Kita Jahnplatz, Technischer Hochwasserschutz

Hydraulische Berechnung, August 2021

- Ergebnisse der Berechnung -

Inhalt

Profillageplan mit Luftbild ... 3

Berechnungsprofile mit Geländemodell ... 4

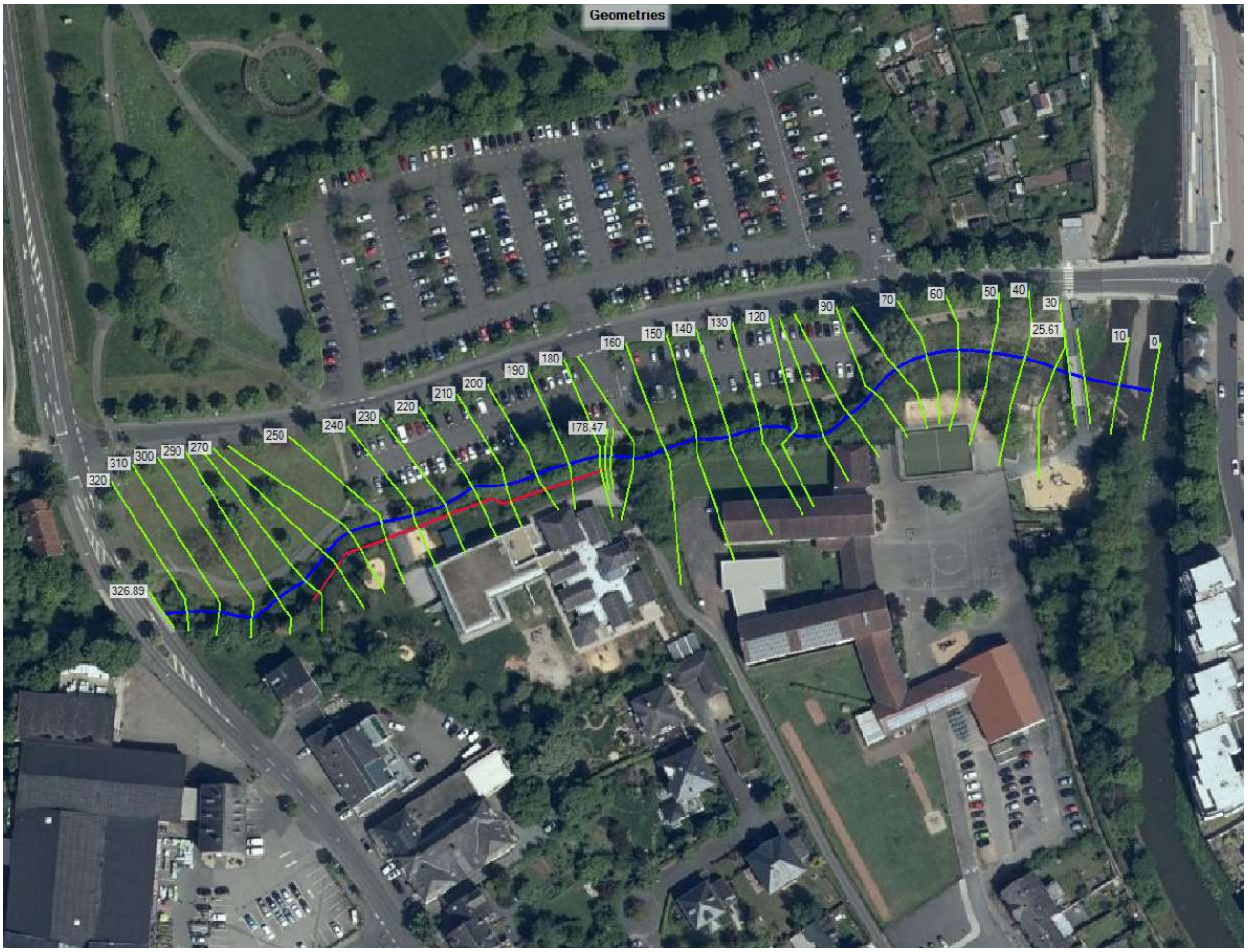
IST-Zustand ... 5

- **3D-Abbildung des Rechenmodells von IST-Zustand** ... 5
- **Überschwemmungsgebiet für Q=8.3 m^3/s, IST-Zustand** ... 6
- **Überschwemmungsgebiet für Q=17.0 m^3/s, IST-Zustand** ... 6
- **Hydraulischer Längsschnitt, IST-Zustand** ... 7
- **Hydraulische Querprofile zwischen Stationen 280 und 170, IST-Zustand** ... 8
- **Tabelle mit Berechnungsergebnissen, IST-Zustand** ... 10
- **Tabelle mit Spundwandhöhen, IST-Zustand** ... 11

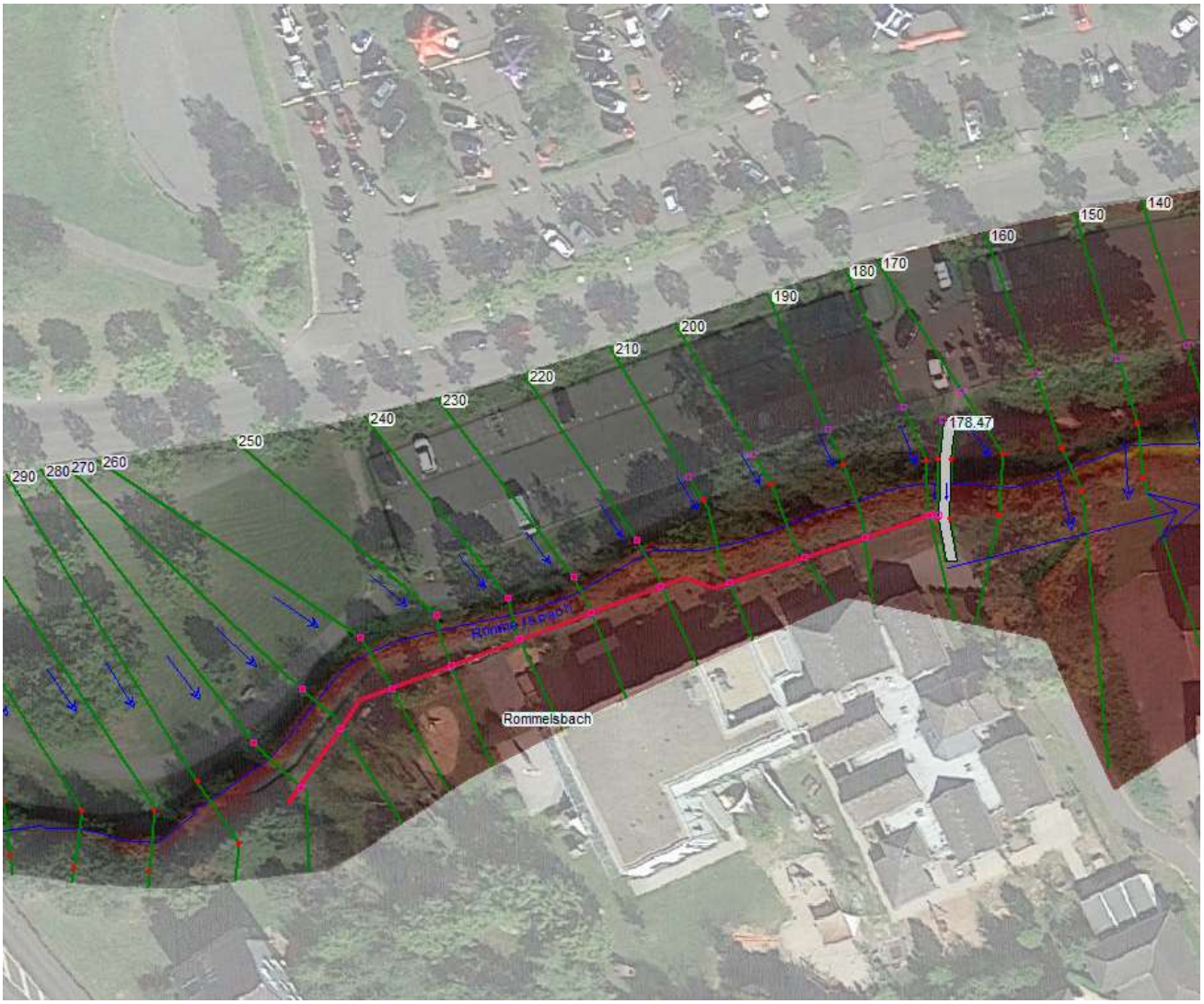
PLAN-Zustand ... 12

- **3D-Abbildung des Rechenmodells von PLAN-Zustand** ... 12
- **Überschwemmungsgebiet für Q=8.3 m^3/s, PLAN-Zustand** ... 13
- **Überschwemmungsgebiet für Q=17.0 m^3/s, PLAN-Zustand** ... 13
- **Hydraulischer Längsschnitt, PLAN-Zustand** ... 14
- **Hydraulische Querprofile zwischen Stationen 280 und 170, PLAN-Zustand** ... 15
- **Tabelle mit Berechnungsergebnissen, PLAN-Zustand** ... 17
- **Tabelle mit Spundwandhöhen, PLAN-Zustand** ... 18

Profillageplan mit Luftbild

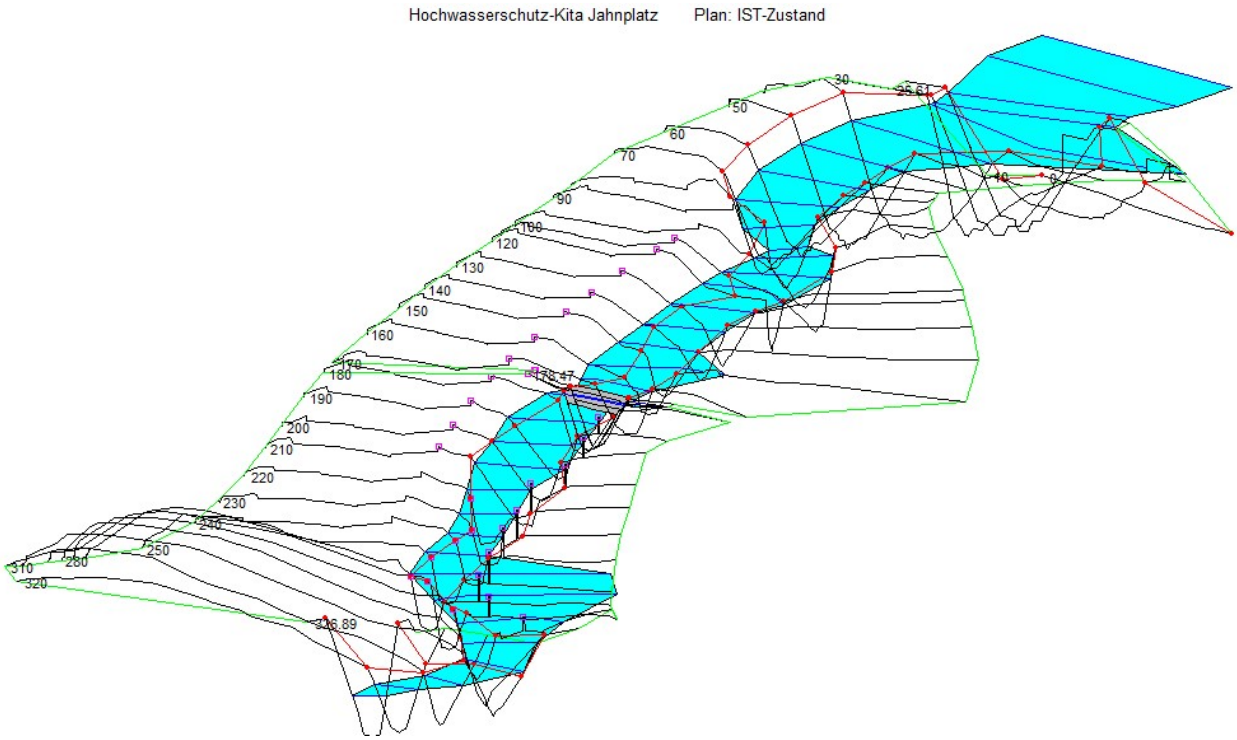


Berechnungsprofile mit Geländemodell

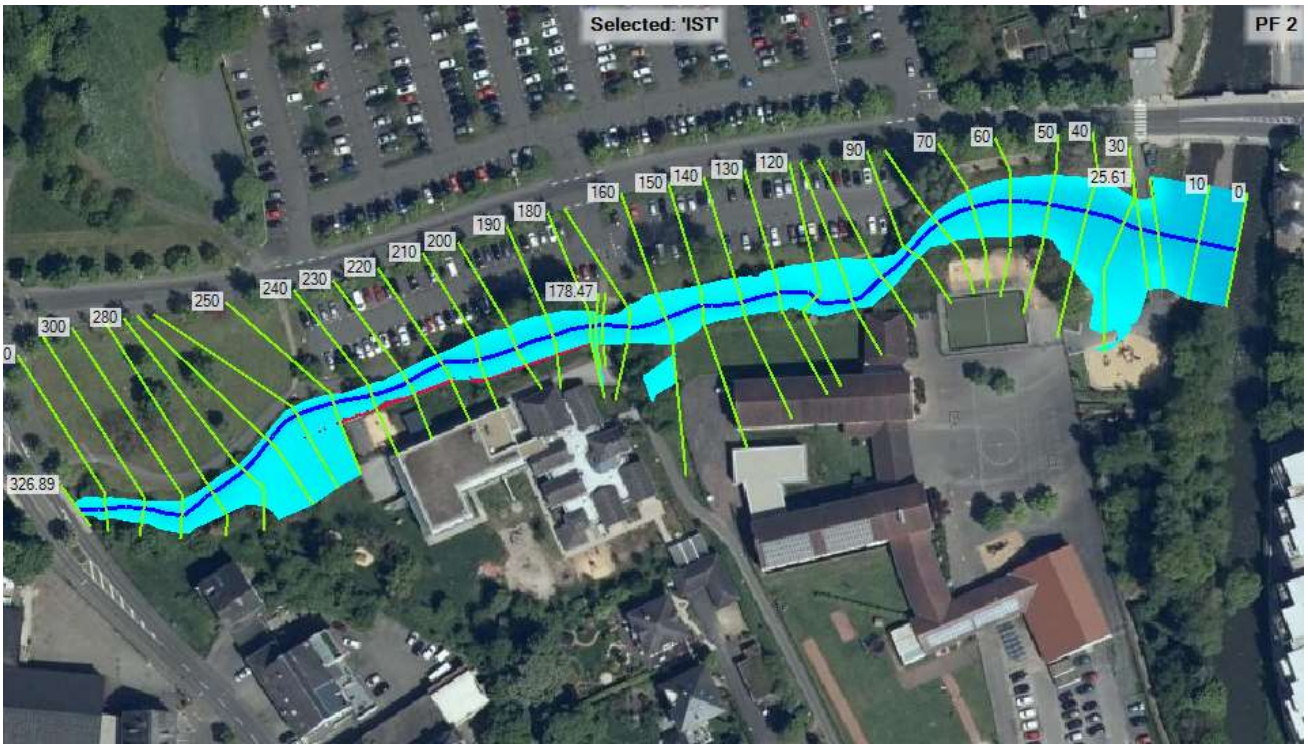


IST-Zustand

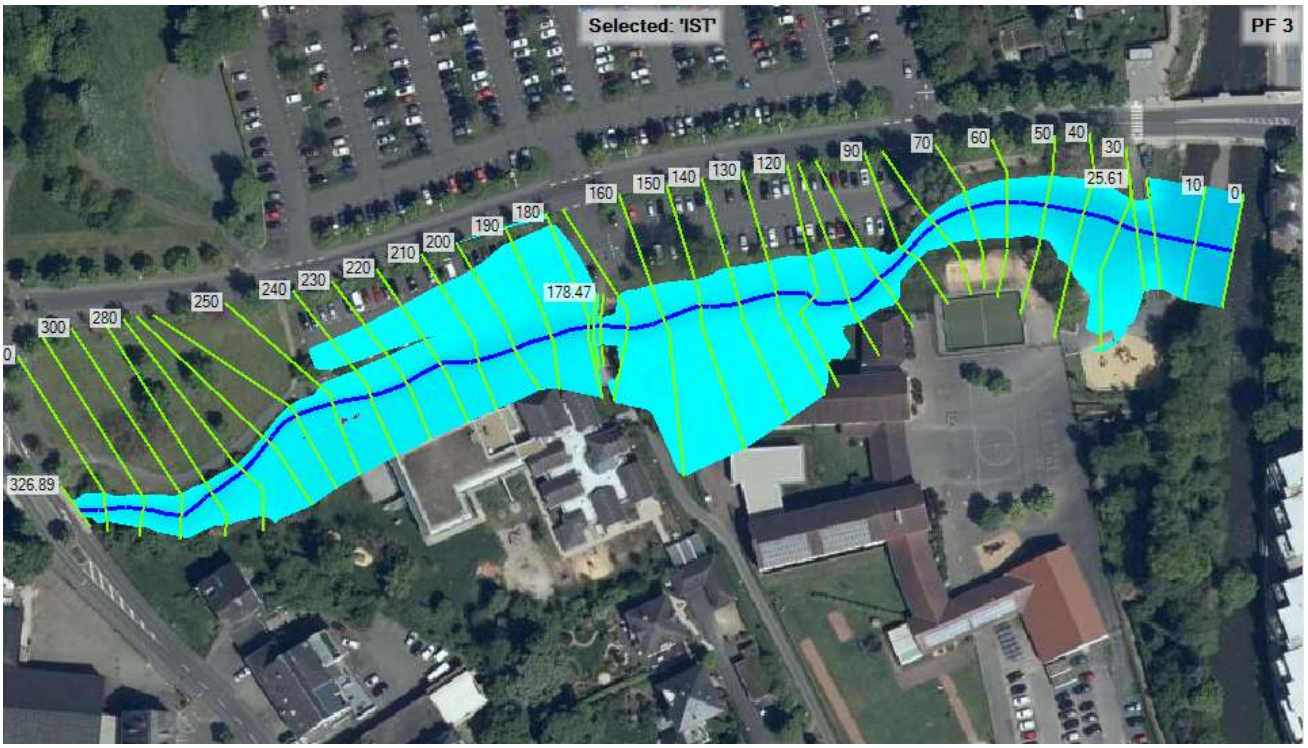
3D-Abbildung des Rechenmodells von IST-Zustand



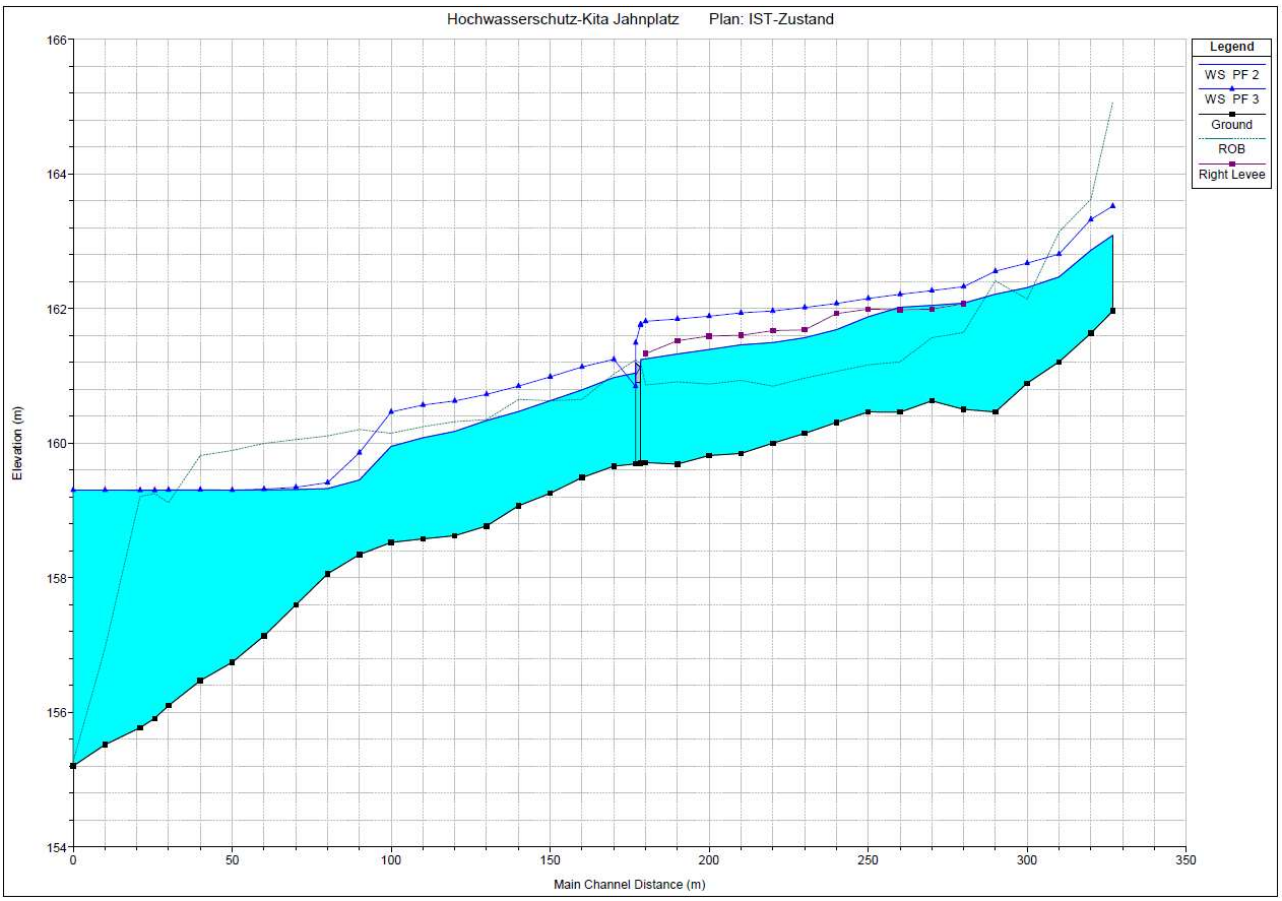
Überschwemmungsgebiet für Q=8.3 m³/s, IST-Zustand



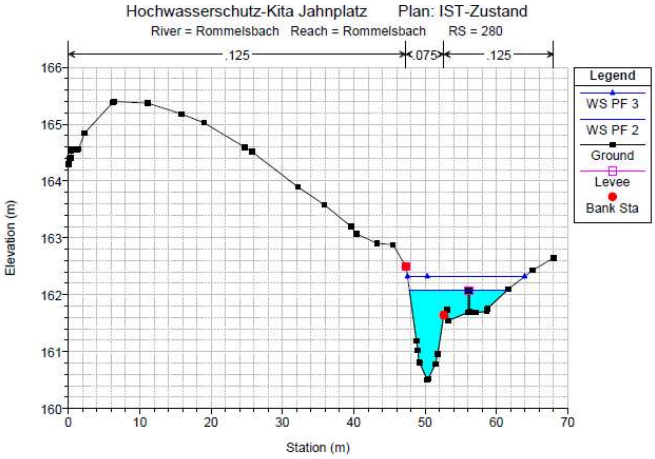
Überschwemmungsgebiet für Q=17.0 m³/s, IST-Zustand

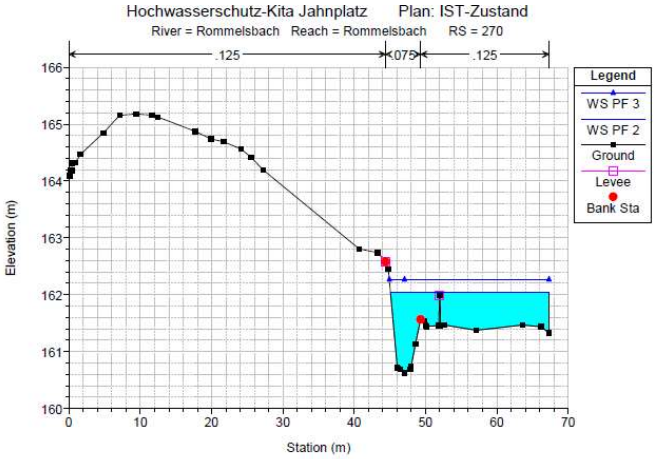


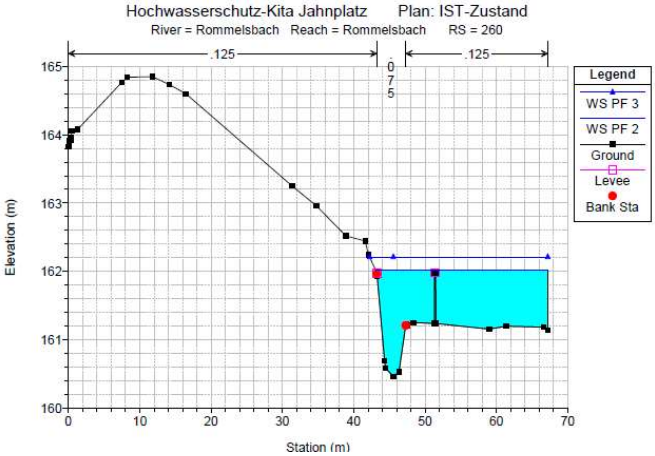
Hydraulischer Längsschnitt, IST-Zustand

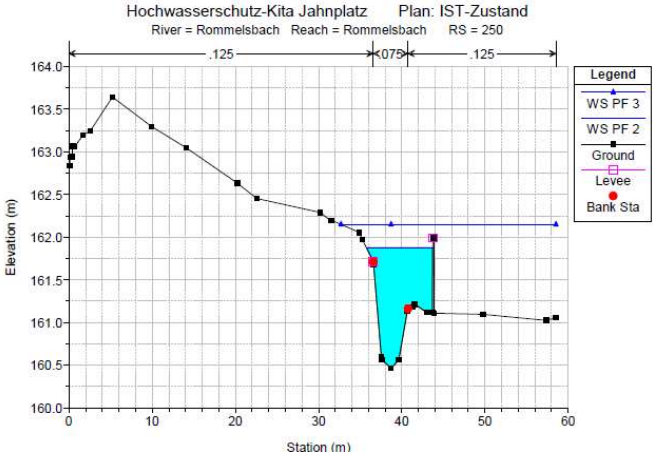


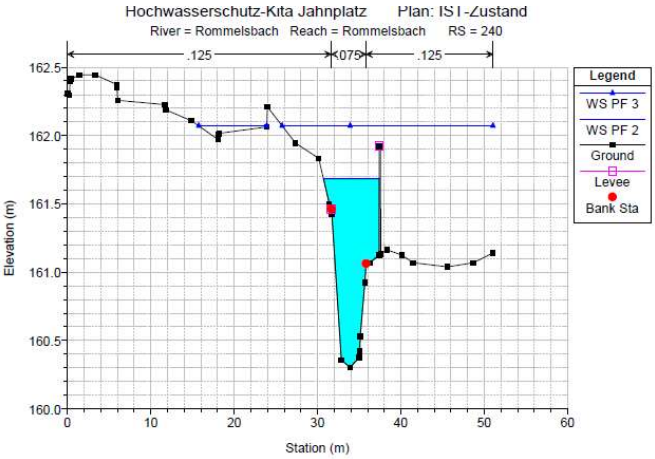
Hydraulische Querprofile zwischen Stationen 280 und 170, IST-Zustand

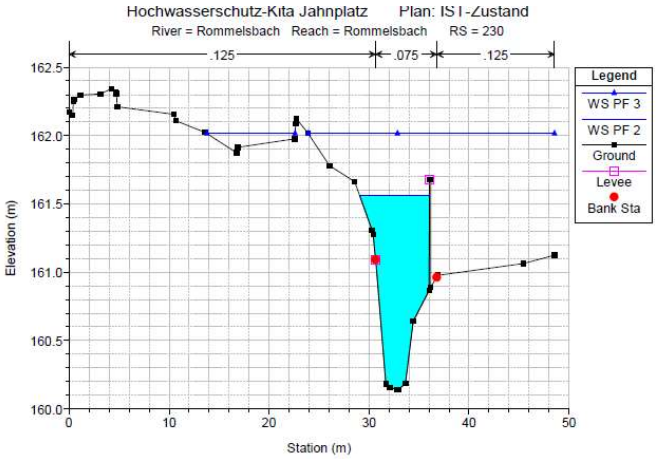


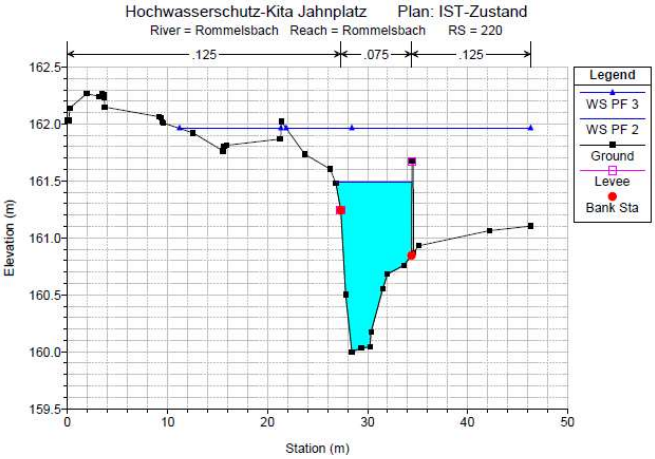


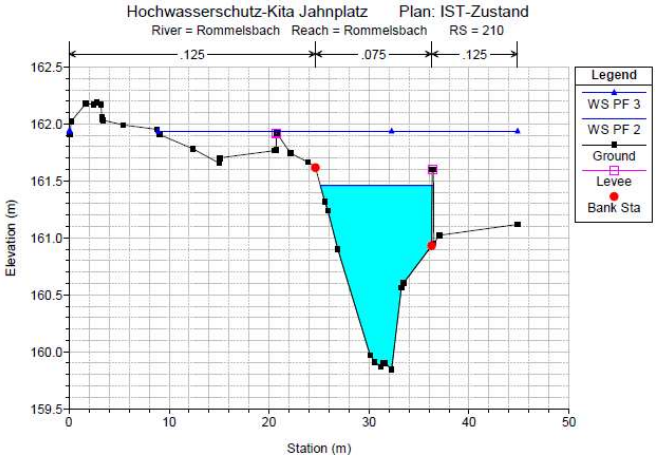


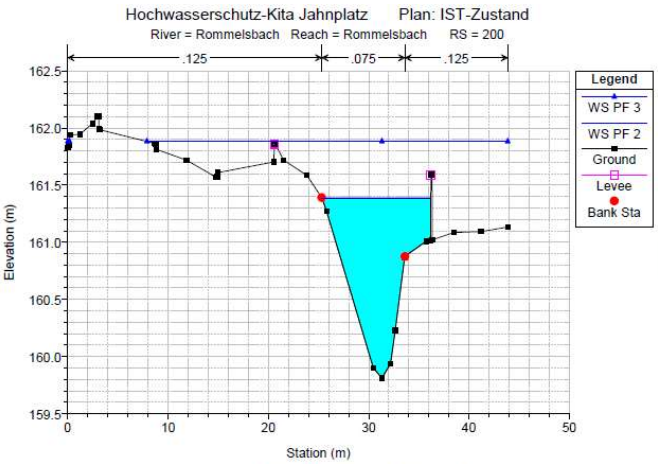


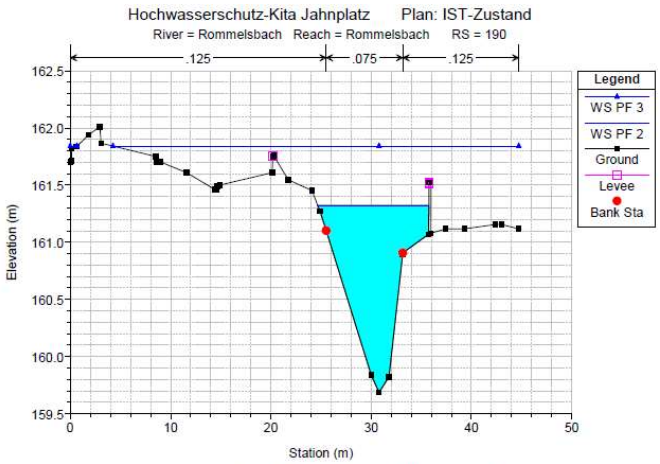









Hochwasserschutz-Kita Jahnplatz Plan: IST-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 200
.125
.075
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: IST-Zustand
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.075
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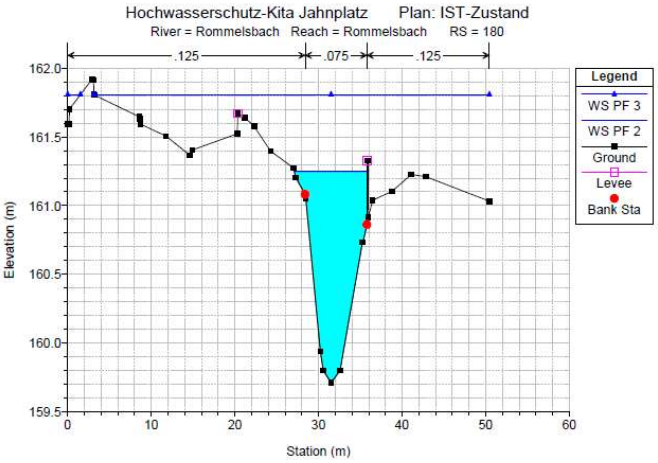
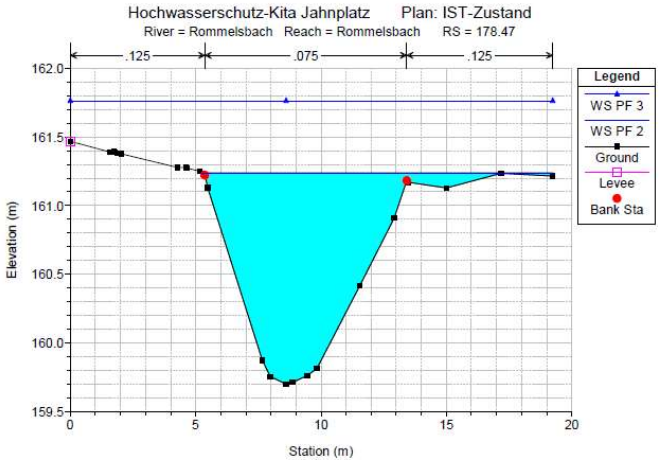
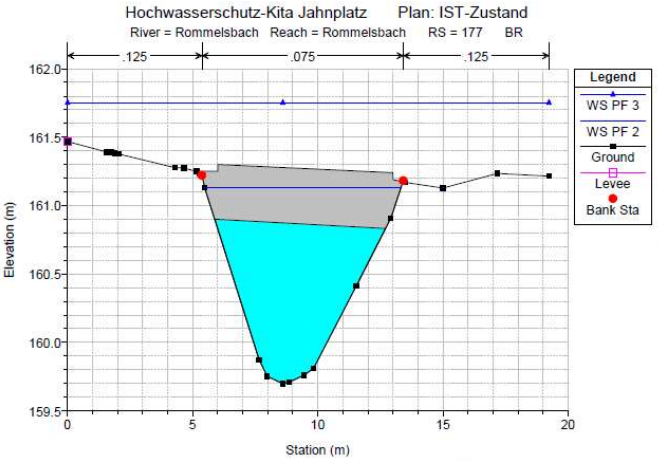
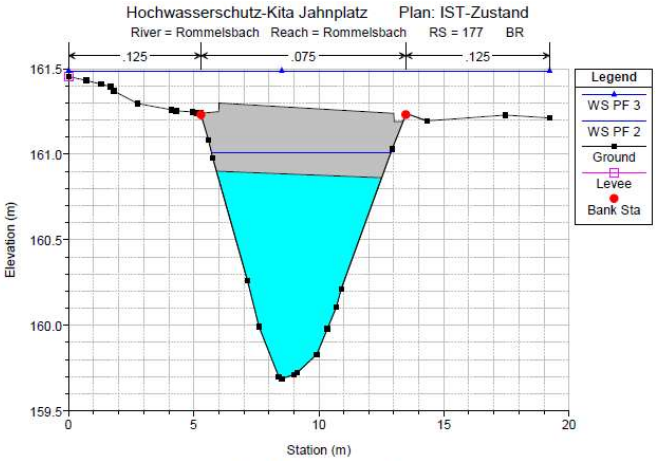
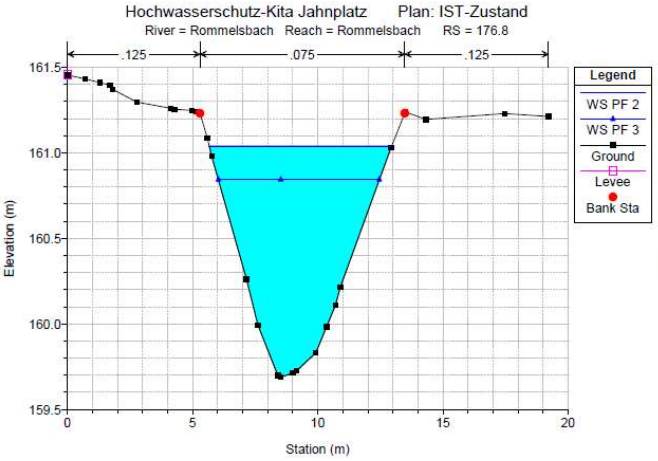
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: IST-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 180
.125
.075
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: IST-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 178.47
.125
.075
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: IST-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 177 BR
.125
.075
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: IST-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 177 BR
.125
.075
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: IST-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 176.8
.125
.075
.125
Legend
WS PF 2
WS PF 3
Ground
Levee
Bank Sta
Elevation (m)
Station (m)

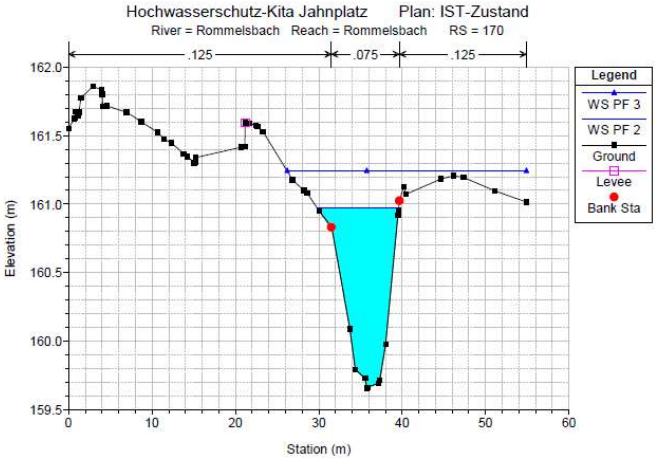

Hochwasserschutz-Kita Jahnplatz Plan: IST-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 170
.125
.075
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)

Tabelle mit Berechnungsergebnissen, IST-Zustand

Profile Output Table - Standard Table 1

File Options Std. Tables User Tables Locations Help

HEC-RAS Plan: IST River: Rommelsbach Reach: Rommelsbach

Reload Data

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)	
Rommelsbach	326.89	PF 2	8.30	161.96	163.086	163.02	163.411	0.063536	2.52	3.29	4.13	0.90
Rommelsbach	326.89	PF 3	17.00	161.96	163.519	163.52	164.048	0.074582	3.22	5.28	5.06	1.01
Rommelsbach	320	PF 2	8.30	161.63	162.865		163.056	0.034333	1.94	4.29	5.52	0.70
Rommelsbach	320	PF 3	17.00	161.63	163.323	163.10	163.607	0.036365	2.36	7.21	7.46	0.75
Rommelsbach	310	PF 2	8.30	161.21	162.466		162.674	0.042328	2.02	4.11	5.92	0.78
Rommelsbach	310	PF 3	17.00	161.21	162.806	162.75	163.170	0.051586	2.68	6.54	8.61	0.90
Rommelsbach	300	PF 2	8.30	160.89	162.307		162.397	0.015606	1.32	6.30	8.85	0.49
Rommelsbach	300	PF 3	17.00	160.89	162.671		162.835	0.017018	1.80	9.87	11.15	0.55
Rommelsbach	290	PF 2	8.30	160.46	162.211		162.270	0.009125	1.08	7.69	9.06	0.37
Rommelsbach	290	PF 3	17.00	160.46	162.553		162.673	0.013166	1.54	11.25	12.78	0.47
Rommelsbach	280	PF 2	8.30	160.50	162.079	161.65	162.163	0.012191	1.38	8.12	13.69	0.43
Rommelsbach	280	PF 3	17.00	160.50	162.321	162.09	162.498	0.022693	2.08	11.76	16.43	0.59
Rommelsbach	270	PF 2	8.30	160.63	162.044	161.72	162.067	0.005393	0.89	15.38	22.24	0.28
Rommelsbach	270	PF 3	17.00	160.63	162.265	161.99	162.316	0.009951	1.33	20.32	22.40	0.38
Rommelsbach	260	PF 2	8.30	160.46	162.017	161.53	162.029	0.002406	0.65	21.06	24.14	0.19
Rommelsbach	260	PF 3	17.00	160.46	162.207	161.89	162.238	0.005453	1.08	25.71	24.97	0.29
Rommelsbach	250	PF 2	8.30	160.46	161.874	161.47	161.973	0.013318	1.50	6.82	7.95	0.45
Rommelsbach	250	PF 3	17.00	160.46	162.149	161.84	162.183	0.005547	1.12	25.03	25.82	0.30
Rommelsbach	240	PF 2	8.30	160.31	161.684	161.32	161.819	0.017194	1.68	5.63	6.69	0.51
Rommelsbach	240	PF 3	17.00	160.31	162.072	161.75	162.120	0.006735	1.28	22.65	33.48	0.34
Rommelsbach	230	PF 2	8.30	160.14	161.563	161.09	161.661	0.012594	1.40	6.17	6.98	0.43
Rommelsbach	230	PF 3	17.00	160.14	162.015	161.49	162.056	0.005776	1.08	23.31	33.45	0.28
Rommelsbach	220	PF 2	8.30	160.00	161.491	160.96	161.555	0.007598	1.12	7.46	7.66	0.35
Rommelsbach	220	PF 3	17.00	160.00	161.962	161.29	162.006	0.004328	1.09	24.39	34.60	0.28
Rommelsbach	210	PF 2	8.30	159.84	161.460	160.78	161.491	0.004005	0.79	10.53	11.18	0.26
Rommelsbach	210	PF 3	17.00	159.84	161.933	161.09	161.967	0.003026	0.88	26.12	36.06	0.24
Rommelsbach	200	PF 2	8.30	159.81	161.388	160.79	161.438	0.006821	1.02	8.90	10.86	0.33
Rommelsbach	200	PF 3	17.00	159.81	161.882	161.18	161.929	0.004393	1.08	23.88	36.13	0.29
Rommelsbach	190	PF 2	8.30	159.69	161.322	160.70	161.373	0.006114	1.02	8.86	11.07	0.32
Rommelsbach	190	PF 3	17.00	159.69	161.841	161.11	161.887	0.003968	1.07	25.61	41.11	0.28
Rommelsbach	180	PF 2	8.30	159.71	161.250	160.64	161.309	0.006748	1.07	7.84	8.70	0.34
Rommelsbach	180	PF 3	17.00	159.71	161.809	161.01	161.848	0.003422	1.02	29.43	48.80	0.26
Rommelsbach	178.47	PF 2	8.30	159.70	161.238	160.65	161.297	0.007773	1.08	7.95	14.00	0.35
Rommelsbach	178.47	PF 3	17.00	159.70	161.763	161.03	161.835	0.005864	1.26	17.45	19.24	0.33
Rommelsbach	177		Bridge									
Rommelsbach	176.8	PF 2	8.30	159.69	161.039	160.68	161.145	0.017464	1.44	5.78	7.29	0.52
Rommelsbach	176.8	PF 3	17.00	159.69	160.843	161.08	161.594	0.150127	3.84	4.43	6.44	1.48

Tabelle mit Spundwandhöhen, IST-Zustand

Edit Levees

River: Rommelsbach Edit Interpolated XS's

Reach: Rommelsbach

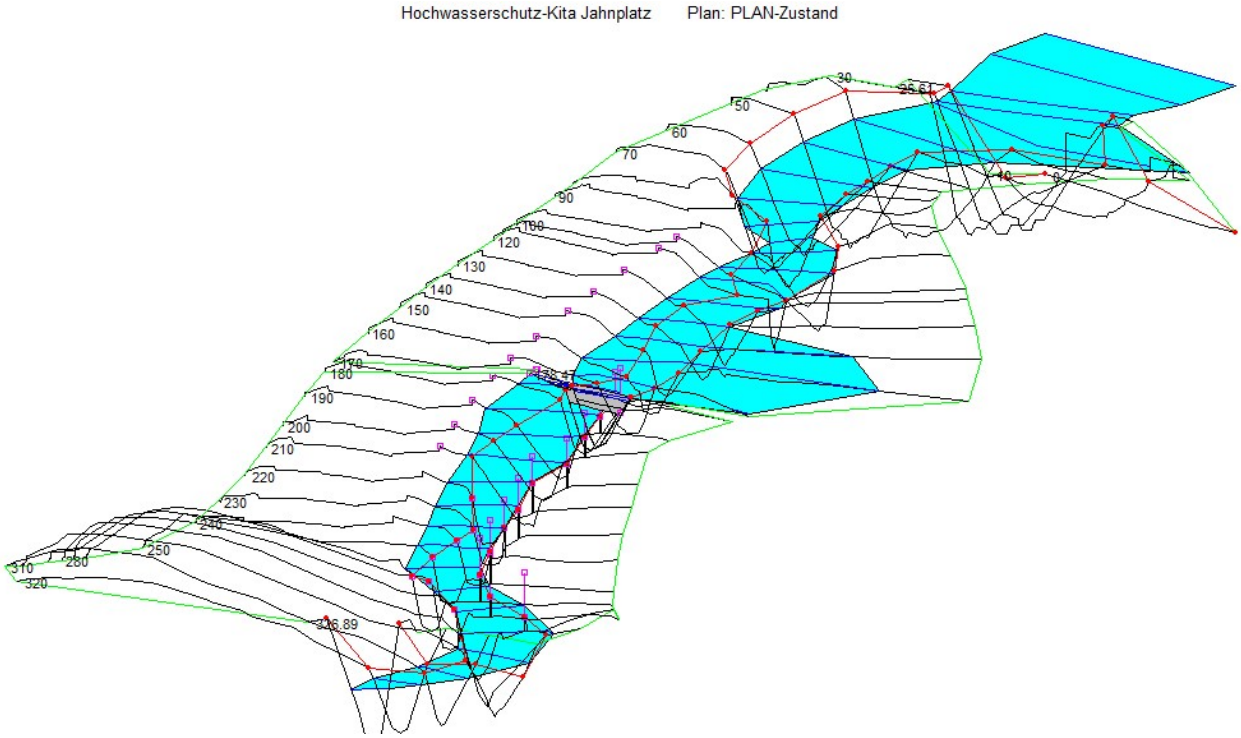
Selected Area Edit Options

Add Constant ... | Multiply Factor ... | Set Values ... | Replace ...

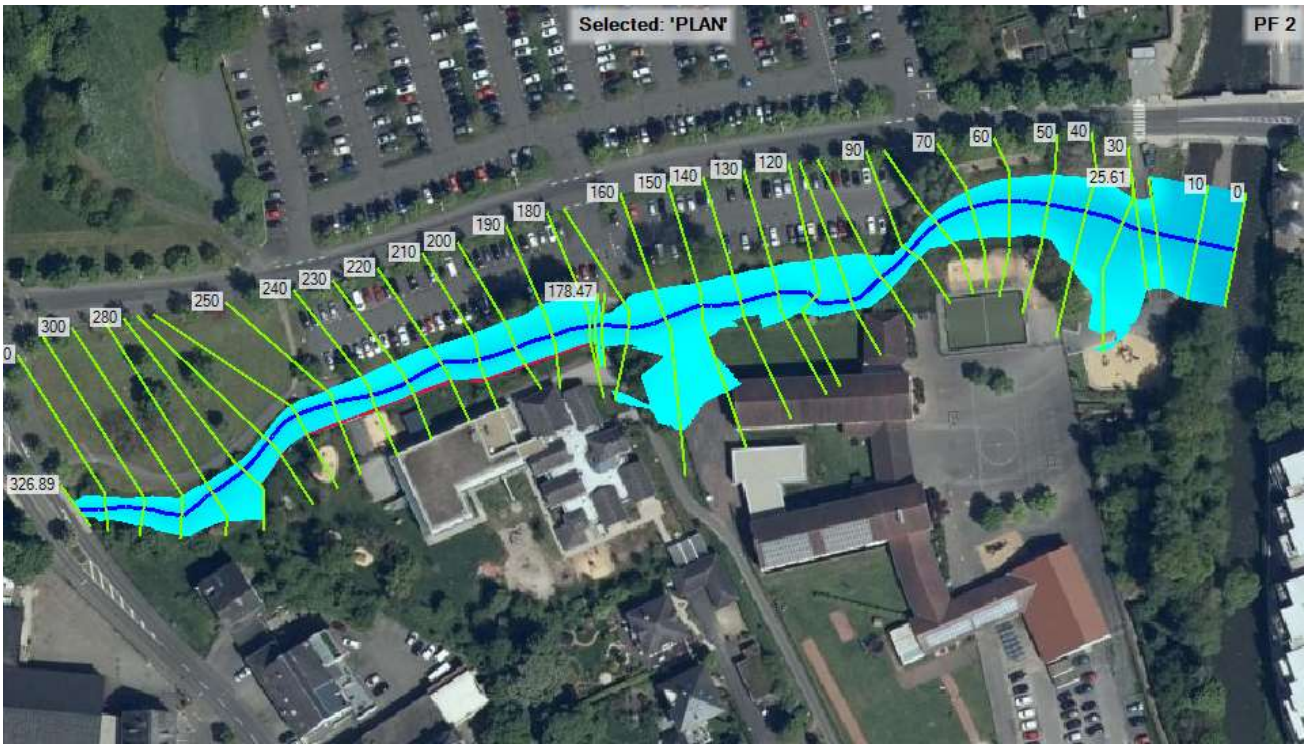
	River Station	Left Sta	Left Elev	Right Sta	Right Elev
1	326.89				
2	320				
3	310				
4	300				
5	290				
6	280	47.315	162.496	56.07	162.07
7	270	44.386	162.581	51.94	161.99
8	260	43.232	161.966	51.334	161.977
9	250	36.566	161.712	43.713	161.99
0	240	31.648	161.464	37.411	161.922
1	230	30.653	161.092	36.041	161.68
2	220	27.33	161.243	34.44	161.67
3	210	20.76	161.92	36.31	161.6
4	200	20.595	161.86	36.21	161.59
5	190	20.204	161.756	35.76	161.52
6	180	20.345	161.672	35.81	161.328
7	178.47	0	161.468		
8	177	Bridge			
19	176.8	0	161.455		
20	170	21.177	161.593		
21	160	20.489	161.459		
22	150	20.655	161.358		
23	140	20.54	161.249		
24	130	20.456	161.129		
25	120	20.612	161		
26	110	21.189	160.95		
27	100				
28	90				
29	80				
30	70				
31	60				
32	50				
33	40				
34	30				
35	25.61				
36	21.07				
37	10				
38	0				

PLAN-Zustand

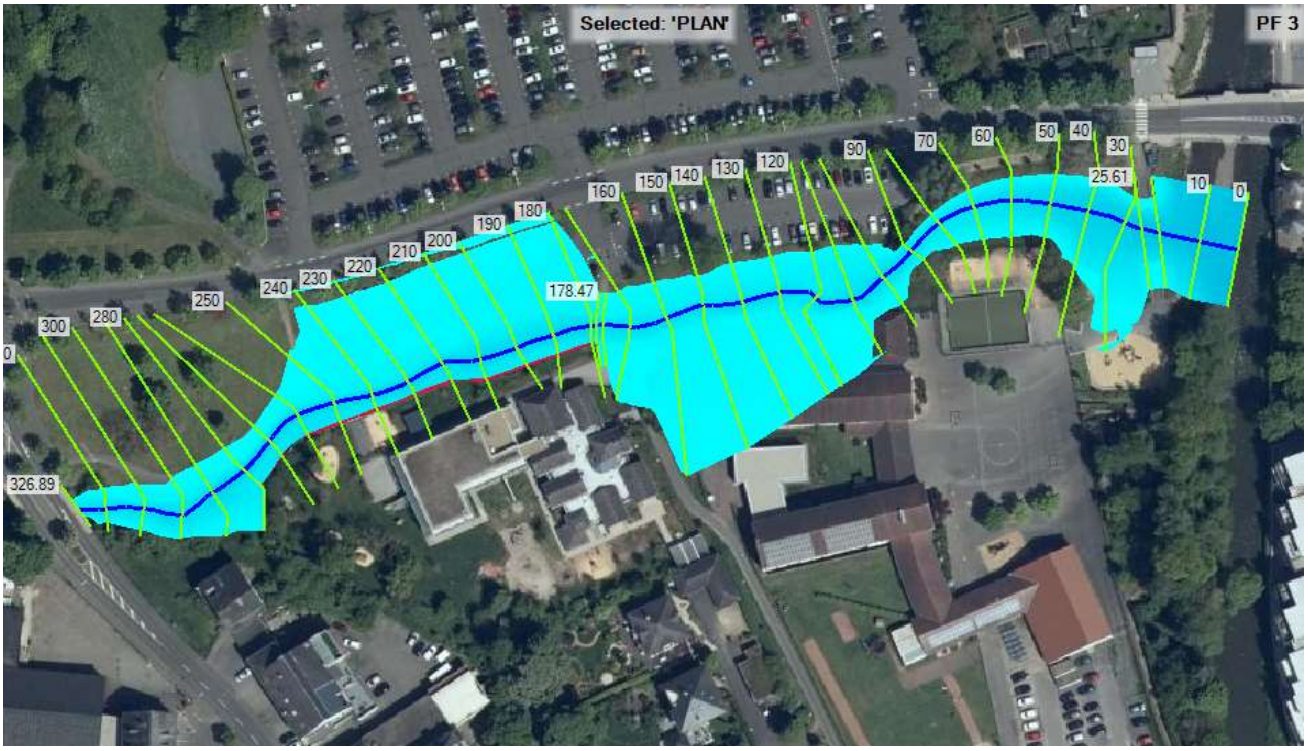
3D-Abbildung des Rechenmodells von PLAN-Zustand



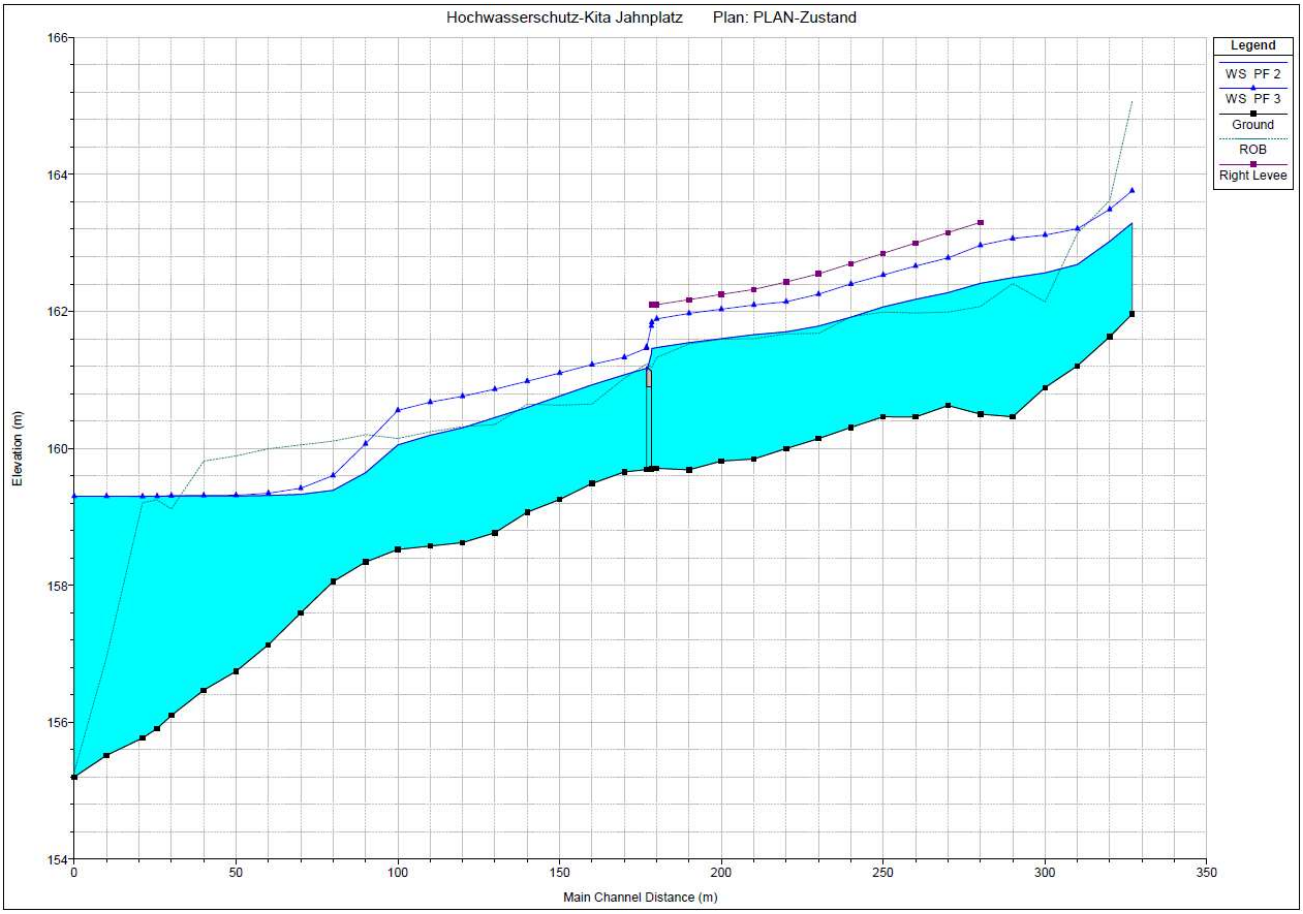
Überschwemmungsgebiet für Q=8.3 m³/s, PLAN-Zustand



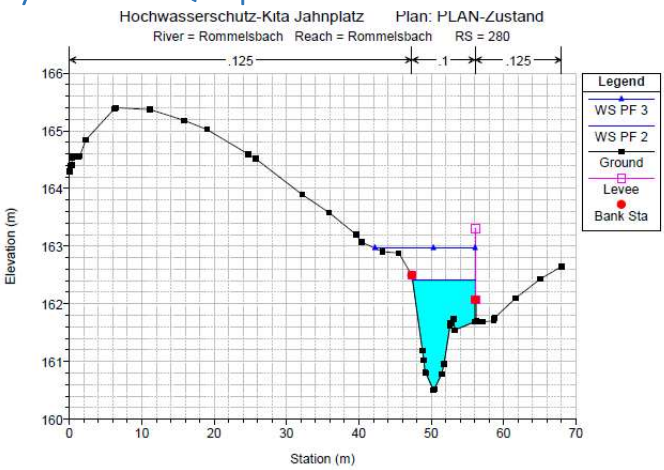
Überschwemmungsgebiet für Q=17.0 m³/s, PLAN-Zustand

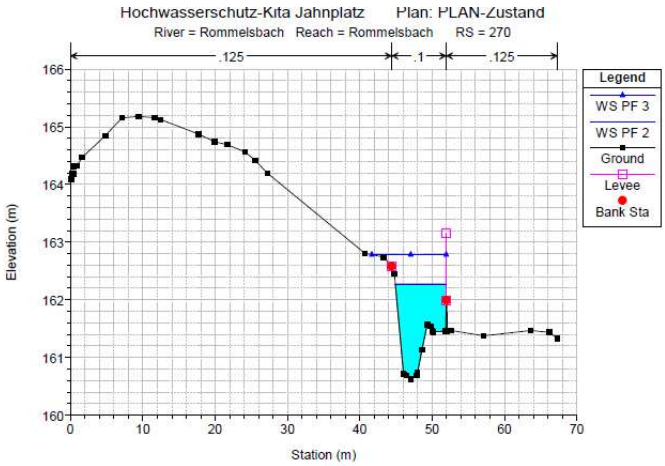


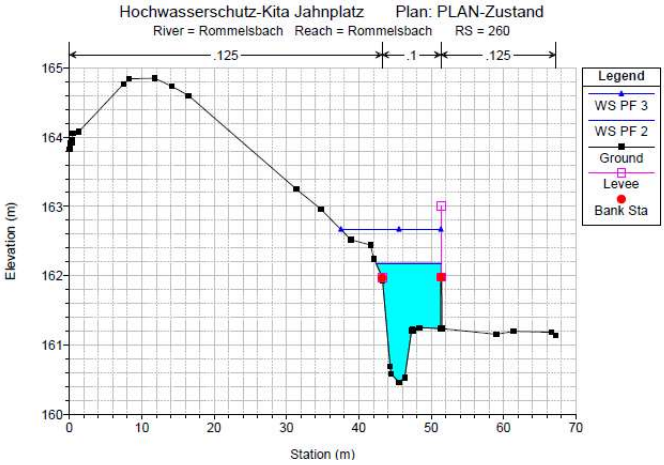
Hydraulischer Längsschnitt, PLAN-Zustand

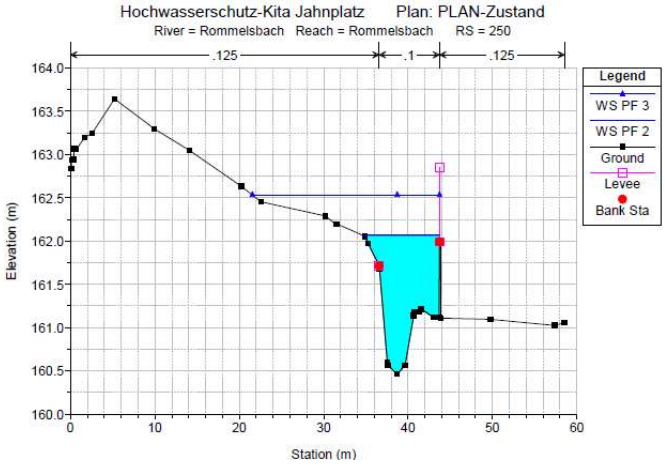


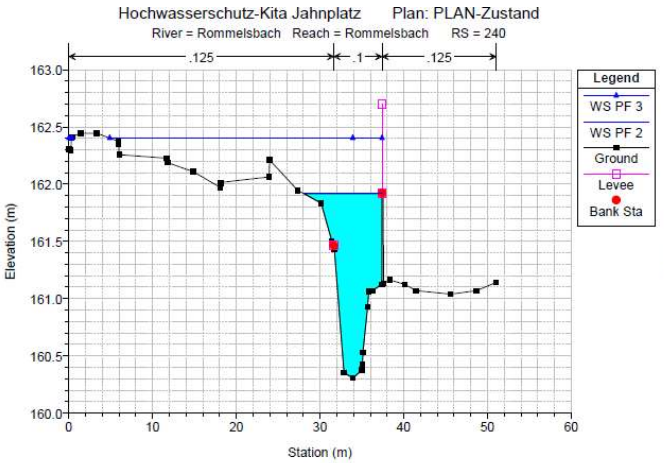
Hydraulische Querprofile zwischen Stationen 280 und 170, PLAN-Zustand

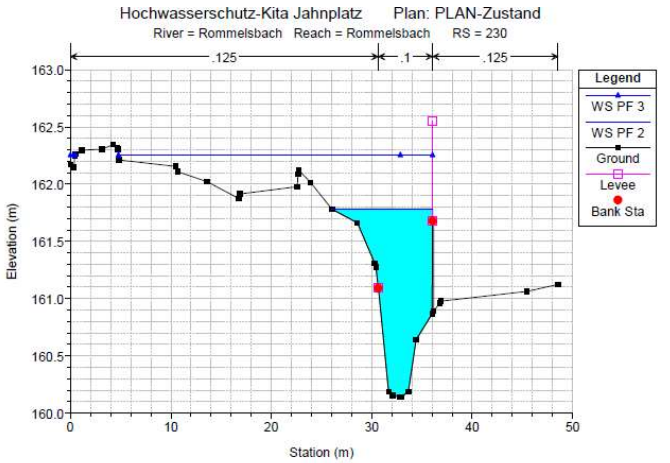


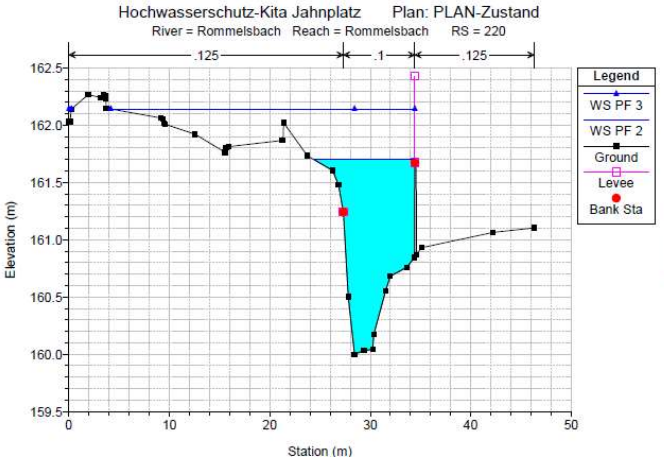


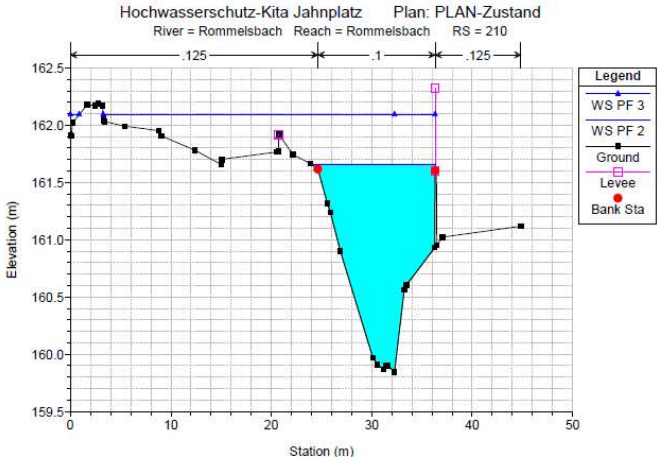


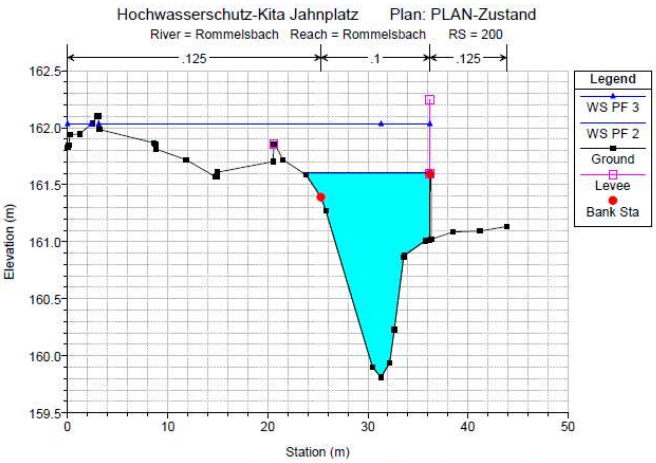


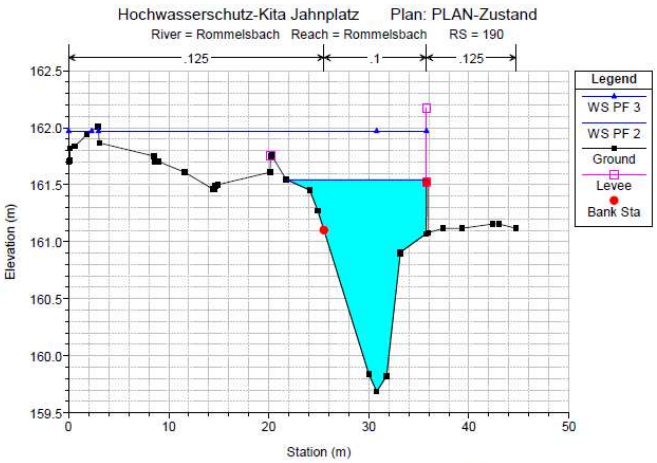


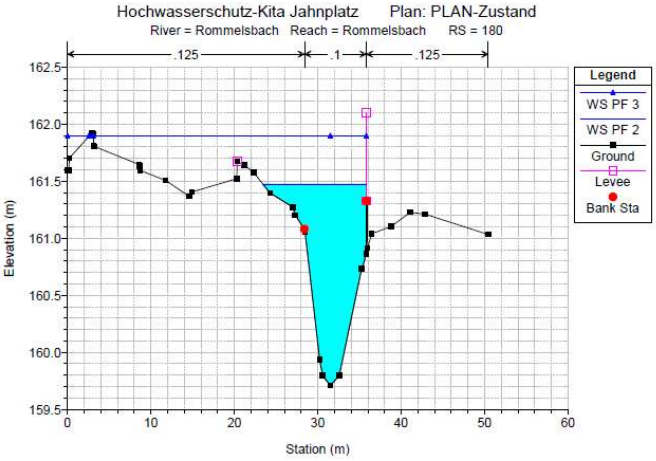


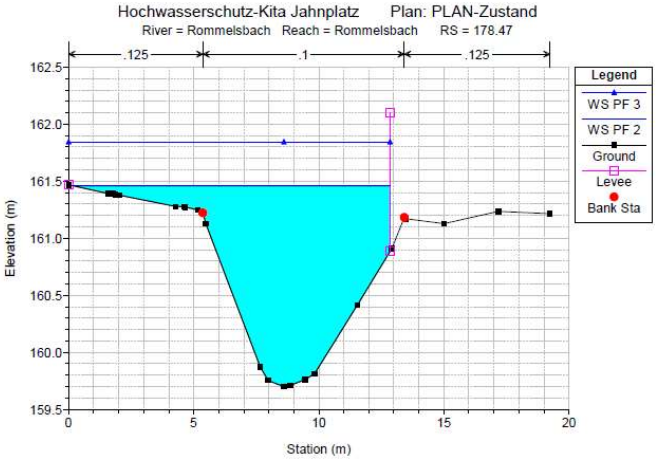


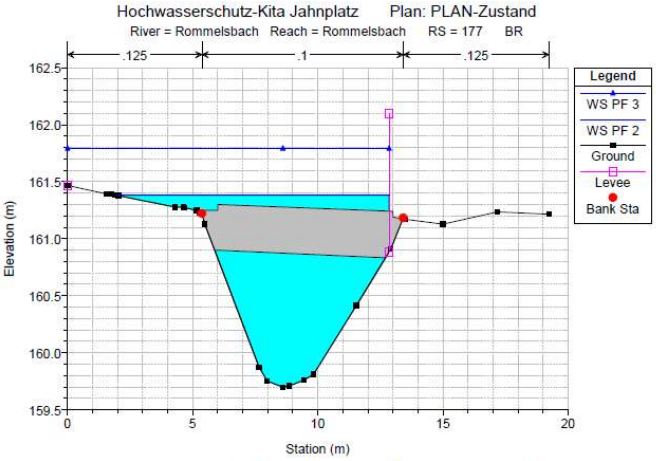


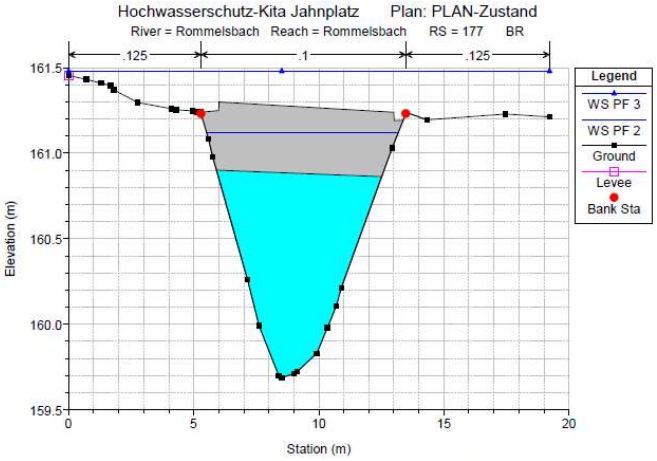

Hochwasserschutz-Kita Jahnplatz Plan: PLAN-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 200
.125
.1
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)

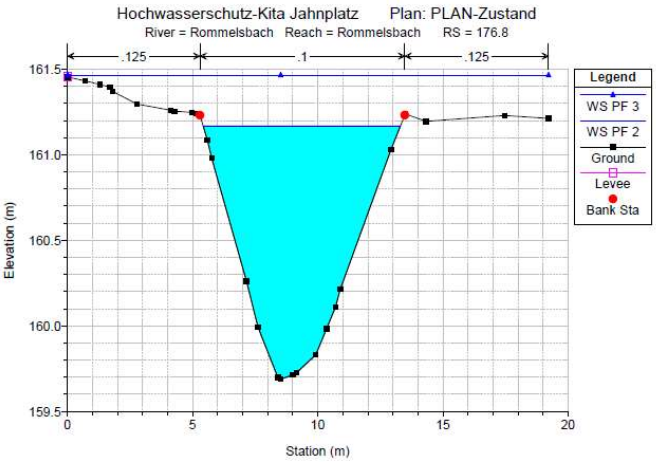

Hochwasserschutz-Kita Jahnplatz Plan: PLAN-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 190
.125
.1
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: PLAN-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 180
.125
.1
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: PLAN-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 178.47
.125
.1
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: PLAN-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 177 BR
.125
.1
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: PLAN-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 177 BR
.125
.1
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)


Hochwasserschutz-Kita Jahnplatz Plan: PLAN-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 176.8
.125
.1
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)

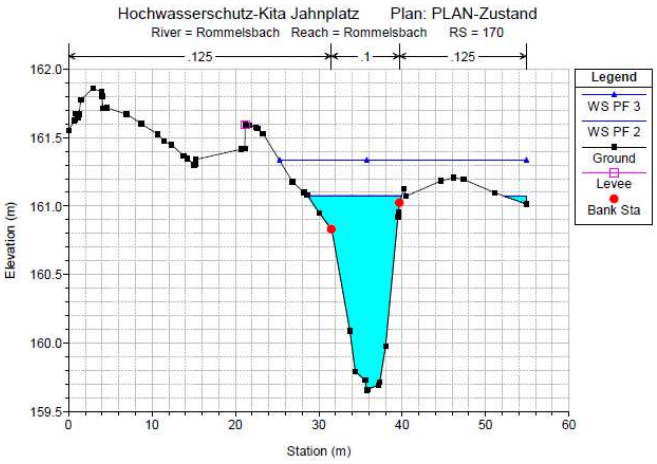

Hochwasserschutz-Kita Jahnplatz Plan: PLAN-Zustand
River = Rommelsbach Reach = Rommelsbach RS = 170
.125
.1
.125
Legend
WS PF 3
WS PF 2
Ground
Levee
Bank Sta
Elevation (m)
Station (m)

Tabelle mit Berechnungsergebnissen, PLAN-Zustand

Profile Output Table - Standard Table 1

File Options Std. Tables User Tables Locations Help

HEC-RAS Plan: PLAN River: Rommelsbach Reach: Rommelsbach

Reload Data

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)	
Rommelsbach	326.89	PF 2	8.30	161.96	163.289	163.02	163.491	0.059415	1.99	4.17	4.57	0.66
Rommelsbach	326.89	PF 3	17.00	161.96	163.761	163.52	164.103	0.073917	2.59	6.57	5.58	0.76
Rommelsbach	320	PF 2	8.30	161.63	163.023		163.153	0.036621	1.60	5.20	6.08	0.55
Rommelsbach	320	PF 3	17.00	161.63	163.490		163.696	0.040051	2.01	8.59	9.08	0.60
Rommelsbach	310	PF 2	8.30	161.21	162.685		162.801	0.033014	1.51	5.55	7.53	0.53
Rommelsbach	310	PF 3	17.00	161.21	163.208		163.354	0.026740	1.73	10.80	12.78	0.51
Rommelsbach	300	PF 2	8.30	160.89	162.564		162.612	0.010185	0.98	8.72	10.28	0.31
Rommelsbach	300	PF 3	17.00	160.89	163.116		163.189	0.008901	1.22	15.83	16.88	0.31
Rommelsbach	290	PF 2	8.30	160.46	162.493		162.525	0.006741	0.79	10.52	11.73	0.25
Rommelsbach	290	PF 3	17.00	160.46	163.064		163.110	0.005735	0.98	19.80	20.97	0.25
Rommelsbach	280	PF 2	8.30	160.50	162.410	161.71	162.449	0.008635	0.87	9.51	8.65	0.27
Rommelsbach	280	PF 3	17.00	160.50	162.965	162.02	163.034	0.009820	1.17	15.05	13.84	0.29
Rommelsbach	270	PF 2	8.30	160.63	162.274	161.69	162.335	0.014900	1.10	7.56	7.04	0.34
Rommelsbach	270	PF 3	17.00	160.63	162.781	162.03	162.896	0.019242	1.50	11.45	10.29	0.39
Rommelsbach	260	PF 2	8.30	160.46	162.177	161.48	162.218	0.008590	0.89	9.40	8.98	0.27
Rommelsbach	260	PF 3	17.00	160.46	162.662	161.79	162.740	0.011279	1.25	14.63	13.81	0.31
Rommelsbach	250	PF 2	8.30	160.46	162.067	161.43	162.119	0.011237	1.01	8.45	9.08	0.30
Rommelsbach	250	PF 3	17.00	160.46	162.533	161.76	162.617	0.013460	1.34	15.58	22.17	0.34
Rommelsbach	240	PF 2	8.30	160.31	161.916	161.31	161.987	0.015211	1.19	7.36	9.29	0.35
Rommelsbach	240	PF 3	17.00	160.31	162.403	161.71	162.478	0.013721	1.36	18.40	32.88	0.34
Rommelsbach	230	PF 2	8.30	160.14	161.786	161.09	161.850	0.012084	1.13	7.97	10.05	0.32
Rommelsbach	230	PF 3	17.00	160.14	162.253	161.49	162.339	0.013977	1.43	17.40	31.70	0.34
Rommelsbach	220	PF 2	8.30	160.00	161.701	160.96	161.744	0.008260	0.93	9.25	10.07	0.26
Rommelsbach	220	PF 3	17.00	160.00	162.141	161.29	162.212	0.010721	1.25	18.01	30.53	0.31
Rommelsbach	210	PF 2	8.30	159.84	161.659	160.78	161.680	0.004218	0.65	12.83	12.31	0.20
Rommelsbach	210	PF 3	17.00	159.84	162.095	161.09	162.130	0.005100	0.87	23.85	33.93	0.22
Rommelsbach	200	PF 2	8.30	159.81	161.603	160.79	161.630	0.005880	0.74	11.41	12.67	0.23
Rommelsbach	200	PF 3	17.00	159.81	162.031	161.17	162.072	0.006438	0.95	22.72	35.46	0.25
Rommelsbach	190	PF 2	8.30	159.69	161.544	160.70	161.572	0.005696	0.75	11.51	13.98	0.23
Rommelsbach	190	PF 3	17.00	159.69	161.970	161.12	162.009	0.006097	0.94	23.66	35.08	0.24
Rommelsbach	180	PF 2	8.30	159.71	161.472	160.64	161.510	0.006689	0.87	10.20	12.37	0.25
Rommelsbach	180	PF 3	17.00	159.71	161.892	161.01	161.941	0.007533	1.08	22.34	35.26	0.27
Rommelsbach	178.47	PF 2	8.30	159.70	161.458	160.64	161.499	0.007339	0.89	9.78	12.65	0.26
Rommelsbach	178.47	PF 3	17.00	159.70	161.840	161.02	161.920	0.011496	1.30	14.68	12.85	0.33
Rommelsbach	177		Bridge									
Rommelsbach	176.8	PF 2	8.30	159.69	161.168	160.68	161.245	0.020535	1.23	6.75	7.88	0.42
Rommelsbach	176.8	PF 3	17.00	159.69	161.463	161.08	161.611	0.029064	1.75	11.28	19.22	0.53

Tabelle mit Spundwandhöhen, PLAN-Zustand

Edit Levees

River: Rommelsbach ☑ Edit Interpolated XS's

Reach: Rommelsbach

Selected Area Edit Options

Add Constant ... | Multiply Factor ... | Set Values ... | Replace ...

	River Station	Left Sta	Left Elev	Right Sta	Right Elev
1	326.89				
2	320				
3	310				
4	300				
5	290				
6	280	47.315	162.496	56.067	163.3
7	270	44.386	162.581	51.936	163.15
8	260	43.232	161.966	51.334	163
9	250	36.566	161.712	43.713	162.85
10	240	31.648	161.464	37.411	162.7
11	230	30.653	161.092	36.041	162.55
12	220	27.33	161.243	34.439	162.43
13	210	20.76	161.92	36.308	162.32
14	200	20.595	161.86	36.207	162.25
15	190	20.204	161.756	35.761	162.17
16	180	20.345	161.672	35.81	162.1
17	178.47	0	161.468	12.85	162.1
18	177	Bridge			
19	176.8	0	161.455		
20	170	21.177	161.593		
21	160	20.489	161.459		
22	150	20.655	161.358		
23	140	20.54	161.249		
24	130	20.456	161.129		
25	120	20.612	161		
26	110	21.189	160.95		
27	100				
28	90				
29	80				
30	70				
31	60				
32	50				
33	40				
34	30				
35	25.61				
36	21.07				
37	10				
38	0				