

```

02881# Comment = SCS Type 11 24 HR MASS CURVE
02882# [SDT=15.00;SDRM= 24.00;PLOT= 116.00]
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02887#
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03061# ROUTE CHANNEL -> 1.0 08:FTM 423.71 12.966 No.Date 13:59 61.16 n/a .000
03062# [INTE=1.00] out<= 1.0 01:SiteLag 423.71 12.919 No.Date 14:07 61.16 n/a .000
03063# [L/S/N= 550./,960./035]
03064# [Vmax=1.111;Cmax=1.483]
03065#
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03601# #-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03602# R0001C00474-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03603# ADD HYD          + 1.0 04:PTwOE          11.72      1.384 No_date    10:19 177.90 n/a  .000
03604#                   + 1.0 05:SiteLag        423.71    29.837 No_date    12:04 143.98 n/a  .000
03605#                   + 1.0 07:PEout          11.31      1.198 No_date    10:32 179.25 n/a  .000
03606#                   + 1.0 08:PTzOver         .00         .000 No_date    0:00   .00 n/a  .000
03607#                   SUM= 1.0 09:Polley Dra1  446.74    31.079 No_date    11:58 143.76 n/a  .000
03608# #-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03609# R0001C00475-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03610# CALIB MASHYD     1.0 04:dt 4           6.30      .567 No_date    10:40 120.02 .566  .000
03611# [CM= 64.8; N= 3.00; Tp= .64]
03612# #-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03613# R0001C00476-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03614# ADD HYD          + 1.0 09:Polley Dra1  446.74    31.079 No_date    11:58 143.76 n/a  .000
03615#                   + 1.0 04:dt 4           6.30      .567 No_date    10:40 120.02 n/a  .000
03616#                   SUM= 1.0 05:Pt of IntP  453.04    31.416 No_date    11:58 145.40 n/a  .000
03617# #-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03618# R0001C00477-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03619# ADD HYD          + 1.0 01:DS Lag          63.10     6.613 No_date    10:31 152.12 n/a  .000
03620#                   + 1.0 02:dt 3           1.55      .139 No_date    10:19 109.88 n/a  .000
03621#                   + 1.0 03:PTwOW         4.57      .482 No_date    10:19 177.90 n/a  .000
03622#                   + 1.0 04:DRUR          .00         .000 No_date    0:00   .00 n/a  .000
03623#                   SUM= 1.0 10:Pt of IntT  69.22     7.227 No_date    10:29 152.87 n/a  .000
03624# #-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03625# #-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03626# R0001C00478-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
03627# FINISH
03628# *****
03629# *****
03630# *****
03631# *****
03632# *****
03633# *****
03634# *****
03635# *****

```

FIGURES & DRAWINGS


FIGURES

| | |
|-----------|---------------------------------|
| FIGURE 1: | SITE LOCATION PLAN |
| FIGURE 2: | SITE PLAN |
| FIGURE 3: | EXTERNAL GENERAL SERVICING PLAN |
| FIGURE 4: | PRE-DEVELOPMENT DRAINAGE PLAN |
| FIGURE 5: | STORM AREA DRAINAGE PLAN |
| FIGURE 6: | EXTERNAL STORM DRAINAGE PLAN |


DRAWINGS

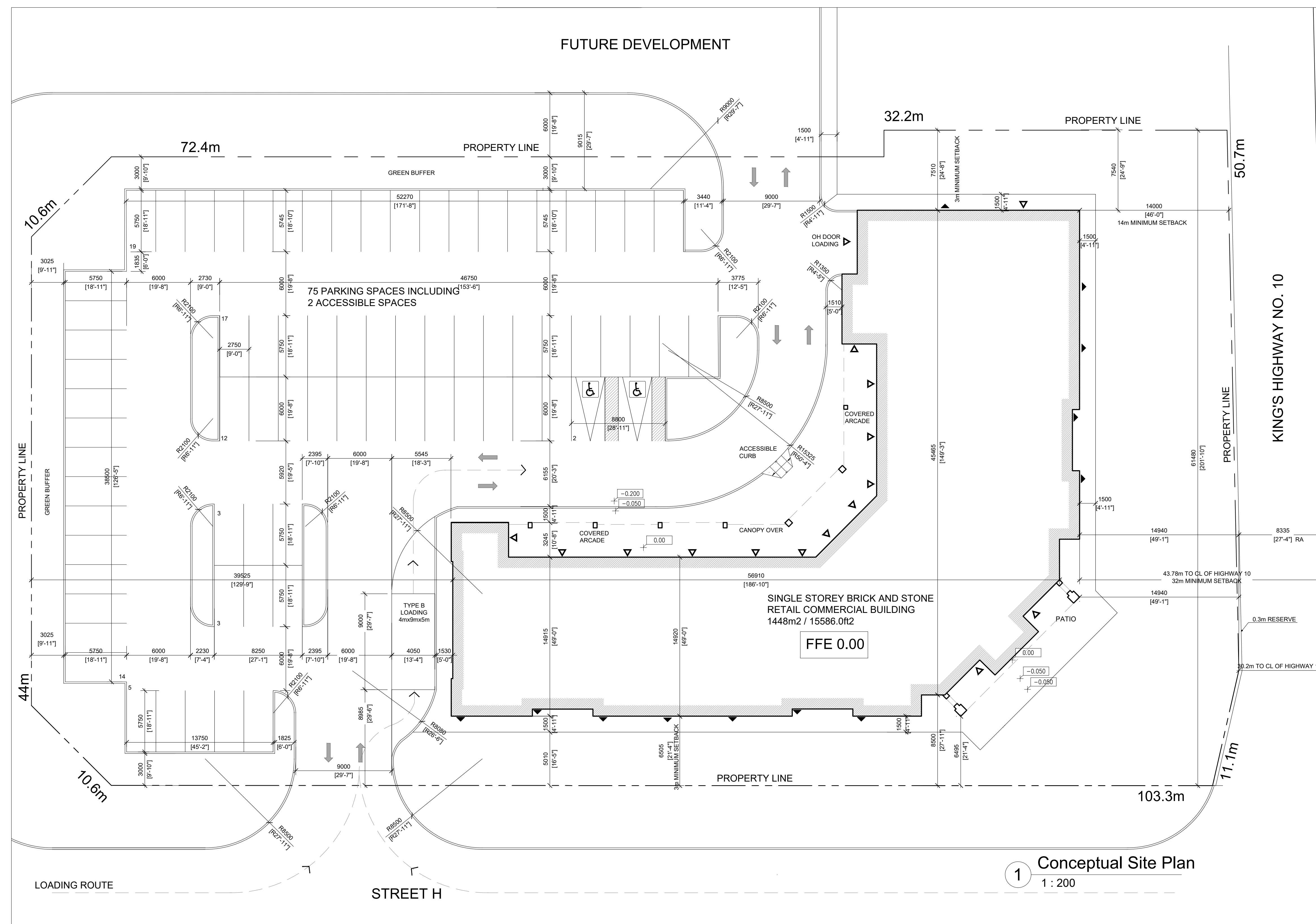
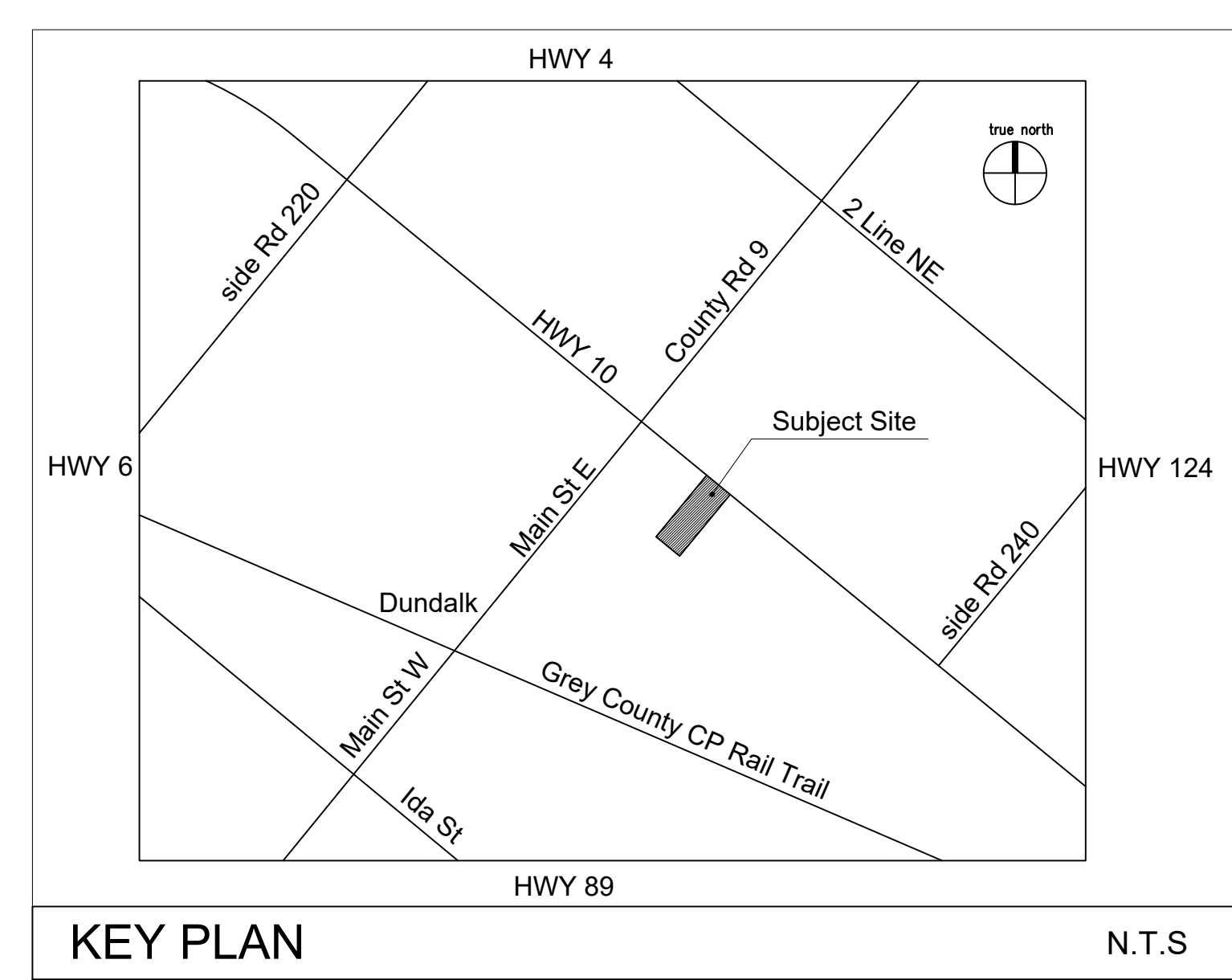
| | |
|---------------|--|
| DRAWING C101: | GENERAL SITE SERVICING PLAN |
| DRAWING C102: | SITE GRADING AND SEDIMENT CONTROL PLAN |



| | |
|---|-----------------|
| Legend | |
|  | = SUBJECT LANDS |

| | | |
|---------|---|--|
| Project | DUNDALK COMMERCIAL BLOCK TOWNSHIP OF SOUTHGATE | |
| Drawing | SITE LOCATION PLAN | |

| | | | |
|---|--------|--|------------|
|  | | THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3 705 446-3510 T 705 446-3520 F WWW.CFCROZIER.CA INFO@CFCROZIER.CA | |
| Drawn By | J.A.P. | Design By | J.L. |
| Scale | N.T.S. | Date | 11/06/2020 |
| Check By | B.H. | Project | 1060-5384 |
| | | | Drawing |
| | | | FIG 1 |



SITE STATISTICS

| 1. SITE AREA BREAKDOWN | AREA ft2 | AREA m2 |
|------------------------------|--|---------|
| LOT AREA | 71,730.0 | 6664.0 |
| NET LOT AREA | 71,730.0 | 6664.0 |
| 2. BUILDING AREA (FOOTPRINT) | 15,586.0 | 1448.0 |
| 3. PROPOSED BUILDING HEIGHT | 1 STOREY (MEASURED FROM FFE 0.0) 3.94m2 (29'-0") | |
| 4. F.S.I (FLOOR SPACE INDEX) | GROSS FLOOR AREA (m2) / SITE AREA (m2) (GFA) 1448.0 / (SITE) 6664.0 0.21 | |

5. PARKING (TYPICAL PARKING SPACE SIZE = 2.75m X 5.75m)

| REQUIRED PARKING | PROVIDED |
|--|-----------|
| COMMERCIAL PARKING (1 PARKING SPACE / 20m2 OF NFA (1369/20)) | 68 SPACES |
| TOTAL REQUIRED PARKING | 68 SPACES |
| PROVIDED PARKING | 75 SPACES |
| * OF WHICH 2 SPACES ARE BARRIER-FREE (4.4m X 6m) | |

6. LOADING

| REQUIRED | PROVIDED |
|----------------------------|----------------------------|
| 1 TYPE B (4m X 9m X 5m ht) | 1 TYPE B (4m X 9m X 5m ht) |

7. FLOOR AREA BREAKDOWN

| | GROSS FLOOR AREA (GFA) | | DEDUCTIONS | | NET FLOOR AREA (NFA) | |
|---|------------------------|--------|-----------------------------|--------------|----------------------|--------|
| | ft2 | m2 | ft2 | m2 | ft2 | m2 |
| GROUND FLOOR (COMMERCIAL, GROUP E CLASSIFICATION) | 15586.0 | 1448.0 | LOADING 624.3 MECH 226.0 | 58.0 21.0 | 14735.7 | 1369.0 |
| TOTAL | 15586.0 | 1448.0 | FLOOR DEDUCTIONS 850.3 | 79.0 | 14735.7 | 1369.0 |

8. SETBACKS

| | REQUIRED | PROVIDED |
|-----------------------------|----------|----------|
| NORTH INTERIOR SIDE SETBACK | 3.0m | 7.5m |
| SOUTH EXTERIOR SIDE SETBACK | 3.0m | 6.5m |
| EAST FRONT SETBACK | 14.0m | 14.0m |
| WEST REAR SETBACK | 7.5m | 39.5 |

PARKING LEGEND

GENERAL NOTE - FIRE ROUTE TO BE POSTED AND DESIGNATED UNDER MUNICIPAL BY-LAW. TO BE MINIMUM 6.0m WIDE WITH MINIMUM 12.0m CENTER-LINE TURNING RADIUS MAXIMUM 8% SLOPE OVER A MINIMUM DISTANCE OF 15m

LEGEND

| | | | |
|---|---------------------|------|-----------------------------------|
| ▽ | UNIT ENTRANCE | CB | CATCH BASIN |
| ▲ | SERVICE DOOR | HP | HYDRO POLE |
| ○ | GEODETIC ELEVATION | MH | MANHOLE |
| ○ | EXISTING ELEVATION | F.H. | FIRE HYDRANT |
| ○ | PROPOSED ELEVATION | BL | BOLLARD LIGHT REFER TO ELEC. DWGS |
| ♿ | HANDICAPPED PARKING | | |

SURVEY DATA

| Item | Ontario Building Code Data Matrix Part 3 | OBC Reference |
|---|---|-------------------------------------|
| 1. Project Description: | <input type="checkbox"/> New <input type="checkbox"/> Part 11 <input type="checkbox"/> Part 3 <input type="checkbox"/> Addition <input type="checkbox"/> Alteration 11.1 to 11.4 <input type="checkbox"/> Change of Use | 1.1.2 [A] 1.1.2 [A] 9.10.1.3 |
| 2. Major Occupancy(s) | Group C, RESIDENTIAL OCCUPANCY | 3.1.2.1 (1) 9.10.2 |
| 3. Building Area (m2) | Existing: 1490.4 m2 New: 1494.4 m2 Total: 2984.8 m2 | 1.4.1.2 [A] 1.4.1.2 [A] |
| 4. Gross Area (m2) | Existing: 1494.4 m2 New: 1494.4 m2 Total: 2988.8 m2 | 1.4.1.2 [A] 1.4.1.2 [A] |
| 5. Number of Storeys | Above grade: 1 Below grade: 0 | 1.4.1.2 [A] & 3.2.1.1 9.10.1 |
| 6. Number of Streets/Fire/Fighter Access: 1 | | 3.2.2.10 & 3.2.5 9.10.20 |
| 7. Building Classification: GROUP C (up to 6-Storey, Sprinklered) | | 3.2.2.43A 9.10.4 |
| 8. Sprinkler System Proposed | <input checked="" type="checkbox"/> entire building <input type="checkbox"/> basement & ground floor only <input type="checkbox"/> in lieu of roof rating <input type="checkbox"/> not required | 3.2.2.20 - 3.2.2.83 9.10.8 |
| 9. Standpipe required | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 3.2.9 N/A |
| 10. Fire Alarm required | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 3.2.4 9.10.18.2 |
| 11. Water Service/Supply is Adequate | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 3.2.5.7 N/A |
| 12. High Building | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 3.2.6 N/A |
| 13. Permitted Construction | <input checked="" type="checkbox"/> Combustible <input type="checkbox"/> Non-combustible <input type="checkbox"/> Both <input checked="" type="checkbox"/> Actual Construction <input type="checkbox"/> Non-combustible <input type="checkbox"/> Both | 3.2.2.20 - 3.2.2.83 9.10.6 |
| 14. Mezzanine(s) Area m2 | N/A | 3.2.1.1 (3) - 3.2.1.1 (8) 9.10.4.1 |
| 15. Occupant load based on | <input type="checkbox"/> m2/person <input checked="" type="checkbox"/> design of building | 3.1.1.7 9.9.1.3 |
| 16. Barrier-free Design | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain) | 3.8 9.5.2 |
| 17. Hazardous Substances | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 3.3.1.2 & 3.3.1.19 9.10.1.3 (4) |
| 18. Fire Resistance Rating (FRR) | Horizontal Assemblies: FRR (Hours) Floors: ___/___/___ Hours (below grade) Floors: ___/___/___ Hours (above grade) Roof: ___ Hours Mezzanine: ___/___ Hours FRR of Supporting Members: Listed Design No. Or Description (SB-2) Floors: ___ Hours Roof: ___ Hours Mezzanine: ___/___ Hours | 3.2.2.20-83 & 3.2.1.4 9.10.8 9.10.9 |
| 19. Spatial Separation - Construction of Exterior Walls | | 3.2.3 9.10.14 |
| 20. Other - Describe | | |

Firm Name: architecture unfolded
 Certificate of Practice Number: 4647
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 Toronto, ON M6K 1Y9

The Certificate of Practice Number of the holder is the holder's BCIN.

Name of Project: EDGEWOOD PLAZA
 Location: DUNDALK, ONTARIO

The architect noted above has exercised responsible control with respect to design activities.

construction managers:

structural:

electrical:

mechanical:

landscape:

site services:

project:
 Dundalk Commercial
 Dundalk, Ontario

Conceptual Site Plan & Statistics

Sept 8th, 2020 date:
 1:200 scale:
 20-07 project:
 ep drawn by:

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Drawings are not to be scaled for construction. Contractor to verify all existing conditions and dimensions required to perform the work and report any discrepancies with the Contract Documents to the architect before commencing work.

Positions of exposed or finished mechanical or electrical devices, fittings, and fixtures are indicated on architectural drawings. The locations shown on the architectural drawings govern over the Mechanical and Electrical drawings. These items not clearly located will be located as directed by the architect.

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All work to be carried out in conformance with the Code and bylaws of the authorities having jurisdiction.

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4 ISSUED FOR OPA/ZBA 09.08.20
 3 ISSUED FOR SPA/CO-ORDINATION 07.15.20
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 1 ISSUED FOR CLIENT REVIEW 05.06.20
 revisions: m.d.yr

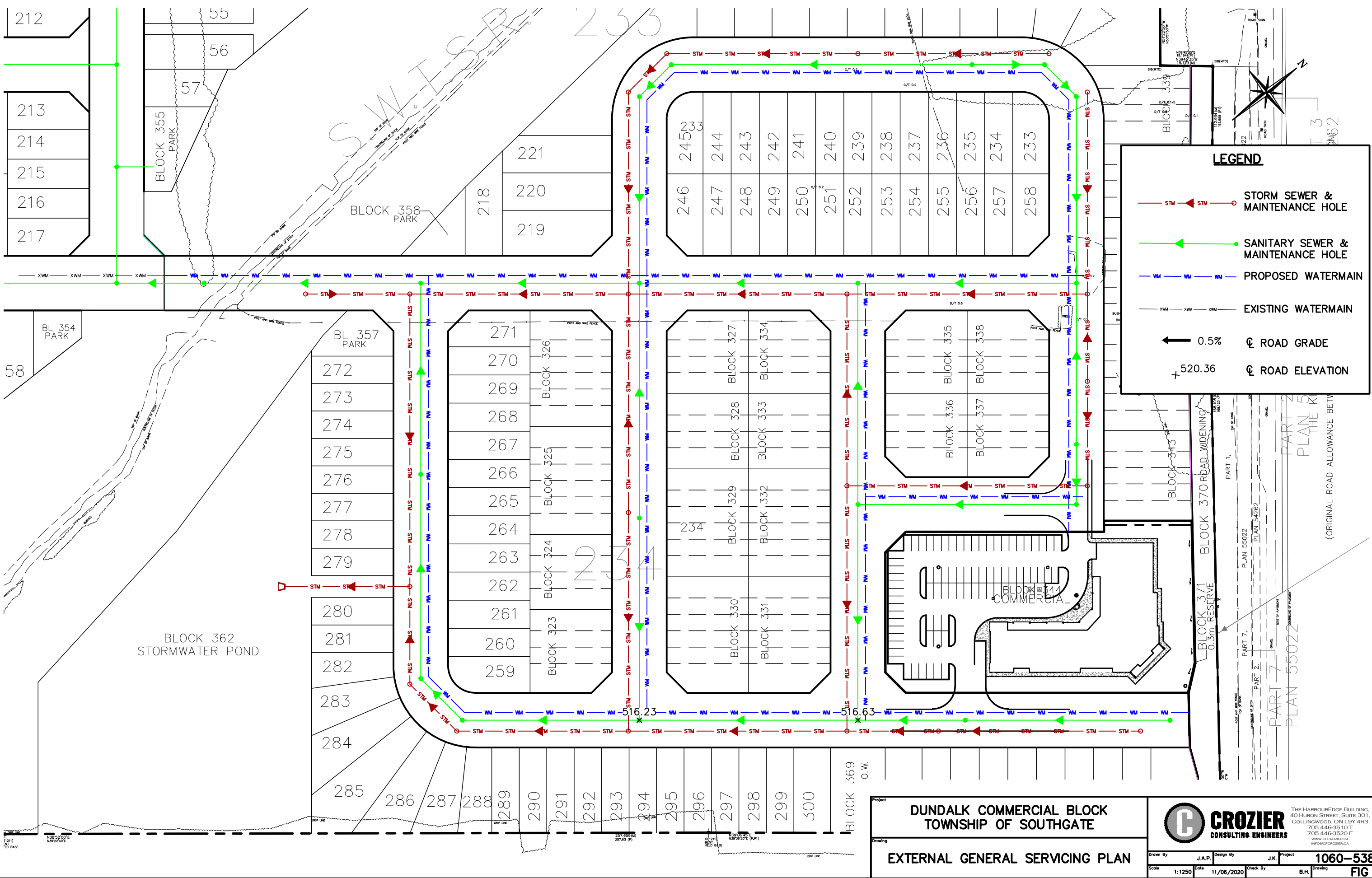
architectural team :
 Eduardo Ortiz

Ontario Association of Architects & Architects in Training License 6819

North NO WINDOWS TO NORTH.
 South REFER TO PROPOSED METHOD OF BUILDING COMPLIANCE REPORT BY JENSEN HUGHES.
 East REFER TO PROPOSED METHOD OF BUILDING COMPLIANCE REPORT BY JENSEN HUGHES.
 West REFER TO PROPOSED METHOD OF BUILDING COMPLIANCE REPORT BY JENSEN HUGHES.

1 Conceptual Site Plan
 1:200

Figure 2



LEGEND

- STORM SEWER & MAINTENANCE HOLE
- SANITARY SEWER & MAINTENANCE HOLE
- PROPOSED WATERMAIN
- EXISTING WATERMAIN
- 0.5% ∇ ROAD GRADE
- +520.36 ∇ ROAD ELEVATION

DUNDALK COMMERCIAL BLOCK
TOWNSHIP OF SOUTHGATE

EXTERNAL GENERAL SERVICING PLAN

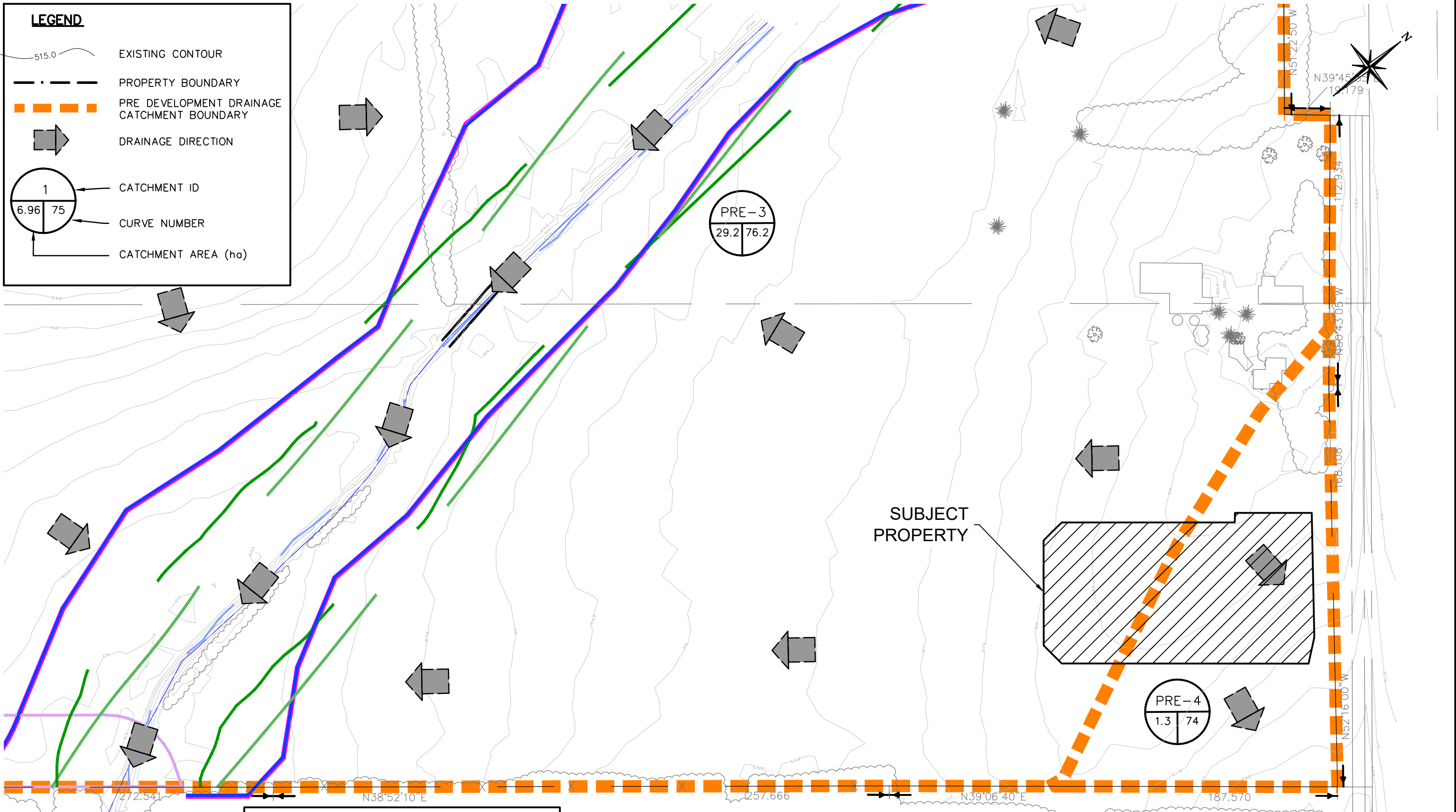
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Drawn By J.A.P. Design By J.K. Project **1060-5384**
 Scale 1:1250 Date 11/06/2020 Check By B.H. Drawing **FIG 3**

LEGEND

- 515.0 EXISTING CONTOUR
- PROPERTY BOUNDARY
- PRE DEVELOPMENT DRAINAGE CATCHMENT BOUNDARY
- DRAINAGE DIRECTION
- CATCHMENT ID
- CURVE NUMBER
- CATCHMENT AREA (ha)



NOTE:
 1. TOPOGRAPHIC SURVEY COMPLETED BY SCHAEFFER DZALDOV BENNET LTD. (APRIL 17, 2015).
 2. TOPOGRAPHIC INFORMATION WITHIN THE FLATO NORTH PROPERTY BASED ON 5.0m CONTOURS FROM ONTARIO LAND INFORMATION OFFICE.

**DUNDALK COMMERCIAL BLOCK
 TOWNSHIP OF SOUTHGATE**

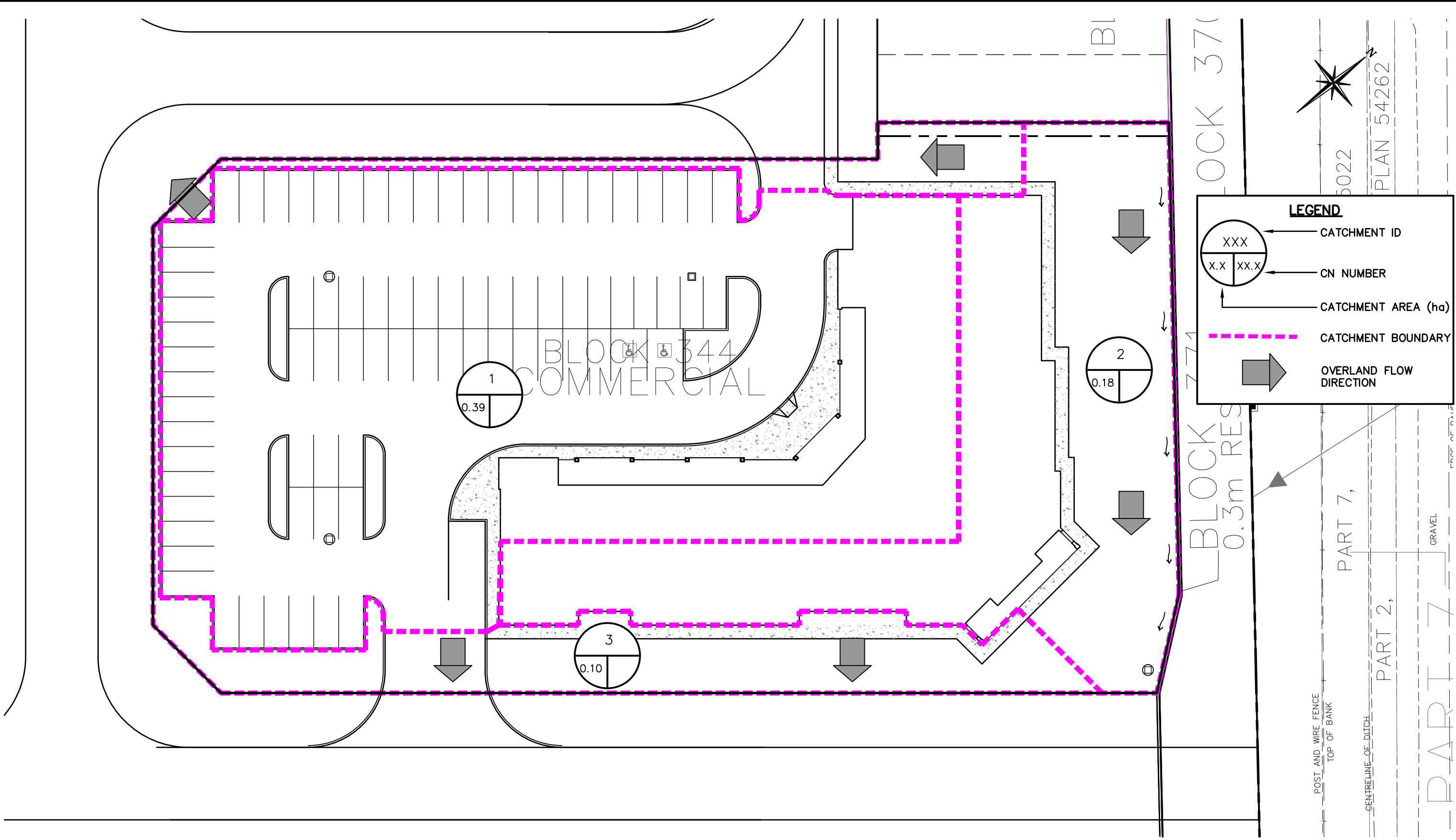
PRE-DEVELOPMENT DRAINAGE PLAN

CROZIER & ASSOCIATES
 Consulting Engineers

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| Scale | 1:1500 | Date | 06/02/2016 | Check By | B.H. |

FIG 4



LEGEND

- CATCHMENT ID
- CN NUMBER
- CATCHMENT AREA (ha)
- CATCHMENT BOUNDARY
- OVERLAND FLOW DIRECTION

Project
**DUNDALK COMMERCIAL BLOCK
TOWNSHIP OF SOUTHGATE**

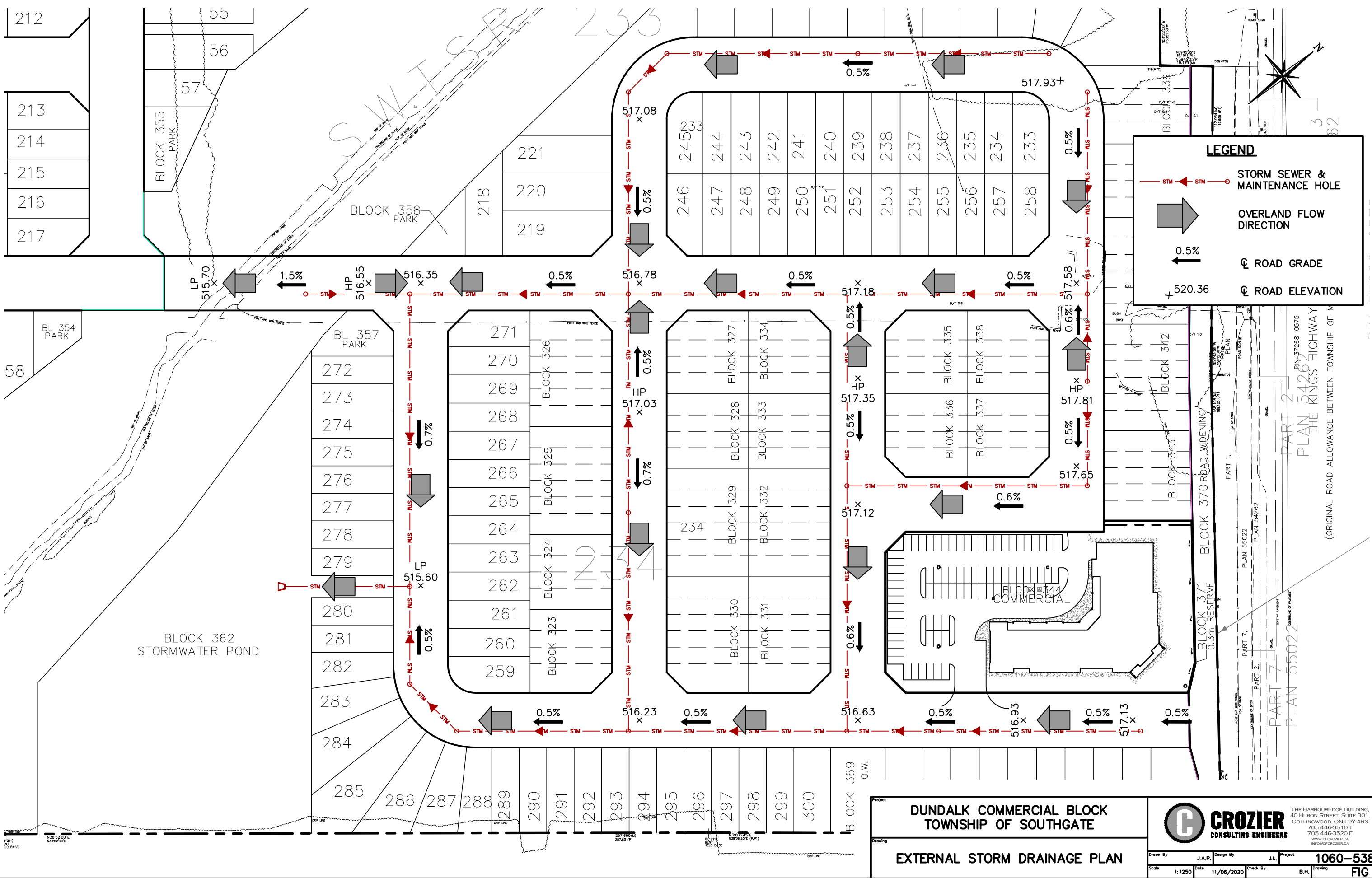
Drawing
STORM AREA DRAINAGE PLAN

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Drawn By J.A.P. Design By J.L. Project **1060-5384**

Scale 1:400 Date 11/06/2020 Check By B.H. Drawing **FIG 5**



LEGEND

- STM (red line with arrows) → STORM SEWER & MAINTENANCE HOLE
- Grey arrow → OVERLAND FLOW DIRECTION
- 0.5% (black arrow) → ROAD GRADE
- + 520.36 (black arrow) → ROAD ELEVATION

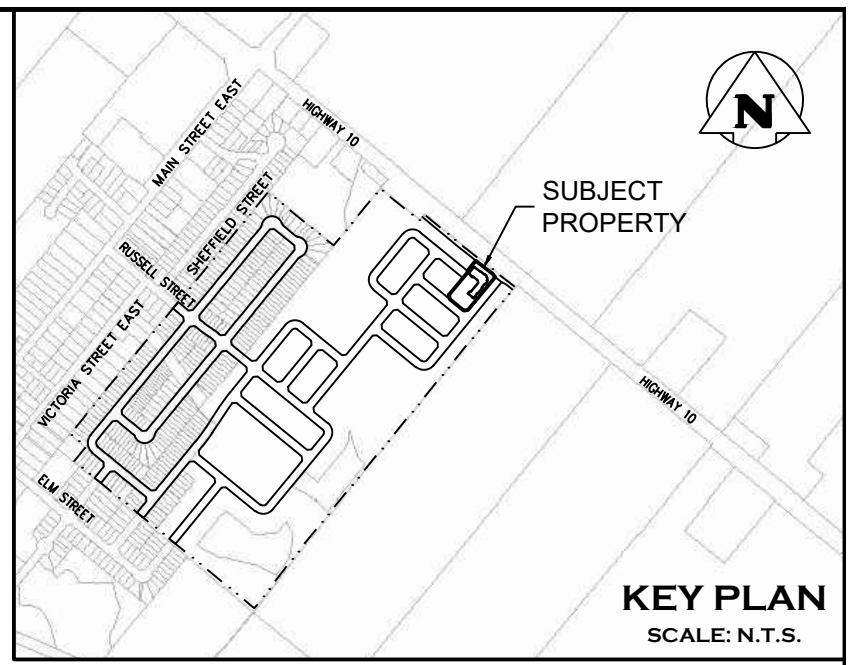
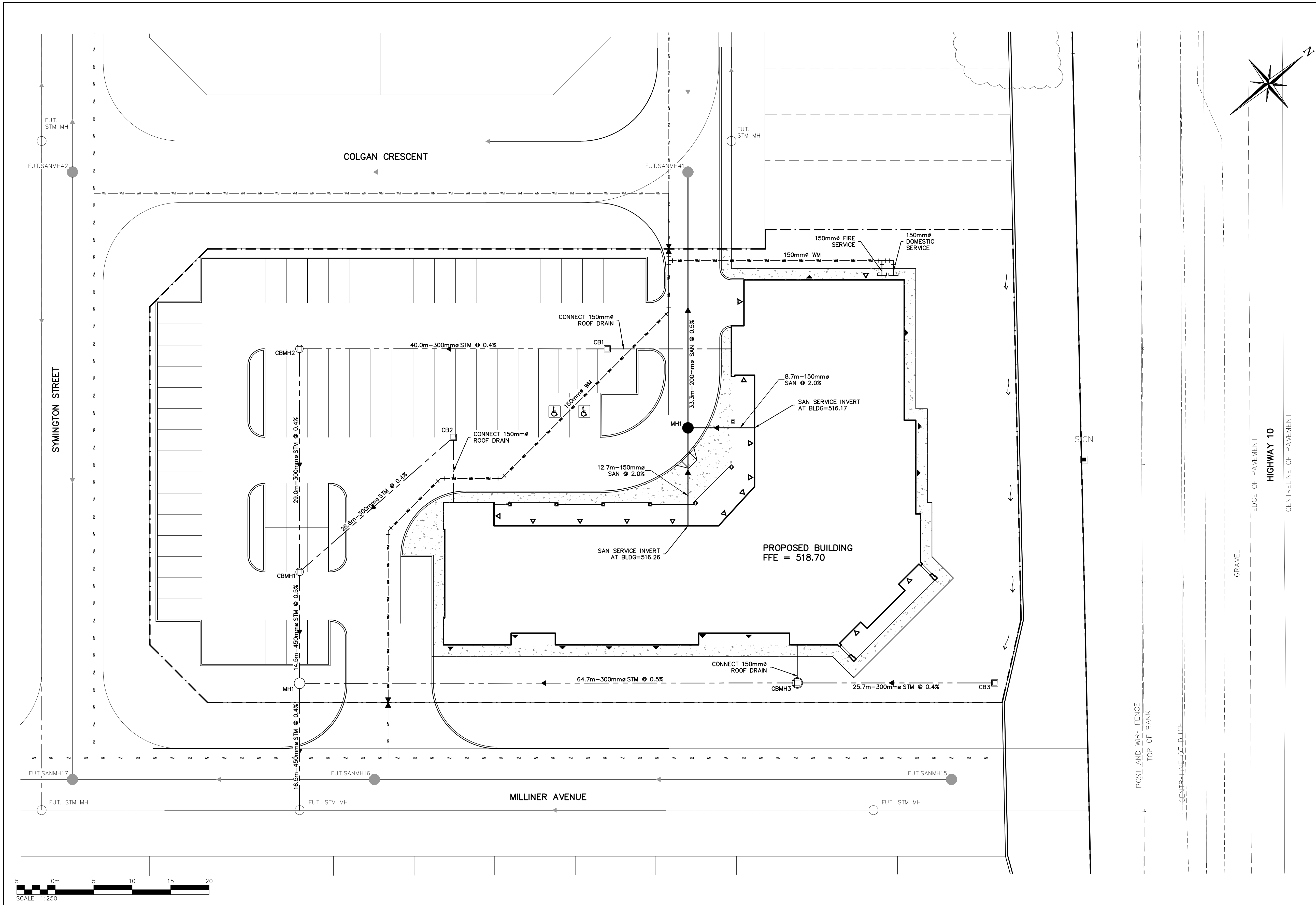
Project
DUNDALK COMMERCIAL BLOCK
TOWNSHIP OF SOUTHGATE

Drawing
EXTERNAL STORM DRAINAGE PLAN

CROZIER
 CONSULTING ENGINEERS

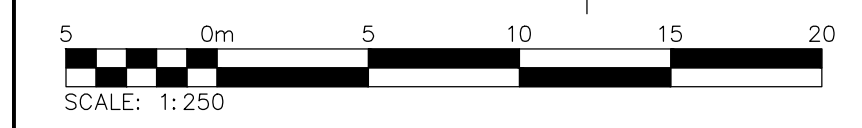
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Drawn By J.A.P. Design By J.L. Project **1060-5384**
 Scale 1:1250 Date 11/06/2020 Check By B.H. Drawing **FIG 6**



| STORM MAINTENANCE HOLE | | | | |
|------------------------|--------|------------|----------|-------|
| MHA# | T/G | INV | SIZE | |
| MH1 | 518.27 | NW INV IN | = 515.72 | 1.200 |
| | | NE INV IN | = 514.91 | |
| | | SE INV OUT | = 514.86 | |
| CBMH3 | 518.45 | NE INV IN | = 515.26 | 1.200 |
| | | SW INV OUT | = 515.26 | |
| CBMH2 | 518.16 | NE INV IN | = 516.00 | 1.200 |
| | | SE INV OUT | = 515.95 | |
| CBMH1 | 518.16 | NW INV IN | = 515.84 | 1.200 |
| | | N INV IN | = 516.07 | |
| | | SE INV OUT | = 515.79 | |
| CB3 | 517.12 | SW INV OUT | = 515.36 | 1.200 |
| CB2 | 518.16 | S INV OUT | = 516.16 | 1.200 |
| CB1 | 518.16 | SW INV OUT | = 516.16 | 1.200 |

| SANITARY MAINTENANCE HOLE | | | |
|---------------------------|--------|------------|----------|
| MHA# | T/G | INV | |
| MH1 | 518.43 | SE INV IN | = 516.00 |
| | | NE INV IN | = 516.00 |
| | | NW INV OUT | = 515.92 |



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TEMPORARY BENCHMARKS

TBM#1 CONCRETE PIN IN ASPHALT, WEST EDGE OF PAVEMENT ON ROWES LANE LOCATED 5m NORTH OF MN.135 ELEVATION 514.870m

TBM#2 RUSSELL STREET CC ON CONCRETE CURB ELEVATION 520.79

TBM#3 FLATO EAST PHASE 2&3 STORMWATER FACILITY CC ON CONCRETE HEADWALL ELEVATION 514.43

GEODETIC BENCHMARKS

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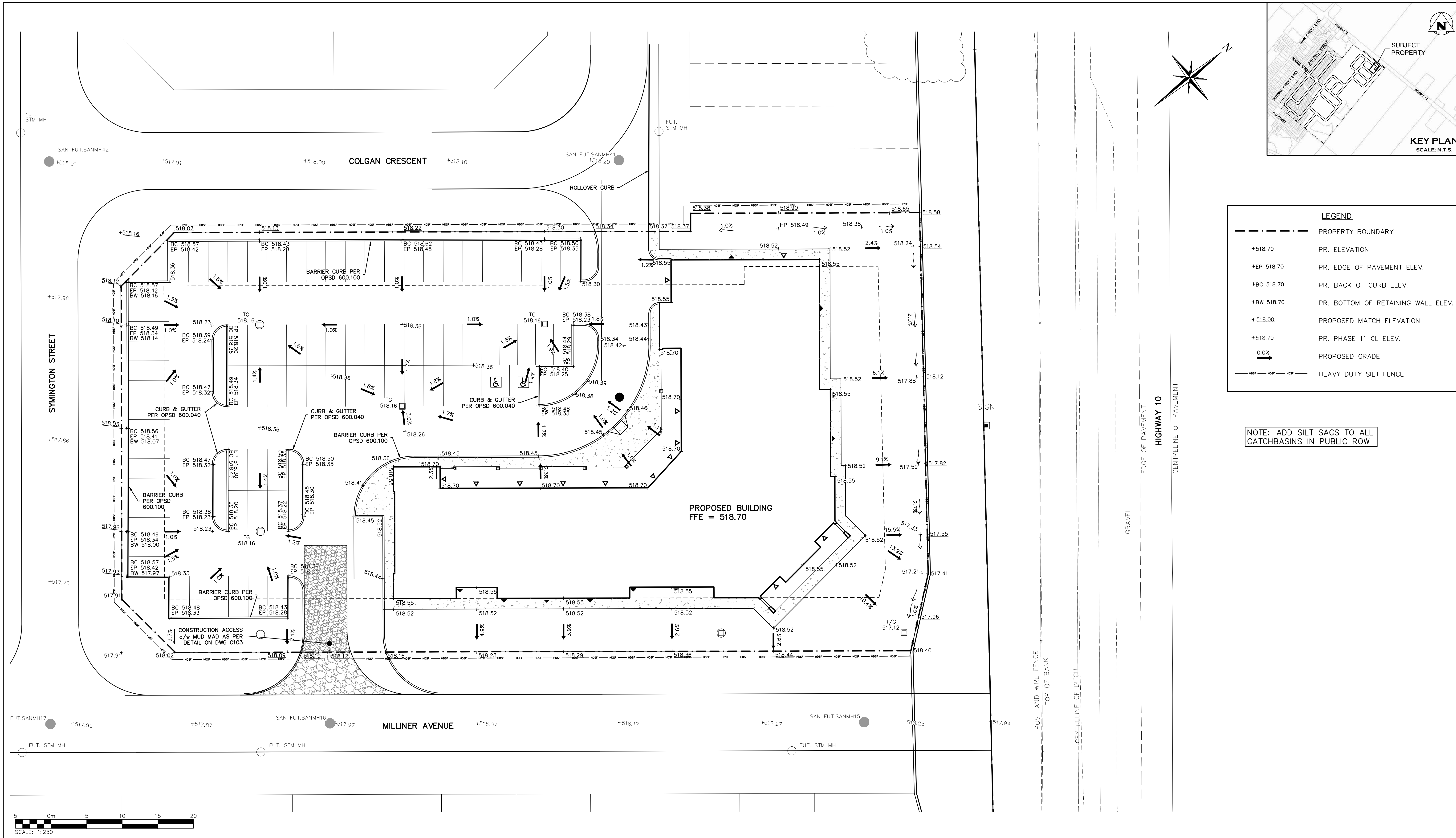
DUNDALK COMMERCIAL BLOCK
TOWNSHIP OF SOUTHGATE

GENERAL SITE SERVICING PLAN

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| Drawn By | J.A.P. | Design By | V.P./D.T. | Project | 1060-5384 |
| Scale | 1:250 | Date | 06/11/2020 | Check By | D.T. |
| | | | | | C101 |



LEGEND

- PROPERTY BOUNDARY
- +518.70 PR. ELEVATION
- +EP 518.70 PR. EDGE OF PAVEMENT ELEV.
- +BC 518.70 PR. BACK OF CURB ELEV.
- +BW 518.70 PR. BOTTOM OF RETAINING WALL ELEV.
- +518.00 PROPOSED MATCH ELEVATION
- +518.70 PR. PHASE 11 CL. ELEV.
- 0.0% PROPOSED GRADE
- HEAVY DUTY SILT FENCE

NOTE: ADD SILT SACS TO ALL CATCHBASINS IN PUBLIC ROW

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Project: **DUNDALK COMMERCIAL BLOCK TOWNSHIP OF SOUTHGATE**

Drawing: **OVERALL SITE GRADING PLAN**

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| Drawn By: J.A.P. | Design By: V.P./D.T. | Project: 1060-5384 |
| Scale: 1:250 | Date: 06/11/2020 | Check By: D.T. |
| | | Drawing: C102 |