PLAN SCALE

200 0 200

FEET

inter·fluve, inc.
1020 Wasco Street, Suite I
Hood River, OR 97031
541.386.9003
www.interfluve.com

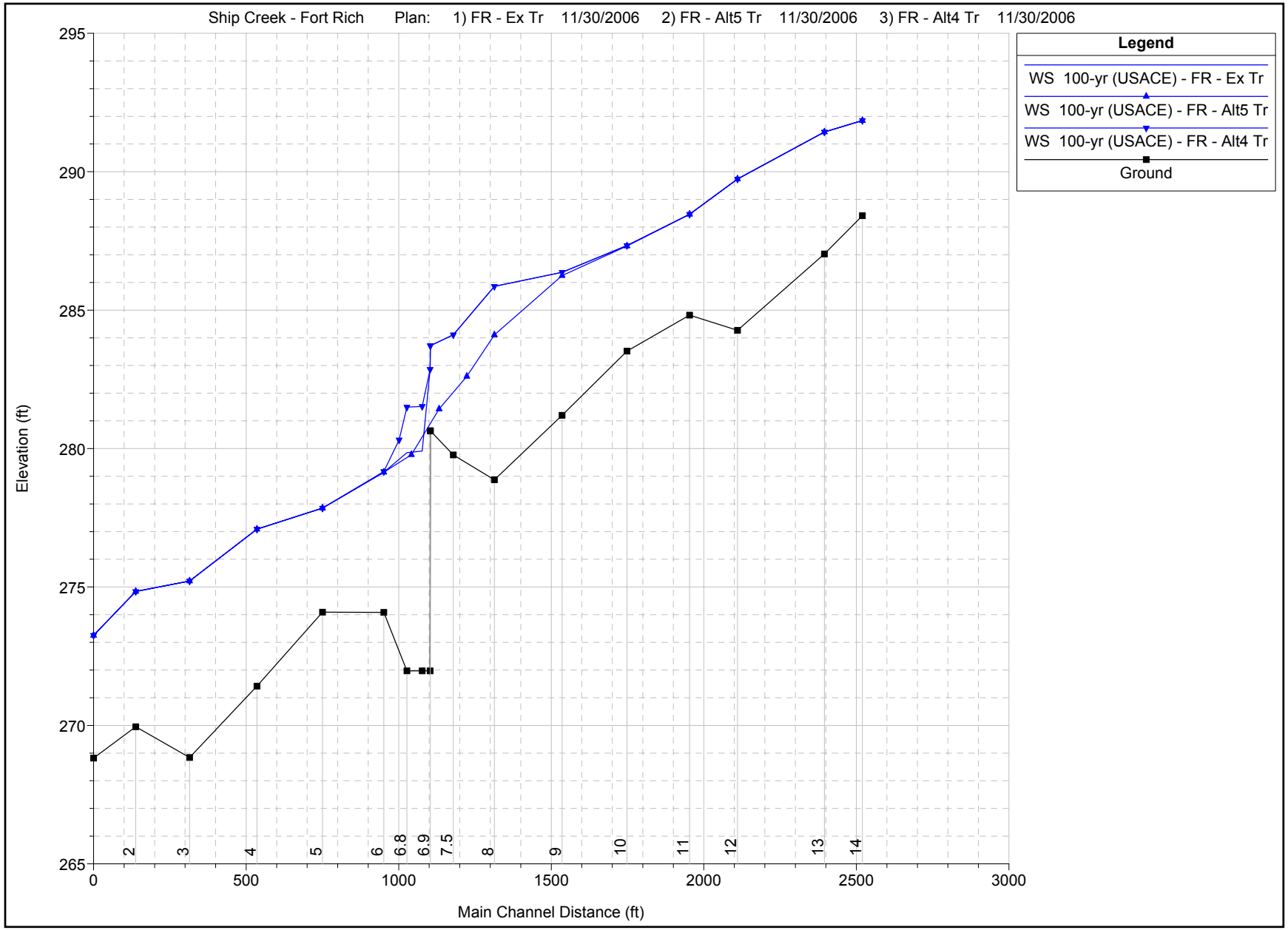
SHIP CREEK ASSESSMENT

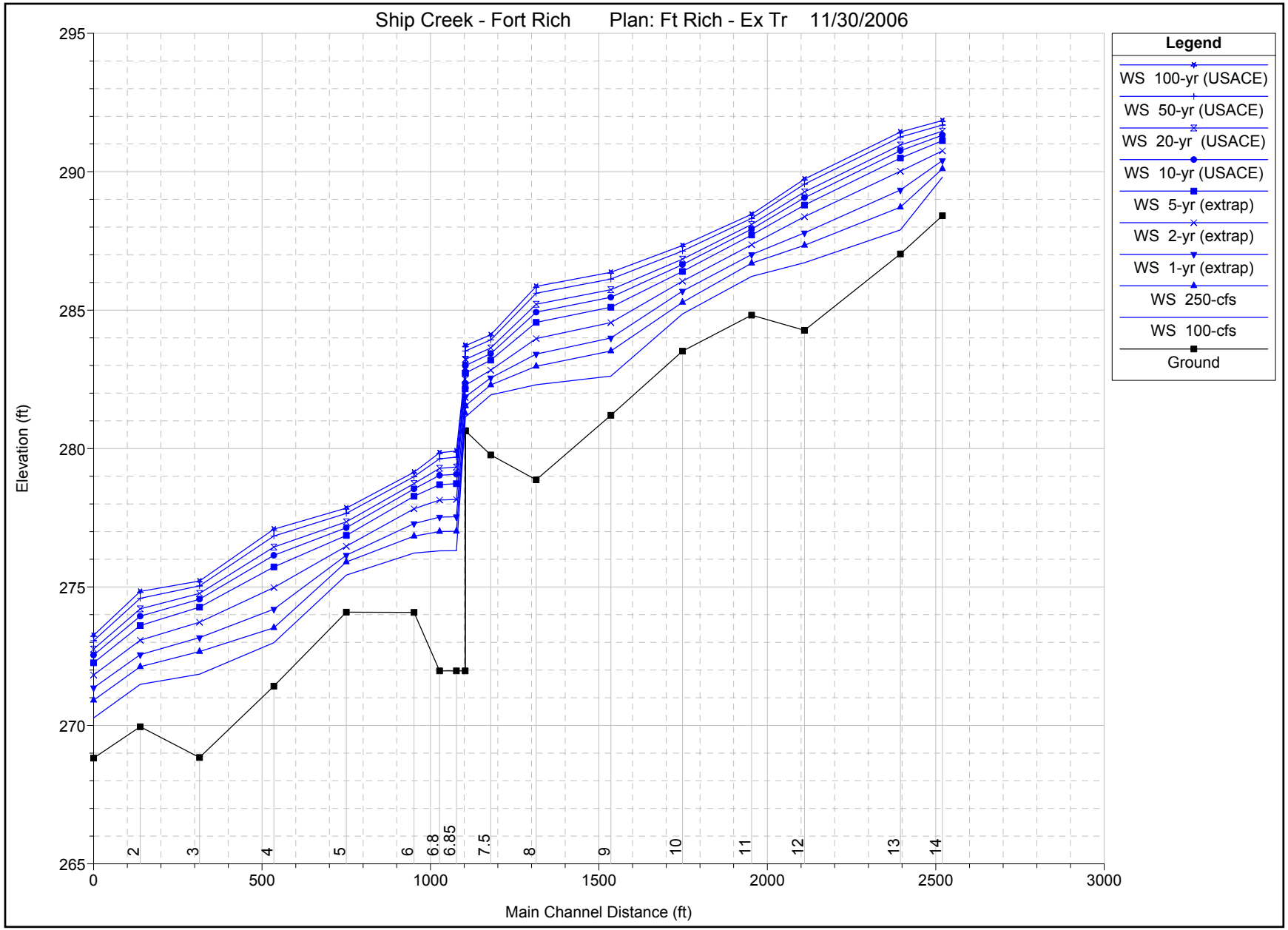
ALASKA DEPARTMENT OF FISH AND GAME

FORT RICHARDSON HEC-RAS CROSS SECTION LOCATIONS

DESIGNED BY	CHECKED BY
MB	MM
DRAWN BY	DATE APPD.
MM	5-13-03

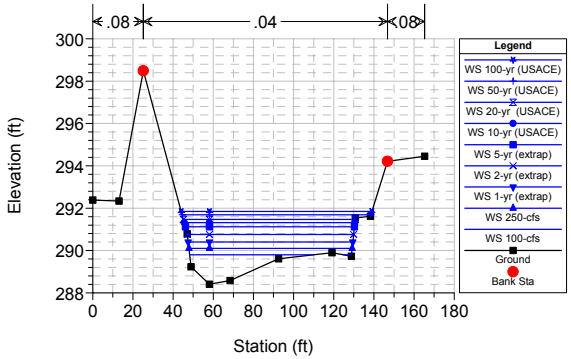
ii


Ship Creek - Fort Rich Plan: 1) FR - Ex Tr 11/30/2006 2) FR - Alt5 Tr 11/30/2006 3) FR - Alt4 Tr 11/30/2006
Legend
WS 100-yr (USACE) - FR - Ex Tr
WS 100-yr (USACE) - FR - Alt5 Tr
WS 100-yr (USACE) - FR - Alt4 Tr
Ground
Elevation (ft)
295
290
285
280
275
270
265
0
500
1000
1500
2000
2500
3000
Main Channel Distance (ft)
2
3
4
5
6
6.8
6.9
7.5
8
9
10
11
12
13
14


Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006
Elevation (ft)
Main Channel Distance (ft)
295
290
285
280
275
270
265
0
500
1000
1500
2000
2500
3000
2
3
4
5
6
6.8
6.85
7.5
8
9
10
11
12
13
14
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground

Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006

RS = 14



Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006

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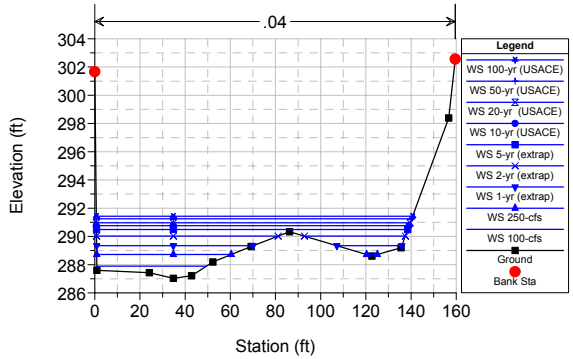
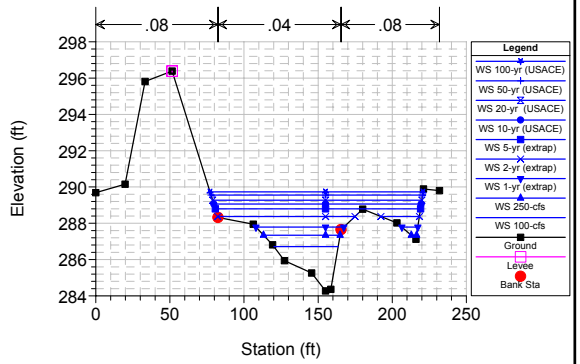


Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006

RS = 12



Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006

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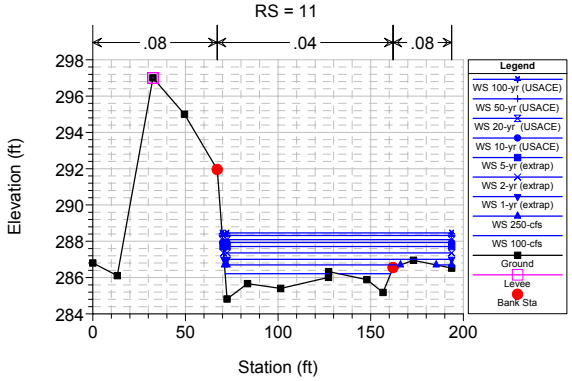

Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006

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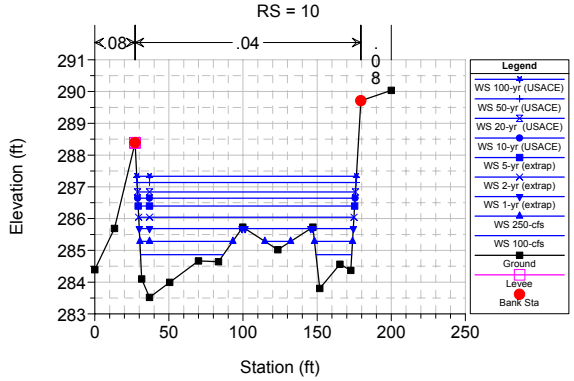
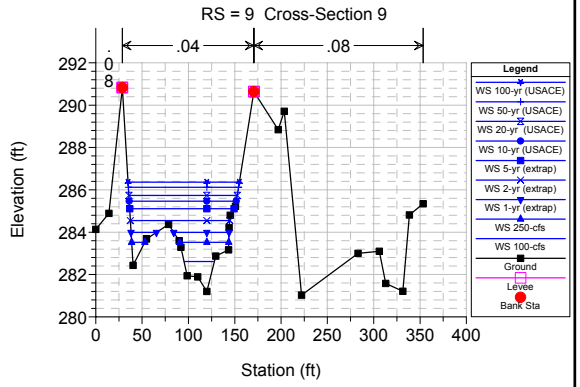


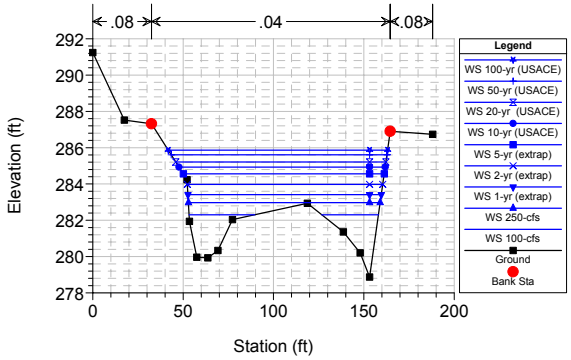
Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006

RS = 9 Cross-Section 9



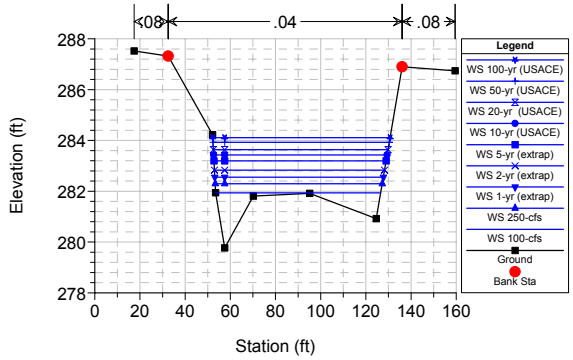
Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006

RS = 8 Cross-Section 8



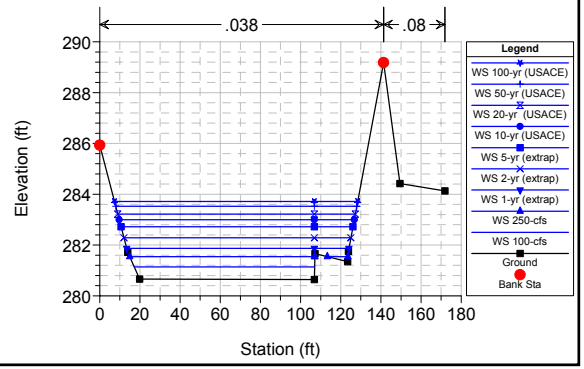
Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006

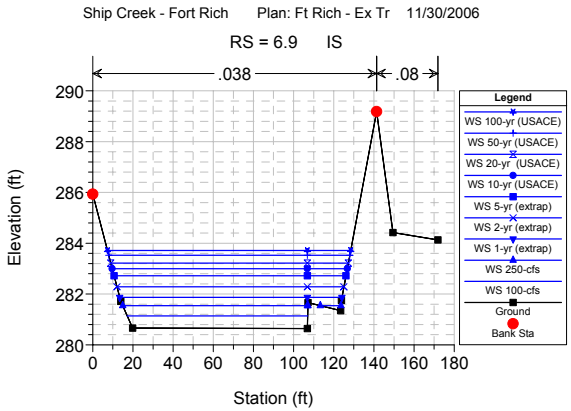
RS = 7.5 generate intermediate XS between 7 and

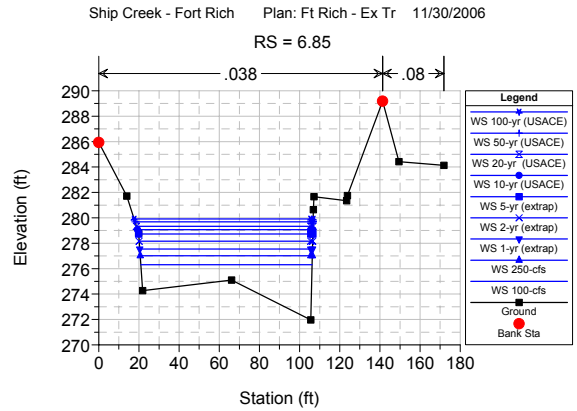


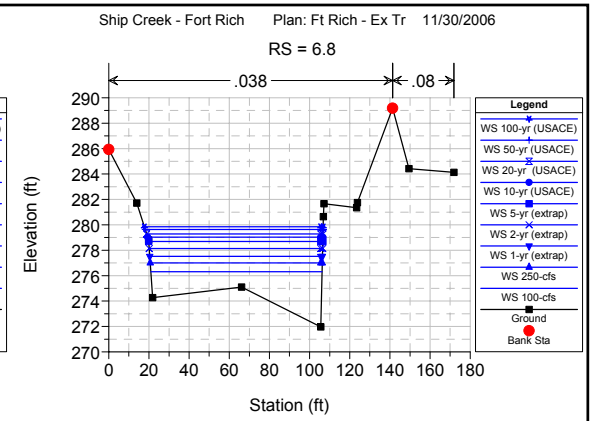
Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006

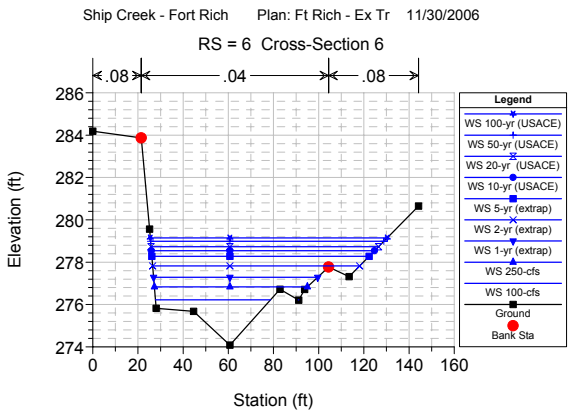
RS = 7

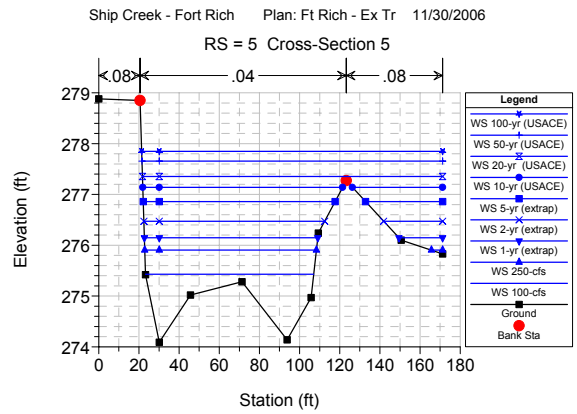


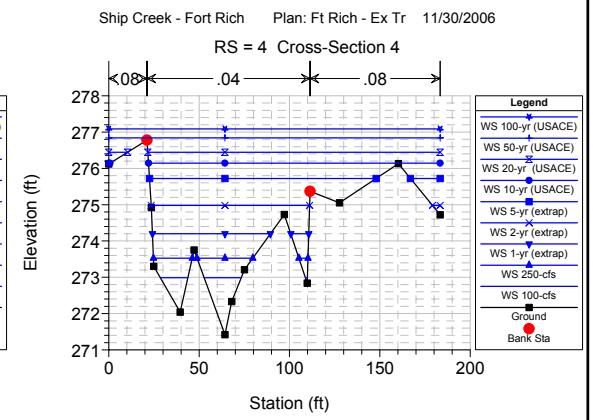

Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006
RS = 6.9 IS
.038
.08
Elevation (ft)
Station (ft)
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground
Bank Sta

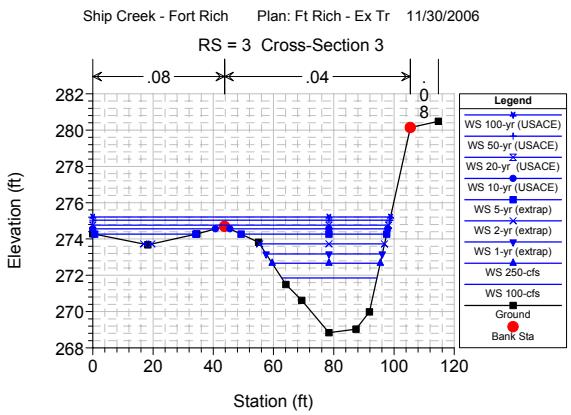

Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006
RS = 6.85
.038
.08
Elevation (ft)
Station (ft)
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground
Bank Sta

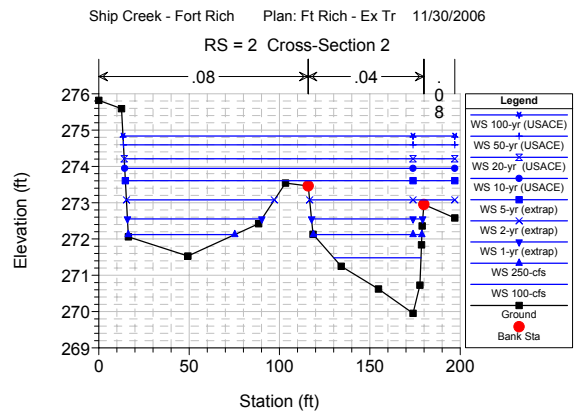

Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006
RS = 6.8
.038
.08
Elevation (ft)
Station (ft)
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground
Bank Sta

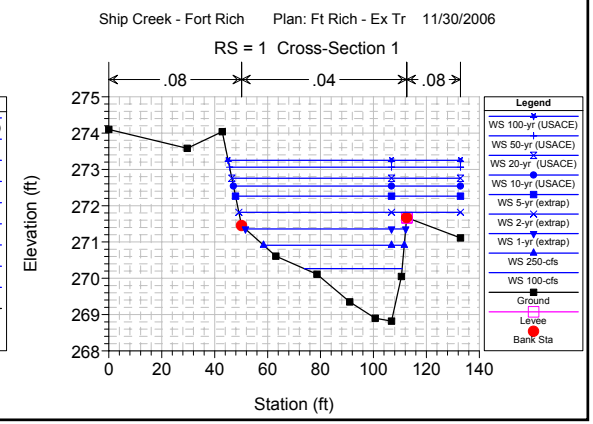

Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006
RS = 6 Cross-Section 6
.08
.04
.08
Elevation (ft)
Station (ft)
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground
Bank Sta

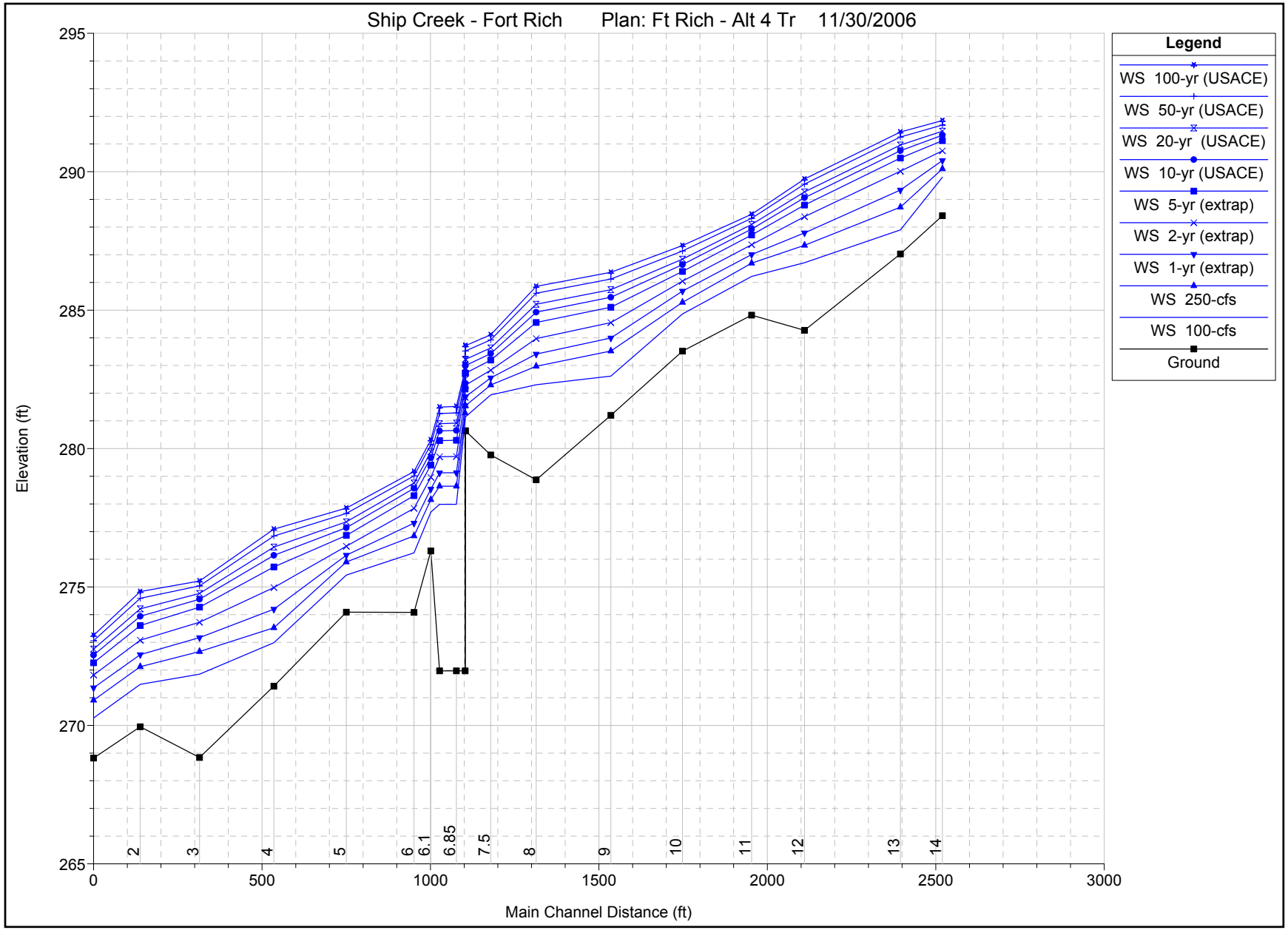

Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006
RS = 5 Cross-Section 5
.08
.04
.08
Elevation (ft)
Station (ft)
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground
Bank Sta


Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006
RS = 4 Cross-Section 4
.08
.04
.08
Elevation (ft)
Station (ft)
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground
Bank Sta


Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006
RS = 3 Cross-Section 3
.08
.04
.08
Elevation (ft)
Station (ft)
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground
Bank Sta

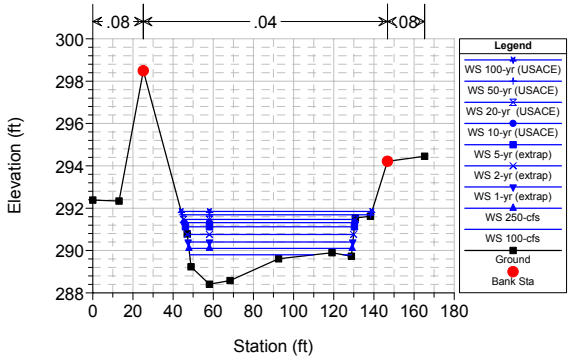

Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006
RS = 2 Cross-Section 2
.08
.04
.08
Elevation (ft)
Station (ft)
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground
Bank Sta


Ship Creek - Fort Rich Plan: Ft Rich - Ex Tr 11/30/2006
RS = 1 Cross-Section 1
.08
.04
.08
Elevation (ft)
Station (ft)
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground
Levee
Bank Sta


Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006
Elevation (ft)
Main Channel Distance (ft)
295
290
285
280
275
270
265
0
500
1000
1500
2000
2500
3000
2
3
4
5
6
6.1
6.85
7.5
8
9
10
11
12
13
14
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground

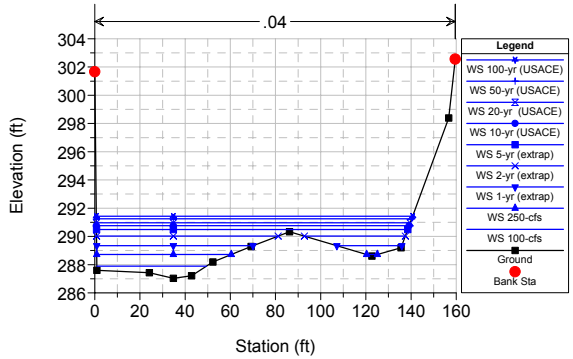
Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 14



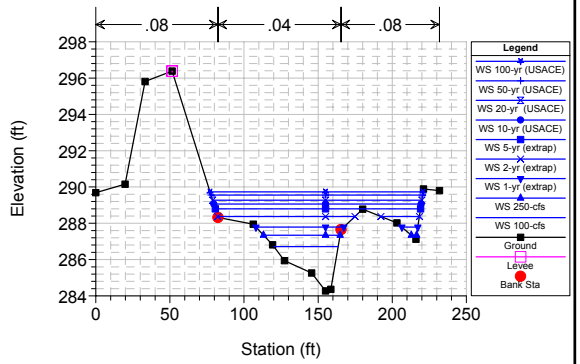
Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 13



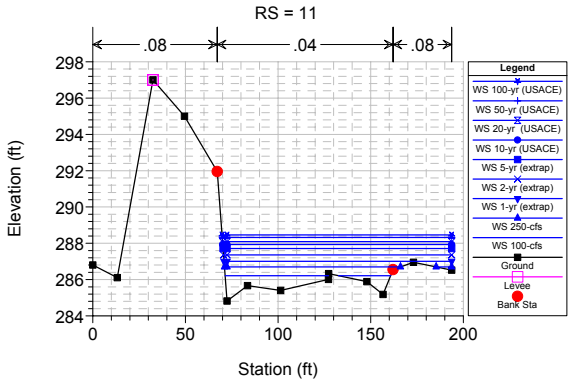
Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 12



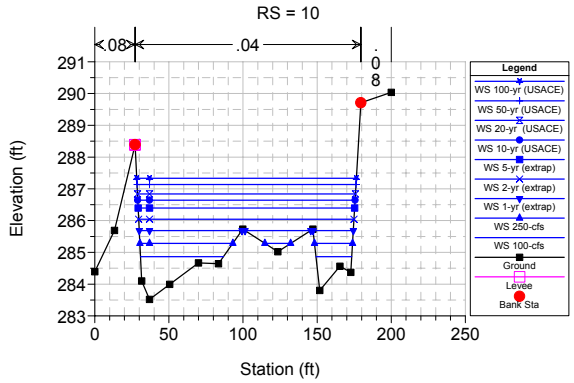
Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 11



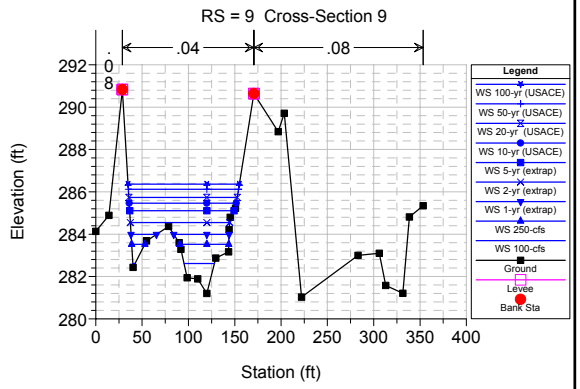
Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 10



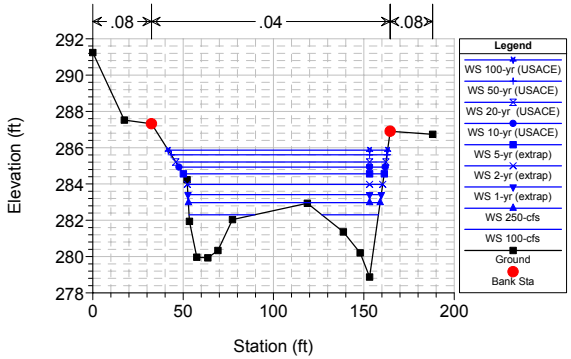
Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 9 Cross-Section 9



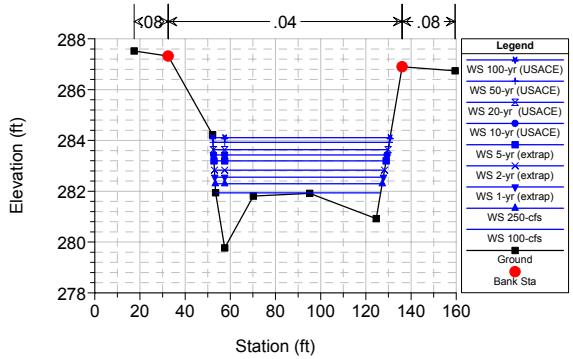
Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 8 Cross-Section 8



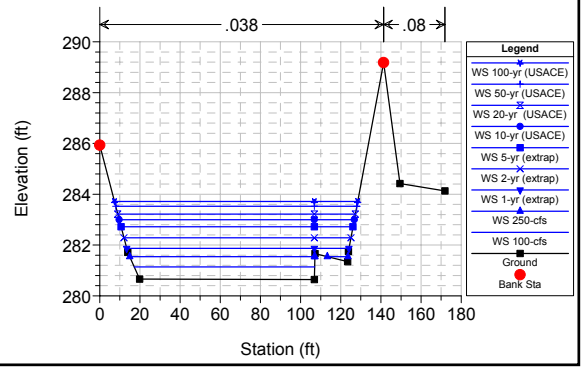
Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 7.5 generate intermediate XS between 7 and



Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 7



Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

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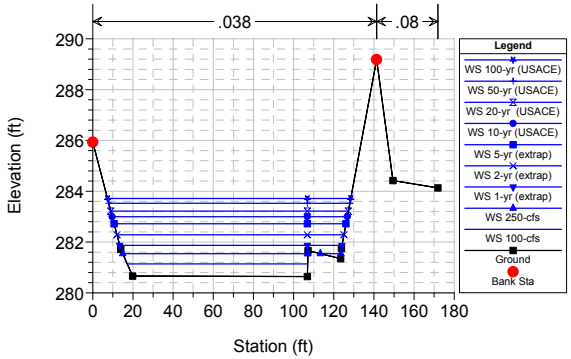

Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

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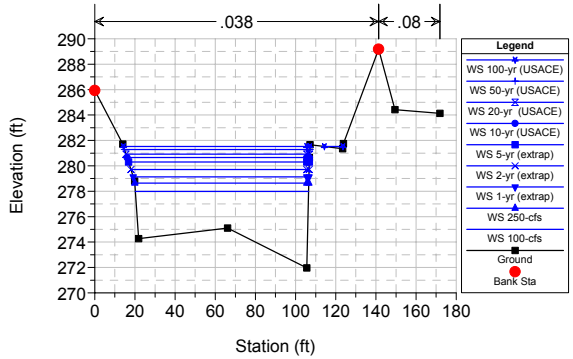

Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

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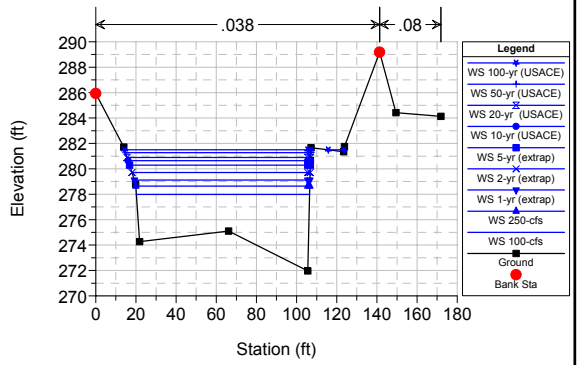

Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

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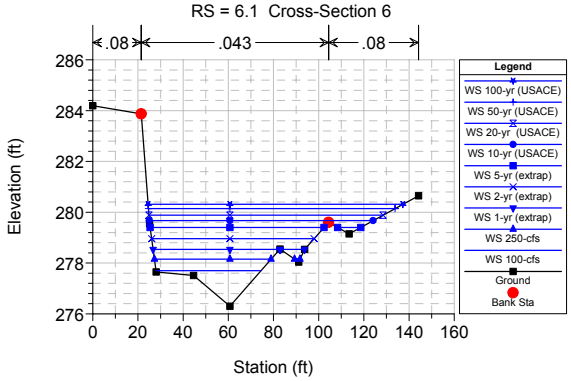
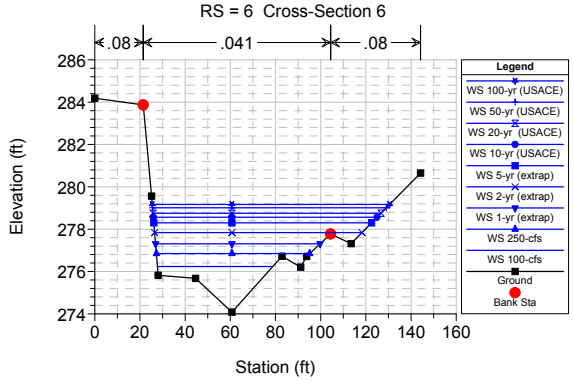


Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 6 Cross-Section 6



Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

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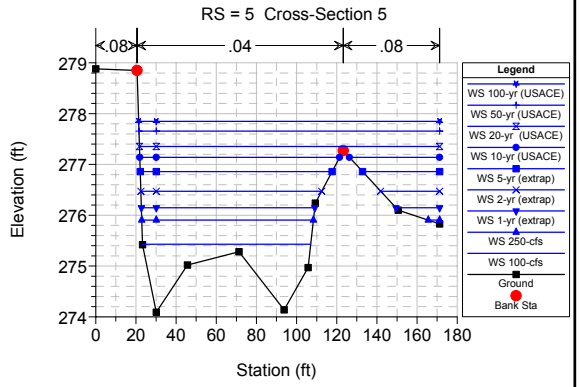
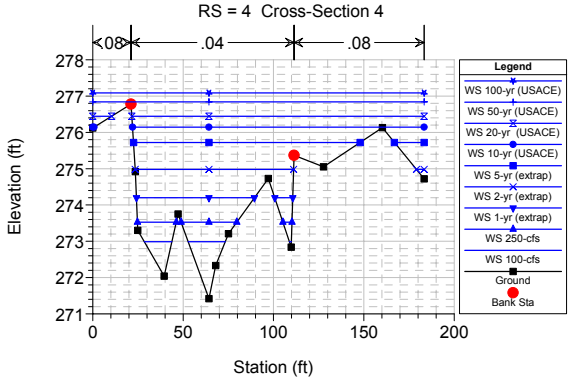


Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

RS = 4 Cross-Section 4



Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

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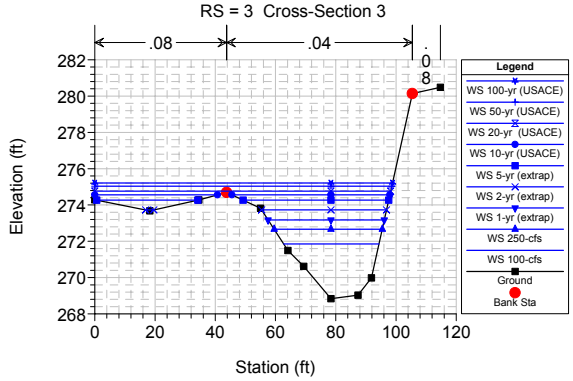
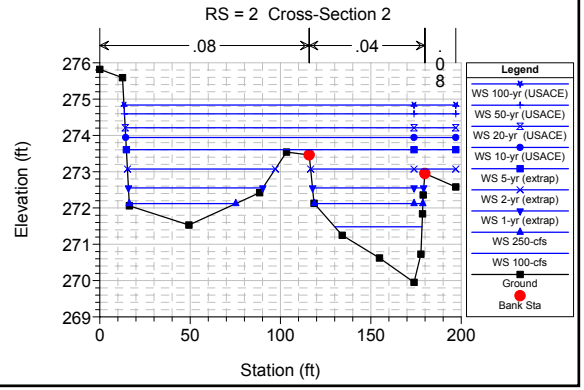
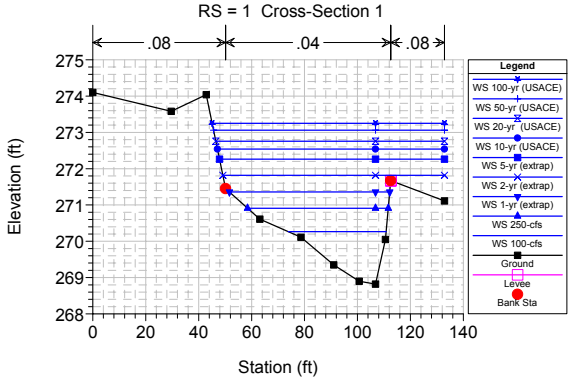


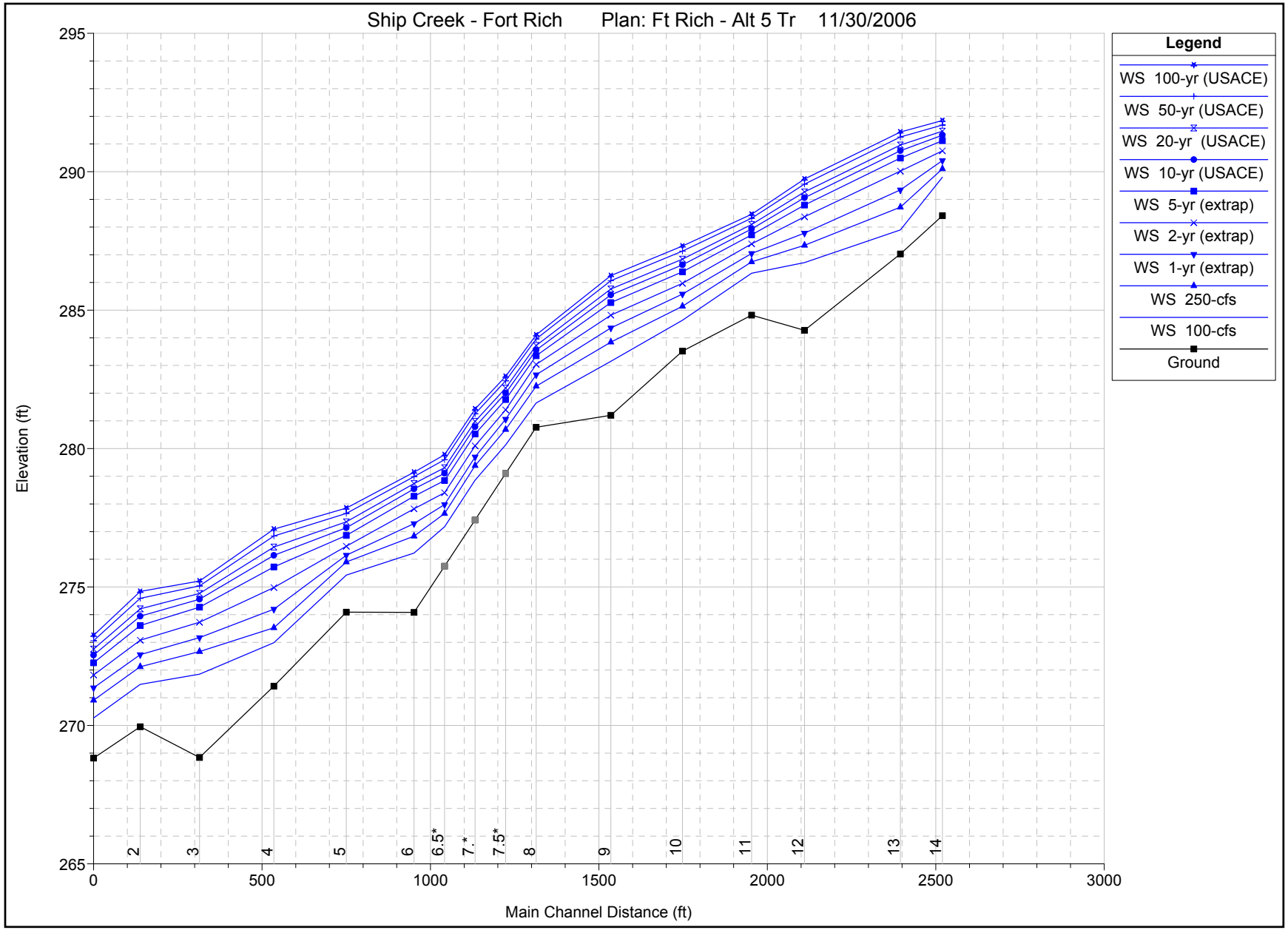
Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

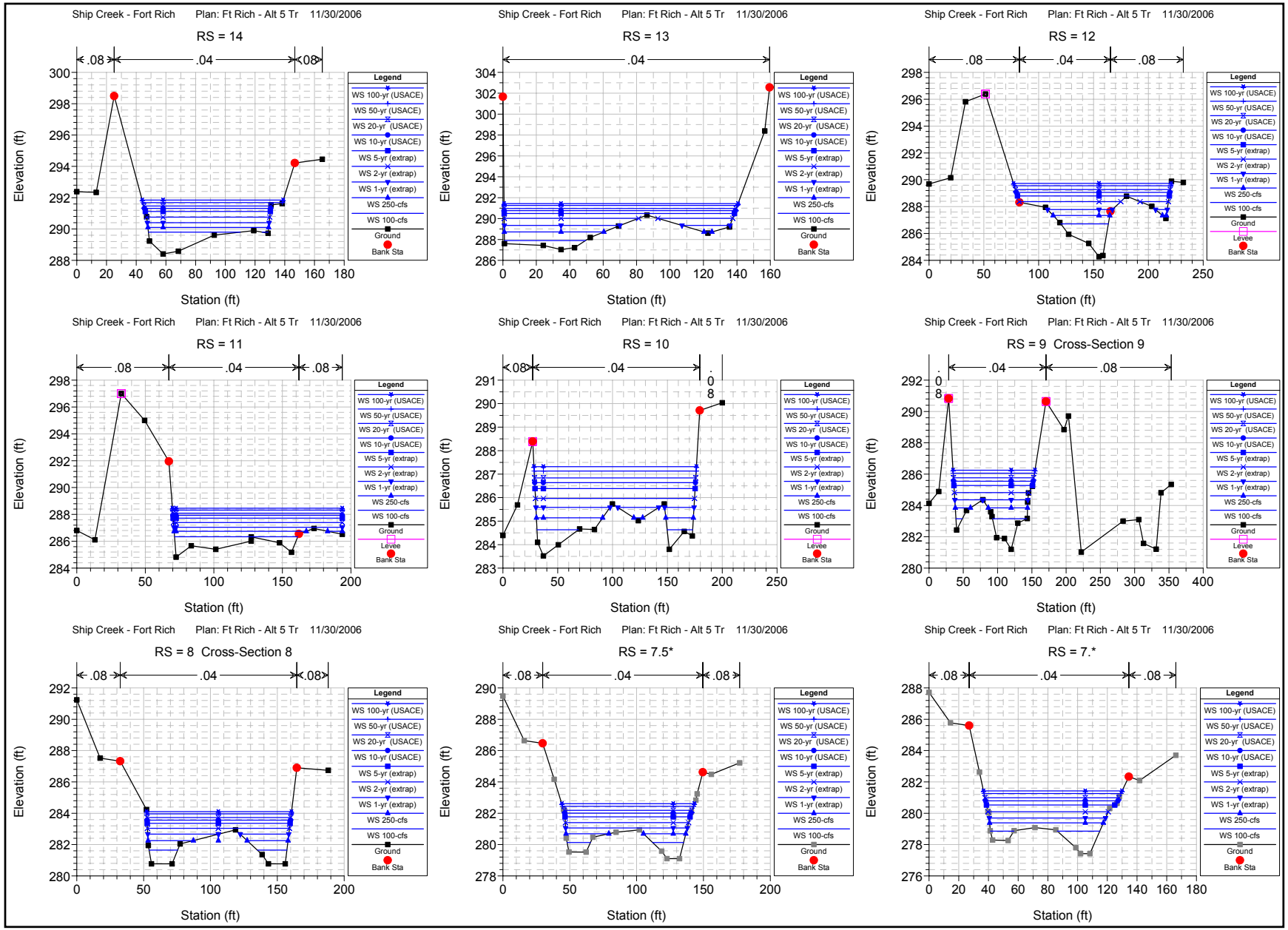
RS = 2 Cross-Section 2



Ship Creek - Fort Rich Plan: Ft Rich - Alt 4 Tr 11/30/2006

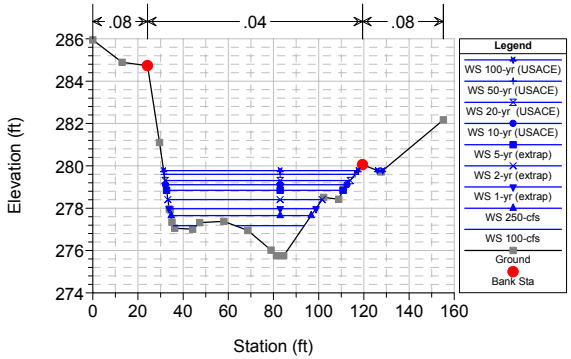



Ship Creek - Fort Rich Plan: Ft Rich - Alt 5 Tr 11/30/2006
Elevation (ft)
Main Channel Distance (ft)
295
290
285
280
275
270
265
0
500
1000
1500
2000
2500
3000
2
3
4
5
6
6.5*
7.*
7.5*
8
9
10
11
12
13
14
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground


Ship Creek - Fort Rich Plan: Ft Rich - Alt 5 Tr 11/30/2006
RS = 14
RS = 13
RS = 12
RS = 11
RS = 10
RS = 9 Cross-Section 9
RS = 8 Cross-Section 8
RS = 7.5*
RS = 7.*
Elevation (ft)
Station (ft)
Legend
WS 100-yr (USACE)
WS 50-yr (USACE)
WS 20-yr (USACE)
WS 10-yr (USACE)
WS 5-yr (extrap)
WS 2-yr (extrap)
WS 1-yr (extrap)
WS 250-cfs
WS 100-cfs
Ground
Levee
Bank Sta

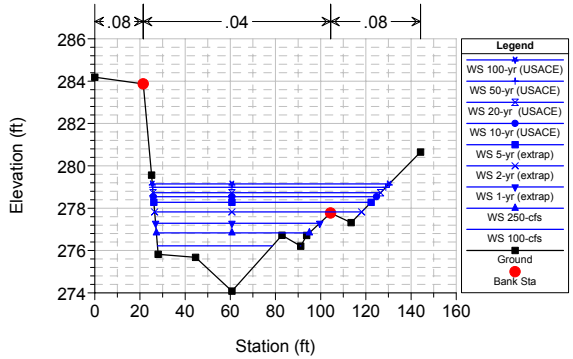
Ship Creek - Fort Rich Plan: Ft Rich - Alt 5 Tr 11/30/2006

RS = 6.5*



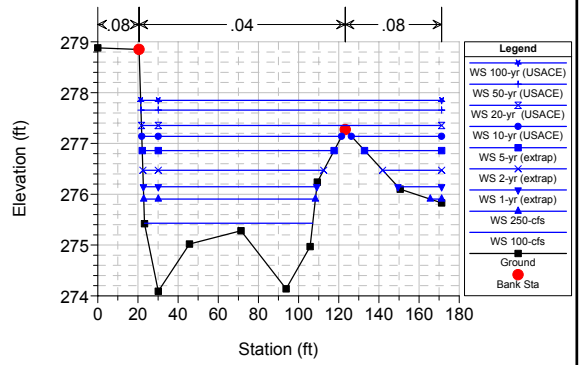
Ship Creek - Fort Rich Plan: Ft Rich - Alt 5 Tr 11/30/2006

RS = 6 Cross-Section 6



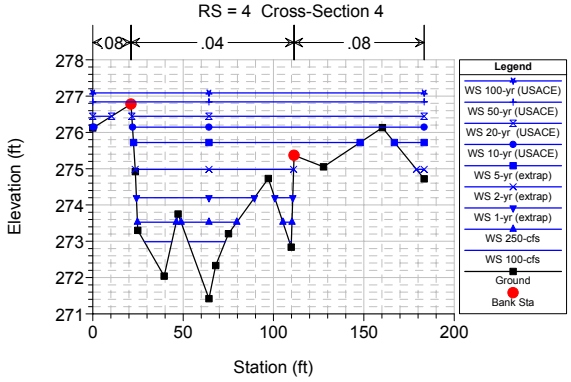
Ship Creek - Fort Rich Plan: Ft Rich - Alt 5 Tr 11/30/2006

RS = 5 Cross-Section 5



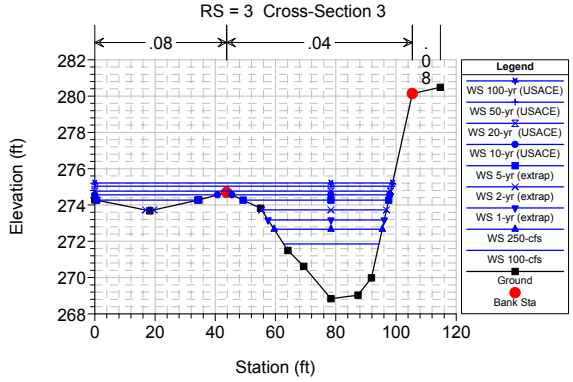
Ship Creek - Fort Rich Plan: Ft Rich - Alt 5 Tr 11/30/2006

RS = 4 Cross-Section 4



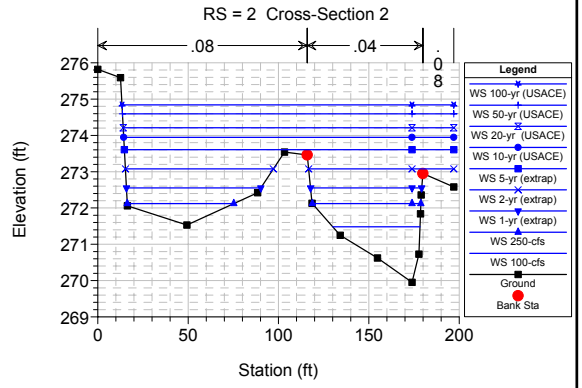
Ship Creek - Fort Rich Plan: Ft Rich - Alt 5 Tr 11/30/2006

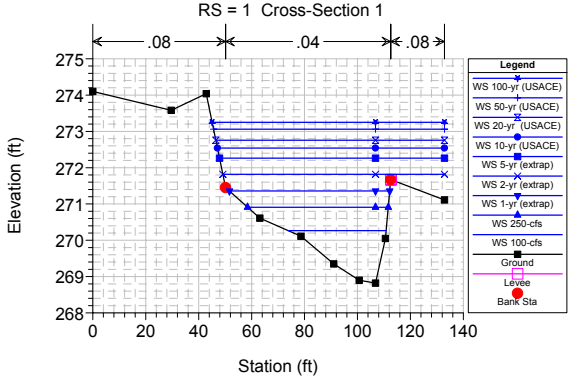
RS = 3 Cross-Section 3



Ship Creek - Fort Rich Plan: Ft Rich - Alt 5 Tr 11/30/2006

RS = 2 Cross-Section 2



Ship Creek - Fort Rich Plan: Ft Rich - Alt 5 Tr 11/30/2006

RS = 1 Cross-Section 1