



**Functional Servicing and Stormwater  
Management Report**

**514504 Second Line**

Township of Amaranth, Dufferin County, Ontario

**Submitted to:**

The Cellular Connection Ltd.  
78 Farnham Avenue  
Toronto, Ontario M4V 1H4

**Submitted by:**

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November 21, 2025

Project No. 2305387

**Issues and Revisions Registry**

Identification	Date	Description of Issued and/or Revision
1 <sup>st</sup> Submission	March 12, 2024	1 <sup>st</sup> ZBA Submission
2 <sup>nd</sup> Submission	January 10, 2025	1 <sup>st</sup> ZBA Submission
3 <sup>rd</sup> Submission	November 21, 2025	2 <sup>nd</sup> ZBA Submission

PREPARED BY:  
**GEI Consultants**

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Project Manager

## **Statement of Conditions**

This Report / Study (the “Work”) has been prepared at the request of, and for the exclusive use of, the Owner / Client, Township of Amaranth in Dufferin County, and its affiliates (the “Intended User”). No one other than the Intended User has the right to use and rely on the Work without first obtaining the written authorization of GEI Consultants, Inc., and its Owner. GEI Consultants, Inc. expressly excludes liability to any party except the Intended User for any use of, and/or reliance upon, the work.

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# 1 Introduction

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## 1.1 Background

GEI Consultants Inc. (GEI) was retained by The Cellular Connection (the “Owner”), to prepare a Functional Servicing and Stormwater Management Report (FSSR) in support of an Official Plan Amendment, Zoning By-Law Amendment (ZBA) for a proposed 19-lot estate residential development off Second Line in the Town of Amaranth in Dufferin County. The purpose of this report is to provide site-specific information for the Town’s review with respect to infrastructure required to support the proposed development regarding storm drainage, sanitary sewers, and water supply.

More specifically, the report will present the following:

- Determine the site sanitary servicing scheme;
- Determine the site potable water supply scheme;
- Evaluate on a preliminary basis the Stormwater Management (SWM) opportunities and constraints, including:
  - Calculate allowable and proposed runoff rates for the development;
  - Evaluate suitable methods for attenuation and treatment of stormwater runoff;
  - Develop and propose on-site control measures and examine theoretical performance; and,
  - Demonstrate compliance of proposed stormwater control measures with the Town of Amaranth Standards and Grand River Conservation Authority (GRCA) and Nottawasaga Valley Conservation Authority (NVCA) Guidelines.

## 1.2 Background Document Review

A request to the Town’s engineering records department was carried out to obtain existing information in preparation of this report. The following documents were available for our review for the preparation of this report:

- Dufferin County Official Plan, dated Office Consolidation July 17, 2017;

In addition, GEI was also provided with the following information from the applicant:

- Draft Plan of Subdivision supplied by the Client;
- Topographic Survey plan prepared by Schaeffer Dzaldov Purcell Ltd., dated September 12, 2023;
- Drawing titled Environmental Features, 514524 2<sup>nd</sup> Line Amaranth, ON. Figure 2”, prepared by Azimuth Environmental Consultants Inc., dated February 2023; and
- Drawing titled Environmental Features, 514524 2<sup>nd</sup> Line Amaranth, ON. Figure 3”, prepared by Azimuth Environmental Consultants Inc., dated February 2023;



### 1.3 Site Description

The existing 33.01 ha site is located roughly 1 km south of the intersection of 2<sup>nd</sup> Line and Side Road 20 in Amaranth Township in Dufferin County. The site is bound by 2<sup>nd</sup> Line to the east, a wetland / wood lot to the south. West of the site are agricultural lands and a natural pond to the north. The legal description is as follows: Part of Lot 19, Concession 2, Township of Amaranth, County of Dufferin. Refer to **Appendix A** for the topographic survey.

The site municipal address is 514504 2<sup>nd</sup> Line, Amaranth, Ontario. Refer to **Figures FIG-1** and **FIG-2** following the report for location plan and aerial plan of the site location. The site is located within the jurisdiction of both the Grand River Conservation Authority (GRCA) and the Nottawasaga Valley Conservation Authority (NVCA) as it relates to stormwater management which is discussed further in **Section 2.2**.

The existing site was comprised of agricultural lands and drains naturally to the existing ponds within the site. Currently the site is not agricultural. There is also an existing residential building within the site that will remain and a hydro block that will remain. Throughout the site is an existing gravel trail that traverses throughout the site. This trail has been removed.

### 1.4 Development Proposal

The subject site consists of 18 new lots for residential use with one connecting road to service these lots. Refer to **Appendix A** for the development concept plan.



## **2 Terms of Reference and Methodology**

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### **2.1 Terms of Reference**

The Terms of Reference used for the scope of this report was based on the Grand River Conservation Authority (GRCA) and the Nottawasaga Valley Conservation Authority (NVCA).

### **2.2 Methodology: Stormwater Drainage and Management**

The report provides a high-level SWM review of the pre- and post-development conditions and comments on opportunities to reduce peak flows. Other requirements set by the NVCA will also be discussed. The following SWM criteria are to be applied.

#### ***2.2.1 Water Quantity***

Post-development peak flows from the site for all storm events (up to and including the 100-year storm event) shall be controlled to the corresponding peak flow rates resulting from pre-development conditions. The 24hr SCS-II storm was analyzed using the Town of Shelburne's IDF curves. The 24hr SCS-II storm was selected over the 4hr Chicago storm as it was found to give more conservative storage requirements.

#### ***2.2.2 Erosion Control***

Erosion control should be provided such that runoff from a 5 mm storm is detained on-site for a minimum of 24 hours.

#### ***2.2.3 Water Quality***

An "Enhanced" level of control based on MOE (2003) Guidelines (80% Total Suspended Solids removal) is required for plans within the NVCA's jurisdiction.

### **2.3 Methodology: Sanitary Discharge**

Each lot is to be serviced by an individual lot septic system. The design of each septic system will follow the guidelines under Part 8 of the Ontario Building Code for septic systems. Detailed design of each septic system will occur during the detailed design stage.

### **2.4 Methodology: Water Usage**

The estimated water usage will be determined on a lot-by-lot basis. Each private well will meet minimum flow requirements per applicable standards.



## 3 Stormwater Management (SWM) Design

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### 3.1 Design Criteria

The proposed development will be designed to meet the Conservation Authorities, including Grand River Conservation Authority (GRCA) and Nottawasaga Valley Conservation Authority (NVCA)'s Criteria; NVCA's Stormwater Technical Guide, and MTO Design Guidelines, and the related standards of the Province of Ontario as set out in the Ministry of the Environment and Climate Change (MOECC) 2003 Stormwater Management Planning and Design (SWMPD) Manual.

The following design criteria is applicable to the subject site:

- Post-development peak flows from the site for all storm events (up to and including the 100-year storm event) shall be controlled to the corresponding peak flow rates resulting from pre-development conditions;
- "Enhanced" level of control based on MOE (2003) Guidelines (80% Total Suspended Solids removal);
- Erosion control should be provided such that runoff from a 5 mm storm is detained on-site for a minimum of 24 hours;
- The nearby Town of Shelburne's IDF data is to be used for analysis in absence of data for the Town of Amaranth; and
- Hydrologic modelling is performed using Visual OTTHYMO.

### 3.2 Existing Conditions

The subject site is south of the intersection between Side Road 20 and 2<sup>nd</sup> Line. The site is split by the jurisdictional boundary between the Grand River Conservation Authority and the Nottawasaga Valley Conservation Authority. Under existing conditions, the subject site mainly comprises of agricultural lands that's currently been removed.

There are three (3) existing ponds identified on the site property. The northmost pond outlets through a water feature that runs southeast towards the Nottawasaga River watershed. The other two ponds to the south outlet south towards the Grand River watershed.

Based on the available survey data, the site drains in various directions. The north and central areas are sloped towards the northeast and ultimately discharge to a tributary of the Nottawasaga River. The west and northeast areas of the site drain west and south respectively, both ultimately discharging to a tributary of the Grand River. A pre-development drainage plan under existing conditions, **Figure DAP-1A**, is provided in **Appendix B**.

As per the **Figure DAP-1A**, the overall drainage scheme was split into the two areas based on their ultimate outlet which also generally follows the jurisdictional boundary. Their areas are summarized below in **Table 3.1**.



**Table 3.1: Pre-development Watershed Drainage Areas**

Outlet	Drainage Area (ha)
A (Nottawasaga River)	17.22
B (Grand River)	15.79

### 3.3 Proposed Conditions

Based on the draft plan included as part of this submission, the site will be developed into a 19-lot estate subdivision.

The post-development drainage plan, i.e., **DAP-2A** was prepared to illustrate the site drainage scheme under the proposed conditions. An effort was made to maintain a similar amount of area draining to either watershed, which was achieved with only around a 1% difference. The post-development drainage split is summarized below in **Table 3.2**.

**Table 3.2: Post-Development Watershed Drainage Areas**

Outlet	Drainage Area (ha)
A (Nottawasaga River)	17.28
B (Grand River)	15.72

Given the nature of the development, Low Impact Development (LID) measures are proposed to provide required SWM controls, including quantity, quality, and erosion control.

The quantity control will be achieved using proposed dry/wet ponds that will be implemented throughout the site. VO modelling was used to simulate quantity controls and demonstrate the overall control targets are achieved. The VO model parameters and model outputs are provided in **Appendix B**.

The water quality control for the roads and driveways will be provided using the permanent pools in each roadside ditch section and the sandy filter under the roadside ditches. The runoff from backyards can be considered as “clean”, so no water quality controls are required for the yards and roofs.

The 5-mm erosion volume will be provided at single lot level using infiltration trenches or soak-away pits.

The following sections outline the details of each of the controls.



### 3.3.1 Quantity Control

Water quantity control is proposed to control the post development flows to the pre-development. The subject site comprises mainly of large residential lots with a split drainage scheme where the front half drains towards a 3 m wide roadside ditch.

The residential areas are to be controlled by five (5) proposed dry/wet ponds as shown in post-development drainage plan **DAP-2B**. The target flows for these areas were based on the corresponding pre-development drainage plan **DAP-1B** which shows these same areas but divided based on the pre-development drainage split. Pond 1 and Pond 2 will drain south towards Grand River and Pond 3, Pond 4, and Pond 5 will drain north towards Nottawasaga River. Backyards and other unimproved land were not identified or modelled as there is no change in imperviousness so they are not expected to increase the peak flows.

The pre-development drainage area characteristics were determined and summarized in **Table 3.3** below. A CN number of 69 and a runoff coefficient of 0.3 were used based on the existing soil type and land cover. Catchment were modelled as NasHYD in Visual OTTHYMO (VO). The time of concentration was calculated for each area using the Airport Method.

**Table 3.3: Pre-Development Input Parameters**

Catchment	Drainage Area (ha)	Tp (hr)
A1 - 1 PRE	0.92	0.37
A1 - 2 PRE	0.71	0.21
A2 - 1 PRE	2.74	0.31
A4 - 2 PRE	1.67	0.39
Total GRW (south)	6.04	
A1 - 3 PRE	1.09	0.51
A2 - 2 PRE	0.27	0.19
A2 - 3 PRE	0.09	0.17
A2 - 4 PRE	0.26	0.42
A3 - 1 PRE	0.47	0.25
A4 - 1 PRE	2.41	0.37
A5 - 1 PRE	3.70	0.29
Total NVW (north)	8.30	

The post-development drainage area characteristics were determined and summarized in **Table 3.4** below. Catchments were modelled as NasHYD in Visual OTTHYMO (VO) as the imperviousness of the catchments did not exceed 40%. A minimum time of concentration of 10 minutes was used. The detailed calculations are provided in **Appendix B**.

**Table 3.4: Post-Development Input Parameters**

Catchment	Drainage Area (ha)	CN II	C
A1-POST	2.72	72	0.35
A2-POST	3.36	73	0.37



Total GRW Area (south)	6.08	72	0.36
A3-POST	0.47	76	0.43
A4-POST	4.08	71	0.35
A5-POST	3.70	72	0.35
Total NVW Area (north)	8.25	72	0.35

Preliminary pond sizing results are shown in **Table 3.5** below.

**Table 3.5: Preliminary Pond Sizing (m<sup>3</sup>/s)**

Pond	Catchment	Drainage Area (ha)	Maximum Storage Used (m <sup>3</sup> )	Maximum Discharge (m <sup>3</sup> /s)
1	A1-POST	2.72	109	0.180
2	A2-POST	3.36	165	0.258
3	A3-POST	0.47	53	0.035
4	A4-POST	4.08	305	0.253
5	A5-POST	3.70	343	0.210

Post vs pre-development flows for all events are presented in **Table 3.6** below.

**Table 3.6: Post-Development Peak Flows (m<sup>3</sup>/s)**

Return Period	Total Flow to Grand River (m <sup>3</sup> /s)	Grand River Target (m <sup>3</sup> /s)	Total Flow to Nottawasaga River (m <sup>3</sup> /s)	Nottawasaga River Target (m <sup>3</sup> /s)
2 Year	0.096	0.100	0.107	0.136
5 Year	0.196	0.209	0.220	0.283
10 Year	0.243	0.261	0.274	0.352
25 Year	0.322	0.350	0.364	0.472
50 Year	0.375	0.409	0.424	0.552
100 Year	0.436	0.478	0.495	0.645

As can be seen from the summary table above, all the flows for either outlet are less than pre-development targets. Therefore, pre-to-post water quantity control has been achieved.

### 3.3.2 Quality Controls

Stormwater treatment must meet Enhanced (Level 1) Protection criteria as defined by the 2003 MOE SWMP Manual. A total of 80% or greater total suspended solids (TSS) removal is required by the MOE Enhanced Level Protection.

Quality control for front draining residential areas and the right-of-ways will be provided by the roadside ditches proposed along Road A. A “permanent pool” will be provided by placing rock check dams along the ditches to create a sump, approximately 0.2m in depth, for sediments to settle. An additional 0.3 m of clear stone will be provided underneath the ditch for infiltration. Please note that the required site quality control was completed as a “lumped” volume provided by the total length of the ditch. A summary of the required and provided permanent



pool volume for the front draining residential areas and their respective trenches is provided in **Table 3.7** below. Detailed ditch calculations are provided in **Appendix B**.

**Table 3.7: Trench Permanent Pool Volume Summary**

Ditch Controlled Residential Area (ha)	Total Trench Length (m)	Percent Imperviousness (%)	Required Permanent Pool (m <sup>3</sup> )	Provided Permanent Pool (m <sup>3</sup> )
14.33 ha	1370	10	283.0	297.7

Based on an 80% TSS removal for all residential and roadway areas serviced by the proposed roadside trenches and assuming that all other backyard and open space areas are inherently clean at 100% TSS removal, the Enhanced Protection criteria is met.

### **3.3.3 Erosion Control**

Erosion control is proposed to be met for the site by detaining the 5 mm rainfall event over the entire site for a minimum of 48 hours, which will be done through the implementation of infiltration trenches or soak-away pits installed at lot level. The preliminary sizing calculations and design of infiltration trenches or soak away pits will be completed in the next design stage once the hydrogeologist investigation is available.

## **3.4 Proposed Storm Connection and Culverts**

The proposed development will be serviced by 100-year capacity swales connected by culverts (under roads) and ultimately discharging to the existing water features, proposed ponds and ultimately into a proposed constructed wetland. Refer to **Appendix C** for conceptual site grading design.



## **4 Sanitary Drainage System**

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### **4.1 Existing Sanitary Servicing**

There is no existing sanitary infrastructure surrounding the site.

### **4.2 Proposed Sanitary Servicing**

Each lot will be serviced by its own private septic system. Detailed design of each septic system will occur during the detailed design stage. Refer to geotechnical report prepared by others for septic tank recommendations.



## **5 Water Supply System**

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### **5.1 Existing Water System**

There is no existing watermain infrastructure surrounding the site.

### **5.2 Proposed Watermain Connection**

Each lot will require its own watermain service connected to a private well on each lot for domestic use. Refer to geotechnical report prepared by others for water supply recommendations. There are no watermains proposed within the ROWs for this development.

### **5.3 Fire Protection**

It is understood that the client has previously corresponded with the Township of Amaranth and has received approval to install dry hydrants which will draw from the existing and proposed ponds located on the site with the intention to provide fire protection for the proposed development. Currently, there is a 400,000 L (100,000 gal) cistern that has been installed on Lot 15, with a connection to a dry hydrant. During detailed design, further analysis will be completed to understand the dry hydrant requirements. This report does not investigate fire protection opportunities.



## **6 Site Grading**

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### **6.1 Existing Grades**

The overall drop across the site is approximately 5.3 m from the southwest property line to the northeast property line. Existing grades vary rapidly in elevation because of several high and low points throughout the site. This is a result due to existing pond features collecting the existing drainage of the subject site for storm water management control. The site splits the drainage where the existing building is located.

### **6.2 Proposed Grades**

The proposed grades will match into existing grades at property lines to the extent practical. Overland flow for events, up to and including the 100-year storm design event, will be captured within the site using 0.5m flat bottom ditches, culverts, and existing modified storm water management facilities. Overland flow for events exceeding the 100-year design event, will be directed to through using ditches and culverts to the existing ditch running parallel on the westside of Second Line.



## 7 Site Access

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According to the draft plan provided, there are two (2) vehicular access to the proposed development where both will be made from Second Line. One entrance will be from the north-east and the second will be from the south-east of the development.



## 8 Conclusions and Recommendations

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Based on our investigations, we conclude the following:

### 8.1 Storm Drainage

Based on the analysis completed it was demonstrated that the requires site SWM controls, including quantity, quality, and erosion controls, can be achieved using the proposed measures.

- The drainage areas towards the Nottawasaga River and the Grand River were kept consistent between pre-development and post-development conditions;
- Peak runoff rates towards either watershed for the proposed development is designed to be less than or equal to the pre-development flow rates by implementing on-site SWM controls;
- Stormwater storage required to achieve the quantity control will be provided by five dry/wet ponds;
- MECP Enhanced Level Protection will be provided by the roadside trenches;
- Erosion control will be provided with the use of infiltration trenches.

### 8.2 Sanitary Sewers

Each lot will require its own sanitary service connection to a septic tank. Designed by others.

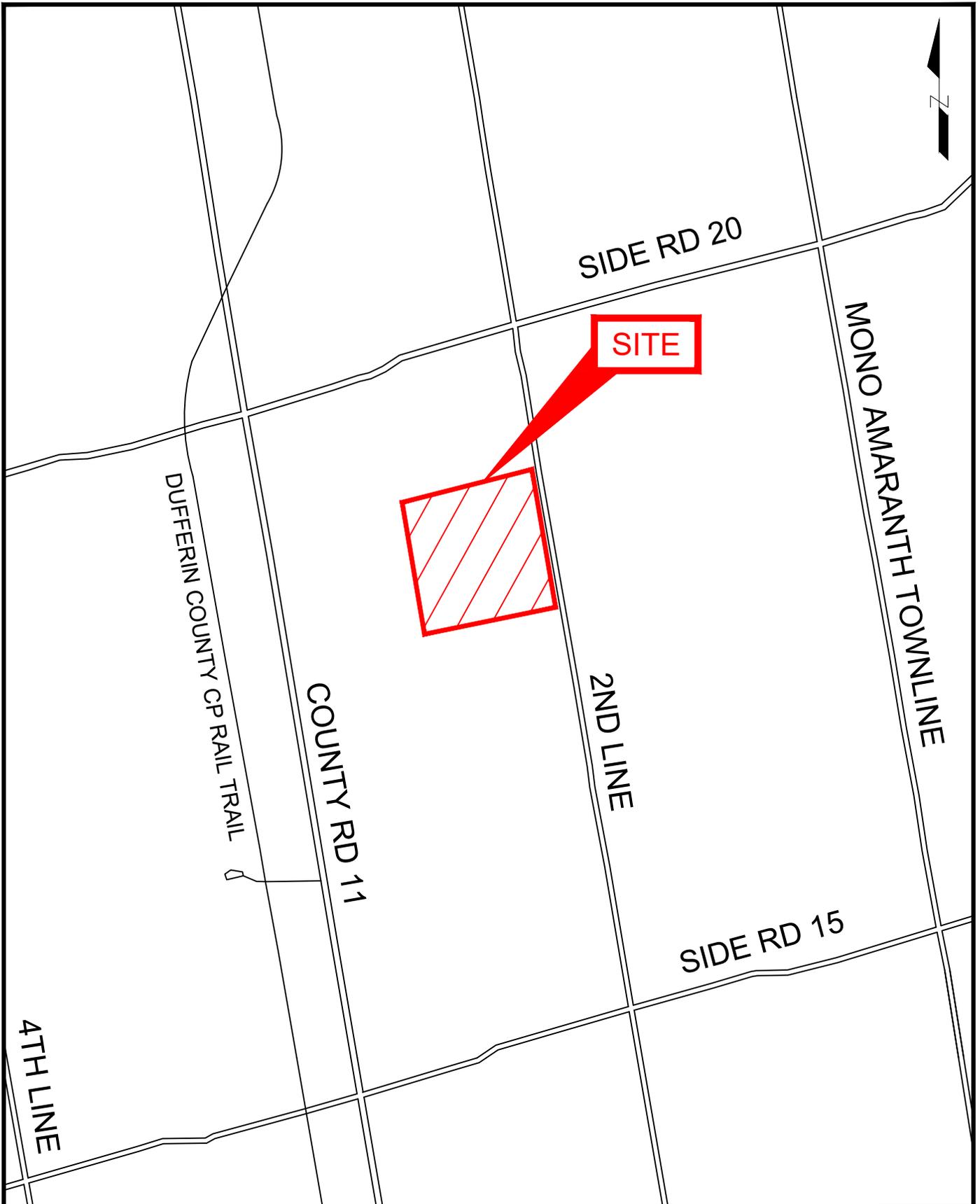
### 8.3 Water Supply

Each lot will require its own watermain service connected to an onsite well system for domestic water supply.

### 8.4 Site Grading

The proposed grades will match into existing grades at property lines to the extent practical. Overland flow for events, up to and including the 100-year storm design event, will be captured within the site using 0.5m flat bottom ditches, culverts, and existing modified storm water management facilities. Overland flow for events exceeding the 100-year design event, will be directed to through using ditches and culverts to the existing ditch running parallel on the westside of Second Line.





514504 Second Line  
Township of Amaranth, Dufferin County, Ontario

Cellular Connection Ltd.  
Toronto, Ontario

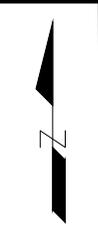


Project 2305387

LOCATION PLAN

DECEMBER 2023

FIG-1



514504 Second Line  
Township of Amaranth, Dufferin County, Ontario

Cellular Connection Ltd.  
Toronto, Ontario



Project 2305387

AERIAL PLAN

DECEMBER 2023

FIG-2

# Appendix A

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## Background Information



METRIC: DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

LOT 20, CONCESSION 2  
PART 4, PLAN 7R-1830

20,

CONCESSION 2

2

PIN 34047 -- 0093

PART 3, PLAN 7R-1830

PART 1, PLAN 7R-1830  
PIN 34047-0054

PIN 34047-0171

LOT 20, CONCESSION 2  
LOT 19, CONCESSION 2

PART 5,  
PLAN 7R-1830  
PIN 34047 -- 0159

LOT

LOT

18,

CONCESSION 2

2

PART 2, PLAN 7R-1830  
PIN 34047 -- 0047

TOPOGRAPHIC PLAN OF  
PART OF LOT 19  
CONCESSION 2  
(GEOGRAPHIC TOWNSHIP OF AMARANTH)  
TOWNSHIP OF AMARANTH  
COUNTY OF DUFFERIN  
SCALE 1 : 750 (TOPO SCALE 1:300)

SCHAEFFER DZALDOV PURCELL LTD.  
© COPYRIGHT



TOPOGRAPHIC NOTES

- UP ● DENOTES UTILITY POLE
- DN ○ DENOTES HYDRO OVERHEAD WIRES
- FFL ○ DENOTES FINISHED FLOOR ELEVATION AT LOCATION NOTED ONLY
- D/T 0.10 ○ DENOTES DECIDUOUS TREE 2.10m dia
- C/T 0.10 ○ DENOTES CONIFEROUS TREE 0.10m dia
- CSF (200) ○ DENOTES CORRUGATED STEEL PIPE (200mm DIA.)
- CPP (500) ○ DENOTES CORRUGATED PLASTIC PIPE (500mm DIA.)
- QUI ○ DENOTES QUI WIRE POLE
- INV ○ DENOTES CULVERT INVERT

BENCHMARK

ELEVATIONS SHOWN HEREON ARE ORTHOMETRIC, DERIVED FROM REAL TIME OBSERVATIONS USING THE LEICA SMARTNET RTK NETWORK.

CONTOUR INTERVAL: 0.50m

'CAUTION'

THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSES INDICATED IN THE TITLE BLOCK.  
BOUNDARY INFORMATION HAS BEEN COMPILED FROM PLAN 7R-6546 ORIENTED ON AVAILABLE EVIDENCE.  
THE LOCATION OF SITE BOUNDARIES ARE NOT BEING CONFIRMED.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:  
THE FIELD SURVEY REPRESENTED ON THIS TOPOGRAPHIC PLAN WAS COMPLETED ON THE 30TH DAY OF AUGUST, 2023.

DATE: SEPTEMBER 12, 2023. DAN DZALDOV  
ONTARIO LAND SURVEYOR

**SCHAEFFER DZALDOV PURCELL LTD.**  
ONTARIO LAND SURVEYORS

64 JARDIN DRIVE CONCORD, ONTARIO L4K 3P3 TEL: (416) 987-0101  
CALC. BY: DRAWN: SAM/A/M CHECKED: [initials] LIGHT SCALE 1:750 JOB NO. 23-513-00  
PLOT SIZE: 30x48 SEPTEMBER 12, 2023  
TOPOGRAPHIC SCALE 1:300

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

RESIDENTIAL/FARM

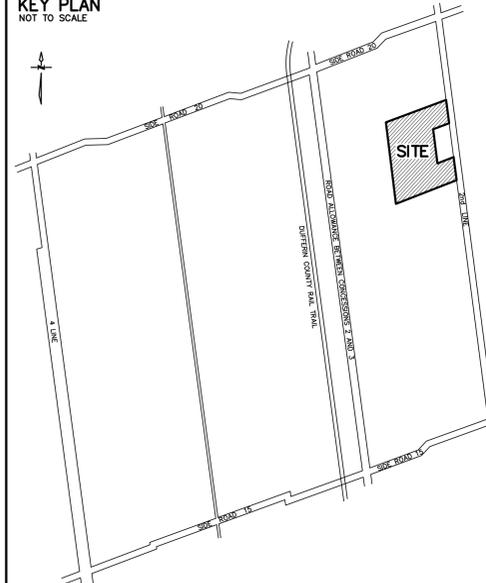


DRAFT PLAN OF SUBDIVISION OF

PART OF LOT 19  
CONCESSION 2  
(GEOGRAPHIC TOWNSHIP OF AMARANTH)  
TOWNSHIP OF AMARANTH  
COUNTY OF DUFFERIN

OCTOBER 20, 2025

KEY PLAN  
NOT TO SCALE



ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51 (17) OF THE PLANNING ACT, R.S.O., 1990

- (a) AS SHOWN ON DRAFT PLAN
- (b) AS SHOWN ON DRAFT PLAN AND KEY PLANS
- (c) AS SHOWN ON DRAFT PLAN
- (d) THE LAND IS TO BE USED ACCORDING TO THE SCHEDULE OF LAND USE
- (e) AS SHOWN ON DRAFT PLAN AND KEY PLANS
- (f) AS SHOWN ON DRAFT PLAN
- (g) AS SHOWN ON DRAFT PLAN AND KEY PLANS
- (h) MUNICIPAL WATER SUPPLY TO BE MADE AVAILABLE
- (i) SOIL IS CLAYEY SILT AND SILTY CLAY TO CLAY
- (j) AS SHOWN ON DRAFT PLAN
- (k) FULL MUNICIPAL SERVICES TO BE MADE AVAILABLE
- (l) SUBJECT TO EASEMENTS AS SHOWN ON THE DRAFT PLAN

SCHEDULE OF LAND USE

LAND USE	LOTS / BLOCKS	(ha)	AREA (ac)	(m <sup>2</sup> )
SINGLE DETACHED RESIDENTIAL	LOTS 1 TO 19	14.0525	34.72	140535.1
NATURAL HERITAGE SYSTEM	BLOCK 20	1.4916	3.69	14902.6
HYDRO EQUIPMENT	BLOCK 21	0.7599	1.88	7599.4
NATURAL HERITAGE SYSTEM	BLOCK 22	5.6596	13.98	56596.2
NATURAL HERITAGE SYSTEM	BLOCK 23	8.2971	20.50	82974.3
PUBLIC STREET		2.7562	6.81	27561.7
TOTAL	UNITS 19	33.0169	81.58	330169.3

SCALE 1:1000  
(30X36)

OWNER'S AUTHORIZATION

I AUTHORIZE W.E. OUGHTRED AND ASSOCIATES INC. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE COUNTY OF DUFFERIN FOR APPROVAL.

OCTOBER 20, 2025

STUART TURK  
THE CELLULAR CONNECTION LTD.

DATE

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

OCTOBER 20, 2025

DAN DZALDOV  
ONTARIO LAND SURVEYOR

DATE



SCHAEFFER DZALDOV PURCELL LTD.  
ONTARIO LAND SURVEYORS

64 JARDIN DRIVE CONCORD, ONTARIO L4K 3P3 TEL: (416) 887-0101

DRAWN ACAD/SL/LW CHECKED LEGAL RM/GK SCALE 1:1000 JOB NO. 23-313-011

PLOT SIZE: 30X36 OCTOBER 20, 2025

# Appendix B

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## Stormwater Data Analysis



NVCA AND GRCA JURISDICTIONAL BOUNDARY

NVCA REGULATION BOUNDARY

GRCA REGULATION BOUNDARY

NRW  
17.22 ha

GRWA  
15.79 ha

RW  
0.74 ha

WATERSHED

DRAINAGE AREA  
IN HECTARES

### LEGEND

- PROPERTY LINE
- EXISTING DRAINAGE AREA TO NOTTAWASAGA RIVER WATERSHED
- EXISTING DRAINAGE AREA TO GRAND RIVER WATERSHED
- EXISTING OVERLAND FLOW DIRECTION

SUBDIVISION  
SECOND LINE AMARANTH

THE CELLULAR CONNECTION LTD.



Project 2305387

WATERSHED  
PRE-DEVELOPMENT  
DRAINAGE AREA PLAN

NOV 2025

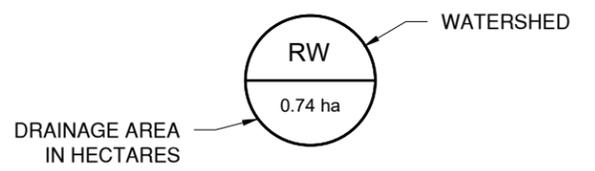
DAP-1A

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**LEGEND**

- PROPERTY LINE
- PROPOSED DRAINAGE AREA TO NOTTAWASAGA RIVER WATERSHED
- PROPOSED DRAINAGE AREA TO GRAND RIVER WATERSHED
- PROPOSED OVERLAND FLOW DIRECTION



SUBDIVISION  
SECOND LINE AMARANTH

THE CELLULAR CONNECTION LTD.

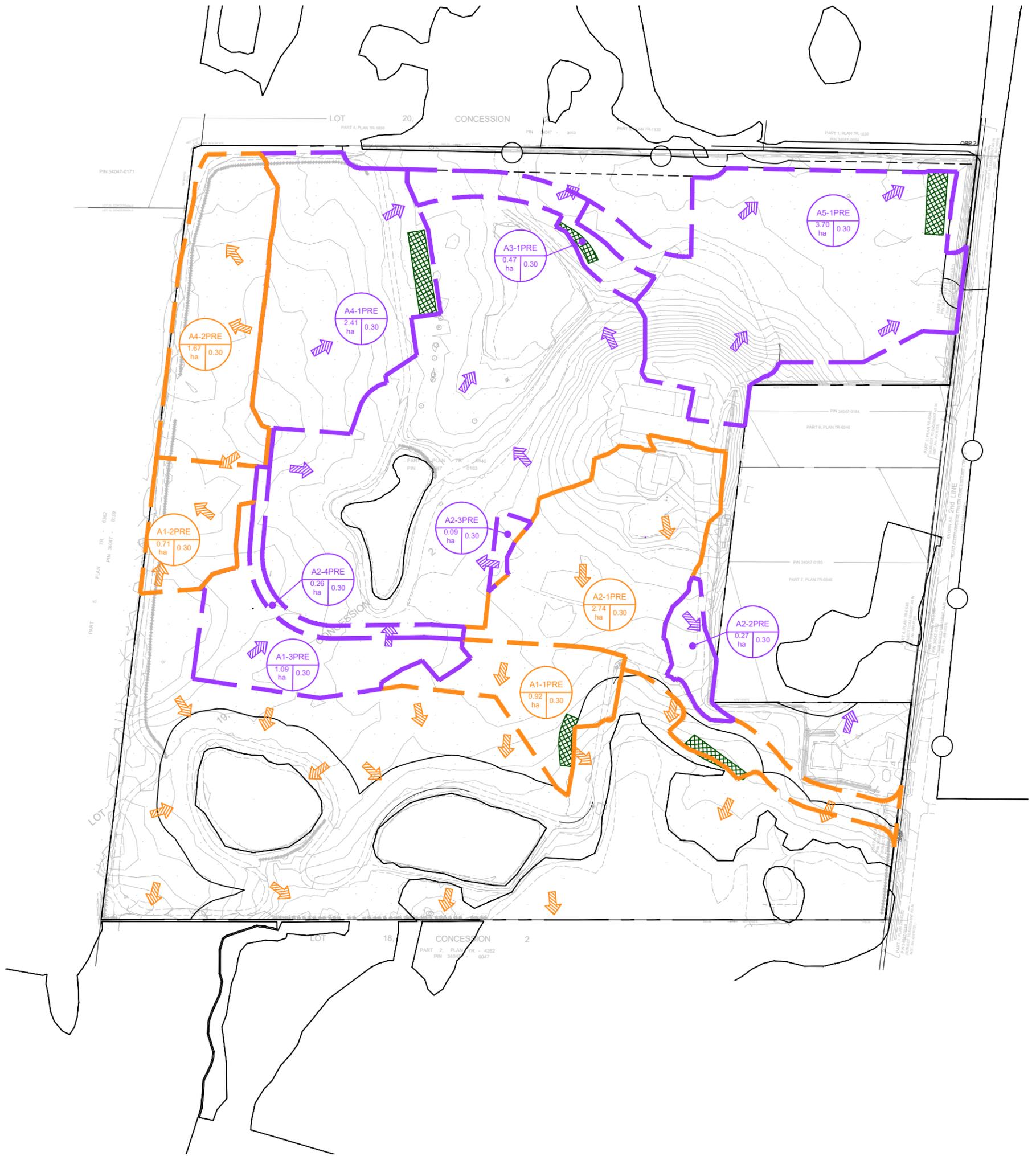


Project 2305387

WATERSHED  
POST-DEVELOPMENT  
DRAINAGE AREA PLAN

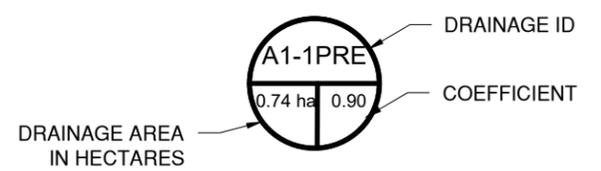
NOV 2025

DAP-2A



**LEGEND**

- PROPERTY LINE
- PRE DRAINAGE AREA TO NOTTAWASAGA RIVER WATERSHED - FOR PROPOSED PONDS
- PRE DRAINAGE AREA TO GRAND RIVER WATERSHED - FOR PROPOSED PONDS
- PRE OVERLAND FLOW DIRECTION



SUBDIVISION  
SECOND LINE AMARANTH



PONDS  
PRE-DEVELOPMENT  
DRAINAGE AREA PLAN

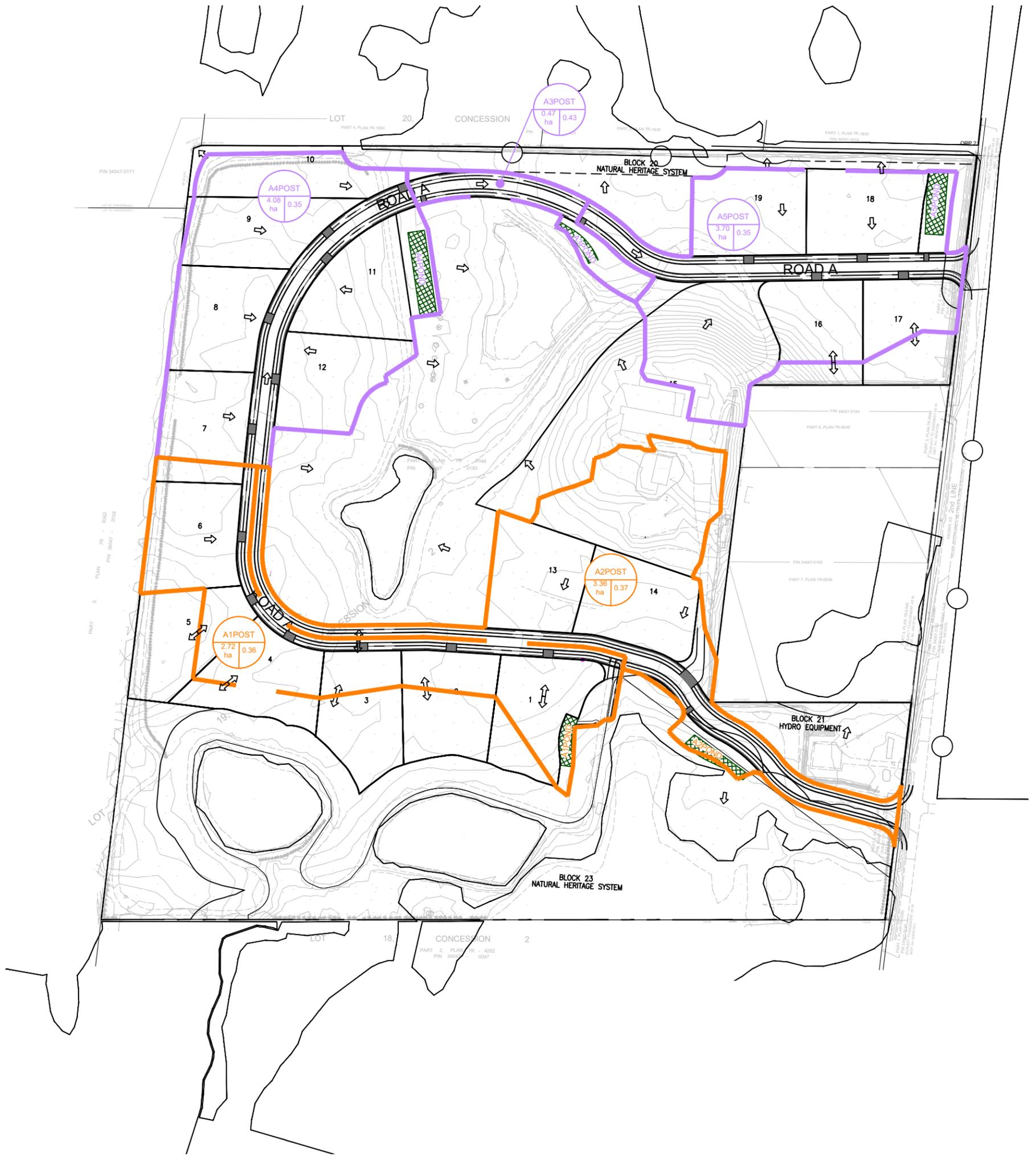
THE CELLULAR CONNECTION LTD.

Project 2305387

NOV 2025

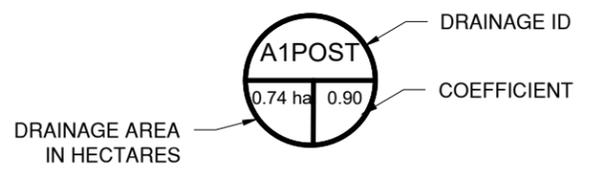
DAP-1B

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**LEGEND**

- PROPERTY LINE
- PROPOSED DRAINAGE AREA TO NOTTAWASAGA RIVER WATERSHED - PONDS
- PROPOSED DRAINAGE AREA TO GRAND RIVER WATERSHED - PONDS
- PROPOSED OVERLAND FLOW DIRECTION



SUBDIVISION  
SECOND LINE AMARANTH

THE CELLULAR CONNECTION LTD.



Project 2305387

PONDS  
POST-DEVELOPMENT  
DRAINAGE AREA PLAN

NOV 2025

DAP-2B

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## Pre-Development Drainage Parameters

Amaranth Subdivision  
Project #2305387  
November 2025

### Site Info

Land Cover	Pasture
Soil Type <sup>1</sup>	Honeywood Silt Loam
Hydrologic Soil Group <sup>1</sup>	B
CN <sup>2</sup>	69
Slope	5.0
Runoff Coefficient <sup>3</sup>	0.30

<sup>1</sup> Soil Survey Complex Database by Ontario Ministry of Agriculture, Food, and Rural Affairs

<sup>2</sup> NVCA Stormwater Technical Guide Table 10.1 (Dec 2013)

<sup>3</sup> NVCA Stormwater Technical Guide Table 10.6 (Dec 2013)

### Time of Concentration (Airport Method) and Time to Peak

$$t_c = 3.26 * (1.1 - C) * L^{0.5} * S_w^{-0.33}$$

Where:  $t_c$  = time of concentration, minutes  
 C = runoff coefficient  
 L = watershed length, m  
 $S_w$  = watershed slope, %

Catchments	Area (ha)	Flow Length	High Point (m)	Low Point (m)	Slope (%)	Tc (min)	N	Tp (hr)
A1 - 1 PRE	0.92	168	489.80	488.00	1.07	33.04	3	0.37
A1 - 2 PRE	0.71	104.7	492.10	489.00	2.96	18.65	3	0.21
A2 - 1 PRE	2.74	224.6	495.50	489.50	2.67	28.26	3	0.31
A4 - 2 PRE	1.67	204	491.50	489.10	1.18	35.30	3	0.39
Total GRW	6.04							
A1 - 3 PRE	1.09	259.3	492.1	490.1	0.77	45.75	3	0.51
A2 - 2 PRE	0.27	89	491.1	488.6	2.81	17.50	3	0.19
A2 - 3 PRE	0.09	40	490.8	490.3	1.25	15.32	3	0.17
A2 - 4 PRE	0.26	162	491.3	490.2	0.68	37.72	3	0.42
A3 - 1 PRE	0.47	114.9	487.5	485.2	2.00	22.23	3	0.25
A4 - 1 PRE	2.41	234.6	491.6	487.5	1.75	33.22	3	0.37
A5 - 1 PRE	3.70	260.3	496.1	484.5	4.46	25.70	3	0.29
Total NVW	8.30							

### Default VO Model Parameters (NASHYD)

Parameter	Description	Value
DT	Time Step Increment (min)	5
DWF	Dry Weather Flow (m <sup>3</sup> /s)	0
CN	Curve Number	69
IA	Pervious Area Depression Storage (mm)	5.0
N	Number of Linear Reservoirs	3



## Post-Development Drainage Parameters

Amaranth Subdivision  
Project #2305387  
November 2025

Catchments	Area (ha)	No. Residential Units	Paved Area	Total Impv Area (ha) <sup>1</sup>	CN <sup>2</sup>	C <sup>3</sup>
A1-POST	2.72	6	0.15	0.27	72	0.36
A2-POST	3.36	2	0.34	0.38	73	0.37
Total GRW Area	6.08	8	0.50	0.66	72	0.36
A3-POST	0.47	0	0.10	0.10	76	0.43
A4-POST	4.08	6	0.20	0.32	71	0.35
A5-POST	3.70	5	0.24	0.34	72	0.35
Total NW Area	8.25	11	0.54	0.76	72	0.36

<sup>1</sup>Assumed impervious area of 200 m<sup>2</sup> per residential lot.

<sup>2</sup>Assumed CN of 100 for impervious areas and 69 for pervious areas.

<sup>3</sup>Assumed C of 0.90 for impervious areas and 0.30 for pervious areas

### Airport Method

$$t_c = 3.26 * (1.1 - C) * L^{0.5} * S_w^{-0.33}$$

Where:  $t_c$  = time of concentration, minutes  
 C = runoff coefficient  
 L = watershed length, m  
 $S_w$  = watershed slope, %

Catchment	Flow Length	Slope (%)	Tc (min)	N	Tp (hr)
A1-POST	433	2.00	38	3	0.42
A2-POST	265	2.00	30	3	0.33
A3-POST	135	2.00	20	3	0.22
A4-POST	260	2.00	29	3	0.33
A5-POST	290	2.00	31	3	0.34

### Default VO Model Parameters (NASHYD)

Parameter	Description	Value
DT	Time Step Increment (min)	5
DWF	Dry Weather Flow (m <sup>3</sup> /s)	0
IA	Pervious Area Depression Storage (mm)	5.0
N	Number of Linear Reservoirs	3



**Dry/Wet Pond - Preliminary Orifice and Storage Sizing**

Amaranth Subdivision  
Project #2305387  
November 2025

$$Q = C \times A \times \sqrt{2 \times g \times h}$$

Orifice Pipe Coefficient 0.600  
Pond Max Side Slope 3:1

$$Q = C \times W \times H^{3/2}$$

VO Model Rating Curve

**Pond 1**

Description	Value	Unit
Bottom of Pond	486.85	m
Top of Pond	487.95	m
Orifice Diameter	420	mm
Orifice Area	0.139	m <sup>2</sup>
Control Elevation	487.06	m

Headwater Elevation (m)	Head @ Centroid (m)	Release Rate (m <sup>3</sup> /s)	Active Storage Available (ha.m)
486.95	0.000	0.0000	0.0000
487.65	0.590	0.2828	0.0170
487.95	0.890	0.3474	0.0279

Bottom of Pond  
100-yr max  
Top of Pond

Used Storage (Model) 0.0109 ha.m

**Pond 2**

Description	Value	Unit
Bottom of Pond	486.60	m
Top of Pond	487.70	m
Orifice Diameter	430	mm
Orifice Area	0.145	m <sup>2</sup>
Control Elevation	486.815	m

Headwater Elevation (m)	Head @ Centroid (m)	Release Rate (m <sup>3</sup> /s)	Active Storage Available (ha.m)
486.70	0.000	0.0000	0.0000
487.40	0.585	0.2952	0.0186
487.70	0.885	0.3631	0.0306

Bottom of Pond  
100-yr max  
Top of Pond

Used Storage (Model) 0.0165 ha.m

**Pond 3**

Description	Value	Unit
Bottom of Pond	485.40	m
Top of Pond	486.20	m
Orifice Diameter	200	mm
Orifice Area	0.031	m <sup>2</sup>
Control Elevation	485.5	m

Headwater Elevation (m)	Head @ Centroid (m)	Release Rate (m <sup>3</sup> /s)	Active Storage Available (ha.m)
485.50	0.000	0.0000	0.0000
485.90	0.400	0.0528	0.0079
486.20	0.700	0.0699	0.0150

Bottom of Pond  
100-yr max  
Top of Pond

Used Storage (Model) 0.0048 ha.m

**Pond 4**

Description	Value	Unit
Bottom of Pond	485.30	m
Top of Pond	486.60	m
Orifice Diameter	380	mm
Orifice Area	0.113	m <sup>2</sup>
Control Elevation	485.49	m

Headwater Elevation (m)	Head @ Centroid (m)	Release Rate (m <sup>3</sup> /s)	Active Storage Available (ha.m)
485.40	0.000	0.0000	0.0000
486.30	0.810	0.2713	0.0325
486.60	1.110	0.3176	0.0501

Bottom of Pond  
100-yr max  
Top of Pond

Used Storage (Model) 0.0305 ha.m

**Pond 5**

Description	Value	Unit
Bottom of Pond	485.30	m
Top of Pond	486.60	m
Orifice Diameter	350	mm
Orifice Area	0.096	m <sup>2</sup>
Control Elevation	485.475	m

Headwater Elevation (m)	Head @ Centroid (m)	Release Rate (m <sup>3</sup> /s)	Active Storage Available (ha.m)
485.40	0.000	0.0000	0.0000
486.30	0.825	0.2322	0.0379
486.60	1.125	0.2712	0.0556

Bottom of Pond  
100-yr max  
Top of Pond

Used Storage (Model) 0.0343 ha.m



**Water Quality Treatment  
Required Storage and Details**

Amaranth Subdivision  
Project #2305387  
November 2025

**Post Development Imperviousness**

Total Ditch-Controlled Area 14.33  
Total Impervious Area 1.41  
Percent Impervious 10%

**Water Quality Storage Requirements (MOE Table 3.2)**

Protection Level	SWMP Type	Storage Volume for Impervious Level (m <sup>3</sup> /ha)			Required Permanent Pool Volume (m <sup>3</sup> )
		33%	55%	10%	
Enhanced (80%)	Infiltration	25	30	19.74	282.99

**Ditch Permanent Pool:**

Length 1370.25 m  
Depth 0.17 m  
Bottom Width 0.5 m  
Side Slope 2.5 :1  
Top Width 1.35 m  
Cross-Sectional Area 0.15725 m<sup>2</sup>  
Trench Volume 215.47 m<sup>3</sup>

Filter media depth 0.3 m  
Void Ratio 0.4  
Cross-Sectional Area 0.15 m<sup>2</sup>  
Filter media Volume 82.22 m

**Total Volume 297.69 m<sup>3</sup>**

2305387

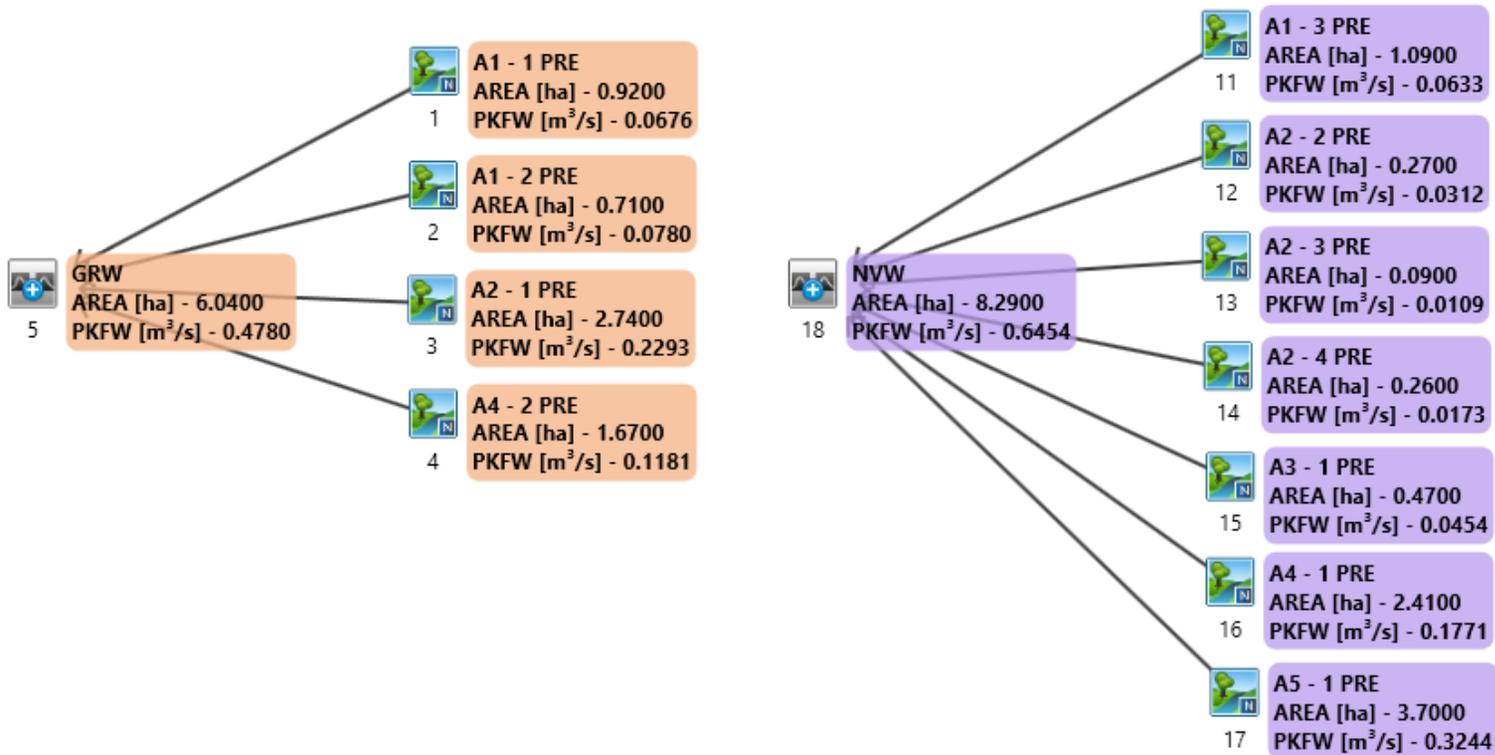
Second Line Amaranth

2 year to 100 year 24-hour SCS II Storm Event

Pre-Development Model Output

November 2025

VO6 Model Schematic



```

-----
*****
V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
VV I SSSSS UUUU A A LLLL

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

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All rights reserved.

```

\*\*\*\*\* DETAILED OUTPUT \*\*\*\*\*

```

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\lab409e4-50a2-4e65-b34c-27d782e6c09a\s
Summary filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\lab409e4-50a2-4e65-b34c-27d782e6c09a\s

```

DATE: 11/06/2025 TIME: 04:34:48

USER:

COMMENTS:

```

*****
** SIMULATION : 1 - 2yr 24hr SCS Type II **
*****

```

```

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READ STORM      Filename: C:\Users\helpen3241\AppData
                  ata\Local\Temp\
                  69675ef4-02e5-4583-91ae-f5a152bea84c\A5927b0c
Total= 43.76 mm  Comments: 2yr 24hr SCS Type II
-----

```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	6.08	0.79	12.17	6.30	18.25	0.79
0.08	0.48	6.17	0.79	12.25	6.30	18.33	0.79
0.17	0.48	6.25	0.79	12.33	6.30	18.42	0.79
0.25	0.48	6.33	0.79	12.42	6.30	18.50	0.79
0.33	0.48	6.42	0.79	12.50	6.30	18.58	0.79
0.42	0.48	6.50	0.79	12.58	3.24	18.67	0.79
0.50	0.48	6.58	0.79	12.67	3.24	18.75	0.79
0.58	0.48	6.67	0.79	12.75	3.24	18.83	0.79
0.67	0.48	6.75	0.79	12.83	3.24	18.92	0.79
0.75	0.48	6.83	0.79	12.92	3.24	19.00	0.79
0.83	0.48	6.92	0.79	13.00	3.24	19.08	0.79
0.92	0.48	7.00	0.79	13.08	2.36	19.17	0.79
1.00	0.48	7.08	0.96	13.17	2.36	19.25	0.79
1.08	0.48	7.17	0.96	13.25	2.36	19.33	0.79
1.17	0.48	7.25	0.96	13.33	2.36	19.42	0.79
1.25	0.48	7.33	0.96	13.42	2.36	19.50	0.79
1.33	0.48	7.42	0.96	13.50	2.36	19.58	0.79
1.42	0.48	7.50	0.96	13.58	1.84	19.67	0.79
1.50	0.48	7.58	0.96	13.67	1.84	19.75	0.79
1.58	0.48	7.67	0.96	13.75	1.84	19.83	0.79
1.67	0.48	7.75	0.96	13.83	1.84	19.92	0.79

1.75	0.48	7.83	0.96	13.92	1.84	20.00	0.79
1.83	0.48	7.92	0.96	14.00	1.84	20.08	0.53
1.92	0.48	8.00	0.96	14.08	1.31	20.17	0.53
2.00	0.48	8.08	1.14	14.17	1.31	20.25	0.53
2.08	0.57	8.17	1.14	14.25	1.31	20.33	0.53
2.17	0.57	8.25	1.14	14.33	1.31	20.42	0.53
2.25	0.57	8.33	1.14	14.42	1.31	20.50	0.53
2.33	0.57	8.42	1.14	14.50	1.31	20.58	0.53
2.42	0.57	8.50	1.14	14.58	1.31	20.67	0.53
2.50	0.57	8.58	1.23	14.67	1.31	20.75	0.53
2.58	0.57	8.67	1.23	14.75	1.31	20.83	0.53
2.67	0.57	8.75	1.23	14.83	1.31	20.92	0.53
2.75	0.57	8.83	1.23	14.92	1.31	21.00	0.53
2.83	0.57	8.92	1.23	15.00	1.31	21.08	0.53
2.92	0.57	9.00	1.23	15.08	1.31	21.17	0.53
3.00	0.57	9.08	1.40	15.17	1.31	21.25	0.53
3.08	0.57	9.17	1.40	15.25	1.31	21.33	0.53
3.17	0.57	9.25	1.40	15.33	1.31	21.42	0.53
3.25	0.57	9.33	1.40	15.42	1.31	21.50	0.53
3.33	0.57	9.42	1.40	15.50	1.31	21.58	0.53
3.42	0.57	9.50	1.40	15.58	1.31	21.67	0.53
3.50	0.57	9.58	1.58	15.67	1.31	21.75	0.53
3.58	0.57	9.67	1.58	15.75	1.31	21.83	0.53
3.67	0.57	9.75	1.58	15.83	1.31	21.92	0.53
3.75	0.57	9.83	1.58	15.92	1.31	22.00	0.53
3.83	0.57	9.92	1.58	16.00	1.31	22.08	0.53
3.92	0.57	10.00	1.58	16.08	0.79	22.17	0.53
4.00	0.57	10.08	2.01	16.17	0.79	22.25	0.53
4.08	0.70	10.17	2.01	16.25	0.79	22.33	0.53
4.17	0.70	10.25	2.01	16.33	0.79	22.42	0.53
4.25	0.70	10.33	2.01	16.42	0.79	22.50	0.53
4.33	0.70	10.42	2.01	16.50	0.79	22.58	0.53
4.42	0.70	10.50	2.01	16.58	0.79	22.67	0.53
4.50	0.70	10.58	2.71	16.67	0.79	22.75	0.53
4.58	0.70	10.67	2.71	16.75	0.79	22.83	0.53
4.67	0.70	10.75	2.71	16.83	0.79	22.92	0.53
4.75	0.70	10.83	2.71	16.92	0.79	23.00	0.53
4.83	0.70	10.92	2.71	17.00	0.79	23.08	0.53
4.92	0.70	11.00	2.71	17.08	0.79	23.17	0.53
5.00	0.70	11.08	4.20	17.17	0.79	23.25	0.53
5.08	0.70	11.17	4.20	17.25	0.79	23.33	0.53
5.17	0.70	11.25	4.20	17.33	0.79	23.42	0.53
5.25	0.70	11.33	4.20	17.42	0.79	23.50	0.53
5.33	0.70	11.42	4.20	17.50	0.79	23.58	0.53
5.42	0.70	11.50	4.20	17.58	0.79	23.67	0.53
5.50	0.70	11.58	12.95	17.67	0.79	23.75	0.53
5.58	0.70	11.67	12.95	17.75	0.79	23.83	0.53
5.67	0.70	11.75	12.95	17.83	0.79	23.92	0.53
5.75	0.70	11.83	53.56	17.92	0.79	24.00	0.53
5.83	0.70	11.92	53.56	18.00	0.79		
5.92	0.70	12.00	53.56	18.08	0.79		
6.00	0.70	12.08	6.30	18.17	0.79		

```

-----
CALIB
NASHYD ( 0011) Area (ha)= 1.09 Curve Number (CN)= 69.0
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
U.H. Tp (hrs)= 0.51
-----

```

```

Unit Hyd Qpeak (cms)= 0.082
PEAK FLOW (cms)= 0.013 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 9.826
TOTAL RAINFALL (mm)= 43.760
RUNOFF COEFFICIENT = 0.225
(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----

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CALIB NASHYD ( 0012) ID= 1 DT= 5.0 min	Area (ha)= 0.27 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.19	Curve Number (CN)= 69.0 # of Linear Res. (N)= 3.00
--	--	---

Unit Hyd Qpeak (cms)= 0.054

PEAK FLOW (cms)= 0.007 (i)  
TIME TO PEAK (hrs)= 12.167  
RUNOFF VOLUME (mm)= 9.803  
TOTAL RAINFALL (mm)= 43.760  
RUNOFF COEFFICIENT = 0.224

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD ( 0013) ID= 1 DT= 5.0 min	Area (ha)= 0.09 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.17	Curve Number (CN)= 69.0 # of Linear Res. (N)= 3.00
--	--	---

Unit Hyd Qpeak (cms)= 0.020

PEAK FLOW (cms)= 0.002 (i)  
TIME TO PEAK (hrs)= 12.167  
RUNOFF VOLUME (mm)= 9.788  
TOTAL RAINFALL (mm)= 43.760  
RUNOFF COEFFICIENT = 0.224

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD ( 0014) ID= 1 DT= 5.0 min	Area (ha)= 0.26 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.42	Curve Number (CN)= 69.0 # of Linear Res. (N)= 3.00
--	--	---

Unit Hyd Qpeak (cms)= 0.024

PEAK FLOW (cms)= 0.004 (i)  
TIME TO PEAK (hrs)= 12.417  
RUNOFF VOLUME (mm)= 9.822  
TOTAL RAINFALL (mm)= 43.760  
RUNOFF COEFFICIENT = 0.224

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD ( 0015) ID= 1 DT= 5.0 min	Area (ha)= 0.47 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.25	Curve Number (CN)= 69.0 # of Linear Res. (N)= 3.00
--	--	---

Unit Hyd Qpeak (cms)= 0.072

PEAK FLOW (cms)= 0.010 (i)  
TIME TO PEAK (hrs)= 12.167  
RUNOFF VOLUME (mm)= 9.818  
TOTAL RAINFALL (mm)= 43.760  
RUNOFF COEFFICIENT = 0.224

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD ( 0016) ID= 1 DT= 5.0 min	Area (ha)= 2.41 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.37	Curve Number (CN)= 69.0 # of Linear Res. (N)= 3.00
--	--	---

Unit Hyd Qpeak (cms)= 0.249

PEAK FLOW (cms)= 0.037 (i)  
TIME TO PEAK (hrs)= 12.333  
RUNOFF VOLUME (mm)= 9.825  
TOTAL RAINFALL (mm)= 43.760  
RUNOFF COEFFICIENT = 0.225

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD ( 0017) ID= 1 DT= 5.0 min	Area (ha)= 3.70 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.29	Curve Number (CN)= 69.0 # of Linear Res. (N)= 3.00
--	--	---

Unit Hyd Qpeak (cms)= 0.487

PEAK FLOW (cms)= 0.069 (i)  
TIME TO PEAK (hrs)= 12.250  
RUNOFF VOLUME (mm)= 9.823  
TOTAL RAINFALL (mm)= 43.760  
RUNOFF COEFFICIENT = 0.224

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0018) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0011):	1.09	0.013	12.50	9.83
+ ID2= 2 ( 0012):	0.27	0.007	12.17	9.80
ID = 3 ( 0018):	1.36	0.017	12.33	9.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018) 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0018):	1.36	0.017	12.33	9.82
+ ID2= 2 ( 0013):	0.09	0.002	12.17	9.79
ID = 1 ( 0018):	1.45	0.018	12.25	9.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0018):	1.45	0.018	12.25	9.82
+ ID2= 2 ( 0014):	0.26	0.004	12.42	9.82
ID = 3 ( 0018):	1.71	0.022	12.25	9.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018) 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0018):	1.71	0.022	12.25	9.82
+ ID2= 2 ( 0015):	0.47	0.010	12.17	9.82
ID = 1 ( 0018):	2.18	0.031	12.25	9.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018 ) 1 + 2 = 3				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0018 ):	2.18	0.031	12.25	9.82
+ ID2= 2 ( 0016 ):	2.41	0.037	12.33	9.83
-----				
ID = 3 ( 0018 ):	4.59	0.067	12.33	9.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018 ) 3 + 2 = 1				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0018 ):	4.59	0.067	12.33	9.82
+ ID2= 2 ( 0017 ):	3.70	0.069	12.25	9.82
-----				
ID = 1 ( 0018 ):	8.29	0.136	12.25	9.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD ( 0002 ) ID= 1 DT= 5.0 min				
Area	(ha)	QPEAK	TPEAK	R.V.
0.71				Curve Number (CN) = 69.0
5.00				# of Linear Res. (N) = 3.00
0.21				U.H. Tp (hrs) =

Unit Hyd Qpeak (cms) = 0.129

PEAK FLOW (cms) = 0.017 (i)  
 TIME TO PEAK (hrs) = 12.167  
 RUNOFF VOLUME (mm) = 9.811  
 TOTAL RAINFALL (mm) = 43.760  
 RUNOFF COEFFICIENT = 0.224

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD ( 0001 ) ID= 1 DT= 5.0 min				
Area	(ha)	QPEAK	TPEAK	R.V.
0.92				Curve Number (CN) = 69.0
5.00				# of Linear Res. (N) = 3.00
0.37				U.H. Tp (hrs) =

Unit Hyd Qpeak (cms) = 0.095

PEAK FLOW (cms) = 0.014 (i)  
 TIME TO PEAK (hrs) = 12.333  
 RUNOFF VOLUME (mm) = 9.825  
 TOTAL RAINFALL (mm) = 43.760  
 RUNOFF COEFFICIENT = 0.225

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD ( 0004 ) ID= 1 DT= 5.0 min				
Area	(ha)	QPEAK	TPEAK	R.V.
1.67				Curve Number (CN) = 69.0
5.00				# of Linear Res. (N) = 3.00
0.39				U.H. Tp (hrs) =

Unit Hyd Qpeak (cms) = 0.164

PEAK FLOW (cms) = 0.025 (i)  
 TIME TO PEAK (hrs) = 12.333  
 RUNOFF VOLUME (mm) = 9.825  
 TOTAL RAINFALL (mm) = 43.760

RUNOFF COEFFICIENT = 0.225

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD ( 0003 ) ID= 1 DT= 5.0 min				
Area	(ha)	QPEAK	TPEAK	R.V.
2.74				Curve Number (CN) = 69.0
5.00				# of Linear Res. (N) = 3.00
0.31				U.H. Tp (hrs) =

Unit Hyd Qpeak (cms) = 0.338

PEAK FLOW (cms) = 0.048 (i)  
 TIME TO PEAK (hrs) = 12.250  
 RUNOFF VOLUME (mm) = 9.824  
 TOTAL RAINFALL (mm) = 43.760  
 RUNOFF COEFFICIENT = 0.224

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0005 ) 1 + 2 = 3				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0001 ):	0.92	0.014	12.33	9.82
+ ID2= 2 ( 0002 ):	0.71	0.017	12.17	9.81
-----				
ID = 3 ( 0005 ):	1.63	0.029	12.25	9.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0005 ) 3 + 2 = 1				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0005 ):	1.63	0.029	12.25	9.82
+ ID2= 2 ( 0003 ):	2.74	0.048	12.25	9.82
-----				
ID = 1 ( 0005 ):	4.37	0.077	12.25	9.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0005 ) 1 + 2 = 3				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0005 ):	4.37	0.077	12.25	9.82
+ ID2= 2 ( 0004 ):	1.67	0.025	12.33	9.83
-----				
ID = 3 ( 0005 ):	6.04	0.100	12.25	9.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL
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OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO
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\*\*\*\*\* DETAILED OUTPUT \*\*\*\*\*

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat  
 Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\6c93d4bb-8074-418f-b234-8281ebef8dd0\s  
 Summary filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\6c93d4bb-8074-418f-b234-8281ebef8dd0\s

DATE: 11/06/2025 TIME: 04:34:49

USER:

COMMENTS:

\*\*\*\*\*  
 \*\* SIMULATION : 2 - 5yr 24hr SCS Type II \*\*  
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 READ STORM Filename: C:\Users\helpen3241\AppData\Local\Temp\69675ef4-02e5-4583-91ae-f5a152bea84c\abdee576  
 Ptotal= 63.63 mm Comments: 5yr 24hr SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	6.08	1.15	12.17	9.16	18.25	1.15
0.08	0.70	6.17	1.15	12.25	9.16	18.33	1.15
0.17	0.70	6.25	1.15	12.33	9.16	18.42	1.15
0.25	0.70	6.33	1.15	12.42	9.16	18.50	1.15
0.33	0.70	6.42	1.15	12.50	9.16	18.58	1.15
0.42	0.70	6.50	1.15	12.58	4.71	18.67	1.15
0.50	0.70	6.58	1.15	12.67	4.71	18.75	1.15
0.58	0.70	6.67	1.15	12.75	4.71	18.83	1.15
0.67	0.70	6.75	1.15	12.83	4.71	18.92	1.15
0.75	0.70	6.83	1.15	12.92	4.71	19.00	1.15
0.83	0.70	6.92	1.15	13.00	4.71	19.08	1.15
0.92	0.70	7.00	1.15	13.08	3.44	19.17	1.15
1.00	0.70	7.08	1.40	13.17	3.44	19.25	1.15
1.08	0.70	7.17	1.40	13.25	3.44	19.33	1.15
1.17	0.70	7.25	1.40	13.33	3.44	19.42	1.15
1.25	0.70	7.33	1.40	13.42	3.44	19.50	1.15
1.33	0.70	7.42	1.40	13.50	3.44	19.58	1.15
1.42	0.70	7.50	1.40	13.58	2.67	19.67	1.15
1.50	0.70	7.58	1.40	13.67	2.67	19.75	1.15
1.58	0.70	7.67	1.40	13.75	2.67	19.83	1.15
1.67	0.70	7.75	1.40	13.83	2.67	19.92	1.15
1.75	0.70	7.83	1.40	13.92	2.67	20.00	1.15
1.83	0.70	7.92	1.40	14.00	2.67	20.08	0.76
1.92	0.70	8.00	1.40	14.08	1.91	20.17	0.76
2.00	0.70	8.08	1.65	14.17	1.91	20.25	0.76
2.08	0.83	8.17	1.65	14.25	1.91	20.33	0.76
2.17	0.83	8.25	1.65	14.33	1.91	20.42	0.76
2.25	0.83	8.33	1.65	14.42	1.91	20.50	0.76
2.33	0.83	8.42	1.65	14.50	1.91	20.58	0.76
2.42	0.83	8.50	1.65	14.58	1.91	20.67	0.76
2.50	0.83	8.58	1.78	14.67	1.91	20.75	0.76
2.58	0.83	8.67	1.78	14.75	1.91	20.83	0.76
2.67	0.83	8.75	1.78	14.83	1.91	20.92	0.76
2.75	0.83	8.83	1.78	14.92	1.91	21.00	0.76
2.83	0.83	8.92	1.78	15.00	1.91	21.08	0.76
2.92	0.83	9.00	1.78	15.08	1.91	21.17	0.76

3.00	0.83	9.08	2.04	15.17	1.91	21.25	0.76
3.08	0.83	9.17	2.04	15.25	1.91	21.33	0.76
3.17	0.83	9.25	2.04	15.33	1.91	21.42	0.76
3.25	0.83	9.33	2.04	15.42	1.91	21.50	0.76
3.33	0.83	9.42	2.04	15.50	1.91	21.58	0.76
3.42	0.83	9.50	2.04	15.58	1.91	21.67	0.76
3.50	0.83	9.58	2.29	15.67	1.91	21.75	0.76
3.58	0.83	9.67	2.29	15.75	1.91	21.83	0.76
3.67	0.83	9.75	2.29	15.83	1.91	21.92	0.76
3.75	0.83	9.83	2.29	15.92	1.91	22.00	0.76
3.83	0.83	9.92	2.29	16.00	1.91	22.08	0.76
3.92	0.83	10.00	2.29	16.08	1.15	22.17	0.76
4.00	0.83	10.08	2.93	16.17	1.15	22.25	0.76
4.08	1.02	10.17	2.93	16.25	1.15	22.33	0.76
4.17	1.02	10.25	2.93	16.33	1.15	22.42	0.76
4.25	1.02	10.33	2.93	16.42	1.15	22.50	0.76
4.33	1.02	10.42	2.93	16.50	1.15	22.58	0.76
4.42	1.02	10.50	2.93	16.58	1.15	22.67	0.76
4.50	1.02	10.58	3.95	16.67	1.15	22.75	0.76
4.58	1.02	10.67	3.95	16.75	1.15	22.83	0.76
4.67	1.02	10.75	3.95	16.83	1.15	22.92	0.76
4.75	1.02	10.83	3.95	16.92	1.15	23.00	0.76
4.83	1.02	10.92	3.95	17.00	1.15	23.08	0.76
4.92	1.02	11.00	3.95	17.08	1.15	23.17	0.76
5.00	1.02	11.08	6.11	17.17	1.15	23.25	0.76
5.08	1.02	11.17	6.11	17.25	1.15	23.33	0.76
5.17	1.02	11.25	6.11	17.33	1.15	23.42	0.76
5.25	1.02	11.33	6.11	17.42	1.15	23.50	0.76
5.33	1.02	11.42	6.11	17.50	1.15	23.58	0.76
5.42	1.02	11.50	6.11	17.58	1.15	23.67	0.76
5.50	1.02	11.58	18.83	17.67	1.15	23.75	0.76
5.58	1.02	11.67	18.83	17.75	1.15	23.83	0.76
5.67	1.02	11.75	18.83	17.83	1.15	23.92	0.76
5.75	1.02	11.83	77.88	17.92	1.15	24.00	0.76
5.83	1.02	11.92	77.88	18.00	1.15		
5.92	1.02	12.00	77.88	18.08	1.15		
6.00	1.02	12.08	9.16	18.17	1.15		

-----  
 CALIB  
 NASHYD ( 0011) Area (ha)= 1.09 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp (hrs)= 0.51

Unit Hyd Opeak (cms)= 0.082

PEAK FLOW (cms)= 0.028 (1)  
 TIME TO PEAK (hrs)= 12.500  
 RUNOFF VOLUME (mm)= 19.897  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.313

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-----  
 CALIB  
 NASHYD ( 0012) Area (ha)= 0.27 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp (hrs)= 0.19

Unit Hyd Opeak (cms)= 0.054

PEAK FLOW (cms)= 0.014 (1)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 19.851  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.312

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0013) Area (ha)= 0.09 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.17

Unit Hyd Qpeak (cms)= 0.020

PEAK FLOW (cms)= 0.005 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 19.825  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.312

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0014) Area (ha)= 0.26 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.42

Unit Hyd Qpeak (cms)= 0.024

PEAK FLOW (cms)= 0.008 (i)  
 TIME TO PEAK (hrs)= 12.417  
 RUNOFF VOLUME (mm)= 19.893  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.313

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0015) Area (ha)= 0.47 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.25

Unit Hyd Qpeak (cms)= 0.072

PEAK FLOW (cms)= 0.020 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 19.882  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.312

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0016) Area (ha)= 2.41 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.37

Unit Hyd Qpeak (cms)= 0.249

PEAK FLOW (cms)= 0.078 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 19.895  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.313

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0017) Area (ha)= 3.70 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00

U.H. Tp(hrs)= 0.29

Unit Hyd Qpeak (cms)= 0.487

PEAK FLOW (cms)= 0.143 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 19.890  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.313

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 ( 0011):	1.09	0.028	12.50	19.90
+ ID2= 2 ( 0012):	0.27	0.014	12.17	19.85
ID = 3 ( 0018):	1.36	0.035	12.33	19.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 ( 0018):	1.36	0.035	12.33	19.89
+ ID2= 2 ( 0013):	0.09	0.005	12.17	19.82
ID = 1 ( 0018):	1.45	0.038	12.25	19.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 ( 0018):	1.45	0.038	12.25	19.88
+ ID2= 2 ( 0014):	0.26	0.008	12.42	19.89
ID = 3 ( 0018):	1.71	0.045	12.25	19.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 ( 0018):	1.71	0.045	12.25	19.89
+ ID2= 2 ( 0015):	0.47	0.020	12.17	19.88
ID = 1 ( 0018):	2.18	0.065	12.25	19.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 ( 0018):	2.18	0.065	12.25	19.88
+ ID2= 2 ( 0016):	2.41	0.078	12.33	19.90
ID = 3 ( 0018):	4.59	0.140	12.33	19.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)	AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1	(ha)	(cms)	(hrs)	(mm)
ID1= 3 ( 0018):	4.59	0.140	12.33	19.89
+ ID2= 2 ( 0017):	3.70	0.143	12.25	19.89
ID = 1 ( 0018):	8.29	0.283	12.25	19.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area	(ha)	0.71	Curve Number (CN)= 69.0
NASHYD ( 0002)	Ia	(mm)=	5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	U.H. Tp	(hrs)=	0.21	

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.034 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 19.867  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.312

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	Area	(ha)	0.92	Curve Number (CN)= 69.0
NASHYD ( 0001)	Ia	(mm)=	5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	U.H. Tp	(hrs)=	0.37	

Unit Hyd Qpeak (cms)= 0.095

PEAK FLOW (cms)= 0.030 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 19.895  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.313

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	Area	(ha)	1.67	Curve Number (CN)= 69.0
NASHYD ( 0004)	Ia	(mm)=	5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	U.H. Tp	(hrs)=	0.39	

Unit Hyd Qpeak (cms)= 0.164

PEAK FLOW (cms)= 0.052 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 19.896  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.313

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	Area	(ha)	2.74	Curve Number (CN)= 69.0
NASHYD ( 0003)	Ia	(mm)=	5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	U.H. Tp	(hrs)=	0.31	

Unit Hyd Qpeak (cms)= 0.338

PEAK FLOW (cms)= 0.100 (i)  
 TIME TO PEAK (hrs)= 12.250

RUNOFF VOLUME (mm)= 19.892  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.313

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0005)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 ( 0001):	0.92	0.030	12.33	19.89
+ ID2= 2 ( 0002):	0.71	0.034	12.17	19.87
ID = 3 ( 0005):	1.63	0.060	12.25	19.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0005)	AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1	(ha)	(cms)	(hrs)	(mm)
ID1= 3 ( 0005):	1.63	0.060	12.25	19.88
+ ID2= 2 ( 0003):	2.74	0.100	12.25	19.89
ID = 1 ( 0005):	4.37	0.160	12.25	19.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0005)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 ( 0005):	4.37	0.160	12.25	19.89
+ ID2= 2 ( 0004):	1.67	0.052	12.33	19.90
ID = 3 ( 0005):	6.04	0.209	12.25	19.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V V I SSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSS UUUU A A LLLLL
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OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO
```

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\*\*\*\*\* D E T A I L E D O U T P U T \*\*\*\*\*

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat  
 Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\5b19c487-cbed-4d8f-93ec-dd45c3b1795c\Summary filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\5b19c487-cbed-4d8f-93ec-dd45c3b1795c\

DATE: 11/06/2025

TIME: 04:34:49



(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD ( 0014)	Area (ha)=	0.26	Curve Number (CN)=	69.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)=	3.00
	U.H. Tp(hrs)=	0.42		

Unit Hyd Qpeak (cms)= 0.024

PEAK FLOW (cms)= 0.009 (i)  
 TIME TO PEAK (hrs)= 12.417  
 RUNOFF VOLUME (mm)= 24.616  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD ( 0015)	Area (ha)=	0.47	Curve Number (CN)=	69.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)=	3.00
	U.H. Tp(hrs)=	0.25		

Unit Hyd Qpeak (cms)= 0.072

PEAK FLOW (cms)= 0.025 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 24.602  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD ( 0016)	Area (ha)=	2.41	Curve Number (CN)=	69.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)=	3.00
	U.H. Tp(hrs)=	0.37		

Unit Hyd Qpeak (cms)= 0.249

PEAK FLOW (cms)= 0.097 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 24.618  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD ( 0017)	Area (ha)=	3.70	Curve Number (CN)=	69.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)=	3.00
	U.H. Tp(hrs)=	0.29		

Unit Hyd Qpeak (cms)= 0.487

PEAK FLOW (cms)= 0.178 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 24.612  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0018)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0011):	1.09	0.035	12.50	24.62
+ ID2= 2 ( 0012):	0.27	0.017	12.17	24.56
ID = 3 ( 0018):	1.36	0.043	12.33	24.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0018):	1.36	0.043	12.33	24.61
+ ID2= 2 ( 0013):	0.09	0.006	12.17	24.53
ID = 1 ( 0018):	1.45	0.048	12.25	24.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0018):	1.45	0.048	12.25	24.60
+ ID2= 2 ( 0014):	0.26	0.009	12.42	24.62
ID = 3 ( 0018):	1.71	0.057	12.25	24.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0018):	1.71	0.057	12.25	24.61
+ ID2= 2 ( 0015):	0.47	0.025	12.17	24.60
ID = 1 ( 0018):	2.18	0.081	12.25	24.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0018):	2.18	0.081	12.25	24.61
+ ID2= 2 ( 0016):	2.41	0.097	12.33	24.62
ID = 3 ( 0018):	4.59	0.175	12.25	24.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0018):	4.59	0.175	12.25	24.61
+ ID2= 2 ( 0017):	3.70	0.178	12.25	24.61
ID = 1 ( 0018):	8.29	0.352	12.25	24.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD ( 0002)	Area (ha)=	0.71	Curve Number (CN)=	69.0



ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.21

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.043 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 24.583  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0001) Area (ha)= 0.92 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.37

Unit Hyd Qpeak (cms)= 0.095

PEAK FLOW (cms)= 0.037 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 24.617  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0004) Area (ha)= 1.67 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.39

Unit Hyd Qpeak (cms)= 0.164

PEAK FLOW (cms)= 0.064 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 24.619  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0003) Area (ha)= 2.74 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.31

Unit Hyd Qpeak (cms)= 0.338

PEAK FLOW (cms)= 0.125 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 24.614  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0005)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 ( 0001):	0.92	0.037	12.33	24.62
+ ID2= 2 ( 0002):	0.71	0.043	12.17	24.58

ID = 3 ( 0005): 1.63 0.074 12.25 24.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0005)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 ( 0005):	1.63	0.074	12.25	24.60
+ ID2= 2 ( 0003):	2.74	0.125	12.25	24.61
ID = 1 ( 0005):	4.37	0.200	12.25	24.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0005)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 ( 0005):	4.37	0.200	12.25	24.61
+ ID2= 2 ( 0004):	1.67	0.064	12.33	24.62
ID = 3 ( 0005):	6.04	0.261	12.25	24.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V V I SSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
VV I SSSS UUUU A A LLLL
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OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO
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\*\*\*\*\* D E T A I L E D O U T P U T \*\*\*\*\*

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat  
 Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\57443453-34a6-4345-aa6f-8995386e828a\s  
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DATE: 11/06/2025 TIME: 04:34:49

USER:

COMMENTS:

\*\*\*\*\*  
 \*\* SIMULATION : 4 - 25yr 24hr 5min SCS Type I \*\*  
 \*\*\*\*\*



READ STORM      Filename: C:\Users\helpen3241\AppData  
 ata\Local\Temp\  
 69675ef4-02e5-4583-91ae-f5a152bea84c\b2b5eb74  
 Total= 84.55 mm      Comments: 25yr 24hr 5min SCS Type II (MTO)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.08	1.52	12.17	12.18	18.25	1.52
0.08	0.93	6.17	1.52	12.25	12.18	18.33	1.52
0.17	0.93	6.25	1.52	12.33	12.18	18.42	1.52
0.25	0.93	6.33	1.52	12.42	12.18	18.50	1.52
0.33	0.93	6.42	1.52	12.50	12.18	18.58	1.52
0.42	0.93	6.50	1.52	12.58	6.26	18.67	1.52
0.50	0.93	6.58	1.52	12.67	6.26	18.75	1.52
0.58	0.93	6.67	1.52	12.75	6.26	18.83	1.52
0.67	0.93	6.75	1.52	12.83	6.26	18.92	1.52
0.75	0.93	6.83	1.52	12.92	6.26	19.00	1.52
0.83	0.93	6.92	1.52	13.00	6.26	19.08	1.52
0.92	0.93	7.00	1.52	13.08	4.57	19.17	1.52
1.00	0.93	7.08	1.86	13.17	4.57	19.25	1.52
1.08	0.93	7.17	1.86	13.25	4.57	19.33	1.52
1.17	0.93	7.25	1.86	13.33	4.57	19.42	1.52
1.25	0.93	7.33	1.86	13.42	4.57	19.50	1.52
1.33	0.93	7.42	1.86	13.50	4.57	19.58	1.52
1.42	0.93	7.50	1.86	13.58	3.55	19.67	1.52
1.50	0.93	7.58	1.86	13.67	3.55	19.75	1.52
1.58	0.93	7.67	1.86	13.75	3.55	19.83	1.52
1.67	0.93	7.75	1.86	13.83	3.55	19.92	1.52
1.75	0.93	7.83	1.86	13.92	3.55	20.00	1.52
1.83	0.93	7.92	1.86	14.00	3.55	20.08	1.01
1.92	0.93	8.00	1.86	14.08	2.54	20.17	1.01
2.00	0.93	8.08	2.20	14.17	2.54	20.25	1.01
2.08	1.10	8.17	2.20	14.25	2.54	20.33	1.01
2.17	1.10	8.25	2.20	14.33	2.54	20.42	1.01
2.25	1.10	8.33	2.20	14.42	2.54	20.50	1.01
2.33	1.10	8.42	2.20	14.50	2.54	20.58	1.01
2.42	1.10	8.50	2.20	14.58	2.54	20.67	1.01
2.50	1.10	8.58	2.37	14.67	2.54	20.75	1.01
2.58	1.10	8.67	2.37	14.75	2.54	20.83	1.01
2.67	1.10	8.75	2.37	14.83	2.54	20.92	1.01
2.75	1.10	8.83	2.37	14.92	2.54	21.00	1.01
2.83	1.10	8.92	2.37	15.00	2.54	21.08	1.01
2.92	1.10	9.00	2.37	15.08	2.54	21.17	1.01
3.00	1.10	9.08	2.71	15.17	2.54	21.25	1.01
3.08	1.10	9.17	2.71	15.25	2.54	21.33	1.01
3.17	1.10	9.25	2.71	15.33	2.54	21.42	1.01
3.25	1.10	9.33	2.71	15.42	2.54	21.50	1.01
3.33	1.10	9.42	2.71	15.50	2.54	21.58	1.01
3.42	1.10	9.50	2.71	15.58	2.54	21.67	1.01
3.50	1.10	9.58	3.04	15.67	2.54	21.75	1.01
3.58	1.10	9.67	3.04	15.75	2.54	21.83	1.01
3.67	1.10	9.75	3.04	15.83	2.54	21.92	1.01
3.75	1.10	9.83	3.04	15.92	2.54	22.00	1.01
3.83	1.10	9.92	3.04	16.00	2.54	22.08	1.01
3.92	1.10	10.00	3.04	16.08	1.52	22.17	1.01
4.00	1.10	10.08	3.89	16.17	1.52	22.25	1.01
4.08	1.35	10.17	3.89	16.25	1.52	22.33	1.01
4.17	1.35	10.25	3.89	16.33	1.52	22.42	1.01
4.25	1.35	10.33	3.89	16.42	1.52	22.50	1.01
4.33	1.35	10.42	3.89	16.50	1.52	22.58	1.01
4.42	1.35	10.50	3.89	16.58	1.52	22.67	1.01
4.50	1.35	10.58	5.24	16.67	1.52	22.75	1.01
4.58	1.35	10.67	5.24	16.75	1.52	22.83	1.01
4.67	1.35	10.75	5.24	16.83	1.52	22.92	1.01
4.75	1.35	10.83	5.24	16.92	1.52	23.00	1.01
4.83	1.35	10.92	5.24	17.00	1.52	23.08	1.01
4.92	1.35	11.00	5.24	17.08	1.52	23.17	1.01
5.00	1.35	11.08	8.12	17.17	1.52	23.25	1.01
5.08	1.35	11.17	8.12	17.25	1.52	23.33	1.01
5.17	1.35	11.25	8.12	17.33	1.52	23.42	1.01
5.25	1.35	11.33	8.12	17.42	1.52	23.50	1.01
5.33	1.35	11.42	8.12	17.50	1.52	23.58	1.01
5.42	1.35	11.50	8.12	17.58	1.52	23.67	1.01

5.50	1.35	11.58	25.03	17.67	1.52	23.75	1.01
5.58	1.35	11.67	25.03	17.75	1.52	23.83	1.01
5.67	1.35	11.75	25.03	17.83	1.52	23.92	1.01
5.75	1.35	11.83	103.49	17.92	1.52	24.00	1.01
5.83	1.35	11.92	103.49	18.00	1.52		
5.92	1.35	12.00	103.49	18.08	1.52		
6.00	1.35	12.08	12.18	18.17	1.52		

CALIB  
 NASHYD ( 0011)      Area (ha)= 1.09      Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min      Ia (mm)= 5.00      # of Linear Res.(N)= 3.00  
    U.H. Tp(hrs)= 0.51

Unit Hyd Qpeak (cms)= 0.082

PEAK FLOW (cms)= 0.046 (i)  
 TIME TO PEAK (hrs)= 12.500  
 RUNOFF VOLUME (mm)= 32.673  
 TOTAL RAINFALL (mm)= 84.550  
 RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0012)      Area (ha)= 0.27      Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min      Ia (mm)= 5.00      # of Linear Res.(N)= 3.00  
    U.H. Tp(hrs)= 0.19

Unit Hyd Qpeak (cms)= 0.054

PEAK FLOW (cms)= 0.023 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 32.599  
 TOTAL RAINFALL (mm)= 84.550  
 RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0013)      Area (ha)= 0.09      Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min      Ia (mm)= 5.00      # of Linear Res.(N)= 3.00  
    U.H. Tp(hrs)= 0.17

Unit Hyd Qpeak (cms)= 0.020

PEAK FLOW (cms)= 0.008 (i)  
 TIME TO PEAK (hrs)= 12.083  
 RUNOFF VOLUME (mm)= 32.554  
 TOTAL RAINFALL (mm)= 84.550  
 RUNOFF COEFFICIENT = 0.385

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0014)      Area (ha)= 0.26      Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min      Ia (mm)= 5.00      # of Linear Res.(N)= 3.00  
    U.H. Tp(hrs)= 0.42

Unit Hyd Qpeak (cms)= 0.024

PEAK FLOW (cms)= 0.013 (i)  
 TIME TO PEAK (hrs)= 12.417  
 RUNOFF VOLUME (mm)= 32.669  
 TOTAL RAINFALL (mm)= 84.550



RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD ( 0015)	Area (ha)=	0.47	Curve Number (CN)=	69.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)=	3.00
	U.H. Tp (hrs)=	0.25		

Unit Hyd Qpeak (cms)= 0.072

PEAK FLOW (cms)= 0.033 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 32.649  
 TOTAL RAINFALL (mm)= 84.550  
 RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD ( 0016)	Area (ha)=	2.41	Curve Number (CN)=	69.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)=	3.00
	U.H. Tp (hrs)=	0.37		

Unit Hyd Qpeak (cms)= 0.249

PEAK FLOW (cms)= 0.130 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 32.670  
 TOTAL RAINFALL (mm)= 84.550  
 RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD ( 0017)	Area (ha)=	3.70	Curve Number (CN)=	69.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)=	3.00
	U.H. Tp (hrs)=	0.29		

Unit Hyd Qpeak (cms)= 0.487

PEAK FLOW (cms)= 0.238 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 32.661  
 TOTAL RAINFALL (mm)= 84.550  
 RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0018)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0011):	1.09	0.046	12.50	32.67
+ ID2= 2 ( 0012):	0.27	0.023	12.17	32.60
ID = 3 ( 0018):	1.36	0.058	12.33	32.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 3 ( 0018):	1.36	0.058	12.33	32.66
+ ID2= 2 ( 0013):	0.09	0.008	12.08	32.55
ID = 1 ( 0018):	1.45	0.064	12.25	32.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0018):	1.45	0.064	12.25	32.65
+ ID2= 2 ( 0014):	0.26	0.013	12.42	32.67
ID = 3 ( 0018):	1.71	0.076	12.25	32.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0018):	1.71	0.076	12.25	32.65
+ ID2= 2 ( 0015):	0.47	0.033	12.17	32.65
ID = 1 ( 0018):	2.18	0.109	12.25	32.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0018):	2.18	0.109	12.25	32.65
+ ID2= 2 ( 0016):	2.41	0.130	12.33	32.67
ID = 3 ( 0018):	4.59	0.235	12.25	32.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0018):	4.59	0.235	12.25	32.66
+ ID2= 2 ( 0017):	3.70	0.238	12.25	32.66
ID = 1 ( 0018):	8.29	0.472	12.25	32.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD ( 0002)	Area (ha)=	0.71	Curve Number (CN)=	69.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)=	3.00
	U.H. Tp (hrs)=	0.21		

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.057 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 32.624  
 TOTAL RAINFALL (mm)= 84.550  
 RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.



CALIB  
 NASHYD ( 0001) Area (ha)= 0.92 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.37

Unit Hyd Qpeak (cms)= 0.095  
 PEAK FLOW (cms)= 0.049 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 32.670  
 TOTAL RAINFALL (mm)= 84.550  
 RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0004) Area (ha)= 1.67 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.39

Unit Hyd Qpeak (cms)= 0.164  
 PEAK FLOW (cms)= 0.086 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 32.671  
 TOTAL RAINFALL (mm)= 84.550  
 RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0003) Area (ha)= 2.74 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.31

Unit Hyd Qpeak (cms)= 0.338  
 PEAK FLOW (cms)= 0.168 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 32.665  
 TOTAL RAINFALL (mm)= 84.550  
 RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0005)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 ( 0001):	0.92	0.049	12.33	32.67
+ ID2= 2 ( 0002):	0.71	0.057	12.17	32.62
ID = 3 ( 0005):	1.63	0.099	12.25	32.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0005)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 ( 0005):	1.63	0.099	12.25	32.65
+ ID2= 2 ( 0003):	2.74	0.168	12.25	32.66
ID = 1 ( 0005):	4.37	0.267	12.25	32.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0005)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 ( 0005):	4.37	0.267	12.25	32.66
+ ID2= 2 ( 0004):	1.67	0.086	12.33	32.67
ID = 3 ( 0005):	6.04	0.350	12.25	32.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO
    
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\*\*\*\*\* D E T A I L E D O U T P U T \*\*\*\*\*

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 Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\cbedaab6-4f4f-4bb9-8168-b68c0c5709e2\s  
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DATE: 11/06/2025 TIME: 04:34:49  
 USER:

COMMENTS: \_\_\_\_\_

\*\*\*\*\*  
 \*\* SIMULATION : 5 - 50yr 24hr SCS Type II \*\*  
 \*\*\*\*\*

READ STORM	Filename:
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	Comments: 50yr 24hr SCS Type II

TIME hrs	RAIN mm/hr						
0.00	0.00	6.08	1.67	12.17	13.32	18.25	1.67
0.08	1.02	6.17	1.67	12.25	13.32	18.33	1.67
0.17	1.02	6.25	1.67	12.33	13.32	18.42	1.67
0.25	1.02	6.33	1.67	12.42	13.32	18.50	1.67
0.33	1.02	6.42	1.67	12.50	13.32	18.58	1.67
0.42	1.02	6.50	1.67	12.58	6.85	18.67	1.67
0.50	1.02	6.58	1.67	12.67	6.85	18.75	1.67
0.58	1.02	6.67	1.67	12.75	6.85	18.83	1.67



0.67	1.02	6.75	1.67	12.83	6.85	18.92	1.67
0.75	1.02	6.83	1.67	12.92	6.85	19.00	1.67
0.83	1.02	6.92	1.67	13.00	6.85	19.08	1.67
0.92	1.02	7.00	1.67	13.08	5.00	19.17	1.67
1.00	1.02	7.08	2.04	13.17	5.00	19.25	1.67
1.08	1.02	7.17	2.04	13.25	5.00	19.33	1.67
1.17	1.02	7.25	2.04	13.33	5.00	19.42	1.67
1.25	1.02	7.33	2.04	13.42	5.00	19.50	1.67
1.33	1.02	7.42	2.04	13.50	5.00	19.58	1.67
1.42	1.02	7.50	2.04	13.58	3.89	19.67	1.67
1.50	1.02	7.58	2.04	13.67	3.89	19.75	1.67
1.58	1.02	7.67	2.04	13.75	3.89	19.83	1.67
1.67	1.02	7.75	2.04	13.83	3.89	19.92	1.67
1.75	1.02	7.83	2.04	13.92	3.89	20.00	1.67
1.83	1.02	7.92	2.04	14.00	3.89	20.08	1.11
1.92	1.02	8.00	2.04	14.08	2.78	20.17	1.11
2.00	1.02	8.08	2.41	14.17	2.78	20.25	1.11
2.08	1.20	8.17	2.41	14.25	2.78	20.33	1.11
2.17	1.20	8.25	2.41	14.33	2.78	20.42	1.11
2.25	1.20	8.33	2.41	14.42	2.78	20.50	1.11
2.33	1.20	8.42	2.41	14.50	2.78	20.58	1.11
2.42	1.20	8.50	2.41	14.58	2.78	20.67	1.11
2.50	1.20	8.58	2.59	14.67	2.78	20.75	1.11
2.58	1.20	8.67	2.59	14.75	2.78	20.83	1.11
2.67	1.20	8.75	2.59	14.83	2.78	20.92	1.11
2.75	1.20	8.83	2.59	14.92	2.78	21.00	1.11
2.83	1.20	8.92	2.59	15.00	2.78	21.08	1.11
2.92	1.20	9.00	2.59	15.08	2.78	21.17	1.11
3.00	1.20	9.08	2.96	15.17	2.78	21.25	1.11
3.08	1.20	9.17	2.96	15.25	2.78	21.33	1.11
3.17	1.20	9.25	2.96	15.33	2.78	21.42	1.11
3.25	1.20	9.33	2.96	15.42	2.78	21.50	1.11
3.33	1.20	9.42	2.96	15.50	2.78	21.58	1.11
3.42	1.20	9.50	2.96	15.58	2.78	21.67	1.11
3.50	1.20	9.58	3.33	15.67	2.78	21.75	1.11
3.58	1.20	9.67	3.33	15.75	2.78	21.83	1.11
3.67	1.20	9.75	3.33	15.83	2.78	21.92	1.11
3.75	1.20	9.83	3.33	15.92	2.78	22.00	1.11
3.83	1.20	9.92	3.33	16.00	2.78	22.08	1.11
3.92	1.20	10.00	3.33	16.08	1.67	22.17	1.11
4.00	1.20	10.08	4.26	16.17	1.67	22.25	1.11
4.08	1.48	10.17	4.26	16.25	1.67	22.33	1.11
4.17	1.48	10.25	4.26	16.33	1.67	22.42	1.11
4.25	1.48	10.33	4.26	16.42	1.67	22.50	1.11
4.33	1.48	10.42	4.26	16.50	1.67	22.58	1.11
4.42	1.48	10.50	4.26	16.58	1.67	22.67	1.11
4.50	1.48	10.58	5.74	16.67	1.67	22.75	1.11
4.58	1.48	10.67	5.74	16.75	1.67	22.83	1.11
4.67	1.48	10.75	5.74	16.83	1.67	22.92	1.11
4.75	1.48	10.83	5.74	16.92	1.67	23.00	1.11
4.83	1.48	10.92	5.74	17.00	1.67	23.08	1.11
4.92	1.48	11.00	5.74	17.08	1.67	23.17	1.11
5.00	1.48	11.08	8.88	17.17	1.67	23.25	1.11
5.08	1.48	11.17	8.88	17.25	1.67	23.33	1.11
5.17	1.48	11.25	8.88	17.33	1.67	23.42	1.11
5.25	1.48	11.33	8.88	17.42	1.67	23.50	1.11
5.33	1.48	11.42	8.88	17.50	1.67	23.58	1.11
5.42	1.48	11.50	8.88	17.58	1.67	23.67	1.11
5.50	1.48	11.58	27.39	17.67	1.67	23.75	1.11
5.58	1.48	11.67	27.39	17.75	1.67	23.83	1.11
5.67	1.48	11.75	27.39	17.83	1.67	23.92	1.11
5.75	1.48	11.83	113.26	17.92	1.67	24.00	1.11
5.83	1.48	11.92	113.26	18.00	1.67		
5.92	1.48	12.00	113.26	18.08	1.67		
6.00	1.48	12.08	13.32	18.17	1.67		

Unit Hyd Qpeak (cms)= 0.082

PEAK FLOW (cms)= 0.054 (i)  
 TIME TO PEAK (hrs)= 12.500  
 RUNOFF VOLUME (mm)= 37.992  
 TOTAL RAINFALL (mm)= 92.530  
 RUNOFF COEFFICIENT = 0.411

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0012) Area (ha)= 0.27 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.19

Unit Hyd Qpeak (cms)= 0.054

PEAK FLOW (cms)= 0.027 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 37.905  
 TOTAL RAINFALL (mm)= 92.530  
 RUNOFF COEFFICIENT = 0.410

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0013) Area (ha)= 0.09 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.17

Unit Hyd Qpeak (cms)= 0.020

PEAK FLOW (cms)= 0.009 (i)  
 TIME TO PEAK (hrs)= 12.083  
 RUNOFF VOLUME (mm)= 37.853  
 TOTAL RAINFALL (mm)= 92.530  
 RUNOFF COEFFICIENT = 0.409

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0014) Area (ha)= 0.26 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.42

Unit Hyd Qpeak (cms)= 0.024

PEAK FLOW (cms)= 0.015 (i)  
 TIME TO PEAK (hrs)= 12.417  
 RUNOFF VOLUME (mm)= 37.987  
 TOTAL RAINFALL (mm)= 92.530  
 RUNOFF COEFFICIENT = 0.411

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0015) Area (ha)= 0.47 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.25

Unit Hyd Qpeak (cms)= 0.072

PEAK FLOW (cms)= 0.039 (i)  
 TIME TO PEAK (hrs)= 12.167

CALIB  
 NASHYD ( 0011) Area (ha)= 1.09 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.51



RUNOFF VOLUME (mm) = 37.964  
 TOTAL RAINFALL (mm) = 92.530  
 RUNOFF COEFFICIENT = 0.410

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha) = 2.41		Curve Number (CN) = 69.0	
NASHYD ( 0016)		Ia (mm) = 5.00		# of Linear Res. (N) = 3.00	
ID= 1 DT= 5.0 min		U.H. Tp (hrs) = 0.37			

Unit Hyd Qpeak (cms) = 0.249

PEAK FLOW (cms) = 0.151 (i)  
 TIME TO PEAK (hrs) = 12.333  
 RUNOFF VOLUME (mm) = 37.988  
 TOTAL RAINFALL (mm) = 92.530  
 RUNOFF COEFFICIENT = 0.411

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha) = 3.70		Curve Number (CN) = 69.0	
NASHYD ( 0017)		Ia (mm) = 5.00		# of Linear Res. (N) = 3.00	
ID= 1 DT= 5.0 min		U.H. Tp (hrs) = 0.29			

Unit Hyd Qpeak (cms) = 0.487

PEAK FLOW (cms) = 0.277 (i)  
 TIME TO PEAK (hrs) = 12.250  
 RUNOFF VOLUME (mm) = 37.978  
 TOTAL RAINFALL (mm) = 92.530  
 RUNOFF COEFFICIENT = 0.410

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0018)		AREA		QPEAK		TPEAK		R.V.	
1 + 2 = 3		(ha)		(cms)		(hrs)		(mm)	
ID1= 1 ( 0011):		1.09		0.054		12.50		37.99	
+ ID2= 2 ( 0012):		0.27		0.027		12.17		37.91	
ID = 3 ( 0018):		1.36		0.068		12.33		37.97	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)		AREA		QPEAK		TPEAK		R.V.	
3 + 2 = 1		(ha)		(cms)		(hrs)		(mm)	
ID1= 3 ( 0018):		1.36		0.068		12.33		37.97	
+ ID2= 2 ( 0013):		0.09		0.009		12.08		37.85	
ID = 1 ( 0018):		1.45		0.075		12.25		37.97	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)		AREA		QPEAK		TPEAK		R.V.	
1 + 2 = 3		(ha)		(cms)		(hrs)		(mm)	
ID1= 1 ( 0018):		1.45		0.075		12.25		37.97	
+ ID2= 2 ( 0014):		0.26		0.015		12.42		37.99	

ID = 3 ( 0018): 1.71 0.089 12.25 37.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)		AREA		QPEAK		TPEAK		R.V.	
3 + 2 = 1		(ha)		(cms)		(hrs)		(mm)	
ID1= 3 ( 0018):		1.71		0.089		12.25		37.97	
+ ID2= 2 ( 0015):		0.47		0.039		12.17		37.96	
ID = 1 ( 0018):		2.18		0.127		12.25		37.97	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)		AREA		QPEAK		TPEAK		R.V.	
1 + 2 = 3		(ha)		(cms)		(hrs)		(mm)	
ID1= 1 ( 0018):		2.18		0.127		12.25		37.97	
+ ID2= 2 ( 0016):		2.41		0.151		12.33		37.99	
ID = 3 ( 0018):		4.59		0.274		12.25		37.98	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)		AREA		QPEAK		TPEAK		R.V.	
3 + 2 = 1		(ha)		(cms)		(hrs)		(mm)	
ID1= 3 ( 0018):		4.59		0.274		12.25		37.98	
+ ID2= 2 ( 0017):		3.70		0.277		12.25		37.98	
ID = 1 ( 0018):		8.29		0.552		12.25		37.98	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha) = 0.71		Curve Number (CN) = 69.0	
NASHYD ( 0002)		Ia (mm) = 5.00		# of Linear Res. (N) = 3.00	
ID= 1 DT= 5.0 min		U.H. Tp (hrs) = 0.21			

Unit Hyd Qpeak (cms) = 0.129

PEAK FLOW (cms) = 0.067 (i)  
 TIME TO PEAK (hrs) = 12.167  
 RUNOFF VOLUME (mm) = 37.934  
 TOTAL RAINFALL (mm) = 92.530  
 RUNOFF COEFFICIENT = 0.410

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha) = 0.92		Curve Number (CN) = 69.0	
NASHYD ( 0001)		Ia (mm) = 5.00		# of Linear Res. (N) = 3.00	
ID= 1 DT= 5.0 min		U.H. Tp (hrs) = 0.37			

Unit Hyd Qpeak (cms) = 0.095

PEAK FLOW (cms) = 0.058 (i)  
 TIME TO PEAK (hrs) = 12.333  
 RUNOFF VOLUME (mm) = 37.987  
 TOTAL RAINFALL (mm) = 92.530  
 RUNOFF COEFFICIENT = 0.411

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.



```

-----
CALIB
NASHYD ( 0004) Area (ha)= 1.67 Curve Number (CN)= 69.0
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
-----
U.H. Tp(hrs)= 0.39
    
```

```

Unit Hyd Qpeak (cms)= 0.164

PEAK FLOW (cms)= 0.101 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 37.989
TOTAL RAINFALL (mm)= 92.530
RUNOFF COEFFICIENT = 0.411
    
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
CALIB
NASHYD ( 0003) Area (ha)= 2.74 Curve Number (CN)= 69.0
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
-----
U.H. Tp(hrs)= 0.31
    
```

```

Unit Hyd Qpeak (cms)= 0.338

PEAK FLOW (cms)= 0.196 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 37.982
TOTAL RAINFALL (mm)= 92.530
RUNOFF COEFFICIENT = 0.410
    
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

-----
ADD HYD ( 0005)
1 + 2 = 3
-----
AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 1 ( 0001): 0.92 0.058 12.33 37.99
+ ID2= 2 ( 0002): 0.71 0.067 12.17 37.93
-----
ID = 3 ( 0005): 1.63 0.116 12.17 37.96
    
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
ADD HYD ( 0005)
3 + 2 = 1
-----
AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 3 ( 0005): 1.63 0.116 12.17 37.96
+ ID2= 2 ( 0003): 2.74 0.196 12.25 37.98
-----
ID = 1 ( 0005): 4.37 0.312 12.25 37.98
    
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
ADD HYD ( 0005)
1 + 2 = 3
-----
AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 1 ( 0005): 4.37 0.312 12.25 37.98
+ ID2= 2 ( 0004): 1.67 0.101 12.33 37.99
-----
ID = 3 ( 0005): 6.04 0.409 12.25 37.98
    
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

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```

\*\*\*\*\* DETAILED OUTPUT \*\*\*\*\*

```

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voindat
Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\bf47365e-2a95-462f-ab20-7adf90e0177b\
Summary filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\bf47365e-2a95-462f-ab20-7adf90e0177b\
    
```

DATE: 11/06/2025 TIME: 04:34:49

USER:

COMMENTS: \_\_\_\_\_

```

*****
** SIMULATION : 6 - 100yr 24hr 5min SCS Type **
*****
    
```

```

-----
READ STORM
-----
Filename: C:\Users\helpen3241\AppData\Local\Temp\69675ef4-02e5-4583-91ae-f5a152bea84c\bb9bf0ac
Ptotal=101.55 mm
Comments: 100yr 24hr 5min SCS Type II
    
```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	6.08	1.83	12.17	14.62	18.25	1.83
0.08	1.12	6.17	1.83	12.25	14.62	18.33	1.83
0.17	1.12	6.25	1.83	12.33	14.62	18.42	1.83
0.25	1.12	6.33	1.83	12.42	14.62	18.50	1.83
0.33	1.12	6.42	1.83	12.50	14.62	18.58	1.83
0.42	1.12	6.50	1.83	12.58	7.51	18.67	1.83
0.50	1.12	6.58	1.83	12.67	7.51	18.75	1.83
0.58	1.12	6.67	1.83	12.75	7.51	18.83	1.83
0.67	1.12	6.75	1.83	12.83	7.51	18.92	1.83
0.75	1.12	6.83	1.83	12.92	7.51	19.00	1.83
0.83	1.12	6.92	1.83	13.00	7.51	19.08	1.83
0.92	1.12	7.00	1.83	13.08	5.48	19.17	1.83
1.00	1.12	7.08	2.23	13.17	5.48	19.25	1.83
1.08	1.12	7.17	2.23	13.25	5.48	19.33	1.83
1.17	1.12	7.25	2.23	13.33	5.48	19.42	1.83
1.25	1.12	7.33	2.23	13.42	5.48	19.50	1.83
1.33	1.12	7.42	2.23	13.50	5.48	19.58	1.83
1.42	1.12	7.50	2.23	13.58	4.27	19.67	1.83
1.50	1.12	7.58	2.23	13.67	4.27	19.75	1.83
1.58	1.12	7.67	2.23	13.75	4.27	19.83	1.83
1.67	1.12	7.75	2.23	13.83	4.27	19.92	1.83
1.75	1.12	7.83	2.23	13.92	4.27	20.00	1.83
1.83	1.12	7.92	2.23	14.00	4.27	20.08	1.82



1.92	1.12	8.00	2.23	14.08	3.05	20.17	1.22
2.00	1.12	8.08	2.64	14.17	3.05	20.25	1.22
2.08	1.32	8.17	2.64	14.25	3.05	20.33	1.22
2.17	1.32	8.25	2.64	14.33	3.05	20.42	1.22
2.25	1.32	8.33	2.64	14.42	3.05	20.50	1.22
2.33	1.32	8.42	2.64	14.50	3.05	20.58	1.22
2.42	1.32	8.50	2.64	14.58	3.05	20.67	1.22
2.50	1.32	8.58	2.84	14.67	3.05	20.75	1.22
2.58	1.32	8.67	2.84	14.75	3.05	20.83	1.22
2.67	1.32	8.75	2.84	14.83	3.05	20.92	1.22
2.75	1.32	8.83	2.84	14.92	3.05	21.00	1.22
2.83	1.32	8.92	2.84	15.00	3.05	21.08	1.22
2.92	1.32	9.00	2.84	15.08	3.05	21.17	1.22
3.00	1.32	9.08	3.25	15.17	3.05	21.25	1.22
3.08	1.32	9.17	3.25	15.25	3.05	21.33	1.22
3.17	1.32	9.25	3.25	15.33	3.05	21.42	1.22
3.25	1.32	9.33	3.25	15.42	3.05	21.50	1.22
3.33	1.32	9.42	3.25	15.50	3.05	21.58	1.22
3.42	1.32	9.50	3.25	15.58	3.05	21.67	1.22
3.50	1.32	9.58	3.66	15.67	3.05	21.75	1.22
3.58	1.32	9.67	3.66	15.75	3.05	21.83	1.22
3.67	1.32	9.75	3.66	15.83	3.05	21.92	1.22
3.75	1.32	9.83	3.66	15.92	3.05	22.00	1.22
3.83	1.32	9.92	3.66	16.00	3.05	22.08	1.22
3.92	1.32	10.00	3.66	16.08	1.83	22.17	1.22
4.00	1.32	10.08	4.67	16.17	1.83	22.25	1.22
4.08	1.62	10.17	4.67	16.25	1.83	22.33	1.22
4.17	1.62	10.25	4.67	16.33	1.83	22.42	1.22
4.25	1.62	10.33	4.67	16.42	1.83	22.50	1.22
4.33	1.62	10.42	4.67	16.50	1.83	22.58	1.22
4.42	1.62	10.50	4.67	16.58	1.83	22.67	1.22
4.50	1.62	10.58	6.30	16.67	1.83	22.75	1.22
4.58	1.62	10.67	6.30	16.75	1.83	22.83	1.22
4.67	1.62	10.75	6.30	16.83	1.83	22.92	1.22
4.75	1.62	10.83	6.30	16.92	1.83	23.00	1.22
4.83	1.62	10.92	6.30	17.00	1.83	23.08	1.22
4.92	1.62	11.00	6.30	17.08	1.83	23.17	1.22
5.00	1.62	11.08	9.75	17.17	1.83	23.25	1.22
5.08	1.62	11.17	9.75	17.25	1.83	23.33	1.22
5.17	1.62	11.25	9.75	17.33	1.83	23.42	1.22
5.25	1.62	11.33	9.75	17.42	1.83	23.50	1.22
5.33	1.62	11.42	9.75	17.50	1.83	23.58	1.22
5.42	1.62	11.50	9.75	17.58	1.83	23.67	1.22
5.50	1.62	11.58	30.06	17.67	1.83	23.75	1.22
5.58	1.62	11.67	30.06	17.75	1.83	23.83	1.22
5.67	1.62	11.75	30.06	17.83	1.83	23.92	1.22
5.75	1.62	11.83	124.30	17.92	1.83	24.00	1.22
5.83	1.62	11.92	124.30	18.00	1.83		
5.92	1.62	12.00	124.30	18.08	1.83		
6.00	1.62	12.08	14.62	18.17	1.83		

CALIB  
 NASHYD ( 0011) Area (ha)= 1.09 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.51

Unit Hyd Qpeak (cms)= 0.082  
 PEAK FLOW (cms)= 0.063 (i)  
 TIME TO PEAK (hrs)= 12.500  
 RUNOFF VOLUME (mm)= 44.246  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.436

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0012) Area (ha)= 0.27 Curve Number (CN)= 69.0

ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.19

Unit Hyd Qpeak (cms)= 0.054  
 PEAK FLOW (cms)= 0.031 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 44.145  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.435

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0013) Area (ha)= 0.09 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.17

Unit Hyd Qpeak (cms)= 0.020  
 PEAK FLOW (cms)= 0.011 (i)  
 TIME TO PEAK (hrs)= 12.083  
 RUNOFF VOLUME (mm)= 44.085  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.434

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0014) Area (ha)= 0.26 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.42

Unit Hyd Qpeak (cms)= 0.024  
 PEAK FLOW (cms)= 0.017 (i)  
 TIME TO PEAK (hrs)= 12.417  
 RUNOFF VOLUME (mm)= 44.242  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.436

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0015) Area (ha)= 0.47 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.25

Unit Hyd Qpeak (cms)= 0.072  
 PEAK FLOW (cms)= 0.045 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 44.213  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.435

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0016) Area (ha)= 2.41 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
 U.H. Tp(hrs)= 0.37

Unit Hyd Qpeak (cms)= 0.249



PEAK FLOW (cms)= 0.177 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 44.242  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.436

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0017) Area (ha)= 3.70 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.29

Unit Hyd Qpeak (cms)= 0.487

PEAK FLOW (cms)= 0.324 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 44.230  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.436

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 ( 0011):	1.09	0.063	12.50	44.25
+ ID2= 2 ( 0012):	0.27	0.031	12.17	44.15
ID = 3 ( 0018):	1.36	0.079	12.33	44.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 ( 0018):	1.36	0.079	12.33	44.23
+ ID2= 2 ( 0013):	0.09	0.011	12.08	44.09
ID = 1 ( 0018):	1.45	0.088	12.25	44.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 ( 0018):	1.45	0.088	12.25	44.22
+ ID2= 2 ( 0014):	0.26	0.017	12.42	44.24
ID = 3 ( 0018):	1.71	0.104	12.25	44.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 ( 0018):	1.71	0.104	12.25	44.22
+ ID2= 2 ( 0015):	0.47	0.045	12.17	44.21
ID = 1 ( 0018):	2.18	0.149	12.25	44.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 ( 0018):	2.18	0.149	12.25	44.22
+ ID2= 2 ( 0016):	2.41	0.177	12.33	44.24
ID = 3 ( 0018):	4.59	0.321	12.25	44.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0018)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 ( 0018):	4.59	0.321	12.25	44.23
+ ID2= 2 ( 0017):	3.70	0.324	12.25	44.23
ID = 1 ( 0018):	8.29	0.645	12.25	44.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB  
 NASHYD ( 0002) Area (ha)= 0.71 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.21

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.078 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 44.179  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.435

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0001) Area (ha)= 0.92 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.37

Unit Hyd Qpeak (cms)= 0.095

PEAK FLOW (cms)= 0.068 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 44.241  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.436

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB  
 NASHYD ( 0004) Area (ha)= 1.67 Curve Number (CN)= 69.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.39

Unit Hyd Qpeak (cms)= 0.164

PEAK FLOW (cms)= 0.118 (i)  
 TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 44.243  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.436



(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD ( 0003)	Area (ha)=	2.74	Curve Number (CN)=	69.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)=	3.00
	U.H. Tp(hrs)=	0.31		

Unit Hyd Qpeak (cms)= 0.338

PEAK FLOW (cms)= 0.229 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 44.234  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.436

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD ( 0005)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0001):	0.92	0.068	12.33	44.24
+ ID2= 2 ( 0002):	0.71	0.078	12.17	44.18
ID = 3 ( 0005):	1.63	0.136	12.17	44.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0005)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0005):	1.63	0.136	12.17	44.21
+ ID2= 2 ( 0003):	2.74	0.229	12.25	44.23
ID = 1 ( 0005):	4.37	0.365	12.25	44.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0005)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0005):	4.37	0.365	12.25	44.23
+ ID2= 2 ( 0004):	1.67	0.118	12.33	44.24
ID = 3 ( 0005):	6.04	0.478	12.25	44.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

=====

2305387

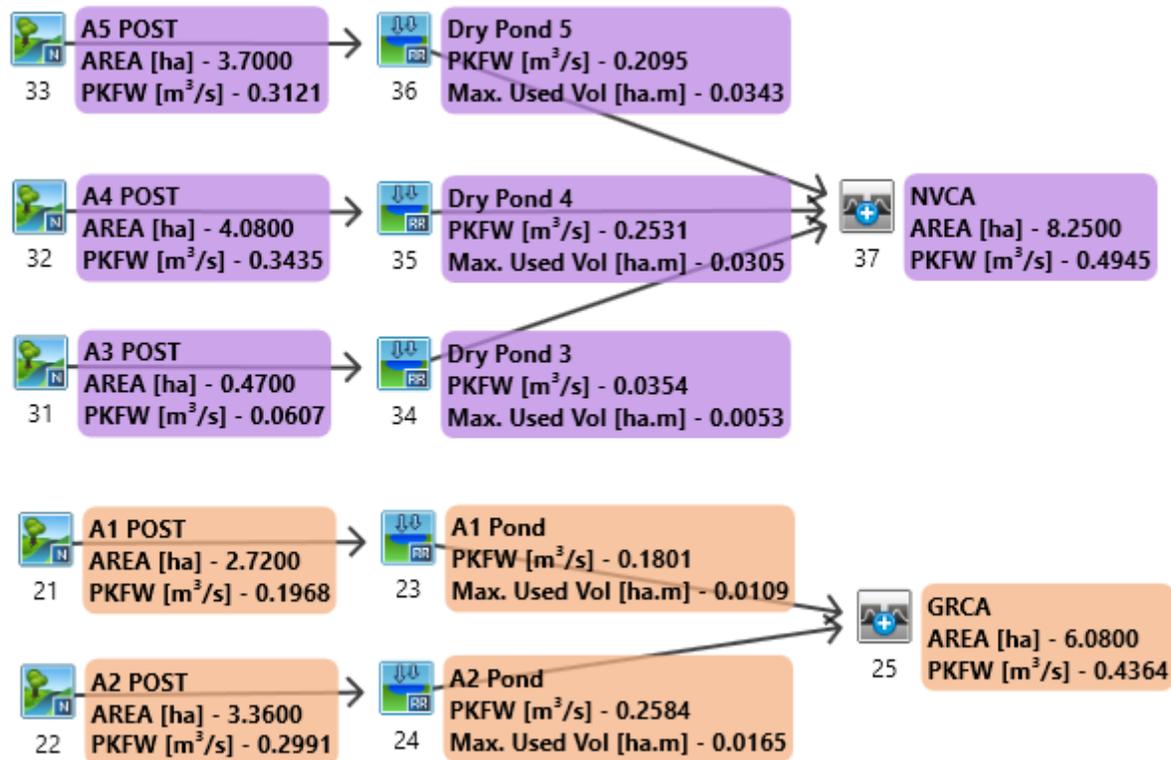
Second Line Amaranth

2 year to 100 year, 24-hour SCS II Storm Event

Post-Development Model Output

November 2025

VO6 Model Schematic



```

-----
*****
V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
VV I SSSSS UUUU A A LLLL

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

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```

\*\*\*\*\* DETAILED OUTPUT \*\*\*\*\*

```

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\93649422-21c1-4eb3-b1a3-f4ab5e9ff405\s
Summary filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\93649422-21c1-4eb3-b1a3-f4ab5e9ff405\s

```

DATE: 11/06/2025 TIME: 04:44:03

USER:

COMMENTS:

```

*****
** SIMULATION : 1 - 2yr 24hr SCS Type II **
*****

```

```

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READ STORM      Filename: C:\Users\helpen3241\AppData
                ata\Local\Temp\
                4b326fcd-fa17-443b-be51-1510cc03333e\4a5927b0c
Ptotal= 43.76 mm Comments: 2yr 24hr SCS Type II
-----

```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	6.08	0.79	12.17	6.30	18.25	0.79
0.08	0.48	6.17	0.79	12.25	6.30	18.33	0.79
0.17	0.48	6.25	0.79	12.33	6.30	18.42	0.79
0.25	0.48	6.33	0.79	12.42	6.30	18.50	0.79
0.33	0.48	6.42	0.79	12.50	6.30	18.58	0.79
0.42	0.48	6.50	0.79	12.58	3.24	18.67	0.79
0.50	0.48	6.58	0.79	12.67	3.24	18.75	0.79
0.58	0.48	6.67	0.79	12.75	3.24	18.83	0.79
0.67	0.48	6.75	0.79	12.83	3.24	18.92	0.79
0.75	0.48	6.83	0.79	12.92	3.24	19.00	0.79
0.83	0.48	6.92	0.79	13.00	3.24	19.08	0.79
0.92	0.48	7.00	0.79	13.08	2.36	19.17	0.79
1.00	0.48	7.08	0.96	13.17	2.36	19.25	0.79
1.08	0.48	7.17	0.96	13.25	2.36	19.33	0.79
1.17	0.48	7.25	0.96	13.33	2.36	19.42	0.79
1.25	0.48	7.33	0.96	13.42	2.36	19.50	0.79
1.33	0.48	7.42	0.96	13.50	2.36	19.58	0.79
1.42	0.48	7.50	0.96	13.58	1.84	19.67	0.79
1.50	0.48	7.58	0.96	13.67	1.84	19.75	0.79
1.58	0.48	7.67	0.96	13.75	1.84	19.83	0.79
1.67	0.48	7.75	0.96	13.83	1.84	19.92	0.79

1.75	0.48	7.83	0.96	13.92	1.84	20.00	0.79
1.83	0.48	7.92	0.96	14.00	1.84	20.08	0.53
1.92	0.48	8.00	0.96	14.08	1.31	20.17	0.53
2.00	0.48	8.08	1.14	14.17	1.31	20.25	0.53
2.08	0.57	8.17	1.14	14.25	1.31	20.33	0.53
2.17	0.57	8.25	1.14	14.33	1.31	20.42	0.53
2.25	0.57	8.33	1.14	14.42	1.31	20.50	0.53
2.33	0.57	8.42	1.14	14.50	1.31	20.58	0.53
2.42	0.57	8.50	1.14	14.58	1.31	20.67	0.53
2.50	0.57	8.58	1.23	14.67	1.31	20.75	0.53
2.58	0.57	8.67	1.23	14.75	1.31	20.83	0.53
2.67	0.57	8.75	1.23	14.83	1.31	20.92	0.53
2.75	0.57	8.83	1.23	14.92	1.31	21.00	0.53
2.83	0.57	8.92	1.23	15.00	1.31	21.08	0.53
2.92	0.57	9.00	1.23	15.08	1.31	21.17	0.53
3.00	0.57	9.08	1.40	15.17	1.31	21.25	0.53
3.08	0.57	9.17	1.40	15.25	1.31	21.33	0.53
3.17	0.57	9.25	1.40	15.33	1.31	21.42	0.53
3.25	0.57	9.33	1.40	15.42	1.31	21.50	0.53
3.33	0.57	9.42	1.40	15.50	1.31	21.58	0.53
3.42	0.57	9.50	1.40	15.58	1.31	21.67	0.53
3.50	0.57	9.58	1.58	15.67	1.31	21.75	0.53
3.58	0.57	9.67	1.58	15.75	1.31	21.83	0.53
3.67	0.57	9.75	1.58	15.83	1.31	21.92	0.53
3.75	0.57	9.83	1.58	15.92	1.31	22.00	0.53
3.83	0.57	9.92	1.58	16.00	1.31	22.08	0.53
3.92	0.57	10.00	1.58	16.08	0.79	22.17	0.53
4.00	0.57	10.08	2.01	16.17	0.79	22.25	0.53
4.08	0.70	10.17	2.01	16.25	0.79	22.33	0.53
4.17	0.70	10.25	2.01	16.33	0.79	22.42	0.53
4.25	0.70	10.33	2.01	16.42	0.79	22.50	0.53
4.33	0.70	10.42	2.01	16.50	0.79	22.58	0.53
4.42	0.70	10.50	2.01	16.58	0.79	22.67	0.53
4.50	0.70	10.58	2.71	16.67	0.79	22.75	0.53
4.58	0.70	10.67	2.71	16.75	0.79	22.83	0.53
4.67	0.70	10.75	2.71	16.83	0.79	22.92	0.53
4.75	0.70	10.83	2.71	16.92	0.79	23.00	0.53
4.83	0.70	10.92	2.71	17.00	0.79	23.08	0.53
4.92	0.70	11.00	2.71	17.08	0.79	23.17	0.53
5.00	0.70	11.08	4.20	17.17	0.79	23.25	0.53
5.08	0.70	11.17	4.20	17.25	0.79	23.33	0.53
5.17	0.70	11.25	4.20	17.33	0.79	23.42	0.53
5.25	0.70	11.33	4.20	17.42	0.79	23.50	0.53
5.33	0.70	11.42	4.20	17.50	0.79	23.58	0.53
5.42	0.70	11.50	4.20	17.58	0.79	23.67	0.53
5.50	0.70	11.58	12.95	17.67	0.79	23.75	0.53
5.58	0.70	11.67	12.95	17.75	0.79	23.83	0.53
5.67	0.70	11.75	12.95	17.83	0.79	23.92	0.53
5.75	0.70	11.83	53.56	17.92	0.79	24.00	0.53
5.83	0.70	11.92	53.56	18.00	0.79		
5.92	0.70	12.00	53.56	18.08	0.79		
6.00	0.70	12.08	6.30	18.17	0.79		

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CALIB
NASHYD ( 0032) Area (ha)= 4.08 Curve Number (CN)= 71.0
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
U.H. Tp (hrs)= 0.33

```

Unit Hyd Qpeak (cms)= 0.472

```

PEAK FLOW (cms)= 0.073 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 10.539
TOTAL RAINFALL (mm)= 43.760
RUNOFF COEFFICIENT = 0.241

```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.



RESERVOIR( 0035)		OVERFLOW IS OFF			
IN= 2--> OUT= 1					
DT= 5.0 min					
	OUTFLOW	STORAGE	OUTFLOW	STORAGE	
	(cms)	(ha.m.)	(cms)	(ha.m.)	
	0.0000	0.0000	0.3176	0.0501	
	0.2713	0.0325	0.0000	0.0000	
	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
INFLOW : ID= 2 ( 0032)	4.080	0.073	12.33	10.54	
OUTFLOW: ID= 1 ( 0035)	4.080	0.055	12.58	10.54	
	PEAK FLOW REDUCTION [Qout/Qin] (%) = 74.26				
	TIME SHIFT OF PEAK FLOW (min) = 15.00				
	MAXIMUM STORAGE USED (ha.m.) = 0.0065				

CALIB		Area (ha) = 3.70		Curve Number (CN) = 72.0	
NASHYD ( 0033)		Ia (mm) = 5.00	# of Linear Res. (N) = 3.00		
ID= 1 DT= 5.0 min		U.H. Tp(hrs) = 0.34			
Unit Hyd Qpeak	(cms) = 0.416				
PEAK FLOW	(cms) = 0.068 (i)				
TIME TO PEAK	(hrs) = 12.333				
RUNOFF VOLUME	(mm) = 10.920				
TOTAL RAINFALL	(mm) = 43.760				
RUNOFF COEFFICIENT	= 0.250				
(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.					

RESERVOIR( 0036)		OVERFLOW IS OFF			
IN= 2--> OUT= 1					
DT= 5.0 min					
	OUTFLOW	STORAGE	OUTFLOW	STORAGE	
	(cms)	(ha.m.)	(cms)	(ha.m.)	
	0.0000	0.0000	0.2712	0.0556	
	0.2322	0.0379	0.0000	0.0000	
	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
INFLOW : ID= 2 ( 0033)	3.700	0.068	12.33	10.92	
OUTFLOW: ID= 1 ( 0036)	3.700	0.046	12.67	10.91	
	PEAK FLOW REDUCTION [Qout/Qin] (%) = 67.05				
	TIME SHIFT OF PEAK FLOW (min) = 20.00				
	MAXIMUM STORAGE USED (ha.m.) = 0.0074				

CALIB		Area (ha) = 0.47		Curve Number (CN) = 76.0	
NASHYD ( 0031)		Ia (mm) = 5.00	# of Linear Res. (N) = 3.00		
ID= 1 DT= 5.0 min		U.H. Tp(hrs) = 0.22			
Unit Hyd Qpeak	(cms) = 0.082				
PEAK FLOW	(cms) = 0.014 (i)				
TIME TO PEAK	(hrs) = 12.167				
RUNOFF VOLUME	(mm) = 12.610				
TOTAL RAINFALL	(mm) = 43.760				
RUNOFF COEFFICIENT	= 0.288				
(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.					

RESERVOIR( 0034)		OVERFLOW IS OFF			
IN= 2--> OUT= 1					
DT= 5.0 min					
	OUTFLOW	STORAGE	OUTFLOW	STORAGE	

		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.0699	0.0150
		0.0528	0.0079	0.0000	0.0000
	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
INFLOW : ID= 2 ( 0031)	0.470	0.014	12.17	12.61	
OUTFLOW: ID= 1 ( 0034)	0.470	0.008	12.42	12.57	
	PEAK FLOW REDUCTION [Qout/Qin] (%) = 57.56				
	TIME SHIFT OF PEAK FLOW (min) = 15.00				
	MAXIMUM STORAGE USED (ha.m.) = 0.0012				

ADD HYD ( 0037)		1 + 2 = 3			
	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 ( 0034) :	0.47	0.008	12.42	12.57	
+ ID2= 2 ( 0035) :	4.08	0.055	12.58	10.54	
ID = 3 ( 0037) :	4.55	0.062	12.58	10.75	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0037)		3 + 2 = 1			
	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 3 ( 0037) :	4.55	0.062	12.58	10.75	
+ ID2= 2 ( 0036) :	3.70	0.046	12.67	10.91	
ID = 1 ( 0037) :	8.25	0.107	12.58	10.82	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha) = 3.36		Curve Number (CN) = 73.0	
NASHYD ( 0022)		Ia (mm) = 5.00	# of Linear Res. (N) = 3.00		
ID= 1 DT= 5.0 min		U.H. Tp(hrs) = 0.33			

Unit Hyd Qpeak (cms) = 0.389

PEAK FLOW	(cms) = 0.065 (i)
TIME TO PEAK	(hrs) = 12.250
RUNOFF VOLUME	(mm) = 11.318
TOTAL RAINFALL	(mm) = 43.760
RUNOFF COEFFICIENT	= 0.259

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR( 0024)		OVERFLOW IS OFF			
IN= 2--> OUT= 1					
DT= 5.0 min					
	OUTFLOW	STORAGE	OUTFLOW	STORAGE	
	(cms)	(ha.m.)	(cms)	(ha.m.)	
	0.0000	0.0000	0.3631	0.0306	
	0.2952	0.0186	0.0000	0.0000	
	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
INFLOW : ID= 2 ( 0022)	3.360	0.065	12.25	11.32	
OUTFLOW: ID= 1 ( 0024)	3.360	0.057	12.50	11.32	

PEAK FLOW REDUCTION [Qout/Qin] (%) = 87.33  
 TIME SHIFT OF PEAK FLOW (min) = 15.00  
 MAXIMUM STORAGE USED (ha.m.) = 0.0036



```

CALIB
NASHYD ( 0021) Area (ha)= 2.72 Curve Number (CN)= 72.0
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
U.H. Tp (hrs)= 0.42
  
```

Unit Hyd Qpeak (cms)= 0.247

```

PEAK FLOW (cms)= 0.043 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 10.922
TOTAL RAINFALL (mm)= 43.760
RUNOFF COEFFICIENT = 0.250
  
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

RESERVOIR ( 0023) OVERFLOW IS OFF
IN= 2--> OUT= 1
DT= 5.0 min
  
```

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3474	0.0279
0.2828	0.0170	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 ( 0021)	2.720	0.043	12.42	10.92
OUTFLOW: ID= 1 ( 0023)	2.720	0.039	12.58	10.92

```

PEAK FLOW REDUCTION [Qout/Qin] (%)= 91.47
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0024
  
```

```

ADD HYD ( 0025)
1 + 2 = 3
  
```

ID	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0023):	2.72	0.039	12.58	10.92
+ ID2= 2 ( 0024):	3.36	0.057	12.50	11.32
ID = 3 ( 0025):	6.08	0.096	12.50	11.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

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```

\*\*\*\*\* D E T A I L E D O U T P U T \*\*\*\*\*

```

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\helpen3241\AppData\Local\Civica\VH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\6b83adb5-95a1-4ce7-a07c-7123cf8b13b2\s
Summary filename: C:\Users\helpen3241\AppData\Local\Civica\VH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\6b83adb5-95a1-4ce7-a07c-7123cf8b13b2\s
  
```

DATE: 11/06/2025

TIME: 04:44:03

USER:

COMMENTS:

```

*****
** SIMULATION : 2 - 5yr 24hr SCS Type II **
*****
  
```

```

READ STORM
Ptotal= 63.63 mm
  
```

Filename: C:\Users\helpen3241\AppData\Local\Temp\4b326fcd-fal7-443b-be51-1510cc03333e\abdee576

Comments: 5yr 24hr SCS Type II

TIME hrs	RAIN mm/hr						
0.00	0.00	6.08	1.15	12.17	9.16	18.25	1.15
0.08	0.70	6.17	1.15	12.25	9.16	18.33	1.15
0.17	0.70	6.25	1.15	12.33	9.16	18.42	1.15
0.25	0.70	6.33	1.15	12.42	9.16	18.50	1.15
0.33	0.70	6.42	1.15	12.50	9.16	18.58	1.15
0.42	0.70	6.50	1.15	12.58	4.71	18.67	1.15
0.50	0.70	6.58	1.15	12.67	4.71	18.75	1.15
0.58	0.70	6.67	1.15	12.75	4.71	18.83	1.15
0.67	0.70	6.75	1.15	12.83	4.71	18.92	1.15
0.75	0.70	6.83	1.15	12.92	4.71	19.00	1.15
0.83	0.70	6.92	1.15	13.00	4.71	19.08	1.15
0.92	0.70	7.00	1.15	13.08	3.44	19.17	1.15
1.00	0.70	7.08	1.40	13.17	3.44	19.25	1.15
1.08	0.70	7.17	1.40	13.25	3.44	19.33	1.15
1.17	0.70	7.25	1.40	13.33	3.44	19.42	1.15
1.25	0.70	7.33	1.40	13.42	3.44	19.50	1.15
1.33	0.70	7.42	1.40	13.50	3.44	19.58	1.15
1.42	0.70	7.50	1.40	13.58	2.67	19.67	1.15
1.50	0.70	7.58	1.40	13.67	2.67	19.75	1.15
1.58	0.70	7.67	1.40	13.75	2.67	19.83	1.15
1.67	0.70	7.75	1.40	13.83	2.67	19.92	1.15
1.75	0.70	7.83	1.40	13.92	2.67	20.00	1.15
1.83	0.70	7.92	1.40	14.00	2.67	20.08	0.76
1.92	0.70	8.00	1.40	14.08	1.91	20.17	0.76
2.00	0.70	8.08	1.65	14.17	1.91	20.25	0.76
2.08	0.83	8.17	1.65	14.25	1.91	20.33	0.76
2.17	0.83	8.25	1.65	14.33	1.91	20.42	0.76
2.25	0.83	8.33	1.65	14.42	1.91	20.50	0.76
2.33	0.83	8.42	1.65	14.50	1.91	20.58	0.76
2.42	0.83	8.50	1.65	14.58	1.91	20.67	0.76
2.50	0.83	8.58	1.78	14.67	1.91	20.75	0.76
2.58	0.83	8.67	1.78	14.75	1.91	20.83	0.76
2.67	0.83	8.75	1.78	14.83	1.91	20.92	0.76
2.75	0.83	8.83	1.78	14.92	1.91	21.00	0.76
2.83	0.83	8.92	1.78	15.00	1.91	21.08	0.76
2.92	0.83	9.00	1.78	15.08	1.91	21.17	0.76
3.00	0.83	9.08	2.04	15.17	1.91	21.25	0.76
3.08	0.83	9.17	2.04	15.25	1.91	21.33	0.76
3.17	0.83	9.25	2.04	15.33	1.91	21.42	0.76
3.25	0.83	9.33	2.04	15.42	1.91	21.50	0.76
3.33	0.83	9.42	2.04	15.50	1.91	21.58	0.76
3.42	0.83	9.50	2.04	15.58	1.91	21.67	0.76
3.50	0.83	9.58	2.29	15.67	1.91	21.75	0.76
3.58	0.83	9.67	2.29	15.75	1.91	21.83	0.76
3.67	0.83	9.75	2.29	15.83	1.91	21.92	0.76
3.75	0.83	9.83	2.29	15.92	1.91	22.00	0.76
3.83	0.83	9.92	2.29	16.00	1.91	22.08	0.76

3.92	0.83	10.00	2.29	16.08	1.15	22.17	0.76
4.00	0.83	10.08	2.93	16.17	1.15	22.25	0.76
4.08	1.02	10.17	2.93	16.25	1.15	22.33	0.76
4.17	1.02	10.25	2.93	16.33	1.15	22.42	0.76
4.25	1.02	10.33	2.93	16.42	1.15	22.50	0.76
4.33	1.02	10.42	2.93	16.50	1.15	22.58	0.76
4.42	1.02	10.50	2.93	16.58	1.15	22.67	0.76
4.50	1.02	10.58	3.95	16.67	1.15	22.75	0.76
4.58	1.02	10.67	3.95	16.75	1.15	22.83	0.76
4.67	1.02	10.75	3.95	16.83	1.15	22.92	0.76
4.75	1.02	10.83	3.95	16.92	1.15	23.00	0.76
4.83	1.02	10.92	3.95	17.00	1.15	23.08	0.76
4.92	1.02	11.00	3.95	17.08	1.15	23.17	0.76
5.00	1.02	11.08	6.11	17.17	1.15	23.25	0.76
5.08	1.02	11.17	6.11	17.25	1.15	23.33	0.76
5.17	1.02	11.25	6.11	17.33	1.15	23.42	0.76
5.25	1.02	11.33	6.11	17.42	1.15	23.50	0.76
5.33	1.02	11.42	6.11	17.50	1.15	23.58	0.76
5.42	1.02	11.50	6.11	17.58	1.15	23.67	0.76
5.50	1.02	11.58	18.83	17.67	1.15	23.75	0.76
5.58	1.02	11.67	18.83	17.75	1.15	23.83	0.76
5.67	1.02	11.75	18.83	17.83	1.15	23.92	0.76
5.75	1.02	11.83	77.88	17.92	1.15	24.00	0.76
5.83	1.02	11.92	77.88	18.00	1.15		
5.92	1.02	12.00	77.88	18.08	1.15		
6.00	1.02	12.08	9.16	18.17	1.15		

TIME TO PEAK (hrs)= 12.333  
 RUNOFF VOLUME (mm)= 21.833  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0036 )				OVERFLOW IS OFF			
IN= 2----> OUT= 1							
DT= 5.0 min							
OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE
(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)
0.0000	0.0000	0.2712	0.0556	0.0000	0.0000	0.0000	0.0000
0.2322	0.0379	0.0000	0.0000				
AREA	QPEAK	TPEAK	R.V.				
(ha)	(cms)	(hrs)	(mm)				
INFLOW : ID= 2 ( 0033)	3.700	0.139	12.33	21.83			
OUTFLOW: ID= 1 ( 0036)	3.700	0.094	12.67	21.82			
PEAK FLOW REDUCTION [Qout/Qin] (%)= 67.21							
TIME SHIFT OF PEAK FLOW (min)= 20.00							
MAXIMUM STORAGE USED (ha.m.)= 0.0153							

CALIB				NASHYD ( 0032 )			
ID= 1 DT= 5.0 min							
Area	(ha)=	4.08	Curve Number (CN)= 71.0				
Ia	(mm)=	5.00	# of Linear Res. (N)= 3.00				
U.H. Tp	(hrs)=	0.33					
Unit Hyd Qpeak	(cms)=	0.472					
PEAK FLOW	(cms)=	0.152 (i)					
TIME TO PEAK	(hrs)=	12.250					
RUNOFF VOLUME	(mm)=	21.164					
TOTAL RAINFALL	(mm)=	63.630					
RUNOFF COEFFICIENT		0.333					

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				NASHYD ( 0031 )			
ID= 1 DT= 5.0 min							
Area	(ha)=	0.47	Curve Number (CN)= 76.0				
Ia	(mm)=	5.00	# of Linear Res. (N)= 3.00				
U.H. Tp	(hrs)=	0.22					
Unit Hyd Qpeak	(cms)=	0.082					
PEAK FLOW	(cms)=	0.028 (i)					
TIME TO PEAK	(hrs)=	12.167					
RUNOFF VOLUME	(mm)=	24.725					
TOTAL RAINFALL	(mm)=	63.630					
RUNOFF COEFFICIENT		0.389					

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0035 )				OVERFLOW IS OFF			
IN= 2----> OUT= 1							
DT= 5.0 min							
OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE
(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)
0.0000	0.0000	0.3176	0.0501				
0.2713	0.0325	0.0000	0.0000				
AREA	QPEAK	TPEAK	R.V.				
(ha)	(cms)	(hrs)	(mm)				
INFLOW : ID= 2 ( 0032)	4.080	0.152	12.25	21.16			
OUTFLOW: ID= 1 ( 0035)	4.080	0.112	12.58	21.16			
PEAK FLOW REDUCTION [Qout/Qin] (%)= 73.98							
TIME SHIFT OF PEAK FLOW (min)= 20.00							
MAXIMUM STORAGE USED (ha.m.)= 0.0135							

RESERVOIR ( 0034 )				OVERFLOW IS OFF			
IN= 2----> OUT= 1							
DT= 5.0 min							
OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE
(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)
0.0000	0.0000	0.0699	0.0150				
0.0528	0.0079	0.0000	0.0000				
AREA	QPEAK	TPEAK	R.V.				
(ha)	(cms)	(hrs)	(mm)				
INFLOW : ID= 2 ( 0031)	0.470	0.028	12.17	24.72			
OUTFLOW: ID= 1 ( 0034)	0.470	0.016	12.42	24.67			
PEAK FLOW REDUCTION [Qout/Qin] (%)= 57.91							
TIME SHIFT OF PEAK FLOW (min)= 15.00							
MAXIMUM STORAGE USED (ha.m.)= 0.0024							

CALIB				NASHYD ( 0033 )			
ID= 1 DT= 5.0 min							
Area	(ha)=	3.70	Curve Number (CN)= 72.0				
Ia	(mm)=	5.00	# of Linear Res. (N)= 3.00				
U.H. Tp	(hrs)=	0.34					
Unit Hyd Qpeak	(cms)=	0.416					
PEAK FLOW	(cms)=	0.139 (i)					

ADD HYD ( 0037 )							
1 + 2 = 3							
AREA	QPEAK	TPEAK	R.V.				
(ha)	(cms)	(hrs)	(mm)				
ID1= 1 ( 0034):	0.47	0.016	12.42	24.67			
+ ID2= 2 ( 0035):	4.08	0.112	12.58	21.16			
ID = 3 ( 0037):	4.55	0.128	12.58	21.52			

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.



ADD HYD ( 0037 )				
3 + 2 = 1				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 ( 0037):	4.55	0.128	12.58	21.52
+ ID2= 2 ( 0036):	3.70	0.094	12.67	21.82
-----				
ID = 1 ( 0037):	8.25	0.220	12.58	21.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD ( 0022 )				
ID= 1 DT= 5.0 min				
Area (ha)=	3.36	Curve Number (CN)=	73.0	
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
U.H. Tp(hrs)=	0.33			

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.134 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 22.523  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.354

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR( 0024 )				
IN= 2--> OUT= 1				
DT= 5.0 min				
OVERFLOW IS OFF				
OUTFLOW	STORAGE	OUTFLOW	STORAGE	
(cms)	(ha.m.)	(cms)	(ha.m.)	
0.0000	0.0000	0.3631	0.0306	
0.2952	0.0186	0.0000	0.0000	

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 ( 0022)	3.360	0.134	12.25	22.52
OUTFLOW: ID= 1 ( 0024)	3.360	0.116	12.50	22.52

PEAK FLOW REDUCTION [Qout/Qin] (%) = 86.79  
 TIME SHIFT OF PEAK FLOW (min) = 15.00  
 MAXIMUM STORAGE USED (ha.m.) = 0.0074

CALIB				
NASHYD ( 0021 )				
ID= 1 DT= 5.0 min				
Area (ha)=	2.72	Curve Number (CN)=	72.0	
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
U.H. Tp(hrs)=	0.42			

Unit Hyd Qpeak (cms)= 0.247

PEAK FLOW (cms)= 0.088 (i)  
 TIME TO PEAK (hrs)= 12.417  
 RUNOFF VOLUME (mm)= 21.835  
 TOTAL RAINFALL (mm)= 63.630  
 RUNOFF COEFFICIENT = 0.343

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR( 0023 )				
IN= 2--> OUT= 1				
DT= 5.0 min				
OVERFLOW IS OFF				
OUTFLOW	STORAGE	OUTFLOW	STORAGE	
(cms)	(ha.m.)	(cms)	(ha.m.)	
0.0000	0.0000	0.3474	0.0279	
0.2828	0.0170	0.0000	0.0000	

AREA	QPEAK	TPEAK	R.V.
------	-------	-------	------

	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 ( 0021)	2.720	0.088	12.42	21.84
OUTFLOW: ID= 1 ( 0023)	2.720	0.081	12.58	21.84

PEAK FLOW REDUCTION [Qout/Qin] (%) = 91.49  
 TIME SHIFT OF PEAK FLOW (min) = 10.00  
 MAXIMUM STORAGE USED (ha.m.) = 0.0049

ADD HYD ( 0025 )				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 ( 0023):	2.72	0.081	12.58	21.84
+ ID2= 2 ( 0024):	3.36	0.116	12.50	22.52
-----				
ID = 3 ( 0025):	6.08	0.196	12.50	22.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V V I SSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSS UUUU A A LLLL
    
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OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO
    
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\*\*\*\*\* DETAILED OUTPUT \*\*\*\*\*

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voindat  
 Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\98ad036-a869-4dcl-aed7-36866a075b94\s  
 Summary filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\98ad036-a869-4dcl-aed7-36866a075b94\s

DATE: 11/06/2025 TIME: 04:44:04

USER:

COMMENTS: \_\_\_\_\_

\*\*\*\*\*  
 \*\* SIMULATION : 3 - 10yr 24hr 5min SCS Type I \*\*  
 \*\*\*\*\*

READ STORM		Filename:
		C:\Users\helpen3241\AppData\Local\Temp\4b326fcd-fa17-443b-be51-1510cc03333e\4a6f25a9
Ptotal= 71.73 mm		Comments: 10yr 24hr 5min SCS Type II (MTO)

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr

0.00	0.00	6.08	1.29	12.17	10.33	18.25	1.29
0.08	0.79	6.17	1.29	12.25	10.33	18.33	1.29
0.17	0.79	6.25	1.29	12.33	10.33	18.42	1.29
0.25	0.79	6.33	1.29	12.42	10.33	18.50	1.29
0.33	0.79	6.42	1.29	12.50	10.33	18.58	1.29
0.42	0.79	6.50	1.29	12.58	5.31	18.67	1.29
0.50	0.79	6.58	1.29	12.67	5.31	18.75	1.29
0.58	0.79	6.67	1.29	12.75	5.31	18.83	1.29
0.67	0.79	6.75	1.29	12.83	5.31	18.92	1.29
0.75	0.79	6.83	1.29	12.92	5.31	19.00	1.29
0.83	0.79	6.92	1.29	13.00	5.31	19.08	1.29
0.92	0.79	7.00	1.29	13.08	3.87	19.17	1.29
1.00	0.79	7.08	1.58	13.17	3.87	19.25	1.29
1.08	0.79	7.17	1.58	13.25	3.87	19.33	1.29
1.17	0.79	7.25	1.58	13.33	3.87	19.42	1.29
1.25	0.79	7.33	1.58	13.42	3.87	19.50	1.29
1.33	0.79	7.42	1.58	13.50	3.87	19.58	1.29
1.42	0.79	7.50	1.58	13.58	3.01	19.67	1.29
1.50	0.79	7.58	1.58	13.67	3.01	19.75	1.29
1.58	0.79	7.67	1.58	13.75	3.01	19.83	1.29
1.67	0.79	7.75	1.58	13.83	3.01	19.92	1.29
1.75	0.79	7.83	1.58	13.92	3.01	20.00	1.29
1.83	0.79	7.92	1.58	14.00	3.01	20.08	0.86
1.92	0.79	8.00	1.58	14.08	2.15	20.17	0.86
2.00	0.79	8.08	1.86	14.17	2.15	20.25	0.86
2.08	0.93	8.17	1.86	14.25	2.15	20.33	0.86
2.17	0.93	8.25	1.86	14.33	2.15	20.42	0.86
2.25	0.93	8.33	1.86	14.42	2.15	20.50	0.86
2.33	0.93	8.42	1.86	14.50	2.15	20.58	0.86
2.42	0.93	8.50	1.86	14.58	2.15	20.67	0.86
2.50	0.93	8.58	2.01	14.67	2.15	20.75	0.86
2.58	0.93	8.67	2.01	14.75	2.15	20.83	0.86
2.67	0.93	8.75	2.01	14.83	2.15	20.92	0.86
2.75	0.93	8.83	2.01	14.92	2.15	21.00	0.86
2.83	0.93	8.92	2.01	15.00	2.15	21.08	0.86
2.92	0.93	9.00	2.01	15.08	2.15	21.17	0.86
3.00	0.93	9.08	2.30	15.17	2.15	21.25	0.86
3.08	0.93	9.17	2.30	15.25	2.15	21.33	0.86
3.17	0.93	9.25	2.30	15.33	2.15	21.42	0.86
3.25	0.93	9.33	2.30	15.42	2.15	21.50	0.86
3.33	0.93	9.42	2.30	15.50	2.15	21.58	0.86
3.42	0.93	9.50	2.30	15.58	2.15	21.67	0.86
3.50	0.93	9.58	2.58	15.67	2.15	21.75	0.86
3.58	0.93	9.67	2.58	15.75	2.15	21.83	0.86
3.67	0.93	9.75	2.58	15.83	2.15	21.92	0.86
3.75	0.93	9.83	2.58	15.92	2.15	22.00	0.86
3.83	0.93	9.92	2.58	16.00	2.15	22.08	0.86
3.92	0.93	10.00	2.58	16.08	1.29	22.17	0.86
4.00	0.93	10.08	3.30	16.17	1.29	22.25	0.86
4.08	1.15	10.17	3.30	16.25	1.29	22.33	0.86
4.17	1.15	10.25	3.30	16.33	1.29	22.42	0.86
4.25	1.15	10.33	3.30	16.42	1.29	22.50	0.86
4.33	1.15	10.42	3.30	16.50	1.29	22.58	0.86
4.42	1.15	10.50	3.30	16.58	1.29	22.67	0.86
4.50	1.15	10.58	4.45	16.67	1.29	22.75	0.86
4.58	1.15	10.67	4.45	16.75	1.29	22.83	0.86
4.67	1.15	10.75	4.45	16.83	1.29	22.92	0.86
4.75	1.15	10.83	4.45	16.92	1.29	23.00	0.86
4.83	1.15	10.92	4.45	17.00	1.29	23.08	0.86
4.92	1.15	11.00	4.45	17.08	1.29	23.17	0.86
5.00	1.15	11.08	6.89	17.17	1.29	23.25	0.86
5.08	1.15	11.17	6.89	17.25	1.29	23.33	0.86
5.17	1.15	11.25	6.89	17.33	1.29	23.42	0.86
5.25	1.15	11.33	6.89	17.42	1.29	23.50	0.86
5.33	1.15	11.42	6.89	17.50	1.29	23.58	0.86
5.42	1.15	11.50	6.89	17.58	1.29	23.67	0.86
5.50	1.15	11.58	21.23	17.67	1.29	23.75	0.86
5.58	1.15	11.67	21.23	17.75	1.29	23.83	0.86
5.67	1.15	11.75	21.23	17.83	1.29	23.92	0.86
5.75	1.15	11.83	87.80	17.92	1.29	24.00	0.86
5.83	1.15	11.92	87.80	18.00	1.29		
5.92	1.15	12.00	87.80	18.08	1.29		
6.00	1.15	12.08	10.33	18.17	1.29		

CALIB  
NASHYD ( 0032) Area (ha)= 4.08 Curve Number (CN)= 71.0  
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
U.H. Tp(hrs)= 0.33

Unit Hyd Qpeak (cms)= 0.472

PEAK FLOW (cms)= 0.189 (i)  
TIME TO PEAK (hrs)= 12.250  
RUNOFF VOLUME (mm)= 26.113  
TOTAL RAINFALL (mm)= 71.730  
RUNOFF COEFFICIENT = 0.364

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR( 0035) OVERFLOW IS OFF  
IN= 2---> OUT= 1  
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3176	0.0501
0.2713	0.0325	0.0000	0.0000

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
4.080	0.189	12.25	26.11
4.080	0.140	12.58	26.11

PEAK FLOW REDUCTION [Qout/Qin] (%)= 73.90  
TIME SHIFT OF PEAK FLOW (min)= 20.00  
MAXIMUM STORAGE USED (ha.m.)= 0.0168

CALIB  
NASHYD ( 0033) Area (ha)= 3.70 Curve Number (CN)= 72.0  
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
U.H. Tp(hrs)= 0.34

Unit Hyd Qpeak (cms)= 0.416

PEAK FLOW (cms)= 0.173 (i)  
TIME TO PEAK (hrs)= 12.333  
RUNOFF VOLUME (mm)= 26.898  
TOTAL RAINFALL (mm)= 71.730  
RUNOFF COEFFICIENT = 0.375

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR( 0036) OVERFLOW IS OFF  
IN= 2---> OUT= 1  
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2712	0.0556
0.2322	0.0379	0.0000	0.0000

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3.700	0.173	12.33	26.90
3.700	0.116	12.67	26.89

PEAK FLOW REDUCTION [Qout/Qin] (%)= 67.26  
TIME SHIFT OF PEAK FLOW (min)= 20.00  
MAXIMUM STORAGE USED (ha.m.)= 0.0190



CALIB  
 NASHYD ( 0031) Area (ha)= 0.47 Curve Number (CN)= 76.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.22

Unit Hyd Qpeak (cms)= 0.082

PEAK FLOW (cms)= 0.034 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 30.264  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.422

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0034) OVERFLOW IS OFF  
 IN= 2---> OUT= 1  
 DT= 5.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0699	0.0150
	0.0528	0.0079	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 ( 0031)	0.470	0.034	12.17	30.26
OUTFLOW: ID= 1 ( 0034)	0.470	0.020	12.42	30.21

PEAK FLOW REDUCTION [Qout/Qin] (%) = 58.00  
 TIME SHIFT OF PEAK FLOW (min) = 15.00  
 MAXIMUM STORAGE USED (ha.m.) = 0.0030

ADD HYD ( 0037)  
 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0034):	0.47	0.020	12.42	30.21
+ ID2= 2 ( 0035):	4.08	0.140	12.58	26.11
ID = 3 ( 0037):	4.55	0.159	12.58	26.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0037)  
 3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0037):	4.55	0.159	12.58	26.53
+ ID2= 2 ( 0036):	3.70	0.116	12.67	26.89
ID = 1 ( 0037):	8.25	0.274	12.58	26.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB  
 NASHYD ( 0022) Area (ha)= 3.36 Curve Number (CN)= 73.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.33

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.166 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 27.706  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0024) OVERFLOW IS OFF  
 IN= 2---> OUT= 1  
 DT= 5.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3631	0.0306
	0.2952	0.0186	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 ( 0022)	3.360	0.166	12.25	27.71
OUTFLOW: ID= 1 ( 0024)	3.360	0.144	12.50	27.71

PEAK FLOW REDUCTION [Qout/Qin] (%) = 86.64  
 TIME SHIFT OF PEAK FLOW (min) = 15.00  
 MAXIMUM STORAGE USED (ha.m.) = 0.0092

CALIB  
 NASHYD ( 0021) Area (ha)= 2.72 Curve Number (CN)= 72.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.42

Unit Hyd Qpeak (cms)= 0.247

PEAK FLOW (cms)= 0.109 (i)  
 TIME TO PEAK (hrs)= 12.417  
 RUNOFF VOLUME (mm)= 26.901  
 TOTAL RAINFALL (mm)= 71.730  
 RUNOFF COEFFICIENT = 0.375

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0023) OVERFLOW IS OFF  
 IN= 2---> OUT= 1  
 DT= 5.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3474	0.0279
	0.2828	0.0170	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 ( 0021)	2.720	0.109	12.42	26.90
OUTFLOW: ID= 1 ( 0023)	2.720	0.100	12.58	26.90

PEAK FLOW REDUCTION [Qout/Qin] (%) = 91.50  
 TIME SHIFT OF PEAK FLOW (min) = 10.00  
 MAXIMUM STORAGE USED (ha.m.) = 0.0060

ADD HYD ( 0025)  
 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0023):	2.72	0.100	12.58	26.90
+ ID2= 2 ( 0024):	3.36	0.144	12.50	27.71
ID = 3 ( 0025):	6.08	0.243	12.50	27.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH



```

-----
*****
V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
VV I SSSSS UUUU A A LLLL

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

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```

\*\*\*\*\* DETAILED OUTPUT \*\*\*\*\*

```

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voindat
Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\ca53b85c-6b99-4a4b-8936-2a5b32a8be59\s
Summary filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\ca53b85c-6b99-4a4b-8936-2a5b32a8be59\s

```

DATE: 11/06/2025 TIME: 04:44:03

USER:

COMMENTS:

```

*****
** SIMULATION : 4 - 25yr 24hr 5min SCS Type I **
*****

```

```

-----
READ STORM      Filename: C:\Users\helpen3241\AppData
                  ata\Local\Temp\
                  4b326fcd-fa17-443b-be51-1510cc03333e\b2b5eb74
Ptotal= 84.55 mm Comments: 25yr 24hr 5min SCS Type II (MTO)

```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	6.08	1.52	12.17	12.18	18.25	1.52
0.08	0.93	6.17	1.52	12.25	12.18	18.33	1.52
0.17	0.93	6.25	1.52	12.33	12.18	18.42	1.52
0.25	0.93	6.33	1.52	12.42	12.18	18.50	1.52
0.33	0.93	6.42	1.52	12.50	12.18	18.58	1.52
0.42	0.93	6.50	1.52	12.58	6.26	18.67	1.52
0.50	0.93	6.58	1.52	12.67	6.26	18.75	1.52
0.58	0.93	6.67	1.52	12.75	6.26	18.83	1.52
0.67	0.93	6.75	1.52	12.83	6.26	18.92	1.52
0.75	0.93	6.83	1.52	12.92	6.26	19.00	1.52
0.83	0.93	6.92	1.52	13.00	6.26	19.08	1.52
0.92	0.93	7.00	1.52	13.08	4.57	19.17	1.52
1.00	0.93	7.08	1.86	13.17	4.57	19.25	1.52
1.08	0.93	7.17	1.86	13.25	4.57	19.33	1.52
1.17	0.93	7.25	1.86	13.33	4.57	19.42	1.52
1.25	0.93	7.33	1.86	13.42	4.57	19.50	1.52
1.33	0.93	7.42	1.86	13.50	4.57	19.58	1.52
1.42	0.93	7.50	1.86	13.58	3.55	19.67	1.52
1.50	0.93	7.58	1.86	13.67	3.55	19.75	1.52
1.58	0.93	7.67	1.86	13.75	3.55	19.83	1.52
1.67	0.93	7.75	1.86	13.83	3.55	19.92	1.52

1.75	0.93	7.83	1.86	13.92	3.55	20.00	1.52
1.83	0.93	7.92	1.86	14.00	3.55	20.08	1.01
1.92	0.93	8.00	1.86	14.08	2.54	20.17	1.01
2.00	0.93	8.08	2.20	14.17	2.54	20.25	1.01
2.08	1.10	8.17	2.20	14.25	2.54	20.33	1.01
2.17	1.10	8.25	2.20	14.33	2.54	20.42	1.01
2.25	1.10	8.33	2.20	14.42	2.54	20.50	1.01
2.33	1.10	8.42	2.20	14.50	2.54	20.58	1.01
2.42	1.10	8.50	2.20	14.58	2.54	20.67	1.01
2.50	1.10	8.58	2.37	14.67	2.54	20.75	1.01
2.58	1.10	8.67	2.37	14.75	2.54	20.83	1.01
2.67	1.10	8.75	2.37	14.83	2.54	20.92	1.01
2.75	1.10	8.83	2.37	14.92	2.54	21.00	1.01
2.83	1.10	8.92	2.37	15.00	2.54	21.08	1.01
2.92	1.10	9.00	2.37	15.08	2.54	21.17	1.01
3.00	1.10	9.08	2.71	15.17	2.54	21.25	1.01
3.08	1.10	9.17	2.71	15.25	2.54	21.33	1.01
3.17	1.10	9.25	2.71	15.33	2.54	21.42	1.01
3.25	1.10	9.33	2.71	15.42	2.54	21.50	1.01
3.33	1.10	9.42	2.71	15.50	2.54	21.58	1.01
3.42	1.10	9.50	2.71	15.58	2.54	21.67	1.01
3.50	1.10	9.58	3.04	15.67	2.54	21.75	1.01
3.58	1.10	9.67	3.04	15.75	2.54	21.83	1.01
3.67	1.10	9.75	3.04	15.83	2.54	21.92	1.01
3.75	1.10	9.83	3.04	15.92	2.54	22.00	1.01
3.83	1.10	9.92	3.04	16.00	2.54	22.08	1.01
3.92	1.10	10.00	3.04	16.08	1.52	22.17	1.01
4.00	1.10	10.08	3.89	16.17	1.52	22.25	1.01
4.08	1.35	10.17	3.89	16.25	1.52	22.33	1.01
4.17	1.35	10.25	3.89	16.33	1.52	22.42	1.01
4.25	1.35	10.33	3.89	16.42	1.52	22.50	1.01
4.33	1.35	10.42	3.89	16.50	1.52	22.58	1.01
4.42	1.35	10.50	3.89	16.58	1.52	22.67	1.01
4.50	1.35	10.58	5.24	16.67	1.52	22.75	1.01
4.58	1.35	10.67	5.24	16.75	1.52	22.83	1.01
4.67	1.35	10.75	5.24	16.83	1.52	22.92	1.01
4.75	1.35	10.83	5.24	16.92	1.52	23.00	1.01
4.83	1.35	10.92	5.24	17.00	1.52	23.08	1.01
4.92	1.35	11.00	5.24	17.08	1.52	23.17	1.01
5.00	1.35	11.08	8.12	17.17	1.52	23.25	1.01
5.08	1.35	11.17	8.12	17.25	1.52	23.33	1.01
5.17	1.35	11.25	8.12	17.33	1.52	23.42	1.01
5.25	1.35	11.33	8.12	17.42	1.52	23.50	1.01
5.33	1.35	11.42	8.12	17.50	1.52	23.58	1.01
5.42	1.35	11.50	8.12	17.58	1.52	23.67	1.01
5.50	1.35	11.58	25.03	17.67	1.52	23.75	1.01
5.58	1.35	11.67	25.03	17.75	1.52	23.83	1.01
5.67	1.35	11.75	25.03	17.83	1.52	23.92	1.01
5.75	1.35	11.83	103.49	17.92	1.52		
5.83	1.35	11.92	103.49	18.00	1.52		
5.92	1.35	12.00	103.49	18.08	1.52		
6.00	1.35	12.08	12.18	18.17	1.52		

```

-----
CALIB
NASHYD ( 0032) Area (ha)= 4.08 Curve Number (CN)= 71.0
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
U.H. Tp (hrs)= 0.33

```

Unit Hyd Qpeak (cms)= 0.472

```

PEAK FLOW (cms)= 0.252 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 34.515
TOTAL RAINFALL (mm)= 84.550
RUNOFF COEFFICIENT = 0.408

```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.



```

RESERVOIR( 0035) | OVERFLOW IS OFF
IN= 2--> OUT= 1
DT= 5.0 min
-----
OUTFLOW STORAGE | OUTFLOW STORAGE
(cms) (ha.m.) | (cms) (ha.m.)
0.0000 0.0000 | 0.3176 0.0501
0.2713 0.0325 | 0.0000 0.0000

AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
INFLOW : ID= 2 ( 0032) 4.080 0.252 12.25 34.52
OUTFLOW: ID= 1 ( 0035) 4.080 0.186 12.58 34.51

PEAK FLOW REDUCTION [Qout/Qin] (%) = 73.80
TIME SHIFT OF PEAK FLOW (min) = 20.00
MAXIMUM STORAGE USED (ha.m.) = 0.0224
    
```

```

CALIB
NASHYD ( 0033) | Area (ha)= 3.70 Curve Number (CN)= 72.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
U.H. Tp(hrs)= 0.34

Unit Hyd Qpeak (cms) = 0.416

PEAK FLOW (cms) = 0.230 (i)
TIME TO PEAK (hrs) = 12.250
RUNOFF VOLUME (mm) = 35.478
TOTAL RAINFALL (mm) = 84.550
RUNOFF COEFFICIENT = 0.420

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
    
```

```

RESERVOIR( 0036) | OVERFLOW IS OFF
IN= 2--> OUT= 1
DT= 5.0 min
-----
OUTFLOW STORAGE | OUTFLOW STORAGE
(cms) (ha.m.) | (cms) (ha.m.)
0.0000 0.0000 | 0.2712 0.0556
0.2322 0.0379 | 0.0000 0.0000

AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
INFLOW : ID= 2 ( 0033) 3.700 0.230 12.25 35.48
OUTFLOW: ID= 1 ( 0036) 3.700 0.155 12.67 35.47

PEAK FLOW REDUCTION [Qout/Qin] (%) = 67.24
TIME SHIFT OF PEAK FLOW (min) = 25.00
MAXIMUM STORAGE USED (ha.m.) = 0.0253
    
```

```

CALIB
NASHYD ( 0031) | Area (ha)= 0.47 Curve Number (CN)= 76.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
U.H. Tp(hrs)= 0.22

Unit Hyd Qpeak (cms) = 0.082

PEAK FLOW (cms) = 0.045 (i)
TIME TO PEAK (hrs) = 12.167
RUNOFF VOLUME (mm) = 39.558
TOTAL RAINFALL (mm) = 84.550
RUNOFF COEFFICIENT = 0.468

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
    
```

```

RESERVOIR( 0034) | OVERFLOW IS OFF
IN= 2--> OUT= 1
DT= 5.0 min
-----
OUTFLOW STORAGE | OUTFLOW STORAGE
(cms) (ha.m.) | (cms) (ha.m.)
0.0000 0.0000 | 0.3631 0.0306
0.2952 0.0186 | 0.0000 0.0000

AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
INFLOW : ID= 2 ( 0022) 3.360 0.221 12.25 36.46
OUTFLOW: ID= 1 ( 0024) 3.360 0.191 12.50 36.46

PEAK FLOW REDUCTION [Qout/Qin] (%) = 86.45
TIME SHIFT OF PEAK FLOW (min) = 15.00
MAXIMUM STORAGE USED (ha.m.) = 0.0122
    
```

```

(cms) (ha.m.) | (cms) (ha.m.)
0.0000 0.0000 | 0.0699 0.0150
0.0528 0.0079 | 0.0000 0.0000

AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
INFLOW : ID= 2 ( 0031) 0.470 0.045 12.17 39.56
OUTFLOW: ID= 1 ( 0034) 0.470 0.026 12.42 39.49

PEAK FLOW REDUCTION [Qout/Qin] (%) = 58.13
TIME SHIFT OF PEAK FLOW (min) = 15.00
MAXIMUM STORAGE USED (ha.m.) = 0.0040
    
```

```

ADD HYD ( 0037)
1 + 2 = 3
-----
ID1= 1 ( 0034) : 0.47 0.026 12.42 39.49
+ ID2= 2 ( 0035) : 4.08 0.186 12.58 34.51
-----
ID = 3 ( 0037) : 4.55 0.211 12.58 35.02
    
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

ADD HYD ( 0037)
3 + 2 = 1
-----
ID1= 3 ( 0037) : 4.55 0.211 12.58 35.02
+ ID2= 2 ( 0036) : 3.70 0.155 12.67 35.47
-----
ID = 1 ( 0037) : 8.25 0.364 12.58 35.22
    
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

CALIB
NASHYD ( 0022) | Area (ha)= 3.36 Curve Number (CN)= 73.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
U.H. Tp(hrs)= 0.33

Unit Hyd Qpeak (cms) = 0.389

PEAK FLOW (cms) = 0.221 (i)
TIME TO PEAK (hrs) = 12.250
RUNOFF VOLUME (mm) = 36.465
TOTAL RAINFALL (mm) = 84.550
RUNOFF COEFFICIENT = 0.431

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
    
```

```

RESERVOIR( 0024) | OVERFLOW IS OFF
IN= 2--> OUT= 1
DT= 5.0 min
-----
OUTFLOW STORAGE | OUTFLOW STORAGE
(cms) (ha.m.) | (cms) (ha.m.)
0.0000 0.0000 | 0.3631 0.0306
0.2952 0.0186 | 0.0000 0.0000

AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
INFLOW : ID= 2 ( 0022) 3.360 0.221 12.25 36.46
OUTFLOW: ID= 1 ( 0024) 3.360 0.191 12.50 36.46

PEAK FLOW REDUCTION [Qout/Qin] (%) = 86.45
TIME SHIFT OF PEAK FLOW (min) = 15.00
MAXIMUM STORAGE USED (ha.m.) = 0.0122
    
```



```

CALIB
NASHYD ( 0021) Area (ha)= 2.72 Curve Number (CN)= 72.0
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00
U.H. Tp (hrs)= 0.42

```

Unit Hyd Qpeak (cms)= 0.247

```

PEAK FLOW (cms)= 0.145 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 35.482
TOTAL RAINFALL (mm)= 84.550
RUNOFF COEFFICIENT = 0.420

```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```

RESERVOIR ( 0023) OVERFLOW IS OFF
IN= 2--> OUT= 1
DT= 5.0 min

```

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3474	0.0279
0.2828	0.0170	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 ( 0021)	2.720	0.145	12.42	35.48
OUTFLOW: ID= 1 ( 0023)	2.720	0.133	12.58	35.48

```

PEAK FLOW REDUCTION [Qout/Qin] (%)= 91.50
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0080

```

```

ADD HYD ( 0025)
1 + 2 = 3

```

ID	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0023):	2.72	0.133	12.58	35.48
+ ID2= 2 ( 0024):	3.36	0.191	12.50	36.46
-----				
ID = 3 ( 0025):	6.08	0.322	12.50	36.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

```

```

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

```

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\*\*\*\*\* D E T A I L E D O U T P U T \*\*\*\*\*

```

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\f2fd3ac-b269-4ed6-95e9-6da9884601fb\s
Summary filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\f2fd3ac-b269-4ed6-95e9-6da9884601fb\s

```

DATE: 11/06/2025

TIME: 04:44:03

USER:

COMMENTS:

```

*****
** SIMULATION : 5 - 50yr 24hr SCS Type II **
*****

```

```

READ STORM
Ptotal= 92.53 mm

```

Filename: C:\Users\helpen3241\AppData\Local\Temp\4b326fcd-fa17-443b-be51-1510cc03333e\327a3872  
 Comments: 50yr 24hr SCS Type II

TIME hrs	RAIN mm/hr						
0.00	0.00	6.08	1.67	12.17	13.32	18.25	1.67
0.08	1.02	6.17	1.67	12.25	13.32	18.33	1.67
0.17	1.02	6.25	1.67	12.33	13.32	18.42	1.67
0.25	1.02	6.33	1.67	12.42	13.32	18.50	1.67
0.33	1.02	6.42	1.67	12.50	13.32	18.58	1.67
0.42	1.02	6.50	1.67	12.58	6.85	18.67	1.67
0.50	1.02	6.58	1.67	12.67	6.85	18.75	1.67
0.58	1.02	6.67	1.67	12.75	6.85	18.83	1.67
0.67	1.02	6.75	1.67	12.83	6.85	18.92	1.67
0.75	1.02	6.83	1.67	12.92	6.85	19.00	1.67
0.83	1.02	6.92	1.67	13.00	6.85	19.08	1.67
0.92	1.02	7.00	1.67	13.08	5.00	19.17	1.67
1.00	1.02	7.08	2.04	13.17	5.00	19.25	1.67
1.08	1.02	7.17	2.04	13.25	5.00	19.33	1.67
1.17	1.02	7.25	2.04	13.33	5.00	19.42	1.67
1.25	1.02	7.33	2.04	13.42	5.00	19.50	1.67
1.33	1.02	7.42	2.04	13.50	5.00	19.58	1.67
1.42	1.02	7.50	2.04	13.58	3.89	19.67	1.67
1.50	1.02	7.58	2.04	13.67	3.89	19.75	1.67
1.58	1.02	7.67	2.04	13.75	3.89	19.83	1.67
1.67	1.02	7.75	2.04	13.83	3.89	19.92	1.67
1.75	1.02	7.83	2.04	13.92	3.89	20.00	1.67
1.83	1.02	7.92	2.04	14.00	3.89	20.08	1.11
1.92	1.02	8.00	2.04	14.08	2.78	20.17	1.11
2.00	1.02	8.08	2.41	14.17	2.78	20.25	1.11
2.08	1.20	8.17	2.41	14.25	2.78	20.33	1.11
2.17	1.20	8.25	2.41	14.33	2.78	20.42	1.11
2.25	1.20	8.33	2.41	14.42	2.78	20.50	1.11
2.33	1.20	8.42	2.41	14.50	2.78	20.58	1.11
2.42	1.20	8.50	2.41	14.58	2.78	20.67	1.11
2.50	1.20	8.58	2.59	14.67	2.78	20.75	1.11
2.58	1.20	8.67	2.59	14.75	2.78	20.83	1.11
2.67	1.20	8.75	2.59	14.83	2.78	20.92	1.11
2.75	1.20	8.83	2.59	14.92	2.78	21.00	1.11
2.83	1.20	8.92	2.59	15.00	2.78	21.08	1.11
2.92	1.20	9.00	2.59	15.08	2.78	21.17	1.11
3.00	1.20	9.08	2.96	15.17	2.78	21.25	1.11
3.08	1.20	9.17	2.96	15.25	2.78	21.33	1.11
3.17	1.20	9.25	2.96	15.33	2.78	21.42	1.11
3.25	1.20	9.33	2.96	15.42	2.78	21.50	1.11
3.33	1.20	9.42	2.96	15.50	2.78	21.58	1.11
3.42	1.20	9.50	2.96	15.58	2.78	21.67	1.11
3.50	1.20	9.58	3.33	15.67	2.78	21.75	1.11
3.58	1.20	9.67	3.33	15.75	2.78	21.83	1.11
3.67	1.20	9.75	3.33	15.83	2.78	21.92	1.11
3.75	1.20	9.83	3.33	15.92	2.78	22.00	1.11
3.83	1.20	9.92	3.33	16.00	2.78	22.08	1.11



3.92	1.20	10.00	3.33	16.08	1.67	22.17	1.11
4.00	1.20	10.08	4.26	16.17	1.67	22.25	1.11
4.08	1.48	10.17	4.26	16.25	1.67	22.33	1.11
4.17	1.48	10.25	4.26	16.33	1.67	22.42	1.11
4.25	1.48	10.33	4.26	16.42	1.67	22.50	1.11
4.33	1.48	10.42	4.26	16.50	1.67	22.58	1.11
4.42	1.48	10.50	4.26	16.58	1.67	22.67	1.11
4.50	1.48	10.58	5.74	16.67	1.67	22.75	1.11
4.58	1.48	10.67	5.74	16.75	1.67	22.83	1.11
4.67	1.48	10.75	5.74	16.83	1.67	22.92	1.11
4.75	1.48	10.83	5.74	16.92	1.67	23.00	1.11
4.83	1.48	10.92	5.74	17.00	1.67	23.08	1.11
4.92	1.48	11.00	5.74	17.08	1.67	23.17	1.11
5.00	1.48	11.08	8.88	17.17	1.67	23.25	1.11
5.08	1.48	11.17	8.88	17.25	1.67	23.33	1.11
5.17	1.48	11.25	8.88	17.33	1.67	23.42	1.11
5.25	1.48	11.33	8.88	17.42	1.67	23.50	1.11
5.33	1.48	11.42	8.88	17.50	1.67	23.58	1.11
5.42	1.48	11.50	8.88	17.58	1.67	23.67	1.11
5.50	1.48	11.58	27.39	17.67	1.67	23.75	1.11
5.58	1.48	11.67	27.39	17.75	1.67	23.83	1.11
5.67	1.48	11.75	27.39	17.83	1.67	23.92	1.11
5.75	1.48	11.83	113.26	17.92	1.67	24.00	1.11
5.83	1.48	11.92	113.26	18.00	1.67		
5.92	1.48	12.00	113.26	18.08	1.67		
6.00	1.48	12.08	13.32	18.17	1.67		

TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 41.113  
 TOTAL RAINFALL (mm)= 92.530  
 RUNOFF COEFFICIENT = 0.444

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0036 )				OVERFLOW IS OFF			
IN= 2---> OUT= 1							
DT= 5.0 min							
OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE
(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)
0.0000	0.0000	0.2712	0.0556	0.0000	0.0000	0.2712	0.0556
0.2322	0.0379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AREA	QPEAK	TPEAK	R.V.	AREA	QPEAK	TPEAK	R.V.
(ha)	(cms)	(hrs)	(mm)	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 ( 0033)	3.700	0.268	12.25	41.11	3.700	0.268	12.25
OUTFLOW: ID= 1 ( 0036)	3.700	0.180	12.67	41.10	3.700	0.180	12.67
PEAK FLOW REDUCTION [Qout/Qin] (%)= 67.18							
TIME SHIFT OF PEAK FLOW (min)= 25.00							
MAXIMUM STORAGE USED (ha.m.)= 0.0295							

CALIB				NASHYD ( 0032 )			
ID= 1 DT= 5.0 min							
Area	(ha)=	4.08	Curve Number (CN)= 71.0	Area	(ha)=	4.08	Curve Number (CN)= 71.0
Ia	(mm)=	5.00	# of Linear Res. (N)= 3.00	Ia	(mm)=	5.00	# of Linear Res. (N)= 3.00
U.H. Tp	(hrs)=	0.33		U.H. Tp	(hrs)=	0.33	
Unit Hyd Qpeak	(cms)=	0.472		Unit Hyd Qpeak	(cms)=	0.472	
PEAK FLOW	(cms)=	0.294 (i)		PEAK FLOW	(cms)=	0.294 (i)	
TIME TO PEAK	(hrs)=	12.250		TIME TO PEAK	(hrs)=	12.250	
RUNOFF VOLUME	(mm)=	40.044		RUNOFF VOLUME	(mm)=	40.044	
TOTAL RAINFALL	(mm)=	92.530		TOTAL RAINFALL	(mm)=	92.530	
RUNOFF COEFFICIENT	=	0.433		RUNOFF COEFFICIENT	=	0.433	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0035 )				OVERFLOW IS OFF			
IN= 2---> OUT= 1							
DT= 5.0 min							
OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE
(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)
0.0000	0.0000	0.3176	0.0501	0.0000	0.0000	0.3176	0.0501
0.2713	0.0325	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AREA	QPEAK	TPEAK	R.V.	AREA	QPEAK	TPEAK	R.V.
(ha)	(cms)	(hrs)	(mm)	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 ( 0032)	4.080	0.294	12.25	40.04	4.080	0.294	12.25
OUTFLOW: ID= 1 ( 0035)	4.080	0.217	12.58	40.04	4.080	0.217	12.58
PEAK FLOW REDUCTION [Qout/Qin] (%)= 73.75							
TIME SHIFT OF PEAK FLOW (min)= 20.00							
MAXIMUM STORAGE USED (ha.m.)= 0.0261							

CALIB				NASHYD ( 0033 )			
ID= 1 DT= 5.0 min							
Area	(ha)=	3.70	Curve Number (CN)= 72.0	Area	(ha)=	3.70	Curve Number (CN)= 72.0
Ia	(mm)=	5.00	# of Linear Res. (N)= 3.00	Ia	(mm)=	5.00	# of Linear Res. (N)= 3.00
U.H. Tp	(hrs)=	0.34		U.H. Tp	(hrs)=	0.34	
Unit Hyd Qpeak	(cms)=	0.416		Unit Hyd Qpeak	(cms)=	0.416	
PEAK FLOW	(cms)=	0.268 (i)		PEAK FLOW	(cms)=	0.268 (i)	

CALIB				NASHYD ( 0031 )			
ID= 1 DT= 5.0 min							
Area	(ha)=	0.47	Curve Number (CN)= 76.0	Area	(ha)=	0.47	Curve Number (CN)= 76.0
Ia	(mm)=	5.00	# of Linear Res. (N)= 3.00	Ia	(mm)=	5.00	# of Linear Res. (N)= 3.00
U.H. Tp	(hrs)=	0.22		U.H. Tp	(hrs)=	0.22	
Unit Hyd Qpeak	(cms)=	0.082		Unit Hyd Qpeak	(cms)=	0.082	
PEAK FLOW	(cms)=	0.052 (i)		PEAK FLOW	(cms)=	0.052 (i)	
TIME TO PEAK	(hrs)=	12.167		TIME TO PEAK	(hrs)=	12.167	
RUNOFF VOLUME	(mm)=	45.613		RUNOFF VOLUME	(mm)=	45.613	
TOTAL RAINFALL	(mm)=	92.530		TOTAL RAINFALL	(mm)=	92.530	
RUNOFF COEFFICIENT	=	0.493		RUNOFF COEFFICIENT	=	0.493	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0034 )				OVERFLOW IS OFF			
IN= 2---> OUT= 1							
DT= 5.0 min							
OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE	OUTFLOW	STORAGE
(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)	(cms)	(ha.m.)
0.0000	0.0000	0.0699	0.0150	0.0000	0.0000	0.0699	0.0150
0.0528	0.0079	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AREA	QPEAK	TPEAK	R.V.	AREA	QPEAK	TPEAK	R.V.
(ha)	(cms)	(hrs)	(mm)	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 ( 0031)	0.470	0.052	12.17	45.61	0.470	0.052	12.17
OUTFLOW: ID= 1 ( 0034)	0.470	0.031	12.42	45.55	0.470	0.031	12.42
PEAK FLOW REDUCTION [Qout/Qin] (%)= 58.20							
TIME SHIFT OF PEAK FLOW (min)= 15.00							
MAXIMUM STORAGE USED (ha.m.)= 0.0046							

ADD HYD ( 0037 )							
1 + 2 = 3							
AREA	QPEAK	TPEAK	R.V.	AREA	QPEAK	TPEAK	R.V.
(ha)	(cms)	(hrs)	(mm)	(ha)	(cms)	(hrs)	(mm)
ID1= 1 ( 0034):	0.47	0.031	12.42	45.55	0.47	0.031	12.42
+ ID2= 2 ( 0035):	4.08	0.217	12.58	40.04	4.08	0.217	12.58
ID = 3 ( 0037):	4.55	0.246	12.58	40.61	4.55	0.246	12.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.



ADD HYD ( 0037 )				
3 + 2 = 1				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 ( 0037):	4.55	0.246	12.58	40.61
+ ID2= 2 ( 0036):	3.70	0.180	12.67	41.10
-----				
ID = 1 ( 0037):	8.25	0.424	12.58	40.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD ( 0022 )				
ID= 1 DT= 5.0 min				
Area (ha)=	3.36	Curve Number (CN)=	73.0	
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
U.H. Tp(hrs)=	0.33			

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.257 (i)

TIME TO PEAK (hrs)= 12.250

RUNOFF VOLUME (mm)= 42.206

TOTAL RAINFALL (mm)= 92.530

RUNOFF COEFFICIENT = 0.456

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR( 0024 )				
IN= 2----> OUT= 1				
DT= 5.0 min				
OVERFLOW IS OFF				
OUTFLOW	STORAGE	OUTFLOW	STORAGE	
(cms)	(ha.m.)	(cms)	(ha.m.)	
0.0000	0.0000	0.3631	0.0306	
0.2952	0.0186	0.0000	0.0000	

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 ( 0022)	3.360	0.257	12.25	42.21
OUTFLOW: ID= 1 ( 0024)	3.360	0.222	12.42	42.21

PEAK FLOW REDUCTION [Qout/Qin] (%) = 86.39

TIME SHIFT OF PEAK FLOW (min) = 10.00

MAXIMUM STORAGE USED (ha.m.) = 0.0142

CALIB				
NASHYD ( 0021 )				
ID= 1 DT= 5.0 min				
Area (ha)=	2.72	Curve Number (CN)=	72.0	
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
U.H. Tp(hrs)=	0.42			

Unit Hyd Qpeak (cms)= 0.247

PEAK FLOW (cms)= 0.169 (i)

TIME TO PEAK (hrs)= 12.417

RUNOFF VOLUME (mm)= 41.118

TOTAL RAINFALL (mm)= 92.530

RUNOFF COEFFICIENT = 0.444

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR( 0023 )				
IN= 2----> OUT= 1				
DT= 5.0 min				
OVERFLOW IS OFF				
OUTFLOW	STORAGE	OUTFLOW	STORAGE	
(cms)	(ha.m.)	(cms)	(ha.m.)	
0.0000	0.0000	0.3474	0.0279	
0.2828	0.0170	0.0000	0.0000	

AREA	QPEAK	TPEAK	R.V.
------	-------	-------	------

	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 ( 0021)	2.720	0.169	12.42	41.12
OUTFLOW: ID= 1 ( 0023)	2.720	0.155	12.58	41.12

PEAK FLOW REDUCTION [Qout/Qin] (%) = 91.51

TIME SHIFT OF PEAK FLOW (min) = 10.00

MAXIMUM STORAGE USED (ha.m.) = 0.0093

ADD HYD ( 0025 )				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 ( 0023):	2.72	0.155	12.58	41.12
+ ID2= 2 ( 0024):	3.36	0.222	12.42	42.21
-----				
ID = 3 ( 0025):	6.08	0.375	12.50	41.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V V I SSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSS UUUU A A LLLL
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OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO
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\*\*\*\*\* DETAILED OUTPUT \*\*\*\*\*

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat  
Output filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\ea94ef85b-0454-44ab-83db-2946d7e05dab\s  
Summary filename: C:\Users\helpen3241\AppData\Local\Civica\XH5\6f705505-da24-4fcd-b9d3-05780dcb2b3b\ea94ef85b-0454-44ab-83db-2946d7e05dab\s

DATE: 11/06/2025 TIME: 04:44:03

USER:

COMMENTS: \_\_\_\_\_

\*\*\*\*\*  
\*\* SIMULATION : 6 - 100yr 24hr 5min SCS Type \*\*  
\*\*\*\*\*

READ STORM		Filename:
		C:\Users\helpen3241\AppData\Local\Temp\4b326fcd-fa17-443b-be51-1510cc03333e\b9b9f0ac
Ptotal=101.55 mm		Comments: 100yr 24hr 5min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr

0.00	0.00	6.08	1.83	12.17	14.62	18.25	1.83
0.08	1.12	6.17	1.83	12.25	14.62	18.33	1.83
0.17	1.12	6.25	1.83	12.33	14.62	18.42	1.83
0.25	1.12	6.33	1.83	12.42	14.62	18.50	1.83
0.33	1.12	6.42	1.83	12.50	14.62	18.58	1.83
0.42	1.12	6.50	1.83	12.58	7.51	18.67	1.83
0.50	1.12	6.58	1.83	12.67	7.51	18.75	1.83
0.58	1.12	6.67	1.83	12.75	7.51	18.83	1.83
0.67	1.12	6.75	1.83	12.83	7.51	18.92	1.83
0.75	1.12	6.83	1.83	12.92	7.51	19.00	1.83
0.83	1.12	6.92	1.83	13.00	7.51	19.08	1.83
0.92	1.12	7.00	1.83	13.08	5.48	19.17	1.83
1.00	1.12	7.08	2.23	13.17	5.48	19.25	1.83
1.08	1.12	7.17	2.23	13.25	5.48	19.33	1.83
1.17	1.12	7.25	2.23	13.33	5.48	19.42	1.83
1.25	1.12	7.33	2.23	13.42	5.48	19.50	1.83
1.33	1.12	7.42	2.23	13.50	5.48	19.58	1.83
1.42	1.12	7.50	2.23	13.58	4.27	19.67	1.83
1.50	1.12	7.58	2.23	13.67	4.27	19.75	1.83
1.58	1.12	7.67	2.23	13.75	4.27	19.83	1.83
1.67	1.12	7.75	2.23	13.83	4.27	19.92	1.83
1.75	1.12	7.83	2.23	13.92	4.27	20.00	1.83
1.83	1.12	7.92	2.23	14.00	4.27	20.08	1.22
1.92	1.12	8.00	2.23	14.08	3.05	20.17	1.22
2.00	1.12	8.08	2.64	14.17	3.05	20.25	1.22
2.08	1.32	8.17	2.64	14.25	3.05	20.33	1.22
2.17	1.32	8.25	2.64	14.33	3.05	20.42	1.22
2.25	1.32	8.33	2.64	14.42	3.05	20.50	1.22
2.33	1.32	8.42	2.64	14.50	3.05	20.58	1.22
2.42	1.32	8.50	2.64	14.58	3.05	20.67	1.22
2.50	1.32	8.58	2.84	14.67	3.05	20.75	1.22
2.58	1.32	8.67	2.84	14.75	3.05	20.83	1.22
2.67	1.32	8.75	2.84	14.83	3.05	20.92	1.22
2.75	1.32	8.83	2.84	14.92	3.05	21.00	1.22
2.83	1.32	8.92	2.84	15.00	3.05	21.08	1.22
2.92	1.32	9.00	2.84	15.08	3.05	21.17	1.22
3.00	1.32	9.08	3.25	15.17	3.05	21.25	1.22
3.08	1.32	9.17	3.25	15.25	3.05	21.33	1.22
3.17	1.32	9.25	3.25	15.33	3.05	21.42	1.22
3.25	1.32	9.33	3.25	15.42	3.05	21.50	1.22
3.33	1.32	9.42	3.25	15.50	3.05	21.58	1.22
3.42	1.32	9.50	3.25	15.58	3.05	21.67	1.22
3.50	1.32	9.58	3.66	15.67	3.05	21.75	1.22
3.58	1.32	9.67	3.66	15.75	3.05	21.83	1.22
3.67	1.32	9.75	3.66	15.83	3.05	21.92	1.22
3.75	1.32	9.83	3.66	15.92	3.05	22.00	1.22
3.83	1.32	9.92	3.66	16.00	3.05	22.08	1.22
3.92	1.32	10.00	3.66	16.08	1.83	22.17	1.22
4.00	1.32	10.08	4.67	16.17	1.83	22.25	1.22
4.08	1.62	10.17	4.67	16.25	1.83	22.33	1.22
4.17	1.62	10.25	4.67	16.33	1.83	22.42	1.22
4.25	1.62	10.33	4.67	16.42	1.83	22.50	1.22
4.33	1.62	10.42	4.67	16.50	1.83	22.58	1.22
4.42	1.62	10.50	4.67	16.58	1.83	22.67	1.22
4.50	1.62	10.58	6.30	16.67	1.83	22.75	1.22
4.58	1.62	10.67	6.30	16.75	1.83	22.83	1.22
4.67	1.62	10.75	6.30	16.83	1.83	22.92	1.22
4.75	1.62	10.83	6.30	16.92	1.83	23.00	1.22
4.83	1.62	10.92	6.30	17.00	1.83	23.08	1.22
4.92	1.62	11.00	6.30	17.08	1.83	23.17	1.22
5.00	1.62	11.08	9.75	17.17	1.83	23.25	1.22
5.08	1.62	11.17	9.75	17.25	1.83	23.33	1.22
5.17	1.62	11.25	9.75	17.33	1.83	23.42	1.22
5.25	1.62	11.33	9.75	17.42	1.83	23.50	1.22
5.33	1.62	11.42	9.75	17.50	1.83	23.58	1.22
5.42	1.62	11.50	9.75	17.58	1.83	23.67	1.22
5.50	1.62	11.58	30.06	17.67	1.83	23.75	1.22
5.58	1.62	11.67	30.06	17.75	1.83	23.83	1.22
5.67	1.62	11.75	30.06	17.83	1.83	23.92	1.22
5.75	1.62	11.83	124.30	17.92	1.83	24.00	1.22
5.83	1.62	11.92	124.30	18.00	1.83		
5.92	1.62	12.00	124.30	18.08	1.83		
6.00	1.62	12.08	14.62	18.17	1.83		

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CALIB			
NASHYD ( 0032)	Area (ha)=	4.08	Curve Number (CN)= 71.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)= 3.00
	U.H. Tp (hrs)=	0.33	

Unit Hyd Qpeak (cms)= 0.472

PEAK FLOW (cms)= 0.343 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 46.528  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.458

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-----

RESERVOIR( 0035)			
OVERFLOW IS OFF			
IN= 2---> OUT= 1			
DT= 5.0 min			

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3176	0.0501
0.2713	0.0325	0.0000	0.0000

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
4.080	0.343	12.25	46.53
4.080	0.253	12.58	46.52

INFLOW : ID= 2 ( 0032)  
 OUTFLOW: ID= 1 ( 0035)

PEAK FLOW REDUCTION [Qout/Qin] (%)= 73.70  
 TIME SHIFT OF PEAK FLOW (min)= 20.00  
 MAXIMUM STORAGE USED (ha.m.)= 0.0305

-----

CALIB			
NASHYD ( 0033)	Area (ha)=	3.70	Curve Number (CN)= 72.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res. (N)= 3.00
	U.H. Tp (hrs)=	0.34	

Unit Hyd Qpeak (cms)= 0.416

PEAK FLOW (cms)= 0.312 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 47.713  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.470

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-----

RESERVOIR( 0036)			
OVERFLOW IS OFF			
IN= 2---> OUT= 1			
DT= 5.0 min			

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2712	0.0556
0.2322	0.0379	0.0000	0.0000

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3.700	0.312	12.25	47.71
3.700	0.210	12.67	47.70

INFLOW : ID= 2 ( 0033)  
 OUTFLOW: ID= 1 ( 0036)

PEAK FLOW REDUCTION [Qout/Qin] (%)= 67.12  
 TIME SHIFT OF PEAK FLOW (min)= 25.00  
 MAXIMUM STORAGE USED (ha.m.)= 0.0343



CALIB  
 NASHYD ( 0031) Area (ha)= 0.47 Curve Number (CN)= 76.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.22

Unit Hyd Qpeak (cms)= 0.082

PEAK FLOW (cms)= 0.061 (i)  
 TIME TO PEAK (hrs)= 12.167  
 RUNOFF VOLUME (mm)= 52.667  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.519

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0034) OVERFLOW IS OFF  
 IN= 2---> OUT= 1  
 DT= 5.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0699	0.0150
	0.0528	0.0079	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 ( 0031)	0.470	0.061	12.17	52.67
OUTFLOW: ID= 1 ( 0034)	0.470	0.035	12.42	52.59

PEAK FLOW REDUCTION [Qout/Qin] (%) = 58.27  
 TIME SHIFT OF PEAK FLOW (min) = 15.00  
 MAXIMUM STORAGE USED (ha.m.) = 0.0053

ADD HYD ( 0037)  
 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0034):	0.47	0.035	12.42	52.59
+ ID2= 2 ( 0035):	4.08	0.253	12.58	46.52
ID = 3 ( 0037):	4.55	0.286	12.58	47.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD ( 0037)  
 3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 ( 0037):	4.55	0.286	12.58	47.15
+ ID2= 2 ( 0036):	3.70	0.210	12.67	47.70
ID = 1 ( 0037):	8.25	0.494	12.58	47.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB  
 NASHYD ( 0022) Area (ha)= 3.36 Curve Number (CN)= 73.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.33

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.299 (i)  
 TIME TO PEAK (hrs)= 12.250  
 RUNOFF VOLUME (mm)= 48.922  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.482

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0024) OVERFLOW IS OFF  
 IN= 2---> OUT= 1  
 DT= 5.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3631	0.0306
	0.2952	0.0186	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 ( 0022)	3.360	0.299	12.25	48.92
OUTFLOW: ID= 1 ( 0024)	3.360	0.258	12.42	48.92

PEAK FLOW REDUCTION [Qout/Qin] (%) = 86.40  
 TIME SHIFT OF PEAK FLOW (min) = 10.00  
 MAXIMUM STORAGE USED (ha.m.) = 0.0165

CALIB  
 NASHYD ( 0021) Area (ha)= 2.72 Curve Number (CN)= 72.0  
 ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res. (N)= 3.00  
 U.H. Tp(hrs)= 0.42

Unit Hyd Qpeak (cms)= 0.247

PEAK FLOW (cms)= 0.197 (i)  
 TIME TO PEAK (hrs)= 12.417  
 RUNOFF VOLUME (mm)= 47.719  
 TOTAL RAINFALL (mm)= 101.550  
 RUNOFF COEFFICIENT = 0.470

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR ( 0023) OVERFLOW IS OFF  
 IN= 2---> OUT= 1  
 DT= 5.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3474	0.0279
	0.2828	0.0170	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 ( 0021)	2.720	0.197	12.42	47.72
OUTFLOW: ID= 1 ( 0023)	2.720	0.180	12.58	47.72

PEAK FLOW REDUCTION [Qout/Qin] (%) = 91.51  
 TIME SHIFT OF PEAK FLOW (min) = 10.00  
 MAXIMUM STORAGE USED (ha.m.) = 0.0109

ADD HYD ( 0025)  
 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 ( 0023):	2.72	0.180	12.58	47.72
+ ID2= 2 ( 0024):	3.36	0.258	12.42	48.92
ID = 3 ( 0025):	6.08	0.436	12.50	48.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

# Appendix C

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## Engineering Drawings



# LOT 20, CONCESSION

PART 4, PLAN 7R-1830

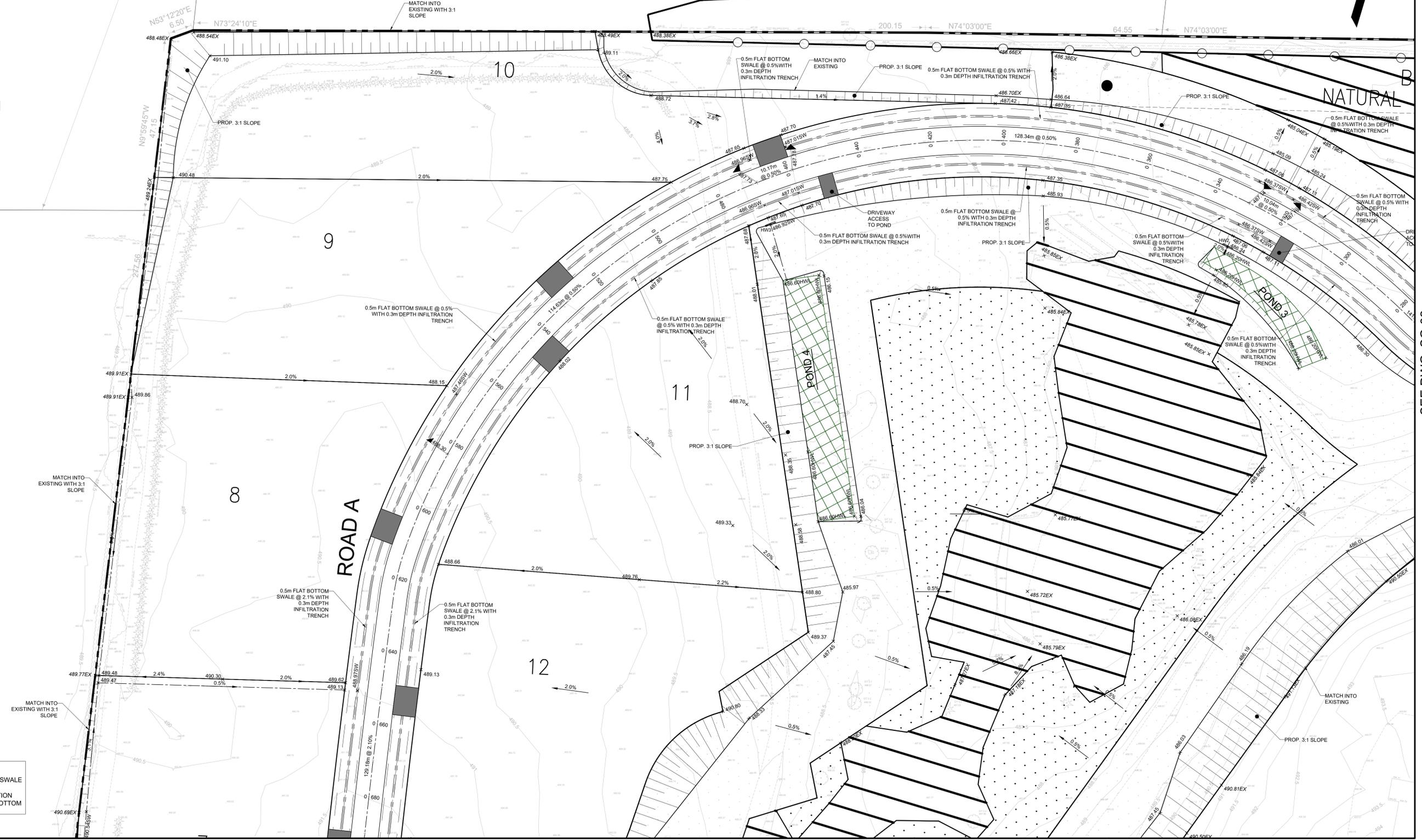
PIN 34047 - 0053

PART

PIN 34047-0171

LOT 20, CONCESSION 2  
LOT 19, CONCESSION 2

NATURAL



- NOTES:**
1. ALL SWALES TO BE FLAT BOTTOM SWALE UNLESS OTHERWISE NOTIFIED.
  2. 0.5m WIDTH 0.3m DEPTH INFILTRATION TRENCH INSTALLED IN ALL FLAT BOTTOM SWALE.

SEE DWG. SG-03

LEGEND	
PROPERTY LINE	STREET NAME
LOT LINES	PROPOSED GRADE
EDGE OF SHOULDER	EXISTING GRADE
ROAD CENTRE LINE	PROPOSED SWALE GRADE
	OVERLAND FLOW ROUTE
	STREET NAME
	PROPOSED HEADWALL
	PROPOSED STORM CULVERT
	0.5m FLAT BOTTOM SWALE WITH 0.3m DEPTH INFILTRATION TRENCH
	V-SHAPED SWALE
	UNEVALUATED WETLAND / PROVINCIAL SIGNIFICANT WETLAND + 15m BUFFER
	RESTORED HISTORICAL WETLAND
	CONSTRUCTED WETLAND
	POST DEVELOPMENT BUFFER (CONSTRUCTED)
	WATERCOURSE/HABITAT
	UNEVALUATED WETLAND/ PROVINCIAL SIGNIFICANT WETLAND

514504 2ND LINE  
PART OF LOT 19, CONCESSION 2  
TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

THE CELLULAR CONNECTION LTD.



CONCEPTUAL GRADING PLAN

SCALE: 1:500

NOVEMBER 2025

SG-01

SEE DWG. SG-02

CONVESSION

PIN 34047 - 0053

PART 3, PLAN 7R-1830

PART 1, PLAN 7R-1830  
PIN 34047-0054

# BLOCK 20 NATURAL HERITAGE SYSTEM

SEE DWG. SG-01

SEE DWG. SG-04

LEGEND	
PROPERTY LINE	STREET NAME
LOT LINES	EXISTING GRADE
EDGE OF SHOULDER	PROPOSED SWALE GRADE
ROAD CENTRE LINE	OVERLAND FLOW ROUTE
STREET NAME	STREET NAME
PROPOSED GRADE	PROPOSED SWALE
EXISTING GRADE	PROPOSED HEADWALL
PROPOSED SWALE GRADE	PROPOSED STORM CULVERT
OVERLAND FLOW ROUTE	
0.5m FLAT BOTTOM SWALE WITH 0.3m DEPTH INFILTRATION TRENCH	UNEVALUATED WETLAND / PROVINCIALY SIGNIFICANT WETLAND + 15m BUFFER
V-SHAPE SWALE	RESTORED HISTORICAL WETLAND
PROPOSED HEADWALL	CONSTRUCTED WETLAND
PROPOSED STORM CULVERT	POST DEVELOPMENT BUFFER (CONSTRUCTED)
	WATERCOURSE/HABITAT
	UNEVALUATED WETLAND/ PROVINCIALY SIGNIFICANT WETLAND

514504 2ND LINE  
PART OF LOT 19, CONVESSION 2  
TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

THE CELLULAR CONNECTION LTD.



2305387

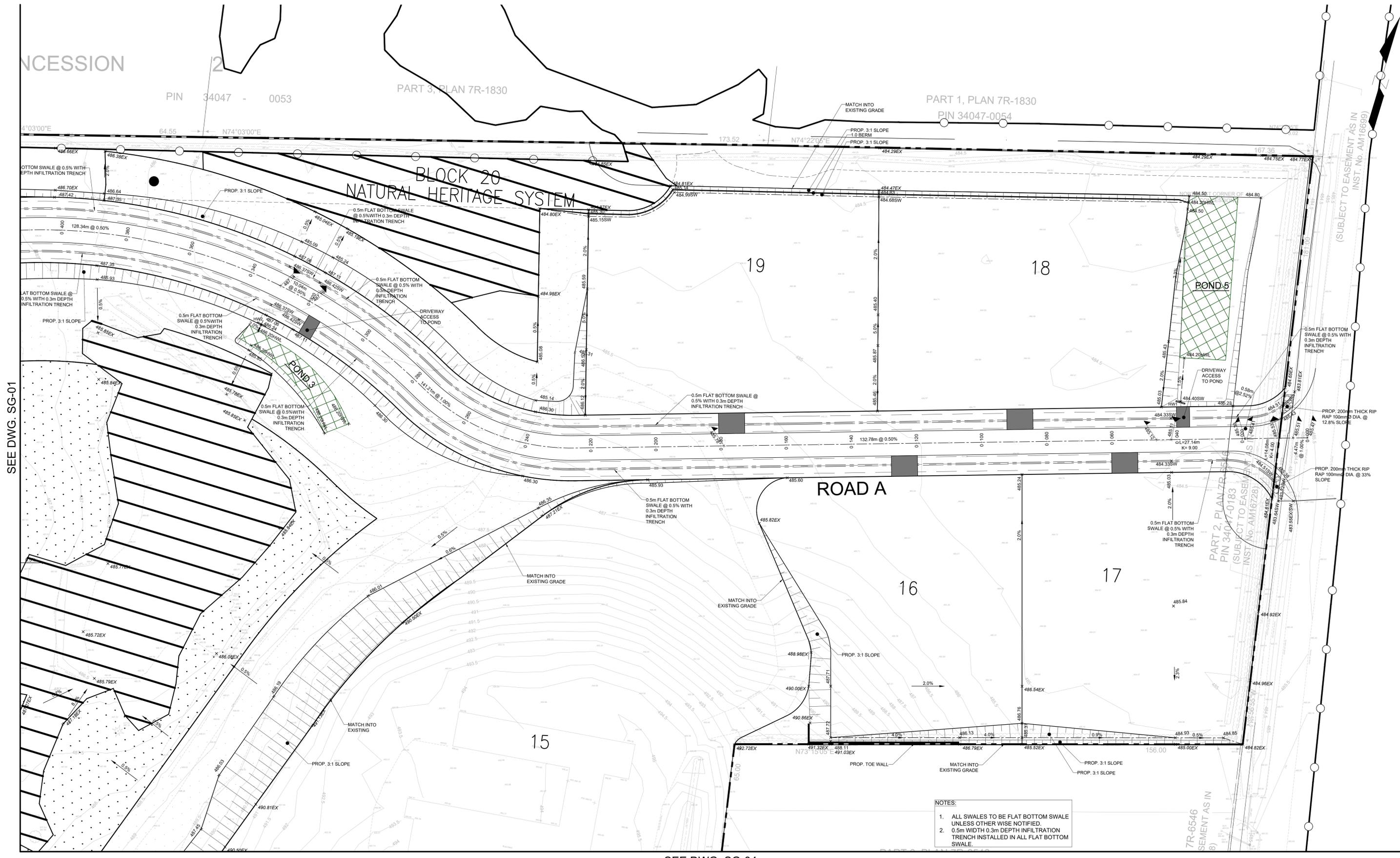
## CONCEPTUAL GRADING PLAN

SCALE: 1:500

NOVEMBER 2025

SG-02

- NOTES:
- ALL SWALES TO BE FLAT BOTTOM SWALE UNLESS OTHERWISE NOTIFIED.
  - 0.5m WIDTH 0.3m DEPTH INFILTRATION TRENCH INSTALLED IN ALL FLAT BOTTOM SWALE.

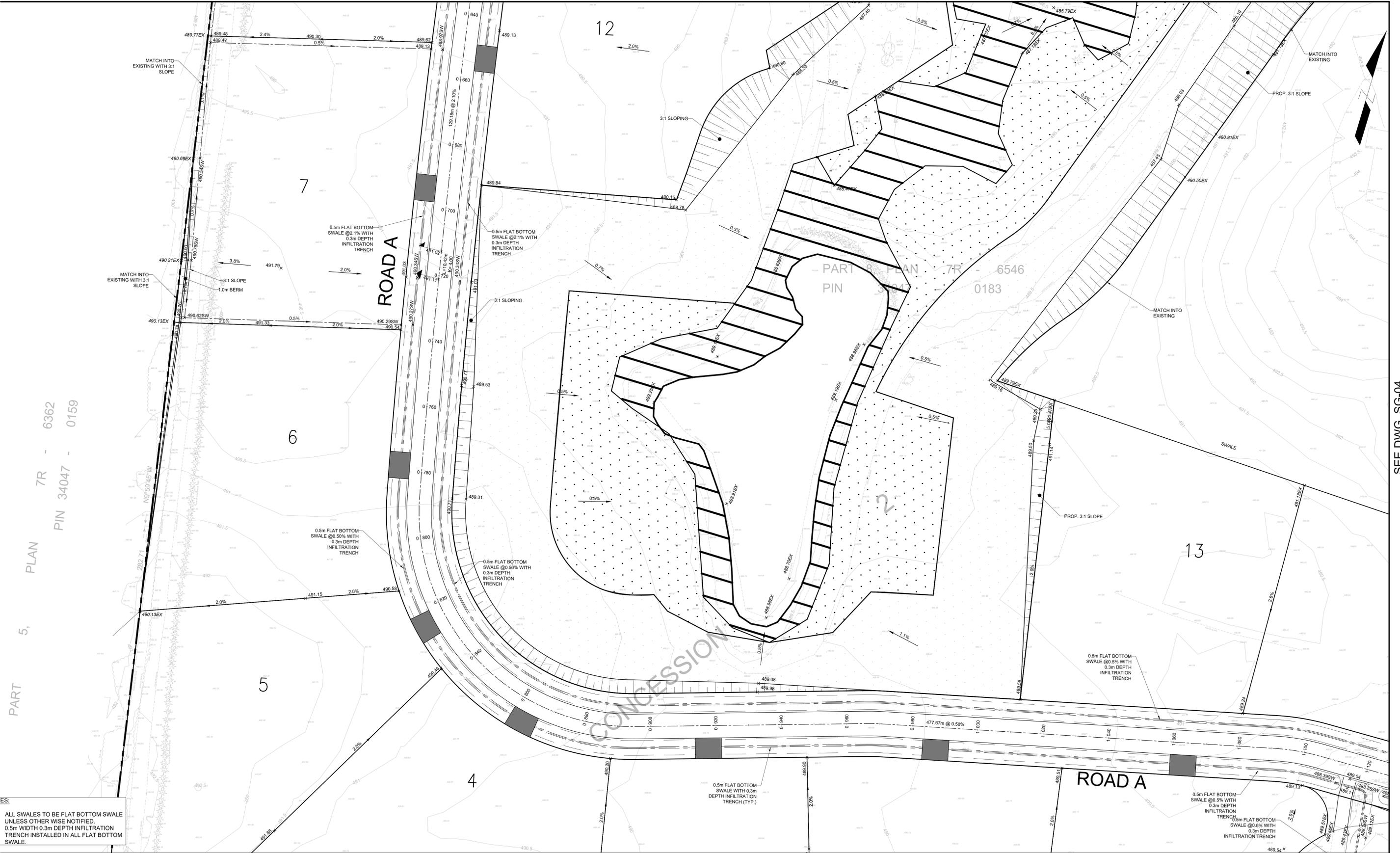


(SUBJECT TO EASEMENT AS IN INST. NO. AM16699)

PART 2, PLAN 7R-1830  
PIN 34047-0183  
(SUBJECT TO EASEMENT AS IN INST. NO. AM16728)

7R-6546  
SEMENT AS IN  
B)

SEE DWG. SG-01



- NOTES:
1. ALL SWALES TO BE FLAT BOTTOM SWALE UNLESS OTHERWISE NOTIFIED.
  2. 0.5m WIDTH 0.3m DEPTH INFILTRATION TRENCH INSTALLED IN ALL FLAT BOTTOM SWALE.

SEE DWG. SG-05

LEGEND	
PROPERTY LINE	--- ---
LOT LINES	— — — —
EDGE OF SHOULDER	— — — —
ROAD CENTRE LINE	— — — —
STREET NAME	STREET NAME
PROPOSED GRADE	x 491.25
EXISTING GRADE	x 490.46EX
PROPOSED SWALE GRADE	x 490.46SW
OVERLAND FLOW ROUTE	— — — —
0.5m FLAT BOTTOM SWALE WITH 0.3m DEPTH INFILTRATION TRENCH	— — — —
V-SHAPED SWALE	— — — —
PROPOSED HEADWALL	— — — —
PROPOSED STORM CULVERT	— — — —
UNEVALUATED WETLAND / PROVINCIAL SIGNIFICANT WETLAND + 15m BUFFER	— — — —
WATERCOURSE/HABITAT	— — — —
UNEVALUATED WETLAND / PROVINCIAL SIGNIFICANT WETLAND	— — — —
RESTORED HISTORICAL WETLAND	— — — —
CONSTRUCTED WETLAND	— — — —
POST DEVELOPMENT BUFFER (CONSTRUCTED)	— — — —

514504 2ND LINE  
 PART OF LOT 19, CONCESSION 2  
 TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN  
 THE CELLULAR CONNECTION LTD.



2305387

CONCEPTUAL GRADING PLAN

SCALE: 1:500

NOVEMBER 2025

SG-03

SEE DWG. SG-04

SEE DWG. SG-02



SEE DWG. SG-03

SEE DWG. SG-06

- NOTES:**
1. ALL SWALES TO BE FLAT BOTTOM SWALE UNLESS OTHERWISE NOTIFIED.
  2. 0.5m WIDTH 0.3m DEPTH INFILTRATION TRENCH INSTALLED IN ALL FLAT BOTTOM SWALE.

LEGEND	
PROPERTY LINE	--- ---
LOT LINES	— — — —
EDGE OF SHOULDER	— — — —
ROAD CENTRE LINE	— — — —
STREET NAME	PROPOSED GRADE x 491.25
STREET NAME	EXISTING GRADE x 490.46EX
STREET NAME	PROPOSED SWALE GRADE x 490.46SW
STREET NAME	OVERLAND FLOW ROUTE
0.5m FLAT BOTTOM SWALE WITH 0.3m DEPTH INFILTRATION TRENCH	— — — —
V-SHAPED SWALE	— — — —
PROPOSED HEADWALL	— — — —
PROPOSED STORM CULVERT	— — — —
UNEVALUATED WETLAND / PROVINCIALLY SIGNIFICANT WETLAND + 15m BUFFER	— — — —
WATERCOURSE/HABITAT	— — — —
UNEVALUATED WETLAND/ PROVINCIALLY SIGNIFICANT WETLAND	— — — —
RESTORED HISTORICAL WETLAND	— — — —
CONSTRUCTED WETLAND	— — — —
POST DEVELOPMENT BUFFER (CONSTRUCTED)	— — — —

514504 2ND LINE  
 PART OF LOT 19, CONCESSION 2  
 TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

THE CELLULAR CONNECTION LTD.



CONCEPTUAL GRADING PLAN

SCALE: 1:500

NOVEMBER 2025

SG-04

SEE DWG. SG-03



- NOTES:**
1. ALL SWALES TO BE FLAT BOTTOM SWALE UNLESS OTHERWISE NOTIFIED.
  2. 0.5m WIDTH 0.3m DEPTH INFILTRATION TRENCH INSTALLED IN ALL FLAT BOTTOM SWALE.

SEE DWG. SG-06

LEGEND	
PROPERTY LINE	--- ---
LOT LINES	— — — —
EDGE OF SHOULDER	— — — —
ROAD CENTRE LINE	— — — —
STREET NAME	— — — —
PROPOSED GRADE	x 491.25
EXISTING GRADE	x 490.46EX
PROPOSED SWALE GRADE	x 490.46SW
OVERLAND FLOW ROUTE	— — — —
0.5m FLAT BOTTOM SWALE WITH 0.3m DEPTH INFILTRATION TRENCH	— — — —
V-SHAPED SWALE	— — — —
PROPOSED HEADWALL	— — — —
PROPOSED STORM CULVERT	— — — —
UNEVALUATED WETLAND / PROVINCIAL SIGNIFICANT WETLAND + 15m BUFFER	— — — —
WATERCOURSE/HABITAT	— — — —
UNEVALUATED WETLAND / PROVINCIAL SIGNIFICANT WETLAND	— — — —
RESTORED HISTORICAL WETLAND	— — — —
CONSTRUCTED WETLAND	— — — —
POST DEVELOPMENT BUFFER (CONSTRUCTED)	— — — —

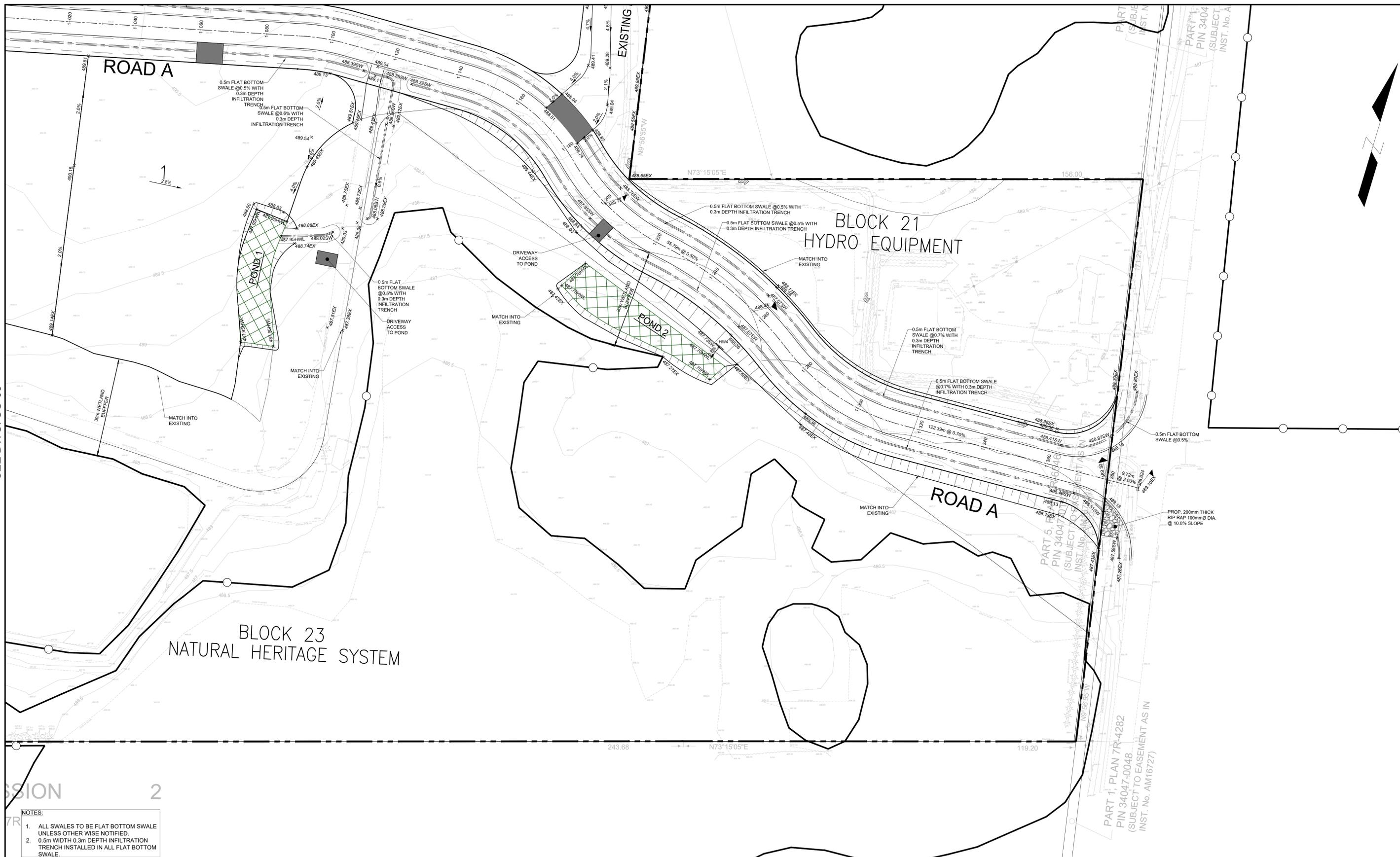
514504 2ND LINE  
 PART OF LOT 19, CONCESSION 2  
 TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN  
 THE CELLULAR CONNECTION LTD.



CONCEPTUAL GRADING PLAN  
 SCALE: 1:500  
 NOVEMBER 2025  
 SG-05

SEE DWG. SG-04

SEE DWG. SG-05



ROAD A

BLOCK 21  
HYDRO EQUIPMENT

BLOCK 23  
NATURAL HERITAGE SYSTEM

ROAD A

POND 1

POND 2

- NOTES:
1. ALL SWALES TO BE FLAT BOTTOM SWALE UNLESS OTHERWISE NOTIFIED.
  2. 0.5m WIDTH 0.3m DEPTH INFILTRATION TRENCH INSTALLED IN ALL FLAT BOTTOM SWALE.

LEGEND	
PROPERTY LINE	--- ---
LOT LINES	— — — —
EDGE OF SHOULDER	— — — —
ROAD CENTRE LINE	— — — —
STREET NAME	PROPOSED GRADE x 491.25
STREET NAME	EXISTING GRADE x 490.46EX
STREET NAME	PROPOSED SWALE GRADE x 490.46SW
STREET NAME	OVERLAND FLOW ROUTE
0.5m FLAT BOTTOM SWALE WITH 0.3m DEPTH INFILTRATION TRENCH	— — — —
V-SHAPED SWALE	— — — —
PROPOSED HEADWALL	— — — —
PROPOSED STORM CULVERT	— — — —
UNEVALUATED WETLAND / PROVINCIAL SIGNIFICANT WETLAND + 15m BUFFER	— — — —
WATERCOURSE/HABITAT	— — — —
UNEVALUATED WETLAND / PROVINCIAL SIGNIFICANT WETLAND	— — — —
RESTORED HISTORICAL WETLAND	— — — —
CONSTRUCTED WETLAND	— — — —
POST DEVELOPMENT BUFFER (CONSTRUCTED)	— — — —

514504 2ND LINE  
PART OF LOT 19, CONVESSION 2  
TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

THE CELLULAR CONNECTION LTD.

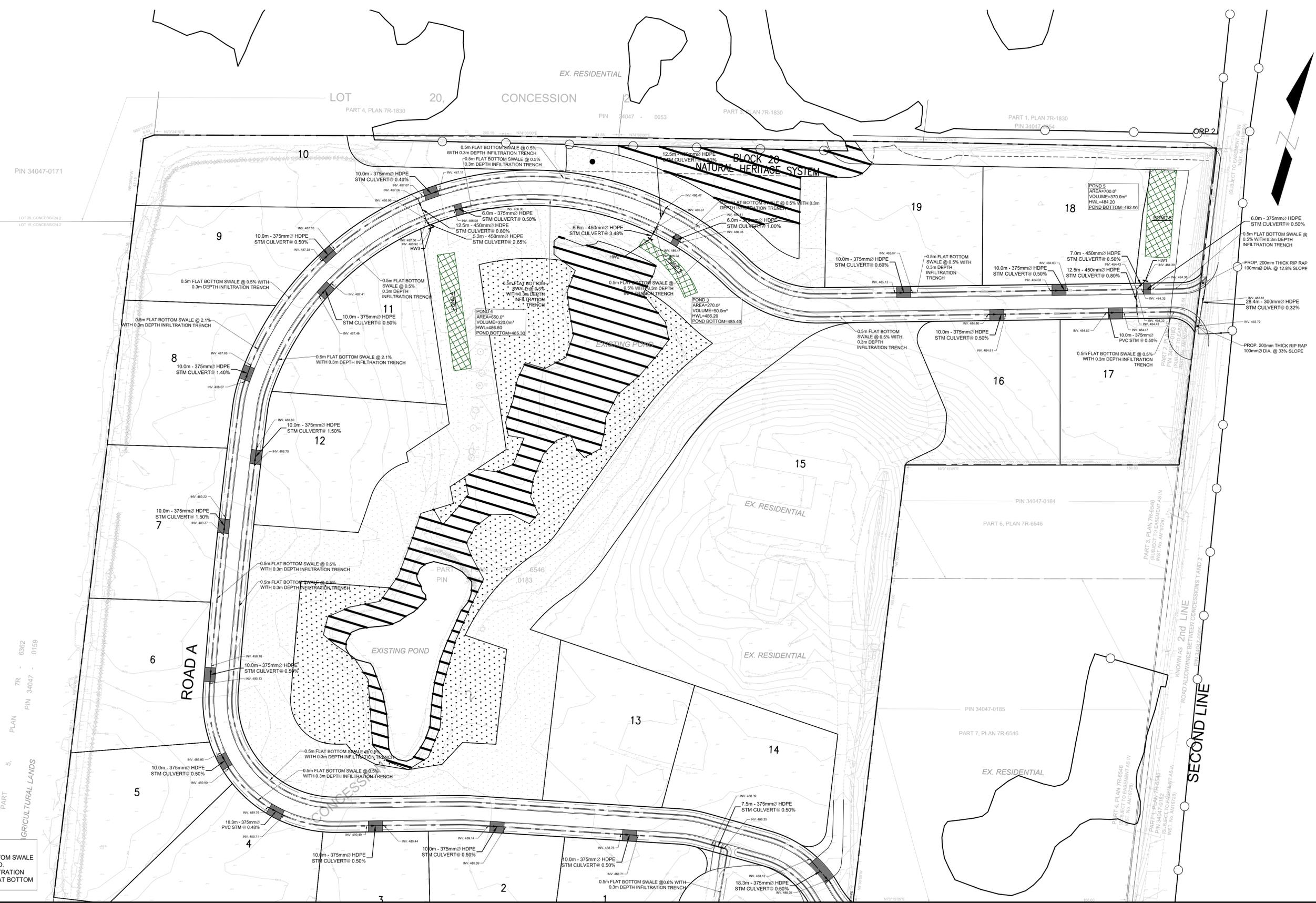


CONCEPTUAL GRADING PLAN

SCALE: 1:500

NOVEMBER 2025

SG-06



- NOTES:**
1. ALL SWALES TO BE FLAT BOTTOM SWALE UNLESS OTHERWISE NOTIFIED.
  2. 0.5m WIDTH 0.3m DEPTH INFILTRATION TRENCH INSTALLED IN ALL FLAT BOTTOM SWALE.

SEE DWG. SS-02

LEGEND	
PROPERTY LINE	0.5m FLAT BOTTOM SWALE WITH 0.3m DEPTH INFILTRATION TRENCH
LOT LINES	PROPOSED HEADWALL
EDGE OF SHOULDER	PROPOSED STORM CULVERT
ROAD CENTRE LINE	STREET NAME
	UNEVALUATED WETLAND / PROVINCIAL SIGNIFICANT WETLAND + 15m BUFFER
	WATERCOURSE/HABITAT
	UNEVALUATED WETLAND / PROVINCIAL SIGNIFICANT WETLAND
	RESTORED HISTORICAL WETLAND
	CONSTRUCTED WETLAND
	POST DEVELOPMENT BUFFER (CONSTRUCTED)

514504 2ND LINE  
 PART OF LOT 19, CONCESSION 2  
 TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

THE CELLULAR CONNECTION LTD.



CONCEPTUAL SERVICING PLAN

2305387 SCALE: 1:1000 NOVEMBER 2025 SS-01

SEE DWG. SS-01



- NOTES:**
1. ALL SWALES TO BE FLAT BOTTOM SWALE UNLESS OTHER WISE NOTIFIED.
  2. 0.5m WIDTH 0.3m DEPTH INFILTRATION TRENCH INSTALLED IN ALL FLAT BOTTOM SWALE.

LEGEND	
PROPERTY LINE	--- ---
LOT LINES	— — — —
EDGE OF SHOULDER	— — — —
ROAD CENTRE LINE	— — — —
STREET NAME	— — — —
PROPOSED GRADE	x 491.25
EXISTING GRADE	x 488.53
PROPOSED SWALE GRADE	x 490.46SW
OVERLAND FLOW ROUTE	— — — —
STREET NAME	— — — —
STREET NAME	— — — —
PROPOSED DITCH INLET	— — — —
CATCH BASIN	— — — —
PROPOSED HEADWALL	— — — —
PROPOSED STORM CULVERT	— — — —
0.5m FLAT BOTTOM SWALE WITH 0.3m DEPTH INFILTRATION TRENCH	— — — —
V-SHAPED SWALE	— — — —
PROPOSED DITCH INLET	— — — —
CATCH BASIN	— — — —
PROPOSED HEADWALL	— — — —
PROPOSED STORM CULVERT	— — — —
WOODLAND AREA	— — — —
SIGNIFICANT WETLAND	— — — —
WATERCOURSE/HABITAT	— — — —
UNEVALUATED WETLAND/PROVINCIAL SIGNIFICANT WETLAND	— — — —
UNEVALUATED WETLAND / PROVINCIAL SIGNIFICANT WETLAND + 30m BUFFER	— — — —

514504 2ND LINE  
 PART OF LOT 19, CONCESSION 2  
 TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

THE CELLULAR CONNECTION LTD.

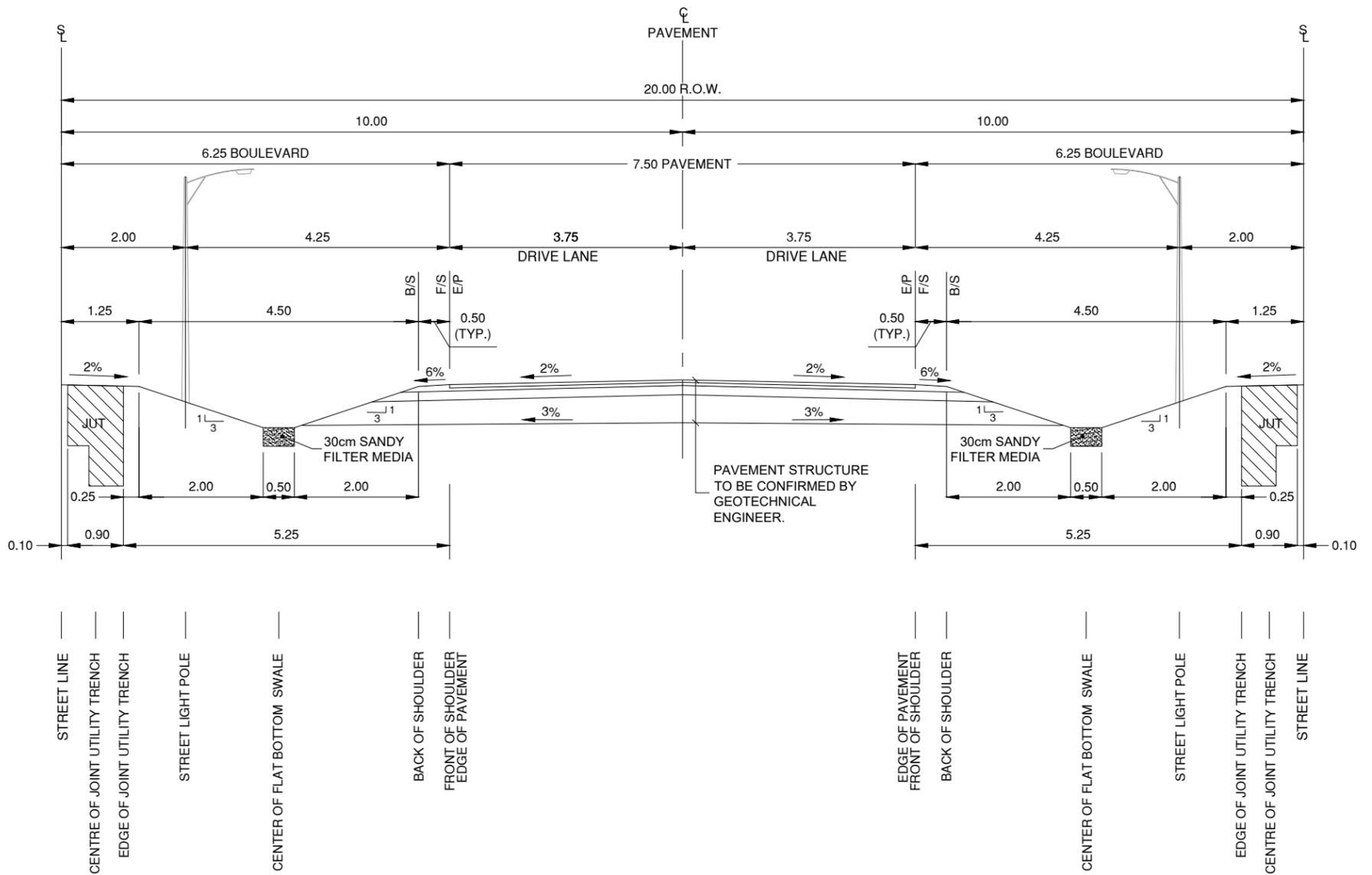


CONCEPTUAL SERVICING PLAN

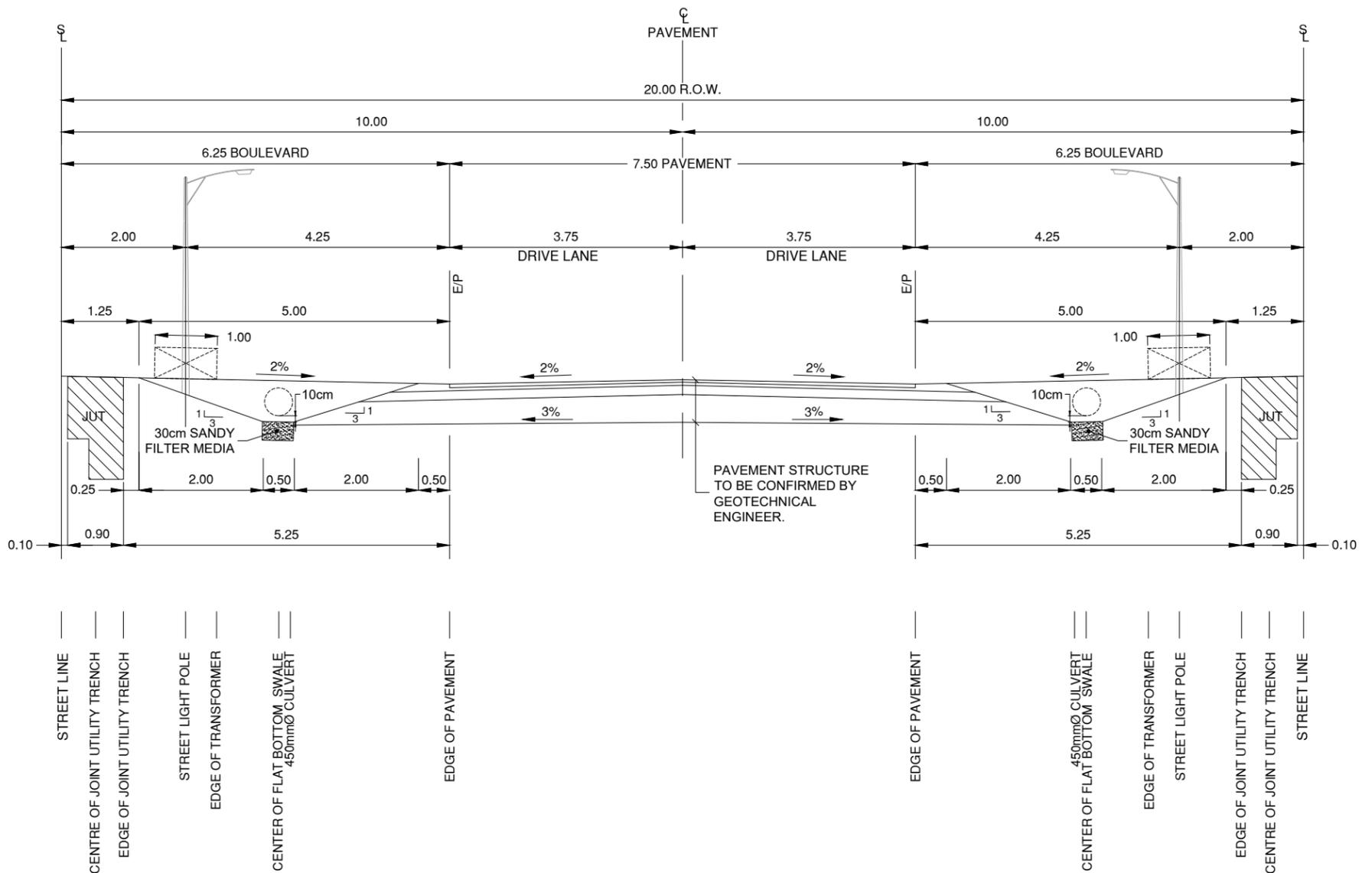
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NOVEMBER 2025

SS-02



**TYPICAL 20m R.O.W. (RIGHT-OF-WAY) CROSS-SECTION**  
NOT TO SCALE



**TYPICAL 20m R.O.W. (RIGHT-OF-WAY) CROSS-SECTION**  
**AT RESIDENTIAL DRIVEWAYS AND TRANSFORMERS**  
NOT TO SCALE

\*NOTE: DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

514504 SECOND LINE  
PART OF LOT 19, CONCESSION 2  
TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN



TYPICAL ROW CROSS-SECTIONS

THE CELLULAR CONNECTION LTD.

2305387

JANUARY 2025

FIG-3