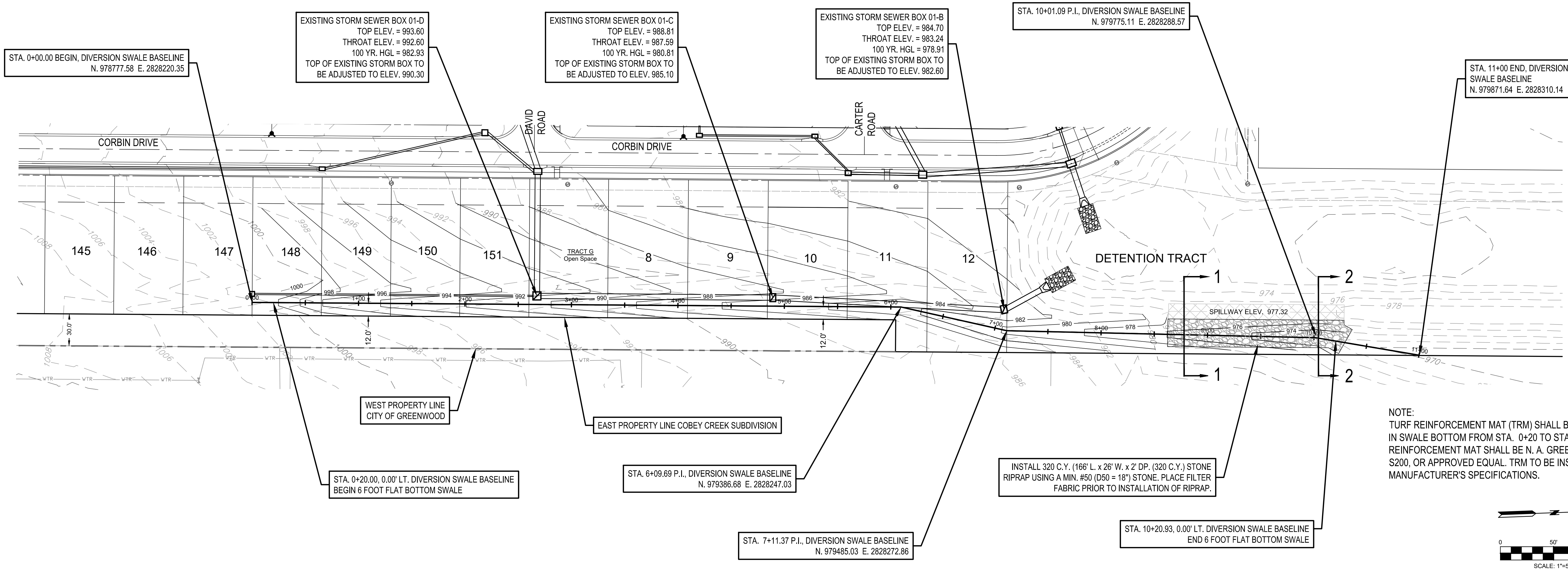
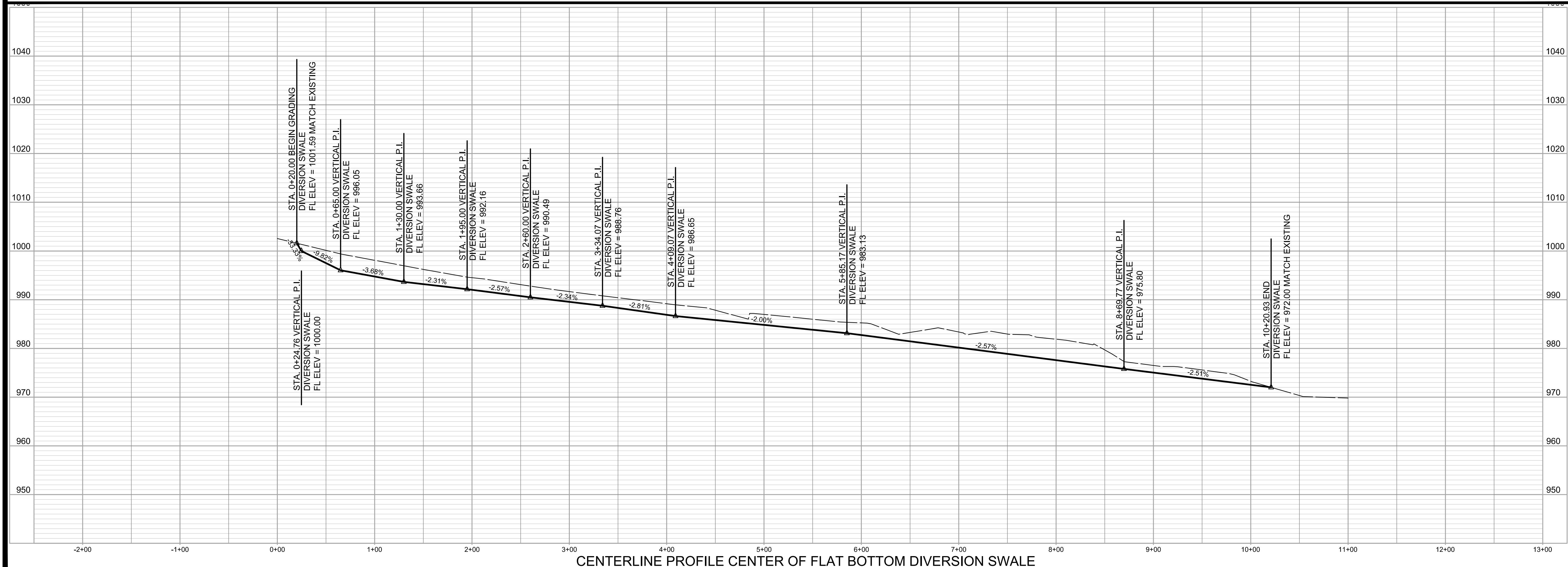
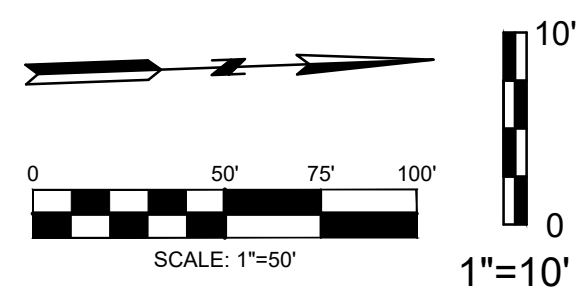




NOTE:
TURF REINFORCEMENT MAT (TRM) SHALL BE INSTALLED
IN SWALE BOTTOM FROM STA. 0+20 TO STA. 8+60. TURF
REINFORCEMENT MAT SHALL BE N. A. GREEN VMAX
S200, OR APPROVED EQUAL. TRM TO BE INSTALLED PER
MANUFACTURER'S SPECIFICATIONS.



DATE	REVISION	NO.	BY	CHKD
08/06/21	PER CITY'S COMMENTS			
09/21/21	PER CITY'S COMMENTS	3	SPW	RAS
09/21/21	PER ACQUIRED DRAINAGE EASEMENT FROM CITY OF GREENWOOD	2	SPW	RAS
12/16/20	SUBMITAL TO CITY OF LEES SUMMIT	1	SPW	RAS

STATE OF MISSOURI
Professional Engineer
R. Kevin Sterrett
August 6, 2021
MO E-2640

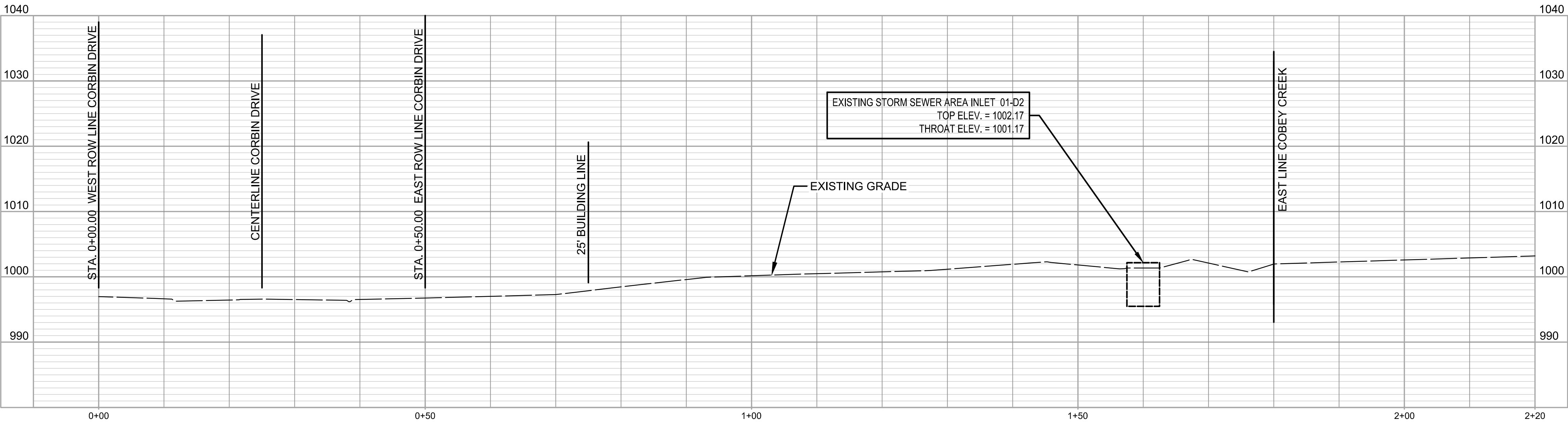
consult inc engineers planners
11010 Haskell Street, Suite 210, Kansas City, Kansas 66109
CORPORATE LICENSE NO. E201000373 (MO.) / E-1736 (KS.)

STREET AND STORM SEWER PLANS
DIVERSION SWALE
COBEY CREEK FIRST PLAT
PHASE I
CITY OF LEES SUMMIT, JACKSON COUNTY, MISSOURI

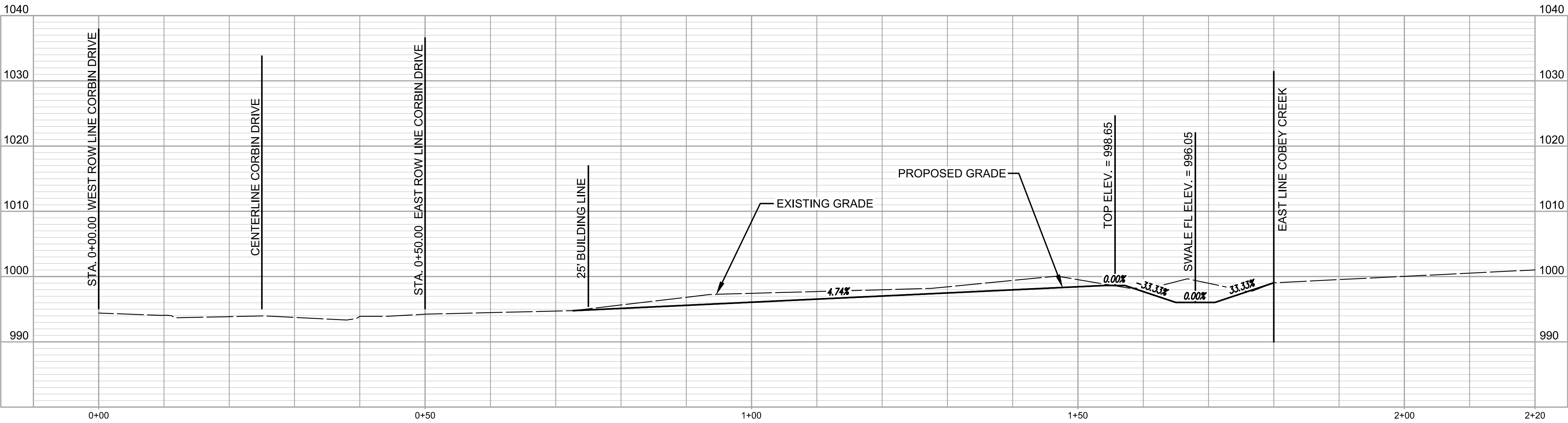
X-REF NO.
16-059 Base Phase I
DRAWING NO.
16-059 Phase I Street Plans
DATE
December 18, 2020
JOB NO.
16-059

32 SHEET OF 53

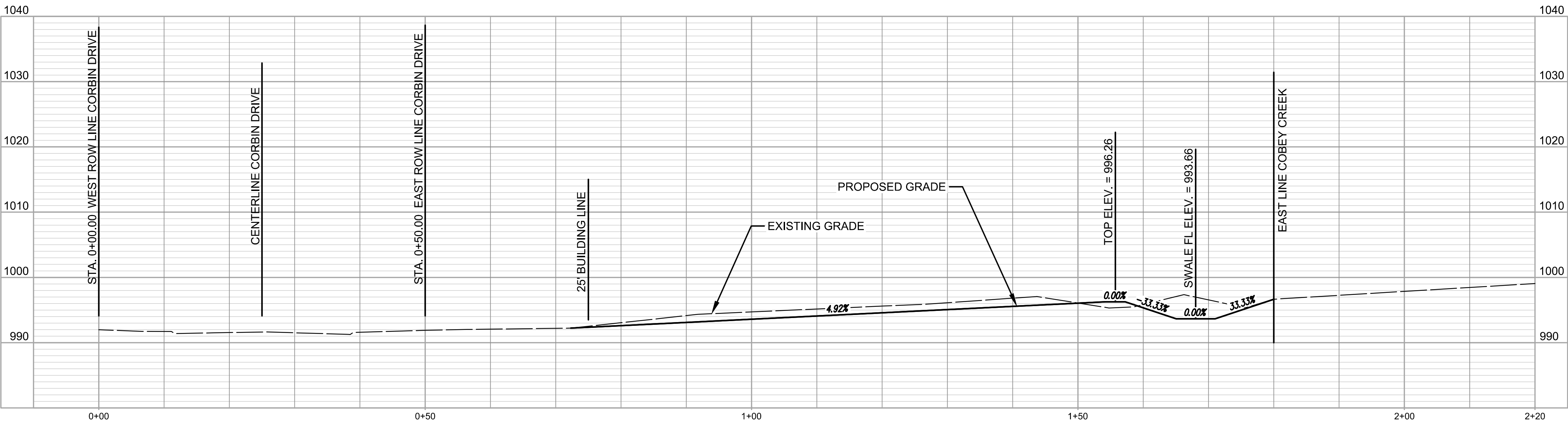
NOTE:
DEPTH OF SWALE IS $\geq$ CALCULATED 100 YEAR SURFACE ELEVATION PLUS 2 (TWO) FEET. NO MBOE'S WILL BE REQUIRED FOR LOTS ADJACENT TO SWALE.



LOT 147 - 148 CROSS SECTION



LOT 148 - 149 CROSS SECTION



LOT 149 - 150 CROSS SECTION

Channel Report

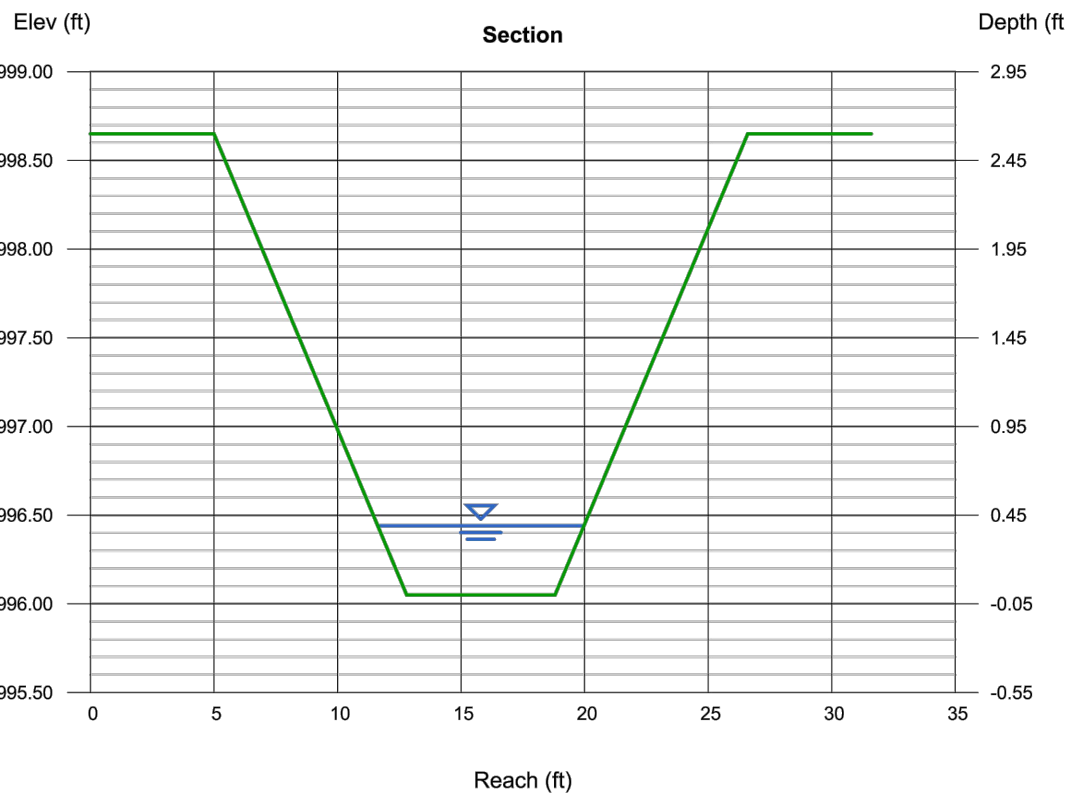
Hydroware Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Aug 4 2021

LOT 148 - 149

Trapezoidal
Bottom Width (ft) = 6.00
Side Slopes (Z:1) = 3.00, 3.00
Total Depth (ft) = 2.60
Invert Elev (ft) = 996.05
Slope (%) = 3.68
N-Value = 0.030

Highlighted
Depth (ft) = 0.39
Q (cfs) = 12.43
Area (sqft) = 2.80
Velocity (ft/s) = 4.45
Wetted Perim (ft) = 6.47
Crit Depth, Yc (ft) = 0.48
Top Width (ft) = 8.34
EGL (ft) = 0.70

Calculations
Compute by:
Known Q (cfs) = 12.43



Channel Report

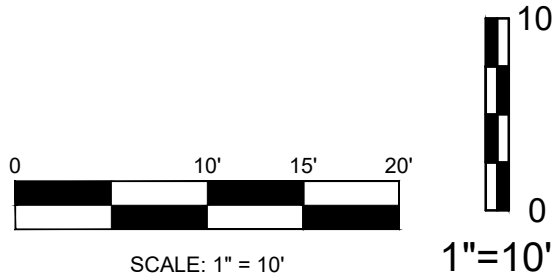
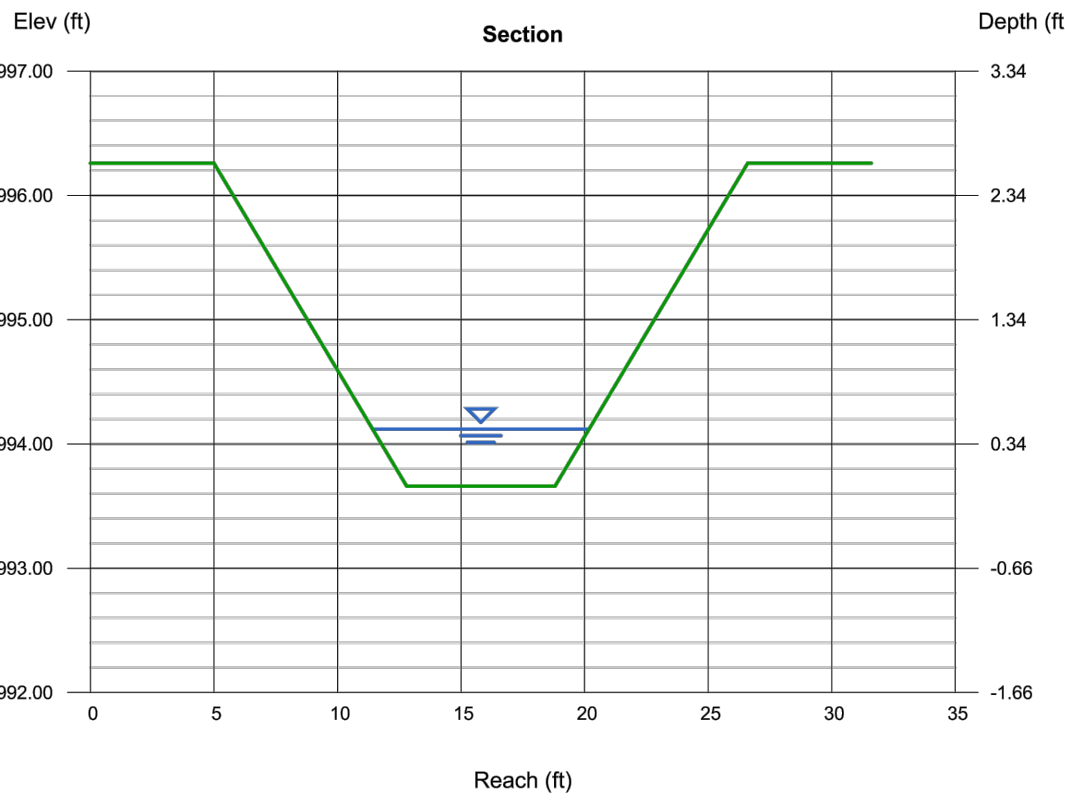
Hydroware Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Aug 4 2021

LOT 149 - 150

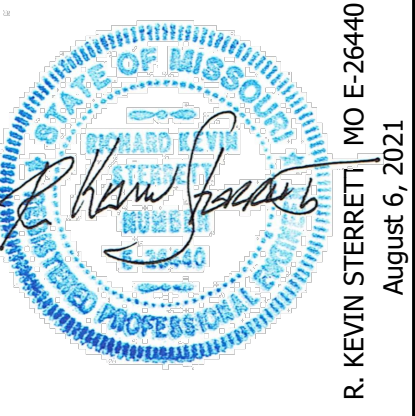
Trapezoidal
Bottom Width (ft) = 6.00
Side Slopes (Z:1) = 3.00, 3.00
Total Depth (ft) = 2.60
Invert Elev (ft) = 993.66
Slope (%) = 3.68
N-Value = 0.030

Highlighted
Depth (ft) = 0.46
Q (cfs) = 16.32
Area (sqft) = 3.39
Velocity (ft/s) = 4.81
Wetted Perim (ft) = 6.91
Crit Depth, Yc (ft) = 0.56
Top Width (ft) = 8.76
EGL (ft) = 0.82

Calculations
Compute by:
Known Q (cfs) = 16.32



DATE	REVISION	NO.	BY	CHKD
08/02/21	PER CITY'S COMMENTS	1	SPW	RAJ
08/27/21	PER CITY'S COMMENTS	2	SPW	RAJ
09/07/21	PER ACQUIRED DRAINAGE EASEMENT FROM CITY OF GREENWOOD	3	SPW	RAJ
12/16/20	SUBMITAL TO CITY OF LEES SUMMIT	1	SPW	RAJ



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STREET AND STORM SEWER PLANS
LOT CROSS SECTIONS

COBEY CREEK FIRST PLAT
PHASE I

CITY OF LEES SUMMIT, JACKSON COUNTY, MISSOURI

X-REF NO.
16-059 Base Phase I

DRAWING NO.
16-059 Phase I Street Plans

DATE
December 18, 2020

SHEET NO.
16-059

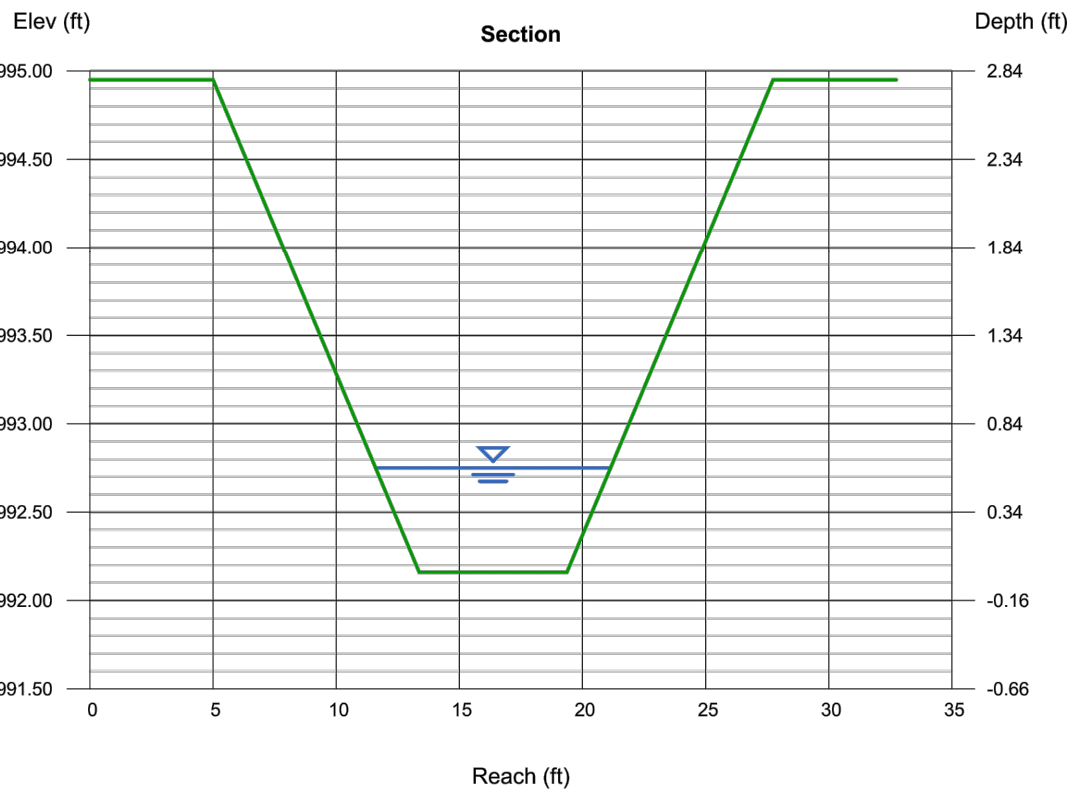
32A OF 53

Channel Report

Hydroware Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Aug 4 2021

LOT 150 - 151

Trapezoidal		Highlighted	
Bottom Width (ft)	= 6.00	Depth (ft)	= 0.59
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 20.86
Total Depth (ft)	= 2.79	Area (sqft)	= 4.58
Invert Elev (ft)	= 992.16	Velocity (ft/s)	= 4.55
Slope (%)	= 2.31	Wetted Perim (ft)	= 9.73
N-Value	= 0.030	Crit Depth, Yc (ft)	= 0.65
		Top Width (ft)	= 9.54
		EGL (ft)	= 0.91
Calculations			
Compute by:	Known Q		
Known Q (cfs)	= 20.86		

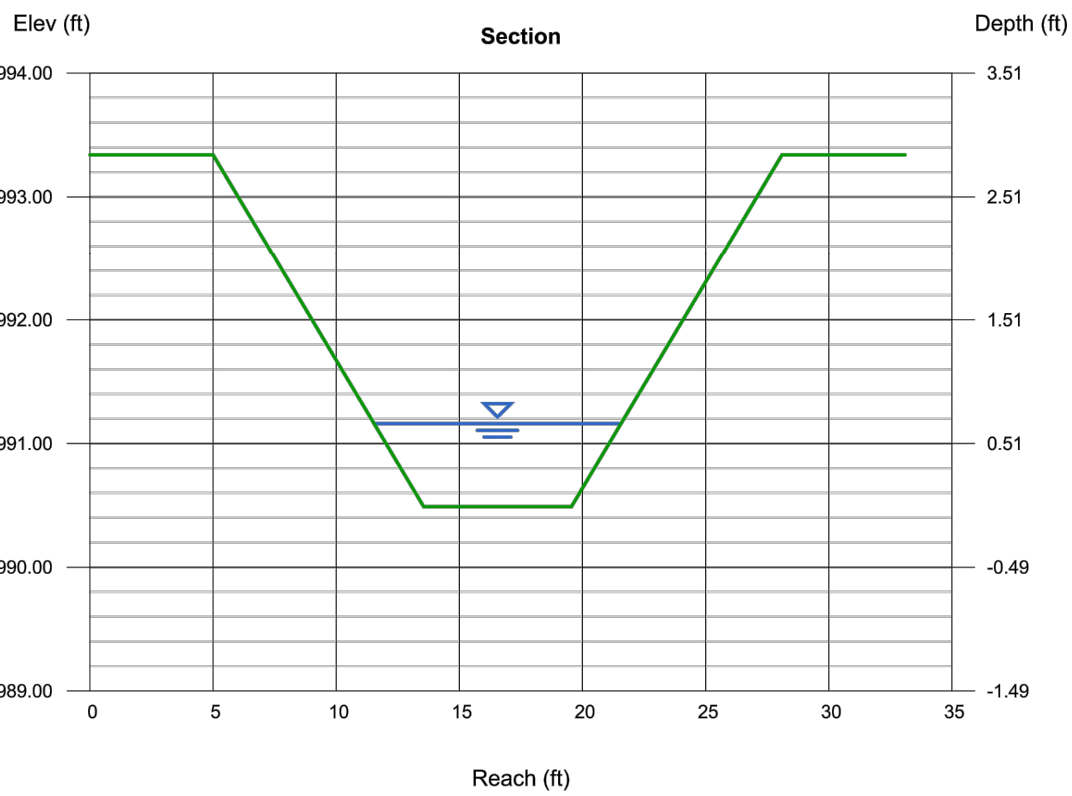


Channel Report

Hydroware Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Aug 4 2021

LOT 151 - OPEN SPACE

Trapezoidal		Highlighted	
Bottom Width (ft)	= 6.00	Depth (ft)	= 0.67
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 26.12
Total Depth (ft)	= 2.85	Area (sqft)	= 5.37
Invert Elev (ft)	= 990.49	Velocity (ft/s)	= 4.87
Slope (%)	= 2.31	Wetted Perim (ft)	= 10.24
N-Value	= 0.030	Crit Depth, Yc (ft)	= 0.74
		Top Width (ft)	= 10.02
		EGL (ft)	= 1.04
Calculations			
Compute by:	Known Q		
Known Q (cfs)	= 26.12		

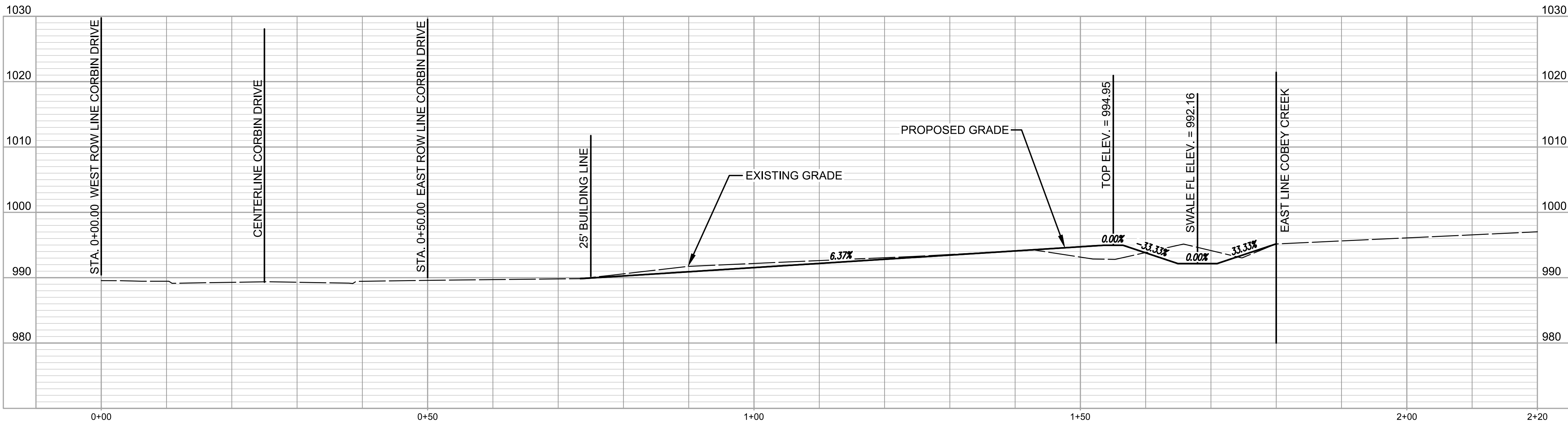
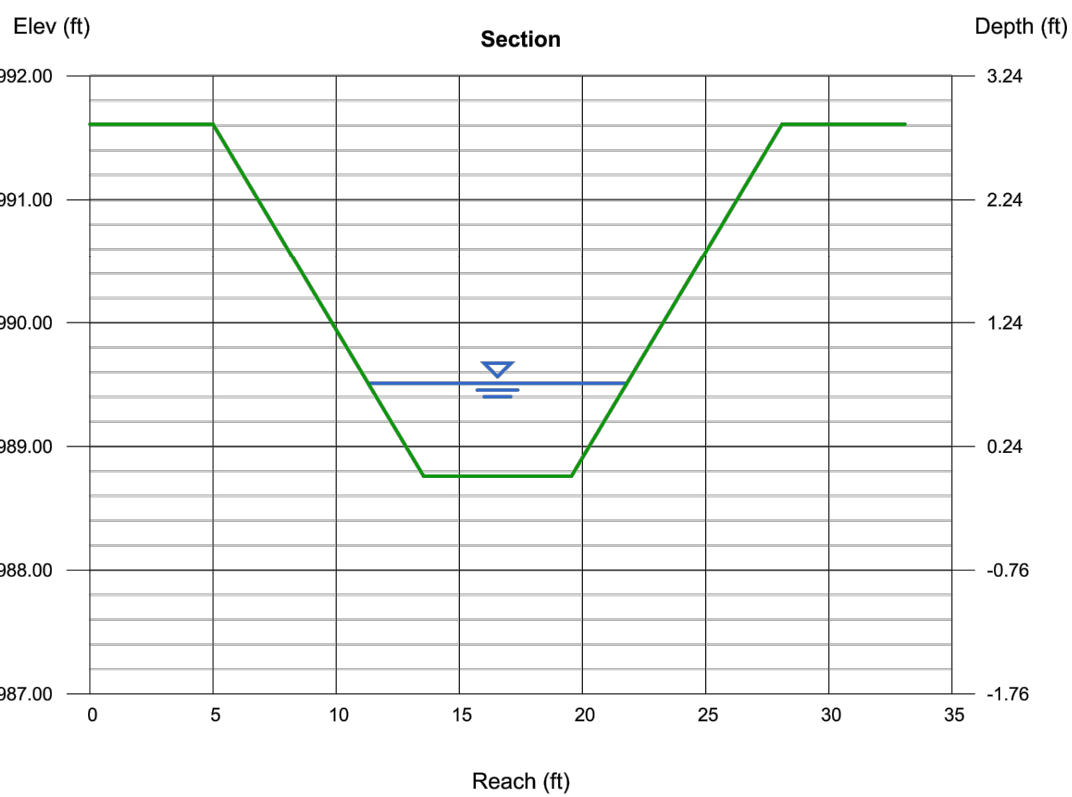


Channel Report

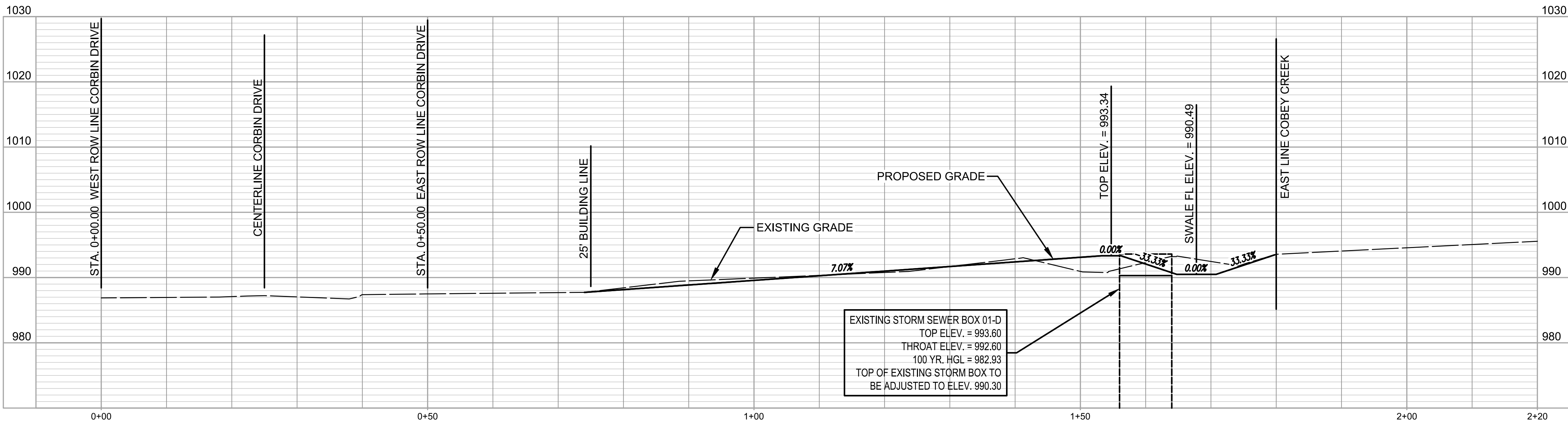
Hydroware Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Aug 4 2021

LOT OPEN SPACE - 8

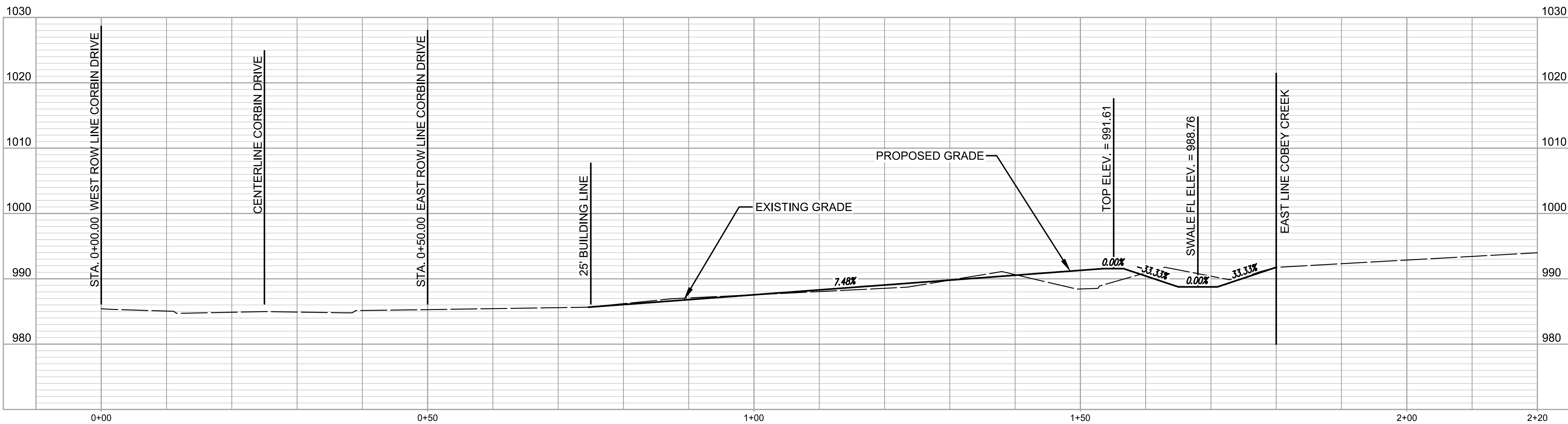
Trapezoidal		Highlighted	
Bottom Width (ft)	= 6.00	Depth (ft)	= 0.75
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 32.04
Total Depth (ft)	= 2.85	Area (sqft)	= 6.19
Invert Elev (ft)	= 988.76	Velocity (ft/s)	= 5.18
Slope (%)	= 2.34	Wetted Perim (ft)	= 10.74
N-Value	= 0.030	Crit Depth, Yc (ft)	= 0.84
		Top Width (ft)	= 10.50
		EGL (ft)	= 1.17
Calculations			
Compute by:	Known Q		
Known Q (cfs)	= 32.04		



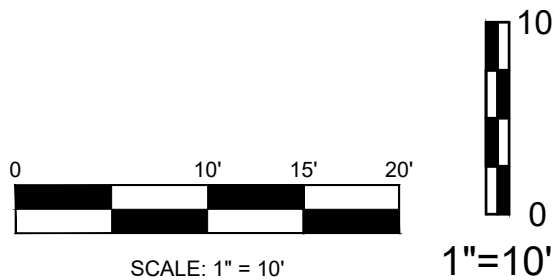
LOT 150 - 151 CROSS SECTION



LOT 151 - OPEN SPACE CROSS SECTION



LOT OPEN SPACE - 8 CROSS SECTION



DATE	REVISION	BY	CHKD
08/06/21	PER CITY'S COMMENTS	J	SPW
08/27/21	PER CITY'S COMMENTS	2	SPW
09/07/21	PER ACQUIRED DRAINAGE EASEMENT FROM CITY OF GREENWOOD	1	SPW
12/16/20	SUBMITAL TO CITY OF LEES SUMMIT		



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STREET AND STORM SEWER PLANS
LOT CROSS SECTIONS
COBEY CREEK FIRST PLAT
PHASE I
CITY OF LEES SUMMIT, JACKSON COUNTY, MISSOURI

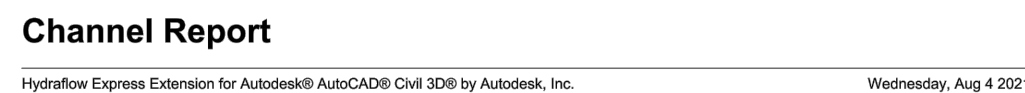
X-REF NO.
16-059 Base Phase I
DRAWING NO.
16-059 Phase I Street Plans
DATE
December 18, 2020
JOB NO.
16-059
32B SHEET OF 53

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Aug 4 202

Trapezoidal	
Bottom Width (ft)	= 6.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 2.90
Invert Elev (ft)	= 986.65
Slope (%)	= 2.81
N-Value	= 0.030

Highlighted	
Depth (ft)	= 0.78
Q (cfs)	= 37.76
Area (sqft)	= 6.51
Velocity (ft/s)	= 5.80
Wetted Perim (ft)	= 10.93
Crit Depth, Yc (ft)	= 0.92
Top Width (ft)	= 10.68
EGL (ft)	= 1.30

Calculations
Compute by: Known C
Known Q (cfs) = 37.76

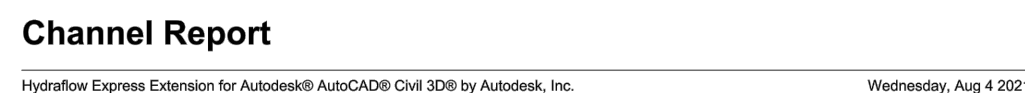


Trapezoidal

Bottom Width (ft)	= 6.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 3.00
Invert Elev (ft)	= 985.15
Slope (%)	= 2.00
N-Value	= 0.030

Highlighted	
Depth (ft)	= 0.95
Q (cfs)	= 45.86
Area (sqft)	= 8.41
Velocity (ft/s)	= 5.45
Wetted Perim (ft)	= 12.01
Crit Depth, Yc (ft)	= 1.03
Top Width (ft)	= 11.70
EGL (ft)	= 1.41

Calculations
 Compute by: Known C
 Known Q (cfs) = 45.86

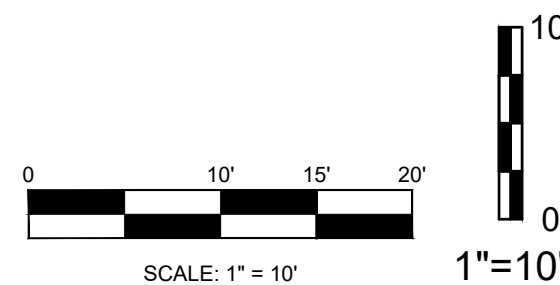


Trapezoidal

Bottom Width (ft)	= 6.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 3.15
Invert Elev (ft)	= 983.65
Slope (%)	= 2.00
N-Value	= 0.030

Highlighted	
Depth (ft)	= 1.03
Q (cfs)	= 53.82
Area (sqft)	= 9.36
Velocity (ft/s)	= 5.75
Wetted Perim (ft)	= 12.51
Crit Depth, Yc (ft)	= 1.12
Top Width (ft)	= 12.18
EGL (ft)	= 1.54

Calculations
 Compute by: Known C
 Known Q (cfs) = 53.82



DATE	REVISION	NO.	BY	CQ/APP
08/06/21	PER CITY'S COMMENTS	3	SPW	MS
08/17/21	PER CITY'S COMMENTS	2	SPW	MS
08/07/21	PER ACQUIRED DRAINAGE EASEMENT FROM CITY OF GREENWOOD	1	SPW	MS
12/18/20	SUBMITTAL TO CITY OF LEES SUMMIT		SPW	MS



R. KEVIN STERRETT MO E-26440
August 6, 2021

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**STREET AND STORM SEWER PLANS
LOT CROSS SECTIONS**

**COBEY CREEK FIRST PLAT
PHASE I**

CITY OF LEES SUMMIT, JACKSON COUNTY, MISSOURI

	<i>X-REF NO.</i> 16-059 Base Phase I
	<i>DRAWING NO.</i> 16-059 Phase I Street Plans
	<i>DATE</i> December 18, 2020
	<i>JOB NO.</i> 16-059

32C SHEET OF 53

Channel Report

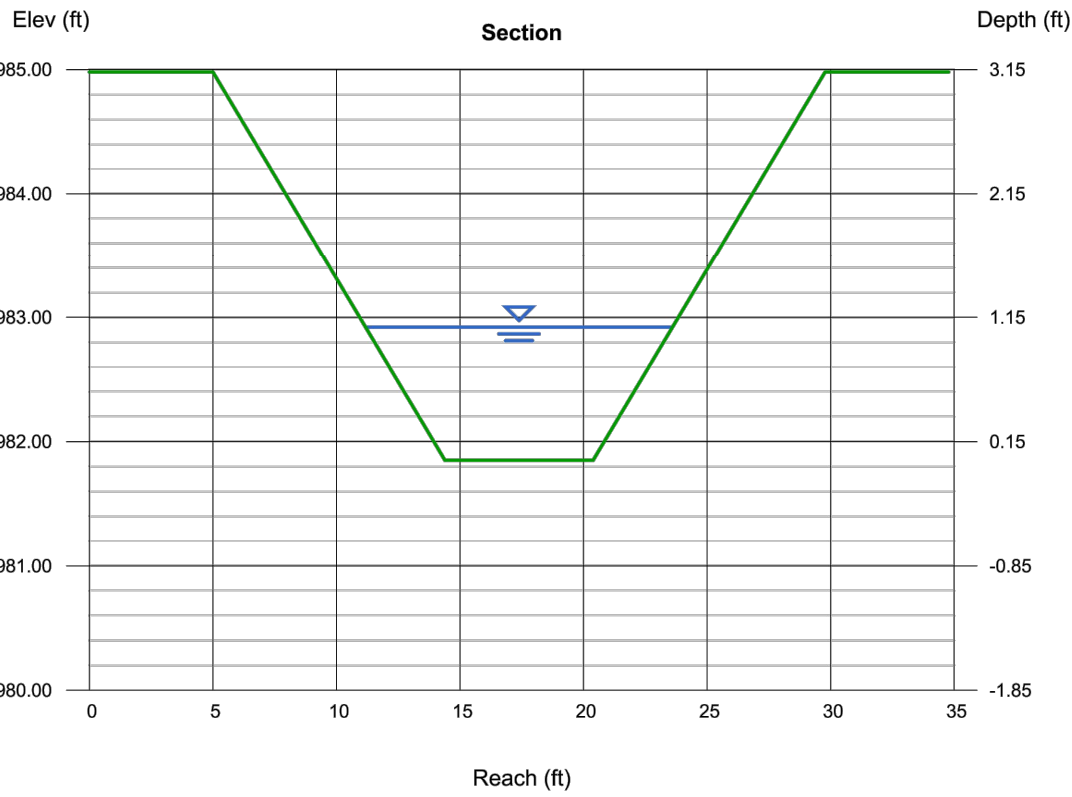
Hydrow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Aug 4 2021

LOT 11 - 12

Trapezoidal		Highlighted	
Bottom Width (ft)	= 6.00	Depth (ft)	= 1.07
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 65.53
Total Depth (ft)	= 3.13	Area (sqft)	= 9.85
Invert Elev (ft)	= 981.85	Velocity (ft/s)	= 6.65
Slope (%)	= 2.57	Wetted Perim (ft)	= 12.77
N-Value	= 0.030	Crit Depth, Yc (ft)	= 1.25
		Top Width (ft)	= 12.42
		EGL (ft)	= 1.76

Calculations
Compute by:
Known Q (cfs)

Known Q
= 65.53



Channel Report

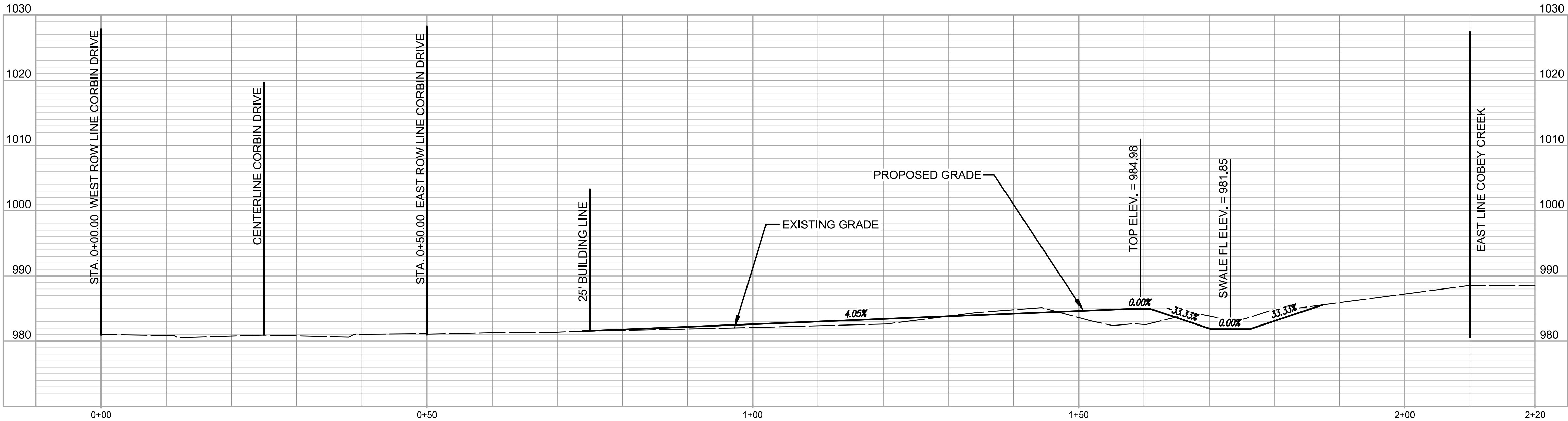
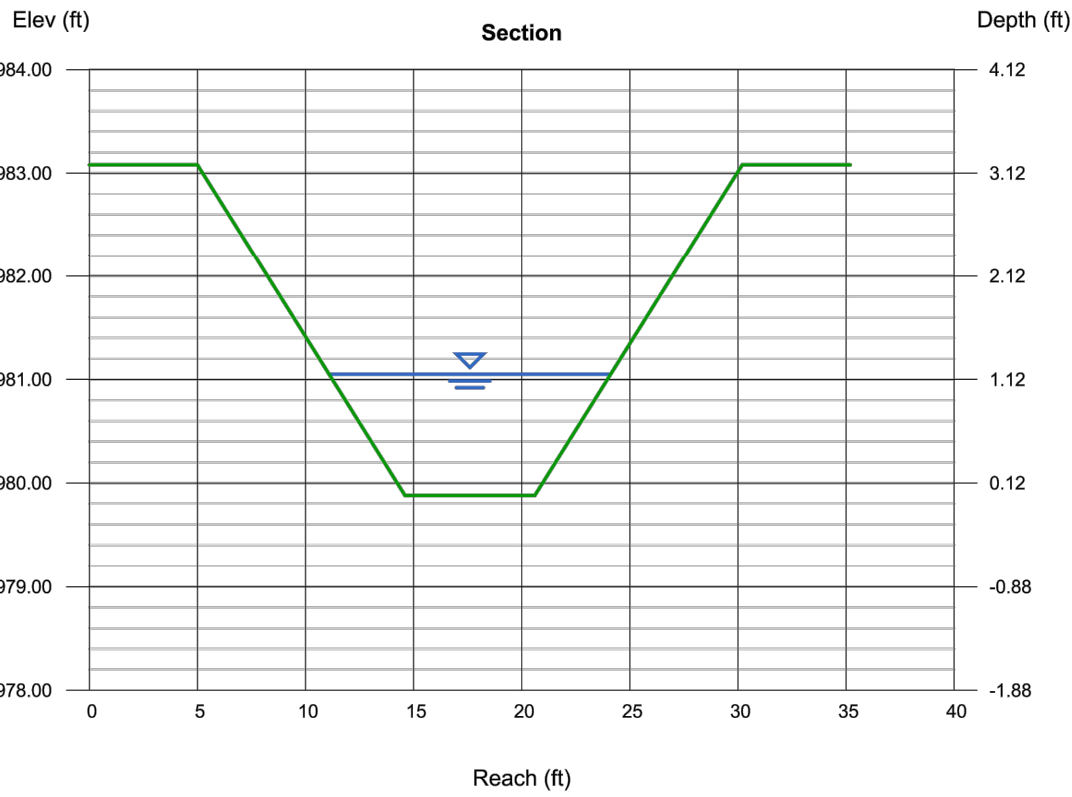
Hydrow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Aug 4 2021

LOT 12 - DETENTION

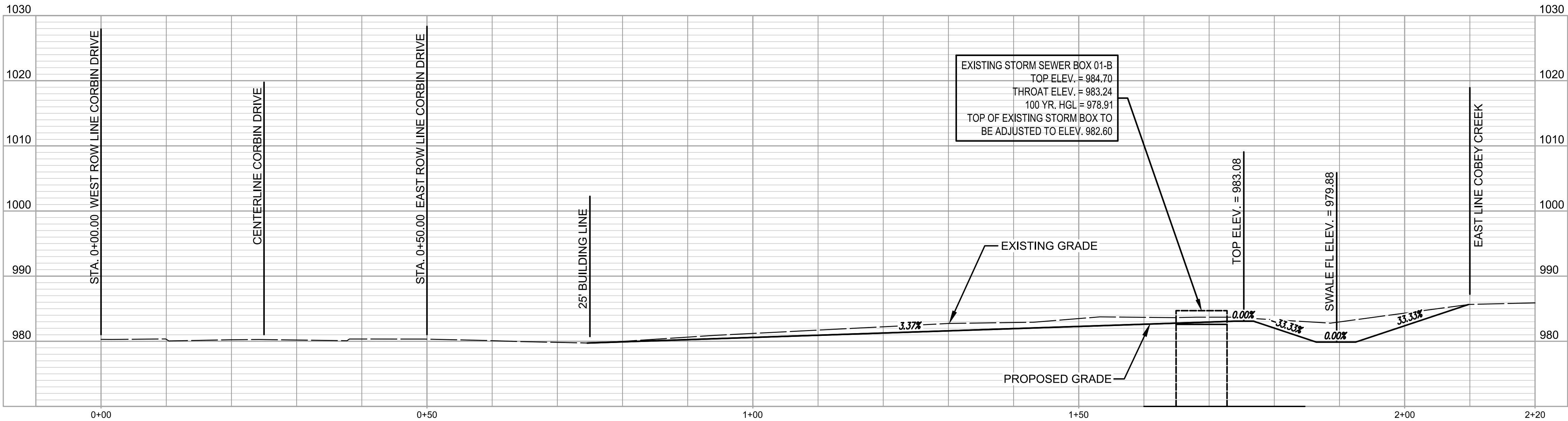
Trapezoidal		Highlighted	
Bottom Width (ft)	= 6.00	Depth (ft)	= 1.17
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 76.84
Total Depth (ft)	= 3.20	Area (sqft)	= 11.13
Invert Elev (ft)	= 979.88	Velocity (ft/s)	= 6.91
Slope (%)	= 2.57	Wetted Perim (ft)	= 13.40
N-Value	= 0.030	Crit Depth, Yc (ft)	= 1.37
		Top Width (ft)	= 13.02
		EGL (ft)	= 1.91

Calculations
Compute by:
Known Q (cfs)

Known Q
= 76.84



LOT 11 - 12 CROSS SECTION



LOT 12 - DETENTION CROSS SECTION

DATE	REVISION	NO.	BY	CHKD
08/06/21	PER CITY'S COMMENTS	3	SPW	RAJ
08/27/21	PER CITY'S COMMENTS	2	SPW	RAJ
09/07/21	PER ACQUIRED DRAINAGE EASEMENT FROM CITY OF GREENWOOD	1	SPW	RAJ
12/16/20	SUBMITAL TO CITY OF LEES SUMMIT	1	SPW	RAJ

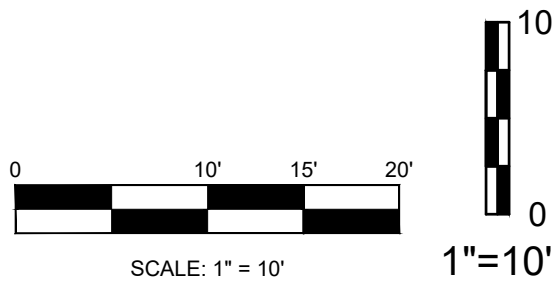


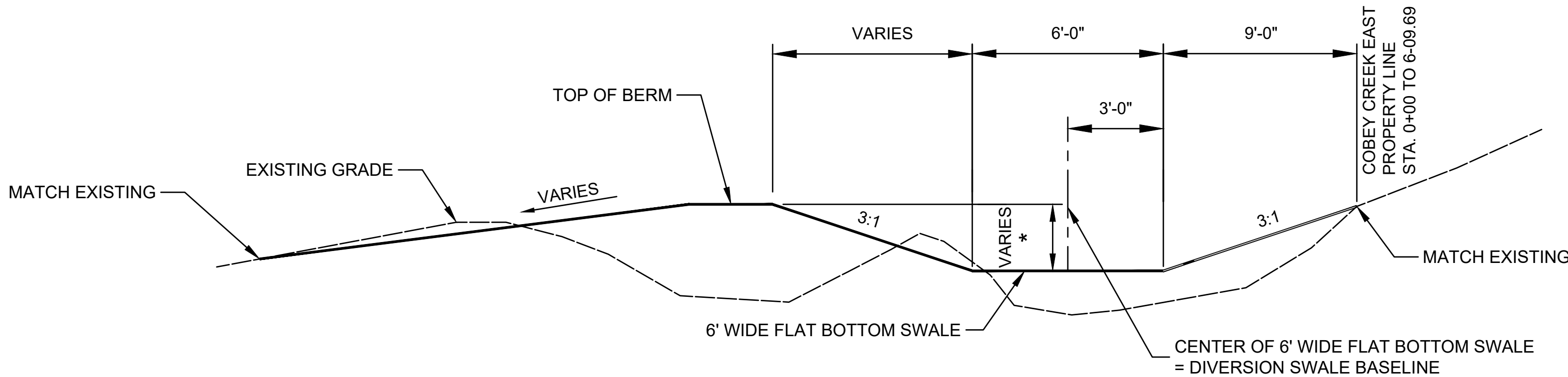
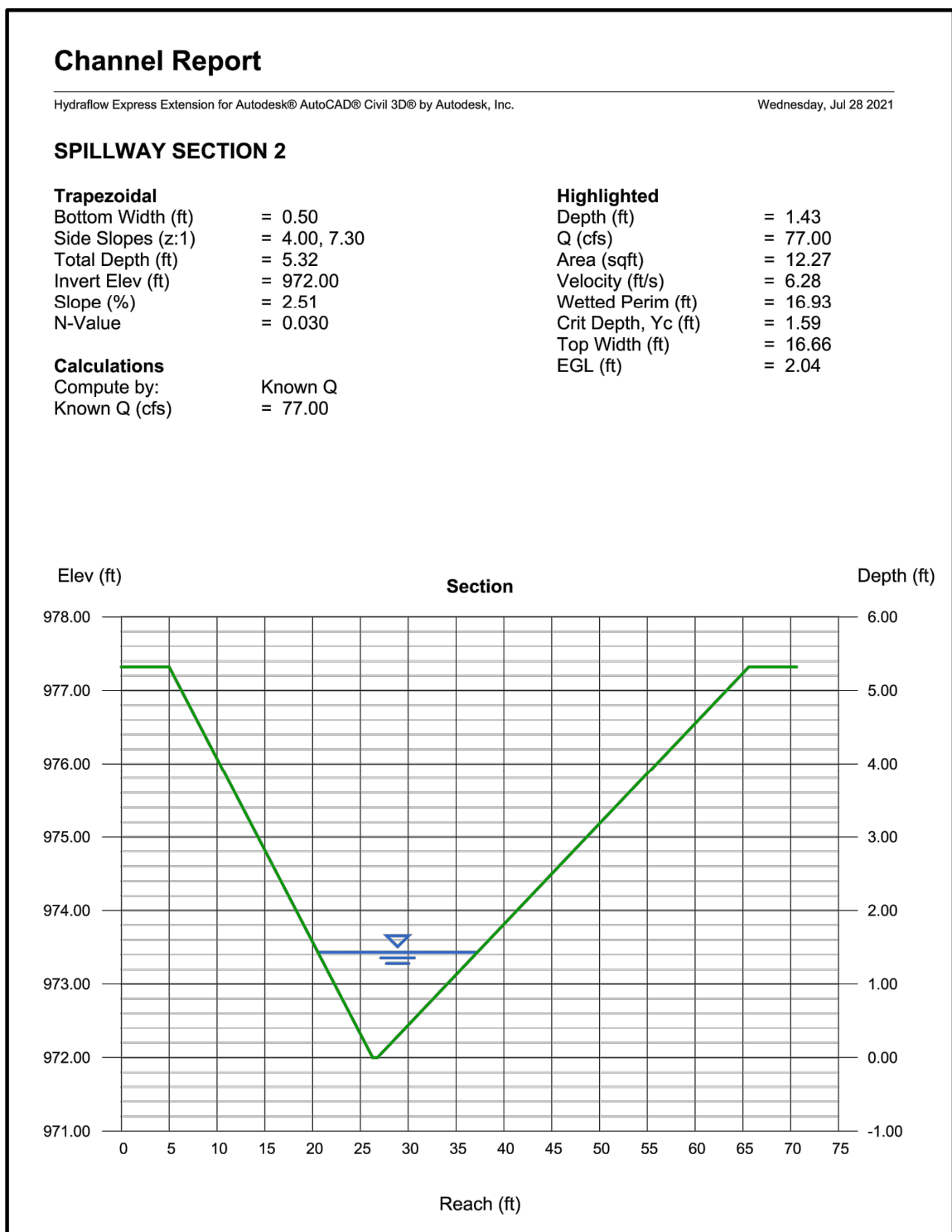
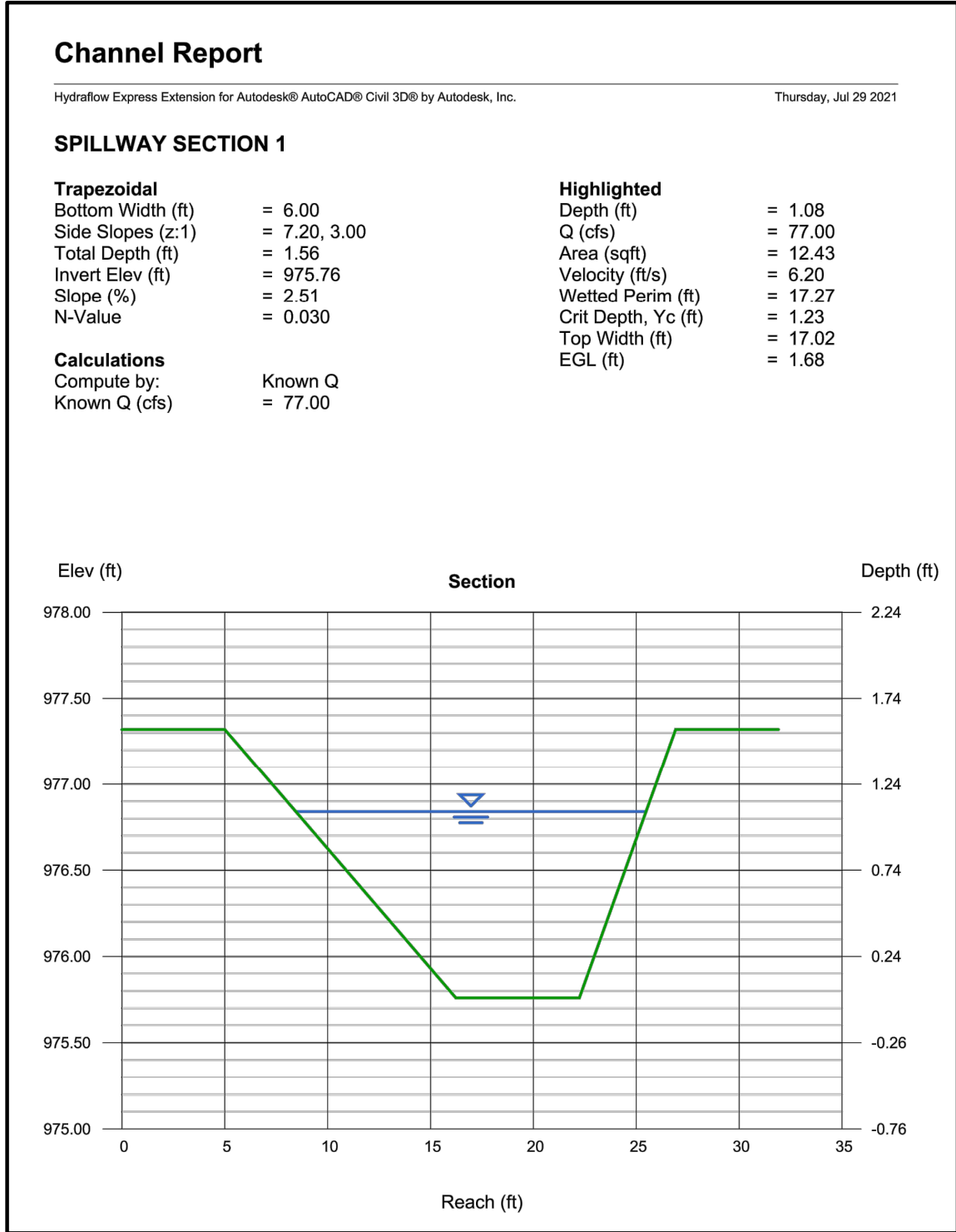
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STREET AND STORM SEWER PLANS
LOT CROSS SECTIONS
COBEY CREEK FIRST PLAT
PHASE I
CITY OF LEES SUMMIT, JACKSON COUNTY, MISSOURI

X-REF NO. 16-059 Base Phase I
DRAWING NO. 16-059 Phase I Street Plans
DATE December 18, 2020
JOB NO. 16-059

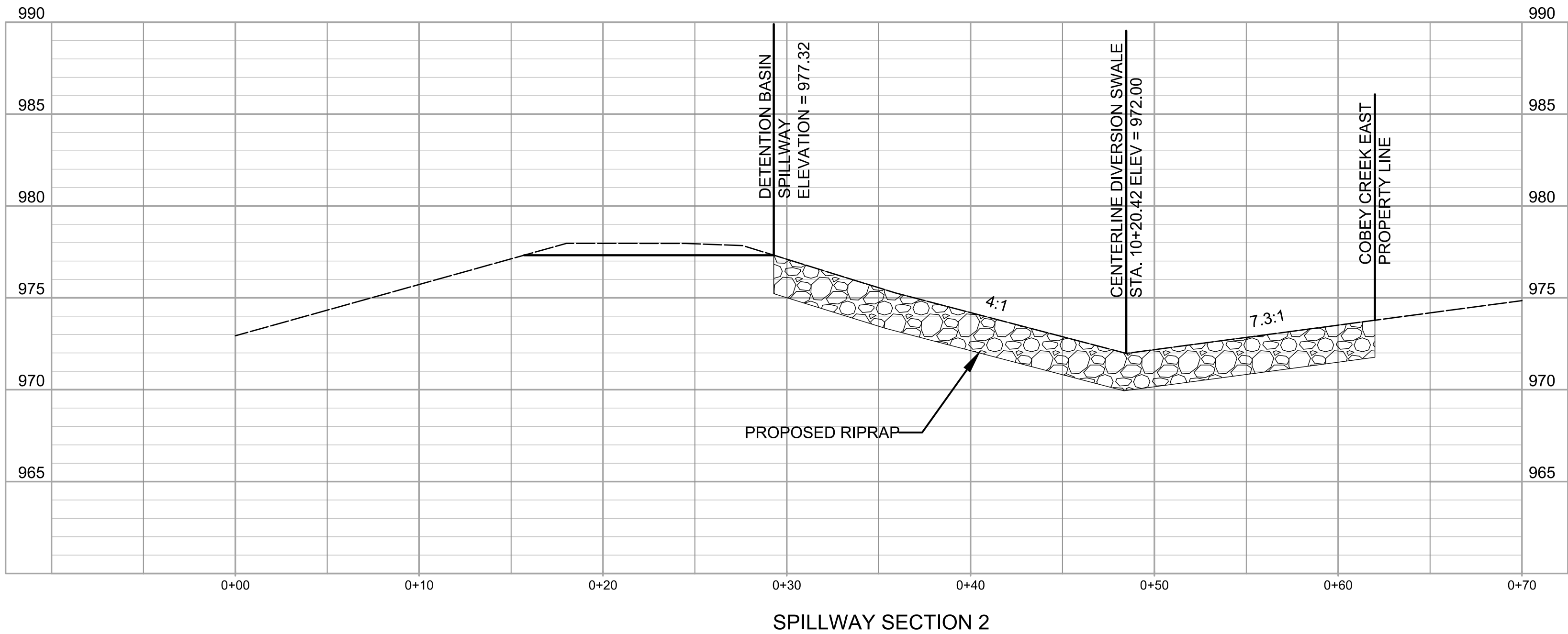
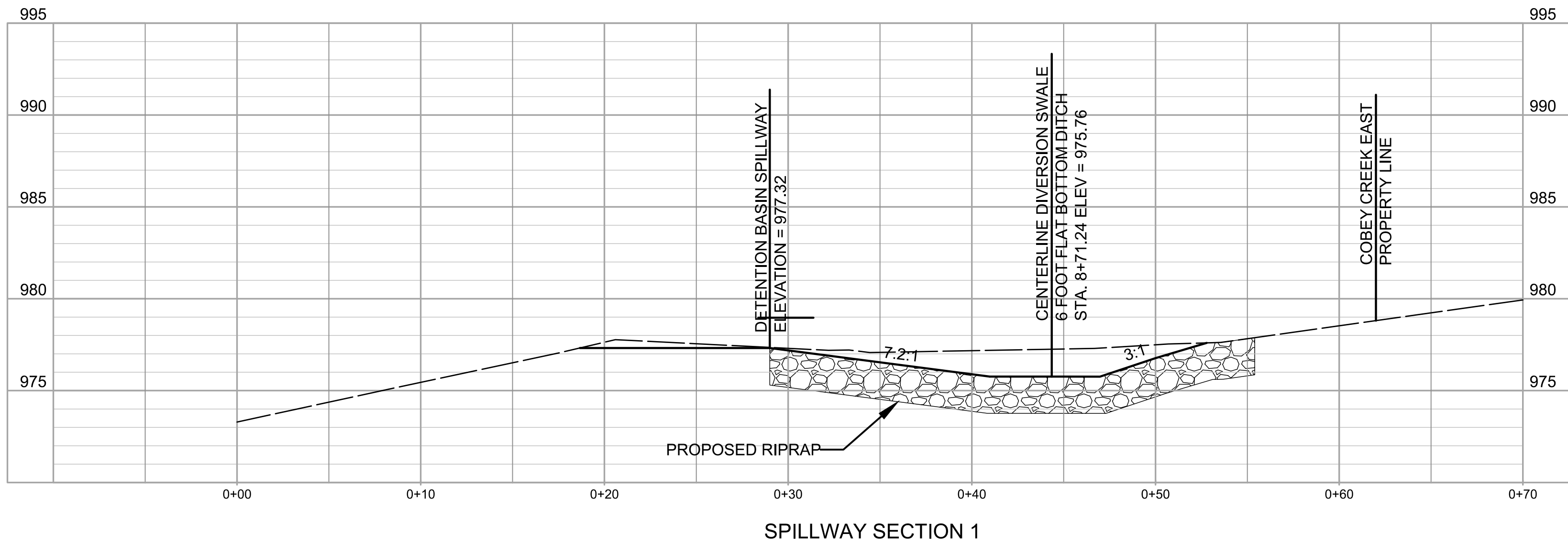
32D OF 53





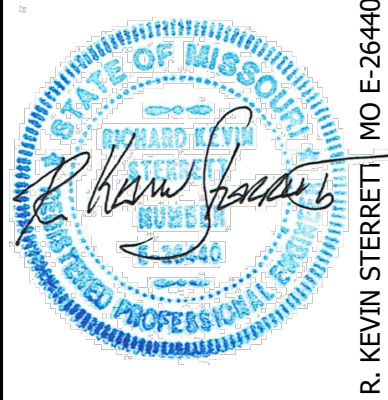
OFFSITE FLOW DIVERSION SWALE
NOT TO SCALE

* - SEE LOT CROSS SECTIONS FOR
DEPTH OF SWALE.



SPILLWAY SECTION 2

DATE	REVISION	NO.	BY	CHKD
08/06/21	PER CITY'S COMMENTS	1	SPW	RAJ
08/27/21	PER CITY'S COMMENTS	2	SPW	RAJ
09/07/21	PER ACQUIRED DRAINAGE EASEMENT FROM CITY OF GREENWOOD	3	SPW	RAJ
12/16/20	SUBMITAL TO CITY OF LEES SUMMIT	1	SPW	RAJ



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STREET AND STORM SEWER PLANS
SPILLWAY SECTIONS AND SWALE DETAIL

COBEY CREEK FIRST PLAT
PHASE I

CITY OF LEES SUMMIT, JACKSON COUNTY, MISSOURI