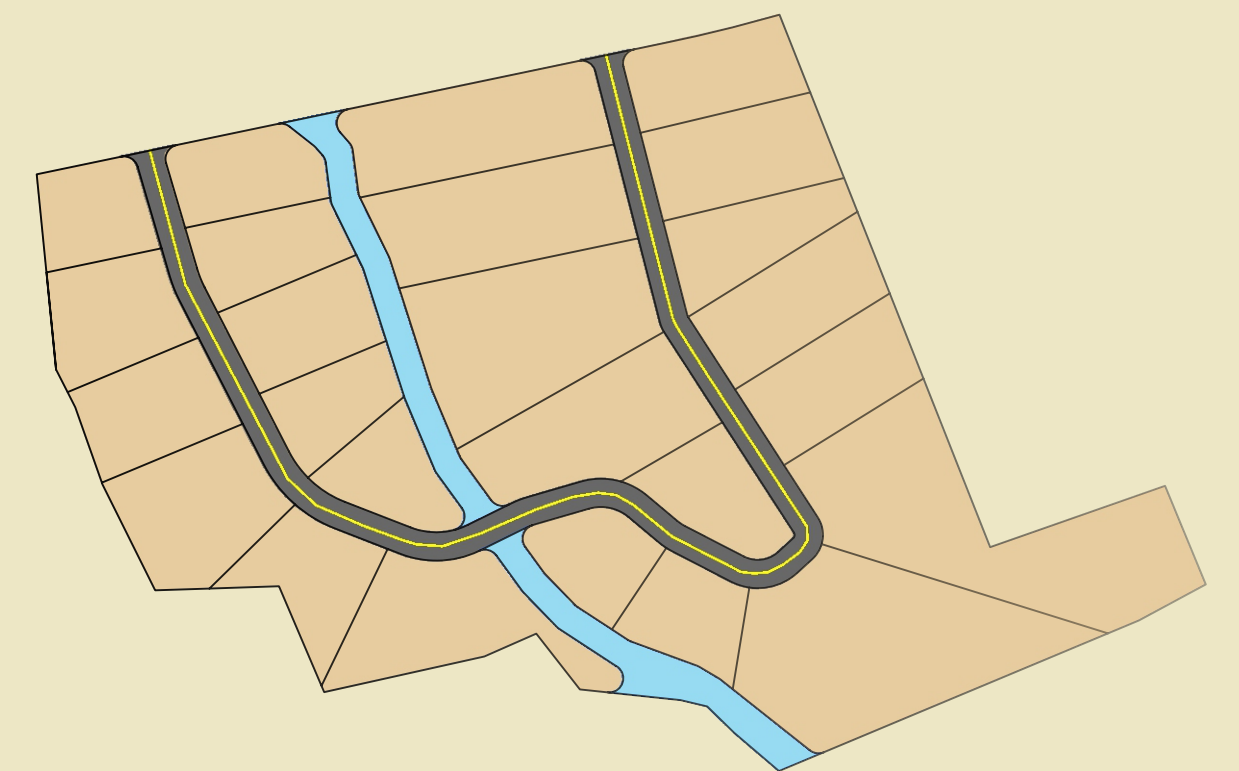




DELUSION PARK SUBDIVISION

Proposed Engineering Plan Book



Katie Chute

COGS | **nscc**

AutoCAD Civil 3D | COEP 3020

TABLE OF CONTENTS

Drawing 1- Plan of Proposed Road Alignment

In creating this drawing a surface dataset was imported, which then was used to create a road alignment and to display contour intervals for the Delusion Park Subdivision location. Another dataset was imported, that data was used to display the boundary for this location was used to show the extent of this location, the road and also the stream that runs through the property. The road alignment was then created by using coordinates that were provided. The table on the map shows the measured angles, lengths and directions.

Drawing 2 - Plan of Proposed Road Alignment Profiles

This drawing shows a profile for a proposed road alignment for the Delusion Park Subdivision. The alignment was created using the surface information for the area which then was used to create this profile. This profile was built to not exceed a slope incline of 6%maximum (4%maximum if possible). In the creation of this profile a sag curve K value of 15 and a crest curve value of 22 was used. The County of Annapolis standards is where these values were retrieved from. The goal in creating this profile was to reduce the amount of cut and fill that would be required for building this proposed road. A portion of the profile and the section of the road alignment that goes with the profile is what is being displayed in this drawing.

*Drawing 3a - Plan of Proposed Road Corridor &
Drawing 3b - Proposed Road Section View*

The drawing 3a shows the road corridor for the Delusion Park Subdivision proposed road. The first of several steps was to assemble a crowned lane at the centerline of the road, a daylight basin, and an urban curb gutter. In the creation of the corridor the alignment, the assembled pieces from above, and also the profile. The number of curves and tangents were set to 10 meters. A new surface was built for the corridor in order to implement information on the new surface's volume. The existing surface and the volume surface from the corridor were created to compare both surfaces. A report which encompasses the data that was generated, was then exported as an .html file. The drawing 3b shows the information from the report. This drawing also shows a section view that was built by first generating the sample lines across the alignment itself. Then by selecting these lines the section views were could be created. This section view displays the surface volume information from the proposed corridor surface.

*Drawing 4a - Preliminary Plan of Proposed Subdivision &
Drawing 4b - Parcel Lines, Curves and Area Tables*

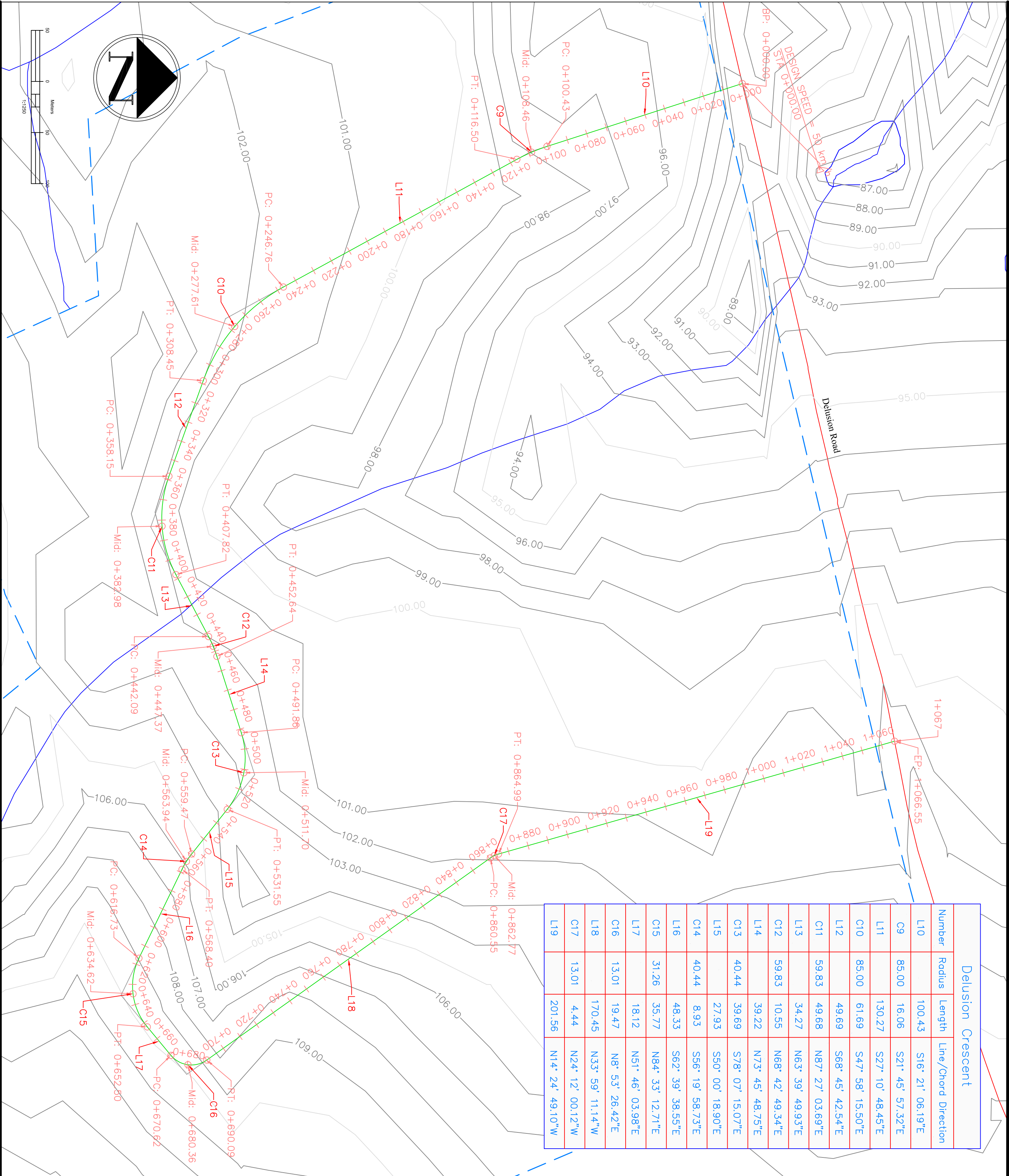
Drawing 4a shows the parcels that have been created by using the new ground surface that was created. The alignment of the stream, which was running across the proposed subdivision, has been created and also a right of way has been created along the stream and proposed road alignment. Using The Municipality of the County of Kings Bylaw regulations each parcel was subdivided with a minimum area of 4645.15 square meters. and a minimum frontage of 60.960 meters along with the frontage offset. There was also a minimum depth and width of 50 meters. The land that was left over was then redistributed evenly throughout all of the subdivided parcels. All the lengths, angles and directions of all the parcels were labeled for each line in order to provide more detail information for the development of the proposed Delusion Park Subdivision. The drawing 4b shows length, angles and directions information in a table format alongside the corresponding labels.

Drawing 5 - Plan of Proposed Rain Garden

This drawing shows a proposed rain garden for the Delusion Park Subdivision, the rain garden was created using the finished ground surface set to display at 0.25 meters and 1.25 meters. The elevation of the pond was changed to 91 meters for a better runoff and the grading was done to make sure that the bottom of the rain garden was even and the top outer edge was flat so no water could pool. A TIN volume surface was created to compare two surfaces and also to calculate a volume. A true comparison volume when all of the points from each surfaces are used to then calculate the differences in elevation that are then used to create this volume surface and calculate the volumes. This drawing shows the slope inside of the rain garden and also outside of the rain garden.

*Drawing 6a - Plan of Proposed Piping &
Drawing 6b - Piping, Manholes, Catch Basins, and Headwall Tables*

Drawing 6a shows a storm water pipe network proposed for the Delusion Park Subdivision, located at the uppermost slope of the proposed road. This will drain the surplus water down into the headwall. All the manholes found in this storm water pipe network are composed of 1,200 millimeter cylindrical structures and the pipes are composed of 300 millimeter cylindrical pipes. Both the pipes and manholes have been placed at the midpoint of proposed road alignment centerline and the edge of the road. Pipes were placed along the road alignment as to keep the length to 120 meters with a minimum slope of 1.5% and also a maximum slope of 4% and the manhole sump depths have been modified from 2 meters to 0.15 meters. This drawing also shows a profile, this profile shows existing ground, the proposed road, and where the manholes and pipes can be found along the proposed road. Drawing 6b shows the corresponding structure name, the details of that manhole(STMH) and catch basin (STCB), the pipes coming into the manhole/catch basin and also the pipes leading out of the manhole/catch basin. The tables shown in this drawing show two different sections. The tables named Storm Phase 1 goes with the network that runs along the proposed road alignment and Storm Phase 2 goes with the network that runs from the proposed road alignment to the proposed rain garden.



General Notes

Plan of
Proposed Road
Alignment
Delusion Park
Annapolis
County N.S.

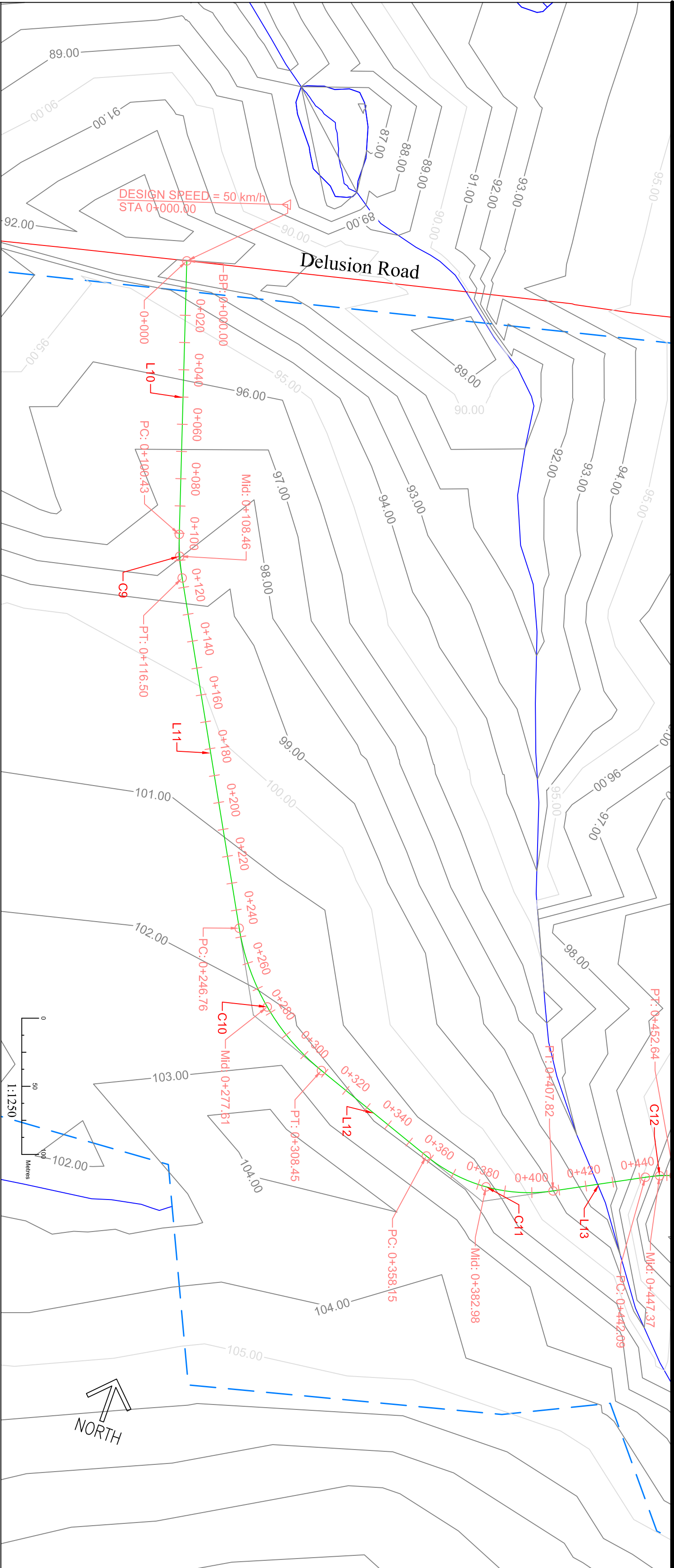
This is a parcel of Land near
Delusion Road in the Annapolis County.
It is the site of a proposed park
for the area.

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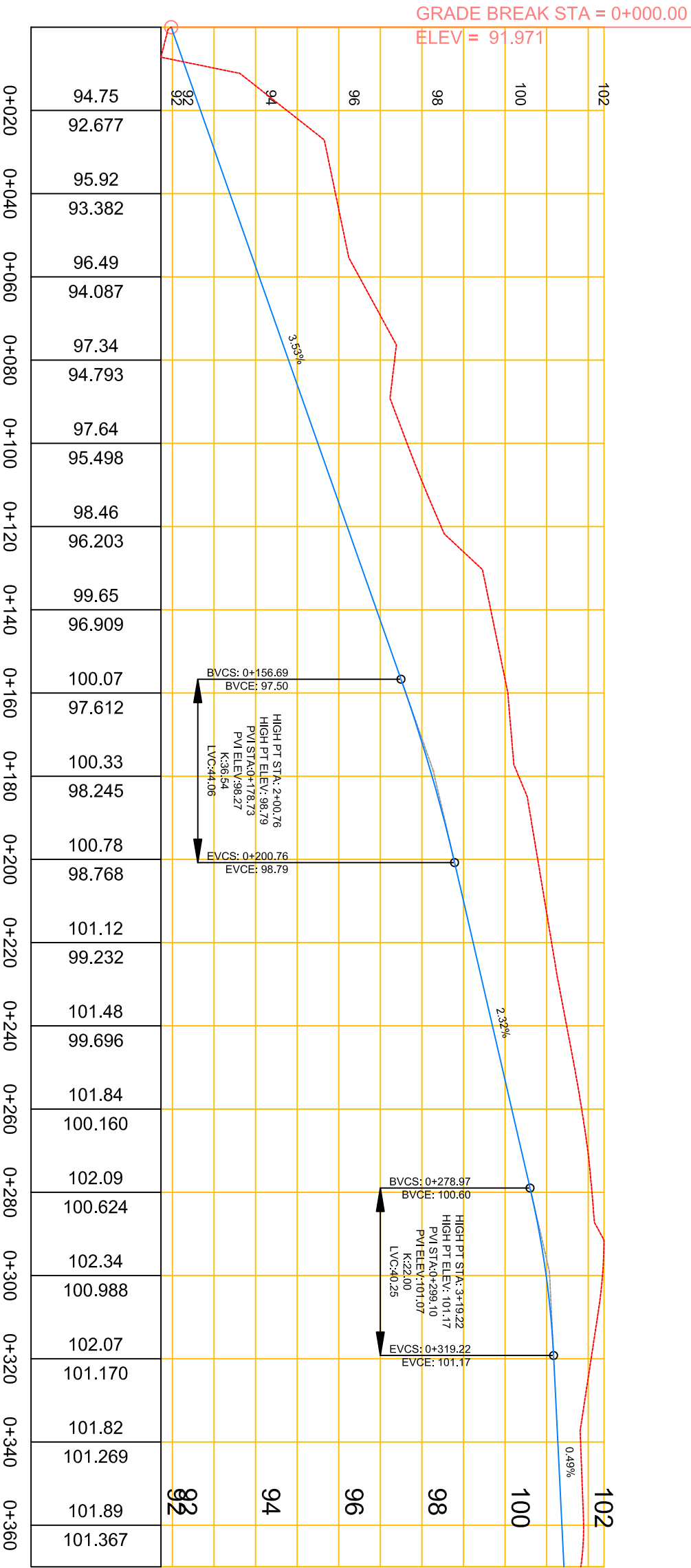
Produced By: Katie Chute
Date: January 8, 2016
Updated: March 22nd, 2016



Project	DELUSION_PARK	Sheet	
Date	09-05-2016		2016-1
Scale	1:1250		



Delusion Crescent PROFILE



General Notes

Proposed Road Profile

Delusion Park

Annapolis County N.S.

Existing Ground
Proposed Surface

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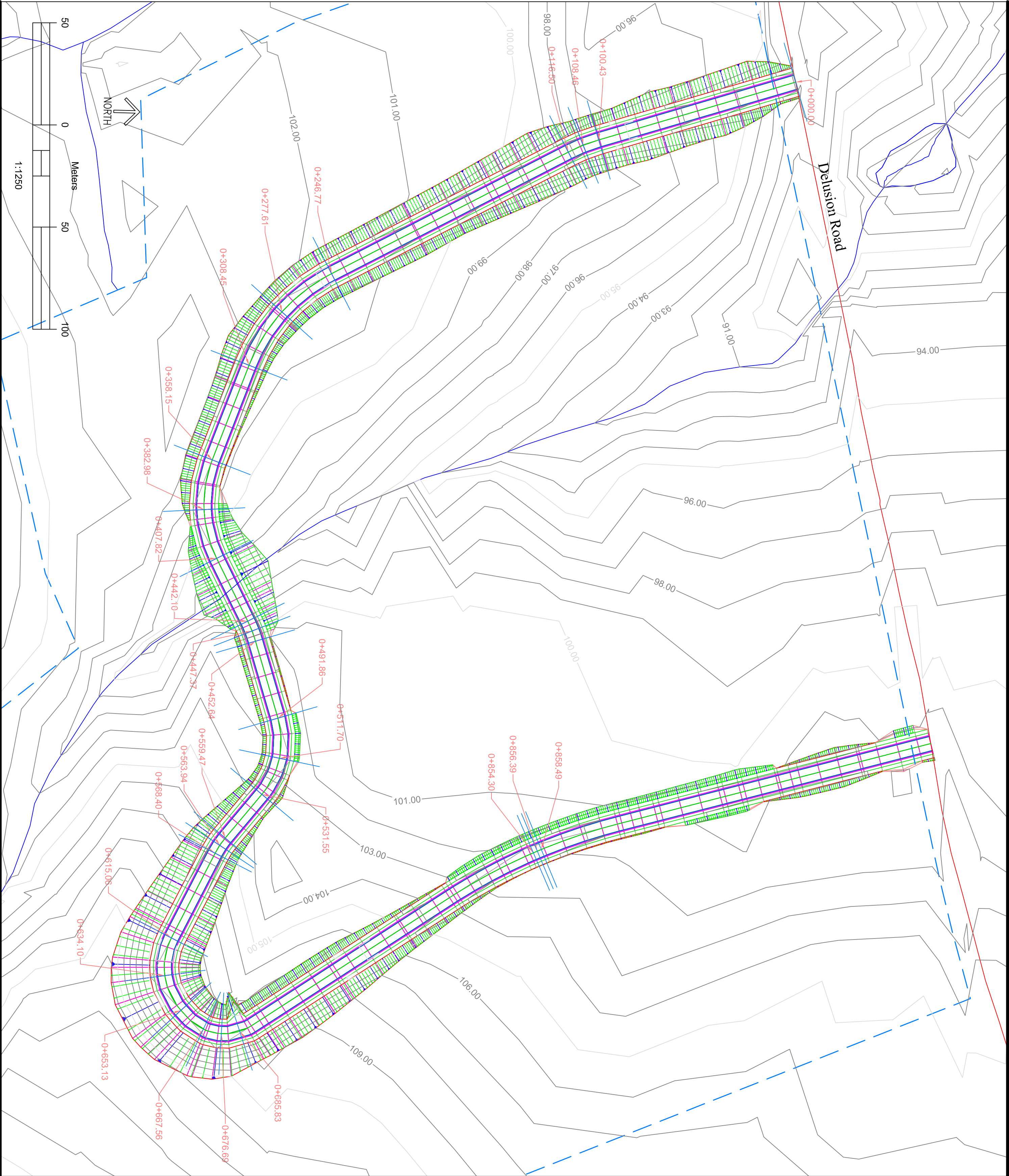
Produced By: Katie Chute
Date: January 14, 2016
Updated: March 11, 2016

Base data obtained from Service Nova Scotia & Municipal Relations Datalocator.
Sheets: 1045000065000_NAD83_DXF and 1045000065100_NAD83_DXF.

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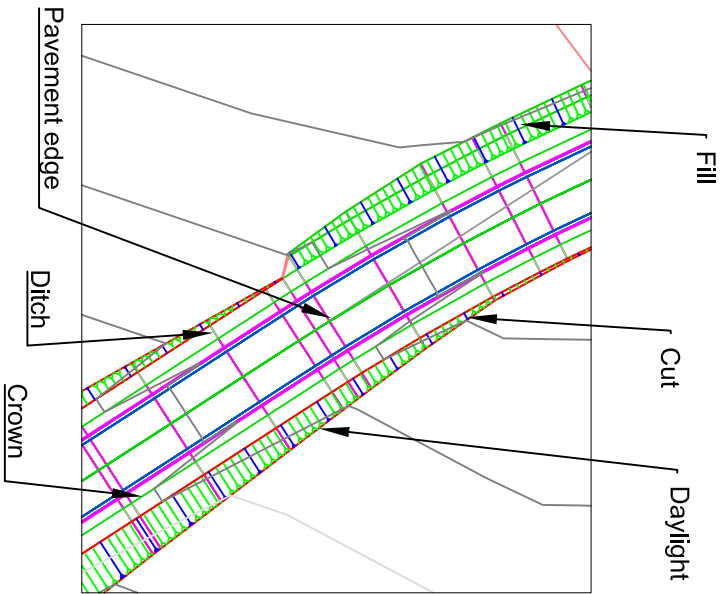


Project	DELUSION_PARK	Sheet	2016-2
Date	22-01-2016		
Scale	1:1250		



General Notes

Plan of Proposed Road
Corridor Delusion Park
Annapolis County N.S.



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Date: January 29th, 2016
Updated: March 11th, 2016

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Project	DELUSION_PARK	Sheet	
Date	29-01-2016		2016-3a
Scale	1:1250		

Proposed Road
Section Views
Delusion Park
Annapolis CountyN.S.

General Notes

Surface: Delusion_Crescent -(2)

Area 2D: 126142.588
Area 3D: 127367.207
Elevation Max: 111.822
Elevation Min:91.713
Number of Points: 2464
Number of Triangles: 4801

Surface: EG

Area 2D: 45330219.258
Area 3D: 45783068.082
Elevation Max: 217.900
Elevation Min: 0.100
Number of Points: 20050
Number of Triangles: 39966

Volume Surface: Delusion Crescent

Volume

Volume Cut: 48048.088
Volume Fill: 203196.259
Volume Total: 155148.171

Compare Surface: Delusion Crescent - (2)

Base Surface: EG

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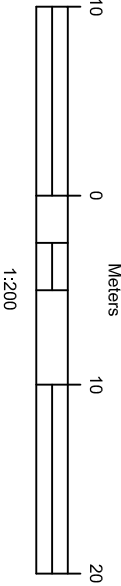
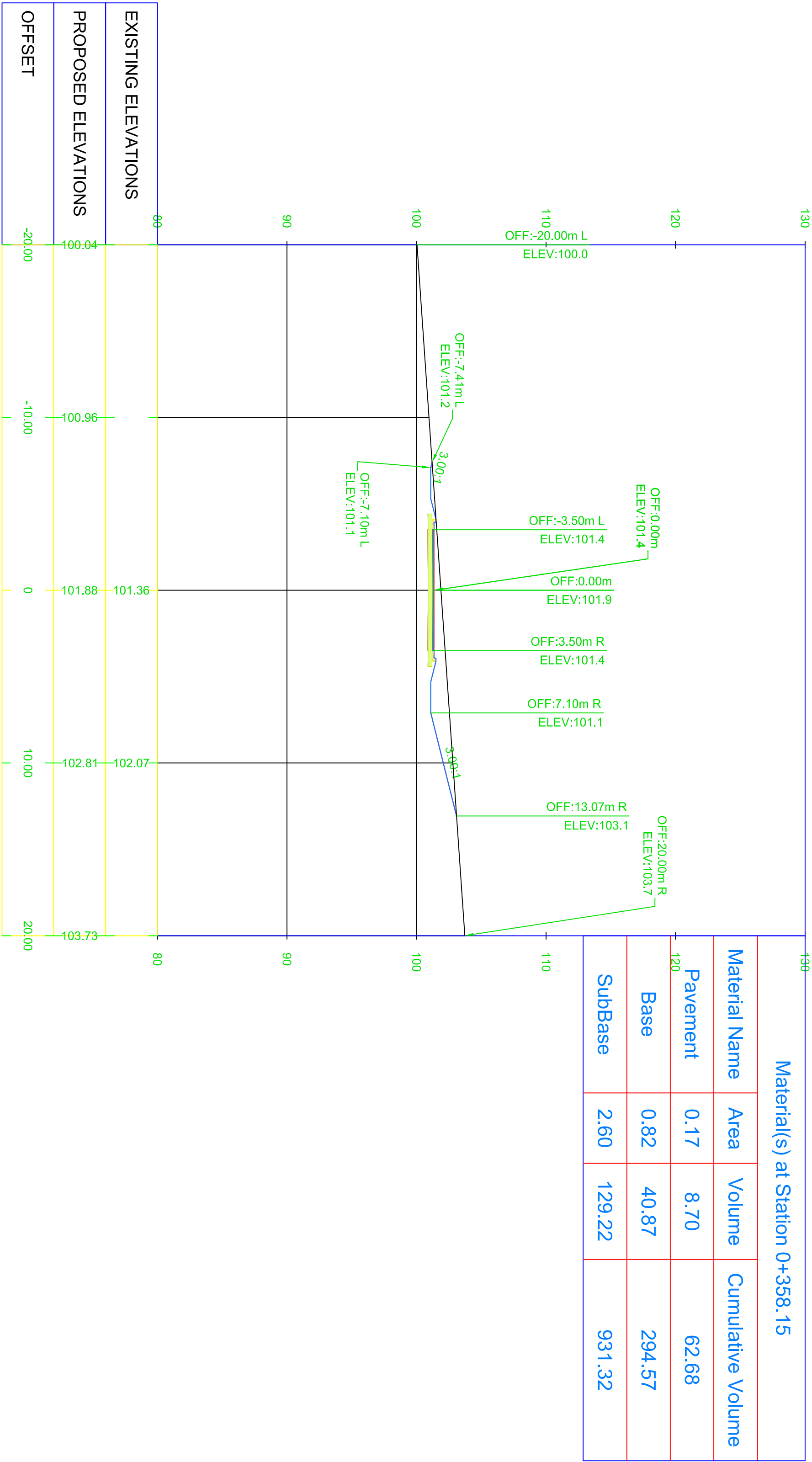
Base data obtained from Service Nova Scotia & Municipal Relations Data Locator
Sheets: 104500006500_NAD83_DFX and 1045000065100_NAD83_DFX.

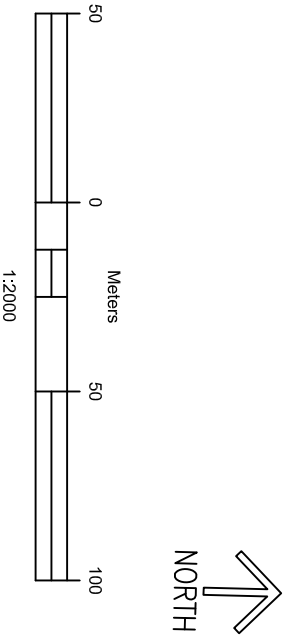
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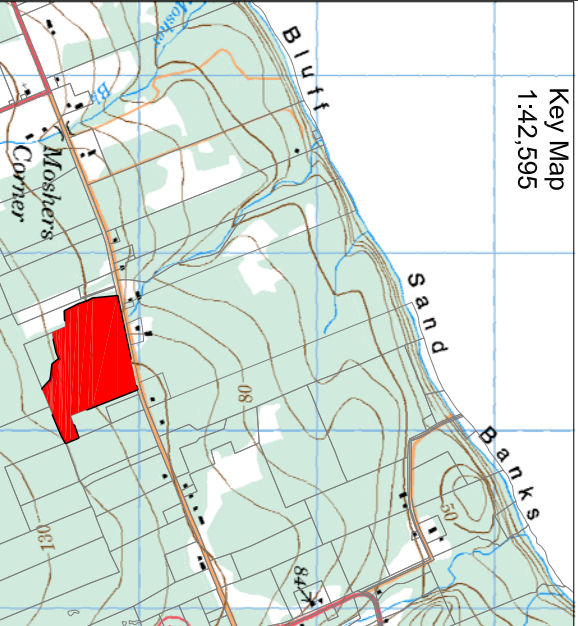
Project	DELUSION_PARK	Sheet	2016-3b
Date	29-01-2016		
Scale	1:200		

0+358.15





**Preliminary Plan of
Purposed Subdivision
of Lot 97-1
Mosher's Corner
Annapolis County N.S.**



*NOTE: The only boundaries shown on this plan which have been surveyed are the boundaries of Lot 97-1.
The common boundary between the existing areas of land identified by and, which is shown by a heavy broken line, is hereby certified as having been the common boundary.
The remaining boundaries of resulting Lot shown on this plan are a graphic representation only and do not represent the accurate shape or position of the lot boundaries which are subject to a field survey."

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Project	Sheet
DELUSION_PARK	2016-4a
Date	
05-02-2016	
Scale	
1:2000	

Line Curve and Parcel
Area Tables
Lot 97-1
Mosher's Corner
Annapolis County N.S.

Parcel Line and Curve Table			
Line #/Curve #	Length	Bearing/Delta	Radius
C144	2.26	12.97	10.00
L189	13.70	S66° 50' 55.87"E	
C157	10.67	61.12	10.00
L216	28.96	S56° 50' 55.87"E	
L239	22.23	S36° 00' 39.50"E	

Parcel Area Table

Parcel #	Area	Perimeter
14	15959.10m ²	529.20
23	20913.93m ²	644.76
11	5291.03m ²	309.59
4	9428.42m ²	383.68
1	5263.34m ²	288.11
2	7077.21m ²	338.00
3	7038.45m ²	344.44
6	10869.93m ²	561.37
5	6403.22m ²	390.09
7	5988.18m ²	311.99
8	5730.27m ²	319.54
9	6550.31m ²	331.67
10	5071.37m ²	295.60
17	6871.03m ²	351.64
18	8173.31m ²	383.52
19	6357.21m ²	367.28
20	8201.44m ²	392.03
21	7762.78m ²	372.44
22	22409.57m ²	802.10
24	5341.28m ²	302.57
25	5120.02m ²	278.70
12	11413.92m ²	487.94
13	12076.73m ²	493.76
15	11378.07m ²	466.17
16	5832.13m ²	322.59

Parcel Line and Curve Table

Line #/Curve #	Length	Bearing/Delta	Radius
C127	19.48	111.60	10.00
C130	2.32	13.29	10.00
L172	30.50	S36° 00' 39.50"E	
L222	6.99	S41° 11' 09.33"E	
L225	24.90	S7° 34' 19.08"E	
C161	3.23	18.49	10.00
L227	10.19	S26° 03' 28.88"E	
C163	0.87	4.98	10.00
L231	38.90	S26° 03' 28.88"E	
L233	41.27	S17° 44' 16.31"E	
C117	20.83	119.36	10.00
C120	5.87	33.61	10.00
L162	9.77	N41° 11' 09.33"W	
C121	3.23	18.49	10.00
L163	30.14	N7° 34' 19.08"W	
C122	1.45	8.32	10.00
L167	21.65	N17° 44' 16.31"W	
C128	14.02	80.32	10.00
L169	35.86	N36° 00' 39.50"W	
L170	5.33	N22° 42' 59.98"W	
C129	2.32	13.29	10.00
L173	0.00	N36° 00' 39.52"W	
C162	0.87	4.98	10.00
L232	46.90	N26° 03' 28.88"W	
L238	46.11	N22° 42' 59.98"W	
C134	13.86	79.42	10.00
C135	1.40	8.03	10.00
C139	2.23	12.80	10.00
C140	0.64	3.67	10.00
C141	27.32	156.55	10.00
L217	47.18	S56° 50' 55.87"E	
L218	33.95	S44° 02' 42.57"E	
L219	30.79	S36° 00' 39.50"E	
L177	30.30	S44° 02' 42.57"E	
C137	18.68	107.03	10.00
C138	2.23	12.80	10.00
C142	1.84	10.54	10.00
C143	1.34	7.69	10.00
L184	16.05	S59° 16' 51.94"E	
L185	10.94	S51° 35' 45.51"E	

Parcel Line and Curve Table

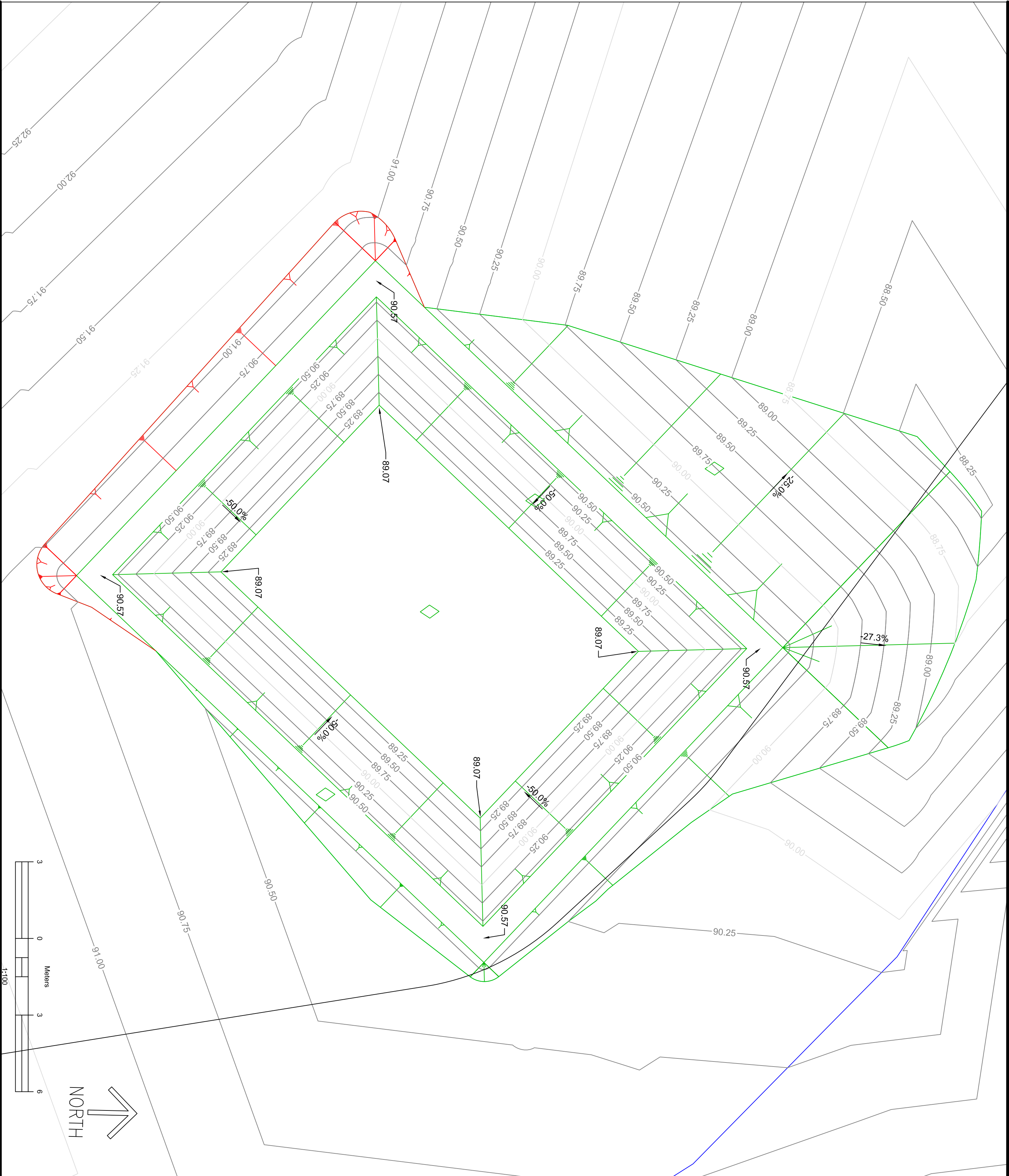
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L158	29.90	N16° 21' 06.19"W	
C114	14.17	10.83	75.00
C124	22.85	17.46	75.00
C131	12.31	10.10	69.83
C146	20.95	23.80	50.44
L192	27.93	N50° 00' 18.90"W	
L193	46.66	N62° 39' 38.55"W	
L194	14.43	S47° 32' 50.54"W	
C147	4.22	80.44	3.01
C154	7.12	17.73	23.01
C155	15.26	87.41	10.00
L207	20.24	N27° 10' 48.45"W	
L234	39.22	S73° 45' 48.75"W	
C164	6.72	12.66	30.44
C112	14.92	85.47	10.00
L157	20.77	S16° 21' 06.19"E	
C115	17.95	10.83	95.00
C125	32.80	19.78	95.00
L168	9.72	S68° 45' 42.54"E	
C126	56.88	46.67	69.83
L175	16.95	N63° 39' 49.93"E	
L176	17.32	N63° 39' 49.93"E	
C145	29.87	56.23	30.44
C148	12.55	31.24	23.01
C149	13.71	19.04	41.26
C150	4.74	5.39	50.44
C151	19.76	49.20	23.01
L195	14.43	N47° 32' 50.54"E	
C153	0.97	18.48	3.01
C156	16.16	92.59	10.00
L206	29.65	S27° 10' 48.45"E	
L213	32.17	S27° 10' 48.45"E	
L221	27.93	S60° 00' 18.90"E	
C160	36.54	50.75	41.26
L235	39.22	N73° 45' 48.75"E	
L237	39.98	S68° 45' 42.54"E	
C116	8.74	50.05	10.00
L160	21.88	S51° 46' 21.96"E	
C123	1.45	8.32	10.00

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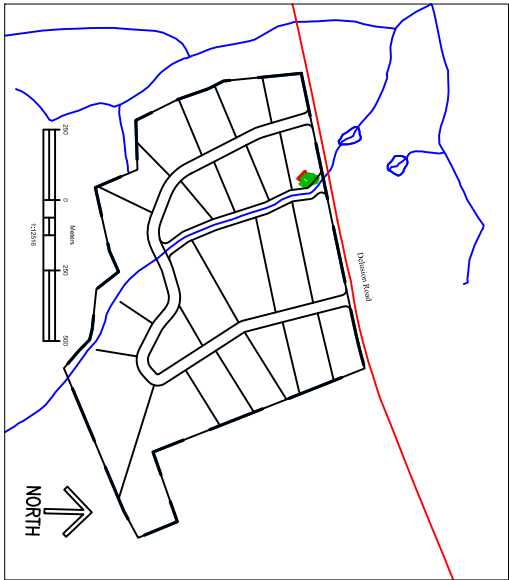


Project DELUSSION_PARK	Sheet 2016-4b
Date 05-02-2016	
Scale N/A	



General Notes

Plan of Proposed
Rain Garden
Grading
Delusion Park
Annapolis
County N.S.



Volume Cut: 188.85 Cubic Metres
Volume Fill: 188.93 Cubic Metres
Volume Total: 188.93 Cubic Metres
Compare Surface: Grading for Rain Garden
Base Surface: FGI

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Updated: March 17, 2016

Base Source: Nova Scotia Topographic Database (NSTDB)
1:10,000 Enhanced Topographic Database, From the Nova Scotia Geomatics Centre (NSGC), Service Nova Scotia and Municipal Relations, 160 Willow Street, Amherst, NS.
Source Map Sheets: 1045000065000, 1045000065100



Project	Sheet
DELUSION_PARK	
Date	2016-5
19-02-2016	
Scale	
1:100	

Proposed Pipe Network and Profile

Delusion Park Annapolis County N.S.

- Existing Ground
- Proposed Surface
- Manhole Structure
- Catch Basin
- Pipes

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Lawrencetown, Nova Scotia

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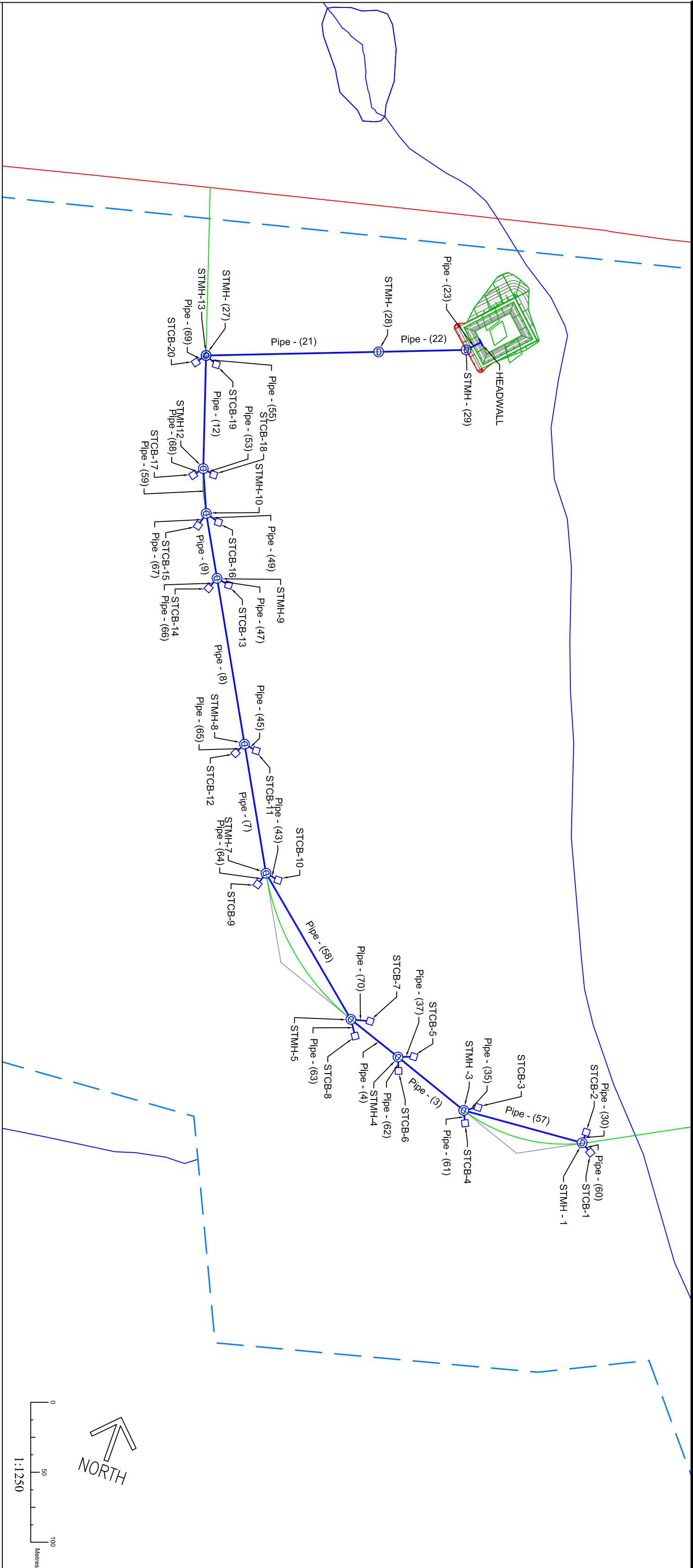
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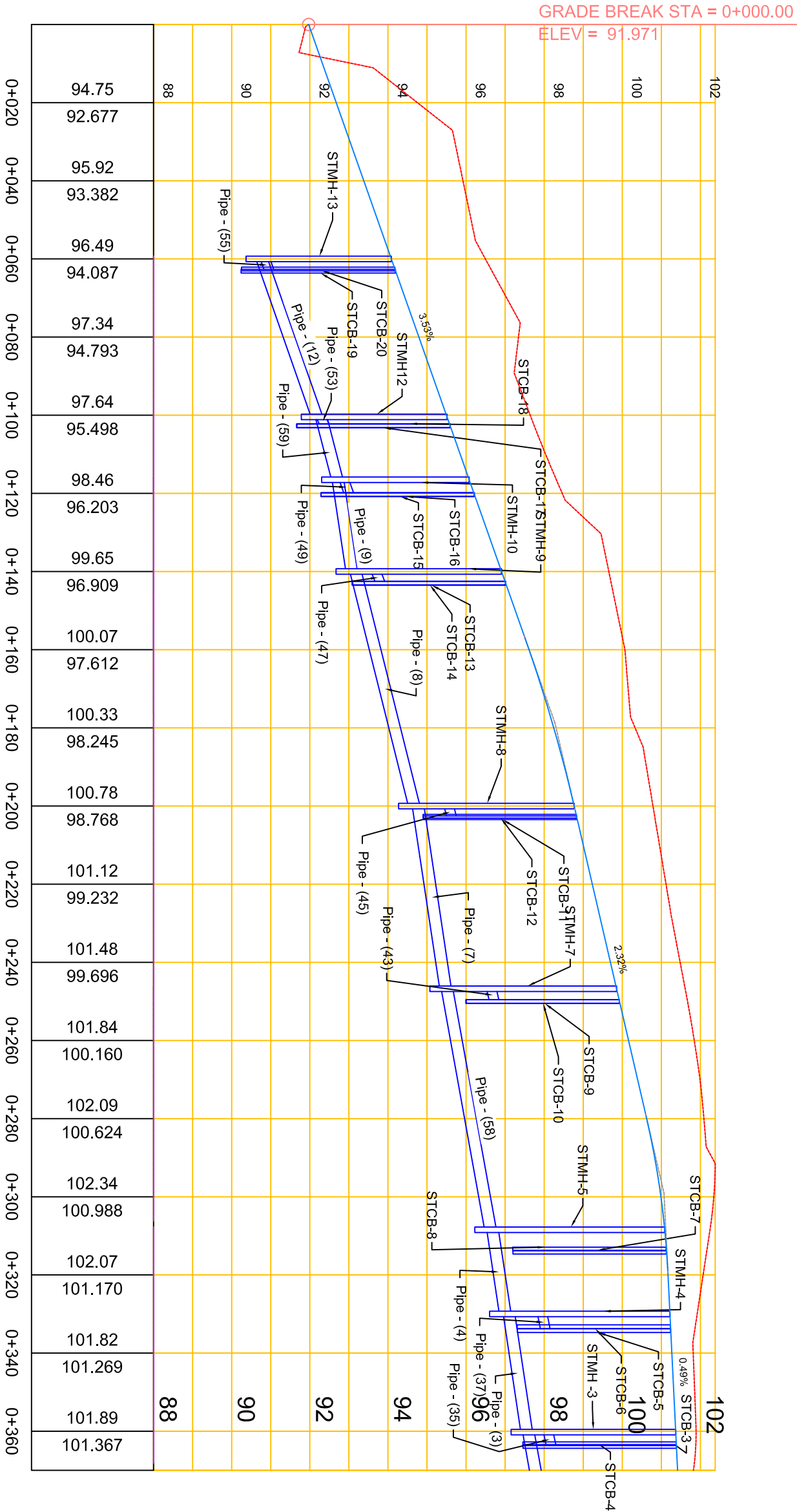
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Project	Sheet
DELUSION_PARK	
Date	2016-6a
02-03-2016	
Scale	1:1250



Delusion Crescent PROFILE



Proposed Pipe Network Tables For Delusion Park Annapolis CountyN.S.

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Project	Sheet
DELUSION_PARK	2016-6b
Date	
02-03-2016	
Scale	
N/A	

STORM PHASE 1			
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
STCB-13	777 mm RIM = 97.01 SUMP = 93.19 INV OUT = 93.687		Pipe - (47), 250 mm REINFORCED CONCRETE INV OUT =93.69
STCB-14	777 mm RIM = 97.01 SUMP = 93.19 INV OUT = 93.686		Pipe - (66), 250 mm REINFORCED CONCRETE INV OUT =93.69
STMH-9	1200 mm RIM = 96.91 SUMP = 92.77 INV IN = 93.022 INV IN = 93.567 INV IN = 93.570 INV OUT = 92.922	Pipe - (8), 300 mm REINFORCED CONCRETE INV IN =93.02 Pipe - (47), 250 mm REINFORCED CONCRETE INV IN =93.57 Pipe - (66), 250 mm REINFORCED CONCRETE INV IN =93.57	Pipe - (9), 300 mm REINFORCED CONCRETE INV OUT =92.92
STCB-15	777 mm RIM = 96.21 SUMP = 92.39 INV OUT = 92.886		Pipe - (67), 250 mm REINFORCED CONCRETE INV OUT =92.89
STCB-16	777 mm RIM = 96.21 SUMP = 92.38 INV OUT = 92.884		Pipe - (49), 250 mm REINFORCED CONCRETE INV OUT =92.88
STMH-10	1200 mm RIM = 96.08 SUMP = 92.40 INV IN = 92.570 INV IN = 92.554 INV IN = 92.750 INV IN = 92.754	Pipe - (9), 300 mm REINFORCED CONCRETE INV IN =92.57 Pipe - (59), 300 mm REINFORCED CONCRETE INV IN =92.55 Pipe - (49), 250 mm REINFORCED CONCRETE INV IN =92.75 Pipe - (67), 250 mm REINFORCED CONCRETE INV IN =92.75	
STCB-17	777 mm RIM = 95.59 SUMP = 91.77 INV OUT = 92.267		Pipe - (68), 250 mm REINFORCED CONCRETE INV OUT =92.27
STCB-18	777 mm RIM = 95.59 SUMP = 91.76 INV OUT = 92.264		Pipe - (53), 250 mm REINFORCED CONCRETE INV OUT =92.26
STMH12	1200 mm RIM = 95.51 SUMP = 91.88 INV IN = 92.156 INV IN = 92.160 INV OUT = 92.138 INV OUT = 92.033	Pipe - (53), 250 mm REINFORCED CONCRETE INV IN =92.16 Pipe - (68), 250 mm REINFORCED CONCRETE INV IN =92.16	Pipe - (59), 300 mm REINFORCED CONCRETE INV OUT =92.14 Pipe - (12), 300 mm REINFORCED CONCRETE INV OUT =92.03
STCB-19	777 mm RIM = 94.19 SUMP = 90.34 INV OUT = 90.841		Pipe - (55), 250 mm REINFORCED CONCRETE INV OUT =90.84
STCB-20	777 mm RIM = 94.18 SUMP = 90.35 INV OUT = 90.851		Pipe - (69), 250 mm REINFORCED CONCRETE INV OUT =90.85
STMH-13	1200 mm RIM = 94.09 SUMP = 90.47 INV IN = 90.618 INV IN = 90.732 INV IN = 90.740	Pipe - (12), 300 mm REINFORCED CONCRETE INV IN =90.62 Pipe - (55), 250 mm REINFORCED CONCRETE INV IN =90.73 Pipe - (69), 250 mm REINFORCED CONCRETE INV IN =90.74	

STORM PHASE 2			
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
STMH- (27)	1200 mm RIM = 94.09 SUMP = 89.49 INV OUT = 89.641		Pipe - (21), 300 mm REINFORCED CONCRETE INV OUT =89.64
STMH- (28)	1200 mm RIM = 94.00 SUMP = 87.28 INV IN = 88.738 INV OUT = 87.434	Pipe - (21), 300 mm REINFORCED CONCRETE INV IN =88.74	Pipe - (22), 300 mm REINFORCED CONCRETE INV OUT =87.43
STMH - (29)	1200 mm RIM = 91.07 SUMP = 86.72 INV IN = 86.966 INV OUT = 85.866	Pipe - (22), 300 mm REINFORCED CONCRETE INV IN =86.97	Pipe - (23), 300 mm REINFORCED CONCRETE INV OUT =85.87
Headwall	777 mm RIM = 86.35 SUMP = 777 INV IN = 85.776	Pipe - (23), 300 mm REINFORCED CONCRETE INV IN =85.78	

STORM PHASE 1			
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
STCB-1	777 mm RIM = 101.64 SUMP = 97.82 INV OUT = 98.317		Pipe - (60), 250 mm REINFORCED CONCRETE INV OUT =98.32
STCB-2	777 mm RIM = 101.64 SUMP = 97.81 INV OUT = 98.314		Pipe - (30), 250 mm REINFORCED CONCRETE INV OUT =98.31
STMH - 1	1200 mm RIM = 101.63 SUMP = 98.10 INV IN = 98.254 INV IN = 98.250 INV OUT = 98.285	Pipe - (30), 250 mm REINFORCED CONCRETE INV IN =98.25 Pipe - (60), 250 mm REINFORCED CONCRETE INV IN =98.25	Pipe - (57), 300 mm REINFORCED CONCRETE INV OUT =98.26
STCB-3	777 mm RIM = 101.38 SUMP = 97.56 INV OUT = 98.058		Pipe - (35), 250 mm REINFORCED CONCRETE INV OUT =98.06
STCB-4	777 mm RIM = 101.38 SUMP = 97.55 INV OUT = 98.054		Pipe - (61), 250 mm REINFORCED CONCRETE INV OUT =98.05
STMH - 3	1200 mm RIM = 101.37 SUMP = 97.25 INV IN = 97.447 INV IN = 97.979 INV IN = 97.985 INV OUT = 97.403	Pipe - (57), 300 mm REINFORCED CONCRETE INV IN =97.45 Pipe - (35), 250 mm REINFORCED CONCRETE INV IN =97.98 Pipe - (61), 250 mm REINFORCED CONCRETE INV IN =97.99	Pipe - (3), 300 mm REINFORCED CONCRETE INV OUT =97.40
STCB-5	777 mm RIM = 101.24 SUMP = 97.41 INV OUT = 97.911		Pipe - (37), 250 mm REINFORCED CONCRETE INV OUT =97.91
STCB-6	777 mm RIM = 101.23 SUMP = 97.41 INV OUT = 97.907		Pipe - (62), 250 mm REINFORCED CONCRETE INV OUT =97.91
STMH-4	1200 mm RIM = 101.22 SUMP = 96.70 INV IN = 96.949 INV IN = 97.827 INV IN = 97.832 INV OUT = 96.853	Pipe - (3), 300 mm REINFORCED CONCRETE INV IN =96.95 Pipe - (37), 250 mm REINFORCED CONCRETE INV IN =97.83 Pipe - (62), 250 mm REINFORCED CONCRETE INV IN =97.83	Pipe - (4), 300 mm REINFORCED CONCRETE INV OUT =96.85
STCB-7	777 mm RIM = 101.13 SUMP = 97.30 INV OUT = 97.802		Pipe - (70), 250 mm REINFORCED CONCRETE INV OUT =97.80
STCB-8	777 mm RIM = 101.12 SUMP = 97.30 INV OUT = 97.795		Pipe - (63), 250 mm REINFORCED CONCRETE INV OUT =97.80
STMH-5	1200 mm RIM = 101.09 SUMP = 96.33 INV IN = 96.328 INV IN = 96.476 INV IN = 97.703 INV IN = 97.699	Pipe - (4), 300 mm REINFORCED CONCRETE INV IN =96.53 Pipe - (58), 300 mm REINFORCED CONCRETE INV IN =96.48 Pipe - (63), 250 mm REINFORCED CONCRETE INV IN =97.70 Pipe - (70), 250 mm REINFORCED CONCRETE INV IN =97.70	
STCB-9	777 mm RIM = 99.93 SUMP = 96.10 INV OUT = 96.600		Pipe - (64), 250 mm REINFORCED CONCRETE INV OUT =96.60
STCB-10	777 mm RIM = 99.92 SUMP = 96.10 INV OUT = 96.599		Pipe - (43), 250 mm REINFORCED CONCRETE INV OUT =96.60
STMH-7	1200 mm RIM = 99.85 SUMP = 95.17 INV IN = 96.525 INV IN = 96.526 INV OUT = 95.362 INV OUT = 95.325	Pipe - (43), 250 mm REINFORCED CONCRETE INV IN =96.52 Pipe - (64), 250 mm REINFORCED CONCRETE INV IN =96.53	Pipe - (58), 300 mm REINFORCED CONCRETE INV OUT =95.36 Pipe - (7), 300 mm REINFORCED CONCRETE INV OUT =95.32
STCB-11	777 mm RIM = 98.83 SUMP = 95.01 INV OUT = 95.509		Pipe - (45), 250 mm REINFORCED CONCRETE INV OUT =95.51
STCB-12	777 mm RIM = 98.82 SUMP = 95.00 INV OUT = 95.500		Pipe - (65), 250 mm REINFORCED CONCRETE INV OUT =95.50
STMH-8	1200 mm RIM = 98.77 SUMP = 94.37 INV IN = 94.623 INV IN = 95.438 INV IN = 95.432 INV OUT = 94.523	Pipe - (7), 300 mm REINFORCED CONCRETE INV IN =94.62 Pipe - (45), 250 mm REINFORCED CONCRETE INV IN =95.44 Pipe - (65), 250 mm REINFORCED CONCRETE INV IN =95.43	Pipe - (8), 300 mm REINFORCED CONCRETE INV OUT =94.52

