HARMSEN

LAND SURVEYING
CIVIL ENGINEERING

November 26, 2025

Tyler Glenn
Public Works Development Services Manager
769 Village Way
Monroe, WA 98272
360-863-4596
tglenn@monroe.wa.gov

CC:
Sanjeev Bagaria
Ponderosa Pacific, Inc.
22013 W Bostian RD
Woodinville, WA 98072
425-635-8083
sanjeev@builders-ppi.com

PROJECT: Ponderosa Pacific 9-Lot Short Plat
16096 174th DR SE, Monroe, WA 98272

This letter is an addendum to the original approved drainage report and supplemental to the Deviation Request we are submitting regarding the changes to the frontage improvements and drainage on 174th DR SE. In the Deviation Request, we are proposing a narrowing of the road section for 174th, and as such, a reduction in the impervious surface area for the improvements on this road. Due to this reduction in impervious area, we are also proposing a revision to the sizing of the infiltration trench. This reduction in the size of the infiltration trench will be a benefit to the site design as it allows us to reduce the width of the trench and therefore allows for more spacing of the trench from other proposed utilities such as sanitary sewer and creates more space between the trench and the eastern property boundaries.

Original Design
The parameters of the design for the infiltration trench per MR 7 of the original report are as follows:

- Impervious Area: 0.27 AC (this is a typo in the original report, our WWHM2012 printout shows area in total was 0.33 AC including the 0.27 AC of ROADS/FLAT and 0.06 AC of SIDEWALKS FLAT)
- Trench Length: 400 LF
- Trench Width: 10 LF
- Trench Depth: 4.0 LF
- Percent Infiltrated: 100

Revision to Sizing
The new impervious surface area calculated for the 174th DR SE is 11,390 SF (0.26 AC). For simplicity, I included all curb, asphalt paving, and concrete sidewalk in this calculation. As such, I ran the WWHM2012 model with 0.26 AC of ROADS/FLAT, for the basin and reduced only the width of the trench sizing while still maintaining 100% infiltration. This resulted in a new trench width of 7.2 LF. The updated WWHM2012 Report has been attached to this letter for review, see pages 12 and 38.

Sincerely,

Darian Caldwell

Darian Caldwell, EIT
Project Engineer

WWHM2012

PROJECT REPORT

General Model Information

WWHM2012 Project Name: 23-152 Ponderosa Pacific 2025 Dev Request update
Site Name:
Site Address:
City:

Report Date:	11/26/2025
Gage:	Everett
Data Start:	1948/10/01
Data End:	2009/09/30
Timestep:	15 Minute
Precip Scale:	1.200
Version Date:	2023/01/27
Version:	4.2.19

POC Thresholds

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
A B, Forest, Flat	0.1
C, Forest, Flat	0.82
Pervious Total	0.92
Impervious Land Use	acre
Impervious Total	0
Basin Total	0.92

Mitigated Land Use

Lot 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
ROOF TOPS FLAT	0.015
Impervious Total	0.015
Basin Total	0.015

Lot 2

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
ROOF TOPS FLAT	0.015
Impervious Total	0.015
Basin Total	0.015

Lot 3

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
ROOF TOPS FLAT	0.019
Impervious Total	0.019
Basin Total	0.019

Lots 4-6

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
ROOF TOPS FLAT	0.015
Impervious Total	0.015
Basin Total	0.015

Lot 7

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
ROOF TOPS FLAT	0.019
Impervious Total	0.019
Basin Total	0.019

Lot 8

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
ROOF TOPS FLAT	0.015
Impervious Total	0.015
Basin Total	0.015

Lot 9

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
ROOF TOPS FLAT	0.014
Impervious Total	0.014
Basin Total	0.014

Tract

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
ROADS FLAT	0.049
Impervious Total	0.049
Basin Total	0.049

174th Dr SE

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
ROADS FLAT	0.26
Impervious Total	0.26
Basin Total	0.26

Mitigated Routing

Gravel Trench Bed 1

Bottom Length:	26.00 ft.
Bottom Width:	6.00 ft.
Trench bottom slope 1:	0.01 To 1
Trench Left side slope 0:	0.01 To 1
Trench right side slope 2:	0.01 To 1
Material thickness of first layer:	4.5
Pour Space of material for first layer:	0.4
Material thickness of second layer:	0
Pour Space of material for second layer:	0
Material thickness of third layer:	0
Pour Space of material for third layer:	0
Infiltration On	
Infiltration rate:	0.2
Infiltration safety factor:	1
Wetted surface area On	
Total Volume Infiltrated (ac-ft.):	2.9
Total Volume Through Riser (ac-ft.):	0
Total Volume Through Facility (ac-ft.):	2.9
Percent Infiltrated:	100
Total Precip Applied to Facility:	0
Total Evap From Facility:	0
Discharge Structure	
Riser Height:	4 ft.
Riser Diameter:	12 in.
Element Flows To:	
Outlet 1	Outlet 2

Gravel Trench Bed Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.003	0.000	0.000	0.000
0.0500	0.003	0.000	0.000	0.000
0.1000	0.003	0.000	0.000	0.000
0.1500	0.003	0.000	0.000	0.000
0.2000	0.003	0.000	0.000	0.000
0.2500	0.003	0.000	0.000	0.000
0.3000	0.003	0.000	0.000	0.000
0.3500	0.003	0.000	0.000	0.000
0.4000	0.003	0.000	0.000	0.000
0.4500	0.003	0.000	0.000	0.000
0.5000	0.003	0.000	0.000	0.000
0.5500	0.003	0.000	0.000	0.000
0.6000	0.003	0.000	0.000	0.000
0.6500	0.003	0.000	0.000	0.000
0.7000	0.003	0.001	0.000	0.000
0.7500	0.003	0.001	0.000	0.000
0.8000	0.003	0.001	0.000	0.000
0.8500	0.003	0.001	0.000	0.000
0.9000	0.003	0.001	0.000	0.000
0.9500	0.003	0.001	0.000	0.000
1.0000	0.003	0.001	0.000	0.000
1.0500	0.003	0.001	0.000	0.000
1.1000	0.003	0.001	0.000	0.000

1.1500	0.003	0.001	0.000	0.000
1.2000	0.003	0.001	0.000	0.000
1.2500	0.003	0.001	0.000	0.000
1.3000	0.003	0.001	0.000	0.000
1.3500	0.003	0.001	0.000	0.000
1.4000	0.003	0.002	0.000	0.000
1.4500	0.003	0.002	0.000	0.000
1.5000	0.003	0.002	0.000	0.000
1.5500	0.003	0.002	0.000	0.000
1.6000	0.003	0.002	0.000	0.000
1.6500	0.003	0.002	0.000	0.000
1.7000	0.003	0.002	0.000	0.000
1.7500	0.003	0.002	0.000	0.000
1.8000	0.003	0.002	0.000	0.000
1.8500	0.003	0.002	0.000	0.000
1.9000	0.003	0.002	0.000	0.000
1.9500	0.003	0.002	0.000	0.000
2.0000	0.003	0.002	0.000	0.000
2.0500	0.003	0.002	0.000	0.000
2.1000	0.003	0.003	0.000	0.000
2.1500	0.003	0.003	0.000	0.000
2.2000	0.003	0.003	0.000	0.000
2.2500	0.003	0.003	0.000	0.000
2.3000	0.003	0.003	0.000	0.000
2.3500	0.003	0.003	0.000	0.000
2.4000	0.003	0.003	0.000	0.000
2.4500	0.003	0.003	0.000	0.000
2.5000	0.003	0.003	0.000	0.000
2.5500	0.003	0.003	0.000	0.000
2.6000	0.003	0.003	0.000	0.000
2.6500	0.003	0.003	0.000	0.000
2.7000	0.003	0.003	0.000	0.000
2.7500	0.003	0.004	0.000	0.000
2.8000	0.003	0.004	0.000	0.000
2.8500	0.003	0.004	0.000	0.000
2.9000	0.003	0.004	0.000	0.000
2.9500	0.003	0.004	0.000	0.000
3.0000	0.003	0.004	0.000	0.000
3.0500	0.003	0.004	0.000	0.000
3.1000	0.003	0.004	0.000	0.000
3.1500	0.003	0.004	0.000	0.000
3.2000	0.003	0.004	0.000	0.000
3.2500	0.003	0.004	0.000	0.000
3.3000	0.003	0.004	0.000	0.000
3.3500	0.003	0.004	0.000	0.000
3.4000	0.003	0.004	0.000	0.000
3.4500	0.003	0.005	0.000	0.000
3.5000	0.003	0.005	0.000	0.000
3.5500	0.003	0.005	0.000	0.000
3.6000	0.003	0.005	0.000	0.000
3.6500	0.003	0.005	0.000	0.000
3.7000	0.003	0.005	0.000	0.000
3.7500	0.003	0.005	0.000	0.000
3.8000	0.003	0.005	0.000	0.000
3.8500	0.003	0.005	0.000	0.000
3.9000	0.003	0.005	0.000	0.000
3.9500	0.003	0.005	0.000	0.000
4.0000	0.003	0.005	0.000	0.000

4.0500	0.003	0.005	0.118	0.000
4.1000	0.003	0.005	0.333	0.000
4.1500	0.003	0.006	0.604	0.000
4.2000	0.003	0.006	0.907	0.000
4.2500	0.003	0.006	1.217	0.000
4.3000	0.003	0.006	1.509	0.000
4.3500	0.003	0.006	1.762	0.000
4.4000	0.003	0.006	1.960	0.000
4.4500	0.003	0.006	2.101	0.000
4.5000	0.003	0.006	2.203	0.000

Gravel Trench Bed 1

Bottom Length:	26.00 ft.
Bottom Width:	6.00 ft.
Trench bottom slope 1:	0.01 To 1
Trench Left side slope 0:	0.01 To 1
Trench right side slope 2:	0.01 To 1
Material thickness of first layer:	4.5
Pour Space of material for first layer:	0.4
Material thickness of second layer:	0
Pour Space of material for second layer:	0
Material thickness of third layer:	0
Pour Space of material for third layer:	0
Infiltration On	
Infiltration rate:	0.2
Infiltration safety factor:	1
Wetted surface area On	
Total Volume Infiltrated (ac-ft.):	2.9
Total Volume Through Riser (ac-ft.):	0
Total Volume Through Facility (ac-ft.):	2.9
Percent Infiltrated:	100
Total Precip Applied to Facility:	0
Total Evap From Facility:	0
Discharge Structure	
Riser Height:	4 ft.
Riser Diameter:	12 in.
Element Flows To:	
Outlet 1	Outlet 2

Gravel Trench Bed Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.003	0.000	0.000	0.000
0.0500	0.003	0.000	0.000	0.000
0.1000	0.003	0.000	0.000	0.000
0.1500	0.003	0.000	0.000	0.000
0.2000	0.003	0.000	0.000	0.000
0.2500	0.003	0.000	0.000	0.000
0.3000	0.003	0.000	0.000	0.000
0.3500	0.003	0.000	0.000	0.000
0.4000	0.003	0.000	0.000	0.000
0.4500	0.003	0.000	0.000	0.000
0.5000	0.003	0.000	0.000	0.000
0.5500	0.003	0.000	0.000	0.000
0.6000	0.003	0.000	0.000	0.000
0.6500	0.003	0.000	0.000	0.000
0.7000	0.003	0.001	0.000	0.000
0.7500	0.003	0.001	0.000	0.000
0.8000	0.003	0.001	0.000	0.000
0.8500	0.003	0.001	0.000	0.000
0.9000	0.003	0.001	0.000	0.000
0.9500	0.003	0.001	0.000	0.000
1.0000	0.003	0.001	0.000	0.000
1.0500	0.003	0.001	0.000	0.000
1.1000	0.003	0.001	0.000	0.000
1.1500	0.003	0.001	0.000	0.000
1.2000	0.003	0.001	0.000	0.000

1.2500	0.003	0.001	0.000	0.000
1.3000	0.003	0.001	0.000	0.000
1.3500	0.003	0.001	0.000	0.000
1.4000	0.003	0.002	0.000	0.000
1.4500	0.003	0.002	0.000	0.000
1.5000	0.003	0.002	0.000	0.000
1.5500	0.003	0.002	0.000	0.000
1.6000	0.003	0.002	0.000	0.000
1.6500	0.003	0.002	0.000	0.000
1.7000	0.003	0.002	0.000	0.000
1.7500	0.003	0.002	0.000	0.000
1.8000	0.003	0.002	0.000	0.000
1.8500	0.003	0.002	0.000	0.000
1.9000	0.003	0.002	0.000	0.000
1.9500	0.003	0.002	0.000	0.000
2.0000	0.003	0.002	0.000	0.000
2.0500	0.003	0.002	0.000	0.000
2.1000	0.003	0.003	0.000	0.000
2.1500	0.003	0.003	0.000	0.000
2.2000	0.003	0.003	0.000	0.000
2.2500	0.003	0.003	0.000	0.000
2.3000	0.003	0.003	0.000	0.000
2.3500	0.003	0.003	0.000	0.000
2.4000	0.003	0.003	0.000	0.000
2.4500	0.003	0.003	0.000	0.000
2.5000	0.003	0.003	0.000	0.000
2.5500	0.003	0.003	0.000	0.000
2.6000	0.003	0.003	0.000	0.000
2.6500	0.003	0.003	0.000	0.000
2.7000	0.003	0.003	0.000	0.000
2.7500	0.003	0.004	0.000	0.000
2.8000	0.003	0.004	0.000	0.000
2.8500	0.003	0.004	0.000	0.000
2.9000	0.003	0.004	0.000	0.000
2.9500	0.003	0.004	0.000	0.000
3.0000	0.003	0.004	0.000	0.000
3.0500	0.003	0.004	0.000	0.000
3.1000	0.003	0.004	0.000	0.000
3.1500	0.003	0.004	0.000	0.000
3.2000	0.003	0.004	0.000	0.000
3.2500	0.003	0.004	0.000	0.000
3.3000	0.003	0.004	0.000	0.000
3.3500	0.003	0.004	0.000	0.000
3.4000	0.003	0.004	0.000	0.000
3.4500	0.003	0.005	0.000	0.000
3.5000	0.003	0.005	0.000	0.000
3.5500	0.003	0.005	0.000	0.000
3.6000	0.003	0.005	0.000	0.000
3.6500	0.003	0.005	0.000	0.000
3.7000	0.003	0.005	0.000	0.000
3.7500	0.003	0.005	0.000	0.000
3.8000	0.003	0.005	0.000	0.000
3.8500	0.003	0.005	0.000	0.000
3.9000	0.003	0.005	0.000	0.000
3.9500	0.003	0.005	0.000	0.000
4.0000	0.003	0.005	0.000	0.000
4.0500	0.003	0.005	0.118	0.000
4.1000	0.003	0.005	0.333	0.000

4.1500	0.003	0.006	0.604	0.000
4.2000	0.003	0.006	0.907	0.000
4.2500	0.003	0.006	1.217	0.000
4.3000	0.003	0.006	1.509	0.000
4.3500	0.003	0.006	1.762	0.000
4.4000	0.003	0.006	1.960	0.000
4.4500	0.003	0.006	2.101	0.000
4.5000	0.003	0.006	2.203	0.000

Gravel Trench Bed 1

Bottom Length:	25.00 ft.
Bottom Width:	8.00 ft.
Trench bottom slope 1:	0.01 To 1
Trench Left side slope 0:	0.01 To 1
Trench right side slope 2:	0.01 To 1
Material thickness of first layer:	4.5
Pour Space of material for first layer:	0.4
Material thickness of second layer:	0
Pour Space of material for second layer:	0
Material thickness of third layer:	0
Pour Space of material for third layer:	0
Infiltration On	
Infiltration rate:	0.2
Infiltration safety factor:	1
Wetted surface area On	
Total Volume Infiltrated (ac-ft.):	3.674
Total Volume Through Riser (ac-ft.):	0
Total Volume Through Facility (ac-ft.):	3.674
Percent Infiltrated:	100
Total Precip Applied to Facility:	0
Total Evap From Facility:	0
Discharge Structure	
Riser Height:	4 ft.
Riser Diameter:	12 in.
Element Flows To:	
Outlet 1	Outlet 2

Gravel Trench Bed Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.004	0.000	0.000	0.000
0.0500	0.004	0.000	0.000	0.000
0.1000	0.004	0.000	0.000	0.000
0.1500	0.004	0.000	0.000	0.000
0.2000	0.004	0.000	0.000	0.000
0.2500	0.004	0.000	0.000	0.000
0.3000	0.004	0.000	0.000	0.000
0.3500	0.004	0.000	0.000	0.000
0.4000	0.004	0.000	0.000	0.000
0.4500	0.004	0.000	0.000	0.000
0.5000	0.004	0.000	0.000	0.000
0.5500	0.004	0.001	0.000	0.000
0.6000	0.004	0.001	0.000	0.000
0.6500	0.004	0.001	0.000	0.000
0.7000	0.004	0.001	0.000	0.000
0.7500	0.004	0.001	0.000	0.000
0.8000	0.004	0.001	0.000	0.000
0.8500	0.004	0.001	0.000	0.000
0.9000	0.004	0.001	0.000	0.000
0.9500	0.004	0.001	0.000	0.000
1.0000	0.004	0.001	0.000	0.000
1.0500	0.004	0.001	0.000	0.000
1.1000	0.004	0.002	0.000	0.000
1.1500	0.004	0.002	0.000	0.000
1.2000	0.004	0.002	0.000	0.000

1.2500	0.004	0.002	0.000	0.000
1.3000	0.004	0.002	0.000	0.000
1.3500	0.004	0.002	0.000	0.000
1.4000	0.004	0.002	0.000	0.000
1.4500	0.004	0.002	0.000	0.000
1.5000	0.004	0.002	0.000	0.000
1.5500	0.004	0.002	0.000	0.000
1.6000	0.004	0.002	0.000	0.000
1.6500	0.004	0.003	0.000	0.000
1.7000	0.004	0.003	0.000	0.000
1.7500	0.004	0.003	0.000	0.000
1.8000	0.004	0.003	0.000	0.000
1.8500	0.004	0.003	0.000	0.000
1.9000	0.004	0.003	0.000	0.000
1.9500	0.004	0.003	0.000	0.000
2.0000	0.004	0.003	0.000	0.000
2.0500	0.004	0.003	0.000	0.000
2.1000	0.004	0.003	0.000	0.000
2.1500	0.004	0.004	0.000	0.000
2.2000	0.004	0.004	0.000	0.000
2.2500	0.004	0.004	0.000	0.000
2.3000	0.004	0.004	0.000	0.000
2.3500	0.004	0.004	0.000	0.000
2.4000	0.004	0.004	0.000	0.000
2.4500	0.004	0.004	0.000	0.000
2.5000	0.004	0.004	0.000	0.000
2.5500	0.004	0.004	0.000	0.000
2.6000	0.004	0.004	0.000	0.000
2.6500	0.004	0.004	0.000	0.000
2.7000	0.004	0.005	0.000	0.000
2.7500	0.004	0.005	0.000	0.000
2.8000	0.004	0.005	0.000	0.000
2.8500	0.004	0.005	0.000	0.000
2.9000	0.004	0.005	0.000	0.000
2.9500	0.004	0.005	0.000	0.000
3.0000	0.004	0.005	0.000	0.000
3.0500	0.004	0.005	0.000	0.000
3.1000	0.004	0.005	0.000	0.000
3.1500	0.004	0.005	0.000	0.000
3.2000	0.004	0.005	0.000	0.000
3.2500	0.004	0.006	0.000	0.000
3.3000	0.004	0.006	0.000	0.000
3.3500	0.004	0.006	0.000	0.000
3.4000	0.004	0.006	0.000	0.000
3.4500	0.004	0.006	0.000	0.000
3.5000	0.004	0.006	0.000	0.000
3.5500	0.004	0.006	0.000	0.000
3.6000	0.004	0.006	0.000	0.000
3.6500	0.004	0.006	0.000	0.000
3.7000	0.004	0.006	0.000	0.000
3.7500	0.004	0.006	0.000	0.000
3.8000	0.004	0.007	0.000	0.000
3.8500	0.004	0.007	0.000	0.000
3.9000	0.004	0.007	0.000	0.000
3.9500	0.004	0.007	0.000	0.000
4.0000	0.004	0.007	0.000	0.000
4.0500	0.004	0.007	0.118	0.000
4.1000	0.004	0.007	0.333	0.000

4.1500	0.004	0.007	0.604	0.000
4.2000	0.004	0.007	0.907	0.000
4.2500	0.004	0.007	1.217	0.000
4.3000	0.004	0.008	1.509	0.000
4.3500	0.004	0.008	1.762	0.000
4.4000	0.004	0.008	1.960	0.000
4.4500	0.004	0.008	2.101	0.000
4.5000	0.004	0.008	2.203	0.000

Gravel Trench Bed 1

Bottom Length:	26.00 ft.
Bottom Width:	6.00 ft.
Trench bottom slope 1:	0.01 To 1
Trench Left side slope 0:	0.01 To 1
Trench right side slope 2:	0.01 To 1
Material thickness of first layer:	4.5
Pour Space of material for first layer:	0.4
Material thickness of second layer:	0
Pour Space of material for second layer:	0
Material thickness of third layer:	0
Pour Space of material for third layer:	0
Infiltration On	
Infiltration rate:	0.2
Infiltration safety factor:	1
Wetted surface area On	
Total Volume Infiltrated (ac-ft.):	2.9
Total Volume Through Riser (ac-ft.):	0
Total Volume Through Facility (ac-ft.):	2.9
Percent Infiltrated:	100
Total Precip Applied to Facility:	0
Total Evap From Facility:	0
Discharge Structure	
Riser Height:	4 ft.
Riser Diameter:	12 in.
Element Flows To:	
Outlet 1	Outlet 2

Gravel Trench Bed Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.003	0.000	0.000	0.000
0.0500	0.003	0.000	0.000	0.000
0.1000	0.003	0.000	0.000	0.000
0.1500	0.003	0.000	0.000	0.000
0.2000	0.003	0.000	0.000	0.000
0.2500	0.003	0.000	0.000	0.000
0.3000	0.003	0.000	0.000	0.000
0.3500	0.003	0.000	0.000	0.000
0.4000	0.003	0.000	0.000	0.000
0.4500	0.003	0.000	0.000	0.000
0.5000	0.003	0.000	0.000	0.000
0.5500	0.003	0.000	0.000	0.000
0.6000	0.003	0.000	0.000	0.000
0.6500	0.003	0.000	0.000	0.000
0.7000	0.003	0.001	0.000	0.000
0.7500	0.003	0.001	0.000	0.000
0.8000	0.003	0.001	0.000	0.000
0.8500	0.003	0.001	0.000	0.000
0.9000	0.003	0.001	0.000	0.000
0.9500	0.003	0.001	0.000	0.000
1.0000	0.003	0.001	0.000	0.000
1.0500	0.003	0.001	0.000	0.000
1.1000	0.003	0.001	0.000	0.000
1.1500	0.003	0.001	0.000	0.000
1.2000	0.003	0.001	0.000	0.000

1.2500	0.003	0.001	0.000	0.000
1.3000	0.003	0.001	0.000	0.000
1.3500	0.003	0.001	0.000	0.000
1.4000	0.003	0.002	0.000	0.000
1.4500	0.003	0.002	0.000	0.000
1.5000	0.003	0.002	0.000	0.000
1.5500	0.003	0.002	0.000	0.000
1.6000	0.003	0.002	0.000	0.000
1.6500	0.003	0.002	0.000	0.000
1.7000	0.003	0.002	0.000	0.000
1.7500	0.003	0.002	0.000	0.000
1.8000	0.003	0.002	0.000	0.000
1.8500	0.003	0.002	0.000	0.000
1.9000	0.003	0.002	0.000	0.000
1.9500	0.003	0.002	0.000	0.000
2.0000	0.003	0.002	0.000	0.000
2.0500	0.003	0.002	0.000	0.000
2.1000	0.003	0.003	0.000	0.000
2.1500	0.003	0.003	0.000	0.000
2.2000	0.003	0.003	0.000	0.000
2.2500	0.003	0.003	0.000	0.000
2.3000	0.003	0.003	0.000	0.000
2.3500	0.003	0.003	0.000	0.000
2.4000	0.003	0.003	0.000	0.000
2.4500	0.003	0.003	0.000	0.000
2.5000	0.003	0.003	0.000	0.000
2.5500	0.003	0.003	0.000	0.000
2.6000	0.003	0.003	0.000	0.000
2.6500	0.003	0.003	0.000	0.000
2.7000	0.003	0.003	0.000	0.000
2.7500	0.003	0.004	0.000	0.000
2.8000	0.003	0.004	0.000	0.000
2.8500	0.003	0.004	0.000	0.000
2.9000	0.003	0.004	0.000	0.000
2.9500	0.003	0.004	0.000	0.000
3.0000	0.003	0.004	0.000	0.000
3.0500	0.003	0.004	0.000	0.000
3.1000	0.003	0.004	0.000	0.000
3.1500	0.003	0.004	0.000	0.000
3.2000	0.003	0.004	0.000	0.000
3.2500	0.003	0.004	0.000	0.000
3.3000	0.003	0.004	0.000	0.000
3.3500	0.003	0.004	0.000	0.000
3.4000	0.003	0.004	0.000	0.000
3.4500	0.003	0.005	0.000	0.000
3.5000	0.003	0.005	0.000	0.000
3.5500	0.003	0.005	0.000	0.000
3.6000	0.003	0.005	0.000	0.000
3.6500	0.003	0.005	0.000	0.000
3.7000	0.003	0.005	0.000	0.000
3.7500	0.003	0.005	0.000	0.000
3.8000	0.003	0.005	0.000	0.000
3.8500	0.003	0.005	0.000	0.000
3.9000	0.003	0.005	0.000	0.000
3.9500	0.003	0.005	0.000	0.000
4.0000	0.003	0.005	0.000	0.000
4.0500	0.003	0.005	0.118	0.000
4.1000	0.003	0.005	0.333	0.000

4.1500	0.003	0.006	0.604	0.000
4.2000	0.003	0.006	0.907	0.000
4.2500	0.003	0.006	1.217	0.000
4.3000	0.003	0.006	1.509	0.000
4.3500	0.003	0.006	1.762	0.000
4.4000	0.003	0.006	1.960	0.000
4.4500	0.003	0.006	2.101	0.000
4.5000	0.003	0.006	2.203	0.000

Gravel Trench Bed 1

Bottom Length:	25.00 ft.
Bottom Width:	8.00 ft.
Trench bottom slope 1:	0.01 To 1
Trench Left side slope 0:	0.01 To 1
Trench right side slope 2:	0.01 To 1
Material thickness of first layer:	4.5
Pour Space of material for first layer:	0.4
Material thickness of second layer:	0
Pour Space of material for second layer:	0
Material thickness of third layer:	0
Pour Space of material for third layer:	0
Infiltration On	
Infiltration rate:	0.2
Infiltration safety factor:	1
Wetted surface area On	
Total Volume Infiltrated (ac-ft.):	3.674
Total Volume Through Riser (ac-ft.):	0
Total Volume Through Facility (ac-ft.):	3.674
Percent Infiltrated:	100
Total Precip Applied to Facility:	0
Total Evap From Facility:	0
Discharge Structure	
Riser Height:	4 ft.
Riser Diameter:	12 in.
Element Flows To:	
Outlet 1	Outlet 2

Gravel Trench Bed Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.004	0.000	0.000	0.000
0.0500	0.004	0.000	0.000	0.000
0.1000	0.004	0.000	0.000	0.000
0.1500	0.004	0.000	0.000	0.000
0.2000	0.004	0.000	0.000	0.000
0.2500	0.004	0.000	0.000	0.000
0.3000	0.004	0.000	0.000	0.000
0.3500	0.004	0.000	0.000	0.000
0.4000	0.004	0.000	0.000	0.000
0.4500	0.004	0.000	0.000	0.000
0.5000	0.004	0.000	0.000	0.000
0.5500	0.004	0.001	0.000	0.000
0.6000	0.004	0.001	0.000	0.000
0.6500	0.004	0.001	0.000	0.000
0.7000	0.004	0.001	0.000	0.000
0.7500	0.004	0.001	0.000	0.000
0.8000	0.004	0.001	0.000	0.000
0.8500	0.004	0.001	0.000	0.000
0.9000	0.004	0.001	0.000	0.000
0.9500	0.004	0.001	0.000	0.000
1.0000	0.004	0.001	0.000	0.000
1.0500	0.004	0.001	0.000	0.000
1.1000	0.004	0.002	0.000	0.000
1.1500	0.004	0.002	0.000	0.000
1.2000	0.004	0.002	0.000	0.000

1.2500	0.004	0.002	0.000	0.000
1.3000	0.004	0.002	0.000	0.000
1.3500	0.004	0.002	0.000	0.000
1.4000	0.004	0.002	0.000	0.000
1.4500	0.004	0.002	0.000	0.000
1.5000	0.004	0.002	0.000	0.000
1.5500	0.004	0.002	0.000	0.000
1.6000	0.004	0.002	0.000	0.000
1.6500	0.004	0.003	0.000	0.000
1.7000	0.004	0.003	0.000	0.000
1.7500	0.004	0.003	0.000	0.000
1.8000	0.004	0.003	0.000	0.000
1.8500	0.004	0.003	0.000	0.000
1.9000	0.004	0.003	0.000	0.000
1.9500	0.004	0.003	0.000	0.000
2.0000	0.004	0.003	0.000	0.000
2.0500	0.004	0.003	0.000	0.000
2.1000	0.004	0.003	0.000	0.000
2.1500	0.004	0.004	0.000	0.000
2.2000	0.004	0.004	0.000	0.000
2.2500	0.004	0.004	0.000	0.000
2.3000	0.004	0.004	0.000	0.000
2.3500	0.004	0.004	0.000	0.000
2.4000	0.004	0.004	0.000	0.000
2.4500	0.004	0.004	0.000	0.000
2.5000	0.004	0.004	0.000	0.000
2.5500	0.004	0.004	0.000	0.000
2.6000	0.004	0.004	0.000	0.000
2.6500	0.004	0.004	0.000	0.000
2.7000	0.004	0.005	0.000	0.000
2.7500	0.004	0.005	0.000	0.000
2.8000	0.004	0.005	0.000	0.000
2.8500	0.004	0.005	0.000	0.000
2.9000	0.004	0.005	0.000	0.000
2.9500	0.004	0.005	0.000	0.000
3.0000	0.004	0.005	0.000	0.000
3.0500	0.004	0.005	0.000	0.000
3.1000	0.004	0.005	0.000	0.000
3.1500	0.004	0.005	0.000	0.000
3.2000	0.004	0.005	0.000	0.000
3.2500	0.004	0.006	0.000	0.000
3.3000	0.004	0.006	0.000	0.000
3.3500	0.004	0.006	0.000	0.000
3.4000	0.004	0.006	0.000	0.000
3.4500	0.004	0.006	0.000	0.000
3.5000	0.004	0.006	0.000	0.000
3.5500	0.004	0.006	0.000	0.000
3.6000	0.004	0.006	0.000	0.000
3.6500	0.004	0.006	0.000	0.000
3.7000	0.004	0.006	0.000	0.000
3.7500	0.004	0.006	0.000	0.000
3.8000	0.004	0.007	0.000	0.000
3.8500	0.004	0.007	0.000	0.000
3.9000	0.004	0.007	0.000	0.000
3.9500	0.004	0.007	0.000	0.000
4.0000	0.004	0.007	0.000	0.000
4.0500	0.004	0.007	0.118	0.000
4.1000	0.004	0.007	0.333	0.000

4.1500	0.004	0.007	0.604	0.000
4.2000	0.004	0.007	0.907	0.000
4.2500	0.004	0.007	1.217	0.000
4.3000	0.004	0.008	1.509	0.000
4.3500	0.004	0.008	1.762	0.000
4.4000	0.004	0.008	1.960	0.000
4.4500	0.004	0.008	2.101	0.000
4.5000	0.004	0.008	2.203	0.000

Gravel Trench Bed 1

Bottom Length:	26.00 ft.
Bottom Width:	6.00 ft.
Trench bottom slope 1:	0.01 To 1
Trench Left side slope 0:	0.01 To 1
Trench right side slope 2:	0.01 To 1
Material thickness of first layer:	4.5
Pour Space of material for first layer:	0.4
Material thickness of second layer:	0
Pour Space of material for second layer:	0
Material thickness of third layer:	0
Pour Space of material for third layer:	0
Infiltration On	
Infiltration rate:	0.2
Infiltration safety factor:	1
Wetted surface area On	
Total Volume Infiltrated (ac-ft.):	2.9
Total Volume Through Riser (ac-ft.):	0
Total Volume Through Facility (ac-ft.):	2.9
Percent Infiltrated:	100
Total Precip Applied to Facility:	0
Total Evap From Facility:	0
Discharge Structure	
Riser Height:	4 ft.
Riser Diameter:	12 in.
Element Flows To:	
Outlet 1	Outlet 2

Gravel Trench Bed Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.003	0.000	0.000	0.000
0.0500	0.003	0.000	0.000	0.000
0.1000	0.003	0.000	0.000	0.000
0.1500	0.003	0.000	0.000	0.000
0.2000	0.003	0.000	0.000	0.000
0.2500	0.003	0.000	0.000	0.000
0.3000	0.003	0.000	0.000	0.000
0.3500	0.003	0.000	0.000	0.000
0.4000	0.003	0.000	0.000	0.000
0.4500	0.003	0.000	0.000	0.000
0.5000	0.003	0.000	0.000	0.000
0.5500	0.003	0.000	0.000	0.000
0.6000	0.003	0.000	0.000	0.000
0.6500	0.003	0.000	0.000	0.000
0.7000	0.003	0.001	0.000	0.000
0.7500	0.003	0.001	0.000	0.000
0.8000	0.003	0.001	0.000	0.000
0.8500	0.003	0.001	0.000	0.000
0.9000	0.003	0.001	0.000	0.000
0.9500	0.003	0.001	0.000	0.000
1.0000	0.003	0.001	0.000	0.000
1.0500	0.003	0.001	0.000	0.000
1.1000	0.003	0.001	0.000	0.000
1.1500	0.003	0.001	0.000	0.000
1.2000	0.003	0.001	0.000	0.000

1.2500	0.003	0.001	0.000	0.000
1.3000	0.003	0.001	0.000	0.000
1.3500	0.003	0.001	0.000	0.000
1.4000	0.003	0.002	0.000	0.000
1.4500	0.003	0.002	0.000	0.000
1.5000	0.003	0.002	0.000	0.000
1.5500	0.003	0.002	0.000	0.000
1.6000	0.003	0.002	0.000	0.000
1.6500	0.003	0.002	0.000	0.000
1.7000	0.003	0.002	0.000	0.000
1.7500	0.003	0.002	0.000	0.000
1.8000	0.003	0.002	0.000	0.000
1.8500	0.003	0.002	0.000	0.000
1.9000	0.003	0.002	0.000	0.000
1.9500	0.003	0.002	0.000	0.000
2.0000	0.003	0.002	0.000	0.000
2.0500	0.003	0.002	0.000	0.000
2.1000	0.003	0.003	0.000	0.000
2.1500	0.003	0.003	0.000	0.000
2.2000	0.003	0.003	0.000	0.000
2.2500	0.003	0.003	0.000	0.000
2.3000	0.003	0.003	0.000	0.000
2.3500	0.003	0.003	0.000	0.000
2.4000	0.003	0.003	0.000	0.000
2.4500	0.003	0.003	0.000	0.000
2.5000	0.003	0.003	0.000	0.000
2.5500	0.003	0.003	0.000	0.000
2.6000	0.003	0.003	0.000	0.000
2.6500	0.003	0.003	0.000	0.000
2.7000	0.003	0.003	0.000	0.000
2.7500	0.003	0.004	0.000	0.000
2.8000	0.003	0.004	0.000	0.000
2.8500	0.003	0.004	0.000	0.000
2.9000	0.003	0.004	0.000	0.000
2.9500	0.003	0.004	0.000	0.000
3.0000	0.003	0.004	0.000	0.000
3.0500	0.003	0.004	0.000	0.000
3.1000	0.003	0.004	0.000	0.000
3.1500	0.003	0.004	0.000	0.000
3.2000	0.003	0.004	0.000	0.000
3.2500	0.003	0.004	0.000	0.000
3.3000	0.003	0.004	0.000	0.000
3.3500	0.003	0.004	0.000	0.000
3.4000	0.003	0.004	0.000	0.000
3.4500	0.003	0.005	0.000	0.000
3.5000	0.003	0.005	0.000	0.000
3.5500	0.003	0.005	0.000	0.000
3.6000	0.003	0.005	0.000	0.000
3.6500	0.003	0.005	0.000	0.000
3.7000	0.003	0.005	0.000	0.000
3.7500	0.003	0.005	0.000	0.000
3.8000	0.003	0.005	0.000	0.000
3.8500	0.003	0.005	0.000	0.000
3.9000	0.003	0.005	0.000	0.000
3.9500	0.003	0.005	0.000	0.000
4.0000	0.003	0.005	0.000	0.000
4.0500	0.003	0.005	0.118	0.000
4.1000	0.003	0.005	0.333	0.000

4.1500	0.003	0.006	0.604	0.000
4.2000	0.003	0.006	0.907	0.000
4.2500	0.003	0.006	1.217	0.000
4.3000	0.003	0.006	1.509	0.000
4.3500	0.003	0.006	1.762	0.000
4.4000	0.003	0.006	1.960	0.000
4.4500	0.003	0.006	2.101	0.000
4.5000	0.003	0.006	2.203	0.000

Gravel Trench Bed 1

Bottom Length:	25.00 ft.
Bottom Width:	6.00 ft.
Trench bottom slope 1:	0.01 To 1
Trench Left side slope 0:	0.01 To 1
Trench right side slope 2:	0.01 To 1
Material thickness of first layer:	4.5
Pour Space of material for first layer:	0.4
Material thickness of second layer:	0
Pour Space of material for second layer:	0
Material thickness of third layer:	0
Pour Space of material for third layer:	0
Infiltration On	
Infiltration rate:	0.2
Infiltration safety factor:	1
Wetted surface area On	
Total Volume Infiltrated (ac-ft.):	2.706
Total Volume Through Riser (ac-ft.):	0
Total Volume Through Facility (ac-ft.):	2.706
Percent Infiltrated:	100
Total Precip Applied to Facility:	0
Total Evap From Facility:	0
Discharge Structure	
Riser Height:	4 ft.
Riser Diameter:	12 in.
Element Flows To:	
Outlet 1	Outlet 2

Gravel Trench Bed Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.003	0.000	0.000	0.000
0.0500	0.003	0.000	0.000	0.000
0.1000	0.003	0.000	0.000	0.000
0.1500	0.003	0.000	0.000	0.000
0.2000	0.003	0.000	0.000	0.000
0.2500	0.003	0.000	0.000	0.000
0.3000	0.003	0.000	0.000	0.000
0.3500	0.003	0.000	0.000	0.000
0.4000	0.003	0.000	0.000	0.000
0.4500	0.003	0.000	0.000	0.000
0.5000	0.003	0.000	0.000	0.000
0.5500	0.003	0.000	0.000	0.000
0.6000	0.003	0.000	0.000	0.000
0.6500	0.003	0.000	0.000	0.000
0.7000	0.003	0.001	0.000	0.000
0.7500	0.003	0.001	0.000	0.000
0.8000	0.003	0.001	0.000	0.000
0.8500	0.003	0.001	0.000	0.000
0.9000	0.003	0.001	0.000	0.000
0.9500	0.003	0.001	0.000	0.000
1.0000	0.003	0.001	0.000	0.000
1.0500	0.003	0.001	0.000	0.000
1.1000	0.003	0.001	0.000	0.000
1.1500	0.003	0.001	0.000	0.000
1.2000	0.003	0.001	0.000	0.000

1.2500	0.003	0.001	0.000	0.000
1.3000	0.003	0.001	0.000	0.000
1.3500	0.003	0.001	0.000	0.000
1.4000	0.003	0.001	0.000	0.000
1.4500	0.003	0.002	0.000	0.000
1.5000	0.003	0.002	0.000	0.000
1.5500	0.003	0.002	0.000	0.000
1.6000	0.003	0.002	0.000	0.000
1.6500	0.003	0.002	0.000	0.000
1.7000	0.003	0.002	0.000	0.000
1.7500	0.003	0.002	0.000	0.000
1.8000	0.003	0.002	0.000	0.000
1.8500	0.003	0.002	0.000	0.000
1.9000	0.003	0.002	0.000	0.000
1.9500	0.003	0.002	0.000	0.000
2.0000	0.003	0.002	0.000	0.000
2.0500	0.003	0.002	0.000	0.000
2.1000	0.003	0.002	0.000	0.000
2.1500	0.003	0.003	0.000	0.000
2.2000	0.003	0.003	0.000	0.000
2.2500	0.003	0.003	0.000	0.000
2.3000	0.003	0.003	0.000	0.000
2.3500	0.003	0.003	0.000	0.000
2.4000	0.003	0.003	0.000	0.000
2.4500	0.003	0.003	0.000	0.000
2.5000	0.003	0.003	0.000	0.000
2.5500	0.003	0.003	0.000	0.000
2.6000	0.003	0.003	0.000	0.000
2.6500	0.003	0.003	0.000	0.000
2.7000	0.003	0.003	0.000	0.000
2.7500	0.003	0.003	0.000	0.000
2.8000	0.003	0.003	0.000	0.000
2.8500	0.003	0.003	0.000	0.000
2.9000	0.003	0.004	0.000	0.000
2.9500	0.003	0.004	0.000	0.000
3.0000	0.003	0.004	0.000	0.000
3.0500	0.003	0.004	0.000	0.000
3.1000	0.003	0.004	0.000	0.000
3.1500	0.003	0.004	0.000	0.000
3.2000	0.003	0.004	0.000	0.000
3.2500	0.003	0.004	0.000	0.000
3.3000	0.003	0.004	0.000	0.000
3.3500	0.003	0.004	0.000	0.000
3.4000	0.003	0.004	0.000	0.000
3.4500	0.003	0.004	0.000	0.000
3.5000	0.003	0.004	0.000	0.000
3.5500	0.003	0.004	0.000	0.000
3.6000	0.003	0.005	0.000	0.000
3.6500	0.003	0.005	0.000	0.000
3.7000	0.003	0.005	0.000	0.000
3.7500	0.003	0.005	0.000	0.000
3.8000	0.003	0.005	0.000	0.000
3.8500	0.003	0.005	0.000	0.000
3.9000	0.003	0.005	0.000	0.000
3.9500	0.003	0.005	0.000	0.000
4.0000	0.003	0.005	0.000	0.000
4.0500	0.003	0.005	0.118	0.000
4.1000	0.003	0.005	0.333	0.000

4.1500	0.003	0.005	0.604	0.000
4.2000	0.003	0.005	0.907	0.000
4.2500	0.003	0.005	1.217	0.000
4.3000	0.003	0.006	1.509	0.000
4.3500	0.003	0.006	1.762	0.000
4.4000	0.003	0.006	1.960	0.000
4.4500	0.003	0.006	2.101	0.000
4.5000	0.003	0.006	2.203	0.000

Gravel Trench Bed 1

Bottom Length:	52.00 ft.
Bottom Width:	10.00 ft.
Trench bottom slope 1:	0.01 To 1
Trench Left side slope 0:	0.01 To 1
Trench right side slope 2:	0.01 To 1
Material thickness of first layer:	4.5
Pour Space of material for first layer:	0.4
Material thickness of second layer:	0
Pour Space of material for second layer:	0
Material thickness of third layer:	0
Pour Space of material for third layer:	0
Infiltration On	
Infiltration rate:	0.2
Infiltration safety factor:	1
Wetted surface area On	
Total Volume Infiltrated (ac-ft.):	9.487
Total Volume Through Riser (ac-ft.):	0
Total Volume Through Facility (ac-ft.):	9.487
Percent Infiltrated:	100
Total Precip Applied to Facility:	0
Total Evap From Facility:	0
Discharge Structure	
Riser Height:	4 ft.
Riser Diameter:	12 in.
Element Flows To:	
Outlet 1	Outlet 2

Gravel Trench Bed Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.011	0.000	0.000	0.000
0.0500	0.011	0.000	0.000	0.002
0.1000	0.011	0.000	0.000	0.002
0.1500	0.011	0.000	0.000	0.002
0.2000	0.011	0.001	0.000	0.002
0.2500	0.011	0.001	0.000	0.002
0.3000	0.011	0.001	0.000	0.002
0.3500	0.011	0.001	0.000	0.002
0.4000	0.011	0.001	0.000	0.002
0.4500	0.012	0.002	0.000	0.002
0.5000	0.012	0.002	0.000	0.002
0.5500	0.012	0.002	0.000	0.002
0.6000	0.012	0.002	0.000	0.002
0.6500	0.012	0.003	0.000	0.002
0.7000	0.012	0.003	0.000	0.002
0.7500	0.012	0.003	0.000	0.002
0.8000	0.012	0.003	0.000	0.002
0.8500	0.012	0.004	0.000	0.002
0.9000	0.012	0.004	0.000	0.002
0.9500	0.012	0.004	0.000	0.002
1.0000	0.012	0.004	0.000	0.002
1.0500	0.012	0.005	0.000	0.002
1.1000	0.012	0.005	0.000	0.002
1.1500	0.012	0.005	0.000	0.002
1.2000	0.012	0.005	0.000	0.002

1.2500	0.012	0.006	0.000	0.002
1.3000	0.012	0.006	0.000	0.002
1.3500	0.012	0.006	0.000	0.002
1.4000	0.012	0.006	0.000	0.002
1.4500	0.012	0.006	0.000	0.002
1.5000	0.012	0.007	0.000	0.002
1.5500	0.012	0.007	0.000	0.002
1.6000	0.012	0.007	0.000	0.002
1.6500	0.012	0.007	0.000	0.002
1.7000	0.012	0.008	0.000	0.002
1.7500	0.012	0.008	0.000	0.002
1.8000	0.012	0.008	0.000	0.002
1.8500	0.012	0.008	0.000	0.002
1.9000	0.012	0.009	0.000	0.002
1.9500	0.012	0.009	0.000	0.002
2.0000	0.012	0.009	0.000	0.002
2.0500	0.012	0.009	0.000	0.002
2.1000	0.012	0.010	0.000	0.002
2.1500	0.012	0.010	0.000	0.002
2.2000	0.012	0.010	0.000	0.002
2.2500	0.012	0.010	0.000	0.002
2.3000	0.012	0.011	0.000	0.002
2.3500	0.012	0.011	0.000	0.002
2.4000	0.012	0.011	0.000	0.002
2.4500	0.012	0.011	0.000	0.002
2.5000	0.012	0.012	0.000	0.002
2.5500	0.012	0.012	0.000	0.002
2.6000	0.012	0.012	0.000	0.002
2.6500	0.012	0.012	0.000	0.002
2.7000	0.012	0.012	0.000	0.002
2.7500	0.012	0.013	0.000	0.002
2.8000	0.012	0.013	0.000	0.002
2.8500	0.012	0.013	0.000	0.002
2.9000	0.012	0.013	0.000	0.002
2.9500	0.012	0.014	0.000	0.002
3.0000	0.012	0.014	0.000	0.002
3.0500	0.012	0.014	0.000	0.002
3.1000	0.012	0.014	0.000	0.002
3.1500	0.012	0.015	0.000	0.002
3.2000	0.012	0.015	0.000	0.002
3.2500	0.012	0.015	0.000	0.002
3.3000	0.012	0.015	0.000	0.002
3.3500	0.012	0.016	0.000	0.002
3.4000	0.012	0.016	0.000	0.002
3.4500	0.012	0.016	0.000	0.002
3.5000	0.012	0.016	0.000	0.002
3.5500	0.012	0.017	0.000	0.002
3.6000	0.012	0.017	0.000	0.002
3.6500	0.012	0.017	0.000	0.002
3.7000	0.012	0.017	0.000	0.002
3.7500	0.012	0.018	0.000	0.002
3.8000	0.012	0.018	0.000	0.002
3.8500	0.012	0.018	0.000	0.002
3.9000	0.012	0.018	0.000	0.002
3.9500	0.012	0.019	0.000	0.002
4.0000	0.012	0.019	0.000	0.002
4.0500	0.012	0.019	0.118	0.002
4.1000	0.012	0.019	0.333	0.002

4.1500	0.012	0.019	0.604	0.002
4.2000	0.012	0.020	0.907	0.002
4.2500	0.012	0.020	1.217	0.002
4.3000	0.012	0.020	1.509	0.002
4.3500	0.012	0.020	1.762	0.002
4.4000	0.012	0.021	1.960	0.002
4.4500	0.012	0.021	2.101	0.002
4.5000	0.012	0.021	2.203	0.002

Gravel Trench Bed 9

Bottom Length:	400.00 ft.
Bottom Width:	7.20 ft.
Trench bottom slope 1:	0.01 To 1
Trench Left side slope 0:	0.01 To 1
Trench right side slope 2:	0.01 To 1
Material thickness of first layer:	4
Pour Space of material for first layer:	0.4
Material thickness of second layer:	0
Pour Space of material for second layer:	0
Material thickness of third layer:	0
Pour Space of material for third layer:	0
Infiltration On	
Infiltration rate:	0.2
Infiltration safety factor:	1
Wetted surface area On	
Total Volume Infiltrated (ac-ft.):	50.37
Total Volume Through Riser (ac-ft.):	0.001
Total Volume Through Facility (ac-ft.):	50.371
Percent Infiltrated:	100
Total Precip Applied to Facility:	0
Total Evap From Facility:	0
Discharge Structure	
Riser Height:	3.5 ft.
Riser Diameter:	12 in.
Element Flows To:	
Outlet 1	Outlet 2

Gravel Trench Bed Hydraulic Table

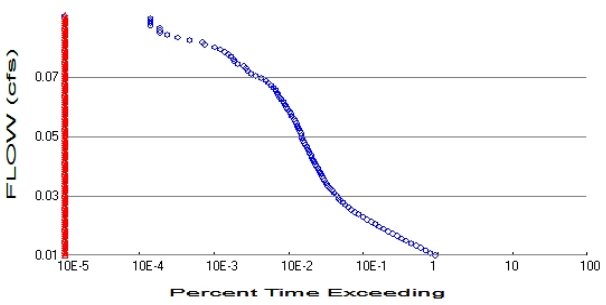
Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.066	0.000	0.000	0.000
0.0444	0.066	0.001	0.000	0.013
0.0889	0.066	0.002	0.000	0.013
0.1333	0.066	0.003	0.000	0.013
0.1778	0.066	0.004	0.000	0.013
0.2222	0.066	0.005	0.000	0.013
0.2667	0.066	0.007	0.000	0.013
0.3111	0.066	0.008	0.000	0.013
0.3556	0.066	0.009	0.000	0.013
0.4000	0.066	0.010	0.000	0.013
0.4444	0.066	0.011	0.000	0.013
0.4889	0.066	0.012	0.000	0.013
0.5333	0.066	0.014	0.000	0.013
0.5778	0.066	0.015	0.000	0.013
0.6222	0.066	0.016	0.000	0.013
0.6667	0.066	0.017	0.000	0.013
0.7111	0.066	0.018	0.000	0.013
0.7556	0.066	0.020	0.000	0.013
0.8000	0.066	0.021	0.000	0.013
0.8444	0.066	0.022	0.000	0.013
0.8889	0.066	0.023	0.000	0.013
0.9333	0.066	0.024	0.000	0.013
0.9778	0.066	0.025	0.000	0.013
1.0222	0.066	0.027	0.000	0.013
1.0667	0.066	0.028	0.000	0.013

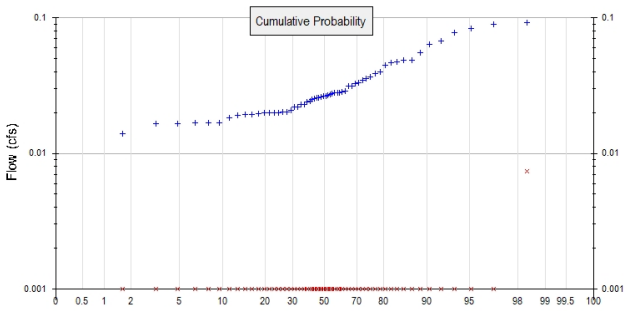
1.1111	0.066	0.029	0.000	0.013
1.1556	0.066	0.030	0.000	0.013
1.2000	0.066	0.031	0.000	0.013
1.2444	0.066	0.033	0.000	0.013
1.2889	0.066	0.034	0.000	0.013
1.3333	0.066	0.035	0.000	0.013
1.3778	0.066	0.036	0.000	0.013
1.4222	0.066	0.037	0.000	0.013
1.4667	0.066	0.038	0.000	0.013
1.5111	0.066	0.040	0.000	0.013
1.5556	0.066	0.041	0.000	0.013
1.6000	0.066	0.042	0.000	0.013
1.6444	0.066	0.043	0.000	0.013
1.6889	0.066	0.044	0.000	0.013
1.7333	0.066	0.046	0.000	0.013
1.7778	0.066	0.047	0.000	0.013
1.8222	0.066	0.048	0.000	0.013
1.8667	0.066	0.049	0.000	0.013
1.9111	0.066	0.050	0.000	0.013
1.9556	0.066	0.051	0.000	0.013
2.0000	0.066	0.053	0.000	0.013
2.0444	0.066	0.054	0.000	0.013
2.0889	0.066	0.055	0.000	0.013
2.1333	0.066	0.056	0.000	0.013
2.1778	0.066	0.057	0.000	0.013
2.2222	0.066	0.059	0.000	0.013
2.2667	0.066	0.060	0.000	0.013
2.3111	0.066	0.061	0.000	0.013
2.3556	0.066	0.062	0.000	0.013
2.4000	0.066	0.063	0.000	0.013
2.4444	0.066	0.064	0.000	0.013
2.4889	0.066	0.066	0.000	0.013
2.5333	0.066	0.067	0.000	0.013
2.5778	0.066	0.068	0.000	0.013
2.6222	0.066	0.069	0.000	0.013
2.6667	0.066	0.070	0.000	0.013
2.7111	0.066	0.072	0.000	0.013
2.7556	0.066	0.073	0.000	0.013
2.8000	0.066	0.074	0.000	0.013
2.8444	0.066	0.075	0.000	0.013
2.8889	0.066	0.076	0.000	0.013
2.9333	0.066	0.077	0.000	0.013
2.9778	0.066	0.079	0.000	0.013
3.0222	0.066	0.080	0.000	0.013
3.0667	0.066	0.081	0.000	0.013
3.1111	0.066	0.082	0.000	0.013
3.1556	0.066	0.083	0.000	0.013
3.2000	0.066	0.085	0.000	0.013
3.2444	0.066	0.086	0.000	0.013
3.2889	0.066	0.087	0.000	0.013
3.3333	0.066	0.088	0.000	0.013
3.3778	0.066	0.089	0.000	0.013
3.4222	0.066	0.090	0.000	0.013
3.4667	0.066	0.092	0.000	0.013
3.5111	0.066	0.093	0.012	0.013
3.5556	0.066	0.094	0.138	0.013
3.6000	0.066	0.095	0.333	0.013
3.6444	0.066	0.096	0.572	0.013

3.6889	0.066	0.098	0.838	0.013
3.7333	0.066	0.099	1.115	0.013
3.7778	0.066	0.100	1.383	0.013
3.8222	0.066	0.101	1.627	0.013
3.8667	0.066	0.102	1.834	0.013
3.9111	0.066	0.104	1.996	0.013
3.9556	0.066	0.105	2.114	0.013
4.0000	0.066	0.106	2.203	0.013

Analysis Results

POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 0.92
Total Impervious Area: 0

Mitigated Landuse Totals for POC #1
Total Pervious Area: 0
Total Impervious Area: 0.421

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.027603
5 year	0.042426
10 year	0.053875
25 year	0.070274
50 year	0.083945
100 year	0.098908

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	0
5 year	0
10 year	0
25 year	0
50 year	0
100 year	0

Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	**Predeveloped**	**Mitigated**
1949	0.028	0.000
1950	0.028	0.000
1951	0.025	0.000
1952	0.020	0.000
1953	0.017	0.000
1954	0.090	0.000
1955	0.035	0.000
1956	0.031	0.000
1957	0.039	0.000
1958	0.028	0.000

1959	0.028	0.000
1960	0.026	0.000
1961	0.049	0.000
1962	0.024	0.000
1963	0.040	0.000
1964	0.029	0.000
1965	0.024	0.000
1966	0.014	0.000
1967	0.028	0.000
1968	0.035	0.000
1969	0.084	0.000
1970	0.020	0.000
1971	0.031	0.000
1972	0.023	0.000
1973	0.022	0.000
1974	0.047	0.000
1975	0.019	0.000
1976	0.020	0.000
1977	0.017	0.000
1978	0.020	0.000
1979	0.055	0.000
1980	0.026	0.000
1981	0.020	0.000
1982	0.026	0.000
1983	0.045	0.000
1984	0.027	0.000
1985	0.033	0.000
1986	0.078	0.000
1987	0.037	0.000
1988	0.019	0.000
1989	0.019	0.000
1990	0.026	0.000
1991	0.026	0.000
1992	0.020	0.000
1993	0.017	0.000
1994	0.018	0.000
1995	0.027	0.000
1996	0.047	0.000
1997	0.092	0.007
1998	0.017	0.000
1999	0.022	0.000
2000	0.016	0.000
2001	0.007	0.000
2002	0.025	0.000
2003	0.020	0.000
2004	0.033	0.000
2005	0.023	0.000
2006	0.064	0.000
2007	0.048	0.000
2008	0.068	0.000
2009	0.021	0.000

Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	0.0923	0.0073
2	0.0901	0.0000
3	0.0840	0.0000

4	0.0777	0.0000
5	0.0679	0.0000
6	0.0638	0.0000
7	0.0553	0.0000
8	0.0489	0.0000
9	0.0483	0.0000
10	0.0473	0.0000
11	0.0468	0.0000
12	0.0448	0.0000
13	0.0398	0.0000
14	0.0388	0.0000
15	0.0367	0.0000
16	0.0355	0.0000
17	0.0345	0.0000
18	0.0330	0.0000
19	0.0329	0.0000
20	0.0315	0.0000
21	0.0313	0.0000
22	0.0287	0.0000
23	0.0284	0.0000
24	0.0281	0.0000
25	0.0281	0.0000
26	0.0278	0.0000
27	0.0275	0.0000
28	0.0270	0.0000
29	0.0269	0.0000
30	0.0265	0.0000
31	0.0263	0.0000
32	0.0259	0.0000
33	0.0258	0.0000
34	0.0257	0.0000
35	0.0252	0.0000
36	0.0250	0.0000
37	0.0242	0.0000
38	0.0239	0.0000
39	0.0231	0.0000
40	0.0229	0.0000
41	0.0220	0.0000
42	0.0219	0.0000
43	0.0207	0.0000
44	0.0202	0.0000
45	0.0202	0.0000
46	0.0200	0.0000
47	0.0199	0.0000
48	0.0198	0.0000
49	0.0198	0.0000
50	0.0196	0.0000
51	0.0194	0.0000
52	0.0192	0.0000
53	0.0190	0.0000
54	0.0184	0.0000
55	0.0168	0.0000
56	0.0167	0.0000
57	0.0167	0.0000
58	0.0166	0.0000
59	0.0165	0.0000
60	0.0140	0.0000
61	0.0066	0.0000

Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0138	19515	0	0	Pass
0.0145	16878	0	0	Pass
0.0152	14589	0	0	Pass
0.0159	12632	0	0	Pass
0.0166	10836	0	0	Pass
0.0173	9347	0	0	Pass
0.0181	8072	0	0	Pass
0.0188	7003	0	0	Pass
0.0195	6059	0	0	Pass
0.0202	5257	0	0	Pass
0.0209	4605	0	0	Pass
0.0216	4008	0	0	Pass
0.0223	3501	0	0	Pass
0.0230	3084	0	0	Pass
0.0237	2714	0	0	Pass
0.0244	2398	0	0	Pass
0.0251	2112	0	0	Pass
0.0258	1847	0	0	Pass
0.0266	1637	0	0	Pass
0.0273	1487	0	0	Pass
0.0280	1352	0	0	Pass
0.0287	1228	0	0	Pass
0.0294	1142	0	0	Pass
0.0301	1053	0	0	Pass
0.0308	993	0	0	Pass
0.0315	937	0	0	Pass
0.0322	877	0	0	Pass
0.0329	813	0	0	Pass
0.0336	768	0	0	Pass
0.0343	716	0	0	Pass
0.0351	681	0	0	Pass
0.0358	640	0	0	Pass
0.0365	617	0	0	Pass
0.0372	596	0	0	Pass
0.0379	575	0	0	Pass
0.0386	557	0	0	Pass
0.0393	532	0	0	Pass
0.0400	499	0	0	Pass
0.0407	482	0	0	Pass
0.0414	468	0	0	Pass
0.0421	450	0	0	Pass
0.0429	434	0	0	Pass
0.0436	421	0	0	Pass
0.0443	405	0	0	Pass
0.0450	387	0	0	Pass
0.0457	376	0	0	Pass
0.0464	360	0	0	Pass
0.0471	348	0	0	Pass
0.0478	337	0	0	Pass
0.0485	325	0	0	Pass
0.0492	317	0	0	Pass
0.0499	310	0	0	Pass
0.0506	298	0	0	Pass

0.0514	288	0	0	Pass
0.0521	279	0	0	Pass
0.0528	272	0	0	Pass
0.0535	260	0	0	Pass
0.0542	250	0	0	Pass
0.0549	238	0	0	Pass
0.0556	228	0	0	Pass
0.0563	218	0	0	Pass
0.0570	207	0	0	Pass
0.0577	199	0	0	Pass
0.0584	191	0	0	Pass
0.0591	182	0	0	Pass
0.0599	169	0	0	Pass
0.0606	162	0	0	Pass
0.0613	154	0	0	Pass
0.0620	149	0	0	Pass
0.0627	143	0	0	Pass
0.0634	133	0	0	Pass
0.0641	124	0	0	Pass
0.0648	115	0	0	Pass
0.0655	106	0	0	Pass
0.0662	91	0	0	Pass
0.0669	77	0	0	Pass
0.0676	67	0	0	Pass
0.0684	60	0	0	Pass
0.0691	57	0	0	Pass
0.0698	54	0	0	Pass
0.0705	44	0	0	Pass
0.0712	40	0	0	Pass
0.0719	39	0	0	Pass
0.0726	36	0	0	Pass
0.0733	33	0	0	Pass
0.0740	30	0	0	Pass
0.0747	26	0	0	Pass
0.0754	22	0	0	Pass
0.0762	16	0	0	Pass
0.0769	15	0	0	Pass
0.0776	10	0	0	Pass
0.0783	7	0	0	Pass
0.0790	5	0	0	Pass
0.0797	4	0	0	Pass
0.0804	4	0	0	Pass
0.0811	4	0	0	Pass
0.0818	3	0	0	Pass
0.0825	3	0	0	Pass
0.0832	3	0	0	Pass
0.0839	3	0	0	Pass

Water Quality

Water Quality BMP Flow and Volume for POC #1

On-line facility volume:	0 acre-feet
On-line facility target flow:	0 cfs.
Adjusted for 15 min:	0 cfs.
Off-line facility target flow:	0 cfs.
Adjusted for 15 min:	0 cfs.

LID Report

LID Technique	Used for Treatment ?	Total Volume Needs Treatment (ac-ft)	Volume Through Facility (ac-ft)	Infiltration Volume (ac-ft)	Cumulative Volume Infiltration Credit	Percent Volume Infiltrated	Water Quality	Percent Water Quality Treated	Comment
Gravel Trench Bed 1 POC	☐	0.00			☐	0.00			
Gravel Trench Bed 1 POC	☐	0.00			☐	0.00			
Gravel Trench Bed 1 POC	☐	0.00			☐	0.00			
Gravel Trench Bed 1 POC	☐	0.00			☐	0.00			
Gravel Trench Bed 1 POC	☐	0.00			☐	0.00			
Gravel Trench Bed 1 POC	☐	0.00			☐	0.00			
Gravel Trench Bed 1 POC	☐	0.00			☐	0.00			
Gravel Trench Bed 1 POC	☐	0.00			☐	0.00			
Gravel Trench Bed 9 POC	☐	0.00			☐	0.00			
Total Volume Infiltrated		0.00	0.00	0.00		0.00	0.00	0%	No Treat. Credit
Compliance with LID Standard 8% of 2-yr to 50% of 2-yr									Duration Analysis Result = Passed

Model Default Modifications

Total of 0 changes have been made.

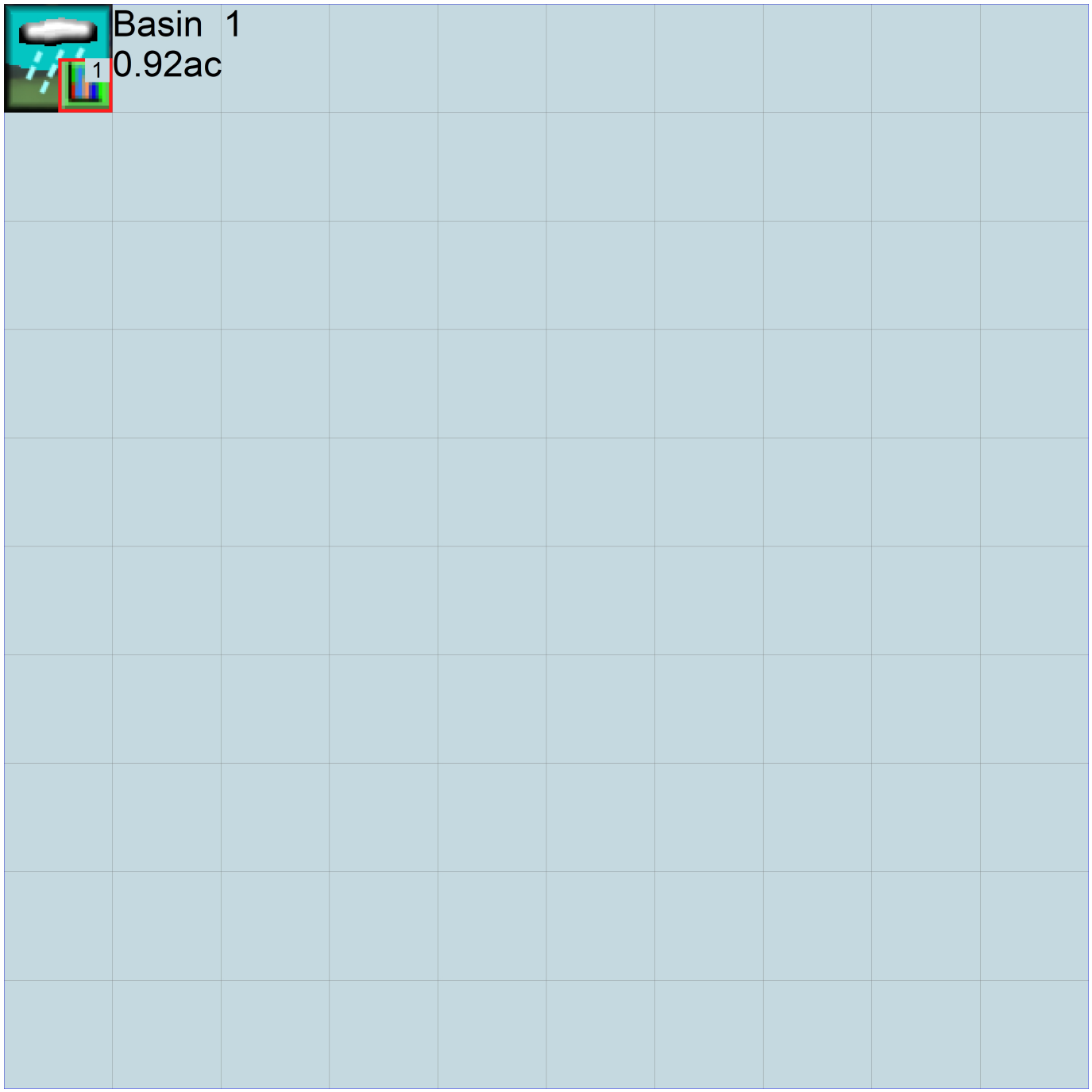
PERLND Changes

No PERLND changes have been made.

IMPLND Changes

No IMPLND changes have been made.

Appendix
Predeveloped Schematic



Mitigated Schematic

Predeveloped UCI File

Mitigated UCI File

Predeveloped HSPF Message File

Mitigated HSPF Message File

Disclaimer

Legal Notice

This program and accompanying documentation are provided 'as-is' without warranty of any kind. The entire risk regarding the performance and results of this program is assumed by End User. Clear Creek Solutions Inc. and the governmental licensee or sublicensees disclaim all warranties, either expressed or implied, including but not limited to implied warranties of program and accompanying documentation. In no event shall Clear Creek Solutions Inc. be liable for any damages whatsoever (including without limitation to damages for loss of business profits, loss of business information, business interruption, and the like) arising out of the use of, or inability to use this program even if Clear Creek Solutions Inc. or their authorized representatives have been advised of the possibility of such damages.

Clear Creek Solutions, Inc.
6200 Capitol Blvd. Ste F
Olympia, WA. 98501
Toll Free 1(866)943-0304
Local (360)943-0304

www.clearcreeksolutions.com