ESTUDIO HIDROLÓGICO-HIDRÁULICO DE LOS CAUCES AFECTADOS POR EL P.G.O.U. DE CABRA (CÓRDOBA)

ANEXO: ACLARACIONES Y DOCUMENTACIÓN ADICIONAL

FEBRERO 2008

ÍNDICE

MEMORIA

I. JUSTIFICACIÓN

El presente documento se elabora en respuesta al Informe IV-215/06-CO de fecha 05 de Octubre de 2007 emitido por la Confederación Hidrográfica del Guadalquivir desde el Servicio de Actuaciones en Cauces de la Zona de Córdoba (Comisaría de Aguas. Área de Gestión Medioambiental e Hidrológica).

II. CAUCES REVISADOS

1. Río Cabra

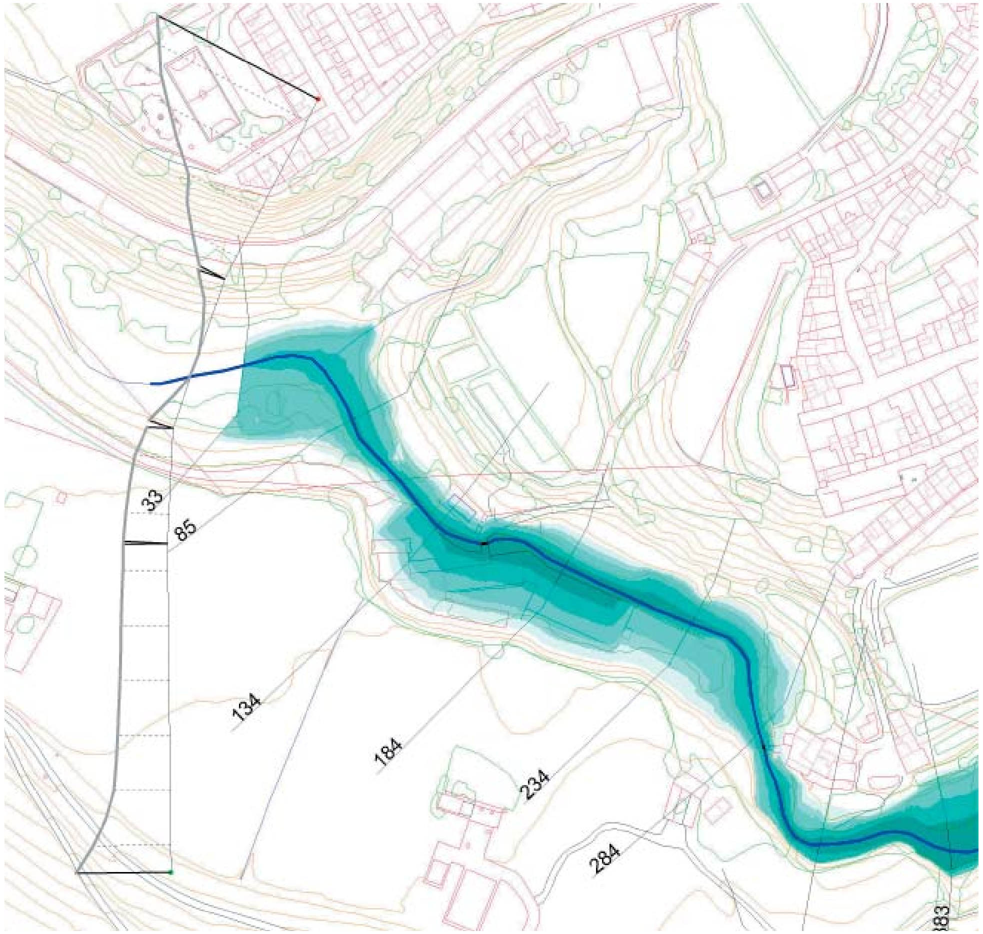
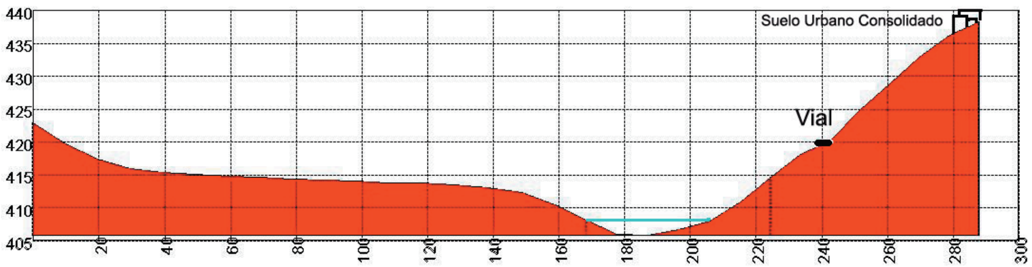


Figura 1

"En cuanto al Estudio de Inundabilidad, debe completarse incluyendo la parte final del Río Cabra hasta la confluencia con el arroyo del Chorrillo".

Se justifica la ausencia del estudio de Inundabilidad en esta zona por la gran diferencia de cota entre el cauce del río Cabra y el área edificada superior clasificada como Suelo Urbano Consolidado junto al AE/UE-20 (ver figura 1 y sección transversal adjunta). Esta diferencia es del orden de los 30 metros, siendo el calado de la llanura de inundación para un periodo de retorno estadístico de 500 años del orden de los 2-3 metros (véase la tabla correspondiente al estudio de Inundabilidad con valores de 2.02 m. en la sección 33 y de 3.30 m en la sección 85). De la misma forma el viario queda situado a una diferencia de cota de 16 metros.

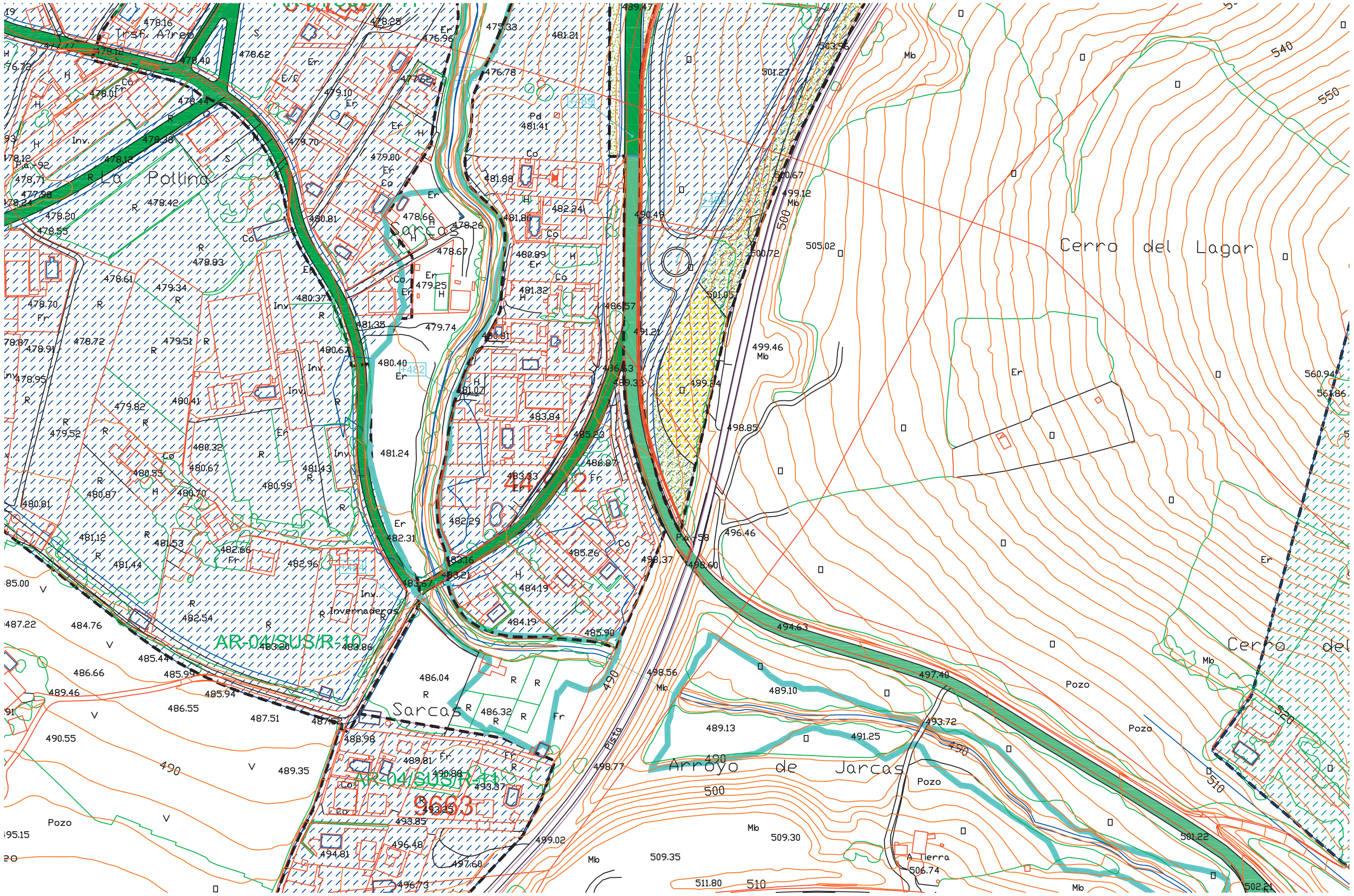
La sección transversal de la figura muestra la gran diferencia de cota entre el cauce del río Cabra, el suelo urbano consolidado y las actuaciones previstas (viario y AE/UE-20).



“En cuanto a las zonas Inundables para T=500 años

1. En las zonas consolidadas con edificaciones existentes, tramo del sector R-11, margen derecha en la entrada del casco urbano, deben adoptarse medidas correctoras para evitar la inundación y debe presentarse Estudio Hidráulico que garantice la no Inundabilidad con dichas medidas”.

2. En las zonas no consolidadas situadas en zona inundable, vial que limita con el sector R-09 y parte del Sector R-11 aguas arriba de la confluencia con el arroyo de la Perdiz, ambos en la margen derecha, las actuaciones se tendrán que desplazar de forma que queden fuera de la zona inundable”

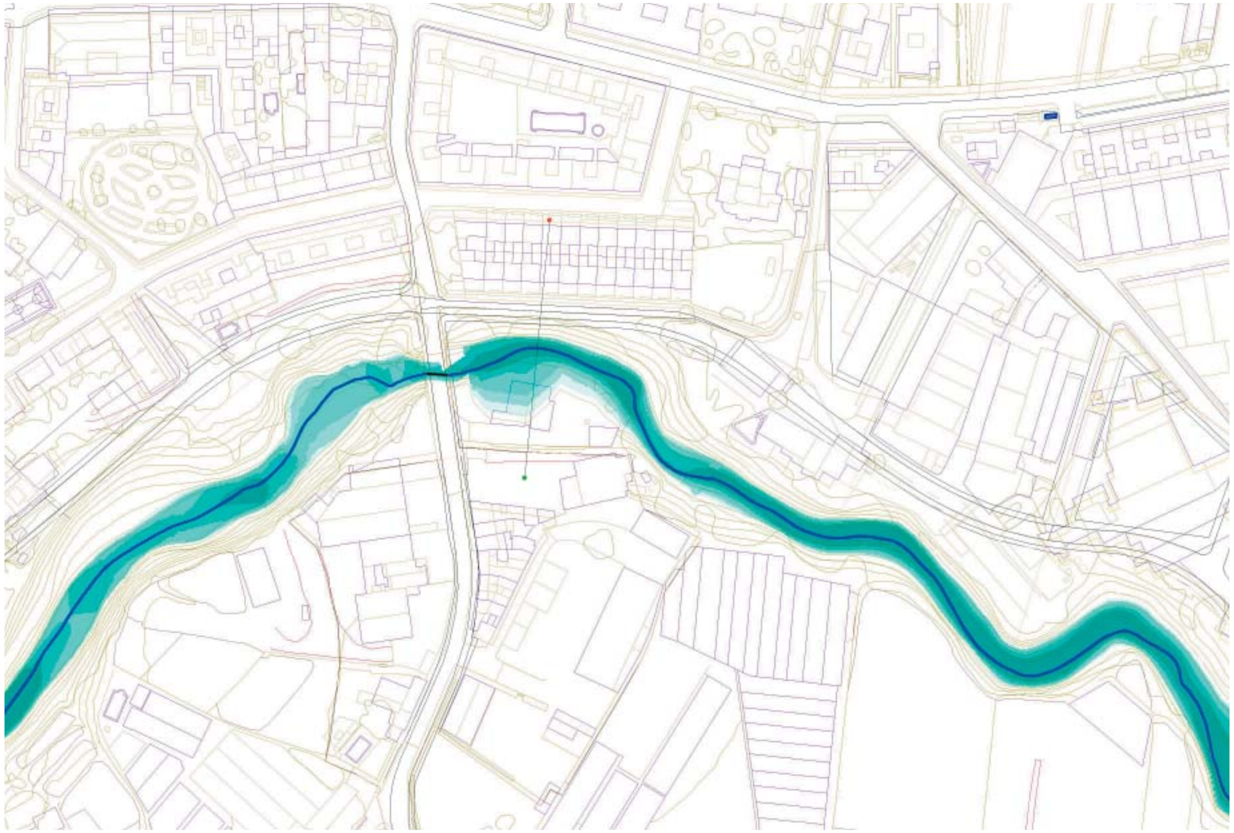


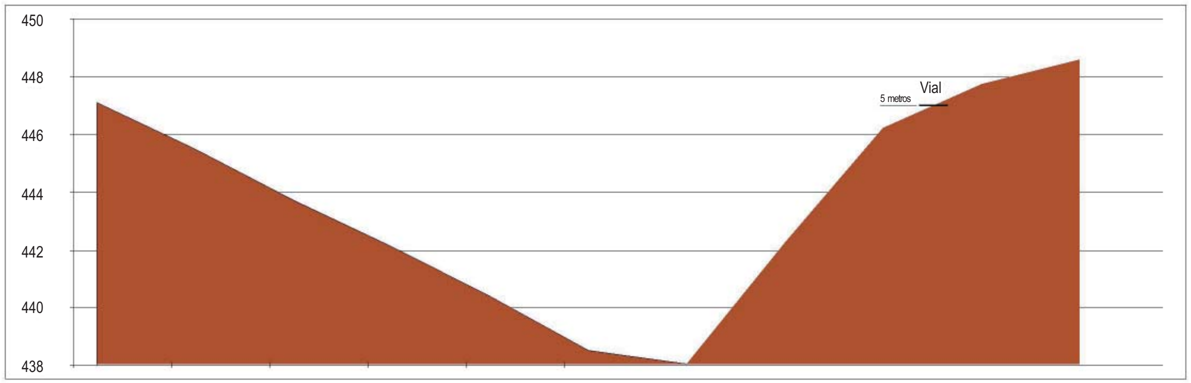
1. Se propone como posible solución para garantizar la no inundabilidad en el tramo del sector R-11, la construcción de un muro perimetral de 2.5 m de altura para la margen derecha y de 0.70 m en la izquierda, entre las secciones 3384 y 3283, que permita una futura contención de la llanura de inundación de 500 años de periodo de retorno. El nuevo estudio hidráulico tras la adopción de dichas medidas correctoras se adjunta en el punto III (Cálculos, tablas y perfiles) al final del informe. La figura adjunta señala los límites de la nueva llanura de inundación en los límites de citado Sector.

2. Las actuaciones proyectadas en las zonas no consolidadas aguas arriba de la confluencia con el arroyo de la Perdiz son desplazadas según las indicaciones hasta situarse fuera de la zona inundable.

“En cuanto al Planeamiento previsto: el Paseo de ronda del Río Cabra y la prolongación del vial Vado del Moro (viales D y E respectivamente) se encuentran en varios puntos muy próximos al Río Cabra, sin poder apreciarse si se respeta la zona de servidumbre (5 metros de anchura medidos horizontalmente desde la coronación del talud de la margen del río), que debe quedar libre para uso público, según se determina en loa Arts. 6 y 7 del R.D. P. H. Por lo que para aclararlo deberá aportar perfiles transversales con la ubicación del vial con respecto al río.”

El Paseo de ronda del Río Cabra y la prolongación del vial Vado del Moro proyectado respeta la zona de servidumbre en los puntos próximos al río Cabra tal y como reflejan los planos de ordenación. Se adjuntan imágenes de la zona y perfil transversal aclaratorio.





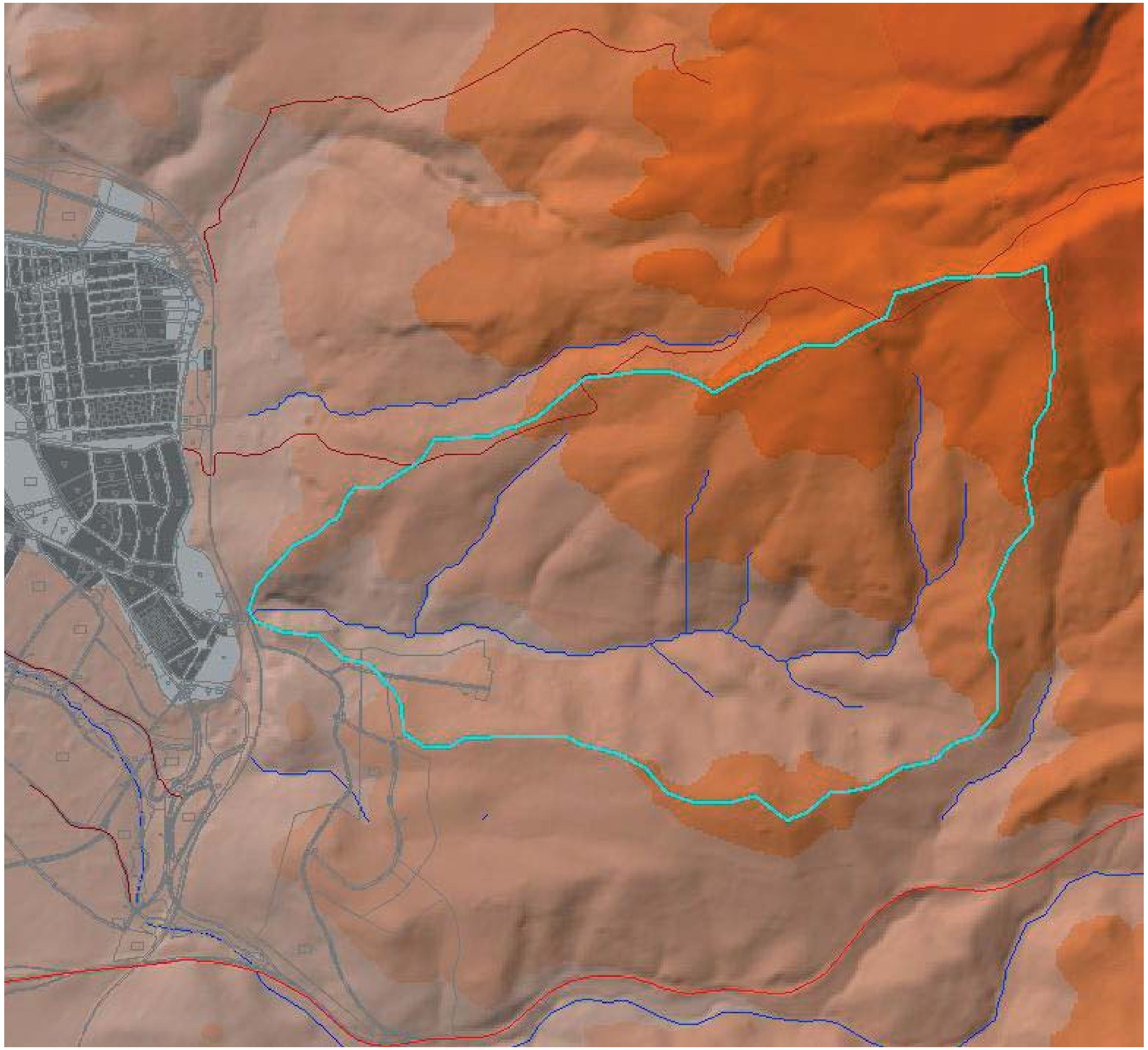
Perfil transversal

2. Arroyo de la Perdiz

“Debe estudiarse la Inundabilidad de todo el tramo que afecta al PGOU, desde la parte colindante con el sector UR-05 hasta su confluencia con el Río Cabra, que incluye el tramo de canal de hormigón a cielo abierto. Así mismo debe definirse en planos el trazado del arroyo en el tramo canalizado, ya que no queda definido en los planos aportados, manteniéndose en todo el tramo a cielo abierto.”

Del nuevo estudio hidrológico que se aporta para la cuenca del Arroyo de la Perdiz (2,89 km^2) resultan caudales de 9.07, 17.07, 21,23 y 37.64 m^3/s para los respectivos periodos de retorno de 10, 50, 100 y 500 años. Para este último se redimensiona el paso inferior que debe evacuar estos 37.64 m^3/s, resultando una sección circular de 2.5 metros de diámetro (ver tabla de cálculo detallada). Aguas arriba, en dirección este, es evidente (ver sección transversal) que no hay riesgo de inundación para los suelos urbanizables del sector UR-05 siendo el desnivel de 28 metros en la zona más occidental y de 16 metros en las zonas central y oriental del Sector.

CUENCA ARROYO DE LA PERDIZ



Centroide: X= 375635,461
Y= 4148103,792

Superficie total: 2,89 km^2

Elevación máxima: 923.87 m

Elevación mínima: 503.19 m

Longitud máxima: 3.978 km

Usos (superficies en Ha. y % sobre el total):

DESCRIPCIÓN	SUPERFICIE	%
Cultivos herbáceos y leñosos de secano	3,7450	1,290
Cultivos leñosos en secano: olivar	181,3610	62,668
Cultivos leñosos en secano: viñedo	2,8590	0,988
Matorral disp. arbolado: quercíneas. Denso	0,7480	0,258
Matorral disp. arbolado: quercíneas. Disperso	42,9770	14,850
Matorral disperso con pastizal	12,9330	4,469
Otros cultivos leñosos en secano	10,5910	3,660
Pastizal con claros (roca, suelo)	34,1840	11,812
TOTAL	289,398	100

ARROYO DE LA PERDIZ. CÁLCULO DE LAS PRECIPITACIONES DE RETORNO DE 10, 50, 100 Y 500 AÑOS-SQRT

ENTRADA DATOS	
UTM-X (HUSO 30)	375.635
UTM-Y (HUSO 30)	4.148.104

SALIDA DATOS	
VALOR MEDIO P	60,00
CV	0,3740

	T=5	T=10	T=25	T=50	T=100	T=500	
CUANTIL Yt CALCULADO	1,235	1,464	1,784	2,034	2,299	2,977	
0,38	1,240	1,469	1,793	2,052	2,327	3,014	TRAMO SUPERIOR
0,37	1,232	1,461	1,778	2,022	2,281	2,953	TRAMO INFERIOR

	T	PT-SQRT
PRECIPITACIÓN DE PERIODO RETORNO	5	74,11
	10	87,85
	25	107,04
	50	122,04
	100	137,96
	500	178,64

ARROYO DE LA PERDIZ. CÁLCULO DE LOS CAUDALES DE PERIODO DE RETORNO DE 10, 50, 100 Y 500 AÑOS

	T	PT-CALC
PRECIPITACIÓN PERIODO RETORNO	5	74,11
	10	87,85
	25	107,04
	50	122,04
	100	137,96
	500	178,64

DATOS DE PARTIDA	
SUPERFICIE CUENCA (Km2)	2,890
LONGITUD CAUCE PRINC (Km)	3,98
COTA MÁXIMA (m)	923,87
COTA MÍNIMA (m)	503,19
J = PENDIENTE MEDIA (m/m)	0,10575
I1 / Id	8,6

DATOS DE CALCULO INICIALES	
TIEMPO CONCENTRACION (Tc)	1,31
K (TEMEZ)	1,09

	T	PT	Id	CALC	It
INTENSIDAD MÁXIMA DE LLUVIA (It	5	74,11	3,088	0,93020	22,85
	10	87,85	3,661		27,09
	25	107,04	4,460		33,01
	50	122,04	5,085		37,63
	100	137,96	5,749		42,54
	500	178,64	7,444		55,09

USOS DEL SUELO	%	Po	K(Corr)	Po (correg)
MASA FORESTAL CLARA	15,11	14	3,1	25
PASTIZAL	16,28	8		24,8
CEREAL DE INVIERNO, ALTA PENDIENTE, SUELO C	1,29	10		25
CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZAS SUELO C	67,32	8		24,8

ARROYO DE LA PERDIZ. CÁLCULO DE LOS CAUDALES DE PERIODO DE RETORNO DE 10, 50, 100 Y 500 AÑOS (VALORES PARCIALES DE CT)

T	5	10	25	50	100	500	T	USOS DEL SUELO
PT / Po	74,11	87,85	107,04	122,04	137,96	178,64	PT / Po	
25	0,261564	0,316429	0,383370	0,429082	0,472262	0,562667	25	MASA FORESTAL CLARA
24,8	0,264086	0,319091	0,386147	0,431902	0,475095	0,565432	24,8	PASTIZAL
25	0,261564	0,316429	0,383370	0,429082	0,472262	0,562667	25	CEREAL DE INVIERNO, ALTA PENDIENTE, SUELO C
24,8	0,264086	0,319091	0,386147	0,431902	0,475095	0,565432	24,8	CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZ

	A (Km2)	C*A						USOS DEL SUELO
		5	10	25	50	100	500	
MASA FORESTAL CLARA	0,436679	0,114219	0,138178	0,167410	0,187371	0,206227	0,245705	MASA FORESTAL CLARA
PASTIZAL	0,470492	0,124250	0,150130	0,181679	0,203206	0,223528	0,266031	PASTIZAL
CEREAL DE INVIERNO, ALTA PENDIENTE, SUELO C	0,037281	0,009751	0,011797	0,014292	0,015997	0,017606	0,020977	CEREAL DE INVIERNO, ALTA PENDIENTE, SUELO C
CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZAS SUELO C	1,945548	0,513792	0,620807	0,751267	0,840285	0,924319	1,100074	CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZAS SUELO C
	SUMA (C*A)	0,762013	0,920911	1,114648	1,246859	1,371681	1,632787	

COEFICIENTE DE ESCORRENTIA	T	PT	CT*A	CT * A(CALC)
	5	74,11	0,762	0,762
	10	87,85	0,921	0,921
	25	107,04	1,115	1,115
	50	122,04	1,247	1,247
	100	137,96	1,372	1,372
	500	178,64	1,633	1,879

CAUDALES MÁXIMOS PREVISTOS DE PERIODO RETORNO (m3/s)	T	Q(T)
	5	6,33
	10	9,07
	25	13,38
	50	17,07
	100	21,23
	500	37,64

ARROYO DE LA PERDIZ. CÁLCULO DE EVACUACIÓN PASO INFERIOR

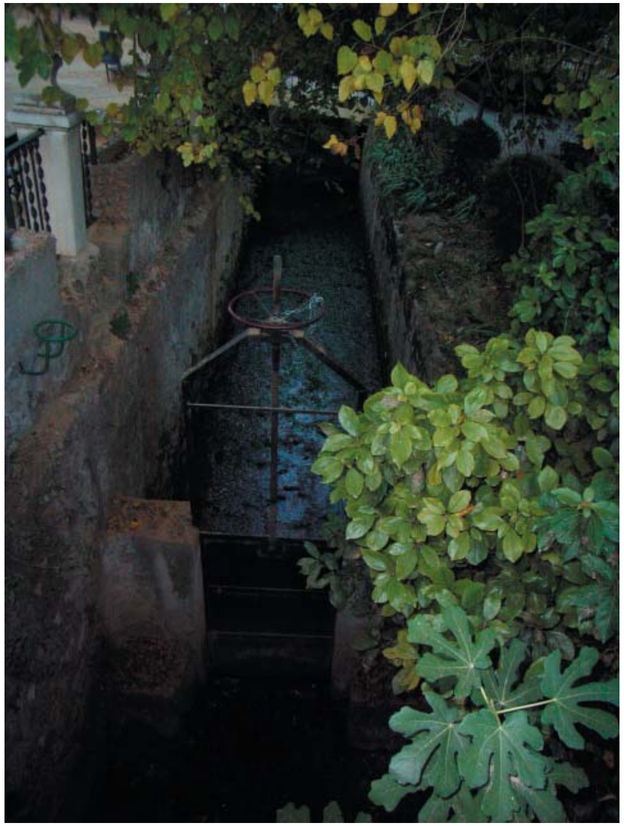
	T	Q-CALC
	5	6,33
PRECIPITACIÓN PERIODO RETORNO	10	9,07
	25	13,38
	50	17,07
	100	21,23
	500	37,64

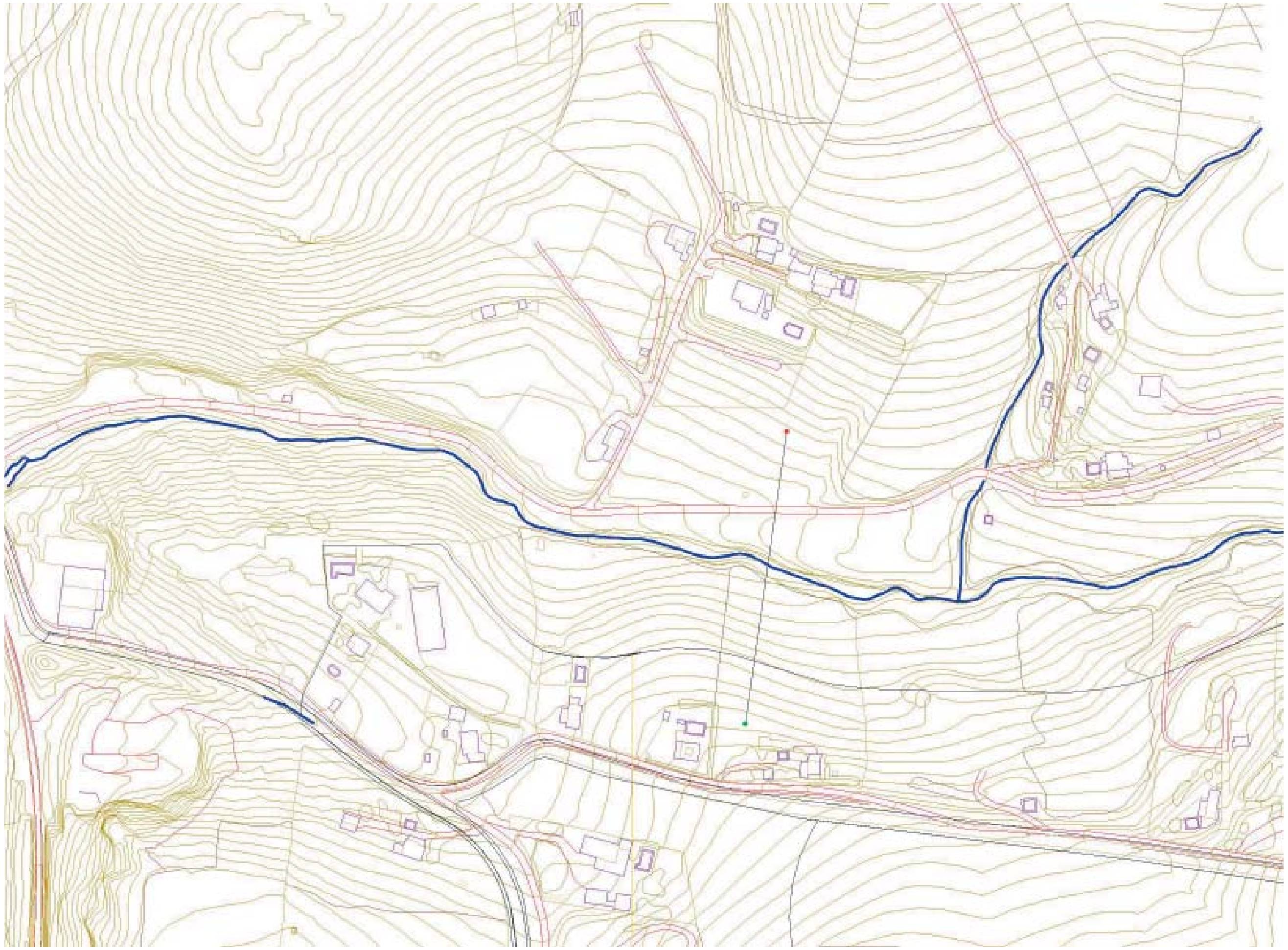
PERÍODO DE RETORNO:	500,00
CAUDAL:	37,64
DIÁMETRO	2,5
PERÍMETRO MOJADO	5,54
SECCIÓN MOJADA	3,88
RADIO HIDRÁULICO	0,70
PENDIENTE CANAL (m/m)	0,04
COEFICIENTE K	65
COEFICIENTE U	1
CAUDAL TESTEO	37,64
RADIO HIDRAULICO	0,789281217
RAIZ-PENDIENTE	0,2
CAUDAL DE CALCULO	39,82893895

10,26065582

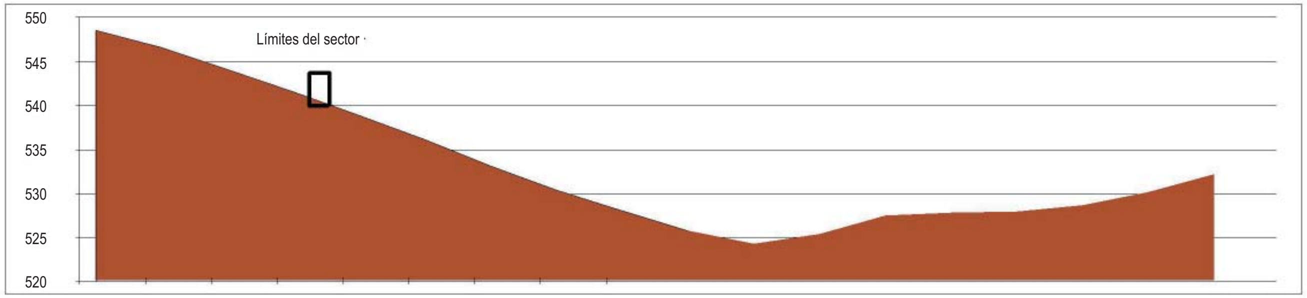
X	0,75
ANG	0,927295218
S.ARCO TOT	1,448898778
B.TRIAN	0,5625
S. TRIAN	0,421875
S.ARCO	1,027023778
S. TOTAL	4,908738521
SEC. MOJADA	3,881714743
PER. ARCO	2,318238045
PER. MOJAD	5,535743589

Tramo Arroyo de la Perdiz encauzado





Sección transversal



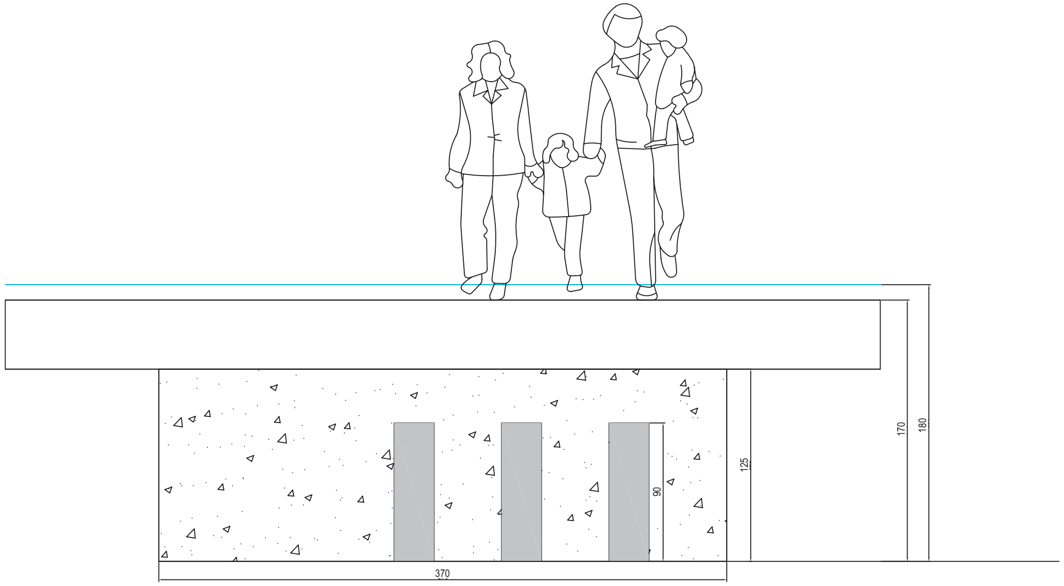
Esquema de secciones del tramo bajo de Arroyo de la Perdiz.

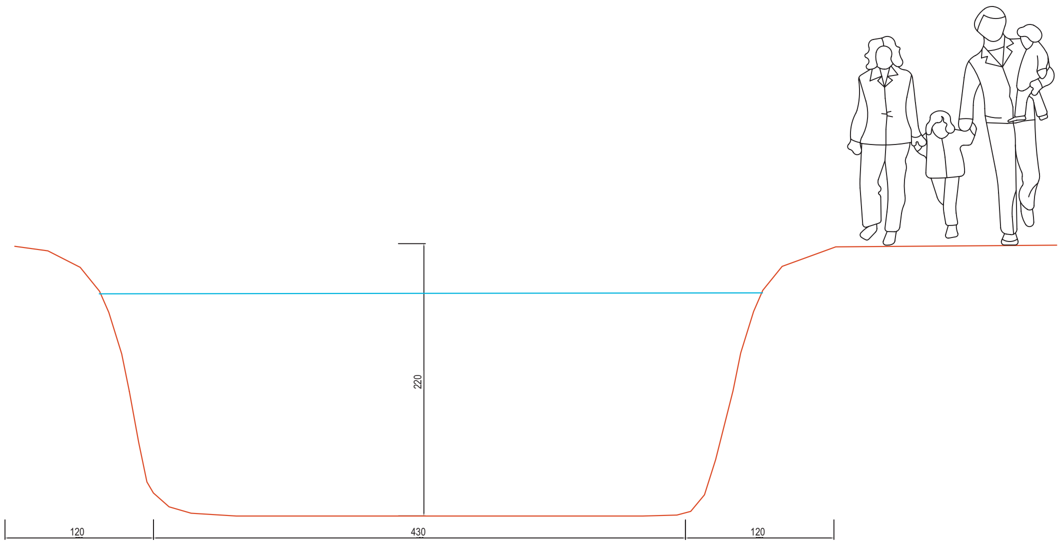
La modelización hidráulica de este tramo se recoge en el Capitulo III. Cálculos, tablas, perfiles.

3. Arroyo Góngora

"En cuanto al Estudio de Inundabilidad, debe estudiarse hidráulicamente el tramo soterrado junto al campo de futbol, para justificar que la sección existente evacúa la avenida con periodo de retorno de 500 años"

Para un periodo de retorno estadístico de 500 años, el arroyo Góngora conduce un caudal de 13.65 m^3/s con calados máximos de 3.38 metros en la sección 500 (véase tabla resumen del estudio hidráulico). Sin embargo, para el tramo soterrado junto a la urbanización Poeta Manuel Ruiz Madueño (80 metros entre las secciones 180 a 260) el calado es bastante menor, del orden de 1.80 metros, por lo que es posible que la sección actual (marco rectangular de 3,70 m x 1,25 m con tablero a 1,70 m) fuera levemente insuficiente para evacuar dicho caudal (notar en este apartado el margen de seguridad que nos aporta el método racional modificado utilizado para el cálculo de caudales que en nuestra opinión permitiría asumir estos 10 cm de diferencia). En cualquier caso, antes de proponer un posible cambio de sección del tramo soterrado, sería recomendable un estudio más detallado del encauzamiento en cuestión y un ajuste más fino de los parámetros utilizados en la modelización.





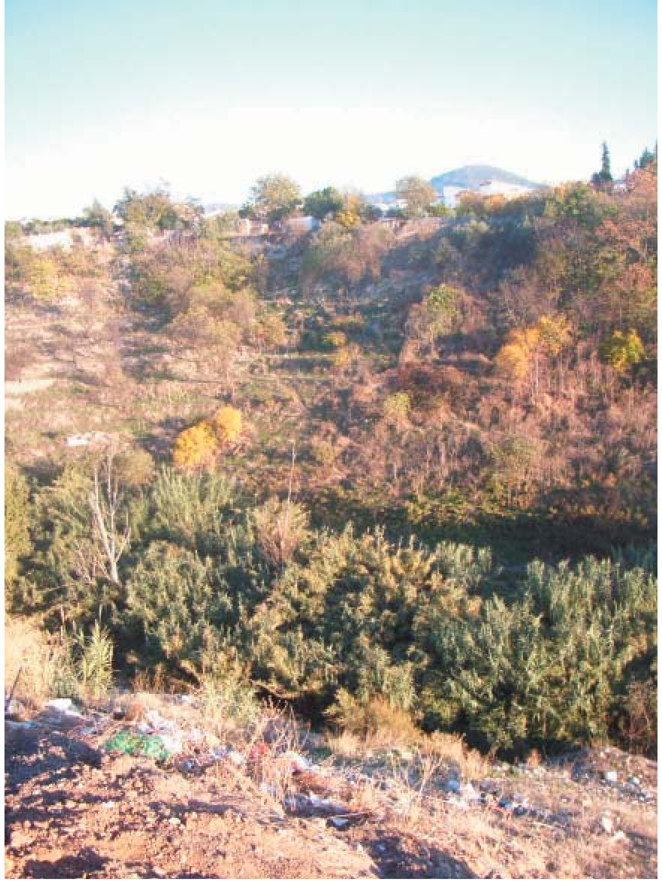
"En cuanto a las zonas inundables para T=500 años:
El sector R-02, justo antes del soterramiento, y en el sector SGEQ, a la entrada del casco urbano, que invaden en parte la Zona inundable, deberá adaptarse para quedar totalmente fuera de la Zona inundable.

En cuanto al Planeamiento previsto:
Deberá desplazarse el vial previsto, colindante con el cauce en la margen izquierda en el primer tramo y sobre el propio cauce del arroyo en el tramo aguas abajo, respetando además la zona de servidumbre (5 m de anchura medidos horizontalmente desde la coronación del talud de la margen del río), y manteniendo el cauce a cielo abierto. "

El planeamiento en ambos sectores se adapta, según indicaciones, para quedar totalmente fuera de la influencia del área de inundabilidad para T=500 años.

Igualmente, el vial previsto se desplaza respetando la zona de servidumbre y manteniendo a cielo abierto el cauce existente.

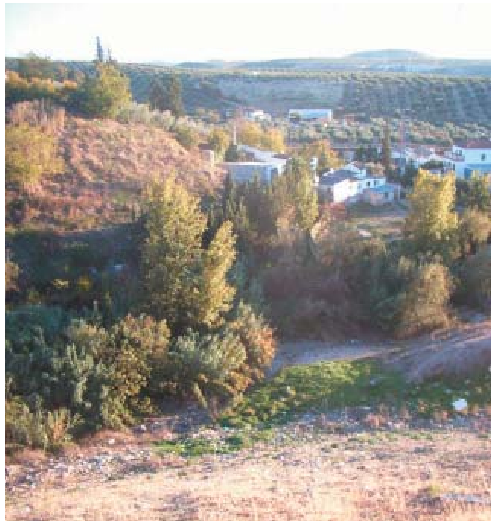
4. Arroyo del Chorrillo

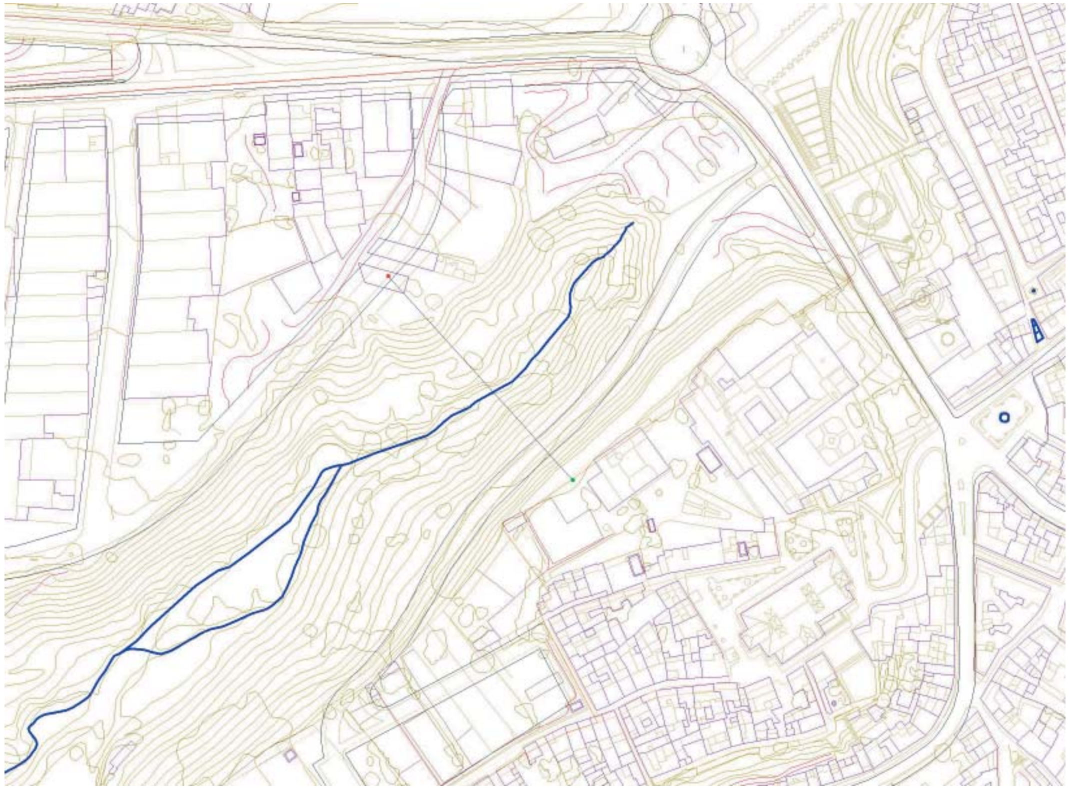


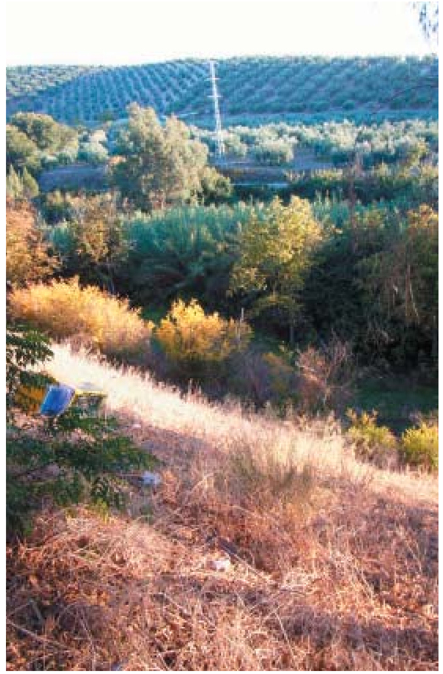
"En cuanto al Estudio de Inundabilidad, debe estudiarse hidráulicamente el tramo soterrado para justificar que la sección existente evacúa la avenida con periodo de retorno de 500 años, y completar el estudio de Inundabilidad incluyendo el tramo aguas abajo del soterramiento hasta la confluencia con el Río Cabra."

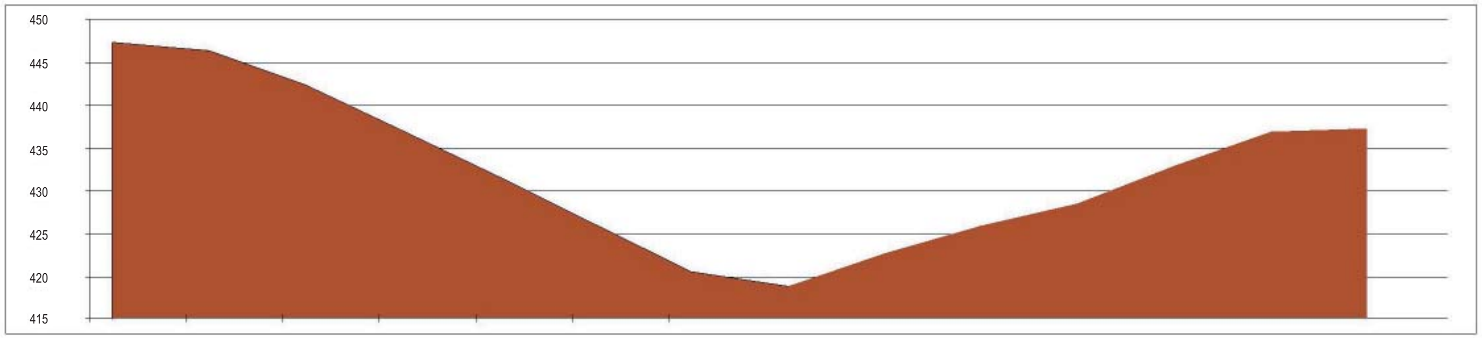
Como ya se refería en el apartado III.5. Comprobación de las condiciones hidráulicas de las obras de paso sobre el arroyo del Chorrillo del Estudio Hidrológico-Hidráulico, la sección de embocadura del tramo soterrado de 900 metros es capaz de evacuar el caudal de 60,07 m^3/s calculado para el periodo de retorno de 500 años.

Los 26 metros de desnivel (454m en la embocadura y 428m a la salida) conforman una pendiente de 0.0288 que permiten suponer que el embovedado no entrará en carga. En cuanto al tramo aguas abajo hasta la confluencia con el Río Cabra se trata de un tramo muy encajado, con diferencias de cota desde el cauce a las áreas AR/UE-34, AR-05/SUS/P-01 y AR/UE-20, de entre 24 y 28 metros, lo que lógicamente nos permite prescindir de su modelización hidráulica.








450
445
440
435
430
425
420
415

5. Arroyo de la Fuente del Río

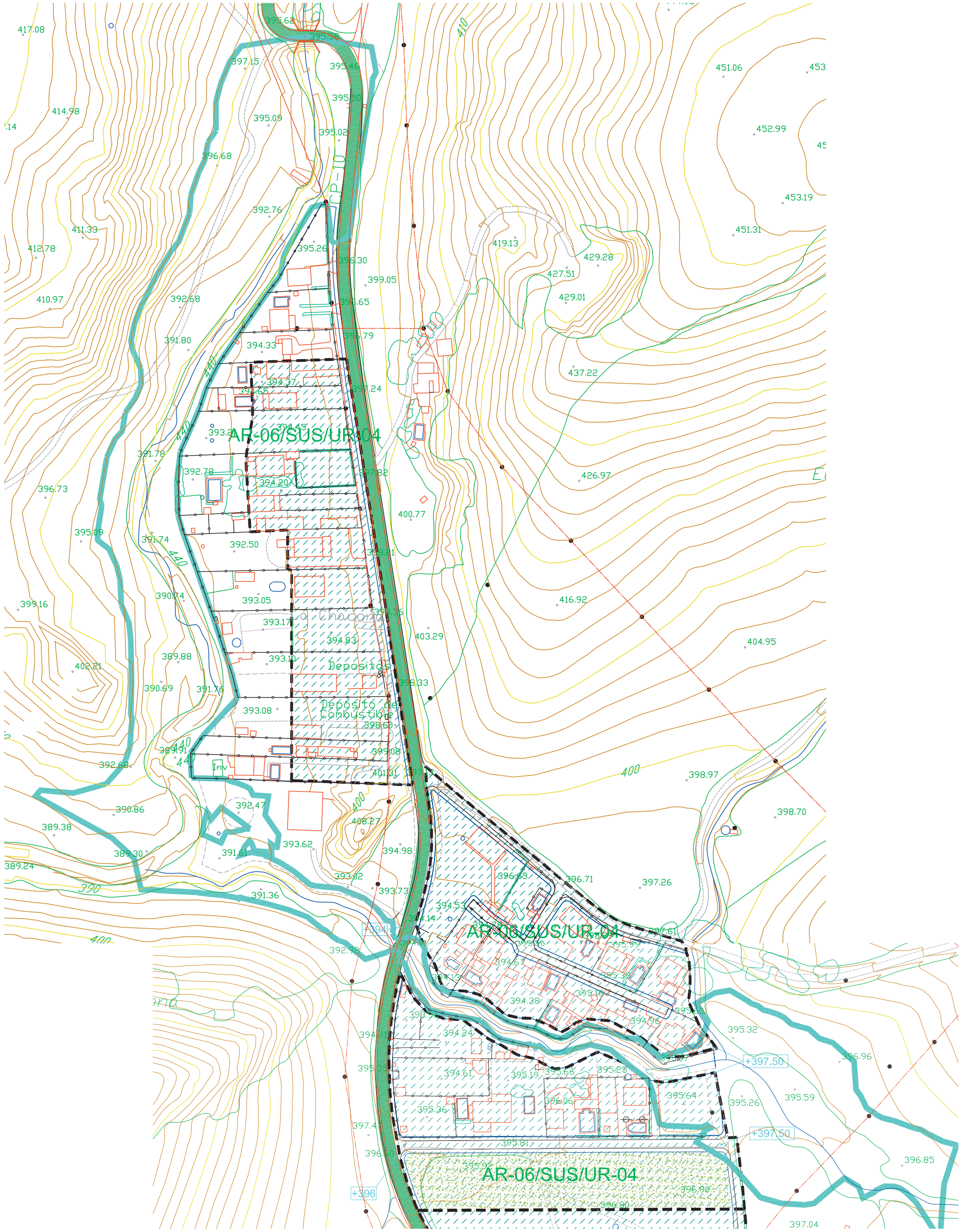
"Deberá respetarse el tramo existente a cielo abierto, desde su inicio hasta la intersección con la Avenida Fuente del Río, desde donde continúa soterrado."

Se respetará a cielo abierto en el Sector R-09

6. Arroyo Santa María

"Deberán tenerse en cuenta medidas correctoras para evitar la inundación del sector UR-04 y presentarse Estudio Hidráulico que garantice la no Inundabilidad con dichas medidas."

Los calados máximos para el periodo de retorno de 500 años toman valores próximos a los 5 metros, por lo que se proponen como medidas correctoras el encauzamiento del tramo de afección al sector UR-04 y un muro perimetral de protección (bastaría finalmente con 2,5 metros de altura). El estudio hidráulico siguiente muestra la llanura de inundación resultante.



La imágenes siguiente detalla los nuevos límites de la llanura de inundaón para un periodo de retorno estadístico de 500 años, tras las medidas correctoras sugeridas, tanto para el cauce del Arroyo Santamaría, donde no existía anteriormente ninguna afección, como para su afluente.

7. Afluente del Arroyo Santa María (Arroyo de las Ratas)

"En cuanto al estudio de Inundabilidad, debe estudiarse la Inundabilidad en todo el tramo afectado por el PGOU (sectores UR-01, SUnS-03 y API/PP IND-4) y estudiar hidráulicamente el tramo soterrado para justificar que la sección existente evacua la avenida con periodo de retorno de 500 años"

Del nuevo estudio hidrológico de la pequeña cuenca del afluente del arroyo de Santa María (1,53 km^2) se obtienen los caudales de 4.95, 9.39, 11.70 y 21.28 m^3/s para los periodos de retorno de 10, 50, 100 y 500 años. Para el tramo más oriental se modeliza igualmente su cuenca vertiente (0.45 km^2) con un caudal máximo de 8.27 m^3/s que es perfectamente asumido por una obra de fábrica circular mínima de 1.8 m de diámetro (véase tabla detallada de cálculo).

CUENCA TRAMO SUPERIOR ARROYO DE LAS RATAS

Centroide: X= 372329,307
Y= 4150534,138

Superficie total: 0,45 km^2

Elevación máxima: 584.24 m

Elevación mínima: 460.04 m

Longitud máxima: 1.327 km

Usos (superficies en Ha. y % sobre el total):

DESCRIPCIÓN	SUPERFICIE	%
Cultivos leñosos en secano: olivar	44,744	98,700
Matorral disp. arbolado: quercíneas. Disperso	0,644	1,300
TOTAL	45,388	100

ARROYO DE LAS RATAS, TRAMO SUPERIOR. CÁLCULO DE LAS PRECIPITACIONES DE RETORNO DE 10, 50, 100 Y 500 AÑOS-SQRT

ENTRADA DATOS	
UTM-X (HUSO 30)	372,329
UTM-Y (HUSO 30)	4,150,534

SALIDA DATOS	
VALOR MEDIO P	58.00
CV	0.3720

	T=5	T=10	T=25	T=50	T=100	T=500	
CUANTIL Yt CALCULADO	1.234	1.463	1.781	2.028	2.290	2.965	
0.38	1.240	1.469	1.793	2.052	2.327	3.014	TRAMO SUPERIOR
0.37	1.232	1.461	1.778	2.022	2.281	2.953	TRAMO INFERIOR

	T	PT-SQRT
PRECIPITACIÓN DE PERIODO RETORNO	5	71.55
	10	84.83
	25	103.30
	50	117.62
	100	132.83
	500	171.98

ARROYO DE LAS RATAS, TRAMO SUPERIOR. CÁLCULO DE LOS CAUDALES DE PERIODO DE RETORNO DE 10, 50, 100 Y 500 AÑOS

	T	PT-CALC
PRECIPITACIÓN PERIODO RETORNO	5	71.55
	10	84.83
	25	103.30
	50	117.62
	100	132.83
	500	171.98

DATOS DE PARTIDA	
SUPERFICIE CUENCA (Km2)	0.450
LONGITUD CAUCE PRINC (Km)	1.33
COTA MÁXIMA (m)	584.24
COTA MÍNIMA (m)	460.04
J = PENDIENTE MEDIA (m/m)	0.09359
I1 / Id	8.6

DATOS DE CALCULO INICIALES	
TIEMPO CONCENTRACION (Tc)	0.58
K (TEMEZ)	1.04

	T	PT	Id	CALC	It
INTENSIDAD MÁXIMA DE LLUVIA (It)	5	71.55	2.981	1.13266	34.11
	10	84.83	3.535		40.44
	25	103.30	4.304		49.24
	50	117.62	4.901		56.07
	100	132.83	5.535		63.32
	500	171.98	7.166		81.99

USOS DEL SUELO	%	Po	K(Corr)	Po (correg)
MASA FORESTAL CLARA	1.42	14	3.1	25
CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZAS, SUELO C	98.58	8		24.8

ARROYO DE LAS RATAS, TRAMO SUPERIOR. CÁLCULO DE LOS CAUDALES DE PERIODO DE RETORNO DE 10, 50, 100 Y 500 AÑOS (VALORES PARCIALES DE CT)

CÁLCULO DE LOS VALORES PARCIALES DE CT

T	5	10	25	50	100	500	T	USOS DEL SUELO
PT / Po	71.55	84.83	103.30	117.62	132.83	171.98	PT / Po	
25	0.250600	0.304902	0.371110	0.416167	0.458896	0.549533	25	MASA FORESTAL CLARA
24.8	0.253089	0.307538	0.373871	0.418978	0.461727	0.552315	24.8	CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZ

	A (Km2)	C*A						USOS DEL SUELO
		5	10	25	50	100	500	
MASA FORESTAL CLARA	0.00639	0.001601	0.001948	0.002371	0.002659	0.002932	0.003512	MASA FORESTAL CLARA
CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZAS, SUELO C	0.44361	0.112273	0.136427	0.165853	0.185863	0.204827	0.245013	CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZAS, SUELO C
	SUMA (C*A)	0.113874	0.138375	0.168224	0.188522	0.207759	0.248524	

	T	PT	CT*A	CT * A(CALC)
COEFICIENTE DE ESCORRENTIA	5	71.55	0.114	0.114
	10	84.83	0.138	0.138
	25	103.30	0.168	0.168
	50	117.62	0.189	0.189
	100	132.83	0.208	0.208
	500	171.98	0.249	0.293

	T	Q(T)
CAUDALES MÁXIMOS PREVISTOS DE PERIODO RETORNO (m3/s)	5	1.34
	10	1.93
	25	2.86
	50	3.65
	100	4.54
	500	8.27

ARROYO DE LAS RATAS, TRAMO SUPERIOR. CÁLCULO DE EVACUACIÓN PASO INFERIOR

	T	Q-CALC
PRECIPITACIÓN PERIODO RETORNO	5	1.34
	10	1.93
	25	2.86
	50	3.65
	100	4.54
	500	8.27

PERÍODO DE RETORNO:	500.00
CAUDAL:	8.27
DIÁMETRO	1.8
PERÍMETRO MOJADO	3.99
SECCIÓN MOJADA	2.01
RADIO HIDRÁULICO	0.50
PENDIENTE CANAL (m/m)	0.04
COEFICIENTE K	65
COEFICIENTE U	1
CAUDAL TESTEO	8.27
RADIO HIDRAULICO	0.634045024
RAIZ-PENDIENTE	0.2
CAUDAL DE CALCULO	16.58639718

8.242585311

X	0.54
ANG	0.927295218
S.ARCO TOT	0.751109127
B.TRIAN	0.405
S. TRIAN	0.2187
S.ARCO	0.532409127
S. TOTAL	2.544690049
SEC. MOJADA	2.012280923
PER. ARCO	1.669131392
PER. MOJAD	3.985735384

CUENCA TRAMO INFERIOR ARROYO DE LAS RATAS

Centroide: X= 371770,000
Y= 4150407,405

Superficie total: 1,53 km^2

Elevación máxima: 411.49 m

Elevación mínima: 585.63 m

Longitud máxima: 2.665 km

Usos (superficies en Ha. y % sobre el total):

DESCRIPCIÓN	SUPERFICIE	%
Cultivos herbáceos en secano	5,279	3,453
Cultivos herbáceos y leñosos en regadío no regados	0,919	0,601
Cultivos leñosos en secano: olivar	116,913	76,465
Matorral disp. arbolado: quercíneas. Disperso	0,637	0,417
Tejido urbano	12,225	7,996
Zonas en construcción	9,131	5,972
Zonas industriales y comerciales	4,440	2,904
Zonas mineras	3,354	2,194
TOTAL	152,898	100

ARROYO DE LAS RATAS, TRAMO INFERIOR. CÁLCULO DE LAS PRECIPITACIONES DE RETORNO DE 10, 50, 100 Y 500 AÑOS-SQRT

ENTRADA DATOS	
UTM-X (HUSO 30)	371,770
UTM-Y (HUSO 30)	4,150,407

SALIDA DATOS	
VALOR MEDIO P	58.00
CV	0.3740

	T=5	T=10	T=25	T=50	T=100	T=500	
CUANTIL Yt CALCULADO	1.235	1.464	1.784	2.034	2.299	2.977	
0.38	1.240	1.469	1.793	2.052	2.327	3.014	TRAMO SUPERIOR
0.37	1.232	1.461	1.778	2.022	2.281	2.953	TRAMO INFERIOR

	T	PT-SQRT
PRECIPITACIÓN DE PERIODO RETORNO	5	71.64
	10	84.92
	25	103.47
	50	117.97
	100	133.37
	500	172.69

ARROYO DE LAS RATAS, TRAMO INFERIOR. CÁLCULO DE LOS CAUDALES DE PERIODO DE RETORNO DE 10, 50, 100 Y 500 AÑOS

	T	PT-CALC
PRECIPITACIÓN PERIODO RETORNO	5	71.64
	10	84.92
	25	103.47
	50	117.97
	100	133.37
	500	172.69

DATOS DE PARTIDA	
SUPERFICIE CUENCA (Km2)	1.530
LONGITUD CAUCE PRINC (Km)	2.67
COTA MÁXIMA (m)	585.63
COTA MÍNIMA (m)	411.49
J = PENDIENTE MEDIA (m/m)	0.06534
I1 / Id	8.6

DATOS DE CALCULO INICIALES	
TIEMPO CONCENTRACION (Tc)	1.06
K (TEMEZ)	1.07

	T	PT	Id	CALC	It
INTENSIDAD MÁXIMA DE LLUVIA (It)	5	71.64	2.985	0.98495	24.85
	10	84.92	3.538		29.46
	25	103.47	4.311		35.90
	50	117.97	4.916		40.93
	100	133.37	5.557		46.27
	500	172.69	7.195		59.91

USOS DEL SUELO	%	Po	K(Corr)	Po (correg)
MASA FORESTAL CLARA	0.42	14	3.1	25
SUELO ANTROPIZADO	19.06	8		24.8
CEREAL DE INVIERNO, ALTA PENDIENTE, SUELO C	4.05	10		25
CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZAS, SUELO C	76.46	8		24.8

ARROYO DE LAS RATAS, TRAMO INFERIOR. CÁLCULO DE LOS CAUDALES DE PERIODO DE RETORNO DE 10, 50, 100 Y 500 AÑOS (VALORES PARCIALES DE CT)

T	5	10	25	50	100	500	T	USOS DEL SUELO
PT / Po	71.64	84.92	103.47	117.97	133.37	172.69	PT / Po	
25	0.251001	0.305261	0.371689	0.417200	0.460309	0.550956	25	MASA FORESTAL CLARA
24.8	0.253492	0.307897	0.374450	0.420012	0.463141	0.553736	24.8	SUELO ANTROPIZADO
25	0.251001	0.305261	0.371689	0.417200	0.460309	0.550956	25	CEREAL DE INVIERNO, ALTA PENDIENTE, SUELO C
24.8	0.253492	0.307897	0.374450	0.420012	0.463141	0.553736	24.8	CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERR.

	A (Km2)	C*A						USOS DEL SUELO
		5	10	25	50	100	500	
MASA FORESTAL CLARA	0.006426	0.001613	0.001962	0.002388	0.002681	0.002958	0.003540	MASA FORESTAL CLARA
SUELO ANTROPIZADO	0.291618	0.073923	0.089788	0.109196	0.122483	0.135060	0.161479	SUELO ANTROPIZADO
CEREAL DE INVIERNO, ALTA PENDIENTE, SUELO C	0.061965	0.015553	0.018915	0.023032	0.025852	0.028523	0.034140	CEREAL DE INVIERNO, ALTA PENDIENTE, SUELO C
CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZAS, SUELO C	1.169838	0.296544	0.360190	0.438046	0.491346	0.541800	0.647782	CULTIVOS EN HILERA, ALTA PENDIENTE, NO TERRAZAS, SUELO C
	SUMA (C*A)	0.387633	0.470855	0.572662	0.642362	0.708341	0.846942	

	T	PT	CT*A	CT * A(CALC)
COEFICIENTE DE ESCORRENTIA	5	71.64	0.388	0.388
	10	84.92	0.471	0.471
	25	103.47	0.573	0.573
	50	117.97	0.642	0.642
	100	133.37	0.708	0.708
	500	172.69	0.847	0.995

	T	Q(T)
CAUDALES MÁXIMOS PREVISTOS DE PERIODO RETORNO (m3/s)	5	3.44
	10	4.95
	25	7.34
	50	9.39
	100	11.70
	500	21.28

ARROYO DE LAS RATAS, TRAMO INFERIOR. CÁLCULO DE EVACUACIÓN PASO INFERIOR

	T	Q-CALC
PRECIPITACIÓN PERIODO RETORNO	5	3.44
	10	4.95
	25	7.34
	50	9.39
	100	11.70
	500	21.28

PERÍODO DE RETORNO:	500.00
CAUDAL:	21.28

DIÁMETRO	2
PERÍMETRO MOJADO	4.43
SECCIÓN MOJADA	2.48
RADIO HIDRÁULICO	0.56

PENDIENTE CANAL (m/m)	0.04

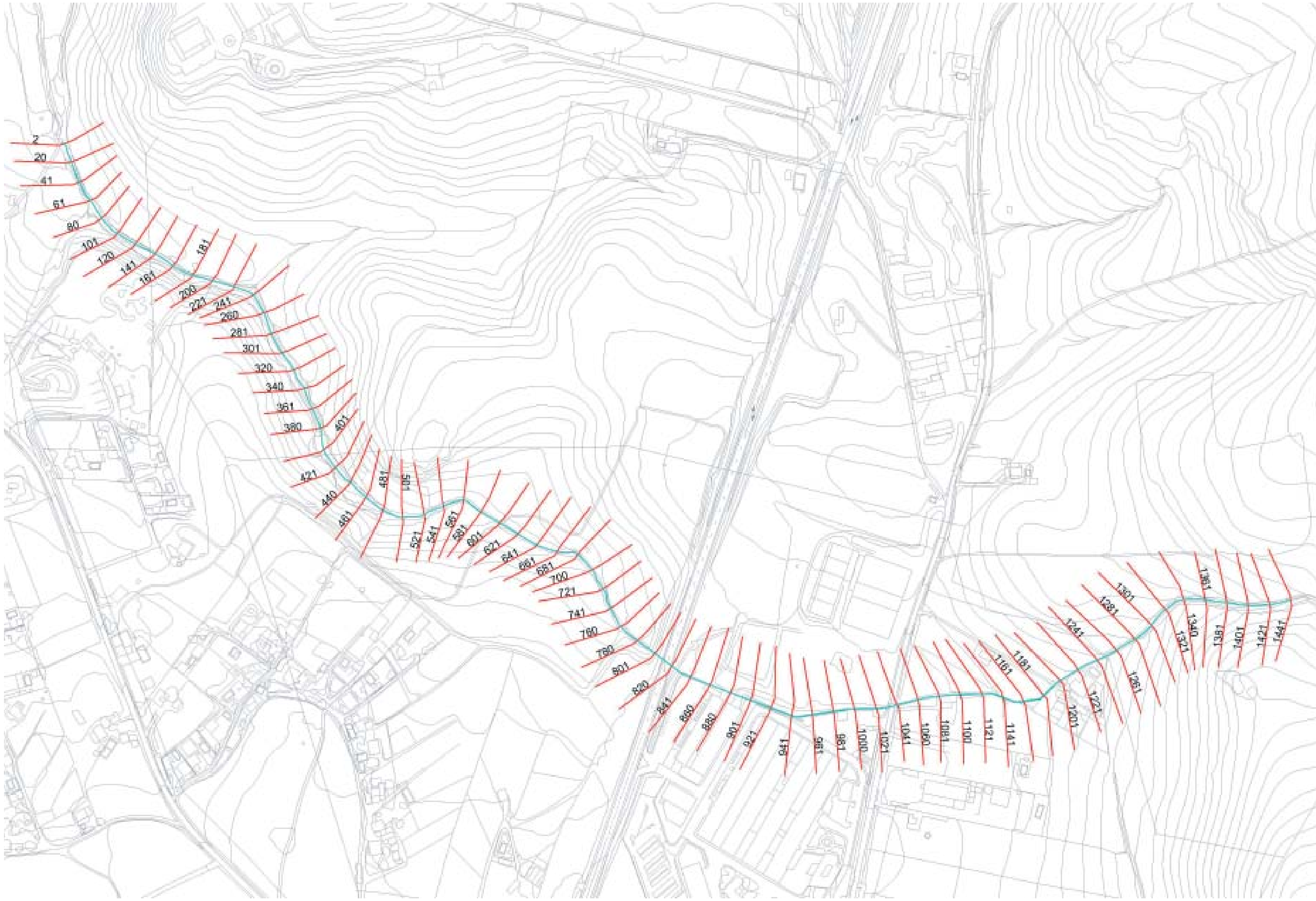
COEFICIENTE K	65
COEFICIENTE U	1

CAUDAL TESTEO	21.28
RADIO HIDRAULICO	0.680181933
RAIZ-PENDIENTE	0.2
CAUDAL DE CALCULO	21.96706502

8.842365133

X	0.6
ANG	0.927295218
S.ARCO TOT	0.927295218
B.TRIAN	0.45
S. TRIAN	0.27
S.ARCO	0.657295218
S. TOTAL	3.141592654
SEC. MOJADA	2.484297436
PER. ARCO	1.854590436
PER. MOJAD	4.428594871

Esquema de inundabilidad



Esquema de secciones Arroyo de las Ratas.

La modelización hidráulica de este tramo se recoge en el Capitulo III. Cálculos, tablas, perfiles.

1. Cuenca Río Cabra

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	3730.5	10y	53.85	35.23	37.83	2.60	37.83	38.54	0.021364	3.73	14.42	10.27	1.01
1	3730.5	50y	97.70	35.23	38.56	3.33	38.56	39.49	0.018874	4.26	23.03	13.19	0.99
1	3730.5	100y	120.32	35.23	38.86	3.63	38.86	39.89	0.017396	4.52	27.10	14.30	0.98
1	3730.5	500y	198.40	35.23	39.78	4.55	39.78	41.04	0.013693	5.07	42.14	19.17	0.92
1	3683.0	10y	53.85	32.12	34.40	2.28	35.10	36.64	0.078288	6.62	8.13	5.28	1.70
1	3683.0	50y	97.70	32.12	35.38	3.26	36.32	37.89	0.056400	7.04	14.15	8.21	1.49
1	3683.0	100y	120.32	32.12	35.73	3.61	36.63	38.41	0.050692	7.34	17.44	10.58	1.45
1	3683.0	500y	198.40	32.12	36.51	4.39	37.68	39.75	0.046727	8.40	27.82	15.87	1.46
1	3633.1	10y	53.85	29.33	32.89	3.56	32.04	33.16	0.005568	2.28	23.59	12.39	0.53
1	3633.1	50y	97.70	29.33	31.99	2.66	32.83	34.58	0.078788	7.13	13.70	9.54	1.90
1	3633.1	100y	120.32	29.33	32.19	2.86	33.13	35.19	0.083112	7.67	15.68	10.19	1.97
1	3633.1	500y	198.40	29.33	32.84	3.51	34.10	36.66	0.081814	8.66	22.90	12.22	2.02
1	3583.5	10y	53.85	27.48	31.80	4.32	31.80	32.57	0.030119	3.88	13.87	9.11	1.00
1	3583.5	50y	97.70	27.48	32.64	5.16	32.64	33.50	0.024713	4.10	23.92	14.80	1.00
1	3583.5	100y	120.32	27.48	32.92	5.44	32.92	33.87	0.022303	4.31	28.39	16.80	0.97
1	3583.5	500y	198.40	27.48	33.83	6.35	33.83	34.85	0.015460	4.60	47.66	26.30	0.86
1	3533.0	10y	53.85	26.02	28.52	2.50	29.07	30.37	0.060783	6.02	8.94	5.44	1.50
1	3533.0	50y	97.70	26.02	29.48	3.46	30.32	31.70	0.046668	6.62	15.22	8.92	1.36
1	3533.0	100y	120.32	26.02	29.83	3.81	30.71	32.20	0.042931	6.94	18.74	11.43	1.34
1	3533.0	500y	198.40	26.02	30.57	4.55	31.61	33.47	0.041867	8.04	30.50	20.31	1.38
1	3483.5	10y	53.85	24.57	27.86	3.29	27.86	28.41	0.023727	3.30	16.30	15.11	1.02
1	3483.5	50y	97.70	24.57	28.16	3.59	28.48	29.22	0.039919	4.56	21.45	18.71	1.35
1	3483.5	100y	120.32	24.57	28.25	3.68	28.67	29.63	0.049692	5.21	23.12	19.73	1.52
1	3483.5	500y	198.40	24.57	28.59	4.02	29.33	30.75	0.064532	6.52	30.93	25.74	1.78
1	3433.4	10y	53.85	22.86	26.32	3.46	25.36	26.56	0.005964	2.18	24.69	14.79	0.54
1	3433.4	50y	97.70	22.86	27.53	4.67	26.28	27.75	0.003066	2.09	49.96	32.08	0.42
1	3433.4	100y	120.32	22.86	28.05	5.19	26.59	28.24	0.002210	2.01	69.32	41.49	0.37
1	3433.4	500y	198.40	22.86	29.41	6.55	27.44	29.55	0.001163	1.86	145.71	74.41	0.28
1	3424.6	10y	53.85	22.73	25.92	3.19		26.46	0.012535	3.24	16.63	7.80	0.71
1	3424.6	50y	97.70	22.73	26.74	4.01		27.63	0.015652	4.18	23.43	9.09	0.81

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	3424.6	100y	120.32	22.73	26.92	4.19	26.73	28.10	0.019114	4.82	25.16	9.89	0.90
1	3424.6	500y	198.40	22.73	28.24	5.51	28.24	29.42	0.012600	5.01	46.35	24.36	0.78
1	3383.5	10y	53.85	21.89	24.89	3.00	24.89	25.73	0.023624	4.08	13.19	7.77	1.00
1	3383.5	50y	97.70	21.89	25.78	3.89	25.78	26.90	0.019184	4.71	21.29	10.29	0.96
1	3383.5	100y	120.32	21.89	26.24	4.35	26.24	27.38	0.015800	4.79	26.78	13.35	0.90
1	3383.5	500y	198.40	21.89	26.84	4.95	27.68	28.70	0.020968	6.26	37.15	22.86	1.06
1	3334.1	10y	53.85	19.69	24.15	4.46	22.64	24.18	0.000658	0.81	66.60	36.81	0.19
1	3334.1	50y	97.70	19.69	25.58	5.89	23.07	25.61	0.000326	0.80	123.39	43.51	0.14
1	3334.1	100y	120.32	19.69	25.77	6.08	23.24	25.81	0.000409	0.93	131.46	43.51	0.16
1	3334.1	500y	198.40	19.69	26.31	6.62	23.76	26.40	0.000672	1.31	155.19	43.51	0.21
1	3300		Bridge										
1	3283.4	10y	53.85	17.95	19.71	1.76	20.68	23.01	0.142315	8.05	6.69	5.60	2.35
1	3283.4	50y	97.70	17.95	20.54	2.59	21.62	23.85	0.097184	8.06	12.12	7.44	2.02
1	3283.4	100y	120.32	17.95	20.96	3.01	22.06	24.06	0.078042	7.80	15.43	8.40	1.84
1	3283.4	500y	198.40	17.95	22.14	4.19	23.44	24.79	0.046266	7.24	28.14	16.90	1.50
1	3233.2	10y	53.85	16.94	20.32	3.38	20.16	20.74	0.012763	2.98	20.05	19.25	0.73
1	3233.2	50y	97.70	16.94	20.79	3.85	20.80	21.44	0.015021	3.81	30.74	26.29	0.83
1	3233.2	100y	120.32	16.94	20.94	4.00	21.04	21.72	0.016764	4.22	34.99	28.75	0.89
1	3233.2	500y	198.40	16.94	21.22	4.28	21.60	22.58	0.026471	5.72	43.67	32.15	1.13
1	3182.9	10y	53.85	16.56	19.50	2.94	19.50	20.05	0.014017	3.40	18.50	22.53	0.80
1	3182.9	50y	97.70	16.56	19.95	3.39	20.10	20.65	0.015207	4.10	31.67	32.17	0.87
1	3182.9	100y	120.32	16.56	20.12	3.56	20.28	20.87	0.015381	4.33	37.53	34.34	0.88
1	3182.9	500y	198.40	16.56	20.74	4.18	20.75	21.47	0.012422	4.52	61.04	42.80	0.82
1	3133.5	10y	53.85	14.37	17.48	3.11	17.97	18.86	0.042217	5.38	11.97	16.89	1.22
1	3133.5	50y	97.70	14.37	17.95	3.58	18.44	19.42	0.041309	6.13	22.12	25.61	1.25
1	3133.5	100y	120.32	14.37	18.12	3.75	18.49	19.64	0.041453	6.42	26.61	28.24	1.27
1	3133.5	500y	198.40	14.37	18.54	4.17	19.17	20.34	0.045314	7.42	40.06	37.53	1.36
1	3083.3	10y	53.85	12.69	16.58	3.89	16.58	17.53	0.031778	4.32	12.47	6.56	1.00
1	3083.3	50y	97.70	12.69	17.86	5.17	17.88	18.27	0.010077	3.21	43.37	52.06	0.62

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	3083.3	100y	120.32	12.69	18.00	5.31	18.02	18.43	0.010621	3.41	50.93	54.08	0.64
1	3083.3	500y	198.40	12.69	18.34	5.65	18.38	18.90	0.013212	4.10	69.94	58.86	0.73
1	3033.4	10y	53.85	10.49	12.17	1.68	12.95	14.75	0.103121	7.12	7.57	5.96	2.02
1	3033.4	50y	97.70	10.49	12.73	2.24	13.93	16.73	0.117850	8.87	11.02	6.39	2.15
1	3033.4	100y	120.32	10.49	13.18	2.69	14.35	16.95	0.092935	8.60	13.99	6.75	1.91
1	3033.4	500y	198.40	10.49	14.92	4.43	15.87	17.64	0.043051	7.30	27.18	8.37	1.29
1	2983.9	10y	53.85	9.31	13.41	4.10	12.36	13.76	0.006193	2.62	20.88	10.19	0.52
1	2983.9	50y	97.70	9.31	14.48	5.17	13.37	14.95	0.005627	3.14	35.09	16.48	0.52
1	2983.9	100y	120.32	9.31	14.54	5.23	13.86	15.22	0.007993	3.78	36.07	16.83	0.62
1	2983.9	500y	198.40	9.31	14.96	5.65	14.96	16.29	0.014050	5.38	43.88	21.13	0.84
1	2933.9	10y	53.85	9.03	12.12	3.09	12.12	13.12	0.029218	4.43	12.16	6.17	1.01
1	2933.9	50y	97.70	9.03	13.46	4.43	13.46	14.43	0.018079	4.40	23.75	17.51	0.84
1	2933.9	100y	120.32	9.03	14.08	5.05	14.08	14.74	0.010676	3.86	40.21	34.65	0.66
1	2933.9	500y	198.40	9.03	14.53	5.50	14.72	15.43	0.013926	4.78	57.86	43.88	0.77
1	2883.7	10y	53.85	8.89	10.31	1.42	10.60	11.23	0.049298	4.23	12.73	15.34	1.48
1	2883.7	50y	97.70	8.89	10.48	1.59	11.11	12.54	0.098600	6.36	15.36	16.88	2.13
1	2883.7	100y	120.32	8.89	10.55	1.66	11.35	13.24	0.122695	7.27	16.56	17.56	2.39
1	2883.7	500y	198.40	8.89	11.08	2.19	11.96	13.77	0.087468	7.27	27.30	23.20	2.10
1	2832.9	10y	53.85	8.69	10.05	1.36	10.05	10.35	0.016647	3.20	25.67	40.50	0.94
1	2832.9	50y	97.70	8.69	10.36	1.67	10.36	10.76	0.017203	3.79	39.24	47.50	0.99
1	2832.9	100y	120.32	8.69	10.48	1.79	10.48	10.92	0.017660	4.04	44.94	49.00	1.01
1	2832.9	500y	198.40	8.69	10.79	2.10	10.87	11.34	0.019141	4.72	68.23	71.14	1.09
1	2782.9	10y	53.85	7.19	9.16	1.97	9.16	9.21	0.004584	1.43	55.38	95.85	0.45
1	2782.9	50y	97.70	7.19	9.16	1.97	9.16	9.34	0.015089	2.59	55.38	95.85	0.81
1	2782.9	100y	120.32	7.19	9.17	1.98	9.17	9.43	0.022215	3.16	55.90	95.90	0.99
1	2782.9	500y	198.40	7.19	9.19	2.00	9.37	9.85	0.054169	4.99	57.84	96.09	1.55
1	2732.9	10y	53.85	6.79	7.72	0.93	7.52	7.79	0.006387	1.46	48.08	86.32	0.54
1	2732.9	50y	97.70	6.79	7.86	1.07	7.68	8.00	0.010255	2.08	60.28	88.28	0.70
1	2732.9	100y	120.32	6.79	7.96	1.17	7.76	8.12	0.009813	2.19	69.73	89.75	0.70
1	2732.9	500y	198.40	6.79	8.26	1.47	8.00	8.48	0.009407	2.55	97.17	93.85	0.71

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	2683.7	10y	53.85	6.20	7.28	1.08	7.28	7.34	0.005230	0.95	51.59	85.11	0.43
1	2683.7	50y	97.70	6.20	7.53	1.33	7.28	7.58	0.003294	0.99	95.01	111.96	0.37
1	2683.7	100y	120.32	6.20	7.67	1.47	7.28	7.73	0.003069	1.07	110.40	113.05	0.37
1	2683.7	500y	198.40	6.20	7.69	1.49	7.36	7.85	0.007670	1.73	113.31	113.25	0.58
1	2633.7	10y	53.85	5.88	6.65	0.83	6.66	6.93	0.028394	2.82	23.63	44.78	1.10
1	2633.7	50y	97.70	5.88	6.94	1.12	6.94	7.30	0.024128	3.21	37.79	52.12	1.06
1	2633.7	100y	120.32	5.88	7.07	1.25	7.07	7.46	0.022519	3.34	44.83	55.39	1.04
1	2633.7	500y	198.40	5.88	7.13	1.31	7.13	7.42	0.018507	2.94	85.61	112.10	0.93
1	2583.4	10y	53.85	4.34	5.38	1.04	5.47	5.77	0.030767	3.25	22.09	47.51	1.19
1	2583.4	50y	97.70	4.34	5.53	1.19	5.69	6.09	0.038724	4.09	33.63	63.60	1.37
1	2583.4	100y	120.32	4.34	5.59	1.25	5.78	6.25	0.042053	4.46	37.73	64.91	1.44
1	2583.4	500y	198.40	4.34	6.01	1.67	6.07	6.54	0.021427	4.04	66.67	73.42	1.09
1	2533.3	10y	53.85	3.53	5.34	1.81	4.78	5.38	0.001672	1.12	71.29	107.19	0.31
1	2533.3	50y	97.70	3.53	5.48	1.96	5.20	5.57	0.003143	1.65	86.93	107.87	0.43
1	2533.3	100y	120.32	3.53	5.61	2.08	5.29	5.70	0.003154	1.74	100.11	108.44	0.43
1	2533.3	500y	198.40	3.53	5.98	2.45	5.50	6.10	0.003051	1.96	140.85	110.19	0.44
1	2483.5	10y	53.85	2.24	4.60	2.36	4.60	5.15	0.020469	3.27	16.56	16.03	0.99
1	2483.5	50y	97.70	2.24	5.21	2.97	5.21	5.38	0.005223	2.21	64.96	82.53	0.54
1	2483.5	100y	120.32	2.24	5.21	2.97	5.21	5.47	0.007921	2.72	64.96	82.53	0.66
1	2483.5	500y	198.40	2.24	5.40	3.16	5.40	5.83	0.011891	3.58	81.25	84.65	0.82
1	2433.2	10y	53.85	1.42	2.70	1.28	2.83	3.59	0.050298	4.30	13.62	21.14	1.52
1	2433.2	50y	97.70	1.42	4.25	2.83	3.39	4.29	0.000881	1.13	120.34	84.18	0.24
1	2433.2	100y	120.32	1.42	4.35	2.93	3.49	4.40	0.001076	1.29	129.23	84.78	0.26
1	2433.2	500y	198.40	1.42	4.66	3.24	3.76	4.76	0.001657	1.74	155.99	86.94	0.33
1	2383.9	10y	53.85	-0.74	3.08	3.82	0.73	3.10	0.000252	0.56	99.10	92.10	0.13
1	2383.9	50y	97.70	-0.74	4.25	4.99	1.24	4.27	0.000129	0.54	215.54	105.46	0.10
1	2383.9	100y	120.32	-0.74	4.36	5.10	1.43	4.38	0.000171	0.64	226.87	106.59	0.11
1	2383.9	500y	198.40	-0.74	4.68	5.42	1.95	4.71	0.000316	0.93	261.25	110.12	0.15
1	2365		Bridge										

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	2333.2	10y	53.85	-5.98	-1.27	4.71	-1.27	0.25	0.065191	5.46	9.86	3.29	1.01
1	2333.2	50y	97.70	-5.98	-0.79	5.19	1.42	2.88	0.145692	8.49	11.51	3.69	1.53
1	2333.2	100y	120.32	-5.98	0.29	6.27	1.59	3.12	0.092924	7.44	16.16	4.89	1.31
1	2333.2	500y	198.40	-5.98	1.38	7.36	2.03	3.51	0.061736	7.13	36.43	40.06	1.12
1	2283.5	10y	53.85	-7.74	-6.33	1.41	-5.64	-4.00	0.111163	6.77	7.96	8.29	2.21
1	2283.5	50y	97.70	-7.74	-5.75	1.99	-4.87	-2.88	0.087408	7.51	13.01	9.23	2.02
1	2283.5	100y	120.32	-7.74	-5.64	2.10	-4.54	-1.91	0.106236	8.56	14.06	9.41	2.23
1	2283.5	500y	198.40	-7.74	-4.95	2.79	-3.57	-0.38	0.093793	9.47	20.96	10.52	2.14
1	2233.3	10y	53.85	-9.32	-5.74	3.58	-6.74	-5.47	0.005046	2.32	23.20	10.40	0.50
1	2233.3	50y	97.70	-9.32	-4.66	4.66	-5.92	-4.27	0.005235	2.75	35.51	12.24	0.52
1	2233.3	100y	120.32	-9.32	-4.20	5.12	-5.57	-3.77	0.005296	2.91	41.28	13.00	0.52
1	2233.3	500y	198.40	-9.32	-2.88	6.44	-4.56	-2.32	0.005417	3.31	59.88	15.51	0.54
1	2184.5	10y	53.85	-9.51	-6.54	2.97		-5.91	0.015986	3.53	15.24	8.12	0.82
1	2184.5	50y	97.70	-9.51	-5.66	3.85	-5.92	-4.75	0.017211	4.24	23.05	9.59	0.87
1	2184.5	100y	120.32	-9.51	-5.35	4.16	-5.54	-4.27	0.018581	4.60	26.16	10.12	0.91
1	2184.5	500y	198.40	-9.51	-4.46	5.05	-4.46	-2.90	0.021781	5.54	35.83	11.61	1.01
1	2133.2	10y	53.85	-10.39	-6.89	3.50	-7.63	-6.54	0.007637	2.63	20.45	10.09	0.59
1	2133.2	50y	97.70	-10.39	-6.06	4.33	-6.78	-5.51	0.009828	3.27	29.88	13.13	0.69
1	2133.2	100y	120.32	-10.39	-5.71	4.68	-6.41	-5.10	0.010229	3.47	34.70	14.49	0.72
1	2133.2	500y	198.40	-10.39	-4.77	5.62	-5.40	-3.95	0.010309	4.01	49.51	16.83	0.74
1	2083.2	10y	53.85	-10.89	-7.31	3.58	-7.88	-6.95	0.008635	2.65	20.31	11.72	0.64
1	2083.2	50y	97.70	-10.89	-6.47	4.42	-7.10	-5.96	0.007883	3.16	31.55	15.52	0.65
1	2083.2	100y	120.32	-10.89	-6.11	4.78	-6.77	-5.54	0.007332	3.35	37.52	17.42	0.64
1	2083.2	500y	198.40	-10.89	-5.05	5.84	-5.86	-4.38	0.006065	3.77	58.81	22.99	0.61
1	2033.6	10y	53.85	-10.90	-8.38	2.52	-8.38	-7.64	0.022736	3.80	14.18	9.84	1.01
1	2033.6	50y	97.70	-10.90	-7.63	3.27	-7.63	-6.62	0.021400	4.45	21.95	10.96	1.00
1	2033.6	100y	120.32	-10.90	-7.30	3.60	-7.30	-6.18	0.021023	4.70	25.61	11.45	1.00
1	2033.6	500y	198.40	-10.90	-6.10	4.80	-6.32	-4.89	0.016308	4.86	40.80	14.00	0.91
1	1984.3	10y	53.85	-11.70	-8.67	3.03	-9.54	-8.46	0.004280	2.05	26.21	13.86	0.48

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1984.3	50y	97.70	-11.70	-7.64	4.06	-8.86	-7.35	0.003774	2.38	41.11	14.85	0.46
1	1984.3	100y	120.32	-11.70	-7.18	4.52	-8.59	-6.86	0.003694	2.51	47.92	15.28	0.45
1	1984.3	500y	198.40	-11.70	-5.89	5.81		-5.46	0.003689	2.89	68.61	16.73	0.46
1	1934.5	10y	53.85	-12.27	-9.75	2.52	-9.75	-8.93	0.022549	4.01	13.44	8.34	1.01
1	1934.5	50y	97.70	-12.27	-8.91	3.36	-8.91	-7.80	0.021472	4.66	20.99	9.53	1.00
1	1934.5	100y	120.32	-12.27	-8.54	3.73	-8.54	-7.32	0.021278	4.90	24.53	10.07	1.00
1	1934.5	500y	198.40	-12.27	-7.50	4.77	-7.50	-5.94	0.020718	5.53	35.88	11.59	1.00
1	1884.0	10y	53.85	-12.54	-9.52	3.02	-10.95	-9.47	0.000863	1.00	53.88	27.34	0.23
1	1884.0	50y	97.70	-12.54	-8.57	3.97	-10.52	-8.50	0.000840	1.20	81.21	29.93	0.23
1	1884.0	100y	120.32	-12.54	-8.18	4.36	-10.33	-8.09	0.000839	1.29	93.13	30.40	0.24
1	1884.0	500y	198.40	-12.54	-7.07	5.47	-9.77	-6.95	0.000888	1.56	127.47	31.75	0.25
1	1835.0	10y	53.85	-12.90	-10.35	2.55	-10.35	-9.65	0.021272	3.70	14.56	10.60	1.01
1	1835.0	50y	97.70	-12.90	-9.63	3.27	-9.63	-8.70	0.019891	4.27	22.89	12.57	1.01
1	1835.0	100y	120.32	-12.90	-9.31	3.59	-9.31	-8.30	0.019225	4.46	26.96	13.43	1.01
1	1835.0	500y	198.40	-12.90	-8.42	4.48	-8.42	-7.18	0.018023	4.93	40.22	16.35	1.00
1	1783.4	10y	53.85	-13.80	-11.91	1.89	-12.45	-11.75	0.004581	1.76	30.62	22.97	0.49
1	1783.4	50y	97.70	-13.80	-11.09	2.71	-12.03	-10.90	0.003307	1.96	49.88	24.22	0.44
1	1783.4	100y	120.32	-13.80	-10.74	3.06	-11.84	-10.53	0.003092	2.06	58.51	24.88	0.43
1	1783.4	500y	198.40	-13.80	-9.75	4.05	-11.27	-9.46	0.002849	2.35	84.34	27.03	0.43
1	1733.9	10y	53.85	-15.18	-12.91	2.27	-12.91	-12.22	0.020433	3.67	14.66	10.67	1.00
1	1733.9	50y	97.70	-15.18	-12.18	3.00	-12.18	-11.29	0.019088	4.17	23.43	13.31	1.00
1	1733.9	100y	120.32	-15.18	-11.88	3.30	-11.88	-10.91	0.018631	4.36	27.62	14.39	1.00
1	1733.9	500y	198.40	-15.18	-11.04	4.14	-11.04	-9.84	0.017629	4.84	40.98	17.40	1.01
1	1683.3	10y	53.85	-16.09	-13.24	2.85	-14.23	-13.10	0.002945	1.70	31.77	17.83	0.41
1	1683.3	50y	97.70	-16.09	-12.49	3.60	-13.63	-12.26	0.003414	2.11	46.28	20.71	0.45
1	1683.3	100y	120.32	-16.09	-12.19	3.90	-13.38	-11.92	0.003626	2.28	52.69	21.87	0.47
1	1683.3	500y	198.40	-16.09	-11.38	4.71	-12.64	-10.99	0.004248	2.77	71.73	24.98	0.52
1	1633.0	10y	53.85	-16.63	-14.06	2.57	-14.06	-13.46	0.020935	3.45	15.63	13.04	1.00
1	1633.0	50y	97.70	-16.63	-13.41	3.22	-13.41	-12.66	0.019347	3.85	25.37	16.96	1.00
1	1633.0	100y	120.32	-16.63	-13.15	3.48	-13.15	-12.33	0.018895	4.01	29.98	18.52	1.01

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1633.0	500y	198.40	-16.63	-12.44	4.19	-12.44	-11.43	0.017643	4.44	44.68	22.56	1.01
1	1584.0	10y	53.85	-17.50	-14.97	2.53	-15.64	-14.73	0.005400	2.14	25.14	15.56	0.54
1	1584.0	50y	97.70	-17.50	-14.18	3.32	-15.00	-13.85	0.005499	2.54	38.40	18.14	0.56
1	1584.0	100y	120.32	-17.50	-13.85	3.65	-14.73	-13.48	0.005541	2.70	44.61	19.26	0.57
1	1584.0	500y	198.40	-17.50	-12.88	4.62	-13.98	-12.40	0.005467	3.06	64.87	22.50	0.57
1	1533.9	10y	53.85	-18.02	-15.88	2.14	-15.88	-15.25	0.020144	3.54	15.21	11.91	1.00
1	1533.9	50y	97.70	-18.02	-15.21	2.81	-15.21	-14.37	0.018699	4.07	23.98	14.20	1.00
1	1533.9	100y	120.32	-18.02	-14.93	3.09	-14.93	-14.00	0.018352	4.29	28.07	15.12	1.00
1	1533.9	500y	198.40	-18.02	-14.16	3.86	-14.16	-12.93	0.017405	4.91	40.42	16.58	1.00
1	1483.6	10y	53.85	-19.74	-16.84	2.90	-17.68	-16.57	0.005370	2.28	23.57	11.92	0.52
1	1483.6	50y	97.70	-19.74	-15.88	3.86	-16.94	-15.51	0.005529	2.69	36.35	14.64	0.54
1	1483.6	100y	120.32	-19.74	-15.47	4.27	-16.61	-15.06	0.005499	2.83	42.55	15.79	0.55
1	1483.6	500y	198.40	-19.74	-14.29	5.45	-15.68	-13.79	0.005283	3.13	63.35	19.65	0.56
1	1433.5	10y	53.85	-20.30	-17.85	2.45	-17.85	-17.10	0.021673	3.83	14.04	9.39	1.00
1	1433.5	50y	97.70	-20.30	-17.08	3.22	-17.08	-16.06	0.020880	4.49	21.78	10.78	1.01
1	1433.5	100y	120.32	-20.30	-16.75	3.55	-16.75	-15.61	0.020413	4.72	25.50	11.34	1.00
1	1433.5	500y	198.40	-20.30	-15.73	4.57	-15.78	-14.33	0.018639	5.24	37.86	12.95	0.98
1	1384.3	10y	53.85	-21.00	-18.78	2.22	-18.95	-18.12	0.016648	3.58	15.06	8.81	0.87
1	1384.3	50y	97.70	-21.00	-17.91	3.10	-18.11	-17.02	0.016379	4.17	23.42	10.38	0.89
1	1384.3	100y	120.32	-21.00	-17.52	3.48	-17.76	-16.55	0.015997	4.37	27.55	11.07	0.88
1	1384.3	500y	198.40	-21.00	-16.38	4.62	-16.74	-15.21	0.014635	4.80	41.34	13.15	0.86
1	1334.8	10y	53.85	-22.44	-19.88	2.56	-19.88	-19.08	0.021859	3.97	13.56	8.46	1.00
1	1334.8	50y	97.70	-22.44	-19.05	3.39	-19.05	-17.96	0.021149	4.64	21.05	9.62	1.00
1	1334.8	100y	120.32	-22.44	-18.70	3.74	-18.70	-17.48	0.021009	4.90	24.57	10.13	1.00
1	1334.8	500y	198.40	-22.44	-17.66	4.78	-17.66	-16.10	0.020522	5.53	35.84	11.56	1.00
1	1284.7	10y	53.85	-23.80	-22.03	1.77	-21.63	-20.74	0.051978	5.03	10.71	9.73	1.53
1	1284.7	50y	97.70	-23.80	-21.51	2.29	-20.92	-19.64	0.054434	6.06	16.13	11.32	1.62
1	1284.7	100y	120.32	-23.80	-21.29	2.51	-20.63	-19.17	0.055170	6.45	18.65	11.98	1.65
1	1284.7	500y	198.40	-23.80	-20.69	3.11	-19.78	-17.83	0.056797	7.49	26.49	13.75	1.72

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1233.2	10y	53.85	-26.03	-23.71	2.32	-23.56	-22.78	0.028407	4.27	12.62	8.91	1.14
1	1233.2	50y	97.70	-26.03	-22.95	3.08	-22.74	-21.75	0.026858	4.86	20.10	11.02	1.15
1	1233.2	100y	120.32	-26.03	-22.67	3.36	-22.40	-21.33	0.026829	5.13	23.54	13.03	1.17
1	1233.2	500y	198.40	-26.03	-22.03	4.00	-21.36	-20.06	0.027524	6.27	33.35	18.20	1.24
1	1183.6	10y	53.85	-28.79	-26.84	1.95	-26.26	-24.98	0.070480	6.05	8.91	7.39	1.76
1	1183.6	50y	97.70	-28.79	-26.17	2.62	-25.41	-23.80	0.061592	6.82	14.33	8.59	1.68
1	1183.6	100y	120.32	-28.79	-24.03	4.76	-24.93	-23.57	0.007042	3.01	39.97	15.97	0.61
1	1183.6	500y	198.40	-28.79	-22.66	6.13	-24.04	-22.20	0.004309	3.07	68.65	25.81	0.51
1	1183		Bridge										
1	1133.4	10y	53.85	-31.93	-30.53	1.40	-30.31	-29.70	0.045191	4.03	13.35	16.47	1.43
1	1133.4	50y	97.70	-31.93	-30.32	1.61	-29.80	-28.61	0.071965	5.80	16.83	16.89	1.86
1	1133.4	100y	120.32	-31.93	-30.23	1.70	-29.57	-28.07	0.081190	6.50	18.51	17.08	1.99
1	1133.4	500y	198.40	-31.93	-29.91	2.02	-28.91	-26.41	0.100124	8.29	23.93	17.73	2.28
1	1083.7	10y	53.85	-34.43	-32.71	1.72	-32.48	-31.82	0.039884	4.18	12.89	13.50	1.36
1	1083.7	50y	97.70	-34.43	-32.14	2.29	-31.90	-31.01	0.030596	4.71	20.72	14.31	1.25
1	1083.7	100y	120.32	-34.43	-31.92	2.51	-31.64	-30.64	0.029865	5.02	23.99	14.63	1.25
1	1083.7	500y	198.40	-34.43	-31.33	3.10	-30.90	-29.47	0.031422	6.04	32.87	15.49	1.32
1	1033.7	10y	53.85	-37.33	-35.88	1.45	-35.40	-34.36	0.063159	5.46	9.86	9.46	1.71
1	1033.7	50y	97.70	-37.33	-35.36	1.97	-34.69	-33.23	0.062627	6.47	15.10	10.97	1.76
1	1033.7	100y	120.32	-37.33	-35.13	2.20	-34.40	-32.80	0.060209	6.76	17.80	11.69	1.75
1	1033.7	500y	198.40	-37.33	-34.44	2.89	-33.54	-31.56	0.051678	7.54	26.51	13.96	1.68
1	983.7	10y	53.85	-39.60	-38.52	1.08	-38.23	-37.52	0.057339	4.44	12.13	15.23	1.59
1	983.7	50y	97.70	-39.60	-38.20	1.40	-37.70	-36.53	0.063846	5.72	17.08	15.49	1.74
1	983.7	100y	120.32	-39.60	-38.06	1.54	-37.46	-36.07	0.066782	6.26	19.23	15.59	1.80
1	983.7	500y	198.40	-39.60	-37.65	1.95	-36.75	-34.63	0.073400	7.70	25.76	15.94	1.93
1	933.8	10y	53.85	-41.27	-38.79	2.48	-39.59	-38.54	0.005041	2.23	24.14	12.37	0.51
1	933.8	50y	97.70	-41.27	-37.99	3.28	-38.90	-37.58	0.006003	2.84	34.45	13.41	0.56
1	933.8	100y	120.32	-41.27	-37.65	3.62	-38.60	-37.17	0.006376	3.07	39.14	13.92	0.59
1	933.8	500y	198.40	-41.27	-36.68	4.59	-37.73	-35.97	0.007038	3.72	53.39	15.51	0.63

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1 (Continued)

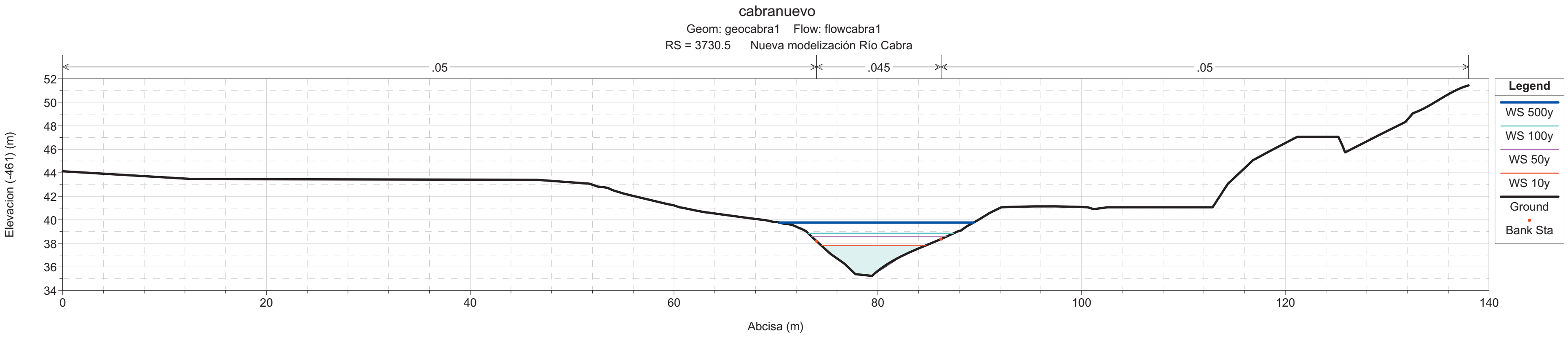
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	883.3	10y	53.85	-41.43	-39.69	1.74	-39.69	-39.03	0.020502	3.58	15.03	11.50	1.00
1	883.3	50y	97.70	-41.43	-38.97	2.46	-39.02	-38.11	0.017912	4.11	23.78	12.98	0.97
1	883.3	100y	120.32	-41.43	-38.68	2.75	-38.72	-37.72	0.017551	4.34	27.69	13.53	0.97
1	883.3	500y	198.40	-41.43	-37.87	3.56	-37.87	-36.57	0.017937	5.05	39.29	15.19	1.00
1	833.2	10y	53.85	-43.05	-40.94	2.11	-40.98	-40.14	0.021654	3.98	13.54	8.01	0.97
1	833.2	50y	97.70	-43.05	-40.05	3.00	-40.05	-39.00	0.016508	4.60	22.61	12.19	0.91
1	833.2	100y	120.32	-43.05	-39.66	3.39	-39.66	-38.55	0.014959	4.79	27.63	13.99	0.88
1	833.2	500y	198.40	-43.05	-38.73	4.32	-38.62	-37.37	0.013692	5.49	42.63	18.06	0.88
1	783.8	10y	53.85	-43.96	-41.89	2.07	-41.89	-41.23	0.020867	3.60	14.97	11.38	1.00
1	783.8	50y	97.70	-43.96	-41.56	2.40	-41.21	-40.19	0.035522	5.20	18.80	12.11	1.33
1	783.8	100y	120.32	-43.96	-41.37	2.59	-40.92	-39.73	0.038061	5.67	21.23	12.55	1.39
1	783.8	500y	198.40	-43.96	-40.67	3.29	-40.05	-38.52	0.037090	6.49	30.56	14.18	1.41
1	733.2	10y	53.85	-44.55	-42.15	2.40	-42.71	-41.97	0.004714	1.92	28.79	23.12	0.51
1	733.2	50y	97.70	-44.55	-41.20	3.35	-42.20	-41.02	0.002690	1.96	55.11	31.95	0.41
1	733.2	100y	120.32	-44.55	-40.76	3.79	-41.98	-40.59	0.002159	1.93	69.96	34.57	0.37
1	733.2	500y	198.40	-44.55	-39.44	5.11	-41.34	-39.28	0.001396	1.92	120.87	44.60	0.31
1	684.0	10y	53.85	-45.29	-43.21	2.08	-43.21	-42.45	0.021123	3.86	13.95	9.20	1.00
1	684.0	50y	97.70	-45.29	-42.45	2.84	-42.45	-41.38	0.018445	4.57	21.60	10.80	0.99
1	684.0	100y	120.32	-45.29	-42.11	3.18	-42.11	-40.92	0.017059	4.84	25.41	11.52	0.97
1	684.0	500y	198.40	-45.29	-41.09	4.20	-41.09	-39.57	0.014245	5.55	38.22	13.67	0.94
1	633.1	10y	53.85	-46.45	-44.65	1.80	-44.40	-43.81	0.034191	4.10	13.80	16.97	1.28
1	633.1	50y	97.70	-46.45	-44.36	2.09	-43.87	-42.86	0.047833	5.58	19.08	19.72	1.57
1	633.1	100y	120.32	-46.45	-44.25	2.20	-43.65	-42.41	0.054118	6.21	21.32	20.67	1.69
1	633.1	500y	198.40	-46.45	-43.92	2.53	-43.03	-41.07	0.068793	7.87	28.47	23.43	1.95
1	583.3	10y	53.85	-48.09	-45.17	2.92	-45.69	-44.87	0.006505	2.45	22.99	15.89	0.59
1	583.3	50y	97.70	-48.09	-44.19	3.90	-45.04	-43.87	0.004250	2.58	41.74	21.46	0.51
1	583.3	100y	120.32	-48.09	-43.77	4.32	-44.70	-43.44	0.003640	2.64	51.10	23.14	0.49
1	583.3	500y	198.40	-48.09	-43.04	5.05	-43.99	-42.55	0.004315	3.32	69.91	28.98	0.55
1	533.2	10y	53.85	-48.97	-46.32	2.65	-46.32	-45.48	0.023763	4.04	13.32	8.11	1.01
1	533.2	50y	97.70	-48.97	-45.44	3.53	-45.44	-44.36	0.022218	4.61	21.21	9.98	1.01

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	533.2	100y	120.32	-48.97	-45.08	3.89	-45.08	-43.90	0.021512	4.81	25.03	10.70	1.00
1	533.2	500y	198.40	-48.97	-43.91	5.06	-43.91	-42.94	0.013178	4.56	50.10	28.35	0.83
1	483.1	10y	53.85	-50.03	-48.38	1.65	-48.02	-47.21	0.051477	4.80	11.21	11.49	1.55
1	483.1	50y	97.70	-50.03	-47.97	2.06	-47.36	-46.13	0.058522	6.00	16.29	13.03	1.71
1	483.1	100y	120.32	-50.03	-47.79	2.24	-47.05	-45.68	0.060182	6.43	18.71	13.70	1.76
1	483.1	500y	198.40	-50.03	-47.27	2.76	-46.39	-44.40	0.069888	7.50	26.44	17.13	1.93
1	433.7	10y	53.85	-51.52	-49.89	1.63	-49.78	-49.14	0.027372	3.84	14.04	11.95	1.13
1	433.7	50y	97.70	-51.52	-49.31	2.21	-49.14	-48.24	0.026648	4.59	21.28	13.14	1.15
1	433.7	100y	120.32	-51.52	-49.06	2.46	-48.85	-47.85	0.026691	4.89	24.60	13.65	1.16
1	433.7	500y	198.40	-51.52	-48.28	3.24	-48.01	-46.75	0.025380	5.48	36.24	16.06	1.16
1	382.8	10y	53.85	-52.35	-49.75	2.60	-50.48	-49.62	0.003650	1.58	34.12	26.00	0.44
1	382.8	50y	97.70	-52.35	-48.95	3.40	-49.98	-48.80	0.002708	1.69	57.84	33.12	0.40
1	382.8	100y	120.32	-52.35	-48.61	3.74	-49.77	-48.45	0.002348	1.75	69.35	34.54	0.38
1	382.8	500y	198.40	-52.35	-47.60	4.75	-49.21	-47.42	0.001790	1.93	106.03	38.43	0.35
1	334.1	10y	53.85	-52.87	-50.64	2.23	-50.64	-50.02	0.020439	3.48	15.49	12.61	1.00
1	334.1	50y	97.70	-52.87	-50.00	2.87	-50.00	-49.15	0.019289	4.08	23.93	14.18	1.00
1	334.1	100y	120.32	-52.87	-49.73	3.14	-49.73	-48.78	0.018979	4.31	27.92	14.91	1.01
1	334.1	500y	198.40	-52.87	-48.87	4.00	-48.87	-47.71	0.015521	4.79	42.34	21.70	0.95
1	284.4	10y	53.85	-53.93	-51.48	2.45	-51.82	-51.22	0.009050	2.27	24.07	28.22	0.67
1	284.4	50y	97.70	-53.93	-51.59	2.34	-51.23	-50.53	0.041682	4.58	21.36	21.32	1.42
1	284.4	100y	120.32	-53.93	-51.47	2.46	-51.08	-50.19	0.043913	5.03	24.35	28.55	1.48
1	284.4	500y	198.40	-53.93	-51.20	2.73	-50.56	-49.12	0.057284	6.50	32.96	33.70	1.74
1	233.6	10y	53.85	-54.82	-52.43	2.39	-52.43	-51.92	0.021554	3.16	17.03	16.93	1.01
1	233.6	50y	97.70	-54.82	-51.87	2.95	-51.87	-51.27	0.020086	3.44	28.37	23.70	1.00
1	233.6	100y	120.32	-54.82	-51.67	3.15	-51.67	-51.01	0.019527	3.62	33.25	26.06	1.01
1	233.6	500y	198.40	-54.82	-51.10	3.72	-51.10	-50.26	0.015893	4.07	50.39	33.15	0.96
1	184.0	10y	53.85	-55.49	-52.79	2.70	-53.53	-52.63	0.003542	1.80	31.74	23.68	0.45
1	184.0	50y	97.70	-55.49	-52.22	3.27	-52.97	-51.98	0.004424	2.26	47.16	30.24	0.51
1	184.0	100y	120.32	-55.49	-51.98	3.51	-52.72	-51.71	0.004679	2.43	54.62	32.95	0.54
1	184.0	500y	198.40	-55.49	-51.33	4.16	-52.07	-50.96	0.005024	2.84	78.59	40.71	0.57

HEC-RAS Plan: Plan 01 River: Rio Cabra Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	133.9	10y	53.85	-55.80	-53.14	2.66		-52.90	0.008355	2.16	25.00	22.90	0.65
1	133.9	50y	97.70	-55.80	-52.66	3.14		-52.29	0.008798	2.69	37.22	28.11	0.70
1	133.9	100y	120.32	-55.80	-52.47	3.33		-52.04	0.009183	2.93	42.67	30.14	0.72
1	133.9	500y	198.40	-55.80	-51.98	3.82		-51.35	0.010633	3.60	58.73	35.39	0.80
1	84.8	10y	53.85	-56.10	-54.01	2.09	-54.01	-53.54	0.021135	3.02	17.80	19.13	1.00
1	84.8	50y	97.70	-56.10	-53.50	2.60	-53.50	-52.94	0.020012	3.32	29.39	26.43	1.01
1	84.8	100y	120.32	-56.10	-53.31	2.79	-53.31	-52.70	0.019432	3.46	34.79	28.86	1.01
1	84.8	500y	198.40	-56.10	-52.80	3.30	-52.80	-52.02	0.017142	3.90	51.42	35.09	0.99
1	33.3	10y	53.85	-56.42	-55.02	1.40	-54.99	-54.64	0.021253	2.78	20.59	32.07	0.99
1	33.3	50y	97.70	-56.42	-54.79	1.63	-54.64	-54.13	0.028564	3.70	28.54	35.14	1.19
1	33.3	100y	120.32	-56.42	-54.68	1.74	-54.49	-53.91	0.030628	4.04	32.30	36.19	1.25
1	33.3	500y	198.40	-56.42	-54.40	2.02	-54.07	-53.22	0.035543	5.01	43.13	39.06	1.39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Legend
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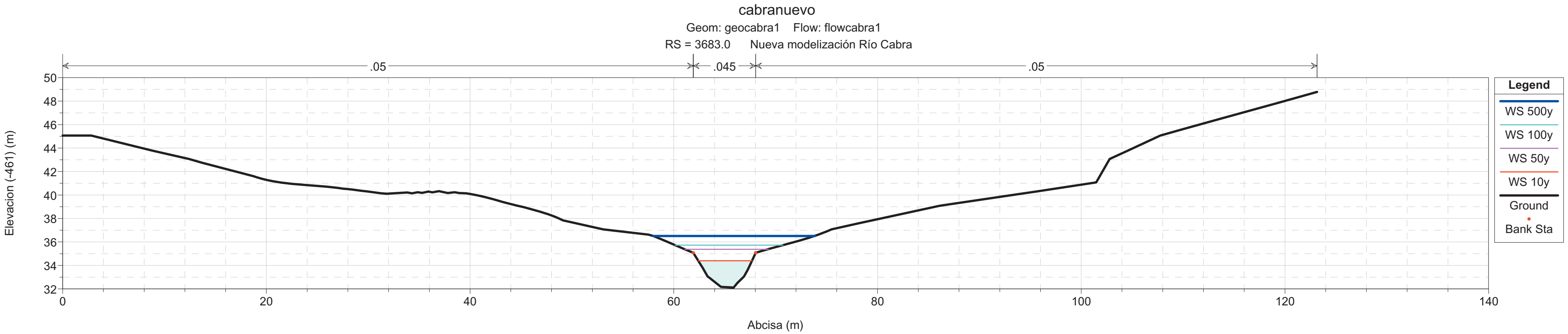
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)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.045
.05
Legend
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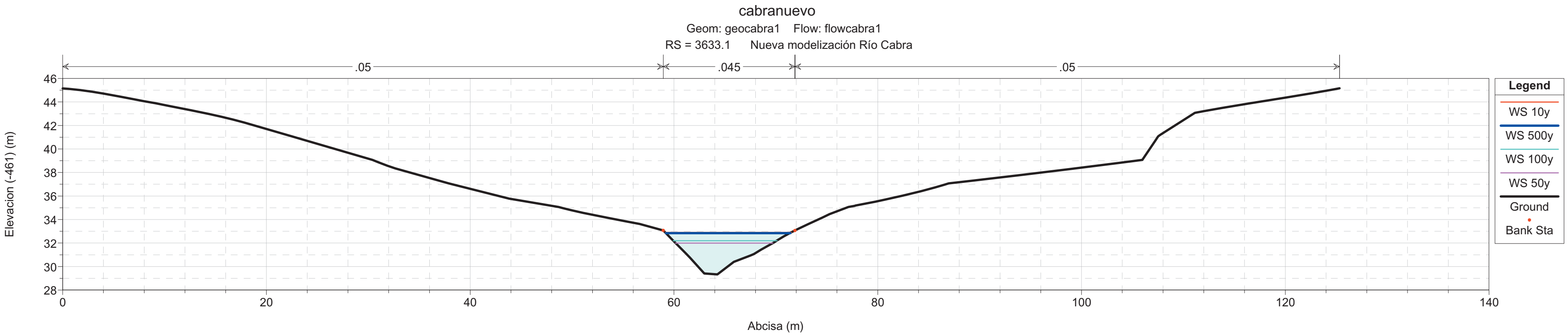
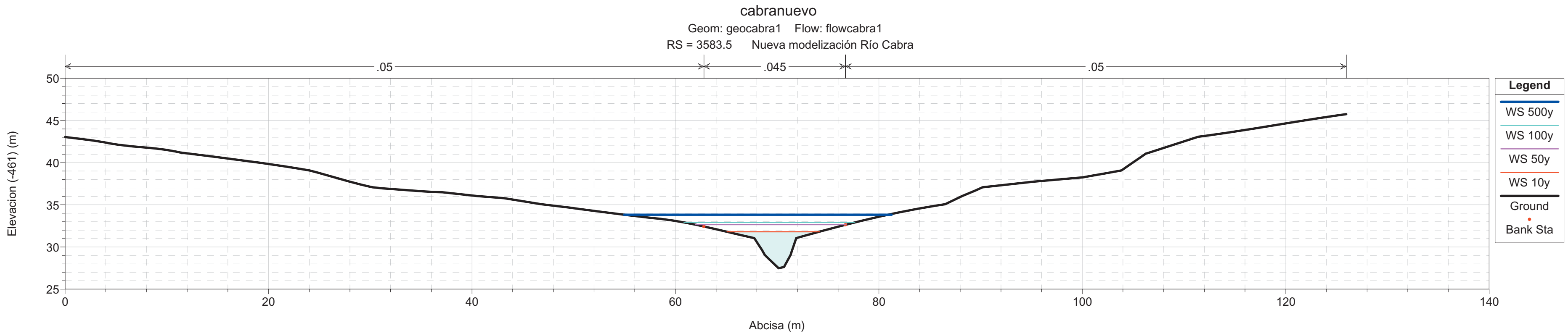
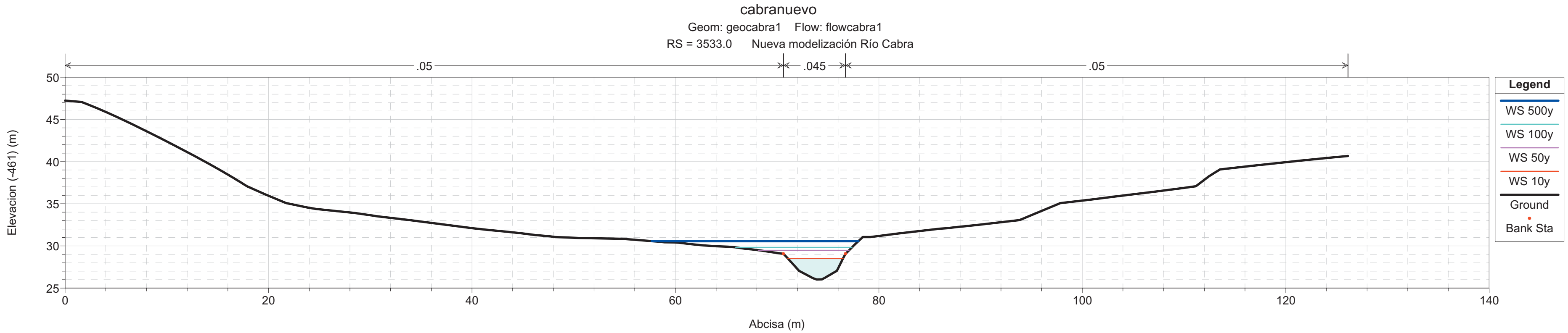
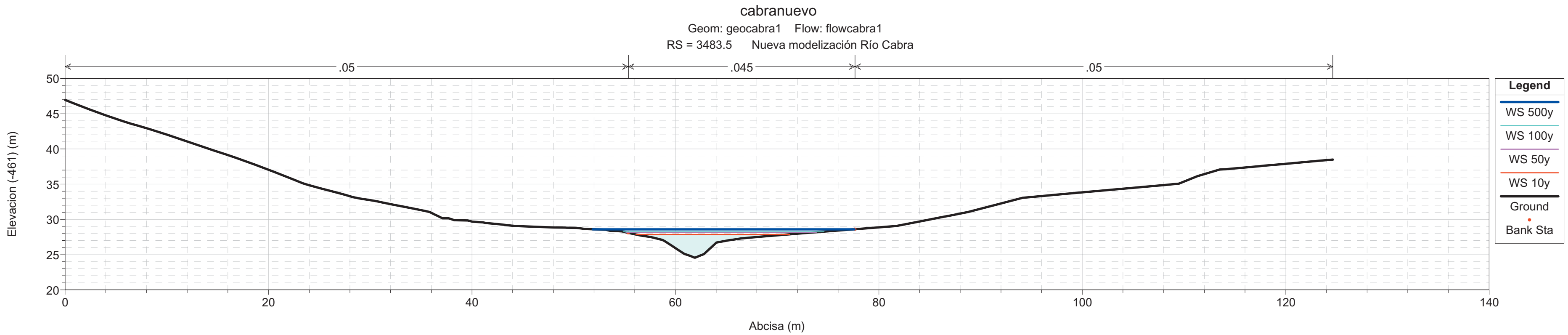
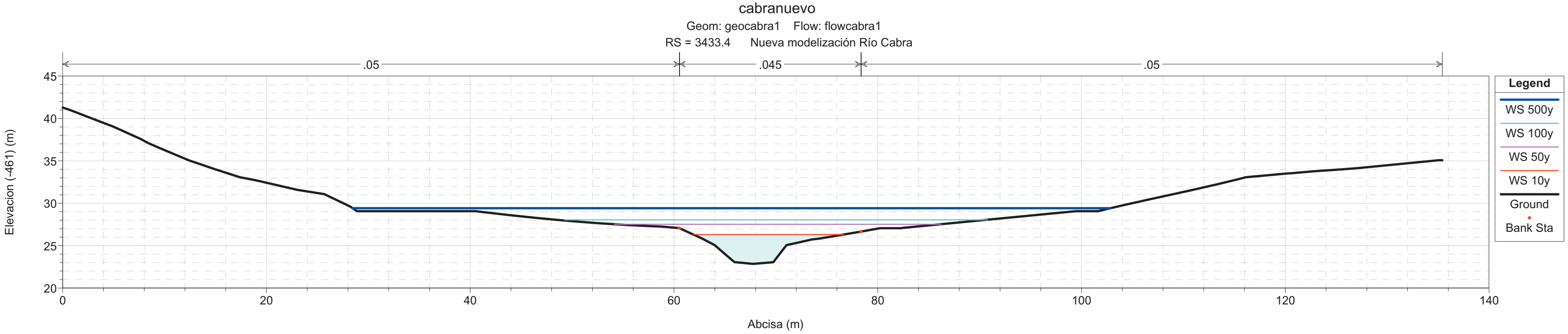
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

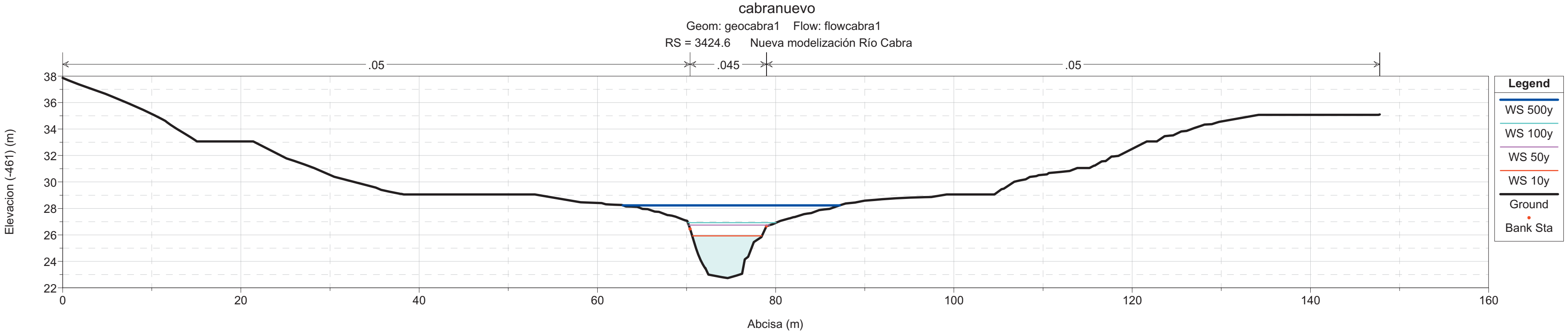

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3633.1 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 10y
WS 500y
WS 100y
WS 50y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

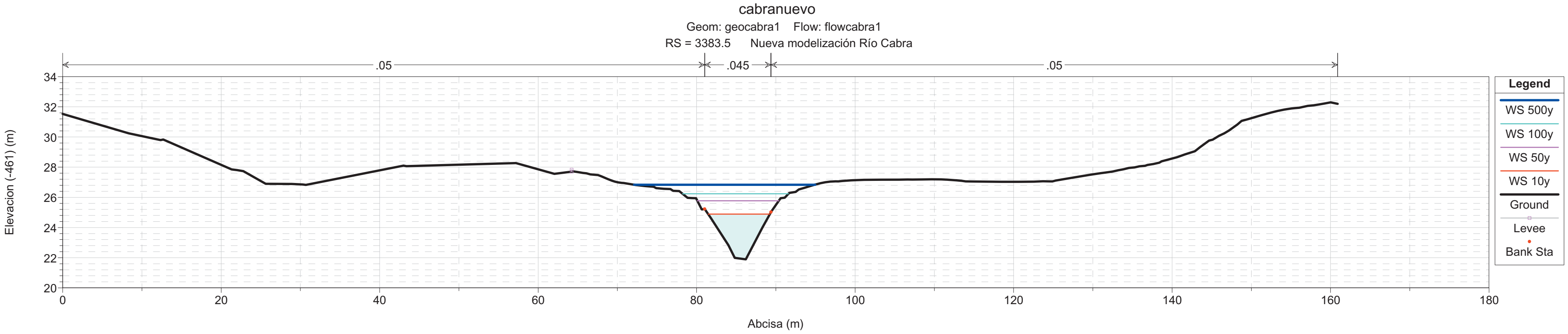

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3583.5 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)
50
45
40
35
30
25
0
20
40
60
80
100
120
140

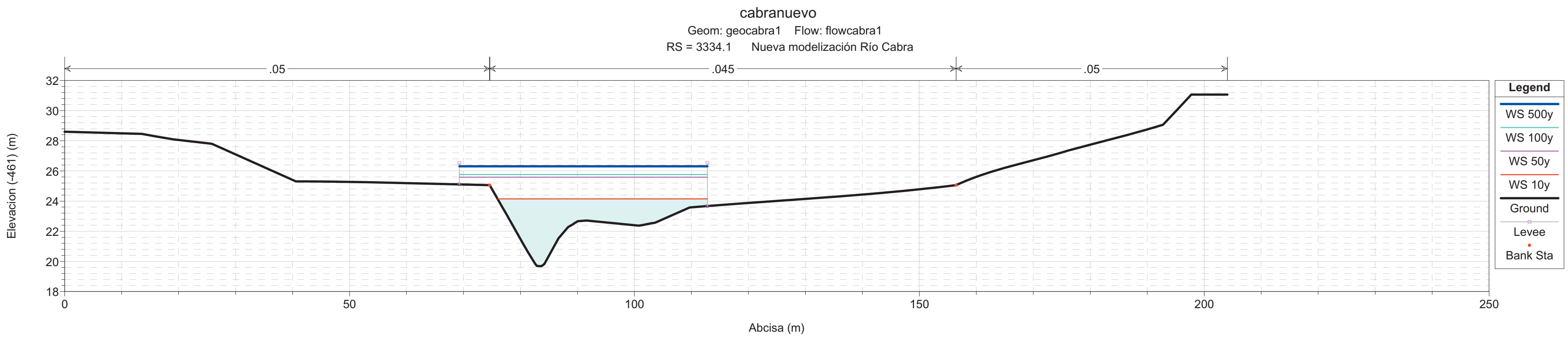

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3533.0 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)
50
45
40
35
30
25
0
20
40
60
80
100
120
140

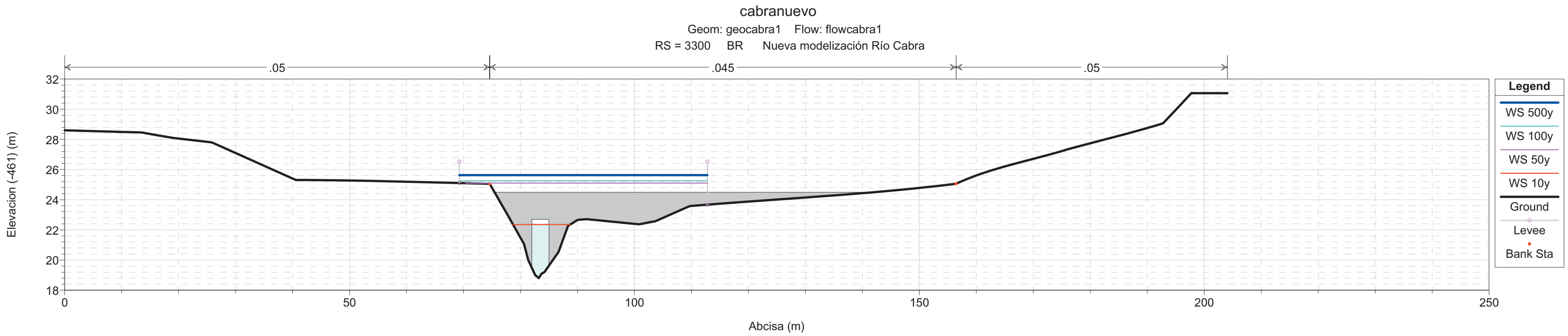

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3483.5 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)
50
45
40
35
30
25
20
0
20
40
60
80
100
120
140

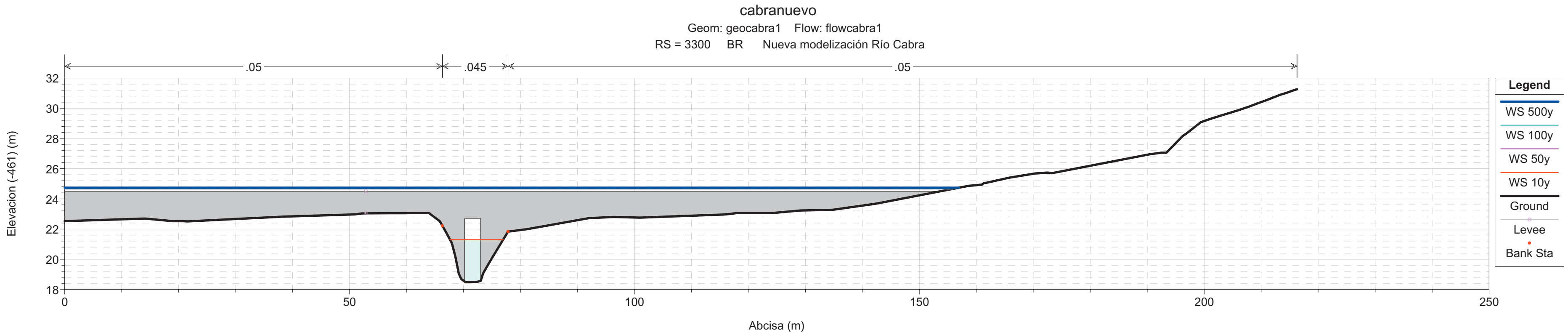

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3433.4 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

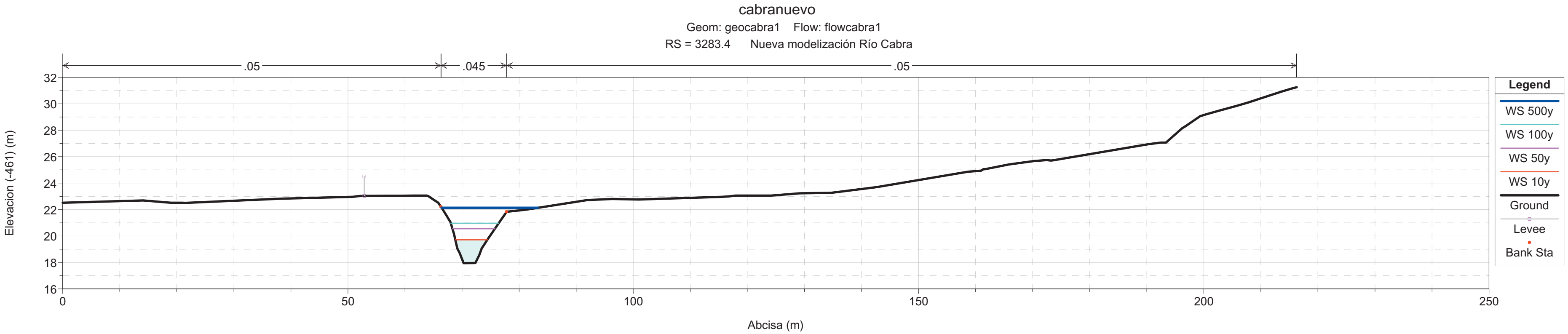

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3424.6 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

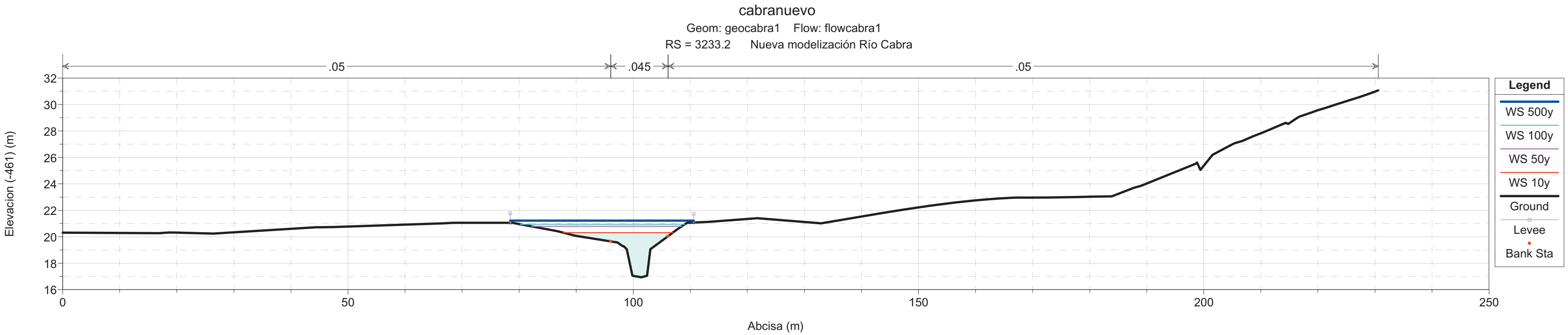

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3383.5 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

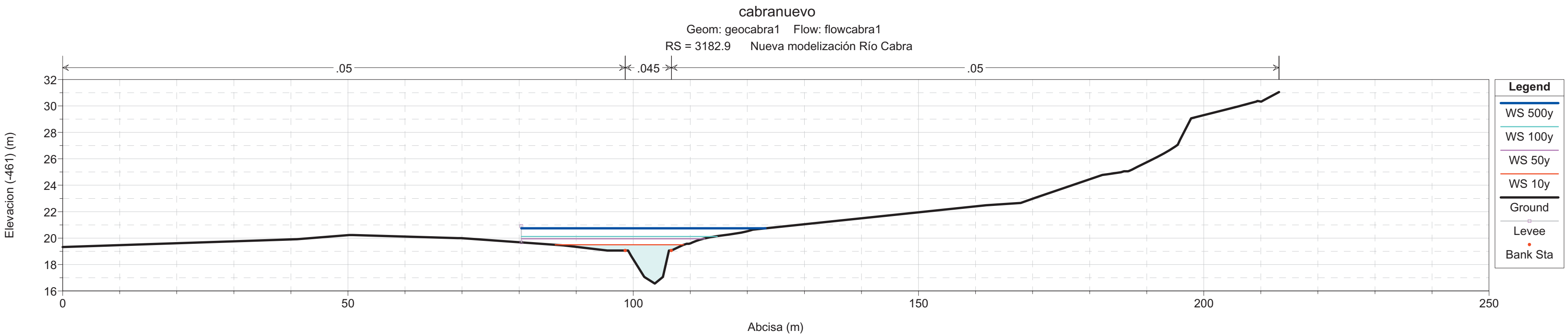

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3334.1 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

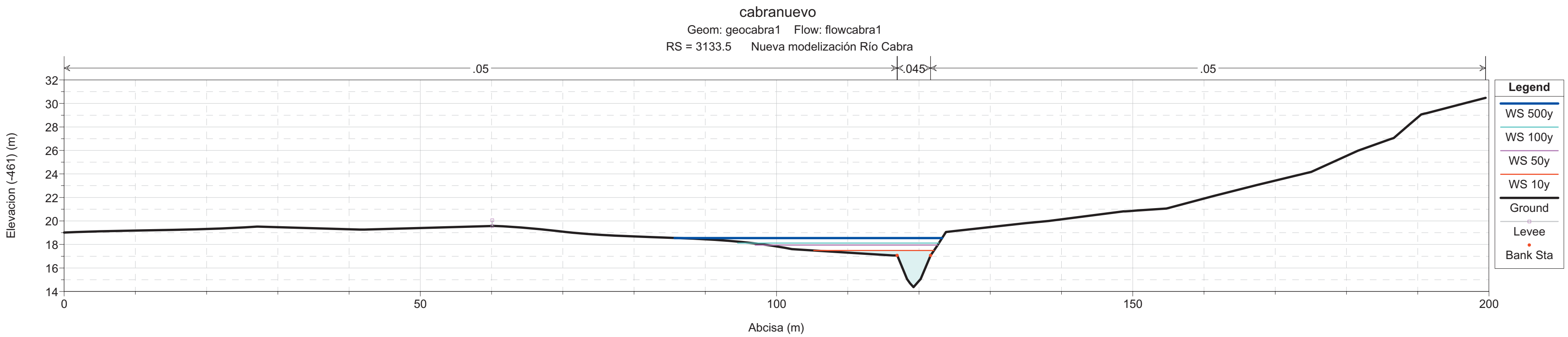

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3300 BR Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

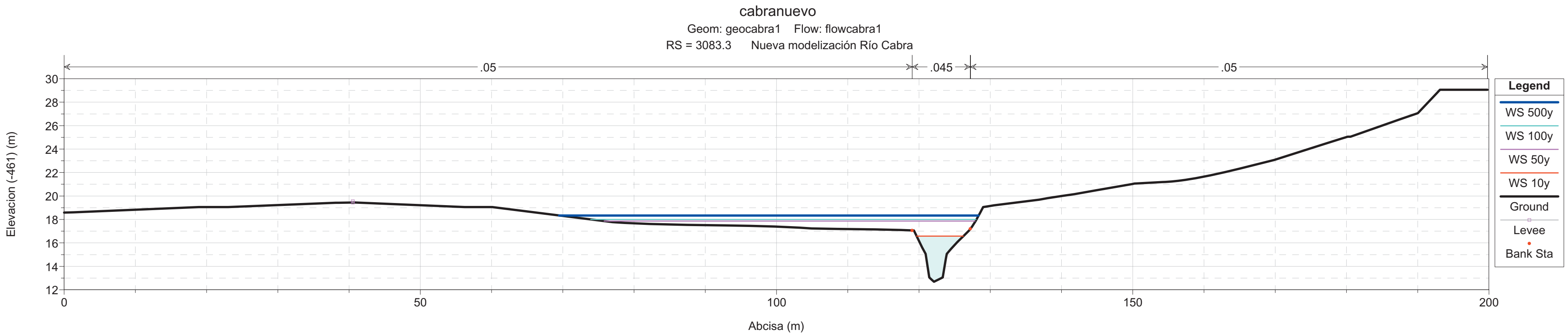

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3300 BR Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

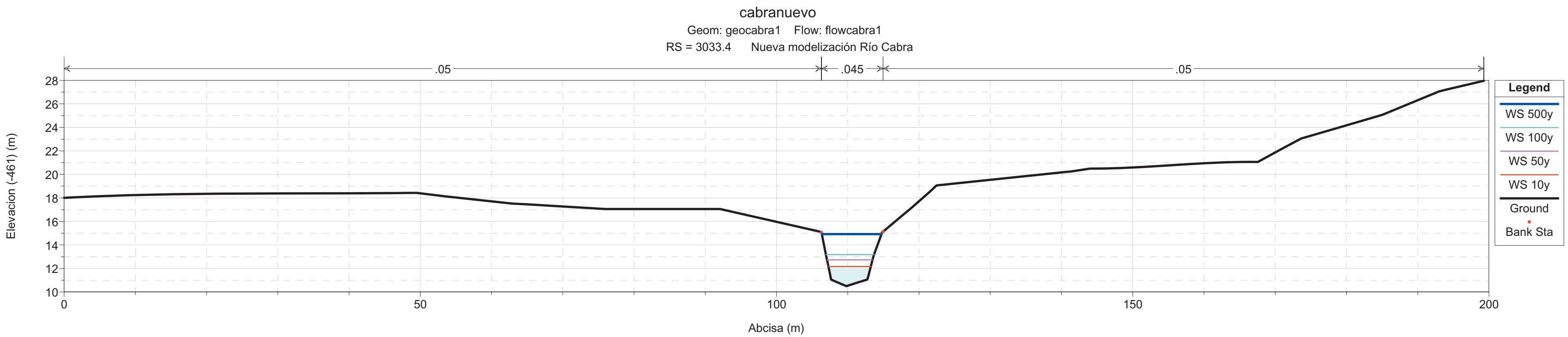

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3283.4 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

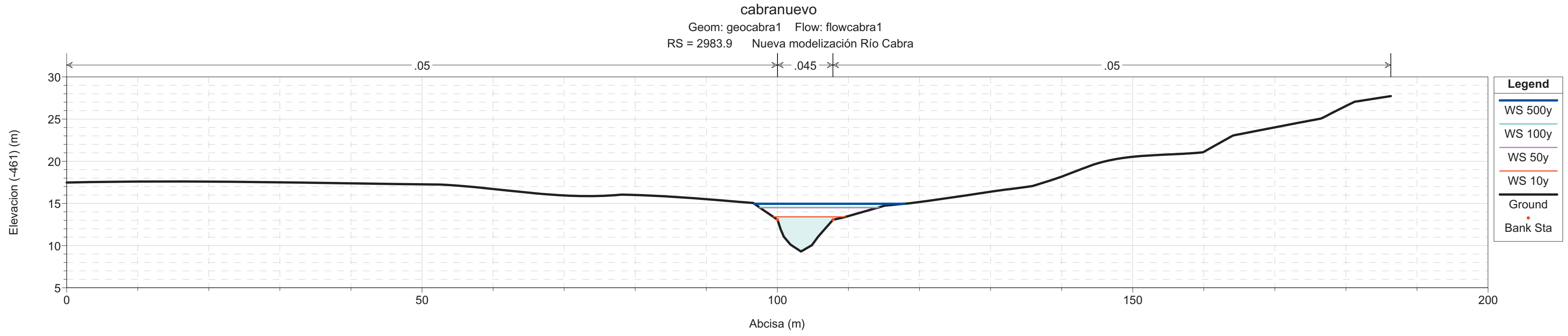

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3233.2 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta


cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3182.9 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

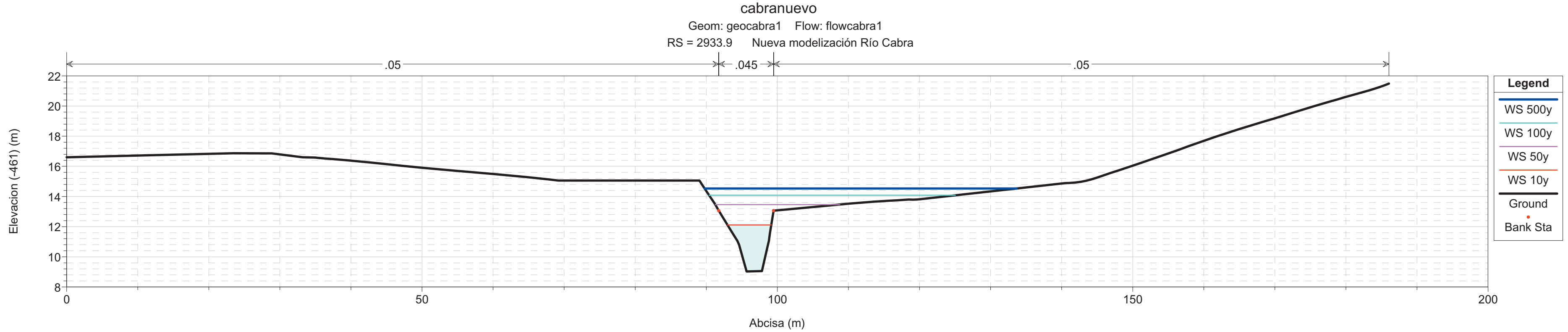

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3133.5 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta


cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3083.3 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

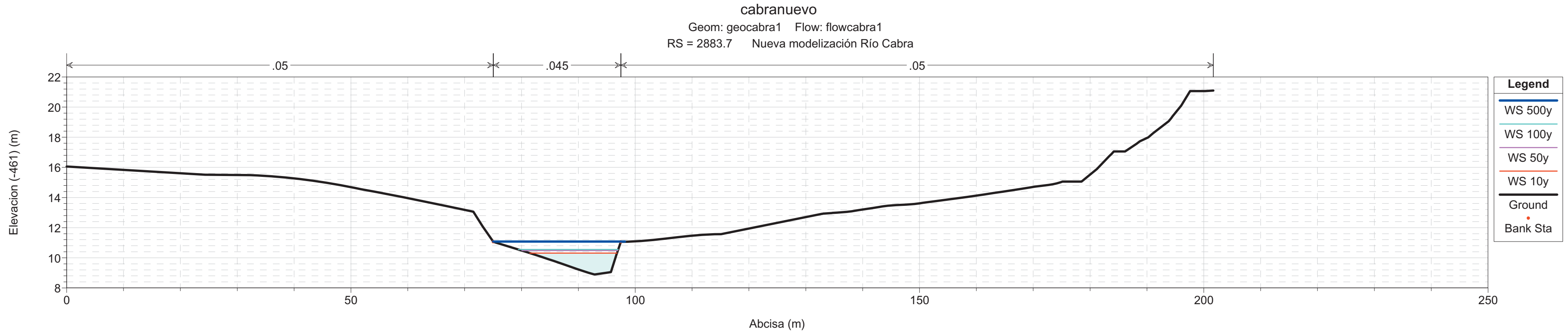

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 3033.4 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta



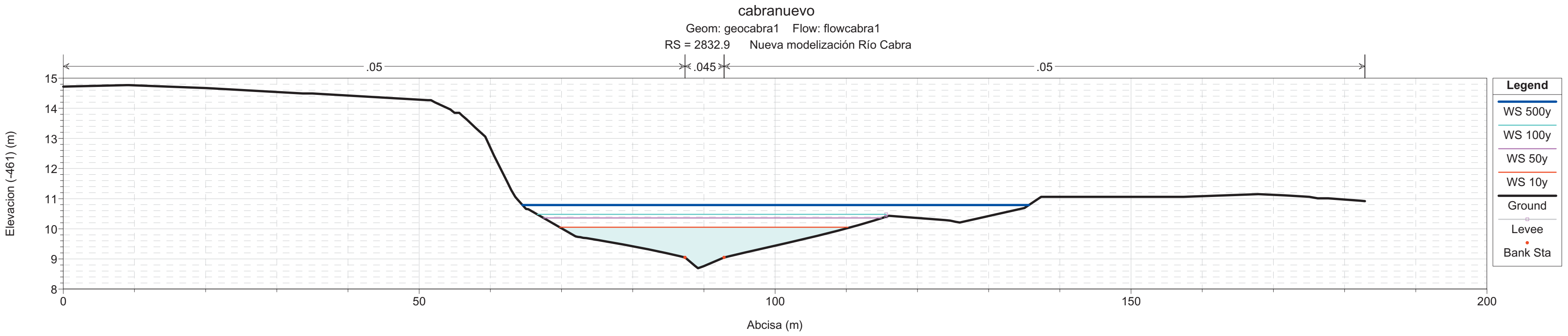
cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2983.9 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

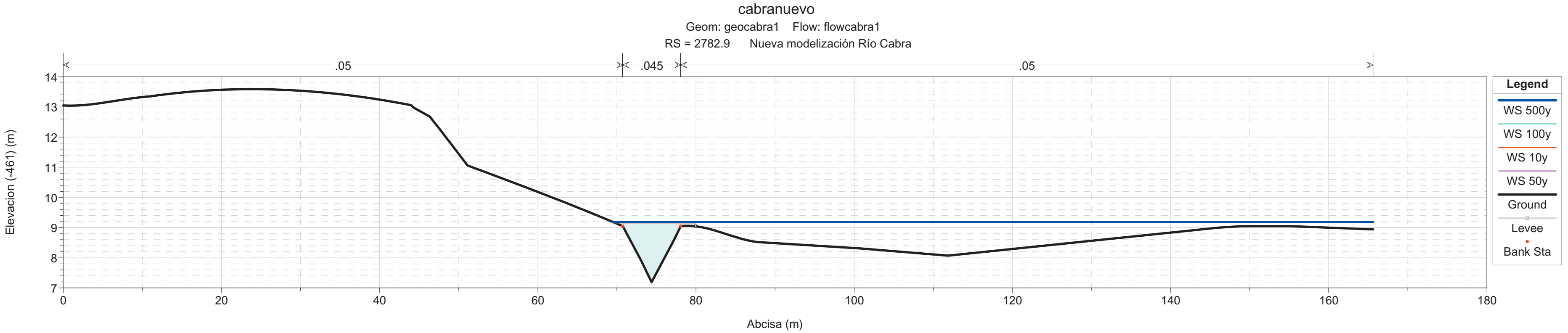


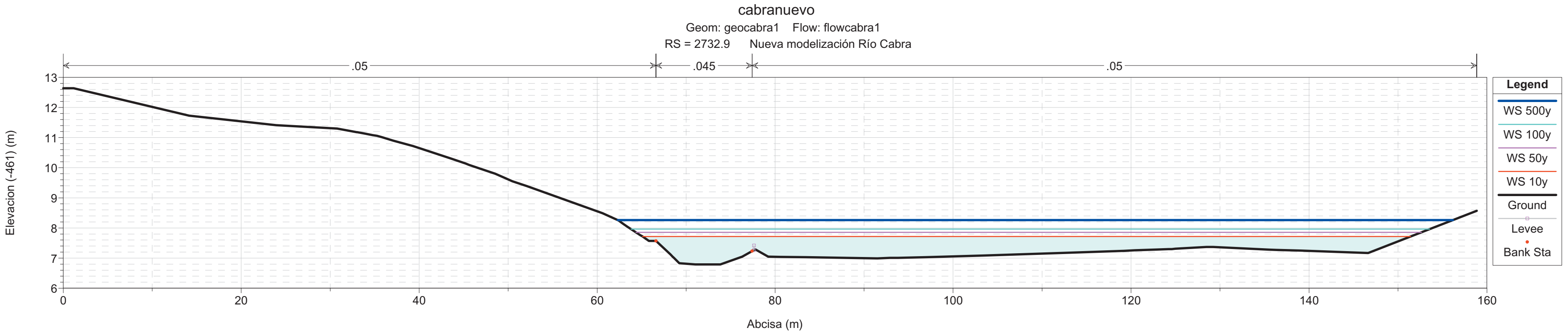
cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2933.9 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

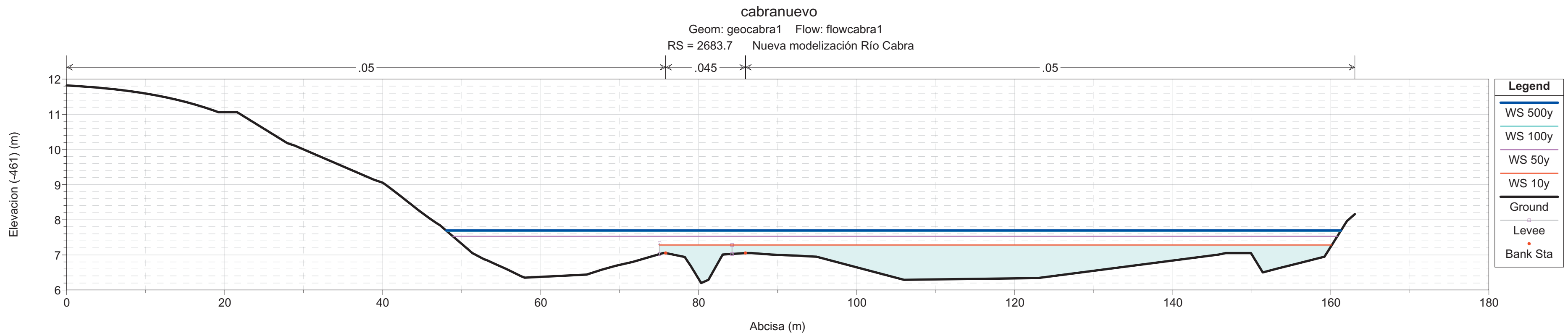


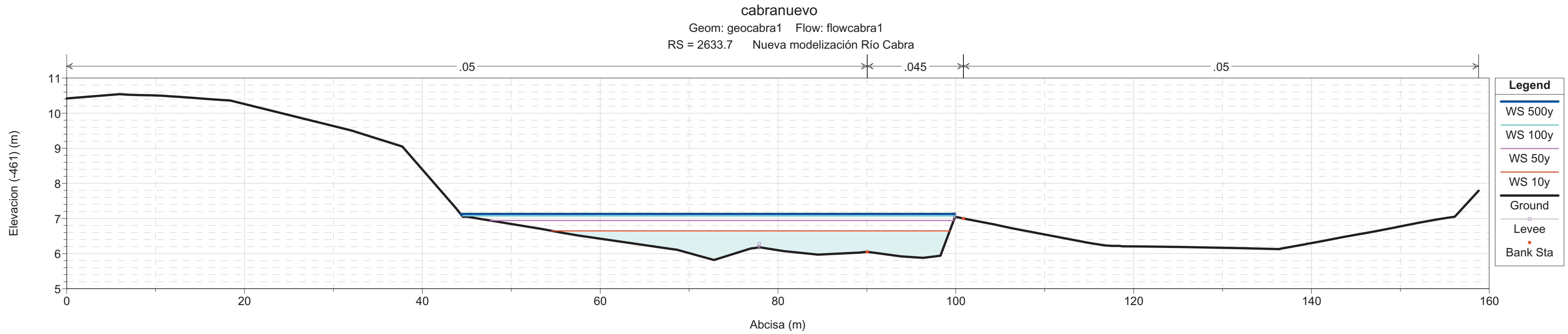
cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2883.7 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

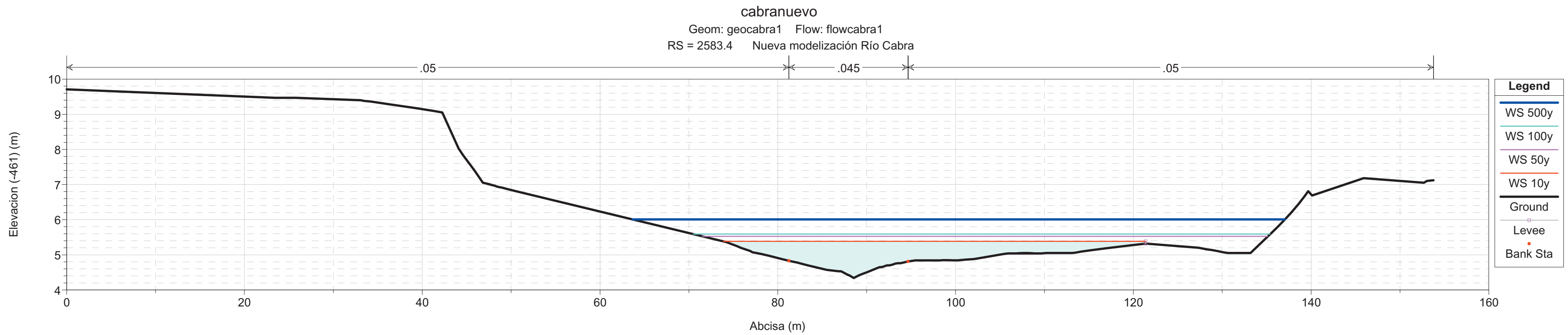

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2832.9 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

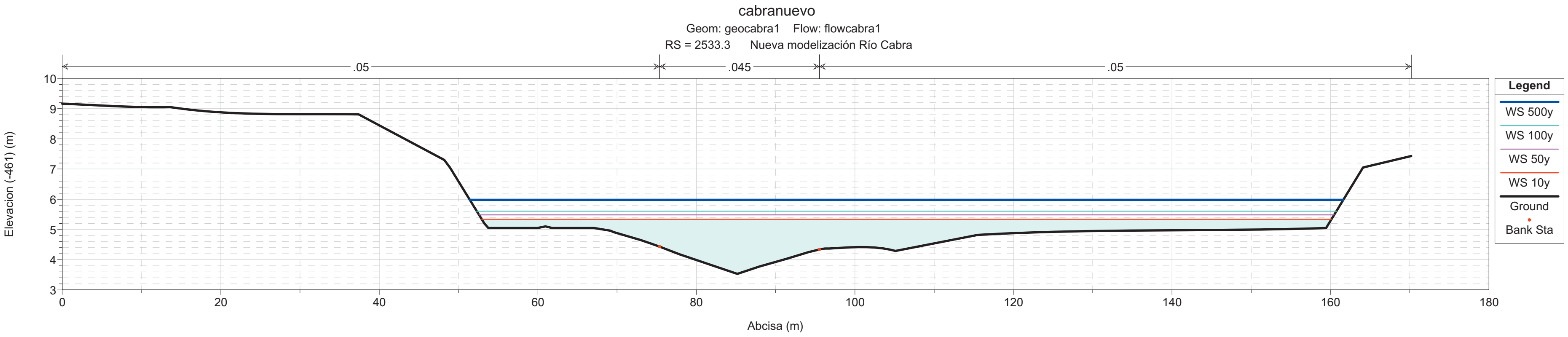

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2782.9 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 10y
WS 50y
Ground
Levee
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

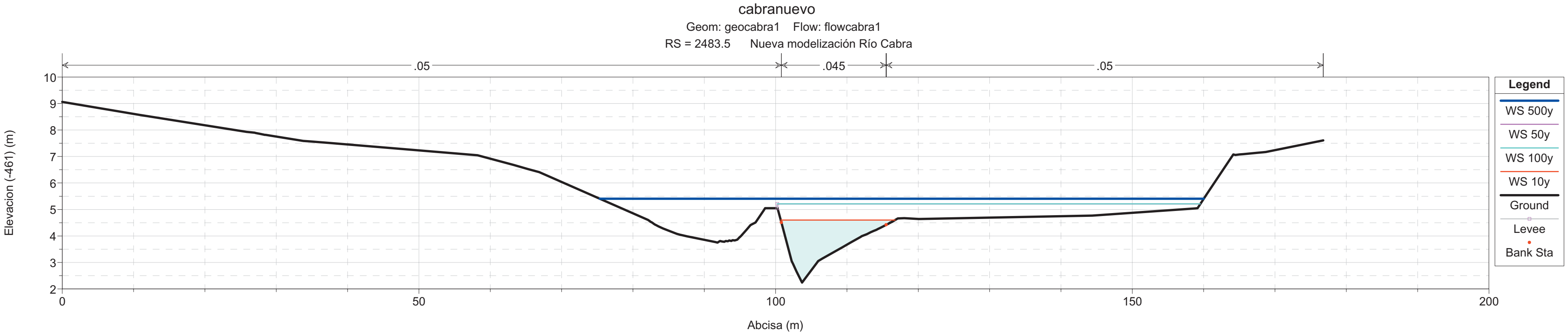

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2732.9 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

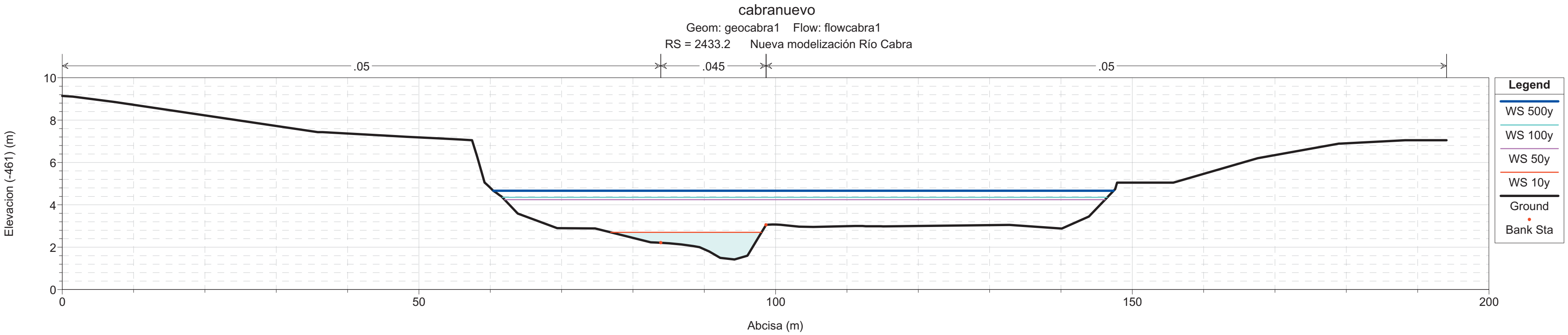

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2683.7 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

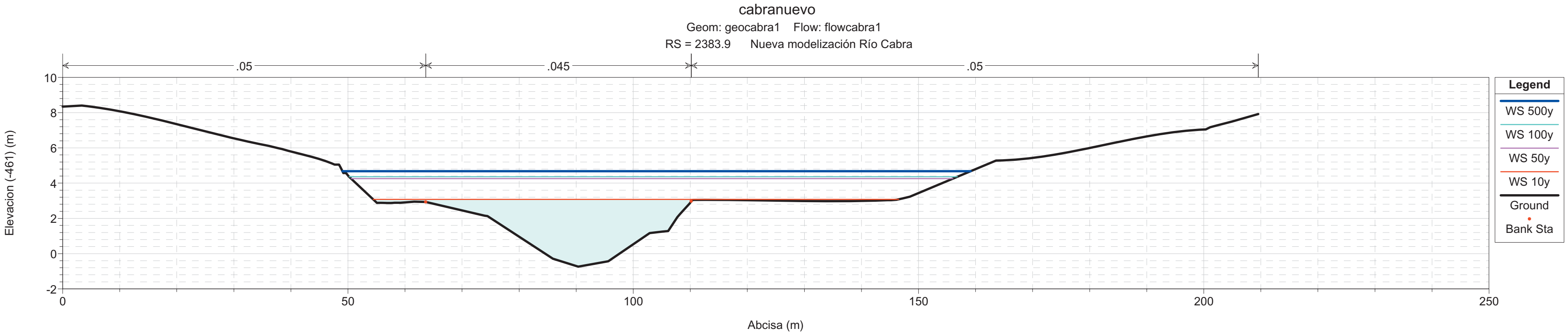

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2633.7 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

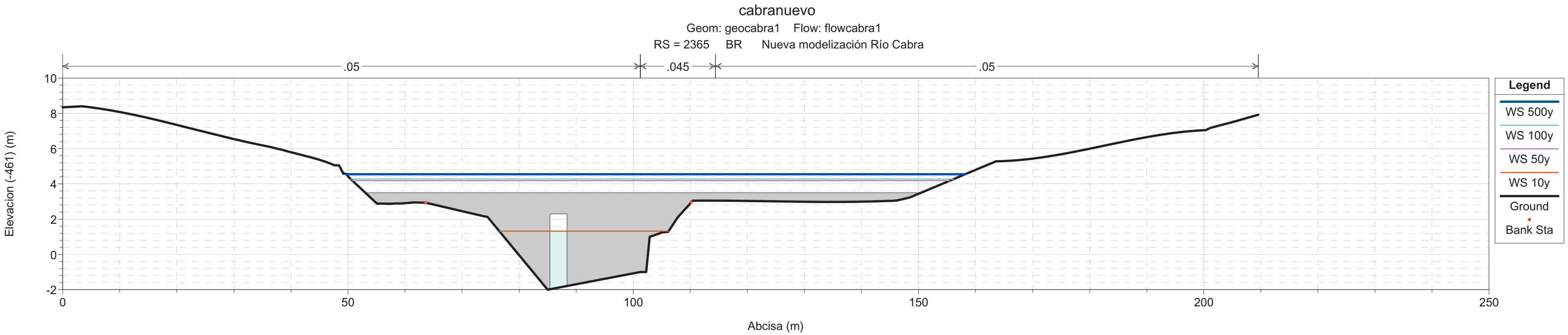

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2583.4 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

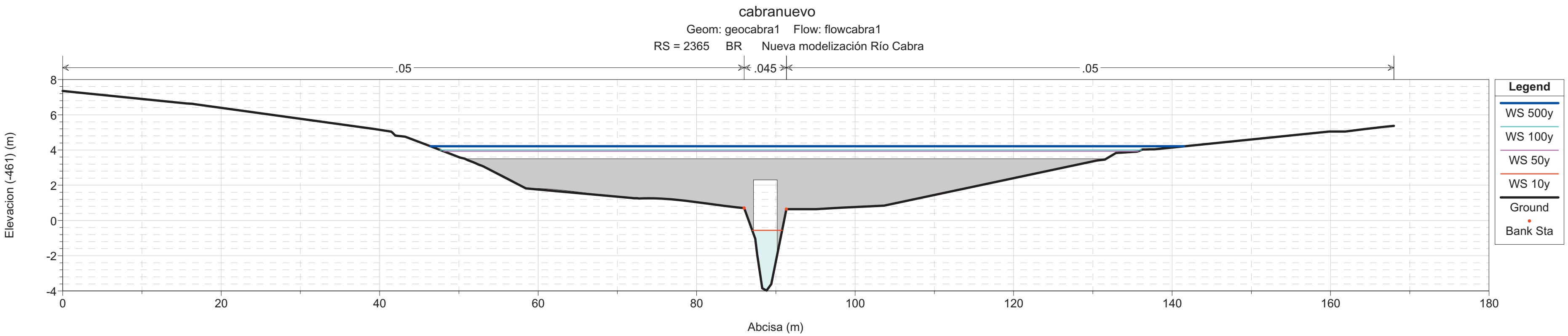

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2533.3 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

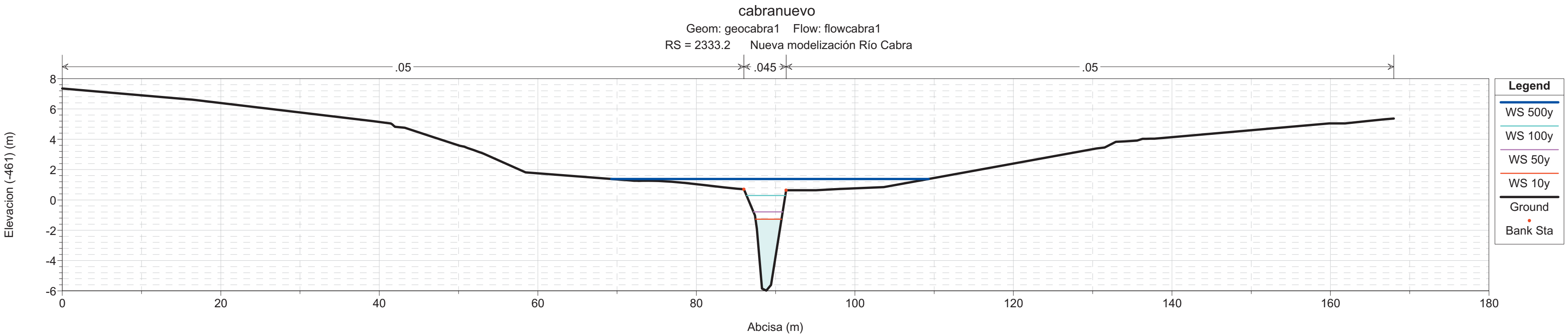

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2483.5 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 50y
WS 100y
WS 10y
Ground
Levee
Bank Sta

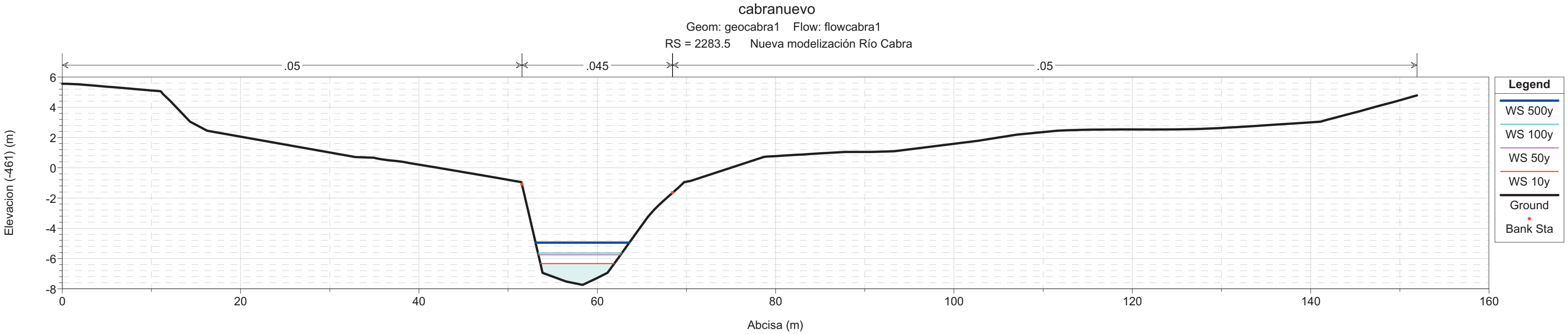

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2433.2 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

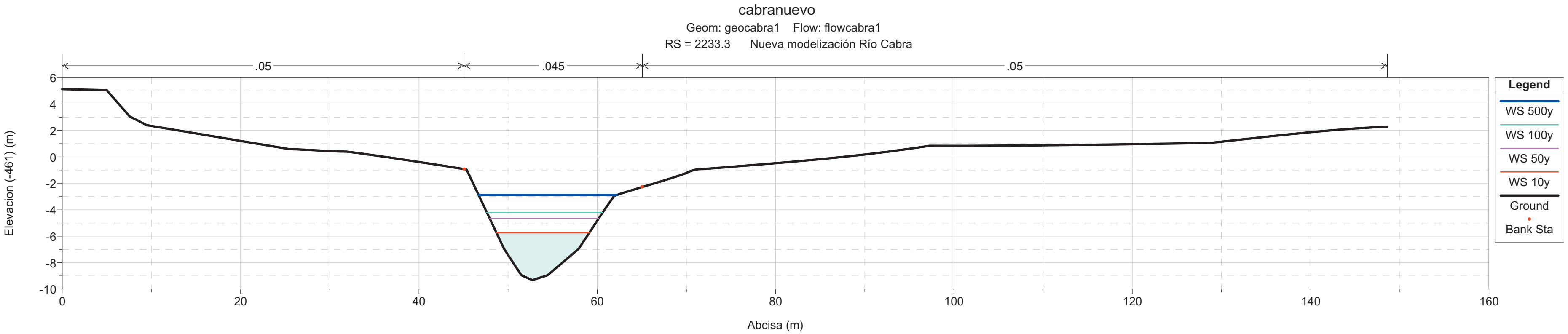

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2383.9 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

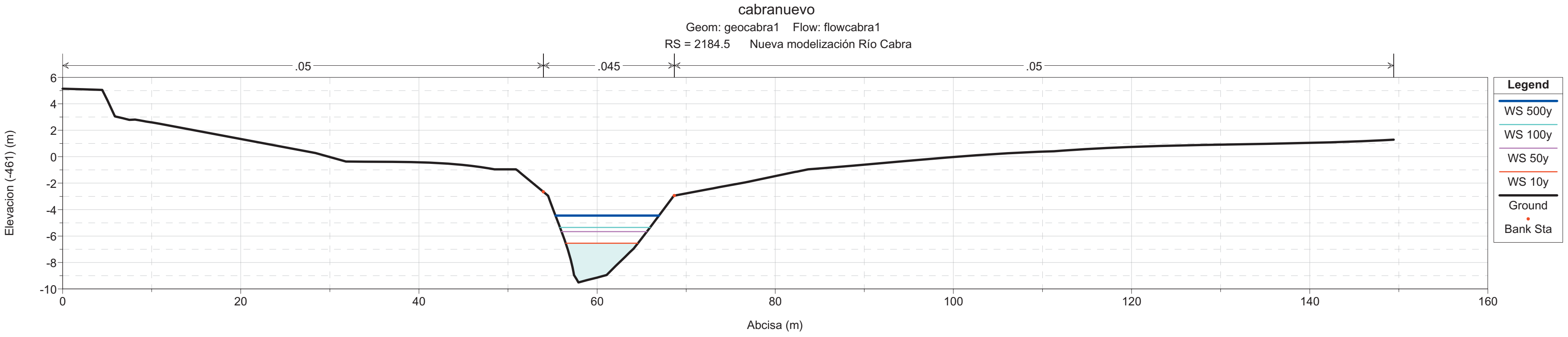

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2365 BR Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

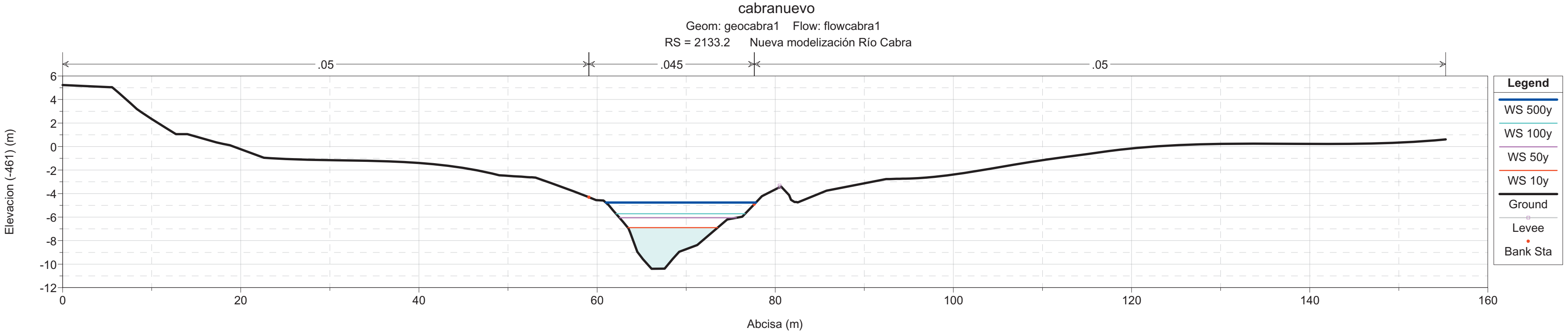

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2365 BR Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

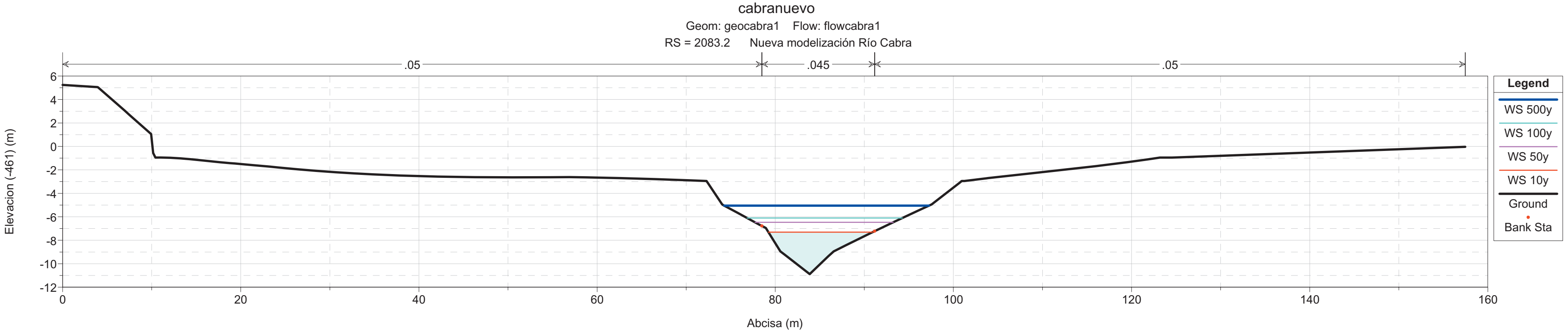

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2333.2 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

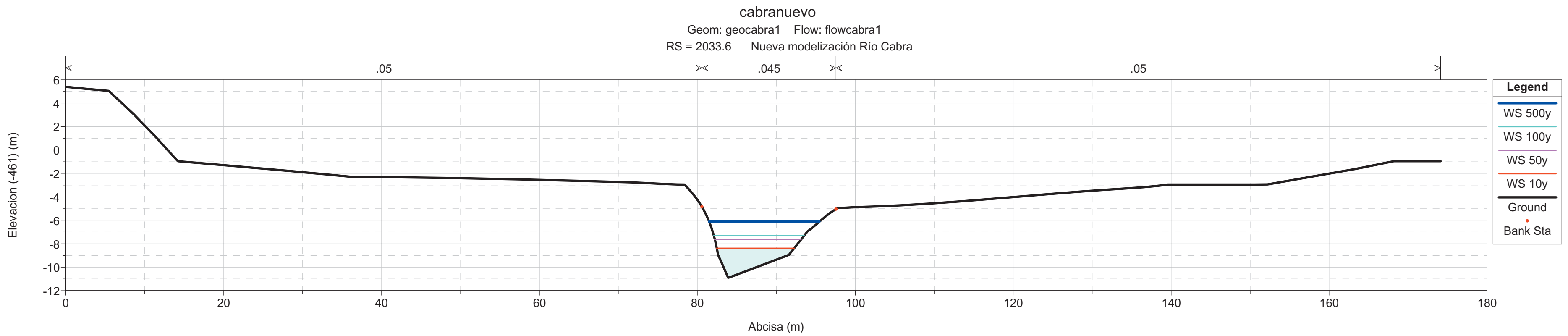

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2283.5 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

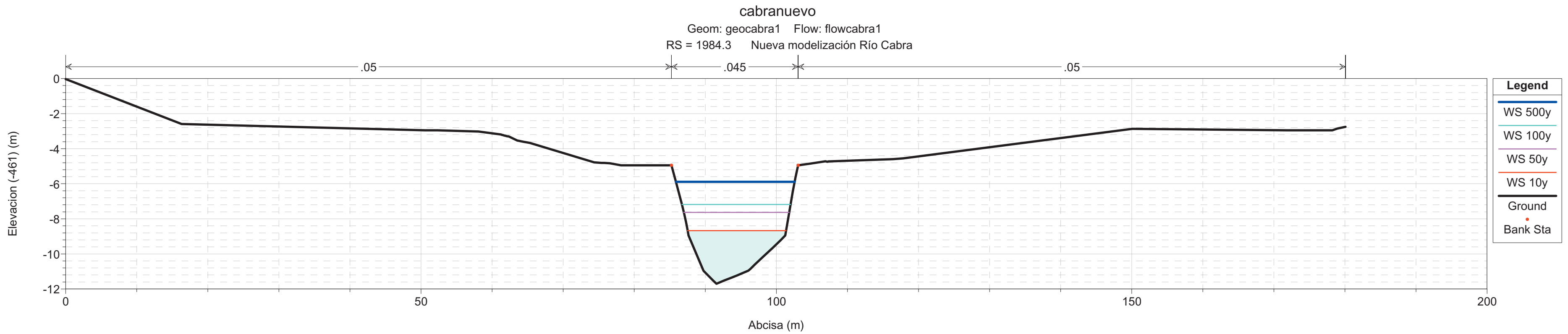

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2233.3 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

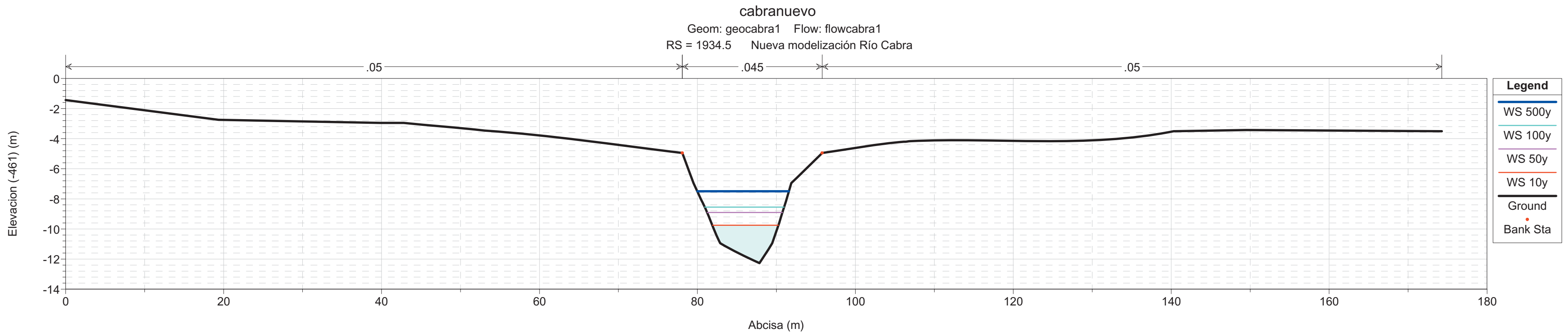

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2184.5 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

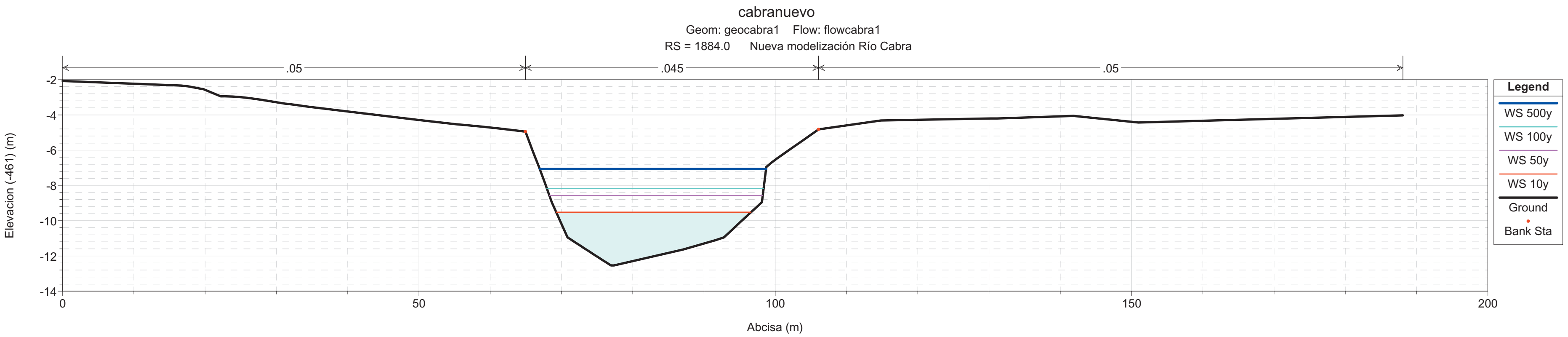

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2133.2 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

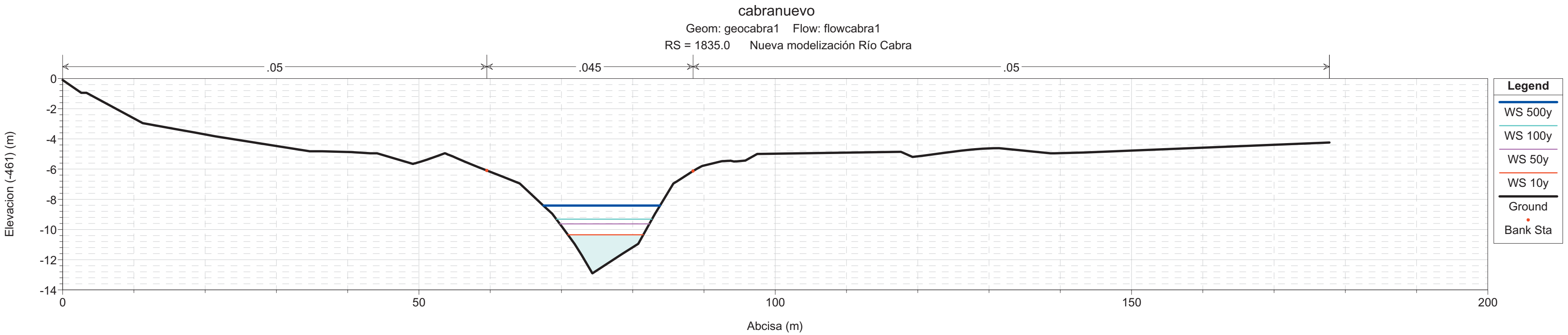

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2083.2 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

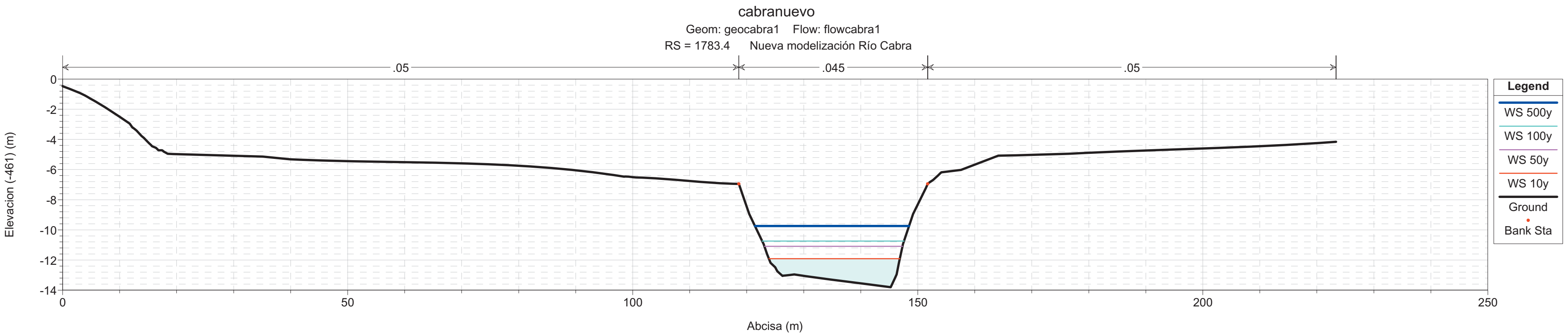

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 2033.6 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

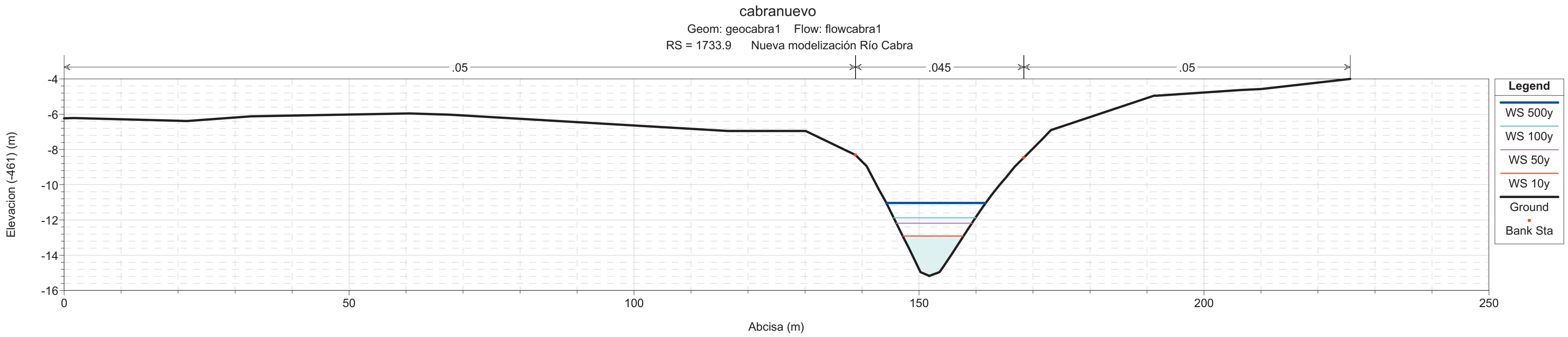

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1984.3 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

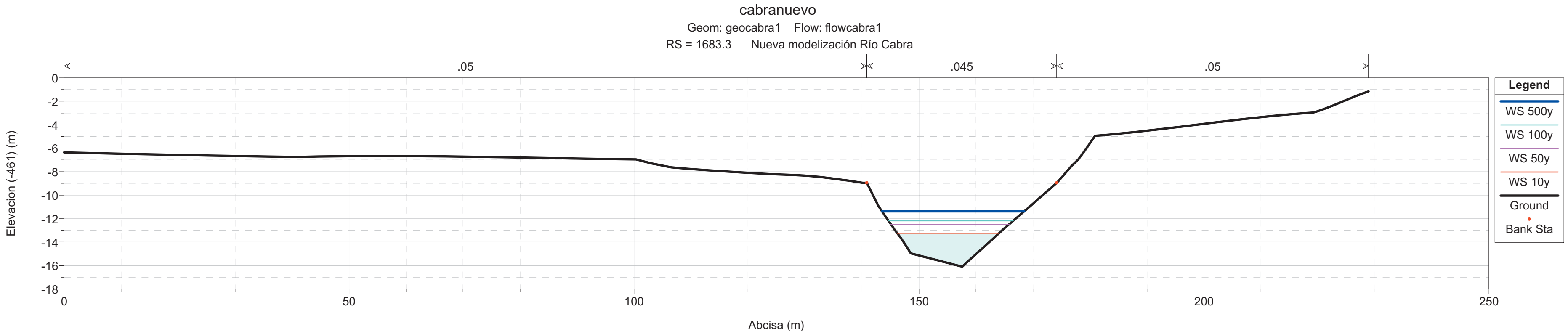

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1934.5 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

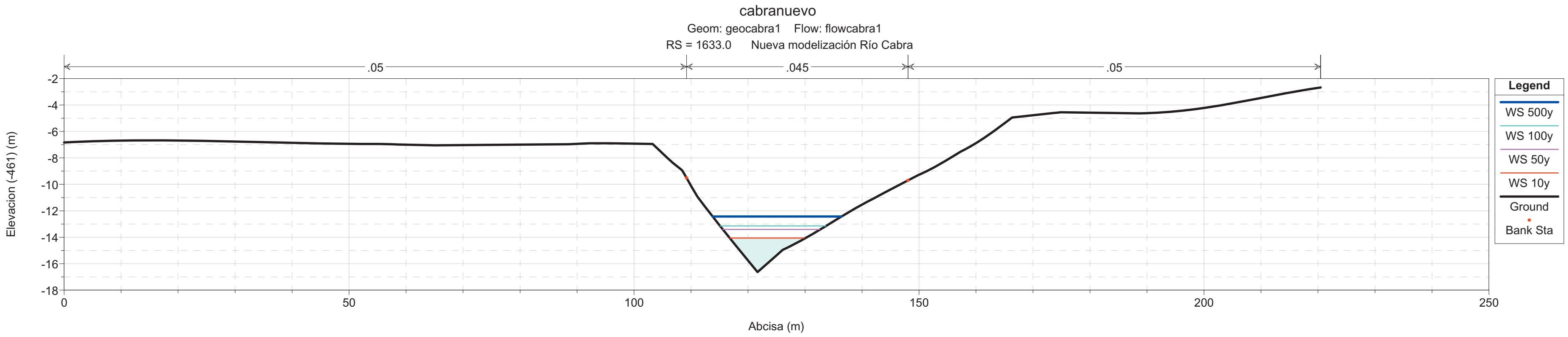

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1884.0 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
-2
-4
-6
-8
-10
-12
-14
0
50
100
150
200
Abcisa (m)

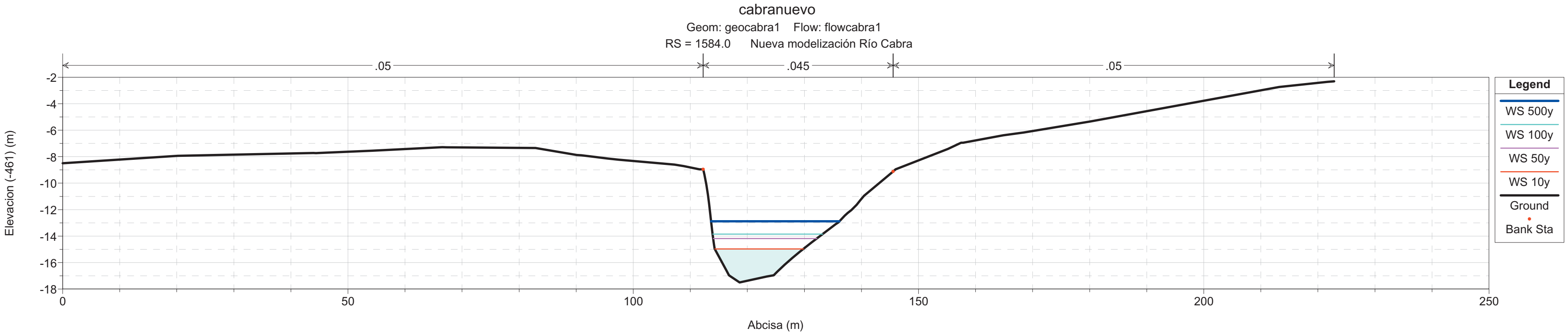

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1835.0 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
0
-2
-4
-6
-8
-10
-12
-14
0
50
100
150
200
Abcisa (m)

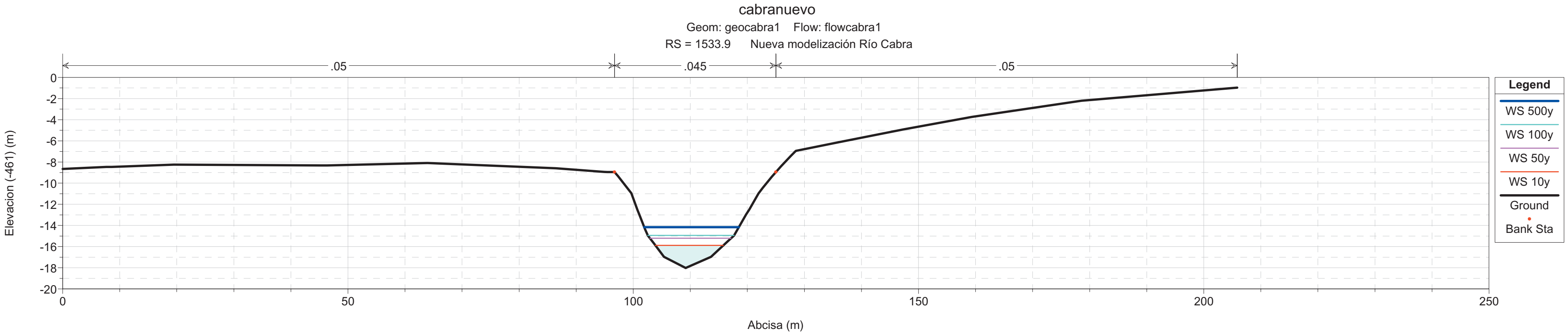

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1783.4 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
0
-2
-4
-6
-8
-10
-12
-14
0
50
100
150
200
250
Abcisa (m)

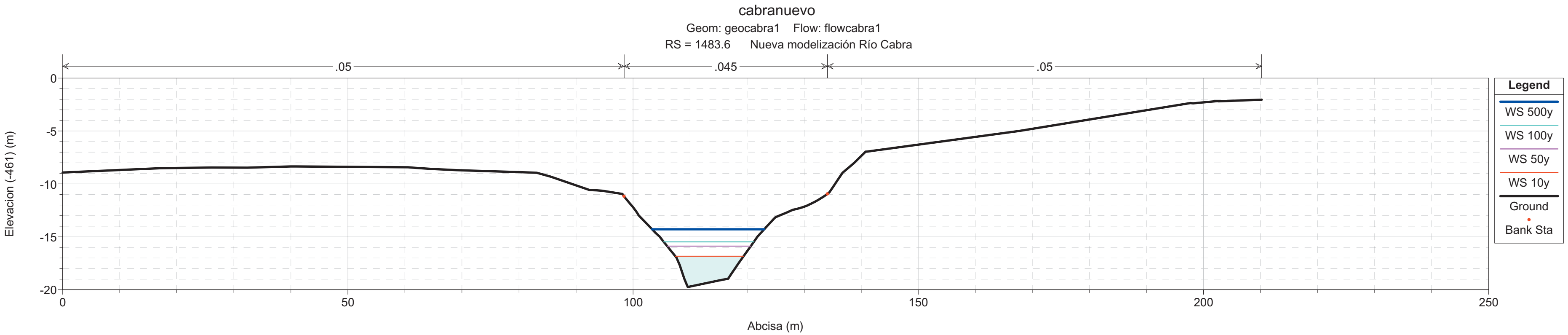

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1733.9 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

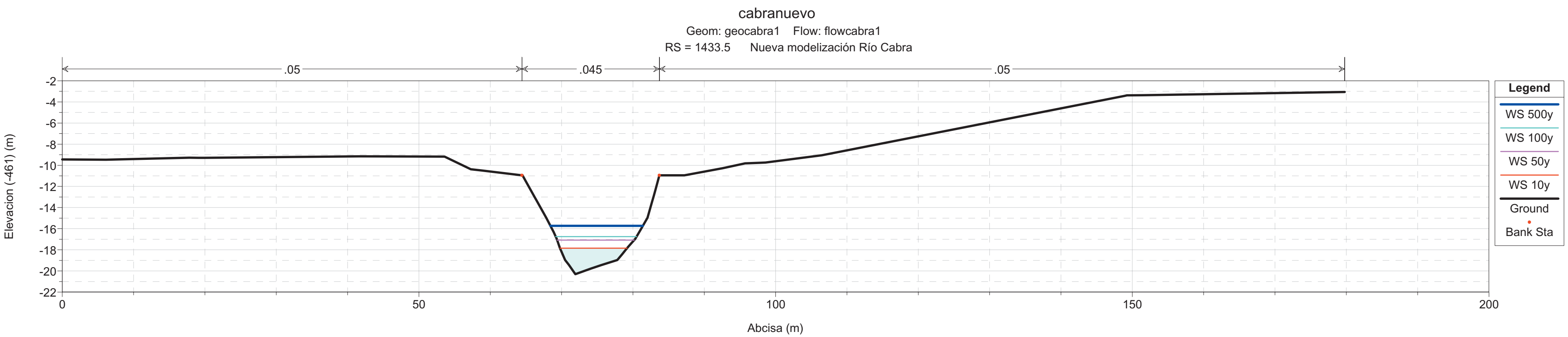

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1683.3 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

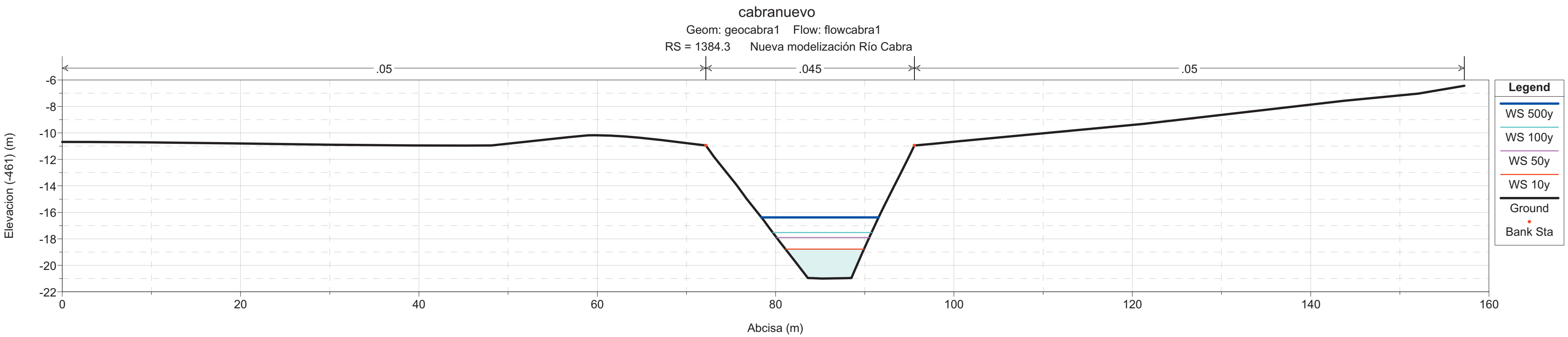

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1633.0 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

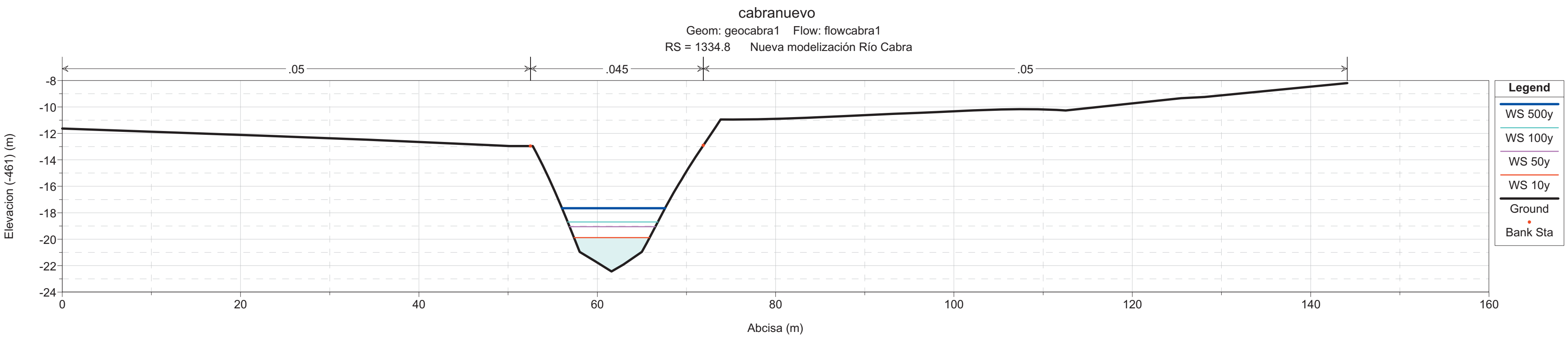

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1584.0 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

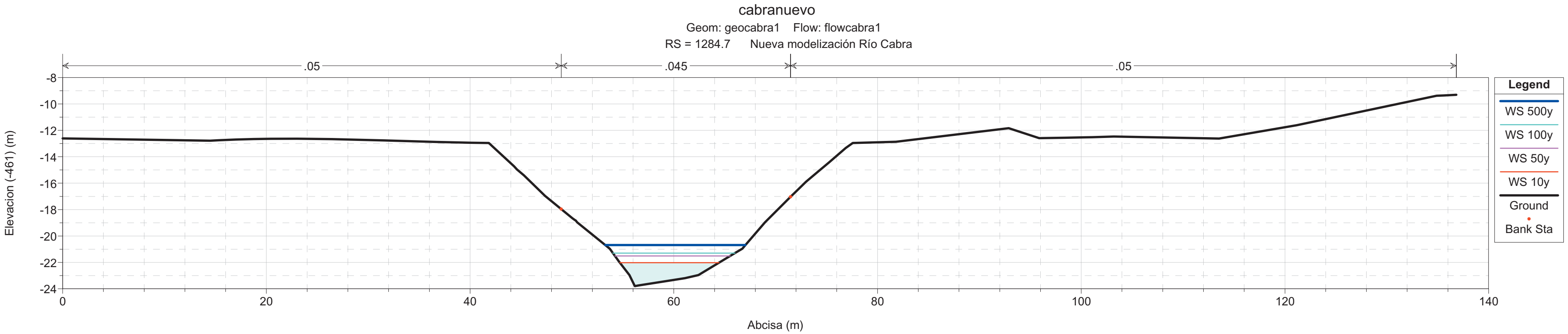

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1533.9 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

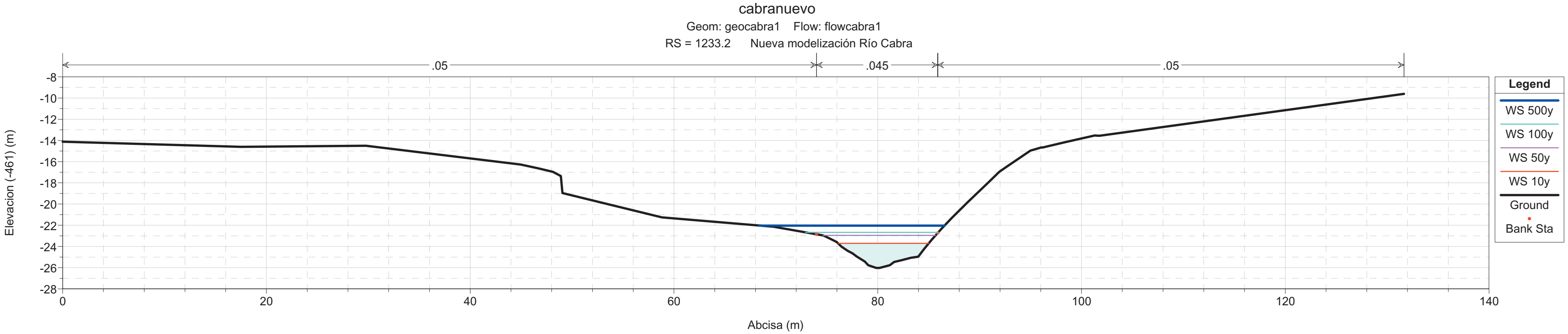

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1483.6 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

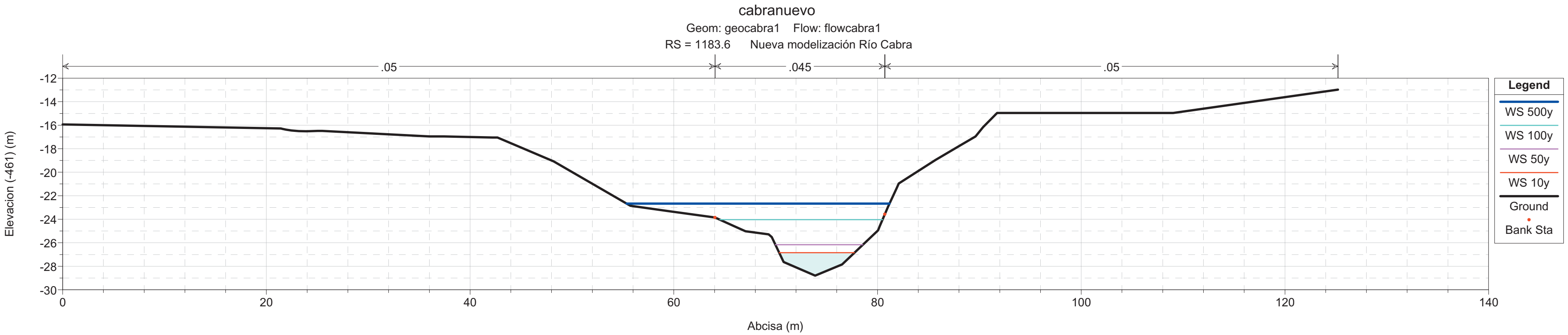

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1433.5 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

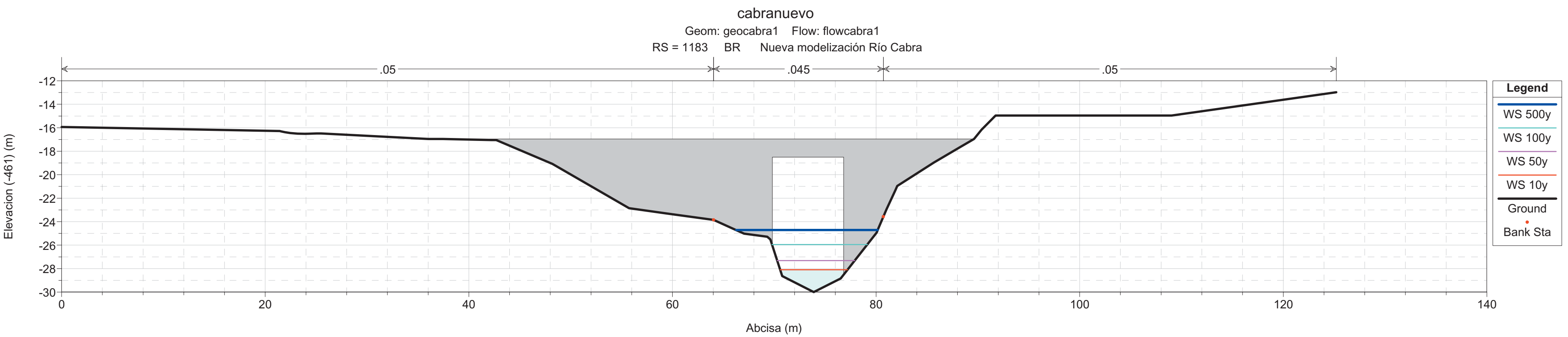

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1384.3 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

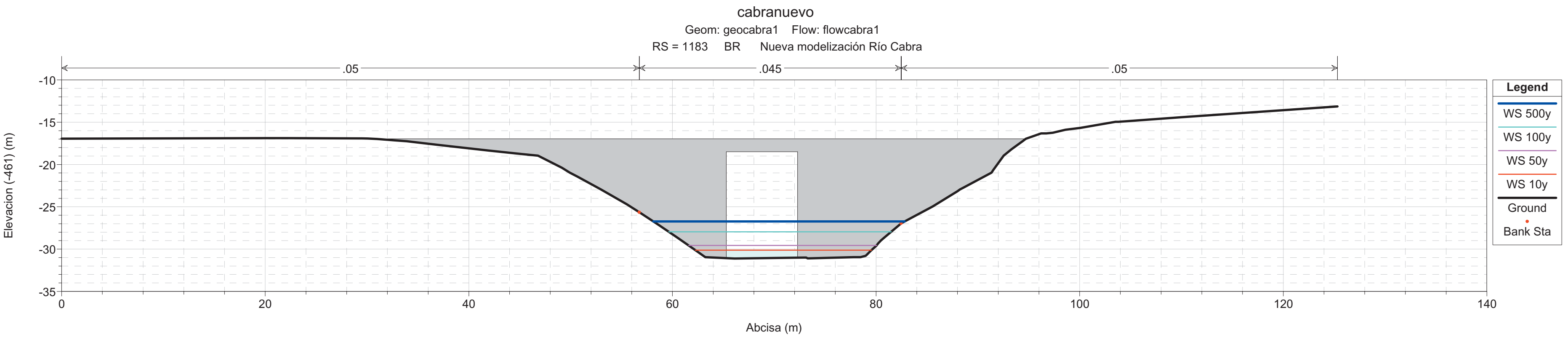

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1334.8 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

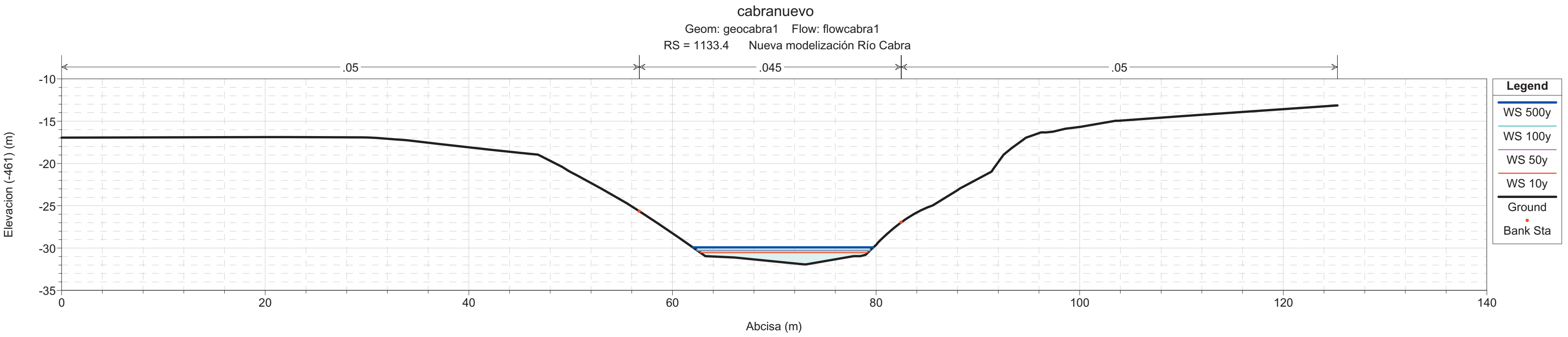

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1284.7 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

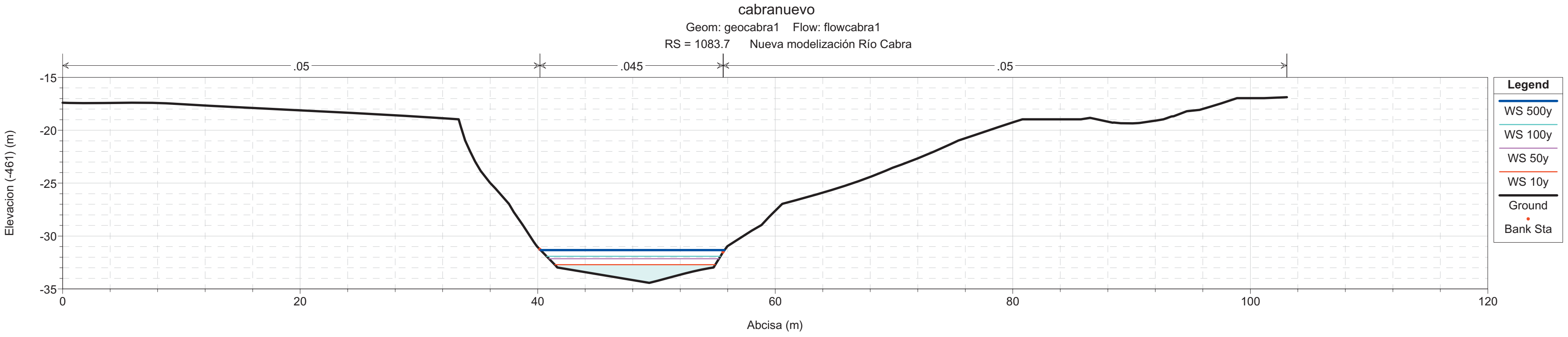

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1233.2 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

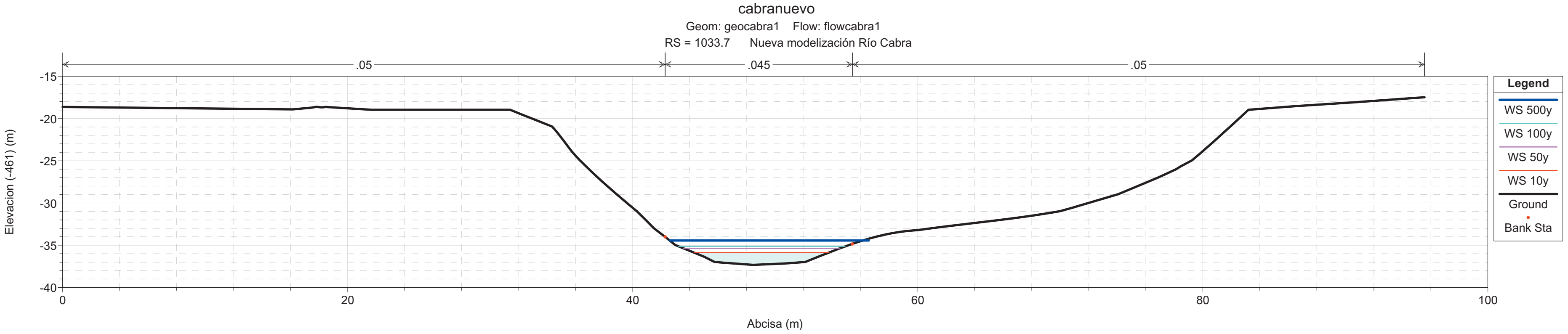

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1183.6 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

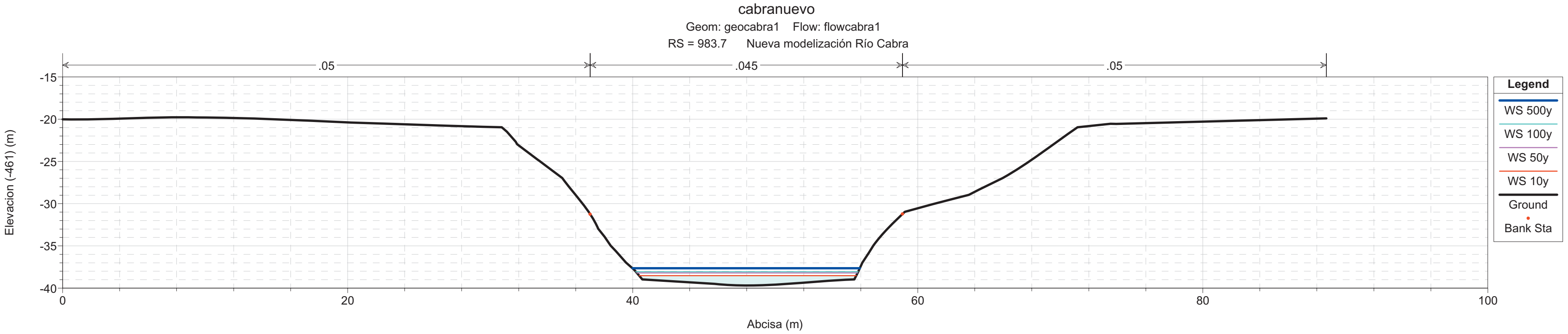

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1183 BR Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

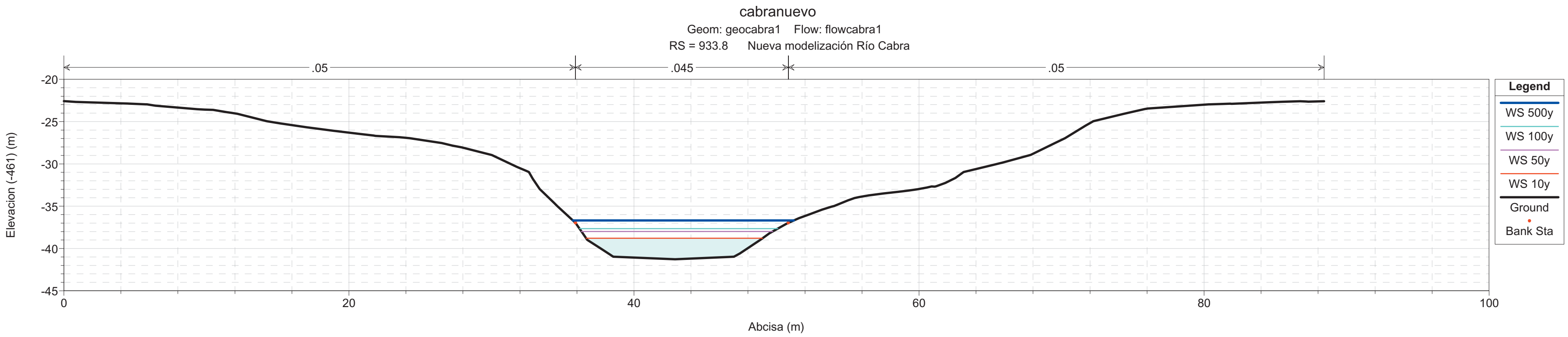

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1183 BR Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

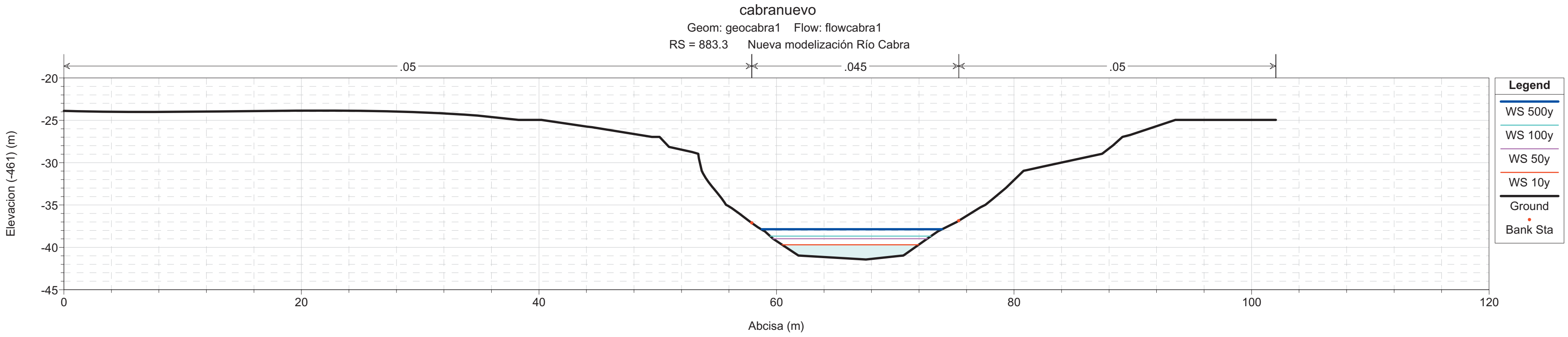

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1133.4 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

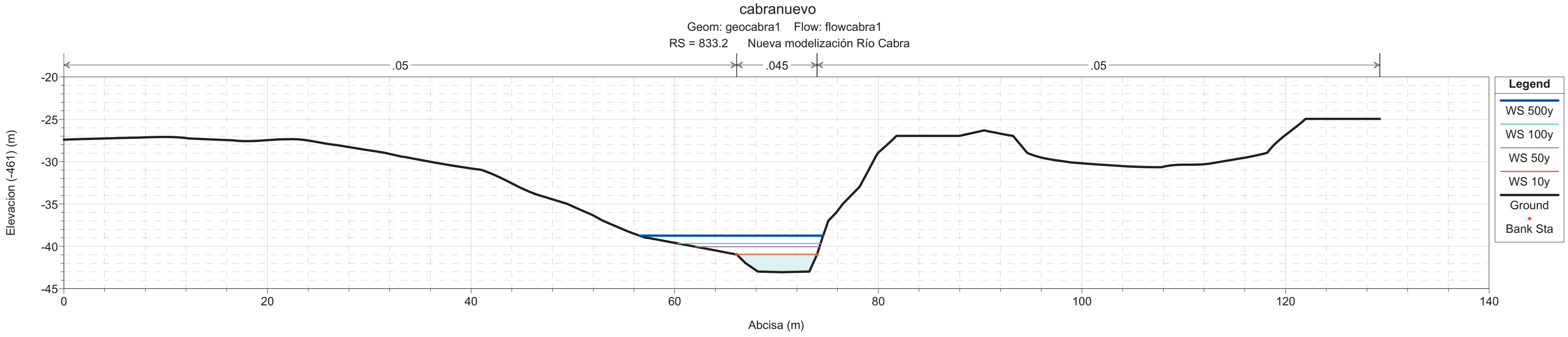

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1083.7 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

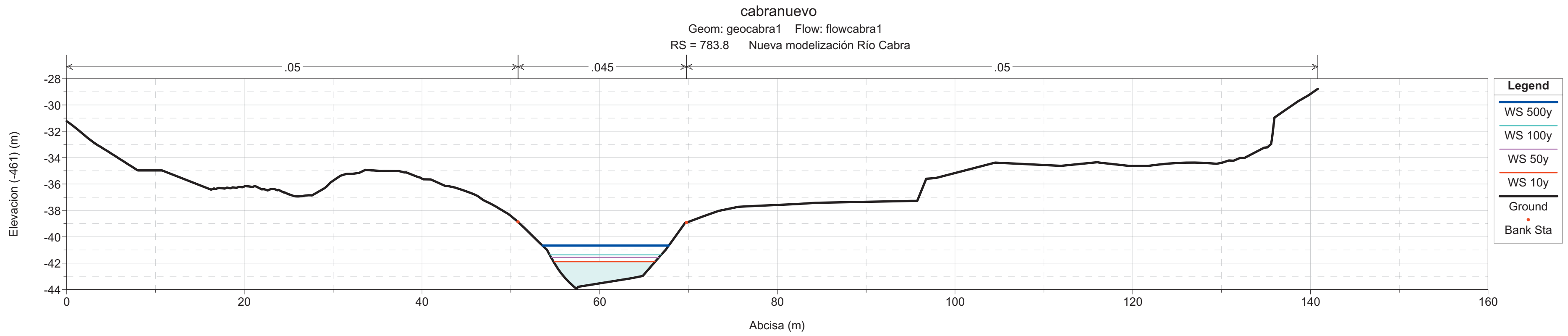

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 1033.7 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

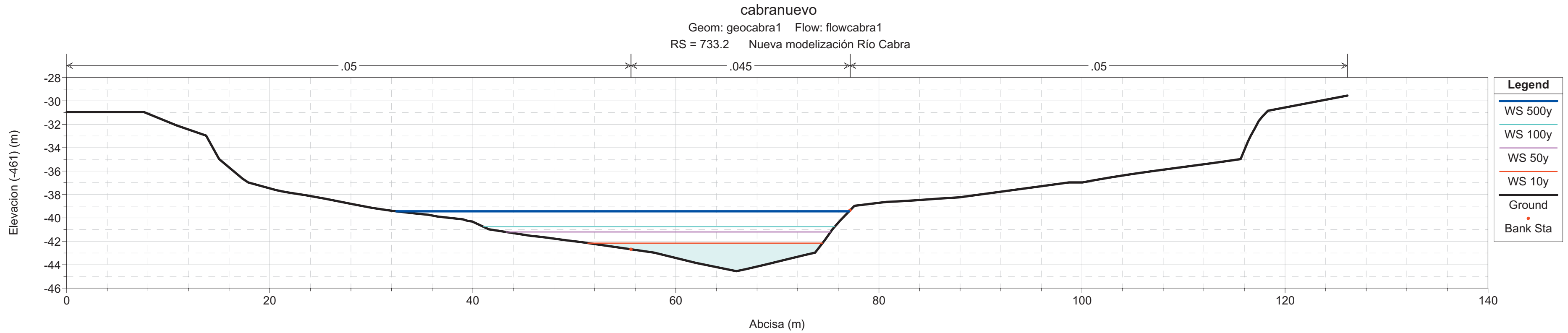

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 983.7 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
Abcisa (m)

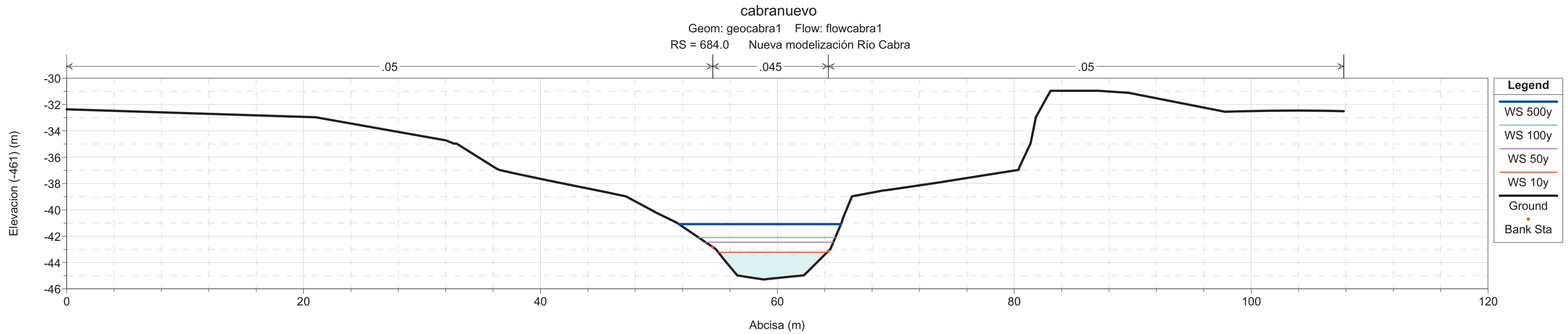

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 933.8 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

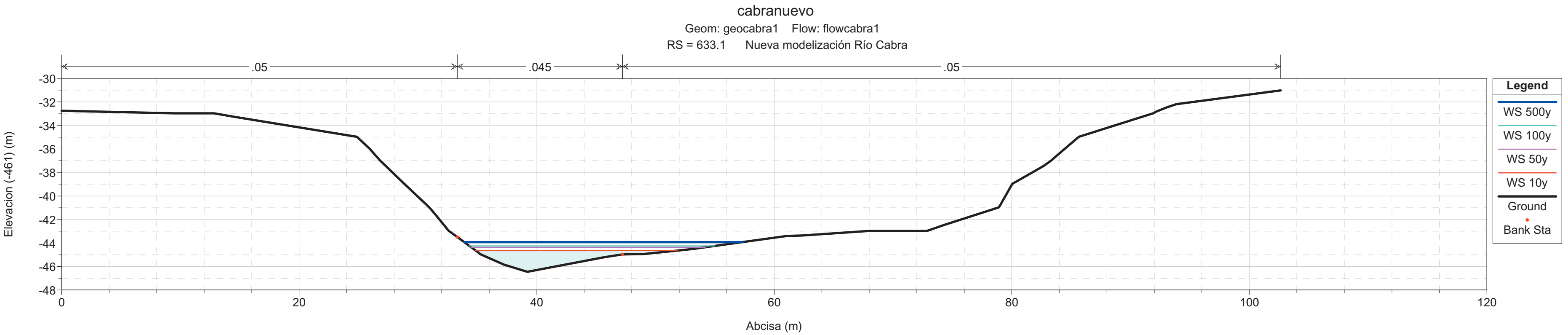

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 883.3 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

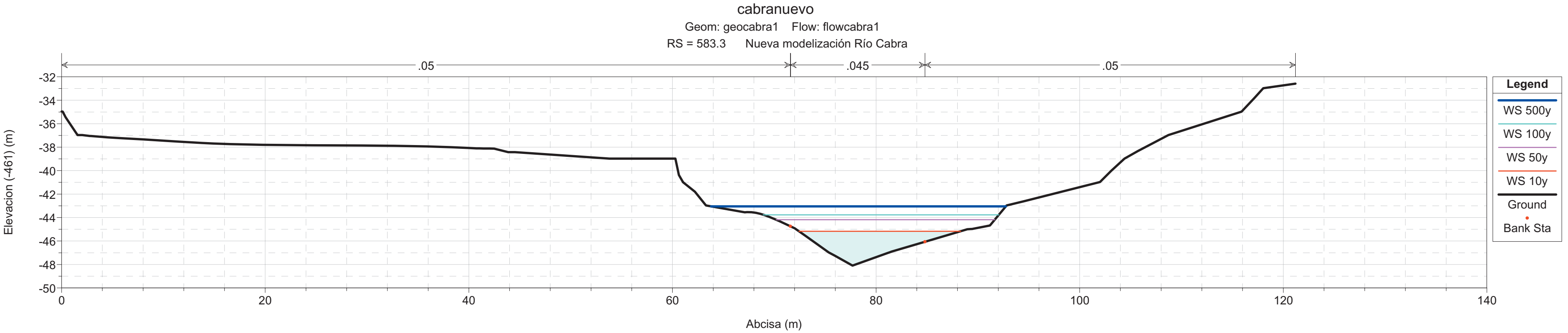

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 833.2 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

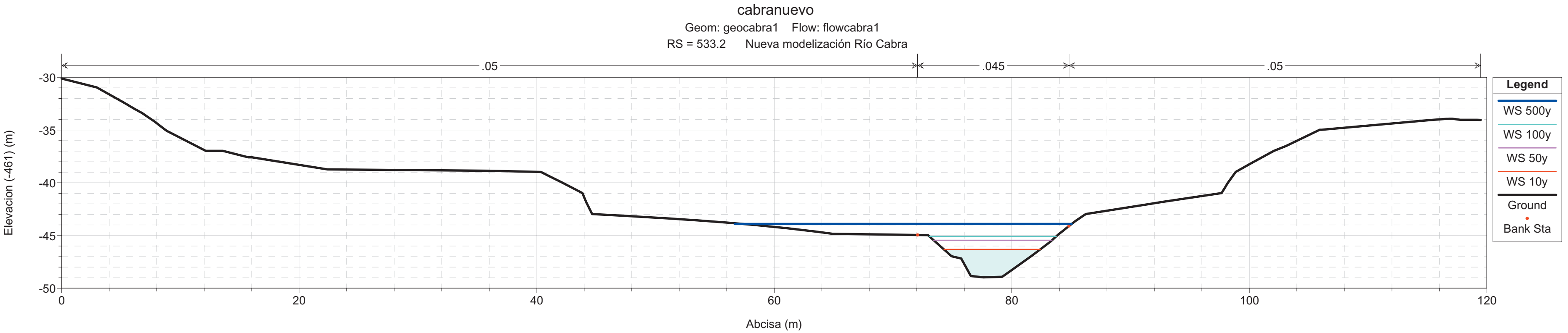

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 783.8 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

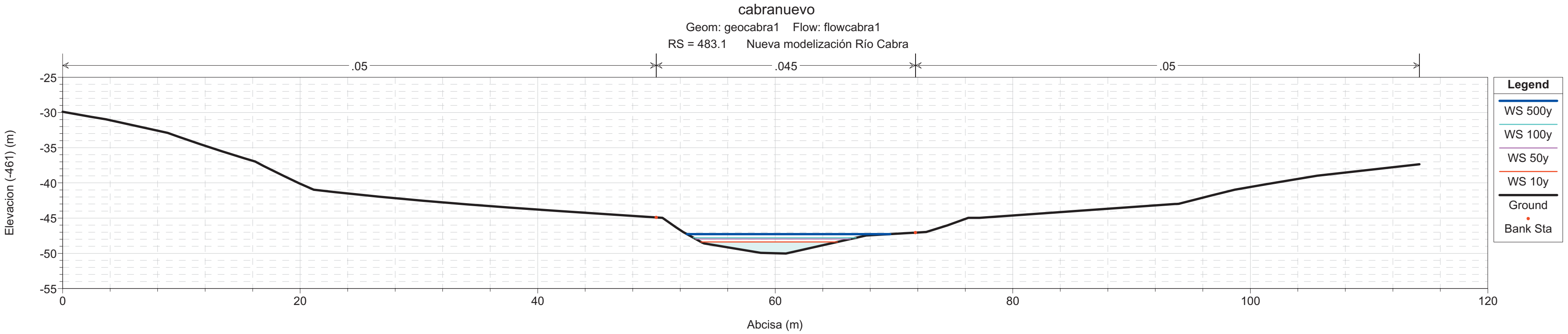

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 733.2 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

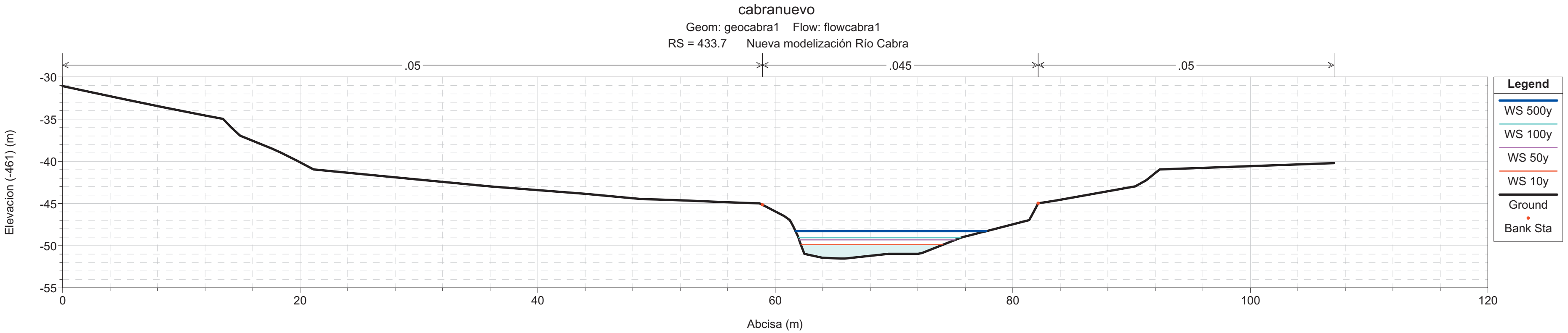

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 684.0 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

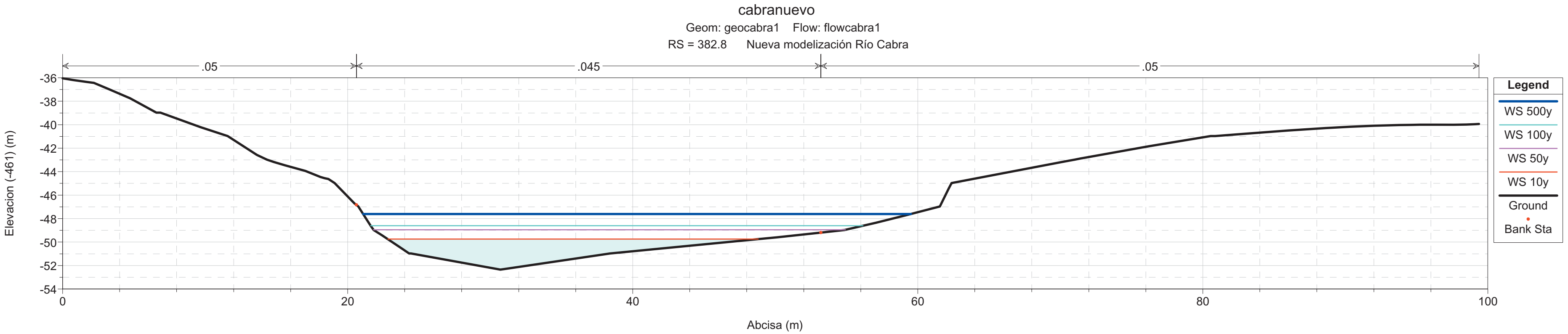

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 633.1 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

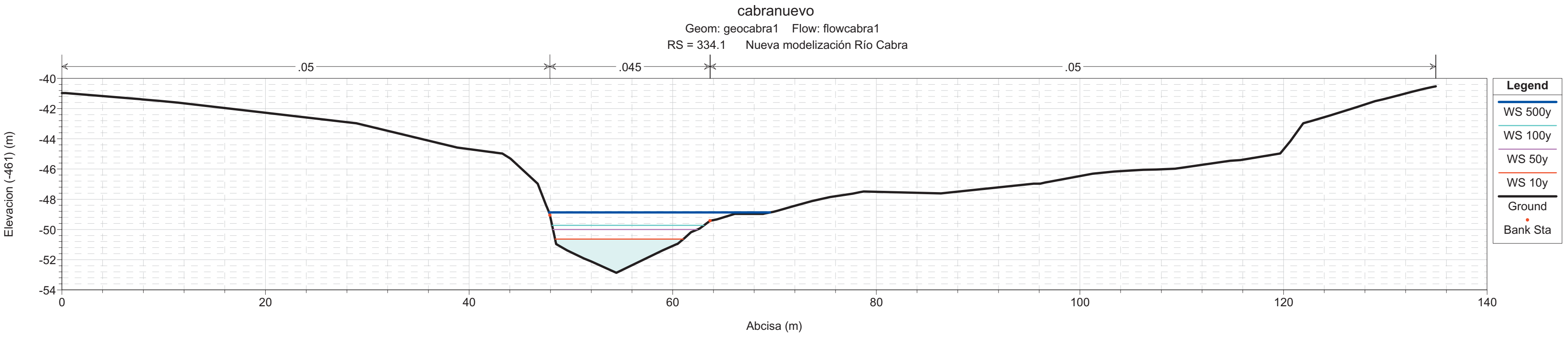

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 583.3 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

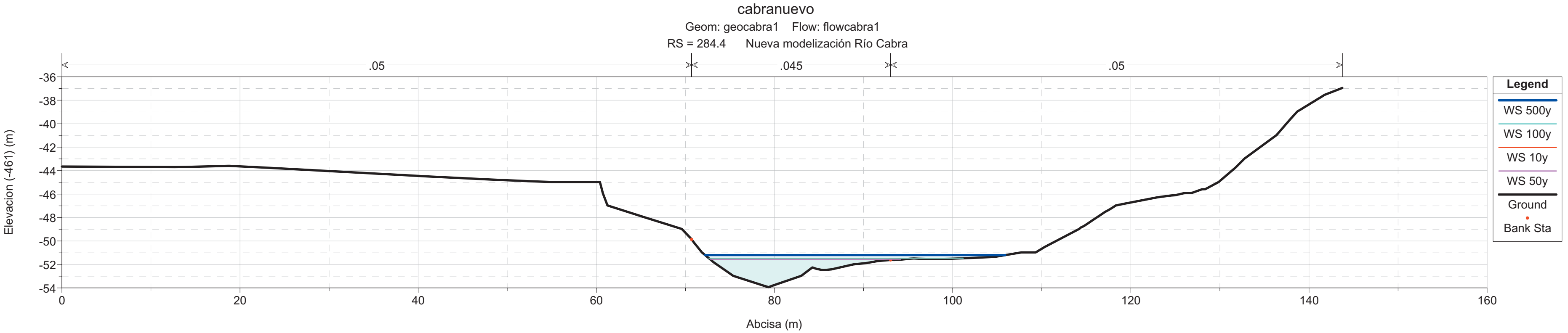

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 533.2 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

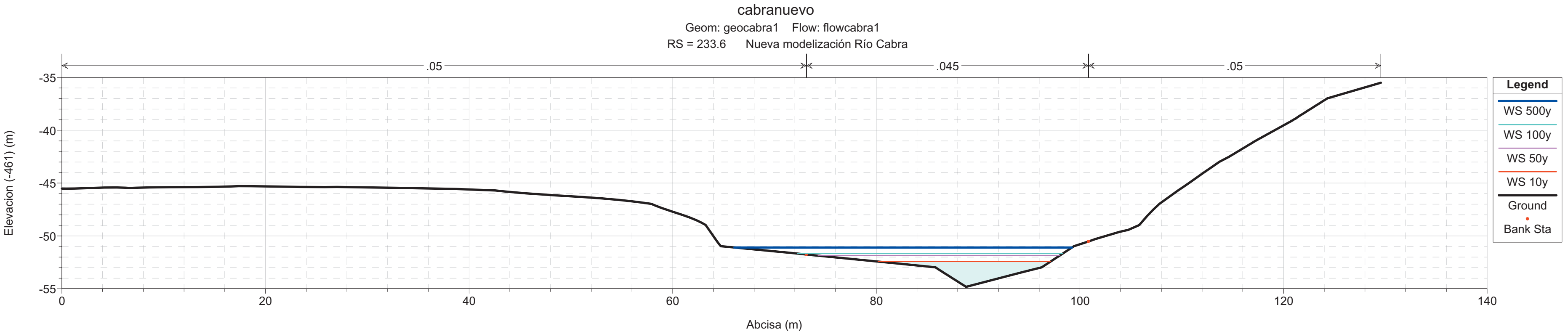

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 483.1 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

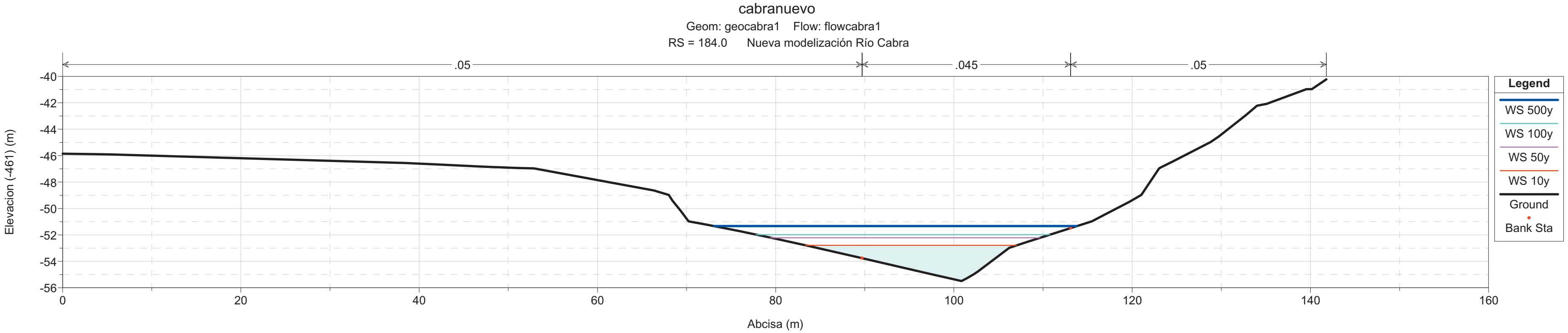

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 433.7 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

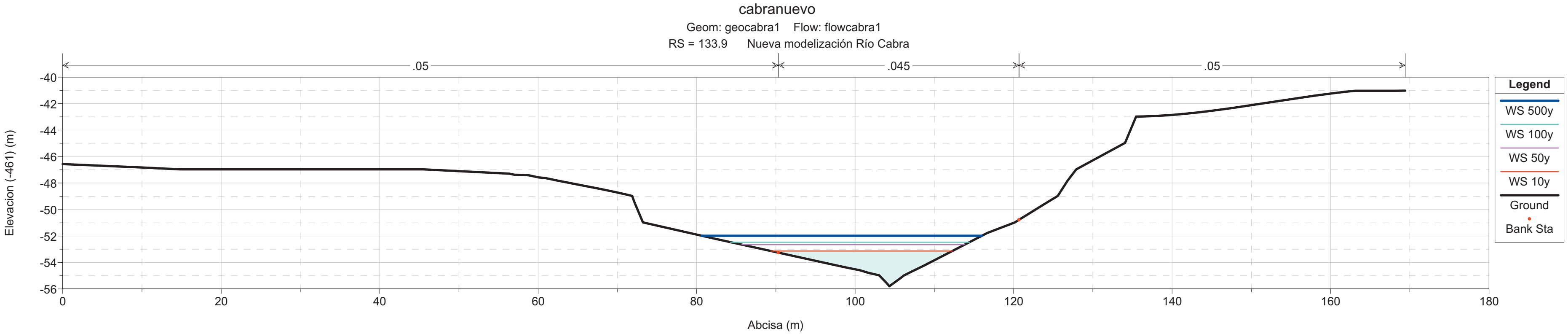

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 382.8 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

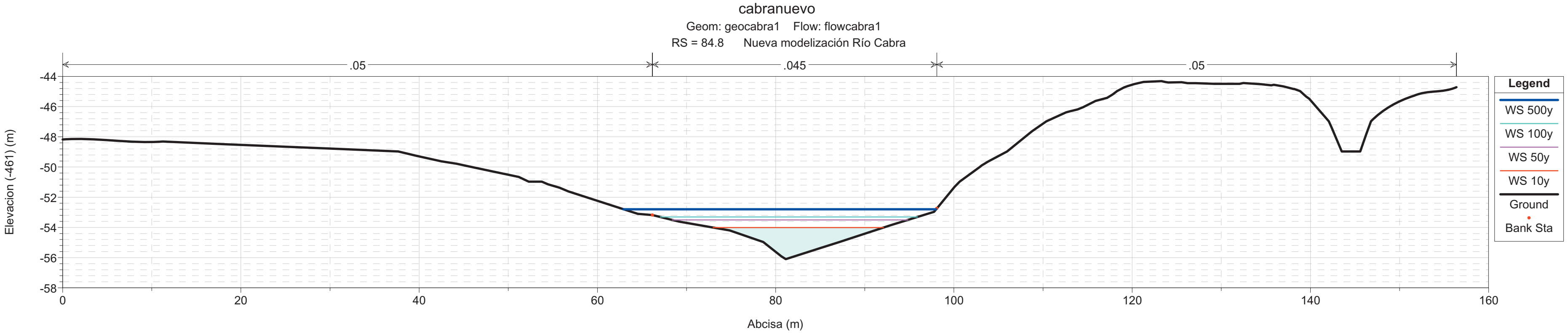

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 334.1 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

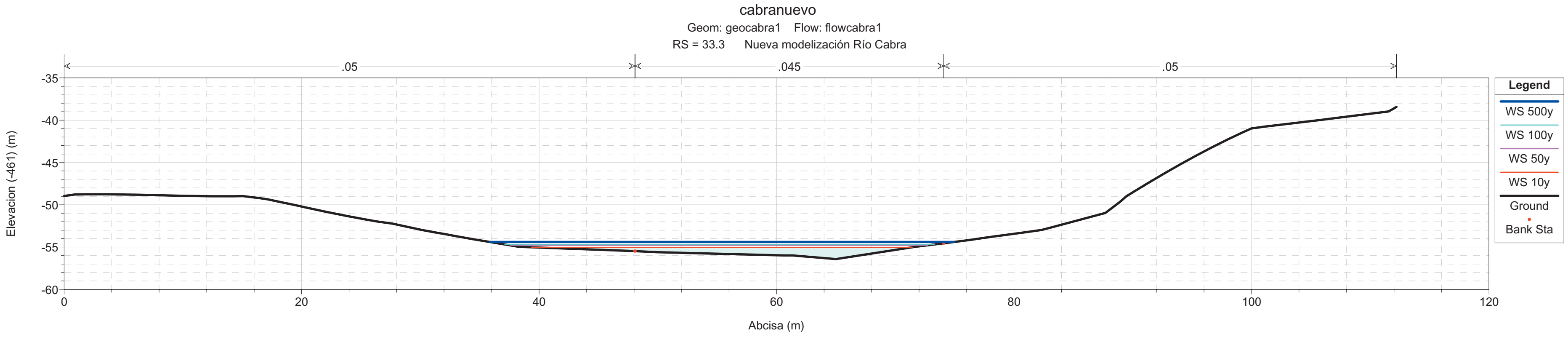

cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 284.4 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 10y
WS 50y
Ground
Bank Sta


cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 233.6 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 184.0 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 133.9 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 84.8 Nueva modelización Río Cabra
.05
.045
.05
Elevacion (-461) (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


cabranuevo
Geom: geocabra1 Flow: flowcabra1
RS = 33.3 Nueva modelización Río Cabra
.05
.045
.05
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (-461) (m)
-35
-40
-45
-50
-55
-60
0
20
40
60
80
100
120
Abcisa (m)

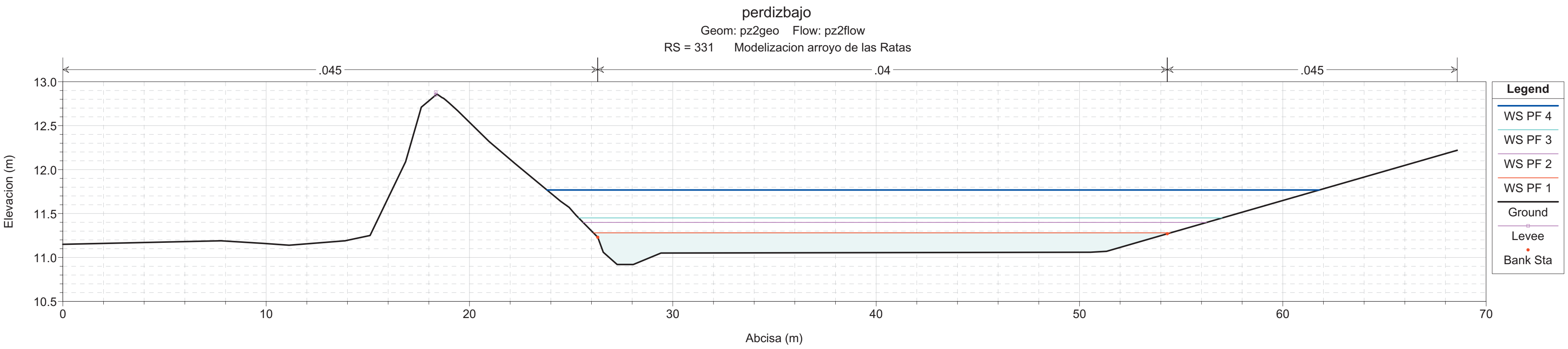
2. Cuenca Baja Arroyo de la Perdíz

HEC-RAS Plan: Plan 01 River: perdizbajo Reach: 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	331	PF 1	9.07	10.92	11.28	0.36	11.28	11.39	0.026052	1.47	6.18	28.37	1.00
1	331	PF 2	17.07	10.92	11.40	0.48	11.40	11.56	0.021635	1.79	9.69	30.67	0.98
1	331	PF 3	21.23	10.92	11.45	0.53	11.45	11.64	0.020760	1.92	11.28	31.65	0.98
1	331	PF 4	37.64	10.92	11.77	0.85	11.63	11.93	0.008197	1.80	22.35	37.99	0.68
1	312	PF 1	9.07	9.05	10.14	1.09	10.28	10.71	0.041164	3.34	2.72	4.38	1.35
1	312	PF 2	17.07	9.05	10.36	1.31	10.56	10.97	0.035454	3.73	5.52	11.05	1.32
1	312	PF 3	21.23	9.05	10.48	1.43	10.66	11.09	0.030879	3.81	6.89	12.13	1.26
1	312	PF 4	37.64	9.05	10.76	1.71	10.76	11.57	0.031324	4.56	10.61	14.68	1.32
1	292	PF 1	9.07	8.79	9.71	0.92	9.55	9.76	0.004157	1.18	10.90	30.42	0.47
1	292	PF 2	17.07	8.79	9.88	1.09	9.71	9.95	0.005065	1.51	16.24	35.54	0.54
1	292	PF 3	21.23	8.79	9.58	0.79	9.76	10.21	0.071918	4.15	7.01	25.21	1.88
1	292	PF 4	37.64	8.79	9.69	0.90	9.96	10.62	0.084944	5.19	10.22	29.70	2.12
1	272	PF 1	9.07	8.65	9.51	0.86	9.51	9.62	0.013797	2.14	7.76	30.89	0.84
1	272	PF 2	17.07	8.65	9.63	0.98	9.63	9.78	0.016718	2.63	11.93	38.52	0.95
1	272	PF 3	21.23	8.65	9.69	1.04	9.69	9.85	0.016440	2.74	14.24	41.94	0.95
1	272	PF 4	37.64	8.65	9.85	1.20	9.85	10.05	0.017770	3.18	21.50	51.24	1.02
1	252	PF 1	9.07	8.59	9.36	0.77		9.40	0.007414	1.37	11.90	53.46	0.60
1	252	PF 2	17.07	8.59	9.50	0.91	9.39	9.55	0.006137	1.46	19.99	62.50	0.57
1	252	PF 3	21.23	8.59	9.56	0.97	9.43	9.61	0.005804	1.50	23.83	66.36	0.56
1	252	PF 4	37.64	8.59	9.76	1.17	9.54	9.81	0.004972	1.62	38.01	79.00	0.54
1	232	PF 1	9.07	8.46	9.26	0.80		9.29	0.004026	0.98	13.83	48.95	0.44
1	232	PF 2	17.07	8.46	9.41	0.95		9.44	0.004023	1.16	21.15	52.63	0.46
1	232	PF 3	21.23	8.46	9.46	1.00		9.51	0.004123	1.25	24.28	54.13	0.47
1	232	PF 4	37.64	8.46	9.65	1.19		9.72	0.004447	1.51	34.80	58.89	0.51
1	212	PF 1	9.07	8.32	9.06	0.74	9.06	9.14	0.016074	1.55	7.80	40.07	0.81
1	212	PF 2	17.07	8.32	9.15	0.83	9.15	9.28	0.020418	2.02	11.50	42.52	0.95
1	212	PF 3	21.23	8.32	9.19	0.87	9.19	9.34	0.020779	2.17	13.36	43.69	0.97
1	212	PF 4	37.64	8.32	9.34	1.02	9.34	9.54	0.020656	2.55	19.97	47.64	1.01
1	192	PF 1	9.07	8.15	8.44	0.29	8.48	8.62	0.050237	2.12	5.05	26.12	1.40
1	192	PF 2	17.07	8.15	8.58	0.43	8.61	8.78	0.031814	2.29	8.76	28.11	1.20
1	192	PF 3	21.23	8.15	8.64	0.49	8.66	8.86	0.028589	2.39	10.44	28.92	1.16
1	192	PF 4	37.64	8.15	8.84	0.69	8.85	9.12	0.021459	2.69	16.68	31.74	1.08
1	172	PF 1	9.07	6.67	7.56	0.89	7.43	7.60	0.005124	1.33	10.96	31.67	0.51
1	172	PF 2	17.07	6.67	7.72	1.05	7.55	7.78	0.005839	1.62	16.25	36.32	0.56
1	172	PF 3	21.23	6.67	7.78	1.11	7.60	7.86	0.005934	1.73	18.86	38.58	0.58
1	172	PF 4	37.64	6.67	8.01	1.34	7.78	8.11	0.005850	1.99	28.48	44.86	0.59
1	152	PF 1	9.07	6.64	7.37	0.73		7.44	0.009940	1.59	8.69	31.96	0.70
1	152	PF 2	17.07	6.64	7.55	0.91		7.63	0.007476	1.68	14.74	35.22	0.64
1	152	PF 3	21.23	6.64	7.62	0.98		7.71	0.007051	1.75	17.42	36.59	0.63
1	152	PF 4	37.64	6.64	7.86	1.22		7.97	0.006508	2.00	26.44	40.71	0.63
1	132	PF 1	9.07	6.60	7.33	0.73		7.35	0.001897	0.70	15.62	36.21	0.31
1	132	PF 2	17.07	6.60	7.50	0.90		7.54	0.002280	0.92	22.00	37.63	0.36
1	132	PF 3	21.23	6.60	7.58	0.98		7.62	0.002430	1.02	24.77	38.25	0.37
1	132	PF 4	37.64	6.60	7.80	1.20		7.87	0.002945	1.34	33.62	40.06	0.43

HEC-RAS Plan: Plan 01 River: perdizbajo Reach: 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	112	PF 1	9.07	6.54	7.15	0.61	7.15	7.26	0.015337	1.69	7.04	29.31	0.85
1	112	PF 2	17.07	6.54	7.27	0.73	7.27	7.43	0.016079	2.07	10.94	32.89	0.91
1	112	PF 3	21.23	6.54	7.32	0.78	7.32	7.50	0.016486	2.23	12.68	34.36	0.93
1	112	PF 4	37.64	6.54	7.50	0.96	7.50	7.74	0.015940	2.62	19.33	39.32	0.96
1	92	PF 1	9.07	6.47	6.94	0.74	6.94	6.96	0.001998	0.49	16.14	41.55	0.29
1	92	PF 2	17.07	6.47	6.94	0.74	6.94	7.00	0.007079	0.93	16.14	41.54	0.55
1	92	PF 3	21.23	6.47	6.98	0.78	6.94	7.06	0.007927	1.08	17.94	42.94	0.59
1	92	PF 4	37.64	6.47	7.22	1.02	6.99	7.31	0.006026	1.34	28.70	47.25	0.56
1	72	PF 1	9.07	6.17	6.66	0.49	6.48	6.69	0.003405	0.76	12.01	34.06	0.40
1	72	PF 2	17.07	6.17	6.83	0.66	6.59	6.88	0.003360	0.97	18.31	40.11	0.42
1	72	PF 3	21.23	6.17	6.90	0.73		6.96	0.003296	1.04	21.41	42.26	0.42
1	72	PF 4	37.64	6.17	7.15	0.98		7.23	0.003103	1.26	32.51	47.46	0.43
1	52	PF 1	9.07	6.01	6.41	0.40	6.41	6.54	0.023641	1.60	5.81	23.82	0.99
1	52	PF 2	17.07	6.01	6.54	0.53	6.54	6.73	0.019902	1.94	9.30	26.72	0.97
1	52	PF 3	21.23	6.01	6.60	0.59	6.60	6.81	0.018988	2.07	10.94	28.04	0.97
1	52	PF 4	37.64	6.01	6.81	0.80	6.81	7.09	0.015988	2.43	17.27	33.45	0.94
1	32	PF 1	9.07	5.29	5.88	0.59	5.89	6.05	0.024686	1.83	5.02	17.56	1.03
1	32	PF 2	17.07	5.29	6.03	0.74	6.07	6.29	0.023602	2.30	7.87	21.60	1.08
1	32	PF 3	21.23	5.29	6.09	0.80	6.14	6.39	0.022982	2.47	9.30	23.38	1.09
1	32	PF 4	37.64	5.29	6.29	1.00	6.38	6.70	0.021869	2.98	14.49	28.93	1.12
1	12	PF 1	9.07	4.68	5.38	0.70	5.39	5.56	0.024327	1.88	4.84	14.42	1.03
1	12	PF 2	17.07	4.68	5.44	0.76	5.44	5.59	0.020790	1.89	10.80	36.39	0.97
1	12	PF 3	21.23	4.68	5.49	0.81	5.49	5.65	0.020236	2.02	12.56	37.30	0.98
1	12	PF 4	37.64	4.68	5.50	0.82	5.65	5.99	0.059699	3.50	12.82	37.44	1.69
1	1	PF 1	9.07	4.46	5.15	0.69	5.16	5.30	0.022111	1.79	5.66	23.78	0.98
1	1	PF 2	17.07	4.46	5.19	0.73	5.20	5.33	0.023000	1.94	10.65	37.65	1.02
1	1	PF 3	21.23	4.46	5.23	0.77	5.24	5.40	0.023683	2.11	12.15	38.41	1.05
1	1	PF 4	37.64	4.46	5.39	0.93	5.39	5.62	0.019549	2.41	18.85	42.12	1.01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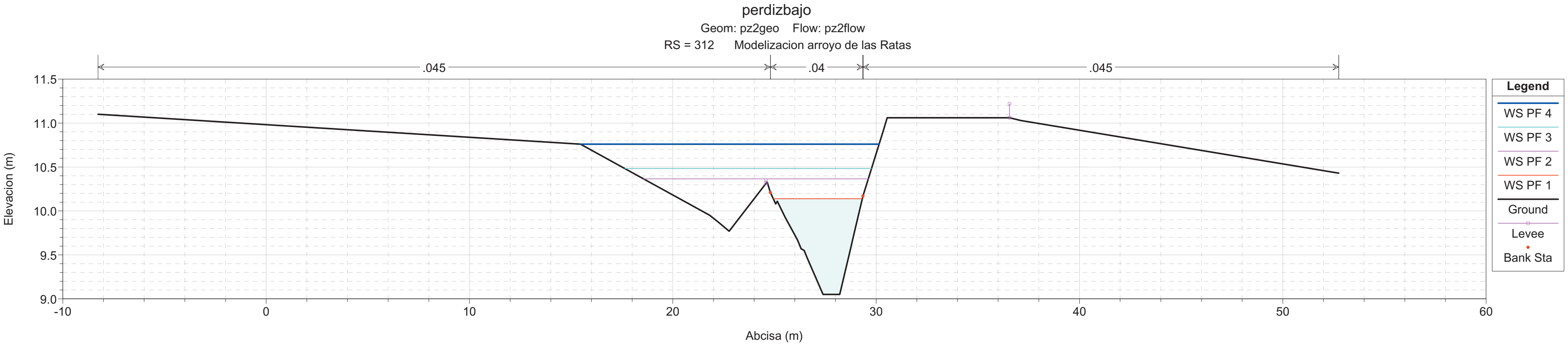
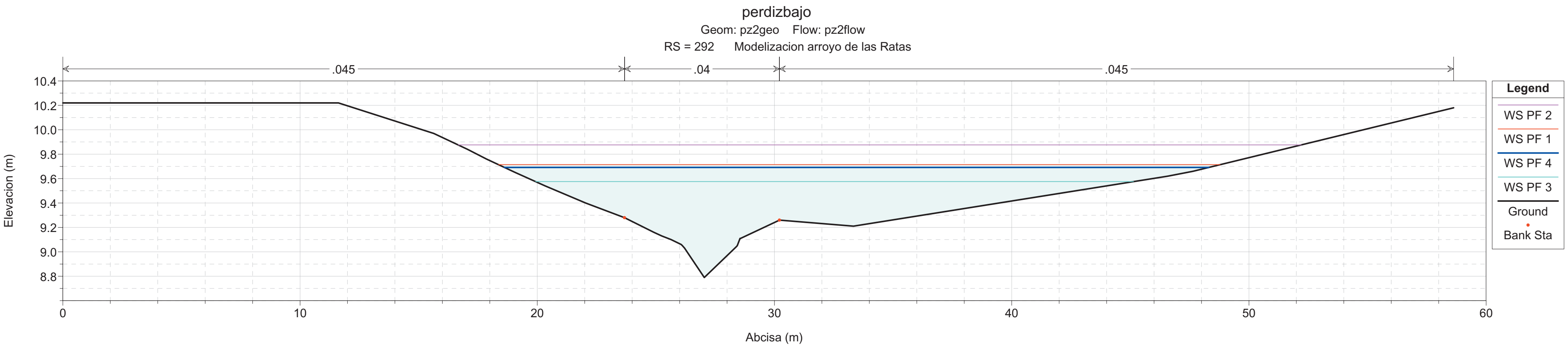
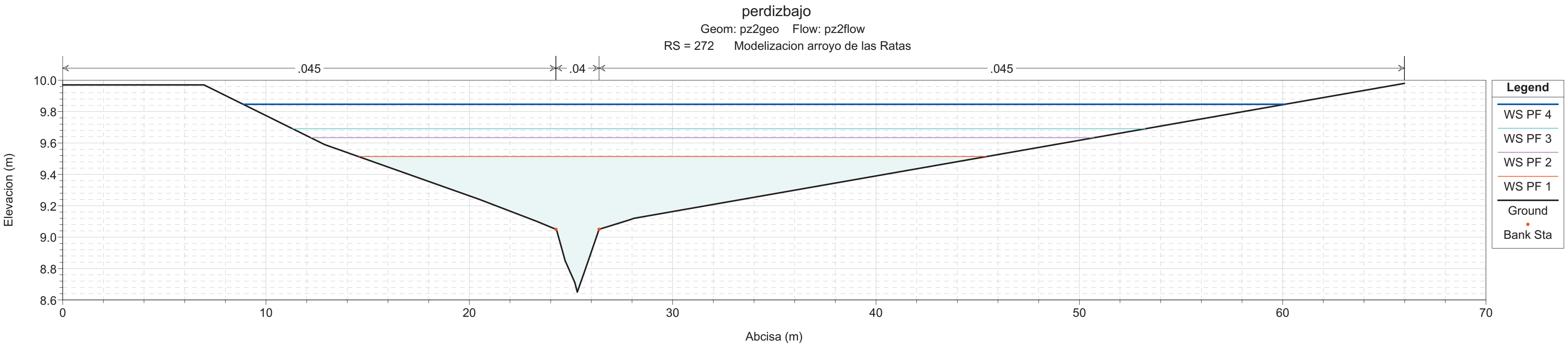
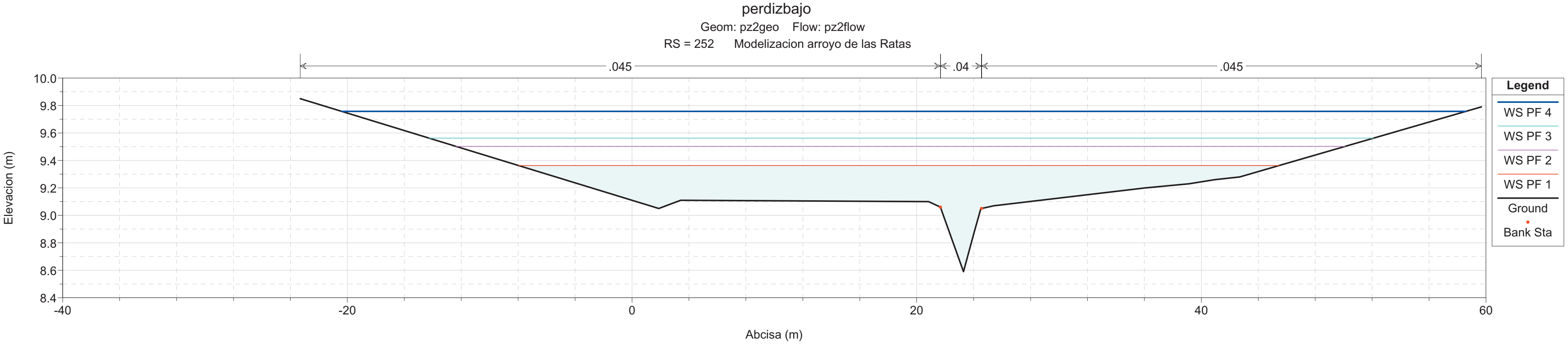
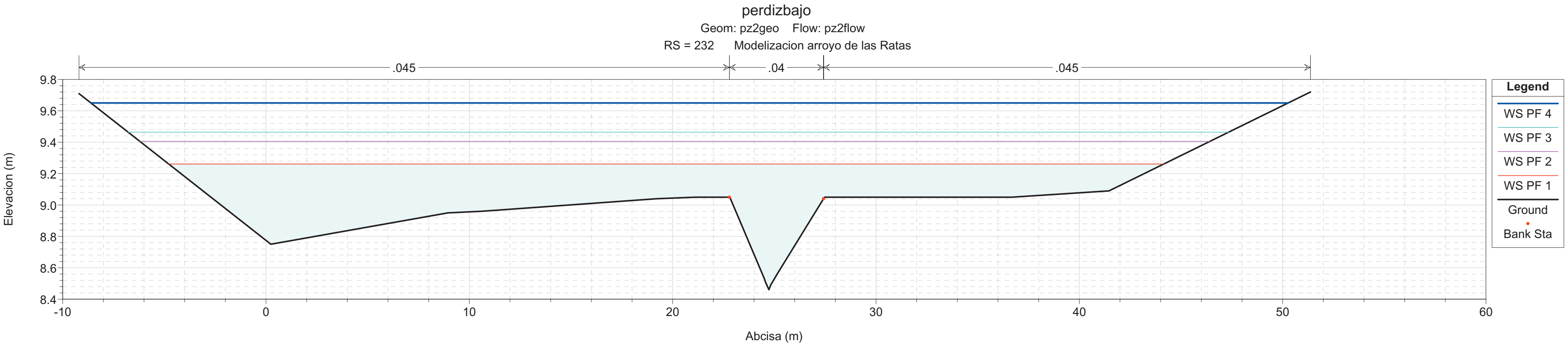
Geom: pz2geo Flow: pz2flow
RS = 331 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

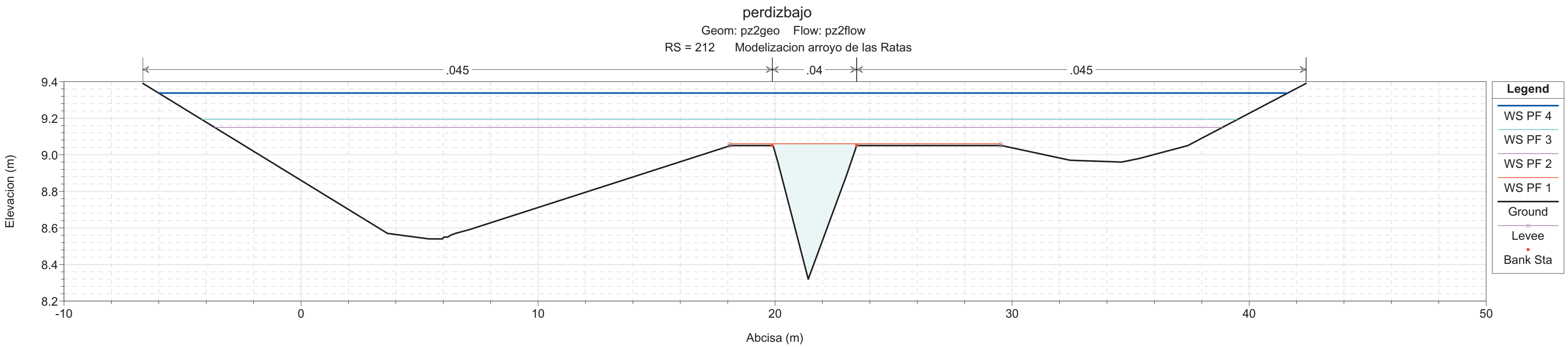

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 312 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

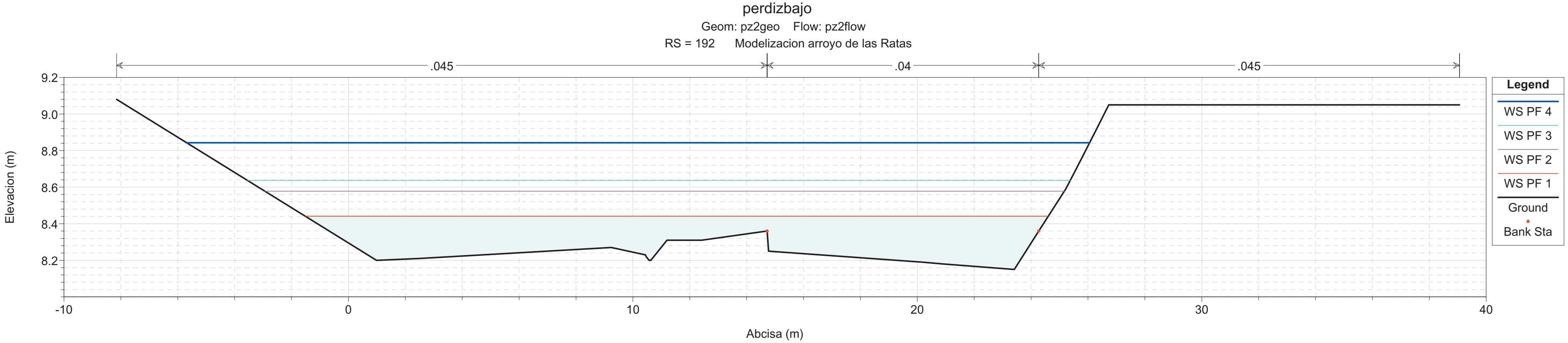

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 292 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 2
WS PF 1
WS PF 4
WS PF 3
Ground
Bank Sta

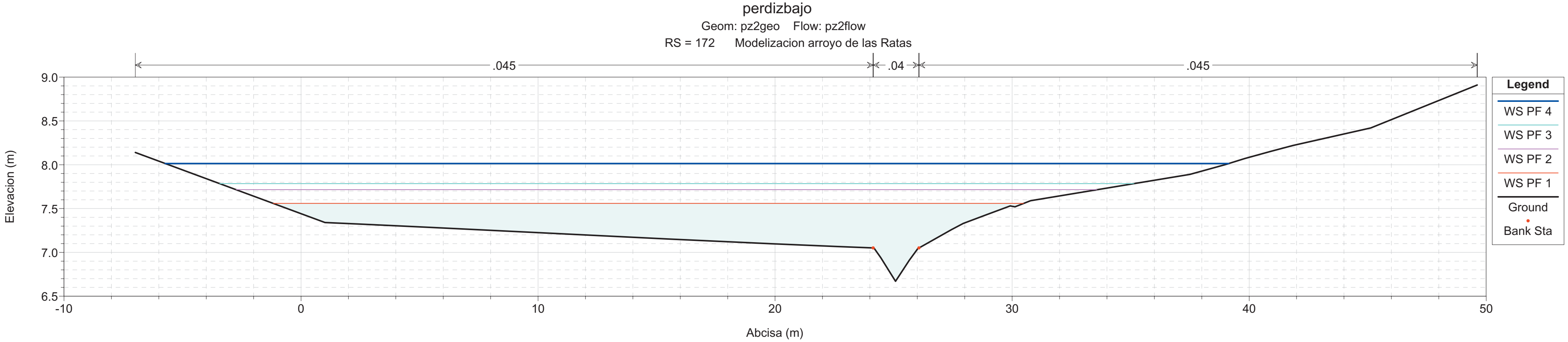

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 272 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

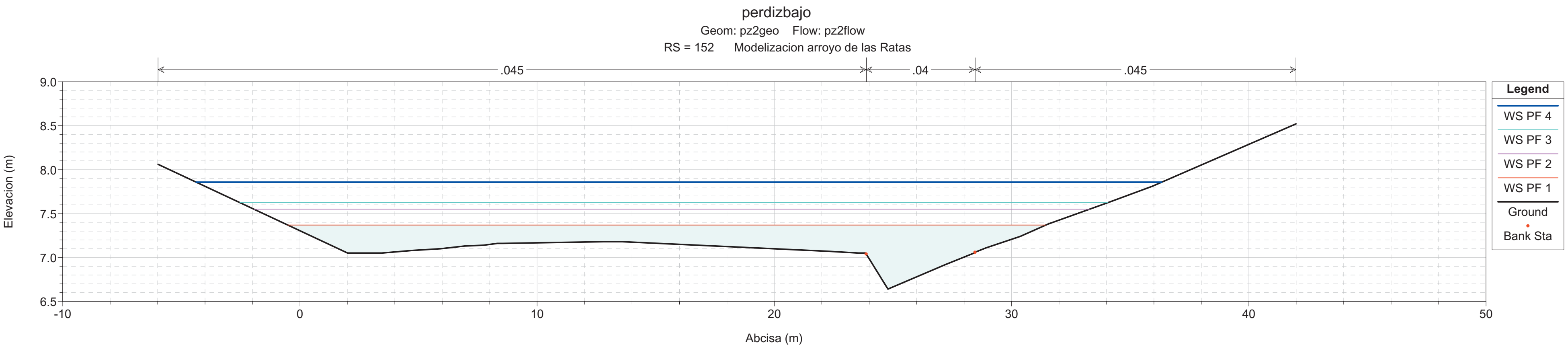

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 252 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

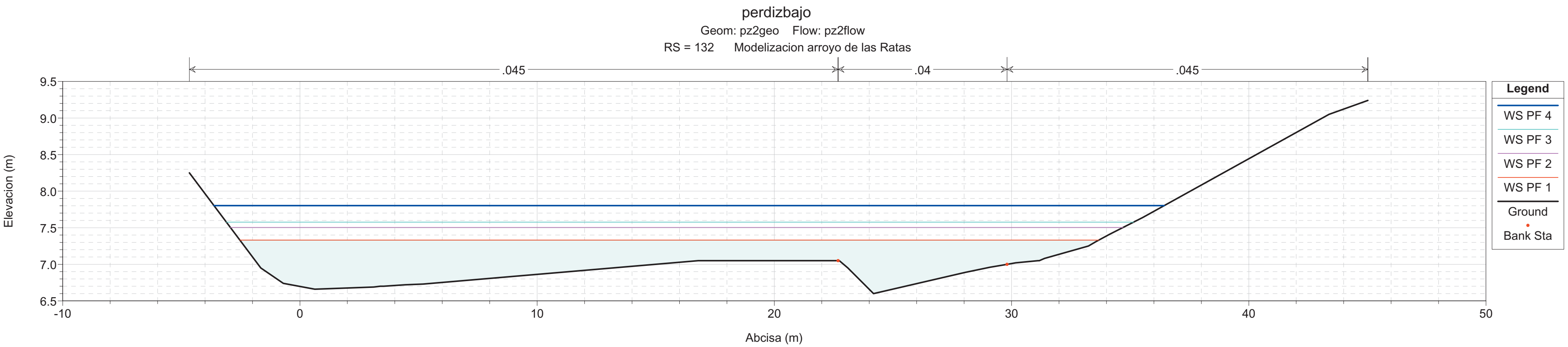

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 232 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

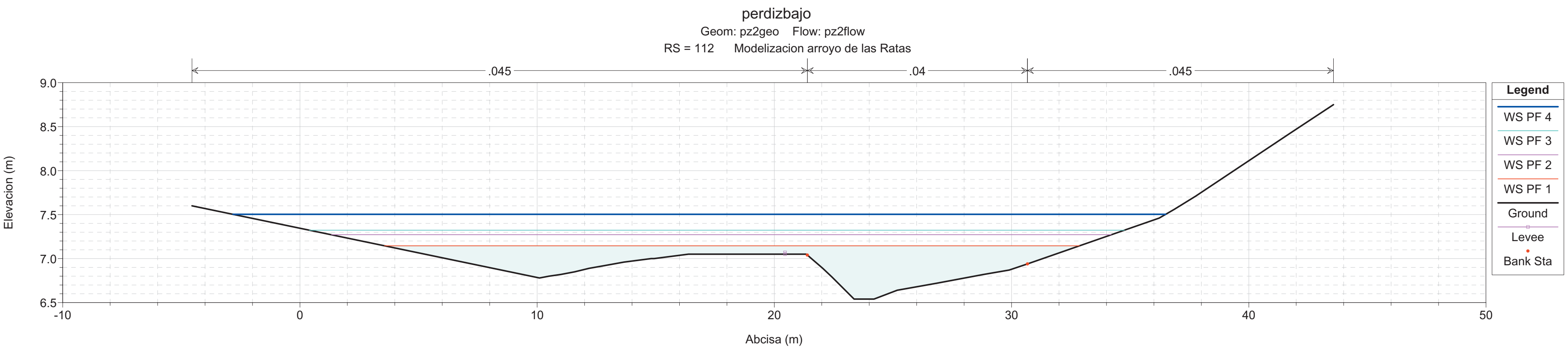

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 212 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

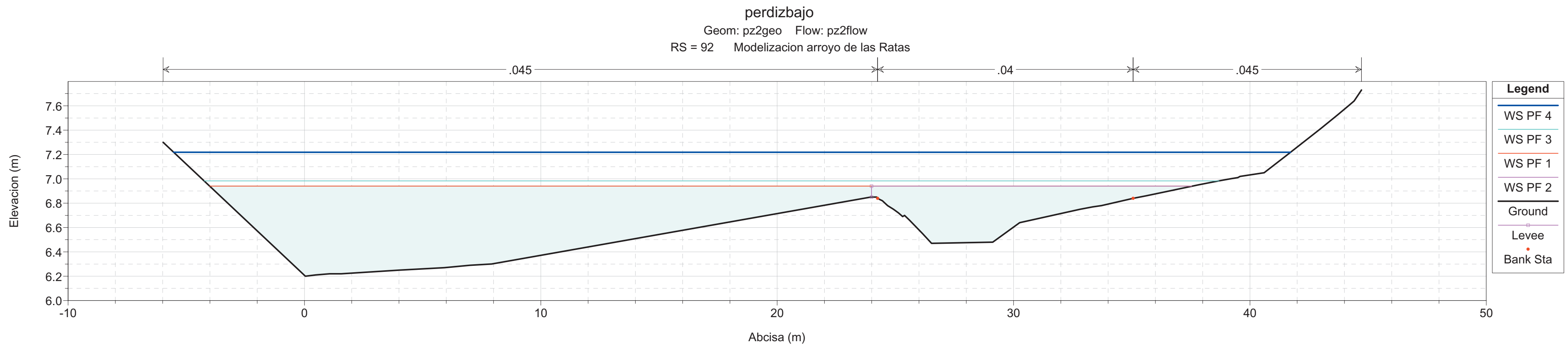

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 192 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

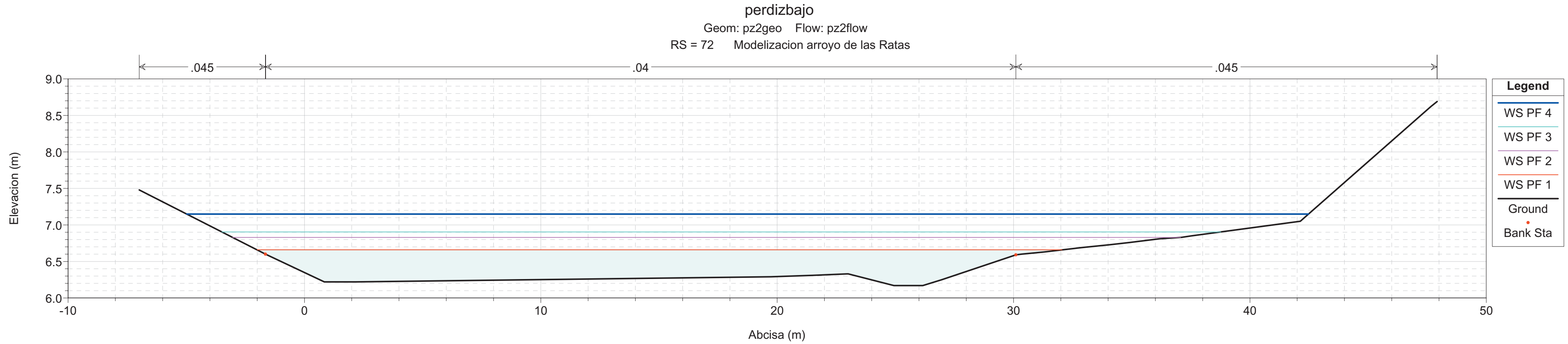

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 172 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

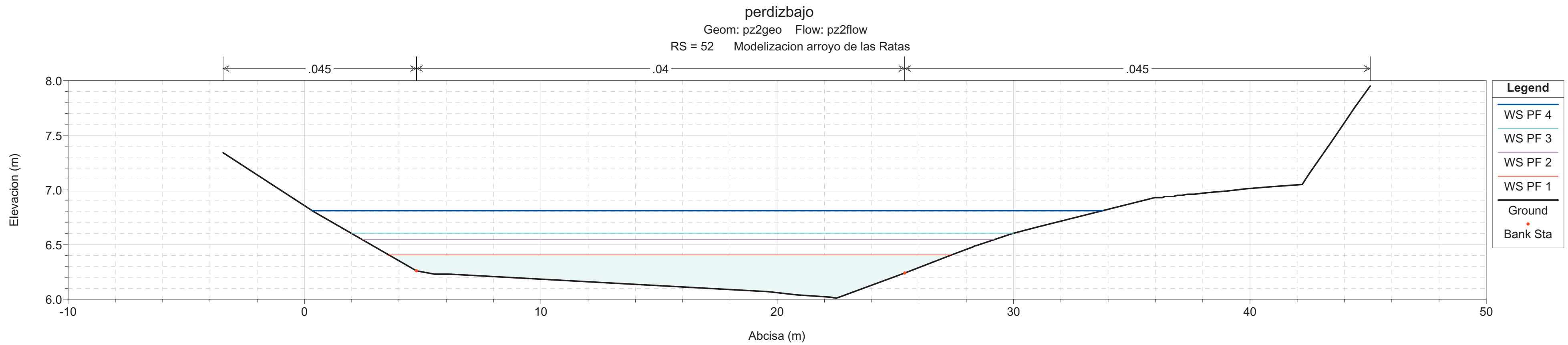

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 152 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

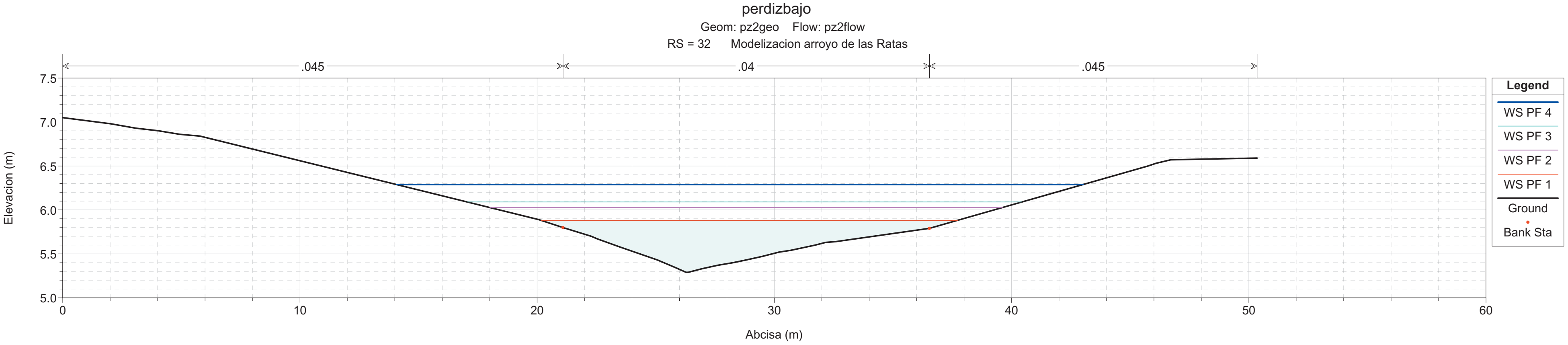

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 132 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

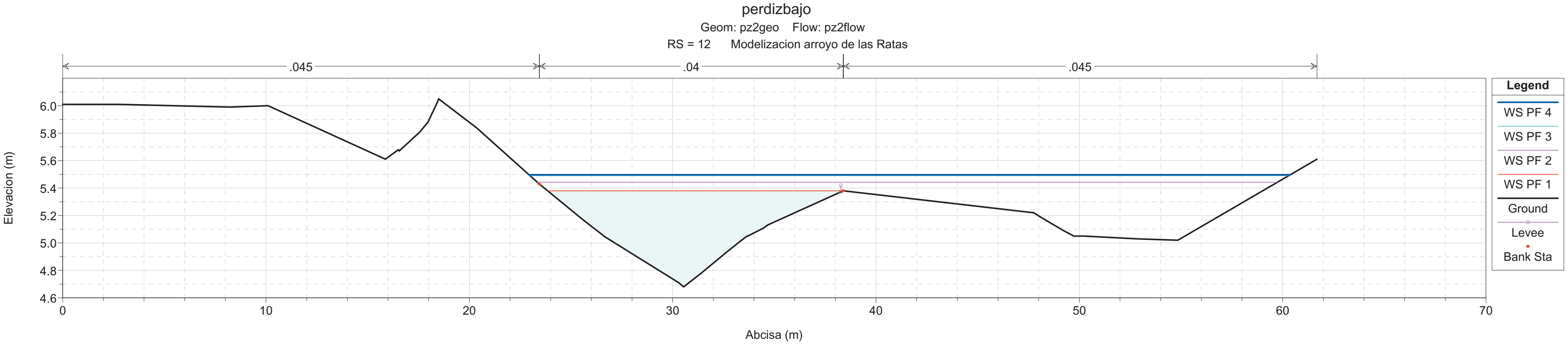

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 112 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

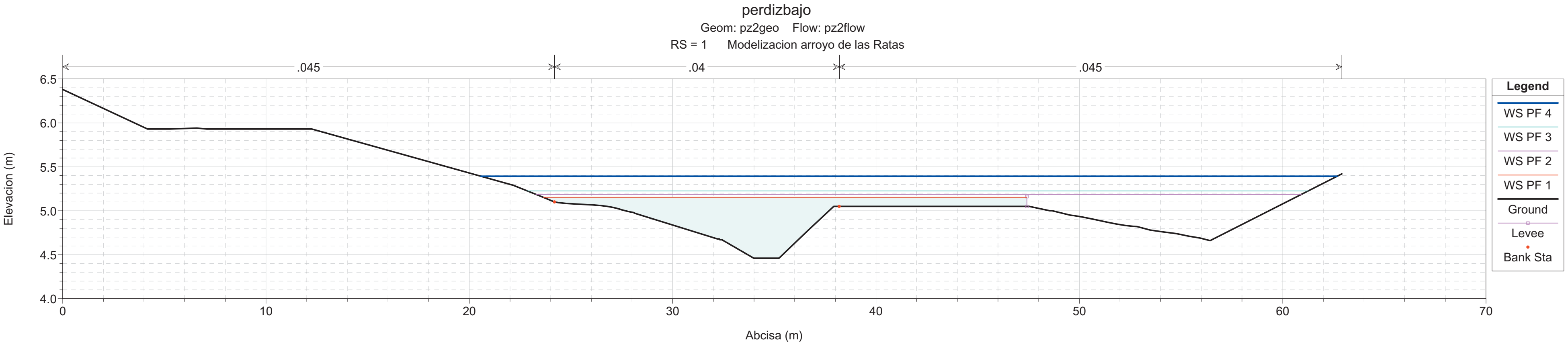

perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 92 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 1
WS PF 2
Ground
Levee
Bank Sta


perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 72 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 52 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 32 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 12 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta


perdizbajo
Geom: pz2geo Flow: pz2flow
RS = 1 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

3. Cuenca Arroyo del Chorrillo

HEC-RAS Plan: chp2 River: chorrillo Reach: 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1496.62	10y	16.64	506.92	508.03	1.11	508.03	508.34	0.019267	2.49	6.69	10.78	1.01
1	1496.62	50y	29.86	506.92	508.34	1.42	508.34	508.77	0.017345	2.89	10.32	12.11	1.00
1	1496.62	100y	36.64	506.92	508.48	1.56	508.48	508.95	0.016833	3.06	11.98	12.58	1.00
1	1496.62	500y	60.07	506.92	508.87	1.95	508.87	509.49	0.015699	3.48	17.25	14.01	1.00
1	1476.61	10y	16.64	505.56	506.10	0.54	506.43	507.38	0.176383	5.00	3.33	10.03	2.77
1	1476.61	50y	29.86	505.56	506.30	0.74	506.74	507.90	0.132168	5.62	5.31	10.72	2.55
1	1476.61	100y	36.64	505.56	506.38	0.82	506.87	508.12	0.119130	5.83	6.28	11.04	2.47
1	1476.61	500y	60.07	505.56	506.66	1.10	507.25	508.72	0.093323	6.36	9.45	12.04	2.29
1	1456.47	10y	16.64	505.23	506.03	0.80	506.03	506.22	0.022131	1.89	8.78	24.04	1.00
1	1456.47	50y	29.86	505.23	506.16	0.93	506.21	506.48	0.027196	2.52	11.88	25.13	1.16
1	1456.47	100y	36.64	505.23	506.20	0.97	506.29	506.61	0.031494	2.85	12.87	25.28	1.27
1	1456.47	500y	60.07	505.23	506.31	1.08	506.53	507.07	0.044934	3.87	15.62	25.69	1.56
1	1436.30	10y	16.64	503.95	504.46	0.51	504.71	505.32	0.101069	4.12	4.04	10.72	2.14
1	1436.30	50y	29.86	503.95	504.72	0.77	505.01	505.65	0.057943	4.28	7.06	12.36	1.75
1	1436.30	100y	36.64	503.95	504.84	0.89	505.13	505.79	0.047860	4.32	8.66	13.37	1.63
1	1436.30	500y	60.07	503.95	505.18	1.23	505.50	506.26	0.033747	4.68	13.55	15.64	1.46
1	1416.74	10y	16.64	503.32	504.29	0.97	504.22	504.49	0.013582	1.95	8.55	15.50	0.84
1	1416.74	50y	29.86	503.32	504.54	1.22	504.48	504.83	0.013924	2.36	12.63	17.33	0.88
1	1416.74	100y	36.64	503.32	504.49	1.17	504.59	504.98	0.025593	3.11	11.79	16.97	1.19
1	1416.74	500y	60.07	503.32	504.66	1.34	504.90	505.51	0.036353	4.09	14.69	18.19	1.45
1	1396.79	10y	16.64	502.92	503.89	0.97	503.89	504.15	0.019949	2.27	7.33	14.00	1.00
1	1396.79	50y	29.86	502.92	504.15	1.23	504.15	504.50	0.018093	2.63	11.37	16.45	1.00
1	1396.79	100y	36.64	502.92	504.26	1.34	504.26	504.66	0.017186	2.81	13.10	16.84	1.00
1	1396.79	500y	60.07	502.92	504.57	1.65	504.57	505.12	0.015118	3.28	18.63	18.14	0.99
1	1376.67	10y	16.64	501.58	502.45	0.87	502.72	503.34	0.093382	4.18	3.98	9.37	2.05
1	1376.67	50y	29.86	501.58	502.70	1.12	503.05	503.79	0.068649	4.65	6.51	11.47	1.87
1	1376.67	100y	36.64	501.58	502.80	1.22	503.20	503.98	0.062875	4.84	7.77	12.59	1.83
1	1376.67	500y	60.07	501.58	503.09	1.51	503.53	504.51	0.053433	5.37	11.92	15.73	1.76
1	1361.55	10y	16.64	497.95	498.63	0.68	499.16	501.03	0.243572	6.87	2.42	5.63	3.34
1	1361.55	50y	29.86	497.95	498.86	0.91	499.57	501.91	0.211711	7.74	3.86	6.80	3.26
1	1361.55	100y	36.64	497.95	498.97	1.02	499.74	502.25	0.185493	8.03	4.59	7.31	3.13
1	1361.55	500y	60.07	497.95	499.29	1.34	500.24	503.07	0.128646	8.70	7.22	8.92	2.78
1	1341.77	10y	16.64	496.44	497.60	1.16	497.89	498.49	0.058743	4.17	3.99	6.55	1.70
1	1341.77	50y	29.86	496.44	497.85	1.41	498.28	499.20	0.068495	5.14	5.82	8.10	1.90
1	1341.77	100y	36.64	496.44	497.94	1.50	498.43	499.56	0.073717	5.64	6.54	8.71	2.00
1	1341.77	500y	60.07	496.44	498.18	1.74	498.90	500.65	0.084241	7.00	8.81	10.09	2.22
1	1322.63	10y	16.64	495.89	497.47	1.58	497.05	497.61	0.004744	1.62	10.28	10.75	0.53
1	1322.63	50y	29.86	495.89	497.93	2.04	497.43	498.12	0.004802	1.89	15.79	13.13	0.55
1	1322.63	100y	36.64	495.89	498.12	2.23	497.59	498.32	0.004618	2.00	18.32	14.11	0.55
1	1322.63	500y	60.07	495.89	498.65	2.76	498.02	498.92	0.004065	2.34	26.34	16.39	0.55
1	1302.51	10y	16.64	495.89	497.03	1.14	497.03	497.41	0.018882	2.73	6.09	8.14	1.01
1	1302.51	50y	29.86	495.89	497.42	1.53	497.42	497.92	0.016768	3.15	9.55	9.87	1.00
1	1302.51	100y	36.64	495.89	497.59	1.70	497.59	498.13	0.015758	3.28	11.31	10.64	0.99
1	1302.51	500y	60.07	495.89	498.04	2.15	498.04	498.74	0.013793	3.74	16.59	12.66	0.97

HEC-RAS Plan: chp2 River: chorrillo Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1283.12	10y	16.64	494.46	495.97	1.51	496.26	496.82	0.047390	4.08	4.08	5.50	1.51
1	1283.12	50y	29.86	494.46	496.33	1.87	496.67	497.40	0.038128	4.64	6.90	9.11	1.44
1	1283.12	100y	36.64	494.46	496.47	2.01	496.83	497.63	0.036048	4.90	8.21	9.74	1.43
1	1283.12	500y	60.07	494.46	496.87	2.41	497.30	498.29	0.031770	5.56	12.39	11.26	1.41
1	1263.58	10y	16.64	493.83	494.46	0.63	494.78	495.52	0.095407	4.56	3.65	7.75	2.12
1	1263.58	50y	29.86	493.83	494.68	0.85	495.14	496.24	0.093029	5.54	5.40	8.34	2.19
1	1263.58	100y	36.64	493.83	494.78	0.95	495.30	496.53	0.088411	5.86	6.27	8.61	2.18
1	1263.58	500y	60.07	493.83	495.11	1.28	495.77	497.31	0.075077	6.58	9.19	9.48	2.10
1	1243.67	10y	16.64	493.59	494.96	1.37	494.51	495.06	0.003412	1.39	11.94	12.19	0.45
1	1243.67	50y	29.86	493.59	495.35	1.76	494.82	495.51	0.003954	1.76	16.94	13.41	0.50
1	1243.67	100y	36.64	493.59	495.52	1.93	494.96	495.70	0.004183	1.91	19.14	13.91	0.52
1	1243.67	500y	60.07	493.59	495.98	2.39	495.36	496.25	0.004771	2.32	25.85	15.33	0.57
1	1223.78	10y	16.64	493.38	494.58	1.20	494.58	494.90	0.019971	2.53	6.58	10.38	1.01
1	1223.78	50y	29.86	493.38	494.90	1.52	494.90	495.34	0.018072	2.92	10.21	11.98	1.01
1	1223.78	100y	36.64	493.38	495.04	1.66	495.04	495.52	0.017425	3.07	11.95	12.67	1.01
1	1223.78	500y	60.07	493.38	495.43	2.05	495.43	496.06	0.015700	3.50	17.23	14.55	1.00
1	1203.95	10y	16.64	492.83	493.78	0.95	493.94	494.31	0.045204	3.22	5.16	10.77	1.49
1	1203.95	50y	29.86	492.83	494.00	1.17	494.23	494.76	0.047905	3.86	7.75	13.17	1.59
1	1203.95	100y	36.64	492.83	494.09	1.26	494.35	494.95	0.047471	4.12	8.96	15.28	1.61
1	1203.95	500y	60.07	492.83	494.33	1.50	494.70	495.51	0.043936	4.87	12.82	16.65	1.63
1	1184.60	10y	16.64	492.06	493.08	1.02	493.20	493.57	0.032094	3.10	5.36	8.96	1.28
1	1184.60	50y	29.86	492.06	493.41	1.35	493.55	494.01	0.028325	3.44	8.67	11.28	1.25
1	1184.60	100y	36.64	492.06	493.53	1.47	493.69	494.20	0.027944	3.61	10.15	12.18	1.26
1	1184.60	500y	60.07	492.06	493.85	1.79	494.08	494.74	0.029240	4.16	14.44	14.46	1.33
1	1163.73	10y	16.64	488.58	489.70	1.12	490.27	492.03	0.194185	6.76	2.46	4.40	2.89
1	1163.73	50y	29.86	488.58	491.76	3.18	490.73	491.91	0.002880	1.70	17.61	10.26	0.41
1	1163.73	100y	36.64	488.58	492.07	3.49	490.94	492.23	0.002627	1.76	20.90	11.15	0.40
1	1163.73	500y	60.07	488.58	492.96	4.38	491.52	493.15	0.002007	1.92	32.38	14.16	0.37
1	1144.05	10y	16.64	488.53	490.44	1.91	490.44	490.98	0.023674	3.26	5.10	4.70	1.00
1	1144.05	50y	29.86	488.53	490.99	2.46	490.99	491.73	0.022742	3.81	7.84	5.40	1.00
1	1144.05	100y	36.64	488.53	491.21	2.68	491.21	492.05	0.021941	4.04	9.12	5.72	0.99
1	1144.05	500y	60.07	488.53	491.92	3.39	491.92	492.97	0.019837	4.58	13.47	6.69	0.96
1	1128.56	10y	16.64	487.96	488.79	0.83	489.21	490.23	0.098724	5.33	3.12	5.08	2.17
1	1128.56	50y	29.86	487.96	489.11	1.15	489.67	490.99	0.087810	6.08	4.91	5.95	2.13
1	1128.56	100y	36.64	487.96	489.25	1.29	489.88	491.34	0.079663	6.41	5.75	6.29	2.08
1	1128.56	500y	60.07	487.96	489.66	1.70	490.49	492.31	0.063524	7.25	8.57	7.33	1.97
1	1108.54	10y	16.64	487.69	488.61	0.92	488.68	489.02	0.025561	2.84	5.87	9.54	1.15
1	1108.54	50y	29.86	487.69	488.80	1.11	489.02	489.56	0.037269	3.87	7.72	10.40	1.43
1	1108.54	100y	36.64	487.69	488.86	1.17	489.16	489.84	0.044389	4.38	8.37	10.69	1.58
1	1108.54	500y	60.07	487.69	489.04	1.35	489.58	490.75	0.064132	5.78	10.39	11.52	1.94
1	1088.12	10y	16.64	487.15	488.17	1.02	488.20	488.49	0.024489	2.51	6.63	12.71	1.11
1	1088.12	50y	29.86	487.15	488.41	1.26	488.49	488.86	0.024122	2.97	10.05	14.88	1.15
1	1088.12	100y	36.64	487.15	488.50	1.35	488.60	489.03	0.025451	3.23	11.37	15.63	1.20
1	1088.12	500y	60.07	487.15	488.69	1.54	488.94	489.57	0.033908	4.15	14.57	17.29	1.42

HEC-RAS Plan: chp2 River: chorrillo Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1068.66	10y	16.64	486.46	487.72	1.26	487.73	488.08	0.019813	2.68	6.21	8.96	1.03
1	1068.66	50y	29.86	486.46	488.11	1.65	488.11	488.54	0.015998	2.93	10.33	14.29	0.97
1	1068.66	100y	36.64	486.46	488.27	1.81	488.27	488.72	0.013610	3.01	12.88	17.02	0.92
1	1068.66	500y	60.07	486.46	488.67	2.21	488.67	489.19	0.011116	3.34	21.03	24.38	0.87
1	1048.48	10y	16.64	483.37	484.18	0.81	484.78	486.88	0.244625	7.28	2.28	4.72	3.34
1	1048.48	50y	29.86	483.37	484.49	1.12	485.27	487.53	0.165566	7.72	3.87	5.28	2.87
1	1048.48	100y	36.64	483.37	484.64	1.27	485.47	487.81	0.141960	7.89	4.65	5.55	2.72
1	1048.48	500y	60.07	483.37	485.13	1.76	486.06	488.42	0.091990	8.07	7.58	6.42	2.30
1	1028.79	10y	16.64	482.65	484.03	1.38	484.22	484.79	0.036858	3.88	4.28	4.76	1.31
1	1028.79	50y	29.86	482.65	484.44	1.79	484.74	485.55	0.039686	4.67	6.39	5.53	1.39
1	1028.79	100y	36.64	482.65	484.60	1.95	484.96	485.87	0.041187	4.99	7.34	5.83	1.42
1	1028.79	500y	60.07	482.65	485.10	2.45	485.60	486.80	0.040181	5.78	10.45	6.76	1.44
1	1008.66	10y	16.64	481.91	483.29	1.38	483.47	484.06	0.036016	3.89	4.27	4.46	1.27
1	1008.66	50y	29.86	481.91	483.78	1.87	484.01	484.79	0.032692	4.45	6.71	5.36	1.26
1	1008.66	100y	36.64	481.91	483.98	2.07	484.28	485.11	0.031409	4.70	7.83	5.73	1.26
1	1008.66	500y	60.07	481.91	484.46	2.55	485.03	486.06	0.031086	5.66	11.31	9.48	1.32
1	988.60	10y	16.64	481.40	482.89	1.49	482.92	483.47	0.023077	3.39	4.91	4.56	1.04
1	988.60	50y	29.86	481.40	483.45	2.05	483.47	484.23	0.020842	3.92	7.66	5.26	1.01
1	988.60	100y	36.64	481.40	483.70	2.30	483.71	484.56	0.019867	4.12	8.99	5.57	1.00
1	988.60	500y	60.07	481.40	484.48	3.08	484.72	485.46	0.014705	4.47	14.99	12.47	0.91
1	968.67	10y	16.64	480.79	482.48	1.69	482.57	482.98	0.023772	3.14	5.40	7.51	1.09
1	968.67	50y	29.86	480.79	482.69	1.90	483.02	483.66	0.037625	4.43	7.10	9.21	1.41
1	968.67	100y	36.64	480.79	482.78	1.99	483.19	483.97	0.042205	4.91	8.01	10.32	1.50
1	968.67	500y	60.07	480.79	483.02	2.23	483.64	484.86	0.055429	6.24	10.84	12.91	1.77
1	949.14	10y	16.64	480.36	481.72	1.36	481.87	482.43	0.031441	3.74	4.45	4.64	1.22
1	949.14	50y	29.86	480.36	482.32	1.96	482.52	483.03	0.022477	3.77	8.50	11.01	1.08
1	949.14	100y	36.64	480.36	482.46	2.10	482.73	483.25	0.023875	4.04	10.11	13.13	1.13
1	949.14	500y	60.07	480.36	482.73	2.37	483.11	483.86	0.031231	4.99	14.56	19.39	1.32
1	928.92	10y	16.64	479.96	481.07	1.11	481.25	481.70	0.038687	3.53	4.72	7.35	1.41
1	928.92	50y	29.86	479.96	481.30	1.34	481.65	482.36	0.047196	4.56	6.66	9.70	1.61
1	928.92	100y	36.64	479.96	481.43	1.47	481.80	482.57	0.044097	4.77	7.98	10.75	1.59
1	928.92	500y	60.07	479.96	481.79	1.83	482.02	483.14	0.038465	5.29	12.31	13.31	1.54
1	909.15	10y	16.64	479.50	480.73	1.23	480.76	481.00	0.023727	2.32	7.18	14.70	1.06
1	909.15	50y	29.86	479.50	480.89	1.39	481.03	481.35	0.037028	3.01	9.91	19.16	1.34
1	909.15	100y	36.64	479.50	480.94	1.44	481.13	481.52	0.044919	3.38	10.85	20.48	1.48
1	909.15	500y	60.07	479.50	481.07	1.57	481.39	482.04	0.067700	4.36	13.77	24.10	1.84
1	888.90	10y	16.64	478.86	480.32	1.46	480.39	480.58	0.019216	2.68	9.15	28.00	0.97
1	888.90	50y	29.86	478.86	480.50	1.64	480.56	480.80	0.019664	3.04	14.50	32.49	1.00
1	888.90	100y	36.64	478.86	480.57	1.71	480.61	480.89	0.019918	3.19	16.90	34.31	1.01
1	888.90	500y	60.07	478.86	480.74	1.88	480.84	481.16	0.023255	3.75	23.19	38.56	1.11
1	869.04	10y	16.64	477.65	478.82	1.17	479.15	479.83	0.082374	4.44	3.74	6.83	1.92
1	869.04	50y	29.86	477.65	479.21	1.56	479.54	480.18	0.045456	4.40	7.05	10.23	1.51
1	869.04	100y	36.64	477.65	479.38	1.73	479.67	480.33	0.036523	4.39	9.03	12.71	1.38
1	869.04	500y	60.07	477.65	479.87	2.22	480.19	480.70	0.022363	4.31	17.50	24.86	1.12

HEC-RAS Plan: chp2 River: chorrillo Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	849.23	10y	16.64	476.76	478.36	1.60	478.52	478.85	0.025275	3.25	6.14	13.89	1.12
1	849.23	50y	29.86	476.76	478.53	1.77	478.80	479.33	0.036903	4.32	8.88	17.92	1.39
1	849.23	100y	36.64	476.76	478.59	1.83	478.92	479.55	0.043227	4.81	9.95	19.26	1.51
1	849.23	500y	60.07	476.76	478.79	2.03	479.12	480.02	0.050848	5.71	14.34	24.00	1.67
1	829.15	10y	16.64	476.40	478.14	1.74	478.24	478.45	0.012867	2.53	8.11	31.02	0.81
1	829.15	50y	29.86	476.40	478.29	1.89	478.38	478.73	0.018380	3.27	13.11	34.38	0.98
1	829.15	100y	36.64	476.40	478.34	1.94	478.57	478.85	0.021228	3.60	14.89	35.50	1.06
1	829.15	500y	60.07	476.40	478.52	2.12	478.72	479.17	0.026950	4.36	22.90	57.44	1.22
1	809.43	10y	16.64	475.93	476.72	0.79	477.03	477.84	0.091534	5.04	4.05	11.91	2.12
1	809.43	50y	29.86	475.93	476.96	1.03	477.32	478.05	0.068522	5.26	7.26	15.19	1.91
1	809.43	100y	36.64	475.93	477.07	1.14	477.44	478.15	0.062394	5.32	9.03	17.84	1.84
1	809.43	500y	60.07	475.93	478.44	2.51	477.73	478.50	0.001297	1.34	61.98	55.31	0.30
1	788.98	10y	16.64	475.25	476.71	1.46	476.37	476.74	0.002573	0.82	20.22	38.09	0.36
1	788.98	50y	29.86	475.25	477.37	2.12	476.54	477.39	0.000493	0.61	51.43	50.18	0.18
1	788.98	100y	36.64	475.25	477.66	2.41	476.62	477.68	0.000339	0.59	66.14	50.91	0.15
1	788.98	500y	60.07	475.25	478.46	3.21	476.81	478.48	0.000196	0.60	107.88	53.11	0.13
1	769.07	10y	16.64	474.64	476.04	1.40	476.04	476.58	0.021466	3.24	5.14	4.85	1.00
1	769.07	50y	29.86	474.64	476.59	1.95	476.59	477.29	0.018776	3.70	8.16	6.13	0.98
1	769.07	100y	36.64	474.64	476.86	2.22	476.86	477.58	0.016470	3.80	10.01	7.84	0.93
1	769.07	500y	60.07	474.64	477.47	2.83	477.47	478.38	0.014371	4.35	15.27	8.78	0.91
1	744.79	10y	16.64	473.73	474.61	0.88	474.92	475.58	0.092205	4.37	3.81	8.40	2.07
1	744.79	50y	29.86	473.73	474.79	1.06	475.24	476.29	0.113369	5.41	5.51	10.29	2.36
1	744.79	100y	36.64	473.73	474.86	1.13	475.36	476.62	0.123790	5.88	6.23	10.99	2.49
1	744.79	500y	60.07	473.73	475.08	1.35	475.71	477.44	0.133524	6.81	8.82	13.21	2.66
1	724.06	10y	16.64	473.18	474.57	1.39	474.36	474.65	0.006550	1.25	13.27	26.46	0.57
1	724.06	50y	29.86	473.18	474.82	1.64	474.57	474.92	0.006111	1.44	20.77	32.13	0.57
1	724.06	100y	36.64	473.18	474.92	1.74	474.66	475.04	0.005632	1.52	24.14	32.34	0.56
1	724.06	500y	60.07	473.18	475.25	2.07	474.88	475.41	0.004459	1.72	34.93	33.00	0.53
1	703.60	10y	16.64	472.83	474.20	1.37	474.20	474.41	0.023087	2.00	8.33	20.53	1.00
1	703.60	50y	29.86	472.83	474.40	1.57	474.40	474.69	0.020905	2.42	12.35	21.03	1.01
1	703.60	100y	36.64	472.83	474.49	1.66	474.49	474.82	0.019689	2.56	14.30	21.27	1.00
1	703.60	500y	60.07	472.83	474.76	1.93	474.76	475.21	0.017940	2.98	20.13	21.96	0.99
1	684.48	10y	16.64	472.23	472.71	0.48	472.93	473.45	0.142403	3.82	4.36	16.86	2.39
1	684.48	50y	29.86	472.23	472.84	0.61	473.11	473.80	0.138317	4.32	6.91	21.64	2.44
1	684.48	100y	36.64	472.23	472.89	0.66	473.19	473.95	0.139976	4.56	8.03	23.45	2.49
1	684.48	500y	60.07	472.23	473.04	0.81	473.42	474.38	0.139609	5.13	11.70	28.56	2.56
1	664.00	10y	16.64	471.91	472.57	0.66	472.57	472.70	0.024836	1.60	10.42	40.19	1.00
1	664.00	50y	29.86	471.91	472.69	0.78	472.69	472.88	0.021417	1.91	15.63	41.22	0.99
1	664.00	100y	36.64	471.91	472.75	0.84	472.75	472.96	0.020847	2.06	17.83	41.32	1.00
1	664.00	500y	60.07	471.91	472.91	1.00	472.92	473.22	0.019683	2.46	24.45	41.70	1.02
1	644.09	10y	16.64	471.62	472.45	0.83	472.15	472.47	0.001663	0.61	27.32	59.00	0.29
1	644.09	50y	29.86	471.62	472.59	0.97	472.26	472.63	0.002141	0.83	36.32	63.21	0.34
1	644.09	100y	36.64	471.62	472.66	1.04	472.31	472.70	0.002297	0.92	40.43	65.04	0.36
1	644.09	500y	60.07	471.62	472.84	1.22	472.45	472.91	0.002700	1.17	52.86	70.31	0.40

HEC-RAS Plan: chp2 River: chorrillo Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	624.05	10y	16.64	471.26	472.27	1.01	472.27	472.37	0.027053	1.41	11.76	57.87	1.00
1	624.05	50y	29.86	471.26	472.37	1.11	472.37	472.52	0.023444	1.70	17.59	59.11	0.99
1	624.05	100y	36.64	471.26	472.41	1.15	472.41	472.58	0.022966	1.82	20.08	59.63	1.00
1	624.05	500y	60.07	471.26	472.55	1.29	472.55	472.78	0.020734	2.13	28.16	61.30	1.00
1	604.07	10y	16.64	471.06	471.58	0.52	471.61	471.74	0.036869	1.77	9.40	42.96	1.19
1	604.07	50y	29.86	471.06	471.67	0.61	471.73	471.91	0.038739	2.19	13.90	52.18	1.28
1	604.07	100y	36.64	471.06	471.71	0.65	471.79	471.99	0.038331	2.33	16.18	56.10	1.30
1	604.07	500y	60.07	471.06	471.82	0.76	471.93	472.21	0.038190	2.81	22.78	66.71	1.36
1	584.26	10y	16.64	470.71	471.33	0.62	471.25	471.41	0.011605	1.26	13.23	41.45	0.71
1	584.26	50y	29.86	470.71	471.48	0.77	471.39	471.59	0.012094	1.48	20.13	50.77	0.75
1	584.26	100y	36.64	470.71	471.54	0.83	471.45	471.67	0.012431	1.59	23.07	54.32	0.77
1	584.26	500y	60.07	470.71	471.67	0.96	471.62	471.87	0.014005	1.98	30.99	69.32	0.85
1	564.38	10y	16.64	470.35	470.94	0.59	470.94	471.08	0.025070	1.67	9.97	36.37	1.02
1	564.38	50y	29.86	470.35	471.09	0.73	471.09	471.26	0.022886	1.88	15.91	45.50	1.01
1	564.38	100y	36.64	470.35	471.15	0.80	471.15	471.34	0.021720	1.94	18.89	49.45	1.00
1	564.38	500y	60.07	470.35	471.31	0.96	471.31	471.55	0.017839	2.16	28.77	73.48	0.96
1	544.53	10y	16.64	469.15	470.13	0.98	470.21	470.39	0.050062	2.26	7.56	33.91	1.40
1	544.53	50y	29.86	469.15	470.24	1.09	470.36	470.61	0.047434	2.75	11.82	45.27	1.45
1	544.53	100y	36.64	469.15	470.28	1.13	470.42	470.70	0.046699	2.95	13.92	49.96	1.46
1	544.53	500y	60.07	469.15	470.40	1.25	470.57	470.96	0.047944	3.51	20.35	62.16	1.54
1	524.37	10y	16.64	468.86	469.52	0.66	469.50	469.67	0.019903	1.71	9.71	28.47	0.94
1	524.37	50y	29.86	468.86	469.66	0.80	469.68	469.89	0.024810	2.16	13.83	33.90	1.08
1	524.37	100y	36.64	468.86	469.72	0.86	469.75	469.98	0.024393	2.26	16.22	36.67	1.08
1	524.37	500y	60.07	468.86	469.91	1.05	469.95	470.24	0.023055	2.51	23.93	44.46	1.09
1	504.50	10y	16.64	468.45	469.09	0.64	469.09	469.23	0.024682	1.71	9.73	33.79	1.02
1	504.50	50y	29.86	468.45	469.23	0.78	469.24	469.43	0.024022	1.96	15.21	42.16	1.04
1	504.50	100y	36.64	468.45	469.30	0.85	469.30	469.50	0.022436	2.01	18.19	46.08	1.02
1	504.50	500y	60.07	468.45	469.42	0.97	469.47	469.73	0.027966	2.49	24.12	52.98	1.17
1	484.59	10y	16.64	467.79	468.83	1.04	468.64	468.90	0.006241	1.16	14.36	31.84	0.55
1	484.59	50y	29.86	467.79	469.04	1.25	468.82	469.14	0.006421	1.37	21.79	40.45	0.58
1	484.59	100y	36.64	467.79	469.12	1.33	468.91	469.23	0.006467	1.48	25.11	44.69	0.59
1	484.59	500y	60.07	467.79	469.33	1.54	469.12	469.49	0.006792	1.77	35.48	53.96	0.63
1	464.47	10y	16.64	467.07	468.49	1.42	468.49	468.67	0.022855	1.90	8.74	24.01	1.01
1	464.47	50y	29.86	467.07	468.68	1.61	468.68	468.91	0.021682	2.11	14.17	32.23	1.01
1	464.47	100y	36.64	467.07	468.76	1.69	468.76	469.00	0.020954	2.18	16.83	35.58	1.01
1	464.47	500y	60.07	467.07	468.98	1.91	468.98	469.26	0.019171	2.36	25.46	44.74	1.00
1	444.66	10y	16.64	466.50	467.75	1.25	467.83	468.04	0.047428	2.37	7.01	23.77	1.39
1	444.66	50y	29.86	466.50	468.24	1.74	467.99	468.33	0.004749	1.34	23.56	43.55	0.51
1	444.66	100y	36.64	466.50	468.48	1.98	468.07	468.55	0.002337	1.15	35.69	54.56	0.38
1	444.66	500y	60.07	466.50	468.74	2.24	468.27	468.83	0.002469	1.38	51.21	66.28	0.40
1	425.10	10y	16.64	465.94	467.56	1.62	466.99	467.62	0.002530	1.08	15.38	18.36	0.38
1	425.10	50y	29.86	465.94	468.22	2.28	467.30	468.27	0.001358	0.98	30.97	34.26	0.29
1	425.10	100y	36.64	465.94	468.47	2.53	467.43	468.51	0.001094	0.96	41.03	46.98	0.27
1	425.10	500y	60.07	465.94	468.71	2.77	467.78	468.79	0.001546	1.27	53.77	57.56	0.33

HEC-RAS Plan: chp2 River: chorrillo Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	404.63	10y	16.64	465.09	466.91	1.82	466.91	467.45	0.022092	3.25	5.13	4.86	0.99
1	404.63	50y	29.86	465.09	467.51	2.42	467.51	468.14	0.018075	3.55	8.67	7.07	0.96
1	404.63	100y	36.64	465.09	467.78	2.69	467.78	468.40	0.018087	3.53	10.82	9.56	0.98
1	404.63	500y	60.07	465.09	468.49	3.40	468.49	468.72	0.005371	2.56	41.20	82.61	0.57
1	378.99	10y	16.64	464.42	464.87	0.45	465.13	466.02	0.267272	4.76	3.49	15.60	3.21
1	378.99	50y	29.86	464.42	464.95	0.53	465.32	466.80	0.329471	6.03	4.96	18.67	3.68
1	378.99	100y	36.64	464.42	465.00	0.58	465.40	467.04	0.318848	6.34	5.81	20.29	3.69
1	378.99	500y	60.07	464.42	465.10	0.68	465.62	468.02	0.353008	7.60	8.06	24.07	4.01
1	358.20	10y	16.64	463.17	464.53	1.36	464.53	464.71	0.023325	1.88	8.85	24.93	1.01
1	358.20	50y	29.86	463.17	464.66	1.49	464.72	464.95	0.027670	2.41	12.59	32.65	1.14
1	358.20	100y	36.64	463.17	464.70	1.53	464.79	465.07	0.030287	2.68	14.08	35.31	1.22
1	358.20	500y	60.07	463.17	464.81	1.64	465.02	465.43	0.040997	3.54	18.12	41.69	1.46
1	338.47	10y	16.64	462.69	463.99	1.30	463.68	464.14	0.005967	1.66	10.02	12.20	0.58
1	338.47	50y	29.86	462.69	464.43	1.74	464.13	464.55	0.004541	1.56	21.18	38.23	0.52
1	338.47	100y	36.64	462.69	464.56	1.87	464.24	464.68	0.004129	1.62	26.35	45.26	0.51
1	338.47	500y	60.07	462.69	464.79	2.10	464.55	464.97	0.004648	1.97	38.62	58.65	0.56
1	317.56	10y	16.64	462.39	463.56	1.17	463.56	463.91	0.018934	2.61	6.38	9.31	1.01
1	317.56	50y	29.86	462.39	463.93	1.54	463.93	464.36	0.017448	2.89	10.32	12.14	1.00
1	317.56	100y	36.64	462.39	464.18	1.79	464.18	464.53	0.011597	2.63	15.26	30.64	0.84
1	317.56	500y	60.07	462.39	464.55	2.16	464.55	464.84	0.007490	2.60	31.92	57.53	0.71
1	295.78	10y	16.64	462.05	463.10	1.05	462.92	463.24	0.007706	1.71	10.07	17.15	0.65
1	295.78	50y	29.86	462.05	462.95	0.90	463.20	463.72	0.051042	3.88	7.78	14.94	1.63
1	295.78	100y	36.64	462.05	463.00	0.95	463.31	463.98	0.059894	4.39	8.50	15.66	1.79
1	295.78	500y	60.07	462.05	463.26	1.21	463.63	464.42	0.048631	4.85	13.14	19.74	1.69
1	275.21	10y	16.64	461.69	462.74	1.05	462.74	462.99	0.021046	2.20	7.56	15.76	1.02
1	275.21	50y	29.86	461.69	463.00	1.31	463.00	463.30	0.018901	2.45	12.19	20.01	1.00
1	275.21	100y	36.64	461.69	463.10	1.41	463.10	463.43	0.018354	2.55	14.37	21.72	1.00
1	275.21	500y	60.07	461.69	463.39	1.70	463.39	463.80	0.017203	2.82	21.33	26.45	1.00
1	254.89	10y	16.64	461.20	462.25	1.06	462.28	462.48	0.029250	2.10	7.91	22.61	1.13
1	254.89	50y	29.86	461.20	462.37	1.17	462.46	462.78	0.036229	2.82	10.60	22.97	1.32
1	254.89	100y	36.64	461.20	462.43	1.23	462.55	462.91	0.036605	3.06	11.98	23.14	1.35
1	254.89	500y	60.07	461.20	462.63	1.43	462.80	463.30	0.033604	3.61	16.69	23.73	1.37
1	235.51	10y	16.64	459.88	460.59	0.71	460.87	461.48	0.093692	4.17	3.99	9.77	2.08
1	235.51	50y	29.86	459.88	460.86	0.98	461.18	461.84	0.058677	4.41	6.94	12.53	1.77
1	235.51	100y	36.64	459.88	460.97	1.08	461.30	462.01	0.052859	4.57	8.33	13.64	1.72
1	235.51	500y	60.07	459.88	461.26	1.38	461.66	462.50	0.044331	5.06	12.81	16.74	1.64
1	215.46	10y	16.64	458.92	460.31	1.39	460.31	460.63	0.019244	2.49	6.68	10.58	1.00
1	215.46	50y	29.86	458.92	460.59	1.67	460.64	461.05	0.019730	2.99	10.07	13.68	1.06
1	215.46	100y	36.64	458.92	460.68	1.76	460.77	461.23	0.020776	3.29	11.35	14.69	1.10
1	215.46	500y	60.07	458.92	460.96	2.04	461.16	461.77	0.021879	4.03	15.84	17.86	1.19
1	195.64	10y	16.64	458.31	459.17	0.86	459.43	459.96	0.061707	3.92	4.25	8.21	1.74
1	195.64	50y	29.86	458.31	459.46	1.15	459.75	460.39	0.055505	4.26	7.00	11.02	1.71
1	195.64	100y	36.64	458.31	459.57	1.26	459.89	460.57	0.051221	4.44	8.28	12.12	1.67
1	195.64	500y	60.07	458.31	459.87	1.56	460.27	461.13	0.042579	5.01	12.38	14.96	1.61

HEC-RAS Plan: chp2 River: chorrillo Reach: 1 (Continued)

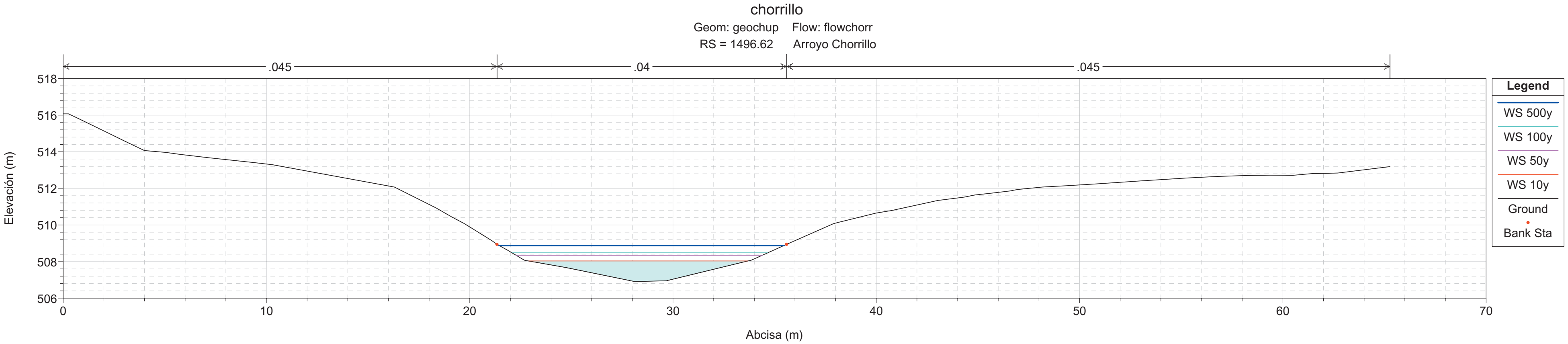
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	174.87	10y	16.64	457.27	458.78	1.51	458.61	459.05	0.010823	2.31	7.21	7.93	0.77
1	174.87	50y	29.86	457.27	458.91	1.64	459.03	459.58	0.024362	3.63	8.24	8.45	1.17
1	174.87	100y	36.64	457.27	459.08	1.81	459.21	459.80	0.023204	3.75	9.77	9.17	1.16
1	174.87	500y	60.07	457.27	459.57	2.30	459.70	460.42	0.020534	4.07	14.77	11.20	1.13
1	155.40	10y	16.64	456.99	458.44	1.45	458.42	458.78	0.018419	2.59	6.43	8.99	0.98
1	155.40	50y	29.86	456.99	459.09	2.10	458.81	459.31	0.006792	2.12	14.38	15.55	0.64
1	155.40	100y	36.64	456.99	459.32	2.33	458.93	459.54	0.005244	2.12	18.26	17.95	0.58
1	155.40	500y	60.07	456.99	459.97	2.98	459.34	460.18	0.003116	2.13	33.32	28.26	0.48
1	134.88	10y	16.64	456.09	457.74	1.65	457.74	458.32	0.023844	3.39	4.91	4.21	1.00
1	134.88	50y	29.86	456.09	458.40	2.31	458.40	459.04	0.021181	3.56	8.41	7.14	1.00
1	134.88	100y	36.64	456.09	458.63	2.54	458.63	459.31	0.017966	3.67	10.27	8.70	0.95
1	134.88	500y	60.07	456.09	459.27	3.18	459.27	460.01	0.013115	3.95	17.14	12.93	0.86
1	115.79	10y	16.64	455.44	456.96	1.52	457.18	457.70	0.043884	3.82	4.35	5.74	1.40
1	115.79	50y	29.86	455.44	457.27	1.83	457.62	458.40	0.052116	4.71	6.34	7.06	1.59
1	115.79	100y	36.64	455.44	457.39	1.95	457.81	458.70	0.054249	5.06	7.24	7.59	1.64
1	115.79	500y	60.07	455.44	457.79	2.35	458.34	459.48	0.048828	5.79	10.57	9.30	1.63
1	95.19	10y	16.64	454.68	455.72	1.04	455.99	456.59	0.066728	4.14	4.02	7.51	1.81
1	95.19	50y	29.86	454.68	455.97	1.29	456.34	457.19	0.065555	4.89	6.11	8.67	1.86
1	95.19	100y	36.64	454.68	456.08	1.40	456.50	457.46	0.065525	5.22	7.02	9.10	1.89
1	95.19	500y	60.07	454.68	456.37	1.69	456.97	458.33	0.061285	6.22	9.78	10.02	1.92
1	75.33	10y	16.64	453.95	455.60	1.65	455.60	456.07	0.021547	3.03	5.48	5.85	1.00
1	75.33	50y	29.86	453.95	456.08	2.13	456.08	456.68	0.020168	3.45	8.66	7.36	1.01
1	75.33	100y	36.64	453.95	456.27	2.32	456.27	456.94	0.018486	3.64	10.12	7.91	0.99
1	75.33	500y	60.07	453.95	456.84	2.89	456.84	457.70	0.015121	4.15	15.12	9.53	0.95
1	55.16	10y	16.64	453.44	454.87	1.43	455.01	455.53	0.030289	3.62	4.60	5.16	1.22
1	55.16	50y	29.86	453.44	455.35	1.91	455.52	456.19	0.027518	4.06	7.36	6.32	1.20
1	55.16	100y	36.64	453.44	455.53	2.09	455.73	456.47	0.027827	4.29	8.53	6.75	1.22
1	55.16	500y	60.07	453.44	456.04	2.60	456.31	457.26	0.028385	4.90	12.26	7.97	1.26
1	39.88	10y	16.64	452.41	453.75	1.34	454.10	454.84	0.065615	4.61	3.61	4.71	1.68
1	39.88	50y	29.86	452.41	454.15	1.74	454.60	455.54	0.058853	5.22	5.73	5.90	1.65
1	39.88	100y	36.64	452.41	454.32	1.91	454.81	455.84	0.052607	5.47	6.79	6.49	1.60
1	39.88	500y	60.07	452.41	454.82	2.41	455.42	456.67	0.041414	6.12	10.43	8.18	1.51
1	20.27	10y	16.64	451.34	452.68	1.34	453.00	453.70	0.049598	4.49	3.70	3.62	1.42
1	20.27	50y	29.86	451.34	453.21	1.87	453.59	454.46	0.047822	4.95	6.03	5.12	1.46
1	20.27	100y	36.64	451.34	453.37	2.03	453.84	454.82	0.049602	5.33	6.90	5.79	1.51
1	20.27	500y	60.07	451.34	453.83	2.49	454.49	455.81	0.045959	6.29	9.99	7.73	1.53
1	0.00	10y	16.64	449.95	451.52	1.57	451.86	452.63	0.055361	4.67	3.56	3.58	1.49
1	0.00	50y	29.86	449.95	452.07	2.12	452.47	453.45	0.050283	5.22	5.73	4.39	1.45
1	0.00	100y	36.64	449.95	452.27	2.32	452.74	453.83	0.047220	5.53	6.67	4.86	1.44
1	0.00	500y	60.07	449.95	452.84	2.89	453.50	454.91	0.041951	6.44	9.78	6.13	1.43

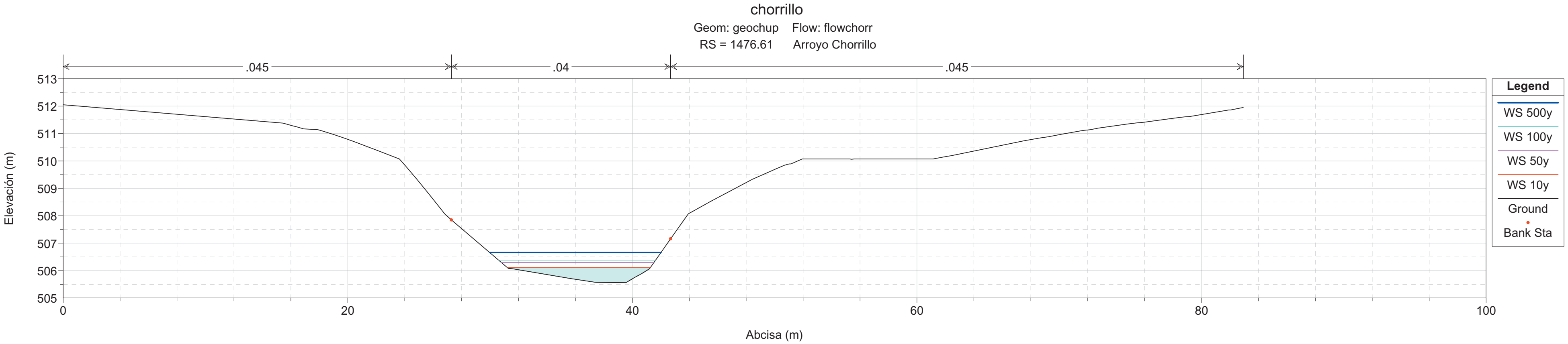
HEC-RAS Plan: chp2 River: chorrillo Reach: 1 Profile: 500y

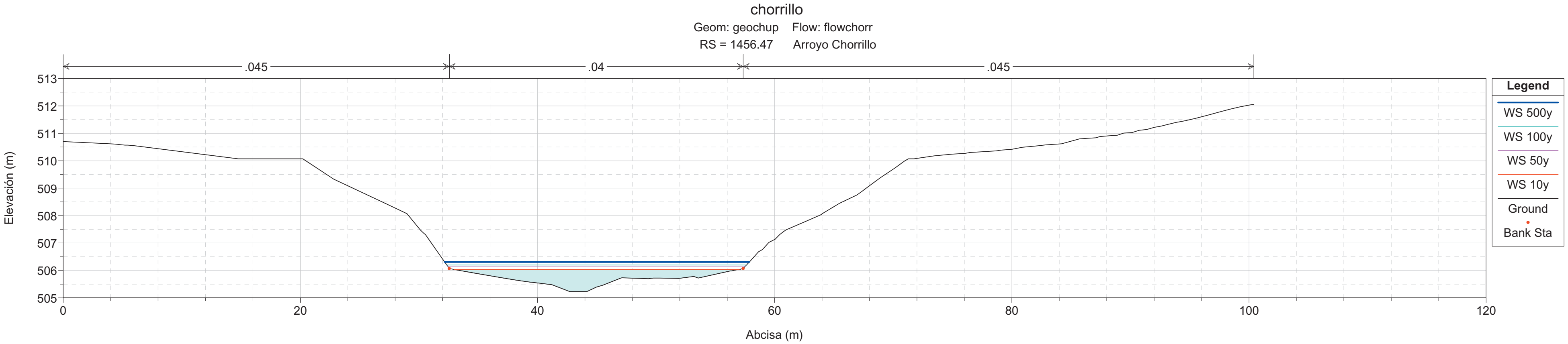
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Vel Chnl	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m/s)	
1	1496.62	500y	60.07	506.92	508.87	1.95	3.48	1.00
1	1476.61	500y	60.07	505.56	506.66	1.10	6.36	2.29
1	1456.47	500y	60.07	505.23	506.31	1.08	3.87	1.56
1	1436.30	500y	60.07	503.95	505.18	1.23	4.68	1.46
1	1416.74	500y	60.07	503.32	504.66	1.34	4.09	1.45
1	1396.79	500y	60.07	502.92	504.57	1.65	3.28	0.99
1	1376.67	500y	60.07	501.58	503.09	1.51	5.37	1.76
1	1361.55	500y	60.07	497.95	499.29	1.34	8.70	2.78
1	1341.77	500y	60.07	496.44	498.18	1.74	7.00	2.22
1	1322.63	500y	60.07	495.89	498.65	2.76	2.34	0.55
1	1302.51	500y	60.07	495.89	498.04	2.15	3.74	0.97
1	1283.12	500y	60.07	494.46	496.87	2.41	5.56	1.41
1	1263.58	500y	60.07	493.83	495.11	1.28	6.58	2.10
1	1243.67	500y	60.07	493.59	495.98	2.39	2.32	0.57
1	1223.78	500y	60.07	493.38	495.43	2.05	3.50	1.00
1	1203.95	500y	60.07	492.83	494.33	1.50	4.87	1.63
1	1184.60	500y	60.07	492.06	493.85	1.79	4.16	1.33
1	1163.73	500y	60.07	488.58	492.96	4.38	1.92	0.37
1	1144.05	500y	60.07	488.53	491.92	3.39	4.58	0.96
1	1128.56	500y	60.07	487.96	489.66	1.70	7.25	1.97
1	1108.54	500y	60.07	487.69	489.04	1.35	5.78	1.94
1	1088.12	500y	60.07	487.15	488.69	1.54	4.15	1.42
1	1068.66	500y	60.07	486.46	488.67	2.21	3.34	0.87
1	1048.48	500y	60.07	483.37	485.13	1.76	8.07	2.30
1	1028.79	500y	60.07	482.65	485.10	2.45	5.78	1.44
1	1008.66	500y	60.07	481.91	484.46	2.55	5.66	1.32
1	988.60	500y	60.07	481.40	484.48	3.08	4.47	0.91
1	968.67	500y	60.07	480.79	483.02	2.23	6.24	1.77
1	949.14	500y	60.07	480.36	482.73	2.37	4.99	1.32
1	928.92	500y	60.07	479.96	481.79	1.83	5.29	1.54
1	909.15	500y	60.07	479.50	481.07	1.57	4.36	1.84
1	888.90	500y	60.07	478.86	480.74	1.88	3.75	1.11
1	869.04	500y	60.07	477.65	479.87	2.22	4.31	1.12
1	849.23	500y	60.07	476.76	478.79	2.03	5.71	1.67
1	829.15	500y	60.07	476.40	478.52	2.12	4.36	1.22
1	809.43	500y	60.07	475.93	478.44	2.51	1.34	0.30
1	788.98	500y	60.07	475.25	478.46	3.21	0.60	0.13
1	769.07	500y	60.07	474.64	477.47	2.83	4.35	0.91
1	744.79	500y	60.07	473.73	475.08	1.35	6.81	2.66
1	724.06	500y	60.07	473.18	475.25	2.07	1.72	0.53
1	703.60	500y	60.07	472.83	474.76	1.93	2.98	0.99
1	684.48	500y	60.07	472.23	473.04	0.81	5.13	2.56
1	664.00	500y	60.07	471.91	472.91	1.00	2.46	1.02
1	644.09	500y	60.07	471.62	472.84	1.22	1.17	0.40
1	624.05	500y	60.07	471.26	472.55	1.29	2.13	1.00
1	604.07	500y	60.07	471.06	471.82	0.76	2.81	1.36
1	584.26	500y	60.07	470.71	471.67	0.96	1.98	0.85
1	564.38	500y	60.07	470.35	471.31	0.96	2.16	0.96
1	544.53	500y	60.07	469.15	470.40	1.25	3.51	1.54
1	524.37	500y	60.07	468.86	469.91	1.05	2.51	1.09
1	504.50	500y	60.07	468.45	469.42	0.97	2.49	1.17
1	484.59	500y	60.07	467.79	469.33	1.54	1.77	0.63

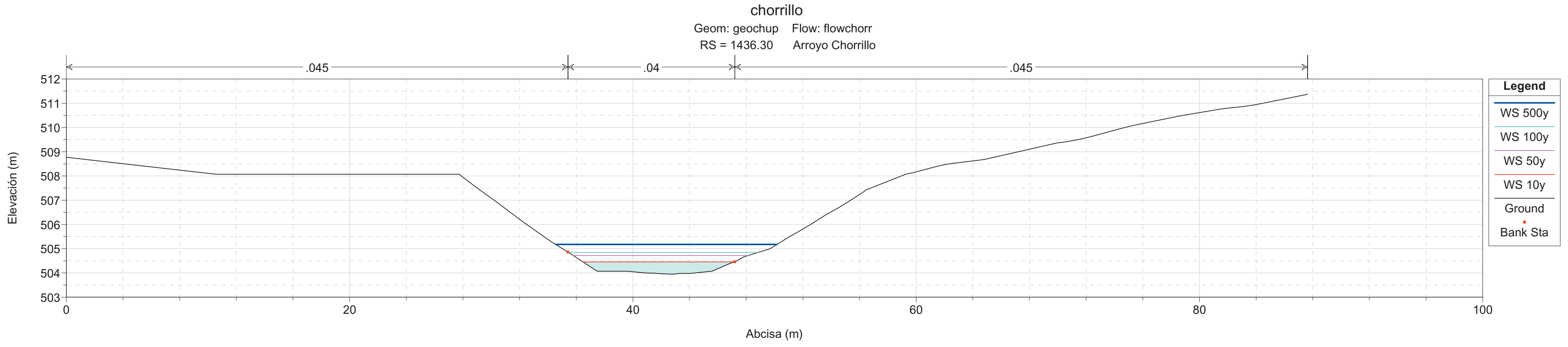
HEC-RAS Plan: chp2 River: chorrillo Reach: 1 Profile: 500y

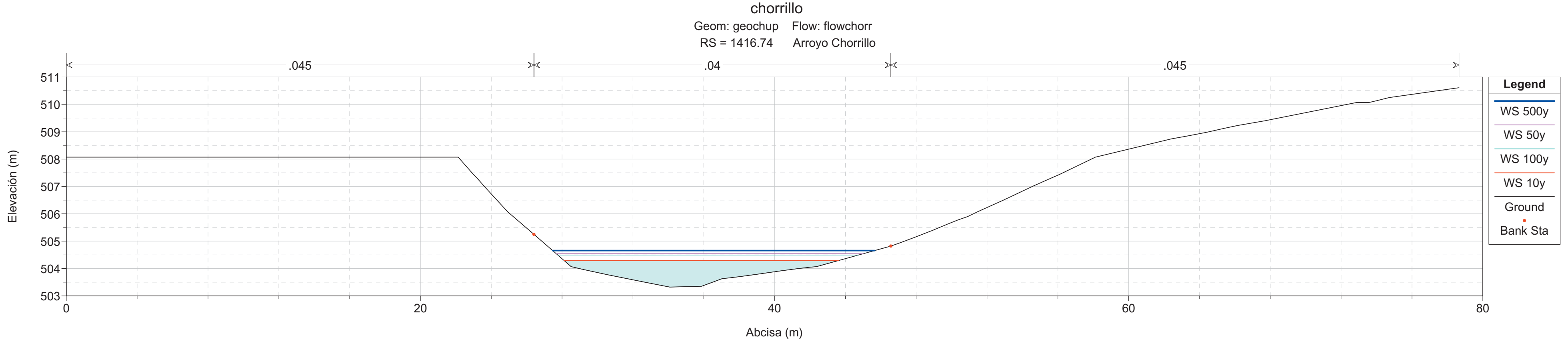
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Vel Chnl	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m/s)	
1	464.47	500y	60.07	467.07	468.98	1.91	2.36	1.00
1	444.66	500y	60.07	466.50	468.74	2.24	1.38	0.40
1	425.10	500y	60.07	465.94	468.71	2.77	1.27	0.33
1	404.63	500y	60.07	465.09	468.49	3.40	2.56	0.57
1	378.99	500y	60.07	464.42	465.10	0.68	7.60	4.01
1	358.20	500y	60.07	463.17	464.81	1.64	3.54	1.46
1	338.47	500y	60.07	462.69	464.79	2.10	1.97	0.56
1	317.56	500y	60.07	462.39	464.55	2.16	2.60	0.71
1	295.78	500y	60.07	462.05	463.26	1.21	4.85	1.69
1	275.21	500y	60.07	461.69	463.39	1.70	2.82	1.00
1	254.89	500y	60.07	461.20	462.63	1.43	3.61	1.37
1	235.51	500y	60.07	459.88	461.26	1.38	5.06	1.64
1	215.46	500y	60.07	458.92	460.96	2.04	4.03	1.19
1	195.64	500y	60.07	458.31	459.87	1.56	5.01	1.61
1	174.87	500y	60.07	457.27	459.57	2.30	4.07	1.13
1	155.40	500y	60.07	456.99	459.97	2.98	2.13	0.48
1	134.88	500y	60.07	456.09	459.27	3.18	3.95	0.86
1	115.79	500y	60.07	455.44	457.79	2.35	5.79	1.63
1	95.19	500y	60.07	454.68	456.37	1.69	6.22	1.92
1	75.33	500y	60.07	453.95	456.84	2.89	4.15	0.95
1	55.16	500y	60.07	453.44	456.04	2.60	4.90	1.26
1	39.88	500y	60.07	452.41	454.82	2.41	6.12	1.51
1	20.27	500y	60.07	451.34	453.83	2.49	6.29	1.53
1	0.00	500y	60.07	449.95	452.84	2.89	6.44	1.43

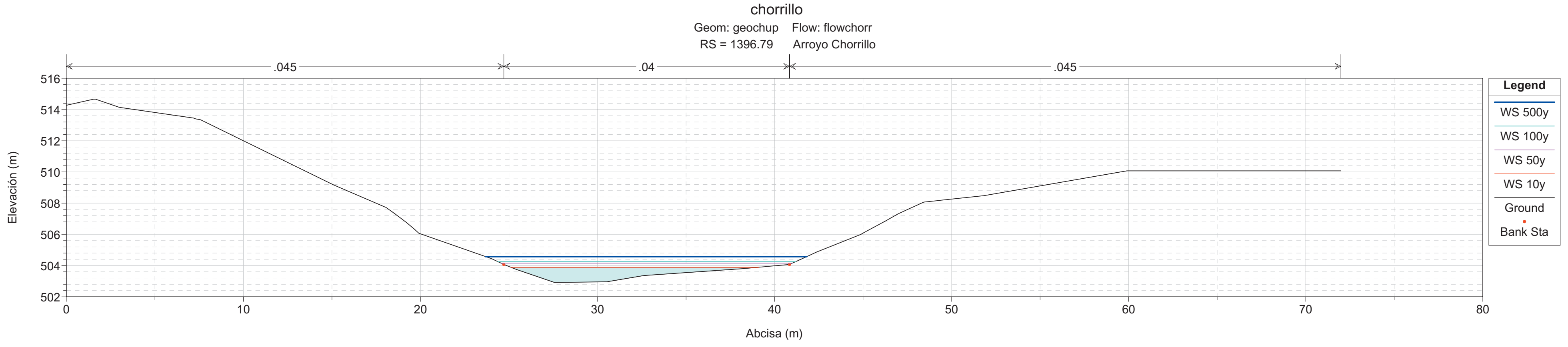

chorrillo
Geom: geochup Flow: flowchorr
RS = 1496.62 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

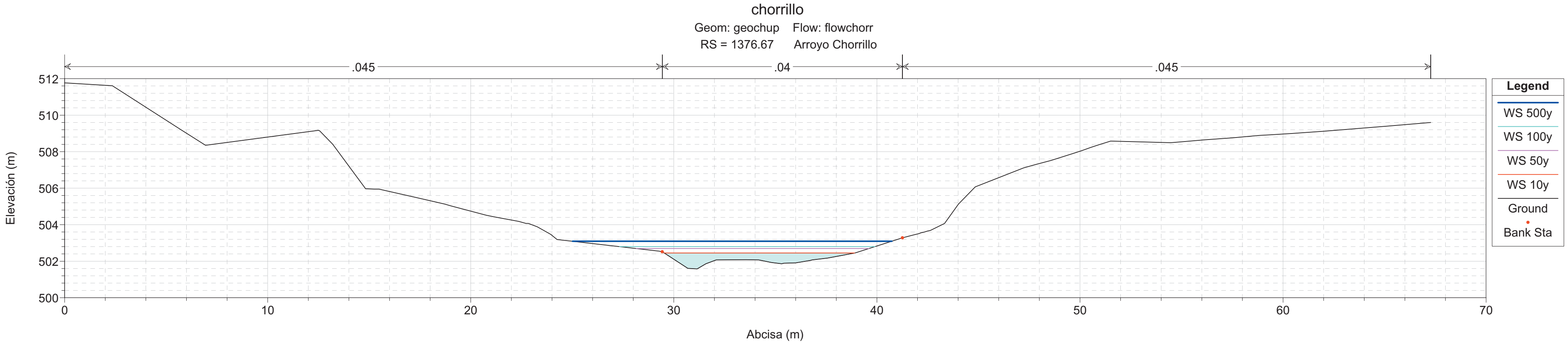

chorrillo
Geom: geochup Flow: flowchorr
RS = 1476.61 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

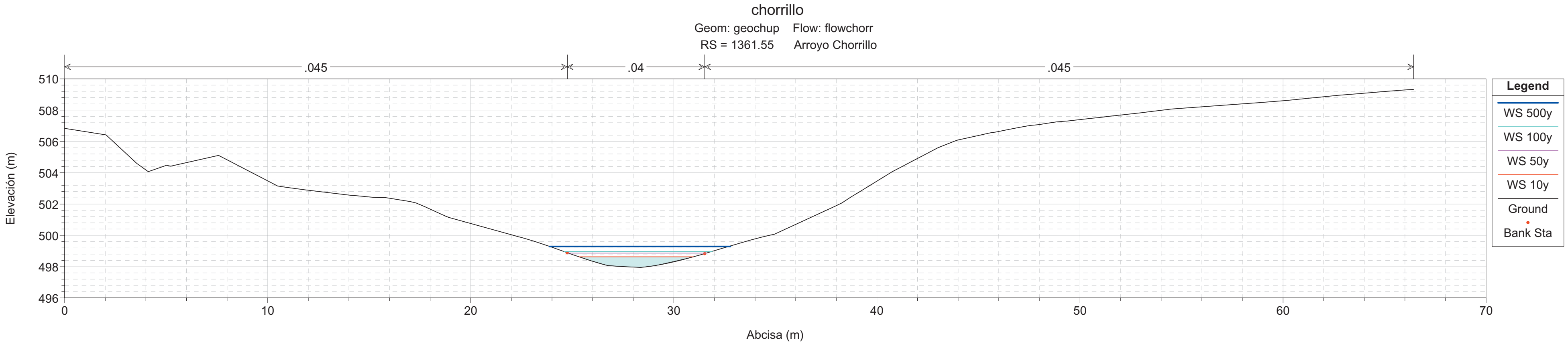

chorrillo
Geom: geochup Flow: flowchorr
RS = 1456.47 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

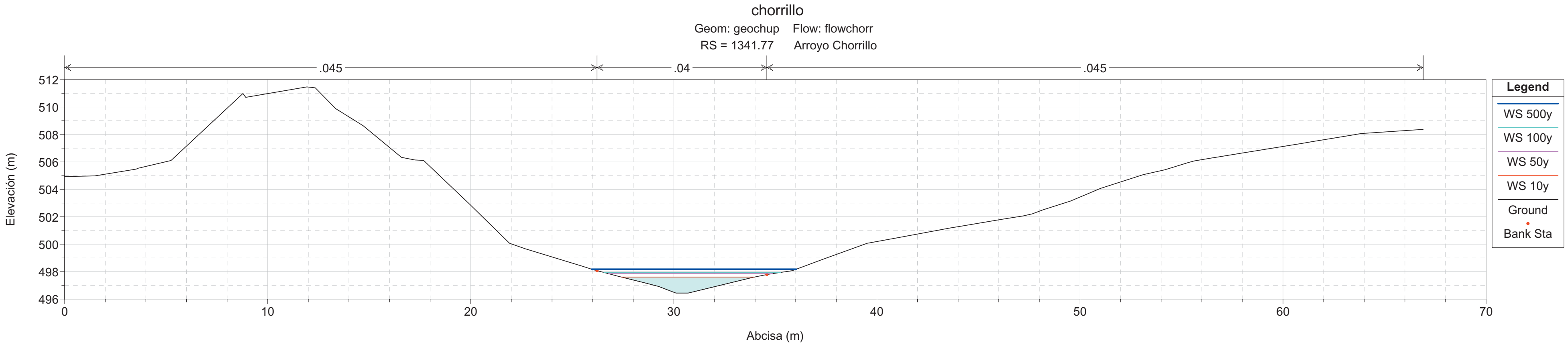

chorrillo
Geom: geochup Flow: flowchorr
RS = 1436.30 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


chorrillo
Geom: geochup Flow: flowchorr
RS = 1416.74 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 50y
WS 100y
WS 10y
Ground
Bank Sta

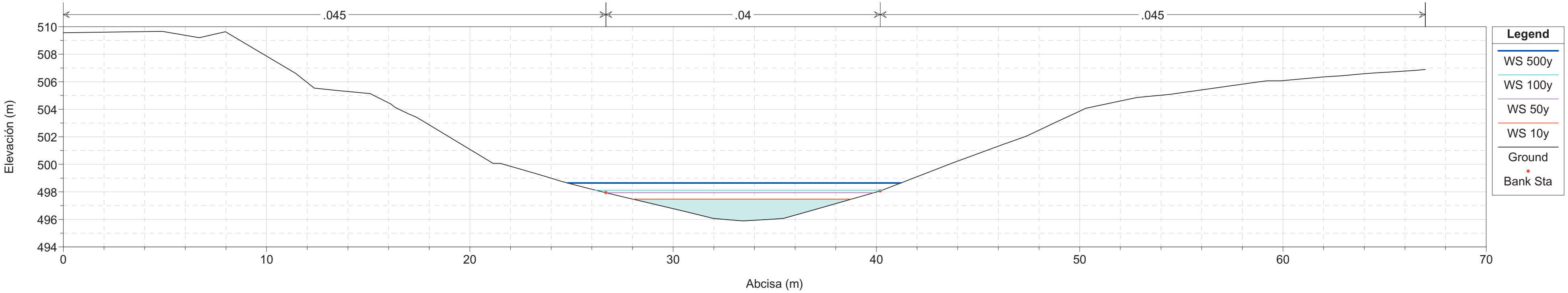

chorrillo
Geom: geochup Flow: flowchorr
RS = 1396.79 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


chorrillo
Geom: geochup Flow: flowchorr
RS = 1376.67 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

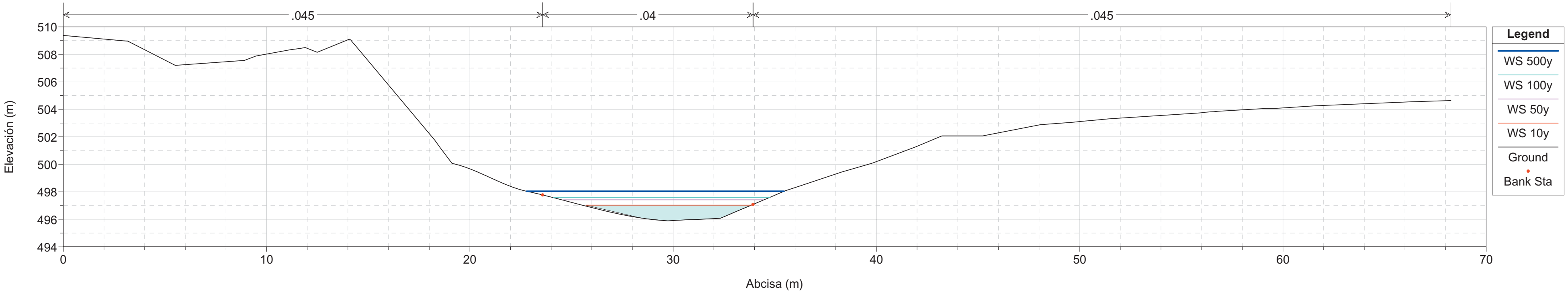

chorrillo
Geom: geochup Flow: flowchorr
RS = 1361.55 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


chorrillo
Geom: geochup Flow: flowchorr
RS = 1341.77 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

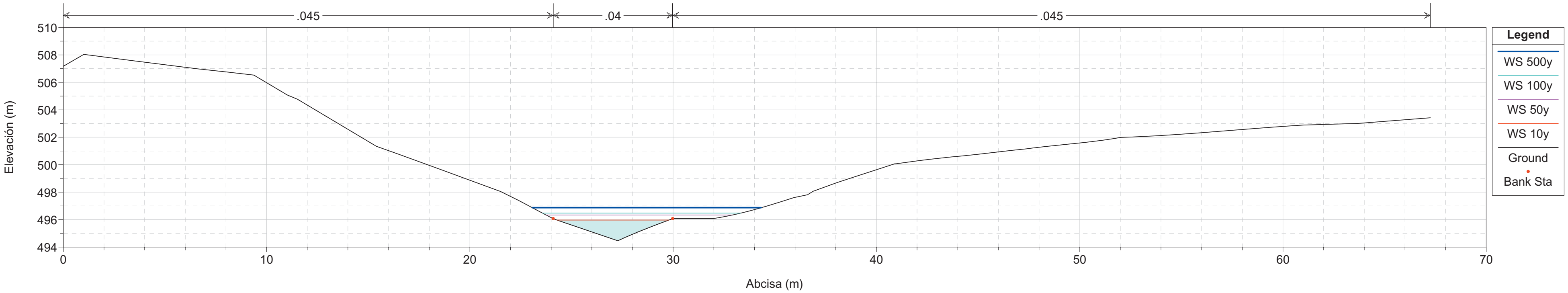
chorrillo
Geom: geochup Flow: flowchorr
RS = 1322.63 Arroyo Chorrillo

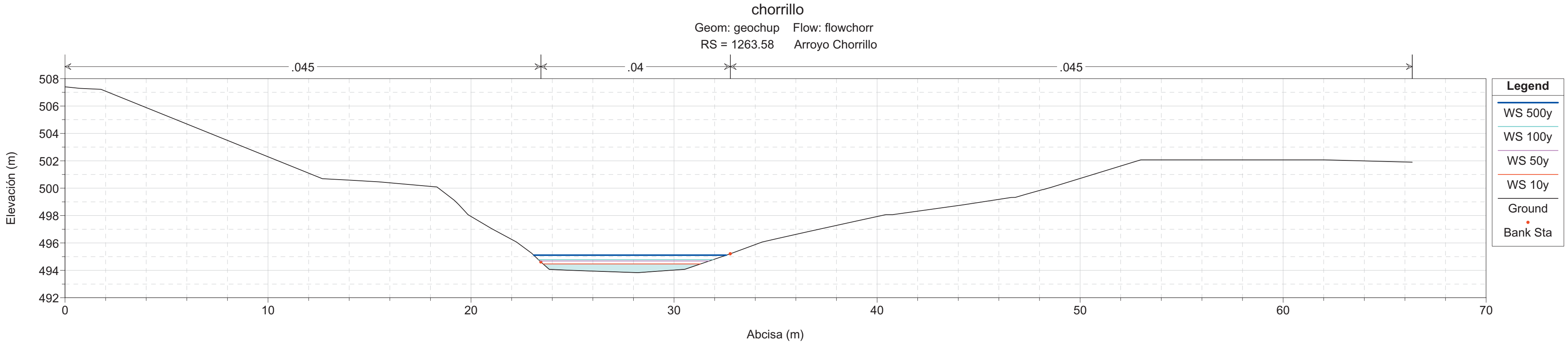


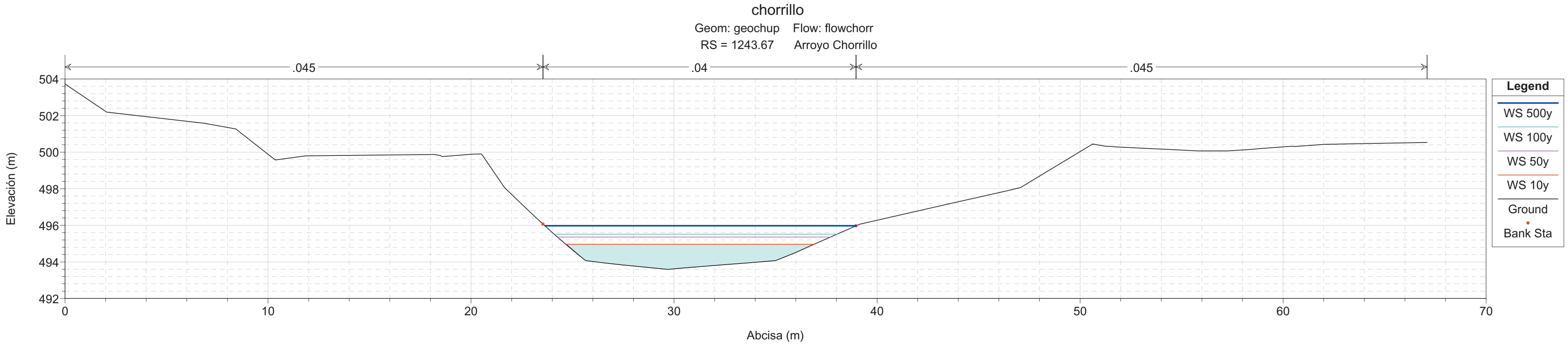
chorrillo
Geom: geochup Flow: flowchorr
RS = 1302.51 Arroyo Chorrillo

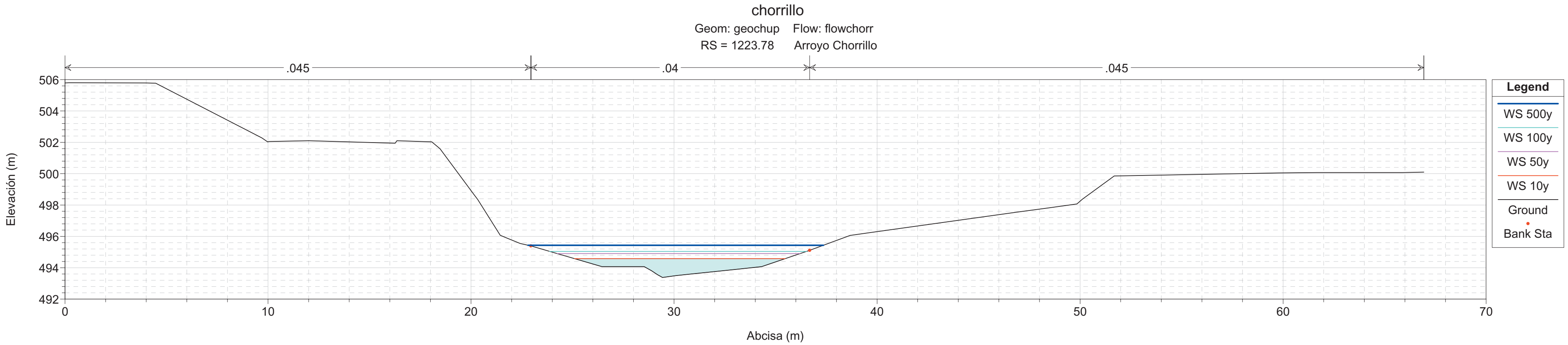


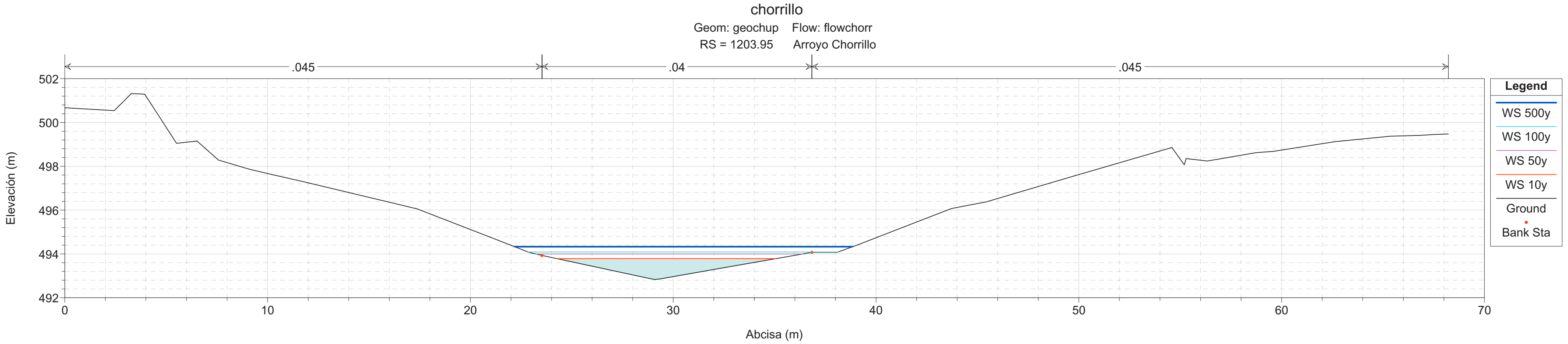
chorrillo
Geom: geochup Flow: flowchorr
RS = 1283.12 Arroyo Chorrillo

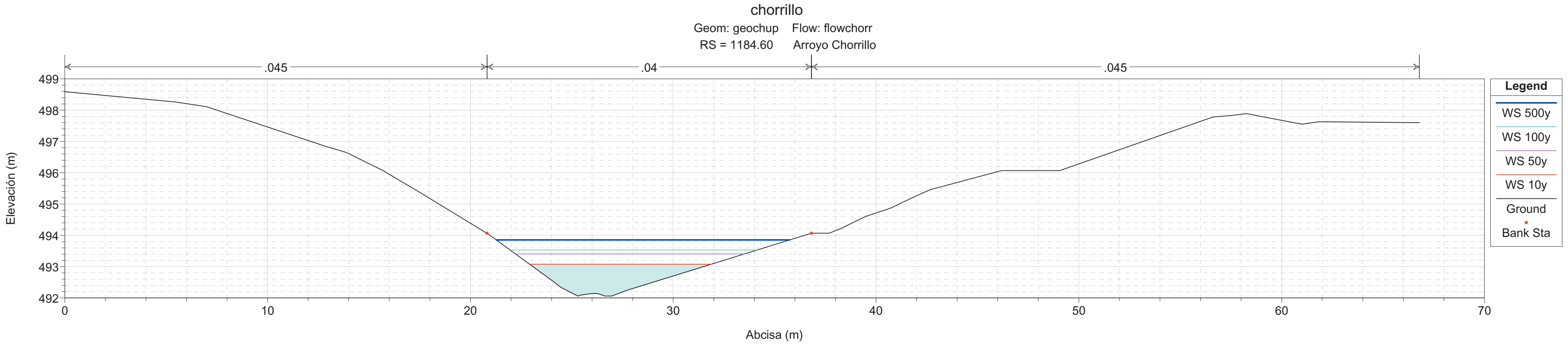


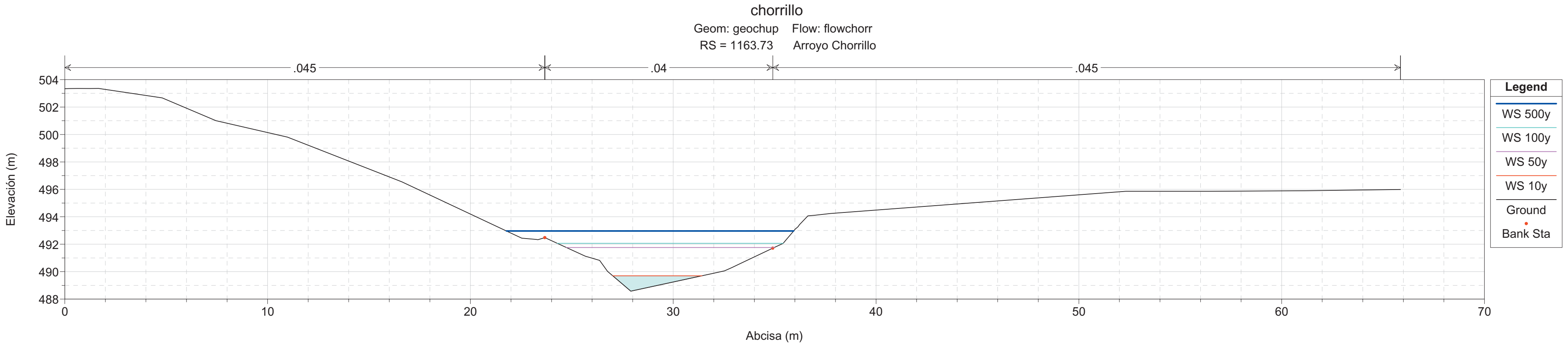

chorrillo
Geom: geochup Flow: flowchorr
RS = 1263.58 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

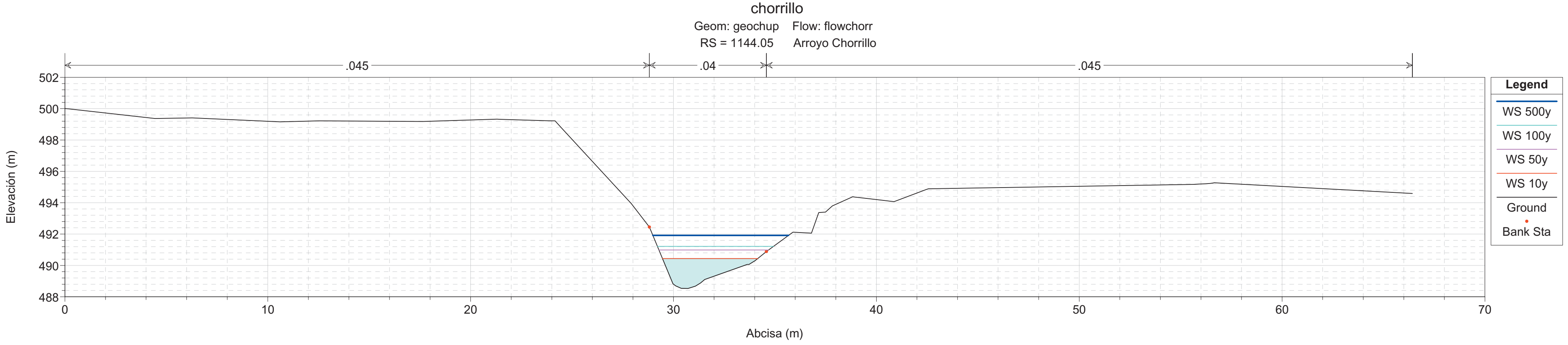

chorrillo
Geom: geochup Flow: flowchorr
RS = 1243.67 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

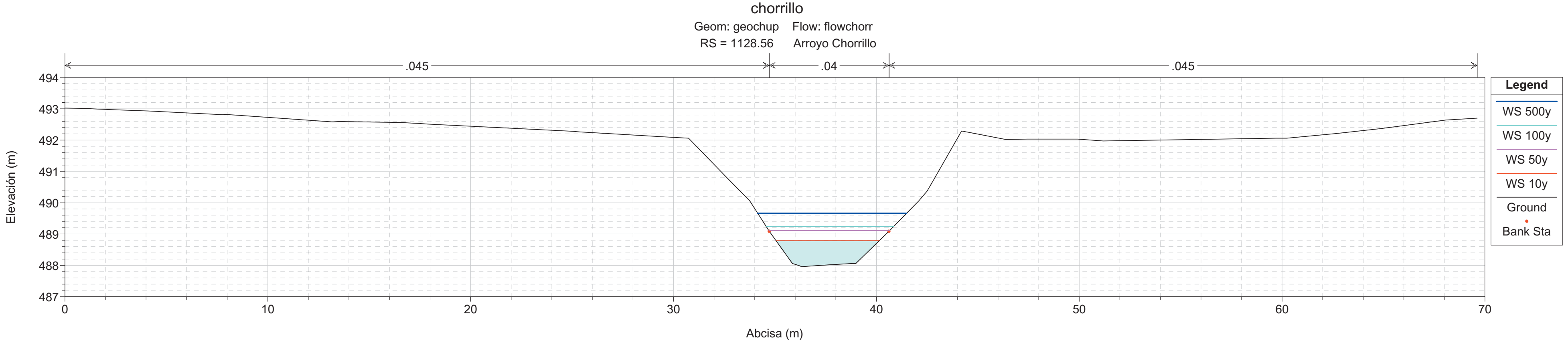

chorrillo
Geom: geochup Flow: flowchorr
RS = 1223.78 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

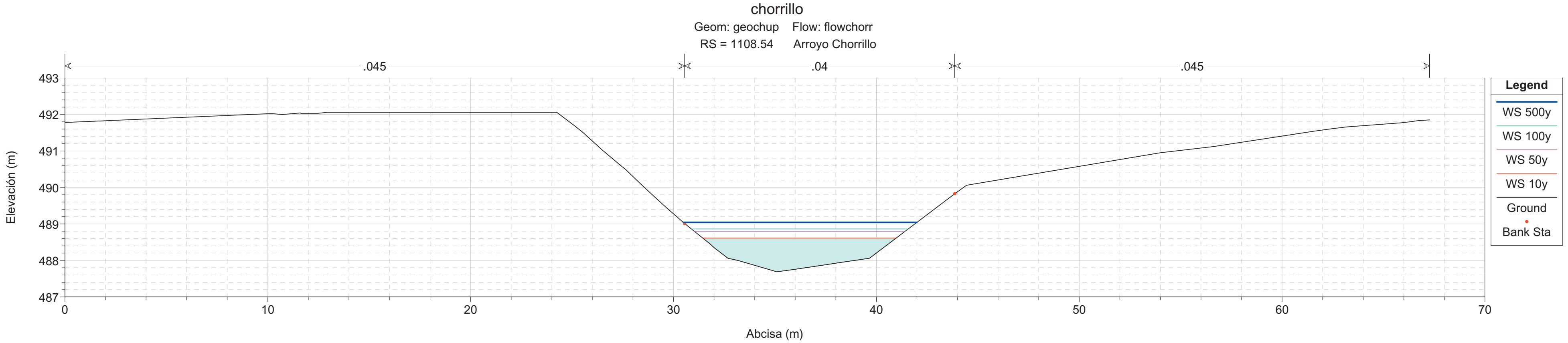

chorrillo
Geom: geochup Flow: flowchorr
RS = 1203.95 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)
502
500
498
496
494
492
0
10
20
30
40
50
60
70

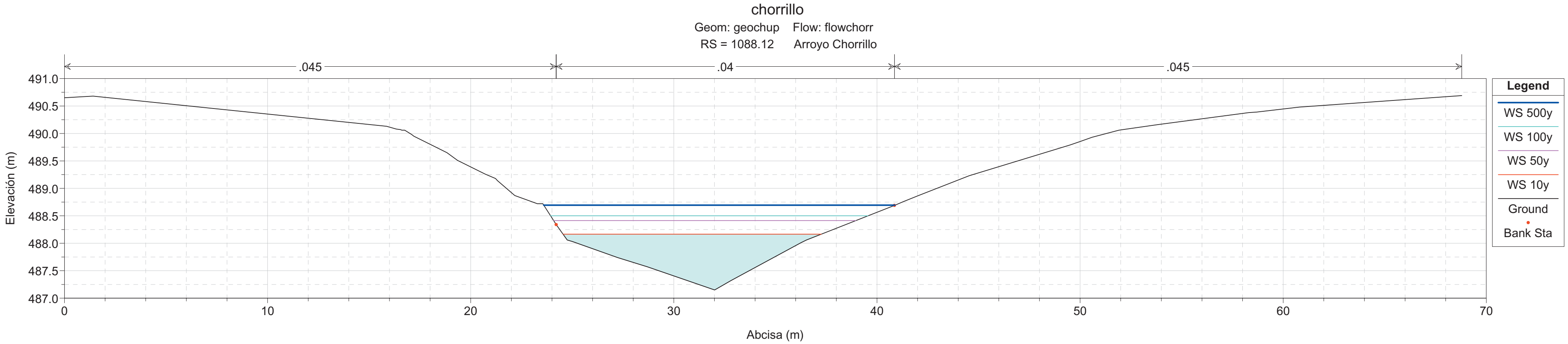

chorrillo
Geom: geochup Flow: flowchorr
RS = 1184.60 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)
499
498
497
496
495
494
493
492
0
10
20
30
40
50
60
70

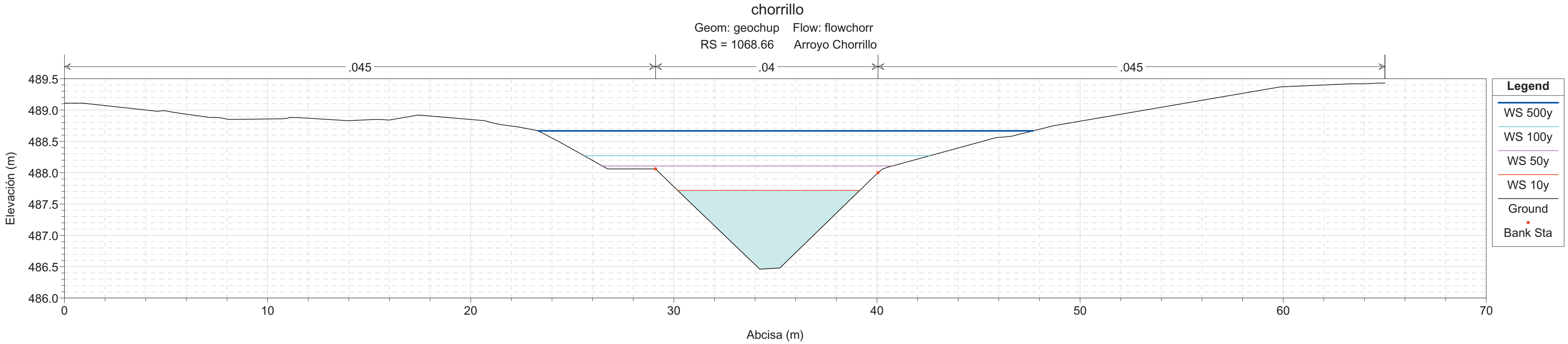

chorrillo
Geom: geochup Flow: flowchorr
RS = 1163.73 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)
504
502
500
498
496
494
492
490
488
0
10
20
30
40
50
60
70

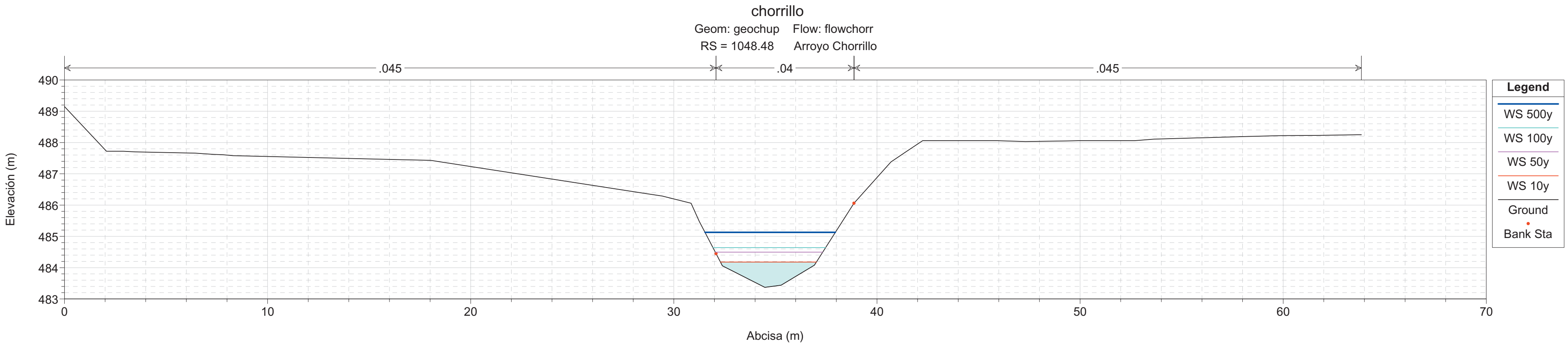

chorrillo
Geom: geochup Flow: flowchorr
RS = 1144.05 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

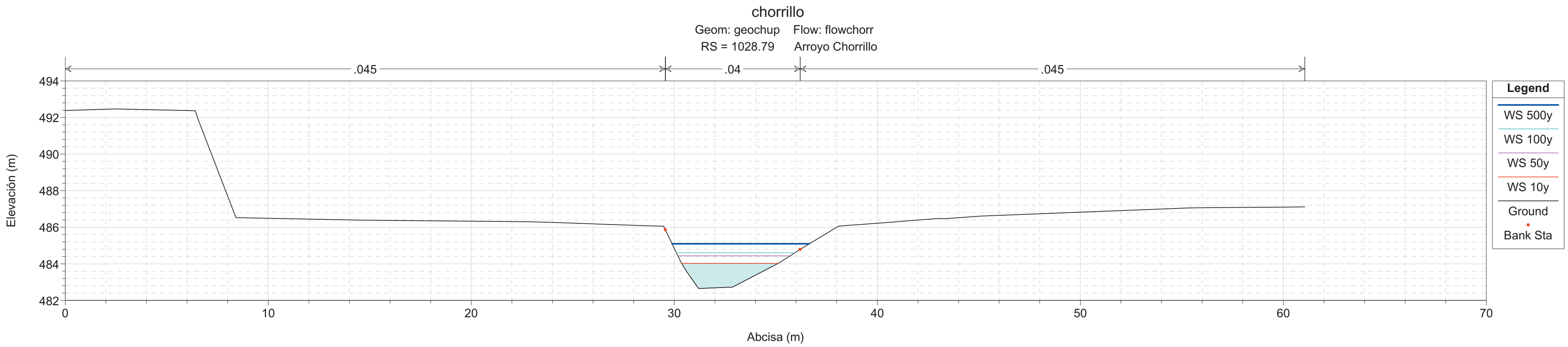

chorrillo
Geom: geochup Flow: flowchorr
RS = 1128.56 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

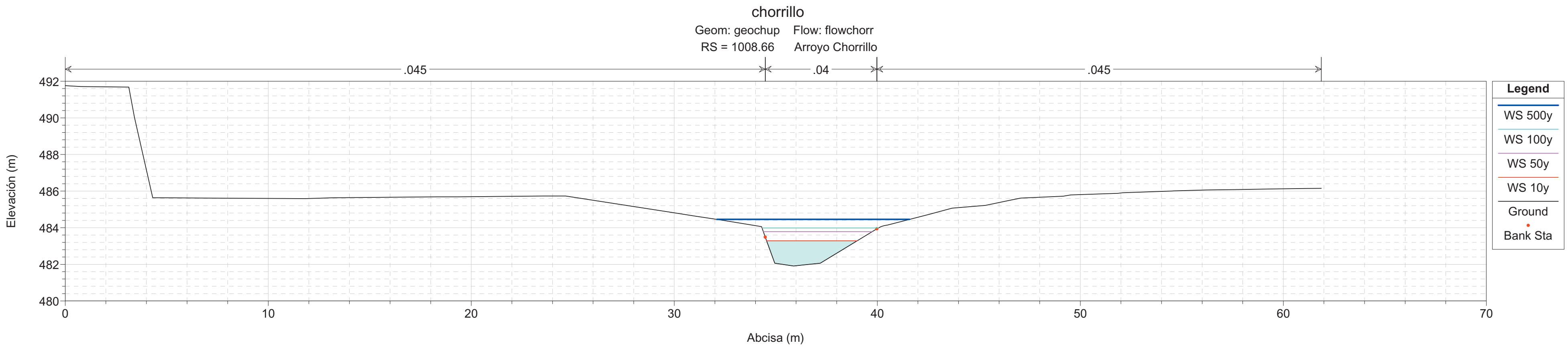

chorrillo
Geom: geochup Flow: flowchorr
RS = 1108.54 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

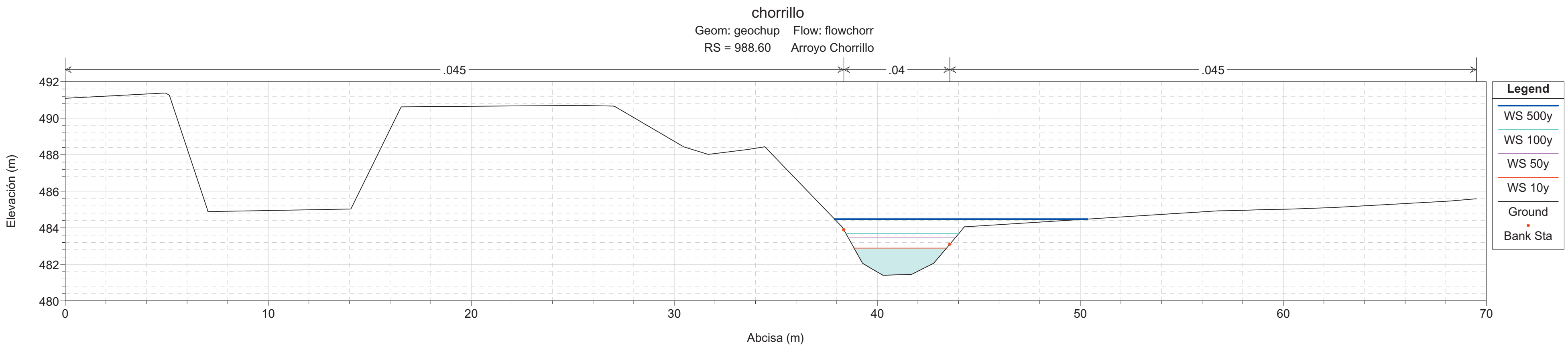

chorrillo
Geom: geochup Flow: flowchorr
RS = 1088.12 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


chorrillo
Geom: geochup Flow: flowchorr
RS = 1068.66 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

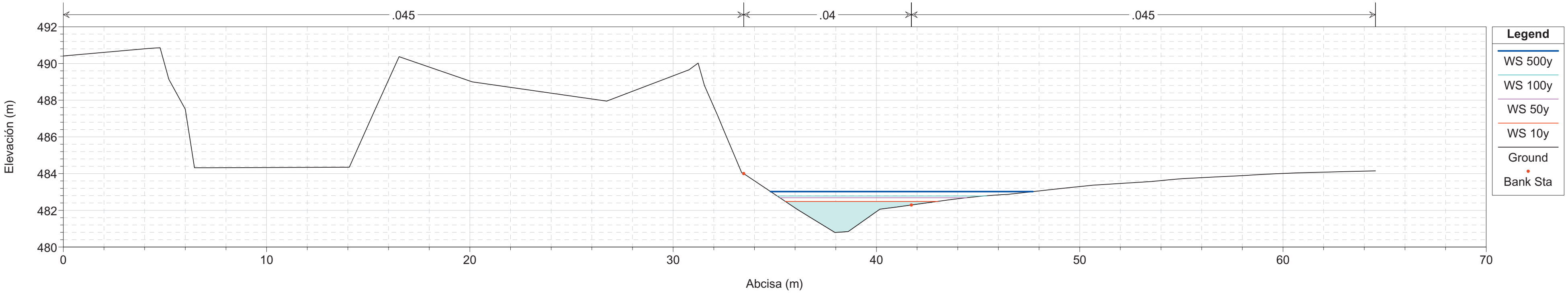

chorrillo
Geom: geochup Flow: flowchorr
RS = 1048.48 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


chorrillo
Geom: geochup Flow: flowchorr
RS = 1028.79 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

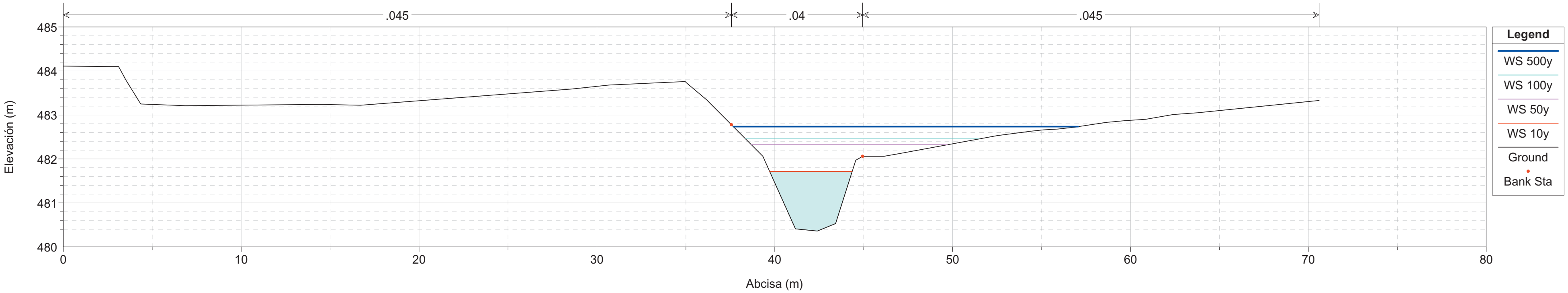

chorrillo
Geom: geochup Flow: flowchorr
RS = 1008.66 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


chorrillo
Geom: geochup Flow: flowchorr
RS = 988.60 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

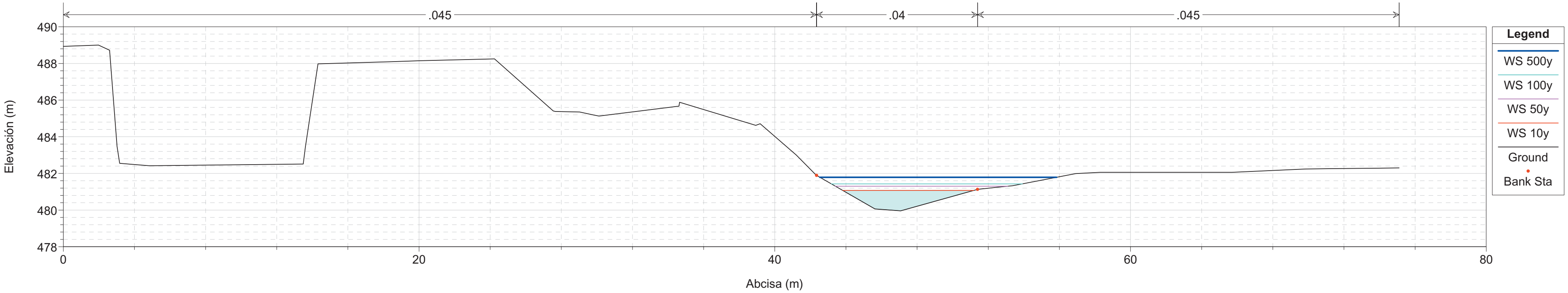
chorrillo
Geom: geochup Flow: flowchorr
RS = 968.67 Arroyo Chorrillo

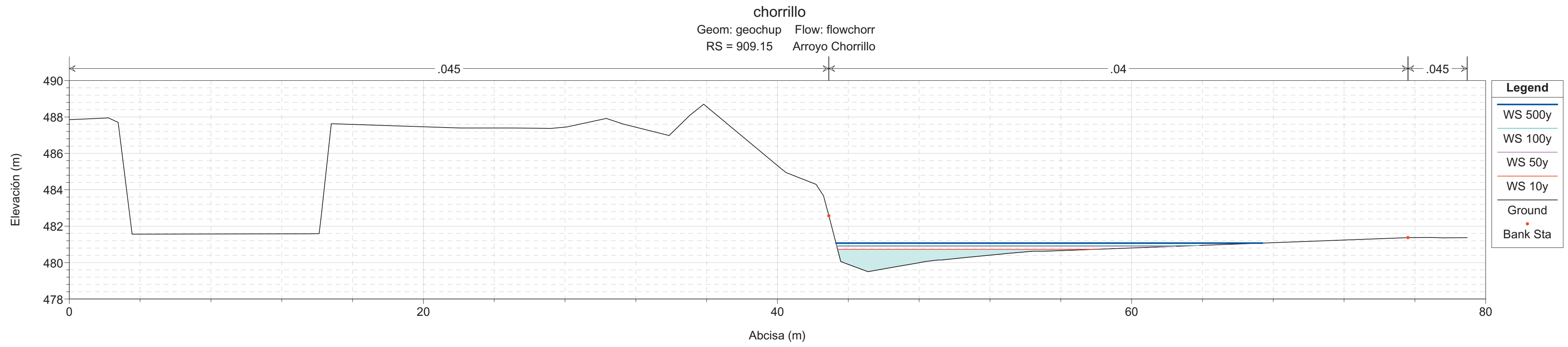


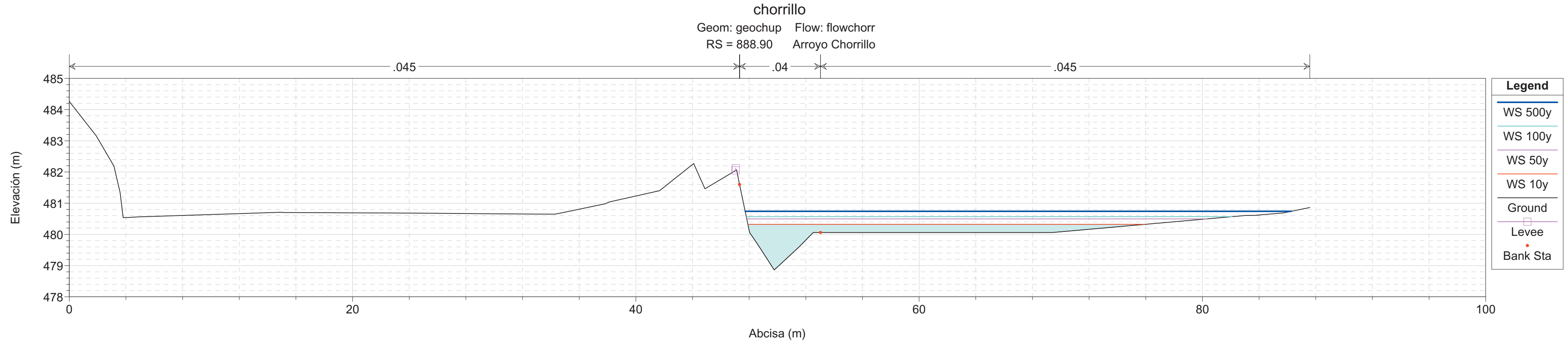
chorrillo
Geom: geochup Flow: flowchorr
RS = 949.14 Arroyo Chorrillo

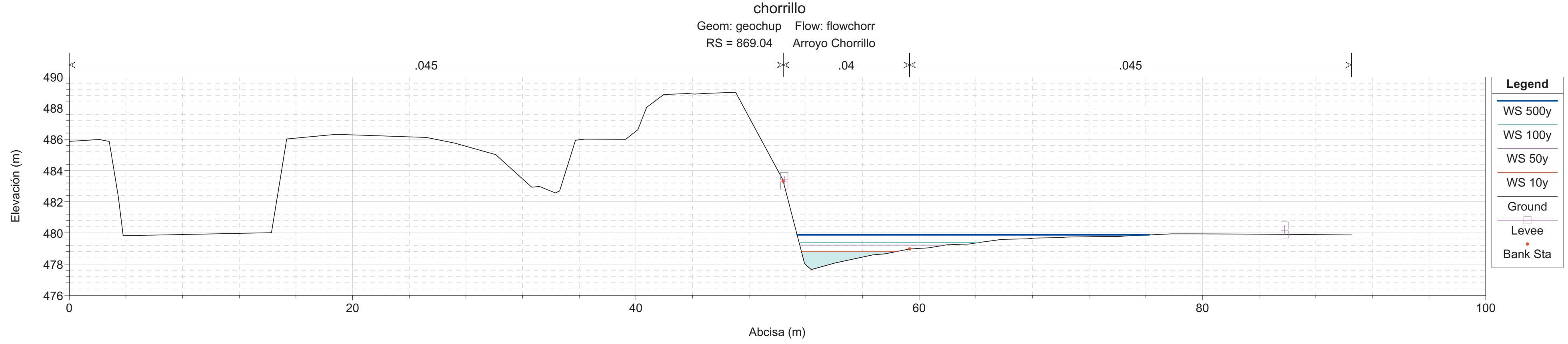


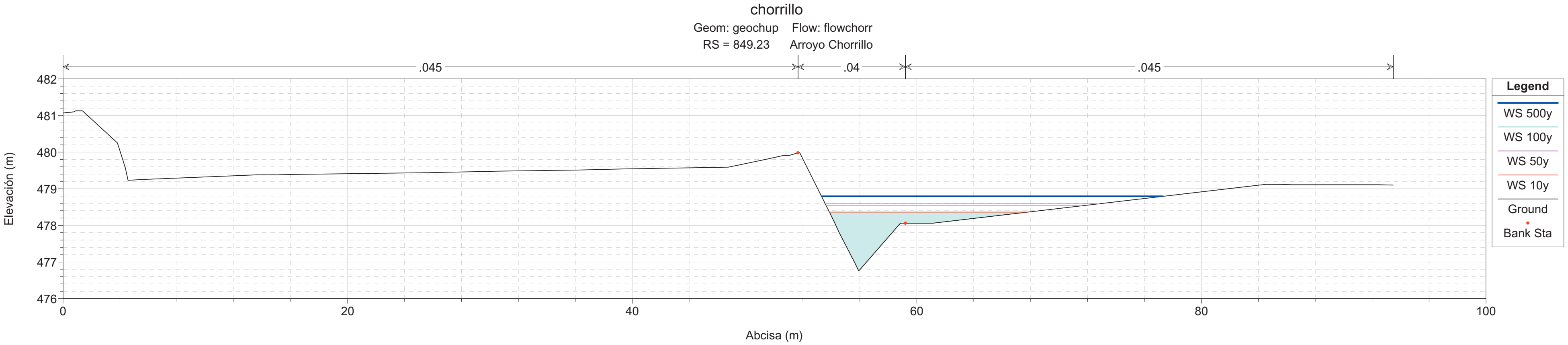
chorrillo
Geom: geochup Flow: flowchorr
RS = 928.92 Arroyo Chorrillo

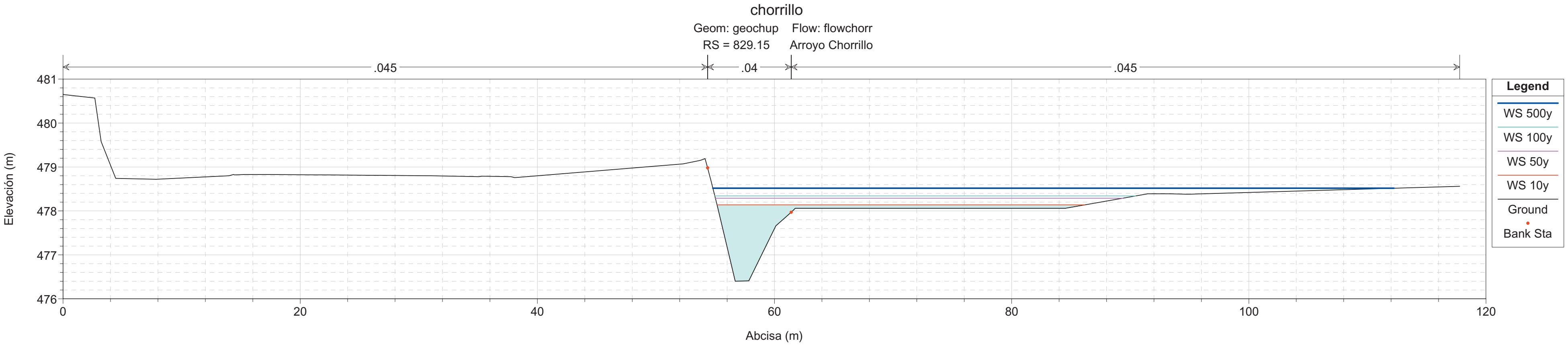


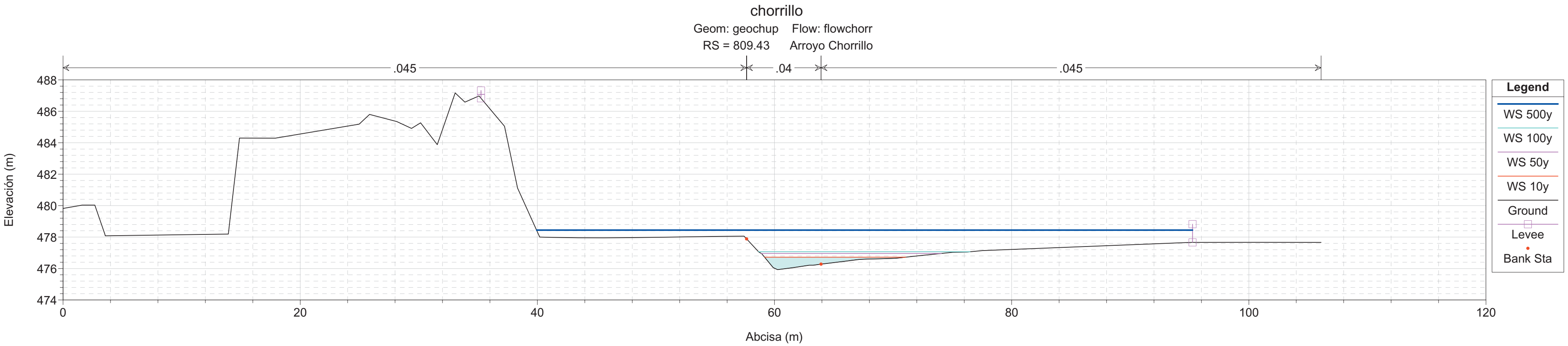

chorrillo
Geom: geochup Flow: flowchorr
RS = 909.15 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

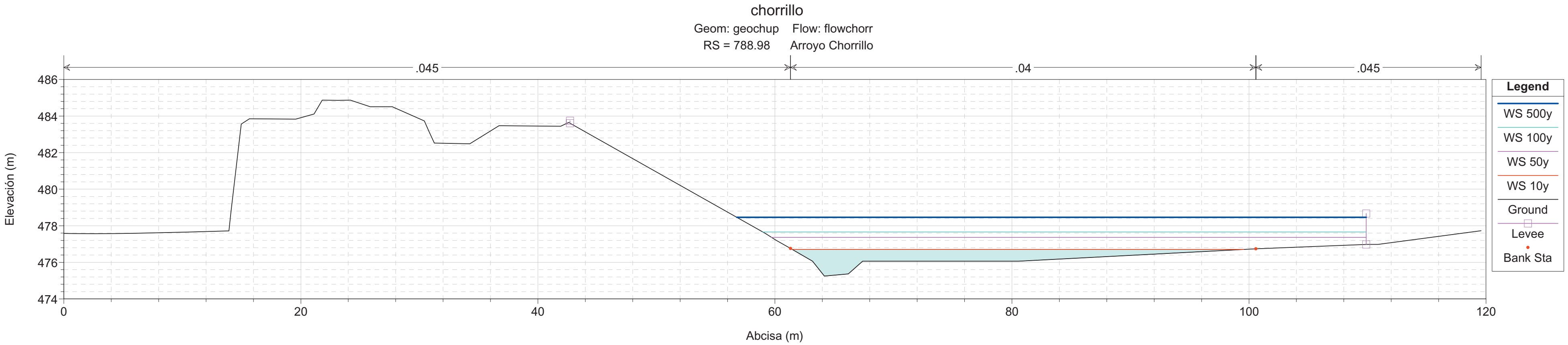

chorrillo
Geom: geochup Flow: flowchorr
RS = 888.90 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

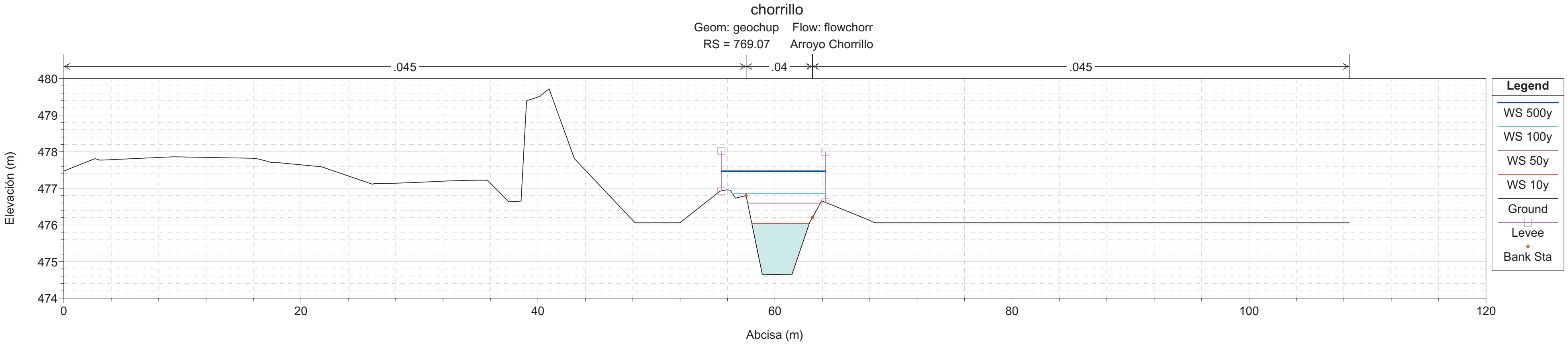

chorrillo
Geom: geochup Flow: flowchorr
RS = 869.04 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

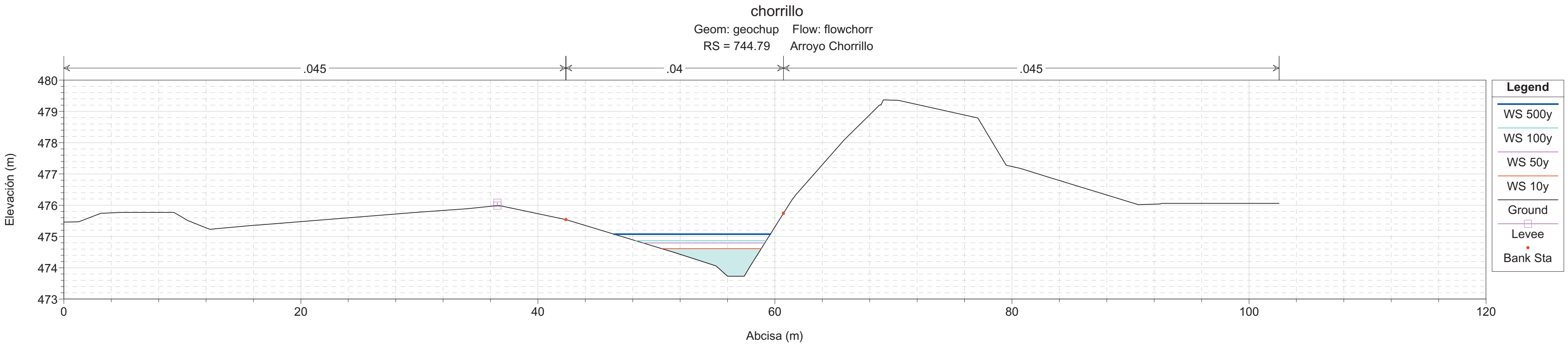

chorrillo
Geom: geochup Flow: flowchorr
RS = 849.23 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

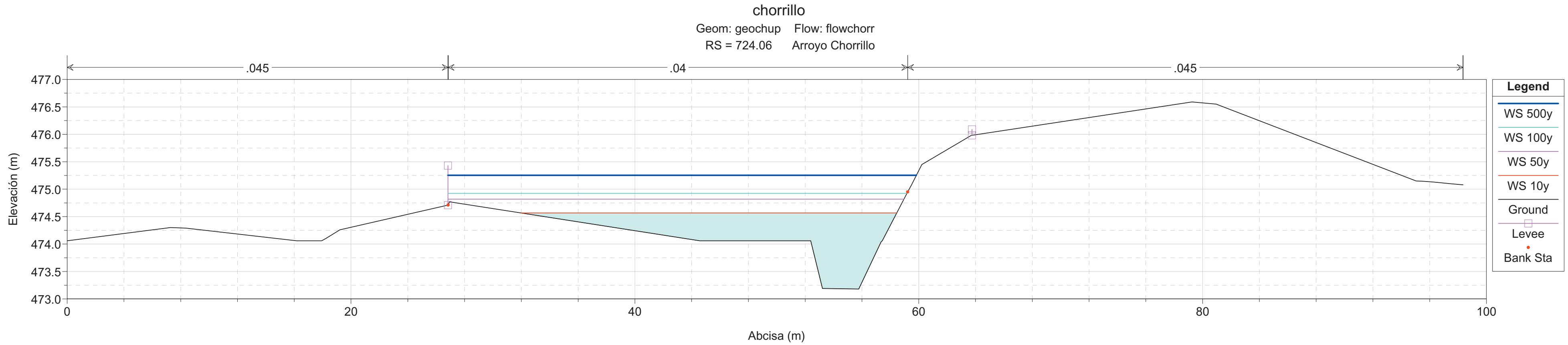

chorrillo
Geom: geochup Flow: flowchorr
RS = 829.15 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

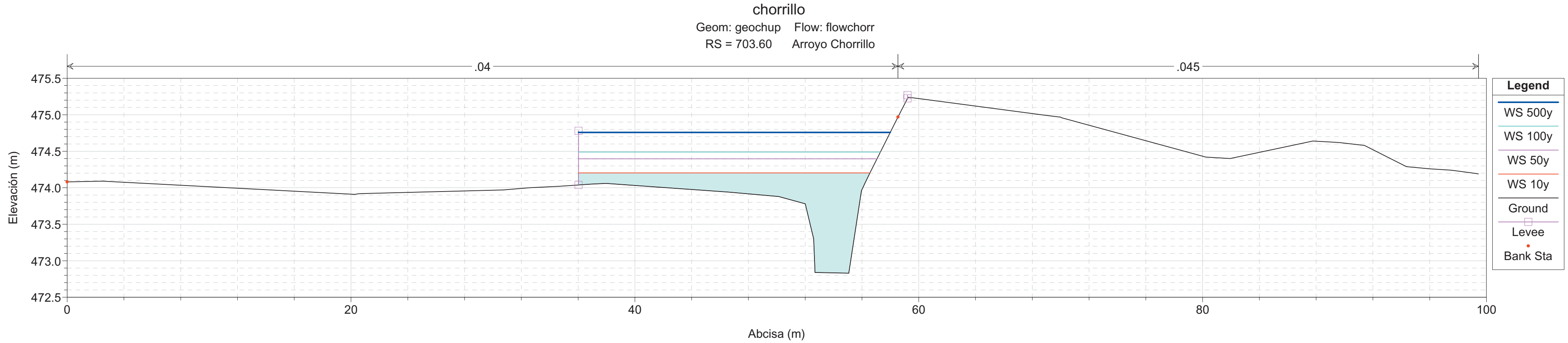

chorrillo
Geom: geochup Flow: flowchorr
RS = 809.43 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

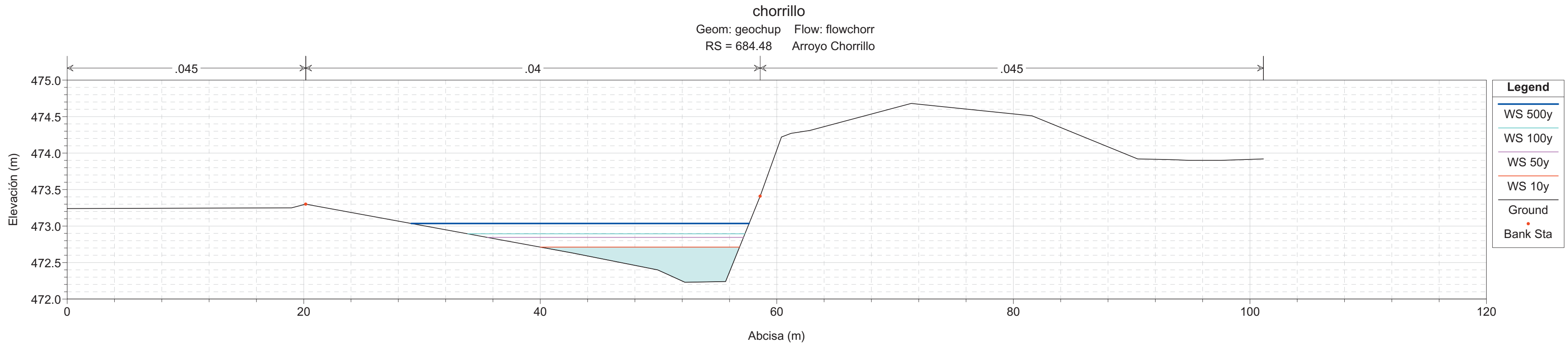

chorrillo
Geom: geochup Flow: flowchorr
RS = 788.98 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

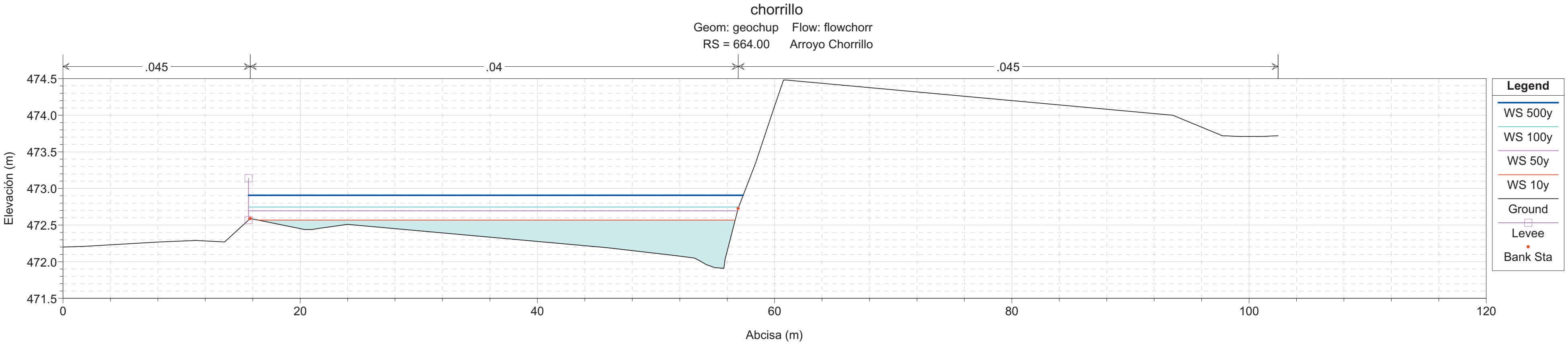

chorrillo
Geom: geochup Flow: flowchorr
RS = 769.07 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

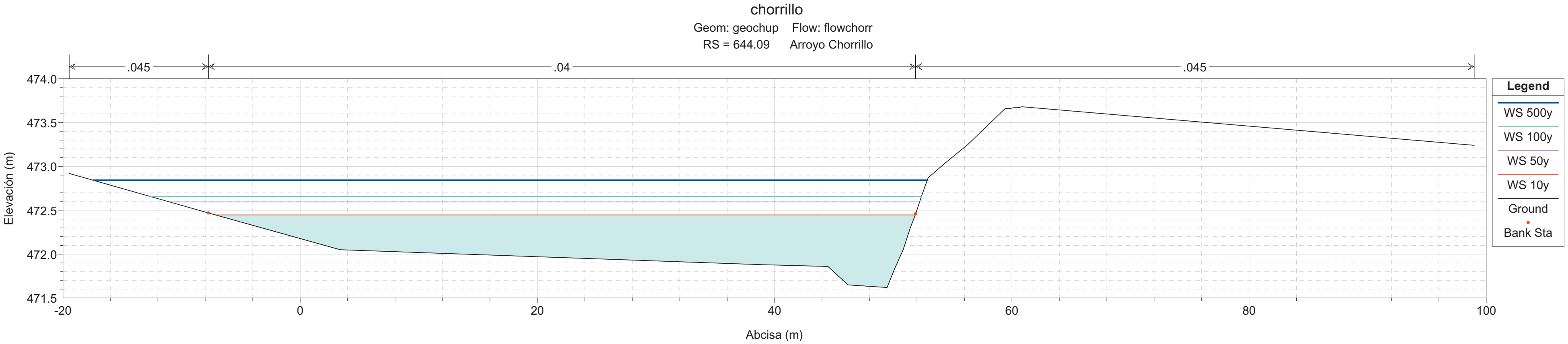

chorrillo
Geom: geochup Flow: flowchorr
RS = 744.79 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

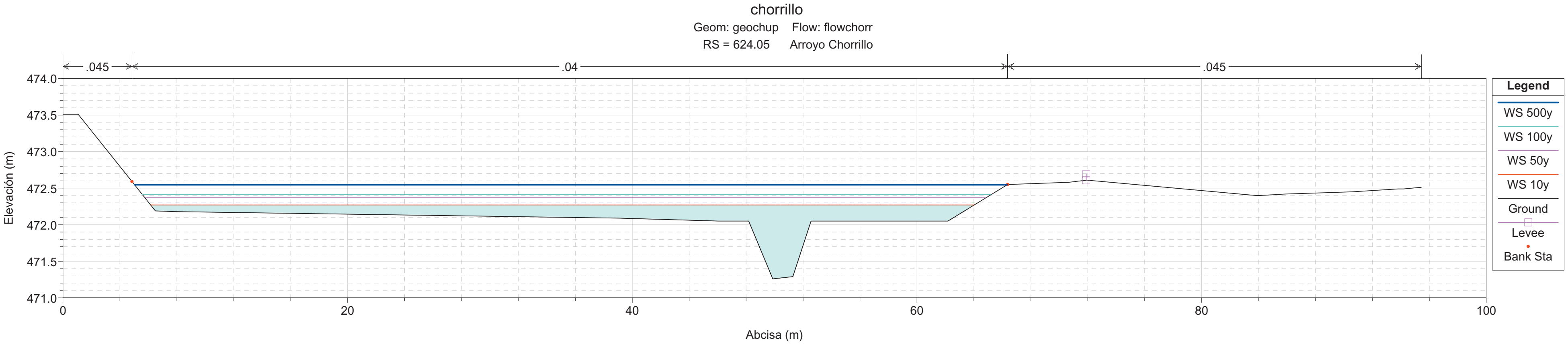

chorrillo
Geom: geochup Flow: flowchorr
RS = 724.06 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

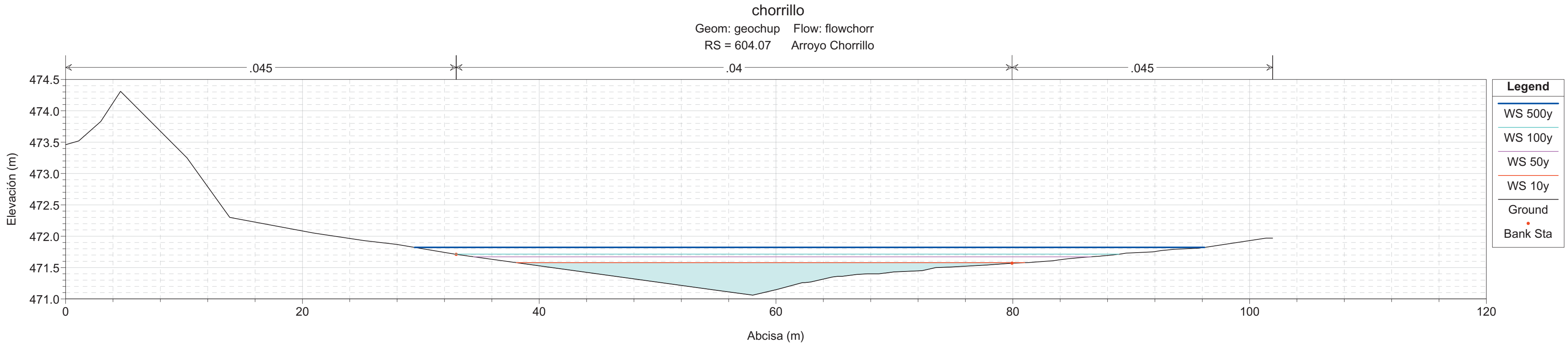

chorrillo
Geom: geochup Flow: flowchorr
RS = 703.60 Arroyo Chorrillo
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

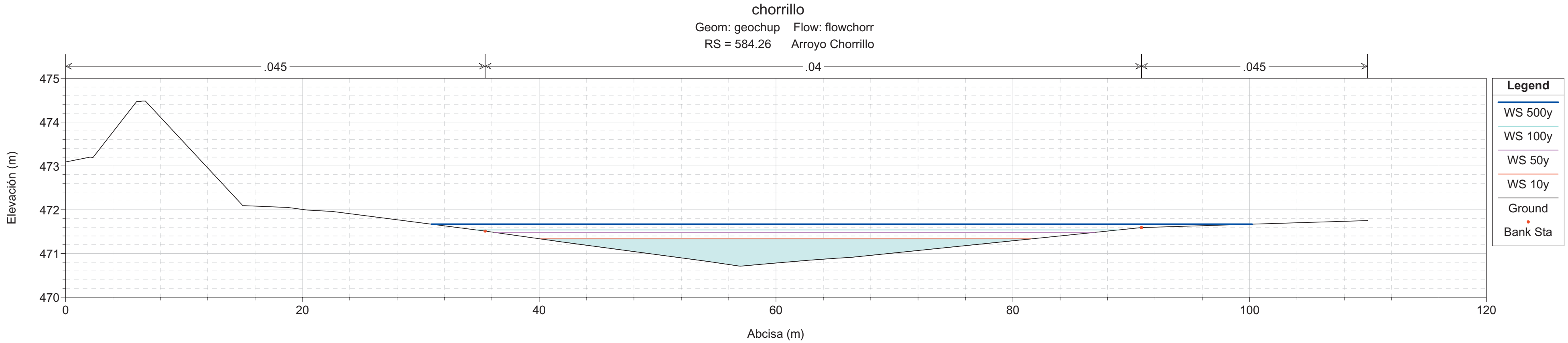

chorrillo
Geom: geochup Flow: flowchorr
RS = 684.48 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

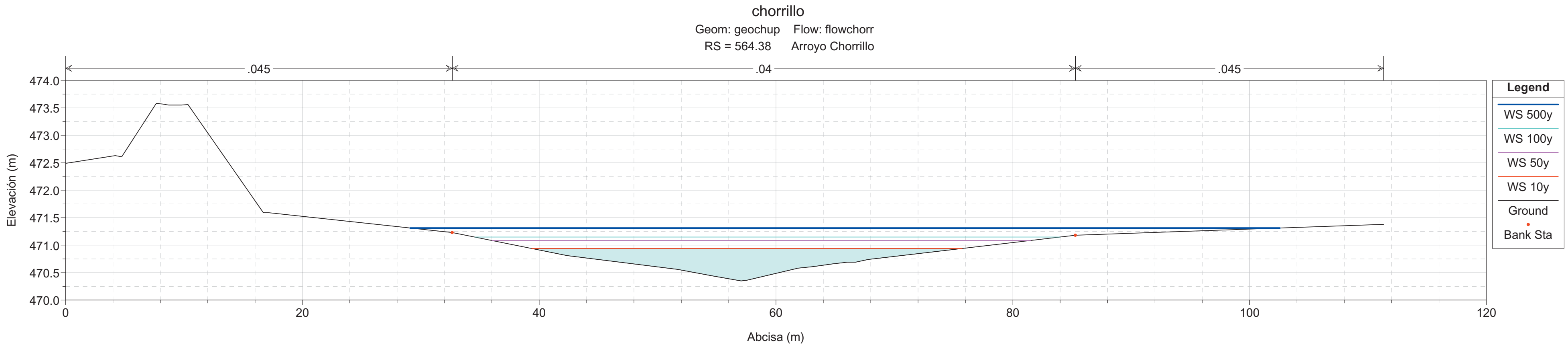

chorrillo
Geom: geochup Flow: flowchorr
RS = 664.00 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
474.5
474.0
473.5
473.0
472.5
472.0
471.5
0
20
40
60
80
100
120
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

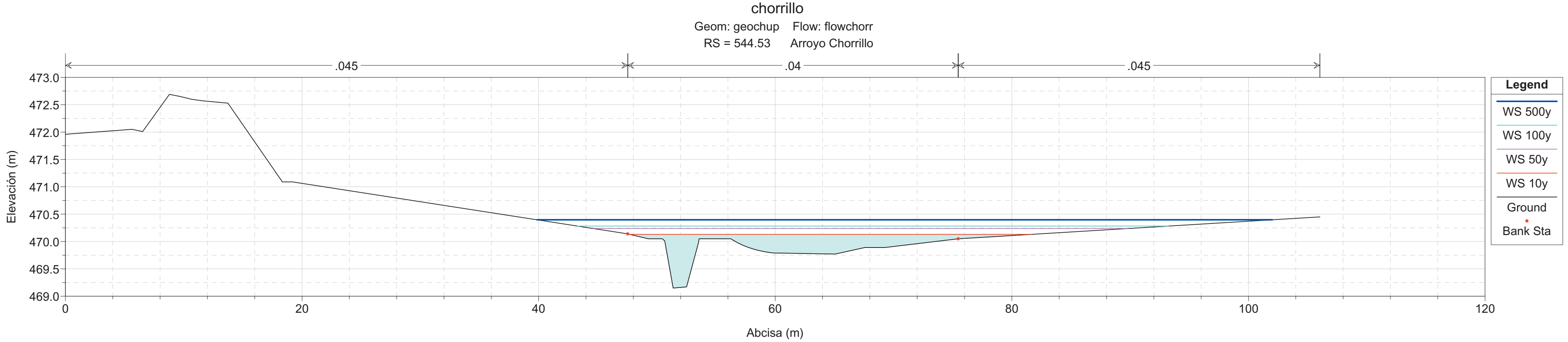

chorrillo
Geom: geochup Flow: flowchorr
RS = 644.09 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
474.0
473.5
473.0
472.5
472.0
471.5
-20
0
20
40
60
80
100
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

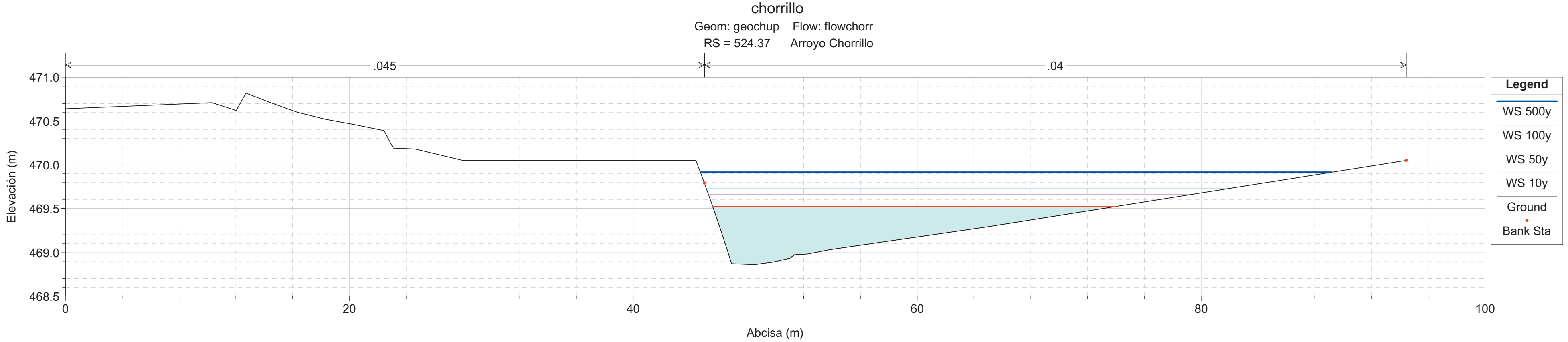

chorrillo
Geom: geochup Flow: flowchorr
RS = 624.05 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
474.0
473.5
473.0
472.5
472.0
471.5
471.0
0
20
40
60
80
100
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

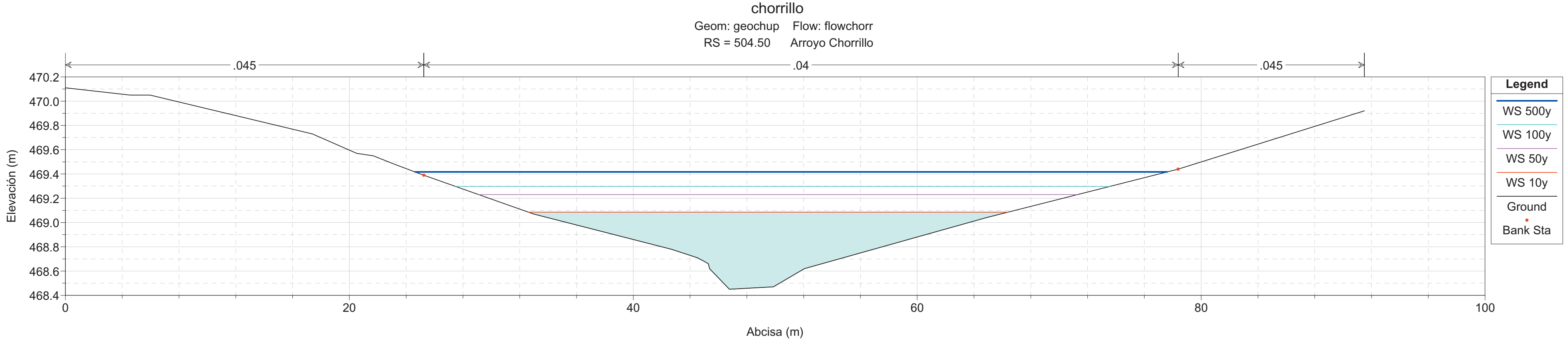

chorrillo
Geom: geochup Flow: flowchorr
RS = 604.07 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

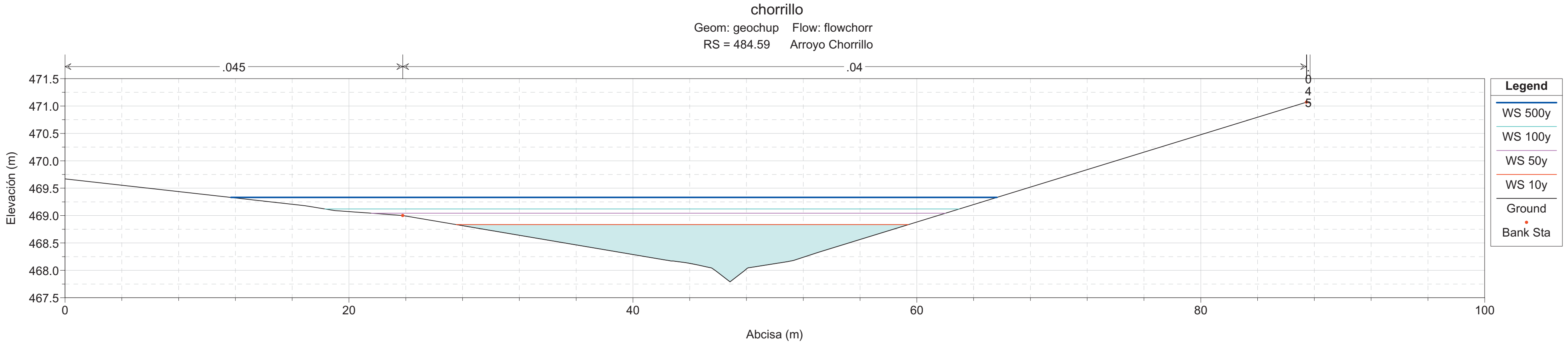

chorrillo
Geom: geochup Flow: flowchorr
RS = 584.26 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

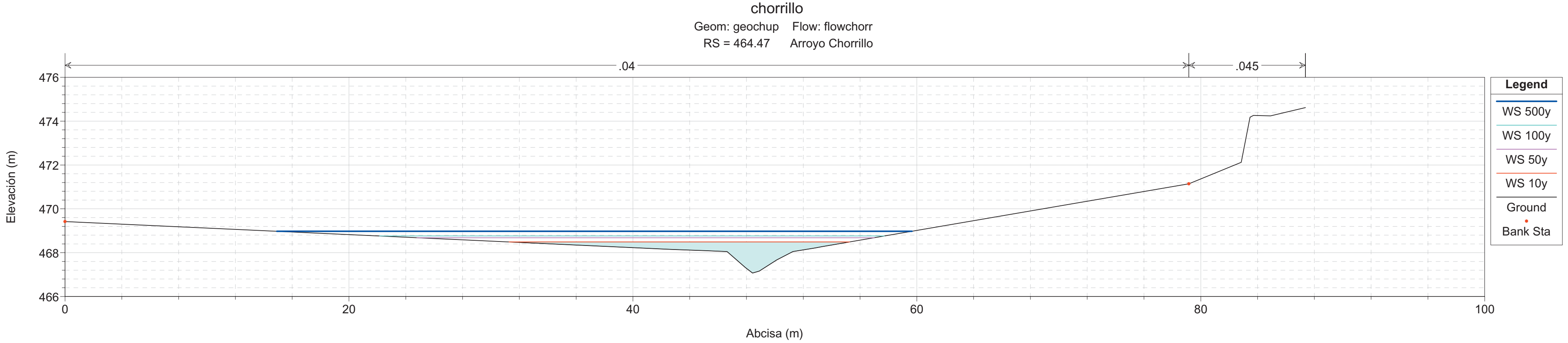

chorrillo
Geom: geochup Flow: flowchorr
RS = 564.38 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

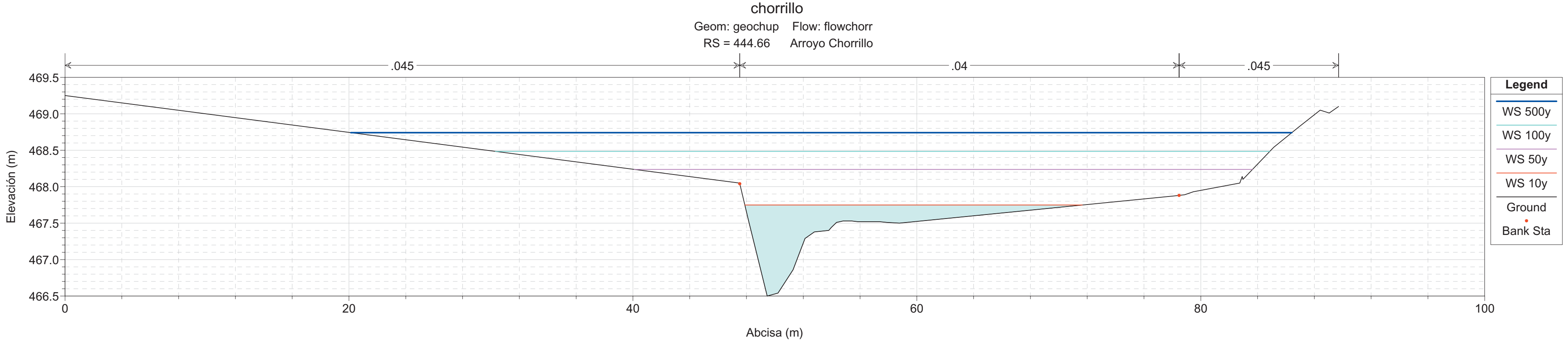

chorrillo
Geom: geochup Flow: flowchorr
RS = 544.53 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)
473.0
472.5
472.0
471.5
471.0
470.5
470.0
469.5
469.0
0
20
40
60
80
100
120

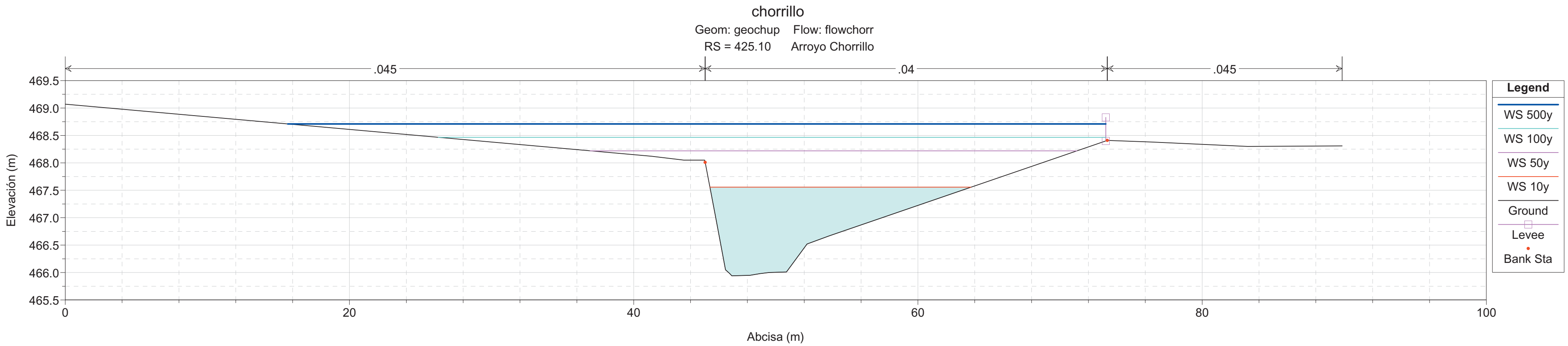

chorrillo
Geom: geochup Flow: flowchorr
RS = 524.37 Arroyo Chorrillo
.045
.04
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)
471.0
470.5
470.0
469.5
469.0
468.5
0
20
40
60
80
100

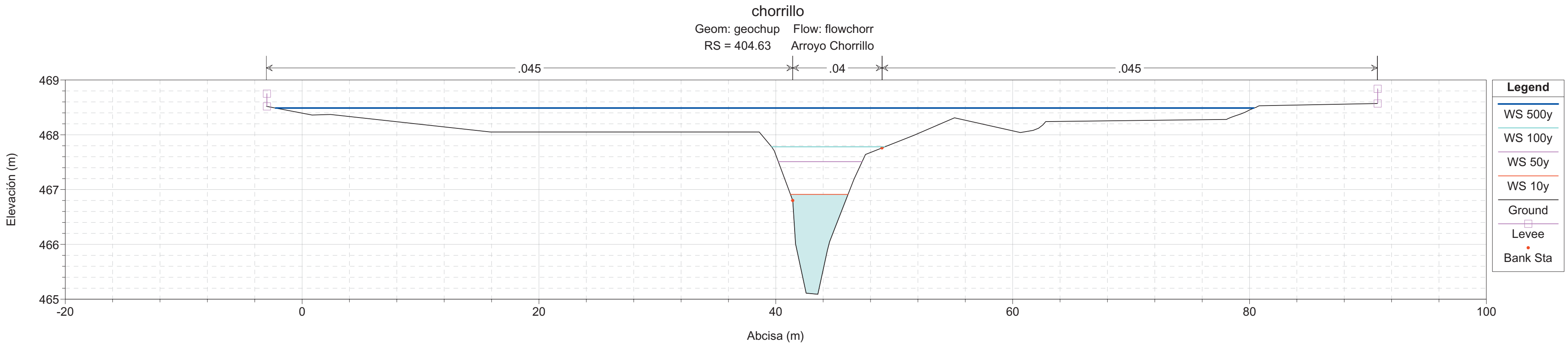

chorrillo
Geom: geochup Flow: flowchorr
RS = 504.50 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)
470.2
470.0
469.8
469.6
469.4
469.2
469.0
468.8
468.6
468.4
0
20
40
60
80
100

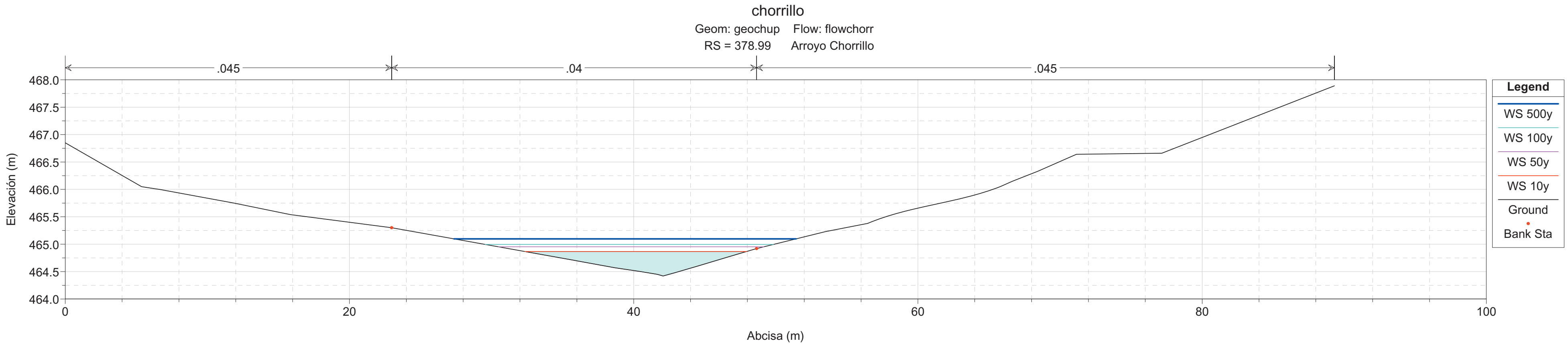

chorrillo
Geom: geochup Flow: flowchorr
RS = 484.59 Arroyo Chorrillo
.045
.04
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

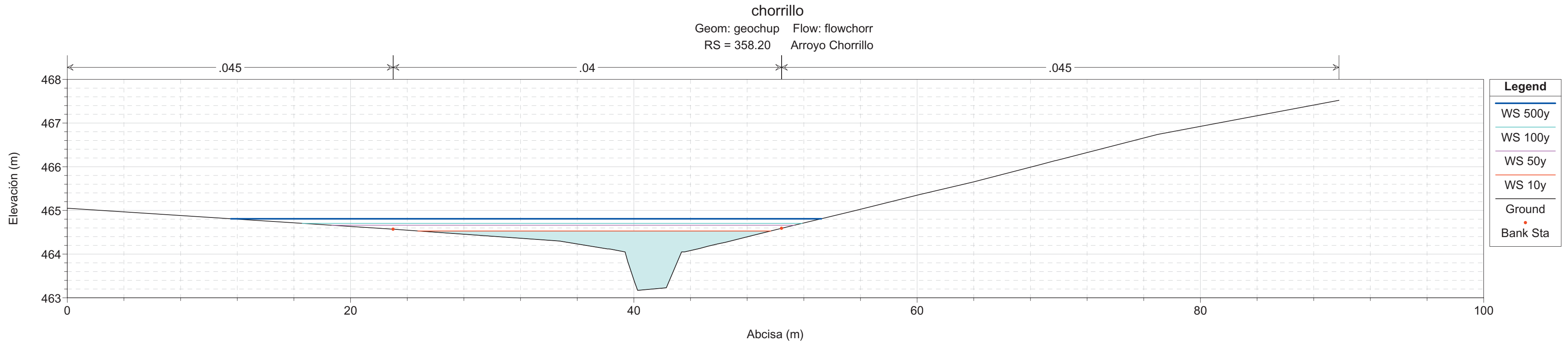

chorrillo
Geom: geochup Flow: flowchorr
RS = 464.47 Arroyo Chorrillo
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

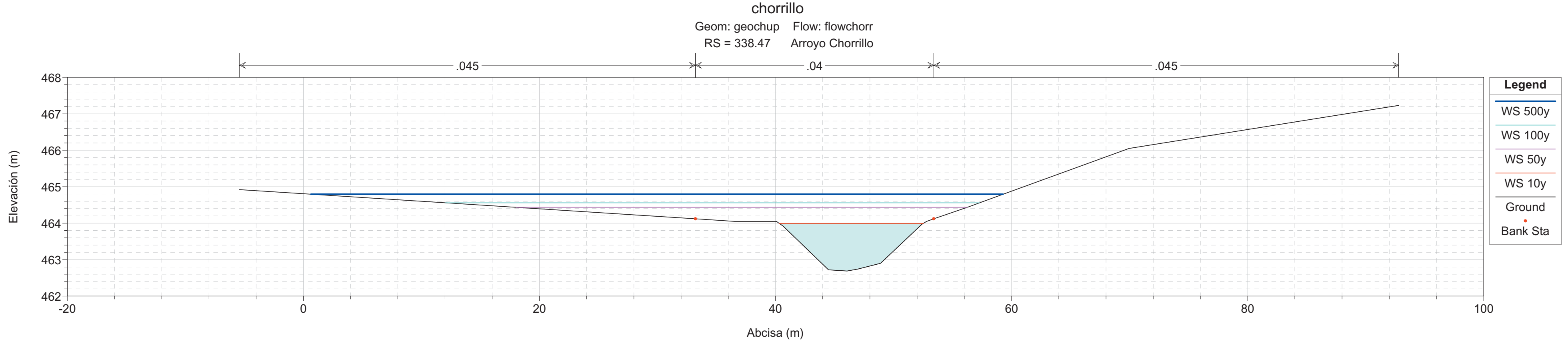

chorrillo
Geom: geochup Flow: flowchorr
RS = 444.66 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

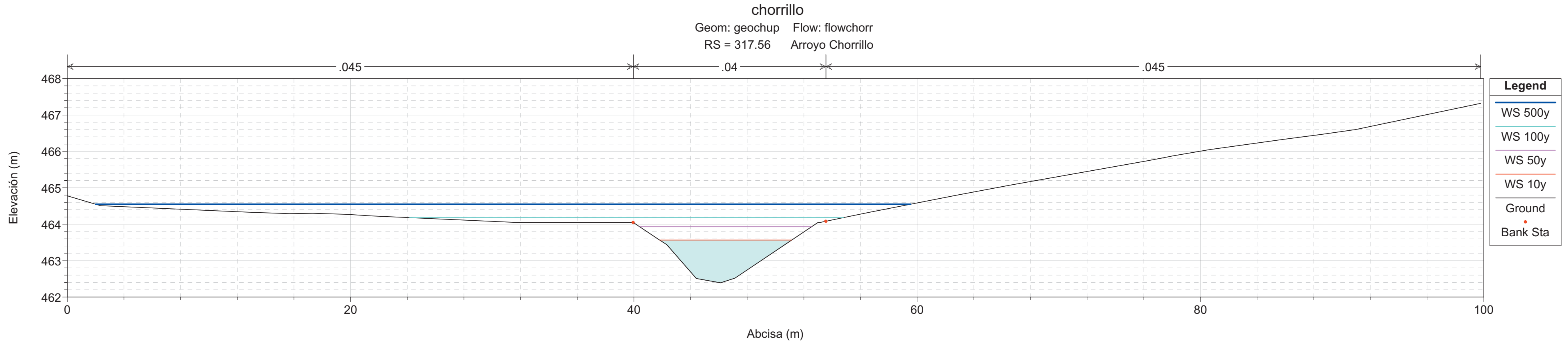

chorrillo
Geom: geochup Flow: flowchorr
RS = 425.10 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta
Elevación (m)
Abcisa (m)

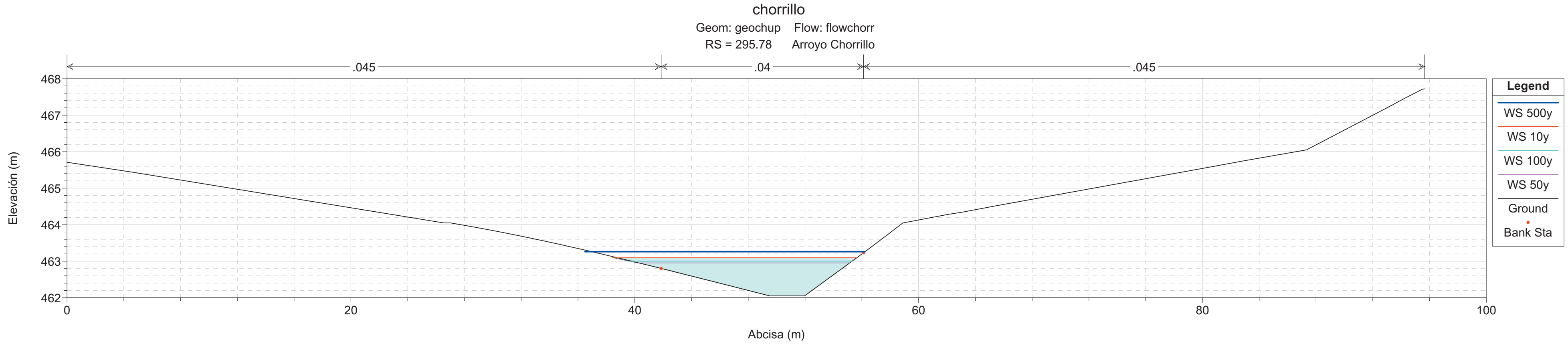

chorrillo
Geom: geochup Flow: flowchorr
RS = 404.63 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta
Elevación (m)
Abcisa (m)

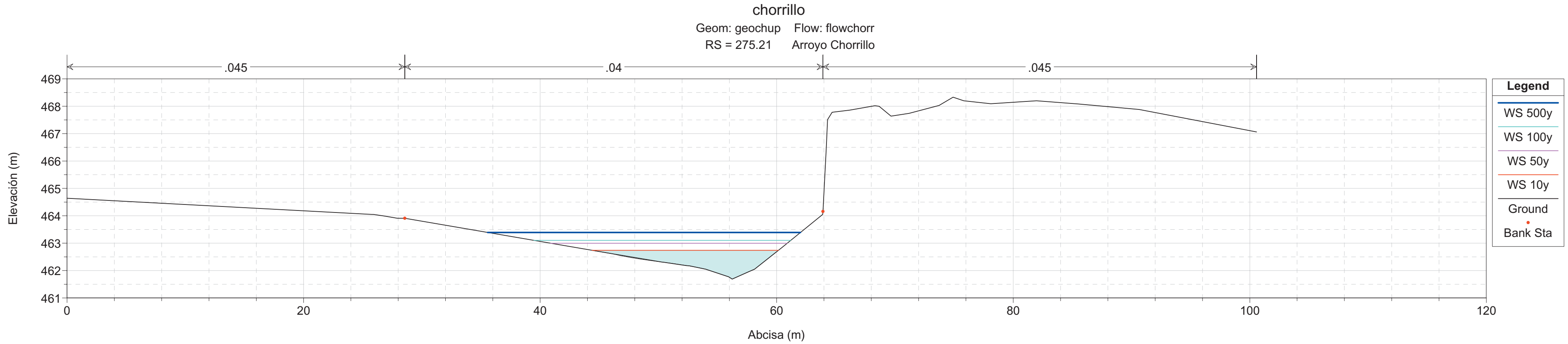

chorrillo
Geom: geochup Flow: flowchorr
RS = 378.99 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

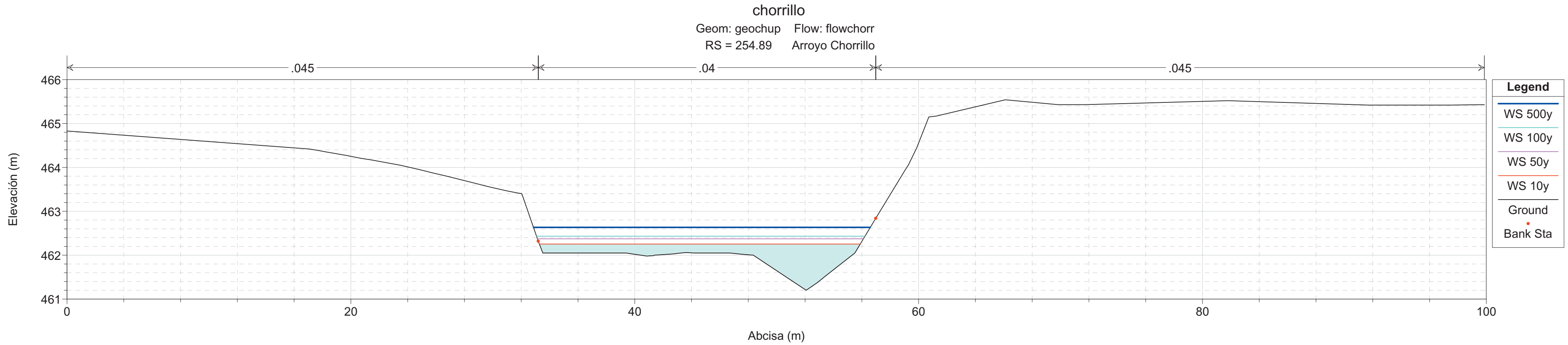

chorrillo
Geom: geochup Flow: flowchorr
RS = 358.20 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

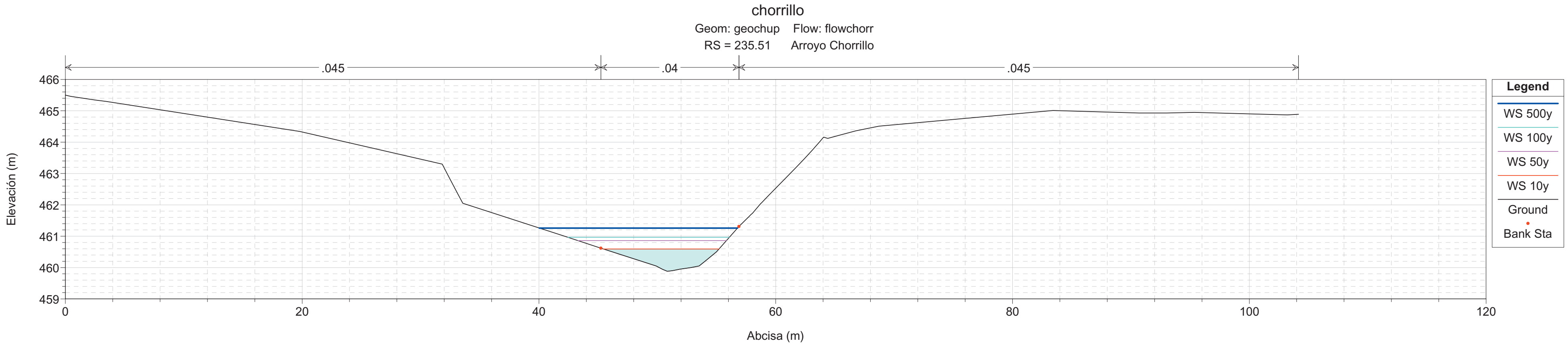

chorrillo
Geom: geochup Flow: flowchorr
RS = 338.47 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

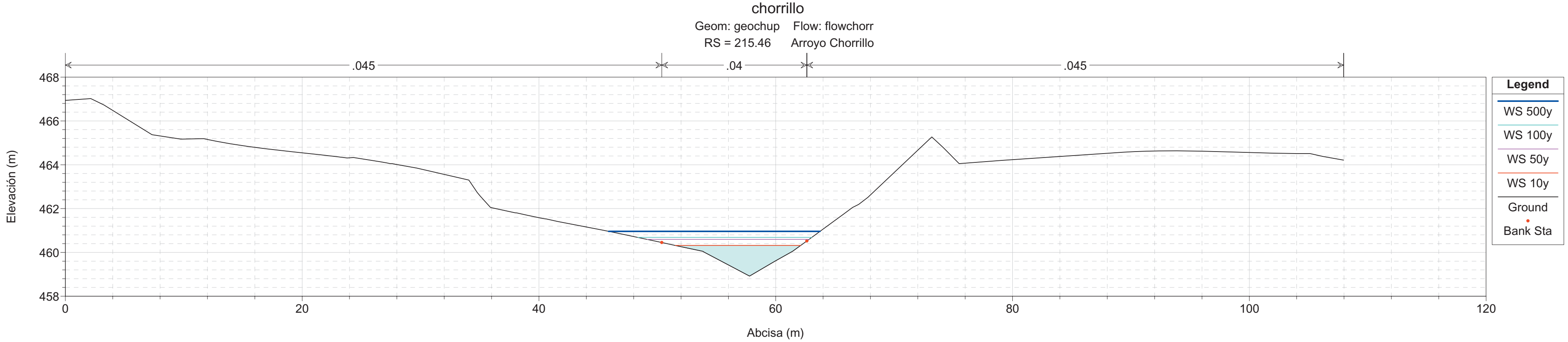

chorrillo
Geom: geochup Flow: flowchorr
RS = 317.56 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

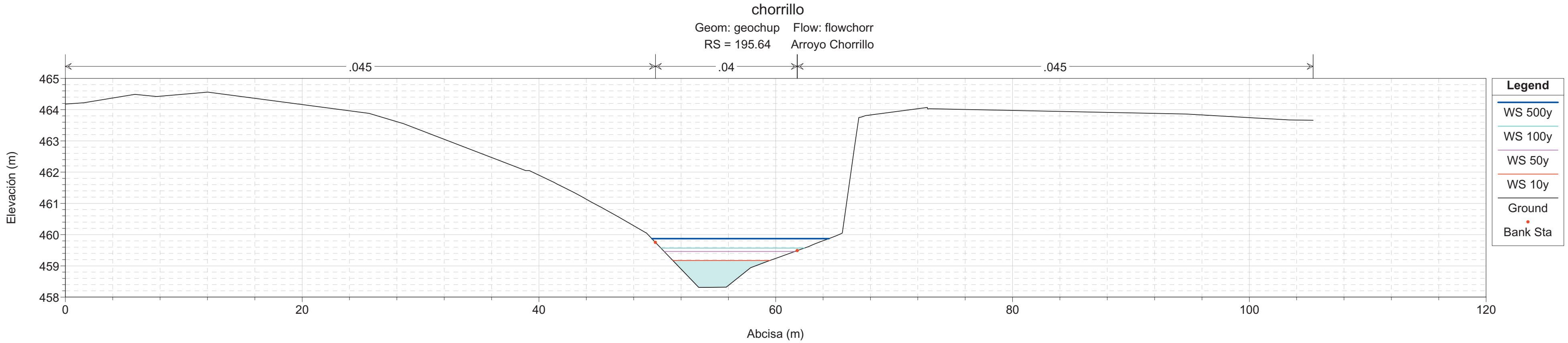

chorrillo
Geom: geochup Flow: flowchorr
RS = 295.78 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 10y
WS 100y
WS 50y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

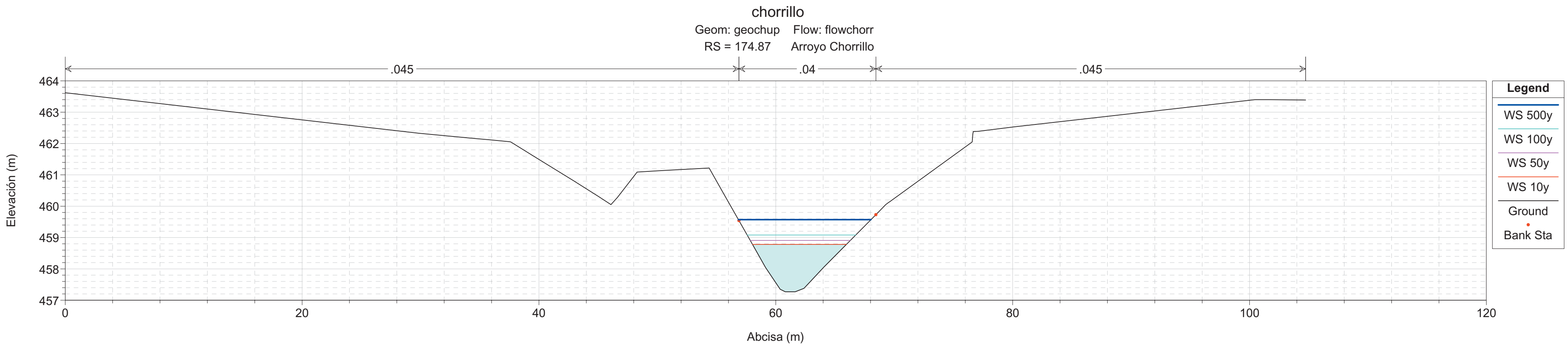

chorrillo
Geom: geochup Flow: flowchorr
RS = 275.21 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)


chorrillo
Geom: geochup Flow: flowchorr
RS = 254.89 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

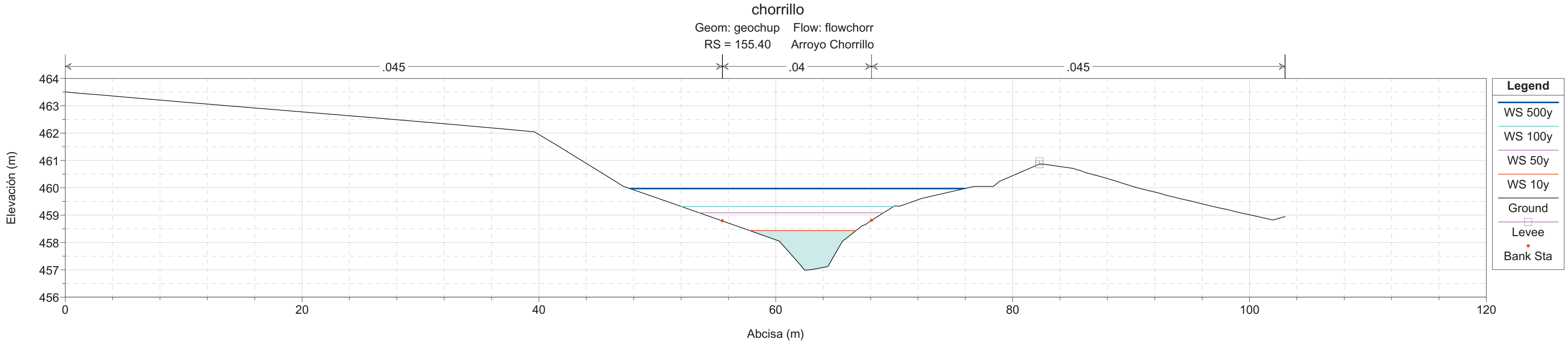

chorrillo
Geom: geochup Flow: flowchorr
RS = 235.51 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


chorrillo
Geom: geochup Flow: flowchorr
RS = 215.46 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

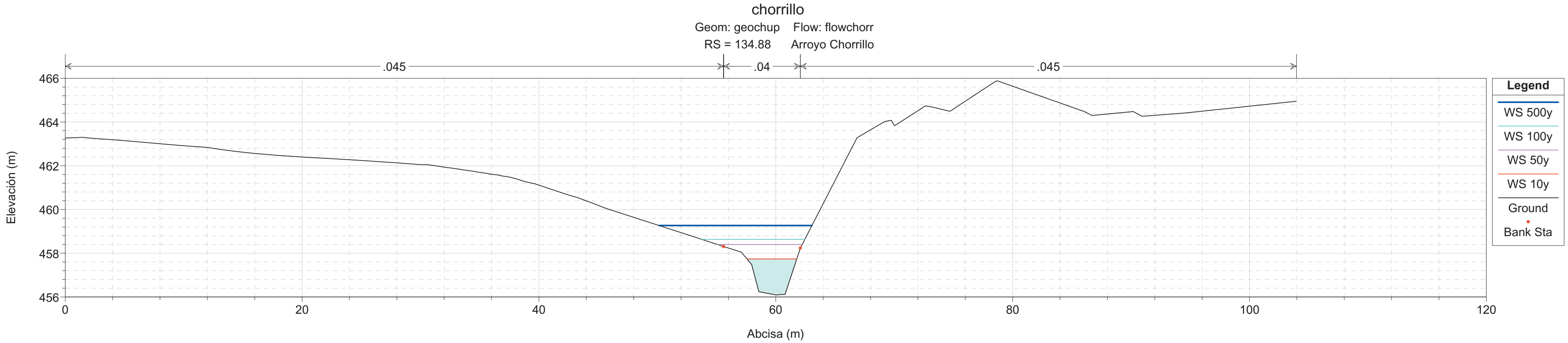

chorrillo
Geom: geochup Flow: flowchorr
RS = 195.64 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta



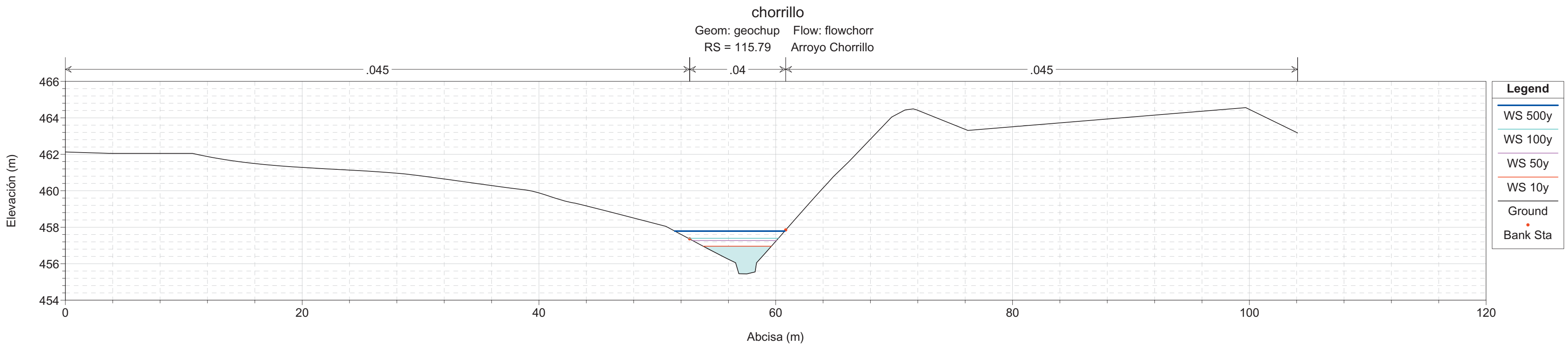
chorrillo
Geom: geochup Flow: flowchorr
RS = 174.87 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

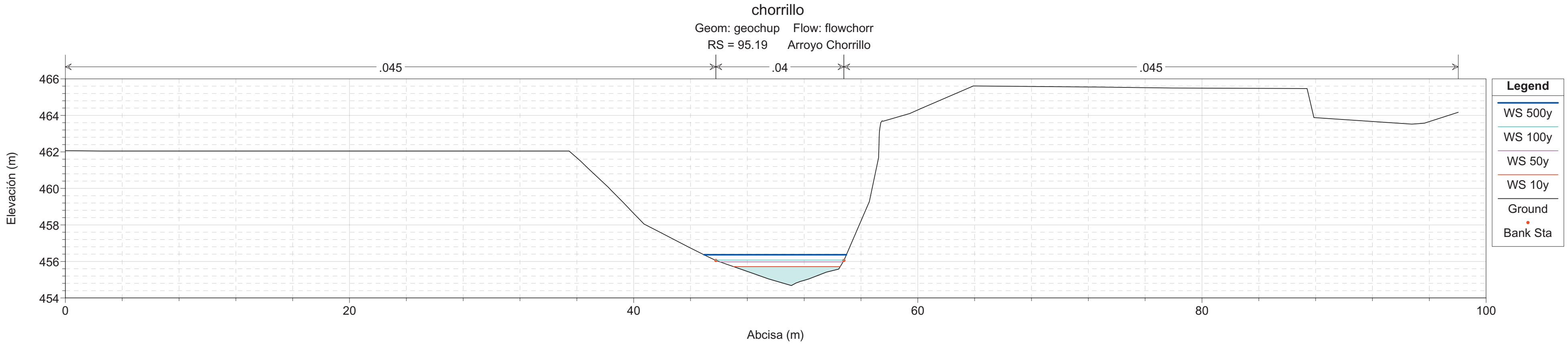


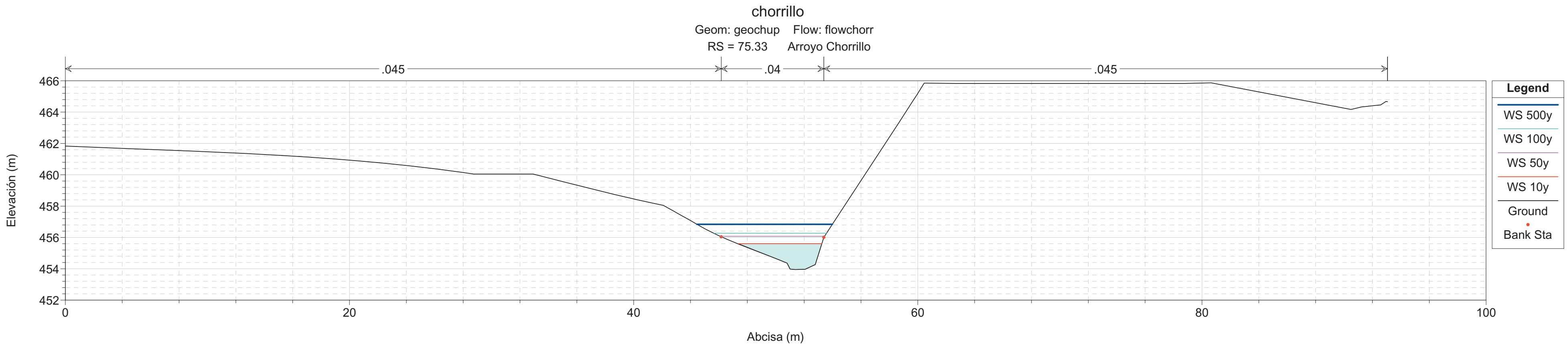
chorrillo
Geom: geochup Flow: flowchorr
RS = 155.40 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta
Elevación (m)
Abcisa (m)

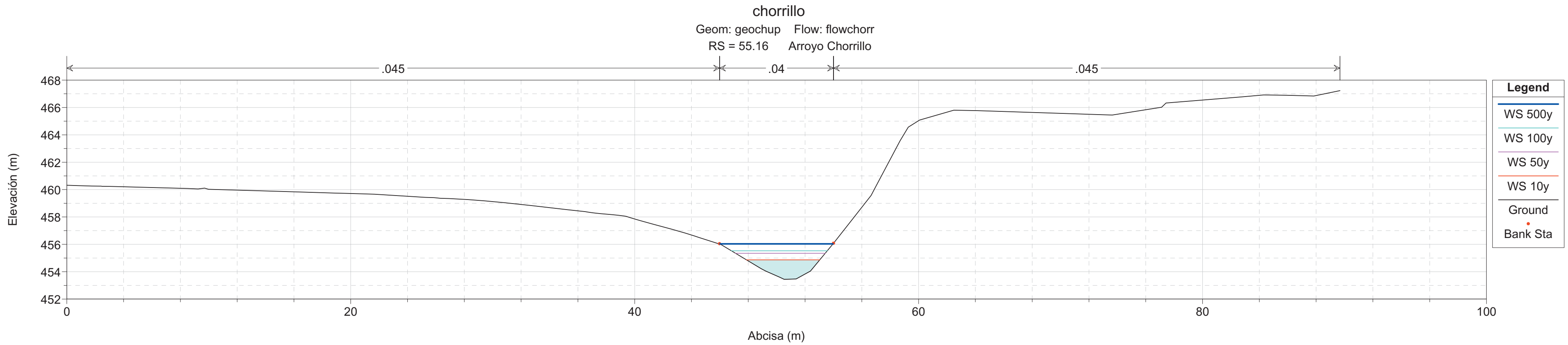


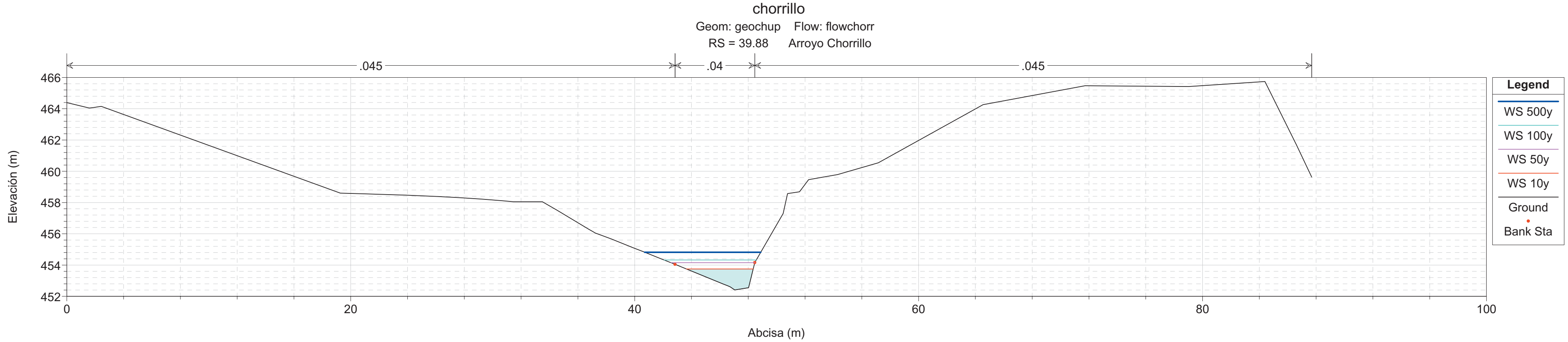
chorrillo
Geom: geochup Flow: flowchorr
RS = 134.88 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)

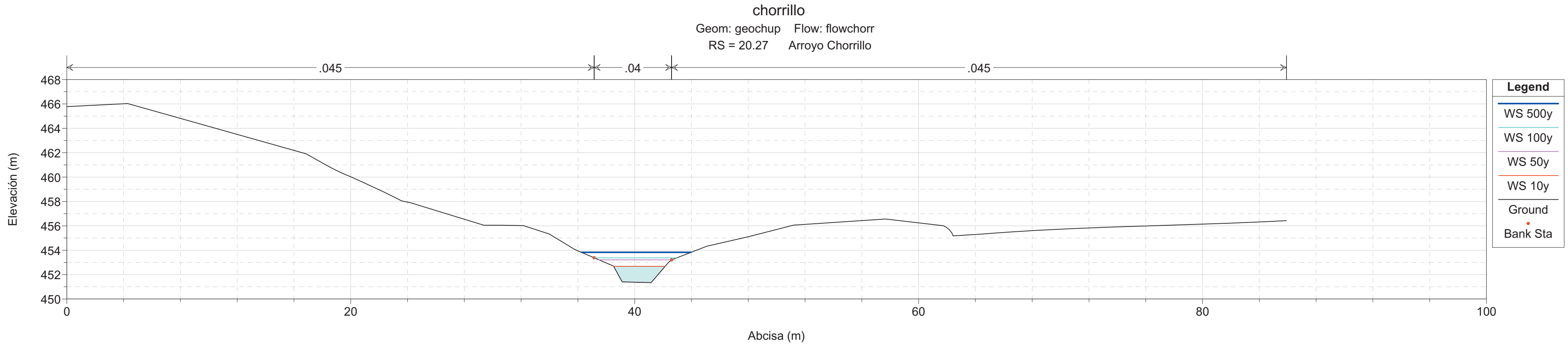

chorrillo
Geom: geochup Flow: flowchorr
RS = 115.79 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

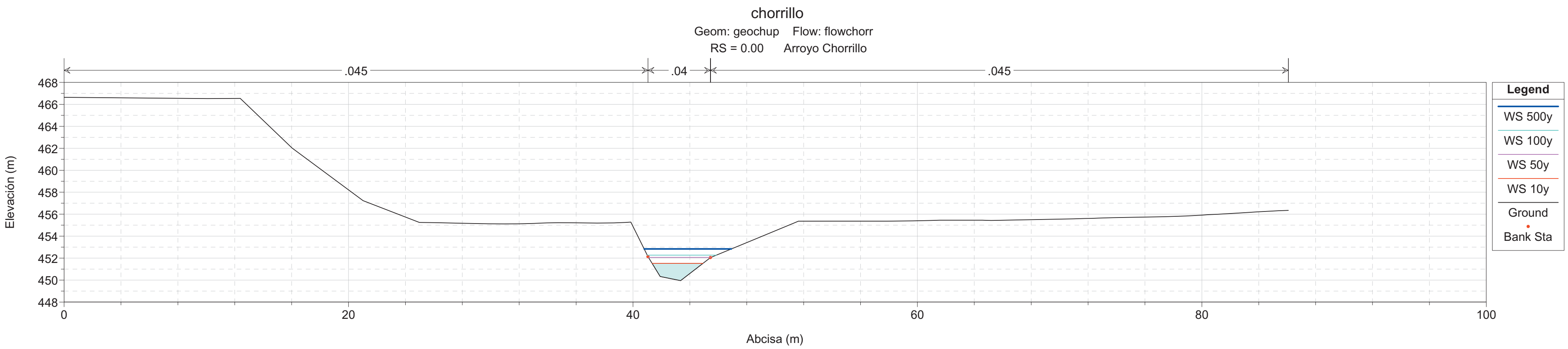

chorrillo
Geom: geochup Flow: flowchorr
RS = 95.19 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


chorrillo
Geom: geochup Flow: flowchorr
RS = 75.33 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

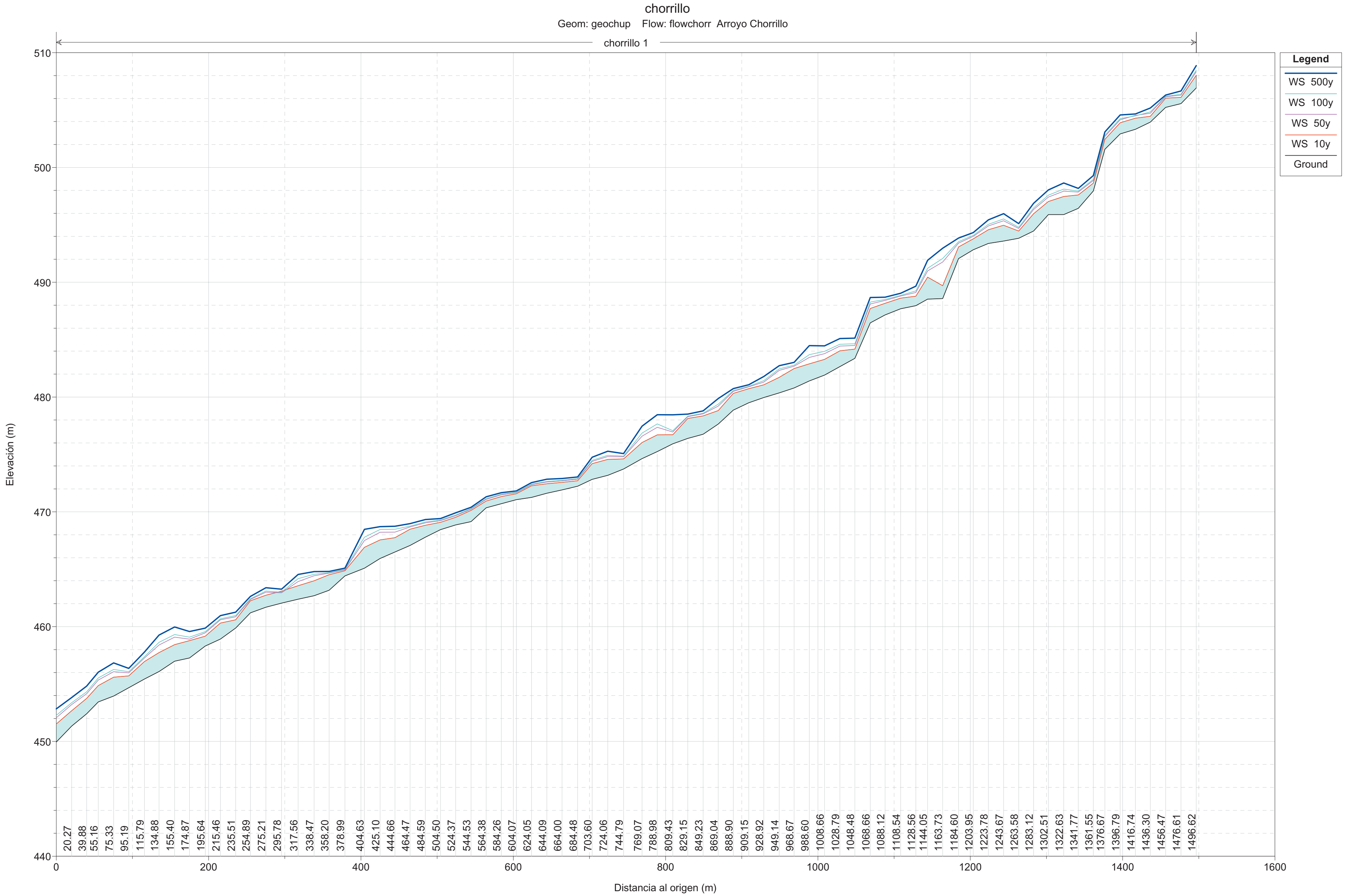

chorrillo
Geom: geochup Flow: flowchorr
RS = 55.16 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


chorrillo
Geom: geochup Flow: flowchorr
RS = 39.88 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

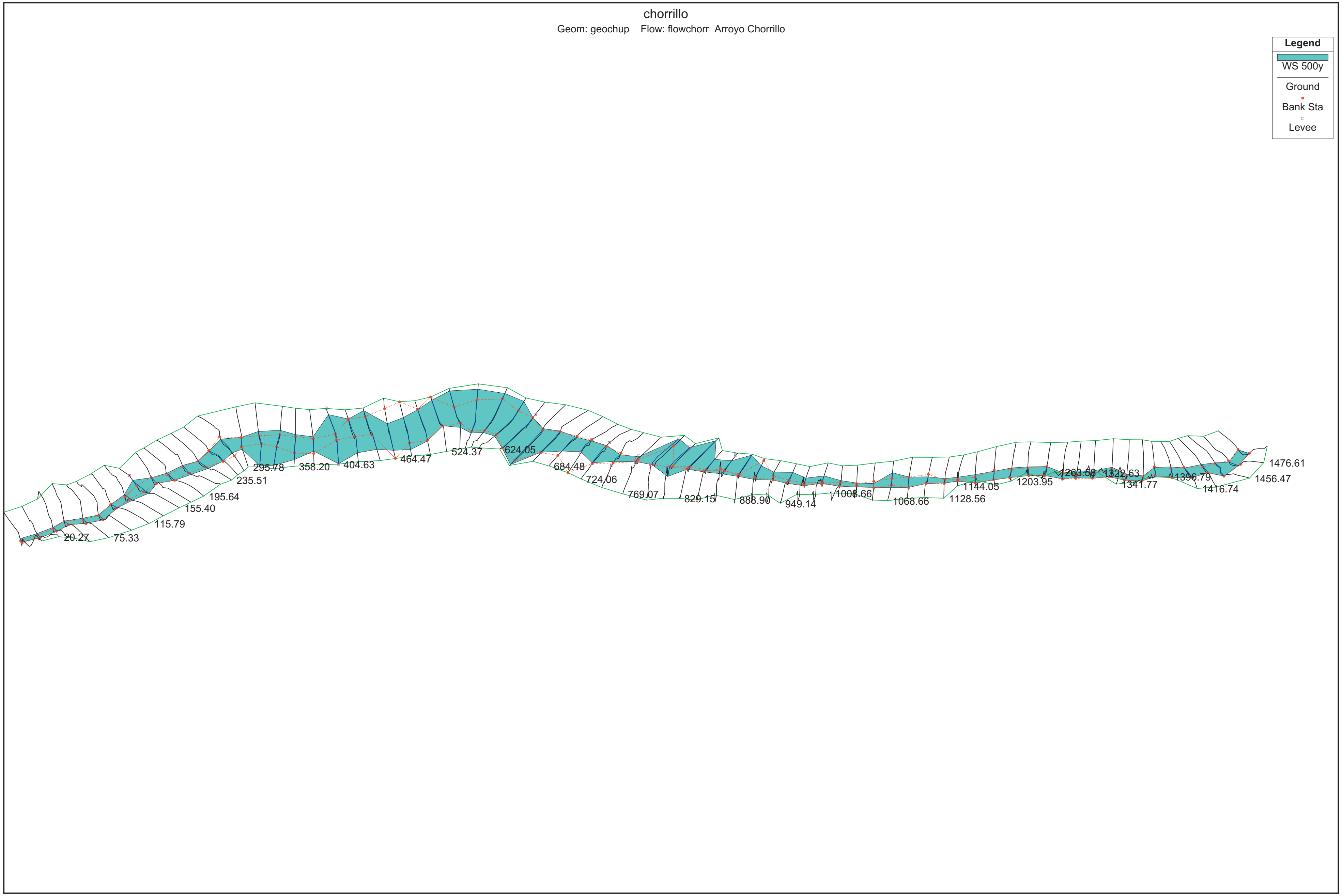

chorrillo
Geom: geochup Flow: flowchorr
RS = 20.27 Arroyo Chorrillo
.045
.04
.045
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

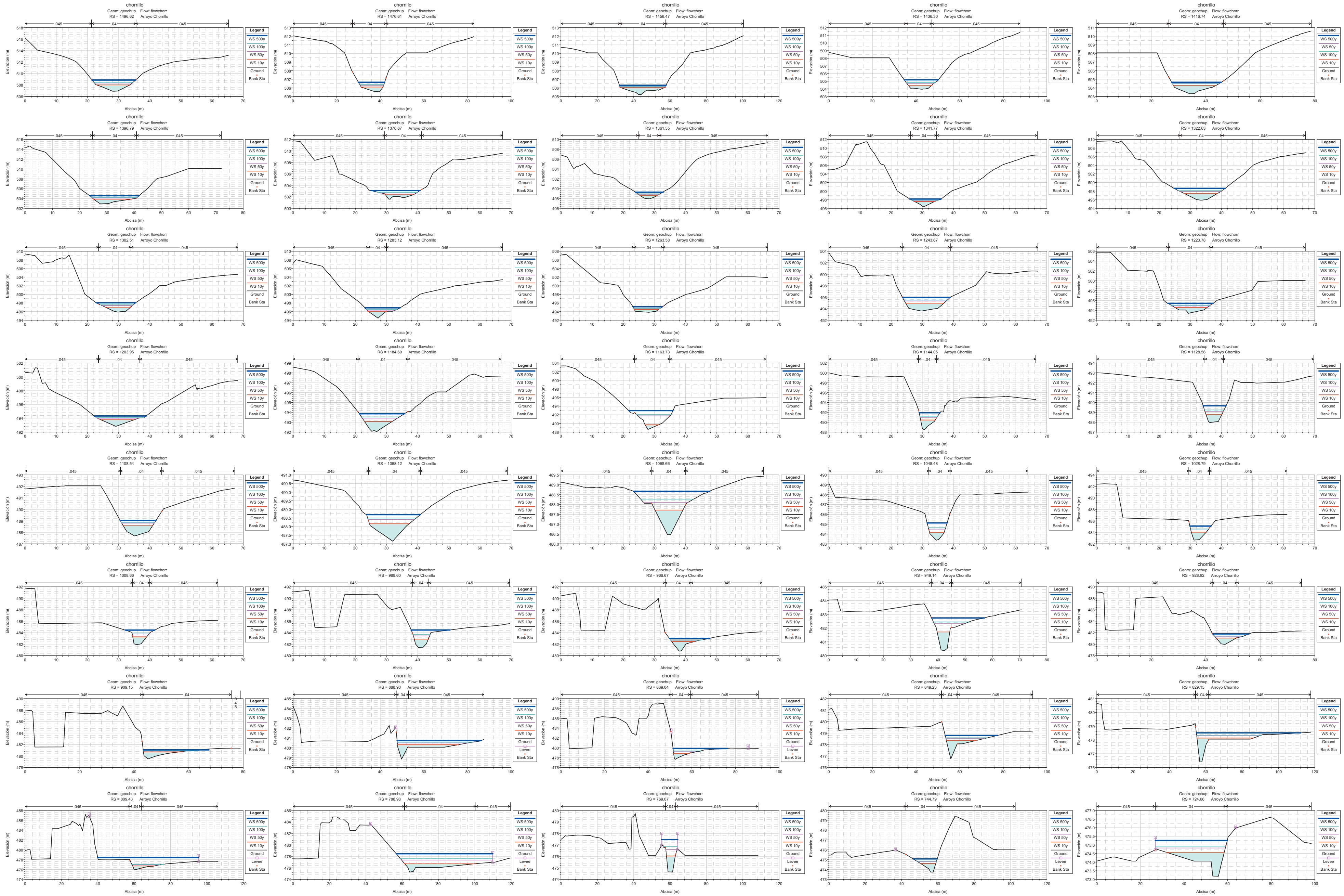


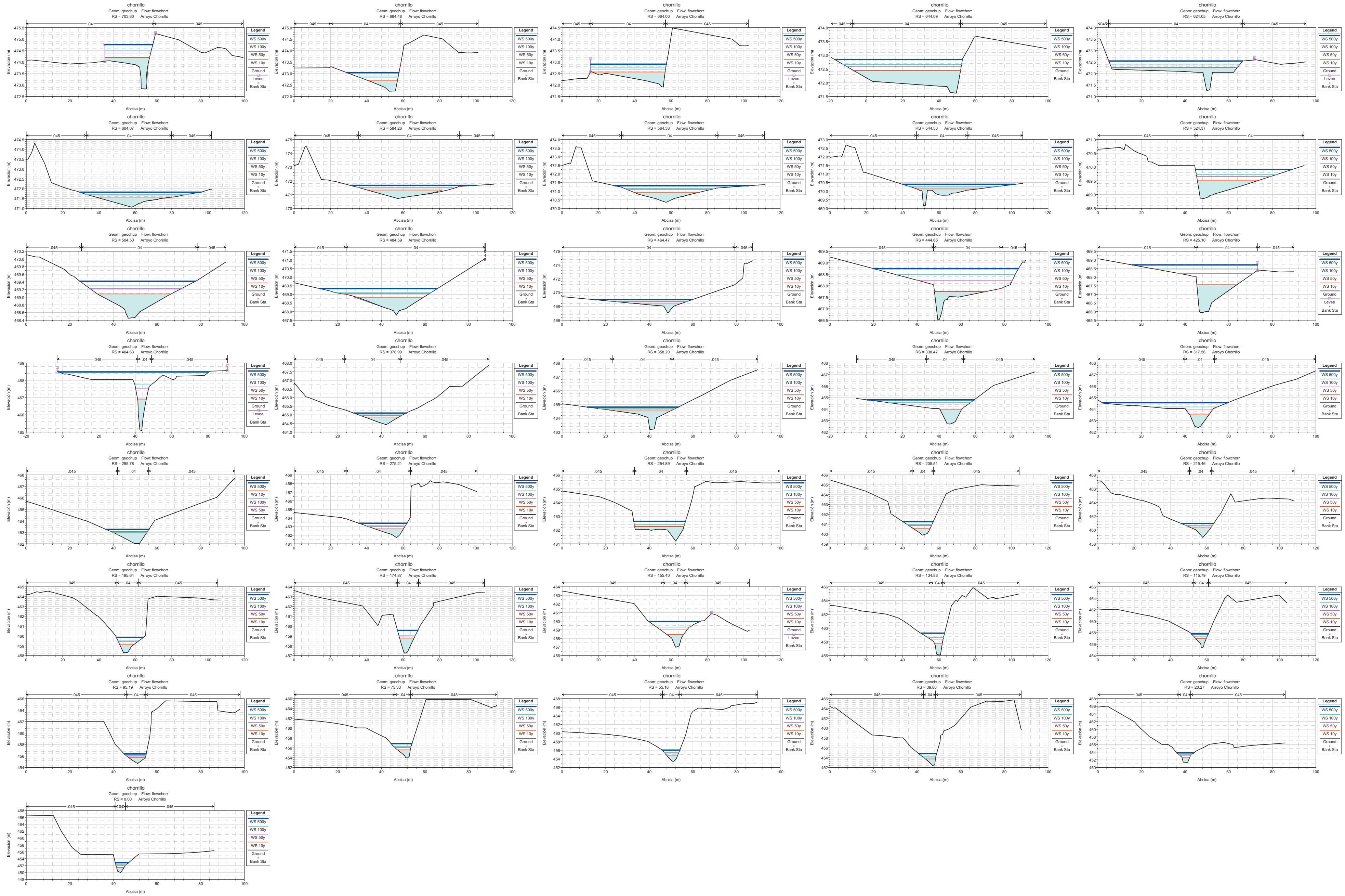
chorrillo
Geom: geochup Flow: flowchorr
RS = 0.00 Arroyo Chorrillo
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevación (m)
Abcisa (m)
468
466
464
462
460
458
456
454
452
450
448
0
20
40
60
80
100



chorrillo
Geom: geochup Flow: flowchorr Arroyo Chorrillo
chorrillo 1
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Elevación (m)
Distancia al origen (m)


chorrillo
Geom: geochup   Flow: flowchorr Arroyo Chorrillo
Legend
WS 500y
Ground
Bank Sta
Levee
20.27
75.33
115.79
155.40
195.64
235.51
295.78
358.20
404.63
464.47
524.37
624.05
684.48
724.06
769.07
829.15
888.90
949.14
1008.66
1068.66
1128.56
1144.05
1203.95
1263.58
1322.63
1341.77
1396.79
1416.74
1456.47
1476.61

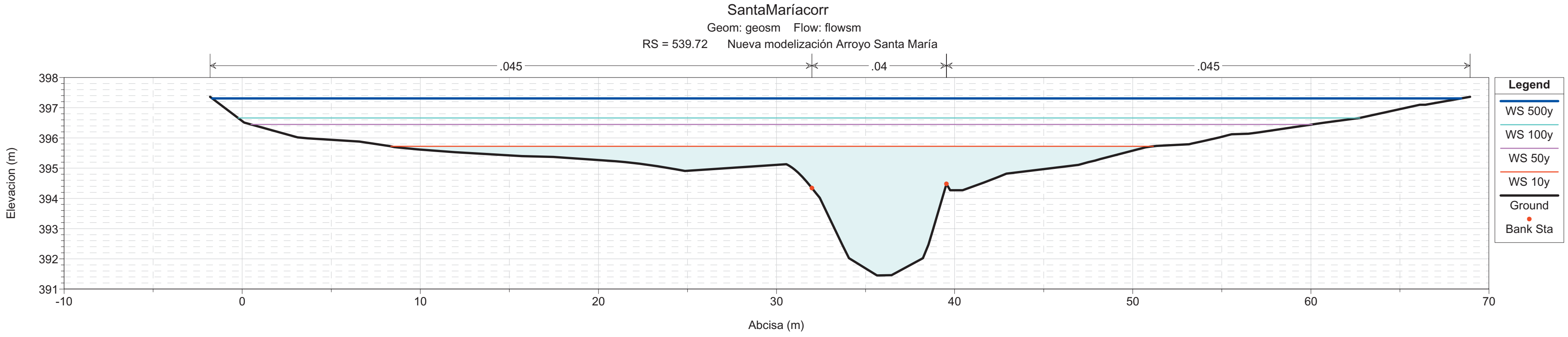

chorrillo
Geom: geochup Flow: flowchorr
RS = 1496.62 Arroyo Chorrillo
RS = 1476.61 Arroyo Chorrillo
RS = 1456.47 Arroyo Chorrillo
RS = 1436.30 Arroyo Chorrillo
RS = 1416.74 Arroyo Chorrillo
RS = 1396.79 Arroyo Chorrillo
RS = 1376.67 Arroyo Chorrillo
RS = 1361.55 Arroyo Chorrillo
RS = 1341.77 Arroyo Chorrillo
RS = 1322.63 Arroyo Chorrillo
RS = 1302.51 Arroyo Chorrillo
RS = 1283.12 Arroyo Chorrillo
RS = 1263.58 Arroyo Chorrillo
RS = 1243.67 Arroyo Chorrillo
RS = 1223.78 Arroyo Chorrillo
RS = 1203.95 Arroyo Chorrillo
RS = 1184.60 Arroyo Chorrillo
RS = 1163.73 Arroyo Chorrillo
RS = 1144.05 Arroyo Chorrillo
RS = 1128.56 Arroyo Chorrillo
RS = 1108.54 Arroyo Chorrillo
RS = 1088.12 Arroyo Chorrillo
RS = 1068.66 Arroyo Chorrillo
RS = 1048.48 Arroyo Chorrillo
RS = 1028.79 Arroyo Chorrillo
RS = 1008.66 Arroyo Chorrillo
RS = 988.60 Arroyo Chorrillo
RS = 968.67 Arroyo Chorrillo
RS = 949.14 Arroyo Chorrillo
RS = 928.92 Arroyo Chorrillo
RS = 909.15 Arroyo Chorrillo
RS = 888.90 Arroyo Chorrillo
RS = 869.04 Arroyo Chorrillo
RS = 849.23 Arroyo Chorrillo
RS = 829.15 Arroyo Chorrillo
RS = 809.43 Arroyo Chorrillo
RS = 788.98 Arroyo Chorrillo
RS = 769.07 Arroyo Chorrillo
RS = 744.79 Arroyo Chorrillo
RS = 724.06 Arroyo Chorrillo
.045
.04
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta
Elevación (m)
Abcisa (m)

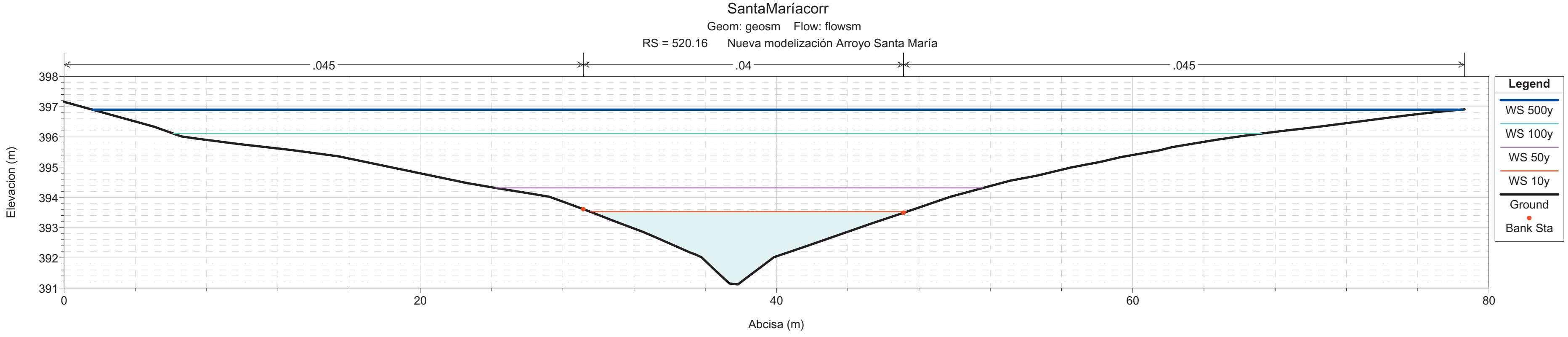

chorrillo
Geom: geochup Flow: flowchorr
RS = 703.60 Arroyo Chorrillo
RS = 684.48 Arroyo Chorrillo
RS = 664.00 Arroyo Chorrillo
RS = 644.09 Arroyo Chorrillo
RS = 624.05 Arroyo Chorrillo
RS = 604.07 Arroyo Chorrillo
RS = 584.26 Arroyo Chorrillo
RS = 564.38 Arroyo Chorrillo
RS = 544.53 Arroyo Chorrillo
RS = 524.37 Arroyo Chorrillo
RS = 504.50 Arroyo Chorrillo
RS = 484.59 Arroyo Chorrillo
RS = 464.47 Arroyo Chorrillo
RS = 444.66 Arroyo Chorrillo
RS = 425.10 Arroyo Chorrillo
RS = 404.63 Arroyo Chorrillo
RS = 378.99 Arroyo Chorrillo
RS = 358.20 Arroyo Chorrillo
RS = 338.47 Arroyo Chorrillo
RS = 317.56 Arroyo Chorrillo
RS = 295.78 Arroyo Chorrillo
RS = 275.21 Arroyo Chorrillo
RS = 254.89 Arroyo Chorrillo
RS = 235.51 Arroyo Chorrillo
RS = 215.46 Arroyo Chorrillo
RS = 195.64 Arroyo Chorrillo
RS = 174.87 Arroyo Chorrillo
RS = 155.40 Arroyo Chorrillo
RS = 134.88 Arroyo Chorrillo
RS = 115.79 Arroyo Chorrillo
RS = 95.19 Arroyo Chorrillo
RS = 75.33 Arroyo Chorrillo
RS = 55.16 Arroyo Chorrillo
RS = 39.88 Arroyo Chorrillo
RS = 20.27 Arroyo Chorrillo
RS = 0.00 Arroyo Chorrillo
Elevación (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

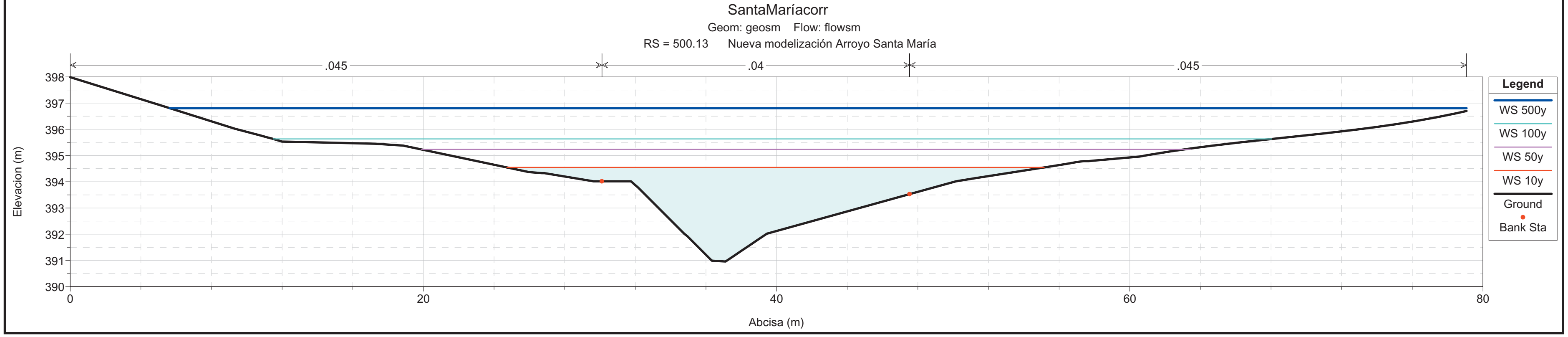
4. Cuenca Arroyo Santa María

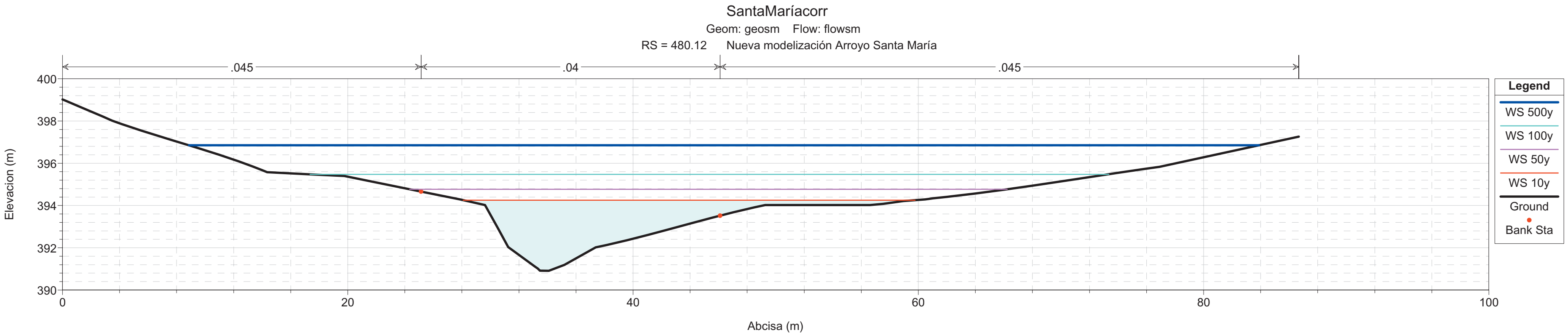
HEC-RAS Plan: Plan 01 River: SantaMaria Reach: 1 Profile: 500y

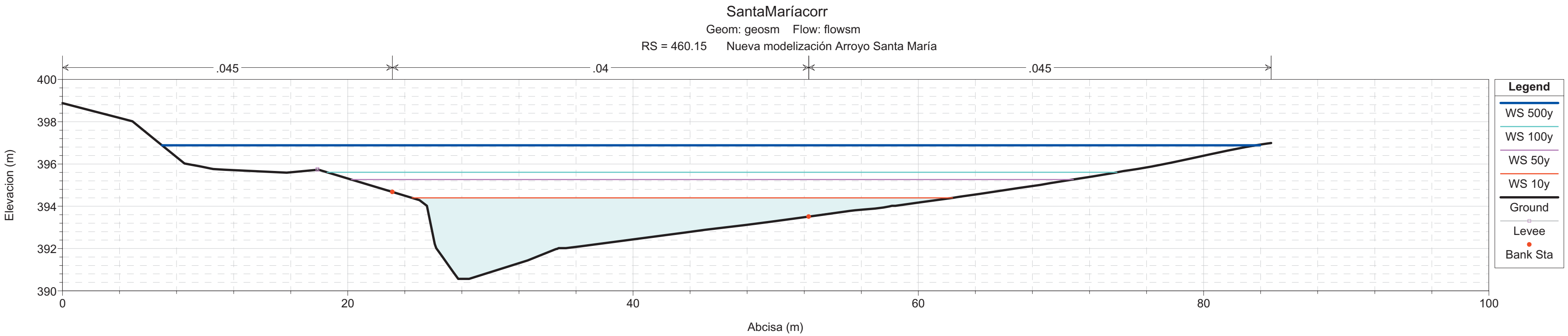
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	539.72	500y	491.60	391.45	397.31	5.86	397.31	398.18	0.008553	5.46	138.96	70.13	0.78
1	520.16	500y	491.60	391.12	396.90	5.78	396.40	397.55	0.004065	4.16	167.02	76.92	0.63
1	500.13	500y	491.60	390.96	396.81	5.85		397.46	0.004589	4.23	162.23	73.44	0.66
1	480.12	500y	491.60	390.91	396.85	5.94		397.33	0.003402	3.58	181.58	75.02	0.56
1	460.15	500y	491.60	390.57	396.89	6.32	395.52	397.25	0.002074	2.93	208.43	76.99	0.44
1	440.05	500y	491.60	390.48	396.68	6.20	395.52	397.19	0.003113	3.48	170.21	63.90	0.53
1	420.24	500y	491.60	390.41	396.45	6.04	395.71	397.10	0.004198	3.93	155.22	69.66	0.62
1	400.12	500y	491.60	390.34	396.59	6.25	394.95	396.97	0.001966	3.01	197.17	65.26	0.44
1	380.17	500y	491.60	390.25	396.59	6.34	394.69	396.92	0.001604	2.78	204.49	52.27	0.40
1	360.04	500y	491.60	389.99	396.54	6.55	394.51	396.88	0.001512	2.81	202.35	49.55	0.39
1	340.21	500y	491.60	389.93	396.19	6.26	395.03	396.81	0.002896	3.73	155.66	46.34	0.54
1	320.25	500y	491.60	389.91	395.11	5.20	395.11	396.63	0.009732	5.56	94.60	33.06	0.94
1	300.17	500y	491.60	389.83	394.04	4.21	394.66	396.27	0.021966	6.82	77.82	35.44	1.34
1	280.29	500y	491.60	389.76	393.48	3.72	394.11	395.84	0.020955	6.84	73.25	28.06	1.32
1	263.36	500y	491.60	389.75	394.33	4.58	394.02	395.43	0.008128	4.68	108.50	40.72	0.84
1	240.38	500y	491.60	389.64	394.00	4.36	393.92	395.20	0.010687	4.89	102.90	41.42	0.94
1	220.23	500y	491.60	389.16	393.71	4.55	393.70	394.97	0.011640	5.06	100.55	40.28	1.00
1	200.08	500y	491.60	389.01	393.71	4.70	393.42	394.69	0.008400	4.41	112.30	42.24	0.85
1	177.02	500y	491.60	388.52	393.82	5.30	392.91	394.46	0.004073	3.55	142.87	47.57	0.61
1	159.11	500y	491.60	388.35	393.82	5.47	392.84	394.36	0.003528	3.36	157.92	53.55	0.57
1	140.28	500y	491.60	388.09	393.82	5.73	392.72	394.27	0.003214	3.00	166.20	54.65	0.53
1	120.09	500y	491.60	387.79	393.77	5.98	392.45	394.21	0.002619	2.94	172.42	52.26	0.49
1	100.03	500y	491.60	387.70	392.86	5.16	392.82	394.04	0.008781	5.06	110.51	45.48	0.88
1	80.24	500y	491.60	387.54	392.95	5.41	392.87	393.82	0.005754	4.40	139.08	77.61	0.72
1	60.14	500y	491.60	387.19	392.86	5.67	392.86	393.69	0.006828	4.53	143.65	79.69	0.78
1	40.06	500y	491.60	386.87	391.59	4.72	392.06	393.39	0.024772	6.45	91.52	60.50	1.37
1	20.08	500y	491.60	386.71	392.27	5.56	391.17	392.49	0.001907	2.47	263.39	117.47	0.42
1	0.00	500y	491.60	386.66	391.49	4.83	391.47	392.36	0.008644	4.59	135.80	77.66	0.86

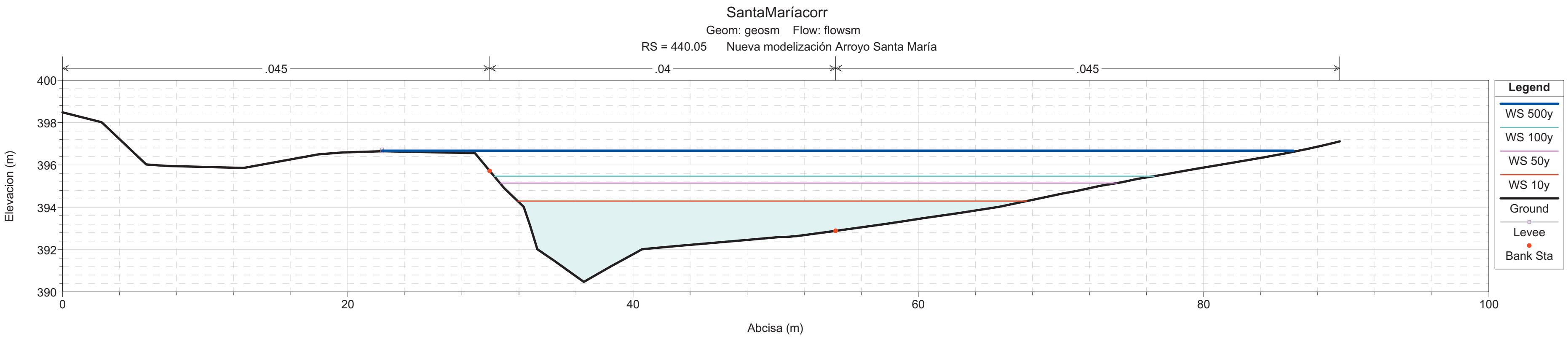

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 539.72 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

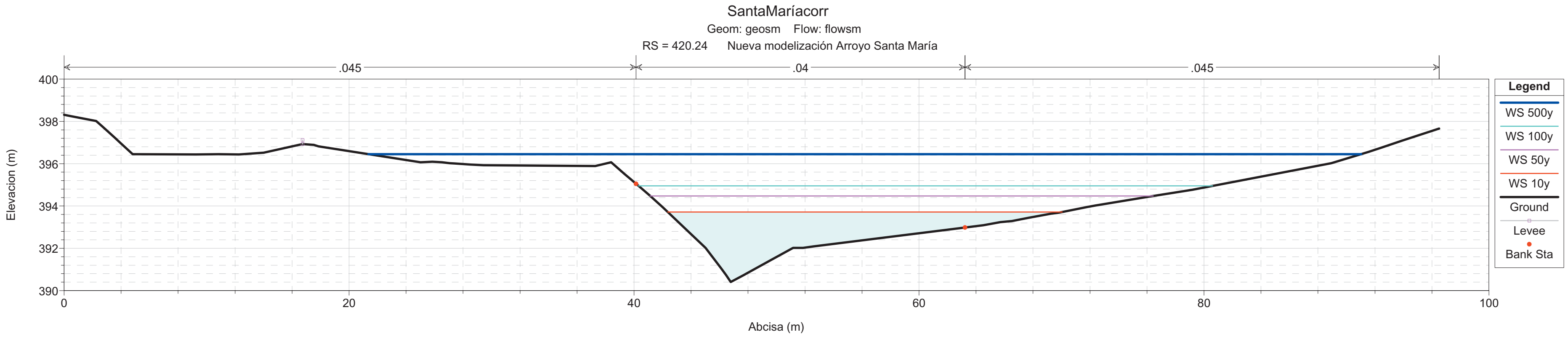

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 520.16 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

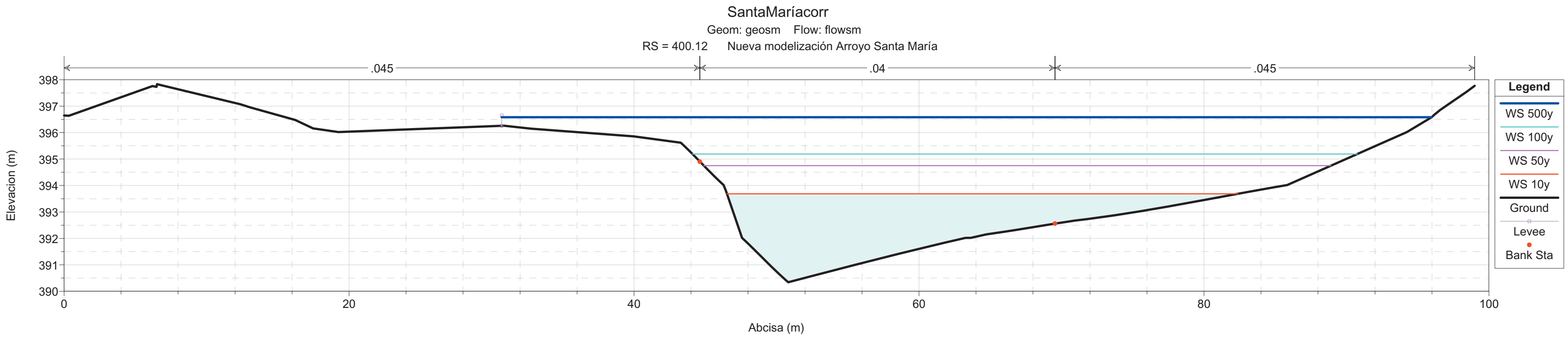

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 500.13 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

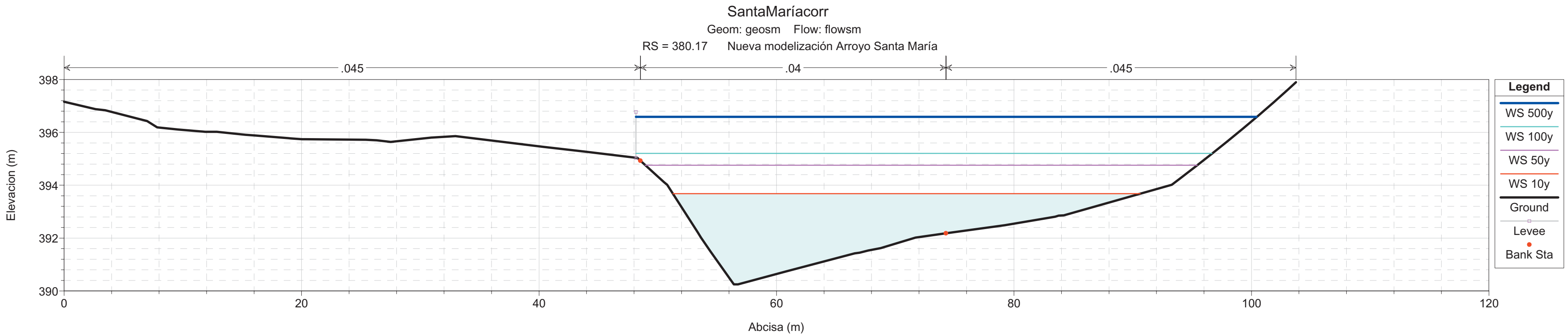

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 480.12 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

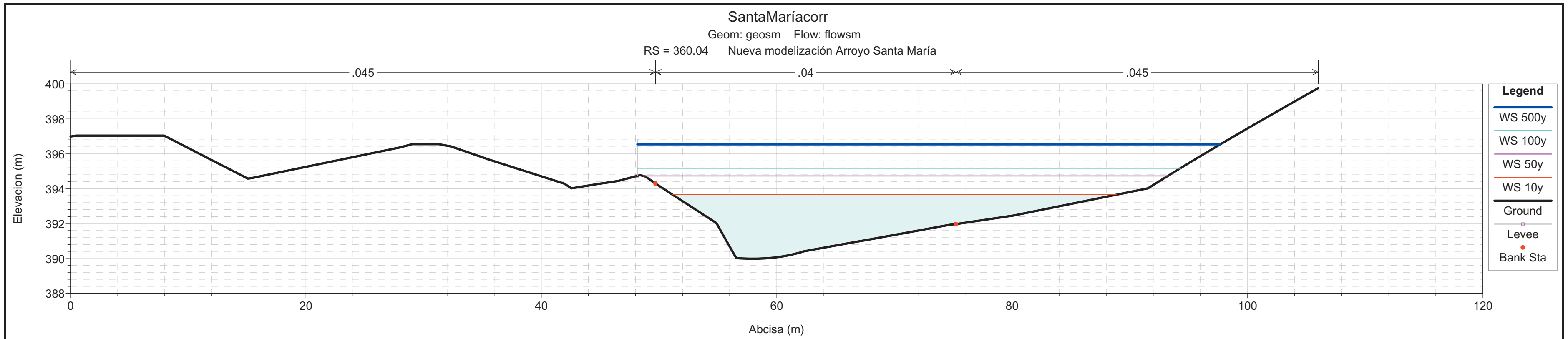

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 460.15 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

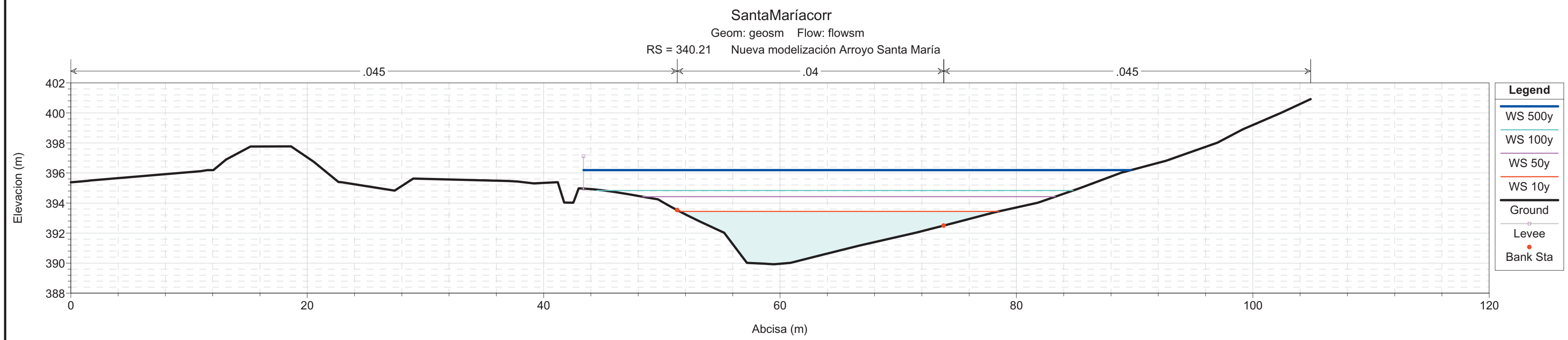

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 440.05 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

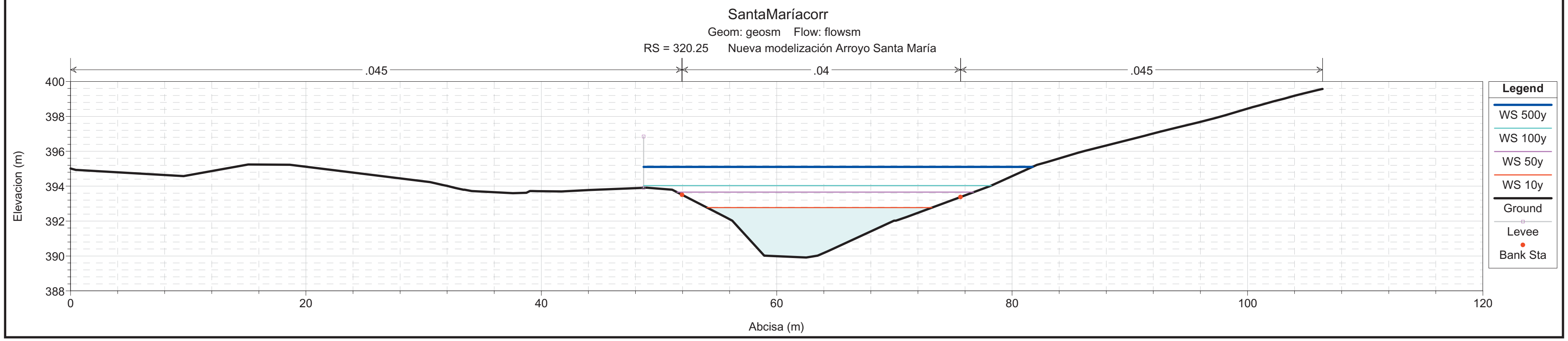

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 420.24 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
400
398
396
394
392
390
0
20
40
60
80
100
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

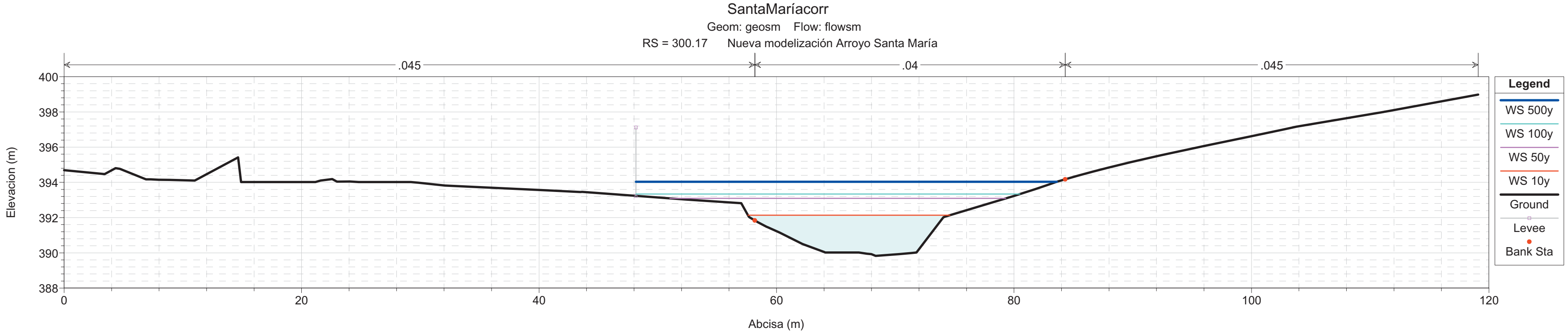

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 400.12 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
398
397
396
395
394
393
392
391
390
0
20
40
60
80
100
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta


SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 380.17 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
398
396
394
392
390
0
20
40
60
80
100
120
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

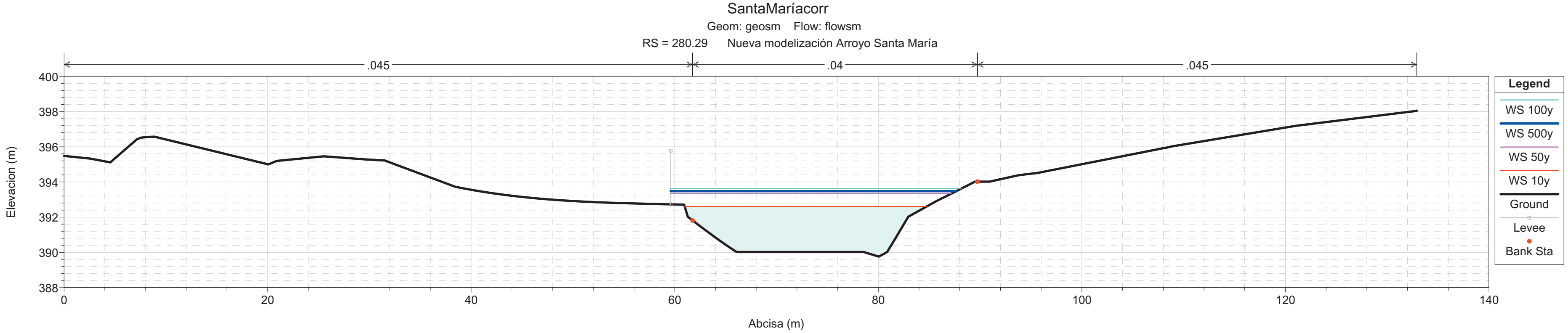

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 360.04 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta


SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 340.21 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

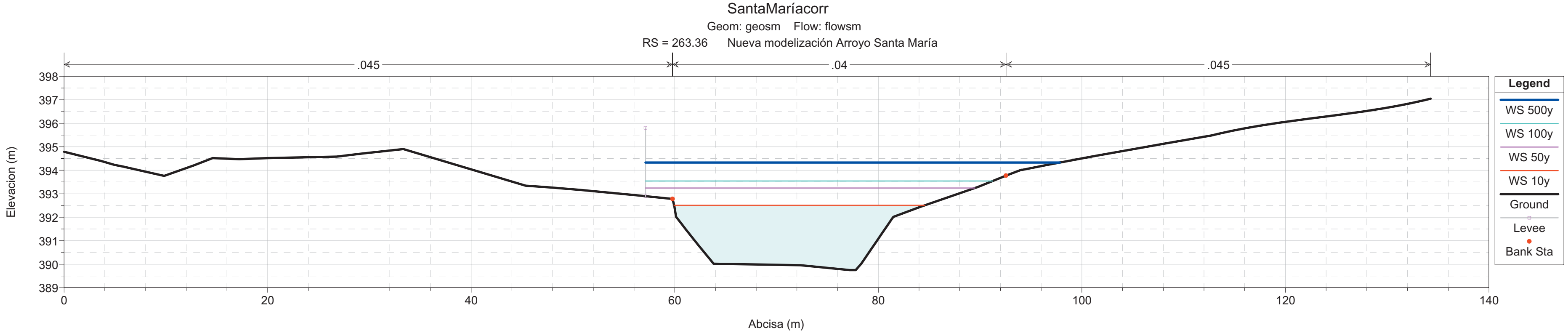

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 320.25 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta



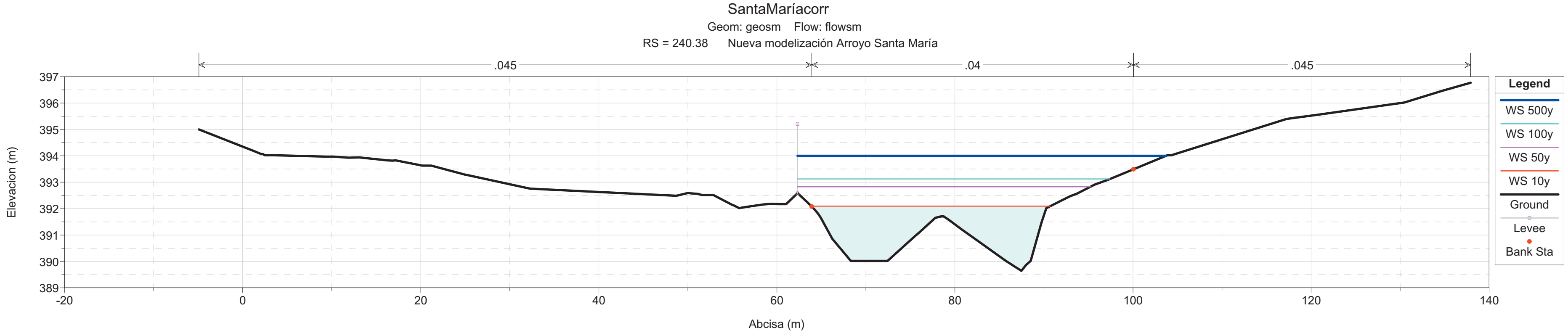
SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 300.17 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

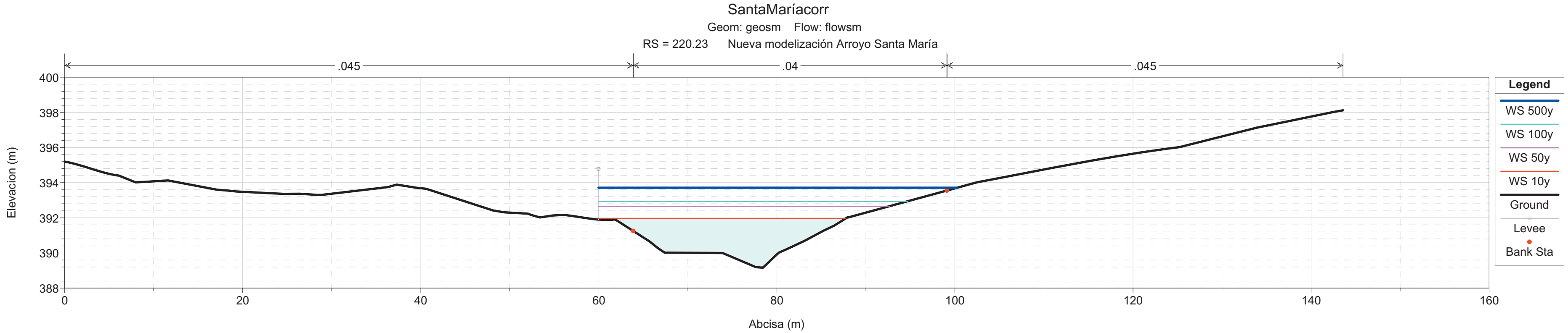


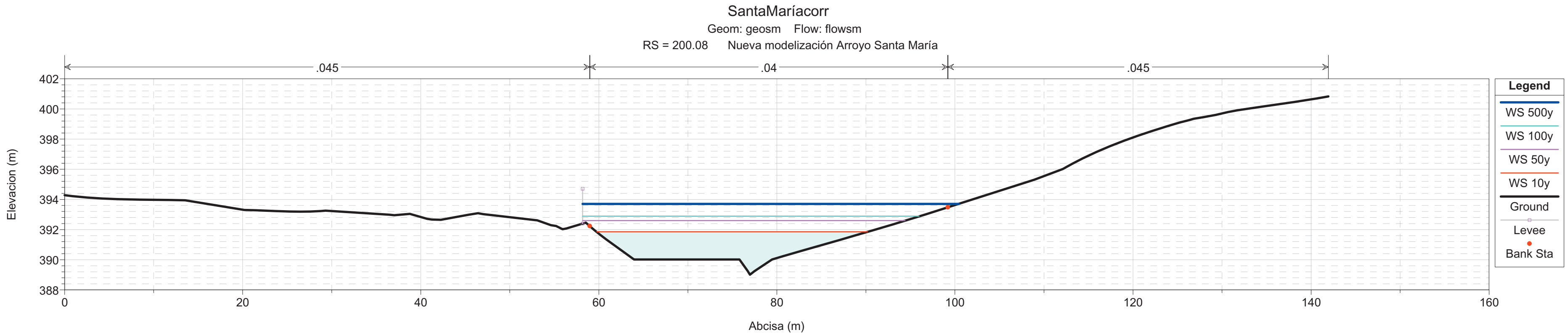
SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 280.29 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 100y
WS 500y
WS 50y
WS 10y
Ground
Levee
Bank Sta

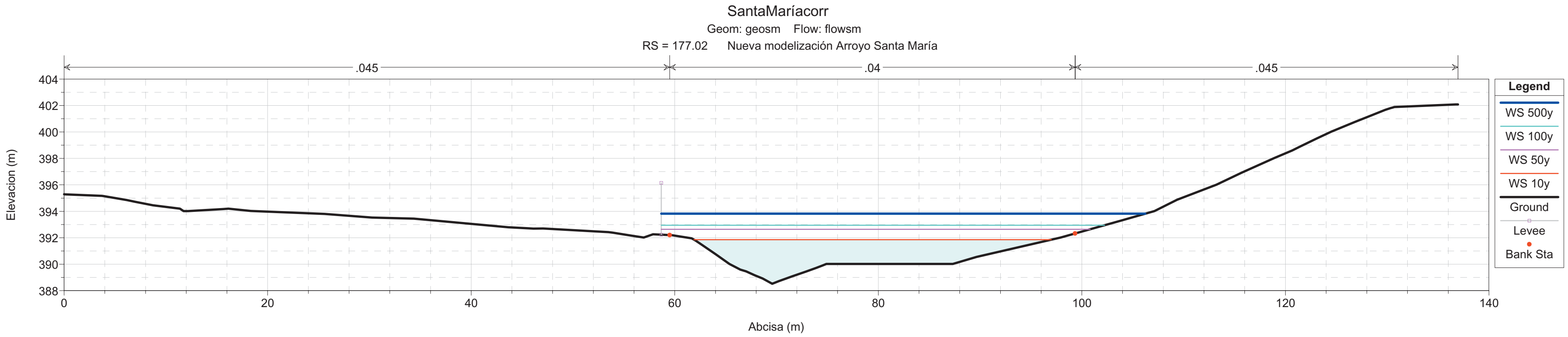


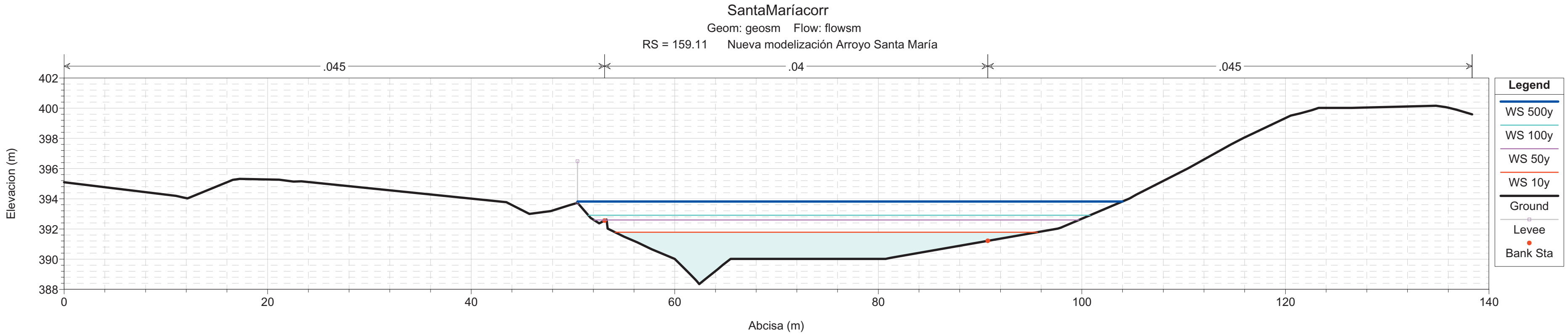
SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 263.36 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

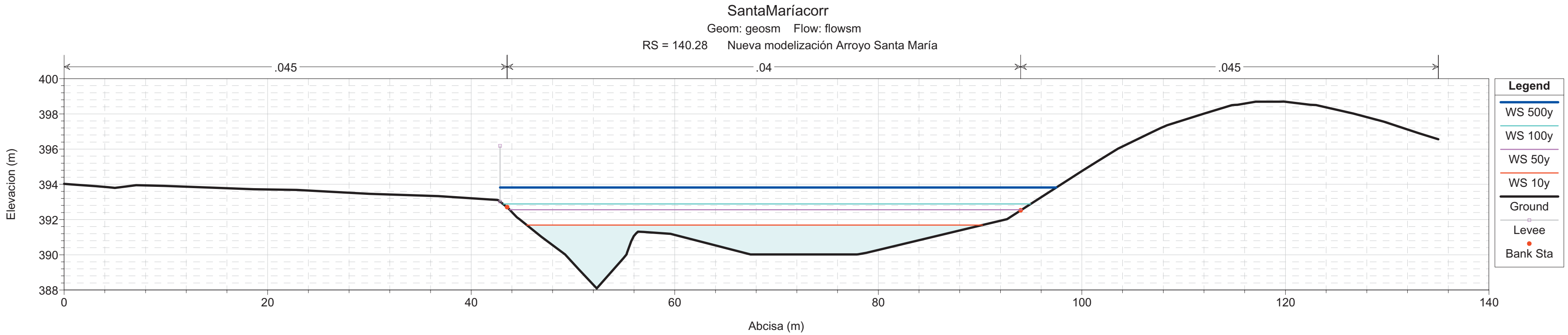

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 240.38 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

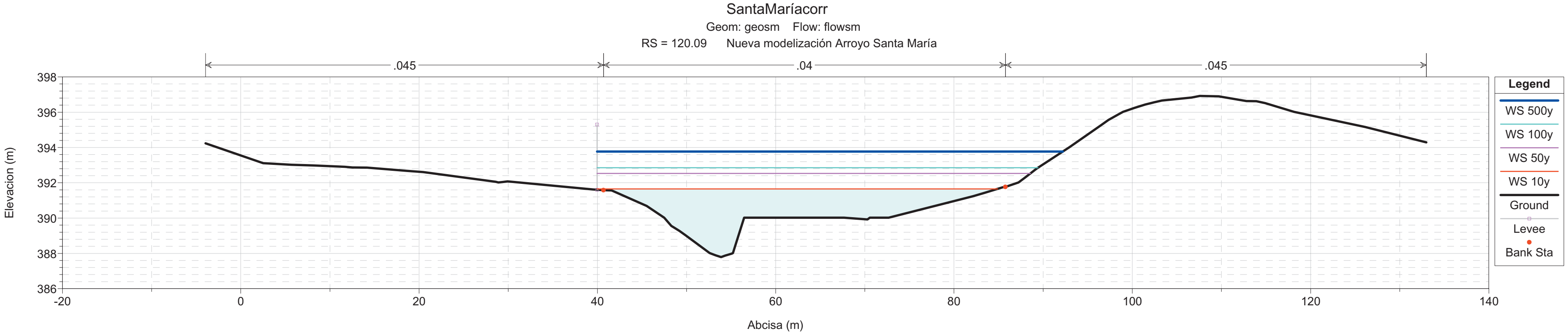

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 220.23 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

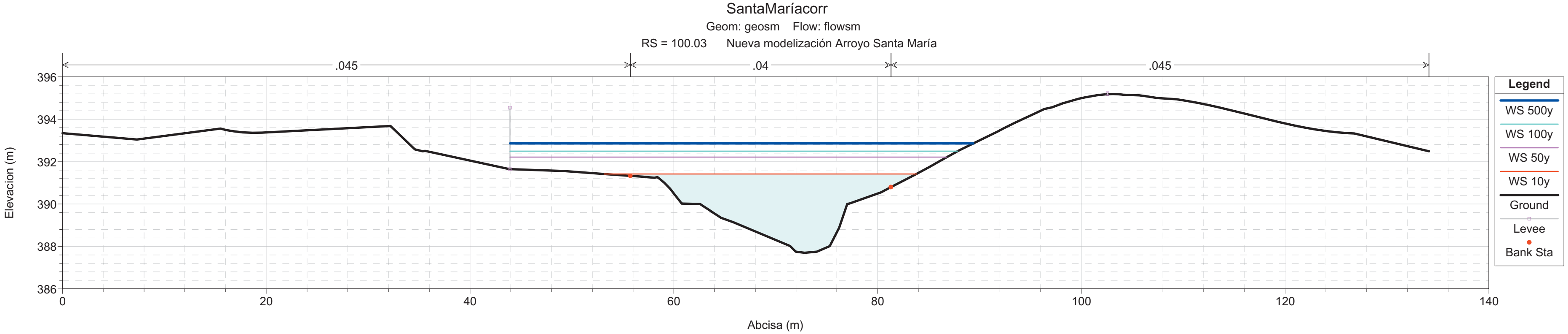

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 200.08 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

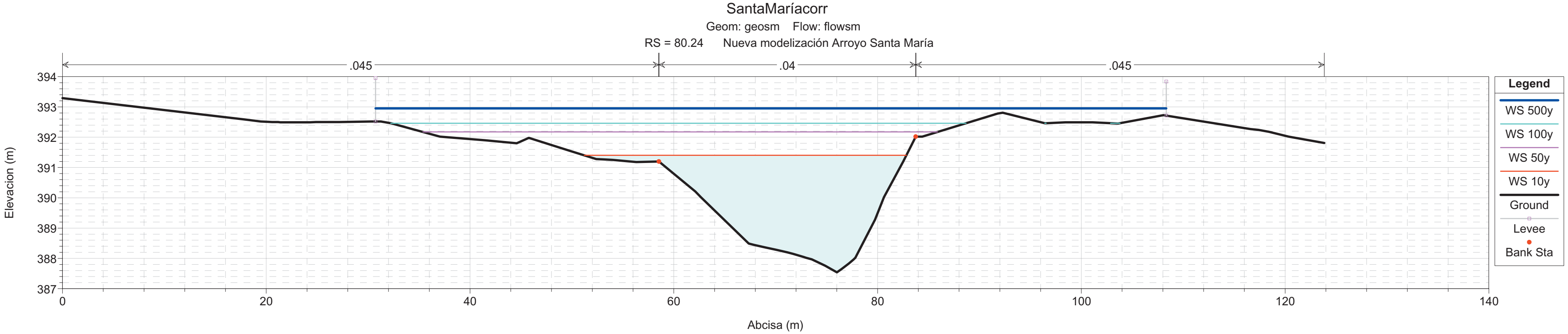

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 177.02 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

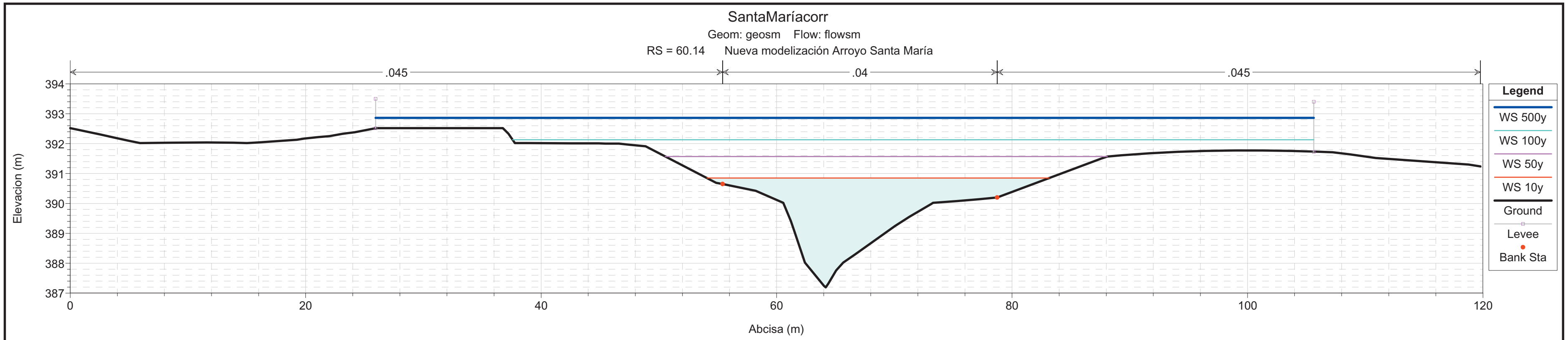

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 159.11 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta


SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 140.28 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

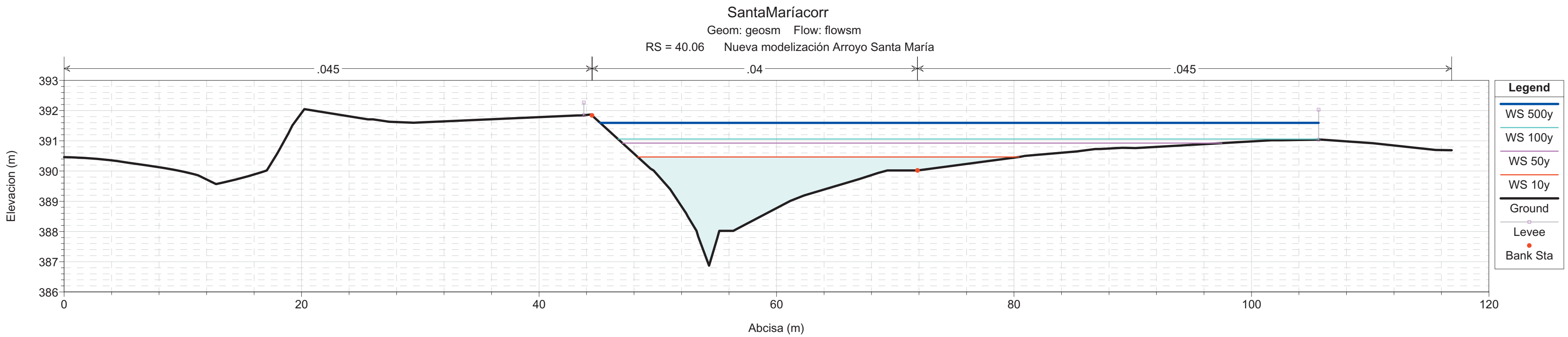

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 120.09 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta


SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 100.03 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

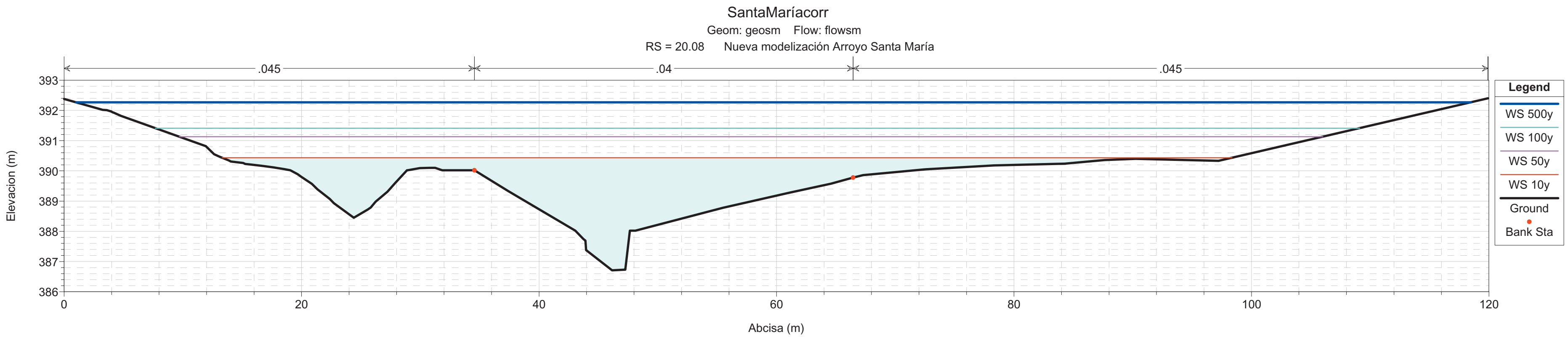

SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 80.24 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta



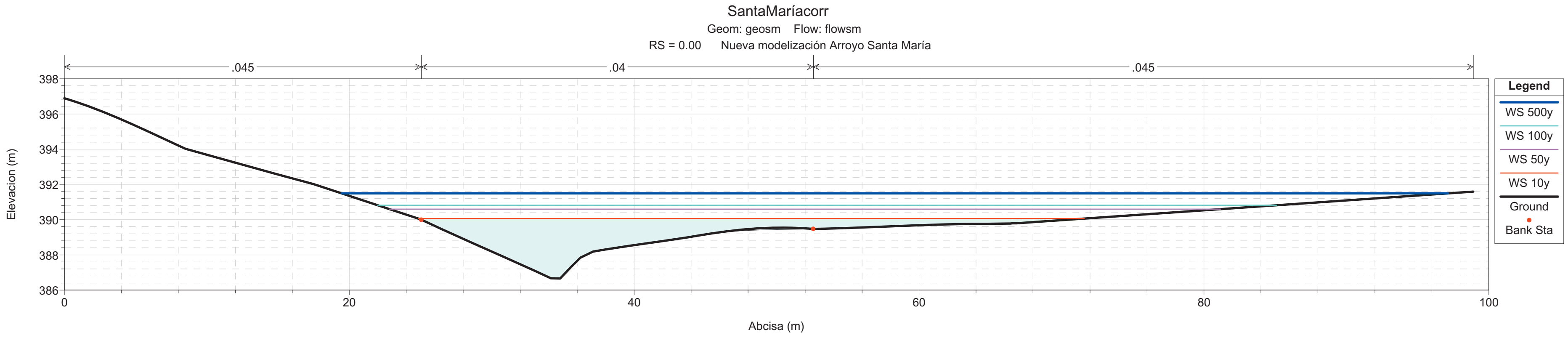
SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 60.14 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta



SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 40.06 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta



SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 20.08 Nueva modelización Arroyo Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


SantaMaríacorr
Geom: geosm Flow: flowsm
RS = 0.00 Nueva modelización Arroyo Santa María
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (m)
398
396
394
392
390
388
386
0
20
40
60
80
100
Abcisa (m)

5. Cuenca Arroyo de las Ratas

HEC-RAS Plan: Plan 01 River: ratas Reach: 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1441	PF 1	1.93	8.09	8.94	0.85	8.94	9.16	0.029794	2.07	0.93	2.16	1.01
1	1441	PF 2	3.65	8.09	9.19	1.10	9.19	9.49	0.023561	2.43	1.55	2.83	0.96
1	1441	PF 3	4.54	8.09	9.30	1.21	9.30	9.62	0.021605	2.57	1.86	3.12	0.94
1	1441	PF 4	8.27	8.09	9.65	1.56	9.65	10.07	0.017705	2.99	3.12	4.07	0.91
1	1421	PF 1	1.93	6.89	7.21	0.32	7.41	7.92	0.178046	3.71	0.52	2.31	2.50
1	1421	PF 2	3.65	6.89	7.33	0.44	7.61	8.40	0.179476	4.58	0.80	2.51	2.60
1	1421	PF 3	4.54	6.89	7.38	0.49	7.70	8.59	0.176158	4.88	0.93	2.61	2.60
1	1421	PF 4	8.27	6.89	7.58	0.69	8.02	9.18	0.149896	5.60	1.48	2.94	2.49
1	1401	PF 1	1.93	5.52	6.48	0.96	6.48	6.73	0.034685	2.20	0.88	1.81	1.01
1	1401	PF 2	3.65	5.52	6.76	1.24	6.76	7.08	0.031900	2.50	1.46	2.33	1.01
1	1401	PF 3	4.54	5.52	6.88	1.36	6.88	7.23	0.031011	2.62	1.74	2.55	1.01
1	1401	PF 4	8.27	5.52	7.20	1.68	7.24	7.70	0.029877	3.14	2.65	3.21	1.05
1	1381	PF 1	1.93	4.09	4.60	0.51	4.81	5.34	0.176570	3.83	0.50	2.04	2.45
1	1381	PF 2	3.65	4.09	4.73	0.64	5.01	5.75	0.175714	4.48	0.81	2.59	2.55
1	1381	PF 3	4.54	4.09	4.79	0.70	5.09	5.92	0.173842	4.71	0.96	2.82	2.57
1	1381	PF 4	8.27	4.09	4.97	0.88	5.35	6.43	0.163713	5.35	1.55	3.57	2.60
1	1361	PF 1	1.93	2.64	3.13	0.49	3.20	3.41	0.053817	2.34	0.82	3.00	1.42
1	1361	PF 2	3.65	2.64	3.26	0.62	3.38	3.71	0.057622	2.98	1.23	3.11	1.51
1	1361	PF 3	4.54	2.64	3.31	0.67	3.46	3.85	0.058849	3.24	1.40	3.16	1.55
1	1361	PF 4	8.27	2.64	3.51	0.87	3.76	4.35	0.060967	4.06	2.04	3.34	1.64
1	1340	PF 1	1.93	1.40	2.24	0.84	2.28	2.51	0.037680	2.28	0.85	2.01	1.12
1	1340	PF 2	3.65	1.40	2.50	1.10	2.54	2.82	0.032467	2.53	1.44	2.65	1.09
1	1340	PF 3	4.54	1.40	2.60	1.20	2.64	2.95	0.031609	2.64	1.72	2.89	1.09
1	1340	PF 4	8.27	1.40	2.88	1.48	2.96	3.39	0.032285	3.16	2.63	3.59	1.15
1	1321	PF 1	1.93	0.22	0.75	0.53	0.92	1.29	0.113259	3.23	0.60	2.26	2.01
1	1321	PF 2	3.65	0.22	0.89	0.67	1.11	1.66	0.123075	3.90	0.94	2.85	2.18
1	1321	PF 3	4.54	0.22	0.94	0.72	1.19	1.81	0.123014	4.12	1.10	3.10	2.21
1	1321	PF 4	8.27	0.22	1.13	0.91	1.47	2.28	0.102780	4.76	1.76	3.73	2.14
1	1301	PF 1	1.93	-0.98	-0.34	0.64	-0.28	-0.05	0.040773	2.39	0.81	2.02	1.21
1	1301	PF 2	3.65	-0.98	-0.11	0.87	-0.03	0.28	0.039367	2.77	1.32	2.53	1.23
1	1301	PF 3	4.54	-0.98	-0.02	0.96	0.08	0.41	0.039096	2.92	1.56	2.73	1.23
1	1301	PF 4	8.27	-0.98	0.24	1.22	0.41	0.87	0.042936	3.51	2.36	3.33	1.33
1	1281	PF 1	1.93	-1.97	-1.09	0.88	-1.06	-0.83	0.036797	2.26	0.85	1.93	1.09
1	1281	PF 2	3.65	-1.97	-0.87	1.10	-0.81	-0.48	0.036321	2.79	1.32	2.41	1.14
1	1281	PF 3	4.54	-1.97	-0.78	1.19	-0.69	-0.33	0.034853	2.99	1.55	2.59	1.14
1	1281	PF 4	8.27	-1.97	-0.44	1.53	-0.15	0.17	0.028744	3.54	2.56	3.79	1.11

HEC-RAS Plan: Plan 01 River: ratas Reach: 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1261	PF 1	1.93	-3.15	-2.69	0.46	-2.51	-2.10	0.122382	3.39	0.57	2.08	2.07
1	1261	PF 2	3.65	-3.15	-2.53	0.62	-2.28	-1.72	0.115747	3.99	0.92	2.45	2.08
1	1261	PF 3	4.54	-3.15	-2.47	0.68	-2.19	-1.55	0.117351	4.25	1.07	2.59	2.11
1	1261	PF 4	8.27	-3.15	-2.27	0.88	-1.88	-0.96	0.123578	5.08	1.63	3.07	2.23
1	1241	PF 1	1.93	-3.03	-2.88	0.15	-2.88	-2.84	0.036328	0.87	2.21	28.31	0.99
1	1241	PF 2	3.65	-3.03	-2.84	0.19	-2.84	-2.78	0.033049	1.07	3.40	29.54	1.01
1	1241	PF 3	4.54	-3.03	-2.82	0.21	-2.82	-2.75	0.031465	1.15	3.96	30.10	1.01
1	1241	PF 4	8.27	-3.03	-2.78	0.25	-2.75	-2.65	0.041339	1.55	5.32	31.42	1.21
1	1221	PF 1	1.93	-4.46	-4.17	0.29	-4.11	-3.96	0.091874	2.05	0.94	6.65	1.74
1	1221	PF 2	3.65	-4.46	-4.09	0.37	-4.01	-3.81	0.084932	2.37	1.55	8.78	1.75
1	1221	PF 3	4.54	-4.46	-4.07	0.39	-3.97	-3.74	0.081288	2.54	1.81	9.22	1.76
1	1221	PF 4	8.27	-4.46	-3.93	0.53	-3.81	-3.56	0.047389	2.72	3.24	11.43	1.46
1	1201	PF 1	1.93	-5.44	-5.21	0.23	-5.20	-5.14	0.040284	1.16	1.67	15.46	1.11
1	1201	PF 2	3.65	-5.44	-5.16	0.28	-5.13	-5.04	0.045853	1.54	2.42	17.83	1.25
1	1201	PF 3	4.54	-5.44	-5.15	0.29	-5.13	-5.00	0.048797	1.71	2.75	18.64	1.31
1	1201	PF 4	8.27	-5.44	-5.13	0.31	-5.13	-5.06	0.021980	1.22	7.37	41.95	0.89
1	1181	PF 1	1.93	-7.52	-7.28	0.24	-7.10	-6.66	0.161788	3.47	0.56	2.39	2.30
1	1181	PF 2	3.65	-7.52	-7.10	0.42	-6.89	-6.42	0.097325	3.65	1.00	2.52	1.85
1	1181	PF 3	4.54	-7.52	-7.01	0.51	-6.80	-6.32	0.080832	3.67	1.24	2.59	1.70
1	1181	PF 4	8.27	-7.52	-6.74	0.78	-6.72	-5.82	0.076029	4.25	1.95	3.15	1.70
1	1161	PF 1	1.93	-8.49	-7.87	0.62	-7.87	-7.65	0.028324	2.09	0.92	2.08	1.00
1	1161	PF 2	3.65	-8.49	-7.61	0.88	-7.61	-7.32	0.026720	2.41	1.52	2.56	1.00
1	1161	PF 3	4.54	-8.49	-7.49	1.00	-7.49	-7.18	0.023879	2.46	1.87	3.90	0.96
1	1161	PF 4	8.27	-8.49	-7.33	1.16	-7.33	-7.31	0.002998	0.99	14.14	46.86	0.35
1	1141	PF 1	1.93	-9.66	-9.41	0.25	-9.24	-8.82	0.161793	3.43	0.56	2.43	2.27
1	1141	PF 2	3.65	-9.66	-9.28	0.38	-9.03	-8.42	0.142781	4.10	0.89	2.47	2.18
1	1141	PF 3	4.54	-9.66	-9.23	0.43	-8.94	-8.22	0.145236	4.44	1.02	2.49	2.21
1	1141	PF 4	8.27	-9.66	-9.01	0.65	-8.56	-7.61	0.134794	5.23	1.58	2.57	2.13
1	1121	PF 1	1.93	-10.92	-10.38	0.55	-10.36	-10.13	0.031406	2.18	0.89	2.05	1.04
1	1121	PF 2	3.65	-10.92	-10.18	0.74	-10.10	-9.78	0.033716	2.84	1.33	2.63	1.13
1	1121	PF 3	4.54	-10.92	-10.10	0.82	-9.99	-9.63	0.034477	3.10	1.55	2.89	1.17
1	1121	PF 4	8.27	-10.92	-9.86	1.06	-9.53	-9.11	0.038650	3.99	2.35	3.85	1.30
1	1100	PF 1	1.93	-11.56	-11.05	0.51	-11.02	-10.80	0.034127	2.20	0.88	2.20	1.11
1	1100	PF 2	3.65	-11.56	-10.81	0.75	-10.75	-10.51	0.034797	2.46	1.49	3.30	1.17
1	1100	PF 3	4.54	-11.56	-10.74	0.82	-10.53	-10.39	0.037185	2.62	1.73	3.68	1.22
1	1100	PF 4	8.27	-11.56	-10.59	0.97	-10.43	-10.01	0.045702	3.43	2.95	23.82	1.41

HEC-RAS Plan: Plan 01 River: ratas Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1081	PF 1	1.93	-12.35	-11.88	0.47	-11.81	-11.57	0.045061	2.45	0.79	2.01	1.25
1	1081	PF 2	3.65	-12.35	-11.64	0.71	-11.56	-11.24	0.039660	2.80	1.31	2.35	1.20
1	1081	PF 3	4.54	-12.35	-11.52	0.83	-11.46	-11.11	0.035250	2.84	1.60	2.52	1.14
1	1081	PF 4	8.27	-12.35	-11.09	1.26	-11.03	-10.66	0.022320	2.92	2.98	5.27	0.95
1	1060	PF 1	1.93	-13.16	-12.60	0.56	-12.57	-12.32	0.038614	2.36	0.82	1.71	1.09
1	1060	PF 2	3.65	-13.16	-12.29	0.87	-12.29	-11.94	0.032570	2.63	1.39	1.98	1.00
1	1060	PF 3	4.54	-13.16	-12.19	0.97	-12.17	-11.78	0.035088	2.85	1.59	2.06	1.04
1	1060	PF 4	8.27	-13.16	-11.96	1.20	-11.76	-11.29	0.044772	3.72	2.86	17.24	1.21
1	1041	PF 1	1.93	-13.69	-13.01	0.68	-13.10	-12.88	0.014729	1.61	1.20	2.65	0.76
1	1041	PF 2	3.65	-13.69	-12.67	1.02	-12.87	-12.54	0.009111	1.62	2.27	3.56	0.63
1	1041	PF 3	4.54	-13.69	-12.59	1.10	-12.78	-12.43	0.010073	1.79	2.55	3.76	0.68
1	1041	PF 4	8.27	-13.69	-12.57	1.12	-12.47	-12.06	0.030236	3.16	2.64	3.83	1.18
1	1021	PF 1	1.93	-14.48	-13.67	0.81	-13.67	-13.37	0.042888	2.45	0.79	1.28	1.00
1	1021	PF 2	3.65	-14.48	-13.32	1.16	-13.32	-12.91	0.043776	2.86	1.28	1.54	1.00
1	1021	PF 3	4.54	-14.48	-13.04	1.44	-13.04	-12.77	0.033240	2.30	1.97	3.66	1.00
1	1021	PF 4	8.27	-14.48	-12.72	1.76	-12.72	-12.53	0.015383	2.06	5.01	14.47	0.75
1	1000	PF 1	1.93	-15.27	-14.85	0.45	-14.74	-14.45	0.066472	2.79	0.69	1.72	1.41
1	1000	PF 2	3.65	-15.27	-14.64	0.66	-14.47	-14.04	0.069824	3.43	1.07	1.80	1.42
1	1000	PF 3	4.54	-15.27	-14.57	0.73	-14.35	-13.82	0.080274	3.83	1.19	1.83	1.52
1	1000	PF 4	8.27	-15.27	-14.21	1.09	-13.88	-13.21	0.078840	4.43	1.87	1.98	1.46
1	981	PF 1	1.93	-16.09	-15.49	0.60	-15.54	-15.30	0.021350	1.89	1.02	2.03	0.85
1	981	PF 2	3.65	-16.09	-15.12	0.97	-15.28	-14.92	0.015791	2.00	1.83	2.49	0.74
1	981	PF 3	4.54	-16.09	-14.98	1.11	-15.17	-14.77	0.015534	2.06	2.20	2.87	0.75
1	981	PF 4	8.27	-16.09	-14.83	1.26	-14.73	-14.37	0.035051	3.01	2.74	4.01	1.16
1	961	PF 1	1.93	-16.87	-16.16	0.71	-16.16	-15.87	0.037753	2.38	0.81	1.40	1.00
1	961	PF 2	3.65	-16.87	-15.84	1.03	-15.84	-15.42	0.040950	2.86	1.28	1.56	1.00
1	961	PF 3	4.54	-16.87	-15.66	1.21	-15.66	-15.23	0.035457	2.91	1.60	2.07	0.93
1	961	PF 4	8.27	-16.87	-15.56	1.31	-15.56	-15.53	0.003254	0.93	11.34	25.45	0.28
1	941	PF 1	1.93	-18.55	-17.38	1.17	-17.29	-16.95	0.084540	2.92	0.66	1.13	1.22
1	941	PF 2	3.65	-18.55	-17.03	1.52	-16.92	-16.49	0.073474	3.25	1.12	1.48	1.19
1	941	PF 3	4.54	-18.55	-16.94	1.61	-16.78	-16.27	0.082310	3.62	1.25	1.56	1.28
1	941	PF 4	8.27	-18.55	-16.25	2.30	-16.21	-15.75	0.030991	3.24	2.81	3.34	0.86
1	921	PF 1	1.93	-18.84	-17.86	0.98	-18.32	-17.80	0.005203	1.11	1.74	1.95	0.38
1	921	PF 2	3.65	-18.84	-17.36	1.48	-18.06	-17.28	0.005308	1.30	2.82	2.38	0.38
1	921	PF 3	4.54	-18.84	-17.16	1.68	-17.94	-17.06	0.005173	1.36	3.34	2.74	0.38
1	921	PF 4	8.27	-18.84	-16.57	2.27	-17.50	-16.46	0.003966	1.52	6.44	8.42	0.35
1	901	PF 1	1.93	-19.13	-18.39	0.74	-18.39	-18.06	0.048083	2.54	0.76	1.17	1.01
1	901	PF 2	3.65	-19.13	-18.03	1.10	-18.03	-17.56	0.052865	3.03	1.20	1.30	1.01
1	901	PF 3	4.54	-19.13	-17.87	1.26	-17.87	-17.35	0.054727	3.22	1.41	1.35	1.01
1	901	PF 4	8.27	-19.13	-17.15	1.98	-17.15	-16.68	0.041648	3.03	2.73	2.98	1.01

HEC-RAS Plan: Plan 01   River: ratas   Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	880	PF 1	1.93	-19.62	-19.03	0.59	-19.02	-18.86	0.029782	1.81	1.06	3.39	1.03
1	880	PF 2	3.65	-19.62	-18.93	0.69	-18.85	-18.58	0.045506	2.60	1.40	3.45	1.30
1	880	PF 3	4.54	-19.62	-18.89	0.73	-18.77	-18.45	0.052162	2.93	1.55	3.47	1.40
1	880	PF 4	8.27	-19.62	-18.90	0.72	-18.50	-17.37	0.187180	5.48	1.51	3.47	2.65
1	860	PF 1	1.93	-20.51	-20.22	0.29	-20.11	-19.83	0.084002	2.76	0.70	2.44	1.65
1	860	PF 2	3.65	-20.51	-19.70	0.81	-19.90	-19.53	0.013864	1.84	1.98	2.52	0.66
1	860	PF 3	4.54	-20.51	-19.55	0.96	-19.80	-19.36	0.012971	1.91	2.38	2.54	0.63
1	860	PF 4	8.27	-20.51	-18.97	1.54	-19.46	-18.74	0.011709	2.14	3.86	2.64	0.57
1	841	PF 1	1.93	-21.18	-20.63	0.55	-20.63	-20.37	0.035575	2.26	0.85	1.66	1.00
1	841	PF 2	3.65	-21.18	-20.35	0.83	-20.35	-19.97	0.037545	2.73	1.34	1.75	1.00
1	841	PF 3	4.54	-21.18	-20.23	0.95	-20.23	-19.79	0.038648	2.92	1.56	1.80	1.00
1	841	PF 4	8.27	-21.18	-19.78	1.40	-19.78	-19.17	0.042208	3.47	2.39	1.95	1.00
1	820	PF 1	1.93	-22.05	-21.34	0.71	-21.47	-21.17	0.019674	1.83	1.05	1.65	0.73
1	820	PF 2	3.65	-22.05	-20.96	1.09	-21.18	-20.73	0.019453	2.14	1.71	1.82	0.71
1	820	PF 3	4.54	-22.05	-20.79	1.26	-21.05	-20.54	0.019213	2.24	2.03	1.90	0.69
1	820	PF 4	8.27	-22.05	-20.17	1.88	-20.60	-19.85	0.018296	2.50	3.30	2.19	0.65
1	801	PF 1	1.93	-22.96	-21.96	1.00	-21.96	-21.70	0.036984	2.28	0.85	1.61	1.00
1	801	PF 2	3.65	-22.96	-21.68	1.28	-21.68	-21.28	0.040393	2.79	1.31	1.65	1.00
1	801	PF 3	4.54	-22.96	-21.55	1.41	-21.55	-21.10	0.042231	2.99	1.52	1.67	1.00
1	801	PF 4	8.27	-22.96	-21.09	1.87	-21.09	-20.44	0.048241	3.60	2.30	1.74	1.00
1	780	PF 1	1.93	-23.77	-23.06	0.71	-22.94	-22.67	0.061098	2.77	0.70	2.03	1.45
1	780	PF 2	3.65	-23.77	-22.88	0.89	-22.70	-22.29	0.059672	3.44	1.10	2.44	1.52
1	780	PF 3	4.54	-23.77	-22.81	0.96	-22.61	-22.13	0.058418	3.71	1.28	2.54	1.53
1	780	PF 4	8.27	-23.77	-22.56	1.21	-22.24	-21.54	0.056589	4.60	1.96	2.87	1.60
1	760	PF 1	1.93	-24.51	-23.78	0.73	-23.76	-23.57	0.031257	2.05	0.94	2.57	1.09
1	760	PF 2	3.65	-24.51	-23.60	0.91	-23.54	-23.29	0.036114	2.50	1.46	3.37	1.21
1	760	PF 3	4.54	-24.51	-23.54	0.97	-23.45	-23.17	0.039345	2.71	1.68	3.65	1.28
1	760	PF 4	8.27	-24.51	-23.38	1.13	-23.18	-22.72	0.050981	3.60	2.32	4.42	1.51
1	741	PF 1	1.93	-25.22	-24.50	0.72	-24.46	-24.24	0.037835	2.26	0.86	2.28	1.18
1	741	PF 2	3.65	-25.22	-24.28	0.94	-24.23	-23.95	0.031054	2.56	1.44	2.91	1.12
1	741	PF 3	4.54	-25.22	-24.18	1.04	-24.13	-23.82	0.028014	2.65	1.75	3.20	1.09
1	741	PF 4	8.27	-25.22	-23.87	1.35	-23.72	-23.43	0.022311	3.03	3.12	7.47	1.03
1	721	PF 1	1.93	-25.58	-24.97	0.61	-25.03	-24.88	0.015047	1.33	1.46	4.97	0.78
1	721	PF 2	3.65	-25.58	-24.94	0.64	-24.88	-24.67	0.041187	2.30	1.59	5.12	1.31
1	721	PF 3	4.54	-25.58	-24.92	0.66	-24.82	-24.56	0.050397	2.67	1.71	5.22	1.47
1	721	PF 4	8.27	-25.58	-24.81	0.77	-24.59	-24.15	0.062635	3.61	2.33	5.67	1.71
1	700	PF 1	1.93	-26.19	-25.47	0.72	-25.47	-25.29	0.026615	1.91	1.01	2.81	1.01
1	700	PF 2	3.65	-26.19	-25.25	0.94	-25.25	-25.02	0.021686	2.13	1.74	4.64	0.97
1	700	PF 3	4.54	-26.19	-25.12	1.06	-25.12	-24.93	0.015451	2.00	2.55	8.23	0.84
1	700	PF 4	8.27	-26.19	-24.92	1.27	-24.89	-24.71	0.013996	2.20	4.94	15.88	0.83

HEC-RAS Plan: Plan 01 River: ratas Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	681	PF 1	1.93	-27.45	-27.02	0.43	-26.84	-26.38	0.159571	3.56	0.54	2.39	2.38
1	681	PF 2	3.65	-27.45	-26.90	0.55	-26.64	-25.97	0.142120	4.30	0.86	2.85	2.39
1	681	PF 3	4.54	-27.45	-26.86	0.59	-26.55	-25.72	0.149489	4.75	0.98	2.95	2.50
1	681	PF 4	8.27	-27.45	-26.62	0.83	-26.25	-25.39	0.083965	5.00	1.78	3.60	2.04
1	661	PF 1	1.93	-28.25	-27.57	0.68	-27.57	-27.39	0.026618	1.85	1.04	3.06	1.01
1	661	PF 2	3.65	-28.25	-27.37	0.88	-27.37	-27.14	0.024249	2.13	1.72	3.94	1.01
1	661	PF 3	4.54	-28.25	-27.33	0.92	-27.30	-27.04	0.027036	2.39	1.91	4.14	1.09
1	661	PF 4	8.27	-28.25	-27.17	1.08	-27.03	-26.63	0.035419	3.28	2.60	4.81	1.30
1	641	PF 1	1.93	-28.94	-28.39	0.55	-28.32	-28.13	0.052000	2.26	0.86	3.11	1.37
1	641	PF 2	3.65	-28.94	-28.25	0.69	-28.13	-27.87	0.056414	2.73	1.34	3.89	1.48
1	641	PF 3	4.54	-28.94	-28.18	0.76	-28.06	-27.78	0.052084	2.80	1.62	4.28	1.45
1	641	PF 4	8.27	-28.94	-27.98	0.96	-27.83	-27.47	0.048498	3.16	2.61	5.43	1.46
1	621	PF 1	1.93	-29.06	-28.58	0.48	-28.64	-28.52	0.014674	1.14	1.69	7.17	0.75
1	621	PF 2	3.65	-29.06	-28.49	0.57	-28.51	-28.37	0.018785	1.48	2.46	8.67	0.88
1	621	PF 3	4.54	-29.06	-28.44	0.62	-28.47	-28.31	0.019568	1.60	2.84	9.33	0.91
1	621	PF 4	8.27	-29.06	-28.31	0.75	-28.31	-28.11	0.019618	2.01	4.26	12.05	0.97
1	601	PF 1	1.93	-29.33	-28.84	0.49	-28.88	-28.81	0.013880	0.82	2.35	15.79	0.68
1	601	PF 2	3.65	-29.33	-28.78	0.55		-28.72	0.014845	1.06	3.46	17.27	0.74
1	601	PF 3	4.54	-29.33	-28.75	0.58		-28.68	0.016244	1.19	3.85	17.74	0.79
1	601	PF 4	8.27	-29.33	-28.66	0.67	-28.69	-28.54	0.016177	1.50	5.72	20.42	0.84
1	581	PF 1	1.93	-30.28	-29.43	0.85	-29.43	-29.22	0.029729	2.05	0.94	2.22	1.01
1	581	PF 2	3.65	-30.28	-29.07	1.21	-29.07	-28.95	0.009298	1.65	3.29	18.82	0.61
1	581	PF 3	4.54	-30.28	-29.01	1.27	-29.01	-28.91	0.008295	1.64	4.60	24.55	0.59
1	581	PF 4	8.27	-30.28	-28.91	1.37	-28.91	-28.79	0.009816	1.94	7.56	30.14	0.65
1	561	PF 1	1.93	-30.97	-30.45	0.52	-30.34	-30.07	0.062886	2.74	0.70	2.10	1.52
1	561	PF 2	3.65	-30.97	-30.38	0.59	-30.11	-29.48	0.124799	4.19	0.87	2.32	2.17
1	561	PF 3	4.54	-30.97	-30.29	0.68	-30.01	-29.38	0.101863	4.23	1.08	2.55	2.01
1	561	PF 4	8.27	-30.97	-29.87	1.10	-29.66	-29.17	0.034091	3.79	2.38	3.67	1.30
1	541	PF 1	1.93	-31.41	-30.90	0.51	-30.92	-30.78	0.020244	1.49	1.30	4.63	0.90
1	541	PF 2	3.65	-31.41	-30.73	0.68	-30.78	-30.57	0.016778	1.74	2.10	4.98	0.85
1	541	PF 3	4.54	-31.41	-30.66	0.75	-30.71	-30.49	0.016665	1.86	2.44	5.12	0.86
1	541	PF 4	8.27	-31.41	-30.67	0.74	-30.49	-30.06	0.058217	3.45	2.39	5.10	1.61
1	521	PF 1	1.93	-32.02	-31.34	0.68	-31.37	-31.20	0.021046	1.66	1.16	3.49	0.92
1	521	PF 2	3.65	-32.02	-31.18	0.84	-31.18	-30.97	0.022496	2.04	1.79	4.33	0.99
1	521	PF 3	4.54	-32.02	-31.11	0.91	-31.11	-30.87	0.021549	2.16	2.12	4.71	0.99
1	521	PF 4	8.27	-32.02	-30.81	1.21	-30.79	-30.59	0.012482	2.17	4.62	14.15	0.81
1	501	PF 1	1.93	-32.39	-31.82	0.57	-31.82	-31.67	0.025720	1.69	1.14	4.00	1.01
1	501	PF 2	3.65	-32.39	-31.67	0.72	-31.65	-31.46	0.026255	2.00	1.83	5.06	1.06
1	501	PF 3	4.54	-32.39	-31.62	0.77	-31.58	-31.38	0.028848	2.20	2.07	5.40	1.13
1	501	PF 4	8.27	-32.39	-31.50	0.89	-31.34	-31.04	0.041742	3.02	2.77	6.89	1.40

HEC-RAS Plan: Plan 01 River: ratas Reach: 1 (Continued)

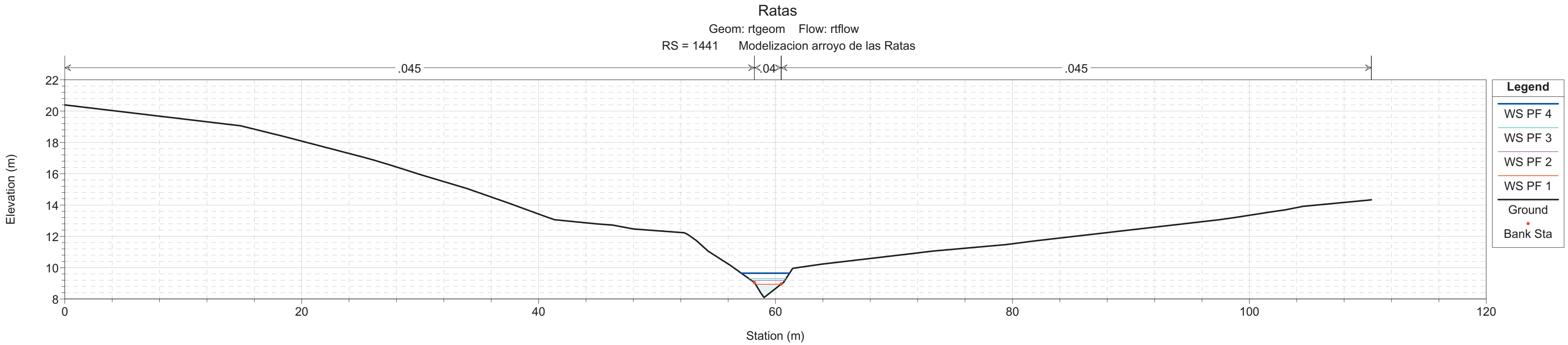
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	481	PF 1	1.93	-33.18	-32.91	0.27	-32.83	-32.63	0.110821	2.36	0.82	5.28	1.92
1	481	PF 2	3.65	-33.18	-32.83	0.35	-32.71	-32.40	0.097958	2.90	1.26	5.33	1.90
1	481	PF 3	4.54	-33.18	-32.78	0.40	-32.65	-32.32	0.084975	3.01	1.51	5.36	1.81
1	481	PF 4	8.27	-33.18	-32.60	0.58	-32.44	-32.04	0.058733	3.34	2.48	5.46	1.58
1	461	PF 1	1.93	-35.06	-34.80	0.26	-34.71	-34.51	0.081672	2.36	0.82	4.13	1.70
1	461	PF 2	3.65	-35.06	-34.70	0.36	-34.56	-34.25	0.087256	3.00	1.22	4.44	1.83
1	461	PF 3	4.54	-35.06	-34.67	0.39	-34.50	-34.11	0.094032	3.31	1.37	4.56	1.93
1	461	PF 4	8.27	-35.06	-34.55	0.51	-34.27	-33.63	0.110194	4.23	1.95	4.97	2.16
1	440	PF 1	1.93	-37.00	-36.73	0.27	-36.62	-36.36	0.101068	2.72	0.71	3.38	1.89
1	440	PF 2	3.65	-37.00	-36.62	0.38	-36.45	-36.09	0.093970	3.23	1.13	3.88	1.91
1	440	PF 3	4.54	-37.00	-36.57	0.43	-36.39	-35.98	0.089987	3.39	1.34	4.10	1.90
1	440	PF 4	8.27	-37.00	-36.39	0.61	-36.15	-35.61	0.083308	3.93	2.10	4.84	1.90
1	421	PF 1	1.93	-37.24	-36.88	0.36	-36.90	-36.80	0.021909	1.32	1.46	6.72	0.90
1	421	PF 2	3.65	-37.24	-36.79	0.45	-36.79	-36.64	0.025206	1.76	2.08	6.77	1.01
1	421	PF 3	4.54	-37.24	-36.75	0.49	-36.75	-36.56	0.024350	1.89	2.41	6.80	1.01
1	421	PF 4	8.27	-37.24	-36.57	0.67	-36.57	-36.30	0.022333	2.29	3.61	6.89	1.01
1	401	PF 1	1.93	-37.84	-37.40	0.44	-37.40	-37.28	0.026996	1.50	1.29	5.77	1.01
1	401	PF 2	3.65	-37.84	-37.28	0.56	-37.27	-37.12	0.026813	1.80	2.04	7.18	1.06
1	401	PF 3	4.54	-37.84	-37.22	0.62	-37.22	-37.05	0.024386	1.87	2.45	7.81	1.03
1	401	PF 4	8.27	-37.84	-37.10	0.74	-37.04	-36.81	0.028952	2.42	3.52	9.26	1.17
1	380	PF 1	1.93	-39.00	-38.55	0.45	-38.43	-38.15	0.068495	2.82	0.68	2.00	1.54
1	380	PF 2	3.65	-39.00	-38.31	0.69	-38.19	-37.86	0.046041	3.00	1.23	2.53	1.35
1	380	PF 3	4.54	-39.00	-38.22	0.78	-38.09	-37.73	0.042262	3.11	1.48	2.74	1.32
1	380	PF 4	8.27	-39.00	-37.78	1.22	-37.75	-37.34	0.022575	2.95	2.91	3.72	1.03
1	361	PF 1	1.93	-39.31	-38.86	0.45	-38.86	-38.73	0.026320	1.63	1.18	4.49	1.02
1	361	PF 2	3.65	-39.31	-38.72	0.59	-38.72	-38.52	0.023676	1.97	1.85	4.78	1.01
1	361	PF 3	4.54	-39.31	-38.67	0.64	-38.65	-38.43	0.025159	2.17	2.09	4.88	1.06
1	361	PF 4	8.27	-39.31	-38.60	0.71	-38.43	-38.01	0.053801	3.41	2.42	5.02	1.57
1	340	PF 1	1.93	-39.69	-39.01	0.68	-39.18	-38.96	0.005591	0.90	2.15	6.32	0.49
1	340	PF 2	3.65	-39.69	-38.84	0.85	-39.03	-38.78	0.005368	1.12	3.28	7.00	0.51
1	340	PF 3	4.54	-39.69	-38.77	0.92	-38.97	-38.70	0.005351	1.22	3.76	7.16	0.52
1	340	PF 4	8.27	-39.69	-38.53	1.16	-38.79	-38.41	0.005212	1.53	5.57	7.75	0.55
1	320	PF 1	1.93	-39.86	-39.32	0.54	-39.32	-39.18	0.025499	1.63	1.19	4.37	1.00
1	320	PF 2	3.65	-39.86	-39.17	0.69	-39.17	-38.98	0.022152	1.90	1.94	5.58	0.98
1	320	PF 3	4.54	-39.86	-39.10	0.76	-39.10	-38.90	0.020578	2.00	2.31	5.82	0.97
1	320	PF 4	8.27	-39.86	-38.89	0.97	-38.89	-38.61	0.018037	2.41	3.58	6.47	0.96
1	301	PF 1	1.93	-41.04	-40.69	0.35	-40.52	-40.15	0.121532	3.25	0.59	2.45	2.11
1	301	PF 2	3.65	-41.04	-40.55	0.49	-40.33	-39.84	0.107090	3.72	0.98	2.99	2.07
1	301	PF 3	4.54	-41.04	-40.49	0.55	-40.25	-39.71	0.103210	3.89	1.17	3.21	2.06
1	301	PF 4	8.27	-41.04	-40.28	0.76	-39.98	-39.31	0.079827	4.36	1.93	4.01	1.92

HEC-RAS Plan: Plan 01 River: ratas Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	281	PF 1	1.93	-41.33	-40.87	0.46	-40.87	-40.73	0.024860	1.62	1.19	4.40	0.99
1	281	PF 2	3.65	-41.33	-40.72	0.61	-40.72	-40.53	0.022644	1.94	1.88	4.86	1.00
1	281	PF 3	4.54	-41.33	-40.66	0.67	-40.66	-40.44	0.022198	2.07	2.20	5.06	1.00
1	281	PF 4	8.27	-41.33	-40.43	0.90	-40.43	-40.13	0.020055	2.43	3.41	5.73	1.00
1	260	PF 1	1.93	-42.99	-42.68	0.31	-42.46	-41.89	0.188173	3.93	0.49	2.04	2.55
1	260	PF 2	3.65	-42.99	-42.52	0.47	-42.25	-41.56	0.149397	4.34	0.84	2.46	2.37
1	260	PF 3	4.54	-42.99	-42.45	0.54	-42.16	-41.44	0.136827	4.46	1.02	2.65	2.30
1	260	PF 4	8.27	-42.99	-42.22	0.77	-41.86	-41.02	0.106431	4.86	1.70	3.28	2.13
1	241	PF 1	1.93	-43.18	-42.64	0.54	-42.87	-42.62	0.002525	0.67	2.89	7.26	0.34
1	241	PF 2	3.65	-43.18	-42.45	0.73	-42.75	-42.41	0.002598	0.84	4.35	7.80	0.36
1	241	PF 3	4.54	-43.18	-42.37	0.81	-42.70	-42.33	0.002641	0.91	5.01	8.04	0.37
1	241	PF 4	8.27	-43.18	-42.08	1.10	-42.53	-42.02	0.002771	1.12	7.39	8.83	0.39
1	221	PF 1	1.93	-43.38	-42.88	0.50	-42.88	-42.75	0.026076	1.61	1.20	4.53	1.00
1	221	PF 2	3.65	-43.38	-42.73	0.65	-42.73	-42.54	0.023403	1.92	1.90	5.07	1.00
1	221	PF 3	4.54	-43.38	-42.67	0.71	-42.67	-42.46	0.022661	2.03	2.23	5.30	1.00
1	221	PF 4	8.27	-43.38	-42.45	0.93	-42.45	-42.16	0.019383	2.40	3.47	6.13	0.98
1	200	PF 1	1.93	-44.56	-43.99	0.57	-43.87	-43.62	0.070775	2.70	0.71	2.50	1.61
1	200	PF 2	3.65	-44.56	-43.82	0.74	-43.67	-43.34	0.065416	3.08	1.19	3.22	1.62
1	200	PF 3	4.54	-44.56	-43.76	0.80	-43.59	-43.23	0.063424	3.21	1.41	3.51	1.62
1	200	PF 4	8.27	-44.56	-43.54	1.02	-43.33	-42.86	0.060445	3.67	2.26	4.44	1.64
1	181	PF 1	1.93	-45.22	-44.66	0.56	-44.75	-44.57	0.012568	1.35	1.42	3.92	0.72
1	181	PF 2	3.65	-45.22	-44.44	0.78	-44.58	-44.32	0.010782	1.55	2.36	4.61	0.69
1	181	PF 3	4.54	-45.22	-44.35	0.87	-44.50	-44.21	0.010211	1.61	2.81	4.91	0.68
1	181	PF 4	8.27	-45.22	-44.03	1.19	-44.26	-43.86	0.008008	1.88	4.51	5.97	0.64
1	161	PF 1	1.93	-45.94	-45.14	0.80	-45.14	-44.95	0.028194	1.97	0.98	2.48	1.00
1	161	PF 2	3.65	-45.94	-44.92	1.02	-44.92	-44.66	0.025682	2.27	1.61	3.14	1.00
1	161	PF 3	4.54	-45.94	-44.83	1.11	-44.83	-44.54	0.024176	2.40	1.90	3.34	0.99
1	161	PF 4	8.27	-45.94	-44.52	1.42	-44.52	-44.13	0.021049	2.80	3.05	4.05	0.96
1	141	PF 1	1.93	-48.42	-46.57	1.85	-47.37	-46.55	0.001492	0.60	3.20	4.71	0.23
1	141	PF 2	3.65	-48.42	-46.30	2.12	-47.06	-46.27	0.002125	0.78	4.69	6.25	0.29
1	141	PF 3	4.54	-48.42	-46.18	2.24	-46.93	-46.14	0.002164	0.83	5.46	6.88	0.29
1	141	PF 4	8.27	-48.42	-45.77	2.65	-46.57	-45.72	0.001976	0.95	8.98	10.10	0.30
1	120	PF 1	1.93	-47.17	-46.68	0.49		-46.61	0.008856	1.15	1.68	4.61	0.61
1	120	PF 2	3.65	-47.17	-46.42	0.75		-46.34	0.005752	1.24	2.94	4.84	0.51
1	120	PF 3	4.54	-47.17	-46.30	0.87		-46.21	0.005213	1.29	3.51	4.94	0.49
1	120	PF 4	8.27	-47.17	-45.90	1.27		-45.79	0.004613	1.50	5.53	5.28	0.47
1	101	PF 1	1.93	-47.53	-46.75	0.78	-47.00	-46.72	0.002959	0.80	2.42	4.94	0.36
1	101	PF 2	3.65	-47.53	-46.46	1.07	-46.86	-46.42	0.002600	0.95	3.85	5.08	0.35
1	101	PF 3	4.54	-47.53	-46.34	1.19	-46.80	-46.29	0.002567	1.02	4.47	5.14	0.35
1	101	PF 4	8.27	-47.53	-45.95	1.58	-46.58	-45.87	0.002625	1.27	6.54	5.34	0.36

HEC-RAS Plan: Plan 01 River: ratas Reach: 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	80	PF 1	1.93	-47.68	-47.08	0.60	-47.08	-46.87	0.027037	2.03	0.95	2.30	1.01
1	80	PF 2	3.65	-47.68	-46.85	0.83	-46.85	-46.57	0.025311	2.34	1.56	2.82	1.01
1	80	PF 3	4.54	-47.68	-46.75	0.93	-46.75	-46.44	0.024390	2.48	1.84	3.08	1.00
1	80	PF 4	8.27	-47.68	-46.42	1.26	-46.42	-46.01	0.019354	2.84	3.02	4.07	0.95
1	61	PF 1	1.93	-48.95	-48.30	0.65	-48.14	-47.78	0.089082	3.20	0.60	1.70	1.71
1	61	PF 2	3.65	-48.95	-48.10	0.85	-47.88	-47.42	0.082492	3.64	1.00	2.17	1.71
1	61	PF 3	4.54	-48.95	-48.01	0.94	-47.78	-47.28	0.080532	3.80	1.19	2.36	1.71
1	61	PF 4	8.27	-48.95	-47.76	1.19	-47.44	-46.76	0.081045	4.42	1.87	2.94	1.77
1	41	PF 1	1.93	-49.06	-48.44	0.62	-48.65	-48.38	0.006175	1.12	1.72	3.33	0.50
1	41	PF 2	3.65	-49.06	-48.10	0.96	-48.47	-48.02	0.004808	1.25	2.92	3.71	0.45
1	41	PF 3	4.54	-49.06	-47.96	1.10	-48.38	-47.87	0.004503	1.31	3.47	3.88	0.44
1	41	PF 4	8.27	-49.06	-47.46	1.60	-48.09	-47.35	0.003499	1.52	5.52	4.44	0.42
1	20	PF 1	1.93	-50.04	-48.94	1.10	-48.94	-48.66	0.041885	2.32	0.83	1.51	1.00
1	20	PF 2	3.65	-50.04	-48.62	1.42	-48.62	-48.26	0.037426	2.65	1.38	1.97	0.99
1	20	PF 3	4.54	-50.04	-48.49	1.55	-48.49	-48.10	0.034890	2.77	1.65	2.18	0.99
1	20	PF 4	8.27	-50.04	-48.09	1.95	-48.09	-47.55	0.032534	3.27	2.61	2.52	0.96
1	2	PF 1	1.93	-50.56	-50.27	0.29	-50.19	-50.00	0.161835	2.31	0.83	7.49	2.21
1	2	PF 2	3.65	-50.56	-50.24	0.32	-50.10	-49.70	0.253129	3.26	1.12	8.41	2.85
1	2	PF 3	4.54	-50.56	-50.22	0.33	-50.06	-49.54	0.298167	3.68	1.23	8.74	3.13
1	2	PF 4	8.27	-50.56	-50.17	0.39	-49.94	-49.03	0.381821	4.74	1.75	10.19	3.65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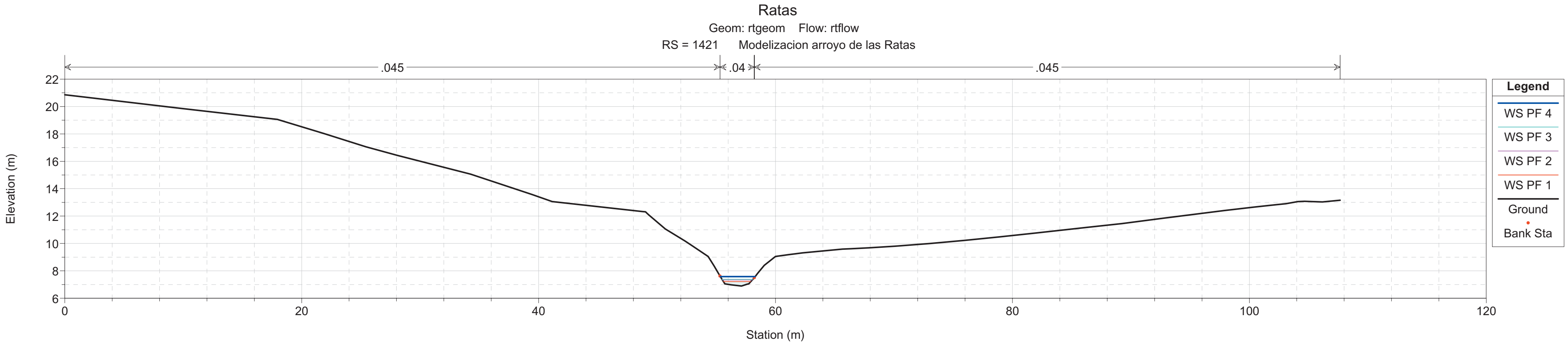
Ground
Bank Sta
Elevation (m)
Station (m)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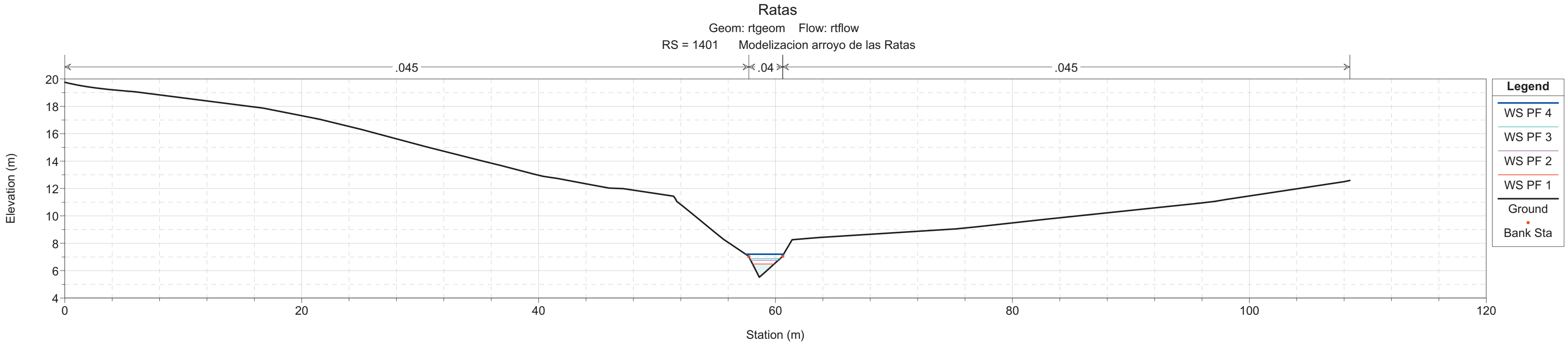
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Bank Sta
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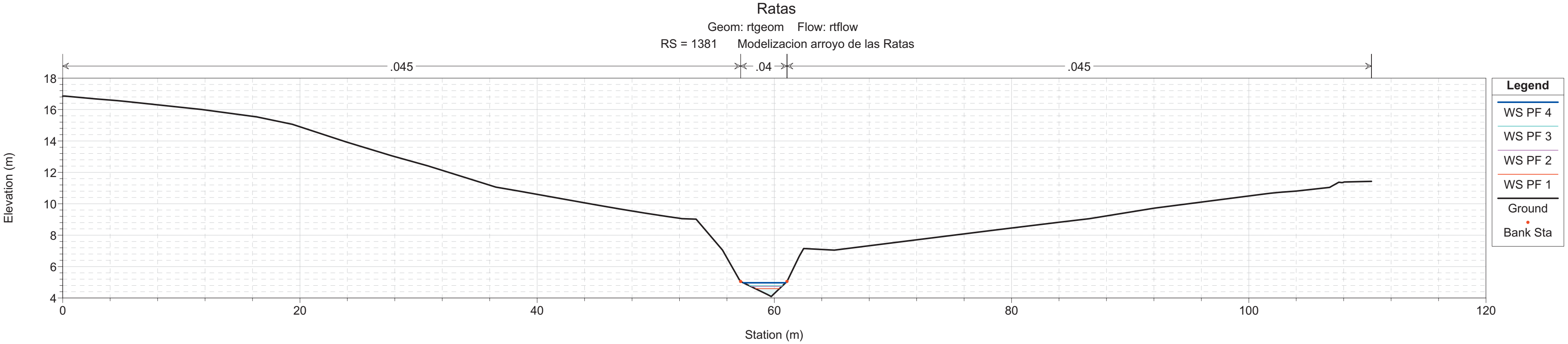
Station (m)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Elevation (m)
Station (m)
Legend
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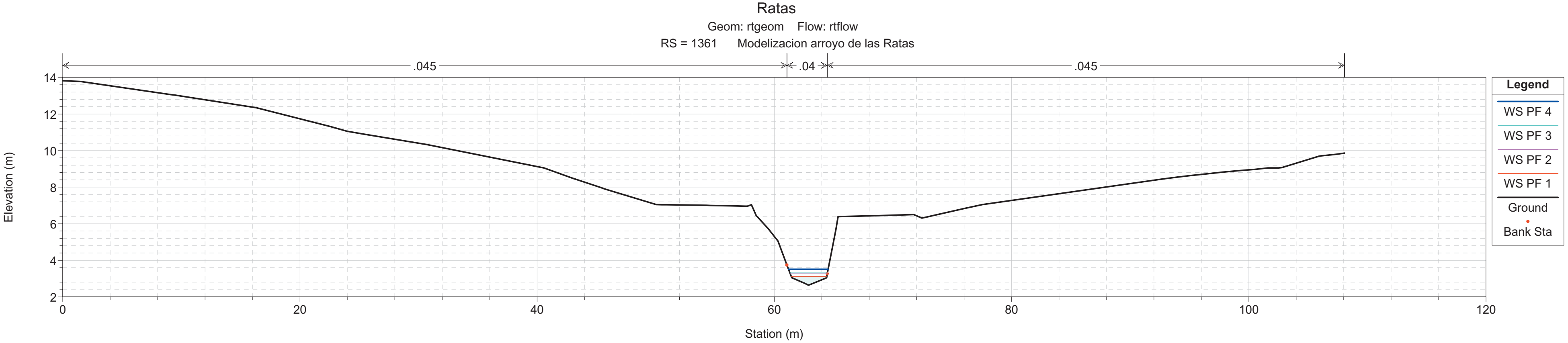
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta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Elevation (m)
Station (m)
Legend
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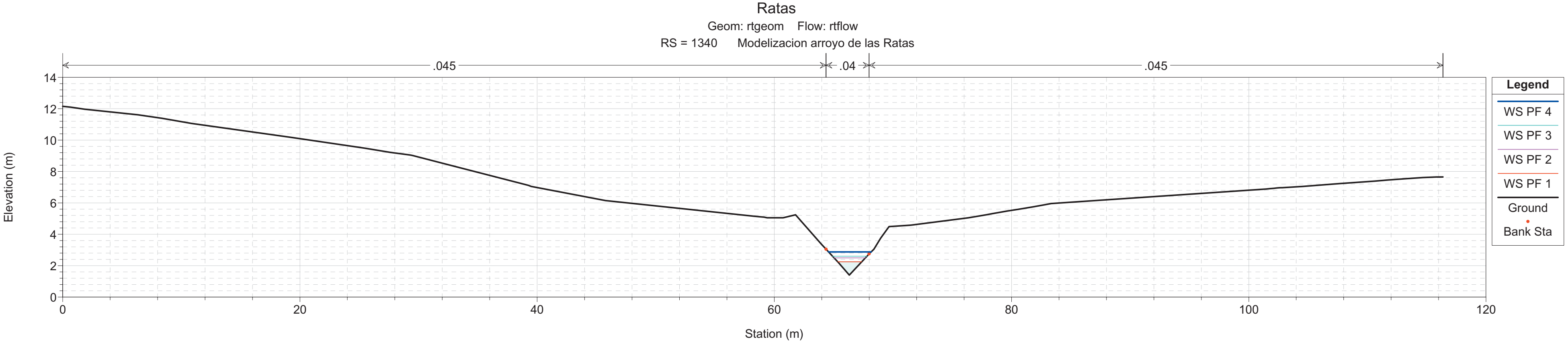
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta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Geom: rtgeom Flow: rtflow
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.04
.045
Elevation (m)
Station (m)
Legend
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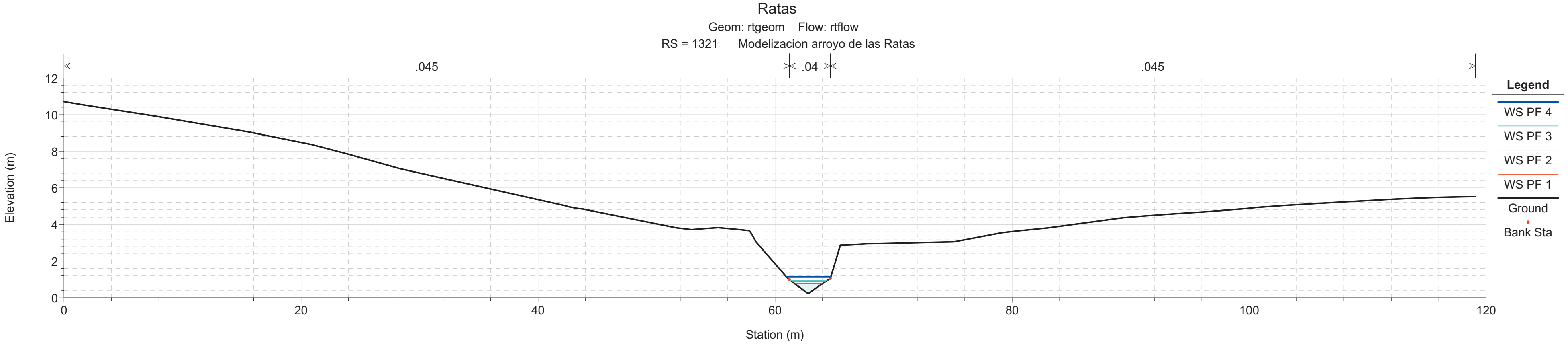
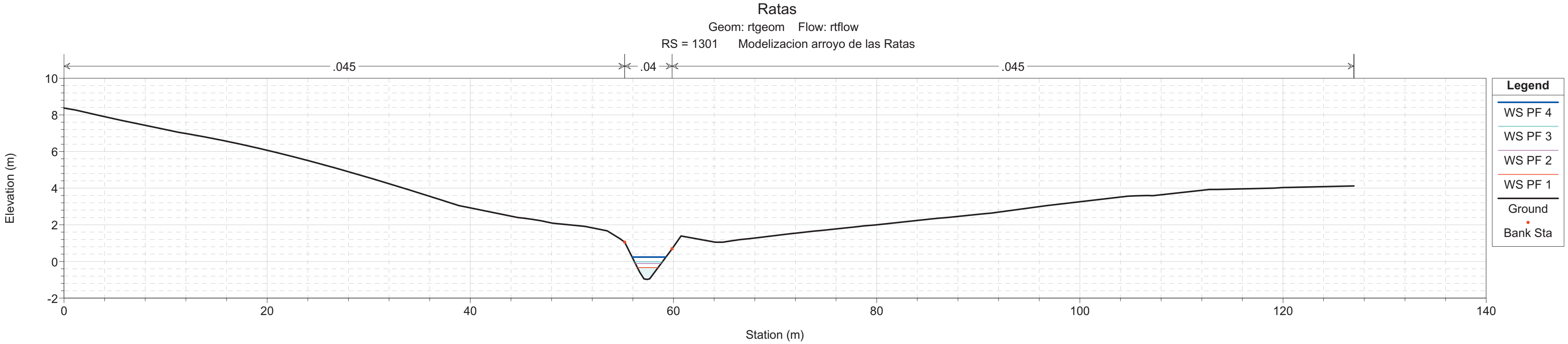
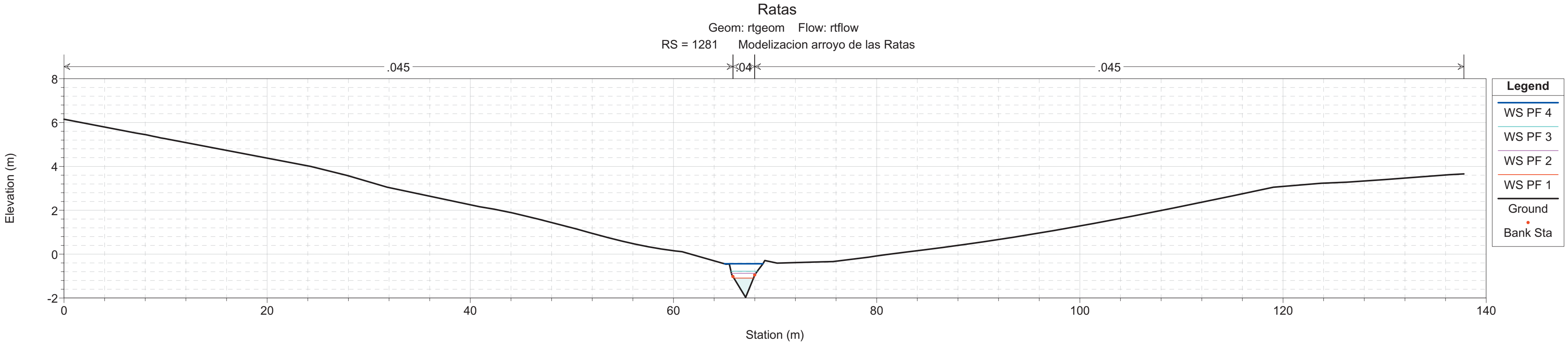
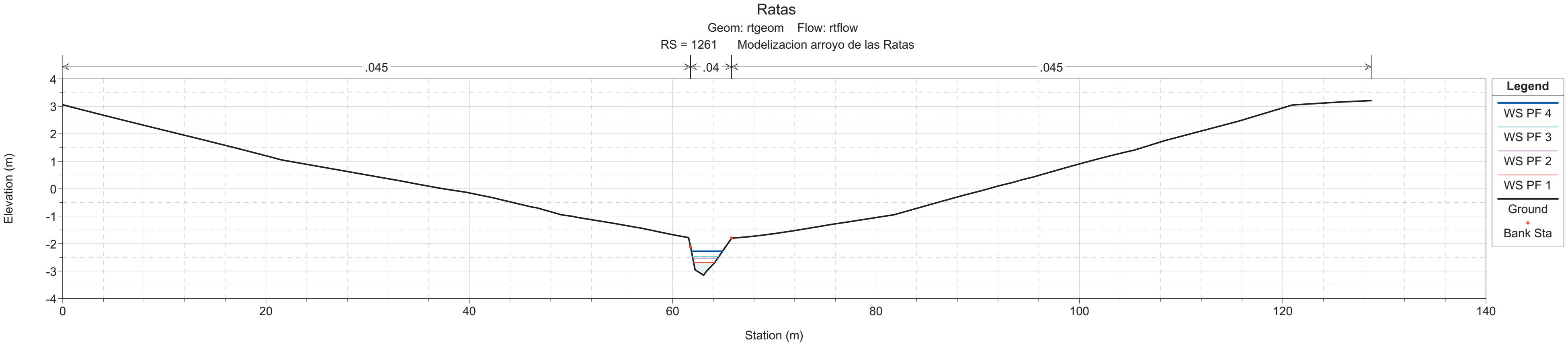
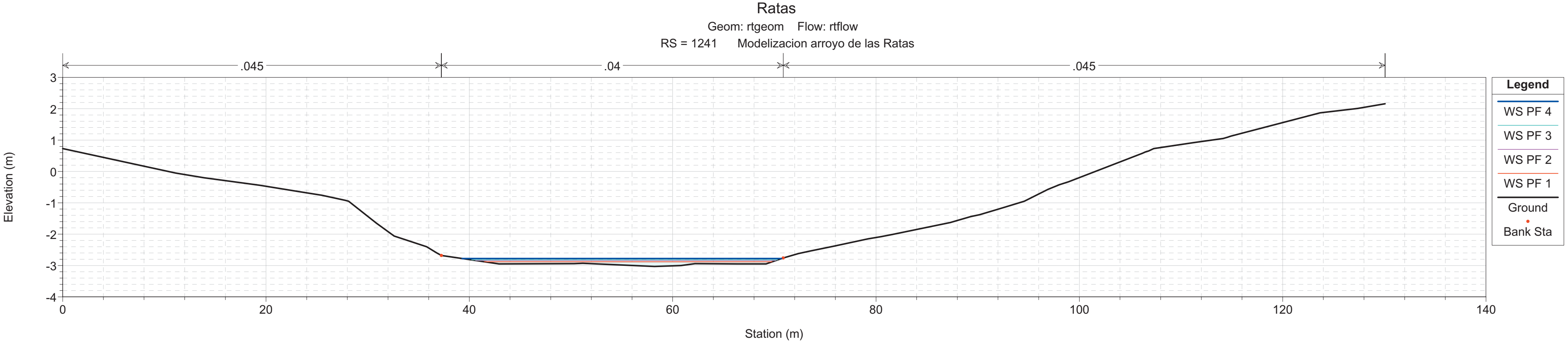
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

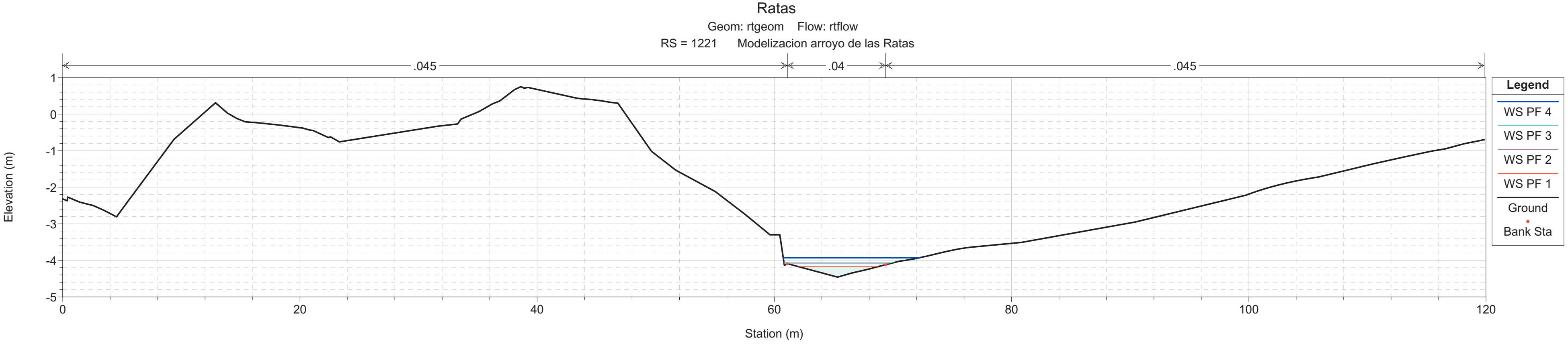

Ratas
Geom: rtgeom Flow: rtflow
RS = 1321 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

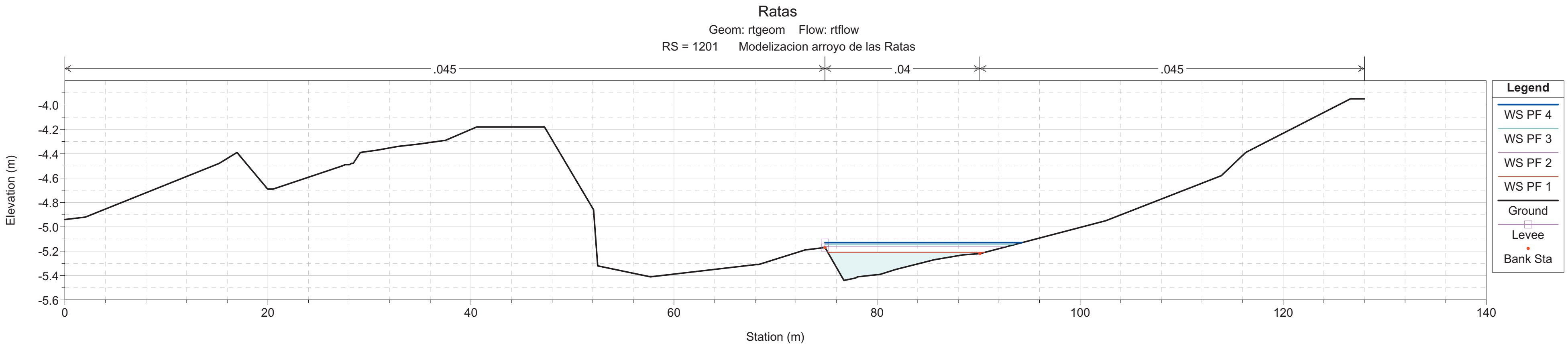

Ratas
Geom: rtgeom Flow: rtflow
RS = 1301 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 1281 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

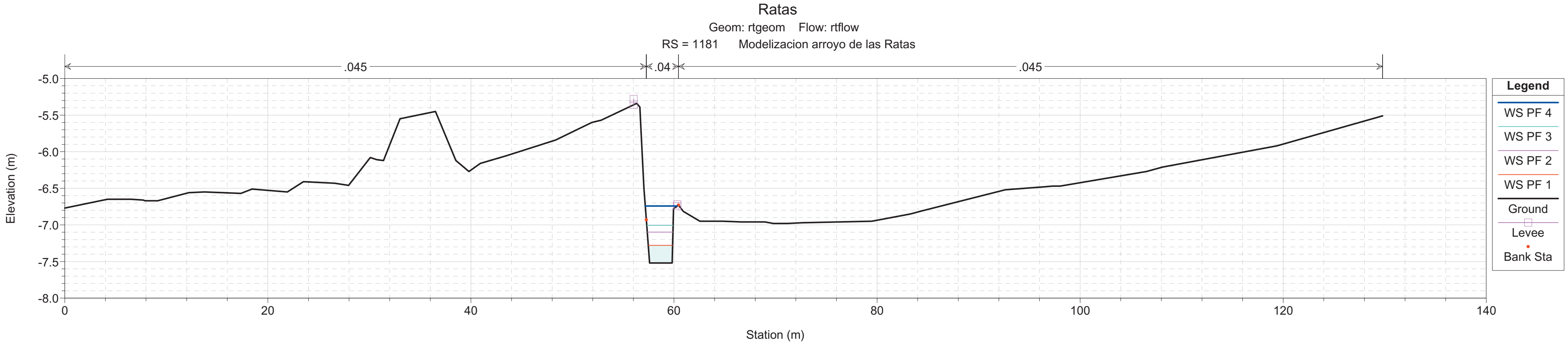

Ratas
Geom: rtgeom Flow: rtflow
RS = 1261 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 1241 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

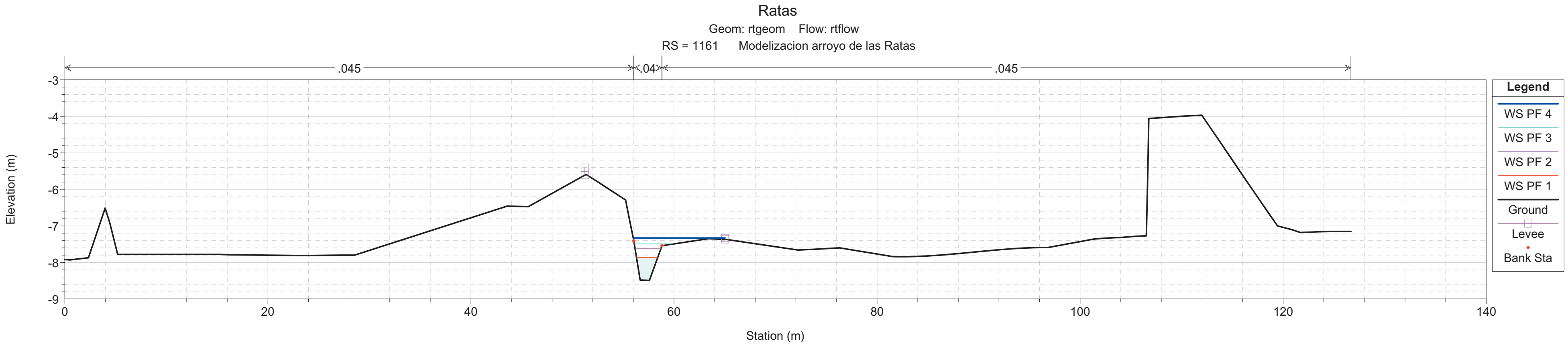

Ratas
Geom: rtgeom Flow: rtflow
RS = 1221 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta



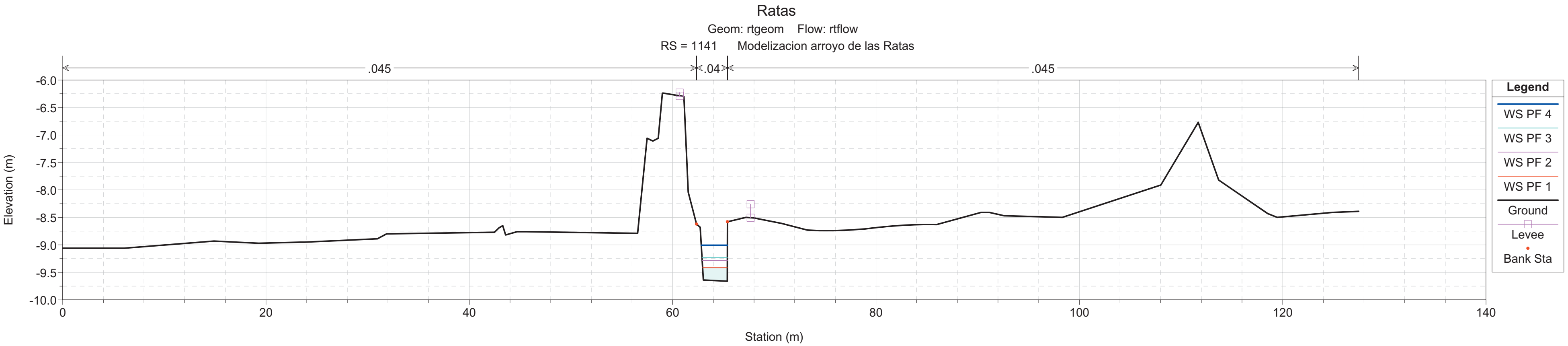
Ratas
Geom: rtgeom Flow: rtflow
RS = 1201 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta



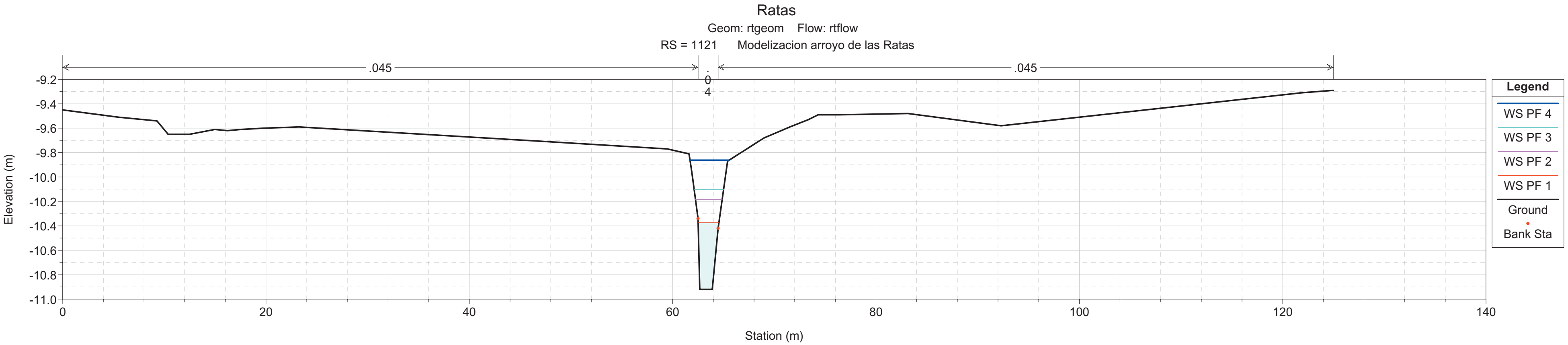
Ratas
Geom: rtgeom Flow: rtflow
RS = 1181 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta



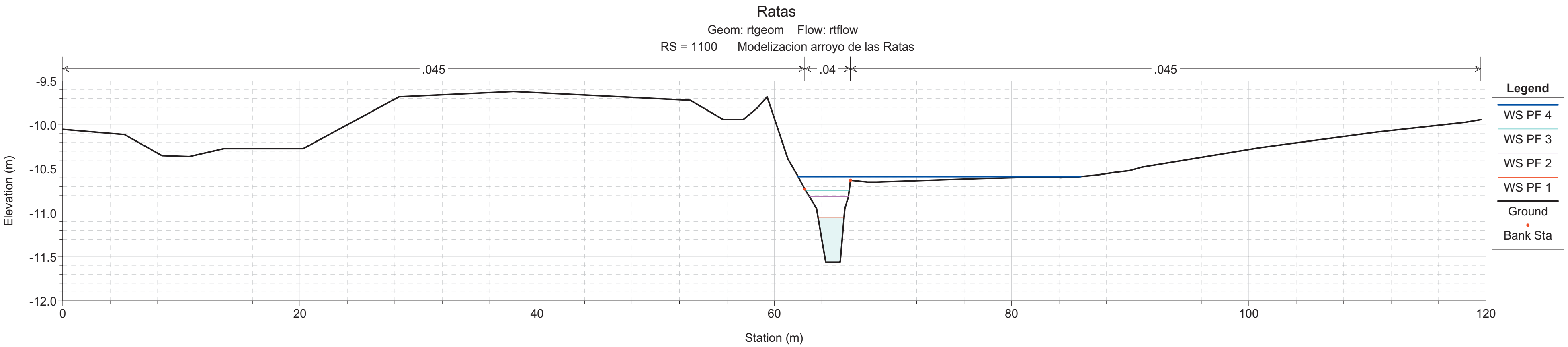
Ratas
Geom: rtgeom Flow: rtflow
RS = 1161 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta



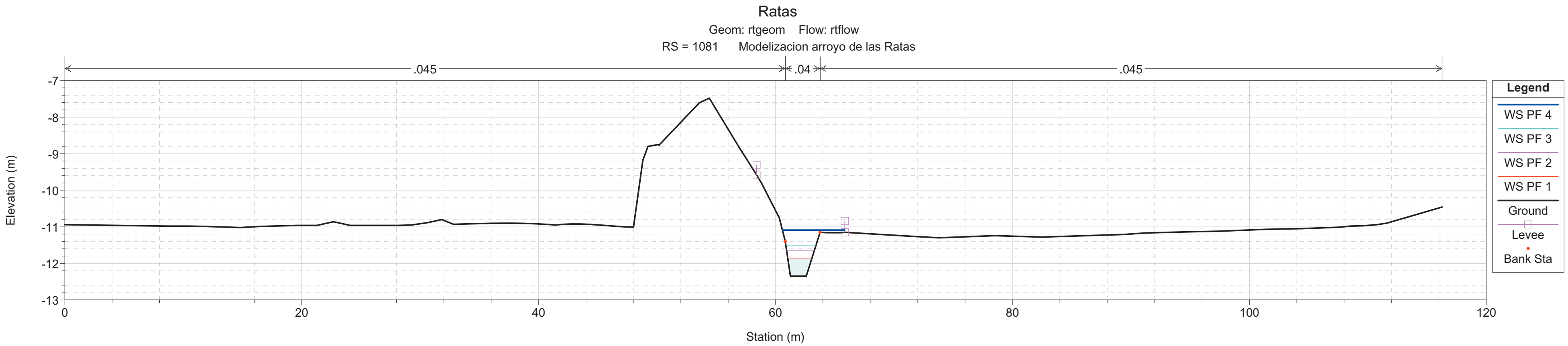
Ratas
Geom: rtgeom Flow: rtflow
RS = 1141 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

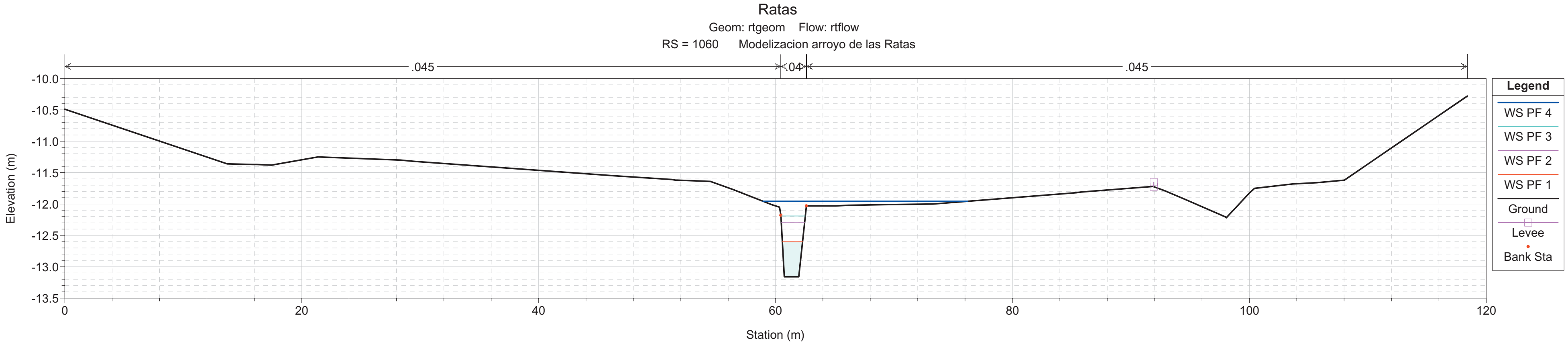


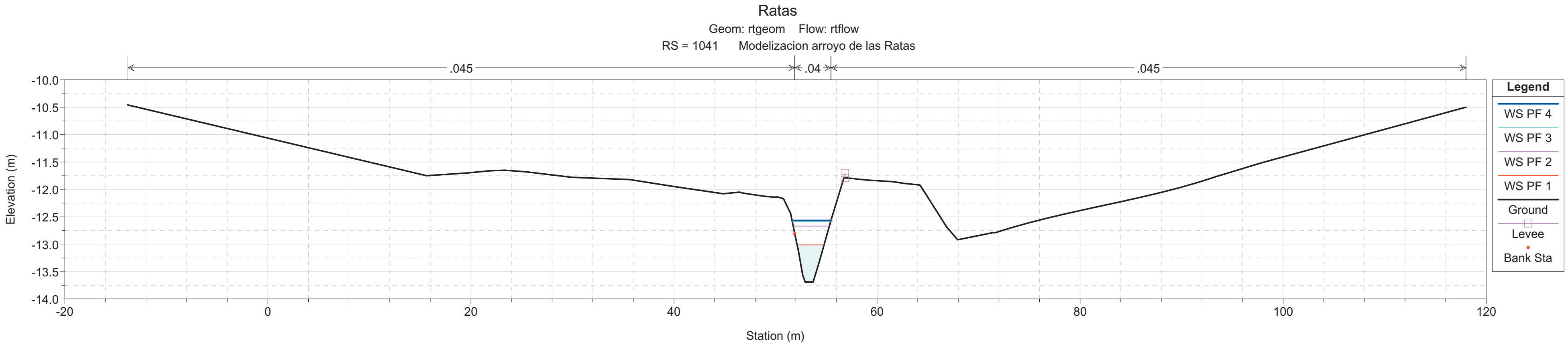
Ratas
Geom: rtgeom Flow: rtflow
RS = 1121 Modelizacion arroyo de las Ratas
.045
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

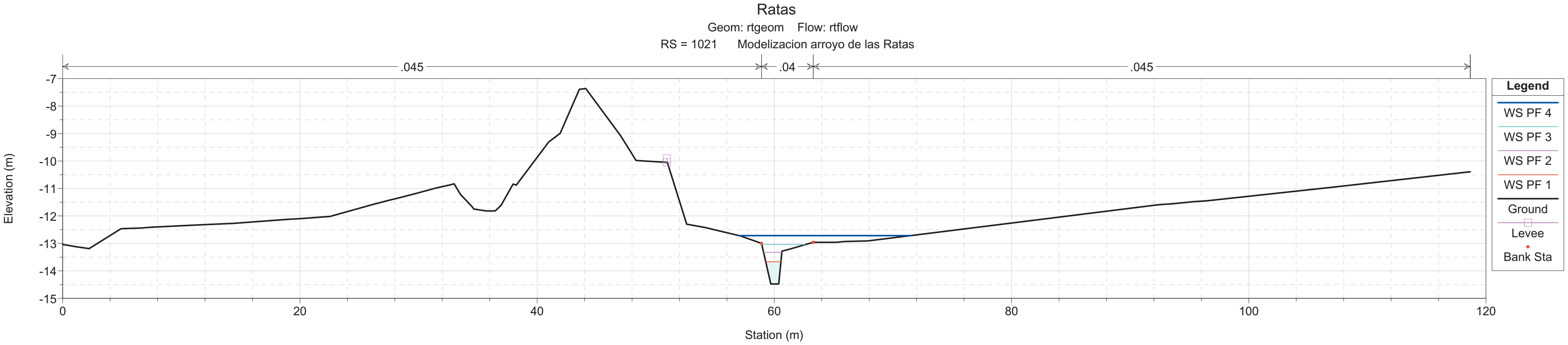


Ratas
Geom: rtgeom Flow: rtflow
RS = 1100 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

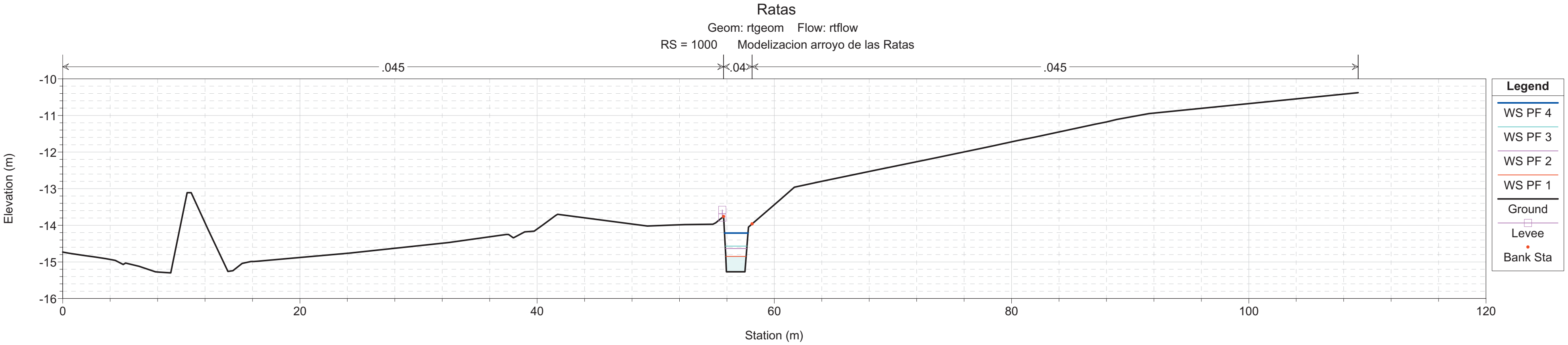

Ratas
Geom: rtgeom Flow: rtflow
RS = 1081 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 1060 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

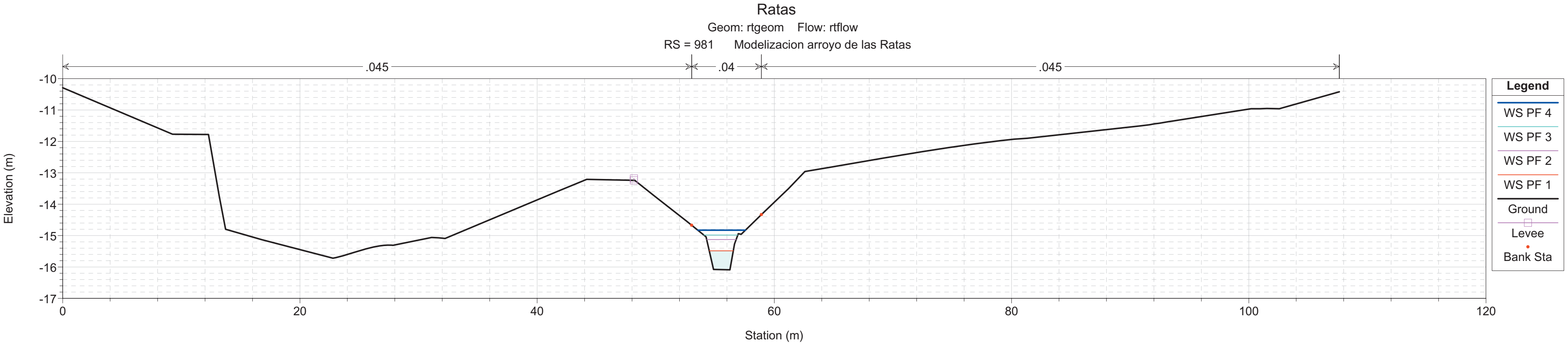

Ratas
Geom: rtgeom Flow: rtflow
RS = 1041 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta



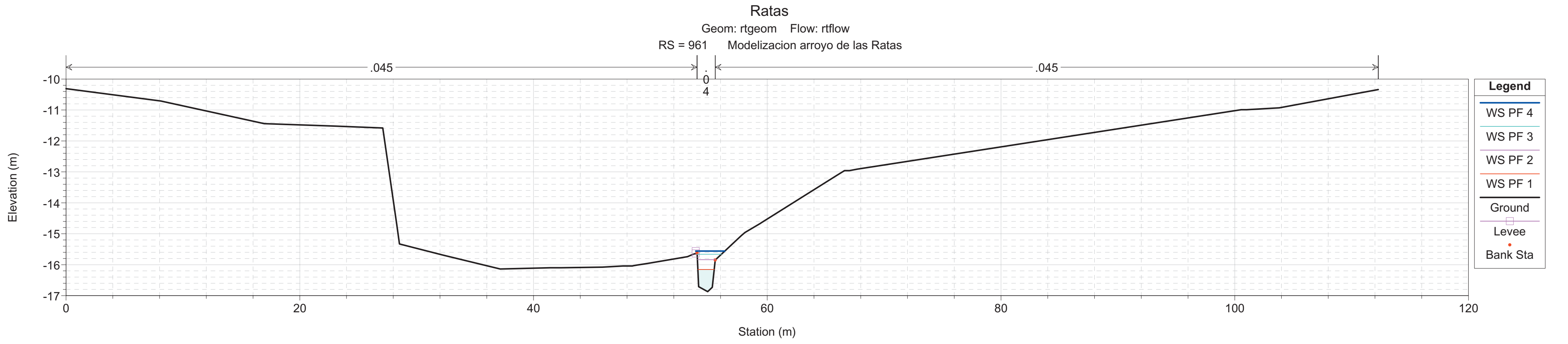
Ratas
Geom: rtgeom Flow: rtflow
RS = 1021 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

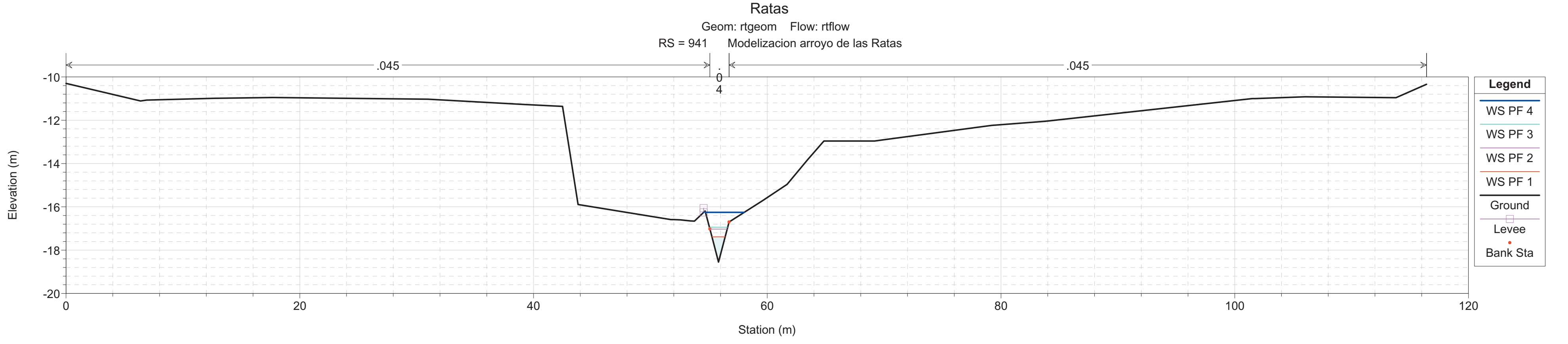


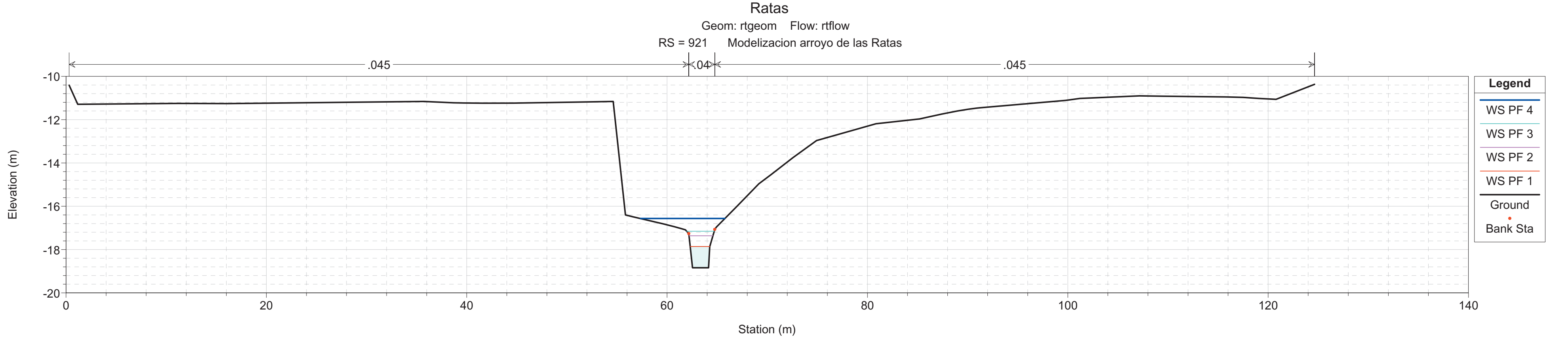
Ratas
Geom: rtgeom Flow: rtflow
RS = 1000 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

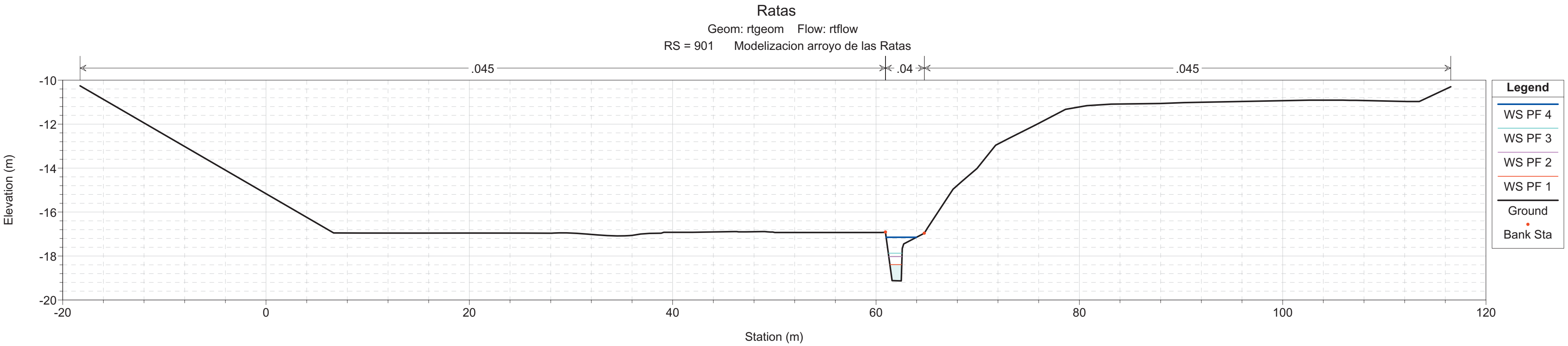


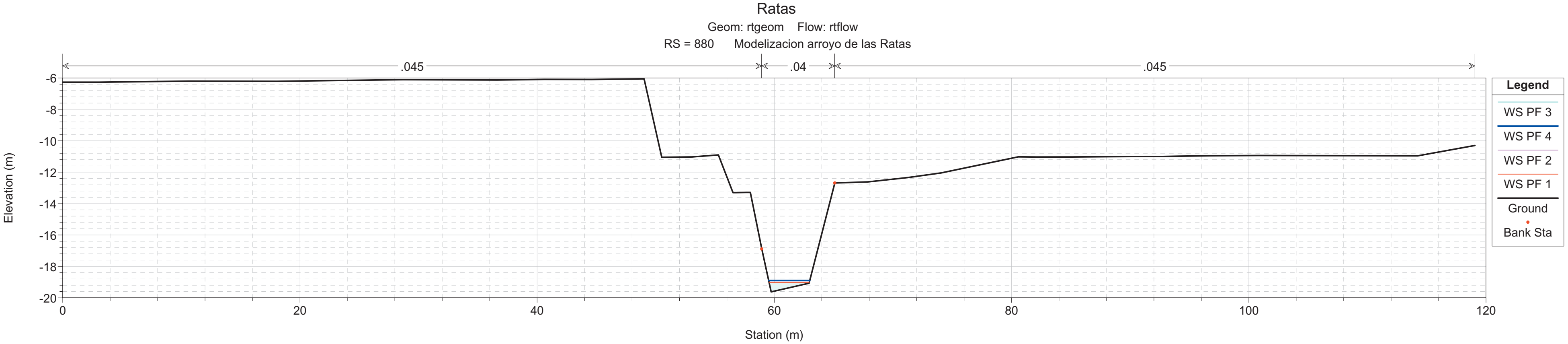
Ratas
Geom: rtgeom Flow: rtflow
RS = 981 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

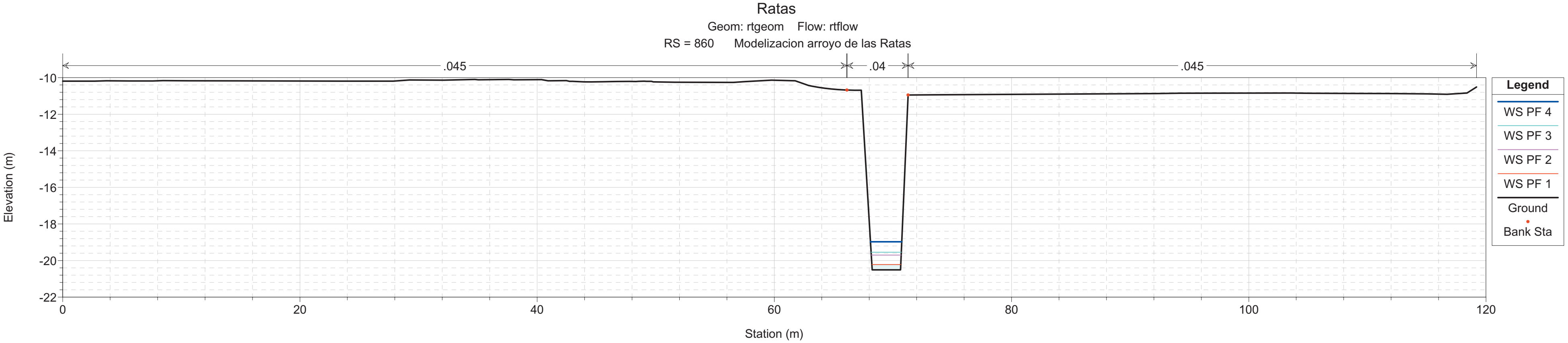

Ratas
Geom: rtgeom Flow: rtflow
RS = 961 Modelizacion arroyo de las Ratas
.045
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

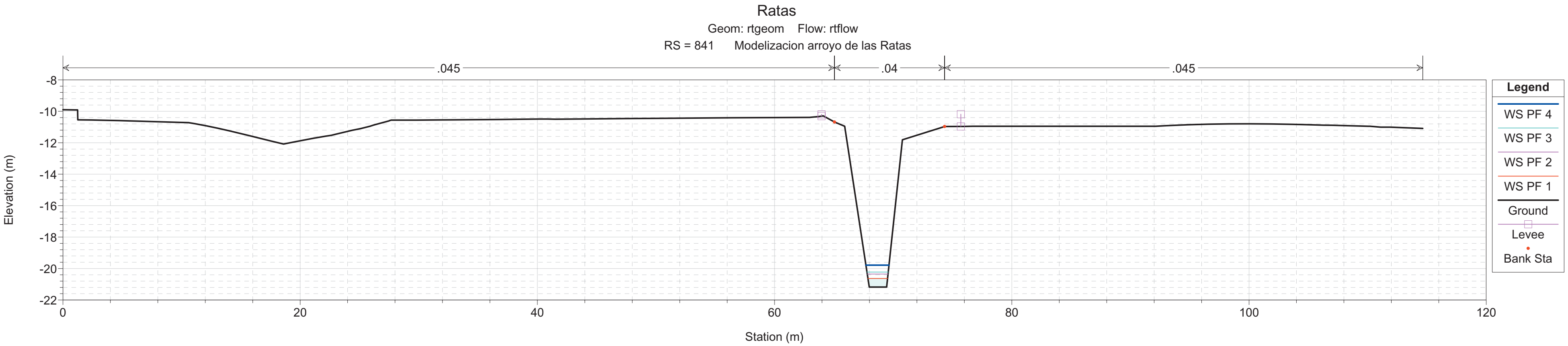

Ratas
Geom: rtgeom Flow: rtflow
RS = 941 Modelizacion arroyo de las Ratas
.045
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

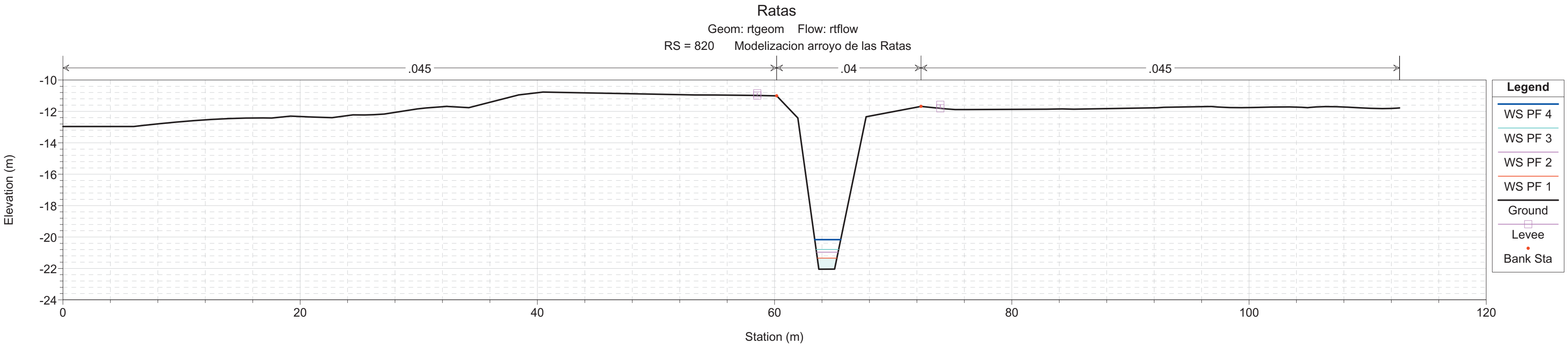

Ratas
Geom: rtgeom Flow: rtflow
RS = 921 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

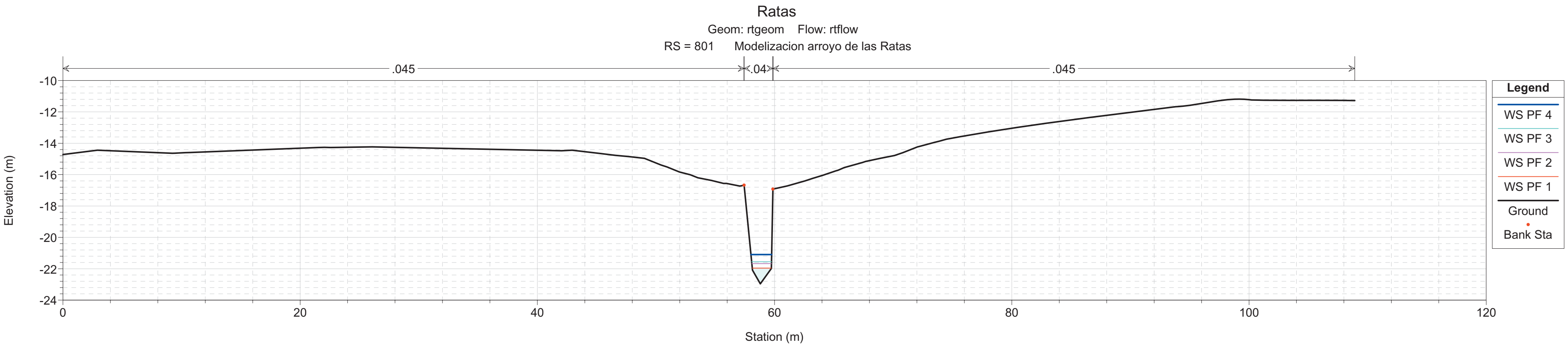

Ratas
Geom: rtgeom Flow: rtflow
RS = 901 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

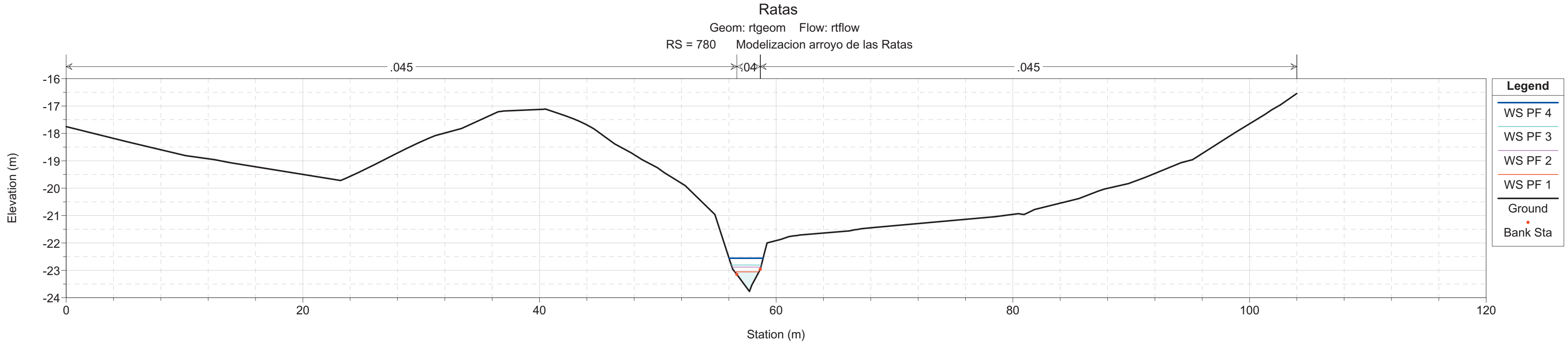

Ratas
Geom: rtgeom Flow: rtflow
RS = 880 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 3
WS PF 4
WS PF 2
WS PF 1
Ground
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 860 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

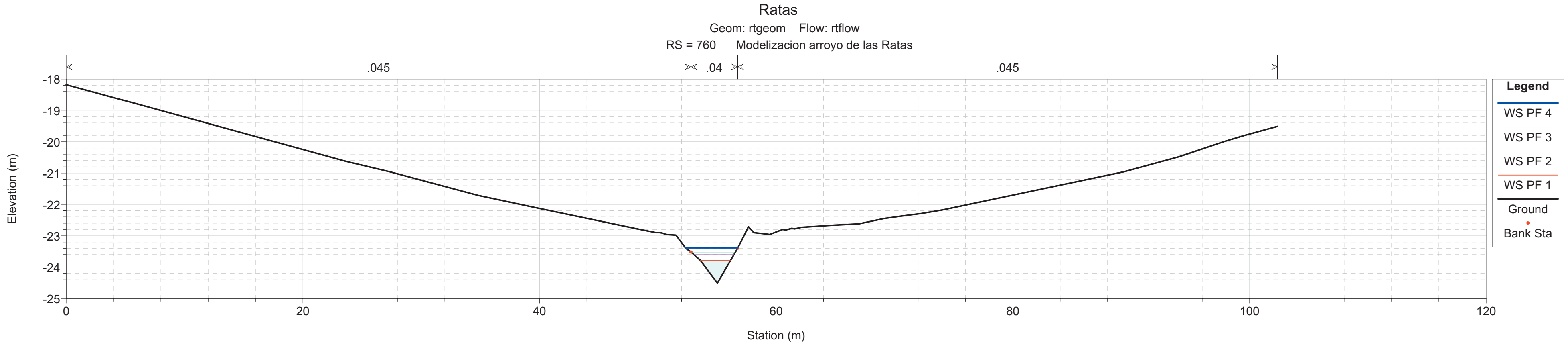

Ratas
Geom: rtgeom Flow: rtflow
RS = 841 Modelizacion arroyo de las Ratas
.045
.04
.045
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Ratas
Geom: rtgeom Flow: rtflow
RS = 820 Modelizacion arroyo de las Ratas
.045
.04
.045
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta
Elevation (m)
Station (m)

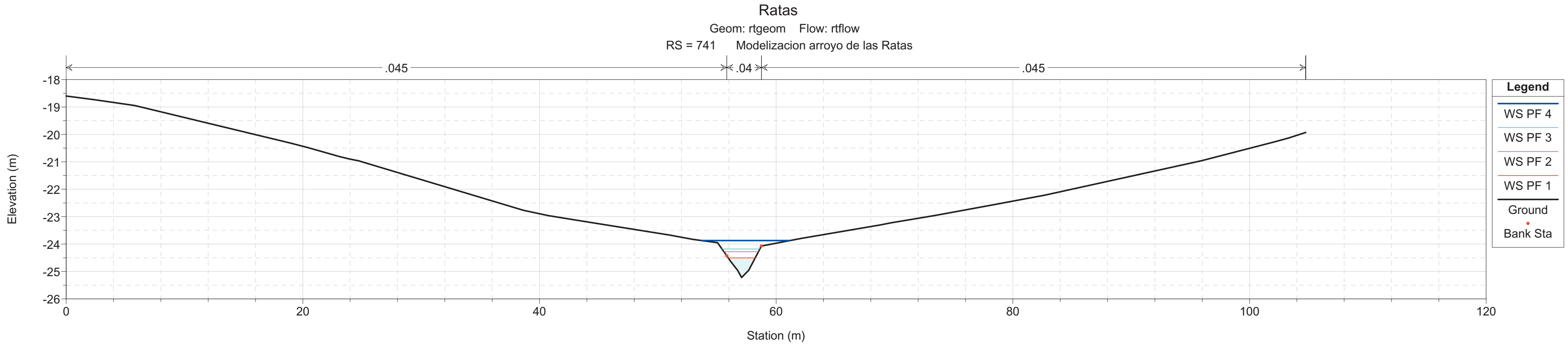

Ratas
Geom: rtgeom Flow: rtflow
RS = 801 Modelizacion arroyo de las Ratas
.045
.04
.045
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)



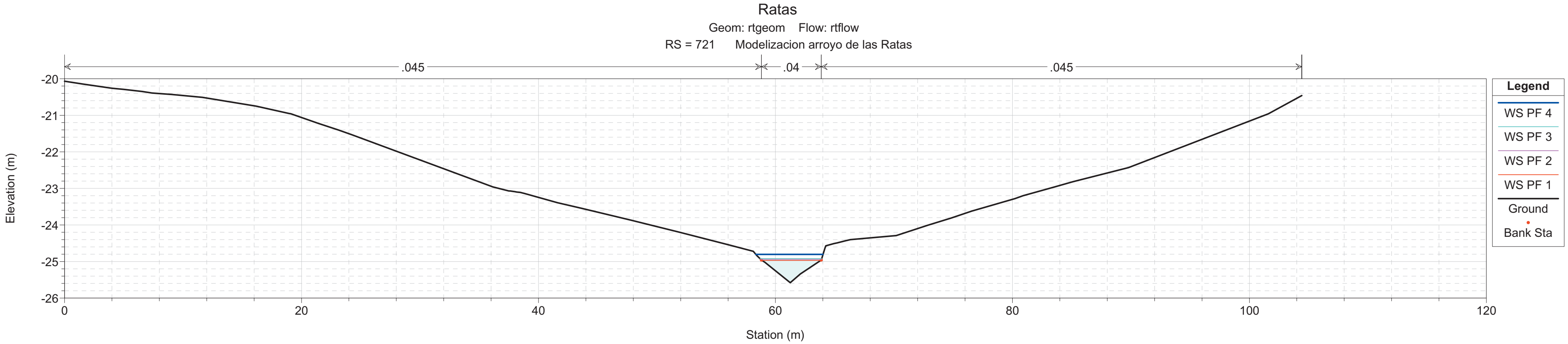
Ratas
Geom: rtgeom Flow: rtflow
RS = 780 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

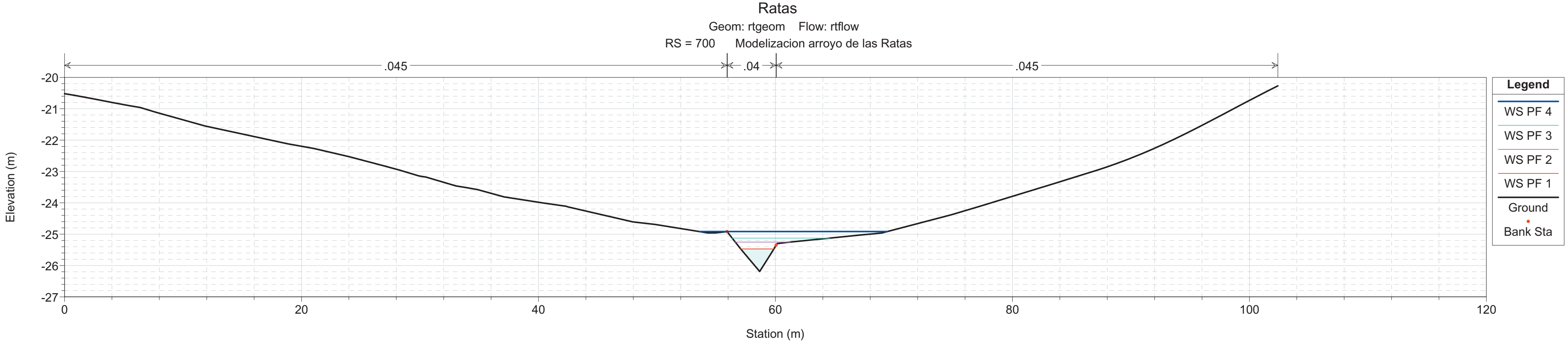


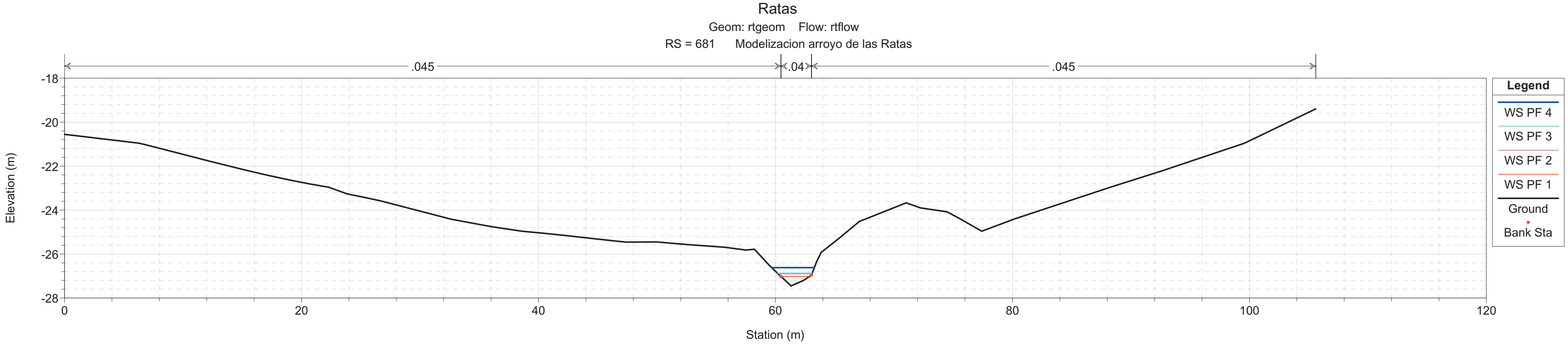
Ratas
Geom: rtgeom Flow: rtflow
RS = 760 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

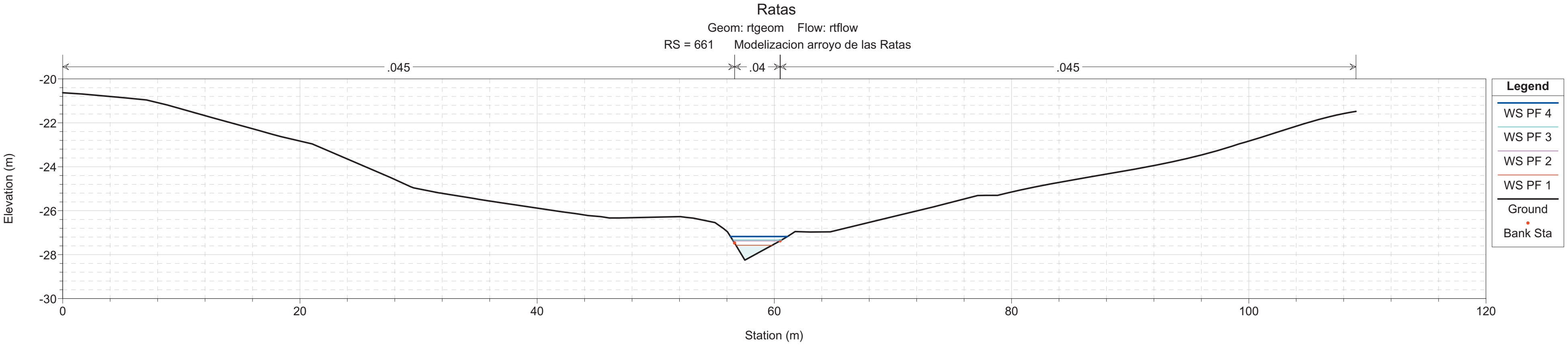


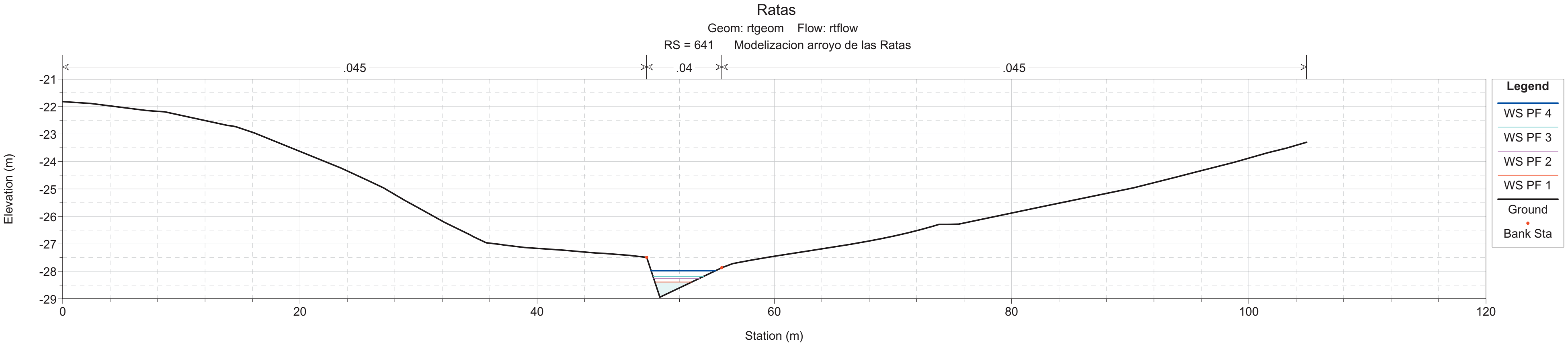
Ratas
Geom: rtgeom Flow: rtflow
RS = 741 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

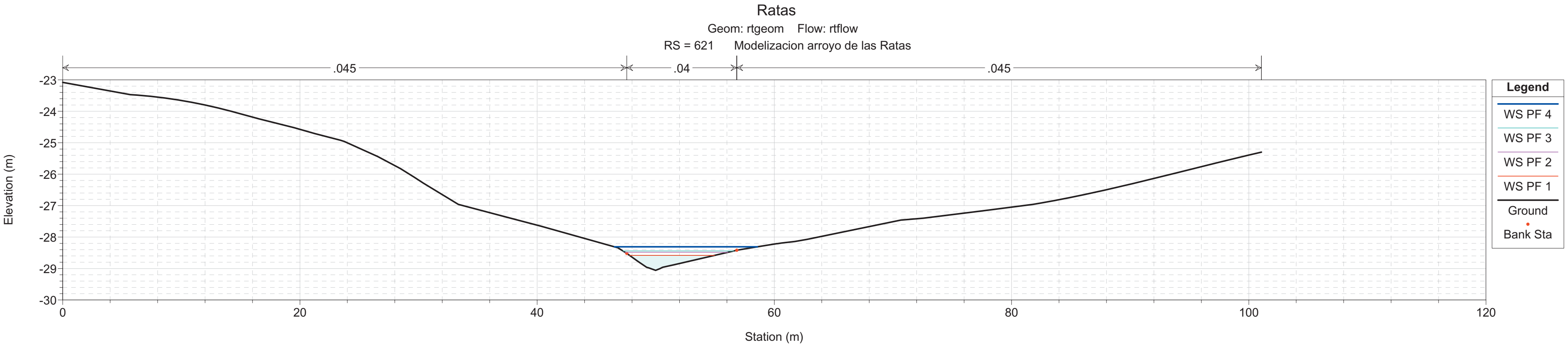

Ratas
Geom: rtgeom Flow: rtflow
RS = 721 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

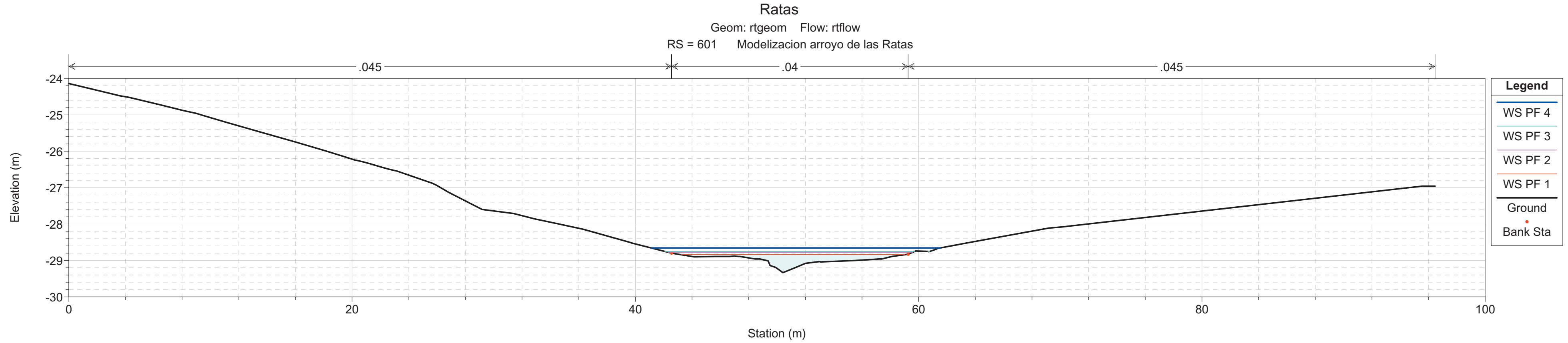

Ratas
Geom: rtgeom Flow: rtflow
RS = 700 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 681 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

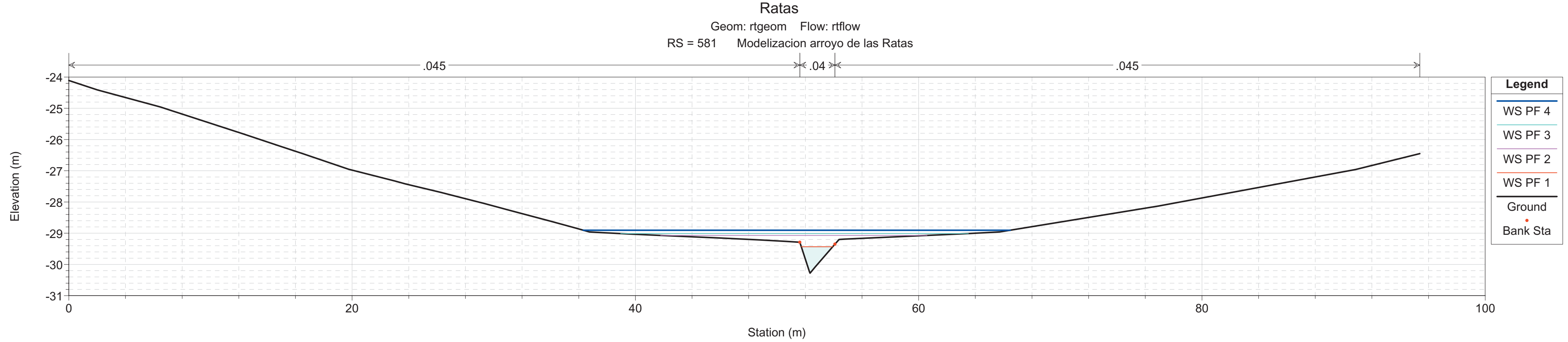

Ratas
Geom: rtgeom Flow: rtflow
RS = 661 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 641 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

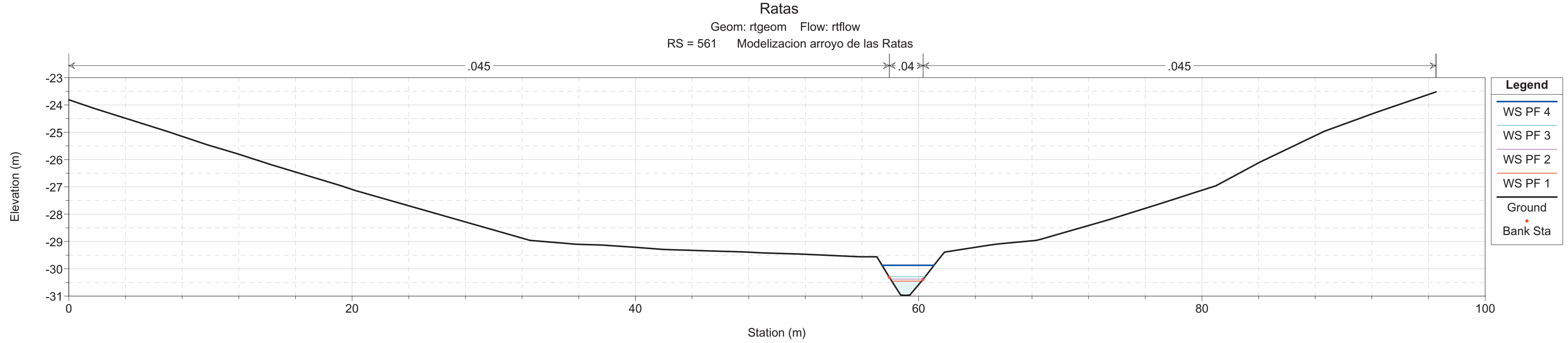

Ratas
Geom: rtgeom Flow: rtflow
RS = 621 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta



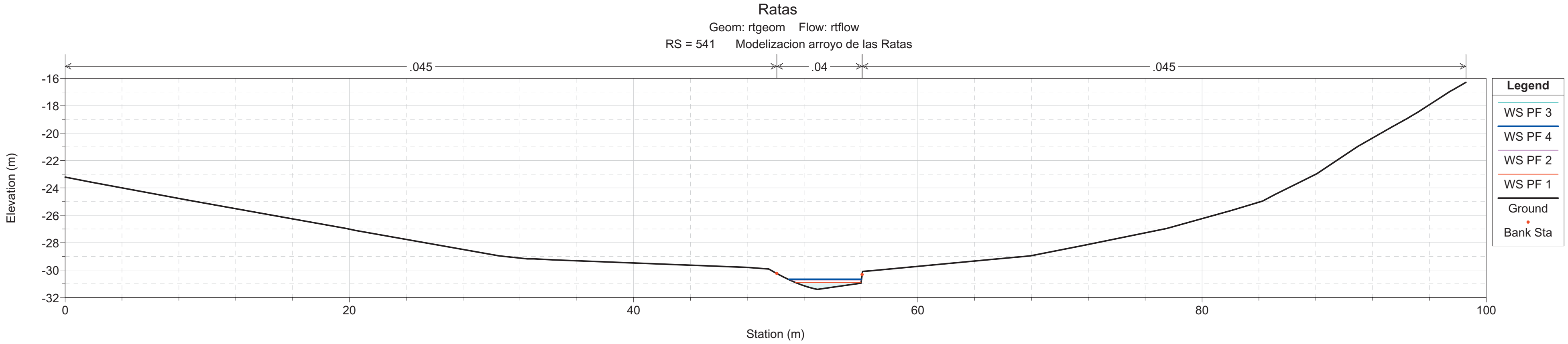
Ratas
Geom: rtgeom Flow: rtflow
RS = 601 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

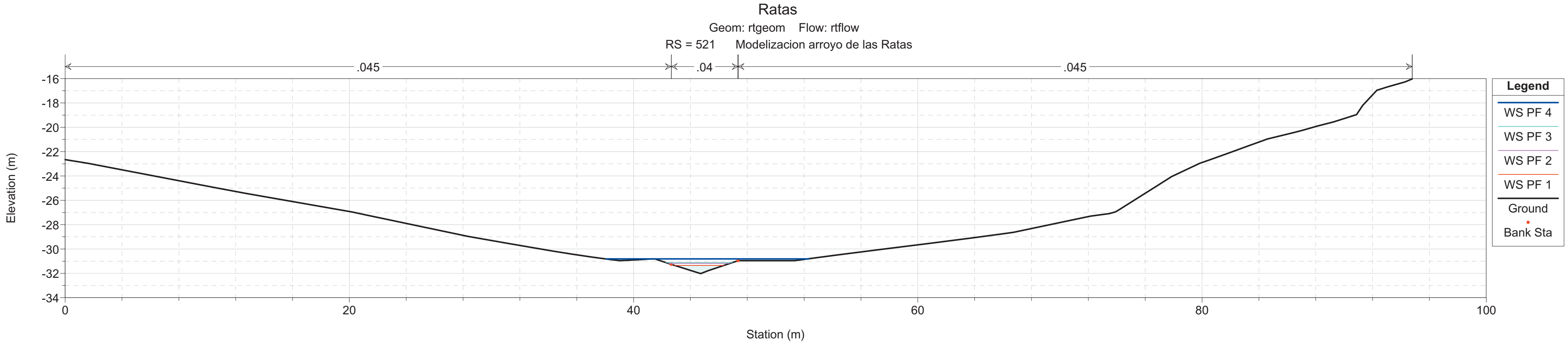


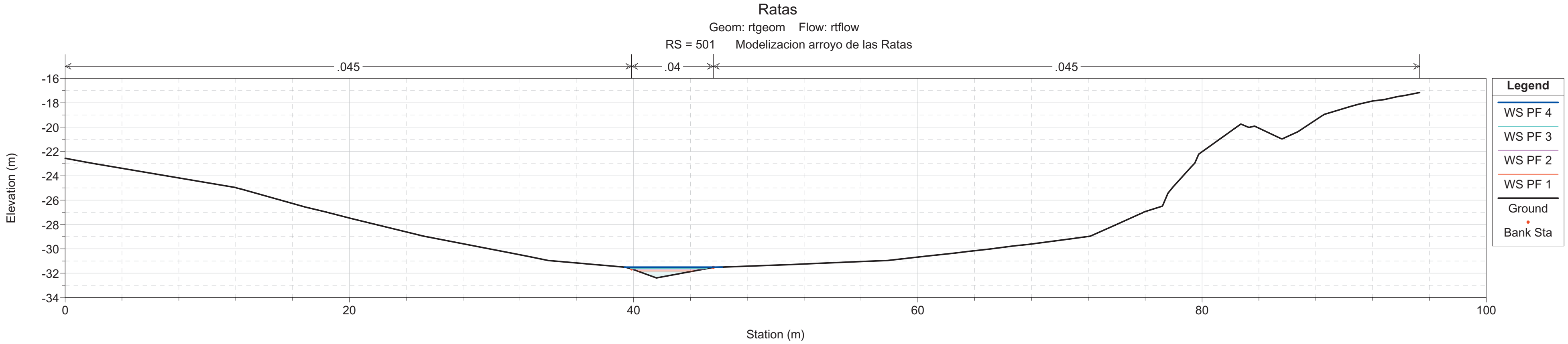
Ratas
Geom: rtgeom Flow: rtflow
RS = 581 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

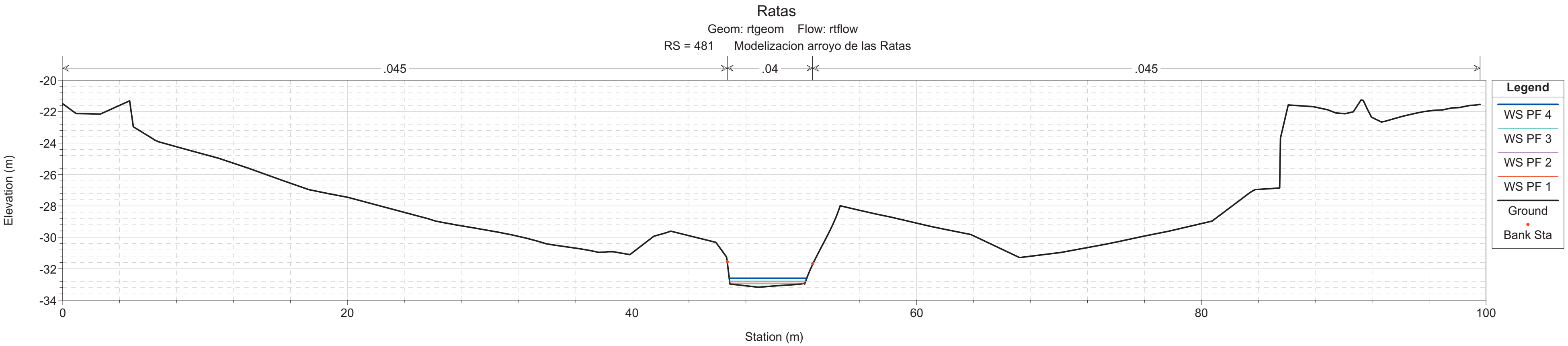


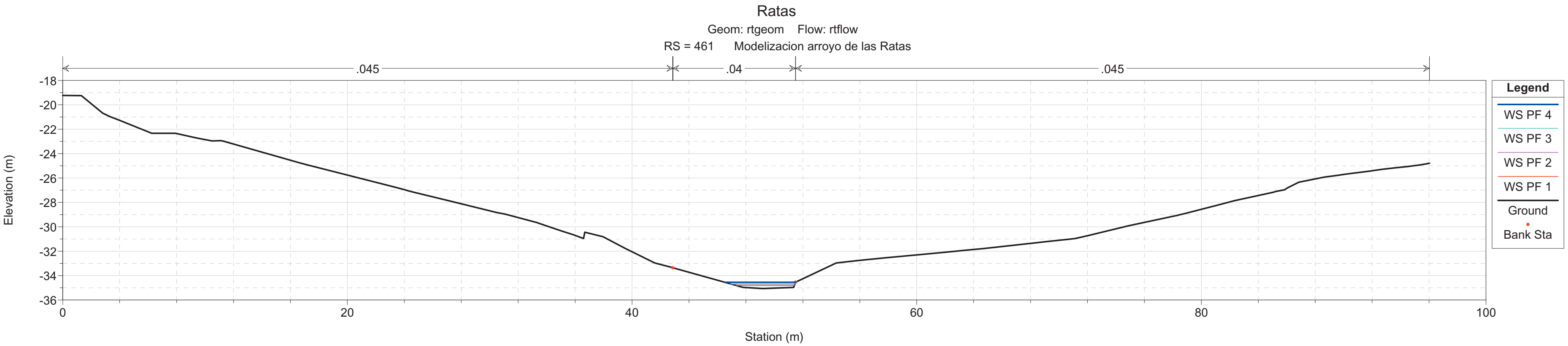
Ratas
Geom: rtgeom Flow: rtflow
RS = 561 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

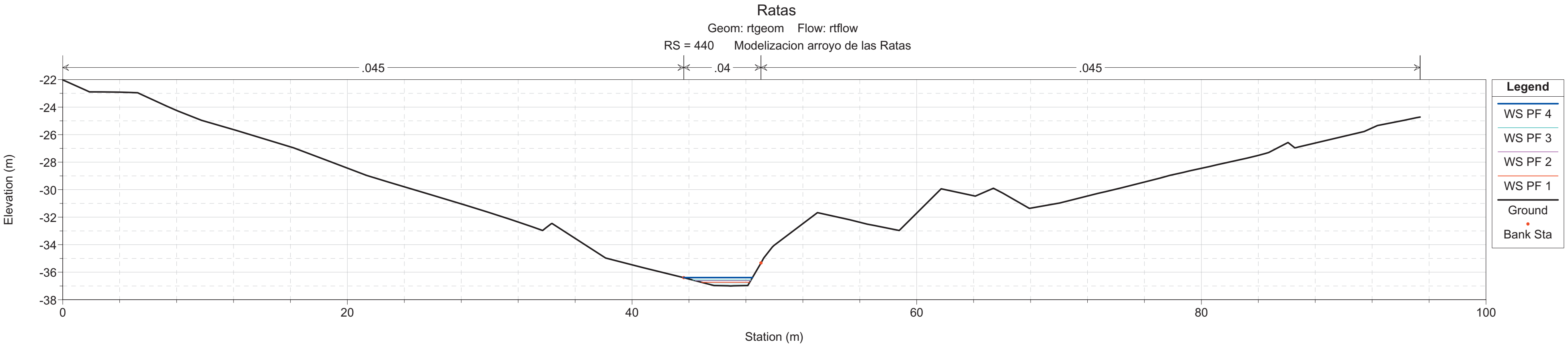

Ratas
Geom: rtgeom Flow: rtflow
RS = 541 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 3
WS PF 4
WS PF 2
WS PF 1
Ground
Bank Sta

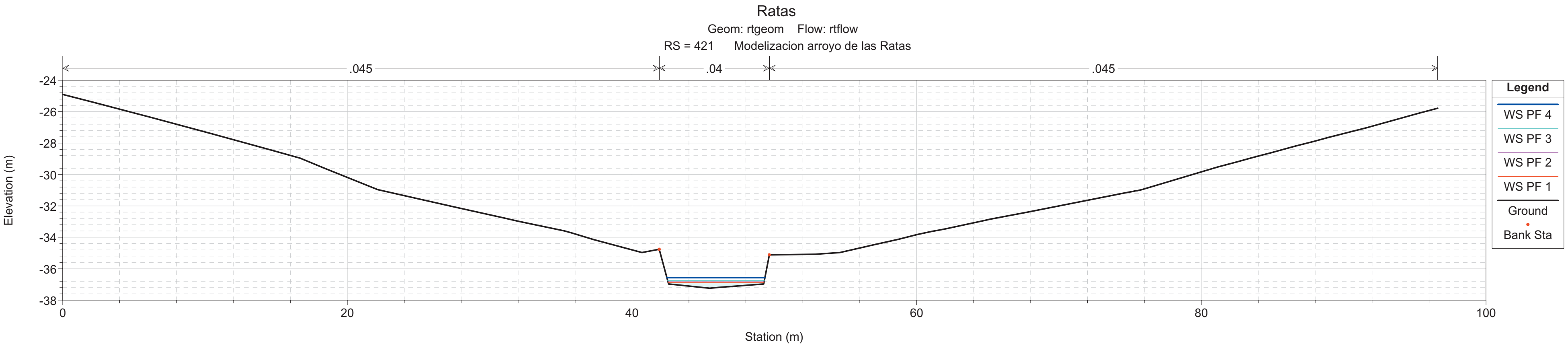

Ratas
Geom: rtgeom Flow: rtflow
RS = 521 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 501 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

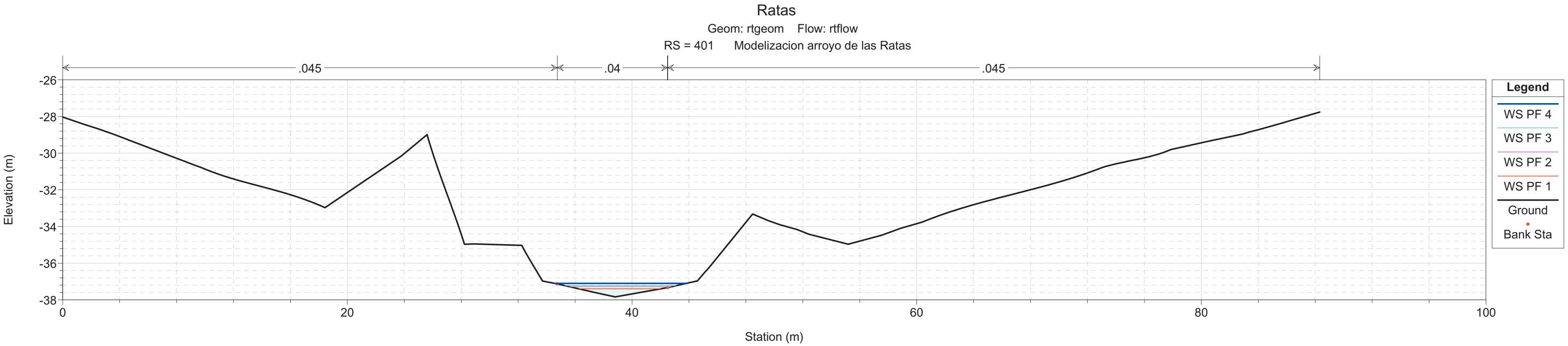

Ratas
Geom: rtgeom Flow: rtflow
RS = 481 Modelizacion arroyo de las Ratas
.045
.04
.045
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)


Ratas
Geom: rtgeom Flow: rtflow
RS = 461 Modelizacion arroyo de las Ratas
.045
.04
.045
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)

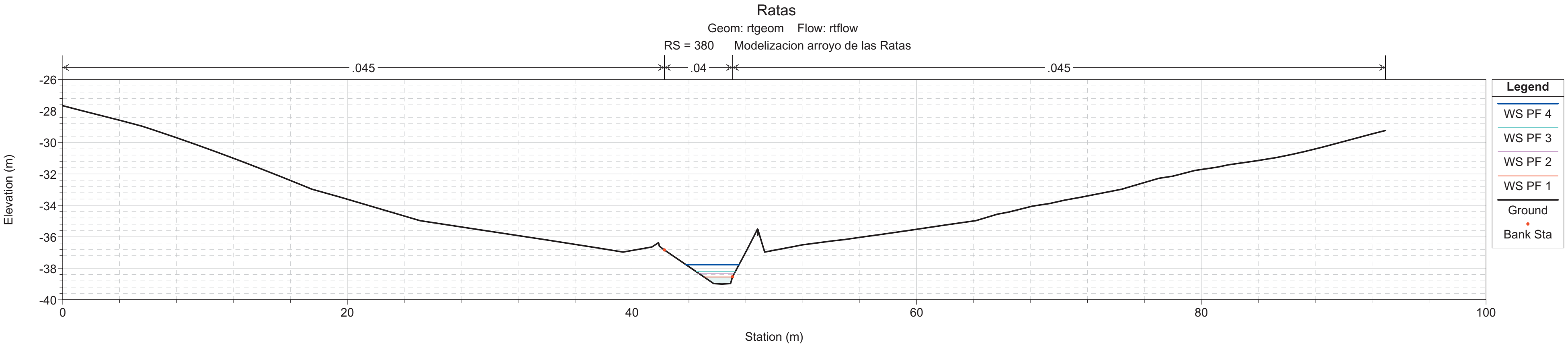

Ratas
Geom: rtgeom Flow: rtflow
RS = 440 Modelizacion arroyo de las Ratas
.045
.04
.045
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)



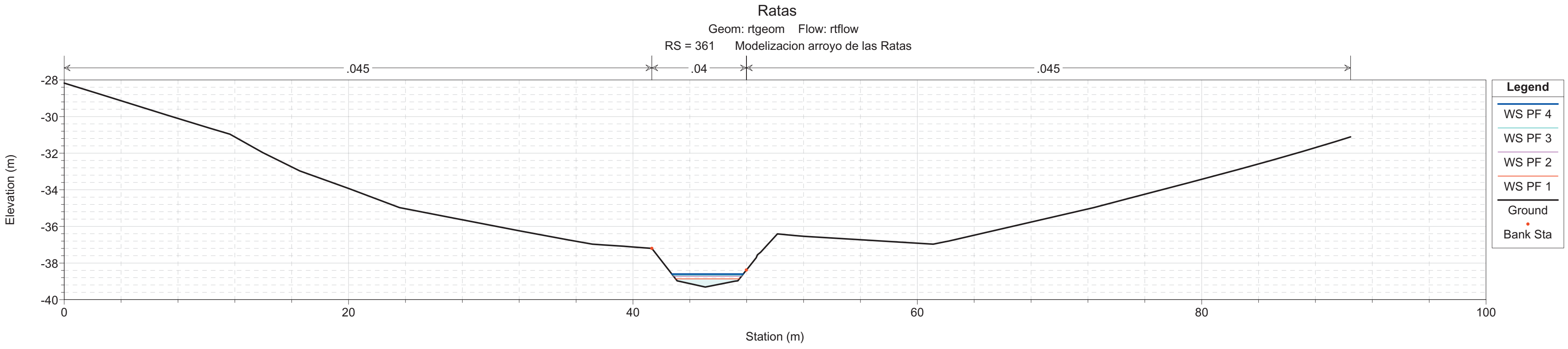
Ratas
Geom: rtgeom Flow: rtflow
RS = 421 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

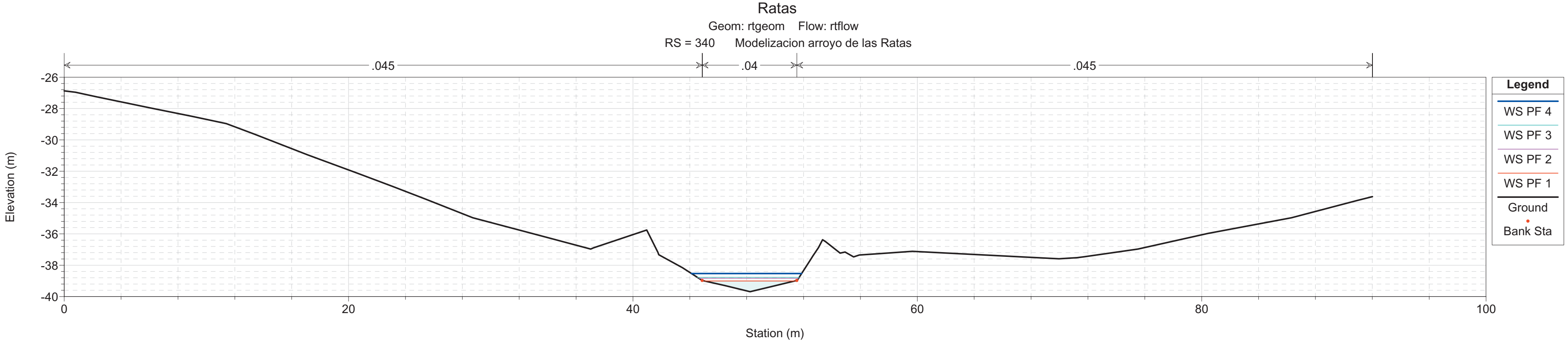


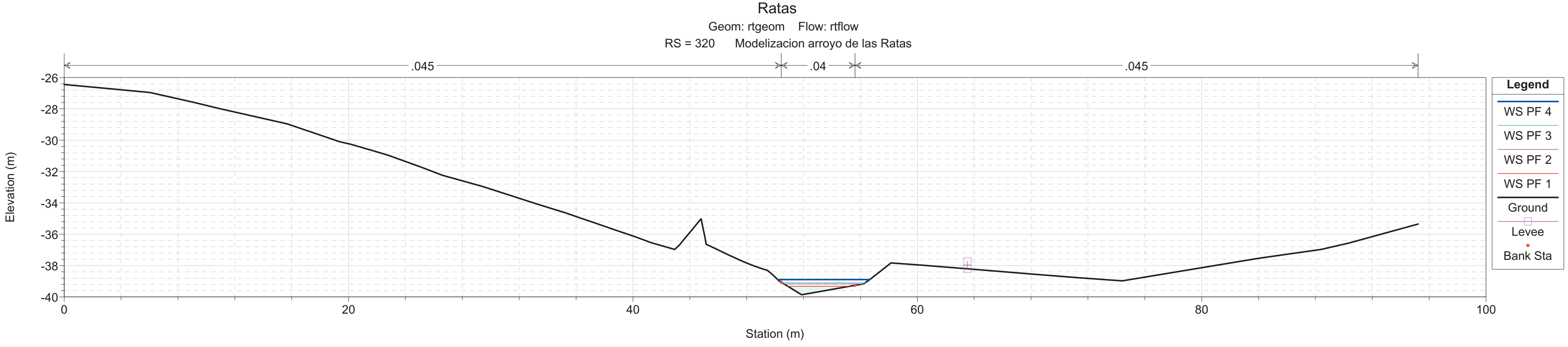
Ratas
Geom: rtgeom Flow: rtflow
RS = 401 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

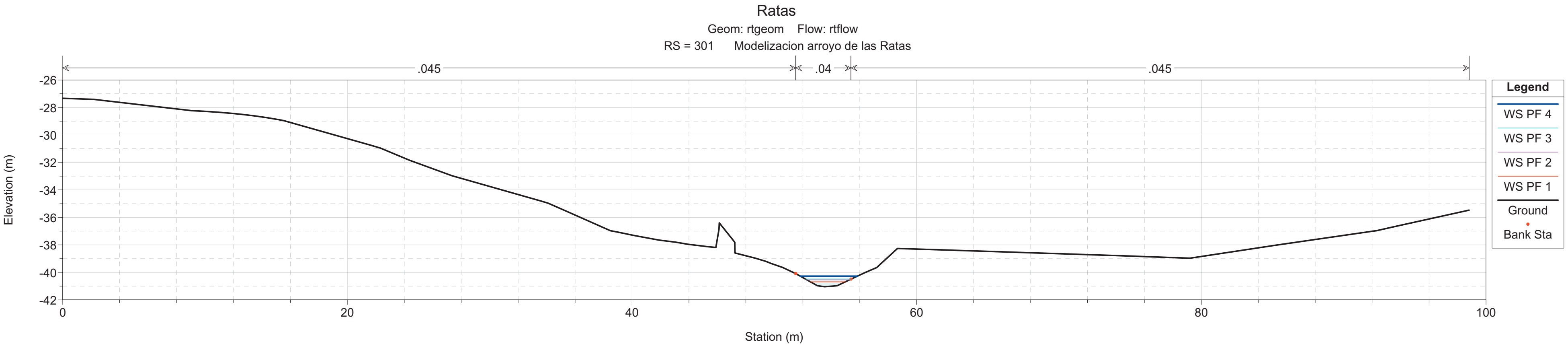


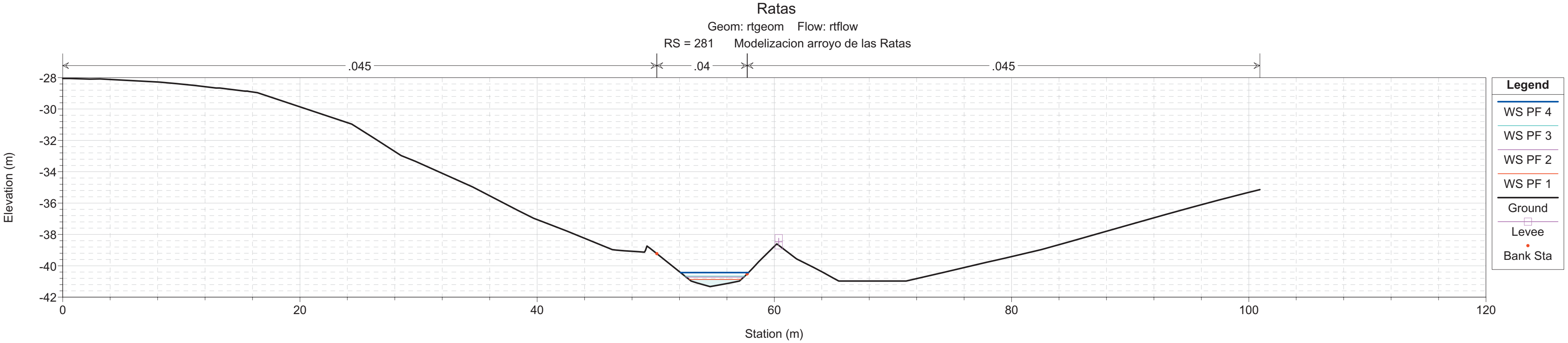
Ratas
Geom: rtgeom Flow: rtflow
RS = 380 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

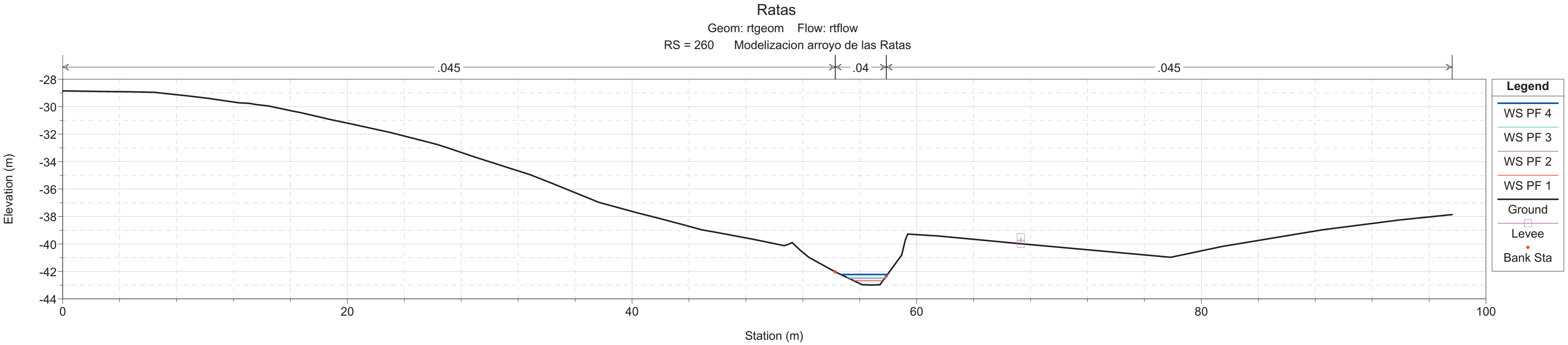

Ratas
Geom: rtgeom Flow: rtflow
RS = 361 Modelizacion arroyo de las Ratas
.045
.04
.045
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)

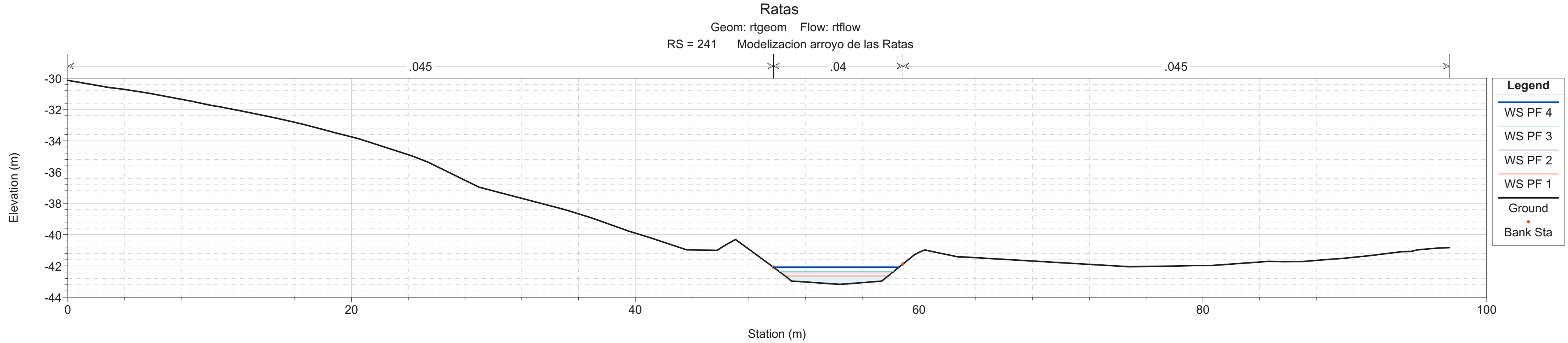

Ratas
Geom: rtgeom Flow: rtflow
RS = 340 Modelizacion arroyo de las Ratas
.045
.04
.045
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
Elevation (m)
Station (m)

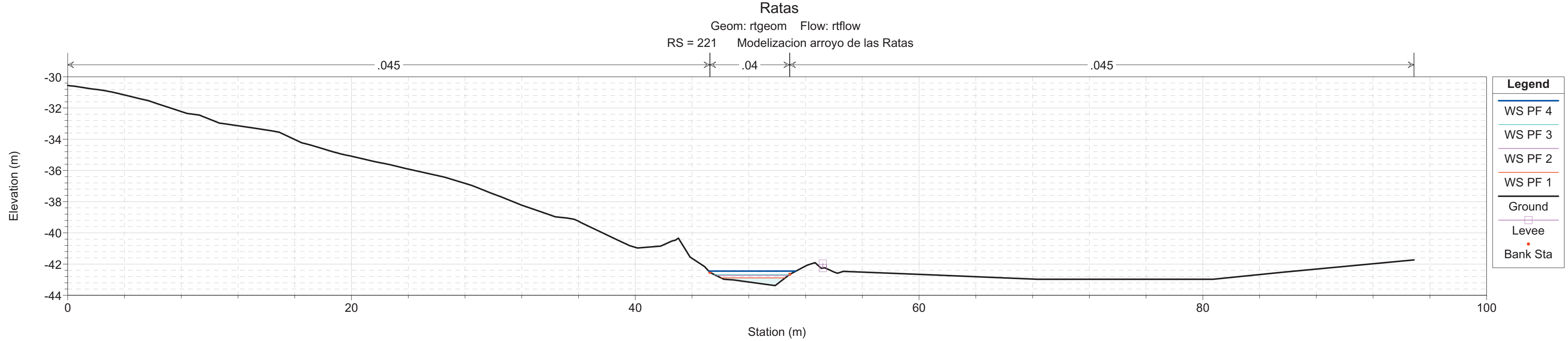

Ratas
Geom: rtgeom Flow: rtflow
RS = 320 Modelizacion arroyo de las Ratas
.045
.04
.045
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta
Elevation (m)
Station (m)

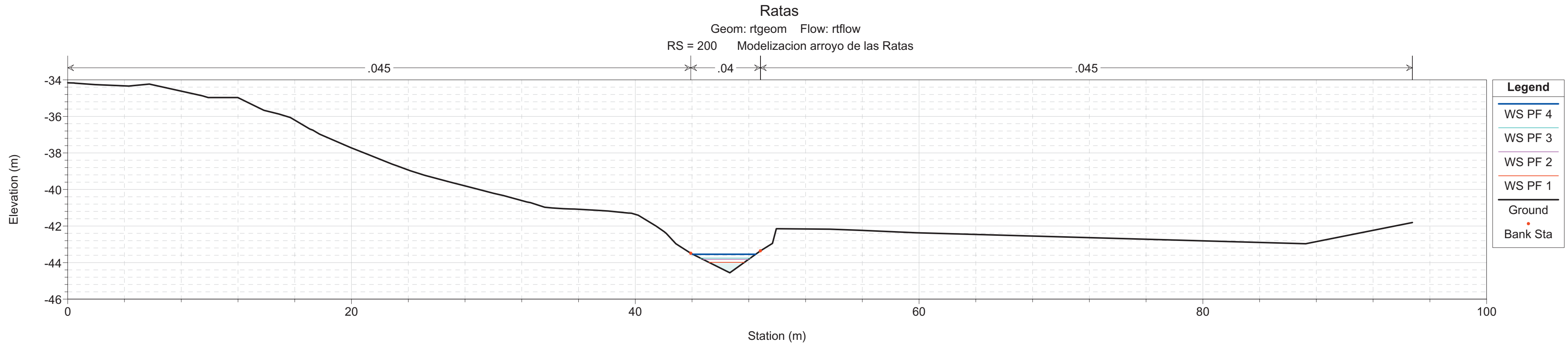

Ratas
Geom: rtgeom Flow: rtflow
RS = 301 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

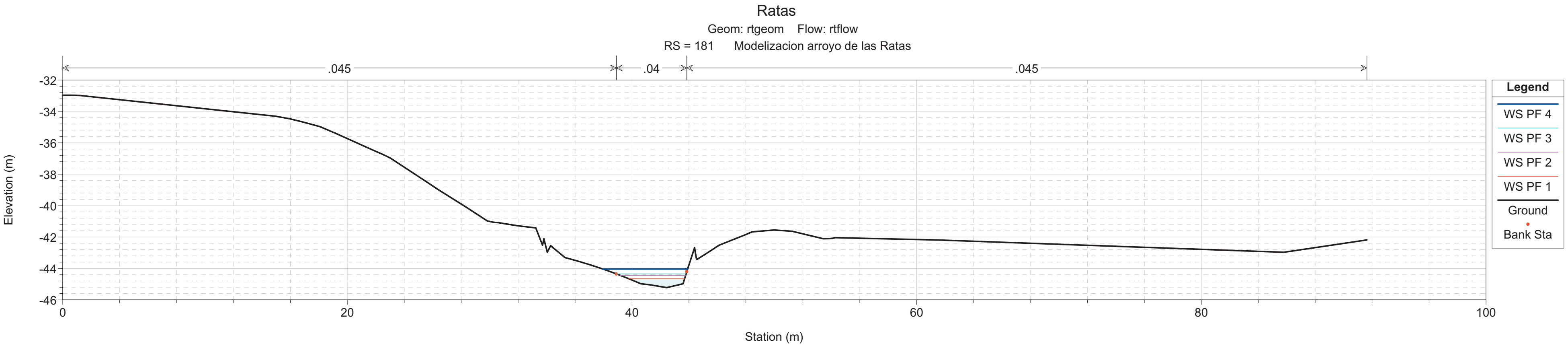

Ratas
Geom: rtgeom Flow: rtflow
RS = 281 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

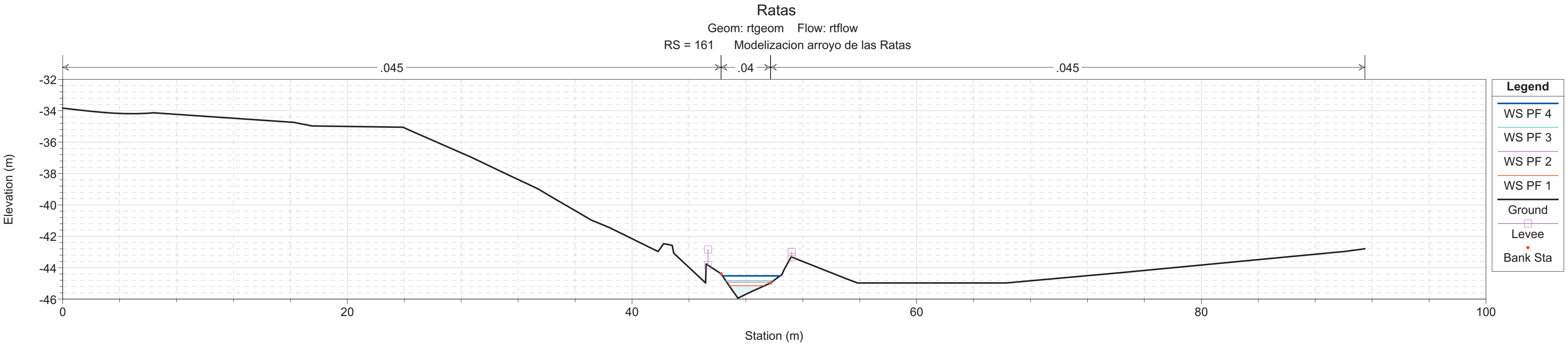

Ratas
Geom: rtgeom Flow: rtflow
RS = 260 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

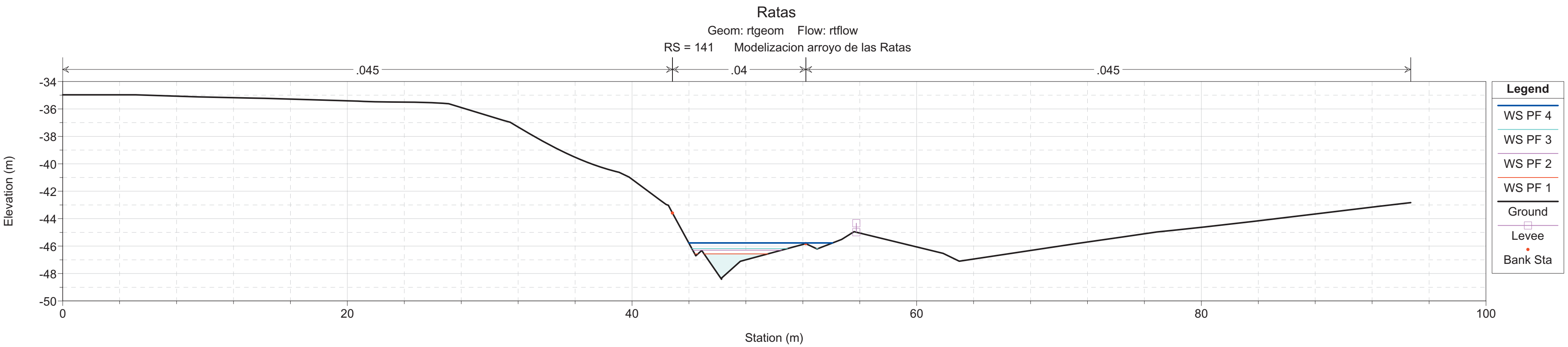

Ratas
Geom: rtgeom Flow: rtflow
RS = 241 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

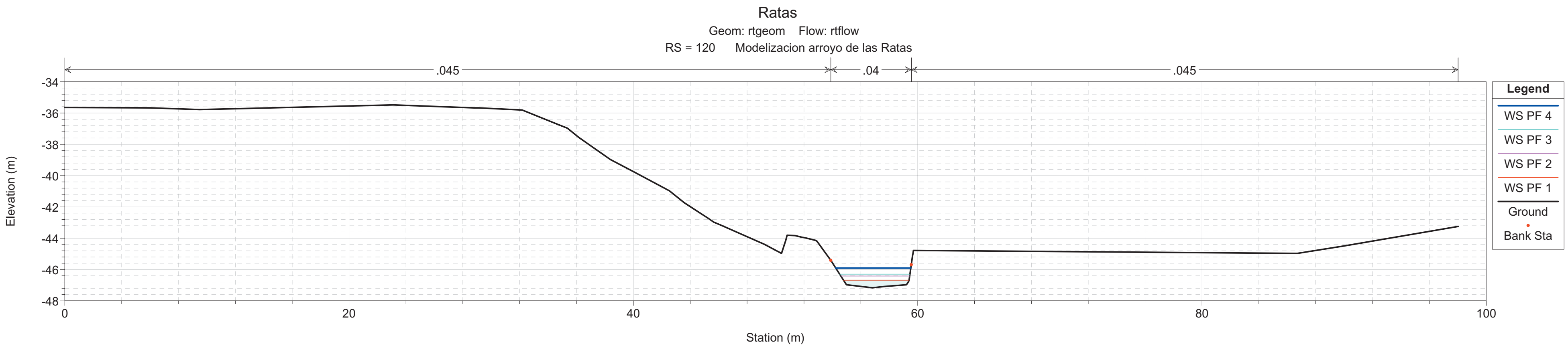

Ratas
Geom: rtgeom Flow: rtflow
RS = 221 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

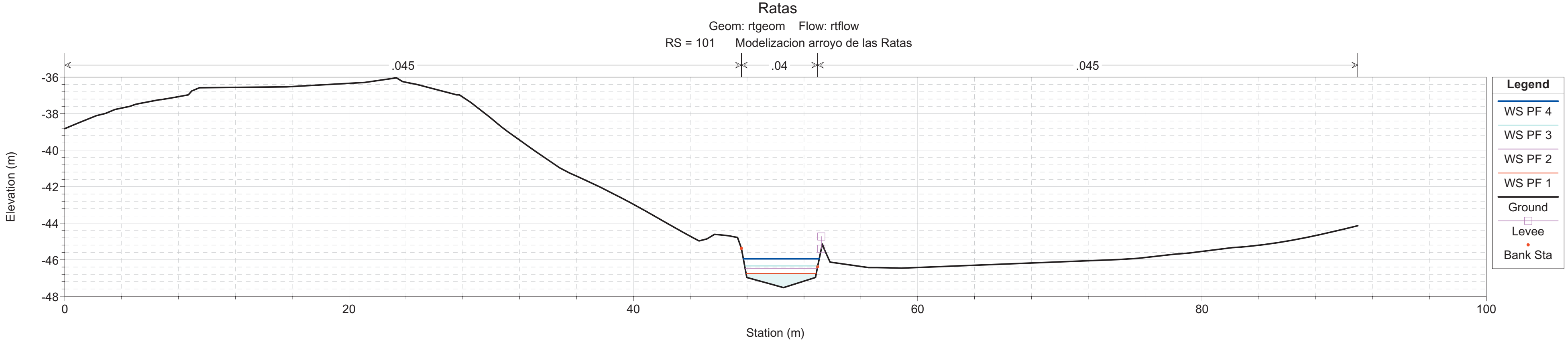

Ratas
Geom: rtgeom Flow: rtflow
RS = 200 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

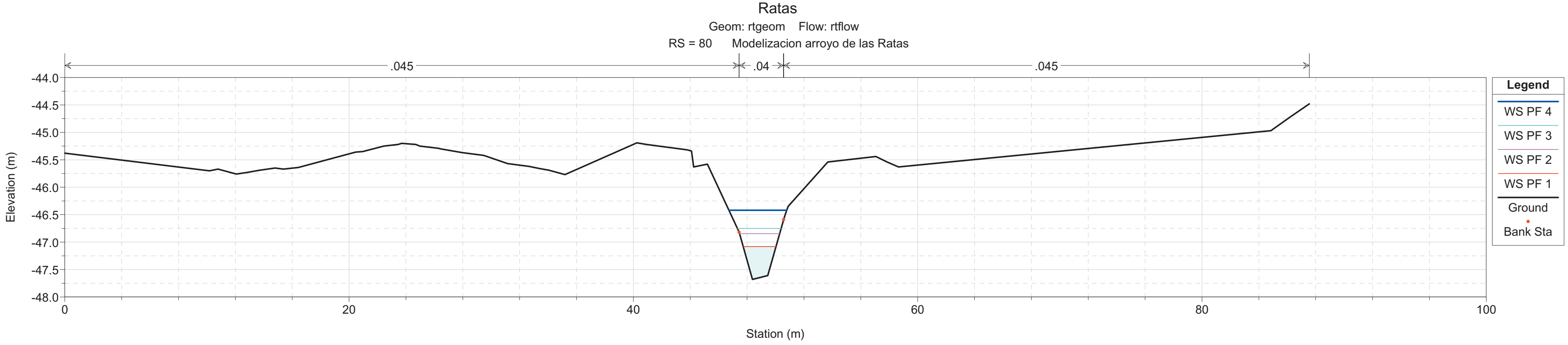

Ratas
Geom: rtgeom Flow: rtflow
RS = 181 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

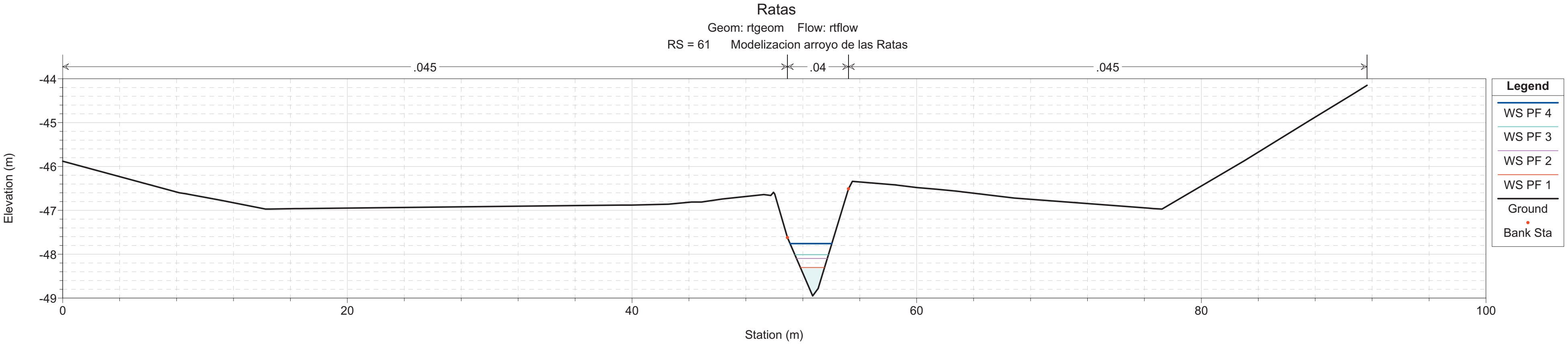

Ratas
Geom: rtgeom Flow: rtflow
RS = 161 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

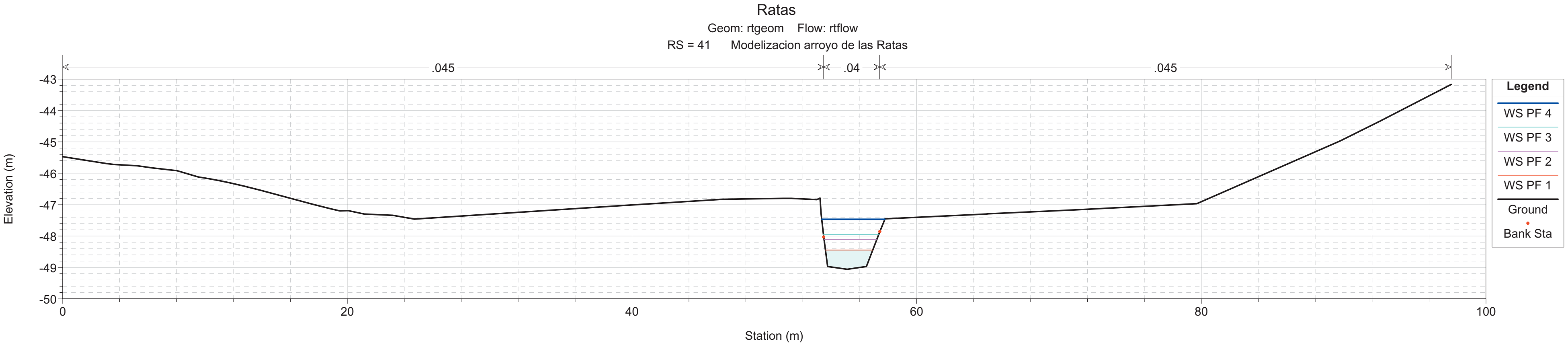

Ratas
Geom: rtgeom Flow: rtflow
RS = 141 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

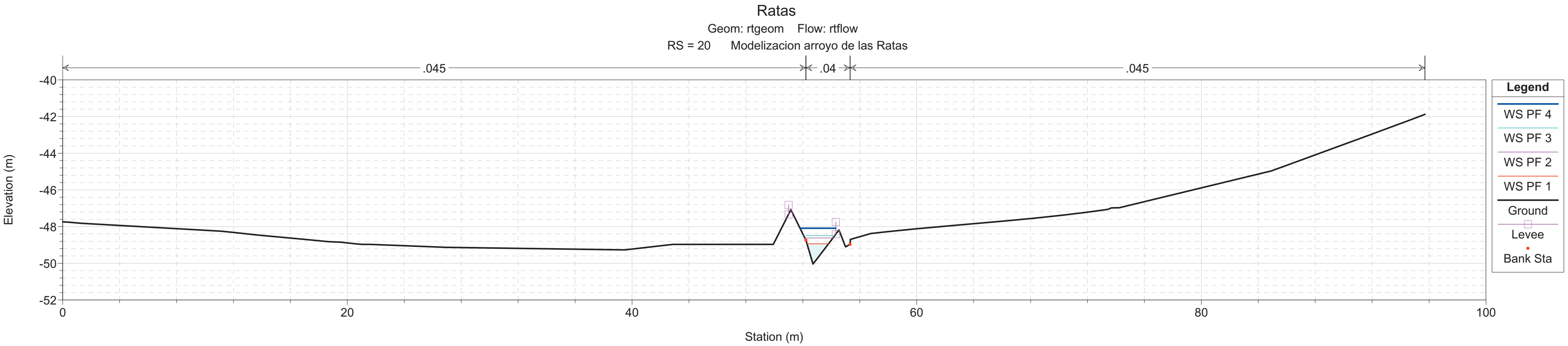

Ratas
Geom: rtgeom Flow: rtflow
RS = 120 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

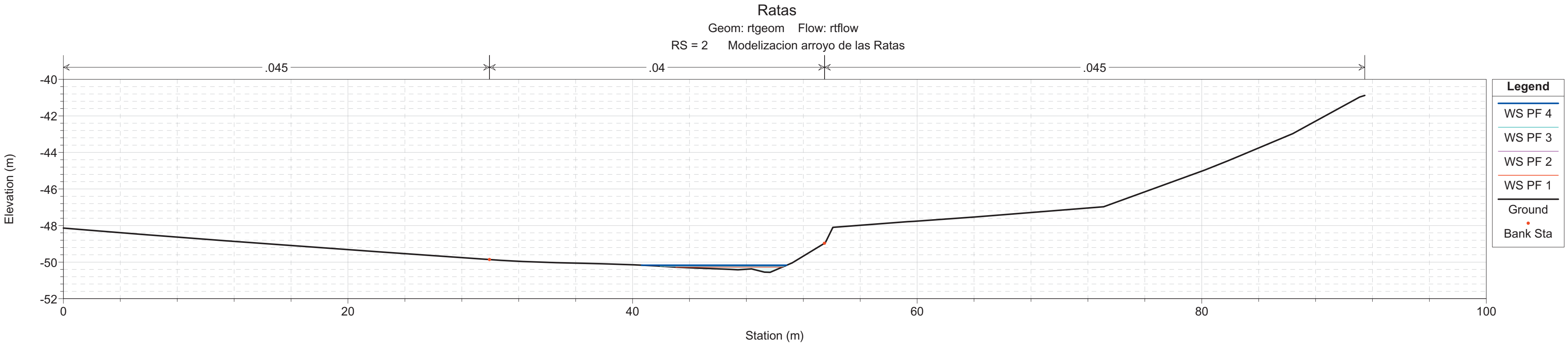

Ratas
Geom: rtgeom Flow: rtflow
RS = 101 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta

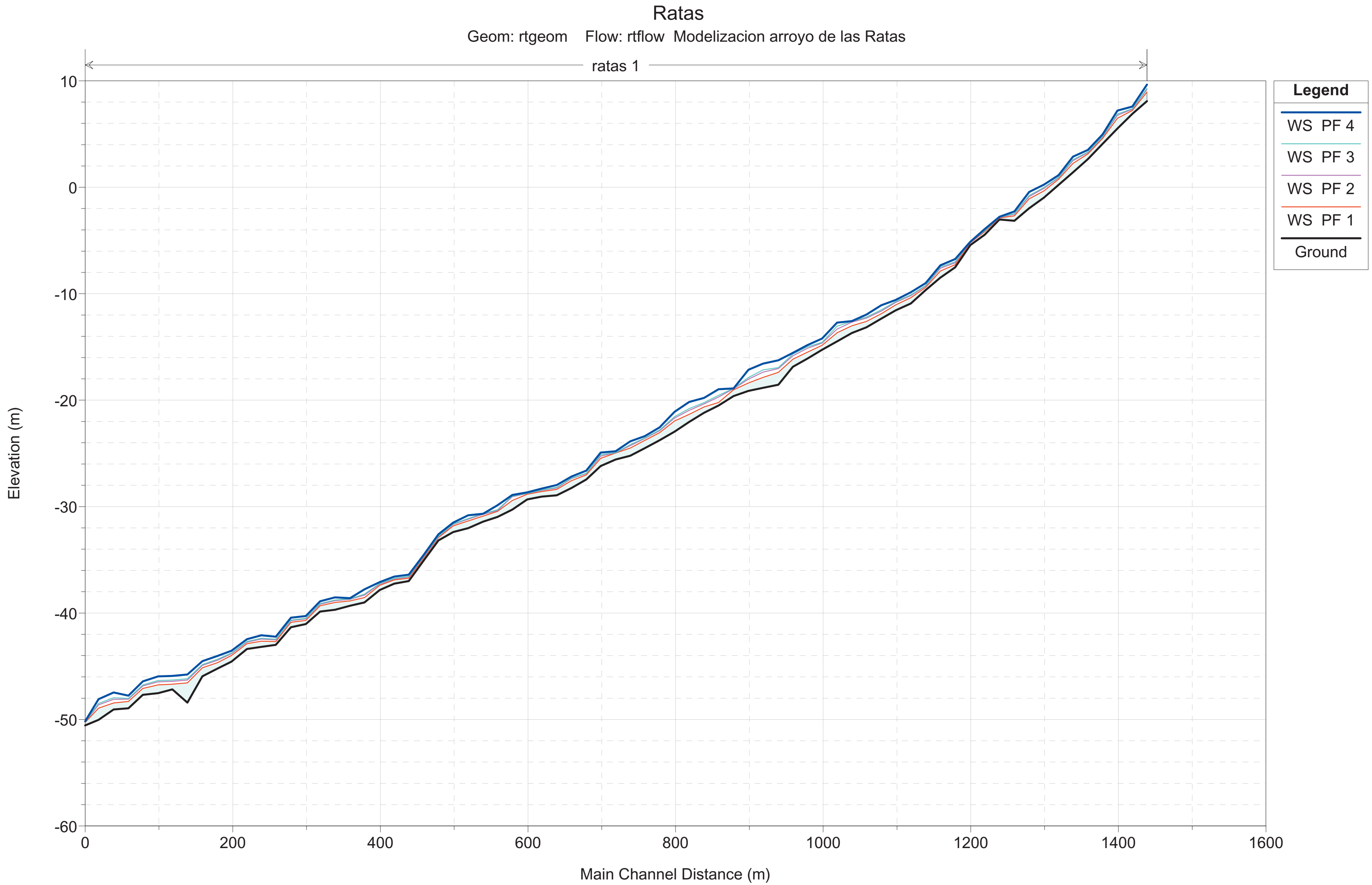

Ratas
Geom: rtgeom Flow: rtflow
RS = 80 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 61 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
-44
-45
-46
-47
-48
-49
0
20
40
60
80
100
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 41 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
-43
-44
-45
-46
-47
-48
-49
-50
0
20
40
60
80
100
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 20 Modelizacion arroyo de las Ratas
.045
.04
.045
Elevation (m)
-40
-42
-44
-46
-48
-50
-52
0
20
40
60
80
100
Station (m)
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Levee
Bank Sta


Ratas
Geom: rtgeom Flow: rtflow
RS = 2 Modelizacion arroyo de las Ratas
.045
.04
.045
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
Elevation (m)
-40
-42
-44
-46
-48
-50
-52
0
20
40
60
80
100
Station (m)

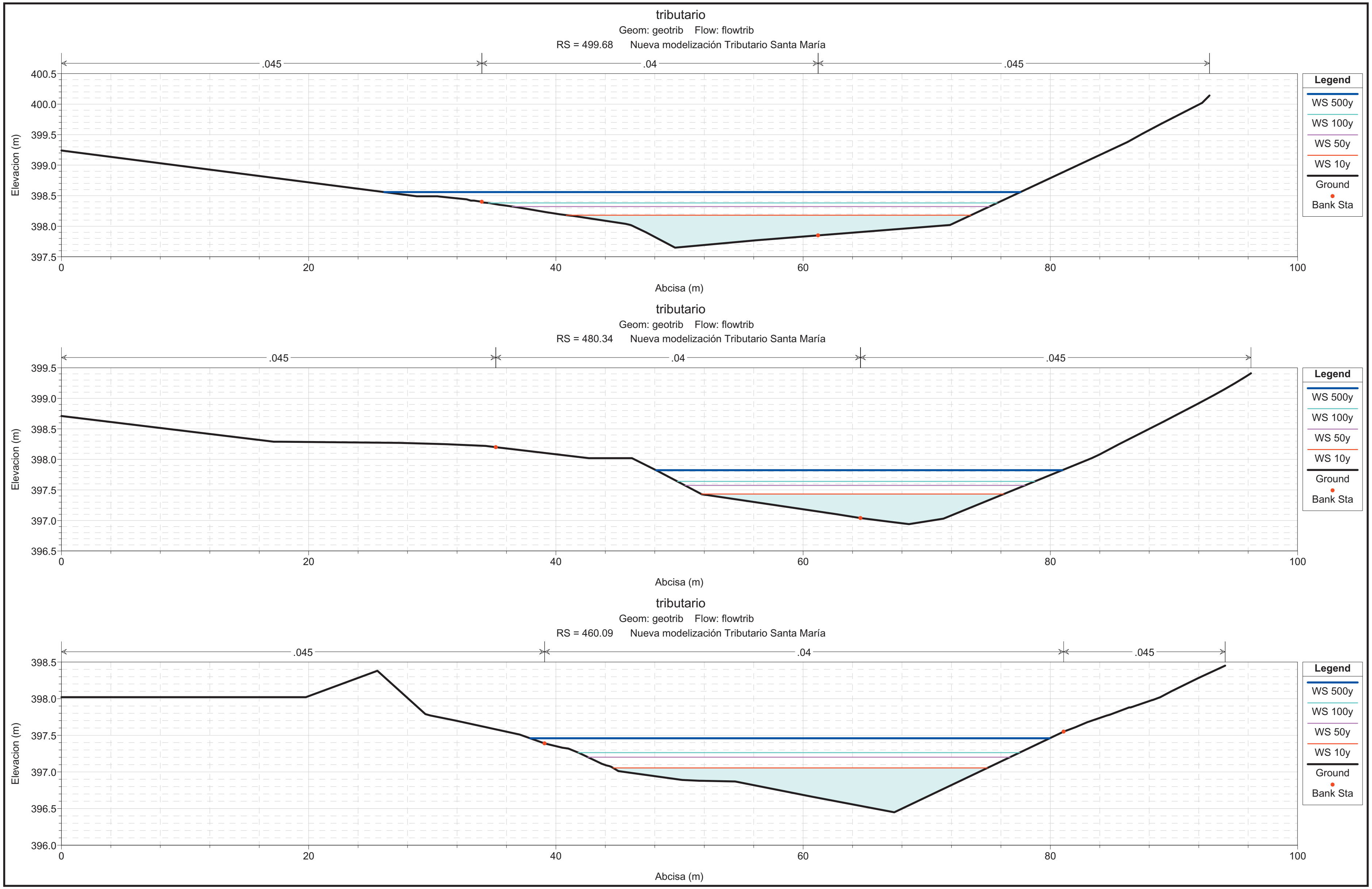


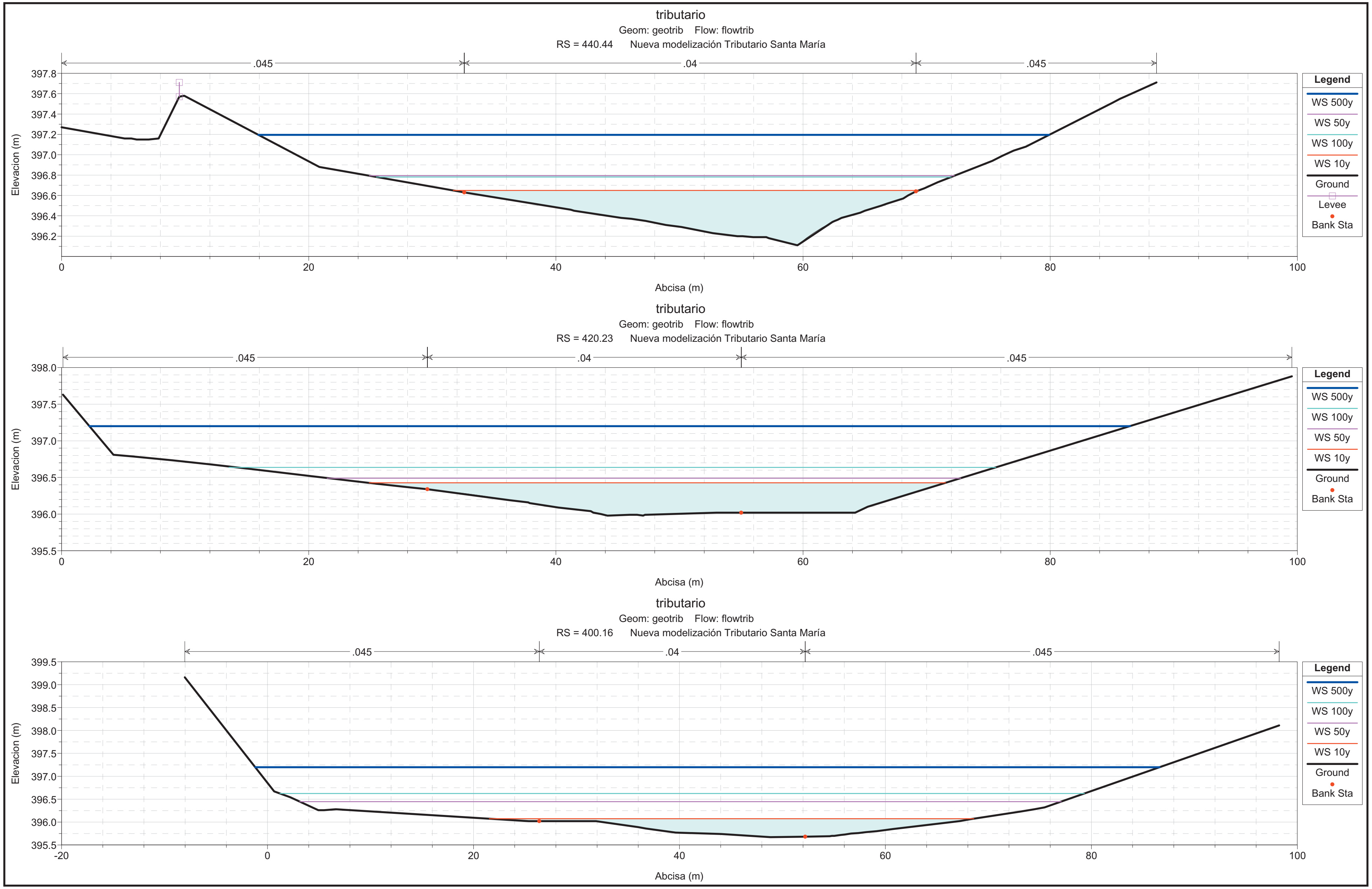
Ratas
Geom: rtgeom Flow: rtflow Modelizacion arroyo de las Ratas
ratas 1
Elevation (m)
Main Channel Distance (m)
10
0
-10
-20
-30
-40
-50
-60
0
200
400
600
800
1000
1200
1400
1600
Legend
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground

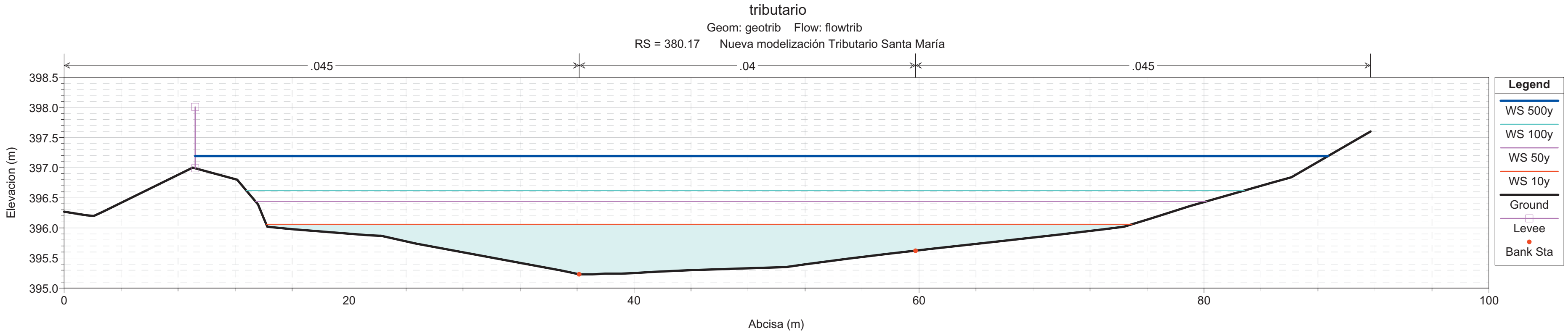
6. Cuenca confluencia Arroyo Santa María/Arroyo de las Ratas

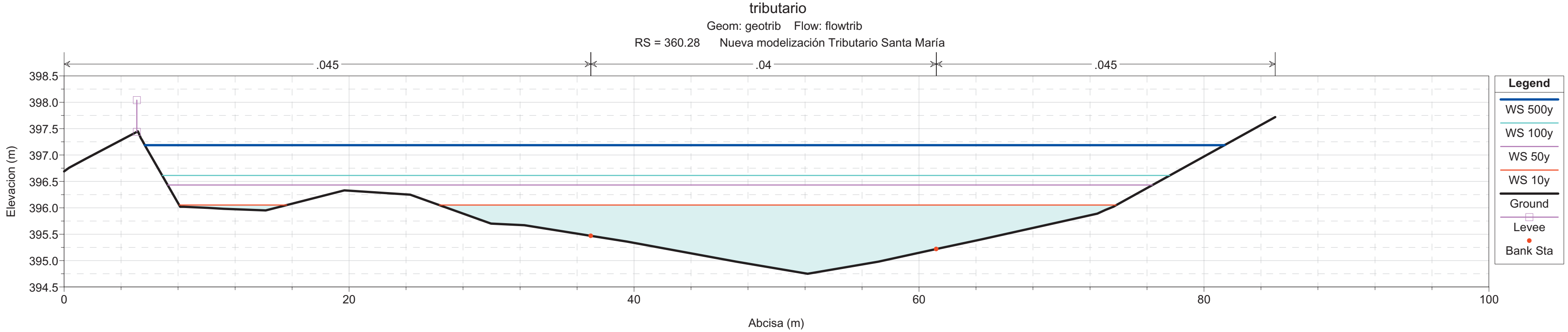
HEC-RAS Plan: Plan 01 River: Tributario Reach: 1 Profile: 500y

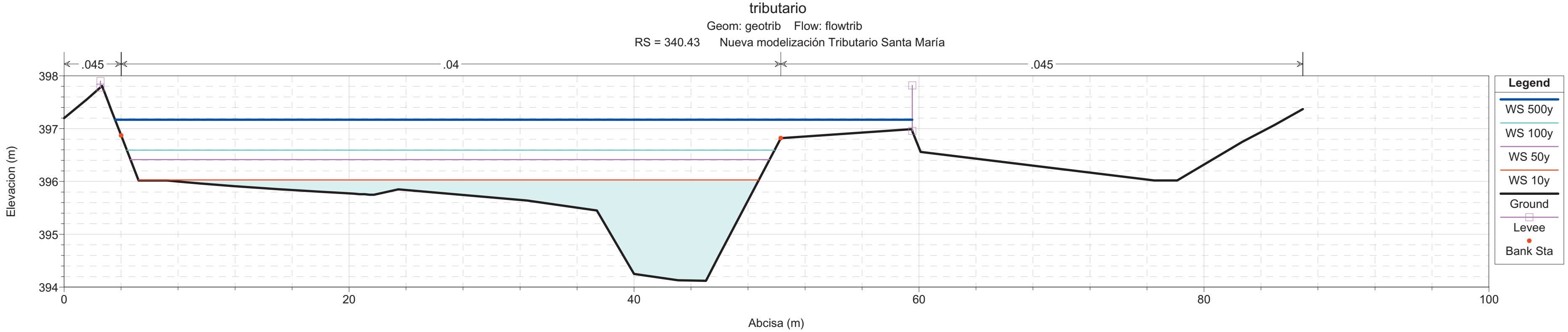
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	499.68	500y	55.12	397.65	398.56	0.91	398.56	398.82	0.018993	2.43	24.87	51.45	1.01
1	480.34	500y	55.12	397.04	397.82	0.88	397.96	398.32	0.040248	3.15	17.68	32.87	1.42
1	460.09	500y	55.12	396.45	397.46	1.01	397.46	397.75	0.019368	2.38	23.20	42.03	1.01
1	440.44	500y	55.12	396.11	397.20	1.09	397.00	397.31	0.005432	1.61	38.88	63.98	0.57
1	420.23	500y	55.12	395.98	397.20	1.22		397.24	0.001469	1.02	67.98	84.21	0.31
1	400.16	500y	55.12	395.67	397.20	1.53		397.22	0.000535	0.71	95.11	87.81	0.19
1	380.17	500y	55.12	395.23	397.19	1.96	396.08	397.21	0.000296	0.64	107.85	79.51	0.15
1	360.28	500y	55.12	394.75	397.19	2.44	395.86	397.20	0.000229	0.63	112.62	75.78	0.14
1	340.43	500y	55.12	394.12	397.17	3.05	396.03	397.20	0.000456	0.73	77.81	55.95	0.18
1	320.31	500y	55.12	393.96	396.46	2.50	396.46	397.11	0.018022	3.56	15.48	11.98	1.00
1	300.42	500y	55.12	393.33	396.19	2.86	395.89	396.64	0.009465	2.97	18.59	11.33	0.74
1	280.21	500y	55.12	392.82	396.07	3.25	395.69	396.44	0.007906	2.70	20.44	12.59	0.68
1	260.75	500y	55.12	392.64	395.89	3.25	395.37	396.27	0.010193	2.73	20.21	16.10	0.78
1	239.73	500y	55.12	392.16	395.16	3.00	395.16	395.95	0.017445	3.95	13.97	8.76	1.00
1	220.00	500y	55.12	391.72	394.98	3.26	394.28	395.37	0.006263	2.78	19.82	9.20	0.60
1	199.99	500y	55.12	391.53	394.41	2.88	394.35	395.15	0.015717	3.79	14.53	9.00	0.95
1	179.69	500y	55.12	391.31	393.99	2.68	393.99	394.81	0.017092	3.99	13.80	8.46	1.00
1	159.29	500y	55.12	391.22	393.34	2.12	393.63	394.29	0.037646	4.32	12.75	14.47	1.47
1	140.55	500y	55.12	391.07	393.19	2.12	393.23	393.65	0.019990	2.99	18.48	23.96	1.07
1	120.11	500y	55.12	390.74	392.81	2.07	392.85	393.26	0.018044	3.04	19.27	26.29	1.03
1	100.42	500y	55.12	390.28	391.92	1.64	392.16	392.76	0.032310	4.16	14.17	18.57	1.38
1	79.98	500y	55.12	389.95	392.20	2.25	391.70	392.43	0.004374	2.14	27.12	21.30	0.55
1	60.18	500y	55.12	389.59	392.19	2.60	391.47	392.34	0.002696	1.77	33.10	25.06	0.44
1	40.04	500y	55.12	389.05	391.82	2.77	391.82	392.21	0.013983	2.81	21.12	31.68	0.91
1	20.24	500y	55.12	387.75	389.96	2.21	390.48	391.63	0.046116	5.72	9.64	7.50	1.59
1	0.00	500y	55.12	386.69	388.50	1.81	389.04	390.29	0.100058	5.92	9.31	13.74	2.30

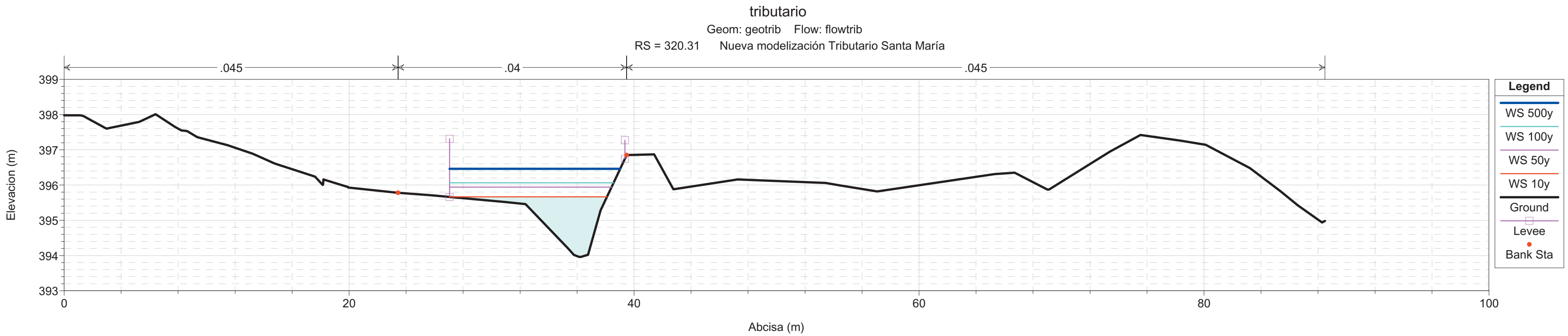

tributario
Geom: geotrib Flow: flowtrib
RS = 499.68 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
tributario
Geom: geotrib Flow: flowtrib
RS = 480.34 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
tributario
Geom: geotrib Flow: flowtrib
RS = 460.09 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

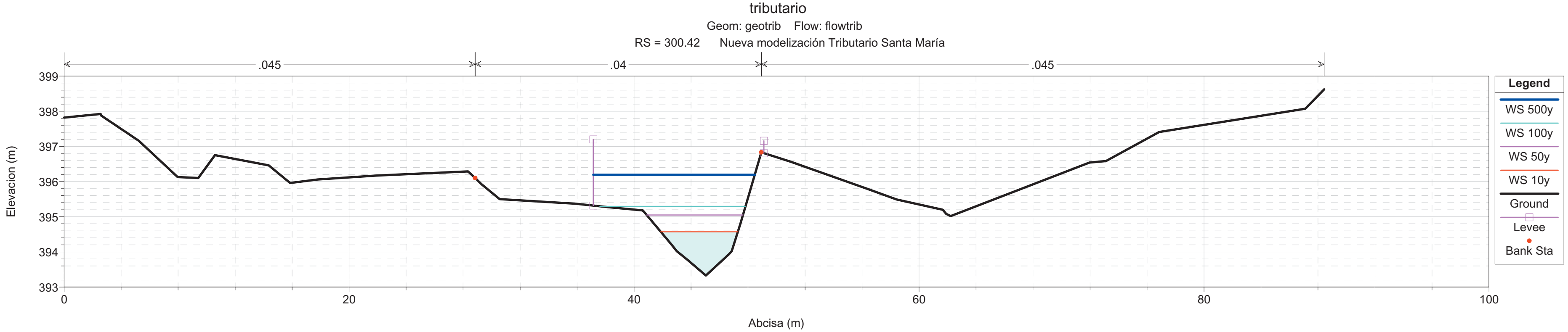

tributario
Geom: geotrib Flow: flowtrib
RS = 440.44 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 50y
WS 100y
WS 10y
Ground
Levee
Bank Sta
tributario
Geom: geotrib Flow: flowtrib
RS = 420.23 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
tributario
Geom: geotrib Flow: flowtrib
RS = 400.16 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta

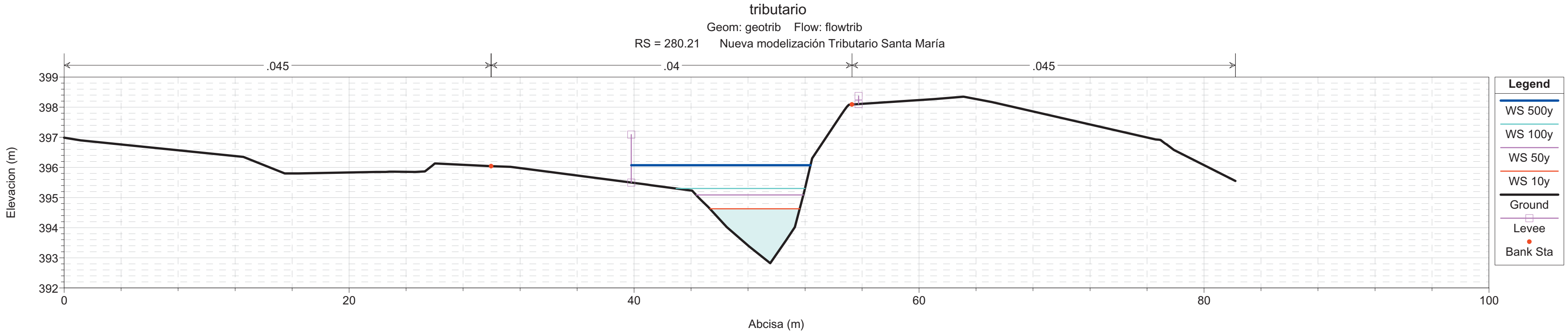

tributario
Geom: geotrib Flow: flowtrib
RS = 380.17 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

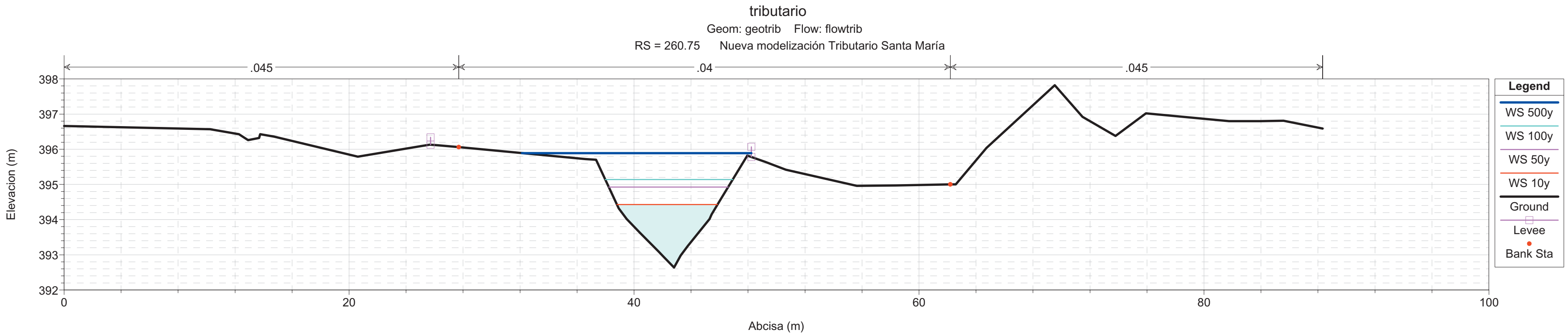

tributario
Geom: geotrib Flow: flowtrib
RS = 360.28 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

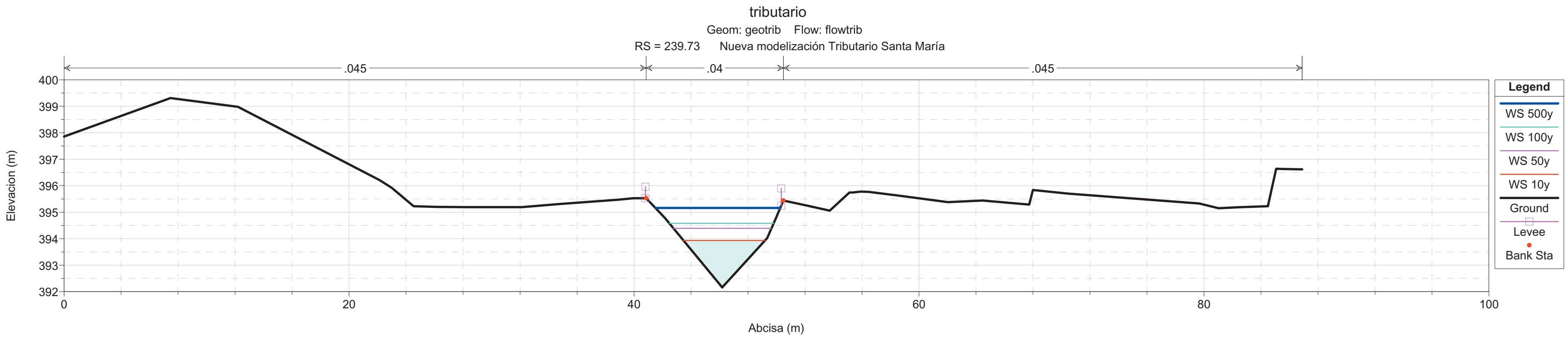

tributario
Geom: geotrib Flow: flowtrib
RS = 340.43 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

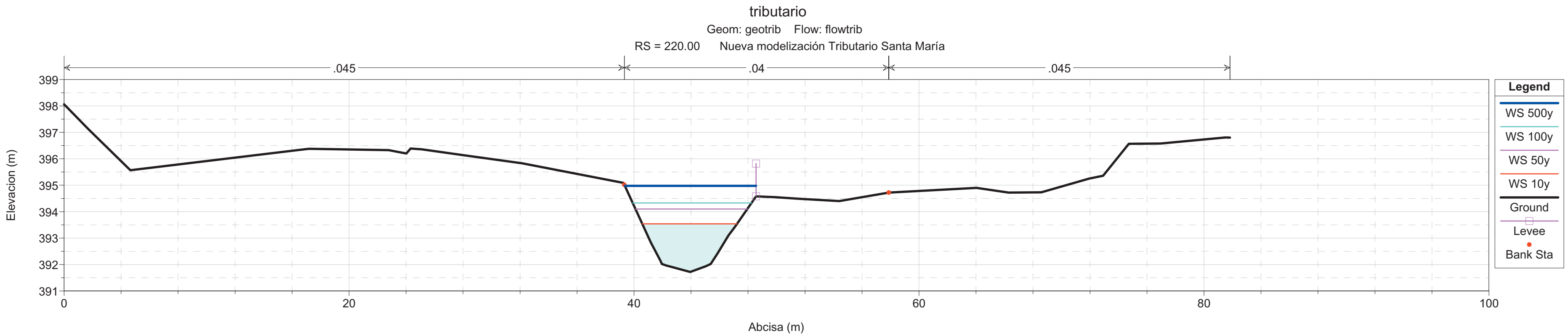

tributario
Geom: geotrib Flow: flowtrib
RS = 320.31 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

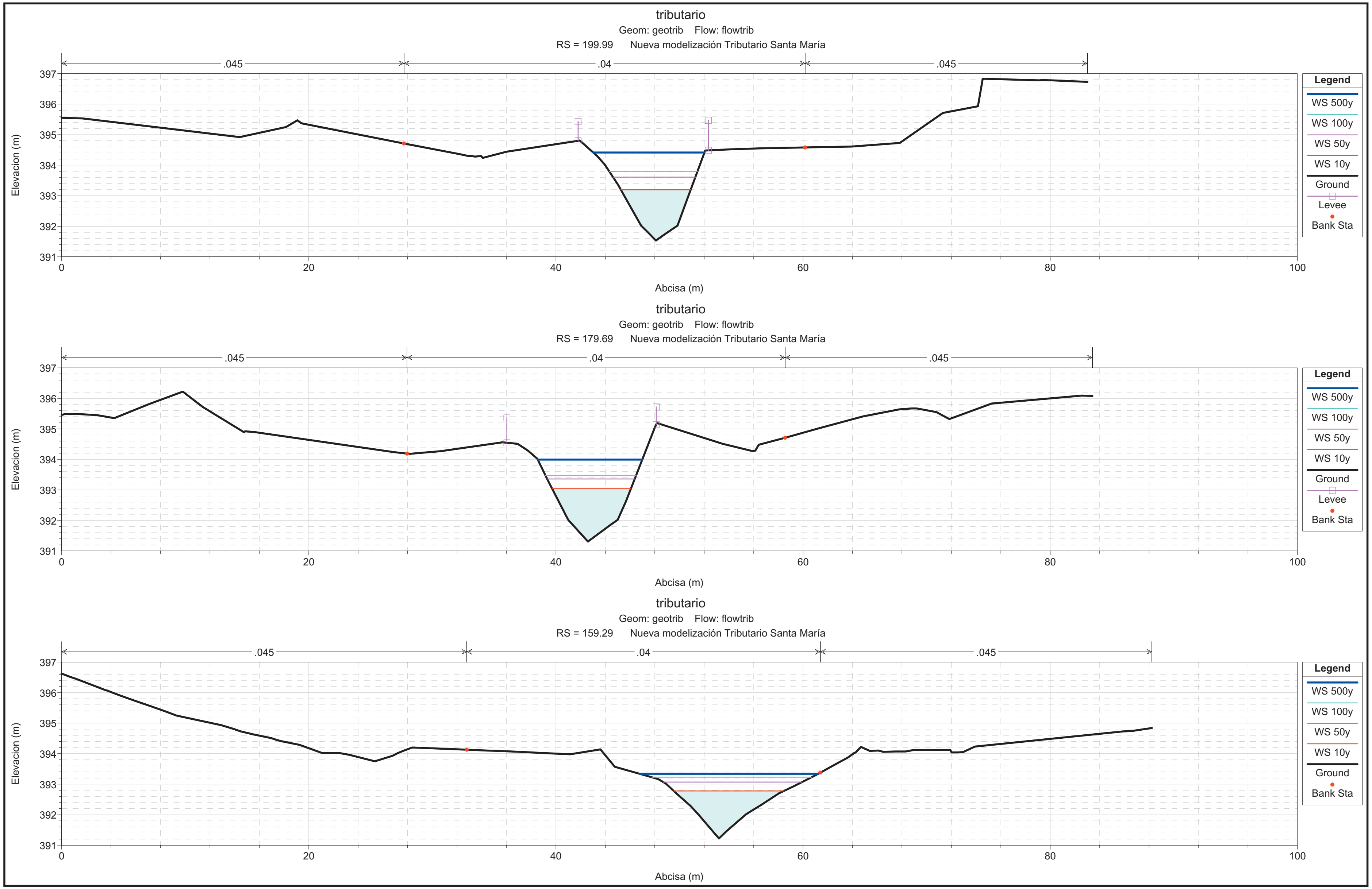

tributario
Geom: geotrib Flow: flowtrib
RS = 300.42 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

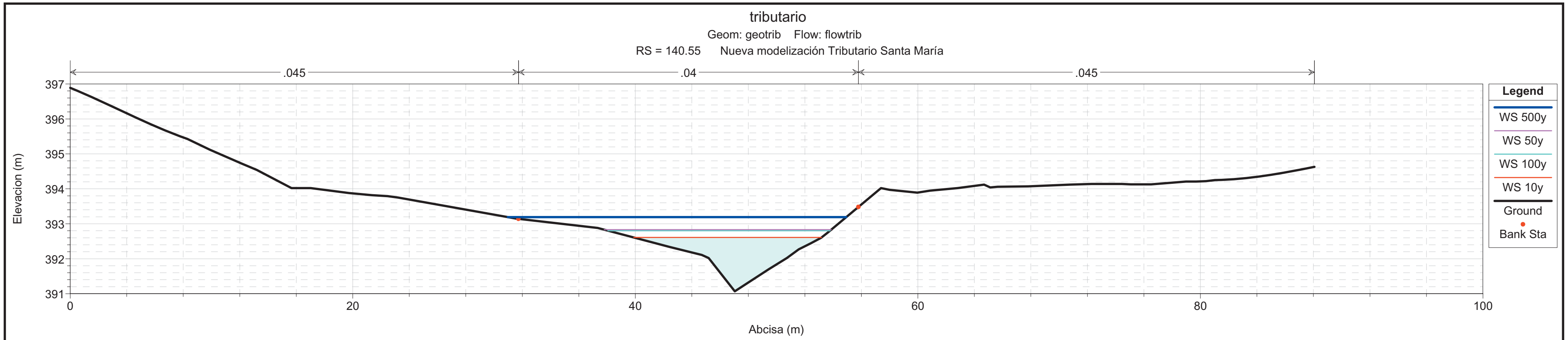

tributario
Geom: geotrib Flow: flowtrib
RS = 280.21 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta


tributario
Geom: geotrib Flow: flowtrib
RS = 260.75 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

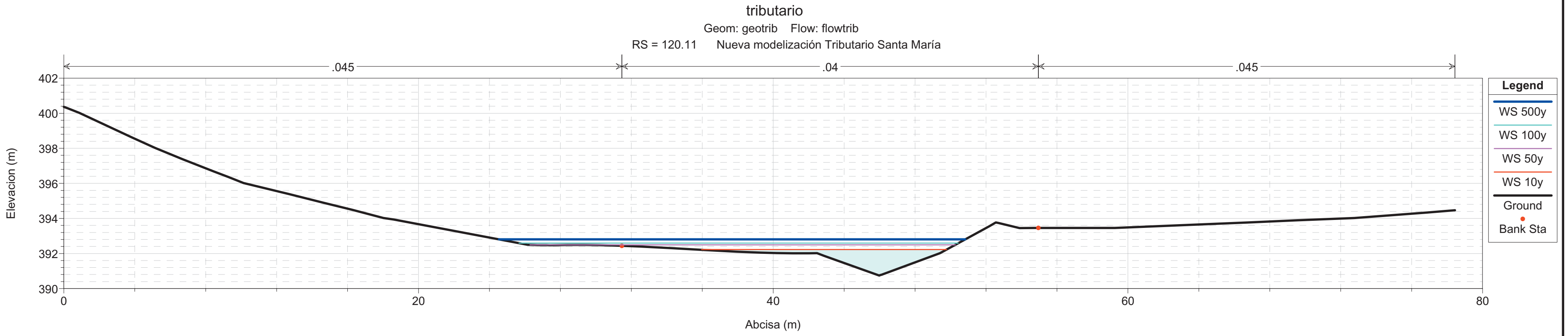

tributario
Geom: geotrib Flow: flowtrib
RS = 239.73 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta


tributario
Geom: geotrib Flow: flowtrib
RS = 220.00 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta

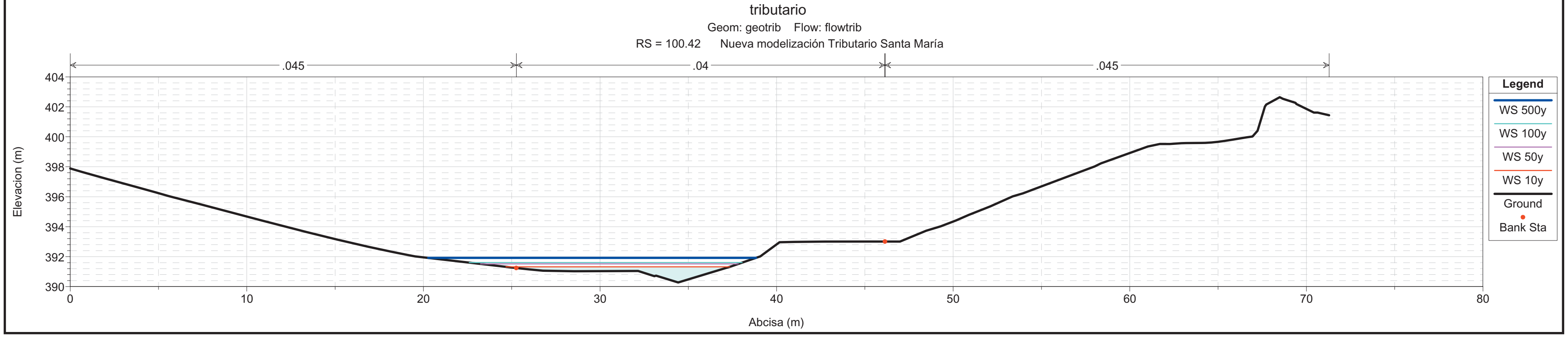

tributario
Geom: geotrib Flow: flowtrib
RS = 199.99 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta
tributario
Geom: geotrib Flow: flowtrib
RS = 179.69 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta
tributario
Geom: geotrib Flow: flowtrib
RS = 159.29 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta



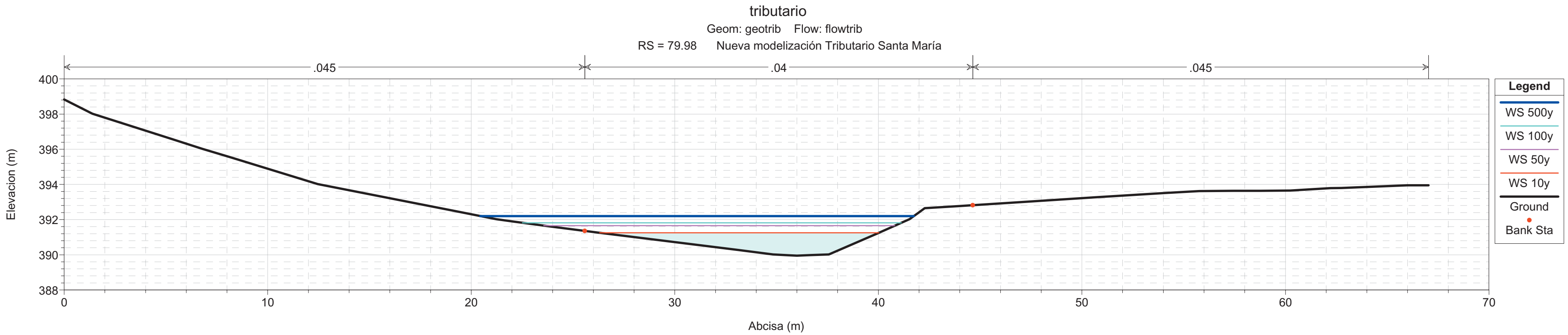
tributario
Geom: geotrib Flow: flowtrib
RS = 140.55 Nueva modelización Tributario Santa María
.045
.04
.045
Legend
WS 500y
WS 50y
WS 100y
WS 10y
Ground
Bank Sta
Elevacion (m)
Abcisa (m)

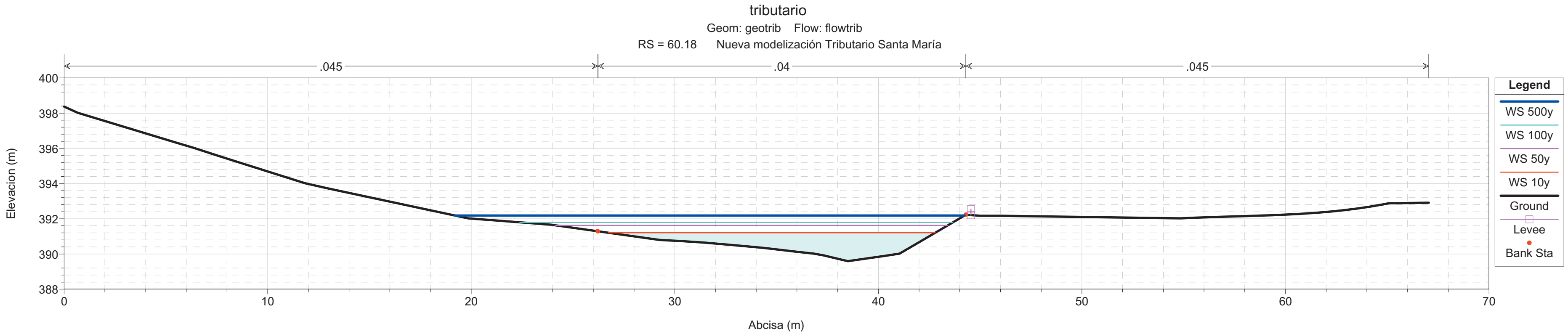


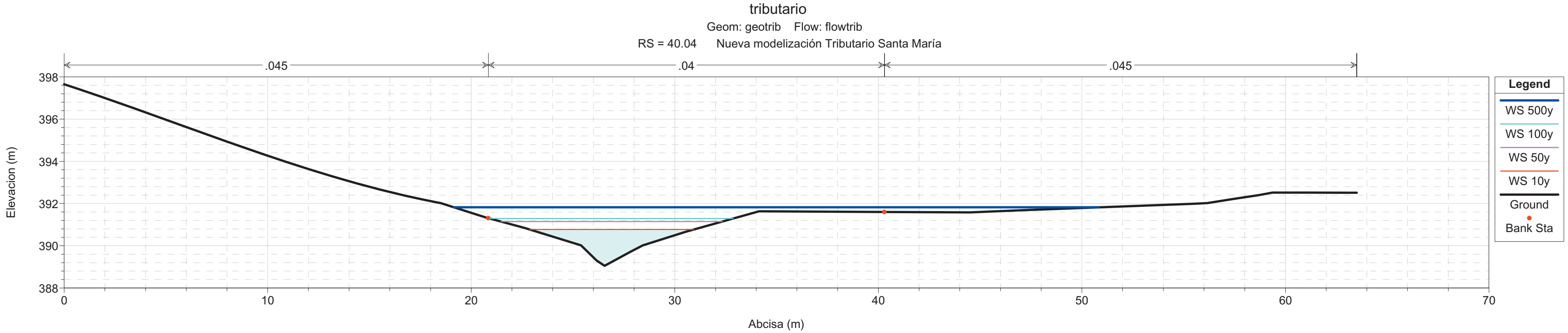
tributario
Geom: geotrib Flow: flowtrib
RS = 120.11 Nueva modelización Tributario Santa María
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (m)
Abcisa (m)

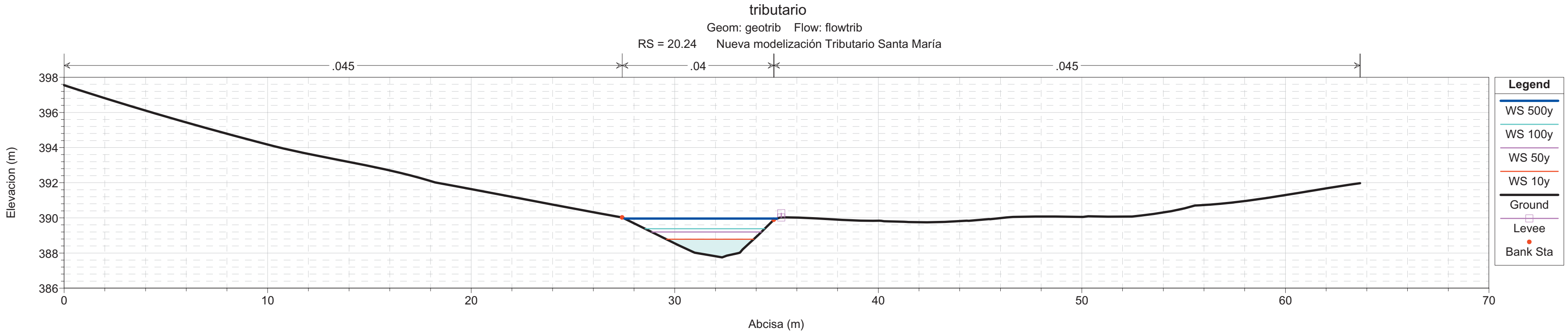


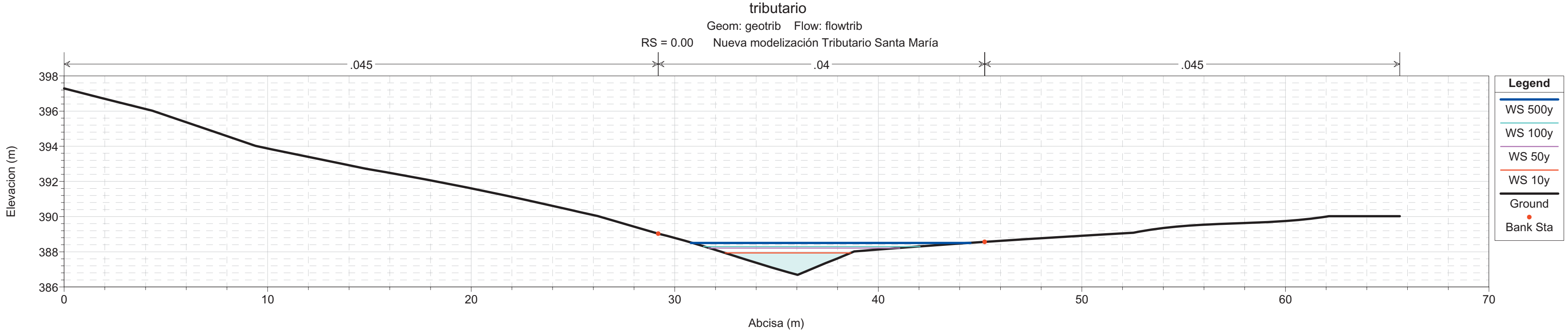
tributario
Geom: geotrib Flow: flowtrib
RS = 100.42 Nueva modelización Tributario Santa María
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (m)
Abcisa (m)


tributario
Geom: geotrib Flow: flowtrib
RS = 79.98 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


tributario
Geom: geotrib Flow: flowtrib
RS = 60.18 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta


tributario
Geom: geotrib Flow: flowtrib
RS = 40.04 Nueva modelización Tributario Santa María
.045
.04
.045
Elevacion (m)
Abcisa (m)
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta


tributario
Geom: geotrib Flow: flowtrib
RS = 20.24 Nueva modelización Tributario Santa María
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Levee
Bank Sta
Elevacion (m)
Abcisa (m)
398
396
394
392
390
388
386
0
10
20
30
40
50
60
70


tributario
Geom: geotrib Flow: flowtrib
RS = 0.00 Nueva modelización Tributario Santa María
.045
.04
.045
Legend
WS 500y
WS 100y
WS 50y
WS 10y
Ground
Bank Sta
Elevacion (m)
Abcisa (m)
398
396
394
392
390
388
386
0
10
20
30
40
50
60
70

Responsabilidad del estudio.

La ampliación del Estudio Hidrológico-Hidráulico de los cauces afectados por el P.G.O.U. de Cabra (Córdoba) a petición del Servicio de Actuaciones en Cauces de la Zona de Córdoba (Comisaría de Aguas. Área de Gestión Medioambiental e Hidrológica) de la Confederación Hidrográfica del Guadalquivir, ha sido redactada por D. Emilio Molero Melgarejo, Ingeniero de Caminos, Canales y Puertos.

Emilio Molero Melgarejo