

APPENDIX B

HYDRAULICS

Street Capacity and Storm Drain Inlet Exhibit (Phase I)

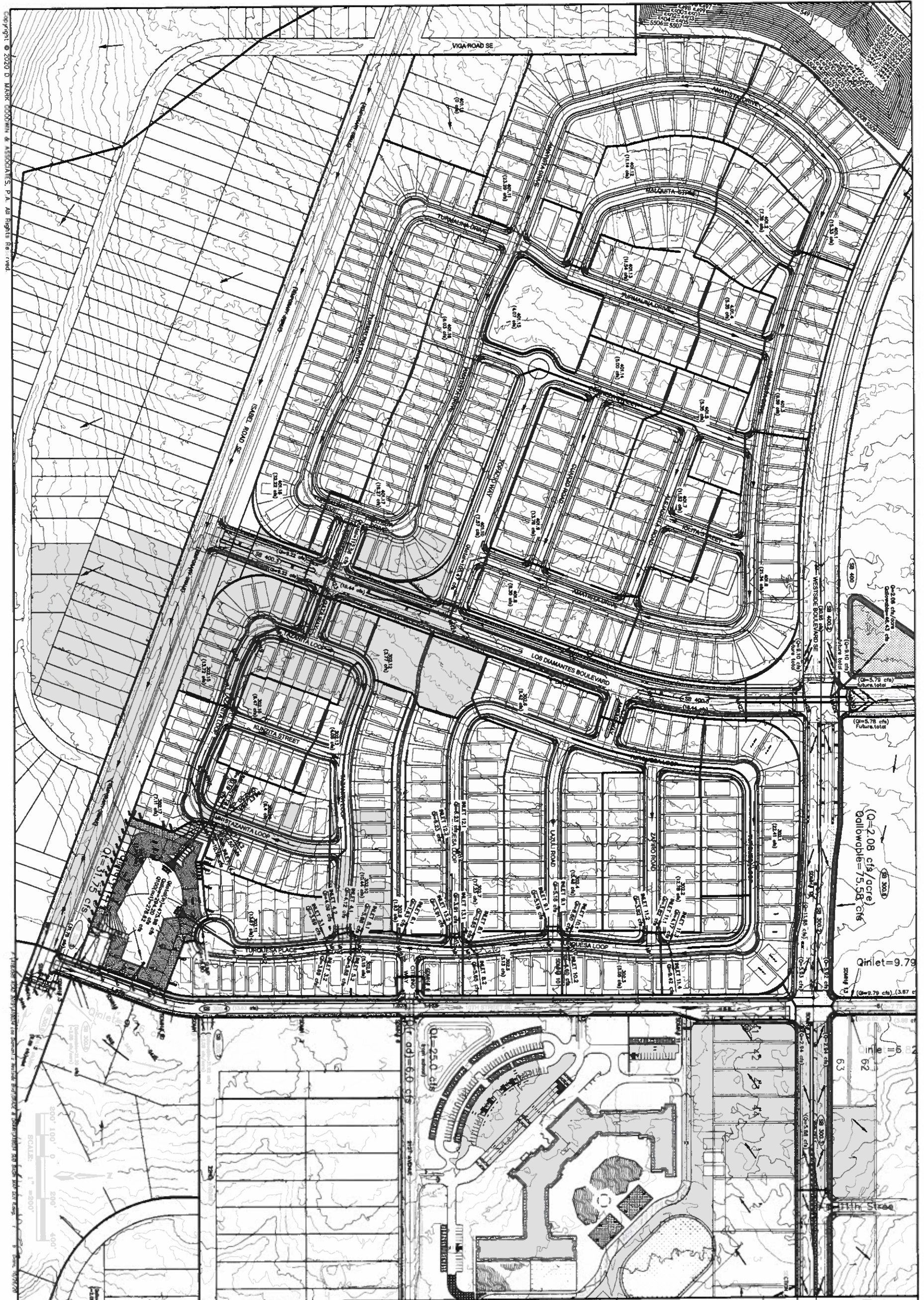
**Table 2 Summary of Street Capacity and Inlet Capacity Calculations
(Phase I)**

AUTOCAD Hydraflow express output reports (Phase I)

Street Capacity and Storm Drain Inlet Exhibit (Phase II)

**Table 2 Summary of Street Capacity and Inlet Capacity Calculations
(Phase II)**

AUTOCAD Hydraflow express output reports (Phase II)



PROJECT NO. 18034
DESIGNED BY: DLH
DRAWN BY: DLH
CHECKED BY: DLH
DATE: 10/23/2020

ENGINEER'S SEAL:
10-26-20
10/26/2020

LOS DIAMANTES RESIDENTIAL PHASE 1

Los Diamantes Residential Phase I STREET CAPACITY AND STORM DRAIN INLET EXHIBIT

OWNER/DEVELOPER
LD DEVELOPMENT, LLC

dmg MARK GOODMAN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 10000, NEW MEXICO 87106
(505) 262-2200, FAX (505) 767-9539

NO.	DESCRIPTION	DATE	BY
1			
2			
3			
4			

REVISIONS (OR CHANGE NOTICES)

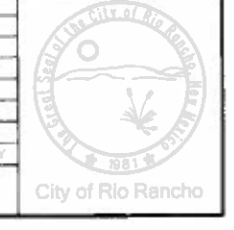


TABLE 2											
Summary of Street Capacity Calculations and Inlet Intercept											
Los Diamantes Subdivision Phase I											
(Turquesa Loop)											
Location ID	Location	Station	Curb Side	Slope %	Discharge (cfs)	Depth (ft)	EGL (ft)	Inlet Intercept Q (cfs)	Inlet ID	Inlet Type	Inlet bypass (cfs)
1	Turquesa Loop	29+00	LT	2.13	8.4	0.32	0.68		n/a		
	Turquesa Loop	29+00	RT	2.13	4.9	0.27	0.55		n/a		
2	Turquesa Loop	32+49	LT	1.34	15.45	0.42	0.76	9.42	11.4	DBL A (1)	6.03
	Turquesa Loop	32+57	RT	1.34	6.95	0.32	0.56	4.17	11.3	SGL A (1)	2.78
3	Zafiro	15+07	LT	2.72	12.78	0.30	0.57	3.82	11.1	SGL A	
	Zafiro	15+07	RT	2.72		0.30	0.57	3.82	11.2	SGL A	5.14
4	Turquesa Loop	35+51	LT	1.34	19.03	0.38	0.58	6.6	10.2	DBL A	
	Turquesa Loop	35+51	RT	1.34		0.38	0.58	6.6	10.1	DBL A	5.84
5	Lazuli Road	15+66	LT	2.77	15.48	0.32	0.60	5.18	9.2	DBL A	
	Lazuli Road	15+66	RT	2.77		0.32	0.60	5.18	9.1	DBL A	5.12
6	Turquesa Loop	13+00	LT	2.70	20.00	0.35	0.67	6.23	12.1	DBL A	
	Turquesa Loop	13+00	RT	2.70		0.35	0.67	6.23	12.2	DBL A	7.54
7	Turquesa Loop	10+94	LT	2.70	14.19	0.31	0.60	3.91	13.1	DBL C	
	Turquesa Loop	11+11	RT	2.70		0.31	0.60	3.91	13.2	DBL C	6.38
8	Turquesa Loop	38+22	LT	1.63	16.03	0.35	0.56	5.65	8.2	DBL A	
	Turquesa Loop	38+38	RT	1.63		0.35	0.56	5.65	8.1	DBL A	4.72
9	Turquesa Loop	41+80	LT	1.30	16.25	0.36	0.55	5.88	5.2	DBL A	
	Turquesa Loop	41+73	RT	1.30		0.36	0.55	5.88	5.1	DBL A	4.50
10	Tazanita	31+35	LT	2.05	14.21	0.32	0.57	4.12	4.1	DBL A	2.99
	Tazanita	31+40	RT	2.55		0.32	0.57	4.09	4.2	DBL A	3.02
11	Turquesa Loop	42+65	LT	1.30	11.61	0.33	0.47	3.69	3.1	DBL C	
	Turquesa Loop	42+65	RT	1.30		0.33	0.47	3.69	3.2	DBL C	4.23
11	Turquesa Loop	46+74	SUMP	1.30	16.8			16.8		RUNDOWN	

i:/projects/18026.../drainage/Table 1 Hydro Summary LD Ph I & II/Table 2 Street Capacities & Inlets
10.26.20 DLH

**Los Diamantes Subdivision Phase I
Turquesa Loop**

Calculations for sump Inlet 1.1

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right of way elevation. The length of the double grate facing the street is 6.5' and the maximum depth is 0.70' at the lip of the gutter. The sides are each 2' long and the average depth is 0.815'. From flowline to top of curb is 6 inches. From the weir equation:

(1) Double 'C' Inlet

*Front Q cap = (3.0) x (6.0') x (0.70) **1.5 = 10.54 cfs*

*Sides Q cap = (3.0) x (4.0') x (0.815) **1.5 = 8.83 cfs*

Total Q cap = 10.54 cfs + 8.83 cfs = 19.37 cfs

The 100 year flow to the sump inlet 1.1 is 16.8 cfs.

Use two double C inlets for a safety factor of 2.

Channel Report

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

Monday, Oct 26 2020

Turquesa - 29+00 (2.13%) LEFT

Gutter

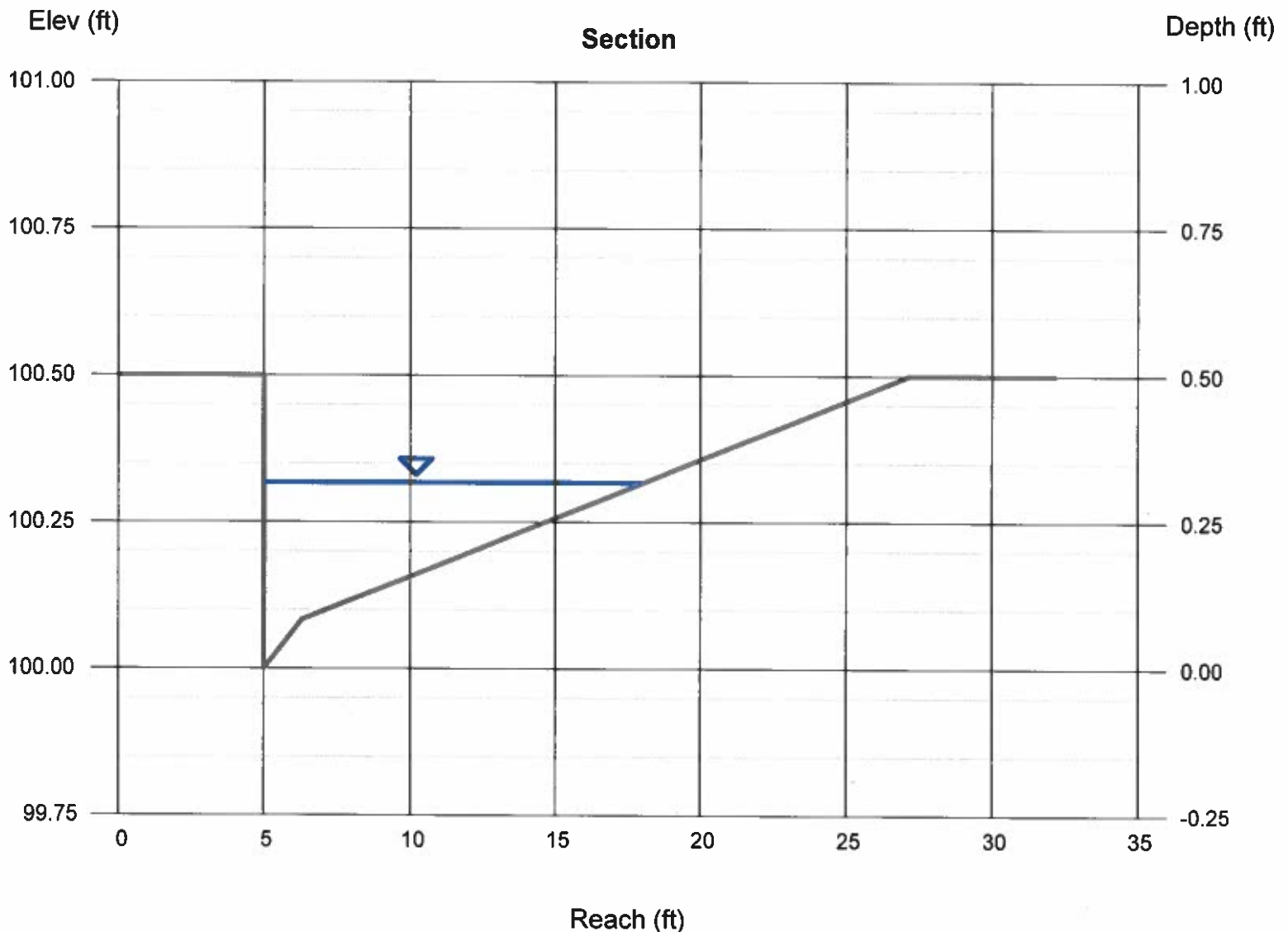
Cross SI, Sx (ft/ft) = 0.020
Cross SI, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 2.13
N-Value = 0.014

Calculations

Compute by: Known Q
Known Q (cfs) = 8.40

Highlighted

Depth (ft) = 0.32
Q (cfs) = 8.400
Area (sqft) = 1.73
Velocity (ft/s) = 4.85
Wetted Perim (ft) = 13.34
Crit Depth, Yc (ft) = 0.43
Spread Width (ft) = 13.02
EGL (ft) = 0.68



Channel Report

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

Monday, Oct 26 2020

Turquesa - 29+00 (2.13%) RIGHT

Gutter

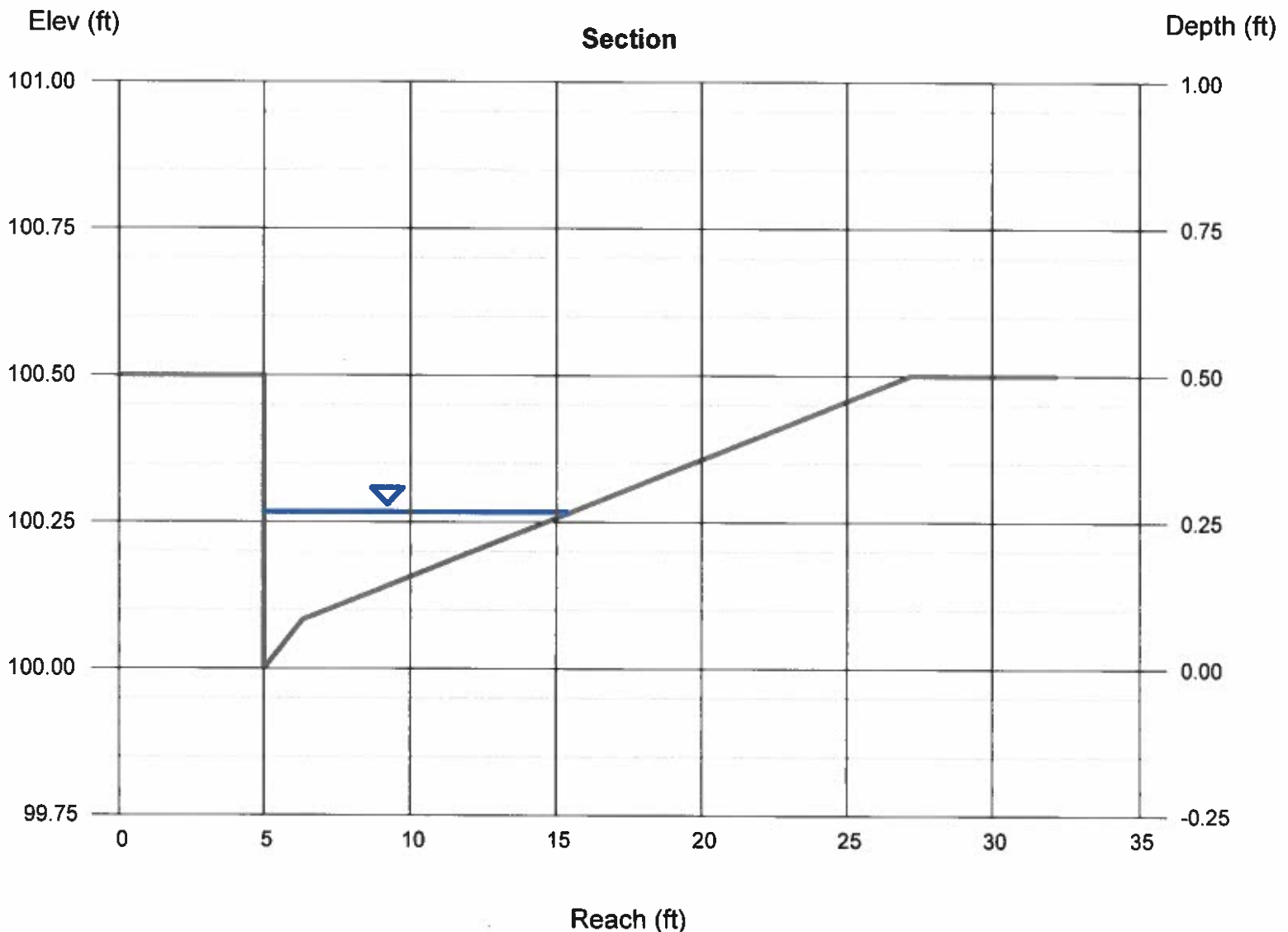
Cross SI, Sx (ft/ft) = 0.020
Cross SI, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 2.13
N-Value = 0.014

Calculations

Compute by: Known Q
Known Q (cfs) = 4.90

Highlighted

Depth (ft) = 0.27
Q (cfs) = 4.900
Area (sqft) = 1.14
Velocity (ft/s) = 4.28
Wetted Perim (ft) = 10.79
Crit Depth, Yc (ft) = 0.36
Spread Width (ft) = 10.52
EGL (ft) = 0.55



Channel Report

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

Monday, Oct 26 2020

Turquesa - 32+49 (1.34%) LEFT

Gutter

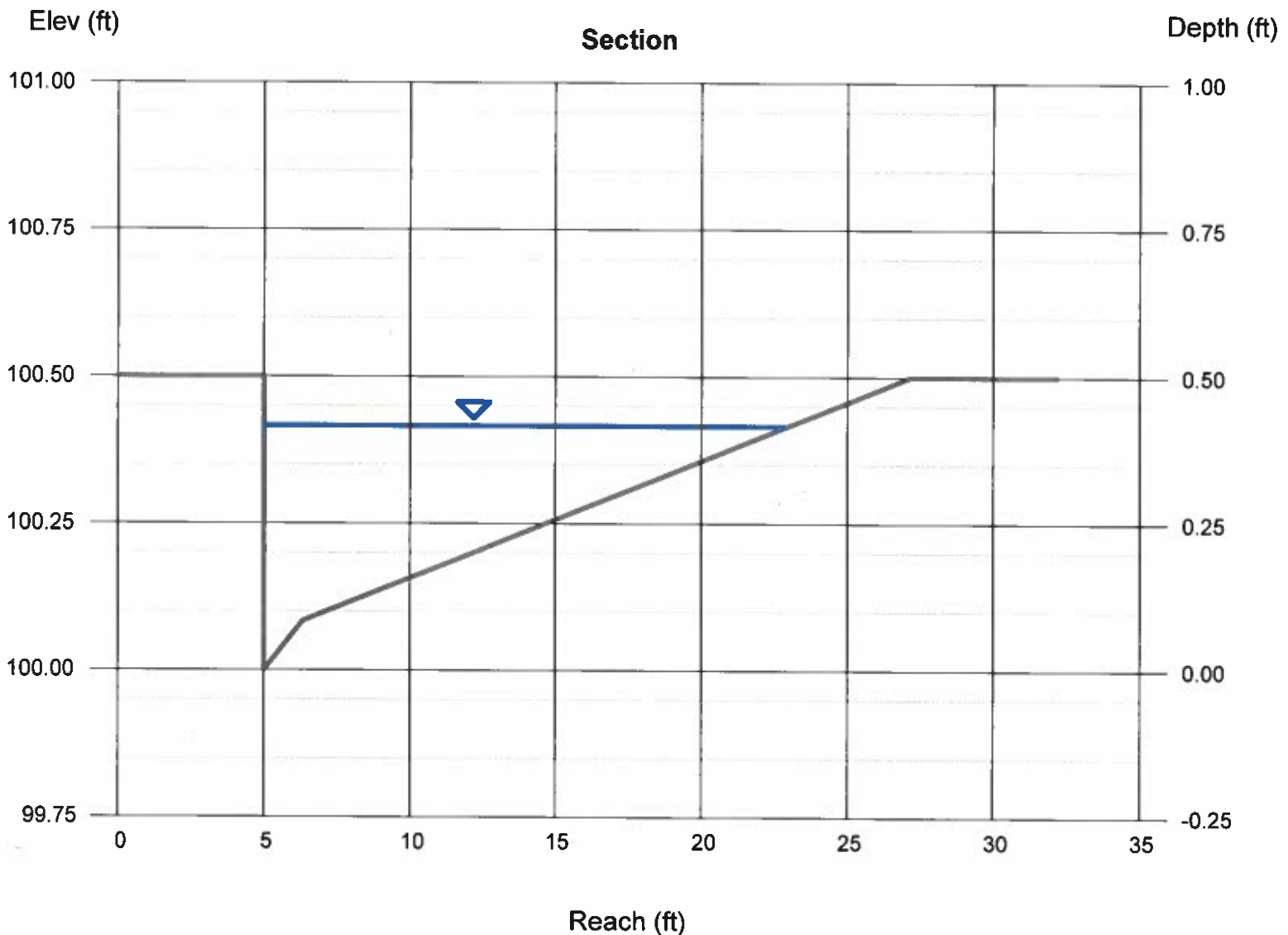
Cross Sl, Sx (ft/ft) = 0.020
Cross Sl, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 1.34
N-Value = 0.014

Calculations

Compute by: Known Q
Known Q (cfs) = 15.45

Highlighted

Depth (ft) = 0.42
Q (cfs) = 15.45
Area (sqft) = 3.27
Velocity (ft/s) = 4.73
Wetted Perim (ft) = 18.39
Crit Depth, Yc (ft) = 0.53
Spread Width (ft) = 17.97
EGL (ft) = 0.76



Channel Report

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

Monday, Oct 26 2020

Turquesa - 32+57 (1.34%) RIGHT

Gutter

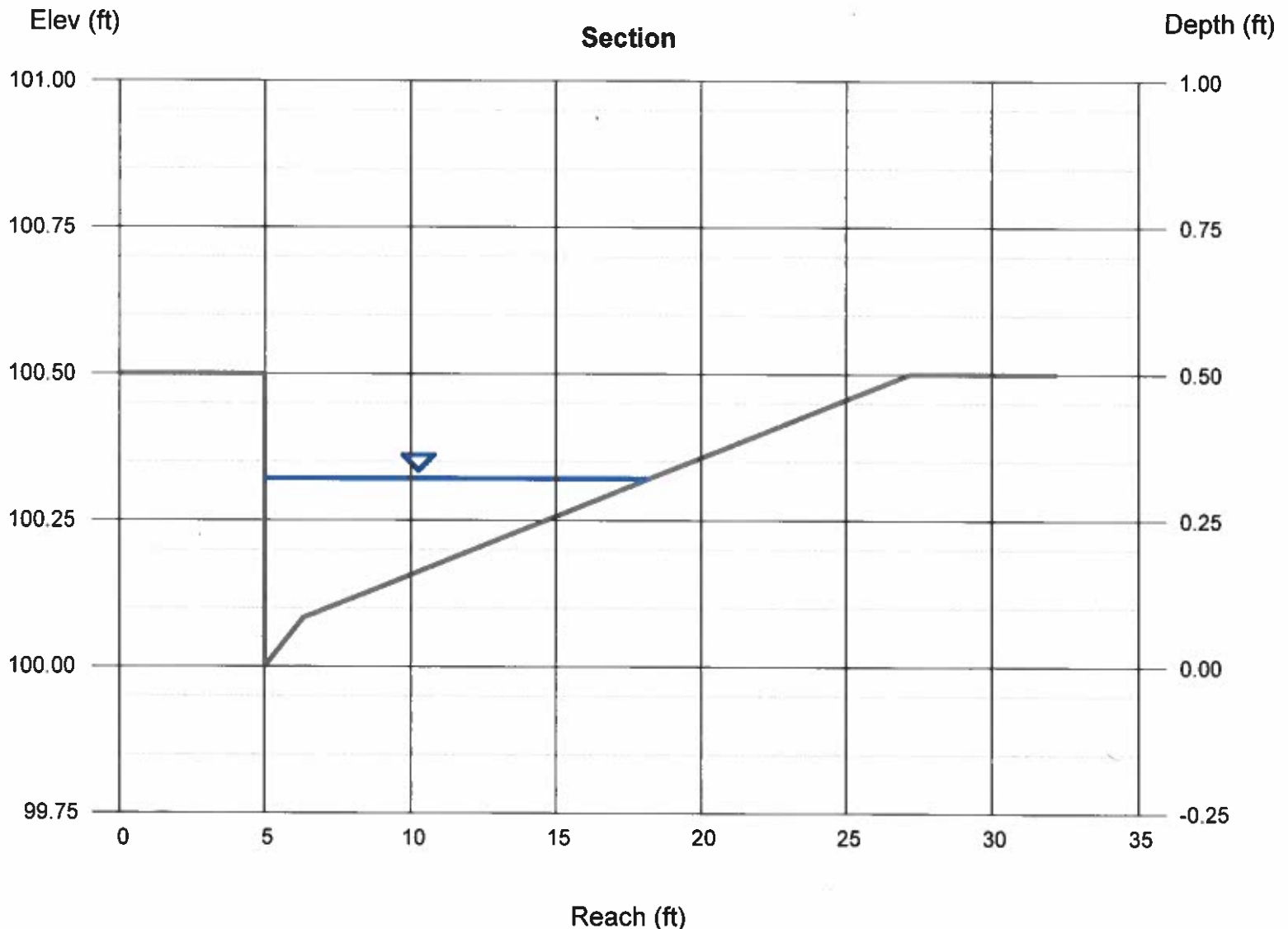
Cross SI, Sx (ft/ft) = 0.020
Cross SI, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 1.34
N-Value = 0.014

Calculations

Compute by: Known Q
Known Q (cfs) = 6.95

Highlighted

Depth (ft) = 0.32
Q (cfs) = 6.950
Area (sqft) = 1.78
Velocity (ft/s) = 3.89
Wetted Perim (ft) = 13.54
Crit Depth, Yc (ft) = 0.40
Spread Width (ft) = 13.22
EGL (ft) = 0.56



Channel Report

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

Monday, Oct 26 2020

ZAFIRO ROAD 15+07 (2.72%) LT&RT

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.72
N-Value = 0.014

Calculations

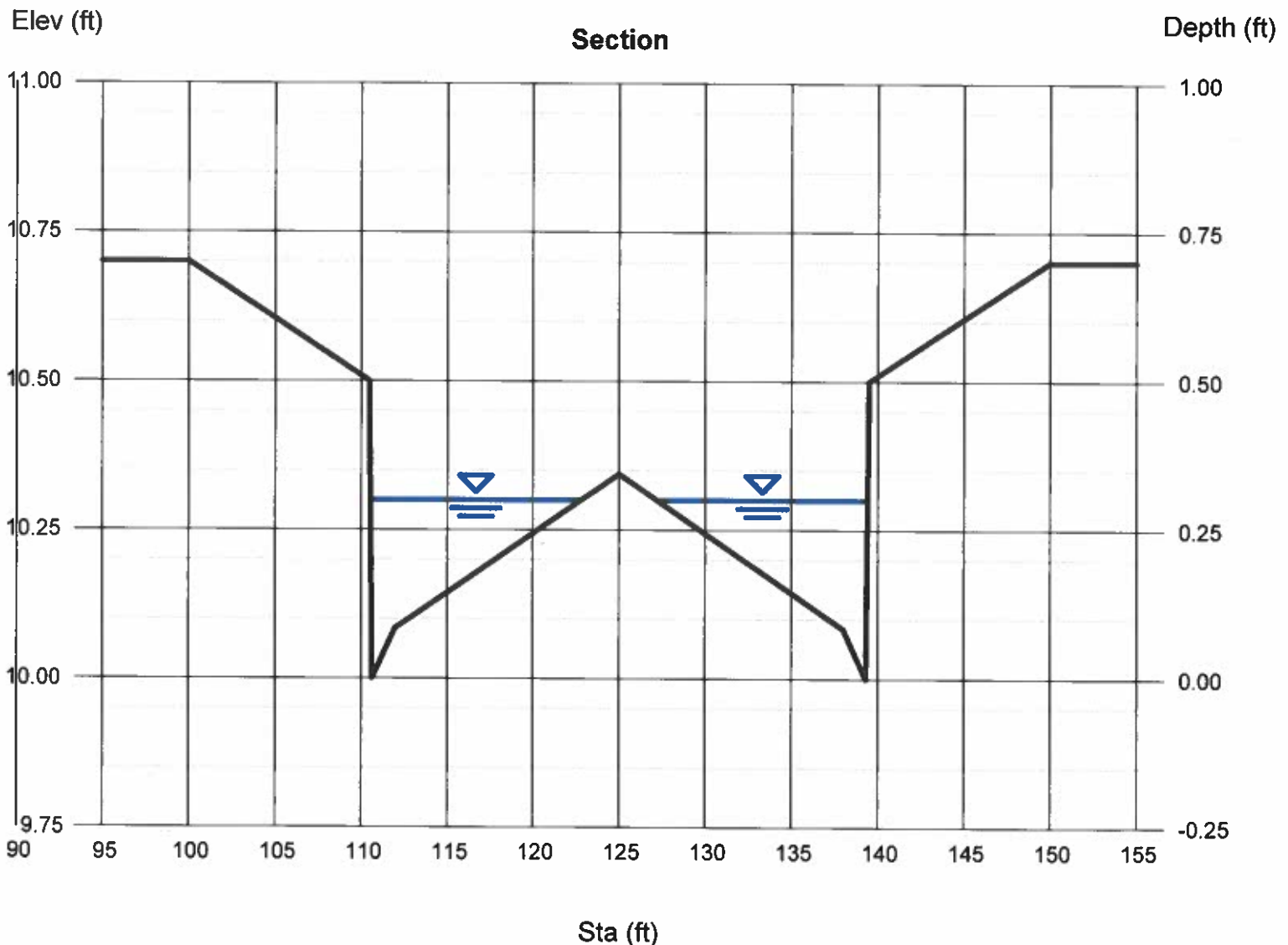
Compute by: Known Q
Known Q (cfs) = 12.78

Highlighted

Depth (ft) = 0.30
Q (cfs) = 12.78
Area (sqft) = 3.05
Velocity (ft/s) = 4.18
Wetted Perim (ft) = 24.92
Crit Depth, Yc (ft) = 0.39
Top Width (ft) = 24.48
EGL (ft) = 0.57

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

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

Monday, Oct 26 2020

Turquesa Loop (35+51) LT & RT

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 1.34
N-Value = 0.014

Highlighted

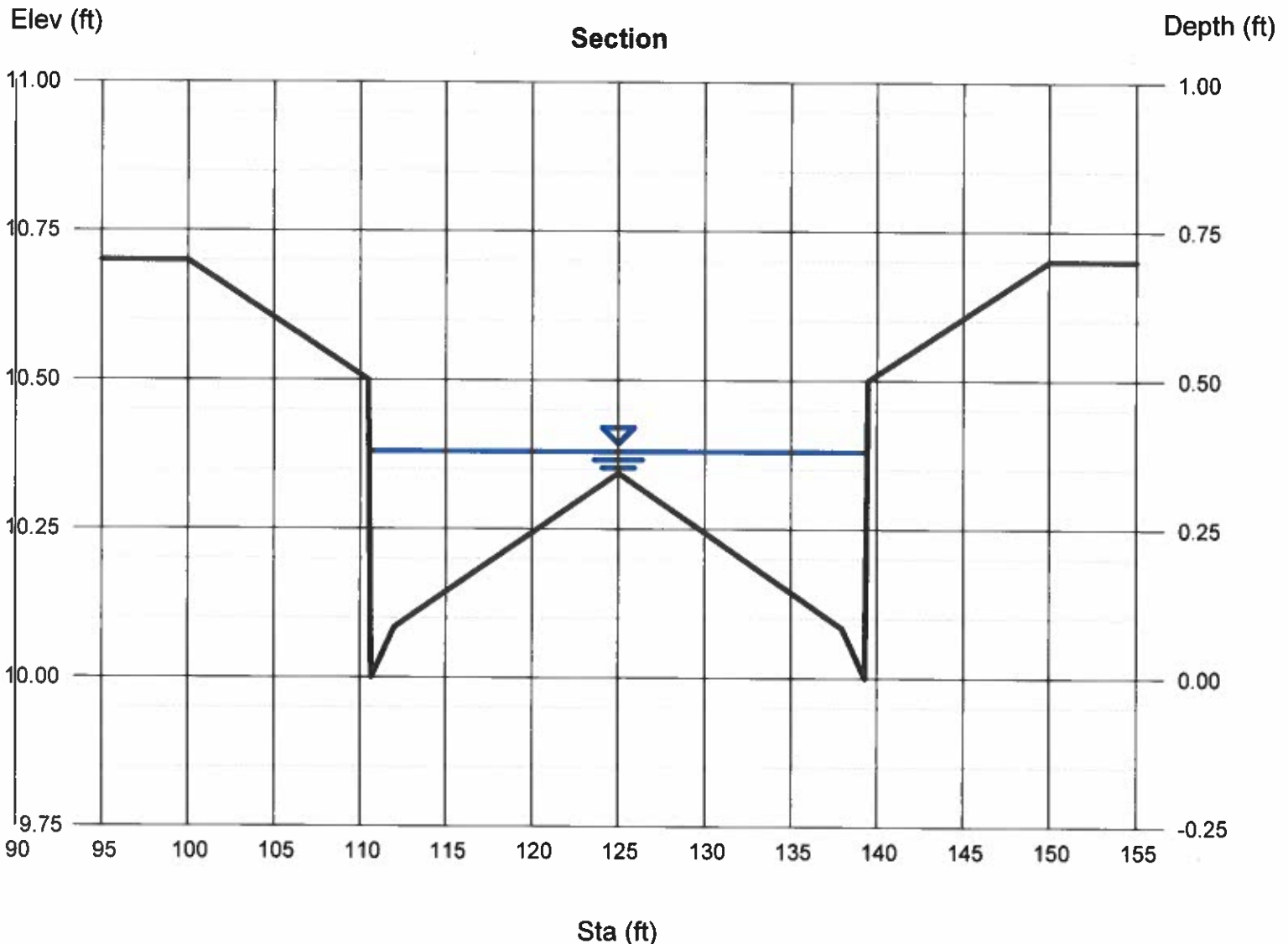
Depth (ft) = 0.38
Q (cfs) = 19.03
Area (sqft) = 5.27
Velocity (ft/s) = 3.61
Wetted Perim (ft) = 29.47
Crit Depth, Yc (ft) = 0.44
Top Width (ft) = 28.92
EGL (ft) = 0.58

Calculations

Compute by: Known Q
Known Q (cfs) = 19.03

(Sta, El, n)-(Sta, El, n)...

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-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

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

Monday, Oct 26 2020

LAZULI ROAD 15+66 (2.77%)

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.77
N-Value = 0.014

Calculations

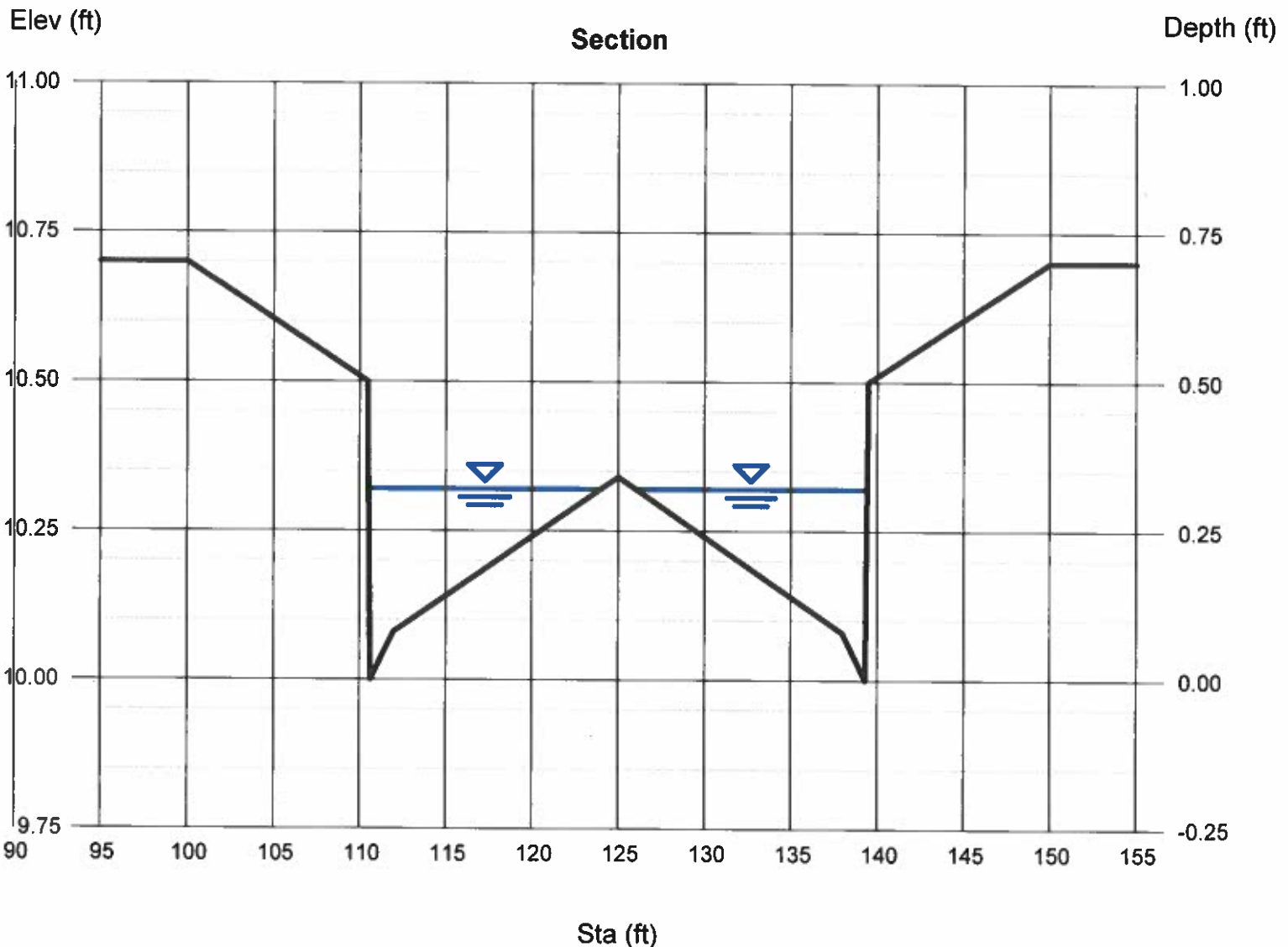
Compute by: Known Q
Known Q (cfs) = 15.48

Highlighted

Depth (ft) = 0.32
Q (cfs) = 15.48
Area (sqft) = 3.66
Velocity (ft/s) = 4.23
Wetted Perim (ft) = 27.35
Crit Depth, Yc (ft) = 0.41
Top Width (ft) = 26.88
EGL (ft) = 0.60

(Sta, El, n)-(Sta, El, n)...

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-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

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

Monday, Oct 26 2020

TURQUESA LOOP (13+00)

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.70
N-Value = 0.014

Calculations

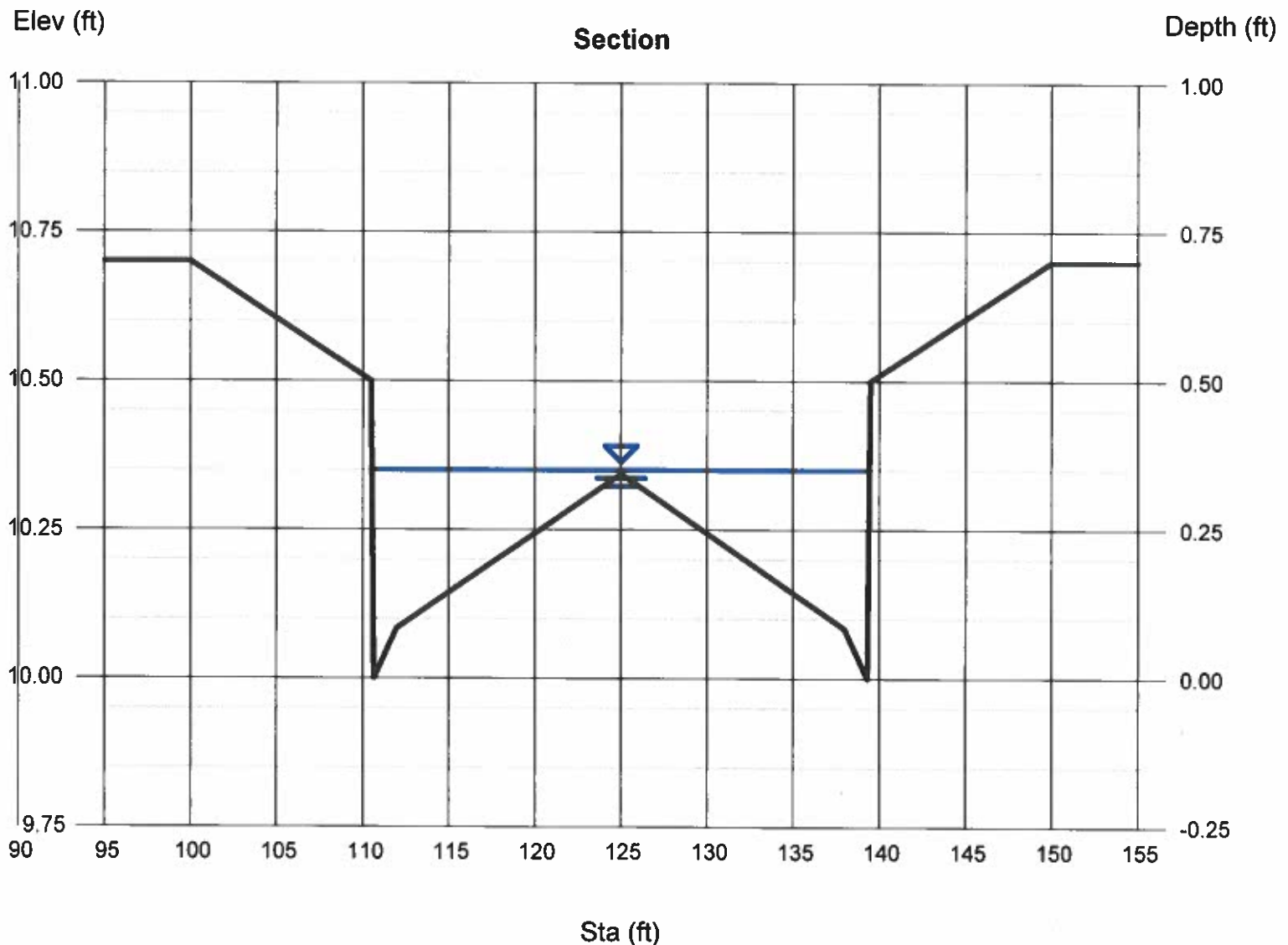
Compute by: Known Q
Known Q (cfs) = 20.00

Highlighted

Depth (ft) = 0.35
Q (cfs) = 20.00
Area (sqft) = 4.40
Velocity (ft/s) = 4.54
Wetted Perim (ft) = 29.41
Crit Depth, Yc (ft) = 0.45
Top Width (ft) = 28.90
EGL (ft) = 0.67

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)-
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

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

Monday, Oct 26 2020

TURQUESA LOOP 11+11 and 10+94 (2.70%)

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.70
N-Value = 0.014

Highlighted

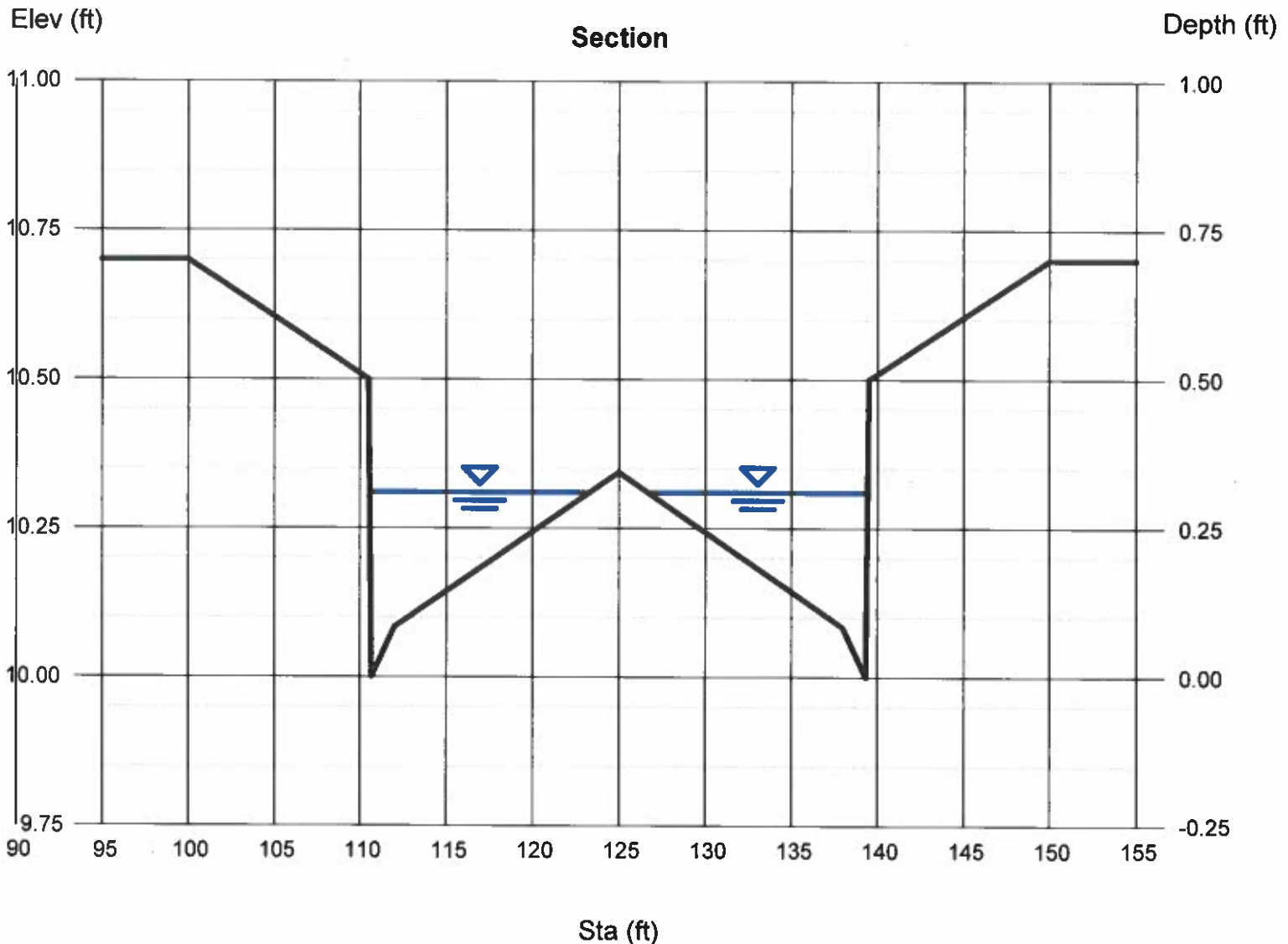
Depth (ft) = 0.31
Q (cfs) = 14.19
Area (sqft) = 3.30
Velocity (ft/s) = 4.29
Wetted Perim (ft) = 25.94
Crit Depth, Yc (ft) = 0.40
Top Width (ft) = 25.49
EGL (ft) = 0.60

Calculations

Compute by: Known Q
Known Q (cfs) = 14.19

(Sta, El, n)-(Sta, El, n)...

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-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

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

Monday, Oct 26 2020

TURQUESA ROAD 38+38 RT (1.63%) 38+22 LT

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 1.63
N-Value = 0.014

Calculations

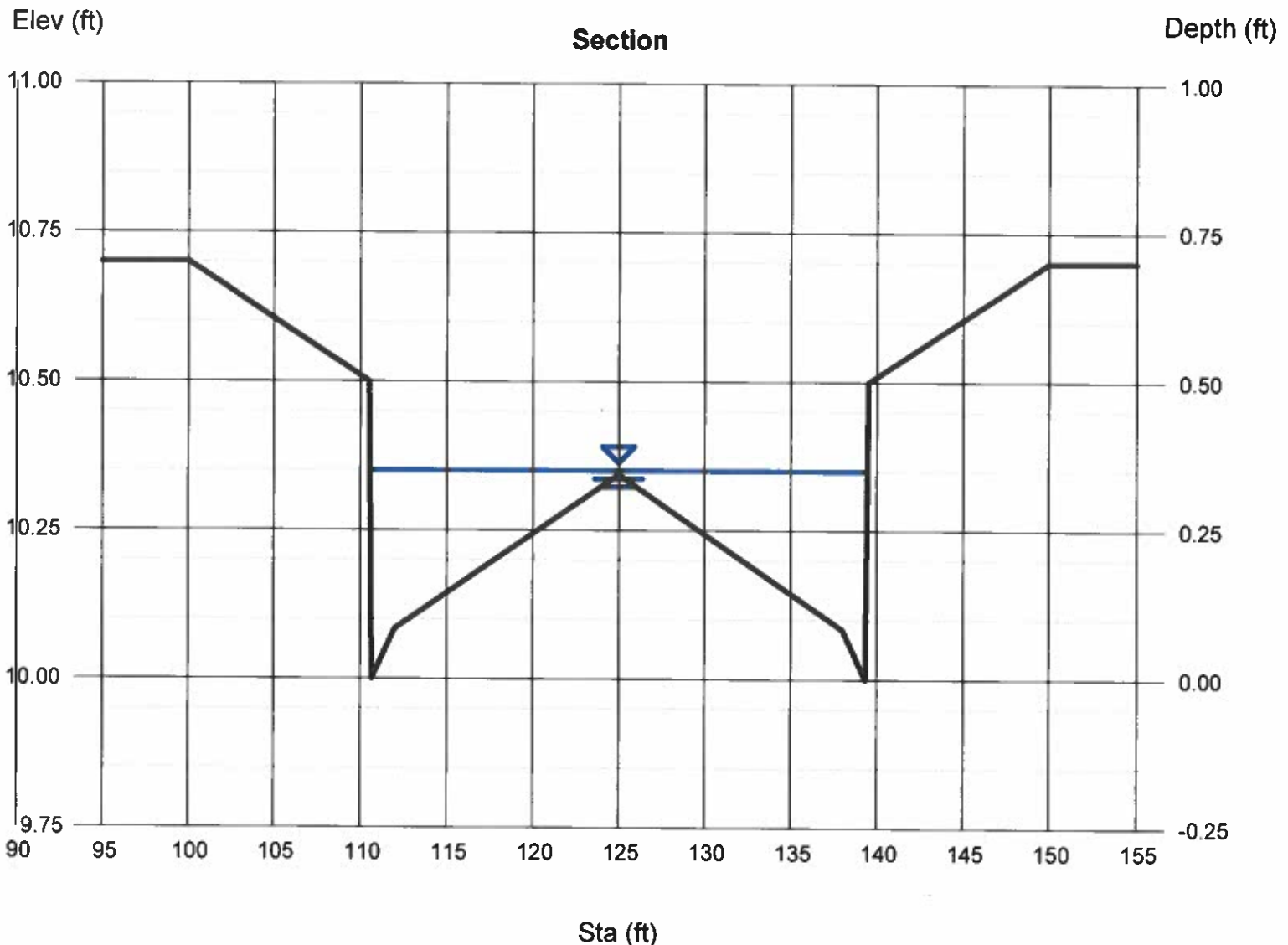
Compute by: Known Q
Known Q (cfs) = 16.03

Highlighted

Depth (ft) = 0.35
Q (cfs) = 16.03
Area (sqft) = 4.40
Velocity (ft/s) = 3.64
Wetted Perim (ft) = 29.41
Crit Depth, Yc (ft) = 0.42
Top Width (ft) = 28.90
EGL (ft) = 0.56

(Sta, El, n)-(Sta, El, n)...

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-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

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

Monday, Oct 26 2020

TURQUESA LOOP 41+75 LT & RT (41+73 and 41+80)

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 1.30
N-Value = 0.014

Highlighted

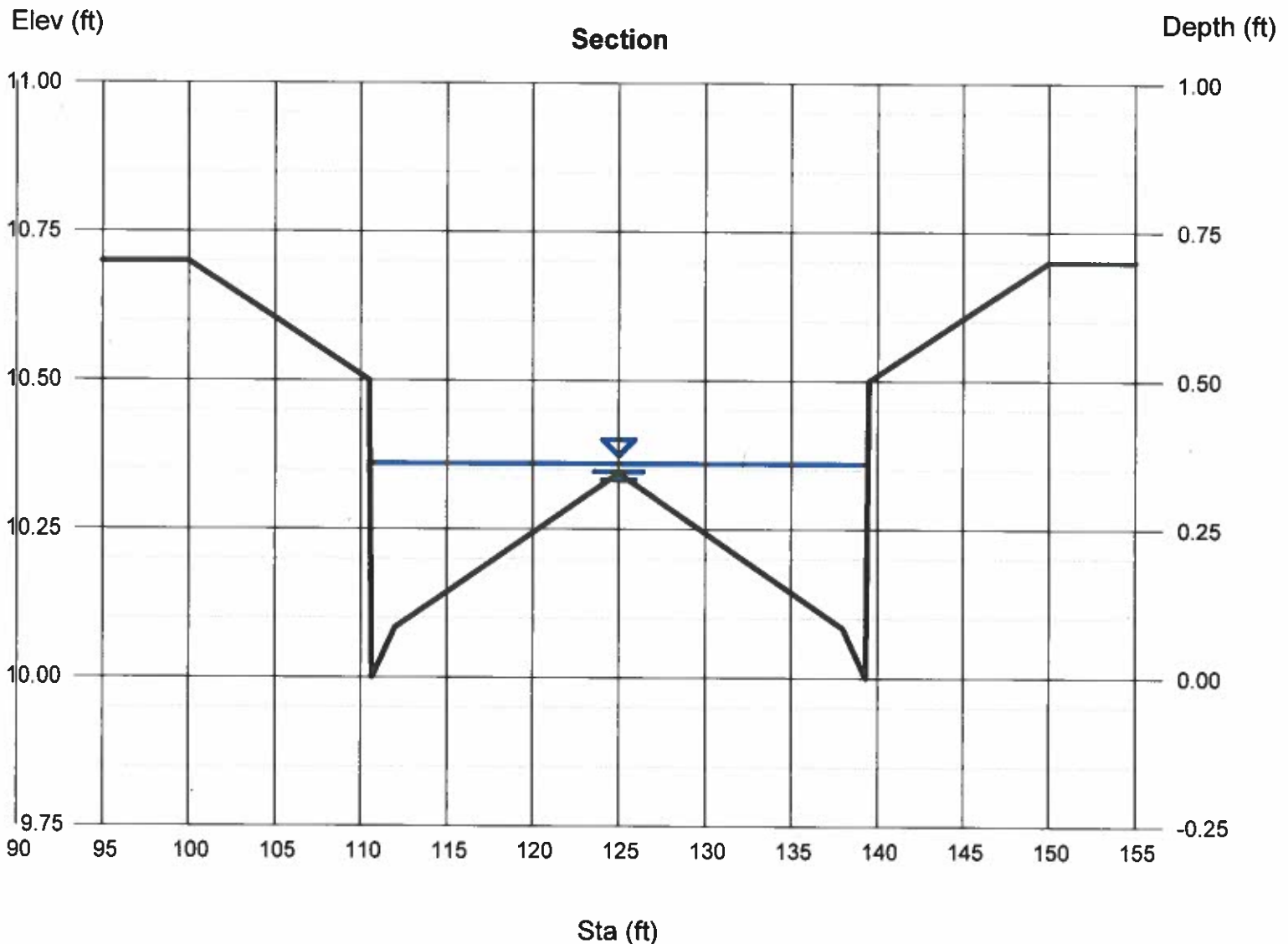
Depth (ft) = 0.36
Q (cfs) = 16.25
Area (sqft) = 4.69
Velocity (ft/s) = 3.46
Wetted Perim (ft) = 29.43
Crit Depth, Yc (ft) = 0.42
Top Width (ft) = 28.90
EGL (ft) = 0.55

Calculations

Compute by: Known Q
Known Q (cfs) = 16.25

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)-
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

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

Monday, Oct 26 2020

TURQUESA LOOP 41+75 LT & RT (41+73 and 41+80)

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 1.30
N-Value = 0.014

Highlighted

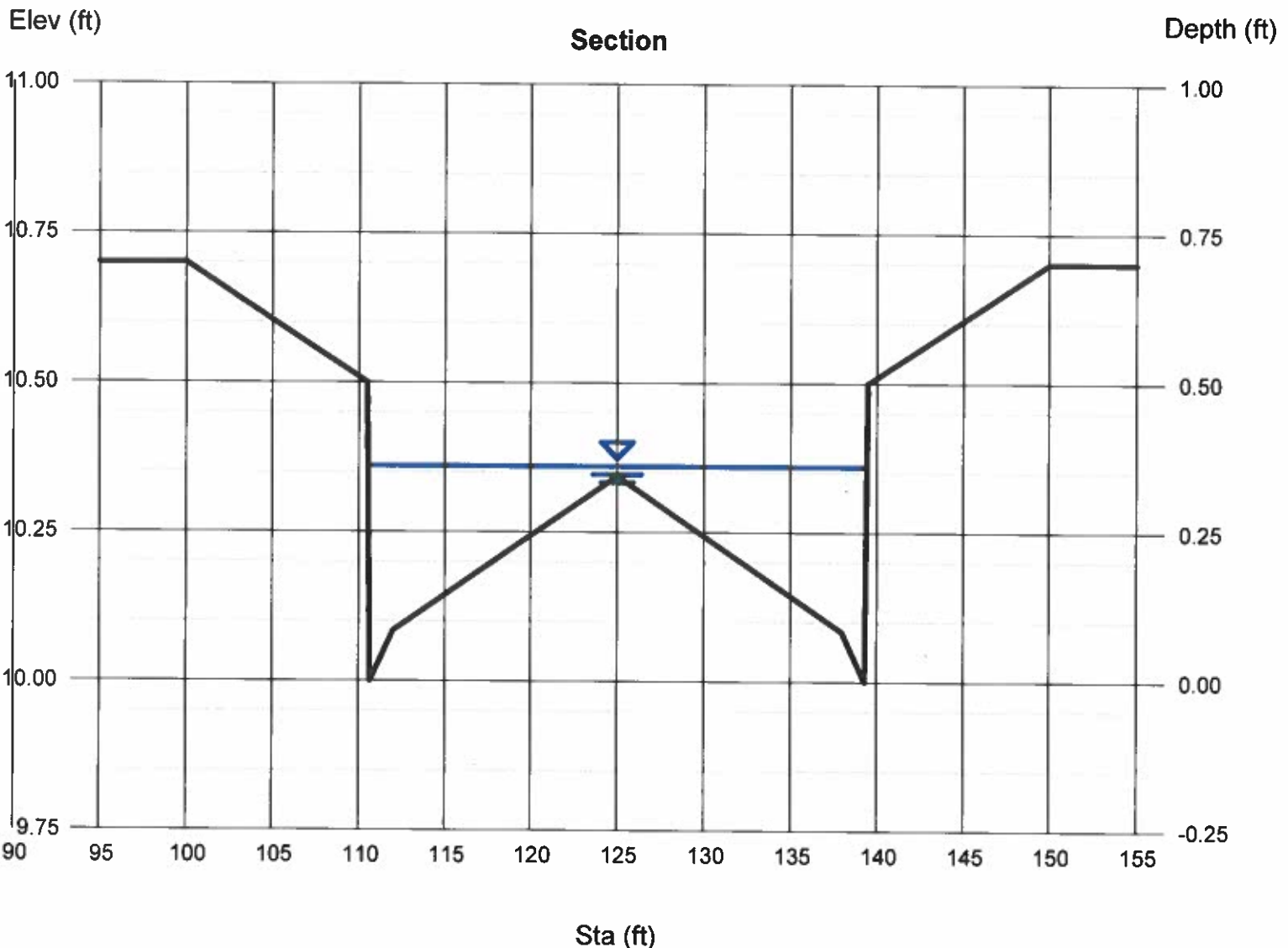
Depth (ft) = 0.36
Q (cfs) = 16.25
Area (sqft) = 4.69
Velocity (ft/s) = 3.46
Wetted Perim (ft) = 29.43
Crit Depth, Yc (ft) = 0.42
Top Width (ft) = 28.90
EGL (ft) = 0.55

Calculations

Compute by: Known Q
Known Q (cfs) = 16.25

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

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

Monday, Oct 26 2020

TAZANITA (31+35) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.55
N-Value = 0.014

Calculations

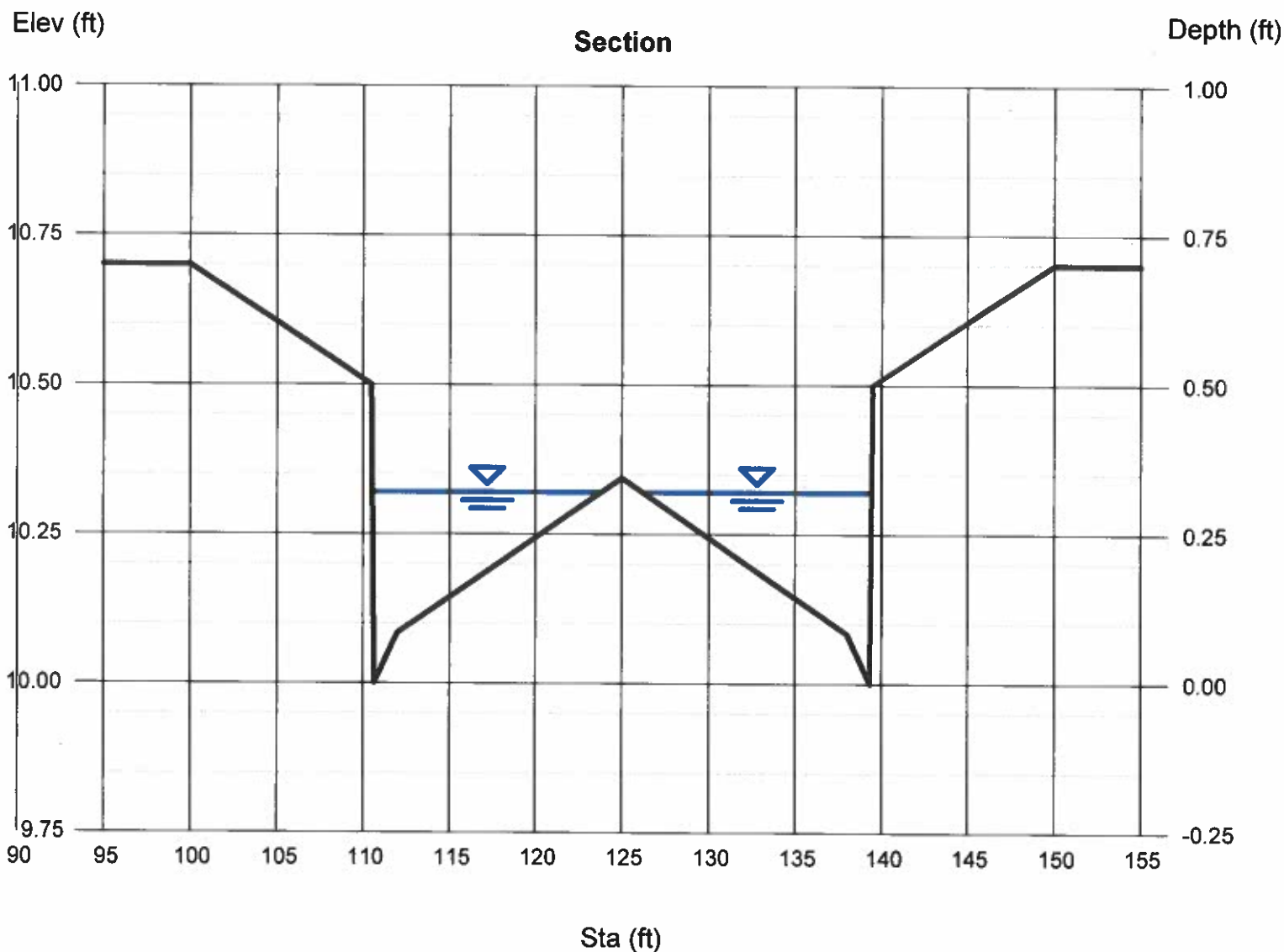
Compute by: Known Q
Known Q (cfs) = 14.21

Highlighted

Depth (ft) = 0.32
Q (cfs) = 14.21
Area (sqft) = 3.56
Velocity (ft/s) = 3.99
Wetted Perim (ft) = 26.97
Crit Depth, Yc (ft) = 0.40
Top Width (ft) = 26.50
EGL (ft) = 0.57

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)-
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

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

Monday, Oct 26 2020

TURQUESA 42+65 LT & RT

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 1.30
N-Value = 0.014

Calculations

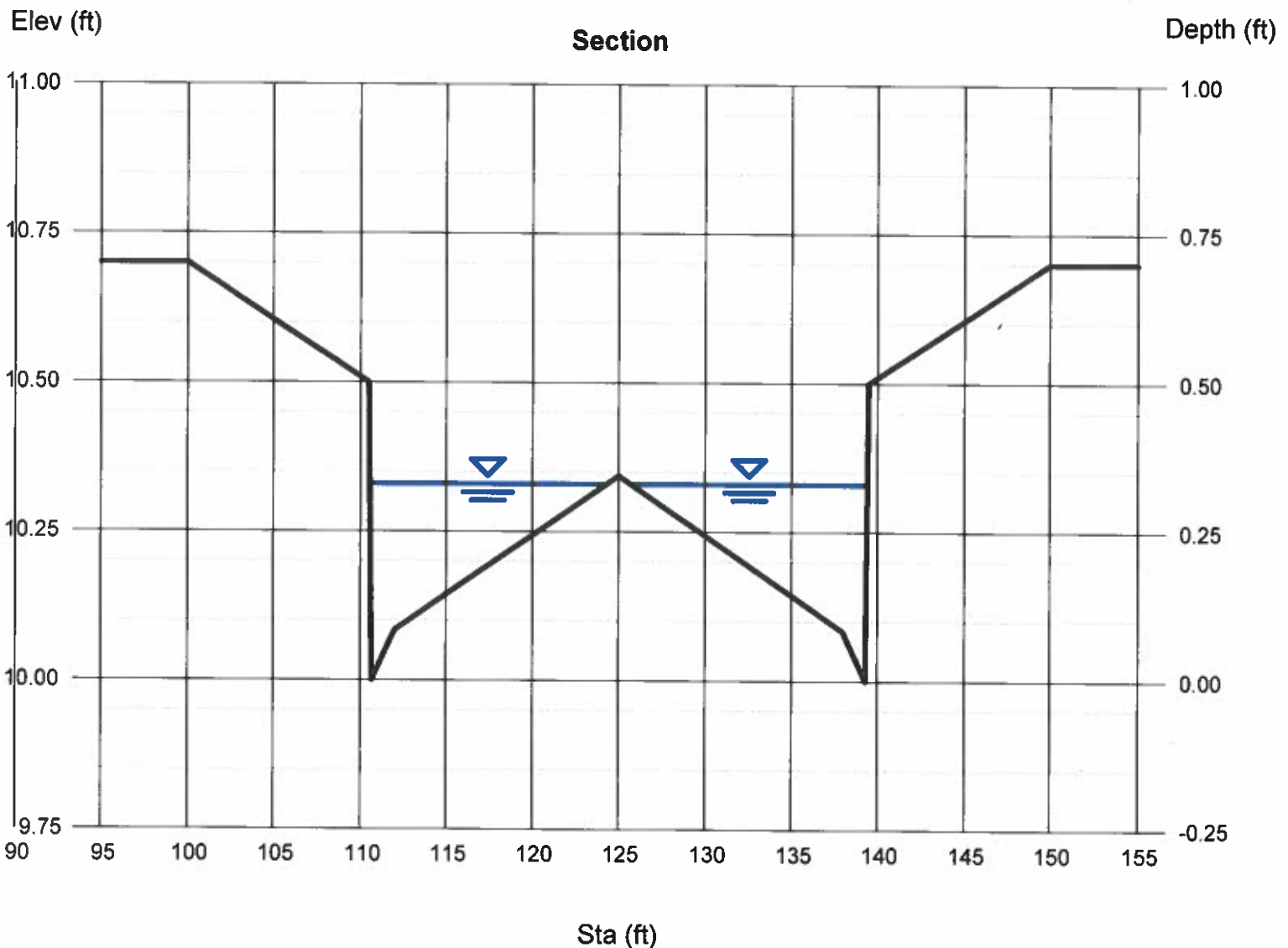
Compute by: Known Q
Known Q (cfs) = 11.61

Highlighted

Depth (ft) = 0.33
Q (cfs) = 11.61
Area (sqft) = 3.83
Velocity (ft/s) = 3.03
Wetted Perim (ft) = 27.99
Crit Depth, Yc (ft) = 0.37
Top Width (ft) = 27.50
EGL (ft) = 0.47

(Sta, El, n)-(Sta, El, n)...

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-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

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

Monday, Oct 26 2020

TURQUESA (46+75) SUMP

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 1.30
N-Value = 0.014

Calculations

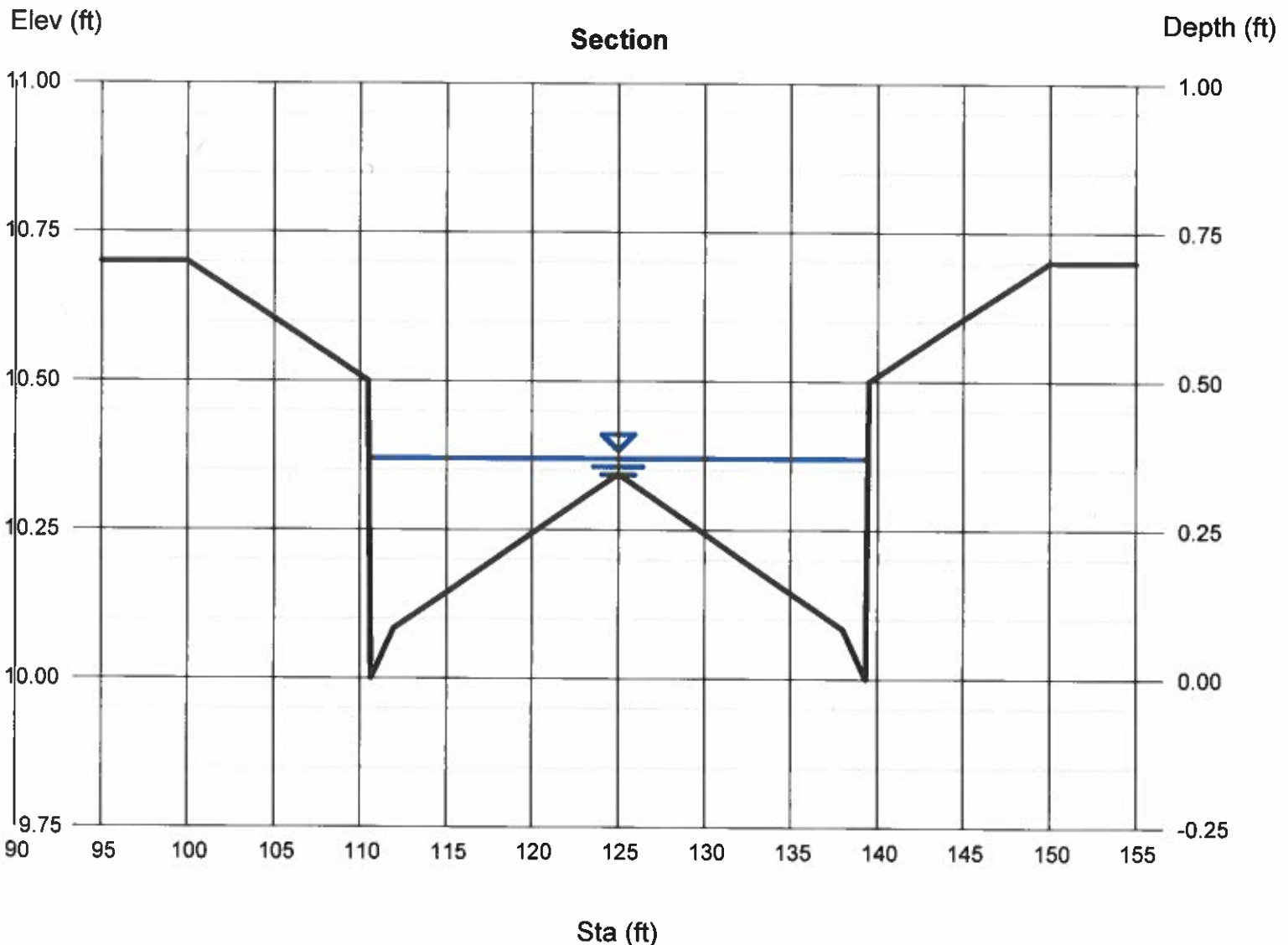
Compute by: Known Q
Known Q (cfs) = 16.73

Highlighted

Depth (ft) = 0.37
Q (cfs) = 16.73
Area (sqft) = 4.98
Velocity (ft/s) = 3.36
Wetted Perim (ft) = 29.45
Crit Depth, Yc (ft) = 0.42
Top Width (ft) = 28.91
EGL (ft) = 0.55

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Intervening in the Family: A Systemic Approach to Child Sexual Abuse

David A. Reitzel, PhD, and David A. Reitzel, PhD, are the authors of this article.

Child sexual abuse (CSA) is a complex phenomenon that involves multiple factors, including individual, family, and societal influences. This article explores a systemic approach to understanding and intervening in CSA, focusing on the role of the family. The authors argue that a systemic perspective is essential for addressing the root causes of CSA and for developing effective interventions. The article discusses the importance of understanding the family context and the role of various family members in the perpetration and prevention of CSA. It also examines the challenges of intervening in the family and provides recommendations for future research and practice.

Keywords: child sexual abuse, systemic approach, family intervention

Child sexual abuse (CSA) is a complex phenomenon that involves multiple factors, including individual, family, and societal influences.

This article explores a systemic approach to understanding and intervening in CSA, focusing on the role of the family.

The authors argue that a systemic perspective is essential for addressing the root causes of CSA and for developing effective interventions.

The article discusses the importance of understanding the family context and the role of various family members in the perpetration and prevention of CSA.

It also examines the challenges of intervening in the family and provides recommendations for future research and practice.

Keywords: child sexual abuse, systemic approach, family intervention

Child sexual abuse (CSA) is a complex phenomenon that involves multiple factors, including individual, family, and societal influences.

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TABLE 2
Summary of Street Capacity Calculations and Inlet Intercept
Los Diamantes Subdivision Phase I
(Tanzanita Loop)

Location ID	Location	Station	Curb Side	Slope %	Discharge (cfs)	Depth (ft)	EGL (ft)	Inlet Intercept Q (cfs)	Inlet ID	Inlet Type	Inlet bypass (cfs)
1	Los Diamantes	8+88	RT	2.00	5.785	0.30	0.51	3.00	30.1	SGL A	2.785
	Los Diamantes	9+08	RT	2.00	2.785	0.24	0.38	1.95	30.2	SGL C	0.835
1	Los Diamantes	8+88	LT	2.00	5.785	0.30	0.51	3.00	30.3	SGL A	2.79
	Los Diamantes	9+08	LT	2.00	2.785	0.24	0.38	1.95	30.4	SGL C	0.84
2	Westside Blvd	8+77	LT	2.50	10.48	0.33	0.79	4.00	29.1	SGL C	6.48
	Westside Blvd	9+00	LT	2.50	6.48	0.28	0.65	3.00	29.2	SGL C	3.48
	Westside Blvd	9+24	LT	2.50	3.48	0.24	0.51	2.10	29.3	SGL C	1.38
2	Westside Blvd	8+77	RT	2.50	10.48	0.33	0.79	4.00	28.1	SGL C	6.48
	Westside Blvd	9+00	RT	2.50	6.48	0.28	0.65	3.00	28.2	SGL C	3.48
	Westside Blvd	9+24	RT	2.50	3.48	0.24	0.51	2.10	28.3	SGL C	1.38
3	Los Diamantes	25+76	RT	SUMP	9.22	TC		9.22	22.1	DBL C	0
	Los Diamantes	25+76	LT	SUMP	9.22	TC		9.22	22.2	DBL C	0
4	Tanzanita	18+03	RT	2.36	6.86	0.32	0.55	4.40	17.1	SGL A	2.46
	Tanzanita	18+24	LT	2.36	6.86	0.32	0.55	4.40	17.2	SGL A	2.46
5	Tanzanita	15+72	RT	2.36	7.47	0.30	0.67	3.30	16.1	SGL C	4.17
	Tanzanita	15+34	LT	2.36	7.47	0.30	0.67	3.30	15.1	SGL C	4.17
6	Tanzanita	13+72	RT	0.70	6.74	0.35	0.49	2.50	14.1	SGL C	4.28
	Tanzanita	13+90	LT	0.70	6.74	0.35	0.49	2.50	14.2	SGL C	4.28
7	Tanzanita	14+05	RT	SUMP	10.19	TC		10.19	14.3	DBL C	0
	Tanzanita	14+05	LT	SUMP	10.19	TC		10.19	14.4	DBL C	0

f:\projects\18026.../drainage/Table 1 Hydro Summary LD Ph I & II/Table 2 Street Capacities & Inlets

08.12.2020 DLH

CALCULATIONS FOR SUMP INLETS 14.3 & 14.4
Tanzanita Loop
Sump

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right of way elevation. The length of the double grate facing the street is 6.5' and the maximum depth (assuming top of curb) is 0.5417' at the lip of the gutter. The sides are each 2' long and the average depth (assuming top of curb) is 0.7188'. These depths assume an 8" curb with right of way 9' behind the curb for an additional depth of 0.18' above the top of curb. From the weir equation:

Single Type 'C' Inlet (top of curb runoff depth)

$$\text{Front } Q \text{ cap} = (3.0) \times (3.0') \times (0.5417')^{1.5} = 3.59 \text{ cfs}$$

$$\text{Sides } Q \text{ cap} = (3.0) \times (4.0') \times (0.7188')^{1.5} = 7.31 \text{ cfs}$$

$$\text{Total } Q \text{ cap} = 5.56 \text{ cfs} + 10.11 \text{ cfs} = 10.90 \text{ cfs}$$

Double Type 'C' Inlet (top of curb runoff depth)

$$\text{Front } Q \text{ cap} = (3.0) \times (6.5') \times (0.5417')^{1.5} = 3.59 \text{ cfs}$$

$$\text{Sides } Q \text{ cap} = (3.0) \times (4.0') \times (0.7188')^{1.5} = 7.77 \text{ cfs}$$

$$\text{Total } Q \text{ cap} = 5.56 \text{ cfs} + 10.11 \text{ cfs} = 11.36 \text{ cfs}$$

Double Type 'C' Inlet (top of right-of-way)

$$\text{Front } Q \text{ cap} = (3.0) \times (6.5') \times (0.7417')^{1.5} = 12.46 \text{ cfs}$$

$$\text{Sides } Q \text{ cap} = (3.0) \times (4.0') \times (0.9188')^{1.5} = 10.56 \text{ cfs}$$

$$\text{Total } Q \text{ cap} = 5.56 \text{ cfs} + 10.11 \text{ cfs} = 23.02 \text{ cfs}$$

The 100 year flow to each sump inlet = 10.19 cfs (each side)

The double type C inlet has a safety factor above 1.11 to top of curb depth.

The double type C inlet has a safety factor above 2.25 to top of right of way line.

8-12-2020

CALCULATIONS FOR SUMP INLETS 23.1 & 23.2
Los Diamantes Blvd.
South

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right of way elevation. The length of the double grate facing the street is 6.5' and the maximum depth (assuming top of curb) is 0.5417' at the lip of the gutter. The sides are each 2' long and the average depth (assuming top of curb) is 0.7188'. These depths assume an 8" curb with right of way 9' behind the curb for an additional depth of 0.18' above the top of curb. From the weir equation:

Single Type 'C' Inlet (top of curb runoff depth)

Front $Q \text{ cap} = (3.0) \times (3.0') \times (0.5417)^{1.5} = 3.59 \text{ cfs}$

Sides $Q \text{ cap} = (3.0) \times (4.0') \times (0.7188)^{1.5} = 7.31 \text{ cfs}$

Total $Q \text{ cap} = 5.56 \text{ cfs} + 10.11 \text{ cfs} = 10.90 \text{ cfs}$

Double Type 'C' Inlet (top of curb runoff depth)

Front $Q \text{ cap} = (3.0) \times (6.5') \times (0.5417)^{1.5} = 3.59 \text{ cfs}$

Sides $Q \text{ cap} = (3.0) \times (4.0') \times (0.7188)^{1.5} = 7.77 \text{ cfs}$

Total $Q \text{ cap} = 5.56 \text{ cfs} + 10.11 \text{ cfs} = 11.36 \text{ cfs}$

Double Type 'C' Inlet (top of right-of-way

Front $Q \text{ cap} = (3.0) \times (6.5') \times (0.7417)^{1.5} = 12.46 \text{ cfs}$

Sides $Q \text{ cap} = (3.0) \times (4.0') \times (0.9188)^{1.5} = 10.56 \text{ cfs}$

Total $Q \text{ cap} = 5.56 \text{ cfs} + 10.11 \text{ cfs} = 23.02 \text{ cfs}$

The 100 year flow to each sump inlet = 9.22 cfs.

The double type C inlet has a safety factor above 1.23 to top of curb depth.

The double type C inlet has a safety factor above 2.5 to top of right of way line.

8-10-2020

Channel Report

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

Tuesday, Aug 4 2020

Los Diamantes Blvd. at Westside Bkvd. (North)

User-defined

Invert Elev (ft) = 100.00
Slope (%) = 2.00
N-Value = 0.014

Highlighted

Depth (ft) = 0.30
Q (cfs) = 11.57
Area (sqft) = 3.13
Velocity (ft/s) = 3.69
Wetted Perim (ft) = 25.29
Crit Depth, Yc (ft) = 0.37
Top Width (ft) = 24.81
EGL (ft) = 0.51

Calculations

Compute by: Known Q
Known Q (cfs) = 11.57

(Sta, El, n)-(Sta, El, n)...

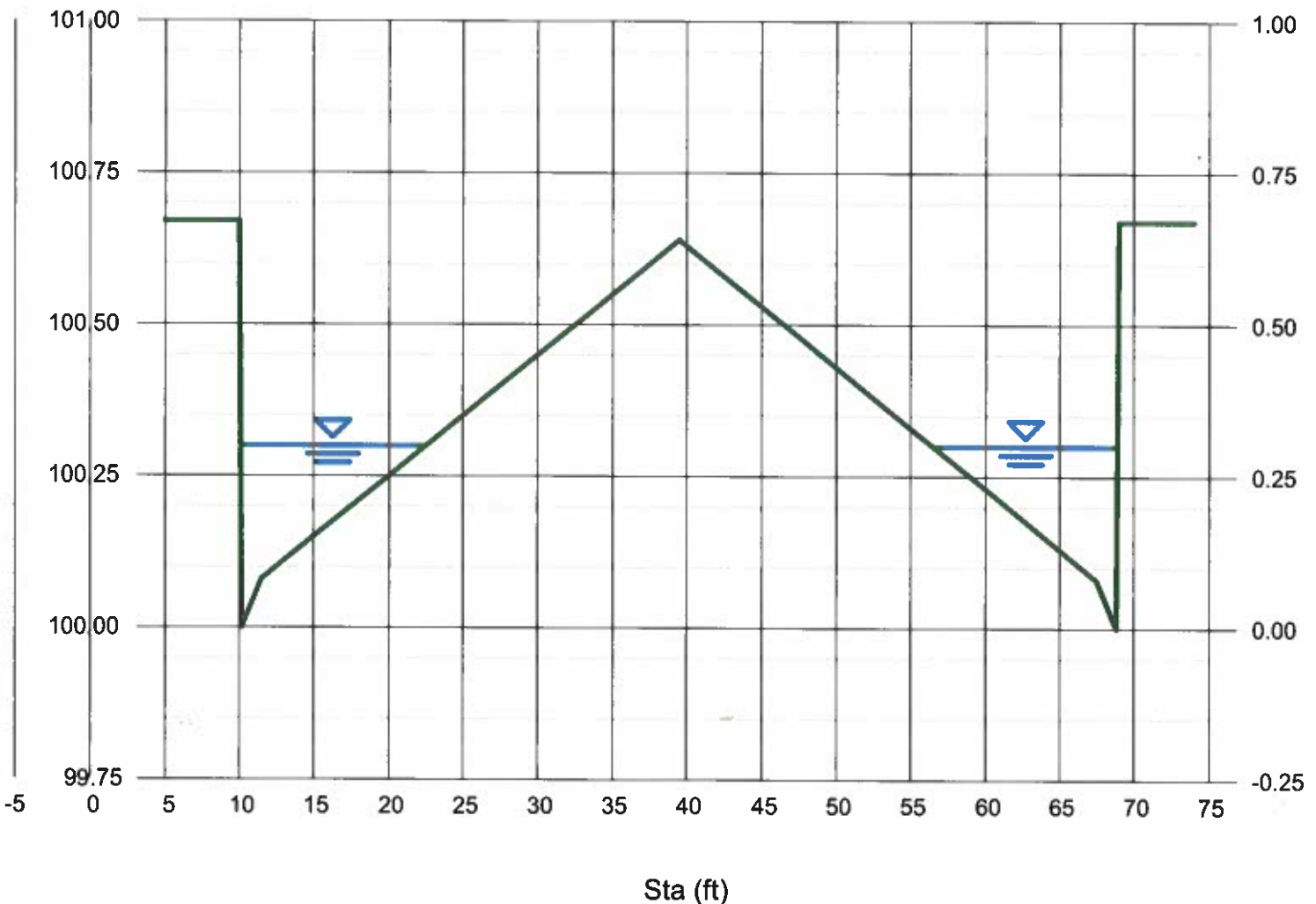
(10.00, 100.67)-(10.17, 100.00, 0.014)-(11.50, 100.08, 0.014)-(39.50, 100.64, 0.014)-(67.50, 100.08, 0.014)-(68.83, 100.00, 0.014)-(69.00, 100.67, 0.014)

$$\begin{array}{r} 5.785 \text{ cfs (ea.)} \\ - 3.00 \\ \hline 2.785 \text{ cfs} \end{array}$$

Elev (ft)

Section

Depth (ft)



Channel Report

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

Thursday, Aug 6 2020

WESTSIDE BLVD (W. OF L.D.BLV.D.) HALF SECTION (2.5%) (2)

Gutter

Cross Sl, Sx (ft/ft) = 0.020
Cross Sl, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 2.50
N-Value = 0.014

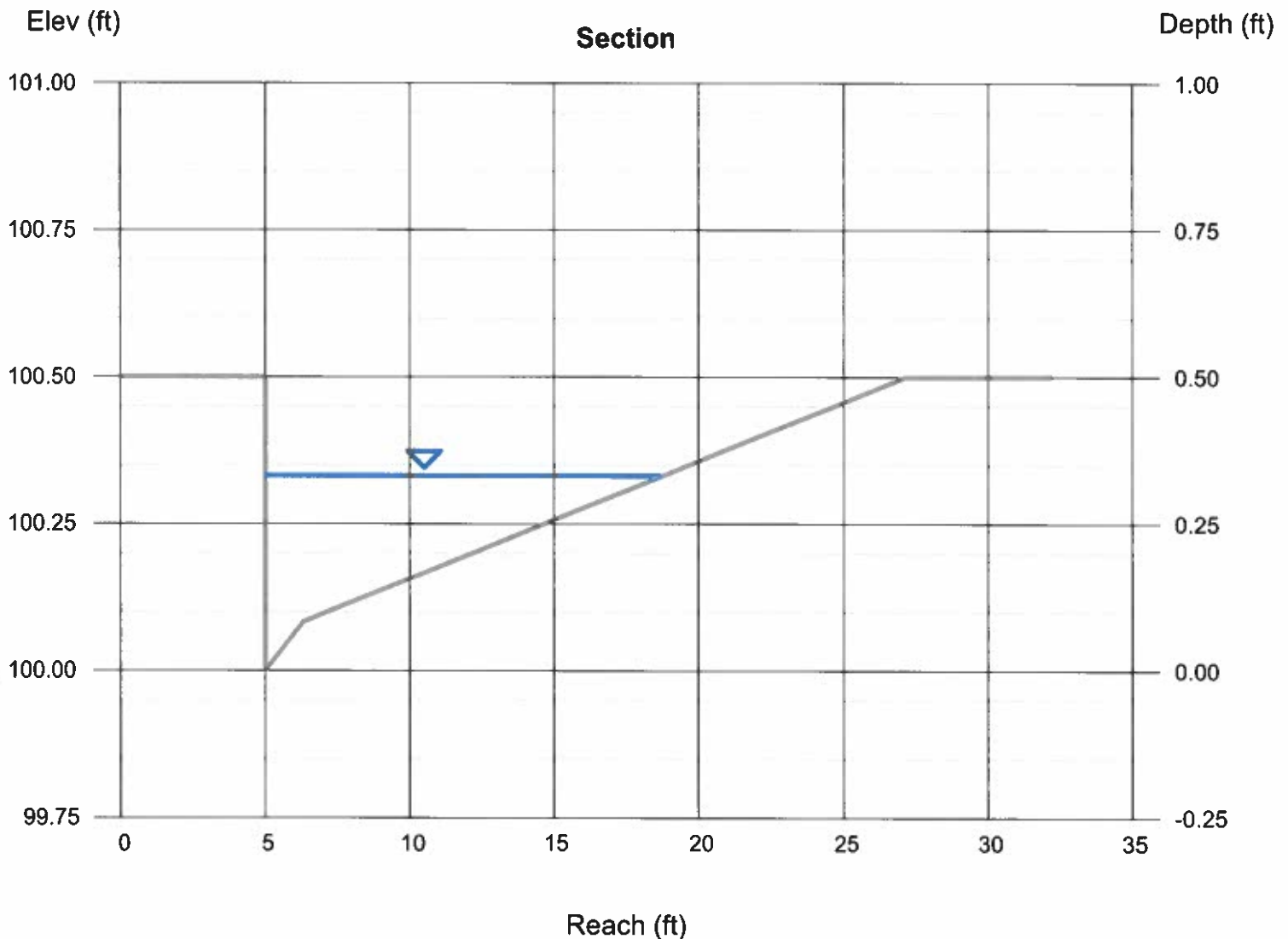
Highlighted

Depth (ft) = 0.33
Q (cfs) = 10.48
Area (sqft) = 1.93
Velocity (ft/s) = 5.42
Wetted Perim (ft) = 14.10
Crit Depth, Yc (ft) = 0.46
Spread Width (ft) = 13.77
EGL (ft) = 0.79

Calculations

Compute by: Known Q
Known Q (cfs) = 10.48

$$\begin{array}{r} 10.48 \text{ cfs} \\ - 4.00 \text{ sq ft "C"} \\ \hline 6.48 \text{ cfs} \end{array}$$



Channel Report

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

Tuesday, Jul 21 2020

Los Diamantes Blvd. at Westside Bkvd. (North) 2nd Inlets

User-defined

Invert Elev (ft) = 100.00
Slope (%) = 2.00
N-Value = 0.014

Highlighted

Depth (ft) = 0.24
Q (cfs) = 5.570
Area (sqft) = 1.83
Velocity (ft/s) = 3.05
Wetted Perim (ft) = 19.16
Crit Depth, Yc (ft) = 0.29
Top Width (ft) = 18.78
EGL (ft) = 0.38

Calculations

Compute by: Known Q
Known Q (cfs) = 5.57

(Sta, El, n)-(Sta, El, n)...

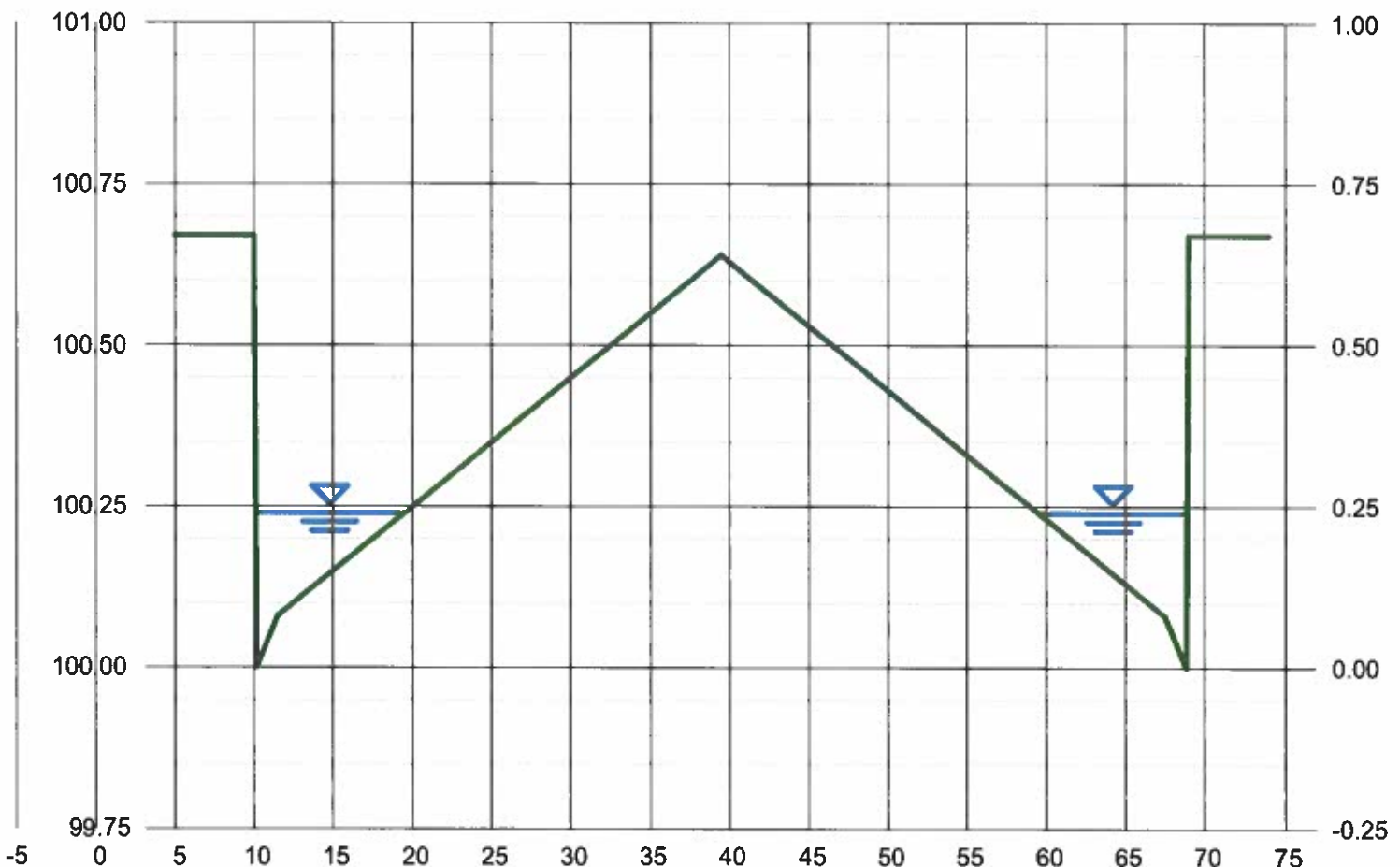
(10.00, 100.67)-(10.17, 100.00, 0.014)-(11.50, 100.08, 0.014)-(39.50, 100.64, 0.014)-(67.50, 100.08, 0.014)-(68.83, 100.00, 0.014)-(69.00, 100.67, 0.014)

$$\begin{array}{r} 2.785 \text{ cfs} \\ - 1.95 \\ \hline 0.835 \text{ cfs} \end{array}$$

Elev (ft)

Section

Depth (ft)



Sta (ft)

Channel Report

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

Thursday, Aug 6 2020

WESTSIDE BLVD (W. OF L.D.BLV.D.) HALF SECTION (2.5%) (3)

Gutter

Cross Sl, Sx (ft/ft) = 0.020
Cross Sl, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 2.50
N-Value = 0.014

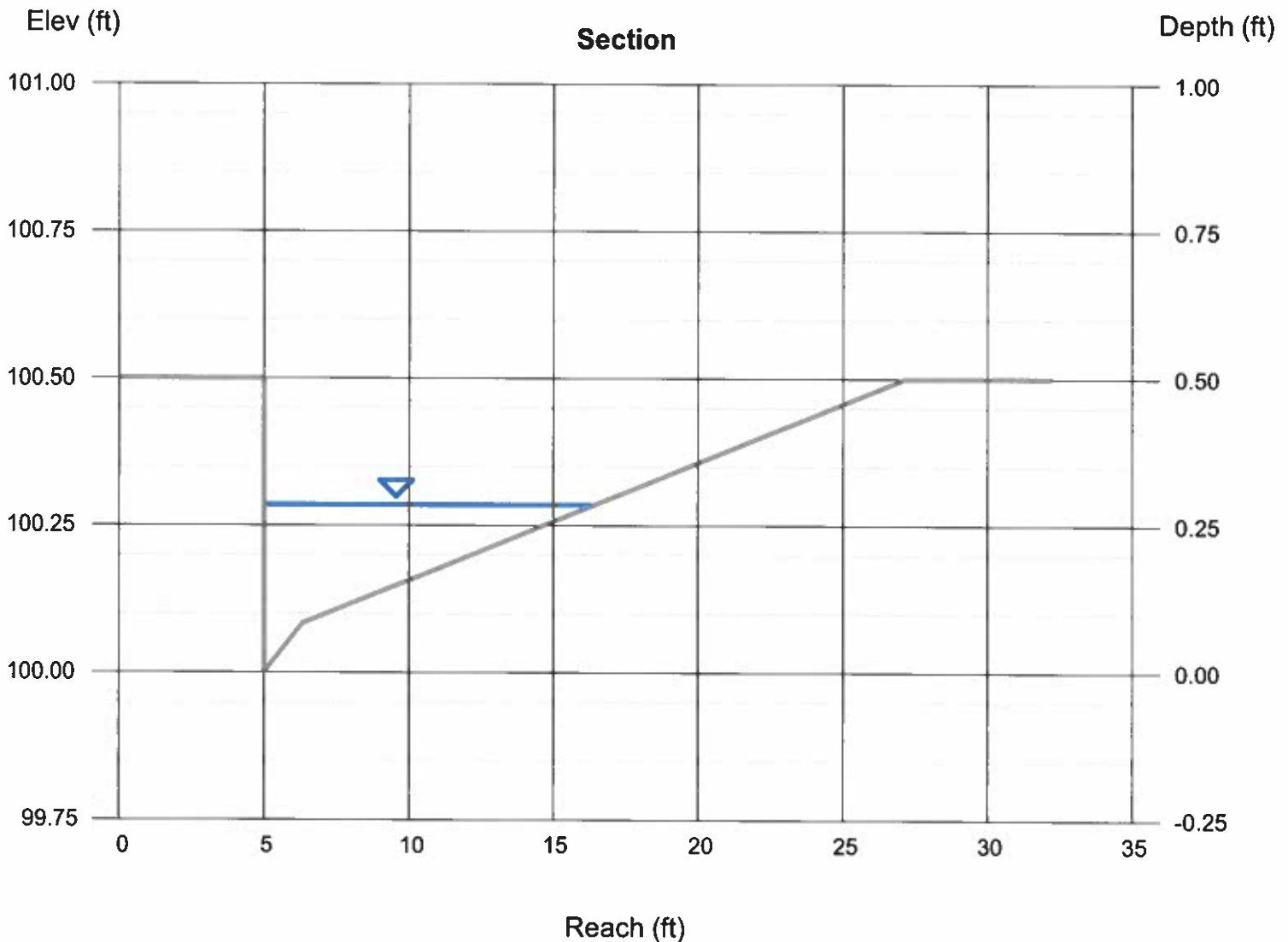
Highlighted

Depth (ft) = 0.28
Q (cfs) = 6.480
Area (sqft) = 1.34
Velocity (ft/s) = 4.83
Wetted Perim (ft) = 11.71
Crit Depth, Yc (ft) = 0.39
Spread Width (ft) = 11.42
EGL (ft) = 0.65

Calculations

Compute by: Known Q
Known Q (cfs) = 6.48

$$\begin{array}{r} 6.48 \text{ cfs} \\ 3.00 \text{ sg 1.'C'} \\ \hline 3.48 \text{ cfs} \end{array}$$



Channel Report

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

Thursday, Aug 6 2020

WESTSIDE BLVD (W. OF L.D.BLV.) HALF SECTION (2.5%) (4)

Gutter

Cross SI, Sx (ft/ft) = 0.020
Cross SI, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 2.50
N-Value = 0.014

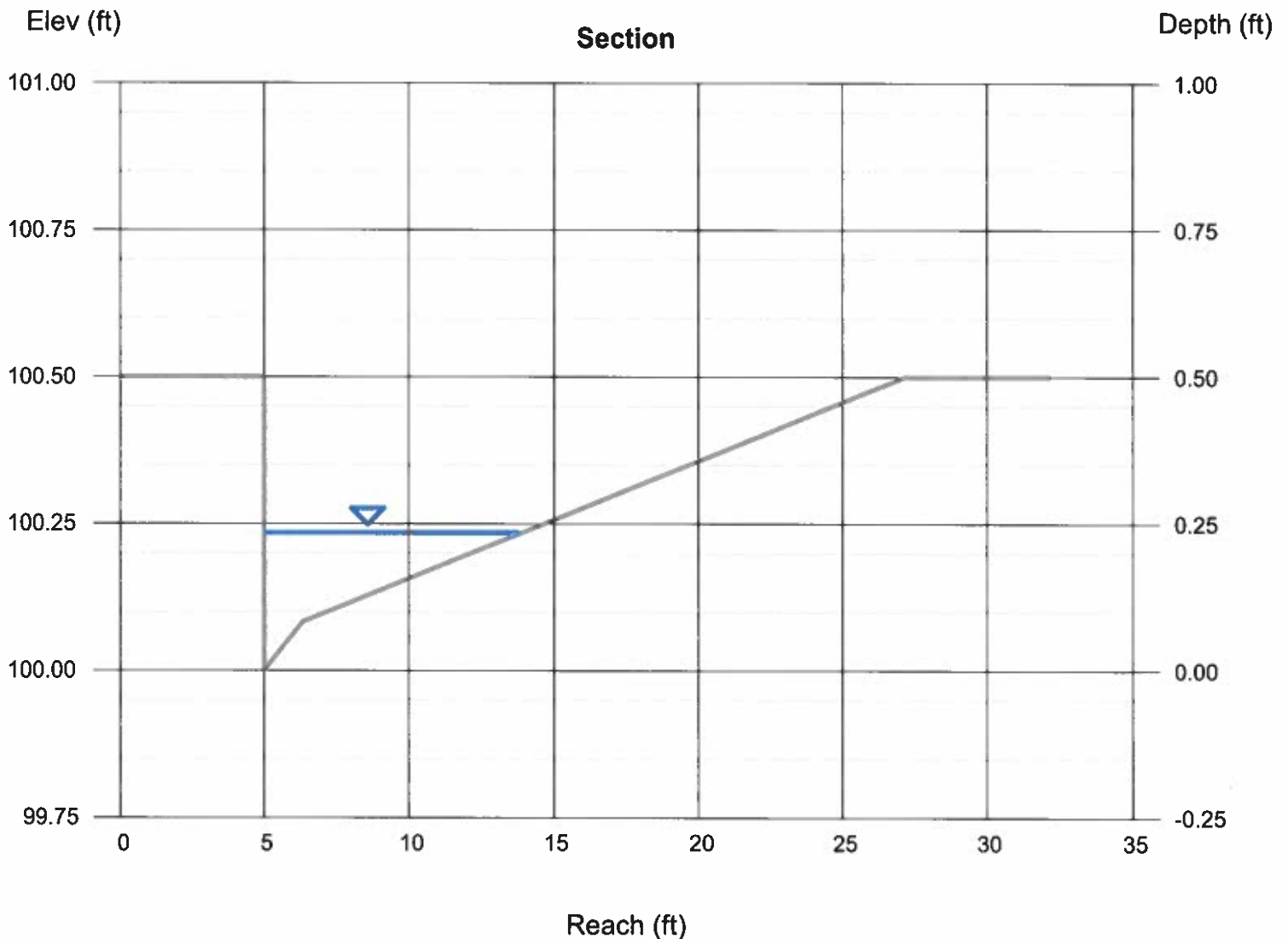
Highlighted

Depth (ft) = 0.24
Q (cfs) = 3.480
Area (sqft) = 0.83
Velocity (ft/s) = 4.18
Wetted Perim (ft) = 9.16
Crit Depth, Yc (ft) = 0.32
Spread Width (ft) = 8.92
EGL (ft) = 0.51

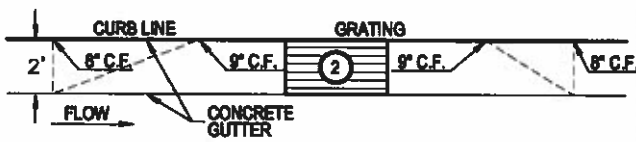
Calculations

Compute by: Known Q
Known Q (cfs) = 3.48

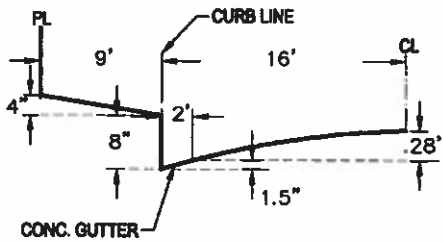
$$\begin{array}{r} 3.48 \text{ cfs} \\ 2.10 \text{ cfs} \\ \hline 1.38 \text{ cfs} \end{array}$$



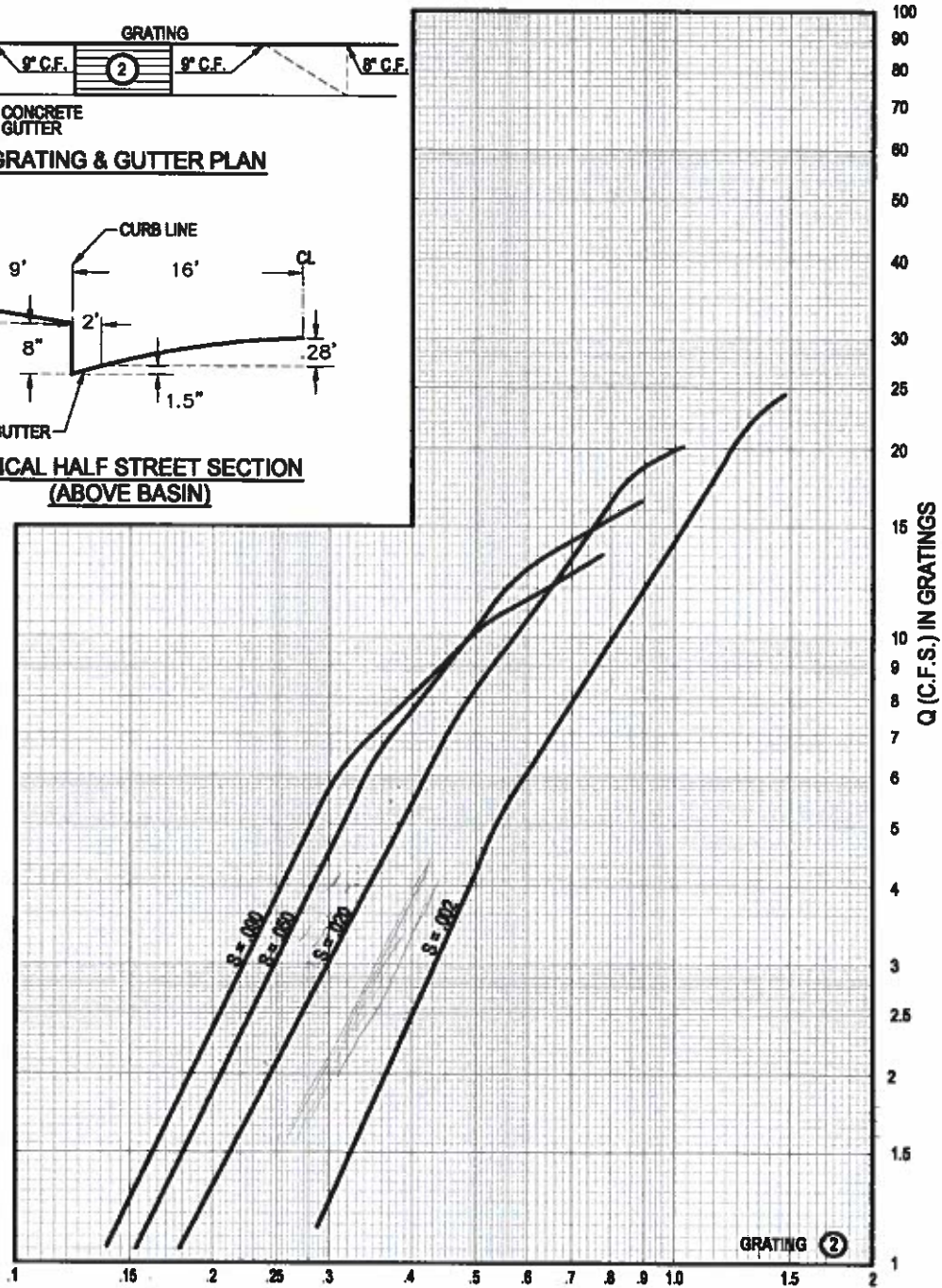
GRATING CAPACITIES FOR TYPE "A", "C" AND "D"



GRATING & GUTTER PLAN



**TYPICAL HALF STREET SECTION
(ABOVE BASIN)**



D = DEPTH OF FLOW (FT.) ABOVE NORMAL GUTTER GRADE

PLATE 22.3 D-5

GRATING CAPACITIES FOR TYPE DOUBLE "C" AND "D"

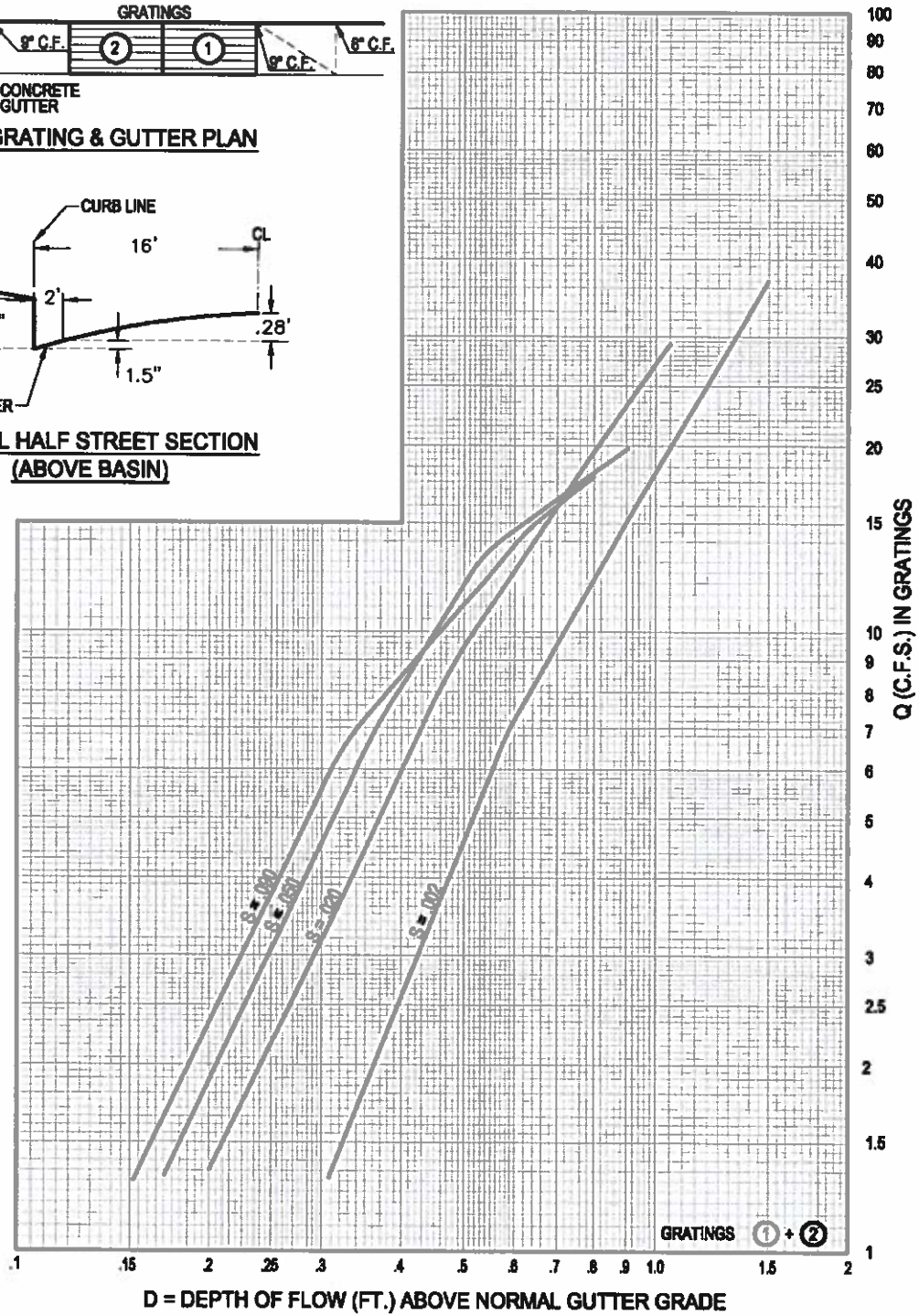
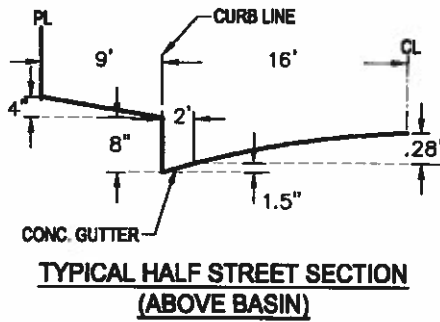
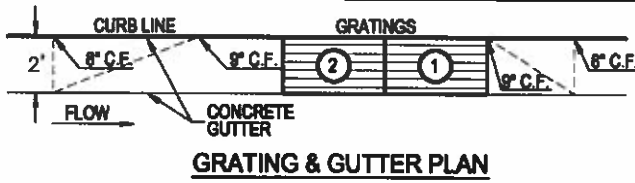


PLATE 22.3 D-6

Channel Report

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

Wednesday, Aug 12 2020

TAZANITA (13+72) RT SIDE (0.70%)

Gutter

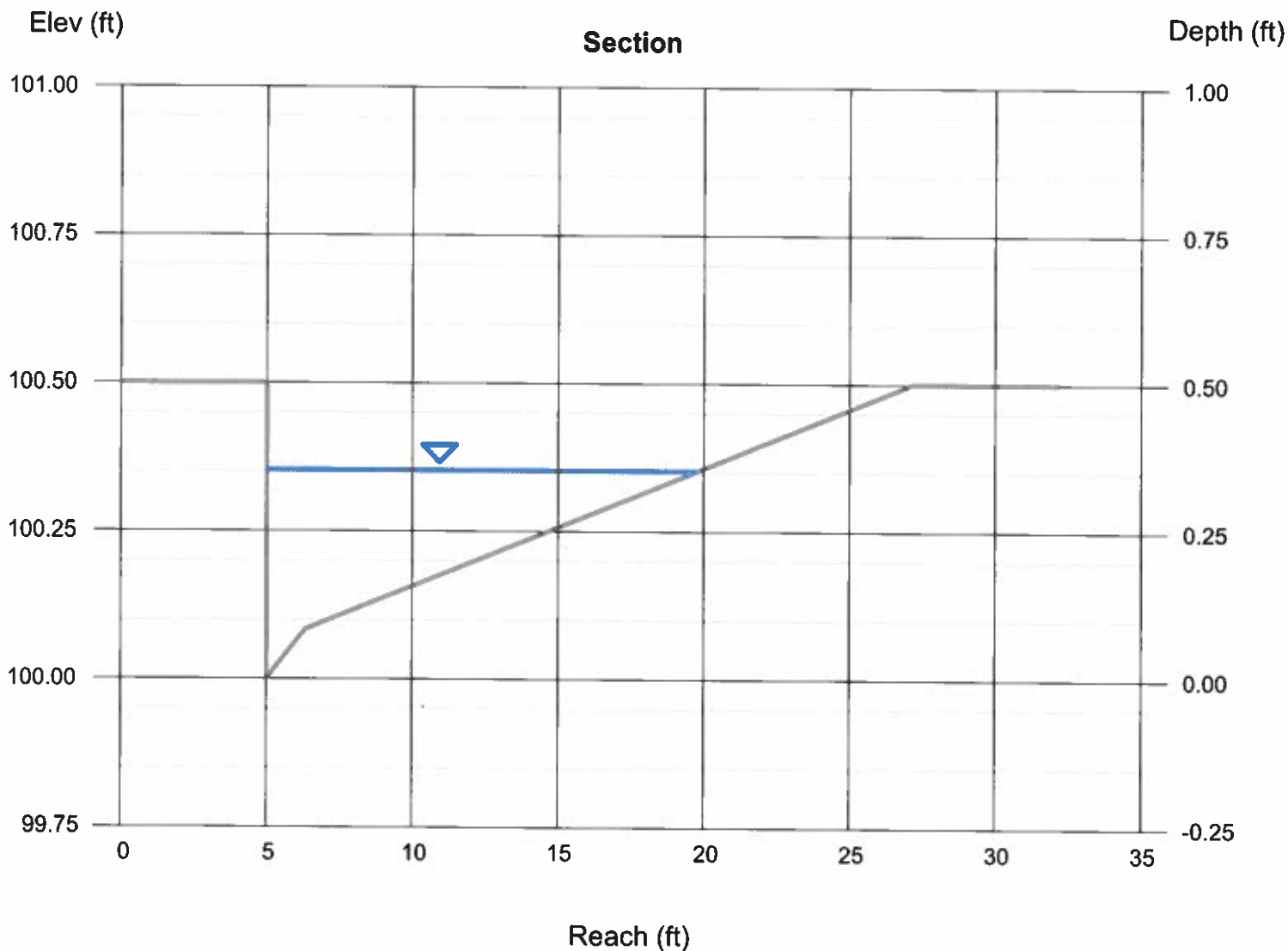
Cross Sl, Sx (ft/ft) = 0.020
Cross Sl, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 0.70
N-Value = 0.014

Highlighted

Depth (ft) = 0.35
Q (cfs) = 6.740
Area (sqft) = 2.23
Velocity (ft/s) = 3.02
Wetted Perim (ft) = 15.17
Crit Depth, Yc (ft) = 0.40
Spread Width (ft) = 14.82
EGL (ft) = 0.49

Calculations

Compute by: Known Q
Known Q (cfs) = 6.74



Channel Report

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

Wednesday, Aug 12 2020

TAZANITA (13+90) LT SIDE (0.70%)

Gutter

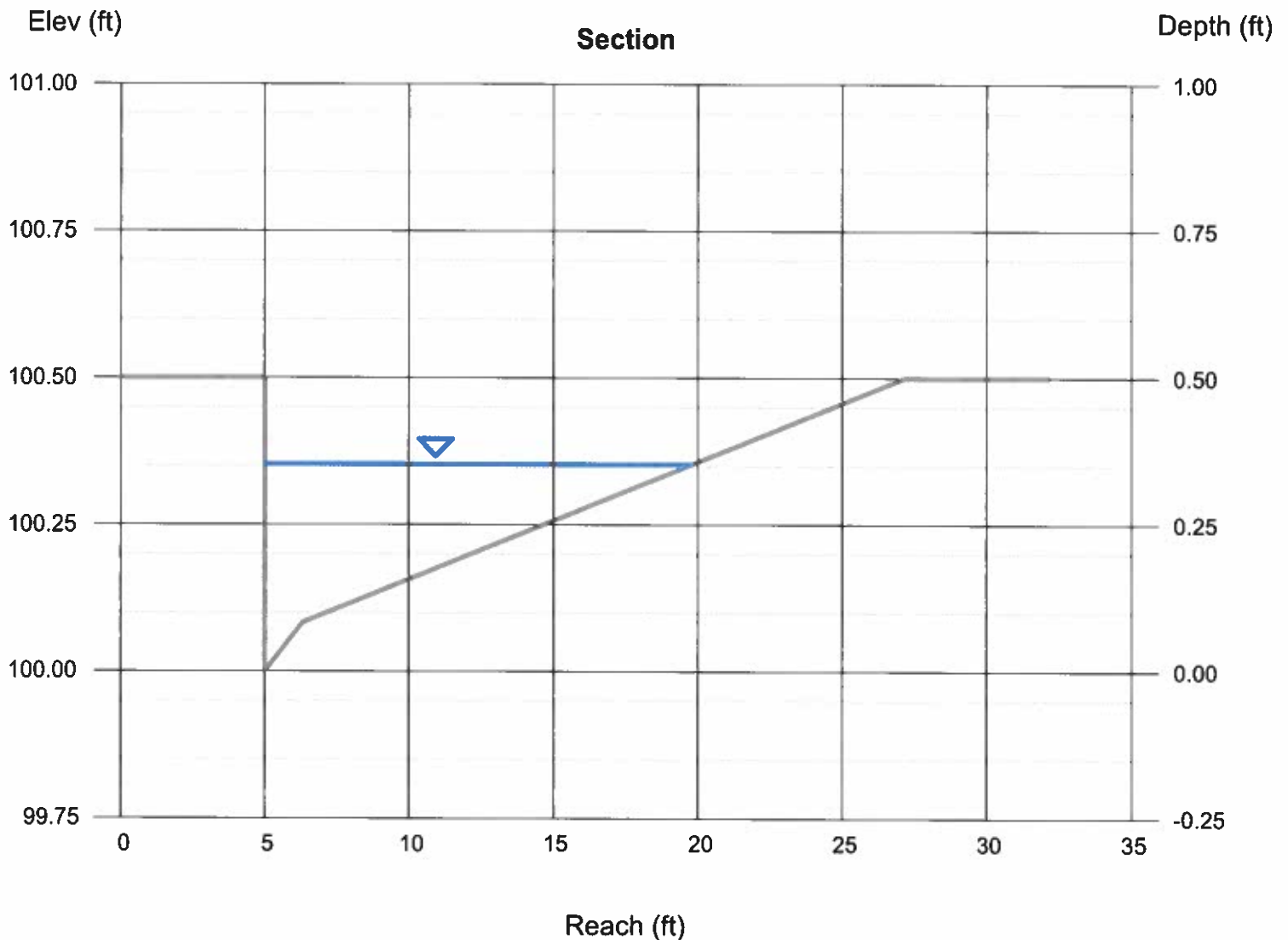
Cross SI, Sx (ft/ft) = 0.020
Cross SI, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 0.70
N-Value = 0.014

Highlighted

Depth (ft) = 0.35
Q (cfs) = 6.740
Area (sqft) = 2.23
Velocity (ft/s) = 3.02
Wetted Perim (ft) = 15.17
Crit Depth, Yc (ft) = 0.40
Spread Width (ft) = 14.82
EGL (ft) = 0.49

Calculations

Compute by: Known Q
Known Q (cfs) = 6.74



Channel Report

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

Wednesday, Aug 12 2020

TAZANITA (15+72) RT SIDE (2.36%)

Gutter

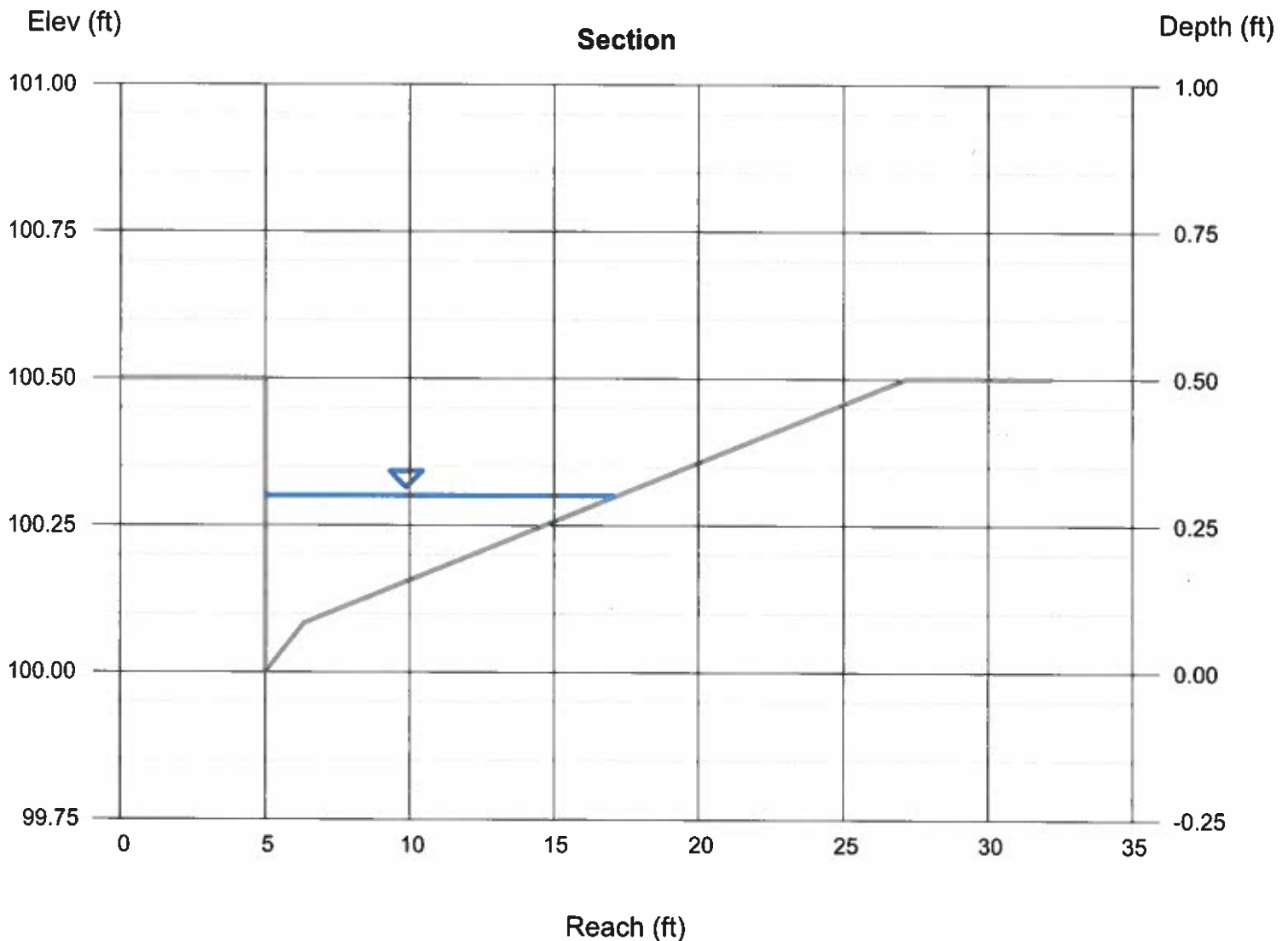
Cross Sl, Sx (ft/ft) = 0.020
Cross Sl, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 2.36
N-Value = 0.014

Highlighted

Depth (ft) = 0.30
Q (cfs) = 7.470
Area (sqft) = 1.53
Velocity (ft/s) = 4.88
Wetted Perim (ft) = 12.52
Crit Depth, Yc (ft) = 0.41
Spread Width (ft) = 12.22
EGL (ft) = 0.67

Calculations

Compute by: Known Q
Known Q (cfs) = 7.47



Channel Report

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

Wednesday, Aug 12 2020

TAZANITA (15+34) LT SIDE (2.36%)

Gutter

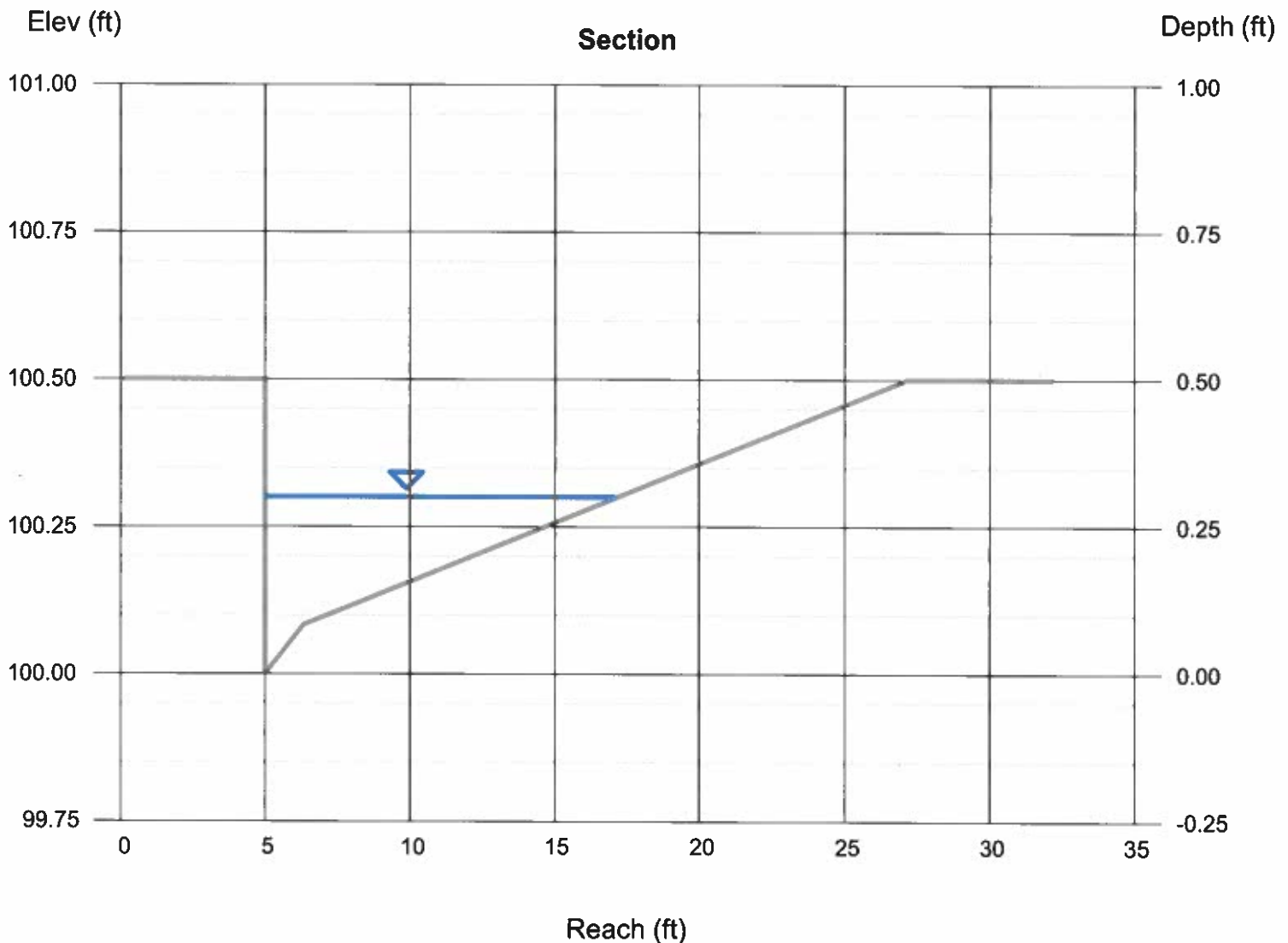
Cross SI, Sx (ft/ft) = 0.020
Cross SI, Sw (ft/ft) = 0.063
Gutter Width (ft) = 1.33
Invert Elev (ft) = 100.00
Slope (%) = 2.36
N-Value = 0.014

Highlighted

Depth (ft) = 0.30
Q (cfs) = 7.470
Area (sqft) = 1.53
Velocity (ft/s) = 4.88
Wetted Perim (ft) = 12.52
Crit Depth, Yc (ft) = 0.41
Spread Width (ft) = 12.22
EGL (ft) = 0.67

Calculations

Compute by: Known Q
Known Q (cfs) = 7.47



Channel Report

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

Tuesday, Aug 11 2020

TAZANITA (18+00) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.36
N-Value = 0.014

Highlighted

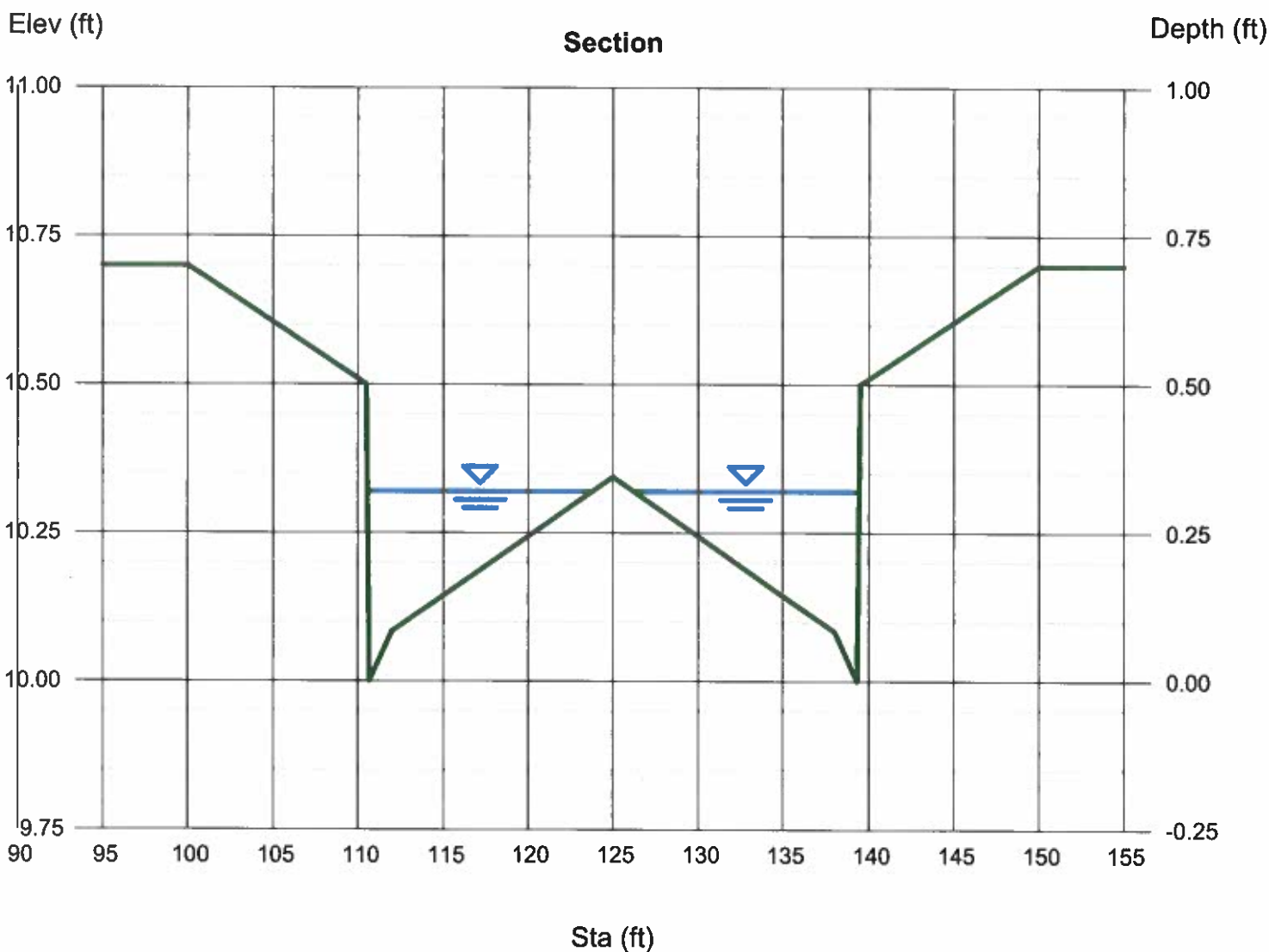
Depth (ft) = 0.32
Q (cfs) = 13.72
Area (sqft) = 3.56
Velocity (ft/s) = 3.85
Wetted Perim (ft) = 26.97
Crit Depth, Yc (ft) = 0.39
Top Width (ft) = 26.50
EGL (ft) = 0.55

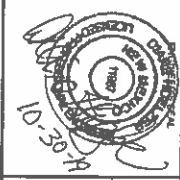
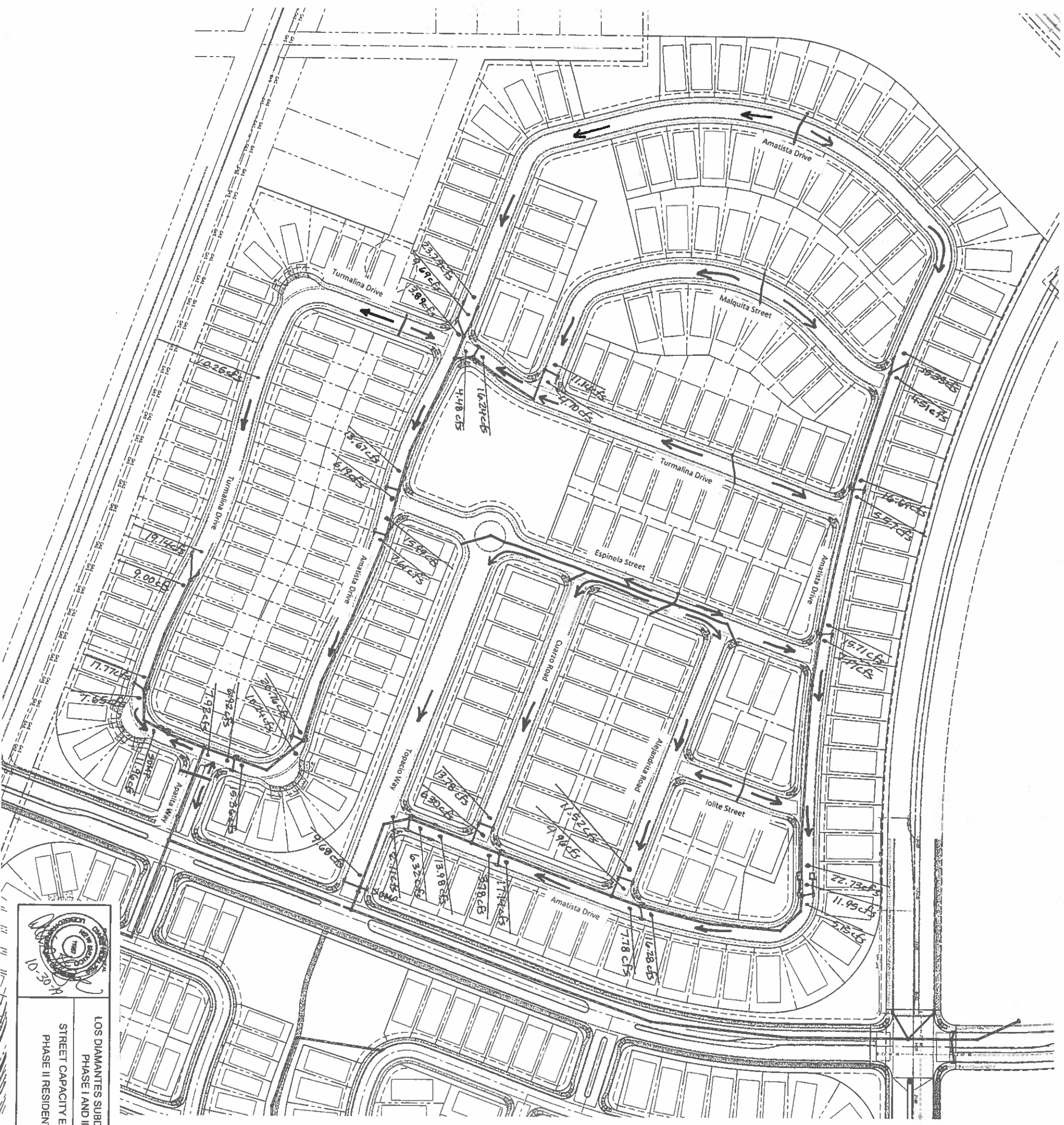
Calculations

Compute by: Known Q
Known Q (cfs) = 13.72

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)





LOS DIAMANTES SUBDIVISION PHASE I AND II STREET CAPACITY EXHIBIT PHASE II RESIDENTIAL	OWNER/DEVELOPER LD DEVELOPMENT, LLC dmg www.dmg.com 10000 N. 100th Ave., Suite 100 Denver, CO 80261 303.440.1111
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TABLE 2

Summary of Street Capacity Calculations

Los Diamantes Subdivision Phase II

Location	Curb Side	Station	Slope %	Discharge (cfs)	Depth (ft)	EGL (ft)	Inlet Intercept Q (cfs)	Inlet Type	Inlet bypass (cfs)
Amatista	Both	30+50	1.79	15.33	0.34	0.55	10.82	DBL A (2)	4.51
Amatista	Both	27+00	2.42	16.69	0.33	0.61	11.12	DBL A (2)	5.57
Amatista	Both	24+25	2.42	15.71	0.32	0.61	8.54	DBL C (2)	7.17
Amatista	Both	19+75	3.13	22.73	0.35	0.75	10.78	DBL C (2)	11.95
Amatista	Both	19+75	3.13	11.95			6.8	DBL C (2)	5.15
Amatista	Both	15+50	0.67	16.28			8.5	DBL C (2)	7.78
Alejadrita	Both	15+50	3.41	11.52	0.28	0.57	6.56	DBL C (2)	4.96
Amatista	Both	13+50	0.67	17.14	0.40	0.53	13.36	DBL A (2)	3.78
Cuarzo	Both	15+50	3.38	13.78	0.30	0.60	7.48	DBL C (2)	6.30
Amatista	Both	10+50	2.93	13.98	0.30	0.61	7.66	DBL C (2)	6.32
Amatista	Both	10+50	2.93	6.32			4.22	DBL C (2)	2.11
Topacio	Both Sump	17+25	3.58	9.68			9.68	SGL C (2)	0
Amatista	Both	44+00	2.50	21.70	0.36	0.68			
Amatista	Both	44+75	3.17	23.29	0.35	0.77	13.60	DBL A (2)	9.69
Amatista	Both	44+75	3.17	9.69			5.80	DBL C (2)	3.89
Malquita	Both	18+50	2.26	11.14	0.29	0.52	6.44	DBL C (2)	4.70
Turmalina	Both	17+75	1.30	16.24	0.36	0.54	11.76	DBL A (2)	4.48
Amatista	Both	48+00	3.17	13.67	0.30	0.59	7.48	DBL C (2)	6.19
Amatista	Both	49+00	3.17	15.99	0.31	0.65	8.38	DBL C (2)	7.61
Amatista	Both	53+50	2.33	20.76	0.35	0.68	10.52	DBL C (2)	10.24
Amatista	Both	55+00	2.33	15.36	0.32	0.59	8.44	DBL C (2)	6.92
Turmalina	Both	23+25	4.22	10.25	0.26	0.59			
Turmalina	Both	26+50	2.02	19.14	0.35	0.63	10.14	DBL C (2)	9.00
Turmalina	Both	29+75	1.43	17.77	0.36	0.57	10.12	DBL C (2)	7.65

f:/projects/18026.../drainage/Table 2 Street Capacities LD Phase II

10.26.19 DLH

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (30+50) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 1.79
N-Value = 0.014

Calculations

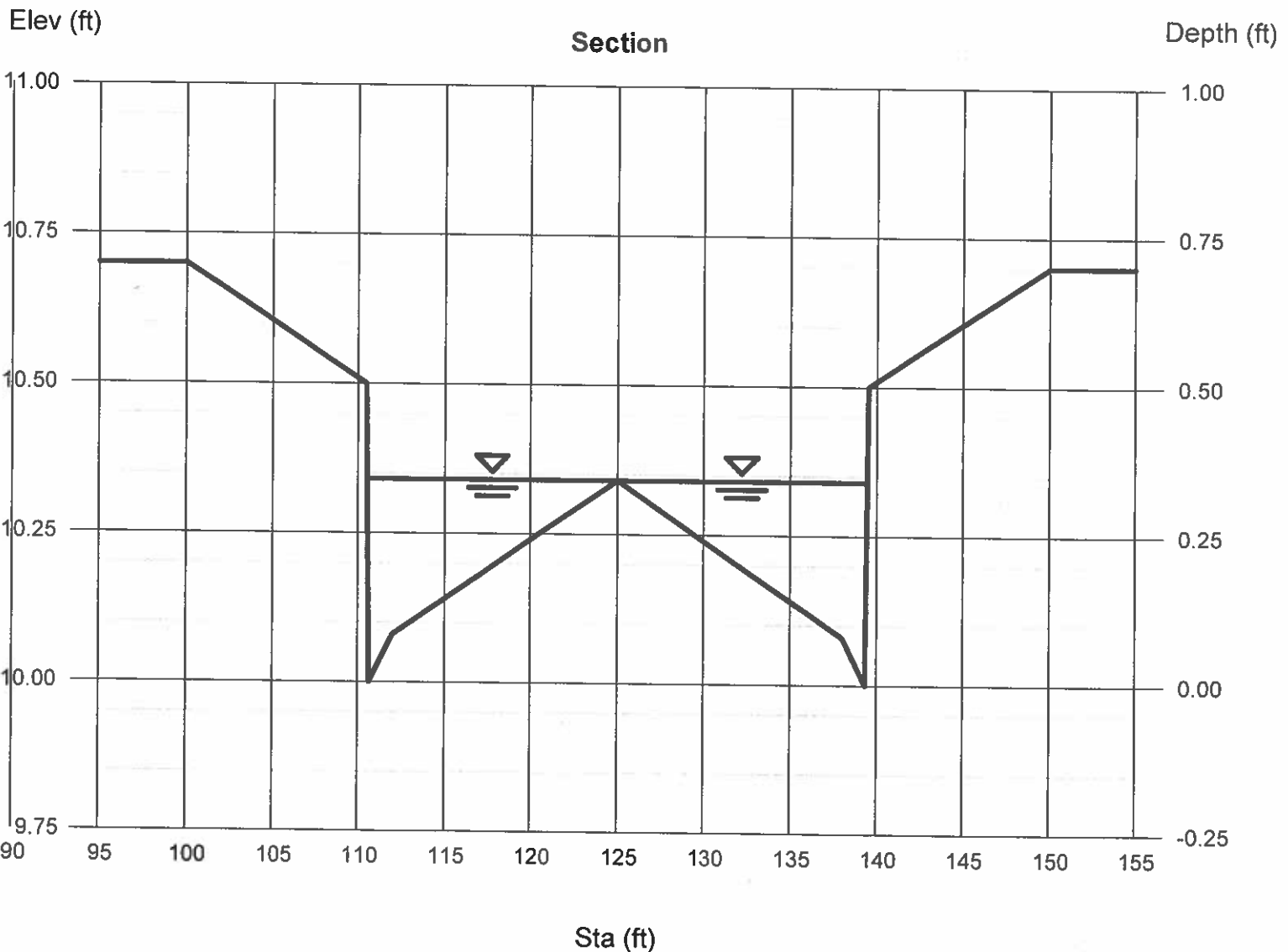
Compute by: Known Q
Known Q (cfs) = 15.33

Highlighted

Depth (ft) = 0.34
Q (cfs) = 15.33
Area (sqft) = 4.22
Velocity (ft/s) = 3.64
Wetted Perim (ft) = 29.39
Crit Depth, Yc (ft) = 0.41
Top Width (ft) = 28.89
EGL (ft) = 0.55

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (27+00) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.42
N-Value = 0.014

Calculations

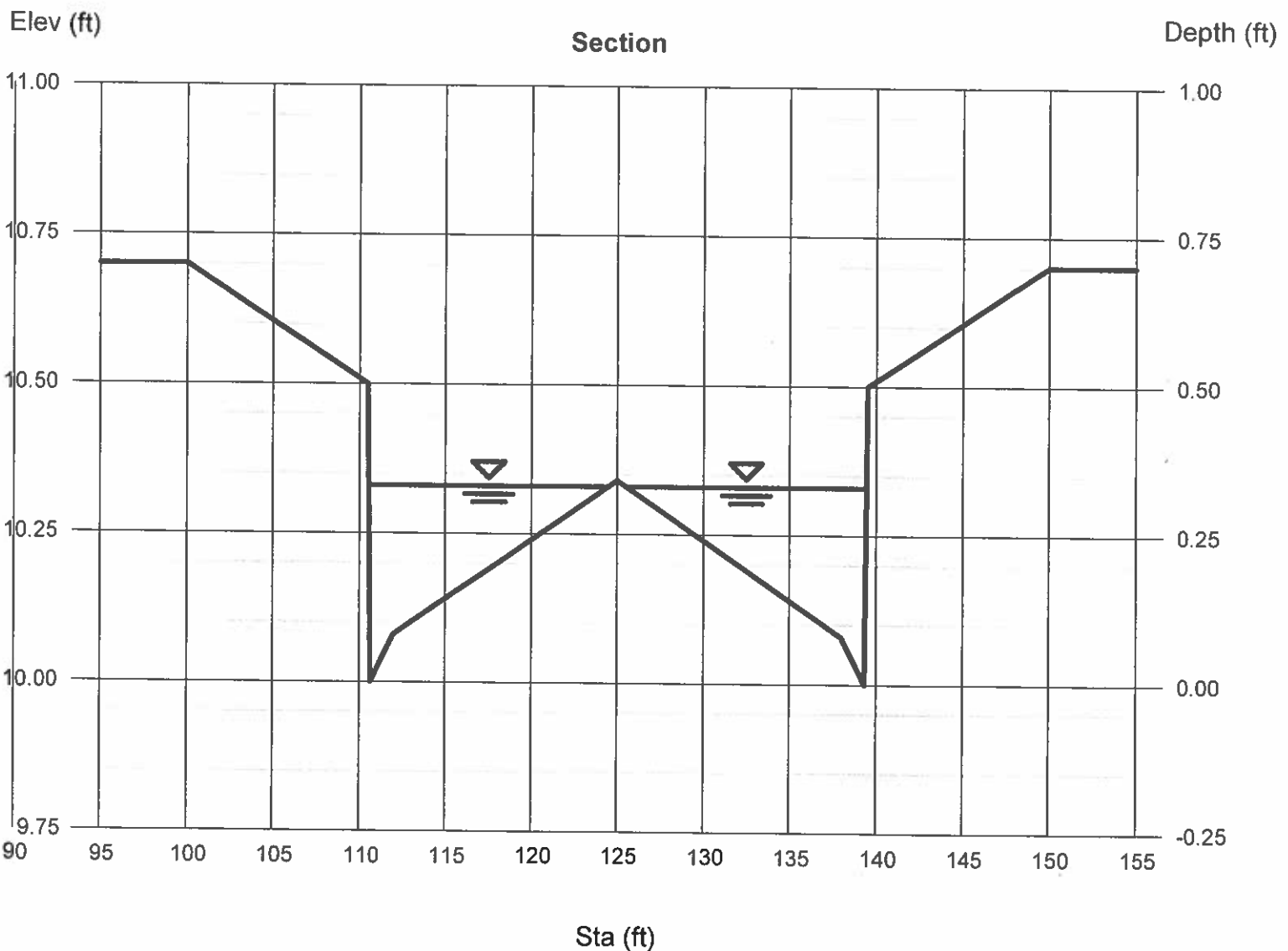
Compute by: Known Q
Known Q (cfs) = 16.69

Highlighted

Depth (ft) = 0.33
Q (cfs) = 16.69
Area (sqft) = 3.93
Velocity (ft/s) = 4.24
Wetted Perim (ft) = 28.37
Crit Depth, Yc (ft) = 0.42
Top Width (ft) = 27.88
EGL (ft) = 0.61

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)-
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (24+25) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.42
N-Value = 0.014

Highlighted

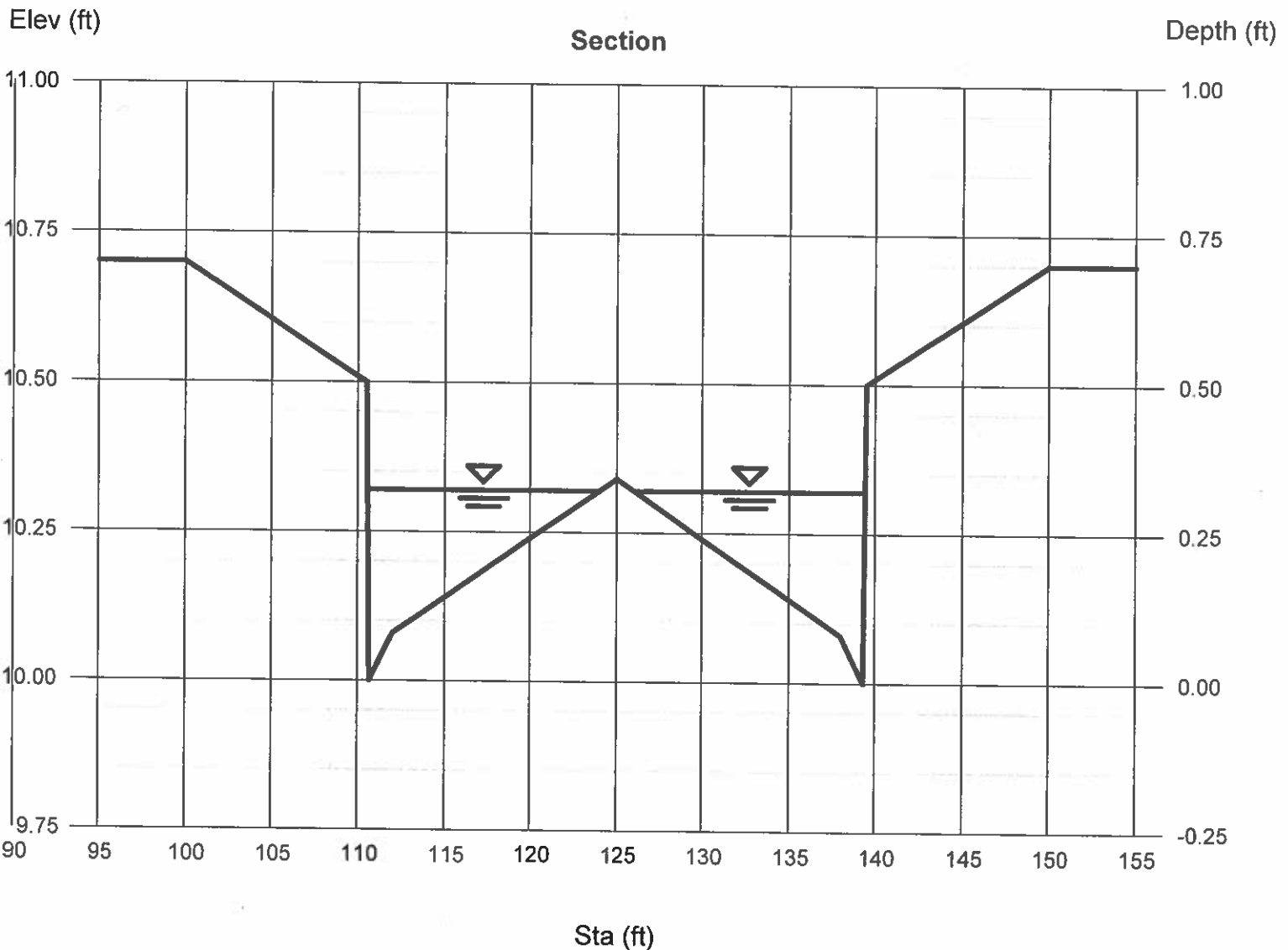
Depth (ft) = 0.32
Q (cfs) = 15.71
Area (sqft) = 3.66
Velocity (ft/s) = 4.29
Wetted Perim (ft) = 27.35
Crit Depth, Yc (ft) = 0.41
Top Width (ft) = 26.88
EGL (ft) = 0.61

Calculations

Compute by: Known Q
Known Q (cfs) = 15.71

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (19+75) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 3.13
N-Value = 0.014

Highlighted

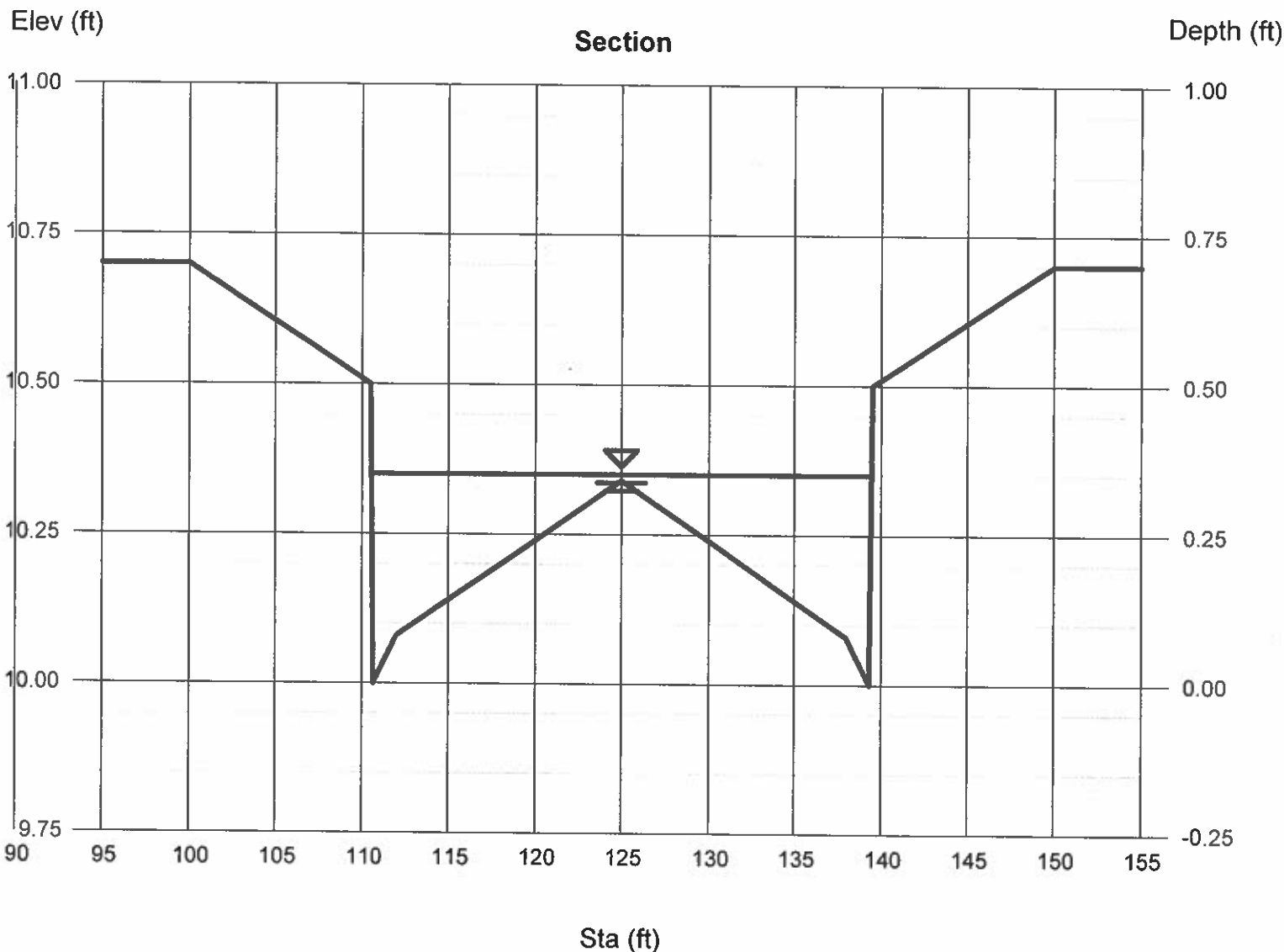
Depth (ft) = 0.35
Q (cfs) = 22.73
Area (sqft) = 4.51
Velocity (ft/s) = 5.04
Wetted Perim (ft) = 29.41
Crit Depth, Yc (ft) = 0.47
Top Width (ft) = 28.90
EGL (ft) = 0.75

Calculations

Compute by: Known Q
Known Q (cfs) = 22.73

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

ALEJADRITA (15+50) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 3.41
N-Value = 0.014

Calculations

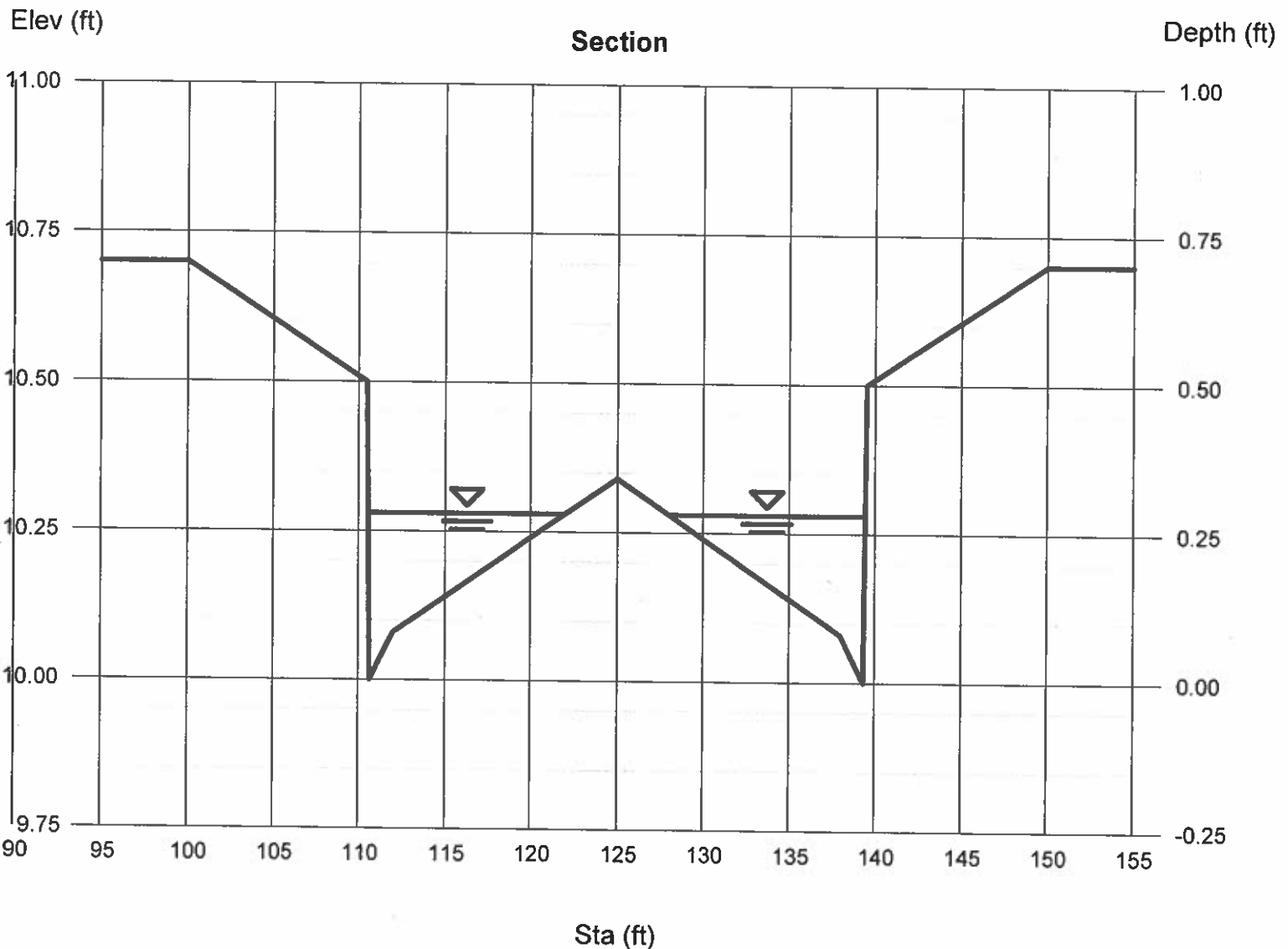
Compute by: Known Q
Known Q (cfs) = 11.52

Highlighted

Depth (ft) = 0.28
Q (cfs) = 11.52
Area (sqft) = 2.67
Velocity (ft/s) = 4.32
Wetted Perim (ft) = 23.26
Crit Depth, Yc (ft) = 0.37
Top Width (ft) = 22.85
EGL (ft) = 0.57

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)-
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (13+50) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 0.67
N-Value = 0.014

Highlighted

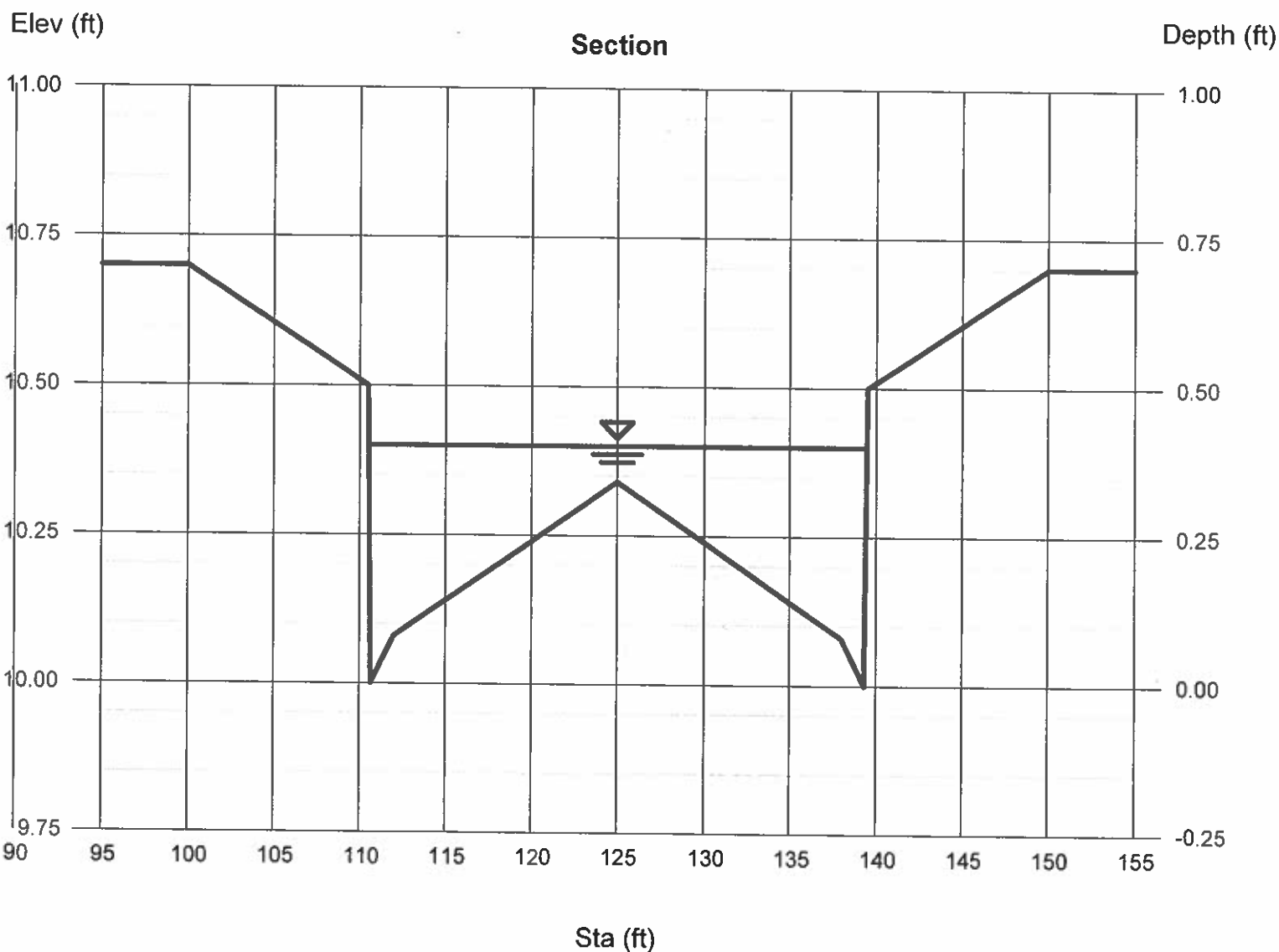
Depth (ft) = 0.40
Q (cfs) = 17.14
Area (sqft) = 5.95
Velocity (ft/s) = 2.88
Wetted Perim (ft) = 29.51
Crit Depth, Yc (ft) = 0.42
Top Width (ft) = 28.93
EGL (ft) = 0.53

Calculations

Compute by: Known Q
Known Q (cfs) = 17.14

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

CUARZO (15+50) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 3.38
N-Value = 0.014

Highlighted

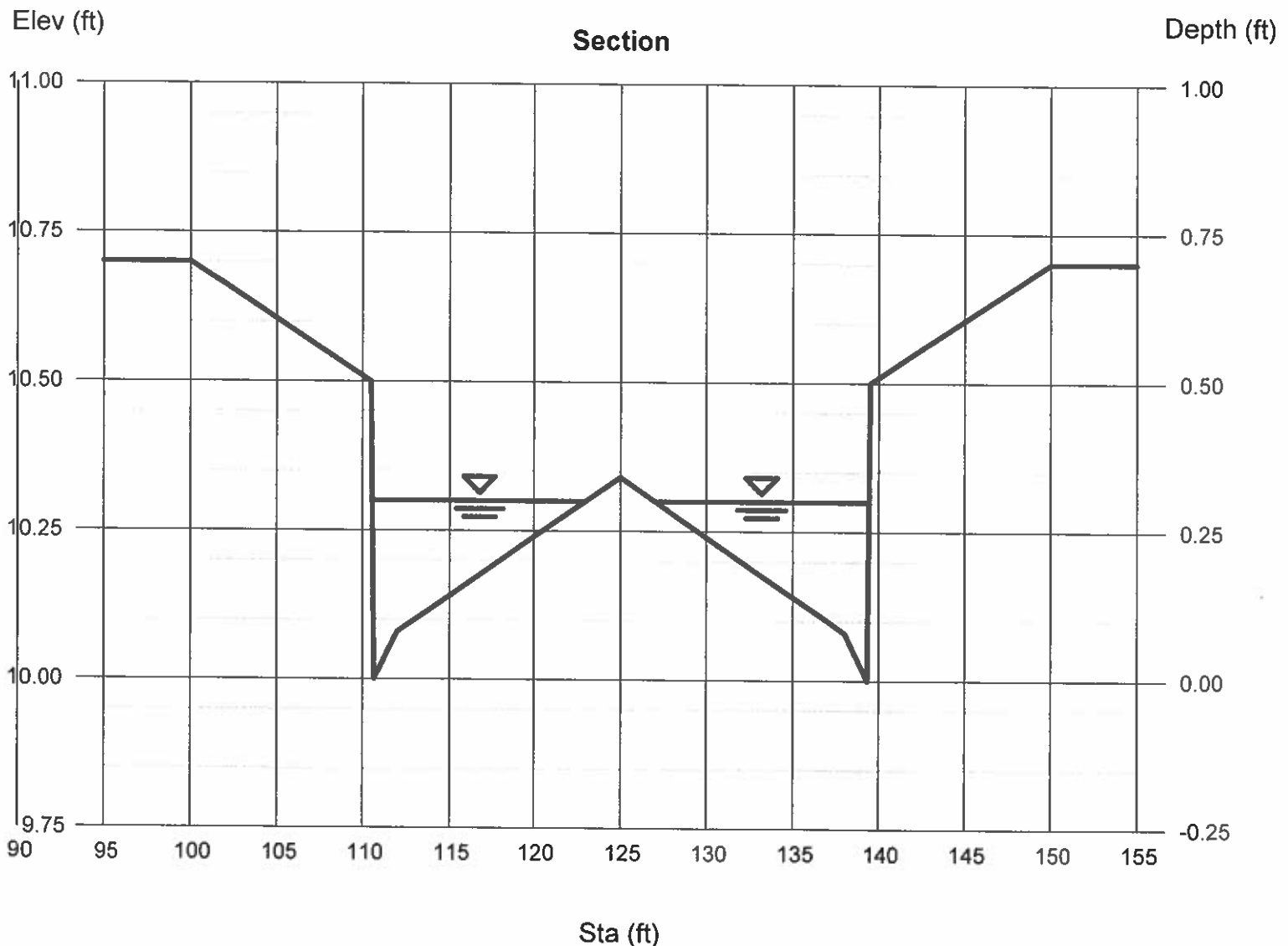
Depth (ft) = 0.30
Q (cfs) = 13.78
Area (sqft) = 3.14
Velocity (ft/s) = 4.39
Wetted Perim (ft) = 25.30
Crit Depth, Yc (ft) = 0.39
Top Width (ft) = 24.86
EGL (ft) = 0.60

Calculations

Compute by: Known Q
Known Q (cfs) = 13.78

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (10+50) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.93
N-Value = 0.014

Highlighted

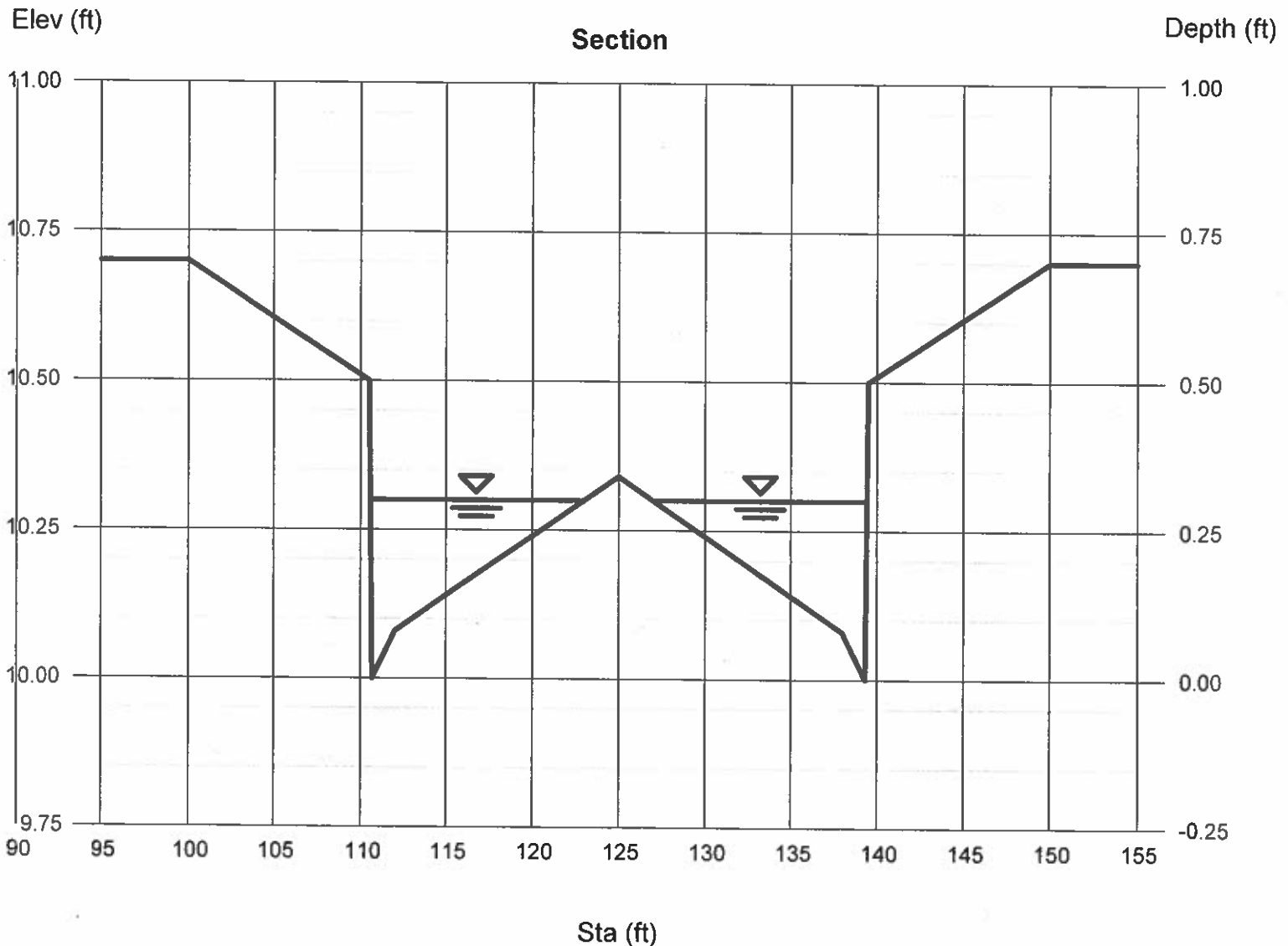
Depth (ft) = 0.30
Q (cfs) = 13.98
Area (sqft) = 3.14
Velocity (ft/s) = 4.45
Wetted Perim (ft) = 25.30
Crit Depth, Yc (ft) = 0.39
Top Width (ft) = 24.86
EGL (ft) = 0.61

Calculations

Compute by: Known Q
Known Q (cfs) = 13.98

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

TOPACIO (17+25) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 3.58
N-Value = 0.014

Highlighted

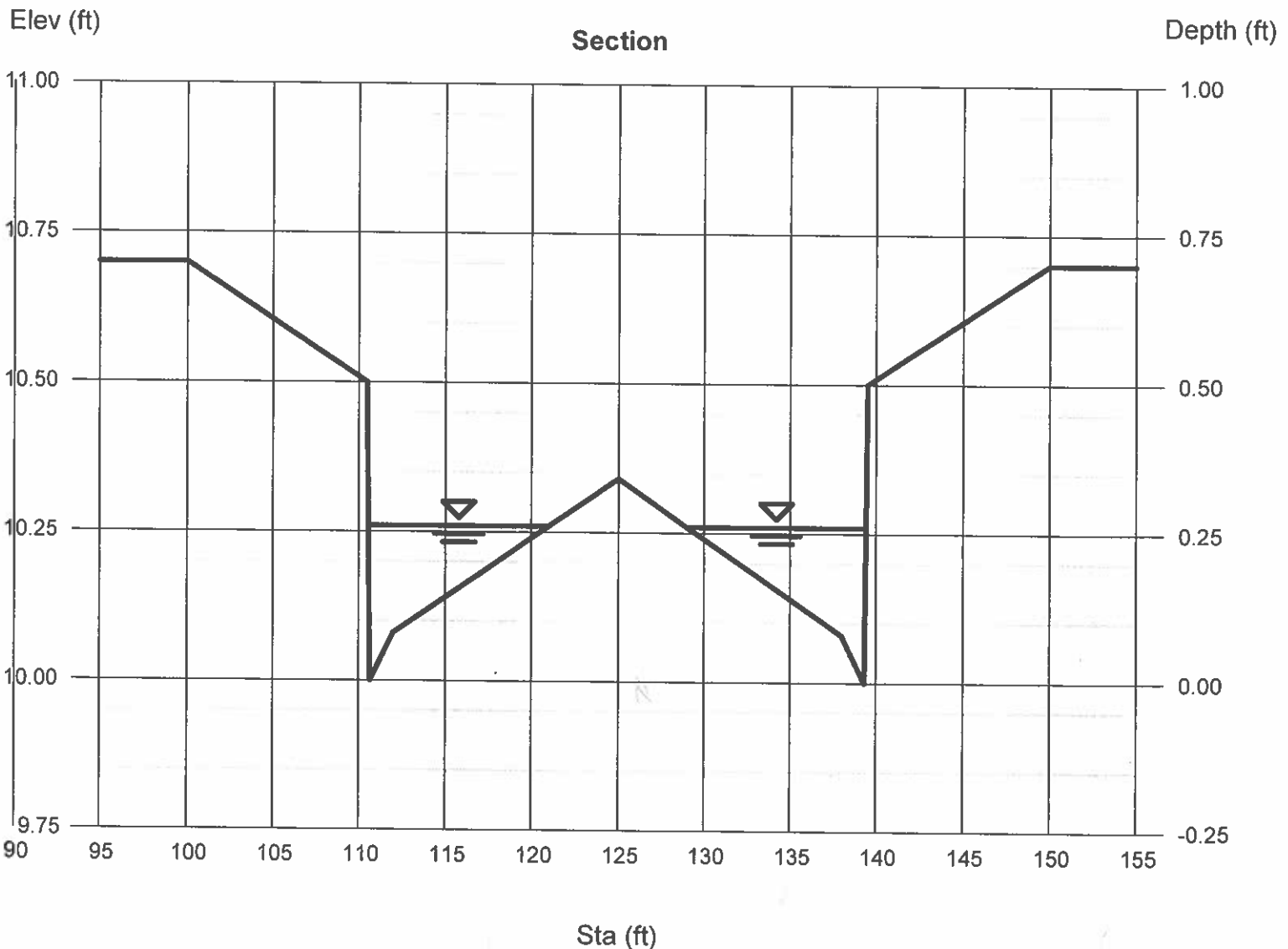
Depth (ft) = 0.26
Q (cfs) = 9.680
Area (sqft) = 2.23
Velocity (ft/s) = 4.34
Wetted Perim (ft) = 21.22
Crit Depth, Yc (ft) = 0.35
Top Width (ft) = 20.84
EGL (ft) = 0.55

Calculations

Compute by: Known Q
Known Q (cfs) = 9.68

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (44+75) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 3.17
N-Value = 0.014

Calculations

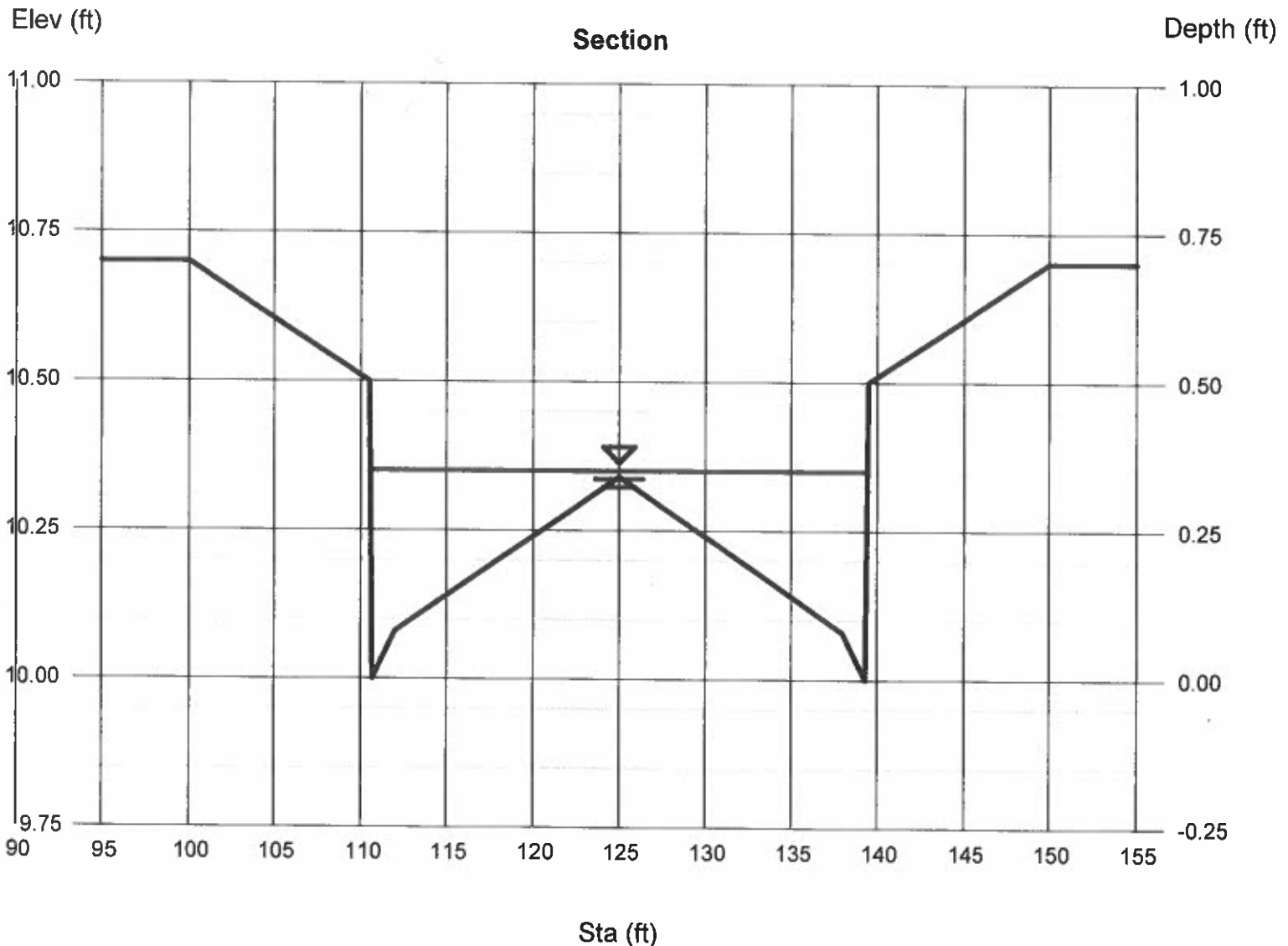
Compute by: Known Q
Known Q (cfs) = 23.29

Highlighted

Depth (ft) = 0.35
Q (cfs) = 23.29
Area (sqft) = 4.51
Velocity (ft/s) = 5.17
Wetted Perim (ft) = 29.41
Crit Depth, Yc (ft) = 0.47
Top Width (ft) = 28.90
EGL (ft) = 0.77

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

MALQUITA (18+50) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.26
N-Value = 0.014

Highlighted

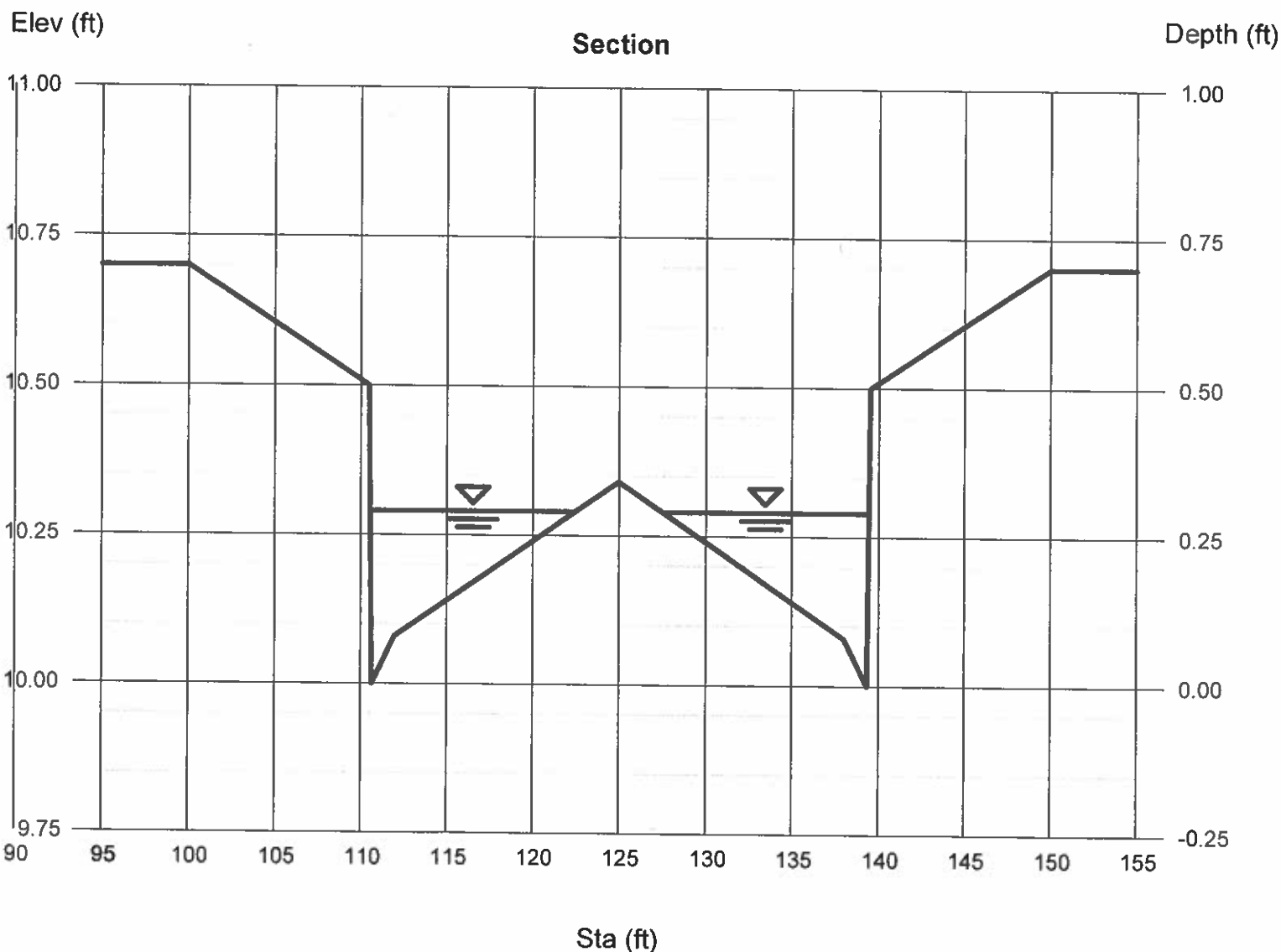
Depth (ft) = 0.29
Q (cfs) = 11.14
Area (sqft) = 2.90
Velocity (ft/s) = 3.84
Wetted Perim (ft) = 24.28
Crit Depth, Yc (ft) = 0.37
Top Width (ft) = 23.86
EGL (ft) = 0.52

Calculations

Compute by: Known Q
Known Q (cfs) = 11.14

(Sta, El, n)-(Sta, El, n)...

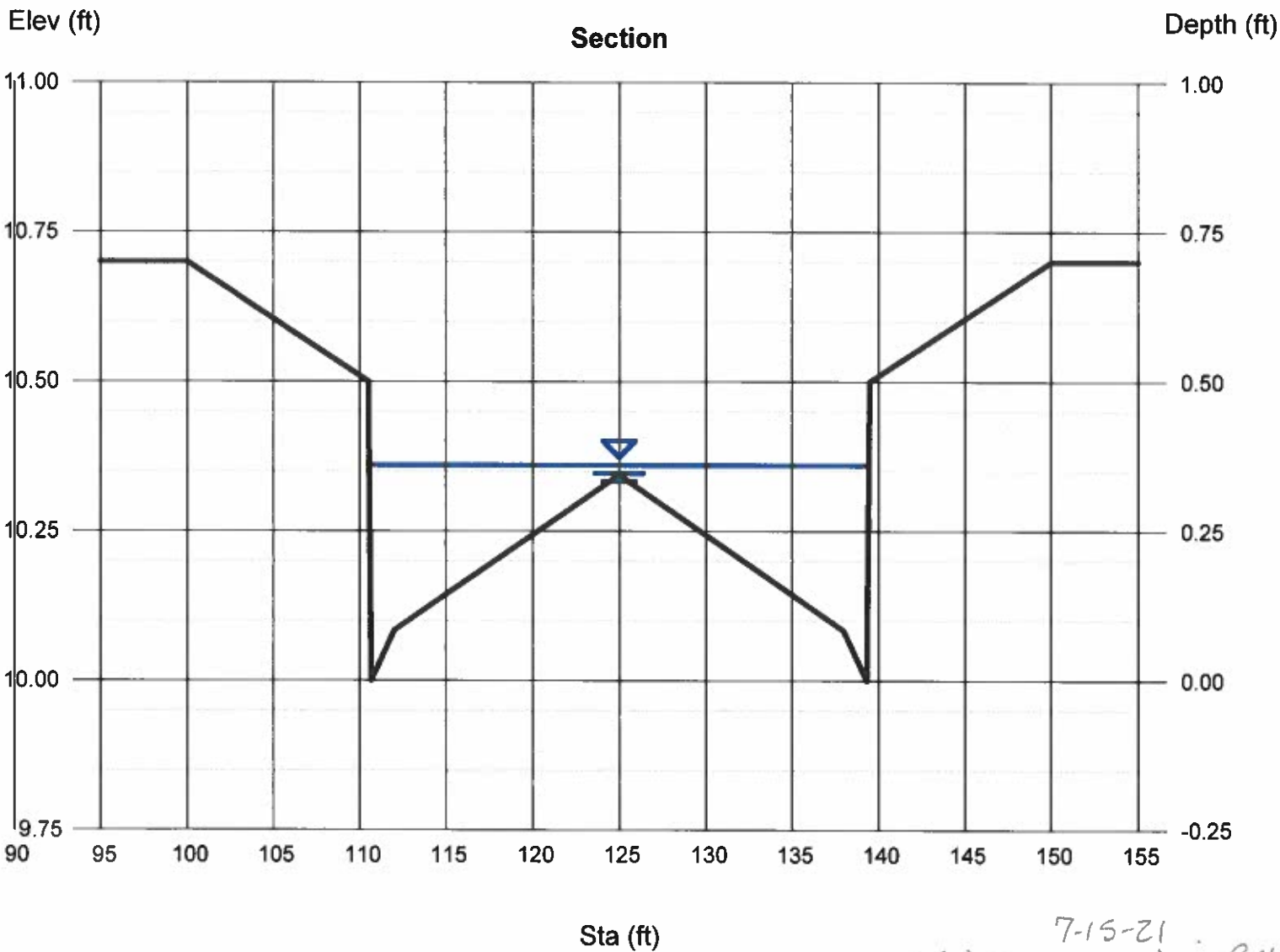
(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

TURMALINA (17+75) BOTH SIDES

User-defined		Highlighted	
Invert Elev (ft)	= 10.00	Depth (ft)	= 0.36
Slope (%)	= 1.30	Q (cfs)	= 16.24
N-Value	= 0.014	Area (sqft)	= 4.69
Calculations		Velocity (ft/s)	= 3.46
Compute by:	Known Q	Wetted Perim (ft)	= 29.43
Known Q (cfs)	= 16.24	Crit Depth, Yc (ft)	= 0.42
		Top Width (ft)	= 28.90
		EGL (ft)	= 0.55
(Sta, El, n)-(Sta, El, n)...			
(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)			
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)			



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (48+00) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 3.17
N-Value = 0.014

Highlighted

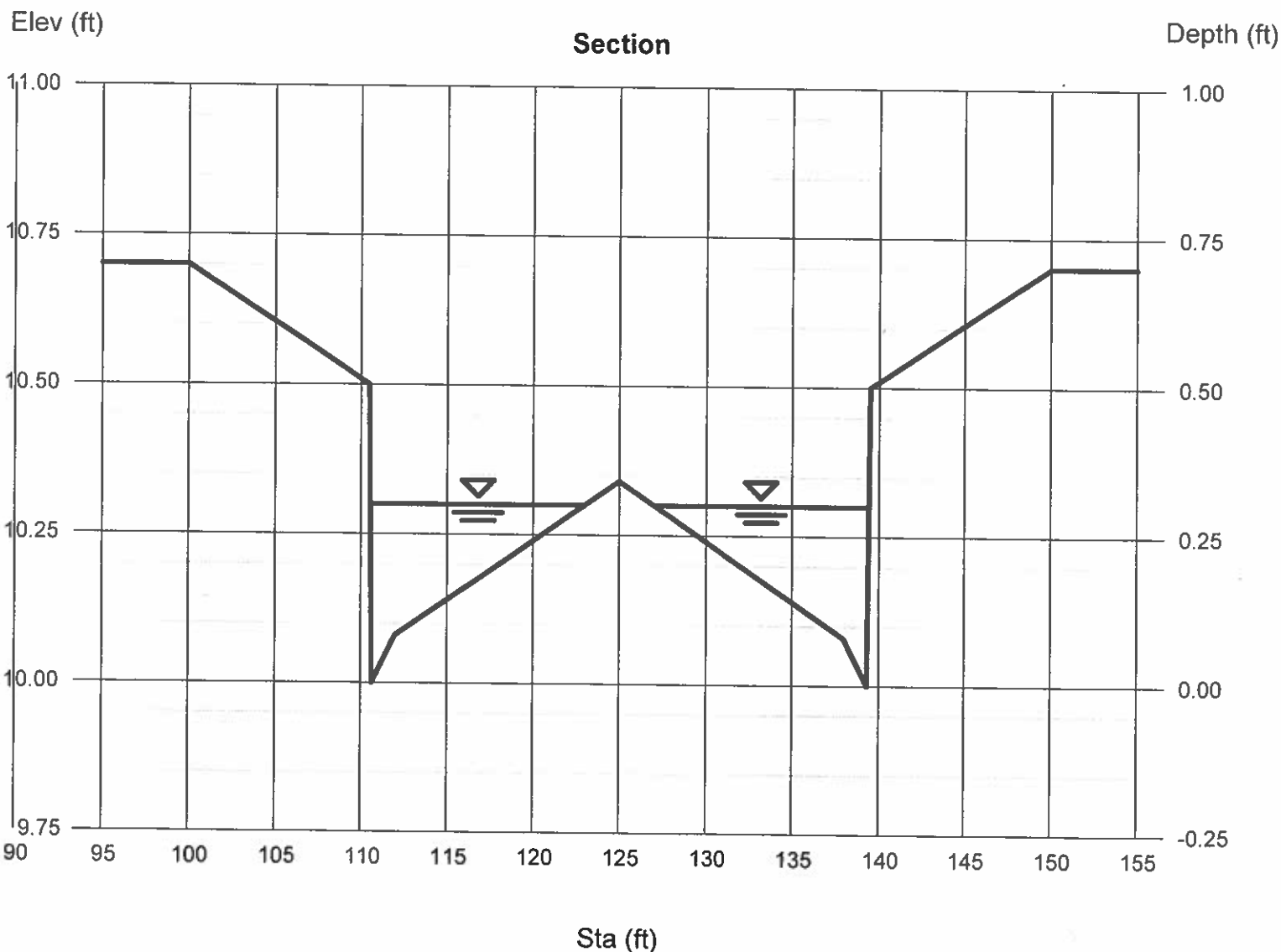
Depth (ft) = 0.30
Q (cfs) = 13.67
Area (sqft) = 3.14
Velocity (ft/s) = 4.35
Wetted Perim (ft) = 25.30
Crit Depth, Yc (ft) = 0.39
Top Width (ft) = 24.86
EGL (ft) = 0.59

Calculations

Compute by: Known Q
Known Q (cfs) = 13.67

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (49+00) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 3.17
N-Value = 0.014

Calculations

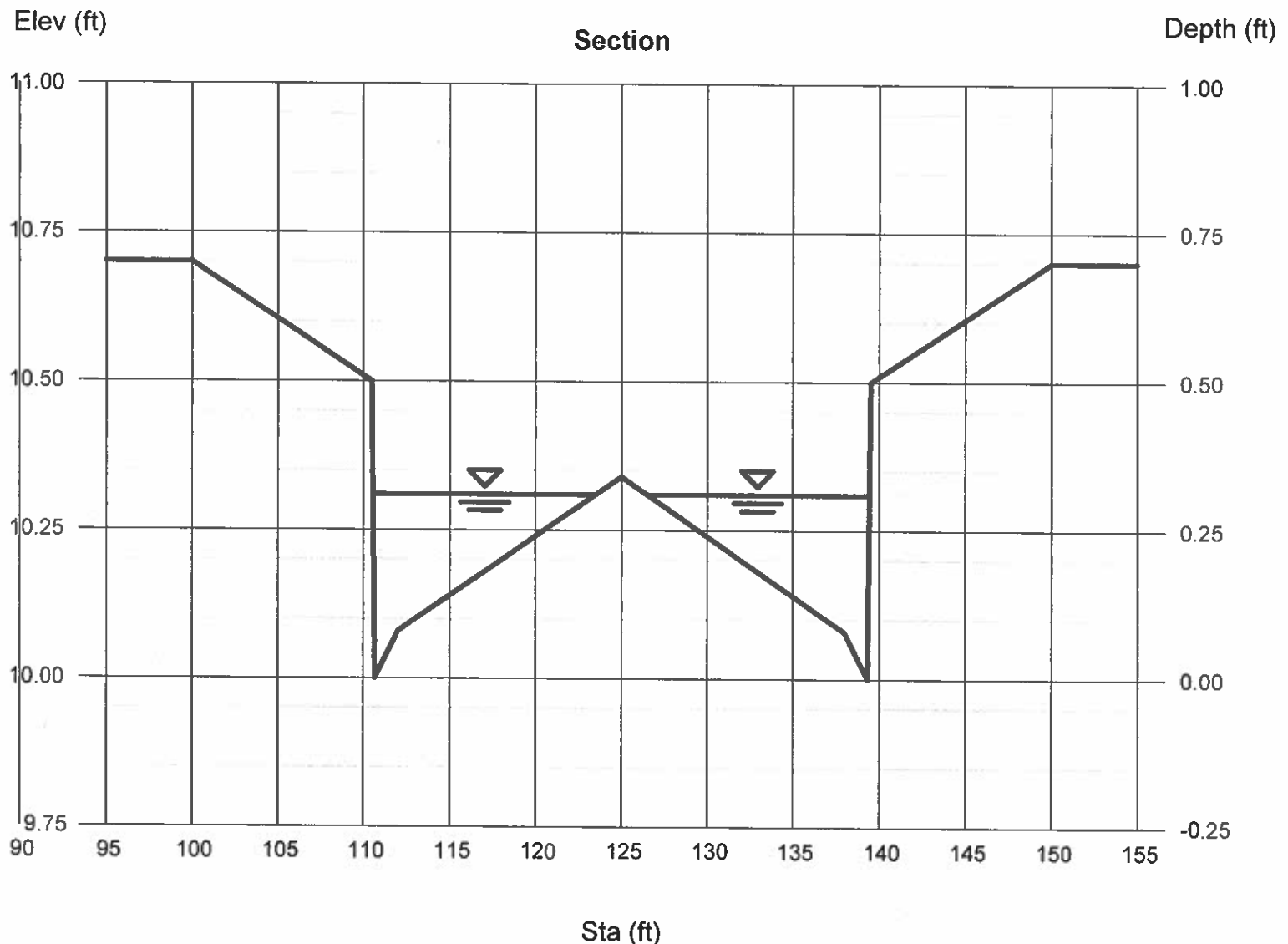
Compute by: Known Q
Known Q (cfs) = 15.99

Highlighted

Depth (ft) = 0.31
Q (cfs) = 15.99
Area (sqft) = 3.40
Velocity (ft/s) = 4.71
Wetted Perim (ft) = 26.32
Crit Depth, Yc (ft) = 0.41
Top Width (ft) = 25.87
EGL (ft) = 0.65

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)-
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (53+50) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.33
N-Value = 0.014

Calculations

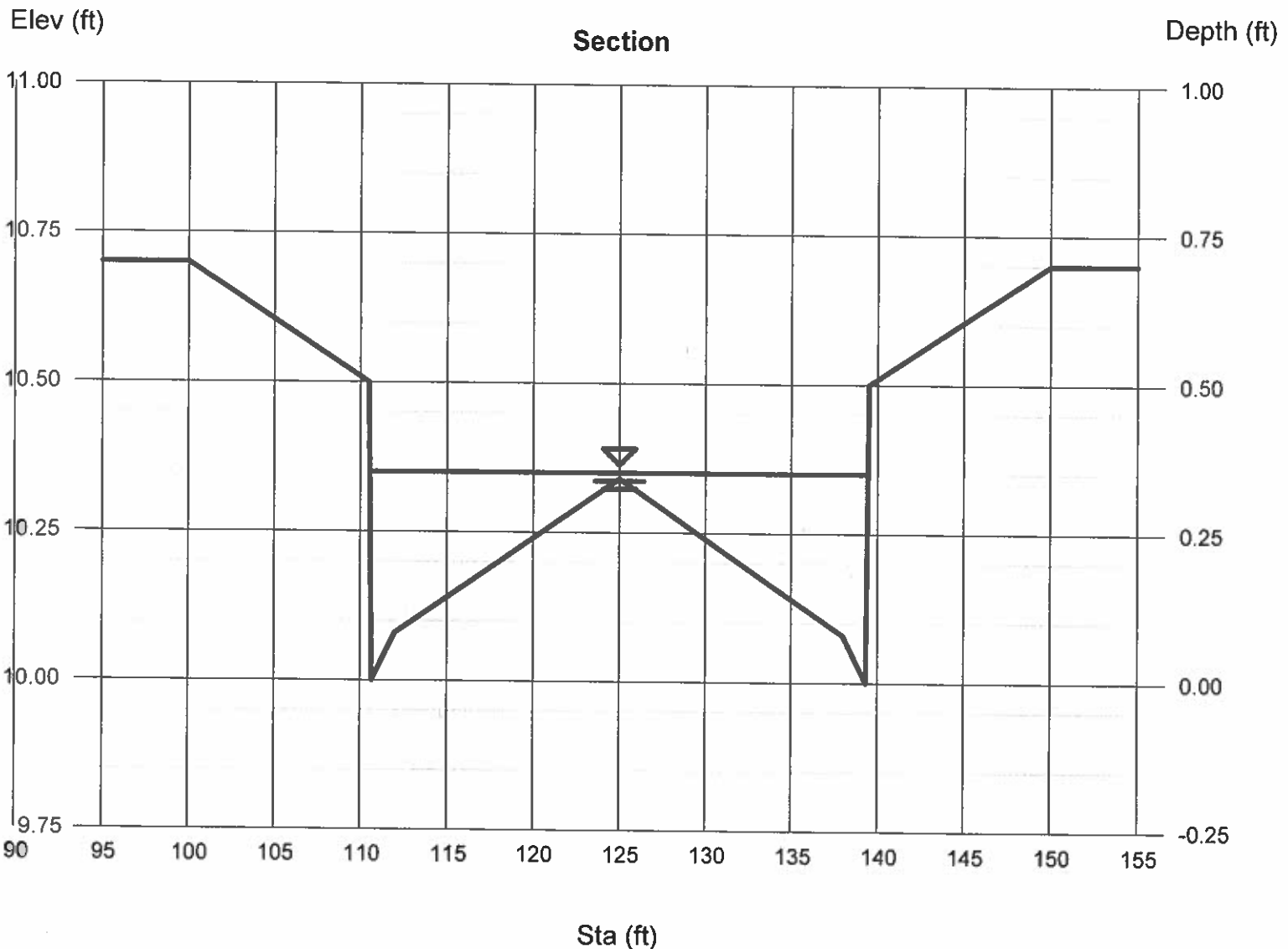
Compute by: Known Q
Known Q (cfs) = 20.76

Highlighted

Depth (ft) = 0.35
Q (cfs) = 20.76
Area (sqft) = 4.51
Velocity (ft/s) = 4.61
Wetted Perim (ft) = 29.41
Crit Depth, Yc (ft) = 0.45
Top Width (ft) = 28.90
EGL (ft) = 0.68

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (55+00) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.33
N-Value = 0.014

Calculations

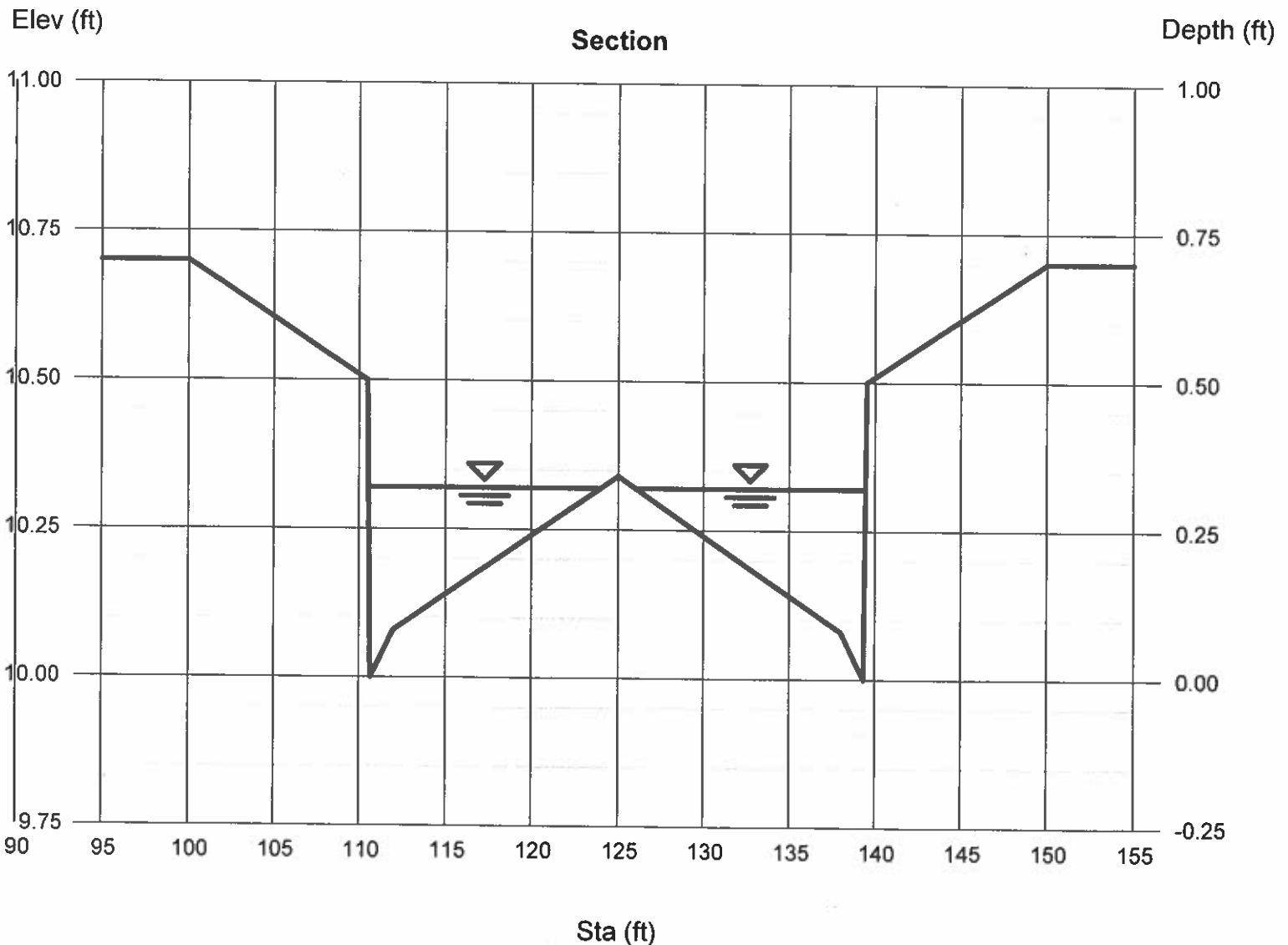
Compute by: Known Q
Known Q (cfs) = 15.36

Highlighted

Depth (ft) = 0.32
Q (cfs) = 15.36
Area (sqft) = 3.66
Velocity (ft/s) = 4.20
Wetted Perim (ft) = 27.35
Crit Depth, Yc (ft) = 0.41
Top Width (ft) = 26.88
EGL (ft) = 0.59

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

TURMALINA (23+25) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 4.22
N-Value = 0.014

Calculations

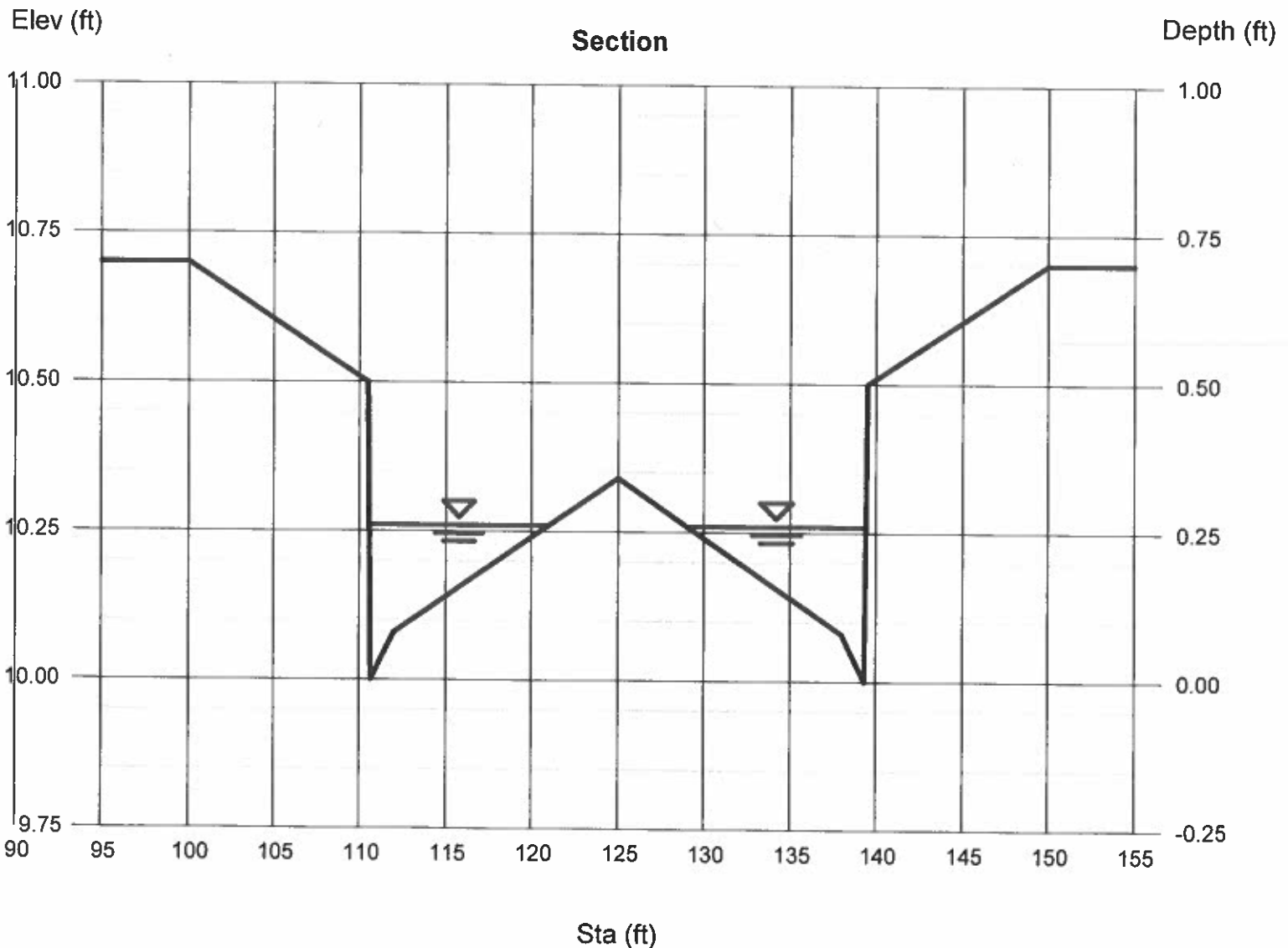
Compute by: Known Q
Known Q (cfs) = 10.25

Highlighted

Depth (ft) = 0.26
Q (cfs) = 10.25
Area (sqft) = 2.23
Velocity (ft/s) = 4.60
Wetted Perim (ft) = 21.22
Crit Depth, Yc (ft) = 0.36
Top Width (ft) = 20.84
EGL (ft) = 0.59

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

TURMALINA (26+50) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 2.00
N-Value = 0.014

Calculations

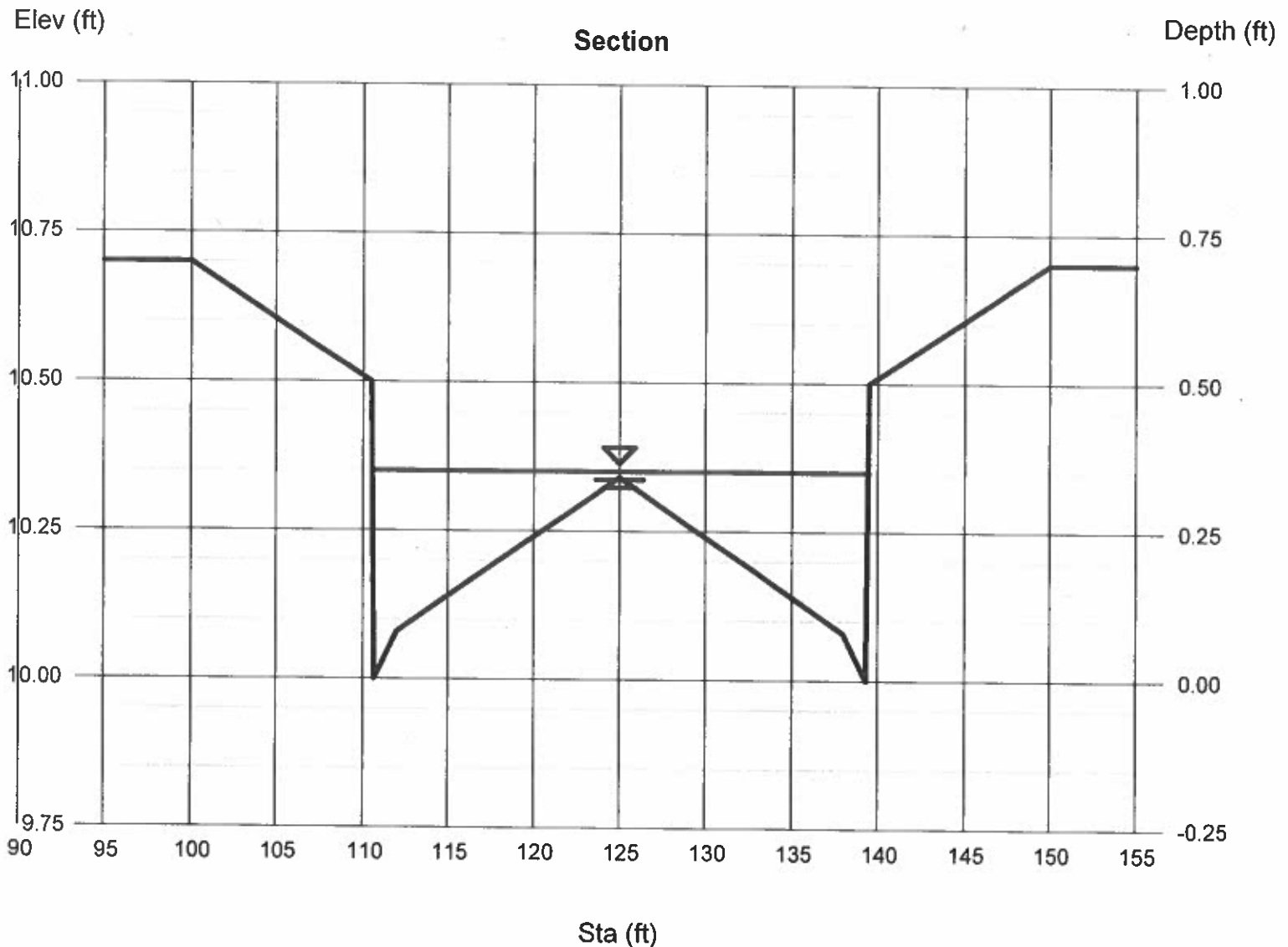
Compute by: Known Q
Known Q (cfs) = 19.14

Highlighted

Depth (ft) = 0.35
Q (cfs) = 19.14
Area (sqft) = 4.51
Velocity (ft/s) = 4.25
Wetted Perim (ft) = 29.41
Crit Depth, Yc (ft) = 0.44
Top Width (ft) = 28.90
EGL (ft) = 0.63

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

TURMALINA (29+75) BOTH SIDES

User-defined

Invert Elev (ft) = 10.00
Slope (%) = 1.43
N-Value = 0.014

Highlighted

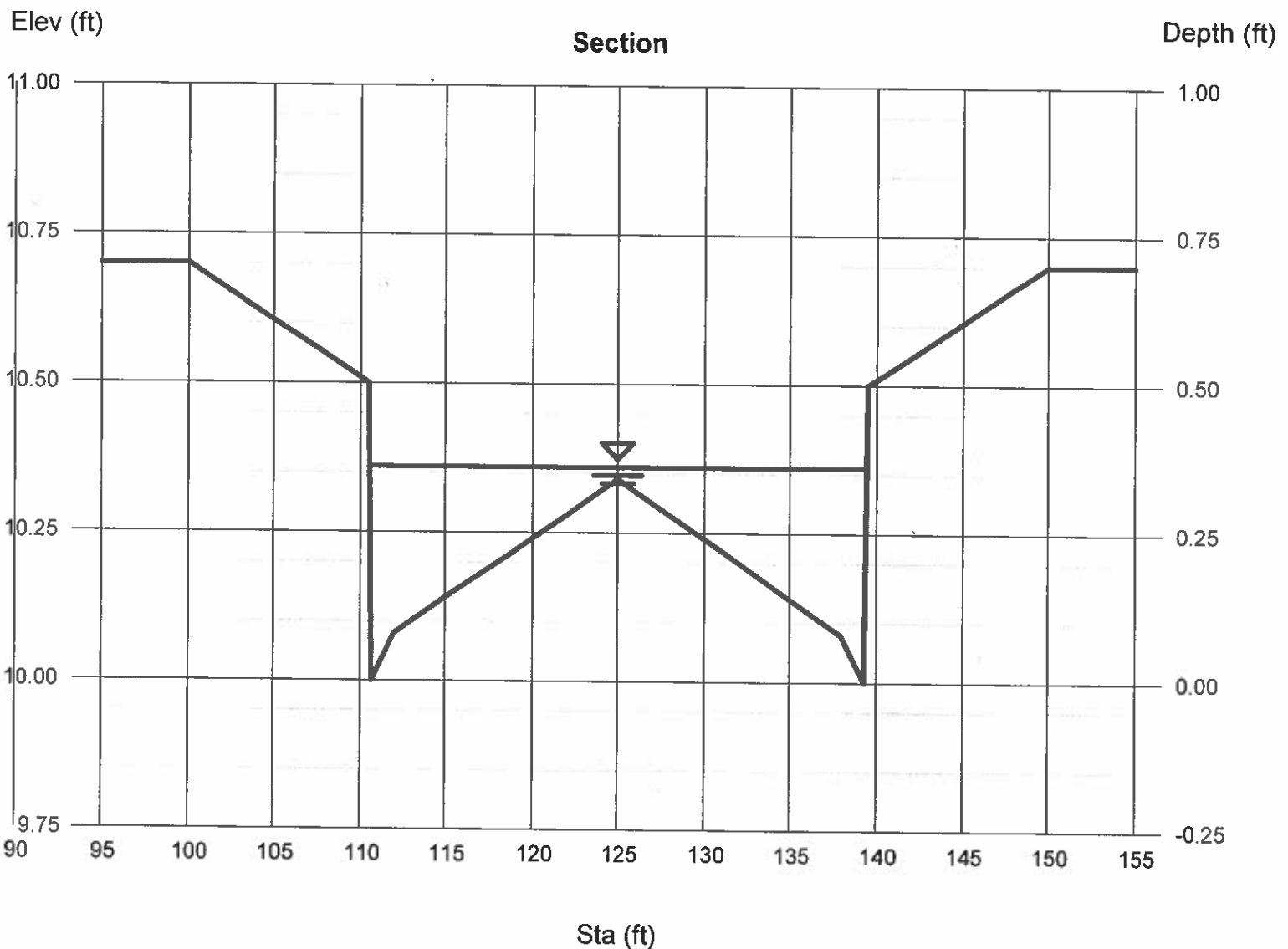
Depth (ft) = 0.36
Q (cfs) = 17.77
Area (sqft) = 4.80
Velocity (ft/s) = 3.71
Wetted Perim (ft) = 29.43
Crit Depth, Yc (ft) = 0.43
Top Width (ft) = 28.90
EGL (ft) = 0.57

Calculations

Compute by: Known Q
Known Q (cfs) = 17.77

(Sta, El, n)-(Sta, El, n)...

(100.00, 10.70)-(110.50, 10.50, 0.014)-(110.67, 10.00, 0.014)-(112.00, 10.08, 0.014)-(125.00, 10.34, 0.014)-(138.00, 10.08, 0.014)-(139.33, 10.00, 0.014)-
-(139.50, 10.50, 0.014)-(150.00, 10.70, 0.014)



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (10+50) INLETS(2)

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 2.93
Gutter n-value	= 0.014

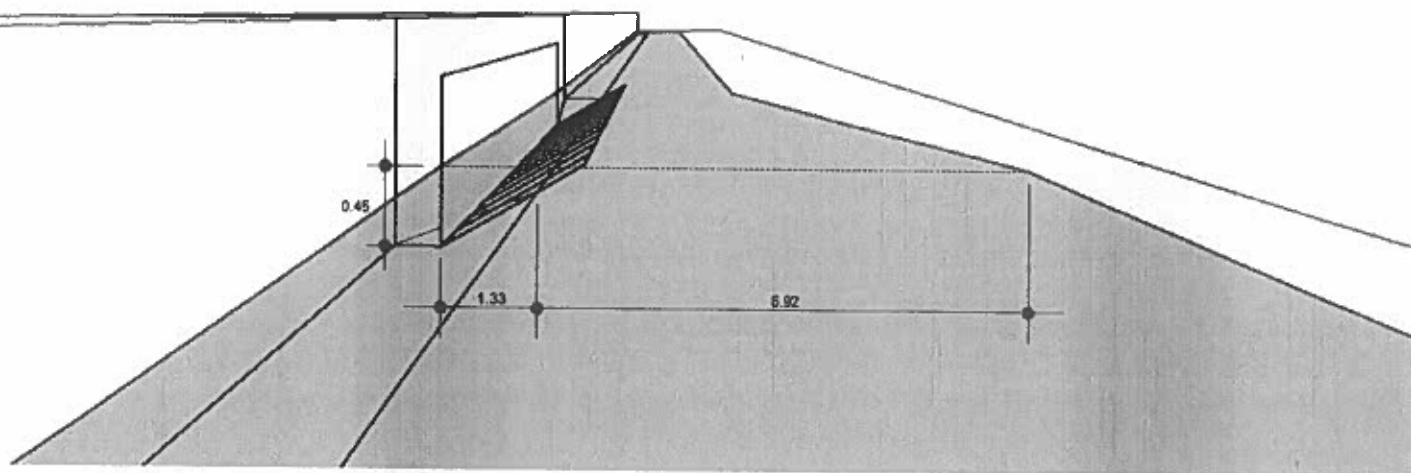
Calculations

Compute by:	Known Q
Q (cfs)	= 3.16

Highlighted

Q Total (cfs)	= 3.16
Q Capt (cfs)	= 2.11
Q Bypass (cfs)	= 1.05
Depth at Inlet (in)	= 5.43
Efficiency (%)	= 67
Gutter Spread (ft)	= 8.25
Gutter Vel (ft/s)	= 4.40
Bypass Spread (ft)	= 5.10
Bypass Depth (in)	= 1.91

Dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (10+50) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 2.93
Gutter n-value	= 0.014

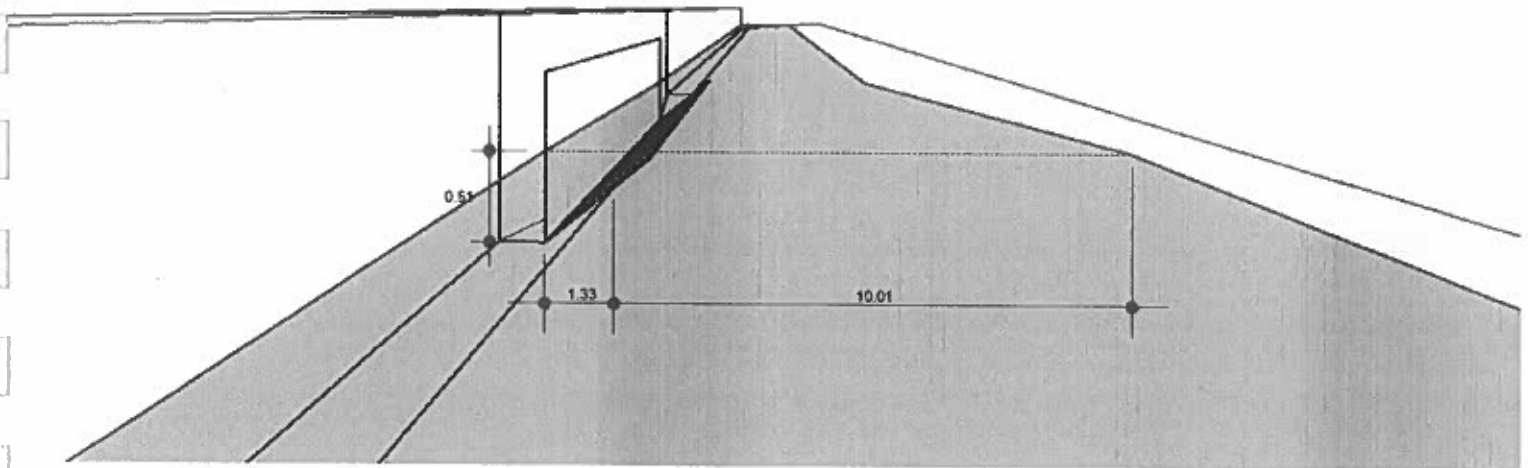
Calculations

Compute by:	Known Q
Q (cfs)	= 6.99

Highlighted

Q Total (cfs)	= 6.99
Q Capt (cfs)	= 3.83
Q Bypass (cfs)	= 3.16
Depth at Inlet (in)	= 6.17
Efficiency (%)	= 55
Gutter Spread (ft)	= 11.34
Gutter Vel (ft/s)	= 5.28
Bypass Spread (ft)	= 8.25
Bypass Depth (in)	= 2.67

All dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

CUARZO (15+50) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 3.38
Gutter n-value	= 0.014

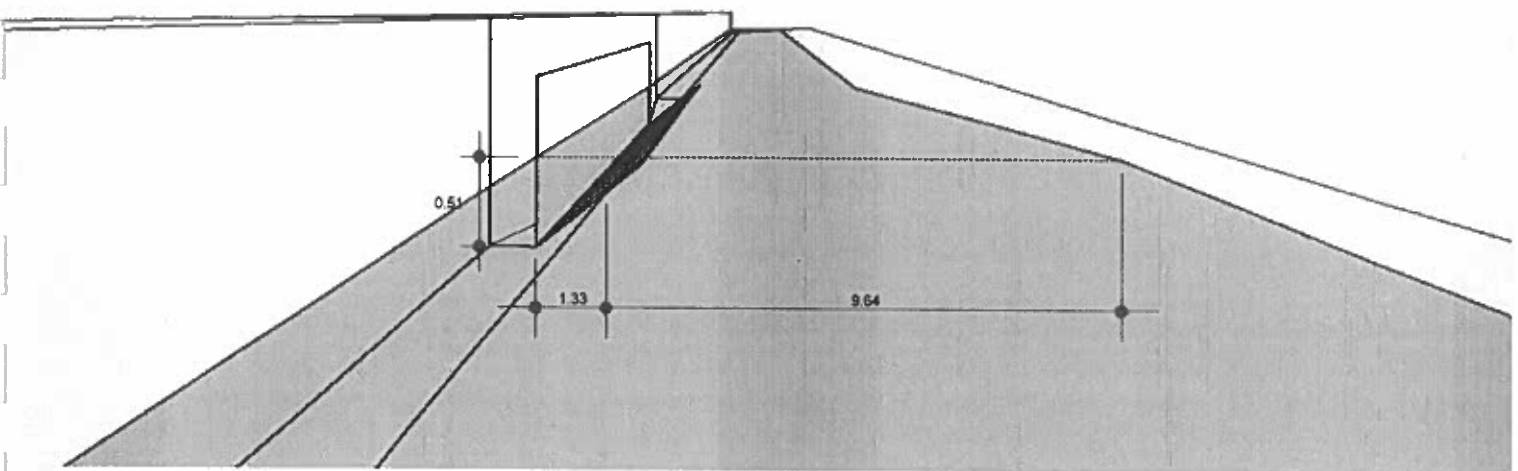
Calculations

Compute by:	Known Q
Q (cfs)	= 6.89

Highlighted

Q Total (cfs)	= 6.89
Q Capt (cfs)	= 3.74
Q Bypass (cfs)	= 3.15
Depth at Inlet (in)	= 6.08
Efficiency (%)	= 54
Gutter Spread (ft)	= 10.97
Gutter Vel (ft/s)	= 5.55
Bypass Spread (ft)	= 8.00
Bypass Depth (in)	= 2.61

dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (13+50) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 10.00
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 0.67
Gutter n-value	= 0.014

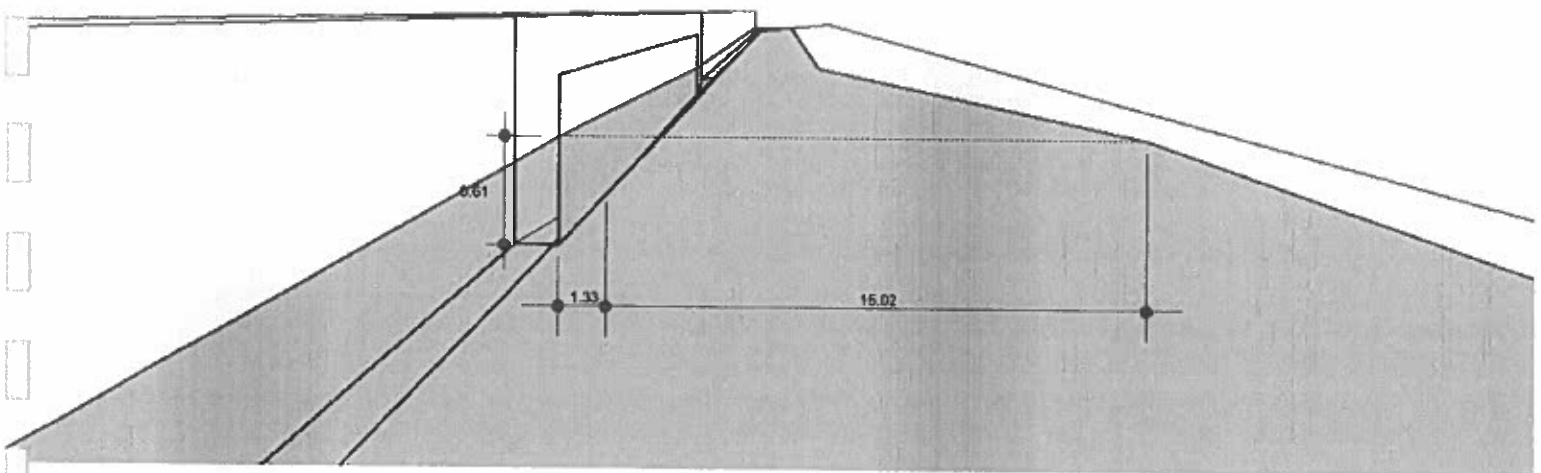
Calculations

Compute by:	Known Q
Q (cfs)	= 8.57

Highlighted

Q Total (cfs)	= 8.57
Q Capt (cfs)	= 6.68
Q Bypass (cfs)	= 1.89
Depth at Inlet (in)	= 7.37
Efficiency (%)	= 78
Gutter Spread (ft)	= 16.35
Gutter Vel (ft/s)	= 3.16
Bypass Spread (ft)	= 9.04
Bypass Depth (in)	= 2.86

dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

ALEJADRITA (15+50) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 3.41
Gutter n-value	= 0.014

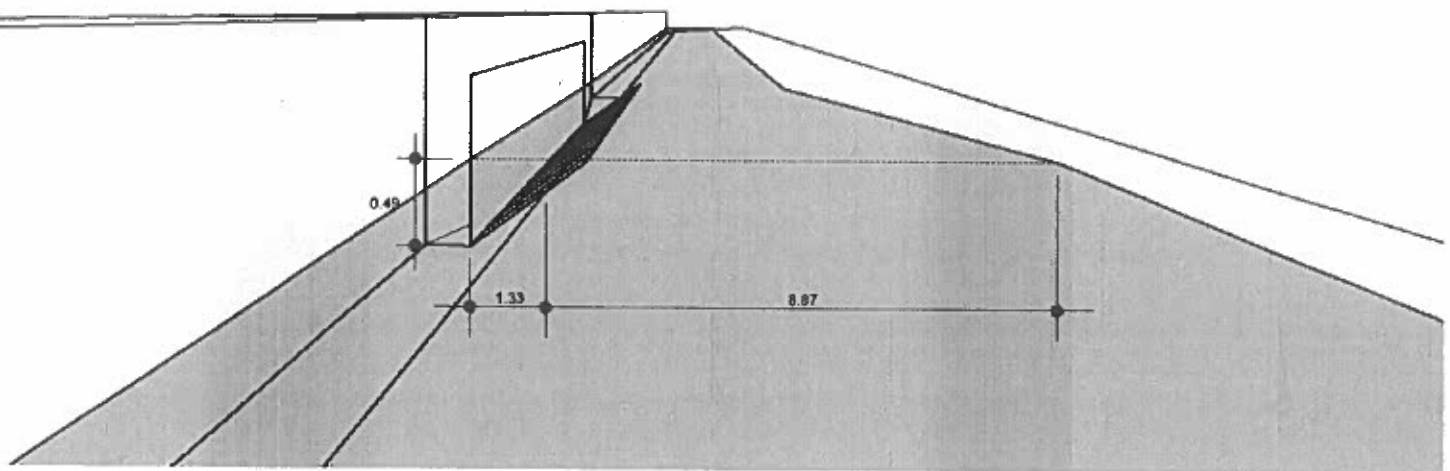
Calculations

Compute by:	Known Q
Q (cfs)	= 5.76

Highlighted

Q Total (cfs)	= 5.76
Q Capt (cfs)	= 3.28
Q Bypass (cfs)	= 2.48
Depth at Inlet (in)	= 5.89
Efficiency (%)	= 57
Gutter Spread (ft)	= 10.20
Gutter Vel (ft/s)	= 5.35
Bypass Spread (ft)	= 7.23
Bypass Depth (in)	= 2.42

Dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (15+50) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 3.13
Gutter n-value	= 0.014

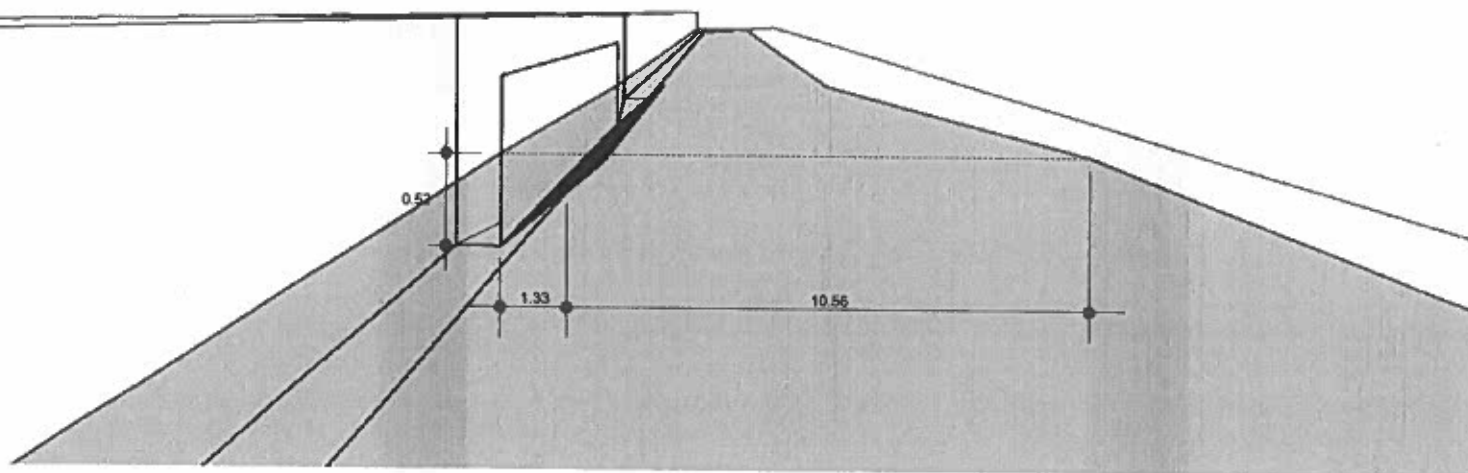
Calculations

Compute by:	Known Q
Q (cfs)	= 8.14

Highlighted

Q Total (cfs)	= 8.14
Q Capt (cfs)	= 4.25
Q Bypass (cfs)	= 3.89
Depth at Inlet (in)	= 6.30
Efficiency (%)	= 52
Gutter Spread (ft)	= 11.89
Gutter Vel (ft/s)	= 5.61
Bypass Spread (ft)	= 8.86
Bypass Depth (in)	= 2.81

Dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (19+75) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 3.13
Gutter n-value	= 0.014

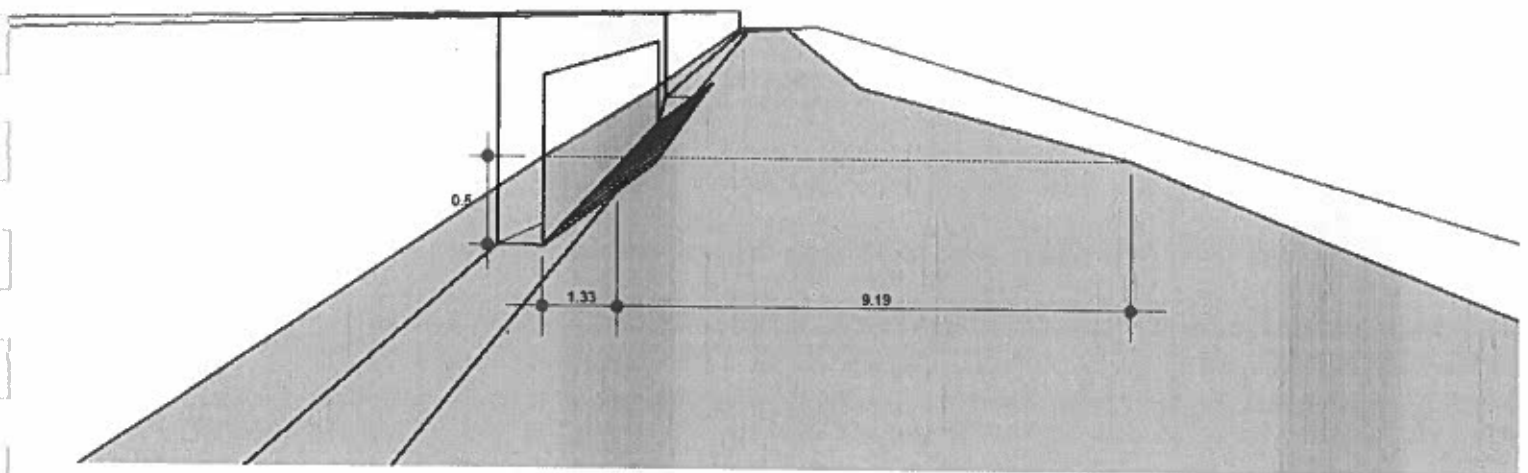
Calculations

Compute by:	Known Q
Q (cfs)	= 5.98

Highlighted

Q Total (cfs)	= 5.98
Q Capt (cfs)	= 3.39
Q Bypass (cfs)	= 2.58
Depth at Inlet (in)	= 5.97
Efficiency (%)	= 57
Gutter Spread (ft)	= 10.52
Gutter Vel (ft/s)	= 5.22
Bypass Spread (ft)	= 7.48
Bypass Depth (in)	= 2.48

Dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (24+25) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 2.42
Gutter n-value	= 0.014

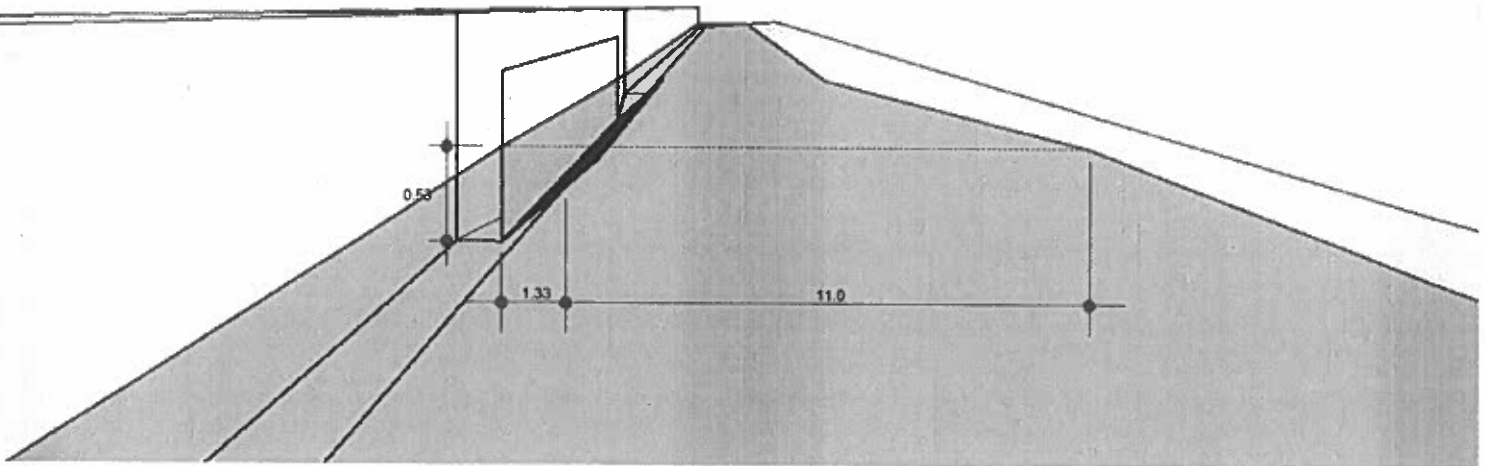
Calculations

Compute by:	Known Q
Q (cfs)	= 7.86

Highlighted

Q Total (cfs)	= 7.86
Q Capt (cfs)	= 4.27
Q Bypass (cfs)	= 3.59
Depth at Inlet (in)	= 6.41
Efficiency (%)	= 54
Gutter Spread (ft)	= 12.33
Gutter Vel (ft/s)	= 5.04
Bypass Spread (ft)	= 9.03
Bypass Depth (in)	= 2.85

dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (26+50) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 2.00
Gutter n-value	= 0.014

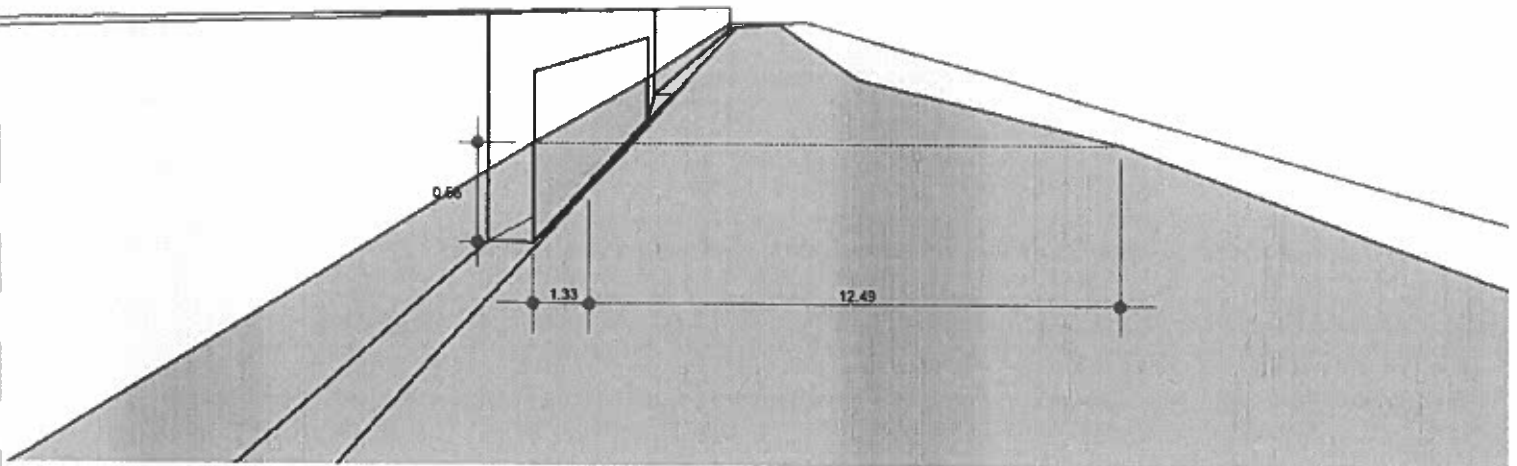
Calculations

Compute by:	Known Q
Q (cfs)	= 9.57

Highlighted

Q Total (cfs)	= 9.57
Q Capt (cfs)	= 5.07
Q Bypass (cfs)	= 4.50
Depth at Inlet (in)	= 6.76
Efficiency (%)	= 53
Gutter Spread (ft)	= 13.82
Gutter Vel (ft/s)	= 4.92
Bypass Spread (ft)	= 10.28
Bypass Depth (in)	= 3.15

All dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (27+00) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 10.00
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 2.42
Gutter n-value	= 0.014

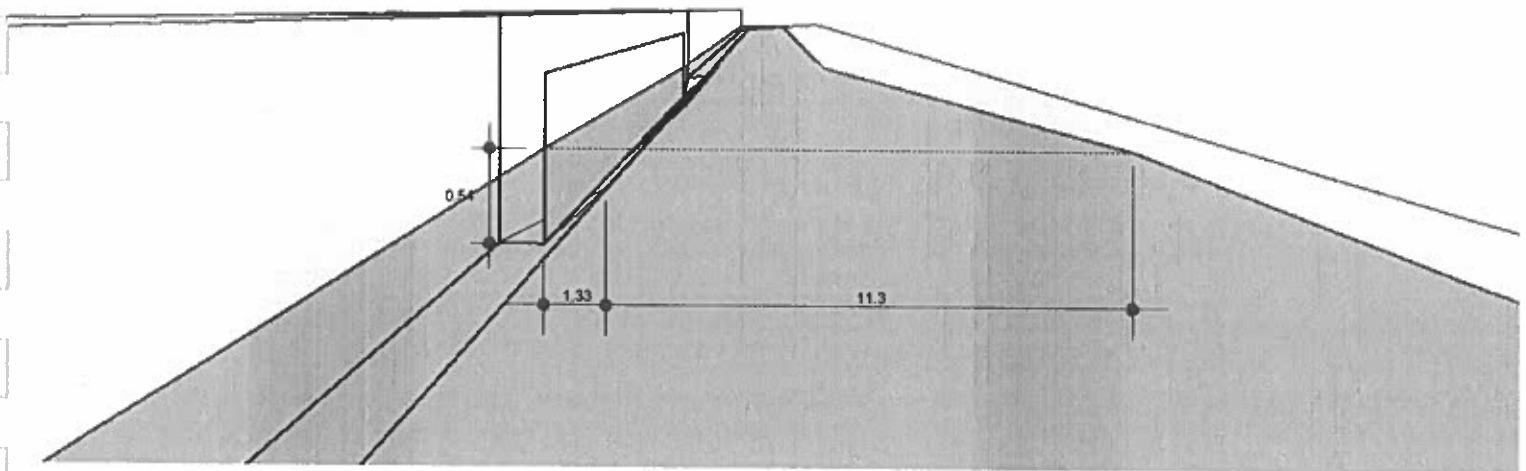
Calculations

Compute by:	Known Q
Q (cfs)	= 8.35

Highlighted

Q Total (cfs)	= 8.35
Q Capt (cfs)	= 5.56
Q Bypass (cfs)	= 2.79
Depth at Inlet (in)	= 6.48
Efficiency (%)	= 67
Gutter Spread (ft)	= 12.63
Gutter Vel (ft/s)	= 5.12
Bypass Spread (ft)	= 8.16
Bypass Depth (in)	= 2.64

11 dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (29+75) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 1.43
Gutter n-value	= 0.014

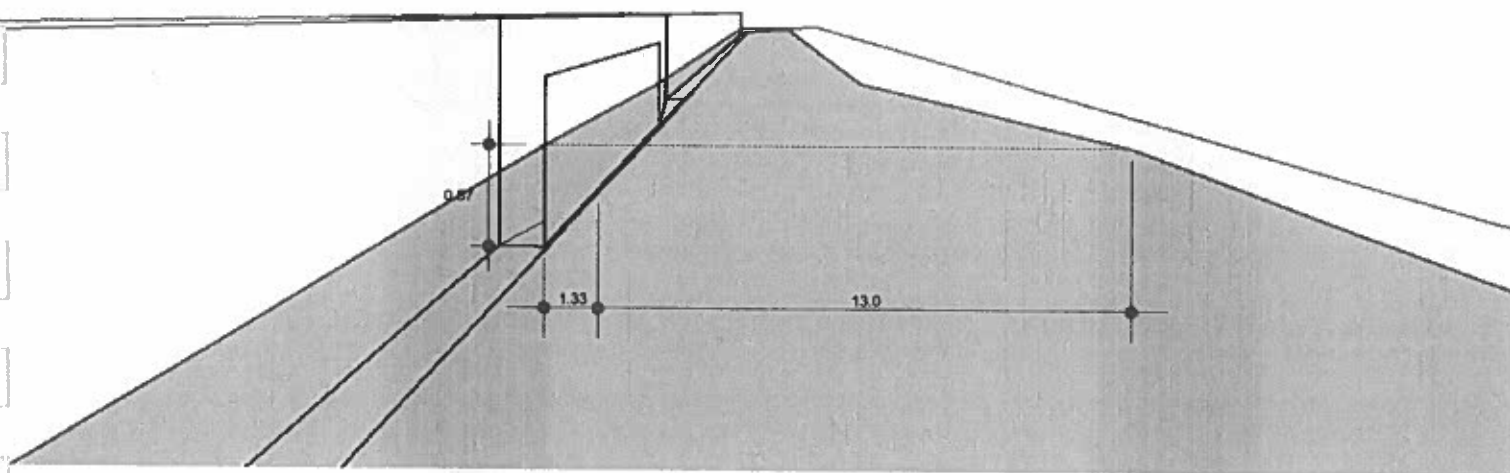
Calculations

Compute by:	Known Q
Q (cfs)	= 8.89

Highlighted

Q Total (cfs)	= 8.89
Q Capt (cfs)	= 5.06
Q Bypass (cfs)	= 3.83
Depth at Inlet (in)	= 6.88
Efficiency (%)	= 57
Gutter Spread (ft)	= 14.33
Gutter Vel (ft/s)	= 4.25
Bypass Spread (ft)	= 10.31
Bypass Depth (in)	= 3.16

All dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (30+50) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 10.00
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 1.79
Gutter n-value	= 0.014

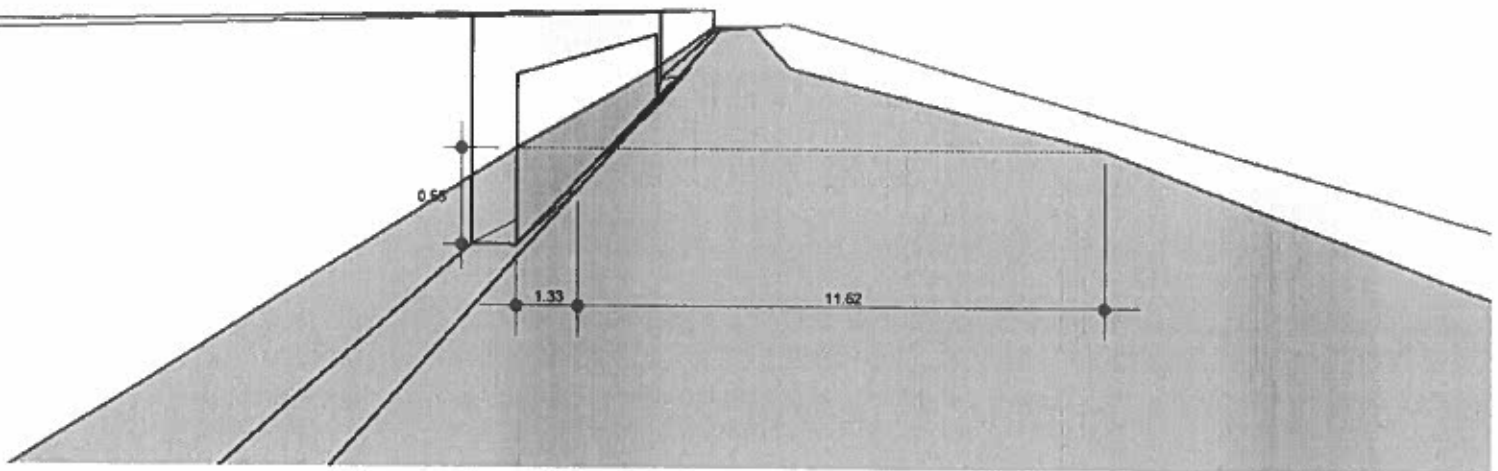
Calculations

Compute by:	Known Q
Q (cfs)	= 7.67

Highlighted

Q Total (cfs)	= 7.67
Q Capt (cfs)	= 5.41
Q Bypass (cfs)	= 2.26
Depth at Inlet (in)	= 6.55
Efficiency (%)	= 71
Gutter Spread (ft)	= 12.95
Gutter Vel (ft/s)	= 4.47
Bypass Spread (ft)	= 7.95
Bypass Depth (in)	= 2.59

Dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (44+75) INLETS(2)

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 3.17
Gutter n-value	= 0.014

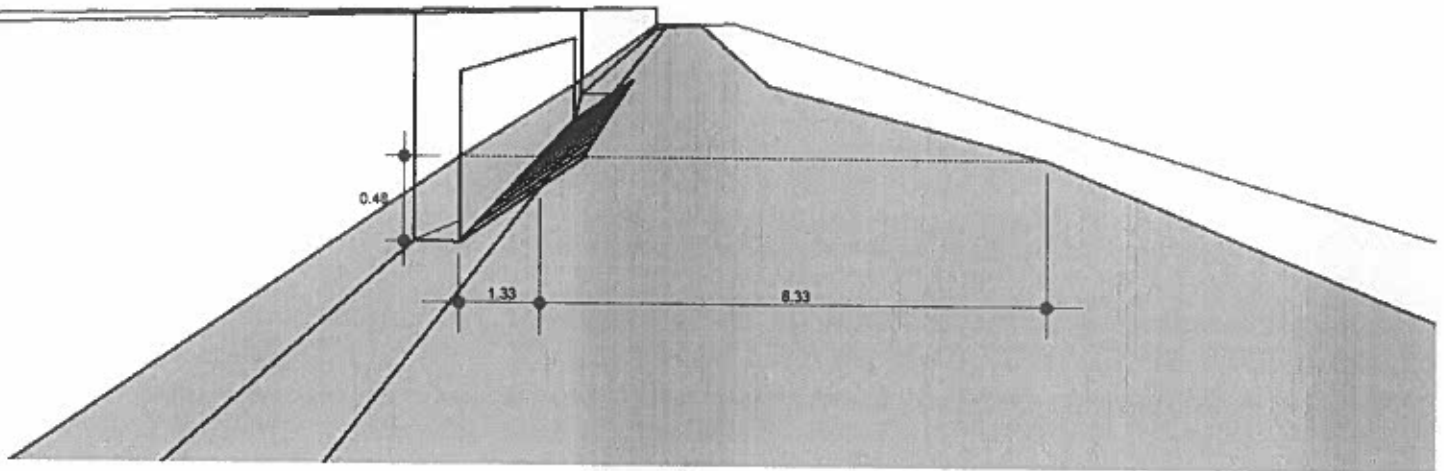
Calculations

Compute by:	Known Q
Q (cfs)	= 4.85

Highlighted

Q Total (cfs)	= 4.85
Q Capt (cfs)	= 2.91
Q Bypass (cfs)	= 1.94
Depth at Inlet (in)	= 5.76
Efficiency (%)	= 60
Gutter Spread (ft)	= 9.66
Gutter Vel (ft/s)	= 5.00
Bypass Spread (ft)	= 6.62
Bypass Depth (in)	= 2.27

1 dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (48+00) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 3.17
Gutter n-value	= 0.014

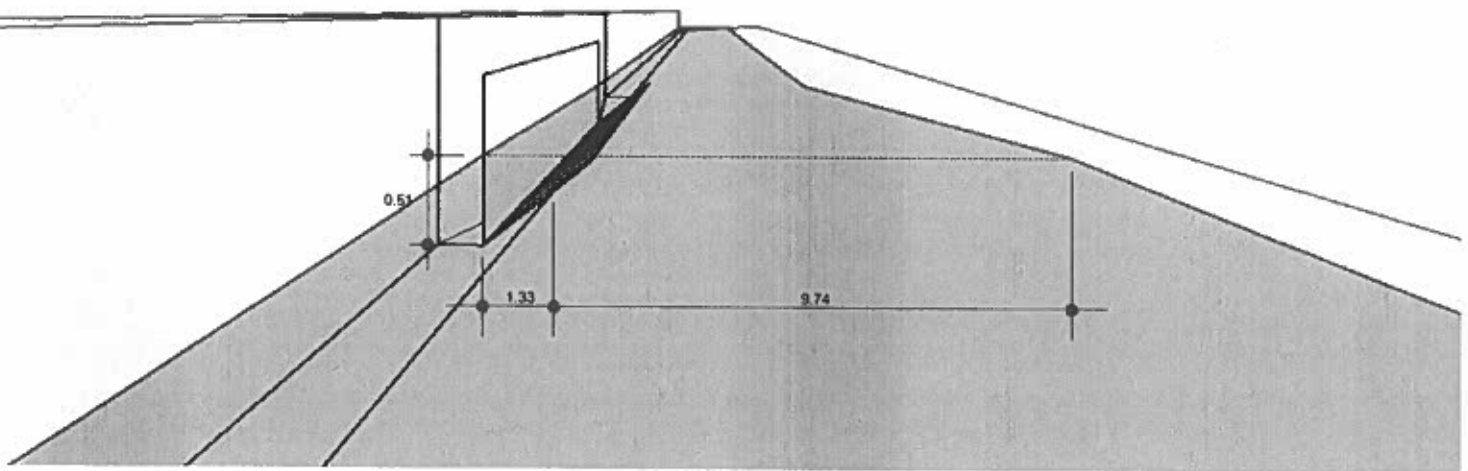
Calculations

Compute by:	Known Q
Q (cfs)	= 6.84

Highlighted

Q Total (cfs)	= 6.84
Q Capt (cfs)	= 3.74
Q Bypass (cfs)	= 3.10
Depth at Inlet (in)	= 6.10
Efficiency (%)	= 55
Gutter Spread (ft)	= 11.07
Gutter Vel (ft/s)	= 5.41
Bypass Spread (ft)	= 8.05
Bypass Depth (in)	= 2.62

11 dimensions in feet



AMATISTA (49+00) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 3.17
Gutter n-value	= 0.014

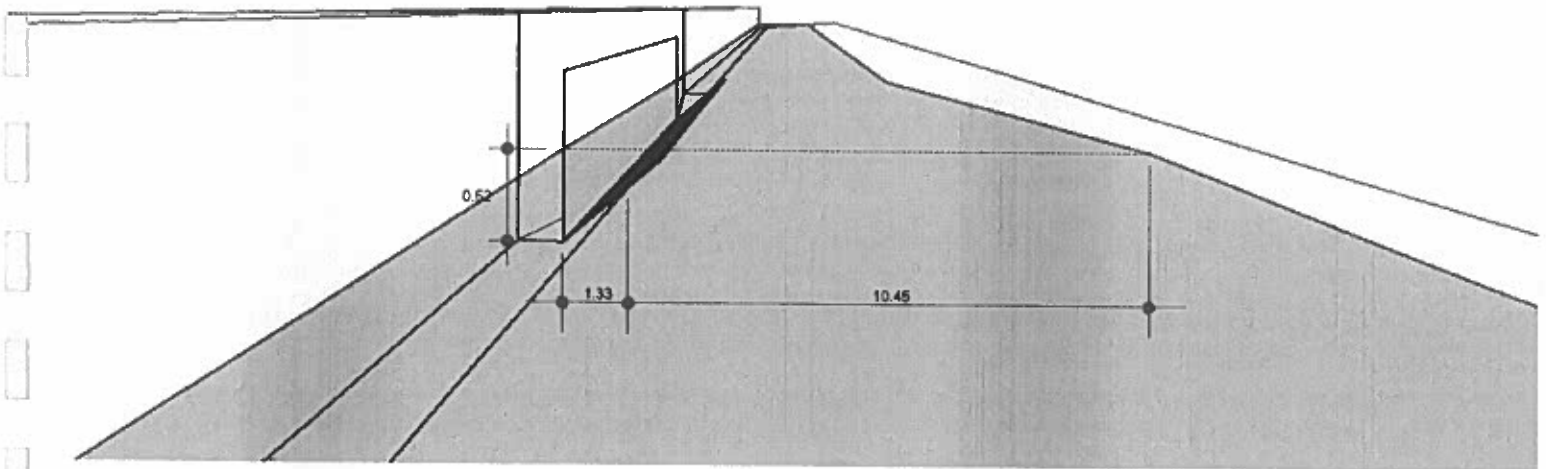
Calculations

Compute by: Known Q
Q (cfs) = 8.00

Highlighted

Q Total (cfs)	= 8.00
Q Capt (cfs)	= 4.19
Q Bypass (cfs)	= 3.81
Depth at Inlet (in)	= 6.27
Efficiency (%)	= 52
Gutter Spread (ft)	= 11.78
Gutter Vel (ft/s)	= 5.62
Bypass Spread (ft)	= 8.76
Bypass Depth (in)	= 2.79

dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (53+50) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 2.33
Gutter n-value	= 0.014

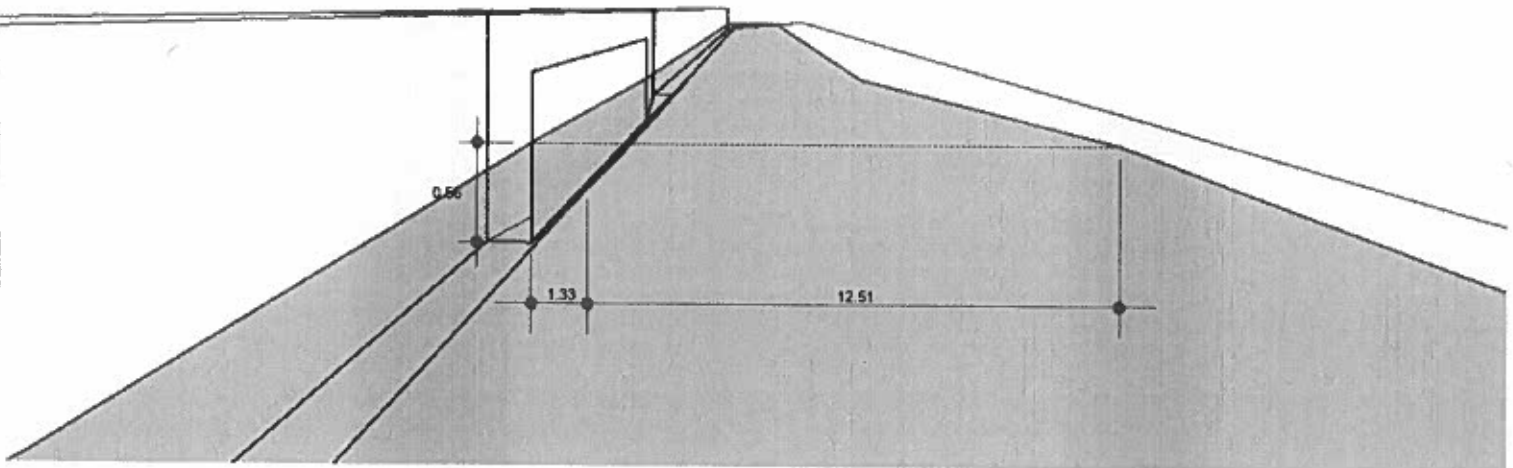
Calculations

Compute by:	Known Q
Q (cfs)	= 10.38

Highlighted

Q Total (cfs)	= 10.38
Q Capt (cfs)	= 5.26
Q Bypass (cfs)	= 5.12
Depth at Inlet (in)	= 6.77
Efficiency (%)	= 51
Gutter Spread (ft)	= 13.84
Gutter Vel (ft/s)	= 5.31
Bypass Spread (ft)	= 10.50
Bypass Depth (in)	= 3.21

1 dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

AMATISTA (55+00) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 2.33
Gutter n-value	= 0.014

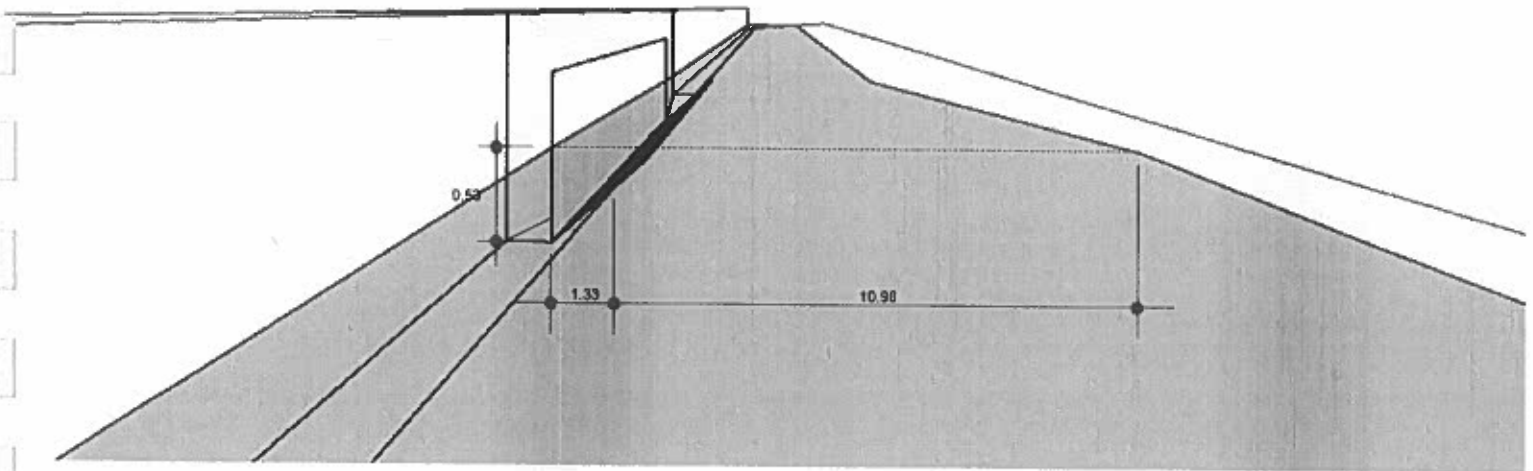
Calculations

Compute by:	Known Q
Q (cfs)	= 7.68

Highlighted

Q Total (cfs)	= 7.68
Q Capt (cfs)	= 4.22
Q Bypass (cfs)	= 3.46
Depth at Inlet (in)	= 6.40
Efficiency (%)	= 55
Gutter Spread (ft)	= 12.31
Gutter Vel (ft/s)	= 4.94
Bypass Spread (ft)	= 8.97
Bypass Depth (in)	= 2.84

|| dimensions in feet



Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Friday, Oct 25 2019

MALQUITA (18+50) INLETS

Combination Inlet

Location	= On grade
Curb Length (ft)	= 6.45
Throat Height (in)	= 6.00
Grate Area (sqft)	= -0-
Grate Width (ft)	= 2.00
Grate Length (ft)	= 6.45

Gutter

Slope, Sw (ft/ft)	= 0.063
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= 2.76
Gutter Width (ft)	= 1.33
Gutter Slope (%)	= 3.17
Gutter n-value	= 0.014

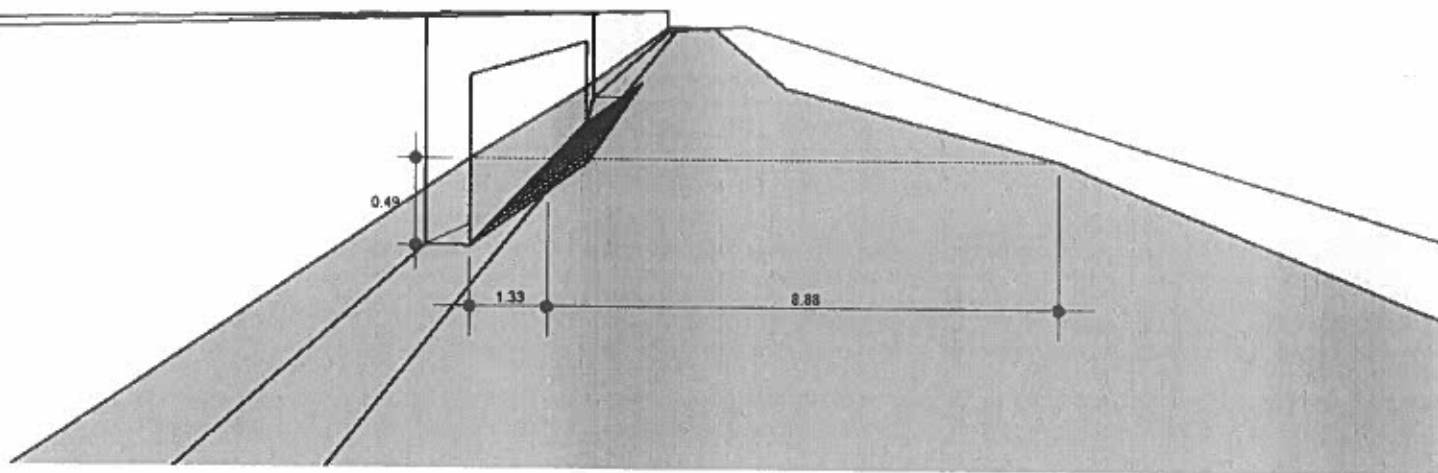
Calculations

Compute by:	Known Q
Q (cfs)	= 5.57

Highlighted

Q Total (cfs)	= 5.57
Q Capt (cfs)	= 3.22
Q Bypass (cfs)	= 2.35
Depth at Inlet (in)	= 5.90
Efficiency (%)	= 58
Gutter Spread (ft)	= 10.21
Gutter Vel (ft/s)	= 5.16
Bypass Spread (ft)	= 7.17
Bypass Depth (in)	= 2.41

1 dimensions in feet



APPENDIX C

STORM DRAIN

Phase I

Table 3 Summary of Public Storm Drain

- Phase I Tanzanita Loop
- Phase I Turquesa Loop
- Phase I Turquesa Loop, Lateral 1

Storm Drain Layout Exhibit

WSPGW Input and Output Files

Storm drain lateral AUTOCAD hydraulic analysis

Phase II

Storm Drain Layout Exhibit

Table 3.4, 3.5, 3.6 Summary of Storm Drain (Preliminary)

TABLE 3.
Summary of Public Storm Drain

Residential Phase I
Tanzanita Loop SD

Upstream			Downstream			Design Q(cfs)	Pipe size inches	Pipe Length feet (C-C) Slope
ID Station	Rim	HGL	Invert	ID Station	Rim	HGL	Invert	
MH 14	5434.50			outfall				
1126.2		29.89	5425.40	1000		15.68	5413.00	126.20
MH 15	5435.00			MH 14	5434.50			
1233.9		31.07	5427.27	1134.2		29.18	5425.50	107.40
MH 16	5436.32			MH 15	5435.00			
1297.8		32.19	5428.36	1241.9		31.11	5427.37	63.90
MH 17	5441.90			MH 16	5436.32			
1529.7		36.08	5431.95	1305.8		32.22	5428.46	231.90
MH 18	5444.34			MH 17	5441.90			
1638.7		36.89	5433.20	1537.7		35.84	5432.05	105.00
MH 19	5445.75			MH 18	5444.34			
1724.5		37.78	5434.20	1638.7		37.3	5433.20	85.80
MH 20	5446.45			MH 19	5445.75			
1798.4		39.25	5435.56	1724.5		37.78	5434.20	73.80
MH 21	5447.14			MH 20	5446.45			
1883.7		41.03	5437.11	1798.4		39.25	5435.56	85.30
MH 22	5452.14			MH 21	5447.14			
2038.4		44.23	5439.38	1883.7		41.03	5437.11	158.60
MH 23	5452.44			MH 22	5452.14			
2088.9		46.51	5440.10	2046.4		45.33	5439.48	44.30
MH 24	5455.30			MH 23	5452.44			
2466.7		49.38	5442.88	2096.4		48.22	5440.24	378.40
MH 25	5458.00			MH 24	5455.30			
2850.7		52.17	5446.71	2474.7		51	5444.38	380.00
MH 26	5459.64			MH 25	5458.00			
3090.7		52.95	5448.25	2850.7		52.17	5446.71	240.00

C-C= MH center to MH center

f:/ 18026/Projects/Drainage/Table 3 Summary of Storm Drain

10/8/2020

TABLE 3.

Summary of Public Storm Drain

Residential Phase I

Tanzanita Loop SD

Upstream				Downstream				Design Q(cfs)	Pipe size inches	Pipe Length	
ID	Station	Rim	HGL	Invert	ID	Station	Rim	HGL	Invert	Pipe size inches	feet (C-C) Slope
MH 27	3356.5	5461.70	53.65	5450.17	MH 26	3090.7	5459.64	52.95	5448.25	48"	165.80
MH 28	3546.5	5458.46	54.30	5451.52	MH 27	3356.5	5461.70	53.02	5450.27	42"	193.00
MH 29	3627.1	5458.91	55.66	5452.20	MH 28	3552.5	5458.46	55.29	5452.62	42"	82.60
MH 30	3674.3	5459.31	56.74	5454.00	MH 29	3637.1	5458.91	56.62	5452.80	24"	44.20
					MH 30	3678.3	5459.31	57.07	5454.10		

C-C= MH center to MH center

f:/ 18026/Projects/Drainage/Table 3 Summary of Storm Drain

10/8/2020

TABLE 3

Summary of Public Storm Drain

Residential Phase I

Turquesa Loop SD

Upstream				Downstream			Design Q(cfs)	Pipe size inches	Pipe Length feet (C-C) Slope
ID	Station	Rim	HGL	Invert	ID	Station	Rim	HGL	Invert
INLET 1.1	5424.78				OUTFALL 1				
1057.5			5418.76	5415.50	1000			5409.77	5408.00
SDMH 1	5426.77				INLET 1.1		5424.78		
1170.2			5421.00	5418.35	1059.5			5420.24	5415.60
SDMH 2	5427.98				SDMH 1		5426.77		
1260.8			5422.27	5419.55	1170.2			5421	5418.35
SDMH 3	5430.27				SDMH 2		5427.98		
1432.9			5424.83	5421.70	1260.8			5422.27	5419.55
SDMH 4	5430.75				SDMH 3		5430.27		
1474.5			5426.01	5422.30	1438.9			5425.6	5421.80
SDMH 5	5431.44				SDMH 4		5430.75		
1523.2			5426.99	5423.00	1480.5			5424.59	5422.40
SDMH 6	5433.00				SDMH 5		5431.44		
1649.7			5426.94	5425.00	1531.2			5427.67	5423.10
SDMH 7	5435.00				SDMH 6		5433.00		
1805.2			5430.13	5427.40	1655.7			5428.01	5425.50
SDMH 8	5435.94				SDMH 7		5435.00		
1860.2			5432.46	5428.15	1811.2			5432.07	5427.50
SDMH 9	5439.80				SDMH 8		5435.94		
2091.2			5435.32	5432.70	1866.2			5432.57	5428.65
SDMH 10	5440.80				SDMH 9		5439.80		
2151.4			5436.86	5433.70	2097.2			5436.44	5432.80
SDMH 11	5443.80				SDMH 10		5440.80		
2383.8			5439.69	5437.70	2157.4			5437.66	5433.80
INLET 11.3	5444.59				SDMH 11		5443.80		
2449.5			5441.79	5440.46	2387.8			5440.55	5437.80

C-C= MH center to MH center

f:/ 18026/Projects/Drainage/Table 3 Summary of Storm Drain

10/20/2020

TABLE 3.

Summary of Public Storm Drain

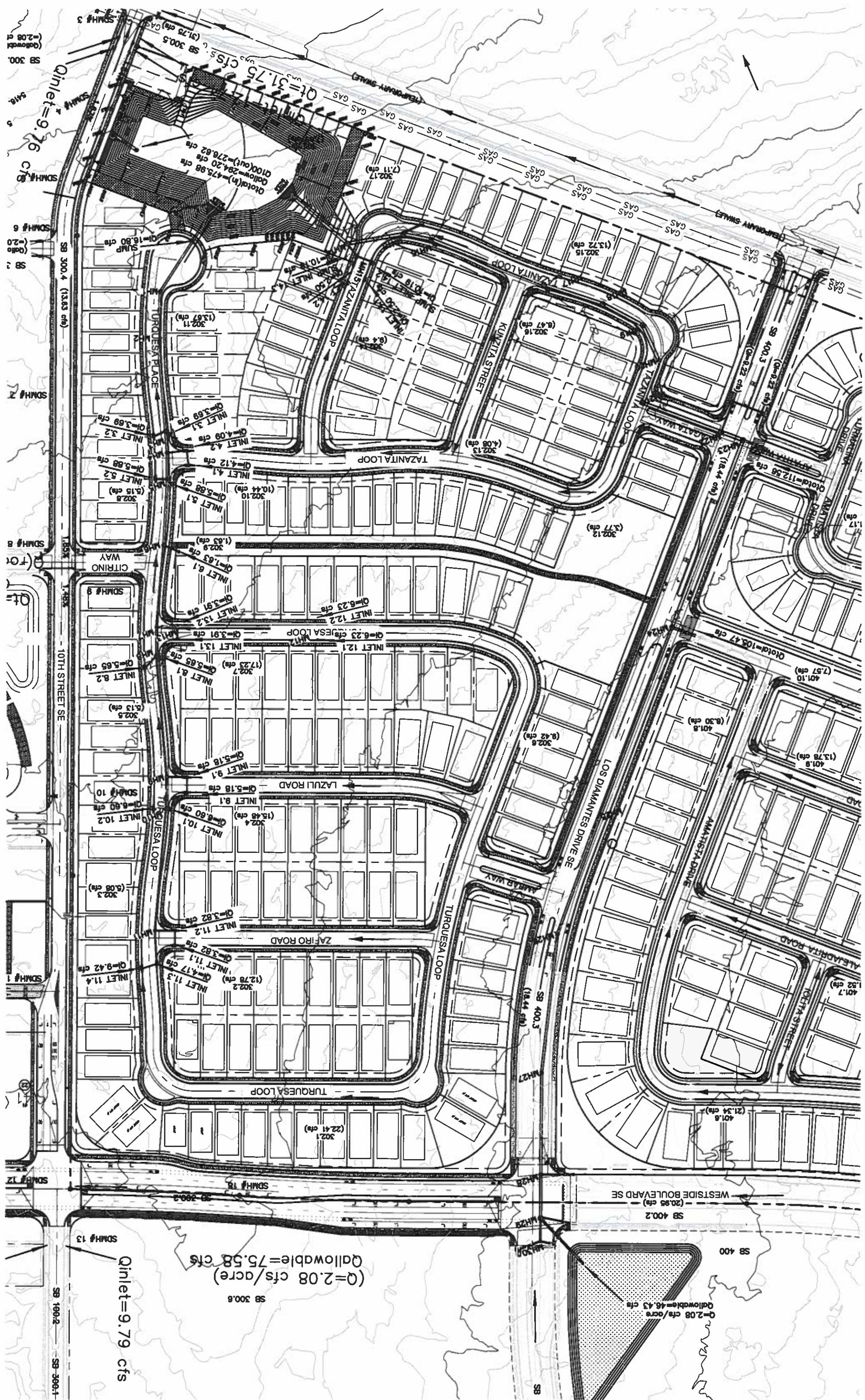
Residential Phase I

Turquesa Loop - Lateral 1 SD

Upstream				Downstream				Pipe Length	
ID				ID				Pipe size	feet (C-C)
Station	Rim	HGL	Invert	Station	Rim	HGL	Invert	inches	Slope
SDMH 13	5436.02			SDMH 7	5435.00			20.28	37.7
1848.8		5432.33	5429.54	1811.1		5432	5428.50		
SDMH 12	5443.15			SDMH 13	5436.02			12.46	247.7
2100.5		5437.76	5436.50	1852.8		5433.16	5429.64		

f:/ 18026/Projects/Drainage/Table 3 Summary of Storm Drain

10/20/2020



LOS DIAMANTES RESIDENTIAL PHASE I
TURQUESA LOOP NORTH (LD-4)

Date:10-19-2020 Time:12:54:19

STORM DRAIN ANALYSIS 10-19-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Height Top Dia.-FT or I.D.	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N" X-Fall	Type Ch
1000.000	5408.000	1.780	5409.779	122.15	24.85	9.59	5419.37	.00	3.26	3.50	3.500	.00 1 .0
5.026	.1304	-	-	-	-	.0541	.27	1.78	3.70	1.40	.013	.00 PIPE
1005.026	5408.655	1.811	5410.466	122.15	24.31	9.17	5419.64	.00	3.26	3.50	3.500	.00 1 .0
9.424	.1304	-	-	-	-	.0494	.47	1.81	3.57	1.40	.013	.00 PIPE
1014.449	5409.884	1.881	5411.765	122.15	23.17	8.34	5420.10	.00	3.26	3.49	3.500	.00 1 .0
7.874	.1304	-	-	-	-	.0435	.34	1.88	3.32	1.40	.013	.00 PIPE
1022.323	5410.911	1.955	5412.866	122.15	22.10	7.58	5420.45	.00	3.26	3.48	3.500	.00 1 .0
6.645	.1304	-	-	-	-	.0385	.26	1.96	3.09	1.40	.013	.00 PIPE
1028.968	5411.778	2.033	5413.811	122.15	21.07	6.89	5420.70	.00	3.26	3.45	3.500	.00 1 .0
5.646	.1304	-	-	-	-	.0340	.19	2.03	2.87	1.40	.013	.00 PIPE
1034.615	5412.514	2.115	5414.629	122.15	20.09	6.27	5420.89	.00	3.26	3.42	3.500	.00 1 .0
4.809	.1304	-	-	-	-	.0301	.14	2.12	2.66	1.40	.013	.00 PIPE
1039.424	5413.142	2.202	5415.344	122.15	19.15	5.70	5421.04	.00	3.26	3.38	3.500	.00 1 .0
4.094	.1304	-	-	-	-	.0267	.11	2.20	2.46	1.40	.013	.00 PIPE
1043.518	5413.676	2.295	5415.971	122.15	18.26	5.18	5421.15	.00	3.26	3.33	3.500	.00 1 .0
3.483	.1304	-	-	-	-	.0237	.08	2.30	2.27	1.40	.013	.00 PIPE
1047.002	5414.130	2.394	5416.524	122.15	17.41	4.71	5421.23	.00	3.26	3.25	3.500	.00 1 .0
2.936	.1304	-	-	-	-	.0211	.06	2.39	2.09	1.40	.013	.00 PIPE

Date: 10-19-2020 Time: 12:54:19

WATER SURFACE PROFILE LISTING

LOS DIAMANTES RESIDENTIAL PHASE I
TURQUESA LOOP NORTH (LD-4)

STORM DRAIN ANALYSIS 10-19-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Flow Top Dia.-FT	Height or I.D.	Base Wt	ZL	No Wth Prs/Pip
L/Elem	Ch Slope				SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	2R	Type Ch		
1049.938	5414.513	2.501	5417.014	122.15	16.60	4.28	5421.29	.00	3.26	3.16	3.500	.000	.00	1	.0
2.448	.1304						.05	2.50	1.92	1.40	.013	.00	.00	PIPE	
1052.385	5414.832	2.617	5417.449	122.15	15.83	3.89	5421.34	.00	3.26	3.04	3.500	.000	.00	1	.0
1.997	.1304						.03	2.62	1.75	1.40	.013	.00	.00	PIPE	
1054.382	5415.093	2.744	5417.837	122.15	15.09	3.54	5421.37	.00	3.26	2.88	3.500	.000	.00	1	.0
1.559	.1304						.02	2.74	1.59	1.40	.013	.00	.00	PIPE	
1055.942	5415.296	2.886	5418.183	122.15	14.39	3.22	5421.40	.00	3.26	2.66	3.500	.000	.00	1	.0
1.084	.1304						.02	2.89	1.42	1.40	.013	.00	.00	PIPE	
1057.026	5415.438	3.052	5418.490	122.15	13.72	2.92	5421.41	.00	3.26	2.34	3.500	.000	.00	1	.0
.474	.1304						.01	3.05	1.24	1.40	.013	.00	.00	PIPE	
1057.500	5415.500	3.263	5418.763	122.15	13.08	2.66	5421.42	.00	3.26	1.76	3.500	.000	.00	1	.0
JUNCT STR	.0500						.02	3.26	1.00	.013	.00	.00	.00	PIPE	
1059.500	5415.600	4.641	5420.241	105.35	10.95	1.86	5422.10	.00	3.13	.00	3.500	.000	.00	1	.0
65.030	.0248						.71	4.64	.00	2.08	.013	.00	.00	PIPE	
1124.530	5417.215	3.911	5421.126	105.35	10.95	1.86	5422.99	.00	3.13	.00	3.500	.000	.00	1	.0
HYDRAULIC JUMP															
1124.530	5417.215	2.388	5419.604	105.35	15.06	3.52	5423.13	.00	3.13	3.26	3.500	.000	.00	1	.0
10.689	.0248						.18	2.39	1.81	2.08	.013	.00	.00	PIPE	

Inlet
1.1

WATER SURFACE PROFILE LISTING

Date: 10-19-2020 Time: 12:54:19

LOS DIAMANTES RESIDENTIAL PHASE I

TURQUESA LOOP NORTH (LD-4)

STORM DRAIN ANALYSIS 10-19-2020

Station	Invert Elev	Depth (ft)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Width	Height Top Dia.-Ft or I.D.	Base Wt	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	Type Ch
1135.219	5417.481	2.427	5419.908	105.35	14.79	3.40	5423.31	.00	3.13	3.23	3.500	.000	1 .0
20.673	.0248	-	-	-	-	.0152	.31	2.43	1.76	2.08	.013	.00	PIPE
1155.892	5417.995	2.536	5420.531	105.35	14.11	3.09	5423.62	.00	3.13	3.13	3.500	.000	1 .0
14.308	.0248	-	-	-	-	.0136	.19	2.54	1.61	2.08	.013	.00	PIPE
1170.200	5418.350	2.656	5421.006	105.35	13.45	2.81	5423.81	.00	3.13	2.99	3.500	.000	1 .0
90.600	.0132	-	-	-	-	.0125	1.13	2.66	1.47	2.62	.013	.00	PIPE
1260.800	5419.549	2.716	5422.266	105.35	13.15	2.68	5424.95	.00	3.13	2.92	3.500	.000	1 .0
105.922	.0125	-	-	-	-	.0119	1.26	2.72	1.40	2.69	.013	.00	PIPE
1366.722	5420.873	2.796	5423.669	105.35	12.78	2.54	5426.21	.00	3.13	2.81	3.500	.000	1 .0
53.369	.0125	-	-	-	-	.0110	.59	2.80	1.31	2.69	.013	.00	PIPE
1420.091	5421.540	2.946	5424.486	105.35	12.19	2.31	5426.79	.00	3.13	2.55	3.500	.000	1 .0
12.809	.0125	-	-	-	-	.0101	.13	2.95	1.17	2.69	.013	.00	PIPE
1432.900	5421.700	3.126	5424.826	105.35	11.62	2.10	5426.92	.00	3.13	2.16	3.500	.000	1 .0
JUNCT STR	.0166	-	-	-	-	.0096	.06	3.13	1.00	.00	.013	.00	PIPE
1438.900	5421.800	3.799	5425.599	97.97	10.18	1.61	5427.21	.00	3.04	.00	3.500	.000	1 .0
35.600	.0140	-	-	-	-	.0095	.34	3.80	.00	2.42	.013	.00	PIPE
1474.500	5422.300	3.717	5426.017	97.97	10.18	1.61	5427.63	.00	3.04	.00	3.500	.000	1 .0
JUNCT STR	.0167	-	-	-	-	.0087	.05	3.72	.00	.013	.00	.00	PIPE

MH1

MH2

MH3

MH4

WATER SURFACE PROFILE LISTING

Date:10-19-2020 Time:12:54:19

LOS DIAMANTES RESIDENTIAL PHASE I

TURQUESA LOOP NORTH (LD-4)

STORM DRAIN ANALYSIS 10-19-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Flow Top Dia.	Height/Flt	Base Wt I.D.	No Wth Prs/Pip
L/Elem	Ch Slope													
1480.500	5422.400	4.187	5426.586	89.76	9.33	1.35	5427.94	.00	2.94	.00	3.500	.000	.00	1 .0
42.700	.0141					.0080	.34	4.19	.00	2.27	.013	.00	.00	PIPE
1523.200	5423.000	3.994	5426.994	89.76	9.33	1.35	5428.35	.00	2.94	.00	3.500	.000	.00	1 .0
JUNCT STR	.0125					.0070	.06	3.99	.00		.013	.00	.00	PIPE
1531.200	5423.100	4.567	5427.667	78.00	8.11	1.02	5428.69	.00	2.76	.00	3.500	.000	.00	1 .0
84.508	.0160					.0060	.51	4.57	.00	1.98	.013	.00	.00	PIPE
1615.708	5424.455	3.756	5428.211	78.00	8.11	1.02	5429.23	.00	2.76	.00	3.500	.000	.00	1 .0
HYDRAULIC JUMP														
1615.708	5424.455	1.946	5426.401	78.00	14.20	3.13	5429.53	.00	2.76	3.48	3.500	.000	.00	1 .0
33.992	.0160					.0170	.58	1.95	1.99	1.98	.013	.00	.00	PIPE
1649.700	5425.000	1.940	5426.940	78.00	14.25	3.15	5430.09	.00	2.76	3.48	3.500	.000	.00	1 .0
JUNCT STR	.0833					.0149	.09	1.94	2.00		.013	.00	.00	PIPE
1655.700	5425.500	2.510	5428.010	76.37	12.09	2.27	5430.28	.00	2.73	2.22	3.000	.000	.00	1 .0
110.481	.0127					.0124	1.37	2.51	1.26	2.50	.013	.00	.00	PIPE
1766.181	5426.904	2.569	5429.473	76.37	11.85	2.18	5431.65	.00	2.73	2.10	3.000	.000	.00	1 .0
39.019	.0127					.0118	.46	2.57	1.19	2.50	.013	.00	.00	PIPE
1805.200	5427.400	2.734	5430.134	76.37	11.30	1.98	5432.12	.00	2.73	1.71	3.000	.000	.00	1 .0
JUNCT STR	.0167					.0093	.06	2.73	1.00		.013	.00	.00	PIPE

MHS

MH6

MH7

Program Package Serial Number: 1454

Date:10-19-2020 Time:12:54:19

WATER SURFACE PROFILE LISTING

LOS DIAMANTES RESIDENTIAL PHASE I
TURQUESA LOOP NORTH (LD-4)

STORM DRAIN ANALYSIS 10-19-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Flow Top	Height/Dia.-FT or I.D.	Base Wt	ZL	No Wth
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
1811.200	5427.500	4.565	5432.065	56.09	7.94	.98	5433.04	.00	2.43	.00	.00	3.000	.000	.00	1 .0
49.000	.0133					.0071	.35	4.57	.00	1.90	.013			.00	PIPE
1860.200	5428.150	4.311	5432.461	56.09	7.94	.98	5433.44	.00	2.43	.00	.00	3.000	.000	.00	1 .0
JUNCT STR	.0833					.0095	.06	4.31	.00		.013			.00	PIPE
1866.200	5428.650	3.924	5432.574	44.79	9.12	1.29	5433.87	.00	2.22	.00	.00	2.500	.000	.00	1 .0
225.000	.0180					.0119	2.68	3.92	.00	1.71	.013			.00	PIPE
2091.200	5432.700	2.622	5435.322	44.79	9.12	1.29	5436.61	.00	2.22	.00	.00	2.500	.000	.00	1 .0
JUNCT STR	.0166					.0095	.06	2.62	.00		.013			.00	PIPE
2097.200	5432.800	3.637	5436.437	34.43	7.01	.76	5437.20	.00	1.99	.00	.00	2.500	.000	.00	1 .0
54.200	.0166					.0070	.38	3.64	.00	1.47	.013			.00	PIPE
2151.400	5433.700	3.156	5436.856	34.43	7.01	.76	5437.62	.00	1.99	.00	.00	2.500	.000	.00	1 .0
JUNCT STR	.0166					.0079	.05	3.16	.00		.013			.00	PIPE
2157.400	5433.800	3.861	5437.661	21.23	6.76	.71	5438.37	.00	1.65	.00	.00	2.000	.000	.00	1 .0
225.145	.0172					.0087	1.96	3.86	.00	1.25	.013			.00	PIPE
2382.545	5437.679	2.000	5439.679	21.23	6.76	.71	5440.39	.00	1.65	.00	.00	2.000	.000	.00	1 .0
1.255	.0172					.0084	.01	2.00	.00	1.25	.013			.00	PIPE
2383.800	5437.700	1.987	5439.687	21.23	6.76	.71	5440.40	.00	1.65	.32	2.000	.000	.000	.00	1 .0
JUNCT STR	.0249					.0059	.02	1.99	.38		.013			.00	PIPE

MH7

MH8

MH9

MH10

MH11

WATER SURFACE PROFILE LISTING

Date: 10-19-2020 Time: 12:54:19

LOS DIAMANTES RESIDENTIAL PHASE I

TURQUESA LOOP NORTH (LD-4)

STORM DRAIN ANALYSIS 10-19-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Height/Top Dia.-Ft or I.D.	No With Prs/Pip
L/Elem	Ch slope					SF Ave	HF	SE Dpth	Proude N	Norm Dp	"N" X-Fall	Type Ch
2387.800	5437.800	2.750	5440.549	13.59	4.33	.29	5440.84	.00	1.33	.00	2.000	.00
16.720	.0431	-	-	-	-	-	-	-	-	-	-	1 .0
2404.521	5438.521	2.091	5440.611	13.59	4.33	.0036	.06	2.75	.00	.74	.013	.00 PIPE
2404.521	5438.521	2.091	5440.611	13.59	4.33	.29	5440.90	.00	1.33	.00	2.000	.00
HYDRAULIC JUMP												1 .0
2404.521	5438.521	.808	5439.329	13.59	11.43	2.03	5441.36	.00	1.33	1.96	2.000	.00
2.924	.0431	-	-	-	-	-	.09	.81	2.59	.74	.013	.00 PIPE
2407.445	5438.647	.808	5439.455	13.59	11.42	2.02	5441.48	.00	1.33	1.96	2.000	.00
10.684	.0431	-	-	-	-	.0287	.31	.81	2.58	.74	.013	.00 PIPE
2418.129	5439.107	.838	5439.945	13.59	10.89	1.84	5441.79	.00	1.33	1.97	2.000	.00
7.664	.0431	-	-	-	-	.0252	.19	.84	2.41	.74	.013	.00 PIPE
2425.793	5439.438	.868	5440.306	13.59	10.38	1.67	5441.98	.00	1.33	1.98	2.000	.00
5.677	.0431	-	-	-	-	.0221	.13	.87	2.25	.74	.013	.00 PIPE
2431.470	5439.683	.901	5440.583	13.59	9.90	1.52	5442.10	.00	1.33	1.99	2.000	.00
4.451	.0431	-	-	-	-	.0195	.09	.90	2.10	.74	.013	.00 PIPE
2435.921	5439.875	.934	5440.809	13.59	9.44	1.38	5442.19	.00	1.33	2.00	2.000	.00
3.488	.0431	-	-	-	-	.0171	.06	.93	1.96	.74	.013	.00 PIPE
2439.409	5440.025	.969	5440.994	13.59	9.00	1.26	5442.25	.00	1.33	2.00	2.000	.00
2.754	.0431	-	-	-	-	.0151	.04	.97	1.82	.74	.013	.00 PIPE

Program Package Serial Number: 1454

Date:10-19-2020 Time:12:54:19

WATER SURFACE PROFILE LISTING

LOS DIAMANTES RESIDENTIAL PHASE I

TURQUESA LOOP NORTH (LD-4)

STORM DRAIN ANALYSIS 10-19-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Height Top Dia.	Base Wt	No Wth Prs/Pip	
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2442.164	5440.144	1.006	5441.149	13.59	8.58	1.14	5442.29	.00	1.33	2.00	2.000	.000	.00	1 .0
2.174	.0431					.0133	.03	1.01	1.70	.74	.013	.00	.00	PIPE
2444.337	5440.237	1.045	5441.282	13.59	8.18	1.04	5442.32	.00	1.33	2.00	2.000	.000	.00	1 .0
1.701	.0431					.0117	.02	1.05	1.58	.74	.013	.00	.00	PIPE
2446.038	5440.311	1.086	5441.396	13.59	7.80	.94	5442.34	.00	1.33	1.99	2.000	.000	.00	1 .0
1.337	.0431					.0103	.01	1.09	1.47	.74	.013	.00	.00	PIPE
2447.375	5440.368	1.128	5441.496	13.59	7.44	.86	5442.35	.00	1.33	1.98	2.000	.000	.00	1 .0
.972	.0431					.0091	.01	1.13	1.37	.74	.013	.00	.00	PIPE
2448.347	5440.410	1.173	5441.583	13.59	7.09	.78	5442.36	.00	1.33	1.97	2.000	.000	.00	1 .0
.655	.0431					.0081	.01	1.17	1.27	.74	.013	.00	.00	PIPE
2449.002	5440.438	1.221	5441.660	13.59	6.76	.71	5442.37	.00	1.33	1.95	2.000	.000	.00	1 .0
.375	.0431					.0071	.00	1.22	1.17	.74	.013	.00	.00	PIPE
2449.377	5440.455	1.272	5441.727	13.59	6.45	.65	5442.37	.00	1.33	1.92	2.000	.000	.00	1 .0
.123	.0431					.0063	.00	1.27	1.09	.74	.013	.00	.00	PIPE
2449.500	5440.460	1.327	5441.787	13.59	6.14	.59	5442.37	.00	1.33	1.89	2.000	.000	.00	1 .0

INL 11.3

T1 LOS DIAMANTES RESIDENTAL PHASE I

T2 TURQUESA LOOP NORTH (LD-4)

T3 STORM DRAIN ANALYSIS 10-19-2020

SO	1000.0005408.000	1			5412.000				
R	1057.5005415.500	1		.013			.000	.000	1
JX	1059.5005415.600	3	2	.013	16.800	5415.600	90.0		.000
R	1170.2005418.350	3		.013			.000	30.000	1
R	1260.8005419.550	3		.013			.000	.000	1
R	1432.9005421.700	3		.013			.000	.000	1
JX	1438.9005421.800	6	4	5.013	3.690	3.6905423.0005423.000	45.0-45.0		.000
R	1474.5005422.300	6		.013			.000	.000	1
JX	1480.5005422.400	8	7	.013	8.210	5423.700	90.0		.000
R	1523.2005423.000	8		.013			.000	.000	1
JX	1531.2005423.100	11	9	10.013	5.880	5.8805424.5005424.500	90.0	45.0	.000
R	1649.7005425.000	11		.013			.000	.000	1
JX	1655.7005425.500	13	12	.013	1.630	5427.000	70.0		.000
R	1805.2005427.400	13		.013			.000	.000	1
JX	1811.2005427.500	15	14	.013	20.280	5428.000	90.0		.000
R	1860.2005428.150	15		.013			.000	.000	1
JX	1866.2005428.650	18	16	17.013	5.650	5.6505430.0005430.000	45.0-45.0		.000
R	2091.2005432.700	18		.013			.000	.000	1
JX	2097.2005432.800	20	19	.013	10.360	5433.300	90.0		.000
R	2151.4005433.700	20		.013			.000	.000	1
JX	2157.4005433.800	23	21	22.013	6.600	6.6005434.0005434.000	90.0-90.0		.000
R	2383.8005437.700	23		.013			.000	.000	1
JX	2387.8005437.800	25	24	.013	7.640	5448.200	90.0		.000
R	2449.5005440.460	25		.013			.000	.000	1
SH	2449.5005440.460	25				5440.460			
CD	1 4 1			.000	3.500		.000	.000	.00
CD	2 4 1			.000	2.000		.000	.000	.00
CD	3 4 1			.000	3.500		.000	.000	.00
CD	4 4 1			.000	1.500		.000	.000	.00
CD	5 4 1			.000	1.500		.000	.000	.00
CD	6 4 1			.000	3.500		.000	.000	.00
CD	7 4 1			.000	2.000		.000	.000	.00
CD	8 4 1			.000	3.500		.000	.000	.00
CD	9 4 1			.000	1.500		.000	.000	.00
CD	10 4 1			.000	1.500		.000	.000	.00
CD	11 4 1			.000	3.500		.000	.000	.00
CD	12 4 1			.000	1.500		.000	.000	.00
CD	13 4 1			.000	3.000		.000	.000	.00
CD	14 4 1			.000	2.500		.000	.000	.00
CD	15 4 1			.000	3.000		.000	.000	.00
CD	16 4 1			.000	1.500		.000	.000	.00
CD	17 4 1			.000	1.500		.000	.000	.00
CD	18 4 1			.000	2.500		.000	.000	.00
CD	19 4 1			.000	2.000		.000	.000	.00
CD	20 4 1			.000	2.500		.000	.000	.00
CD	21 4 1			.000	1.500		.000	.000	.00
CD	22 4 1			.000	1.500		.000	.000	.00
CD	23 4 1			.000	2.000		.000	.000	.00
CD	24 4 1			.000	1.500		.000	.000	.00
CD	25 4 1			.000	2.000		.000	.000	.00
Q					13.590		.0		

FILE: LD-4.WSW

W S P G W - EDIT LISTING - Version 14.05

Date:10-19-2020 Time:12:54:11

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WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIER	AVE PIER WIDTH	HEIGHT 1	BASE ZL	INV ZR	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
-----------	---------	----------	------------	----------------	----------	---------	--------	------	------	------	------	------	------	------	------	------	-------

CD	1	4	1		3.500												
CD	2	4	1		2.000												
CD	3	4	1		3.500												
CD	4	4	1		1.500												
CD	5	4	1		1.500												
CD	6	4	1		3.500												
CD	7	4	1		2.000												
CD	8	4	1		3.500												
CD	9	4	1		1.500												
CD	10	4	1		1.500												
CD	11	4	1		3.500												
CD	12	4	1		1.500												
CD	13	4	1		3.000												
CD	14	4	1		2.500												
CD	15	4	1		3.000												
CD	16	4	1		1.500												
CD	17	4	1		1.500												
CD	18	4	1		2.500												
CD	19	4	1		2.000												
CD	20	4	1		2.500												
CD	21	4	1		1.500												
CD	22	4	1		1.500												
CD	23	4	1		2.000												
CD	24	4	1		1.500												
CD	25	4	1		2.000												

W S P G W

PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

LOS DIAMANTES RESIDENTIAL PHASE I

TURQUESA LOOP NORTH (LD-4)

STORM DRAIN ANALYSIS 10-19-2020

W S P G W

PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO	1 IS A SYSTEM OUTLET	U/S DATA	STATION	INVERT SECT	W S ELEV
			1000.000	5408.000	5412.000

ELEMENT NO	2 IS A REACH	U/S DATA	STATION	INVERT SECT	RADIUS	ANGLE	ANG PT	MAN H
			1057.500	5415.500	1	.013	.000	1

ELEMENT NO	3 IS A JUNCTION	U/S DATA	STATION	INVERT SECT	LAT-1	LAT-2	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
			1059.500	5415.600	3	2	0	.013	.000	5415.600	90.000	.000
									RADIUS	ANGLE		

ELEMENT NO	4 IS A REACH	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
ELEMENT NO	5 IS A REACH	1170.200	5418.350	3	.013	.000	.000	30.000	1
ELEMENT NO	6 IS A REACH	1260.800	5419.550	3	.013	.000	.000	.000	1
ELEMENT NO	7 IS A JUNCTION	1432.900	5421.700	3	.013	.000	.000	.000	1
ELEMENT NO	U/S DATA	1438.900	5421.800	6	.013	.000	.000	.000	1
ELEMENT NO	8 IS A REACH	1474.500	5422.300	6	.013	.000	.000	.000	1
ELEMENT NO	9 IS A JUNCTION	1480.500	5422.400	8	.013	.000	.000	.000	1
ELEMENT NO	10 IS A REACH	1523.200	5423.000	8	.013	.000	.000	.000	1
ELEMENT NO	11 IS A JUNCTION	1531.200	5423.100	11	.013	.000	.000	.000	1
ELEMENT NO	12 IS A REACH	1649.700	5425.000	11	.013	.000	.000	.000	1
ELEMENT NO	13 IS A JUNCTION	1655.700	5425.500	13	.013	.000	.000	.000	1
ELEMENT NO	14 IS A REACH	1805.200	5427.400	13	.013	.000	.000	.000	1
ELEMENT NO	15 IS A JUNCTION	1811.200	5427.500	15	.013	.000	.000	.000	1
ELEMENT NO	16 IS A REACH								

ELEMENT NO	4 IS A REACH	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
ELEMENT NO	5 IS A REACH	1170.200	5418.350	3	.013	.000	.000	30.000	1
ELEMENT NO	6 IS A REACH	1260.800	5419.550	3	.013	.000	.000	.000	1
ELEMENT NO	7 IS A JUNCTION	1432.900	5421.700	3	.013	.000	.000	.000	1
ELEMENT NO	U/S DATA	1438.900	5421.800	6	.013	.000	.000	.000	1
ELEMENT NO	8 IS A REACH	1474.500	5422.300	6	.013	.000	.000	.000	1
ELEMENT NO	9 IS A JUNCTION	1480.500	5422.400	8	.013	.000	.000	.000	1
ELEMENT NO	10 IS A REACH	1523.200	5423.000	8	.013	.000	.000	.000	1
ELEMENT NO	11 IS A JUNCTION	1531.200	5423.100	11	.013	.000	.000	.000	1
ELEMENT NO	12 IS A REACH	1649.700	5425.000	11	.013	.000	.000	.000	1
ELEMENT NO	13 IS A JUNCTION	1655.700	5425.500	13	.013	.000	.000	.000	1
ELEMENT NO	14 IS A REACH	1805.200	5427.400	13	.013	.000	.000	.000	1
ELEMENT NO	15 IS A JUNCTION	1811.200	5427.500	15	.013	.000	.000	.000	1
ELEMENT NO	16 IS A REACH								

ELEMENT NO	4 IS A REACH	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
ELEMENT NO	5 IS A REACH	1170.200	5418.350	3	.013	.000	.000	30.000	1
ELEMENT NO	6 IS A REACH	1260.800	5419.550	3	.013	.000	.000	.000	1
ELEMENT NO	7 IS A JUNCTION	1432.900	5421.700	3	.013	.000	.000	.000	1
ELEMENT NO	U/S DATA	1438.900	5421.800	6	.013	.000	.000	.000	1
ELEMENT NO	8 IS A REACH	1474.500	5422.300	6	.013	.000	.000	.000	1
ELEMENT NO	9 IS A JUNCTION	1480.500	5422.400	8	.013	.000	.000	.000	1
ELEMENT NO	10 IS A REACH	1523.200	5423.000	8	.013	.000	.000	.000	1
ELEMENT NO	11 IS A JUNCTION	1531.200	5423.100	11	.013	.000	.000	.000	1
ELEMENT NO	12 IS A REACH	1649.700	5425.000	11	.013	.000	.000	.000	1
ELEMENT NO	13 IS A JUNCTION	1655.700	5425.500	13	.013	.000	.000	.000	1
ELEMENT NO	14 IS A REACH	1805.200	5427.400	13	.013	.000	.000	.000	1
ELEMENT NO	15 IS A JUNCTION	1811.200	5427.500	15	.013	.000	.000	.000	1
ELEMENT NO	16 IS A REACH								

U/S DATA
 ELEMENT NO 17 IS A JUNCTION
 U/S DATA

STATION	INVERT	SECT	N	ANGLE	RADIUS	ANG PT	MAN H
1860.200	5428.150	15	.013	.000	.000	.000	1
STATION	INVERT	SECT	LAT-1	LAT-2	Q3	Q4	INVERT-3
1866.200	5428.650	18	16	17	5.650	5.650	5430.000
							45.000
							45.000

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W S P G W
 WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 18 IS A REACH
 U/S DATA

STATION	INVERT	SECT	N	ANGLE	RADIUS	ANG PT	MAN H
2091.200	5432.700	18	.013	.000	.000	.000	1
STATION <td>INVERT</td> <td>SECT</td> <td>LAT-1</td> <td>LAT-2</td> <td>Q3</td> <td>Q4</td> <td>INVERT-3</td>	INVERT	SECT	LAT-1	LAT-2	Q3	Q4	INVERT-3
2097.200	5432.800	20	19	0	10.360	.000	5433.300
							90.000
							90.000

ELEMENT NO 20 IS A REACH
 U/S DATA

STATION	INVERT	SECT	N	ANGLE	RADIUS	ANG PT	MAN H
2151.400	5433.700	20	.013	.000	.000	.000	1
STATION <td>INVERT</td> <td>SECT</td> <td>LAT-1</td> <td>LAT-2</td> <td>Q3</td> <td>Q4</td> <td>INVERT-3</td>	INVERT	SECT	LAT-1	LAT-2	Q3	Q4	INVERT-3
2157.400	5433.800	23	21	22	6.600	6.600	5434.000
							90.000
							90.000

ELEMENT NO 22 IS A REACH
 U/S DATA

STATION	INVERT	SECT	N	ANGLE	RADIUS	ANG PT	MAN H
2383.800	5437.700	23	.013	.000	.000	.000	1
STATION <td>INVERT</td> <td>SECT</td> <td>LAT-1</td> <td>LAT-2</td> <td>Q3</td> <td>Q4</td> <td>INVERT-3</td>	INVERT	SECT	LAT-1	LAT-2	Q3	Q4	INVERT-3
2387.800	5437.800	25	24	0	7.640	.000	5448.200
							90.000
							90.000

ELEMENT NO 24 IS A REACH
 U/S DATA

STATION	INVERT	SECT	N	ANGLE	RADIUS	ANG PT	MAN H
2449.500	5440.460	25	.013	.000	.000	.000	1
STATION <td>INVERT</td> <td>SECT</td> <td>LAT-1</td> <td>LAT-2</td> <td>Q3</td> <td>Q4</td> <td>INVERT-3</td>	INVERT	SECT	LAT-1	LAT-2	Q3	Q4	INVERT-3
2449.500	5440.460	25					

ELEMENT NO 25 IS A SYSTEM HEADWORKS
 U/S DATA

STATION	INVERT	SECT	N	ANGLE	RADIUS	ANG PT	MAN H
2449.500	5440.460	25	.013	.000	.000	.000	1
STATION <td>INVERT</td> <td>SECT</td> <td>LAT-1</td> <td>LAT-2</td> <td>Q3</td> <td>Q4</td> <td>INVERT-3</td>	INVERT	SECT	LAT-1	LAT-2	Q3	Q4	INVERT-3
2449.500	5440.460	25					

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W S P G W
 WATER SURFACE PROFILE - ELEMENT CARD LISTING

WATER SURFACE PROFILE LISTING

Date: 10-19-2020 Time: 3: 4:32

LOS DIAMANTES RESIDENTIAL PHASE I

TURQUESA LOOP LAT 1 MH 7 TO MH 12 FILE: LD-LAT1

STORM DRAIN ANALYSIS 10-19-2020

Station	Invert Elev	Depth (Ft)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-Ft or I.D.	No Wth Prs/Pip
MH7	5428.500	3.500	5432.000	20.28	6.46	.65	5432.65	.00	1.62	.00	2.000	.00
37.700	.0276	-	-	-	-	.0080	.30	3.50	.00	1.05	.013	.00
MH13	5429.540	2.795	5432.335	20.28	6.46	.65	5432.98	.00	1.62	.00	2.000	.00
JUNCT STR	.0250	-	-	-	-	.0055	.02	2.80	.00	-	.013	.00
1852.800	5429.640	3.523	5433.163	12.46	3.97	.24	5433.41	.00	1.27	.00	2.000	.00
61.880	.0277	-	-	-	-	.0030	.19	3.52	.00	.79	.013	.00
1914.680	5431.354	2.000	5433.354	12.46	3.97	.24	5433.60	.00	1.27	.00	2.000	.00
1.681	.0277	-	-	-	-	.0028	.00	2.00	.00	.79	.013	.00
1916.361	5431.400	1.956	5433.356	12.46	3.99	.25	5433.60	.00	1.27	.59	2.000	.00
HYDRAULIC JUMP	-	-	-	-	-	-	-	-	-	-	-	-
1916.361	5431.400	.792	5432.192	12.46	10.76	1.80	5433.99	.00	1.27	1.96	2.000	.00
11.935	.0277	-	-	-	-	.0277	.33	.79	2.46	.79	.013	.00
1928.297	5431.731	.792	5432.523	12.46	10.76	1.80	5434.32	.00	1.27	1.96	2.000	.00
79.721	.0277	-	-	-	-	.0268	2.14	.79	2.46	.79	.013	.00
2008.017	5433.939	.806	5434.745	12.46	10.51	1.72	5436.46	.00	1.27	1.96	2.000	.00
38.310	.0277	-	-	-	-	.0244	.93	.81	2.38	.79	.013	.00
2046.328	5435.000	.835	5435.835	12.46	10.02	1.56	5437.39	.00	1.27	1.97	2.000	.00
17.617	.0277	-	-	-	-	.0214	.38	.84	2.22	.79	.013	.00

WATER SURFACE PROFILE LISTING

Date: 10-19-2020 Time: 3: 4:32

LOS DIAMANTES RESIDENTIAL PHASE I

TURQUESA LOOP LAT 1 MH 7 TO MH 12 FILE: LD-LAT1

STORM DRAIN ANALYSIS 10-19-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Flow Top Width	Height/ Dia.-FT or I.D.	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	Type Ch
2063.945	5435.488	.866	5436.354	12.46	9.55	1.42	5437.77	.00	1.27	1.98	2.000	.000	1 .0
10.903	.0277					.0188	.21	.87	2.08	.79	.013	.00	PIPE
2074.848	5435.790	.898	5436.688	12.46	9.11	1.29	5437.98	.00	1.27	1.99	2.000	.000	1 .0
7.537	.0277					.0165	.12	.90	1.94	.79	.013	.00	PIPE
2082.385	5435.998	.931	5436.929	12.46	8.69	1.17	5438.10	.00	1.27	2.00	2.000	.000	1 .0
5.433	.0277					.0145	.08	.93	1.81	.79	.013	.00	PIPE
2087.818	5436.148	.966	5437.115	12.46	8.28	1.06	5438.18	.00	1.27	2.00	2.000	.000	1 .0
4.014	.0277					.0128	.05	.97	1.68	.79	.013	.00	PIPE
2091.832	5436.260	1.003	5437.263	12.46	7.90	.97	5438.23	.00	1.27	2.00	2.000	.000	1 .0
2.984	.0277					.0113	.03	1.00	1.57	.79	.013	.00	PIPE
2094.816	5436.342	1.042	5437.384	12.46	7.53	.88	5438.26	.00	1.27	2.00	2.000	.000	1 .0
2.253	.0277					.0099	.02	1.04	1.46	.79	.013	.00	PIPE
2097.069	5436.405	1.082	5437.487	12.46	7.18	.80	5438.29	.00	1.27	1.99	2.000	.000	1 .0
1.571	.0277					.0088	.01	1.08	1.36	.79	.013	.00	PIPE
2098.640	5436.448	1.125	5437.573	12.46	6.84	.73	5438.30	.00	1.27	1.98	2.000	.000	1 .0
1.059	.0277					.0077	.01	1.13	1.26	.79	.013	.00	PIPE
2099.699	5436.478	1.170	5437.647	12.46	6.53	.66	5438.31	.00	1.27	1.97	2.000	.000	1 .0
.629	.0277					.0068	.00	1.17	1.17	.79	.013	.00	PIPE

WATER SURFACE PROFILE LISTING

Date: 10-19-2020 Time: 3: 4:32

LOS DIAMANTES RESIDENTIAL PHASE I

TURQUESA LOOP LAT 1 MH 7 TO MH 12 FILE: LD-LAT1

STORM DRAIN ANALYSIS 10-19-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.	Base Wt I.D.	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	Type Ch
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2100.328	5436.495	1.217	5437.712	12.46	6.22	.60	5438.31	.00	1.27	1.95	2.000	.000	1 .0
	.172					.0061	.00	1.22	1.08	.79	.013	.00	PIPE
2100.500	5436.500	1.269	5437.769	12.46	5.93	.55	5438.31	.00	1.27	1.93	2.000	.000	1 .0
	.0250					.0029	.01	1.27	1.00		.013	.00	PIPE
JUNCT STR													
2104.500	5436.600	2.051	5438.651	1.00	.32	.00	5438.65	.00	.34	.00	2.000	.000	1 .0

MH12

----- WARNING - Junction Analysis - Large Lateral Flow(s) -----

T1 LOS DIAMANTES RESIDENTAL PHASE I
 T2 TURQUESA LOOP LAT 1 MH 7 TO MH 12 FILE: LD-LAT1
 T3 STORM DRAIN ANALYSIS 10-19-2020

SO	1811.1005428.500	1				5432.000				
R	1848.8005429.540	1		.013				.000	.000	1
JX	1852.8005429.640	2	3	4.013	3.910	3.91	5431.7505432.000	90.0-90.0		.000
R	2100.5005436.500	5		.013				.000	.000	1
JX	2104.5005436.600	6	7	8.013	6.230	5.2305439.4005439.700	45.0-45.0			.000
SH	2104.5005436.600	6				5439.000				
CD	1	4	1	.000	2.000	.000	.000	.000	.00	
CD	2	4	1	.000	2.000	.000	.000	.000	.00	
CD	3	4	1	.000	1.500	.000	.000	.000	.00	
CD	4	4	1	.000	1.500	.000	.000	.000	.00	
CD	5	4	1	.000	2.000	.000	.000	.000	.00	
CD	6	4	1	.000	2.000	.000	.000	.000	.00	
CD	7	4	1	.000	1.500	.000	.000	.000	.00	
CD	8	4	1	.000	1.500	.000	.000	.000	.00	
Q				1.000	.0					

FILE: LD-LAT1.WSW

W S P G W - EDIT LISTING - Version 14.05

Date:10-19-2020 Time: 3: 4:24

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

PAGE 1

CARD	SECT	CHN	NO OF	AVE PIER	HEIGHT 1	BASE	ZL	ZR	INV	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CODE	NO	TYPE	PIER/PIP	WIDTH	DIAMETER	WIDTH			DROP										

CD	1	4	1		2.000														
CD	2	4	1		2.000														
CD	3	4	1		1.500														
CD	4	4	1		1.500														
CD	5	4	1		2.000														
CD	6	4	1		2.000														
CD	7	4	1		1.500														
CD	8	4	1		1.500														

W S P G W

PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS - LOS DIAMANTES RESIDENTIAL PHASE I

HEADING LINE NO 2 IS - TURQUESA LOOP LAT 1 MH 7 TO MH 12 FILE: LD-LAT1

HEADING LINE NO 3 IS - STORM DRAIN ANALYSIS 10-19-2020

W S P G W

PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO	1 IS A SYSTEM OUTLET	STATION	INVERT	SECT	W S ELEV
	U/S DATA	1811.100	5428.500	1	5432.000

ELEMENT NO	2 IS A REACH	STATION	INVERT	SECT	N
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	U/S DATA	1848.800	5429.540	1	.013
--	----------	----------	----------	---	------

ELEMENT NO	3 IS A JUNCTION	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4
------------	-----------------	---------	--------	------	-------	-------	---	----	----

	U/S DATA	1852.800	5429.640	2	3	4	.013	3.910	3.910	INVERT-3	INVERT-4	PHI 3	PHI 4
										RADIUS	ANGLE	ANG PT	MAN H
										.000	.000	.000	1
										5431.750	5432.000	90.000	-90.000
										RADIUS	ANGLE		
										.000	.000		

WARNING - ADJACENT SECTIONS ARE NOT IDENTICAL - SEE SECTION NUMBERS AND CHANNEL DEFINITIONS

ELEMENT NO	4 IS A REACH	STATION	INVERT	SECT	N
------------	--------------	---------	--------	------	---

	U/S DATA	2100.500	5436.500	5	.013
--	----------	----------	----------	---	------

ELEMENT NO	5 IS A JUNCTION	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4
------------	-----------------	---------	--------	------	-------	-------	---	----	----

	U/S DATA	2104.500	5436.600	6	7	8	.013	6.230	5.230	INVERT-3	INVERT-4	PHI 3	PHI 4
										RADIUS	ANGLE	ANG PT	MAN H
										.000	.000	.000	1
										5439.400	5439.700	45.000	-45.000
										RADIUS	ANGLE		
										.000	.000		

ELEMENT NO 6 IS A SYSTEM HEADWORKS

	U/S DATA	2104.500	5436.600	6
--	----------	----------	----------	---

W S ELEV
5439.000

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

PAGE 1

CARD	SECT	CHN	NO OF	AVE PIER	HEIGHT 1	BASE	ZL	ZR	INV	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CODE	NO	TYPE	PIER/PIP	WIDTH	DIAMETER	WIDTH													

CD	1	4	1		5.500														
CD	2	4	1		2.500														
CD	3	4	1		5.500														
CD	4	4	1		1.500														
CD	5	4	1		5.500														
CD	6	4	1		1.500														
CD	7	4	1		5.500														
CD	8	4	1		1.500														
CD	9	4	1		1.500														
CD	10	4	1		5.500														
CD	11	4	1		2.000														
CD	12	4	1		5.500														
CD	13	4	1		2.000														
CD	14	4	1		5.500														
CD	15	4	1		4.000														
CD	16	4	1		5.500														
CD	17	4	1		3.500														
CD	18	4	1		4.000														
CD	19	4	1		2.000														
CD	20	4	1		3.500														
CD	21	4	1		2.000														
CD	22	4	1		3.000														
CD	23	4	1		2.000														
CD	24	4	1		1.500														
CD	25	4	1		1.500														
CD	26	4	1		2.000														

W S P G W

WATER SURFACE PROFILE - TITLE CARD LISTING

PAGE NO 1

HEADING LINE NO 1 IS -

LOS DIAMANTES RESIDENTIAL PHASE I

HEADING LINE NO 2 IS -

TANZANITA LOOP (LD_TANZ1.WSW)

HEADING LINE NO 3 IS -

STORM DRAIN ANALYSIS 9-28-2020

W S P G W

WATER SURFACE PROFILE - ELEMENT CARD LISTING

PAGE NO 2

ELEMENT NO	1	IS A SYSTEM OUTLET	STATION	INVERT	SECT	W S ELEV
			1000.000	5413.000	1	5415.000

ELEMENT NO	2	IS A REACH	U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
				1126.200	5425.400	1	.013	.000	.000	-50.000	1

ELEMENT NO	3	IS A JUNCTION	U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4	RADIUS	ANGLE
				1134.500	5425.500	3	2	0	.013	25.380	.000	5427.170	.000	.000	.000	.000	.000

ELEMENT NO	4	IS A REACH	U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
				1233.900	5427.270	3		.000	.000	22.000	1

WATER SURFACE PROFILE LISTING

Date: 10-8-2020 Time: 12:34:00

LOS DIAMANTES RESIDENTIAL PHASE I

TANZANITA LOOP (LD_TANZ1.WSW)

STORM DRAIN ANALYSIS 9-28-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT or I.D.	Base Wt	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1000.000	5413.000	2.688	5415.688	356.19	30.88	14.80	5430.49	.00	5.05	5.50	5.500	.000	.00	1 .0
8.232	.0983					.0477	.39	2.69	3.76	2.20	.013	.00	.00	PIPE
1008.232	5413.809	2.720	5416.529	356.19	30.40	14.35	5430.88	.00	5.05	5.50	5.500	.000	.00	1 .0
22.102	.0983					.0439	.97	2.72	3.67	2.20	.013	.00	.00	PIPE
1030.335	5415.981	2.824	5418.805	356.19	28.99	13.05	5431.85	.00	5.05	5.50	5.500	.000	.00	1 .0
18.089	.0983					.0387	.70	2.82	3.42	2.20	.013	.00	.00	PIPE
1048.424	5417.758	2.933	5420.691	356.19	27.64	11.86	5432.55	.00	5.05	5.49	5.500	.000	.00	1 .0
15.025	.0983					.0341	.51	2.93	3.18	2.20	.013	.00	.00	PIPE
1063.448	5419.234	3.048	5422.283	356.19	26.35	10.78	5433.07	.00	5.05	5.47	5.500	.000	.00	1 .0
12.615	.0983					.0301	.38	3.05	2.95	2.20	.013	.00	.00	PIPE
1076.064	5420.474	3.169	5423.643	356.19	25.13	9.80	5433.45	.00	5.05	5.44	5.500	.000	.00	1 .0
10.670	.0983					.0266	.28	3.17	2.74	2.20	.013	.00	.00	PIPE
1086.734	5421.522	3.296	5424.818	356.19	23.96	8.91	5433.73	.00	5.05	5.39	5.500	.000	.00	1 .0
9.028	.0983					.0236	.21	3.30	2.54	2.20	.013	.00	.00	PIPE
1095.762	5422.410	3.432	5425.842	356.19	22.84	8.10	5433.94	.00	5.05	5.33	5.500	.000	.00	1 .0
7.660	.0983					.0209	.16	3.43	2.35	2.20	.013	.00	.00	PIPE
1103.422	5423.162	3.576	5426.738	356.19	21.78	7.37	5434.10	.00	5.05	5.25	5.500	.000	.00	1 .0
6.482	.0983					.0186	.12	3.58	2.17	2.20	.013	.00	.00	PIPE

OUTFALL

Program Package Serial Number: 1454

Date: 10-8-2020 Time: 12:34:00

WATER SURFACE PROFILE LISTING

LOS DIAMANTES RESIDENTIAL PHASE I

TANZANITA LOOP (LD_TANZ1.WSW)

STORM DRAIN ANALYSIS 9-28-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Top Height Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1109.904	5423.799	3.729	5427.528	356.19	20.77	6.70	5434.22	.00	5.05	5.14	5.500	.000	.00	1 .0
5.429	.0983					.0165	.09	3.73	2.00	2.20	.013	.00	.00	PIPE
1115.333	5424.333	3.894	5428.227	356.19	19.80	6.09	5434.31	.00	5.05	5.00	5.500	.000	.00	1 .0
4.484	.0983					.0148	.07	3.89	1.84	2.20	.013	.00	.00	PIPE
1119.818	5424.773	4.073	5428.846	356.19	18.88	5.53	5434.38	.00	5.05	4.82	5.500	.000	.00	1 .0
3.612	.0983					.0132	.05	4.07	1.68	2.20	.013	.00	.00	PIPE
1123.430	5425.128	4.269	5429.397	356.19	18.00	5.03	5434.43	.00	5.05	4.58	5.500	.000	.00	1 .0
2.770	.0983					.0119	.03	4.27	1.53	2.20	.013	.00	.00	PIPE
1126.200	5425.400	4.487	5429.887	356.19	17.16	4.57	5434.46	.00	5.05	4.26	5.500	.000	.00	1 .0
JUNCT STR	.0121					.0135	.11	4.49	1.37		.013	.00	.00	PIPE
1134.500	5425.500	3.681	5429.181	330.81	19.57	5.95	5435.13	.00	4.94	5.18	5.500	.000	.00	1 .0
99.400	.0178					.0150	1.49	3.68	1.91	3.52	.013	.00	.00	PIPE
1233.900	5427.270	3.796	5431.066	330.81	18.91	5.56	5436.62	.00	4.94	5.09	5.500	.000	.00	1 .0
JUNCT STR	.0125					.0145	.12	3.80	1.80		.013	.00	.00	PIPE
1241.900	5427.370	3.739	5431.109	327.51	19.04	5.63	5436.74	.00	4.92	5.13	5.500	.000	.00	1 .0
55.900	.0177					.0142	.80	3.74	1.83	3.50	.013	.00	.00	PIPE
1297.800	5428.360	3.827	5432.187	327.51	18.56	5.35	5437.53	.00	4.92	5.06	5.500	.000	.00	1 .0
JUNCT STR	.0125					.0140	.11	3.83	1.75		.013	.00	.00	PIPE

14

15

16

Program Package Serial Number: 1454

Date: 10-8-2020 Time: 12:34:0

WATER SURFACE PROFILE LISTING

LOS DIAMANTES RESIDENTIAL PHASE I

TANZANITA LOOP (LD_TANZ1.WSW)

STORM DRAIN ANALYSIS 9-28-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. -FT or I.D.	Base Wt	No Wth Pts/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR Type Ch
1305.800	5428.460	3.764	5432.224	324.21	18.71	5.44	5437.66	.00	4.90	5.11	5.500	.000	1 .0
13.697	.0156					.0141	.19	3.76	1.79	3.63	.013	.00	PIPE
1319.498	5428.673	3.773	5432.446	324.21	18.66	5.41	5437.85	.00	4.90	5.11	5.500	.000	1 .0
139.536	.0156					.0133	1.85	3.77	1.78	3.63	.013	.00	PIPE
1459.034	5430.849	3.941	5434.790	324.21	17.79	4.92	5439.71	.00	4.90	4.96	5.500	.000	1 .0
70.666	.0156					.0119	.84	3.94	1.64	3.63	.013	.00	PIPE
1529.700	5431.950	4.125	5436.075	324.21	16.96	4.47	5440.54	.00	4.90	4.76	5.500	.000	1 .0
JUNCT STR	.0125					.0121	.10	4.12	1.49		.013	.00	PIPE
1537.700	5432.050	3.794	5435.844	315.41	18.04	5.06	5440.90	.00	4.85	5.09	5.500	.000	1 .0
101.000	.0114					.0136	1.37	3.79	1.72	4.00	.013	.00	PIPE
1638.700	5433.200	3.688	5436.889	315.41	18.62	5.38	5442.27	.00	4.85	5.17	5.500	.000	1 .0
85.800	.0117					.0147	1.26	3.69	1.81	3.97	.013	.00	PIPE
1724.500	5434.200	3.582	5437.782	315.41	19.25	5.75	5443.54	.00	4.85	5.24	5.500	.000	1 .0
73.900	.0184					.0147	1.09	3.58	1.92	3.37	.013	.00	PIPE
1798.400	5435.560	3.692	5439.252	315.41	18.60	5.37	5444.62	.00	4.85	5.17	5.500	.000	1 .0
29.035	.0182					.0138	.40	3.69	1.81	3.38	.013	.00	PIPE
1827.435	5436.087	3.750	5439.837	315.41	18.28	5.19	5445.02	.00	4.85	5.12	5.500	.000	1 .0
56.265	.0182					.0128	.72	3.75	1.75	3.38	.013	.00	PIPE

WATER SURFACE PROFILE LISTING

Date: 10-8-2020 Time: 12:34:00

LOS DIAMANTES RESIDENTIAL PHASE I

TANZANITA LOOP (LD_TANZ1.WSW)

STORM DRAIN ANALYSIS 9-28-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Flow Top Width	Height/Dia.-FT or I.D.	Base Wt	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	*****	ZR	Type Ch *****
1883.700	5437.110	3.917	5441.027	315.41	17.42	4.71	5445.74	.00	4.85	4.98	5.500	.000	.00	.00	1 .0
25.964	.0147	-	-	-	-	.0119	.31	3.92	1.61	3.64	.013	.00	.00	.00	PIPE
1909.663	5437.491	3.965	5441.456	315.41	17.20	4.59	5446.05	.00	4.85	4.93	5.500	.000	.00	.00	1 .0
64.413	.0147	-	-	-	-	.0111	.71	3.97	1.57	3.64	.013	.00	.00	.00	PIPE
1974.077	5438.436	4.150	5442.586	315.41	16.40	4.18	5446.76	.00	4.85	4.73	5.500	.000	.00	.00	1 .0
37.113	.0147	-	-	-	-	.0099	.37	4.15	1.43	3.64	.013	.00	.00	.00	PIPE
2011.190	5438.980	4.354	5443.334	315.41	15.63	3.80	5447.13	.00	4.85	4.47	5.500	.000	.00	.00	1 .0
20.450	.0147	-	-	-	-	.0090	.18	4.35	1.30	3.64	.013	.00	.00	.00	PIPE
2031.640	5439.281	4.583	5443.864	315.41	14.91	3.45	5447.31	.00	4.85	4.10	5.500	.000	.00	.00	1 .0
6.760	.0147	-	-	-	-	.0082	.06	4.58	1.16	3.64	.013	.00	.00	.00	PIPE
2038.400	5439.380	4.854	5444.234	315.41	14.21	3.14	5447.37	.00	4.85	3.54	5.500	.000	.00	.00	1 .0
JUNCT STR	.0125	-	-	-	-	.0079	.06	4.85	1.00	-	.013	.00	.00	.00	PIPE
2046.400	5439.480	5.858	5445.338	296.97	12.50	2.43	5447.76	.00	4.75	.00	5.500	.000	.00	.00	1 .0
42.500	.0146	-	-	-	-	.0078	.33	5.86	.00	3.50	.013	.00	.00	.00	PIPE
2088.900	5440.100	6.413	5446.513	296.97	12.50	2.43	5448.94	.00	4.75	.00	5.500	.000	.00	.00	1 .0
JUNCT STR	.0187	-	-	-	-	.0054	.04	6.41	.00	-	.013	.00	.00	.00	PIPE
2096.400	5440.240	7.976	5448.216	184.41	7.76	.94	5449.15	.00	3.80	.00	5.500	.000	.00	.00	1 .0
370.300	.0071	-	-	-	-	.0030	1.12	7.98	.00	3.23	.013	.00	.00	.00	PIPE

Program Package Serial Number: 1454

WATER SURFACE PROFILE LISTING

Date: 10-8-2020 Time: 12:34:0

LOS DIAMANTES RESIDENTIAL PHASE I

TANZANITA LOOP (LD_TANZ1.WSW)

STORM DRAIN ANALYSIS 9-28-2020

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Top Height/Dia.-FT or I.D.	Base Wt	No Wth ZL	Pxs/Pip
L/Elem	Ch Slope					SE Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2466.700	5442.880	6.500	5449.380	184.41	7.76	.94	5450.32	.00	3.80	.00	5.500	.000	.00	1 .0
JUNCT STR	.1875					.0030	.02	6.50	.00		.013	.00	.00	PIPE
2474.700	5444.380	6.624	5451.003	78.94	6.28	.61	5451.62	.00	2.69	.00	4.000	.000	.00	1 .0
376.000	.0062					.0030	1.14	6.62	.00	2.46	.013	.00	.00	PIPE
2850.700	5446.710	5.460	5452.169	78.94	6.28	.61	5452.78	.00	2.69	.00	4.000	.000	.00	1 .0
240.000	.0064					.0030	.72	5.46	.00	2.43	.013	.00	.00	PIPE
3090.700	5448.250	4.703	5452.953	78.94	6.28	.61	5453.57	.00	2.69	.00	4.000	.000	.00	1 .0
171.111	.0073					.0030	.51	4.70	.00	2.33	.013	.00	.00	PIPE
3261.811	5449.500	4.000	5453.500	78.94	6.28	.61	5454.11	.00	2.69	.00	4.000	.000	.00	1 .0
68.666	.0073					.0028	.19	4.00	.00	2.33	.013	.00	.00	PIPE
3330.477	5450.001	3.629	5453.630	78.94	6.59	.67	5454.30	.00	2.69	2.32	4.000	.000	.00	1 .0
23.023	.0073					.0027	.06	3.63	.51	2.33	.013	.00	.00	PIPE
3353.500	5450.170	3.479	5453.649	78.94	6.80	.72	5454.37	.00	2.69	2.69	4.000	.000	.00	1 .0
JUNCT STR	.0167							3.48	.58		.013	.00	.00	PIPE
3359.500	5450.270	2.750	5453.020	78.94	9.74	1.47	5454.49	.00	2.78	2.87	3.500	.000	.00	1 .0
177.792	.0067					.0067	1.19	2.75	1.02	2.75	.013	.00	.00	PIPE
3537.292	5451.458	2.750	5454.208	78.94	9.74	1.47	5455.68	.00	2.78	2.87	3.500	.000	.00	1 .0
9.208	.0067					.0066	.06	2.75	1.02	2.75	.013	.00	.00	PIPE

WATER SURFACE PROFILE LISTING

Date: 10-8-2020 Time: 12:34:00

LOS DIAMANTES RESIDENTIAL PHASE I

TANZANITA LOOP (LD_TANZ1.WSW)

STORM DRAIN ANALYSIS 9-28-2020

Station	Invert Elev	Depth (Ft)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd. El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia. - Ft or I.D.	Base Wt	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	Type Ch
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
3546.500	5451.520	2.776	5454.296	78.94	9.65	1.44	5455.74	.00	2.78	2.83	3.500	.000	1 .0
JUNCT STR	.0167					.0056	.03	2.78	1.00		.013	.00	PIPE
3552.500	5451.620	3.666	5455.286	68.47	7.12	.79	5456.07	.00	2.59	.00	3.500	.000	1 .0
63.406	.0078					.0046	.29	3.67	.00	2.31	.013	.00	PIPE
3615.906	5452.113	3.500	5455.613	68.47	7.12	.79	5456.40	.00	2.59	.00	3.500	.000	1 .0
11.194	.0078					.0044	.05	3.50	.00	2.31	.013	.00	PIPE
3627.100	5452.200	3.458	5455.658	68.47	7.13	.79	5456.45	.00	2.59	.76	3.500	.000	1 .0
JUNCT STR	.0600					.0023	.02	3.46	.35		.013	.00	PIPE
3637.100	5452.800	3.827	5456.627	11.57	3.68	.21	5456.84	.00	1.22	.00	2.000	.000	1 .0
37.200	.0323					.0026	.10	3.83	.00	.73	.013	.00	PIPE
3674.300	5454.000	2.735	5456.735	11.57	3.68	.21	5456.95	.00	1.22	.00	2.000	.000	1 .0
JUNCT STR	.0250					.0013	.01	2.73	.00		.013	.00	PIPE
----- WARNING - Junction Analysis - Large Lateral Flow(s) -----													
3678.300	5454.100	2.965	5457.065	.00	.00	.00	5457.06	.00	.01	.00	2.000	.000	1 .0

Los Diamantes Phase I Storm Drain Laterals Analysis

Inlet 3.2 to SDMH 3 (Turquesa)

Inlet 4.1 to 4.2 (Tanzanita)

Inlet 4.2 to SDMH 4 (Tanzanita)

Inlet 5.2 to SDMH 5 (Turquesa)

Inlet 8.2 to SDMD 8 (Turquesa)

Inlet 9.1 to SDMH 9 (Lazuli)

Inlet 9.2 to 9.1 (Lazuli)

Inlet 10.2 to SDMH 10 (Turquesa)

Inlet 11.1 to 11.2 (Zafiro)

Inlet 11.2 to SDMH 11 (Zafiro)

Inlet 11.4 to 11.3 (Turquesa)

Culvert Report

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

Tuesday, Jul 28 2020

Turquesa Loop Inlet 3.2 to SDMH 3

Invert Elev Dn (ft) = 26.65
Pipe Length (ft) = 24.00
Slope (%) = 0.83
Invert Elev Up (ft) = 26.85
Rise (in) = 18.0
Shape = Circular
Span (in) = 18.0
No. Barrels = 1
n-Value = 0.013
Culvert Type = Circular Concrete
Culvert Entrance = Square edge w/headwall (C)
Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

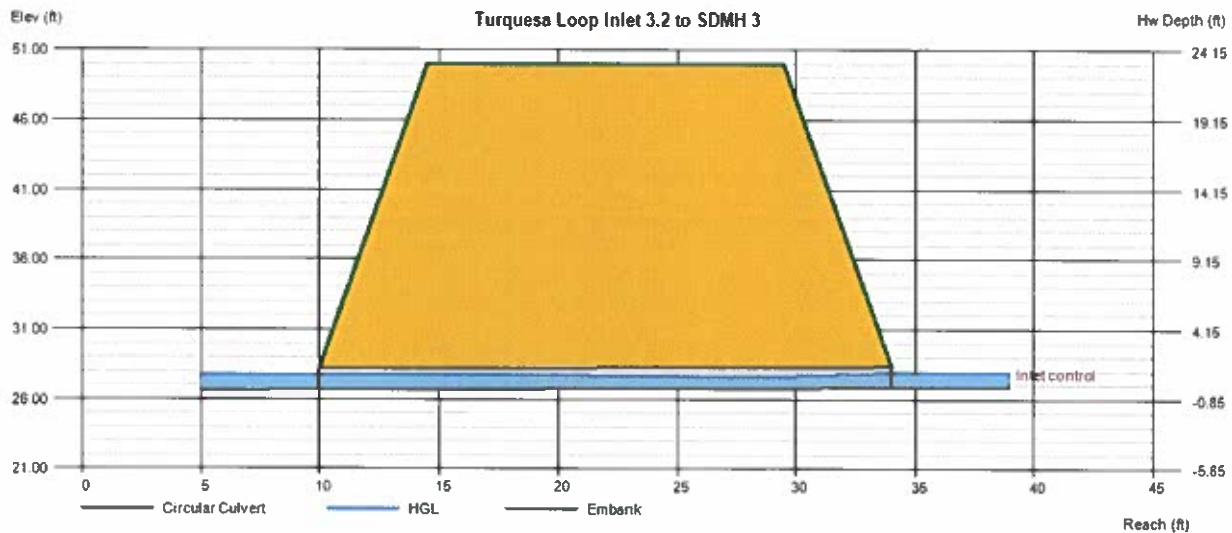
Embankment
Top Elevation (ft) = 50.00
Top Width (ft) = 15.00
Crest Width (ft) = 50.00

Calculations

Qmin (cfs) = 3.69
Qmax (cfs) = 3.69
Tailwater Elev (ft) = (dc+D)/2

Highlighted

Qtotal (cfs) = 3.69
Qpipe (cfs) = 3.69
Qovertop (cfs) = 0.00
Veloc Dn (ft/s) = 2.62
Veloc Up (ft/s) = 4.30
HGL Dn (ft) = 27.77
HGL Up (ft) = 27.58
Hw Elev (ft) = 27.91
Hw/D (ft) = 0.70
Flow Regime = Inlet Control



Culvert Report

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

Tuesday, Jul 28 2020

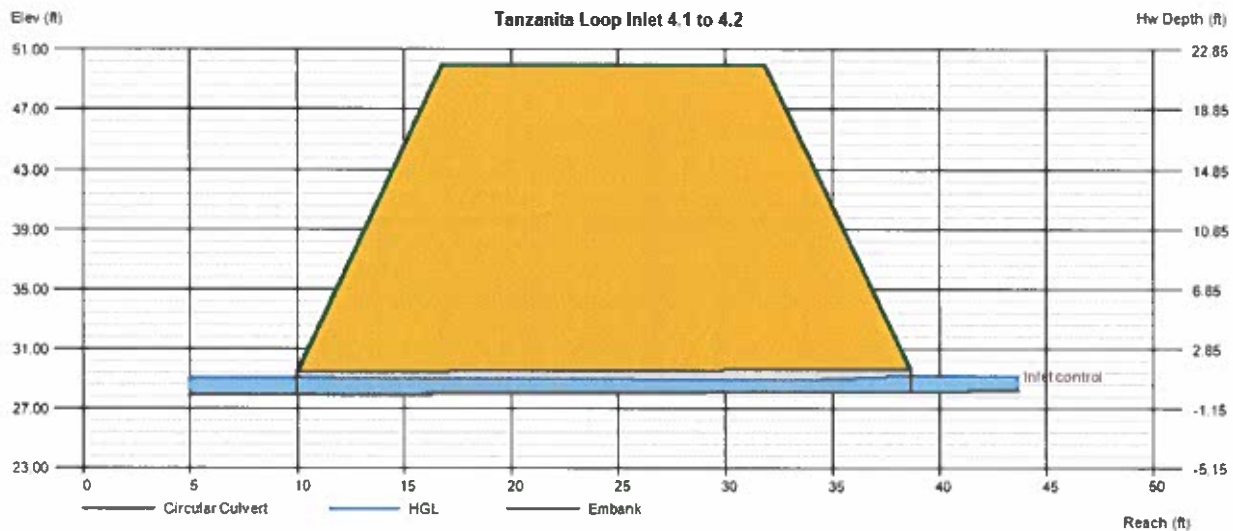
Tanzanita Loop Inlet 4.1 to 4.2

Invert Elev Dn (ft) = 27.95
Pipe Length (ft) = 28.66
Slope (%) = 0.70
Invert Elev Up (ft) = 28.15
Rise (in) = 18.0
Shape = Circular
Span (in) = 18.0
No. Barrels = 1
n-Value = 0.013
Culvert Type = Circular Concrete
Culvert Entrance = Square edge w/headwall (C)
Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

Embankment
Top Elevation (ft) = 50.00
Top Width (ft) = 15.00
Crest Width (ft) = 50.00

Calculations
Qmin (cfs) = 3.69
Qmax (cfs) = 4.12
Tailwater Elev (ft) = (dc+D)/2

Highlighted
Qtotal (cfs) = 3.69
Qpipe (cfs) = 3.69
Qovertop (cfs) = 0.00
Veloc Dn (ft/s) = 2.62
Veloc Up (ft/s) = 4.30
HGL Dn (ft) = 29.07
HGL Up (ft) = 28.88
Hw Elev (ft) = 29.21
Hw/D (ft) = 0.71
Flow Regime = Inlet Control



Culvert Report

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

Tuesday, Jul 28 2020

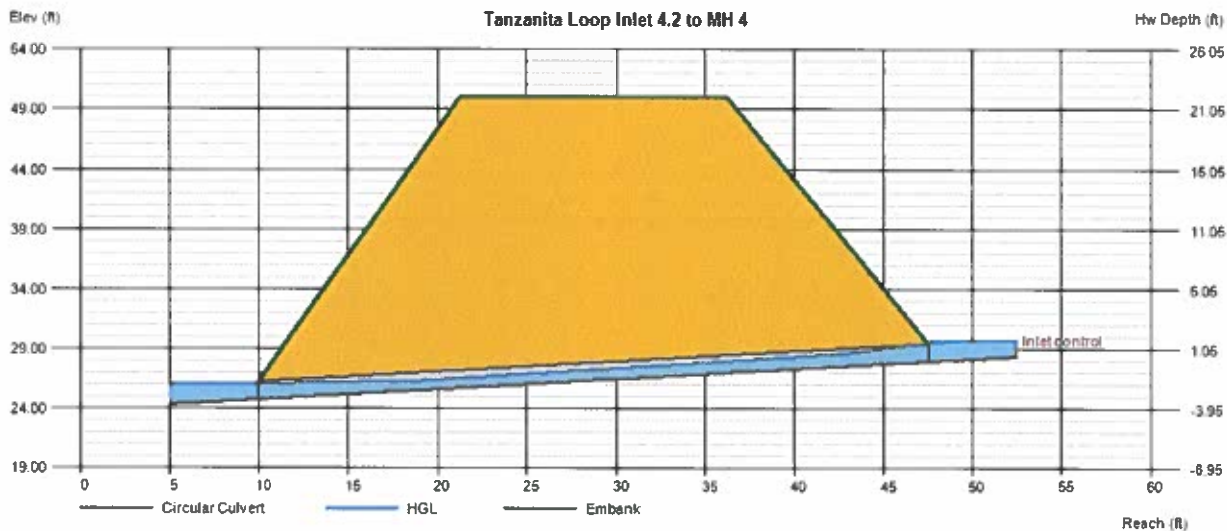
Tanzanita Loop Inlet 4.2 to MH 4

Invert Elev Dn (ft)	=	24.75
Pipe Length (ft)	=	37.50
Slope (%)	=	8.53
Invert Elev Up (ft)	=	27.95
Rise (in)	=	18.0
Shape	=	Circular
Span (in)	=	18.0
No. Barrels	=	1
n-Value	=	0.013
Culvert Type	=	Circular Concrete
Culvert Entrance	=	Square edge w/headwall (C)
Coeff. K,M,c,Y,k	=	0.0098, 2, 0.0398, 0.67, 0.5

Embankment	
Top Elevation (ft)	= 50.00
Top Width (ft)	= 15.00
Crest Width (ft)	= 50.00

Calculations	
Qmin (cfs)	= 8.21
Qmax (cfs)	= 8.21
Tailwater Elev (ft)	= (dc+D)/2

Highlighted	
Qtotal (cfs)	= 8.21
Qpipe (cfs)	= 8.21
Qovertop (cfs)	= 0.00
Veloc Dn (ft/s)	= 5.03
Veloc Up (ft/s)	= 5.86
HGL Dn (ft)	= 26.05
HGL Up (ft)	= 29.06
Hw Elev (ft)	= 29.75
Hw/D (ft)	= 1.20
Flow Regime	= Inlet Control



Culvert Report

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

Tuesday, Jul 28 2020

Turquesa Loop Inlet 5.2 to SDMH 5

Invert Elev Dn (ft)	= 27.75
Pipe Length (ft)	= 23.15
Slope (%)	= 0.86
Invert Elev Up (ft)	= 27.95
Rise (in)	= 18.0
Shape	= Circular
Span (in)	= 18.0
No. Barrels	= 1
n-Value	= 0.013
Culvert Type	= Circular Concrete
Culvert Entrance	= Square edge w/headwall (C)
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5

Embankment

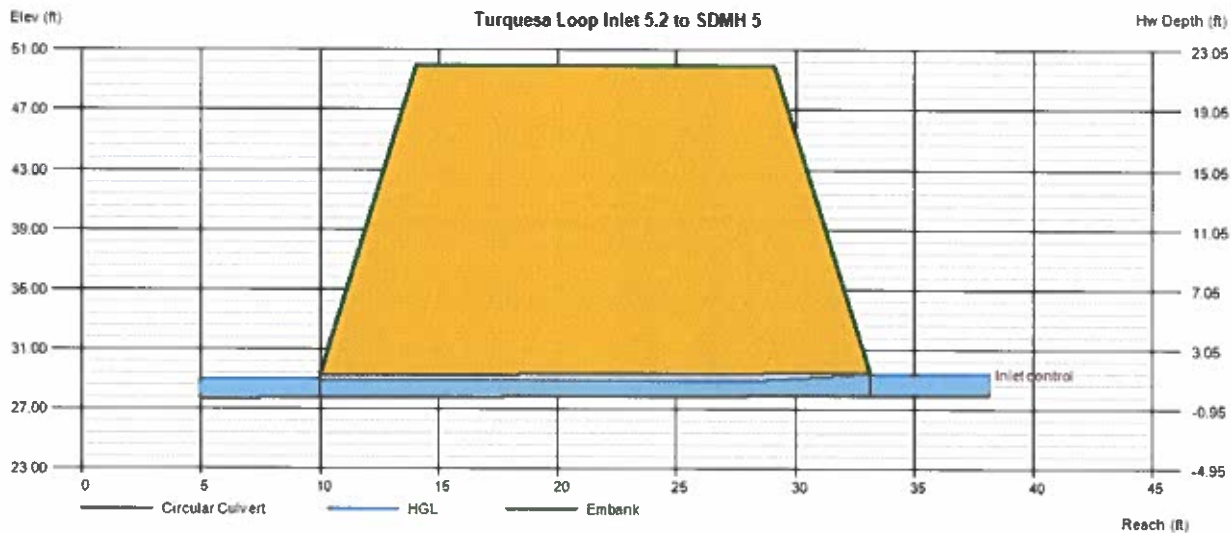
Top Elevation (ft)	= 50.00
Top Width (ft)	= 15.00
Crest Width (ft)	= 50.00

Calculations

Qmin (cfs)	= 5.88
Qmax (cfs)	= 5.88
Tailwater Elev (ft)	= (dc+D)/2

Highlighted

Qtotal (cfs)	= 5.88
Qpipe (cfs)	= 5.88
Qovertop (cfs)	= 0.00
Veloc Dn (ft/s)	= 3.83
Veloc Up (ft/s)	= 5.05
HGL Dn (ft)	= 28.97
HGL Up (ft)	= 28.89
Hw Elev (ft)	= 29.39
Hw/D (ft)	= 0.96
Flow Regime	= Inlet Control



Culvert Report

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

Tuesday, Jul 28 2020

Turquesa Loop Inlet 8.2 to SDMH 8

Invert Elev Dn (ft) = 32.70
Pipe Length (ft) = 32.00
Slope (%) = 0.31
Invert Elev Up (ft) = 32.80
Rise (in) = 18.0
Shape = Circular
Span (in) = 18.0
No. Barrels = 1
n-Value = 0.013
Culvert Type = Circular Concrete
Culvert Entrance = Square edge w/headwall (C)
Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

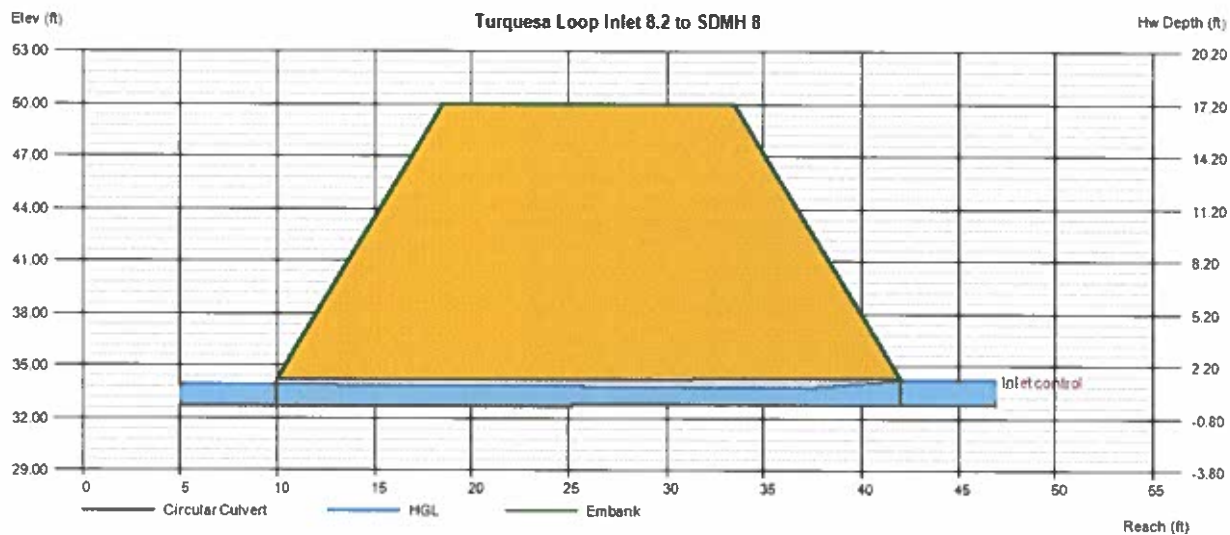
Embankment
Top Elevation (ft) = 50.00
Top Width (ft) = 15.00
Crest Width (ft) = 50.00

Calculations

Qmin (cfs) = 5.65
Qmax (cfs) = 5.65
Tailwater Elev (ft) = $(dc+D)/2$

Highlighted

Qtotal (cfs) = 5.65
Qpipe (cfs) = 5.65
Qovertop (cfs) = 0.00
Veloc Dn (ft/s) = 3.70
Veloc Up (ft/s) = 5.00
HGL Dn (ft) = 33.91
HGL Up (ft) = 33.72
Hw Elev (ft) = 34.20
Hw/D (ft) = 0.93
Flow Regime = Inlet Control



Culvert Report

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

Tuesday, Jul 28 2020

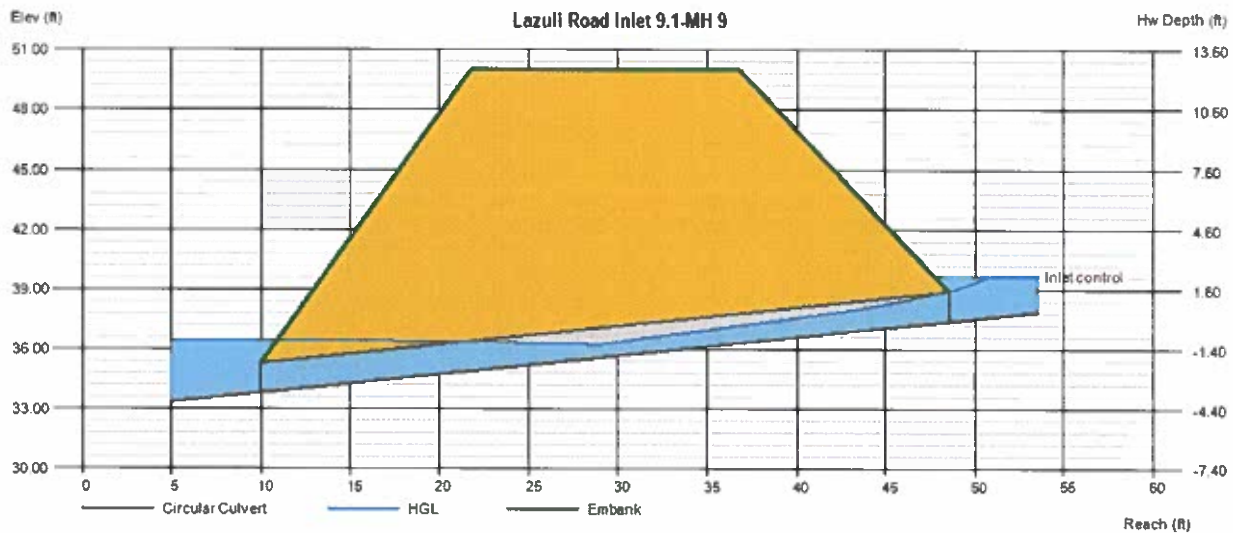
Lazuli Road Inlet 9.1-MH 9

Invert Elev Dn (ft) = 33.80
 Pipe Length (ft) = 38.56
 Slope (%) = 9.34
 Invert Elev Up (ft) = 37.40
 Rise (in) = 18.0
 Shape = Circular
 Span (in) = 18.0
 No. Barrels = 1
 n-Value = 0.013
 Culvert Type = Circular Concrete
 Culvert Entrance = Square edge w/headwall (C)
 Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

Embankment
 Top Elevation (ft) = 50.00
 Top Width (ft) = 15.00
 Crest Width (ft) = 50.00

Calculations
 Qmin (cfs) = 10.36
 Qmax (cfs) = 10.36
 Tailwater Elev (ft) = 36.44

Highlighted
 Qtotal (cfs) = 10.36
 Qpipe (cfs) = 10.36
 Qovertop (cfs) = 0.00
 Veloc Dn (ft/s) = 5.86
 Veloc Up (ft/s) = 6.64
 HGL Dn (ft) = 36.44
 HGL Up (ft) = 38.64
 Hw Elev (ft) = 39.70
 Hw/D (ft) = 1.54
 Flow Regime = Inlet Control



Culvert Report

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

Tuesday, Jul 28 2020

Lazuli Road Inlet 9.2 - 9.1

Invert Elev Dn (ft) = 37.40
Pipe Length (ft) = 28.66
Slope (%) = 0.80
Invert Elev Up (ft) = 37.63
Rise (in) = 18.0
Shape = Circular
Span (in) = 18.0
No. Barrels = 1
n-Value = 0.013
Culvert Type = Circular Concrete
Culvert Entrance = Square edge w/headwall (C)
Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

Embankment

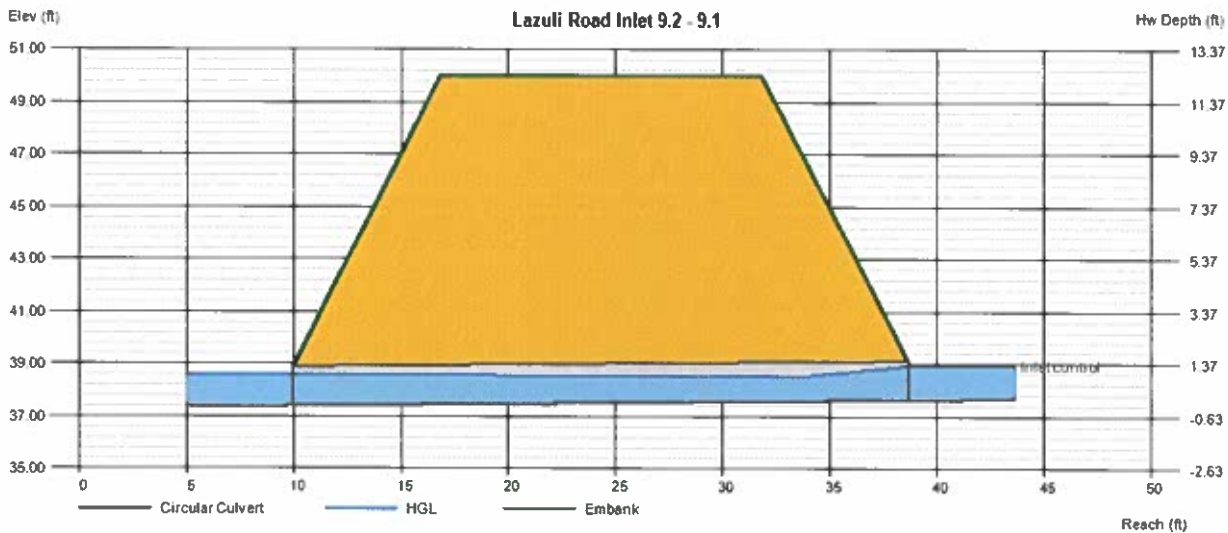
Top Elevation (ft) = 50.00
Top Width (ft) = 15.00
Crest Width (ft) = 50.00

Calculations

Qmin (cfs) = 5.18
Qmax (cfs) = 5.18
Tailwater Elev (ft) = (dc+D)/2

Highlighted

Qtotal (cfs) = 5.18
Qpipe (cfs) = 5.18
Qovertop (cfs) = 0.00
Veloc Dn (ft/s) = 3.45
Veloc Up (ft/s) = 4.81
HGL Dn (ft) = 38.59
HGL Up (ft) = 38.51
Hw Elev (ft) = 38.95
Hw/D (ft) = 0.88
Flow Regime = Inlet Control



Culvert Report

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

Tuesday, Jul 28 2020

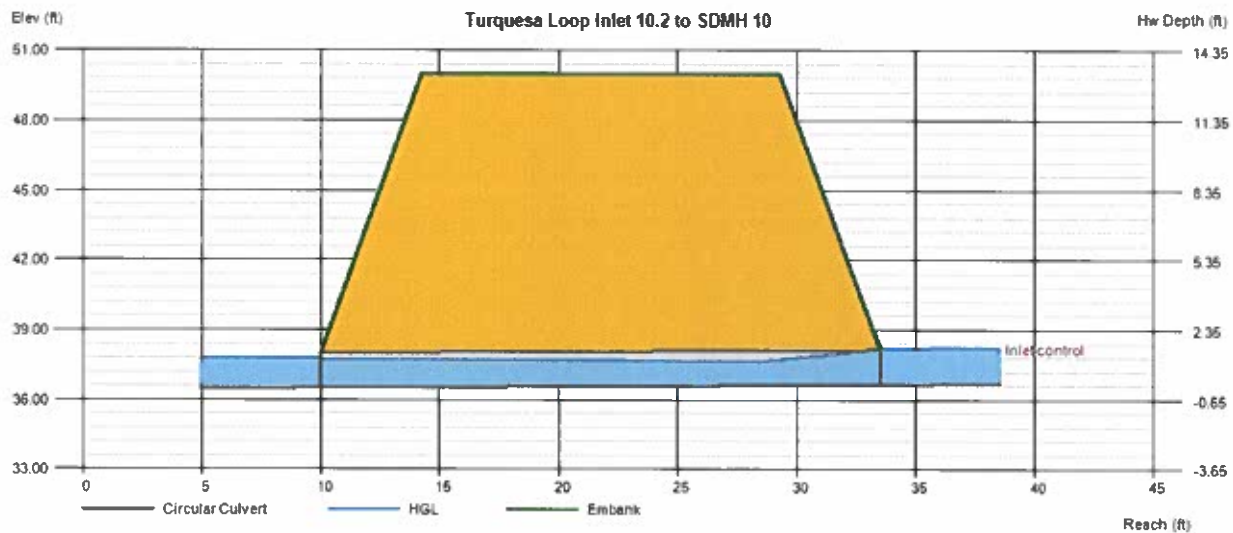
Turquesa Loop Inlet 10.2 to SDMH 10

Invert Elev Dn (ft) = 36.50
Pipe Length (ft) = 23.54
Slope (%) = 0.64
Invert Elev Up (ft) = 36.65
Rise (in) = 18.0
Shape = Circular
Span (in) = 18.0
No. Barrels = 1
n-Value = 0.013
Culvert Type = Circular Concrete
Culvert Entrance = Square edge w/headwall (C)
Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

Embankment
Top Elevation (ft) = 50.00
Top Width (ft) = 15.00
Crest Width (ft) = 50.00

Calculations
Qmin (cfs) = 6.60
Qmax (cfs) = 6.60
Tailwater Elev (ft) = (dc+D)/2

Highlighted
Qtotal (cfs) = 6.60
Qpipe (cfs) = 6.60
Qovertop (cfs) = 0.00
Veloc Dn (ft/s) = 4.20
Veloc Up (ft/s) = 5.31
HGL Dn (ft) = 37.75
HGL Up (ft) = 37.64
Hw Elev (ft) = 38.21
Hw/D (ft) = 1.04
Flow Regime = Inlet Control



Culvert Report

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

Tuesday, Jul 28 2020

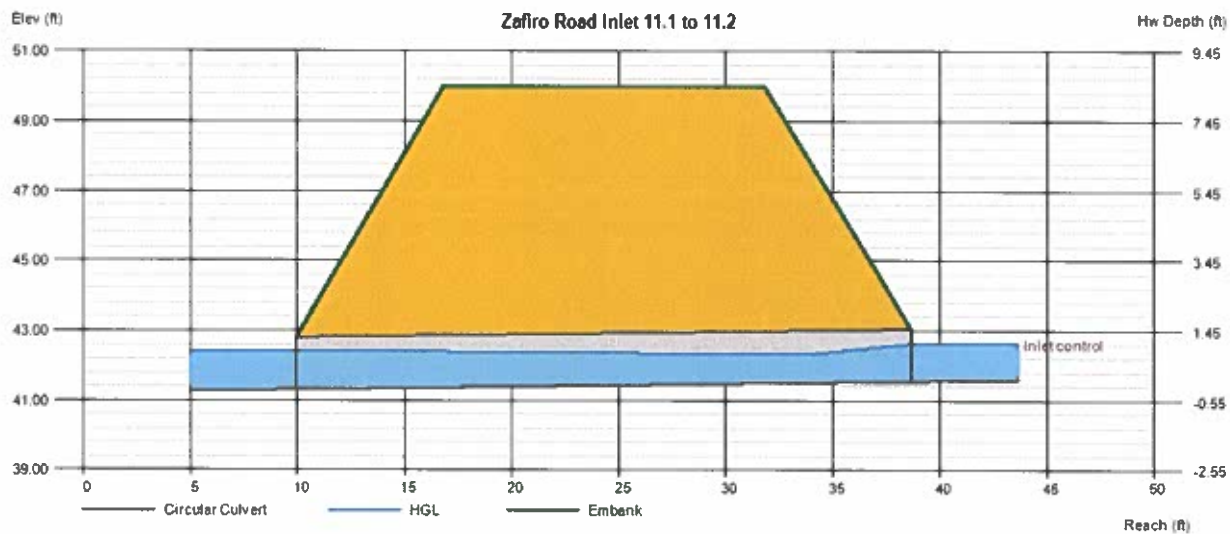
Zafiro Road Inlet 11.1 to 11.2

Invert Elev Dn (ft) = 41.30
Pipe Length (ft) = 28.66
Slope (%) = 0.87
Invert Elev Up (ft) = 41.55
Rise (in) = 18.0
Shape = Circular
Span (in) = 18.0
No. Barrels = 1
n-Value = 0.013
Culvert Type = Circular Concrete
Culvert Entrance = Square edge w/headwall (C)
Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

Embankment
Top Elevation (ft) = 50.00
Top Width (ft) = 15.00
Crest Width (ft) = 50.00

Calculations
Qmin (cfs) = 3.82
Qmax (cfs) = 3.82
Tailwater Elev (ft) = (dc+D)/2

Highlighted
Qtotal (cfs) = 3.82
Qpipe (cfs) = 3.82
Qovertop (cfs) = 0.00
Veloc Dn (ft/s) = 2.69
Veloc Up (ft/s) = 4.32
HGL Dn (ft) = 42.42
HGL Up (ft) = 42.30
Hw Elev (ft) = 42.63
Hw/D (ft) = 0.72
Flow Regime = Inlet Control



Culvert Report

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

Tuesday, Jul 28 2020

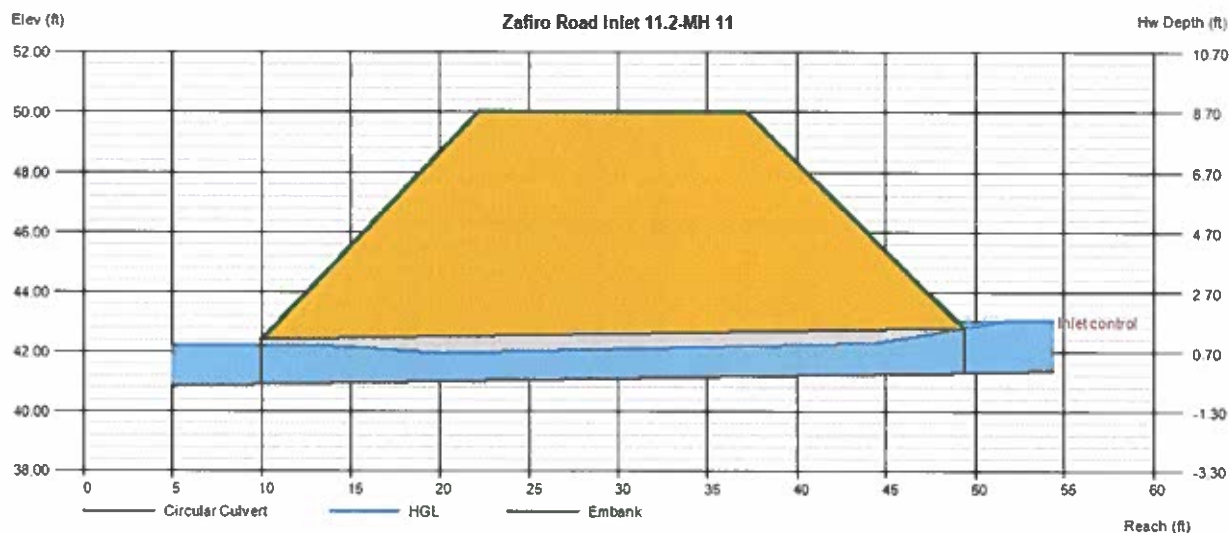
Zafiro Road Inlet 11.2-MH 11

Invert Elev Dn (ft) = 40.90
Pipe Length (ft) = 39.36
Slope (%) = 1.02
Invert Elev Up (ft) = 41.30
Rise (in) = 18.0
Shape = Circular
Span (in) = 18.0
No. Barrels = 1
n-Value = 0.013
Culvert Type = Circular Concrete
Culvert Entrance = Square edge w/headwall (C)
Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

Embankment
Top Elevation (ft) = 50.00
Top Width (ft) = 15.00
Crest Width (ft) = 50.00

Calculations
Qmin (cfs) = 7.64
Qmax (cfs) = 7.64
Tailwater Elev (ft) = (dc+D)/2

Highlighted
Qtotal (cfs) = 7.64
Qpipe (cfs) = 7.64
Qovertop (cfs) = 0.00
Veloc Dn (ft/s) = 4.74
Veloc Up (ft/s) = 5.67
HGL Dn (ft) = 42.18
HGL Up (ft) = 42.37
Hw Elev (ft) = 43.04
Hw/D (ft) = 1.16
Flow Regime = Inlet Control



Culvert Report

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

Tuesday, Jul 28 2020

Turquesa Loop Inlet 11.4 to 11.3

Invert Elev Dn (ft) = 40.46
Pipe Length (ft) = 29.74
Slope (%) = 0.77
Invert Elev Up (ft) = 40.69
Rise (in) = 18.0
Shape = Circular
Span (in) = 18.0
No. Barrels = 1
n-Value = 0.013
Culvert Type = Circular Concrete
Culvert Entrance = Square edge w/headwall (C)
Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

Embankment

Top Elevation (ft) = 50.00
Top Width (ft) = 15.00
Crest Width (ft) = 50.00

Calculations

Qmin (cfs) = 9.42
Qmax (cfs) = 9.42
Tailwater Elev (ft) = $(dc+D)/2$

Highlighted

Qtotat (cfs) = 9.42
Qpipe (cfs) = 9.42
Qovertop (cfs) = 0.00
Veloc Dn (ft/s) = 5.65
Veloc Up (ft/s) = 6.28
HGL Dn (ft) = 41.80
HGL Up (ft) = 41.88
Hw Elev (ft) = 42.82
Hw/D (ft) = 1.42
Flow Regime = Inlet Control

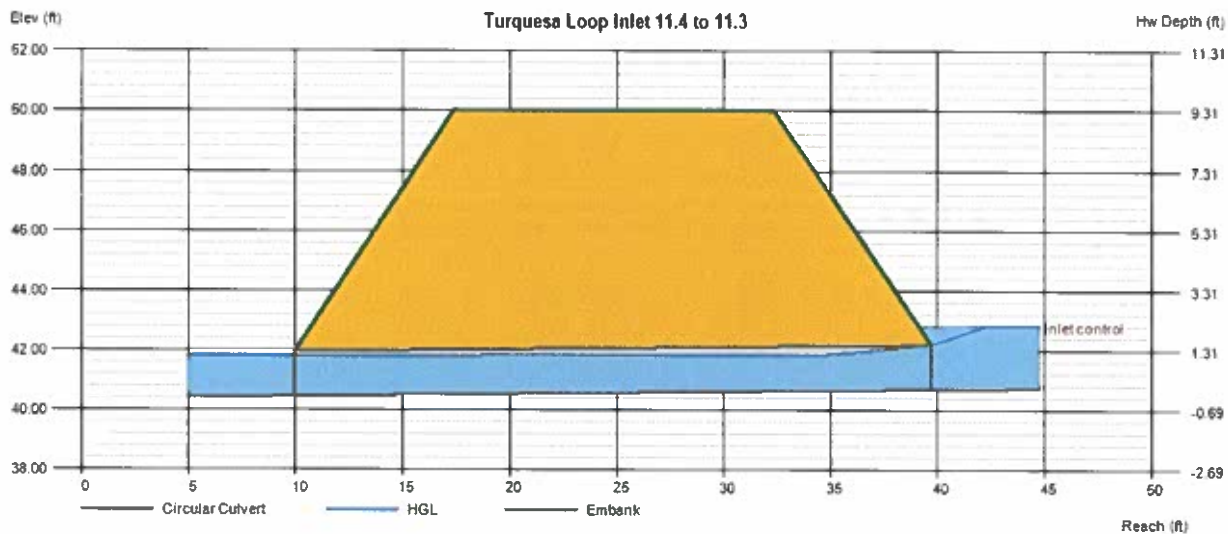


Table 1. Mean (SD) age, height, weight, and body mass index (BMI) of the 100 children in the study

Measure	Mean (SD)
Age (years)	10.4 (0.5)
Height (cm)	145.2 (10.1)
Weight (kg)	38.5 (10.2)
BMI (kg m ⁻²)	18.6 (3.0)

children were asked to perform a series of 10 trials of the task. The first trial was a practice trial and the remaining nine trials were recorded. The mean of the last nine trials was used for analysis.

2.2.3. Procedure

Children were asked to perform the task at three different times of day (morning, afternoon, and evening) and on three different days (Monday, Tuesday, and Wednesday). The order of the days and times of day was randomized. The children were asked to perform the task at the same time of day and on the same day as the previous time.

2.2.4. Hypotheses

It was hypothesized that the children would perform the task better in the morning than in the afternoon and evening. It was also hypothesized that the children would perform the task better on Monday than on Tuesday and Wednesday.

2.2.5. Results

The results of the study are shown in Table 2. The children performed the task better in the morning than in the afternoon and evening. They also performed the task better on Monday than on Tuesday and Wednesday.

2.2.6. Discussion

The results of the study support the hypotheses. The children performed the task better in the morning than in the afternoon and evening. They also performed the task better on Monday than on Tuesday and Wednesday.

2.2.7. Conclusion

The study concludes that the children performed the task better in the morning than in the afternoon and evening. They also performed the task better on Monday than on Tuesday and Wednesday.

2.2.8. Acknowledgements

The authors would like to thank the children who participated in the study and the teachers who helped with the data collection.

2.2.9. References

1. Smith, J. A. (1998). The effects of time of day on children's performance. *Journal of Child Psychology and Psychiatry*, 39, 1001-1010.

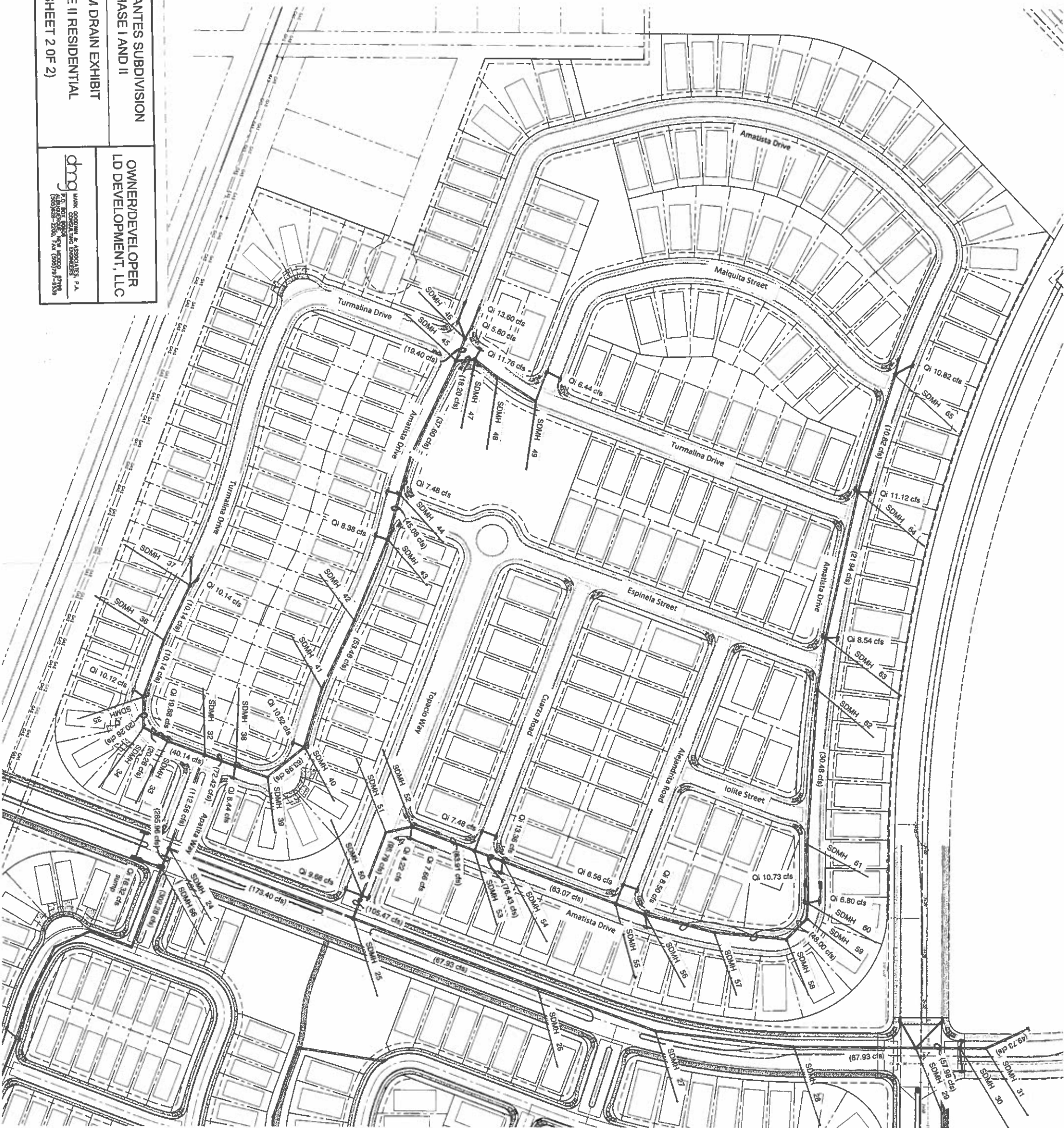


TABLE 3.4

Summary of Public Storm Drain

Residential Phase II													
		Slope		Pipe size		Design		Upstream			Downstream		
Upstream	Downstream	Pipe length feet (C-C)	inches	Q(cfs)	Rim	HGL	Invert	Rim	HGL	Invert	Rim	HGL	Invert
RESIDENTIAL PHASE II SOUTH HALF													
SDMH 32	SDMH 24	1.50%			5455.93	0	5446.00	5452.10	0		5452.10	0	
0	0	193.0	42"	112.56			5446.00						5443.10
SDMH 33	SDMH 32	1.50%			5454.65	0		5455.93	0		5455.93	0	
0	0	74.7	30"	40.14			5448.12						5447.00
SDMH 34	SDMH 33	1.49%			5455.35	0		5454.65	0		5454.65	0	
0	0	54.4	24"	20.26			5449.43						5448.62
SDMH 35	SDMH 34	0.96%			5456.07	0		5455.35	0		5455.35	0	
0	0	59.3	24"	20.26			5450.00						5449.43
SDMH 36	SDMH 35	1.00%			5457.52	0		5456.07	0		5456.07	0	
0	0	116.3	18"	10.14			5451.66						5450.50
SDMH 37	SDMH 36	1.00%			5459.26	0		5457.52	0		5457.52	0	
0	0	116.3	18"	10.14			5452.82						5451.66
SDMH 32	SDMH 24	1.50%			5455.93	0	5446.00	5452.10	0		5452.10	0	
0	0	193.0	42"	112.56			5446.00						5443.10
SDMH 38	SDMH 32	2.00%			5456.94	0		5455.93	0		5455.93	0	
0	0	62.6	36"	72.42			5447.75						5446.50
SDMH 39	SDMH 38	3.68%			5458.17	0		5456.94	0		5456.94	0	
0	0	65.9	36"	63.98			5450.17						5447.75
SDMH 40	SDMH 39	2.00%			5460.50	0		5458.17	0		5458.17	0	
0	0	91.5	36"	63.98			5452.00						5450.17
SDMH 41	SDMH 40	2.47%			5463.69	0		5460.50	0		5460.50	0	
	0	117.9	30"	53.46			5455.41						5452.50
SDMH 42	SDMH 41	2.48%			5467.00	0		5463.69	0		5463.69	0	
0	0	145.0	30"	53.46			5459.00						5455.41
SDMH 43	SDMH 42	2.49%			5471.27	0		5467.00	0		5467.00	0	
0	0	170.6	30"	53.46			5463.25						5459.00
SDMH 44	SDMH 43	3.30%			5474.21	0		5471.27	0		5471.27	0	
0	0	89.8	30"	45.08			5466.21						5463.25
SDMH 45	SDMH 44	3.08%			5482.85	0		5474.21	0		5474.21	0	
0	0	280.2	30"	37.60			5474.85						5466.21
C-C= MH center to MH center													

C-C= MH center to MH center

f:/ 18026/Projects/Drainage/Table 3 Summary of Storm Drain

10/30/2019

TABLE 3.5

Summary of Public Storm Drain

Residential Phase II

Upstream	Downstream	Slope Pipe length feet (C-C)	Pipe size inches	Design Q(cfs)	Upstream			Downstream		
					Rim	HGL	Invert	Rim	HGL	Invert
SDMH 46 0	SDMH 45 0	5.12% 45.9	24"	19.40	5485.20		0	5482.85	0	5474.85
SDMH 47 0	SDMH 45 0	5.80% 35.7	24"	18.20	5484.42		0	5482.85	0	5476.85
SDMH 48 0	SDMH 47 0	2.19% 54.0	18"	6.44	5485.58		0	5484.42	0	5478.92
SDMH 49 0	SDMH 48 0	1.21% 91.3	18"	6.44	5486.70		0	5485.58	0	5480.10
RESIDENTIAL PHASE II NORTH HALF										
SDMH 50 0	SDMH 25 0	2.51% 47.0	42"	105.47	5454.83		0	5455.10	0	5445.37
SDMH 51 0	SDMH 50 0	2.50% 130.0	42"	95.79	5457.97		0	5454.83	0	5446.55
SDMH 52 0	SDMH 51 0	2.50% 50.9	42"	95.79	5459.48		0	5457.97	0	5449.80
SDMH 53 0	SDMH 52 0	1.58% 129.2	42"	83.91	5462.35		0	5459.48	0	5451.07
SDMH 54 0	SDMH 53 0	1.00% 57.8	42"	76.43	5462.82		0	5462.35	0	5453.11
SDMH 55 0	SDMH 54 0	1.00% 232.3	36"	63.07	5464.40		0	5462.82	0	5453.69
SDMH 56 0	SDMH 55 0	1.00% 59.1	36"	56.50	5464.77		0	5464.40	0	5456.02
SDMH 57 0	SDMH 56 0	1.00% 138.9	36"	48.00	5466.00		0	5464.77	0	5456.61
SDMH 58 0	SDMH 57 0	1.89% 137.6	30"	48.00	5467.00		0	5466.00	0	5458.00

C-C= MH center to MH center

f./ 18026/Projects/Drainage/Table 3 Summary of Storm Drain

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TABLE 3.6												
Summary of Public Storm Drain												
Residential Phase II												
		Slope	Pipe length	Pipe size	Design	Upstream			Downstream			
Upstream	Downstream	feet (C-C)	inches	Q(cfs)	Rim	HGL	Invert	Rim	HGL	Invert		
SDMH 59	SDMH 58	1.99%			5468.50	0		5467.00	0			
0	0	55.33	30"	48.00			5461.70			5460.60		
SDMH 60	SDMH 59	1.96%			5468.80	0		5468.50	0			
0	0	30.66	30"	48.00			5462.30			5461.70		
SDMH 61	SDMH 60	3.06%			5472.00	0		5468.80	0			
0	0	112.85	24"	30.48			5465.75			5462.30		
SDMH 62	SDMH 61	3.00%			5481.50	0		5472.00	0			
0	0	297.54	24"	30.48			5474.68			5465.75		
SDMH 63	SDMH 62	3.01%			5483.72	0		5481.50	0			
0	0	102.10	24"	30.48			5477.75			5474.68		
SDMH 64	SDMH 63	2.40%			5490.73	0		5483.72	0			
0	0	290.63	24"	21.94			5484.72			5477.75		
SDMH 65	SDMH 64	2.30%			5496.20	0		5490.73	0			
0	0	237.87	18"	10.82			5490.70			5485.22		

C-C= MH center to MH center

f:/ 18026/Projects/Drainage/Table 3 Summary of Storm Drain

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