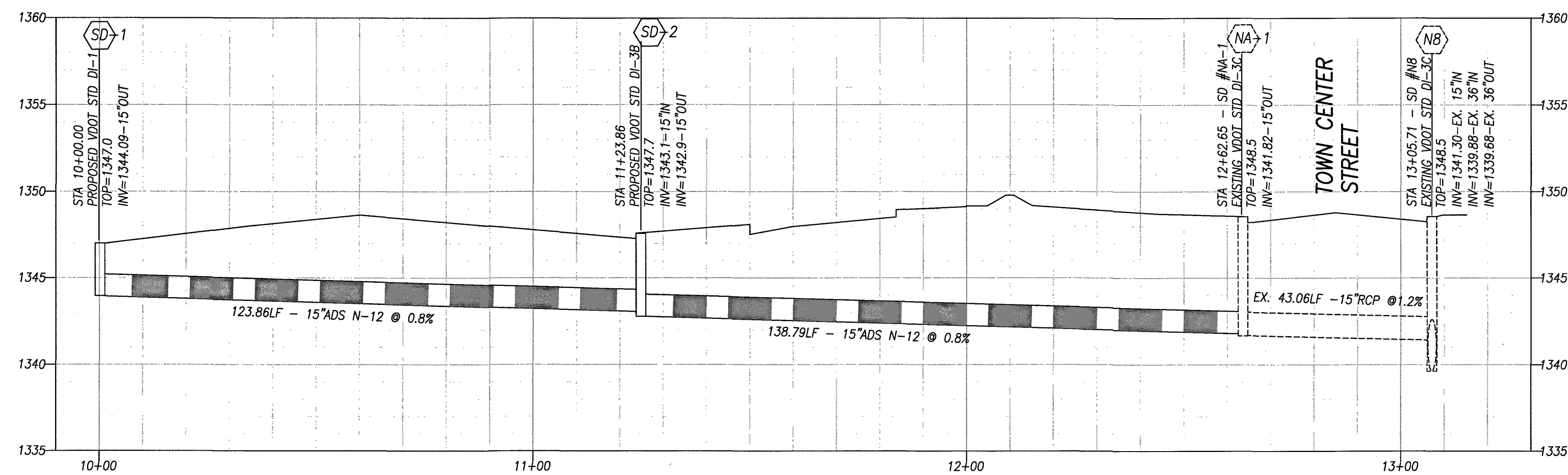
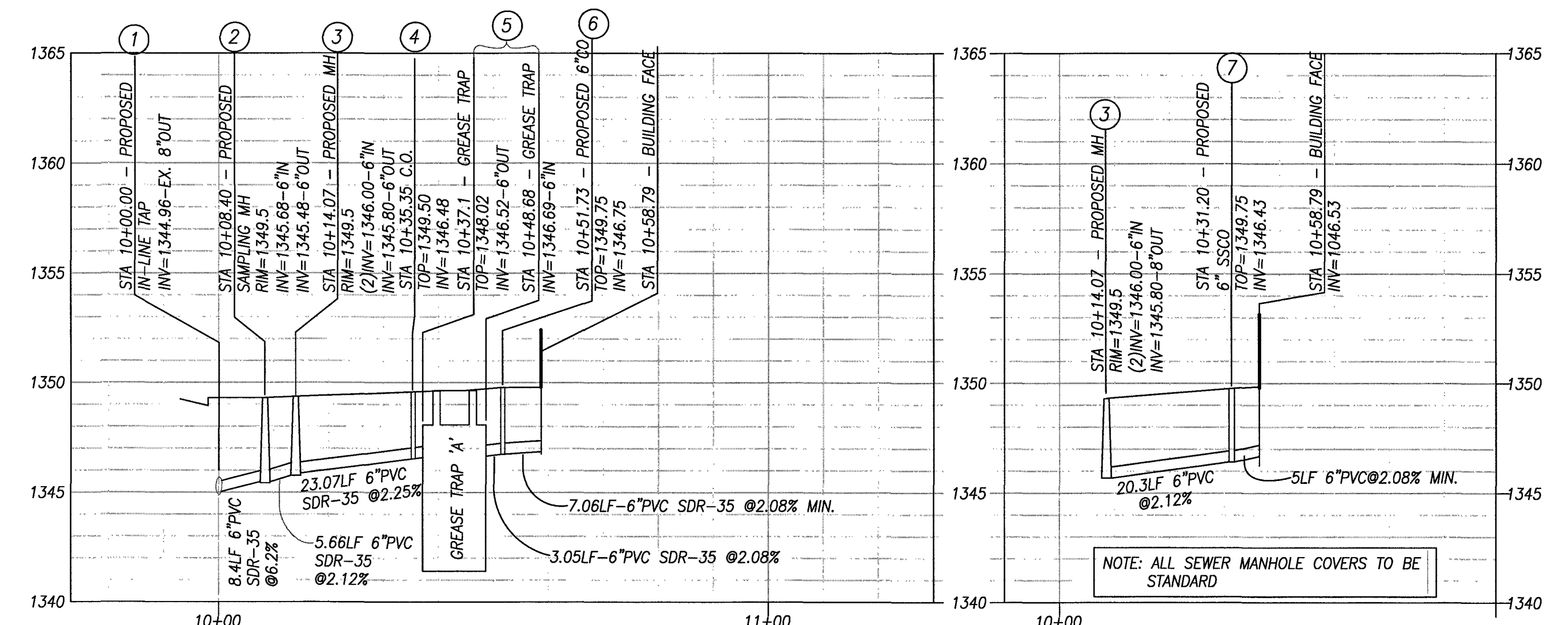




STORM DRAIN PROFILE

SCALE: HOR. - 1"=20'
VER. - 1"=5'



SANITARY SEWER LATERAL PROFILES

SCALE: HOR. - 1"=20'
VER. - 1"=5'

Inlet Report

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

Wednesday, Oct 7 2015

SD-2 Q10 L12

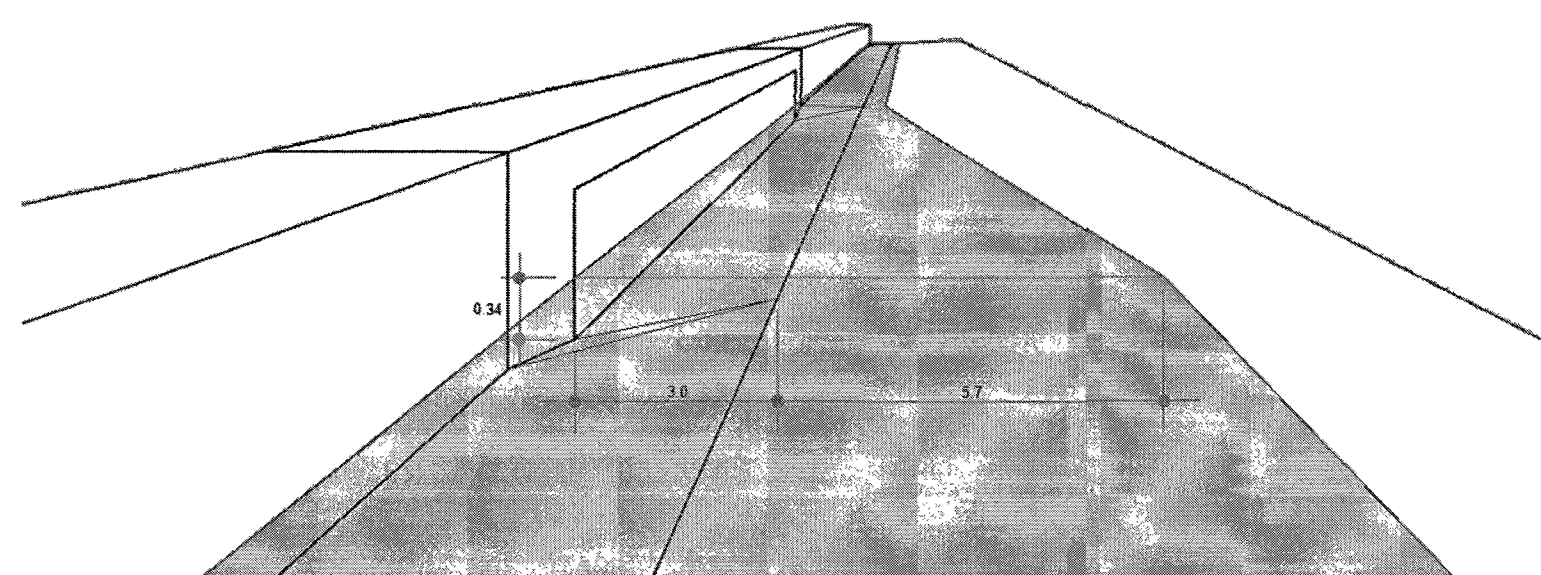
Curb Inlet
Location = On grade
Curb Length (ft) = 12.00
Throat Height (in) = 6.00
Grate Area (sqft) = -0-
Grate Width (ft) = -0-
Grate Length (ft) = -0-

Gutter
Slope, Sw (ft/ft) = 0.020
Slope, Sx (ft/ft) = 0.020
Local Depr (in) = 2.00
Gutter Width (ft) = 3.00
Gutter Slope (%) = 2.00
Gutter n-value = 0.016

Calculations
Compute by: Known Q
Q (cfs) = 2.30

Highlighted
Q Total (cfs) = 2.30
Q Capt (cfs) = 2.02
Q Bypass (cfs) = 0.28
Depth at Inlet (in) = 4.09
Efficiency (%) = 88
Gutter Spread (ft) = 8.70
Gutter Vel (ft/s) = 3.04
Bypass Spread (ft) = 4.00
Bypass Depth (in) = 0.96

All dimensions in feet



Channel Report

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

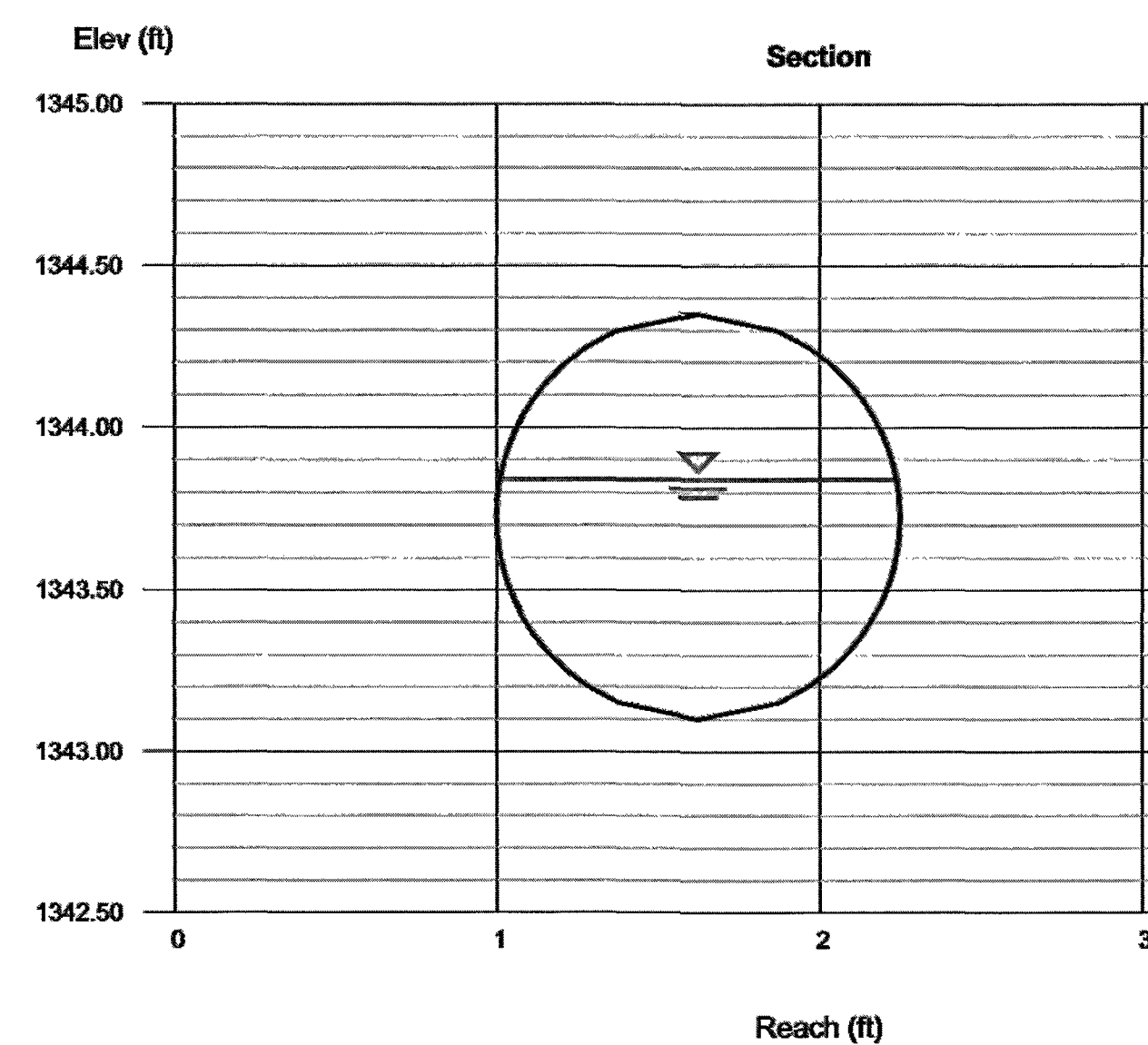
Wednesday, Nov 4 2015

SD1 - SD2 Q10

Circular
Diameter (ft) = 1.25
Invert Elev (ft) = 1343.10
Slope (%) = 0.80
N-Value = 0.012

Calculations
Compute by: Known Q
Known Q (cfs) = 4.10

Highlighted
Depth (ft) = 0.74
Q (cfs) = 4.100
Area (sqft) = 0.76
Velocity (ft/s) = 5.40
Wetted Perim (ft) = 2.20
Crit Depth, Yc (ft) = 0.82
Top Width (ft) = 1.23
EGL (ft) = 1.19



Channel Report

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

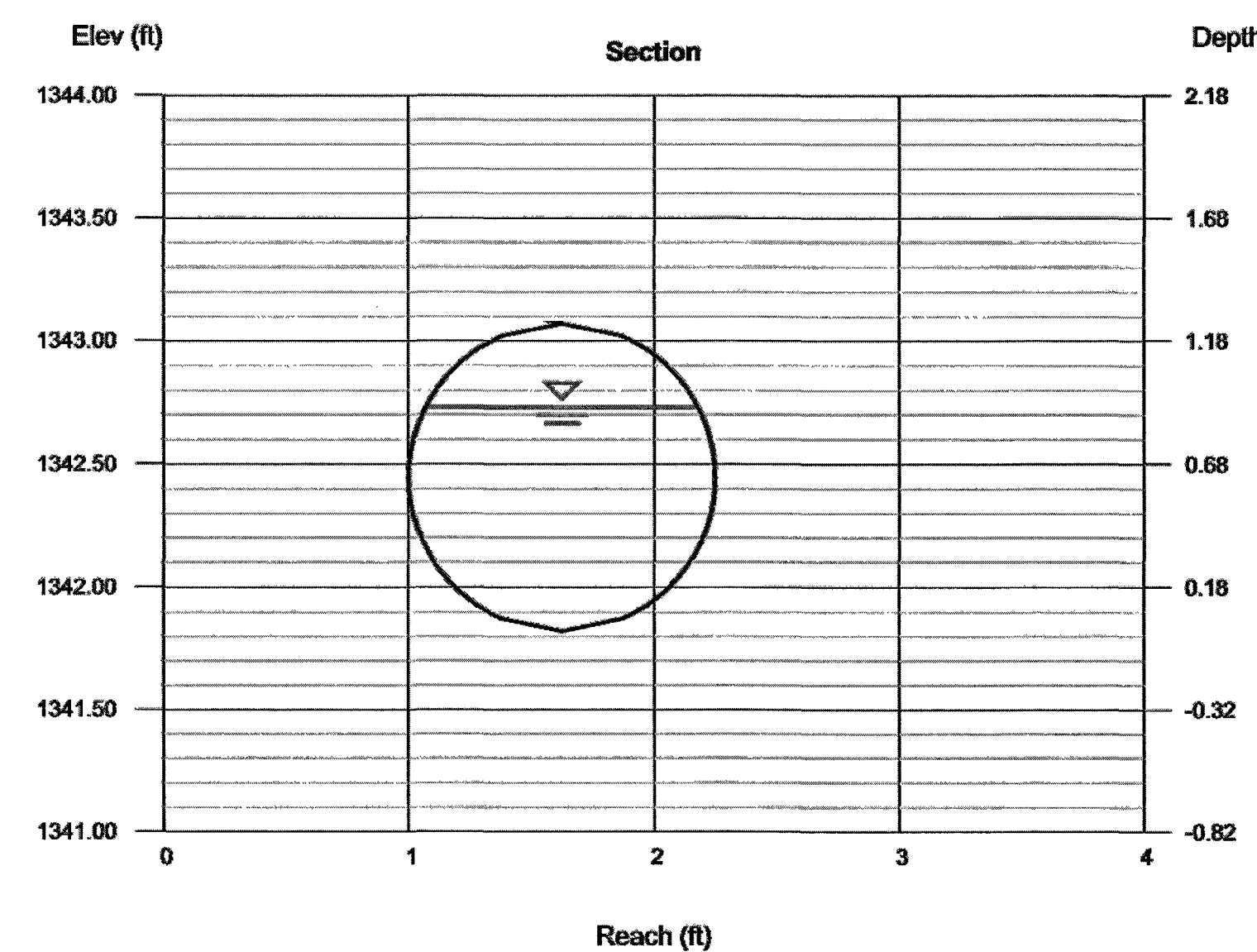
Wednesday, Nov 4 2015

SD2 - NA1 Q10

Circular
Diameter (ft) = 1.25
Invert Elev (ft) = 1341.82
Slope (%) = 0.80
N-Value = 0.012

Calculations
Compute by: Known Q
Known Q (cfs) = 5.50

Highlighted
Depth (ft) = 0.91
Q (cfs) = 5.500
Area (sqft) = 0.96
Velocity (ft/s) = 5.74
Wetted Perim (ft) = 2.56
Crit Depth, Yc (ft) = 0.95
Top Width (ft) = 1.11
EGL (ft) = 1.42



Channel Report

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

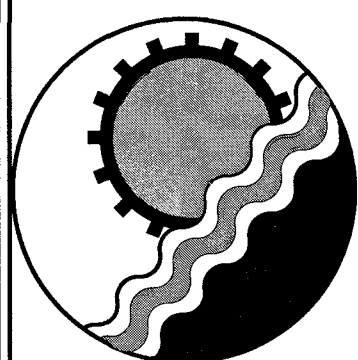
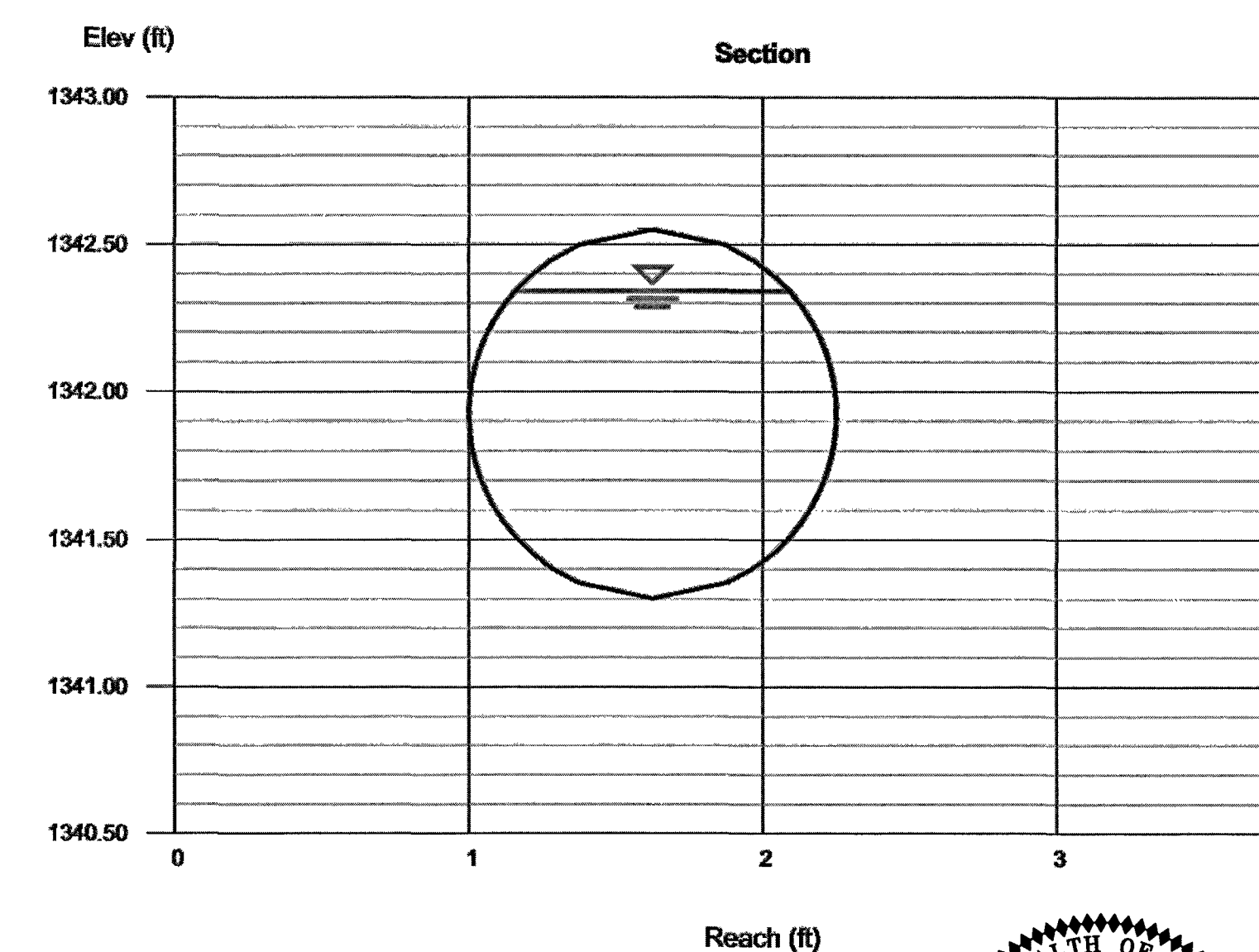
Wednesday, Nov 4 2015

NA1 - N8 Q10

Circular
Diameter (ft) = 1.25
Invert Elev (ft) = 1341.30
Slope (%) = 0.80
N-Value = 0.012

Calculations
Compute by: Known Q
Known Q (cfs) = 6.30

Highlighted
Depth (ft) = 1.04
Q (cfs) = 6.300
Area (sqft) = 1.09
Velocity (ft/s) = 5.77
Wetted Perim (ft) = 2.88
Crit Depth, Yc (ft) = 1.02
Top Width (ft) = 0.93
EGL (ft) = 1.56



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Drawn BRF
Designed RHW
Checked RHW
Approved RHW

UTILITY PROFILES & STORM CALCULATIONS
EL RODEO RESTAURANT
AT DALEVILLE TOWN CENTER
BOTETOURT COUNTY - VIRGINIA

SCALE: AS SHOWN
DATE: APR 19, 2016
PROJECT: 15058
C8

