Cross Section 8

Location	***Latitude***	***Longitude***
Left Bank	36.998831	-79.856019
Right Bank	36.998555	-79.856062

Description: Cross Section 8 is located approximately 2,000 feet downstream of the dam, or 1,400 feet downstream of Cross Section 7, due north of the existing Town of Rocky Mount Sewage Treatment Plant. Vehicular access was gained via farm field roads on treatment plant property. The Cross Section is bounded on the left bank by forest and on the right bank by a narrow band of trees along the top of bank with agricultural fields just beyond.

This section had mature woody vegetation to within five feet of the baseflow water surface elevation on the right bank. The water surface width at this section was consistent with that seen at Cross Section 7. The banks contain fine sediment released then deposited from behind the dam. The right bank was mostly sediment and some herbaceous vegetation. The left bank had some herbaceous vegetation and woody debris.

The instrument setup for this Cross Section was at the right bank (HI = 3.77 ft.). The Cross Section plot and thalweg profile are shown below. A pebble count was taken at this location due to the variation in bed material and data shown in Appendix B.

Photo 8-1
Location, Orientation: XS 8, Looking Upstream
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 10:04 AM
Description: View looking upstream from the middle of Cross Section 8
Woody Debris: 5

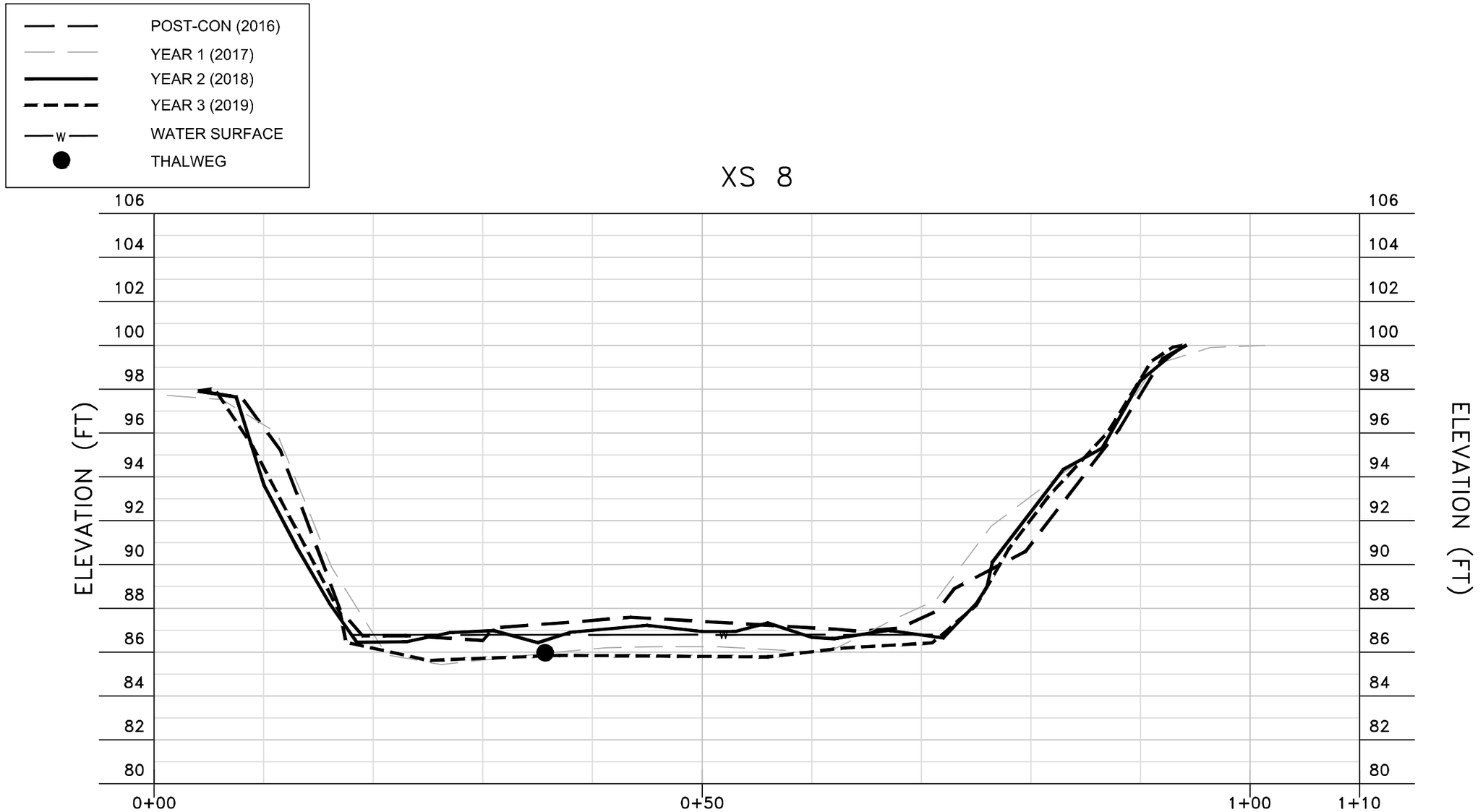
Photo 8-2
Location, Orientation: XS 8, Looking Downstream
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 10:04 AM
Description: View looking downstream from the middle of Cross Section 8
Woody Debris: 20

Photo 8-3
Location, Orientation: XS 8, Left Bank
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 10:04 AM
Description: View looking left from the middle of Cross Section 8
Vegetation: 20% herbaceous cover, saplings, small trees

Photo 8-4
Location, Orientation: XS 8, Right Bank
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 10:05 AM
Description: View looking right from the middle of Cross Section 8
Vegetation: 15% herbaceous plants, trees

Photo 8-5
Location, Orientation: XS 8, Upstream looking down
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 10:05 AM
Description: View looking downstream at Cross Section 8 from an upstream position

Photo 8-6
Location, Orientation: XS 8, Downstream looking up
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 10:06 AM
Description: View looking upstream at Cross Section 8 from a downstream position



PROFILE SCALE:
HORIZ: 1"=10'
VERT: 1"=5'
(ELEV. RELATIVE TO ASSUMED XS END PIN AT 100.)

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Pigg River Dam Removal Restoration - Monitoring
Rocky Mount, Virginia

Year 3 - XS 8

REVISIONS

No.	Date	Description	Rev. By	App. By

SCALE: AS NOTED

DATE: OCT 2019

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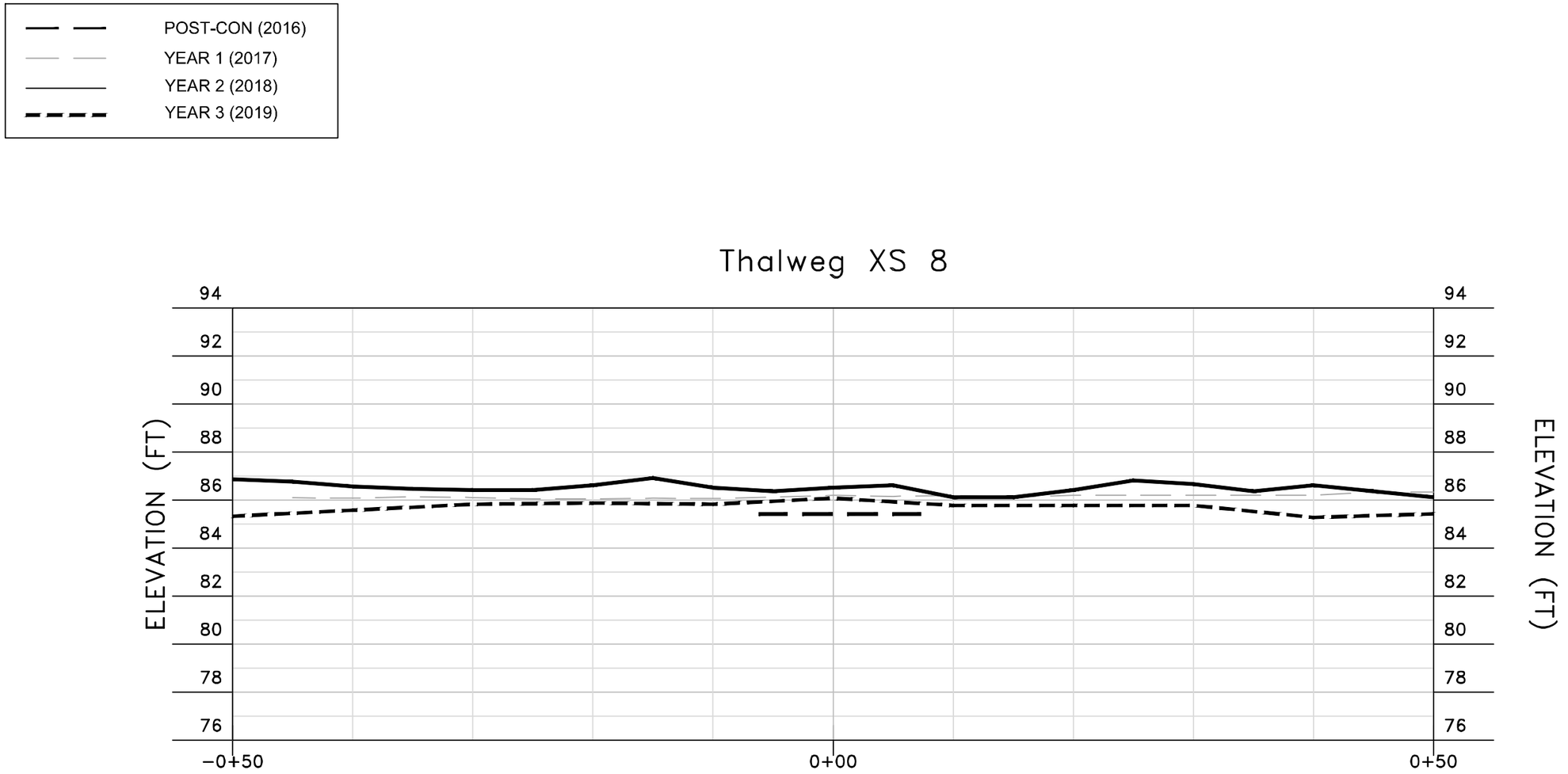

PROFILE SCALE:

HORIZ: 1"=10'

VERT: 1"=5'

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Year 3 - Thalweg Profile XS 8

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Cross Section 9

Location	***Latitude***	***Longitude***
Left Bank	36.995239	-79.856860
Right Bank	36.995536	-79.856751

Description: Cross Section 9 is located approximately 1.0 mi downstream of the dam, or 3,300 feet downstream of Cross Section 8. The section was located at the southwest corner of the field at the downstream boundary of sewage treatment plant property, just before a sharp left meander. Vehicular access was gained from the rear of the treatment plant parking lot.

The Cross Section was bounded on both banks by a narrow band of trees along the top of bank with agricultural fields just beyond. Banks showed signs of erosion with some herbaceous cover on the left bank but mainly covered in woody debris. The right bank had large amount of herbaceous cover. The water surface width at this section was consistent with that seen at Cross Section 8. Sediment had buried bed features and filled the original thalweg location. Sediment deposition has filled the right side of the bed between year 3 and year 2.

The instrument setup for this Cross Section was at the right bank (HI = 4.71 ft.). The Cross Section plot and thalweg profile are shown below. No pebble count was taken at this location due the uniform fine-grained (sandy) nature of bed sediments with pockets of fine gravel (2-10mm).

Photo 9-1
Location, Orientation: XS 9, Looking Upstream
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 10:20 AM
Description: View looking upstream from the middle of Cross Section 9
Woody Debris: 11

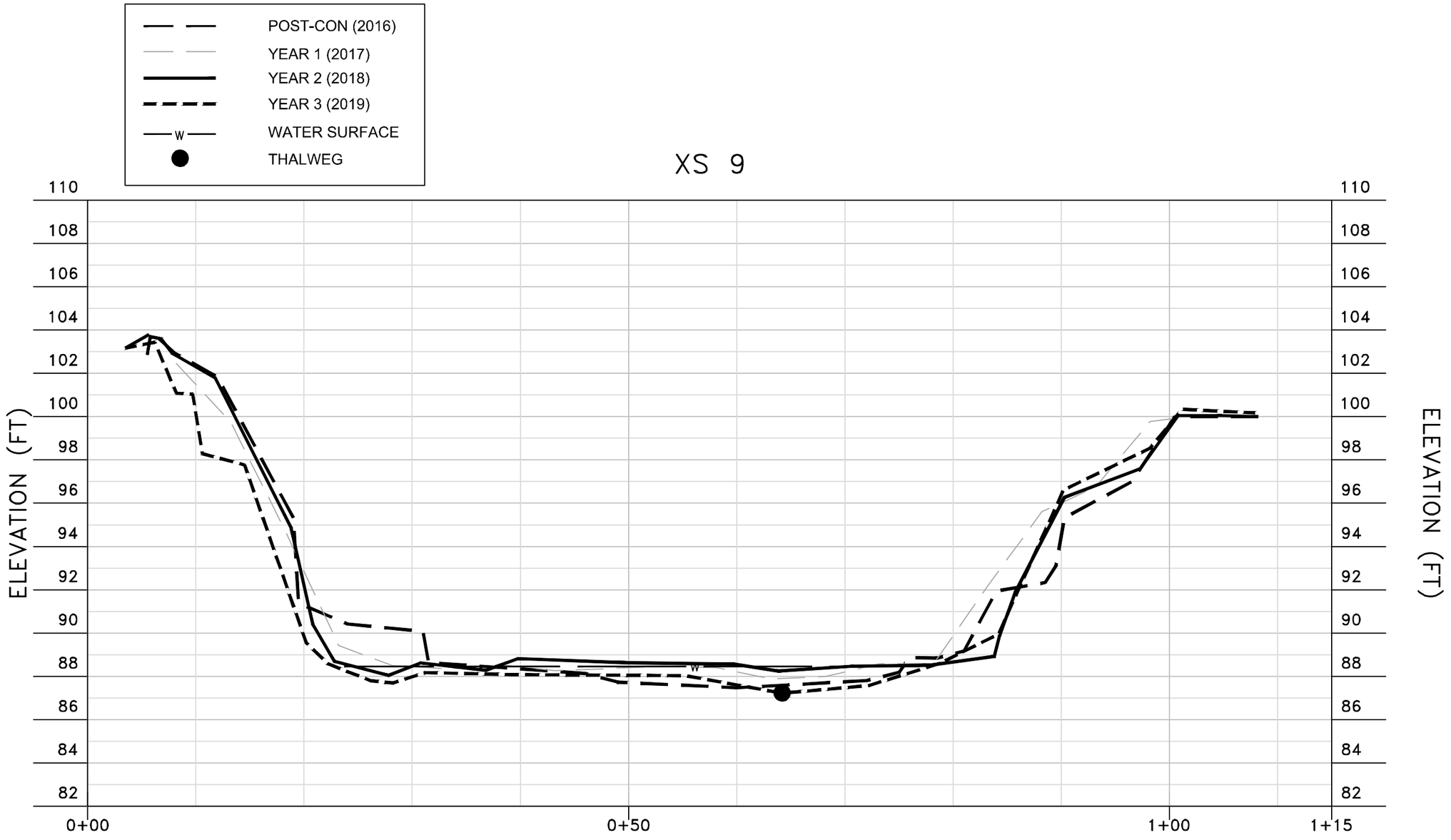
Photo 9-2
Location, Orientation: XS 9, Looking Downstream
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 11:20 AM
Description: View looking downstream from the middle of Cross Section 9
Woody Debris: 13

Photo 9-3
Location, Orientation: XS 9, Left Bank
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 11:20 AM
Description: View looking left from the middle of Cross Section 9
Vegetation: 20% herbaceous cover with few trees on top of bank

Photo 9-4
Location, Orientation: XS 9, Right Bank
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 11:20 AM
Description: View looking right from the middle of Cross Section 9
Vegetation: 70% herbaceous cover on bank

Photo 9-5
Location, Orientation: XS 9, Upstream looking down
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 11:21 AM
Description: View looking downstream at Cross Section 9 from an upstream position

Photo 9-6
Location, Orientation: XS 9, Downstream looking up
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/02/19, 11:23 AM
Description: View looking upstream at Cross Section 9 from a downstream position



PROFILE SCALE:
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Rocky Mount, Virginia

Year 3 - XS 9

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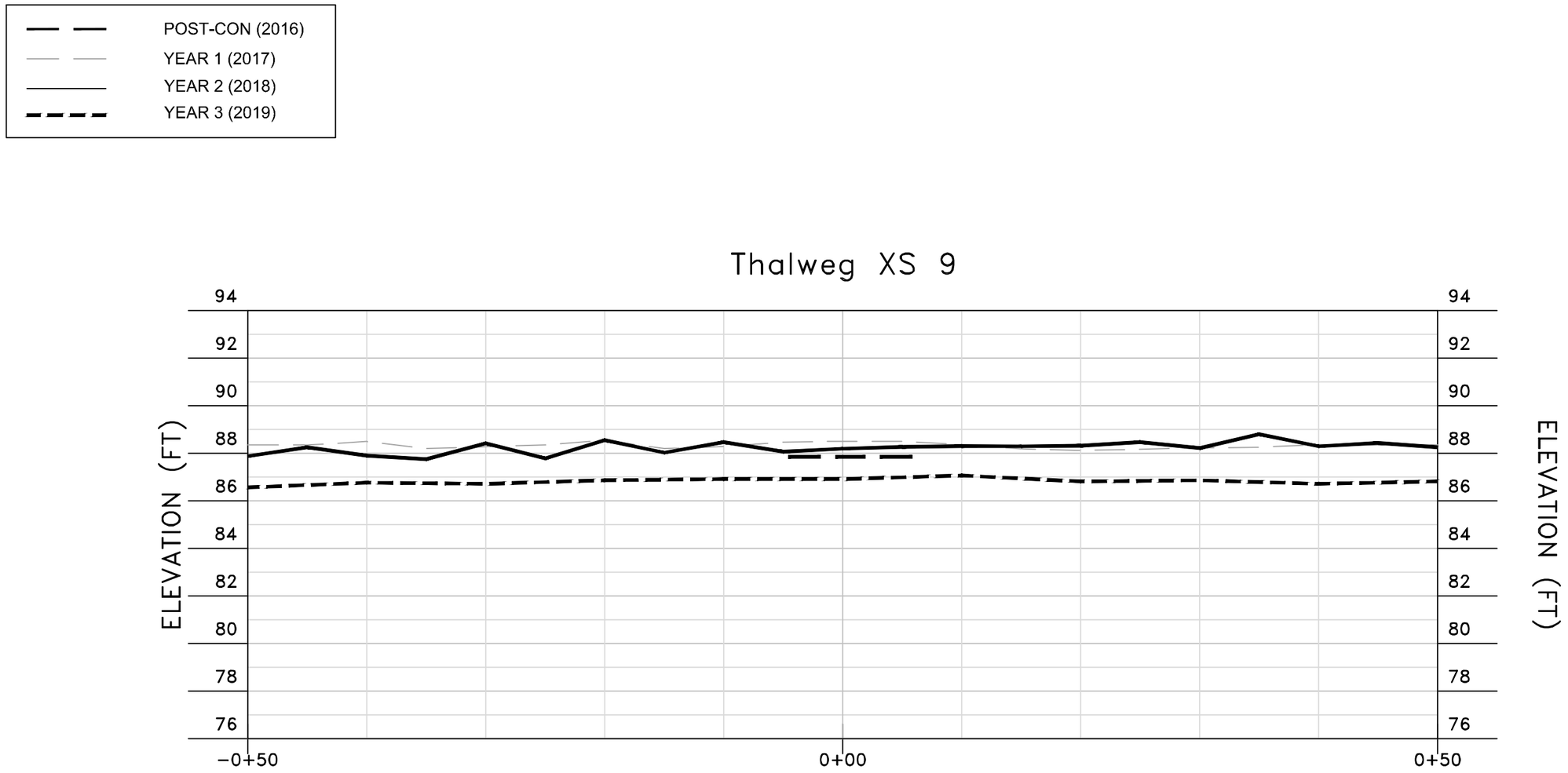

PROFILE SCALE:

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Year 3 - Thalweg Profile XS 9

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Computer File Name:
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Cross Section 10

Location	***Latitude***	***Longitude***
Left Bank	36.990961	-79.850516
Right Bank	36.990694	-79.850709

Description: Cross Section 10 is located approximately 1.5 mi. downstream of the dam, or 2,700 feet downstream of Cross Section 9, east of Power Dam Road and north of the power line easement. Accessed was via vehicle from Hudson Farm Lane. The section is flanked by fields on both sides, with a narrow band of trees along the tops of bank. Mature trees dotted the banks down to the edge of the observed water surface and root structure afforded good bank stability despite steep slopes and an incised section (~12-ft bank height). The water surface width at this section was consistent with that seen at Cross Section 9. Sediment deposition (sand) was noted on the left side of the bed. Banks were relatively stable due to some coverage by woody root structure. The left bank showed more sediment deposits and some scour marks near toe of slope. Fine sediment had continued to move downstream, with this year's Cross Section lower than previous years. Both end pins were buried under 5-8 inches of sediment showing that significant sediment deposit is occurring in overbank flow events.

The instrument setup for this Cross Section was at the left bank (HI = 5.08 ft.). The Cross Section plot and thalweg profile are shown below. No pebble count was taken at this location due the uniform fine-grained (sandy) nature of bed sediments.

Photo 10-1
Location, Orientation: XS 10, Looking Upstream
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 10:42 AM
Description: View looking upstream from the middle of Cross Section 10
Woody Debris: 10

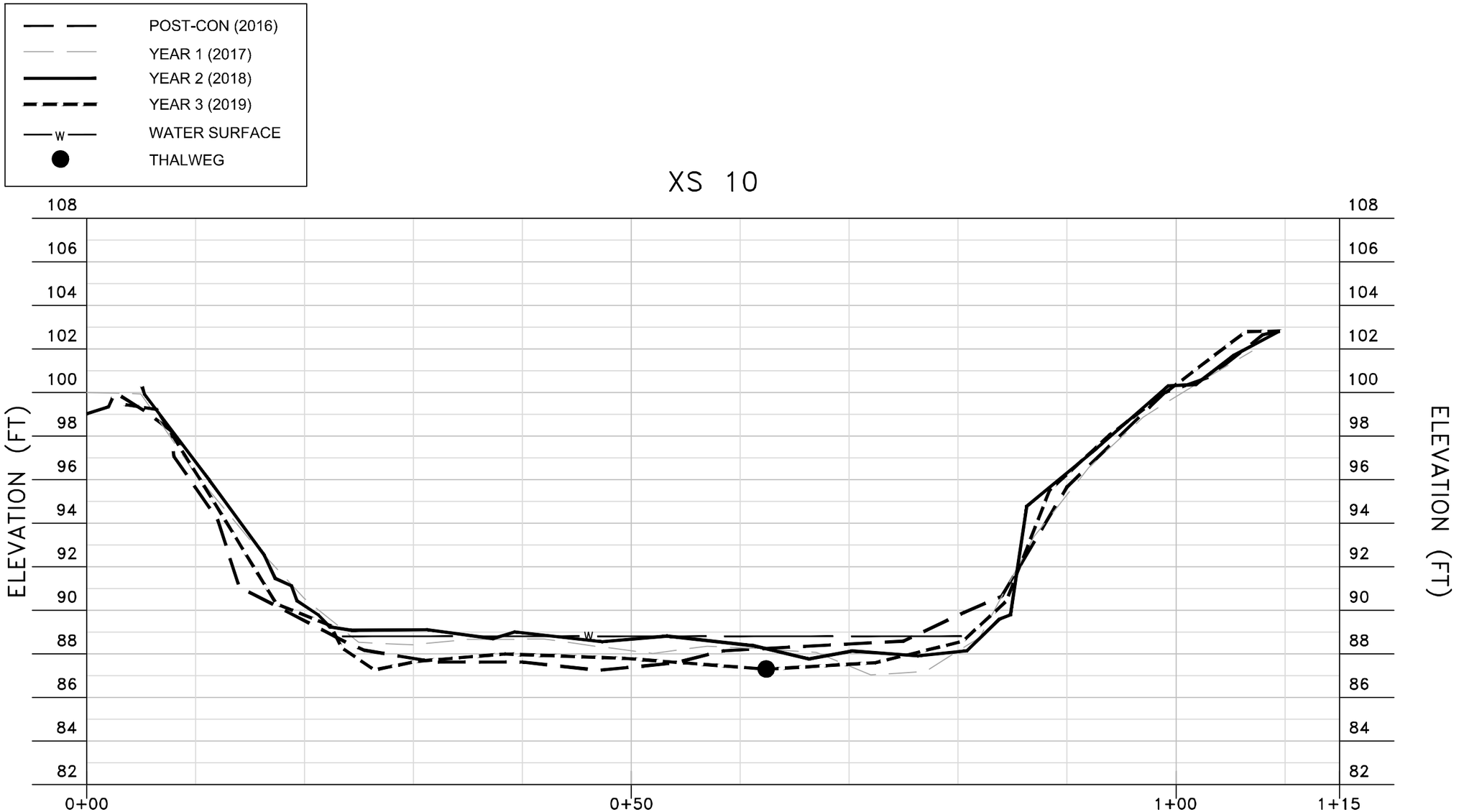
Photo 10-2
Location, Orientation: XS 10, Looking Downstream
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 10:42 AM
Description: View looking downstream from the middle of Cross Section 10
Woody Debris: 10

Photo 10-3
Location, Orientation: XS 10, Left Bank
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 10:42 AM
Description: View looking left from the middle of Cross Section 10
Vegetation: 20% herbaceous cover, trees

Photo 10-4
Location, Orientation: XS 10, Right Bank
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 10:42 AM
Description: View looking right from the middle of Cross Section 10
Vegetation: 40% herbaceous cover, some trees higher on bank

Photo 10-5
Location, Orientation: XS 10, Upstream looking down
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 10:43 AM
Description: View looking downstream at Cross Section 10 from an upstream position

Photo 10-6
Location, Orientation: XS 10, Downstream looking up
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 10:44 AM
Description: View looking upstream at Cross Section 10 from a downstream position



PROFILE SCALE:
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VERT: 1"=5'
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Year 3 - XS 10

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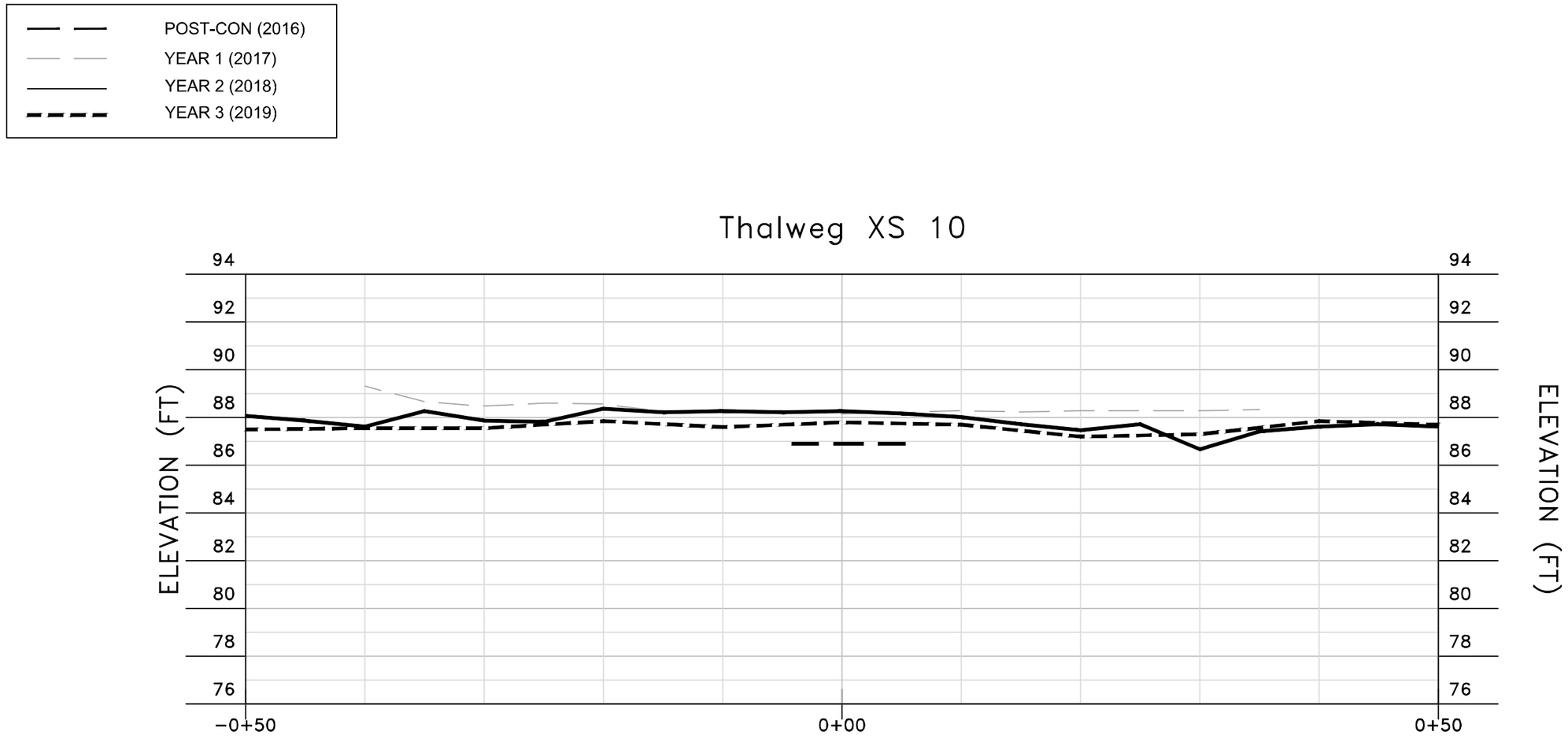

PROFILE SCALE:

HORIZ: 1"=10'

VERT: 1"=5'

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Pigg River Dam Removal Restoration - Monitoring
Rocky Mount, Virginia

Year 3 - Thalweg Profile XS 10

REVISIONS

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Cross Section 11

Location	***Latitude***	***Longitude***
Left Bank	36.991708	-79.845110
Right Bank	36.991595	-79.845424

Description: Cross Section 11 is located approximately 2.6 miles downstream of the dam, or 1.1 miles downstream of Cross Section 10, north of the power line easement and approximately 1/3rd mile east of Cross Section 10 (as the crow flies). Accessed via vehicle from Hudson Farm Lane. The section was flanked by fields on the left bank and dense forest on the right bank, with a narrow band of trees along the left top of bank. Mature trees grew along the banks to within a few feet of the observed water surface elevation. Banks were stable and slopes much more gradual than other Cross Sections (generally 2:1 or less). The water surface width at this section was consistent with that seen at Cross Section 10. Bank erosion and sand deposits were observed on both banks, with more sand deposits on the right bank. Both end pins were buried under sediment - the left bank under 2 inches and the right bank under 5 inches, both pins where then moved up to the new existing grade after measurements were taken in order to facilitate future monitoring. Larger sized pebbles and sand are starting to fill the bed, indicating the fine sand moving through the system.

The instrument setup for this Cross Section was at the left bank (HI = 3.66 ft.). The Cross Section plot and thalweg profile are shown below. A pebble count was taken at this location due to the variation in bed material and data shown in Appendix B.

Photo 11-1
Location, Orientation: XS 11, Looking Upstream
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 11:50 AM
Description: View looking upstream from the middle of Cross Section 11
Woody Debris: 6

Photo 11-2
Location, Orientation: XS 11, Looking Downstream
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 11:50 AM
Description: View looking downstream from the middle of Cross Section 11
Woody Debris: 10

Photo 11-3
Location, Orientation: XS 11, Left Bank
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 11:51 AM
Description: View looking left from the middle of Cross Section 11
Vegetation: 5% herbaceous cover, trees

Photo 11-4
Location, Orientation: XS 11, Right Bank
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 11:51 AM
Description: View looking right from the middle of Cross Section 11
Vegetation: 5% herbaceous cover and bamboo/forest at bankfull

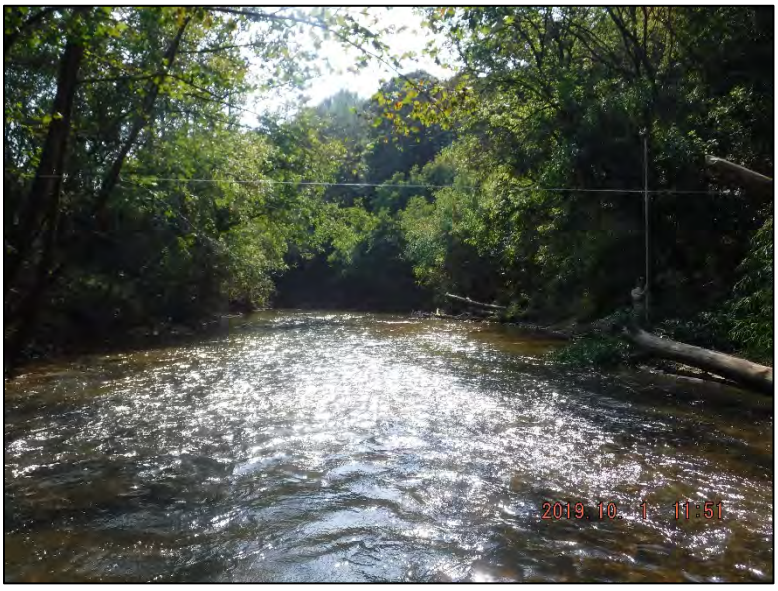
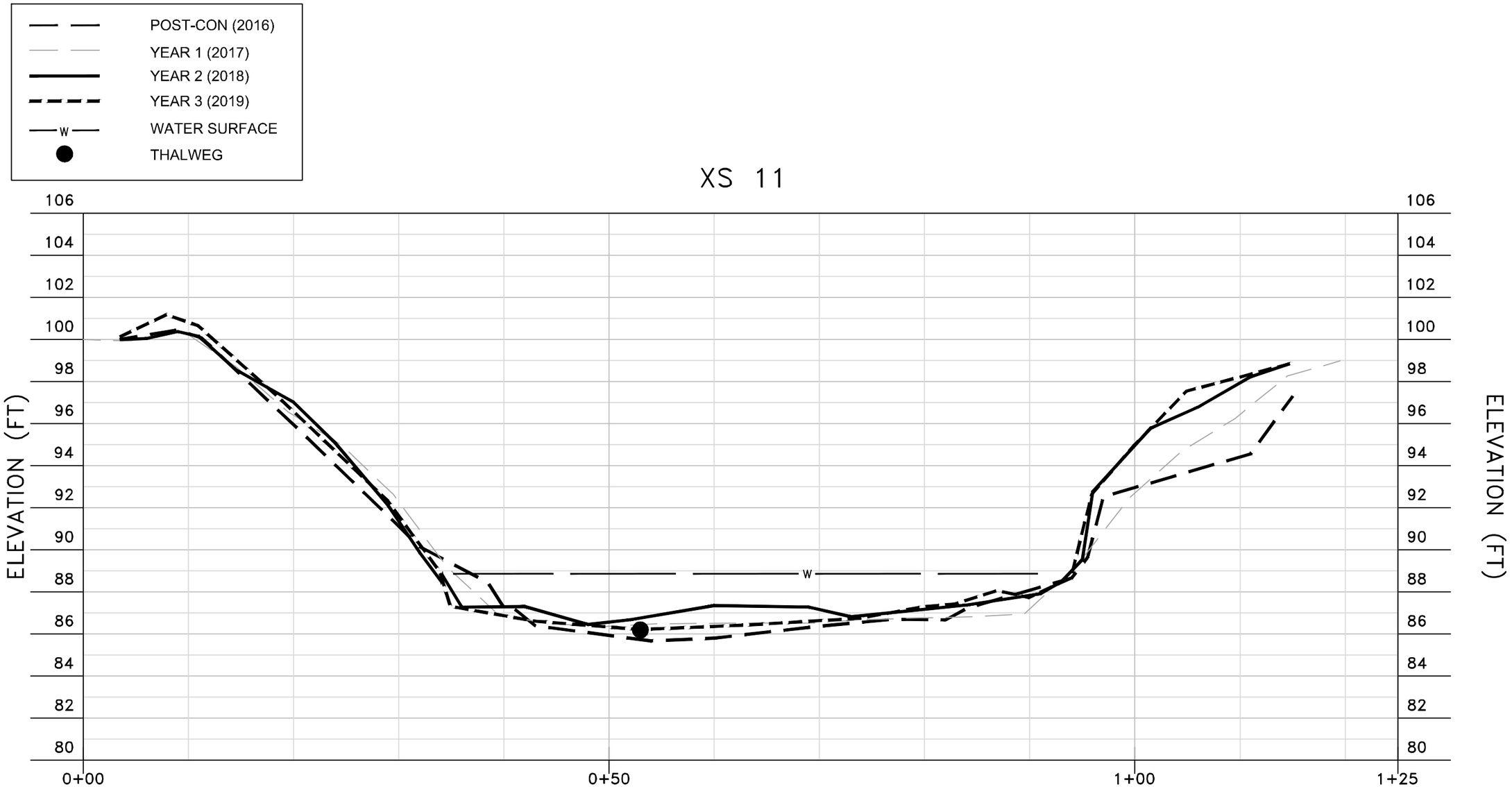


Photo 11-5
Location, Orientation: XS 11, Upstream looking down
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 11:51 AM
Description: View looking downstream at Cross Section 11 from an upstream position

Photo 11-6
Location, Orientation: XS 11, Downstream looking up
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 11:52 AM
Description: View looking upstream at Cross Section 11 from a downstream position



PROFILE SCALE:
HORIZ: 1"=10'
VERT: 1"=5'
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Rocky Mount, Virginia

Year 3 - XS 11

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21 of 24

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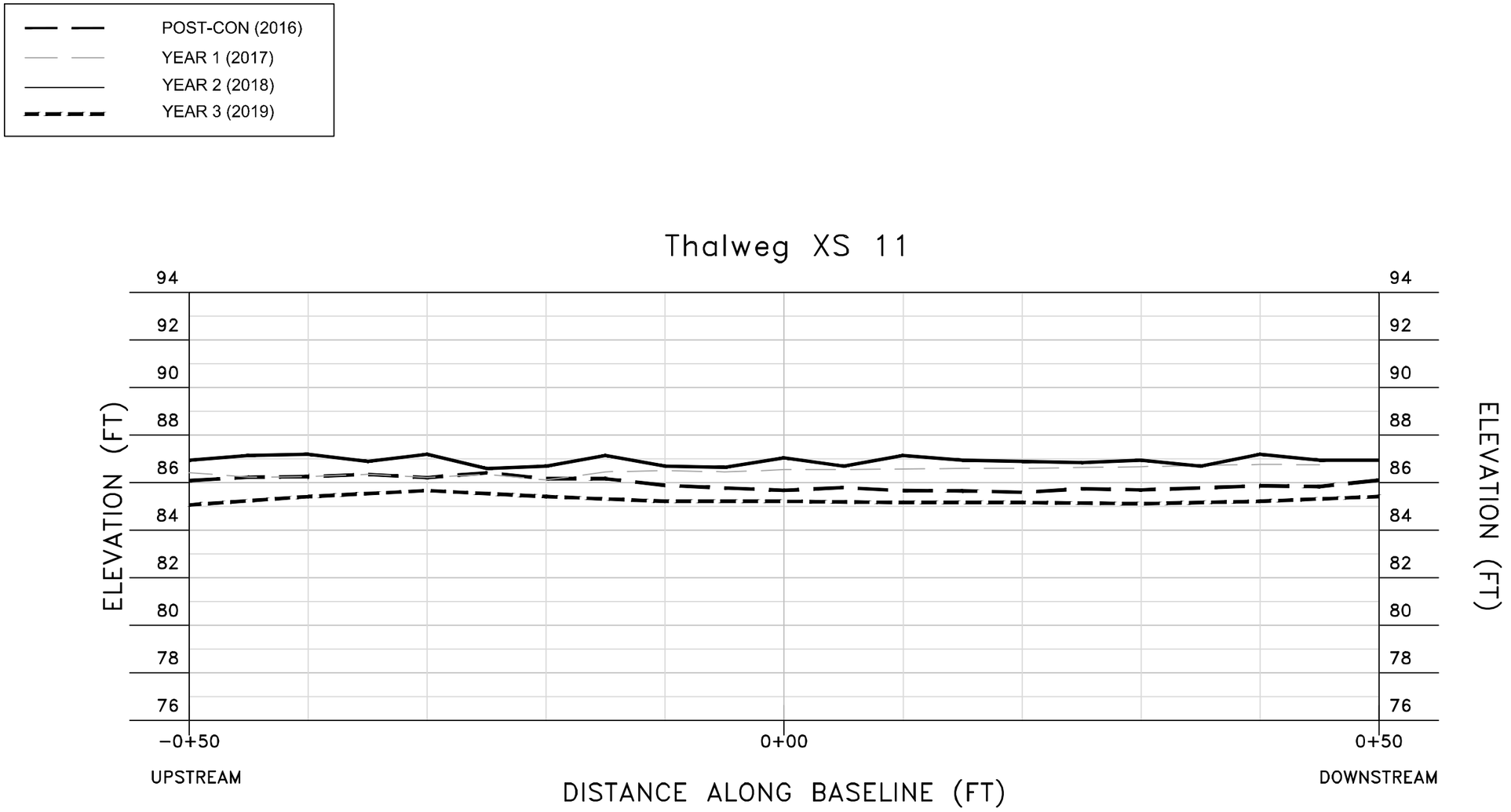

PROFILE SCALE:
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Rocky Mount, Virginia

Year 3 - Thalweg Profile XS 11

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Cross Section 12

Location	***Latitude***	***Longitude***
Left Bank	37.002258	-79.825398
Right Bank	37.002247	-79.825677

Description: Cross Section 12 is located approximately 5.2 mi downstream of the dam, or 2.6 mi downstream of Cross Section 11, approximately 300 feet downstream of the Chestnut Hill Road bridge. The section was accessed by parking along the Chestnut Hill Road and walking through the private property on the right bank (with permission). The section is flanked by lawn/fields on the right bank (with a narrow band of trees at the top of bank) and forest on the left bank. The right bank was steep (~1:1) and was stable due to mature woody vegetation and root mass. The right bank also saw large amounts of sediment deposition the pin being under 10 inches of sediment as well as woody debris. The left bank shows signs of sediment deposition and scour marks almost to bankfull. The end pin was buried under 4 inches of sediment. The section is located at the head of a riffle feature. There was little change from the previous year, only a larger amount of sediment deposition noticed. Both pins were moved up to surrounding grade after measurements were taken.

The instrument setup for this Cross Section was at the right bank (HI = 5.27 ft.). The Cross Section plot and thalweg profile are shown below. A pebble count was taken at this location due to the variation in bed material and data shown in Appendix B.

Photo 12-1
Location, Orientation: XS 12, Looking Upstream
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 1:45 PM
Description: View looking upstream from the middle of Cross Section 12
Woody Debris: 3

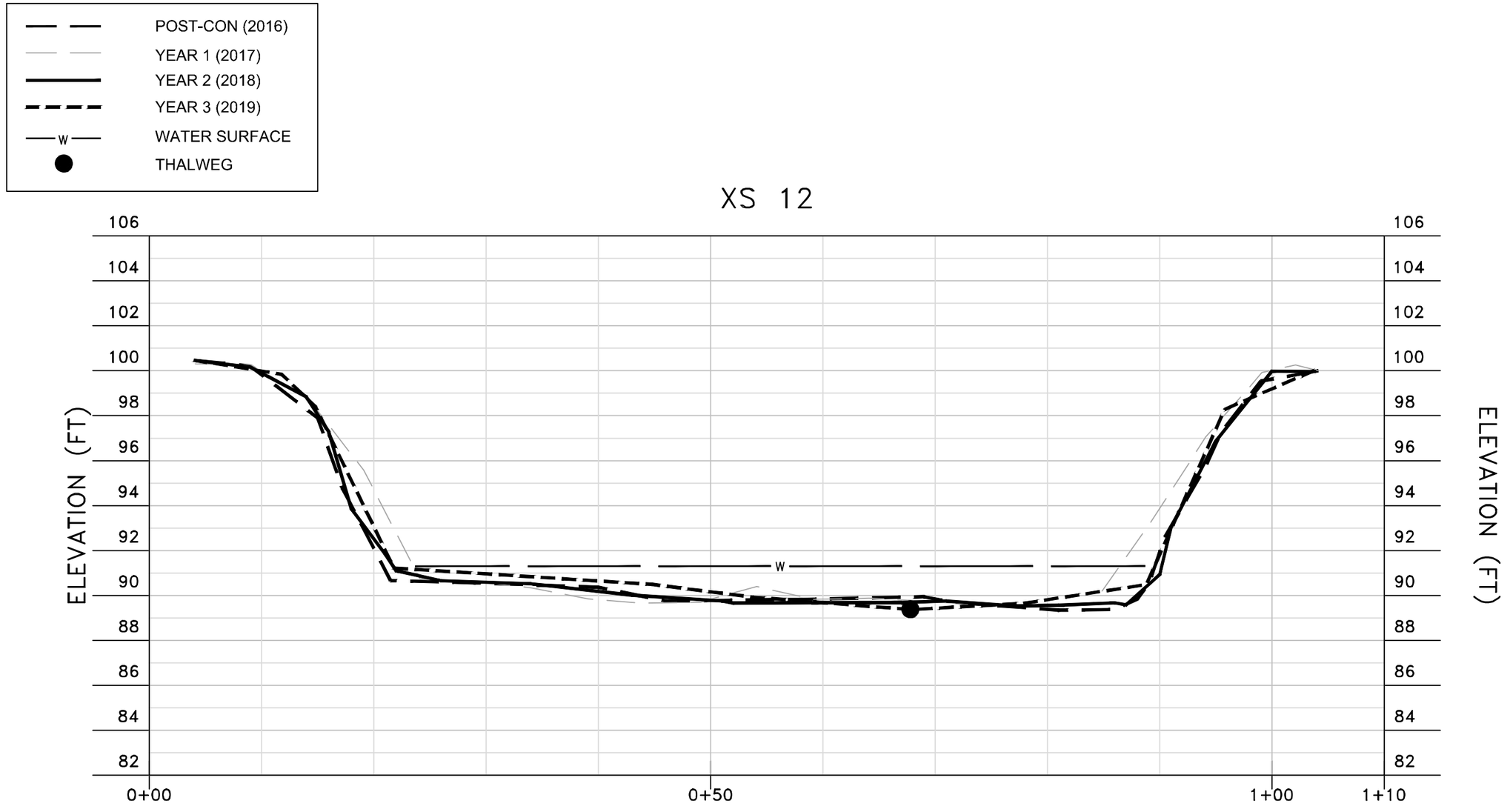
Photo 12-2
Location, Orientation: XS 12, Looking Downstream
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 1:46 PM
Description: View looking downstream from the middle of Cross Section 12
Woody Debris: 11

Photo 12-3
Location, Orientation: XS 12, Left Bank
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 1:40 PM
Description: View looking left from the middle of Cross Section 12
Vegetation: 40% herbaceous cover, trees

Photo 12-4
Location, Orientation: XS 12, Right Bank
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 1:40 PM
Description: View looking right from the middle of Cross Section 12
Vegetation: 70% herbaceous cover, trees at top of bank

Photo 12-5
Location, Orientation: XS 12, Upstream looking down
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 1:43 PM
Description: View looking downstream at Cross Section 12 from an upstream position

Photo 12-6
Location, Orientation: XS 12, Downstream looking up
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
10/01/19, 1:41 PM
Description: View looking upstream at Cross Section 12 from a downstream position



PROFILE SCALE:
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Pigg River Dam Removal Restoration - Monitoring
Rocky Mount, Virginia

Year 3 - XS 12

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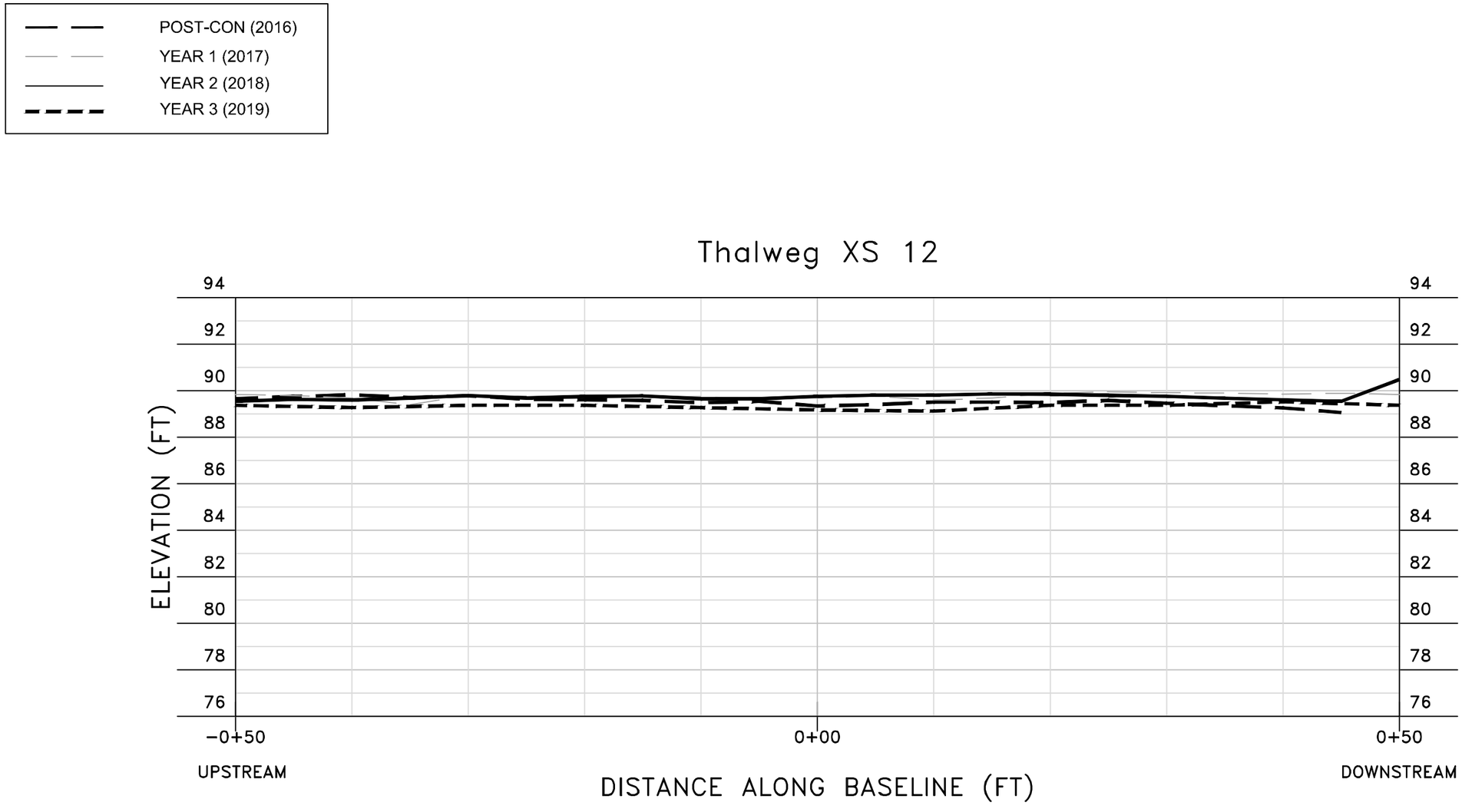

PROFILE SCALE:

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VERT: 1"=5'

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Rocky Mount, Virginia

Year 3 - Thalweg Profile XS 12

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Photographic Documentation of Tributary Channels

The following photos are provided as documentation of conditions seen at the mouth of tributaries located along Pigg River for areas upstream of the dam remains. Conditions at these confluence points can be generally characterized as having a deeply incised tributary channel which has downccut through deposits created during the past 100 years of backwater created by the dam. A steep drop (typically 2-4 feet) in invert elevation is typical as tributaries enter the main channel.

Photo T1
Location, Orientation: Tributary 1*, Looking Upstream from Pigg River
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
09/30/19, 10:15 AM
Description: Approximately 500 feet upstream of XS2
*Tributaries number sequentially, as encountered during annual monitoring (upstream to downstream)

Photo T2
Location, Orientation: Tributary 2, Looking Upstream from Pigg River
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
09/30/19, 10:23 AM
Description: Approximately 100 feet downstream of XS2

Photo T3
Location, Orientation: Tributary 3, Looking Upstream from Pigg River
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
09/30/19, 10:25 AM
Description: Approximately 500 feet downstream of XS2

Photo T4
Location, Orientation: Tributary 4, Looking Upstream from Pigg River
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
09/30/19, 12:52 PM
Description: Approximately 500 feet upstream of XS3

Photo T5
Location, Orientation: Tributary 5, Looking Upstream from Pigg River
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
09/30/19, 1:24 PM
Description: Approximately 100 feet upstream of XS3

Photo T6
Location, Orientation: Tributary 8, Looking Upstream from Pigg River
Permit Number: JPA #15-1551
Wetland Data Sheet Reference: n/a
09/30/19, 4:41 PM
Description: Approximately 500 feet downstream of XS4

Appendix B
Pebble Count Data

RIFFLE CROSS SECTION PEBBLE COUNT DATA WITH PARTICLE SIZE ANALYSIS

Project Name: Pigg River Monitoring (WSSI# 22906.01)

Stream ID & XS Station: XS3 (Located 250 ft. upstream in nearest riffle) | **Date:** Oct. 2019

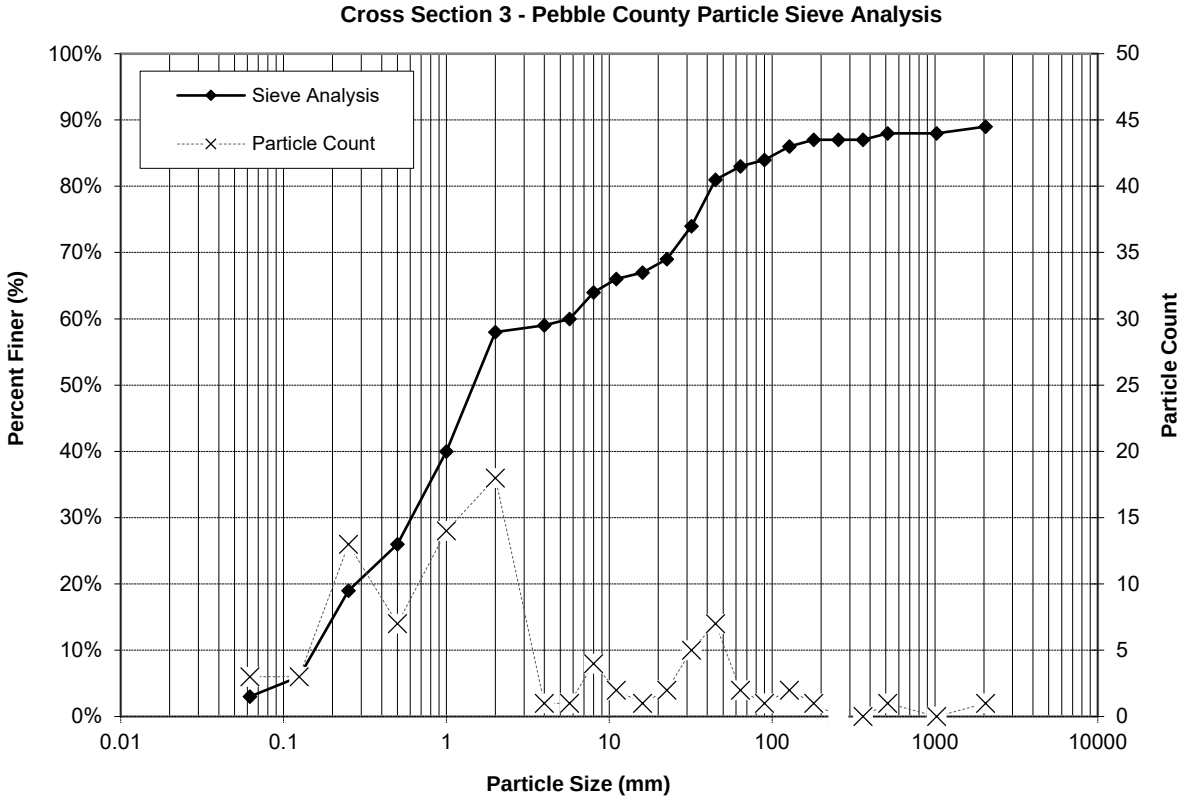
Evaluators: MEH, NAS | **FORVA**

Pebble Count Data

Particle				Particle Count	ITEM %	CUM %
	Description	Size (mm)		Total		
	Silt/Clay	0	0.062	3	3%	3%
SAND	Very Fine	0.062	0.125	3	3%	6%
SAND	Fine	0.125	0.25	13	13%	19%
SAND	Medium	0.25	0.5	7	7%	26%
SAND	Coarse	0.5	1.0	14	14%	40%
SAND	Very Coarse	1.0	2.0	18	18%	58%
GRAVEL	Very Fine	2.0	4.0	1	1%	59%
GRAVEL	Fine	4.0	5.7	1	1%	60%
GRAVEL	Fine	5.7	8.0	4	4%	64%
GRAVEL	Medium	8.0	11.03	2	2%	66%
GRAVEL	Medium	11.3	16.0	1	1%	67%
GRAVEL	Coarse	16.0	22.6	2	2%	69%
GRAVEL	Coarse	22.6	32.0	5	5%	74%
GRAVEL	Very Coarse	32	45	7	7%	81%
GRAVEL	Very Coarse	45	64	2	2%	83%
COBBLE	Small	64	90	1	1%	84%
COBBLE	Small	90	128	2	2%	86%
COBBLE	Large	128	180	1	1%	87%
COBBLE	Large	180	256	0	0%	87%
BOULDER	Small	256	362	0	0%	87%
BOULDER	Small	362	512	1	1%	88%
BOULDER	Medium	512	1024	0	0%	88%
BOULDER	Large - Vry Large	1024	2048	1	1%	89%
	Bedrock	2048		11	11%	100%
			Total Particles	100		

Particle Size Analysis

Silt/Clay (%)	3%
Sand (%)	55%
Gravel (%)	25%
Cobble (%)	4%
Boulder (%)	2%
Bedrock (%)	11%
D16 (mm)	0.22
D35 (mm)	0.82
D50 (mm)	1.56
D84 (mm)	90.00
D95 (mm)	BR
D100 (mm)	BR


Cross Section 3 - Pebble County Particle Sieve Analysis
Sieve Analysis
Particle Count
Percent Finer (%)
Particle Count
Particle Size (mm)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
50
45
40
35
30
25
20
15
10
5
0
0.01
0.1
1
10
100
1000
10000

RIFFLE CROSS SECTION PEBBLE COUNT DATA WITH PARTICLE SIZE ANALYSIS

Project Name: Pigg River Monitoring (WSSI# 22906.01)

Stream ID & XS Station: XS7 (Located 250 ft. upstream in nearest riffle) | **Date:** Oct. 2019

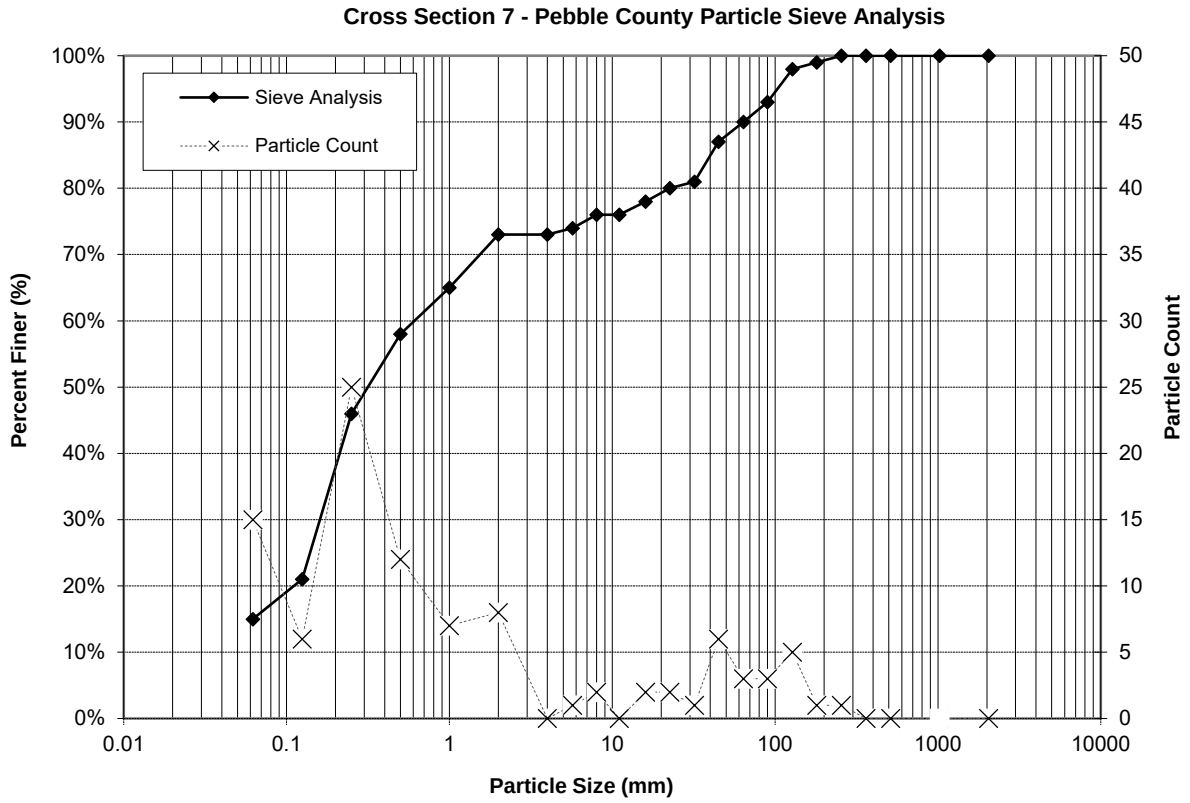
Evaluators: MEH, NAS | **FORVA**

Pebble Count Data

	Particle Description	Particle Size (mm)		Particle Count Total	ITEM %	CUM %
	Silt/Clay	0	0.062	15	15%	15%
SAND	Very Fine	0.062	0.125	6	6%	21%
SAND	Fine	0.125	0.25	25	25%	46%
SAND	Medium	0.25	0.5	12	12%	58%
SAND	Coarse	0.5	1.0	7	7%	65%
SAND	Very Coarse	1.0	2.0	8	8%	73%
GRAVEL	Very Fine	2.0	4.0	0	0%	73%
GRAVEL	Fine	4.0	5.7	1	1%	74%
GRAVEL	Fine	5.7	8.0	2	2%	76%
GRAVEL	Medium	8.0	11.03	0	0%	76%
GRAVEL	Medium	11.3	16.0	2	2%	78%
GRAVEL	Coarse	16.0	22.6	2	2%	80%
GRAVEL	Coarse	22.6	32.0	1	1%	81%
GRAVEL	Very Coarse	32	45	6	6%	87%
GRAVEL	Very Coarse	45	64	3	3%	90%
COBBLE	Small	64	90	3	3%	93%
COBBLE	Small	90	128	5	5%	98%
COBBLE	Large	128	180	1	1%	99%
COBBLE	Large	180	256	1	1%	100%
BOULDER	Small	256	362	0	0%	100%
BOULDER	Small	362	512	0	0%	100%
BOULDER	Medium	512	1024	0	0%	100%
BOULDER	Large - Vry Large	1024	2048	0	0%	100%
	Bedrock	2048		0	0%	100%
		Total Particles		100		

Particle Size Analysis

Silt/Clay (%)	15%
Sand (%)	58%
Gravel (%)	17%
Cobble (%)	10%
Boulder (%)	0%
Bedrock (%)	0%
D16 (mm)	0.07
D35 (mm)	0.20
D50 (mm)	0.33
D84 (mm)	38.50
D95 (mm)	105.20
D100 (mm)	185.00


Cross Section 7 - Pebble County Particle Sieve Analysis
Sieve Analysis
Particle Count
Percent Finer (%)
Particle Count
Particle Size (mm)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
50
45
40
35
30
25
20
15
10
5
0
0.01
0.1
1
10
100
1000
10000

RIFFLE CROSS SECTION PEBBLE COUNT DATA WITH PARTICLE SIZE ANALYSIS

Project Name: Pigg River Monitoring (WSSI# 22906.01)

Stream ID & XS Station: XS8 (Located 250 ft. upstream in nearest riffle) | **Date:** Oct. 2019

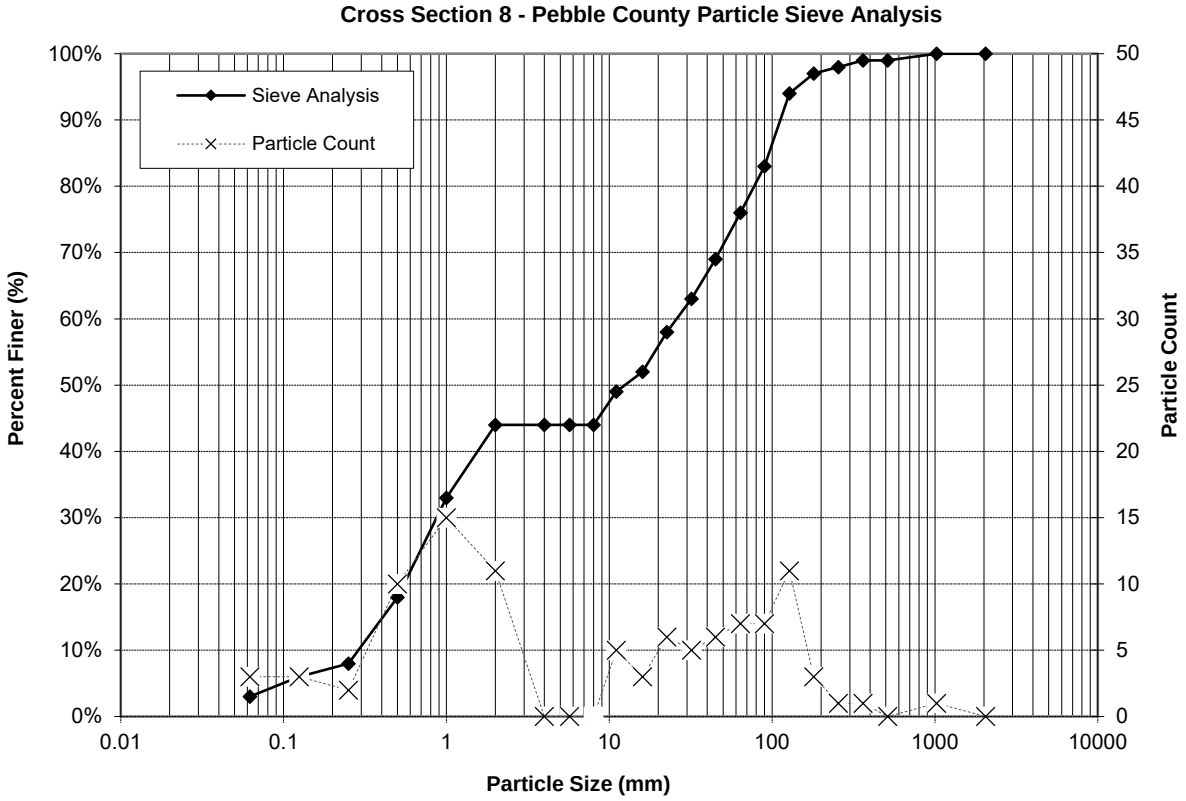
Evaluators: MEH, NAS | **FORVA**

Pebble Count Data

	Particle Description	Particle Size (mm)		Particle Count Total	ITEM %	CUM %
	Silt/Clay	0	0.062	3	3%	3%
SAND	Very Fine	0.062	0.125	3	3%	6%
SAND	Fine	0.125	0.25	2	2%	8%
SAND	Medium	0.25	0.5	10	10%	18%
SAND	Coarse	0.5	1.0	15	15%	33%
SAND	Very Coarse	1.0	2.0	11	11%	44%
GRAVEL	Very Fine	2.0	4.0	0	0%	44%
GRAVEL	Fine	4.0	5.7	0	0%	44%
GRAVEL	Fine	5.7	8.0	0	0%	44%
GRAVEL	Medium	8.0	11.03	5	5%	49%
GRAVEL	Medium	11.3	16.0	3	3%	52%
GRAVEL	Coarse	16.0	22.6	6	6%	58%
GRAVEL	Coarse	22.6	32.0	5	5%	63%
GRAVEL	Very Coarse	32	45	6	6%	69%
GRAVEL	Very Coarse	45	64	7	7%	76%
COBBLE	Small	64	90	7	7%	83%
COBBLE	Small	90	128	11	11%	94%
COBBLE	Large	128	180	3	3%	97%
COBBLE	Large	180	256	1	1%	98%
BOULDER	Small	256	362	1	1%	99%
BOULDER	Small	362	512	0	0%	99%
BOULDER	Medium	512	1024	1	1%	100%
BOULDER	Large - Vry Large	1024	2048	0	0%	100%
	Bedrock	2048		0	0%	100%
		Total Particles		100		

Particle Size Analysis

Silt/Clay (%)	3%
Sand (%)	41%
Gravel (%)	32%
Cobble (%)	22%
Boulder (%)	2%
Bedrock (%)	0%
D16 (mm)	0.45
D35 (mm)	1.18
D50 (mm)	12.69
D84 (mm)	93.45
D95 (mm)	145.33
D100 (mm)	610.00


Cross Section 8 - Pebble County Particle Sieve Analysis
Sieve Analysis
Particle Count
Percent Finer (%)
Particle Count
Particle Size (mm)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
50
45
40
35
30
25
20
15
10
5
0
0.01
0.1
1
10
100
1000
10000

RIFFLE CROSS SECTION PEBBLE COUNT DATA WITH PARTICLE SIZE ANALYSIS

Project Name: Pigg River Monitoring (WSSI# 22906.01)

Stream ID & XS Station: XS11 (Located 50 ft. downstream in nearest riffle) | **Date:** Oct. 2019

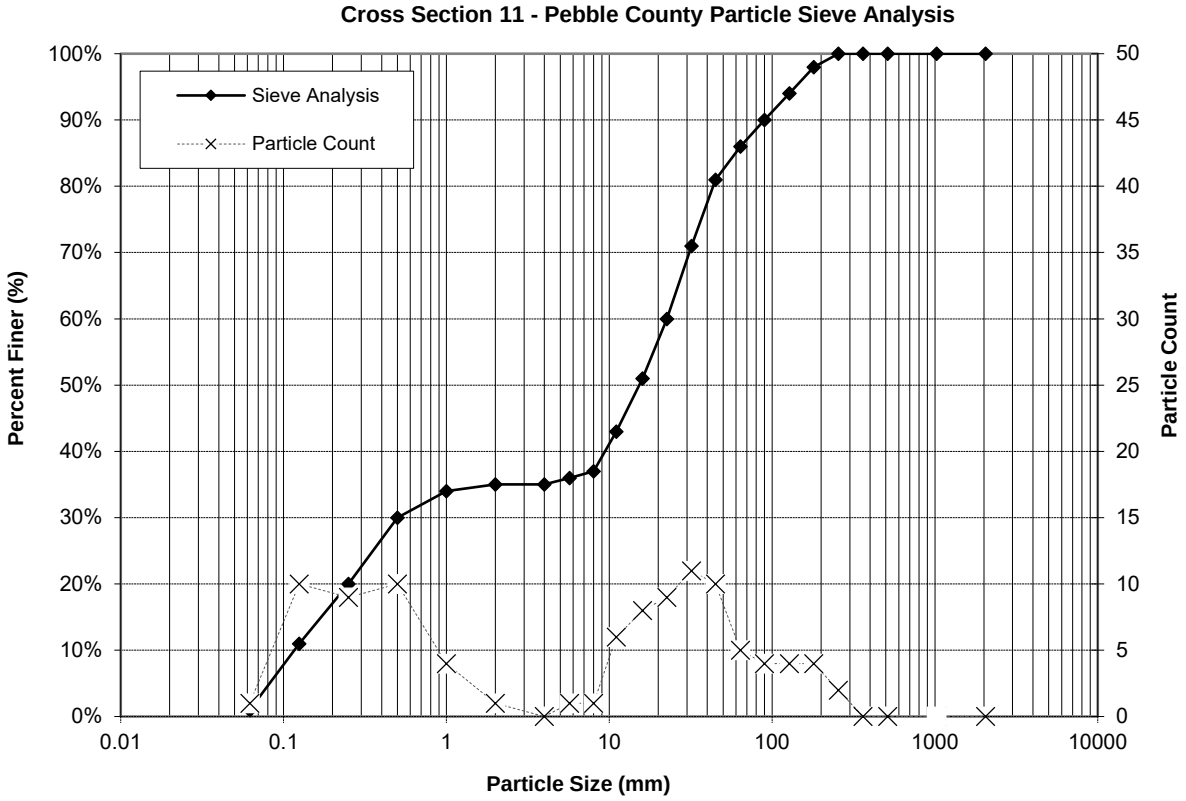
Evaluators: MEH, NAS | **FORVA**

Pebble Count Data

	Particle Description	Particle Size (mm)		Particle Count Total	ITEM %	CUM %
	Silt/Clay	0	0.062	1	1%	1%
SAND	Very Fine	0.062	0.125	10	10%	11%
SAND	Fine	0.125	0.25	9	9%	20%
SAND	Medium	0.25	0.5	10	10%	30%
SAND	Coarse	0.5	1.0	4	4%	34%
SAND	Very Coarse	1.0	2.0	1	1%	35%
GRAVEL	Very Fine	2.0	4.0	0	0%	35%
GRAVEL	Fine	4.0	5.7	1	1%	36%
GRAVEL	Fine	5.7	8.0	1	1%	37%
GRAVEL	Medium	8.0	11.03	6	6%	43%
GRAVEL	Medium	11.3	16.0	8	8%	51%
GRAVEL	Coarse	16.0	22.6	9	9%	60%
GRAVEL	Coarse	22.6	32.0	11	11%	71%
GRAVEL	Very Coarse	32	45	10	10%	81%
GRAVEL	Very Coarse	45	64	5	5%	86%
COBBLE	Small	64	90	4	4%	90%
COBBLE	Small	90	128	4	4%	94%
COBBLE	Large	128	180	4	4%	98%
COBBLE	Large	180	256	2	2%	100%
BOULDER	Small	256	362	0	0%	100%
BOULDER	Small	362	512	0	0%	100%
BOULDER	Medium	512	1024	0	0%	100%
BOULDER	Large - Vry Large	1024	2048	0	0%	100%
	Bedrock	2048		0	0%	100%
		Total Particles		100		

Particle Size Analysis

Silt/Clay (%)	1%
Sand (%)	34%
Gravel (%)	51%
Cobble (%)	14%
Boulder (%)	0%
Bedrock (%)	0%
D16 (mm)	0.19
D35 (mm)	4.00
D50 (mm)	15.38
D84 (mm)	56.40
D95 (mm)	141.00
D100 (mm)	256.00


Cross Section 11 - Pebble County Particle Sieve Analysis
Sieve Analysis
Particle Count
Percent Finer (%)
Particle Count
Particle Size (mm)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
50
45
40
35
30
25
20
15
10
5
0
0.01
0.1
1
10
100
1000
10000

RIFFLE CROSS SECTION PEBBLE COUNT DATA WITH PARTICLE SIZE ANALYSIS

Project Name: Pigg River Monitoring (WSSI# 22906.01)

Stream ID & XS Station: XS12 (Located 50 ft. downstream in nearest riffle) | **Date:** Oct. 2019

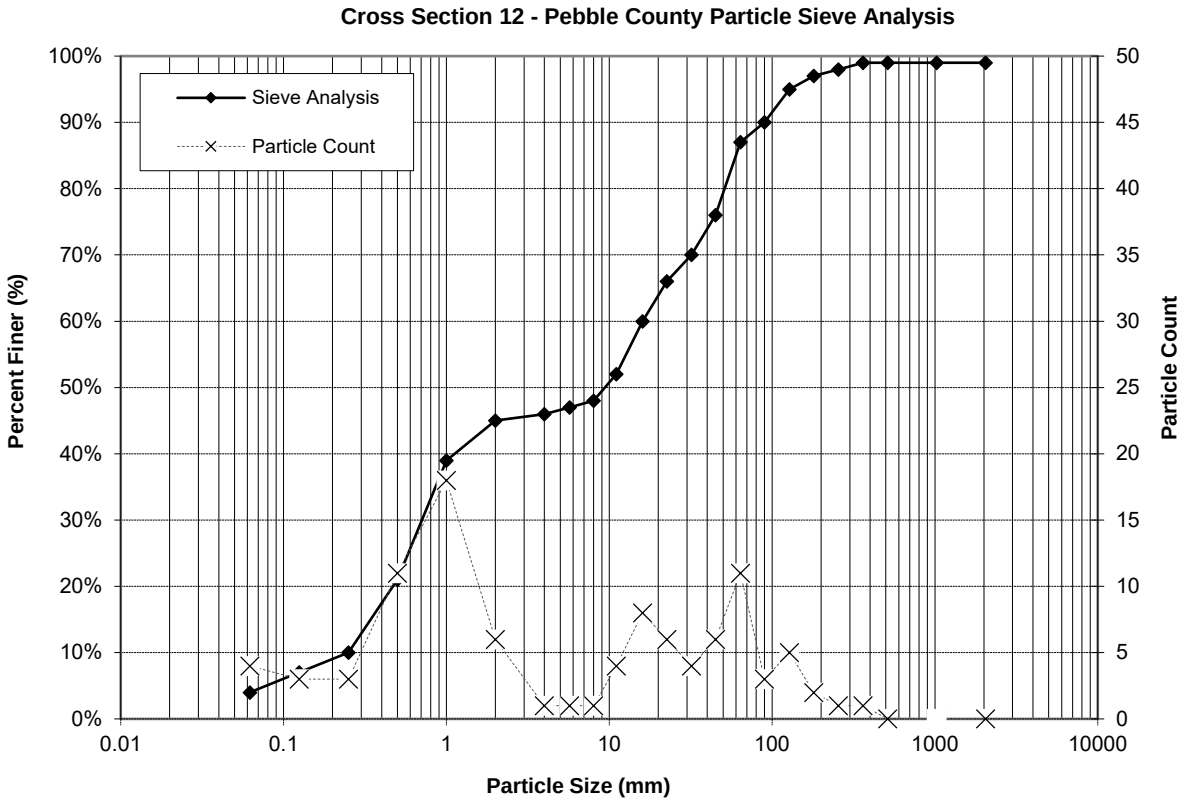
Evaluators: MEH, NAS | **FORVA**

Pebble Count Data

Particle				Particle Count	ITEM %	CUM %
	Description	Size (mm)		Total		
	Silt/Clay	0	0.062	4	4%	4%
SAND	Very Fine	0.062	0.125	3	3%	7%
SAND	Fine	0.125	0.25	3	3%	10%
SAND	Medium	0.25	0.5	11	11%	21%
SAND	Coarse	0.5	1.0	18	18%	39%
SAND	Very Coarse	1.0	2.0	6	6%	45%
GRAVEL	Very Fine	2.0	4.0	1	1%	46%
GRAVEL	Fine	4.0	5.7	1	1%	47%
GRAVEL	Fine	5.7	8.0	1	1%	48%
GRAVEL	Medium	8.0	11.03	4	4%	52%
GRAVEL	Medium	11.3	16.0	8	8%	60%
GRAVEL	Coarse	16.0	22.6	6	6%	66%
GRAVEL	Coarse	22.6	32.0	4	4%	70%
GRAVEL	Very Coarse	32	45	6	6%	76%
GRAVEL	Very Coarse	45	64	11	11%	87%
COBBLE	Small	64	90	3	3%	90%
COBBLE	Small	90	128	5	5%	95%
COBBLE	Large	128	180	2	2%	97%
COBBLE	Large	180	256	1	1%	98%
BOULDER	Small	256	362	1	1%	99%
BOULDER	Small	362	512	0	0%	99%
BOULDER	Medium	512	1024	0	0%	99%
BOULDER	Large - Vry Large	1024	2048	0	0%	99%
	Bedrock	2048		1	1%	100%
		Total Particles		100		

Particle Size Analysis

Silt/Clay (%)	4%
Sand (%)	41%
Gravel (%)	42%
Cobble (%)	11%
Boulder (%)	1%
Bedrock (%)	1%
D16 (mm)	0.39
D35 (mm)	0.89
D50 (mm)	9.52
D84 (mm)	58.82
D95 (mm)	128.00
D100 (mm)	BR


Cross Section 12 - Pebble County Particle Sieve Analysis
Sieve Analysis
Particle Count
Percent Finer (%)
Particle Count
Particle Size (mm)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
50
45
40
35
30
25
20
15
10
5
0
0.01
0.1
1
10
100
1000
10000