

SITE2022-01  
#8571

RECEIVED  
09/28/2022  
CITY OF MONROE

RECEIVED  
05/03/2022  
CITY OF MONROE

# Riverside Station Apartments

## Drainage Report

### **Applicant**

Riverside Station LLC  
397 North Madison Street  
Monroe, WA 98272  
(425) 327-5928  
[support@emandatarecovery.com](mailto:support@emandatarecovery.com)  
Contact: Mr. Emanuel Popa

### **Engineer**

Valor Civil Engineering, PLLC  
1009 North 9<sup>th</sup> Street  
Tacoma, WA 98403  
(253) 861-7741  
[valorcivilengineering@hotmail.com](mailto:valorcivilengineering@hotmail.com)  
Contact: Frank Marescalco, PE

### **Contractor**

Not yet selected

20 July 2022. No corrections or revisions requested, however see comment on page 9 of this PDF and sheet 7 of the preliminary site plan civils. There may be changes regarding overflow provisions. T. Gathmann

## Section 5: Fuel Tanks

No fuel tanks are known to exist on the site and none are proposed for this project.

## Section 6: Subbasin Description

The subject property is located within a highland plains area that sits above a valley for Woods Creek to the southeast. The area is generally very flat. It is not clear whether the area's flatness is naturally occurring or a result of previous development efforts. The project is located within an older area of Monroe that could have been cleared and flattened as part of major construction efforts when it was first developed. The consistency of the soils found at depth suggests that the area is probably naturally fairly flat.

There is most likely no significant run-on anywhere to the property. It is possible that some areas immediately surrounding the property to the east and south could have small amounts of contributing surface area. These limited pervious areas are shown on Figure A-7 as contributing to the on-site bioretention feature. Runoff from the property, if any, would tend to gather in the local low point on the southeast side of the intersection of Simons Road and South Ann Street. This low point has standing water after significant storm events, but it is likely that the majority of the drainage is from the roads themselves.. The water infiltrates into the underlying soils following rain. There is no other obvious, well defined drainage path away from the site.

See Section 9 for a complete downstream analysis.

## Section 7: Floodplain Analysis

According to maps obtained from the FEMA Flood Map Service Center, the project area is not located within an area of significant flooding concern. A map from the FEMA service is included in Appendix A as Figure A-3. The map shows a 100-year floodplain to the southeast associated with Woods Creek.

## Section 8: Aesthetic Considerations for Facilities

No aesthetic themes beyond the typical and customary have been considered for this project.

## Section 9: Facility Sizing and Downstream Analysis

### *Facility Sizing*

There are several infiltration facilities in the project area. Each facility was designed using recommendations for infiltration rates from the geotechnical engineer. The systems were designed using continuous runoff simulation modeling. Sizing was done to achieve 100 percent infiltration of all runoff expected to reach the facilities. The connection between the trench in South Ann Street and the main drainage line in South Ann Street is for emergency overflows only and is expected to see flows only when the storm event exceeds the 100-year return interval.

Acknowledged. We have elected for doubling the size of the trench. We don't have survey info for the CB to the south.

See comment on civils. Might be best to deal with rare, major events in a different way.

DEVELOPED BASIN SUMMARY			
LEGEND/COLOR	DESCRIPTION	AREA (FT <sup>2</sup> )	MODELING NOTES
	SIDEWALKS AND NON-DRIVING SURFACES	3,917	THESE AREAS ARE TRIBUTARY TO EITHER THE ROAD INFILTRATION SYSTEM OR THE PRIVATE INFILTRATION SYSTEM.
	POLLUTION-GENERATING HARD SURFACES	18,324	
	BUILDING ROOF AREA	9,781	
	PROJECT SURFACES THAT BYPASS FLOW CONTROL	438	THESE AREAS BYPASS FLOW CONTROL BECAUSE OF TOPOGRAPHY, SEE EQUIVALENT AREAS NOTES BELOW AND FIG A-7
	OFF-SITE AREAS CAPTURED BY PROJECT FLOW CONTROL	4,488	THESE ARE EXISTING SURFACES BEYOND THE SCOPE OF THE PROJECT THAT ARE CAPTURED BY PROJECT FLOW CONTROL FACILITIES
	AMENDED SOILS (POLLUTION-GENERATING PERVIOUS SURFACES)	10,540	MODELED AS OUTWASH PASTURE. ALL OF THE PERVIOUS SURFACES FOR THE PROJECT ARE TRIBUTARY TO INFILTRATION FEATURES.
	TOTAL PROJECT SITE AREA	43,000	BASED ON ACTUAL PROJECT IMPACTS

**NOTES**

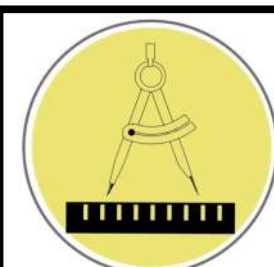
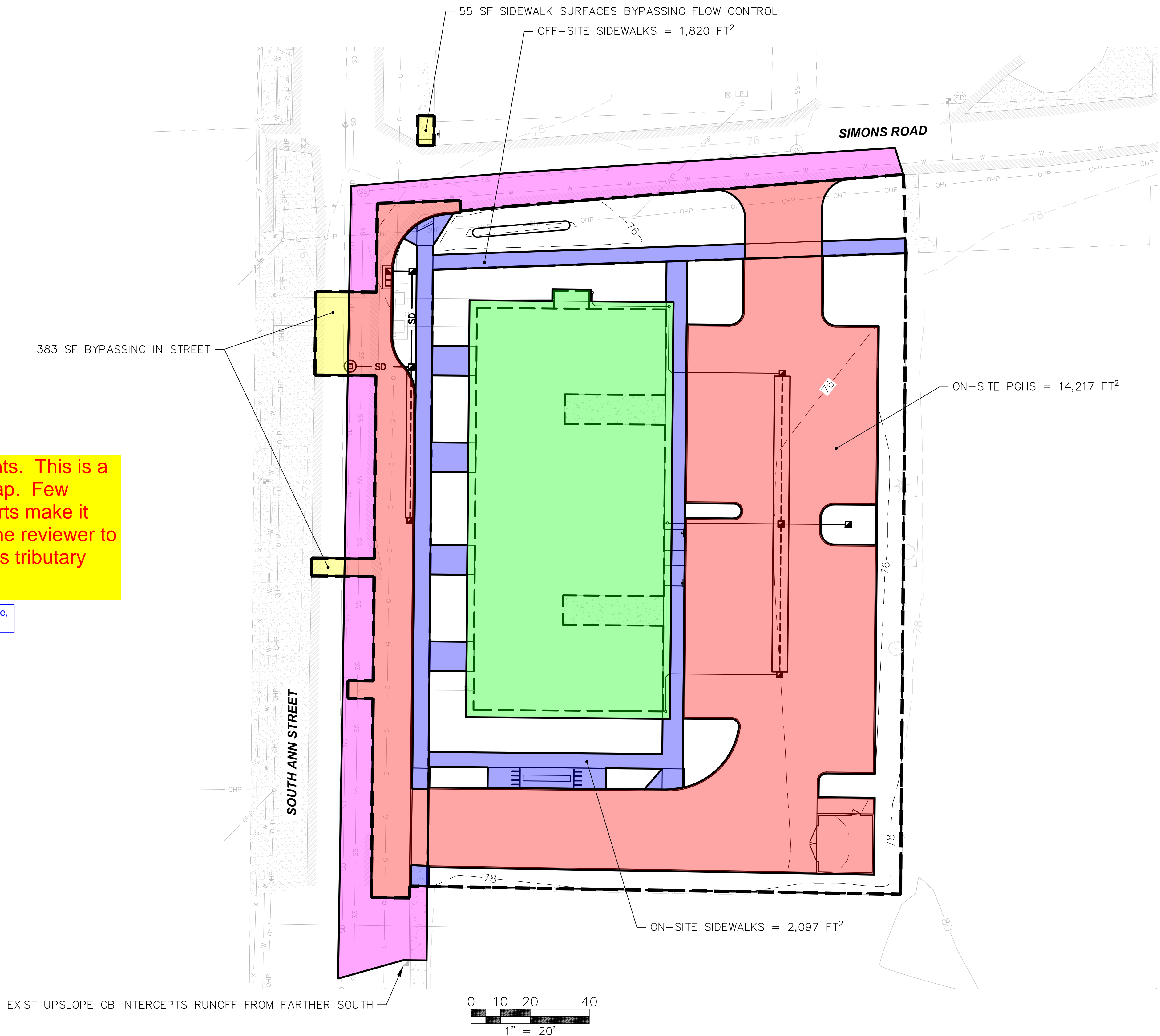
1. THE ENTIRE PROJECT SITE AREA IS WITHIN A SINGLE THRESHOLD DISCHARGE AREA.
2. SOME OF THE PROJECT PERVIOUS SURFACES ARE TRIBUTARY TO INFILTRATION SYSTEMS. SEE FIGURE A-7.

**EQUIVALENT AREAS ANALYSIS**

1. TOTAL AREA OF HARD SURFACES THAT BYPASS FLOW CONTROL DUE TO TOPOGRAPHY  
438 FT<sup>2</sup>
  2. TOTAL AREA OF EXISTING HARD SURFACES THAT ARE MITIGATED BY PROJECT DUE TO TOPOGRAPHY  
4,488 FT<sup>2</sup>
- THEREFORE, THE PROJECT MITIGATES 4,050 FT<sup>2</sup> MORE THAN IT IS OBLIGATED TO MITIGATE BY CODE.

**My compliments. This is a very useful map. Few drainage reports make it this easy for the reviewer to see the various tributary areas.**

Thank you. Lots of practice, what can I say?



**Valor Civil Engineering, PLLC**

Phone: (253) 861-7741  
valorcivilengineering@hotmail.com

RIVERSIDE STATION APARTMENTS  
135 SOUTH ANN STREET  
MONROE, WA 98272  
TPNS 2707060030-0900/ -1000

STORMWATER SITE PLAN  
POST-DEVELOPMENT CONDITIONS

PROJECT NO: 2021-126

DATE: DECEMBER 22, 2021

FIGURE  
A-6

PAGE  
A-7