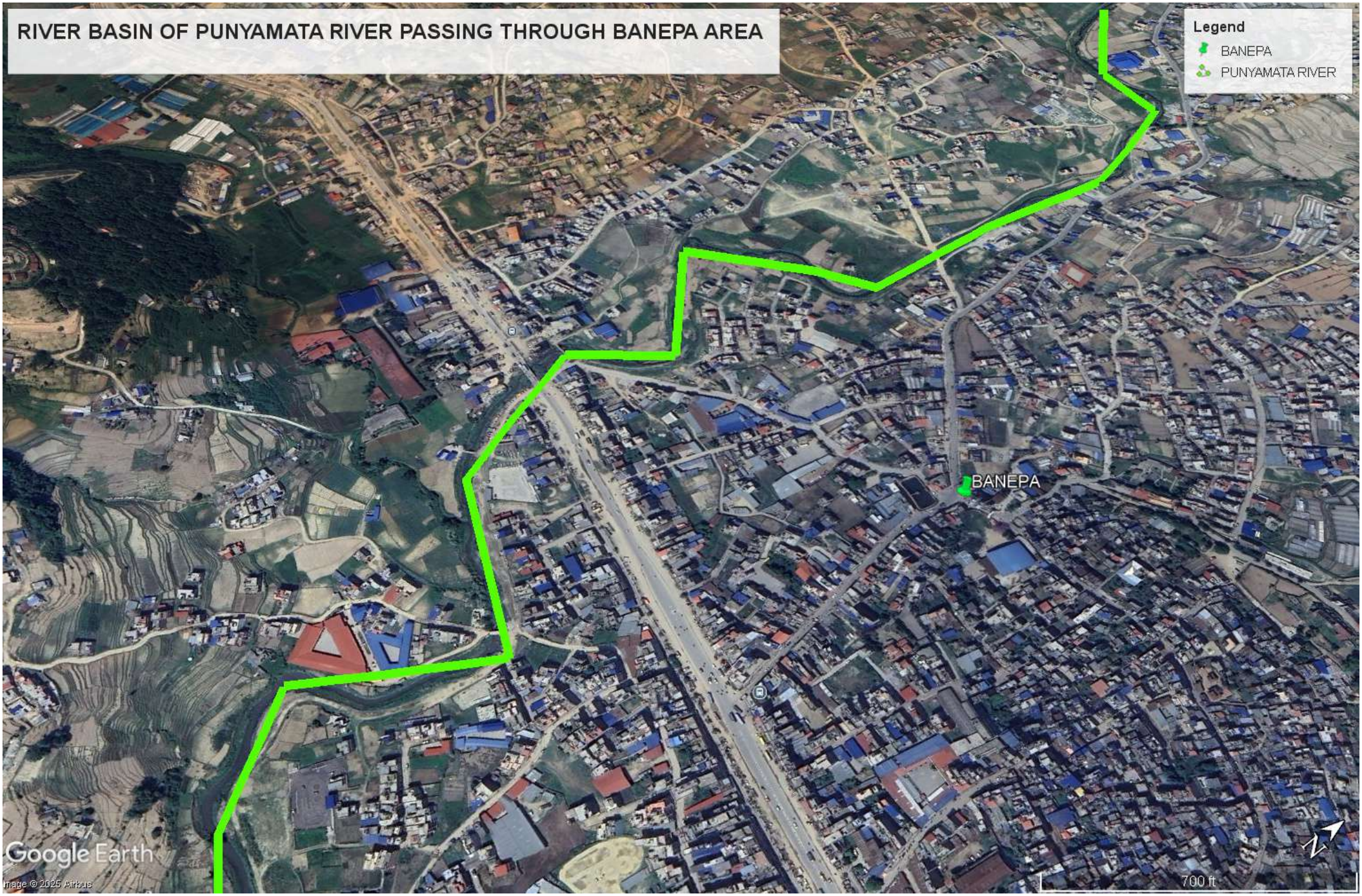
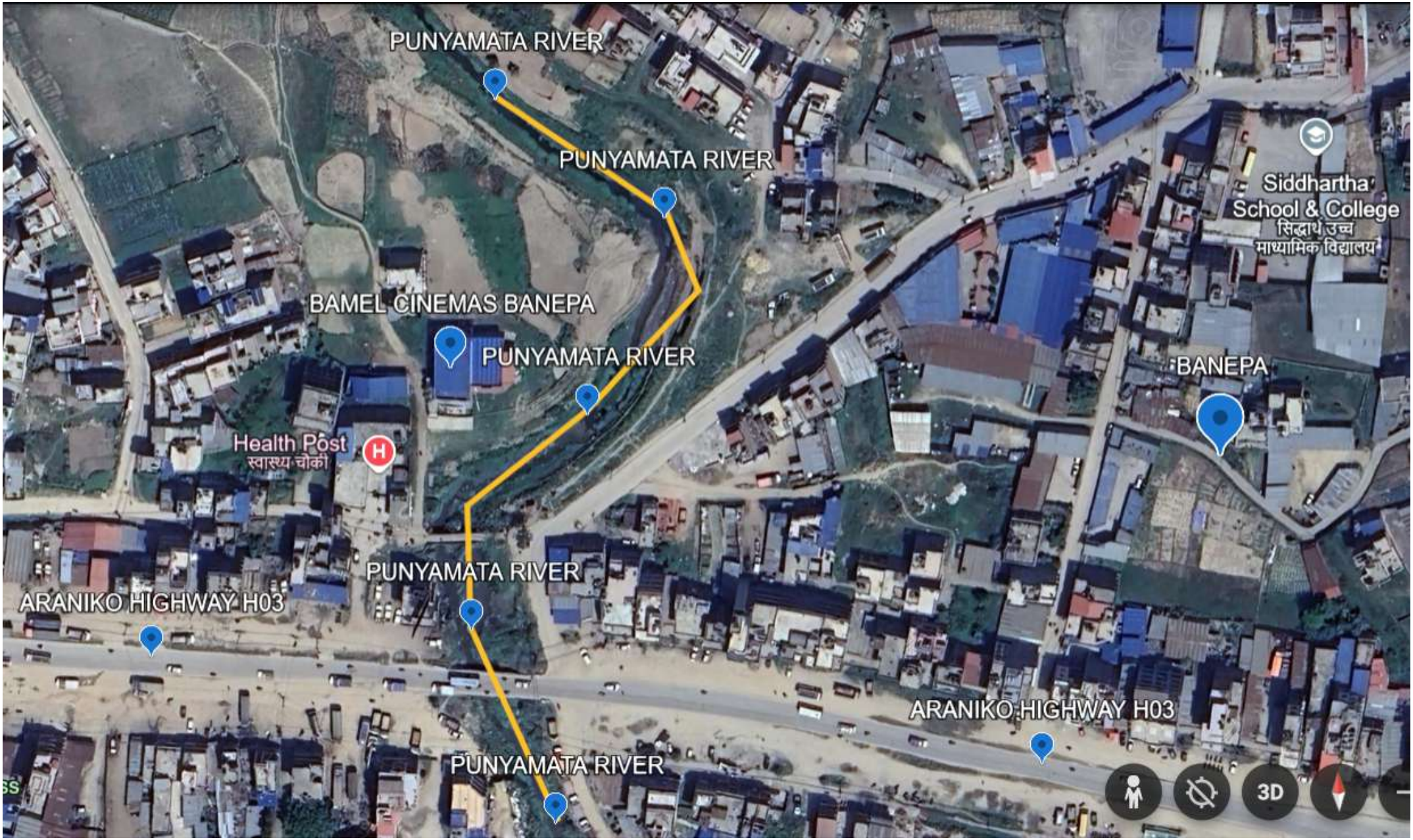
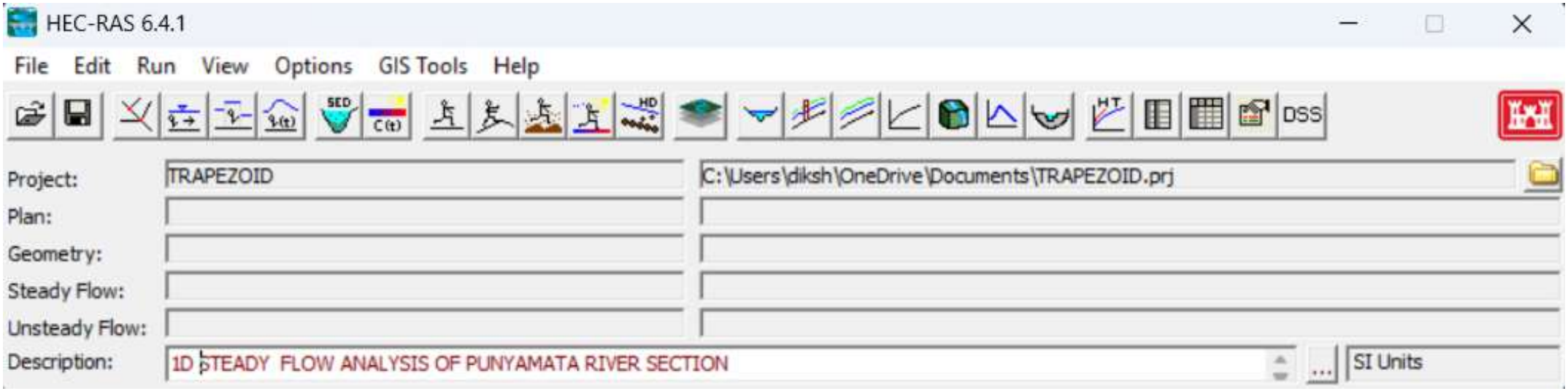
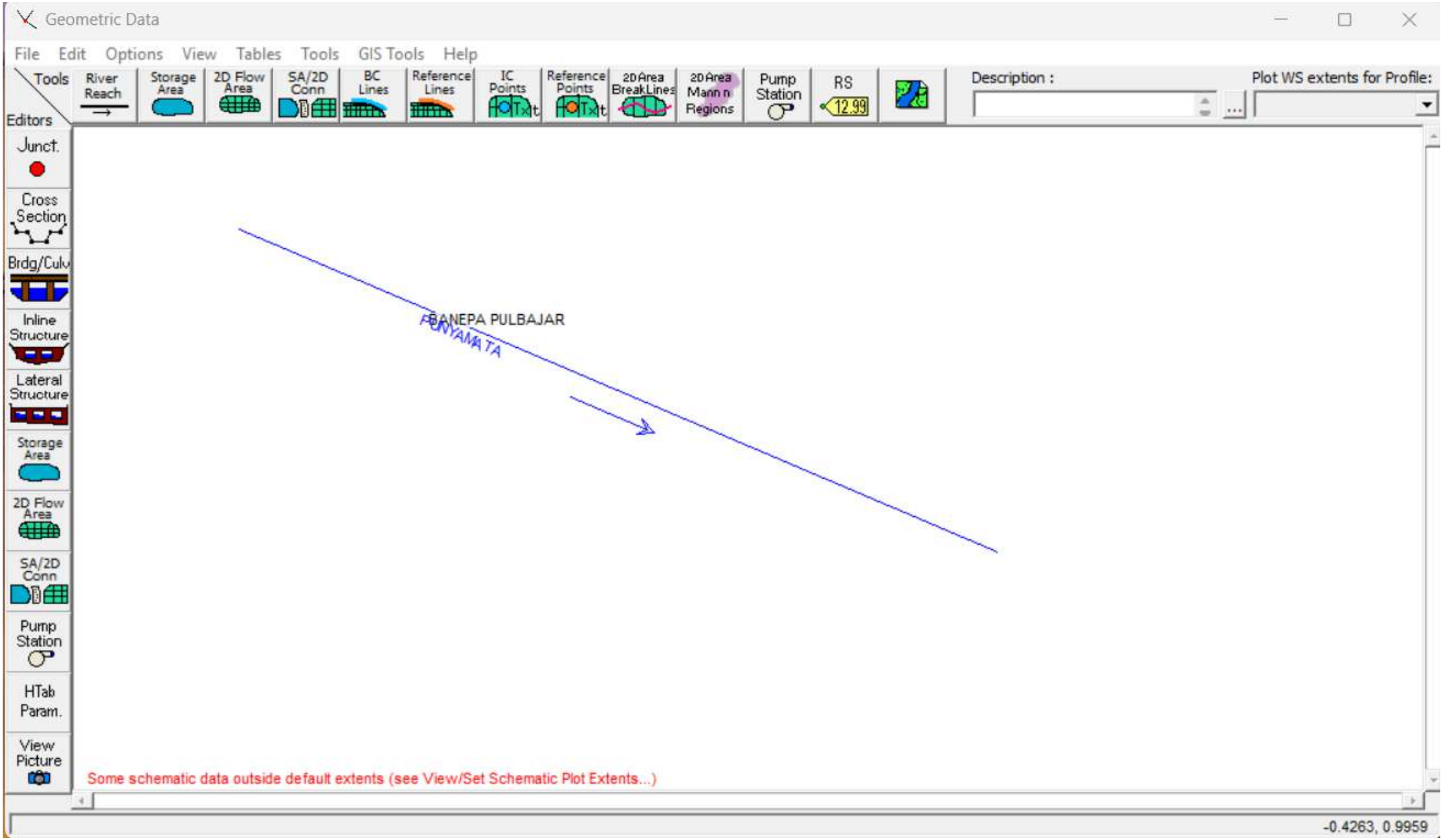

RIVER BASIN OF PUNYAMATA RIVER PASSING THROUGH BANEPA AREA
Legend
BANEPA
PUNYAMATA RIVER
BANEPA
Google Earth
Image © 2025 Airbus
700 ft


PUNYAMATA RIVER
PUNYAMATA RIVER
Siddhartha School & College
सिद्धार्थ उच्च माध्यामिक विद्यालय
BAMEL CINEMAS BANEPA
PUNYAMATA RIVER
BANEPA
Health Post
स्वास्थ्य चौकी
PUNYAMATA RIVER
ARANIKO HIGHWAY H03
ARANIKO HIGHWAY H03
PUNYAMATA RIVER
3D


HEC-RAS 6.4.1
File Edit Run View Options GIS Tools Help
SED
C(t)
HD
HT
DSS
Project: TRAPEZOID
C:\Users\diksh\OneDrive\Documents\TRAPEZOID.prj
Plan:
Geometry:
Steady Flow:
Unsteady Flow:
Description: 1D STEADY FLOW ANALYSIS OF PUNYAMATA RIVER SECTION
SI Units


Geometric Data
File Edit Options View Tables Tools GIS Tools Help
Tools
Editors
River Reach
Storage Area
2D Flow Area
SA/2D Conn
BC Lines
Reference Lines
IC Points
Reference Points
2D Area BreakLines
2D Area Mann n Regions
Pump Station
RS
12.99
Description :
Plot WS extents for Profile:
Junct.
Cross Section
Brdg/Culv
Inline Structure
Lateral Structure
Storage Area
2D Flow Area
SA/2D Conn
Pump Station
HTab Param.
View Picture
PANEPA PULBAJAR
PUNYAMATA
Some schematic data outside default extents (see View/Set Schematic Plot Extents...)
-0.4263, 0.9959

Cross Section Data

Exit Edit Options Plot Help

River: PUNYAMATA Apply Data

Reach: BANEPA PULBAJAR River Sta.: 100

Description: 1D FLOW ANALYSIS

Plot Options | Keep Prev XS Plots | Clear Prev | Plot Terrain (if available) | Cut from Terrain

Del Row | Ins Row

Cross Section Coordinates

	Station	Elevation
1	0	600
2	200	580
3	400	575
4	400	570
5	600	570
6	600	575
7	800	580
8	1100	600
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		

Downstream Reach Lengths

LOB	Channel	ROB

Manning's n Values

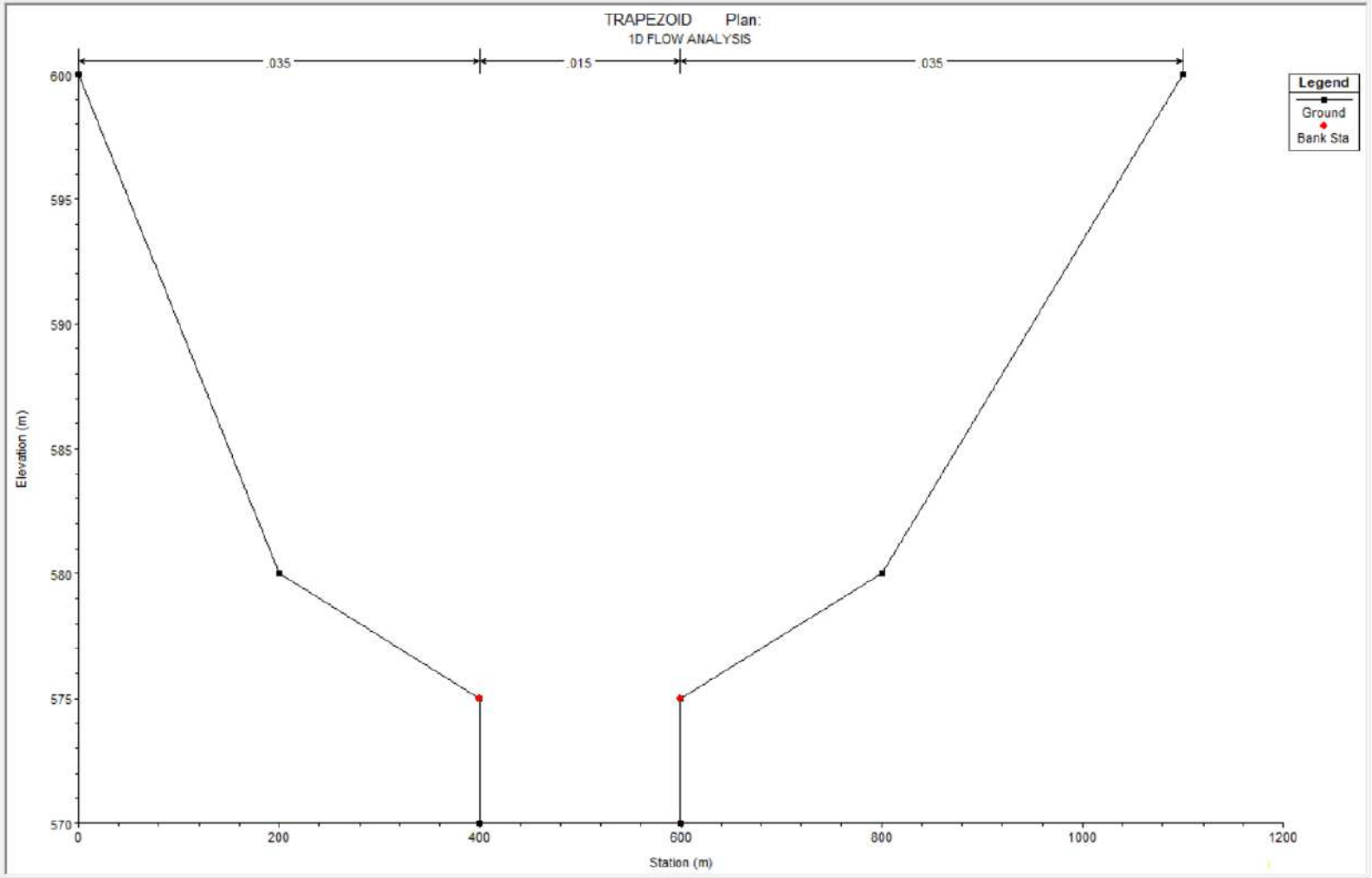
LOB	Channel	ROB
0.035	0.015	0.035

Main Channel Bank Stations

Left Bank	Right Bank
400	600

Cont\Exp Coefficient (Steady

Contraction	Expansion
0.1	0.3



Edit Cross Section Description

Channel Design/Modification Editor - GEOMETRY DATA

File Edit View Options Help

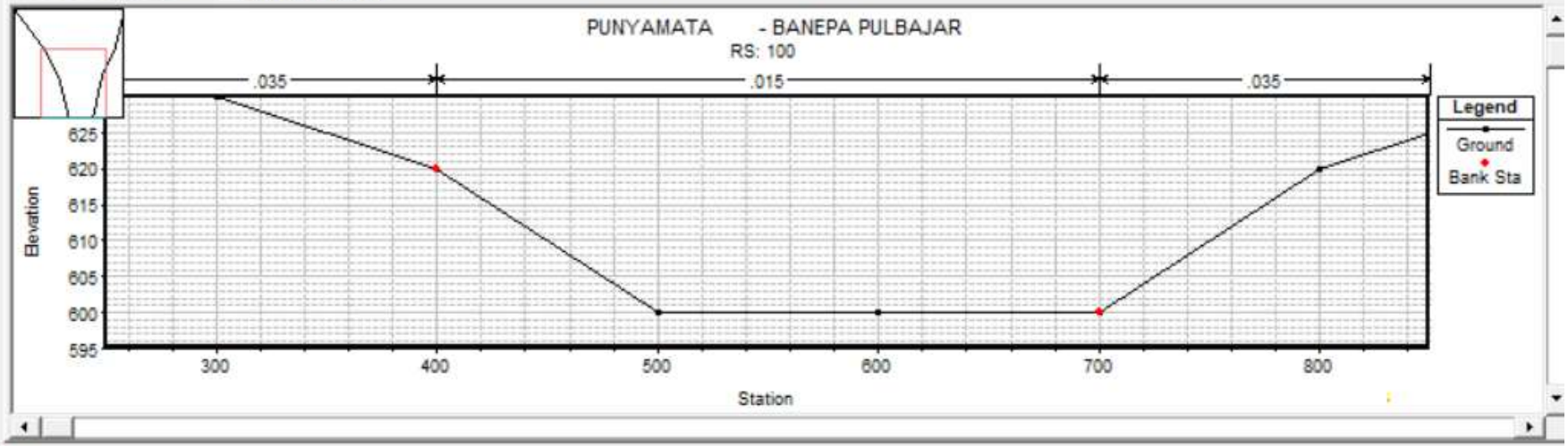
Editing Tools

Template Design ...

Modify a Range of XS ...

Profile Plot | XS Plot

Plot Template | Zoom to Banks



River: PUNYAMATA

Reach: BANEPA PULBAJAR

Channel Design/Modification Alternative

Alternative #1

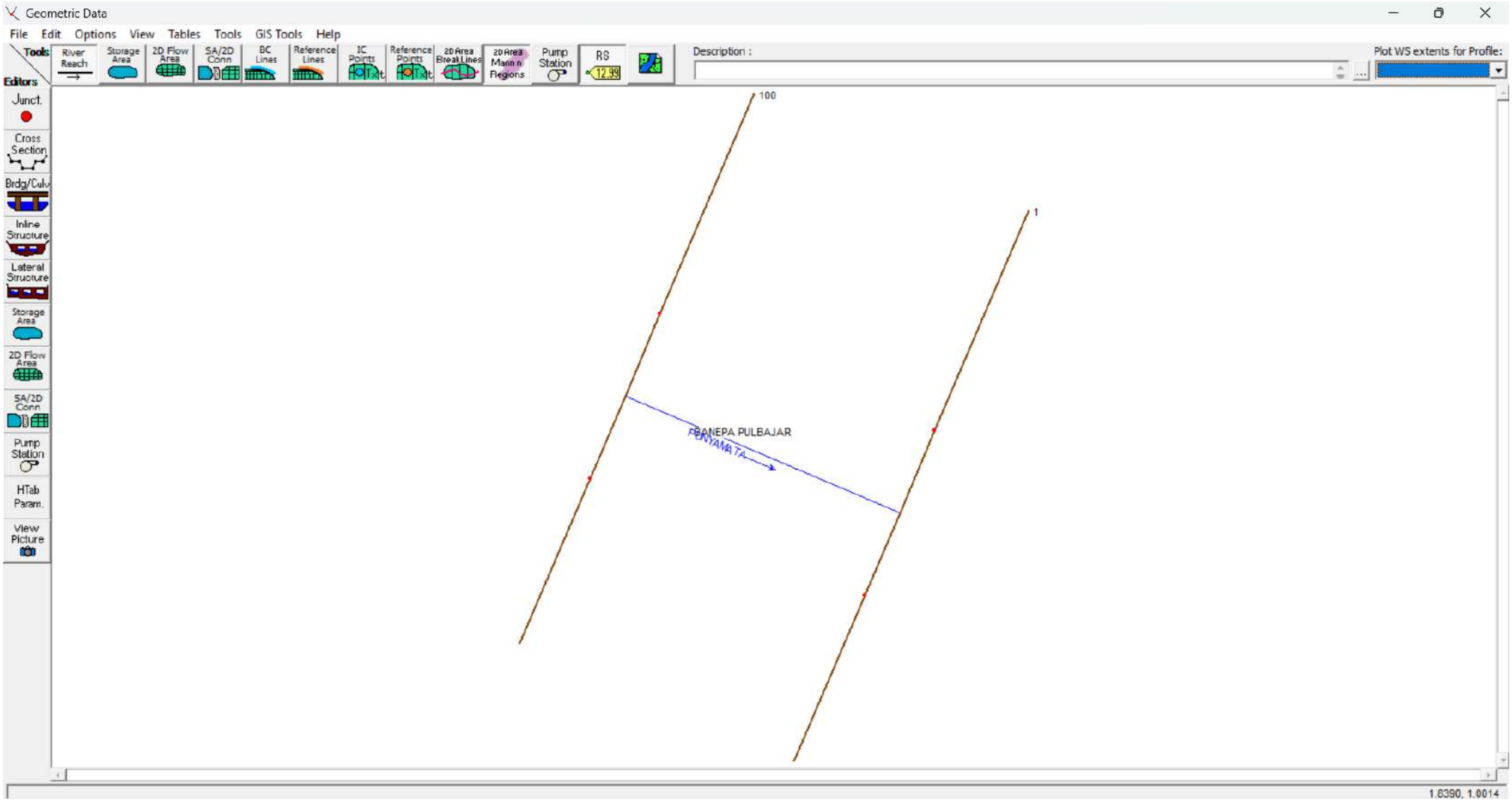
Selected Area Edit Options

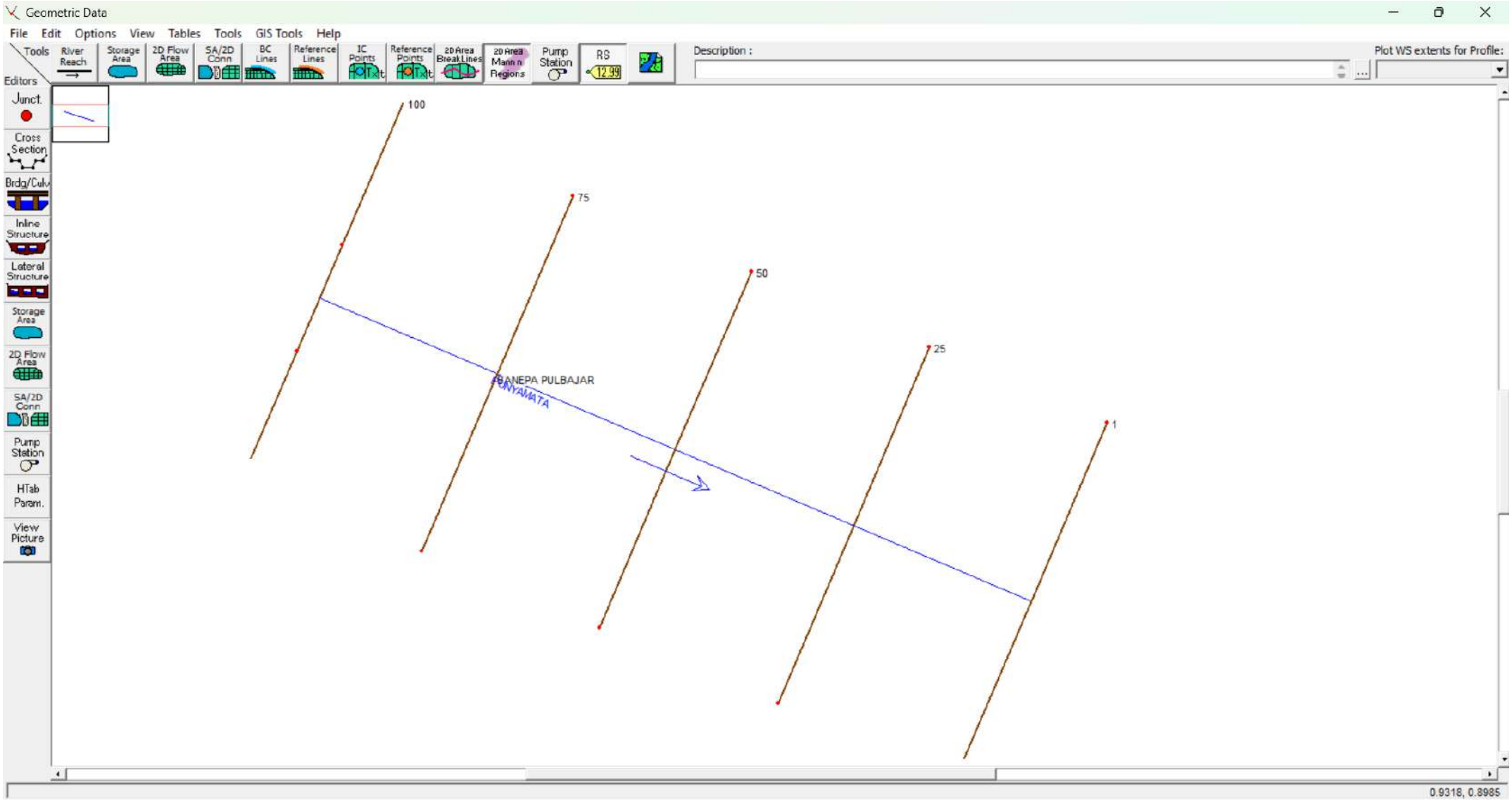
Copy Invert | Reset Lengths | Reset Center Sta

Shift Center Station

Shift 1

	River	Reach	RS	Invert Elev.	Template Elev.	LOB Length	Channel Length	ROB Length	Center Station	Template	Fixed Elev.	Slope from US	Slope from DS	Interp. Dist.	Cut Area	Fill Area
1	PUNYAMATA	BANEPA	100	600	600	500	500	500	550							
2	PUNYAMATA	BANEPA	75	550	550	500	500	500	500							
3	PUNYAMATA	BANEPA	50	550	550	500	500	500	500							
4	PUNYAMATA	BANEPA	25	550	550	500	500	500	500							
5	PUNYAMATA	BANEPA	1	550	550	500	500	500	500							


Geometric Data
File Edit Options View Tables Tools GIS Tools Help
Tools
River Reach
Storage Area
2D Flow Area
SA/2D Conn
BC Lines
Reference Lines
IC Points
Reference Points
2D Area Break Lines
2D Area Mann n Regions
Pump Station
RS
12.99
Description :
Plot WS extents for Profile:
Editors
Junct.
Cross Section
Brdg/Culv.
Inline Structure
Lateral Structure
Storage Area
2D Flow Area
SA/2D Conn
Pump Station
HTab Param.
View Picture
100
1
PANEPA PULBAJAR
PERYAMATA
1.8390, 1.0014


Geometric Data
File Edit Options View Tables Tools GIS Tools Help
Tools
River Reach
Storage Area
2D Flow Area
SA/2D Conn
BC Lines
Reference Lines
IC Points
Reference Points
2D Area Break Lines
2D Area Manin Regions
Pump Station
RS
12.99
Description :
Plot WS extents for Profile:
Editors
Junct.
Cross Section
Brdg/Culv
Inline Structure
Lateral Structure
Storage Area
2D Flow Area
SA/2D Conn
Pump Station
HTab Param.
View Picture
100
75
50
25
1
PANEPA PULBAJAR
SUNYAHATA
0.9318, 0.8985

HEC-RAS Finished Computations

Write Geometry Information

Layer: COMPLETE

Steady Flow Simulation

River: PUNYAMATA RS: 100

Reach: BANEPA PULBAJAR Node Type: Cross Section

Profile: PF 1

Simulation: 1/1

Computation Messages

Plan: 'Plan 01' (TRAPEZOID.p01)
Simulation started at: 13Feb2025 01:48:24 PM

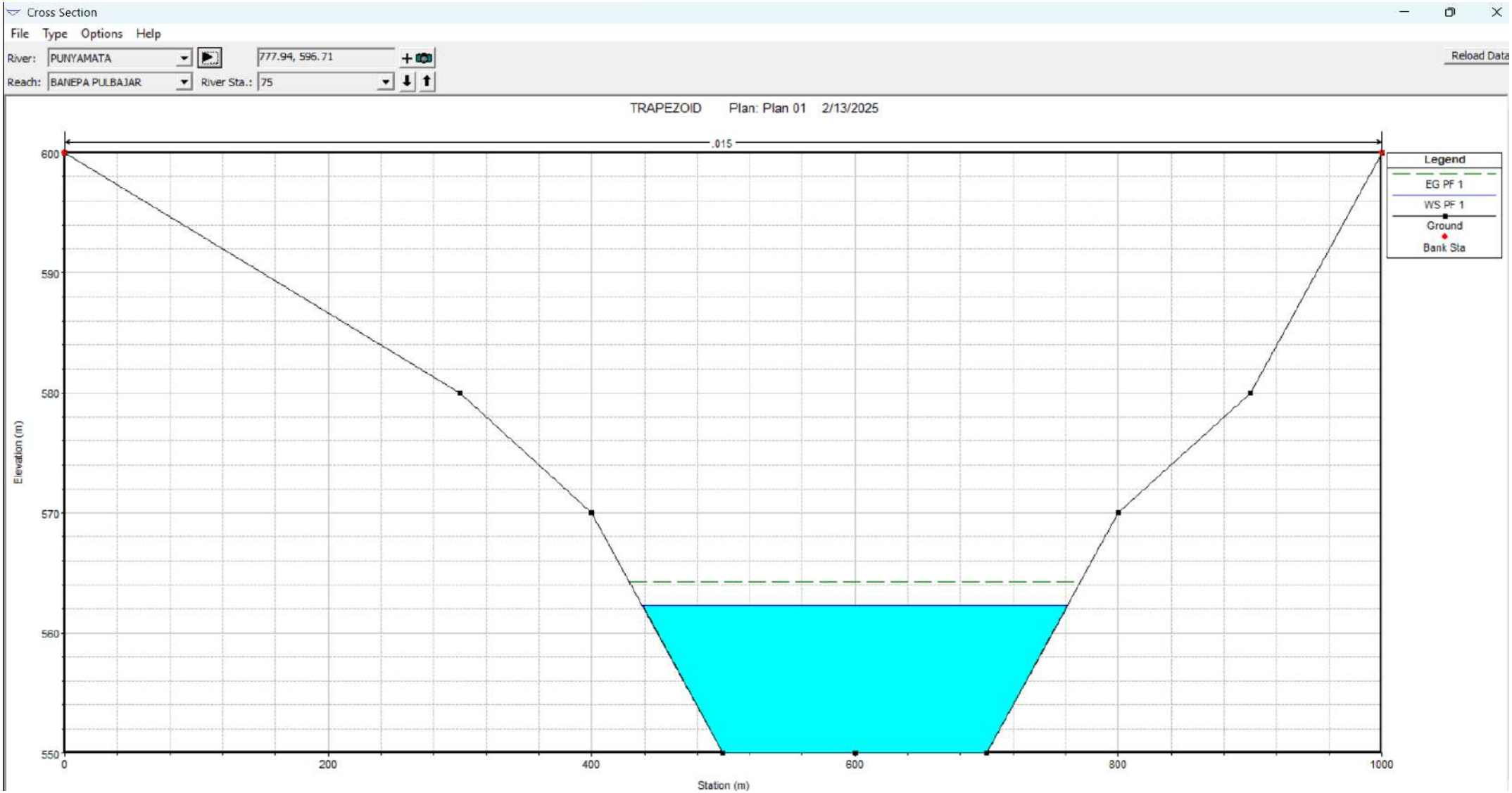
Writing Plan GIS Data...
Completed Writing Plan GIS Data
Writing Geometry...
Computing Bank Lines
Bank lines generated in 61 ms
Computing Edge Lines
Edge Lines generated in 14 ms
Computing XS Interpolation Surface
XS Interpolation Surface generated in 68 ms
Completed Writing Geometry
Writing Event Conditions ...
Completed Writing Event Condition Data

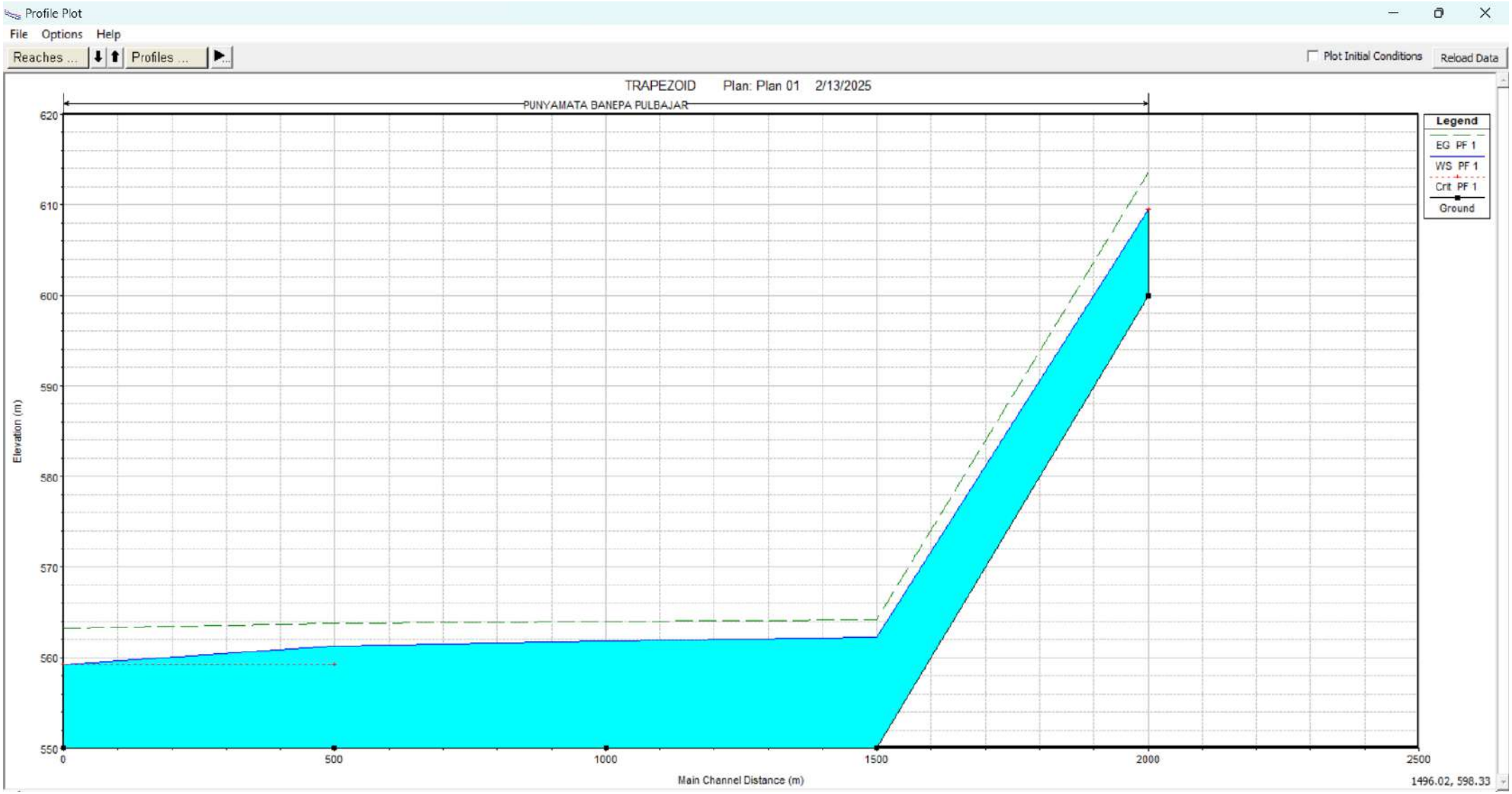
Steady Flow Simulation HEC-RAS 6.4.1 June 2023

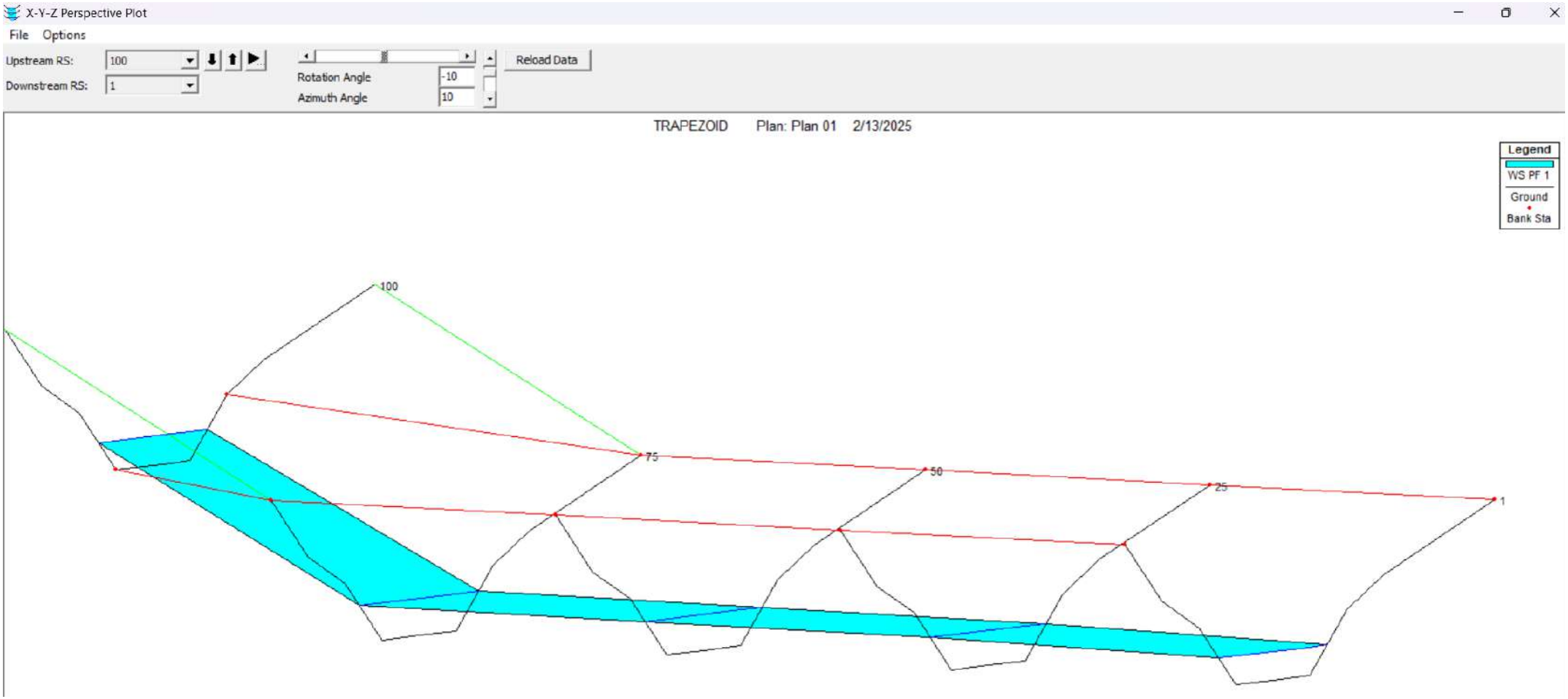
Finished Steady Flow Simulation

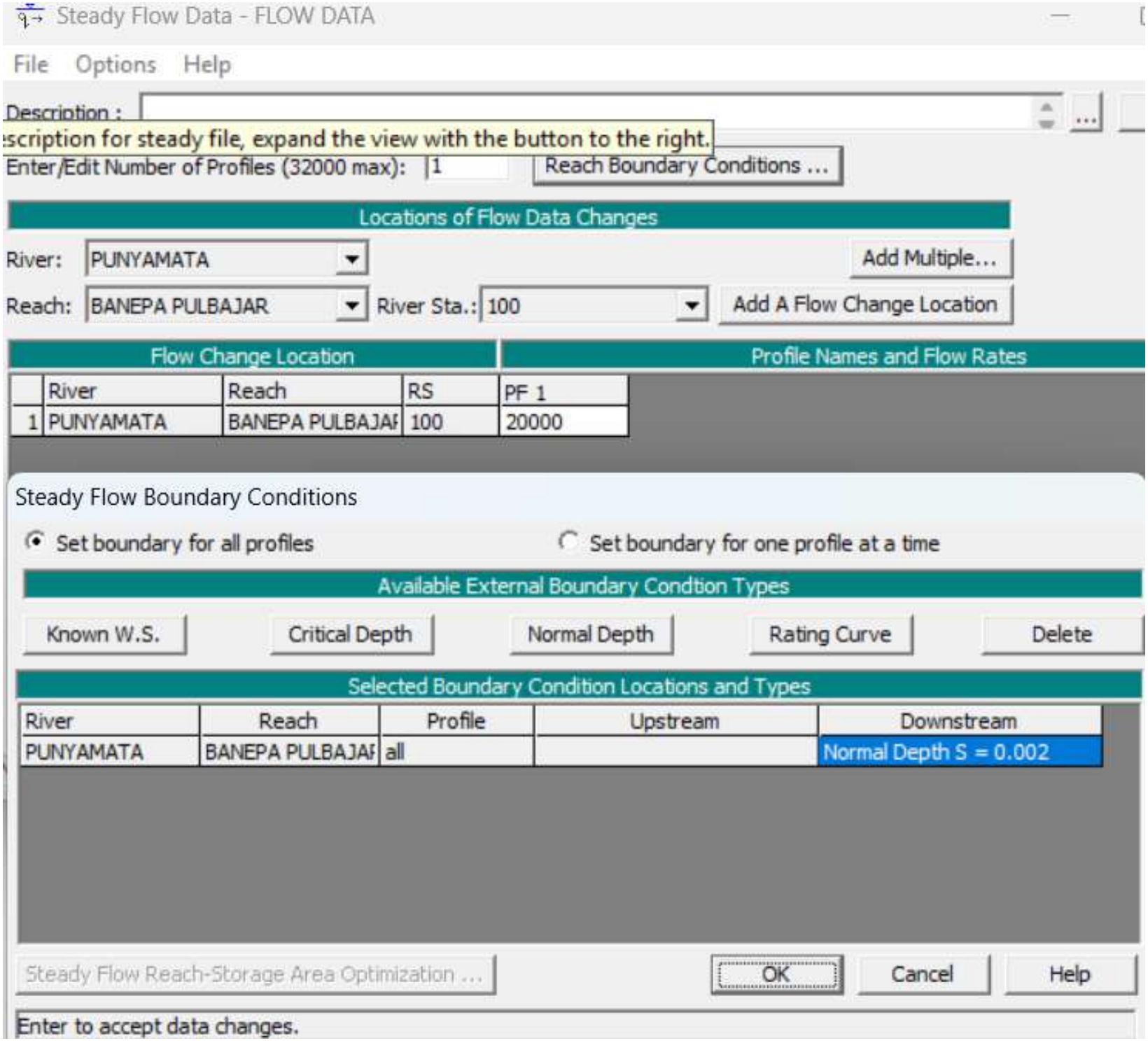
Computations Summary

Computation Task	Time(hh:mm:ss)
Completing Geometry, Flow and Plan	1
Steady Flow Computations	1
Complete Process	3


Cross Section
File Type Options Help
River: PUNYAMATA
Reach: BANEPA PULBAJAR
River Sta.: 75
777.94, 596.71
Reload Data
TRAPEZOID Plan: Plan 01 2/13/2025
.015
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (m)
600
590
580
570
560
550
0
200
400
600
800
1000
Station (m)


Profile Plot
File Options Help
Reaches ...
Profiles ...
Plot Initial Conditions
Reload Data
TRAPEZOID Plan: Plan 01 2/13/2025
PUNYAMATA BANEPA PULBAJAR
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Elevation (m)
620
610
600
590
580
570
560
550
0
500
1000
1500
2000
2500
Main Channel Distance (m)
1496.02, 598.33


X-Y-Z Perspective Plot
File Options
Upstream RS: 100
Downstream RS: 1
Rotation Angle -10
Azimuth Angle 10
Reload Data
TRAPEZOID Plan: Plan 01 2/13/2025
Legend
WS PF 1
Ground
Bank Sta
100
75
50
25
1


Steady Flow Data - FLOW DATA
File Options Help
Description :
scription for steady file, expand the view with the button to the right.
Enter/Edit Number of Profiles (32000 max): 1
Reach Boundary Conditions ...
Locations of Flow Data Changes
River: PUNYAMATA
Add Multiple...
Reach: BANEPA PULBAJAR
River Sta.: 100
Add A Flow Change Location
Flow Change Location
Profile Names and Flow Rates
River
Reach
RS
PF 1
1 PUNYAMATA
BANEPA PULBAJAI
100
20000
Steady Flow Boundary Conditions
Set boundary for all profiles
Set boundary for one profile at a time
Available External Boundary Condtion Types
Known W.S.
Critical Depth
Normal Depth
Rating Curve
Delete
Selected Boundary Condition Locations and Types
River
Reach
Profile
Upstream
Downstream
PUNYAMATA
BANEPA PULBAJAI
all
Normal Depth S = 0.002
Steady Flow Reach-Storage Area Optimization ...
OK
Cancel
Help
Enter to accept data changes.

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

HEC-RAS Plan: PLAN River: PUNYAMATA Reach: BANEPA PULBAJAR Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	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/s)	(m2)	(m)	
BANEPA PULBAJAR	100	PF 1	20000.00	600.00	609.49	609.49	613.64	0.001077	9.15	2347.51	294.87	1.00
BANEPA PULBAJAR	75	PF 1	20000.00	550.00	562.25		564.24	0.000417	6.25	3198.90	322.46	0.63
BANEPA PULBAJAR	50	PF 1	20000.00	550.00	561.83		564.00	0.000472	6.52	3065.18	318.28	0.67
BANEPA PULBAJAR	25	PF 1	20000.00	550.00	561.27	559.26	563.71	0.000561	6.92	2889.68	312.72	0.73
BANEPA PULBAJAR	1	PF 1	20000.00	550.00	559.26	559.26	563.18	0.001129	8.77	2280.83	292.60	1.00

Cross Section Output

File Type Options Help

River: PUNYAMATA Profile: PF 1

Reach BANEPA PULBAJAR RS: 75 Plan: PLAN

Plan: PLAN PUNYAMATA BANEPA PULBAJAR RS: 75 Profile: PF 1

		Element	Left OB	Channel	Right OB
E.G. Elev (m)	564.24	Wt. n-Val.		0.015	
Vel Head (m)	1.99	Reach Len. (m)	500.00	500.00	500.00
W.S. Elev (m)	562.25	Flow Area (m2)		3198.90	
Crit W.S. (m)		Area (m2)		3198.90	
E.G. Slope (m/m)	0.000417	Flow (m3/s)		20000.00	
Q Total (m3/s)	20000.00	Top Width (m)		322.46	
Top Width (m)	322.46	Avg. Vel. (m/s)		6.25	
Vel Total (m/s)	6.25	Hydr. Depth (m)		9.92	
Max Chl Dpth (m)	12.25	Conv. (m3/s)		979700.4	
Conv. Total (m3/s)	979700.4	Wetted Per. (m)		324.88	
Length Wtd. (m)	500.00	Shear (N/m2)		40.24	
Min Ch El (m)	550.00	Stream Power (N/m s)		251.59	
Alpha	1.00	Cum Volume (1000 m3)		4347.36	
Frctn Loss (m)	0.22	Cum SA (1000 m2)		469.27	
C & E Loss (m)	0.02				

Errors, Warnings and Notes

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.