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# Public Works Operation Center

## Technical Information Report

May 23, 2025

Prepared For:

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CLC-07

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HHPR

ENGINEERS ♦ PLANNERS  
LANDSCAPE ARCHITECTS ♦ SURVEYORS

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## **INTRODUCTION**

This is the Preliminary Technical Information Report for the La Center Public Works Operation Center located at 291 E Ivy Avenue, La Center, WA 98629, tax lot 6295235. The site consists of approximately 1.30 acres.

This report is submitted concurrently with a site application plan set that contains the stormwater plans. This site application plan set will hereafter be referred to as the “plan set” and is included as Appendix 2.

The layout of this report conforms to the standardized format as described in the City of La Center Municipal Code 18.320.400.

The existing City Public Works maintenance site includes two buildings. With this proposal, the southern shed will be demolished and a new building with covered parking will be constructed in its general location. The new building is a five bay maintenance shop that will be approximately 3,400 square feet with a 1,200 square foot covered parking area on either side of the building. The existing building to the north will remain, and a new 800 square foot covered parking area will be extended on the east side of the building. The drive aisle will be re-paved and a new retaining wall will be constructed at the southwest corner.

## **Maps**

- (a) Site Location Map
- (b) Soils Map
- (c) Wellhead Protection Map
- (d) GeoHazard Map

## **Section A – Project Overview**

- a) The existing stormwater system on-site consists of overland flow to catch basins or roof drains, connection to an on-site underground conveyance system with multiple outfalls offsite to the south
- b) The parameters that influence the stormwater design are the City of La Center’s code for redevelopment and the elevation of the site and the ditch line.
- c) The existing stormwater system outfalls at multiple locations to the south of the site to a ravine and to a roadside ditch along E. Ivy Avenue.
- d) The new stormwater system proposes collecting and detaining the areas of new roof runoff, installing new catch basins within the re-paved drive aisles, collecting the washdown area and conveying it to an oil/water separator, combining all stormwater pipes together and creating one new outfall to the existing ditch along E. Ivy Avenue.

## **Section B – Approval Conditions Summary**

- a) N/A at this stage. Will include this section with the Final TIR once conditions are set by the City.

## **Section C – Downstream Analysis**

- a) The existing site outfalls to the ditch in E. Ivy Avenue or directly to the ravine south of the site. The proposed project will maintain these same outfall locations, The natural drainage path follows the ravine to where it meets the East Fork Lewis River, approximately 0.60 miles downstream from the project site. The project will be adding 200 SF of asphalt and 3,500 SF of roof area. While neither of these numbers meet the criteria for flow control, the City code does have a provision that the “replacement of existing structures exceeding 5,000 square feet on commercial or industrial projects” must provide flow control. The project proposes to provide flow control for the new and replaced roof area, which is 6,534 square feet. Since this is more than the added impervious surface (6,534 SF > 3,700 SF), the project will be improving the downstream system by reducing the runoff.

## **Section D – Quantity Control Analysis and Design**

- a) Hydrologic analysis, existing and developed conditions
- i. The project will provide quantity control analysis for the replaced and added roof areas per the LCMC 18.320.120(2)(c) *Replacement of structures exceeding 5,000 square feet on commercial or industrial parcels.*
  - ii. The assumptions made in completing the analysis are:
    - The rainfall data in the isopluvials for Clark County accurately reflects the rainfall.
    - The proposed conveyance and detention systems will be well maintained by the owner.
    - The survey accurately demonstrates the on-site slopes and features.
  - iii. The entire project is within one basin.

Existing Pavement (SF)	Proposed Pavement (SF)	Added Pavement (SF)
14,200	14,400	200

Existing Roof Area (SF)	Proposed Roof Area (SF)	Added Roof (SF)
8,400	11,900	3,500

- b) Quantity Control System Design

- i. The quantity control facility was designed using Hydraflow for Hydrographs with the Santa Barbara Unit Hydrograph method. The pre-developed hydrograph used a CN number from the surfaces of the property 50 years ago. Historical imaging from 1974 shows that one building and gravel parking driveway were located within the project area. A 100-foot long, 24" round detention pipe will be installed.

	Pre-developed (CFS)	Post-developed (CFS)	Routed Through Detention Pipe (CFS)	Max. Elevation (FT)	Change (CFS)
2-year	0.072	0.083	0.032	123.87	-0.04
10-year	0.104	0.114	0.073	124.21	-0.031
100-year	0.160	0.168	0.159	124.40	-0.001

As shown in the table above, the flow is reduced in all design storms.

- c) Quantity Control System Plan

- i. See plan set for the flow control structure detail.
- ii. See Appendix 4, Stormwater Calculations, for all measurements and calculations.
- iii. See plan set for the flow control structure detail. The flow control system consists of a 100 foot long, 24" detention pipe with a 10" riser pipe at 1.65' above the outlet. There will be two orifices: 1.1" at elevation of outlet pipe and 3.2" at 1.25' above outlet pipe.

## **Section E – Conveyance Systems Analysis and Design**

- a) The conveyance system for the project consists of overland flow, inlets and underground pipes to convey stormwater.
- b) The existing stormwater runoff flows to existing inlets and then are underground piped to outfall to the ravine to the south or to the ditch to the west. Most of the existing system will be protected throughout construction.

- c) The assumptions utilized in the conveyance system design are:
  - The rainfall data in the isopluvials for Clark County accurately reflects the rainfall.
  - The proposed conveyance system will be well maintained by the owner.
- d) Refer to the project plans for details regarding the stormwater piping, outfall protection and flow control structures.

#### **Section F – Water Quality Design**

- a) The added pollution generating surface on the project is 200 SF and does not trigger the Minimum Requirement for Flow Control.

#### **Section G – Soils Evaluation**

- a) The soil type within the project area consists of Odne silt loam (OdB). This is a poorly drained soil within Hydrologic Soil Group D.
- b) Geotechnical borings were not taken for the project, however based on the elevation of the adjacent ravine, the groundwater is expected to be well below the detention system.
- c) No infiltration was utilized within the detention system.

#### **Section H – Special Reports and Studies**

- a) There are no special reports or studies completed for this project.

#### **Section I – Other Permits**

- a) Building Permit submitted through separate documents.

#### **Section J – Groundwater Monitoring Program**

- a) N/A

#### **Section K – Maintenance and Operations Manual**

- a) See Appendix 5 for the operation and maintenance manual.

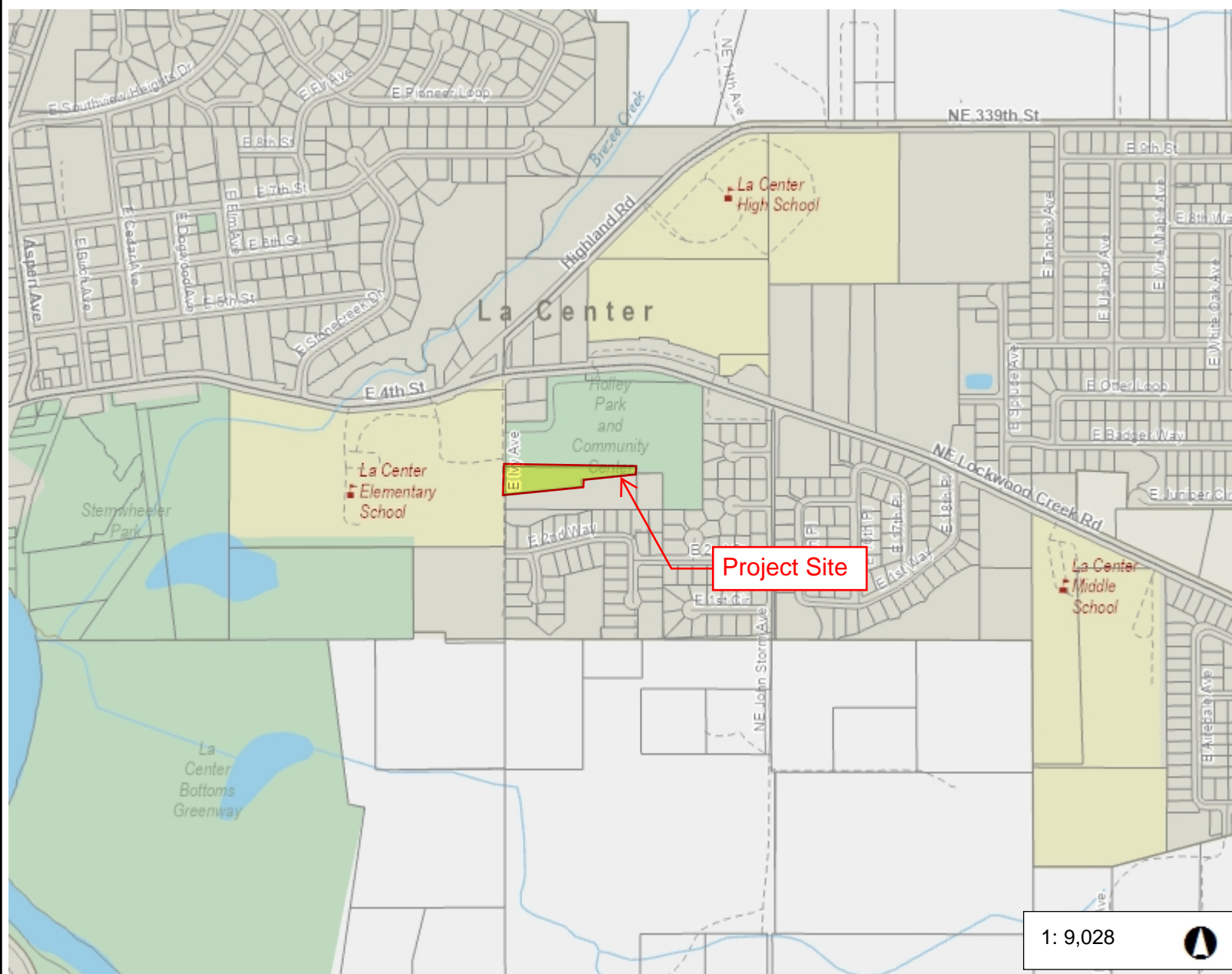
#### **Section L – Technical Appendix**

- Appendix 1 – Maps
- Appendix 2 – Site Application Plan Set
- Appendix 3 – Basin Map
- Appendix 4 – Stormwater Calculations
- Appendix 5 – Operations and Maintenance Manual

## **APPENDIX 1 – MAPS**



## Site Location Map



### Legend

Taxlots

### Notes:

1: 9,028



1,504.7 0 752.33 1,504.7 Feet




WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere  
Clark County, WA. GIS - <http://gis.clark.wa.gov>

This map was generated by Clark County's "MapsOnline" website. Clark County does not warrant the accuracy, reliability or timeliness of any information on this map, and shall not be held liable for losses caused by using this information. Taxlot (i.e., parcel) boundaries cannot be used to determine the location of property lines on the ground.

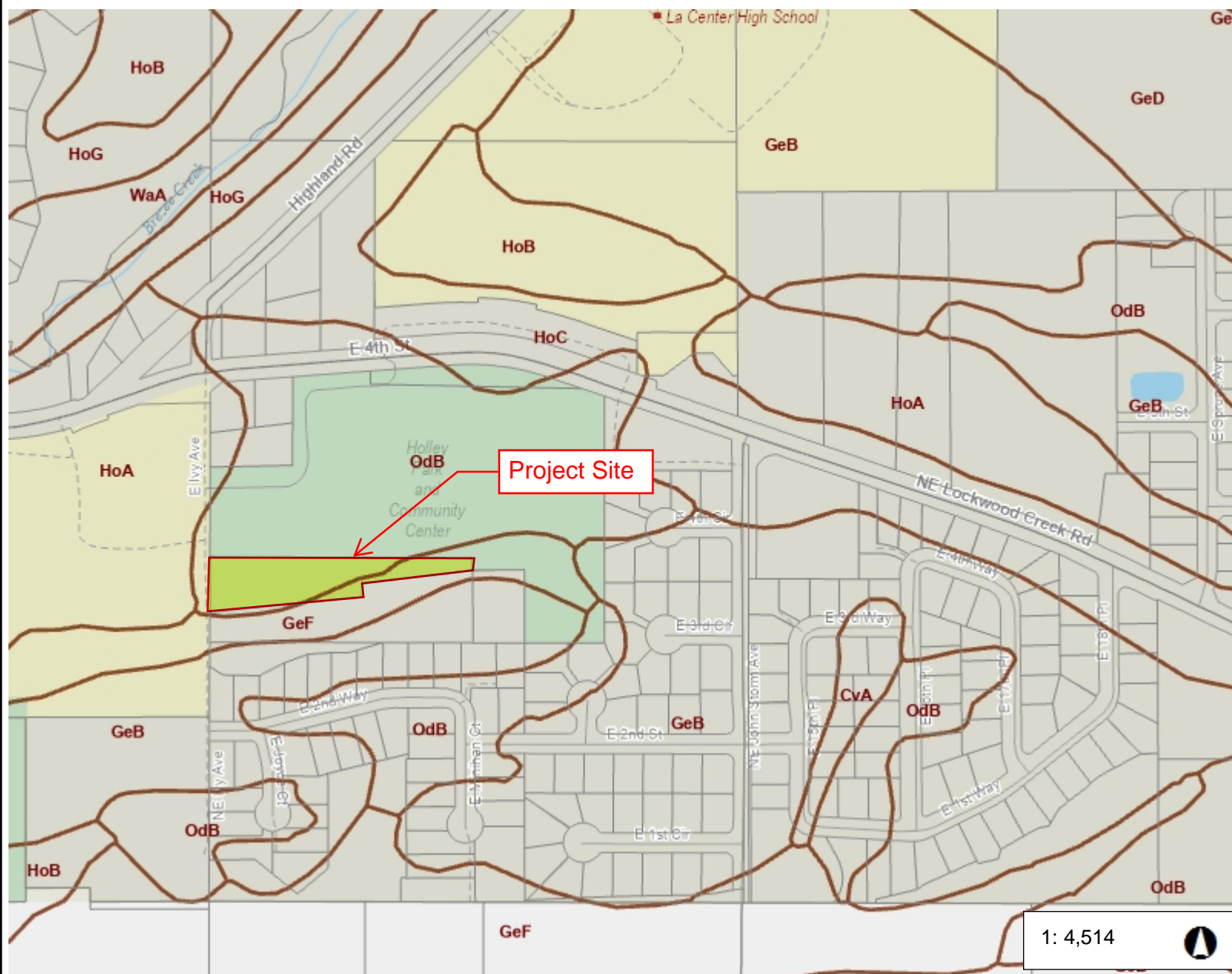




### Legend

-  Taxlots
-  Soil Type
-  Water Table Elevation

**Notes:**



752.3	0	376.17	752.3	Feet
-------	---	--------	-------	------

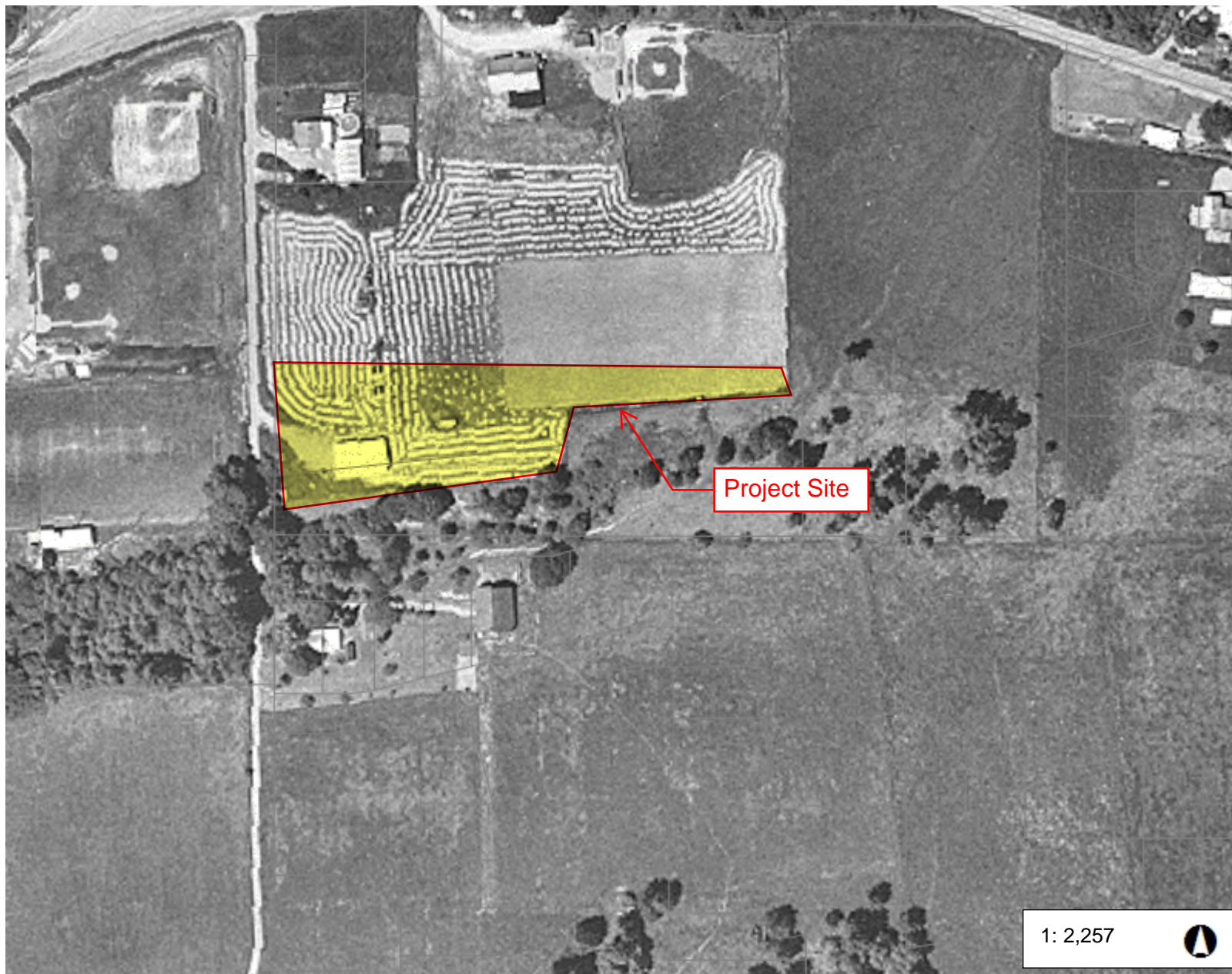
WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere  
Clark County, WA. GIS - <http://gis.clark.wa.gov>

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## 1974 aerial



1: 2,257



376.2 0 188.08 376.2 Feet

WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere  
Clark County, WA. GIS - <http://gis.clark.wa.gov>

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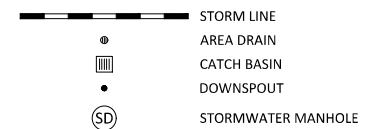


### Legend

 Taxlots

### Notes:

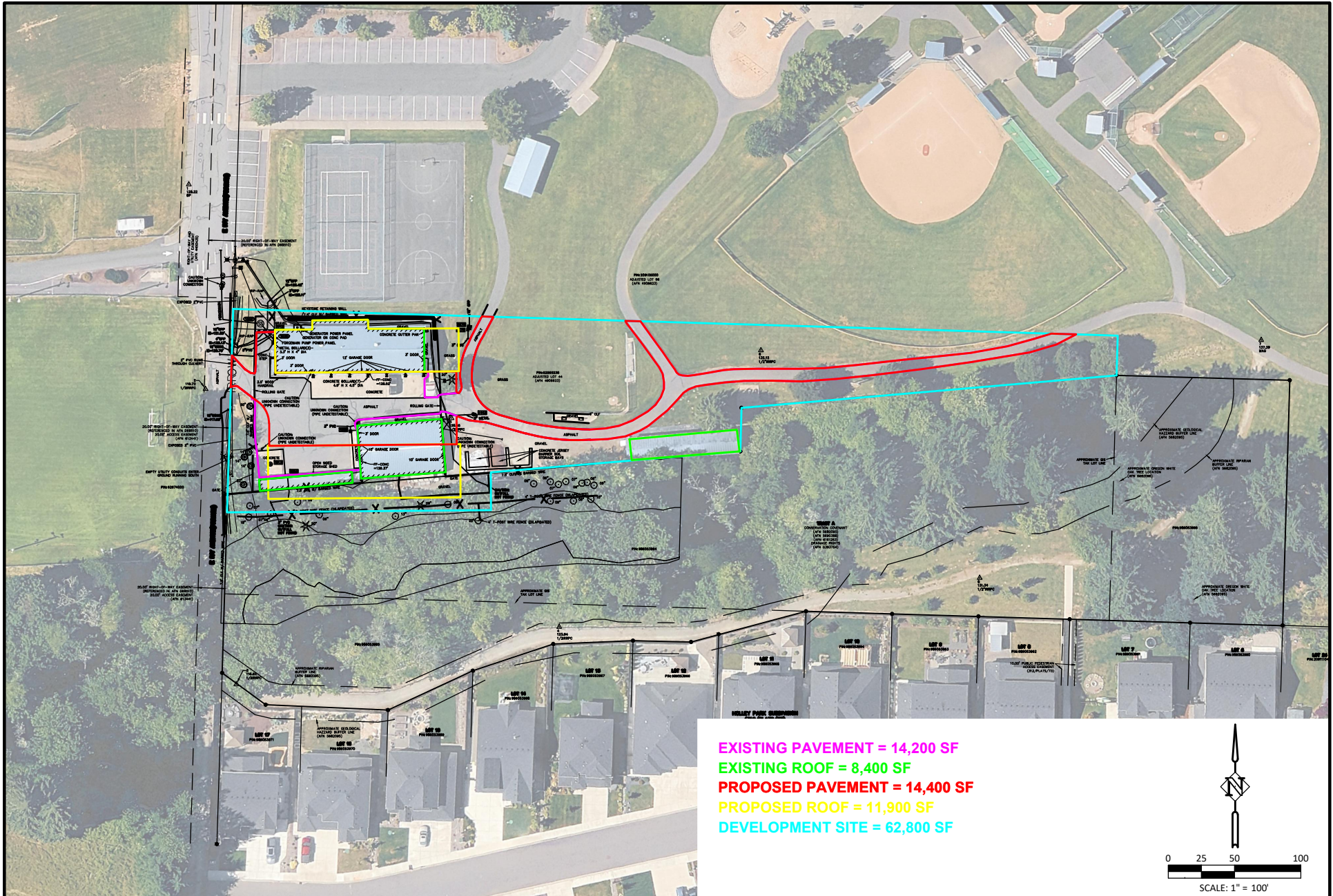
## **APPENDIX 2 - SITE APPLICATION PLAN SET**



SHEET NO.  
**C1.3**  
JOB NO. CLC-07

## **APPENDIX 3 – BASIN MAP**





EXISTING PAVEMENT = 14,200 SF  
 EXISTING ROOF = 8,400 SF  
 PROPOSED PAVEMENT = 14,400 SF  
 PROPOSED ROOF = 11,900 SF  
 DEVELOPMENT SITE = 62,800 SF

SHEET NO.				DESIGNED:	---
<b>B1.0</b>				DRAWN:	---
				CHECKED:	---
				DATE:	---
JOB NO.	----	DATE	NO.	DESCRIPTION	DATE
R E V I S I O N S					


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BASIN MAP  
**PUBLIC WORKS SHOP**  
 LA CENTER, WA

## **APPENDIX 4 – STORMWATER CALCULATIONS**

# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SBUH Runoff	0.072	2	474	1,016	-----	-----	-----	Pre-developed
2	SBUH Runoff	0.083	2	474	1,182	-----	-----	-----	Post-developed
4	Reservoir	0.032	2	518	1,180	2	101.05	168	Route
CLC07-detention.gpw					Return Period: 2 Year			Friday, 05 / 23 / 2025	

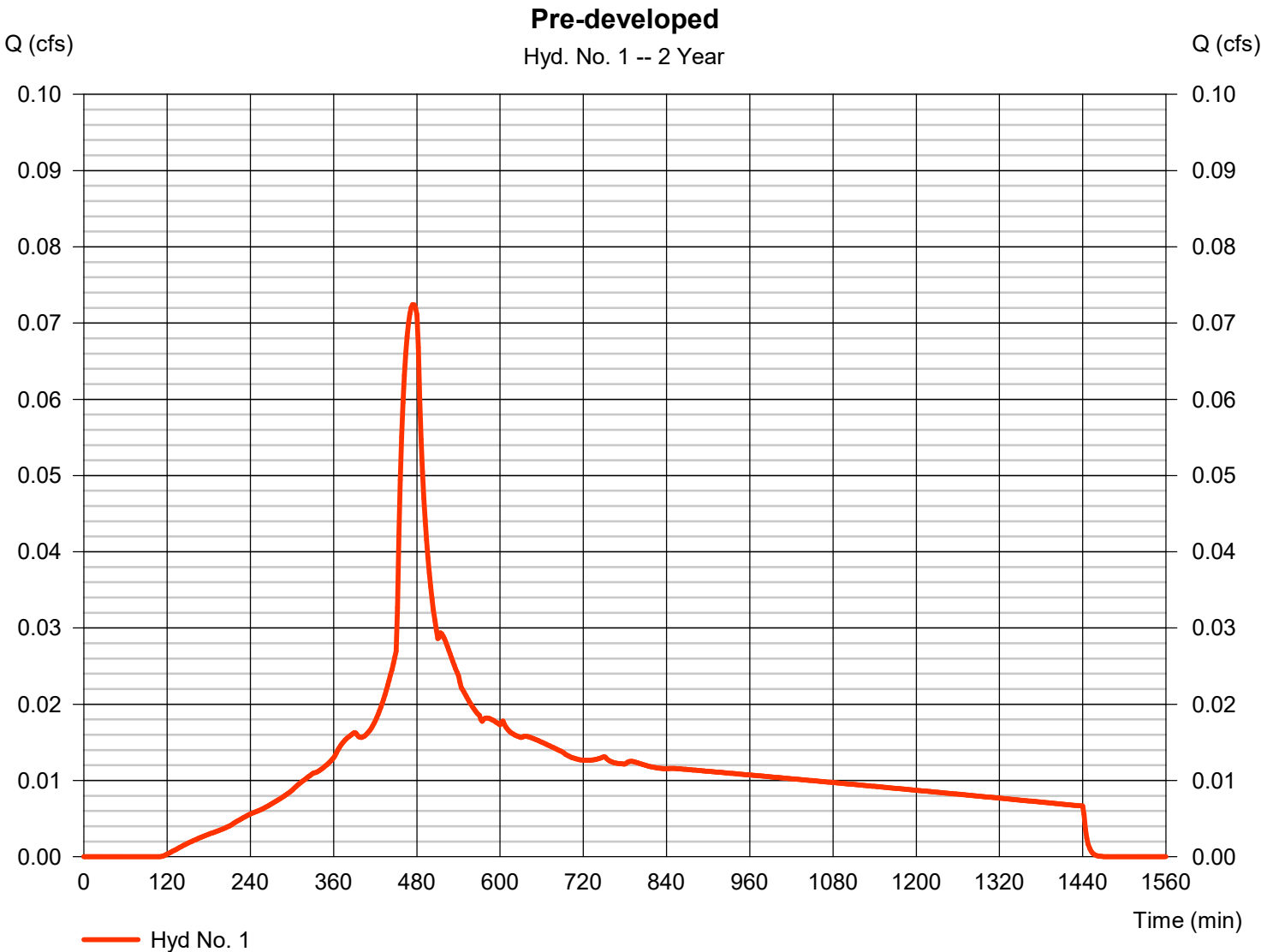


# Hydrograph Report

## Hyd. No. 1

Pre-developed

Hydrograph type	=	SBUH Runoff	Peak discharge	=	0.072 cfs
Storm frequency	=	2 yrs	Time to peak	=	474 min
Time interval	=	2 min	Hyd. volume	=	1,016 cuft
Drainage area	=	0.150 ac	Curve number	=	95
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.40 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	n/a

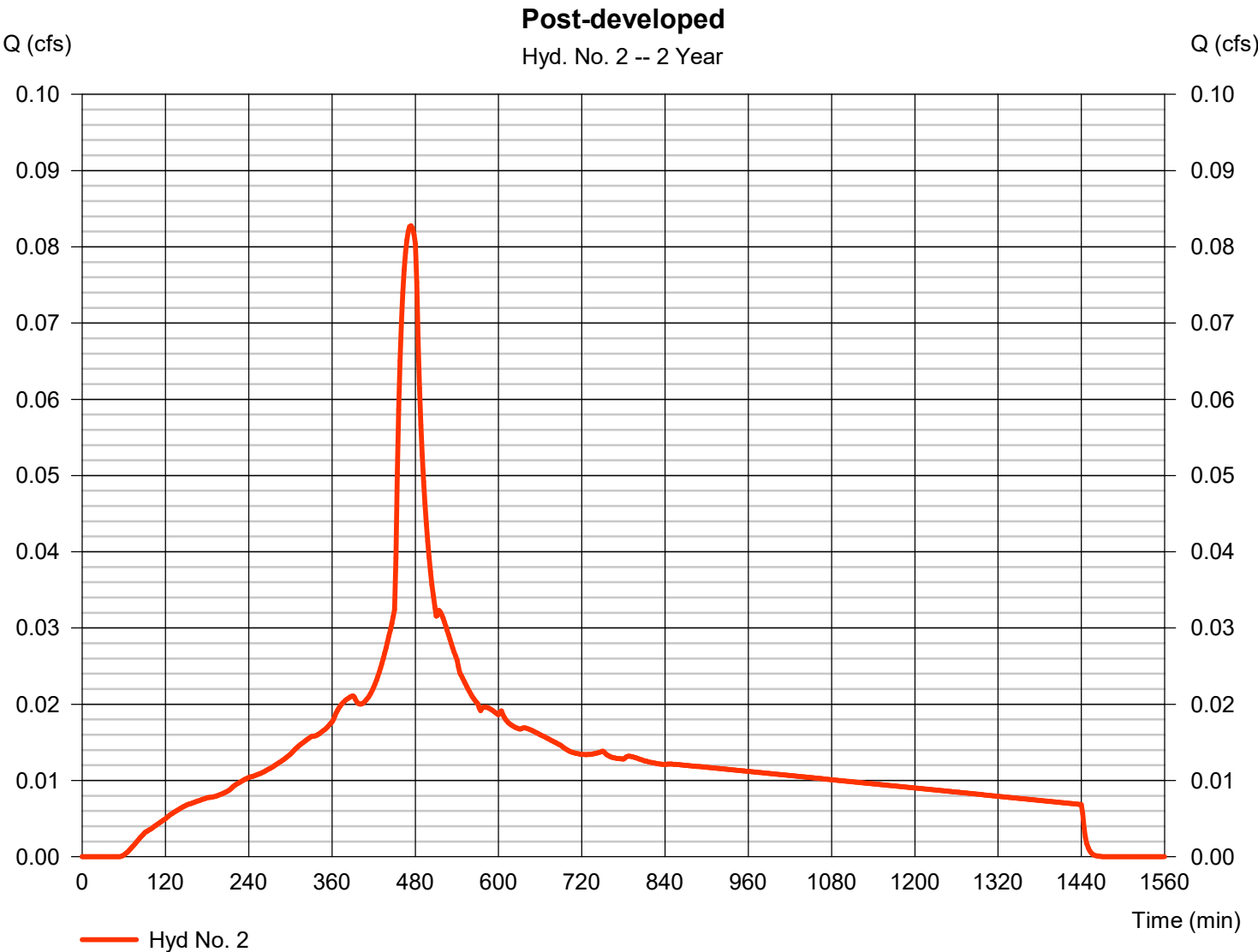


# Hydrograph Report

## Hyd. No. 2

Post-developed

Hydrograph type	=	SBUH Runoff	Peak discharge	=	0.083 cfs
Storm frequency	=	2 yrs	Time to peak	=	474 min
Time interval	=	2 min	Hyd. volume	=	1,182 cuft
Drainage area	=	0.150 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.40 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	n/a



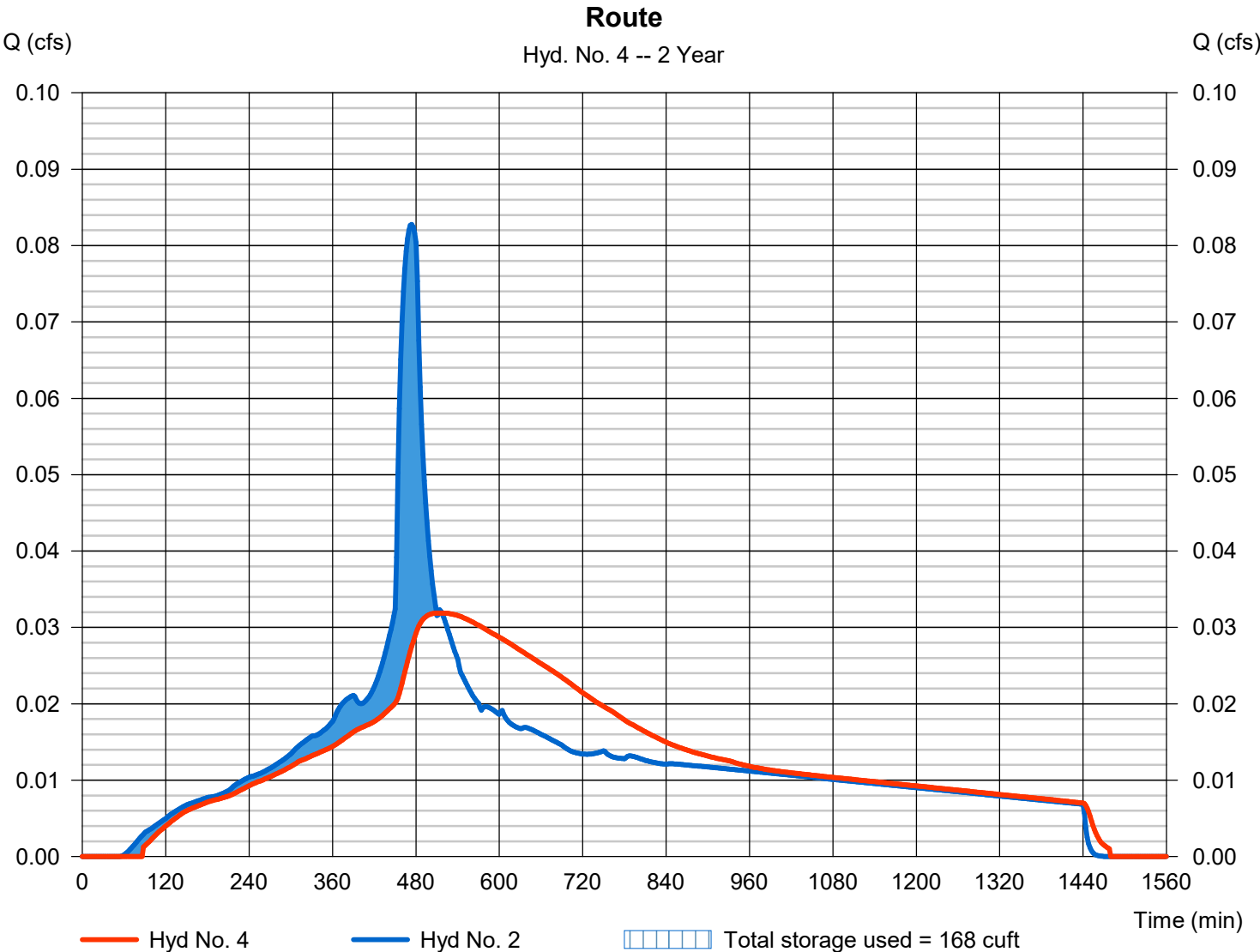
# Hydrograph Report

## Hyd. No. 4

### Route

Hydrograph type	= Reservoir	Peak discharge	= 0.032 cfs
Storm frequency	= 2 yrs	Time to peak	= 518 min
Time interval	= 2 min	Hyd. volume	= 1,180 cuft
Inflow hyd. No.	= 2 - Post-developed	Max. Elevation	= 101.05 ft
Reservoir name	= 24 inch Pipe	Max. Storage	= 168 cuft

Storage Indication method used.



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

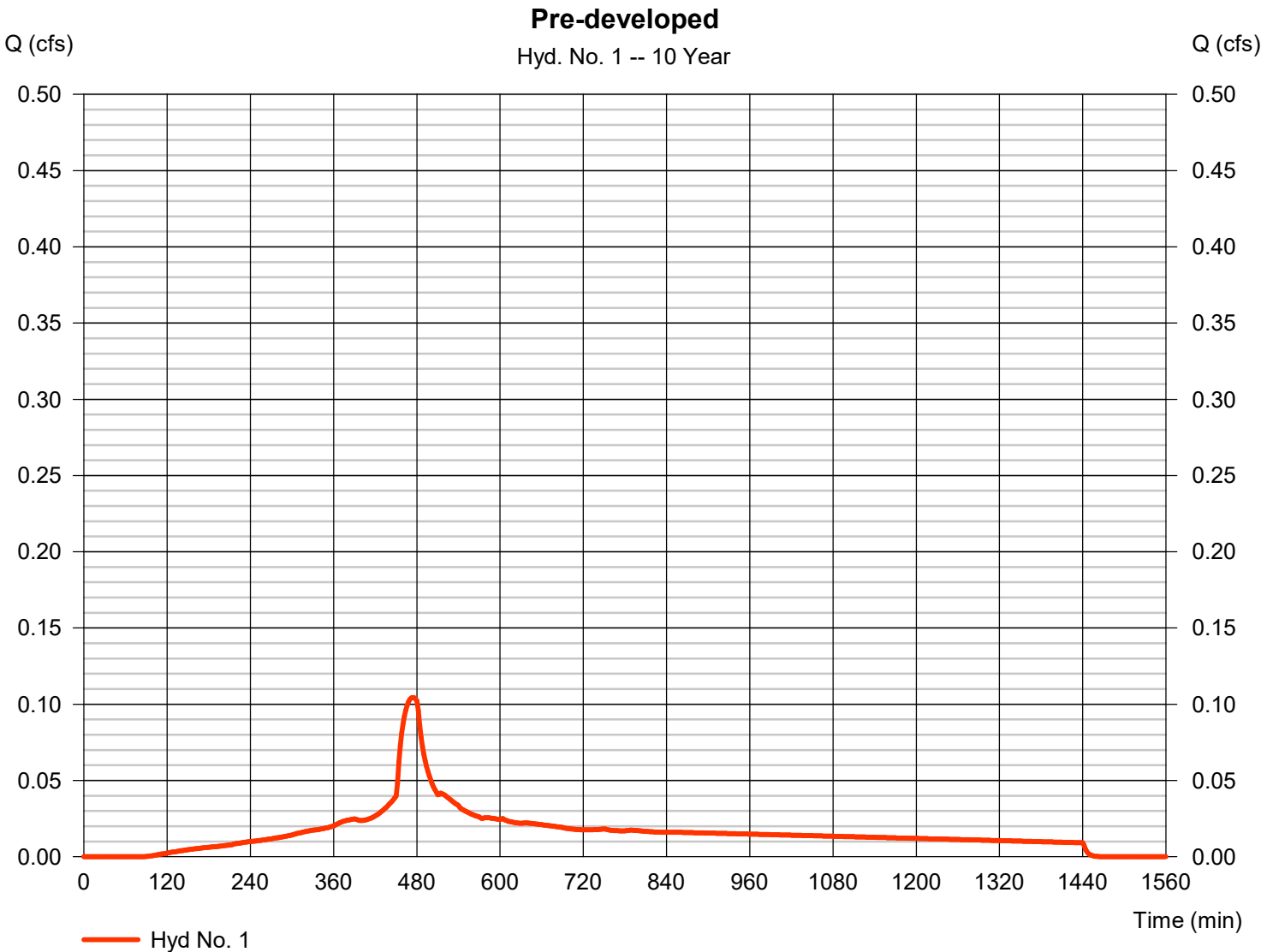
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SBUH Runoff	0.104	2	474	1,467	-----	-----	-----	Pre-developed
2	SBUH Runoff	0.114	2	474	1,643	-----	-----	-----	Post-developed
4	Reservoir	0.073	2	490	1,641	2	101.39	233	Route
CLC07-detention.gpw					Return Period: 10 Year			Friday, 05 / 23 / 2025	

# Hydrograph Report

## Hyd. No. 1

Pre-developed

Hydrograph type	=	SBUH Runoff	Peak discharge	=	0.104 cfs
Storm frequency	=	10 yrs	Time to peak	=	474 min
Time interval	=	2 min	Hyd. volume	=	1,467 cuft
Drainage area	=	0.150 ac	Curve number	=	95
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.25 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	n/a

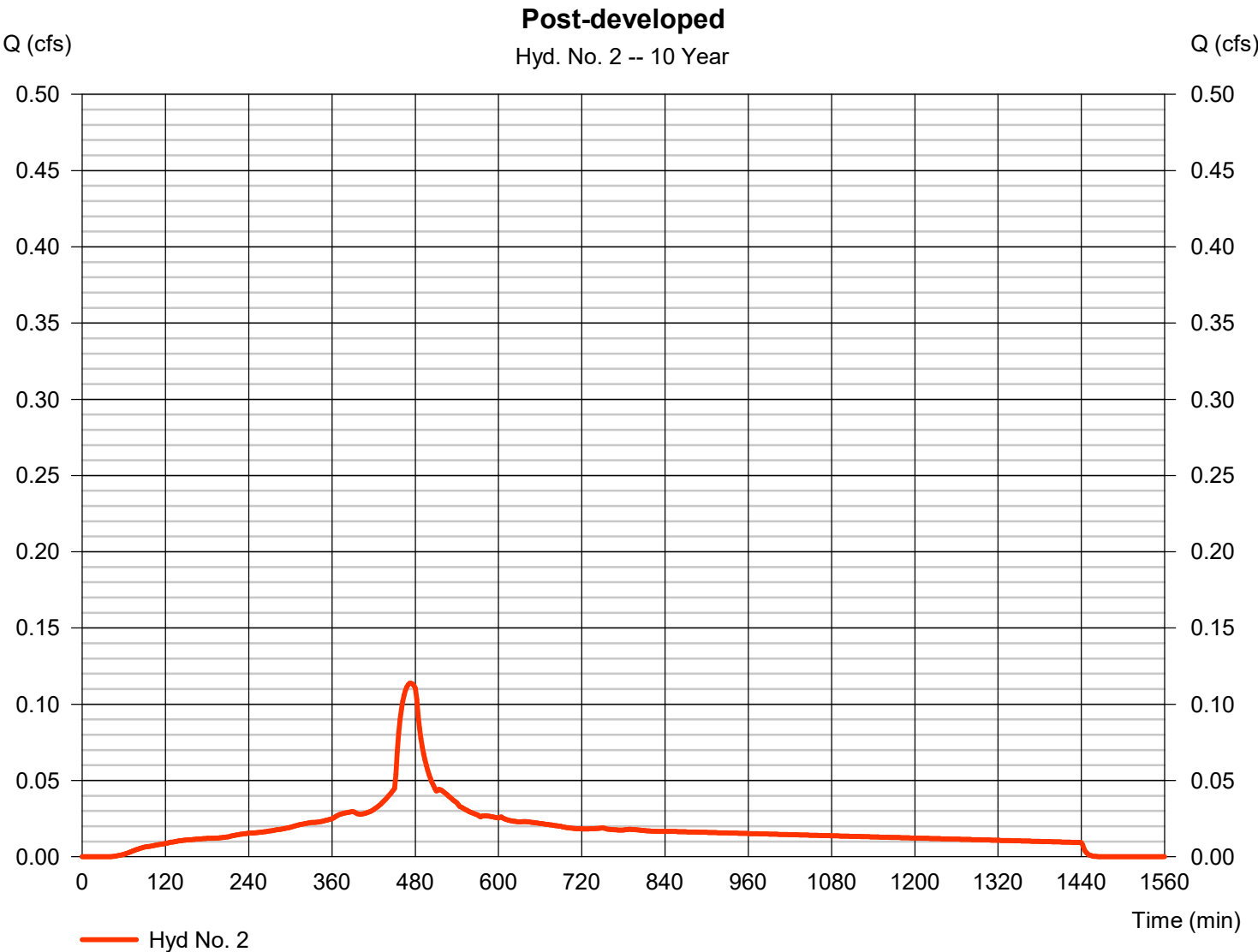


# Hydrograph Report

## Hyd. No. 2

Post-developed

Hydrograph type	=	SBUH Runoff	Peak discharge	=	0.114 cfs
Storm frequency	=	10 yrs	Time to peak	=	474 min
Time interval	=	2 min	Hyd. volume	=	1,643 cuft
Drainage area	=	0.150 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.25 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	n/a



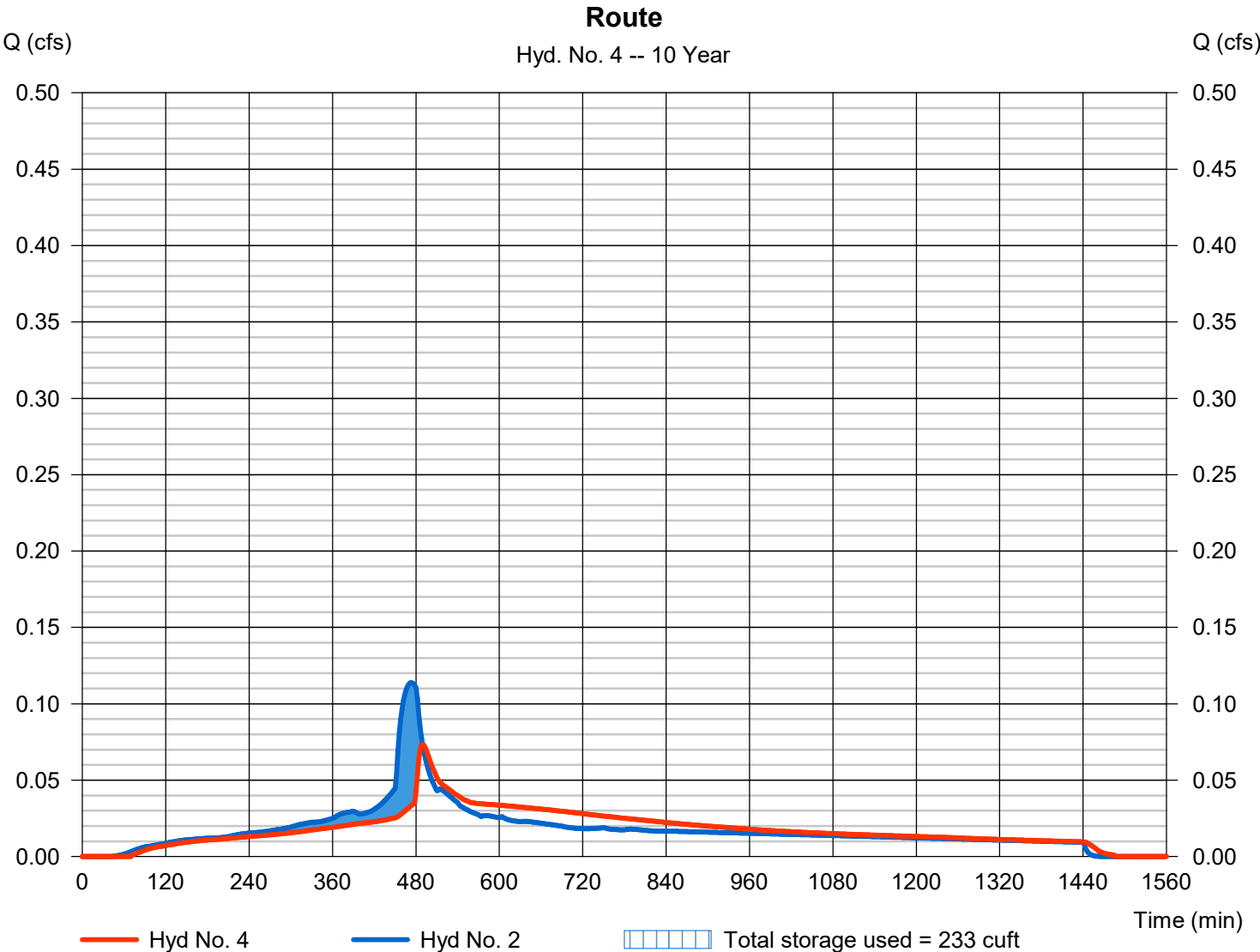
# Hydrograph Report

## Hyd. No. 4

### Route

Hydrograph type	= Reservoir	Peak discharge	= 0.073 cfs
Storm frequency	= 10 yrs	Time to peak	= 490 min
Time interval	= 2 min	Hyd. volume	= 1,641 cuft
Inflow hyd. No.	= 2 - Post-developed	Max. Elevation	= 101.39 ft
Reservoir name	= 24 inch Pipe	Max. Storage	= 233 cuft

Storage Indication method used.





# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

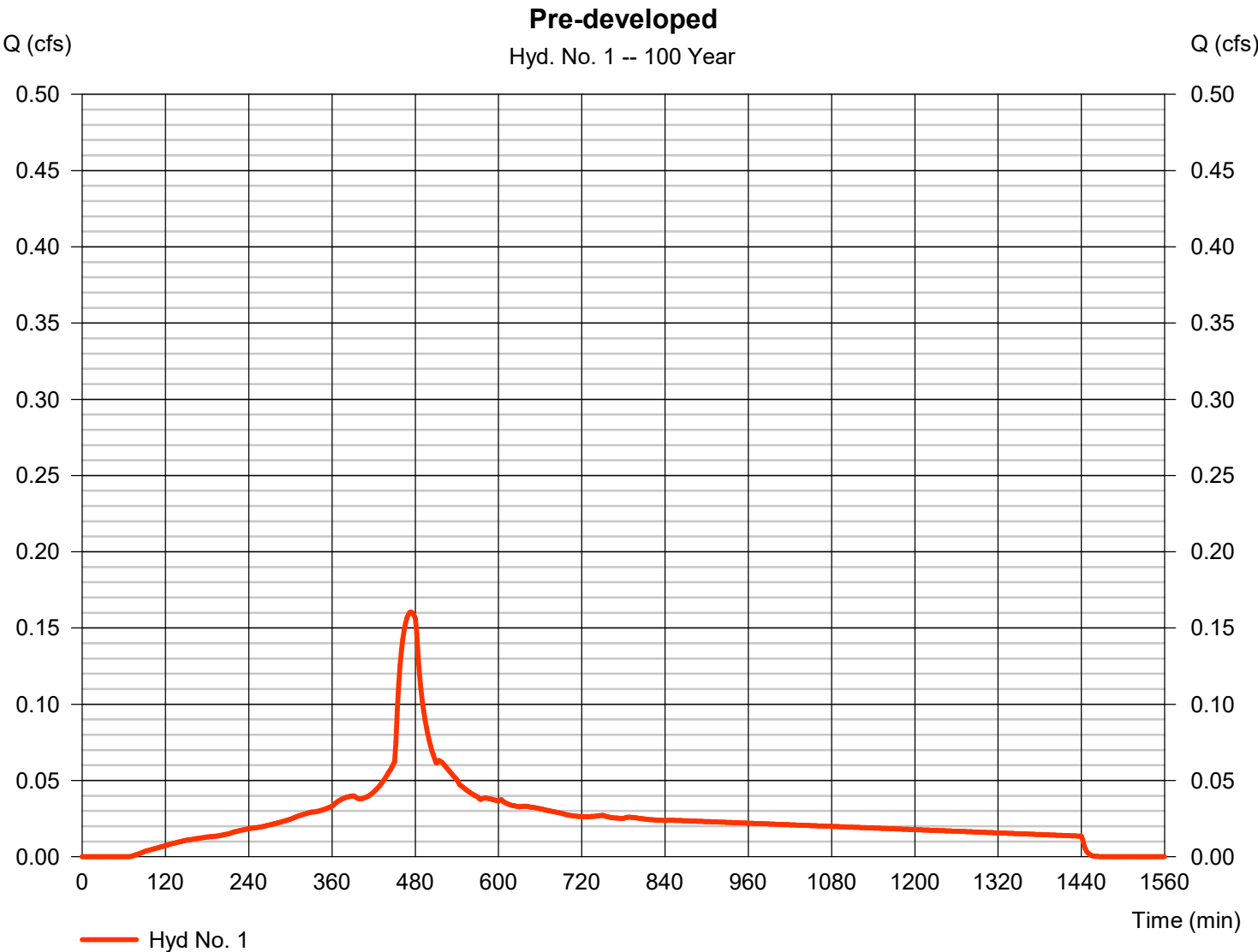
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SBUH Runoff	0.160	2	474	2,272	-----	-----	-----	Pre-developed
2	SBUH Runoff	0.168	2	474	2,458	-----	-----	-----	Post-developed
4	Reservoir	0.159	2	480	2,455	2	101.58	266	Route
CLC07-detention.gpw					Return Period: 100 Year			Friday, 05 / 23 / 2025	

# Hydrograph Report

## Hyd. No. 1

Pre-developed

Hydrograph type	=	SBUH Runoff	Peak discharge	=	0.160 cfs
Storm frequency	=	100 yrs	Time to peak	=	474 min
Time interval	=	2 min	Hyd. volume	=	2,272 cuft
Drainage area	=	0.150 ac	Curve number	=	95
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.75 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	n/a

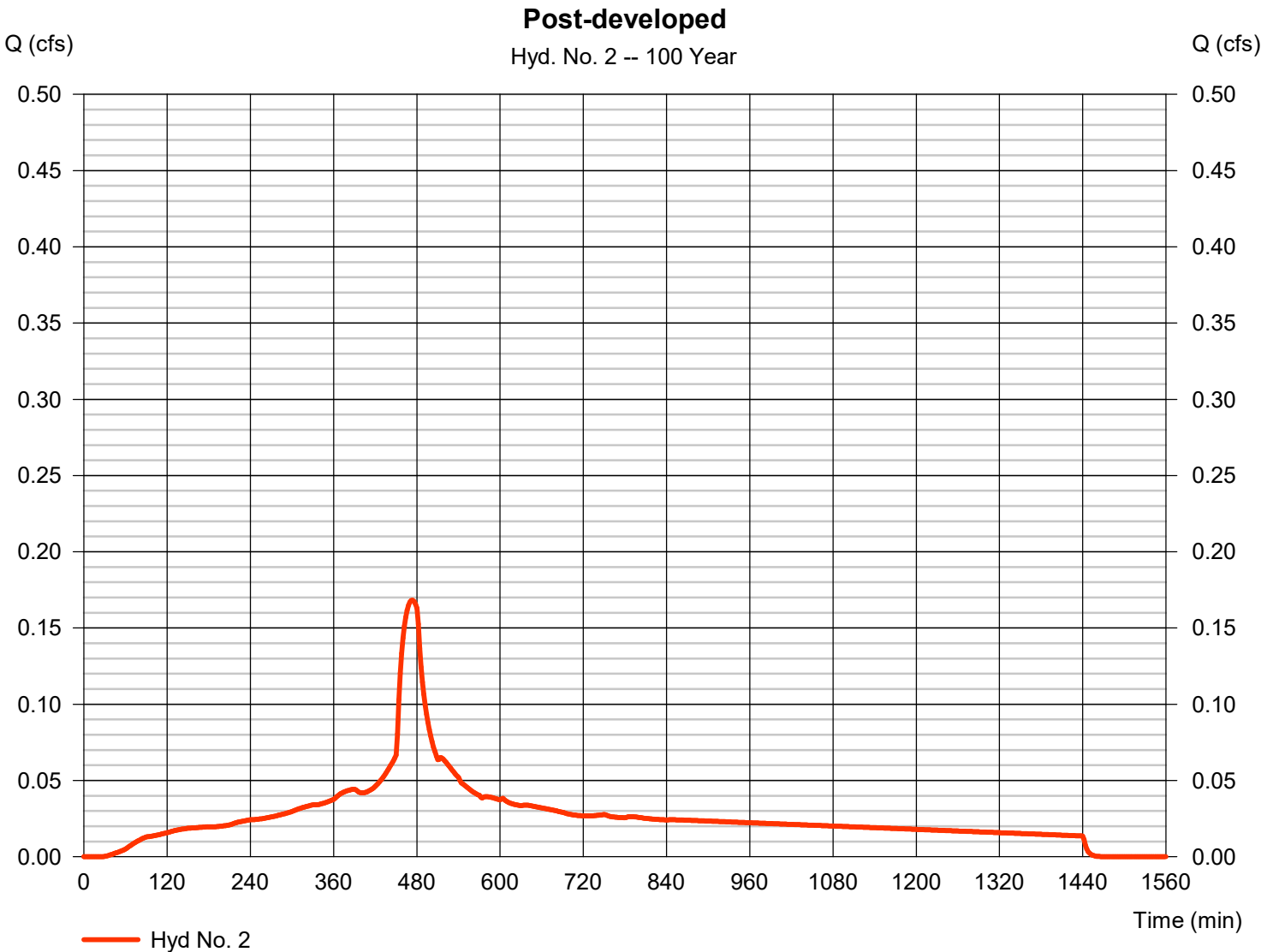


# Hydrograph Report

## Hyd. No. 2

Post-developed

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.168 cfs
Storm frequency	= 100 yrs	Time to peak	= 474 min
Time interval	= 2 min	Hyd. volume	= 2,458 cuft
Drainage area	= 0.150 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.75 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= n/a



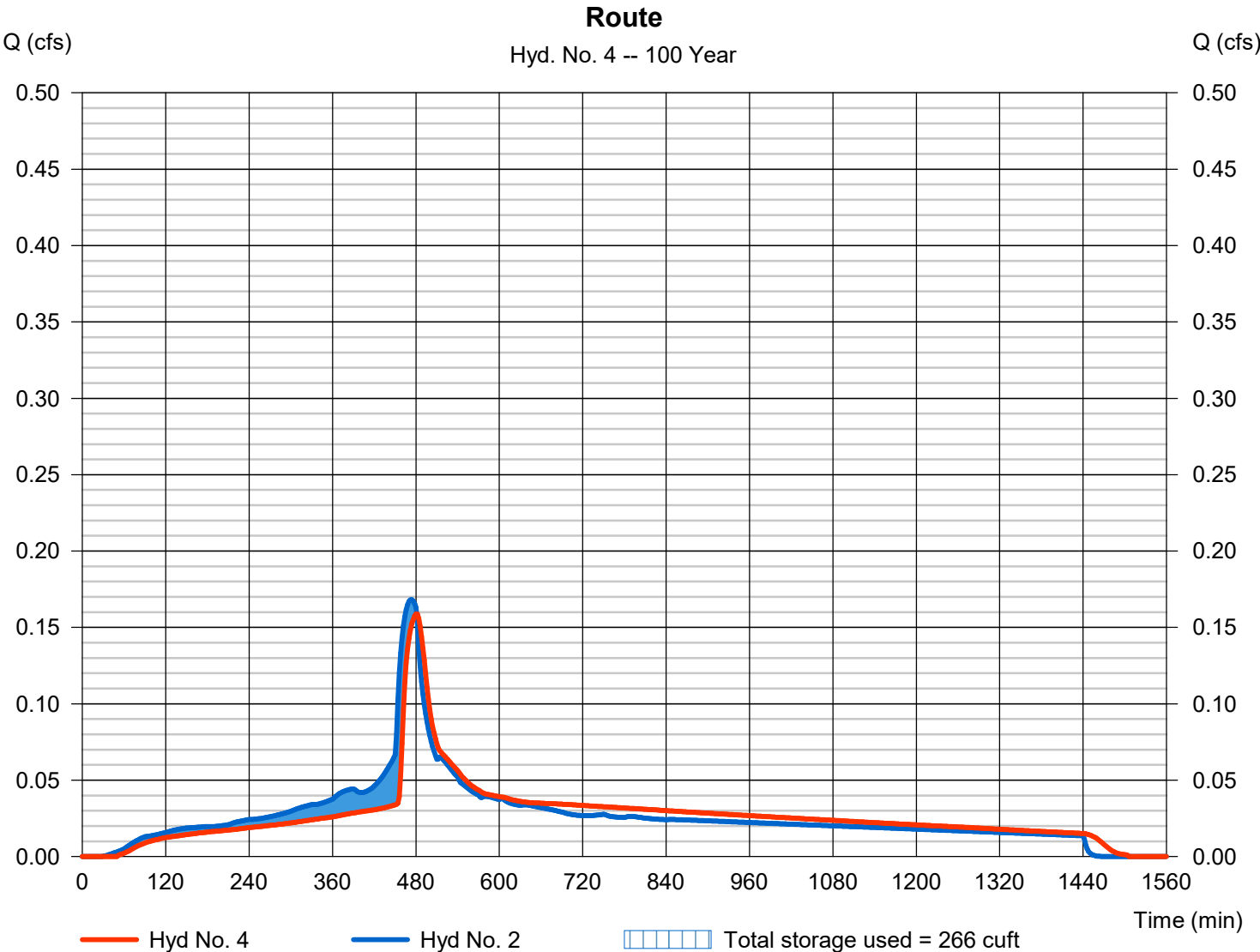
# Hydrograph Report

## Hyd. No. 4

### Route

Hydrograph type	= Reservoir	Peak discharge	= 0.159 cfs
Storm frequency	= 100 yrs	Time to peak	= 480 min
Time interval	= 2 min	Hyd. volume	= 2,455 cuft
Inflow hyd. No.	= 2 - Post-developed	Max. Elevation	= 101.58 ft
Reservoir name	= 24 inch Pipe	Max. Storage	= 266 cuft

Storage Indication method used.



## **APPENDIX 5 – OPERATIONS AND MAINTENANCE**

**General O&M Requirements and Performance Measures**  
**O&M Activity**

System Component	Remove Sediment, Trash, Debris, and Vegetation	Clean Out/Control pollution	Manage Vegetation
<i>Structural Storm Sewer Devices</i>  Sedimentation Compartment/ Catch Basin	Sediment Accumulation does Not exceed 1 foot deep or exceed design specifications for sediment storage.	No flammable Chemicals or vapors are present in amounts that would present a fire hazard, exceed pollution control requirements presented in this table, or produce vapors that exceed 10% of the lower explosive limit for that chemical.	
Inlets/Outlets	No trash/debris/ Sediment obstructs more than 25% of the inlet/outlet structure. Flow is not restricted or impounded.		

## Maintenance and Inspection Procedures

### Catch Basin and Inlet Inspection/Cleaning

Inspection of catch basins, trench drains and ditch inlets to be performed no less than annually or in the event of system failure.

	Action	Response/Remark
1.	Check the amount of trash, debris, and other material at the catch basin/ditch inlet.	Make note of the amount of trash and other material at the catch basin. Measure the sediment (in inches) in the catch basin or ditch inlet. Note significant evidence of pollution (oil grease, foam, odors, etc.)
2.	Remove accessible trash, debris, sediment, etc. from the catch basin/ditch inlet.	Place the debris on a truck so that it can be hauled to disposal.
3.	Inspect the catch basin/ditch inlet, checking that the grate and cover are in place and in good condition.	Check that: <ul style="list-style-type: none"><li>• The frame is even with the curb and the top slab is free of holes and cracks.</li><li>• The frame is sitting flush on the top slab.</li><li>• The inlet grate is in place and is undamaged.</li></ul>
4.	Check for cracks in the catch basin/ditch inlet structure	Check the basin walls, bottom, and at the joints of the inlet/outlet pipes. Look for dirt entering the catch basin or ditch inlet through cracks.
5.	Check for settling and/or misalignment of the catch basin/ditch inlet.	Check if: <ul style="list-style-type: none"><li>• The frame has settled more than 1 inch.</li><li>• The frame has rotated more than 2 inches out of alignment.</li></ul>
6.	Make notes for machine cleaning, major repair, or replacement of the catch basin/ditch inlet.	Note any particular problems at the catch basin.



### Drywells/Manholes Inspection/Cleaning

Inspection of manholes to be performed no less that annually or in the event of system failure.

#### Inspection

	Action	Response/Remark
1.	Test the manholes or flow structure for a hazardous atmosphere.	
2.	Inspect the manhole or flow structure frame and cover.	Check that: <ul style="list-style-type: none"><li>• The cover is accessible.</li><li>• The manhole cover is in place and in good working condition.</li><li>• All bolts and locks are in place.</li><li>• The cover locks properly.</li><li>• The cover is not difficult to remove.</li></ul>
3.	Check the amount of sediment in the manhole or structure.	Measure the depth of sediment. Record the depth of sediment. Remove sediment when depths exceeds 1/3 the sump depth.
4.	Check for plugging of the manhole or control structure inlet.	
5.	Make notes for cleaning and repair of the manhole or flow structure.	Note any particular structural problems at the manhole or flow structure. Note visual evidence of pollution or unusual odors. Report all problems immediately for follow-up action.
6.	Report the work completed.	Record: <ul style="list-style-type: none"><li>• Quantity of debris removed.</li><li>• Significant evidence of pollution.</li><li>• Types of defects observed.</li></ul>

#### Cleaning

	Action	Response/Remark
1.	Test the manhole or flow structure manhole for a hazardous atmosphere.	
2.	Follow vactor manufacturer guidelines to pump water and debris from the manhole or flow structure. Closely monitor the level of accumulation material.	Note any significant signs of pollution, such as oil and grease, foam and unusual odors.
3.	Make notes for repairs to manhole or flow structure.	The manhole cover or flow control frame should be in place and in good condition.
4.	Report the work completed	Record: <ul style="list-style-type: none"><li>• Amount of debris removed in CY.</li><li>• Significant signs of pollution.</li></ul>