

MS-19 Section #1 - 2-Year Analysis

Project Description
 Friction Method Manning Formula
 Solve For Normal Depth

Input Data
 Channel Slope 0.02280 ft/ft
 Discharge 3.60 ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00	153.04
0+06	152.66
0+10	152.34
0+24	151.80
0+29	151.71
0+42	151.76
0+60	151.74
0+67	151.83
0+70	151.85
0+70	151.86
0+71	151.90
0+71	151.92
0+95	153.17
1+03	153.45
1+05	153.53

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 153.04)	(1+05, 153.53)	0.050

Options
 Current roughness weighted Method Pavlovskii's Method
 Open Channel Weighting Method Pavlovskii's Method
 Closed Channel Weighting Method Pavlovskii's Method

MS-19 Section #1 - 2-Year Analysis

Results
 Normal Depth 0.14 ft
 Elevation Range 151.71 to 153.53 ft
 Flow Area 4.02 ft²
 Wetted Perimeter 45.42 ft
 Hydraulic Radius 0.09 ft
 Top Width 45.42 ft
 Normal Depth 0.14 ft
 Critical Depth 0.10 ft
 Critical Slope 0.09212 ft/ft
 Velocity 0.89 ft/s
 Velocity Head 0.01 ft
 Specific Energy 0.15 ft
 Froude Number 0.53
 Flow Type Subcritical

GVF Input Data
 Downstream Depth 0.00 ft
 Length 0.00 ft
 Number Of Steps 0

GVF Output Data
 Upstream Depth 0.00 ft
 Profile Description
 Profile Headloss 0.00 ft
 Downstream Velocity Infinity ft/s
 Upstream Velocity Infinity ft/s
 Normal Depth 0.14 ft
 Critical Depth 0.10 ft
 Channel Slope 0.02280 ft/ft
 Critical Slope 0.09212 ft/ft

MS-19 Section #1 - 10-Year Analysis

Project Description
 Friction Method Manning Formula
 Solve For Normal Depth

Input Data
 Channel Slope 0.02280 ft/ft
 Discharge 4.80 ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00	153.04
0+06	152.66
0+10	152.34
0+24	151.80
0+29	151.71
0+42	151.76
0+60	151.74
0+67	151.83
0+70	151.85
0+70	151.86
0+71	151.90
0+71	151.92
0+95	153.17
1+03	153.45
1+05	153.53

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 153.04)	(1+05, 153.53)	0.050

Options
 Current roughness weighted Method Pavlovskii's Method
 Open Channel Weighting Method Pavlovskii's Method
 Closed Channel Weighting Method Pavlovskii's Method

MS-19 Section #1 - 10-Year Analysis

Results
 Normal Depth 0.16 ft
 Elevation Range 151.71 to 153.53 ft
 Flow Area 4.87 ft²
 Wetted Perimeter 47.36 ft
 Hydraulic Radius 0.10 ft
 Top Width 47.36 ft
 Normal Depth 0.16 ft
 Critical Depth 0.12 ft
 Critical Slope 0.08706 ft/ft
 Velocity 0.99 ft/s
 Velocity Head 0.02 ft
 Specific Energy 0.17 ft
 Froude Number 0.54
 Flow Type Subcritical

GVF Input Data
 Downstream Depth 0.00 ft
 Length 0.00 ft
 Number Of Steps 0

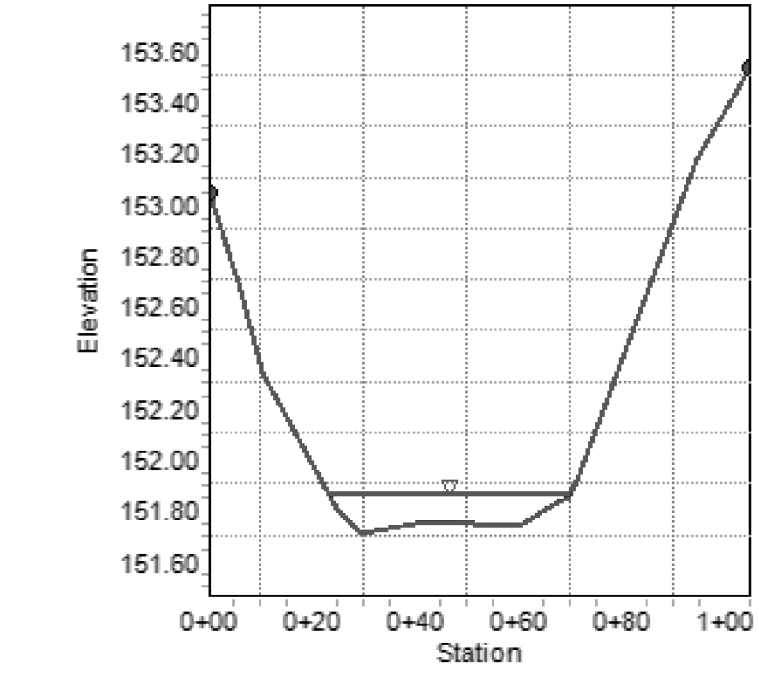
GVF Output Data
 Upstream Depth 0.00 ft
 Profile Description
 Profile Headloss 0.00 ft
 Downstream Velocity Infinity ft/s
 Upstream Velocity Infinity ft/s
 Normal Depth 0.16 ft
 Critical Depth 0.12 ft
 Channel Slope 0.02280 ft/ft
 Critical Slope 0.08706 ft/ft

MS-19 Section #1 - 10-Year XS

Project Description
 Friction Method Manning Formula
 Solve For Normal Depth

Input Data
 Channel Slope 0.02280 ft/ft
 Normal Depth 0.16 ft
 Discharge 4.80 ft³/s

Cross Section Image



REVISION DESCRIPTION	DATE
	6/30/2019
	DRAWN BY KPO
	DESIGNED BY KPO
	CHECKED BY CMK
	SCALE N.T.S.

TIMMONS GROUP | Site Development | Residential | Infrastructure | Technology

EAST RAMP 3 ACCESS ROAD
 HENRICO COUNTY - VIRGINIA

MS-19 SECTION #1 ANALYSIS

JOB NO. 40930.001
 SHEET NO. 02H(09)

I:\2018\40930-REC_A\p001-205-DEM_Access_Road\DWG\Sheet\CD\40930.001-205-DEM.dwg | Printed on 6/26/2019 11:39 AM | by Kevin O'Meara

These plans and associated documents are the exclusive property of TIMMONS GROUP and may not be reproduced in whole or in part and shall not be used for any purpose whatsoever, inclusive, but not limited to construction, bidding, and/or construction staging without the express written consent of TIMMONS GROUP.