



# COMUNE DI AREZZO

## Assessorato Urbanistica

Servizio Pianificazione Urbanistica e Governo del Territorio

Piano Strutturale  
2019



PS

## B Quadro conoscitivo

### B1 Relazione illustrativa - Indagini geologiche e idrauliche

**Sindaco**  
Alessandro Ghinelli

**Assessore all'Urbanistica**  
Marco Sacchetti

**Responsabile del Procedimento**  
Ing. Paolo Frescucci

RTI Raggruppamento Temporaneo di Professionisti

**Studio D:RH Architetti associati**

*Arch. Sergio Dinale*

**Criteria srl**

*Arch. Paolo Falqui*

**Arch. Luca Di Figlia**

**Dott. Pian.t. Matteo Scamporrino**

**Avv. Agostino Zanelli Quarantini**

# B1.2.1d

## Settore Nord - Fascicolo delle sezioni e profili idraulici

Garante dell'informazione e della partecipazione

**Dott.ssa Daniela Farsetti**

Dirigente Servizio Pianificazione Urbanistica  
**Ing. Paolo Frescucci**

Dirigente Servizio Ambiente  
**Ing. Giovanni Baldini**

Dirigente Servizio Progettazione Opere Pubbliche  
**Ing. Antonella Fabbianelli**

Dirigente Progetto per lo sviluppo delle attività economiche negli ambiti Edilizia e SUAP e promozione del territorio  
**Ing. Paolo Frescucci**

Direttore Ufficio Mobilità  
**Ing. Roberto Bernardini**

Direttore Ufficio Programmazione e Sviluppo Economico del Territorio  
**Dott.ssa Stefania Guidelli**

Direttore Ufficio Edilizia  
**Geom. Gianna Pezuoli**

**Ufficio del Piano**

Arch. Omero Angeli  
Dott.ssa Antonella Benocci  
Sig. Matteo Borri  
Dott.ssa Francesca Calabri  
Arch. Fulvia Comanducci  
Arch. Elisabetta Dreassi  
Geol. Alessandro Forzoni  
Geom. Valentina Mazzoni  
Dott. Vincenzo Oliva  
Arch. Laura Pagliai  
Ing. Deborah Romei  
Arch. Laura Rogialli  
Geol. Annalisa Romizi  
Pianificatore Territoriale Lorenzo Spadaccini  
Sig.ra Fiorenza Verdelli

**Gruppo di progettazione**

**Studio D:RH Architetti associati**

Arch. Sergio Dinale  
Arch. Paola Rigonat Hugues  
Arch. Enrico Robazza  
Arch. Kristiana D'Agnolo  
Dott. Pian.t. Giulio Brocco

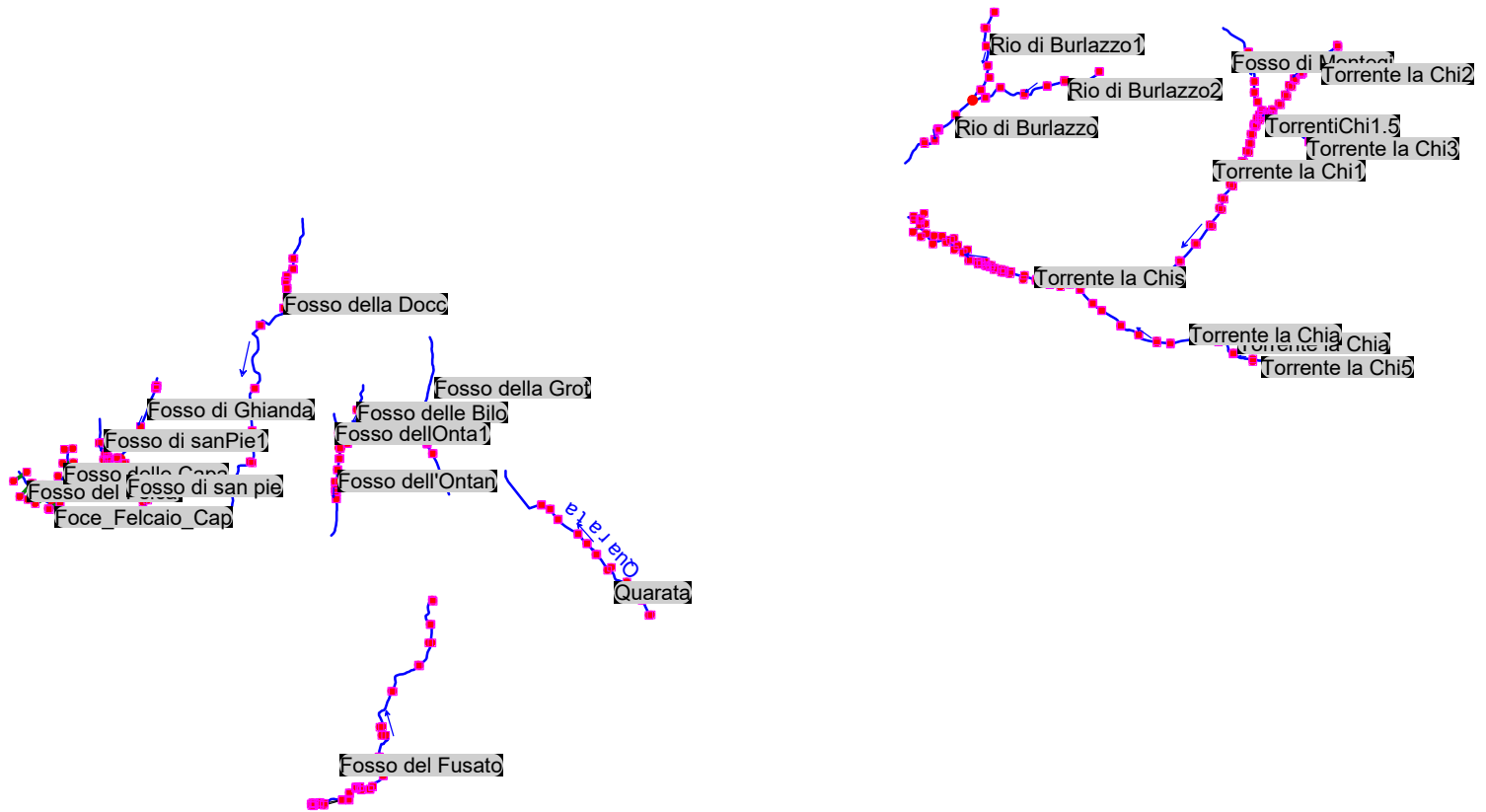
**Criteria srl**

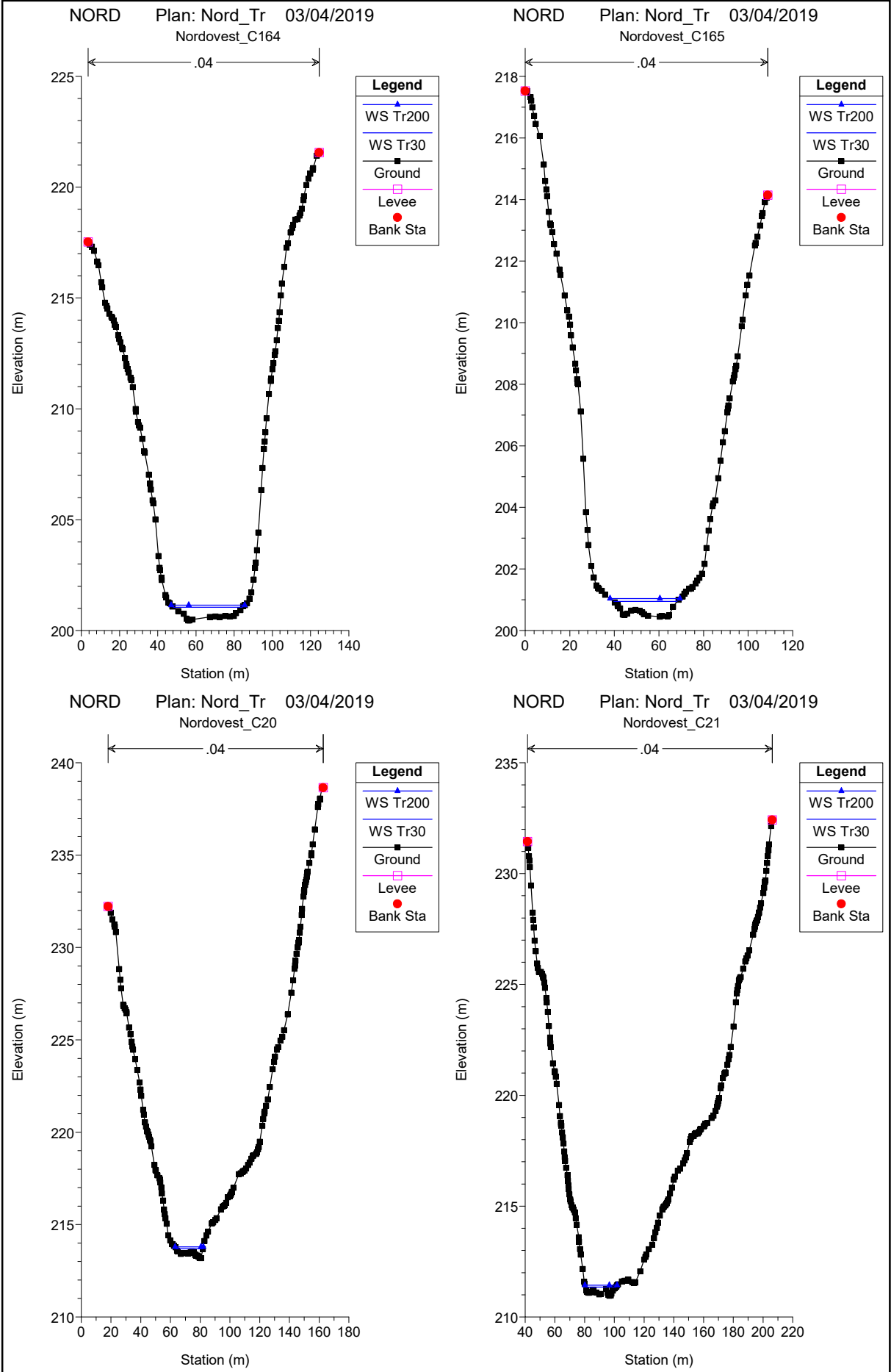
Arch. Paolo Falqui  
Ing. Paolo Bagliani  
Ing. Roberto Ledda  
Biol. Patrizia Carla Sechi  
Geol. Andrea Soriga  
Arch. Laura Zanini  
Dott.ssa Giulia Cubadda  
Dott. Riccardo Frau  
Arch. Veronica Saddi  
Ing. Gianfilippo Serra  
Dott. Vittorio Serra  
Dott.ssa Cinzia Marcella Orrù  
Arch. Salvatore Manca

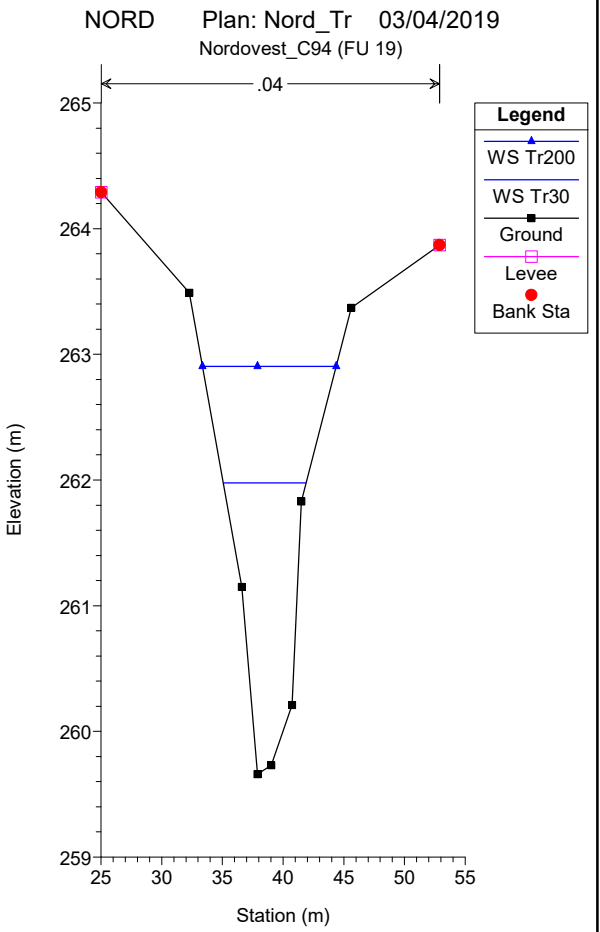
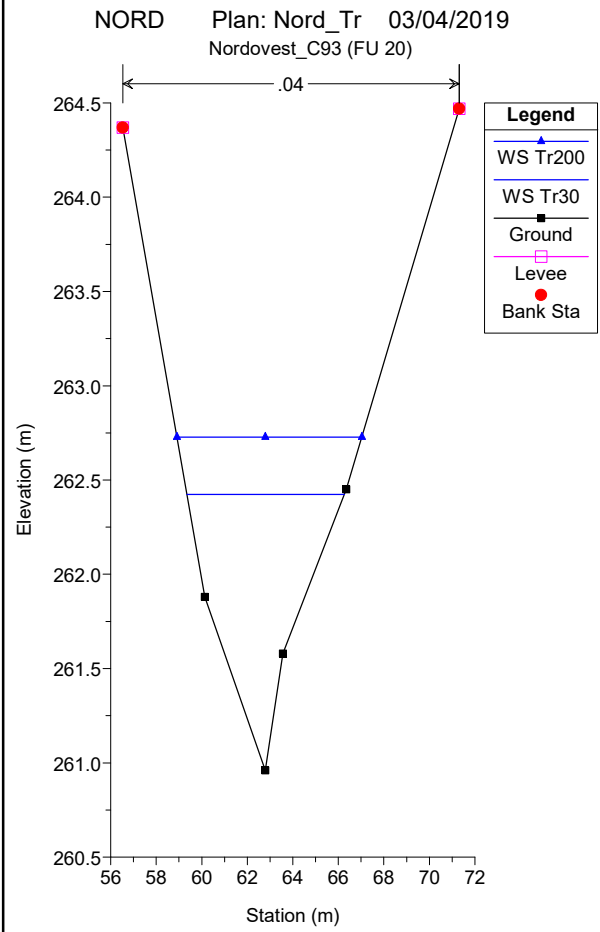
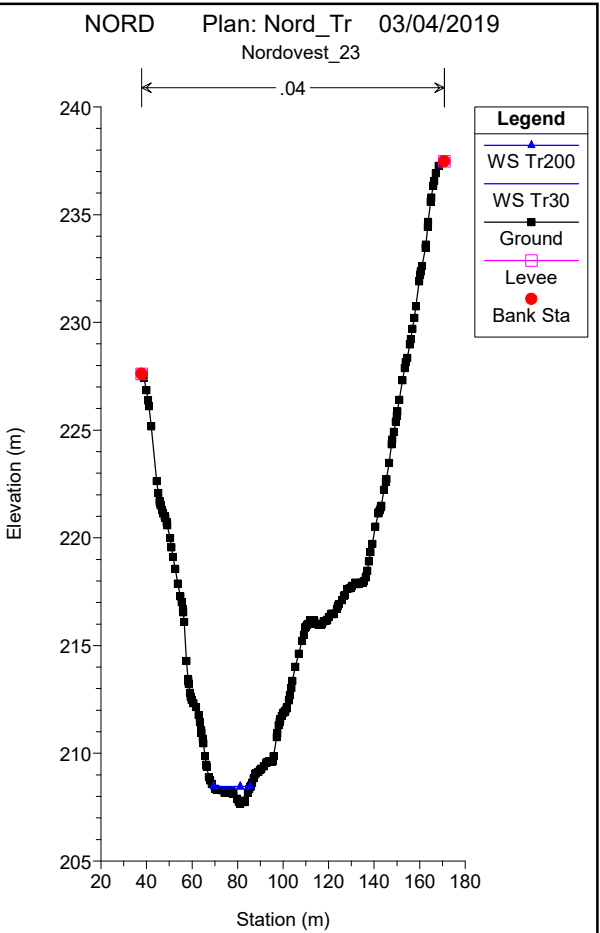
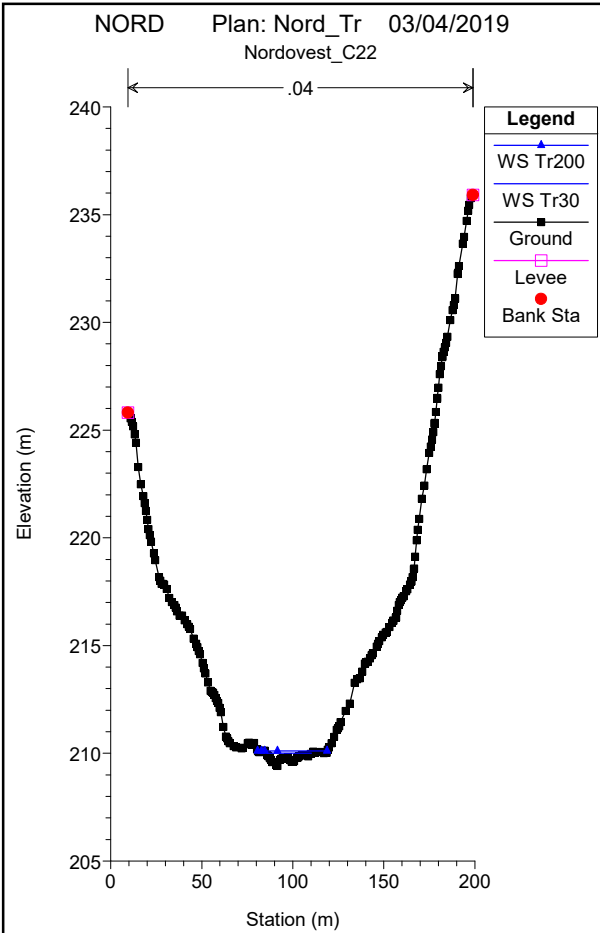
**Indagini geologiche e idrauliche**

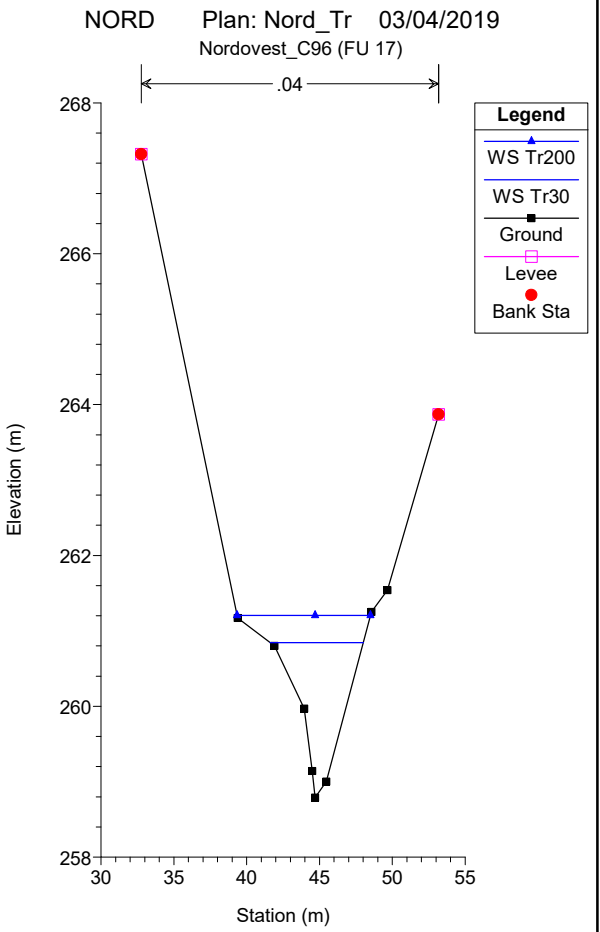
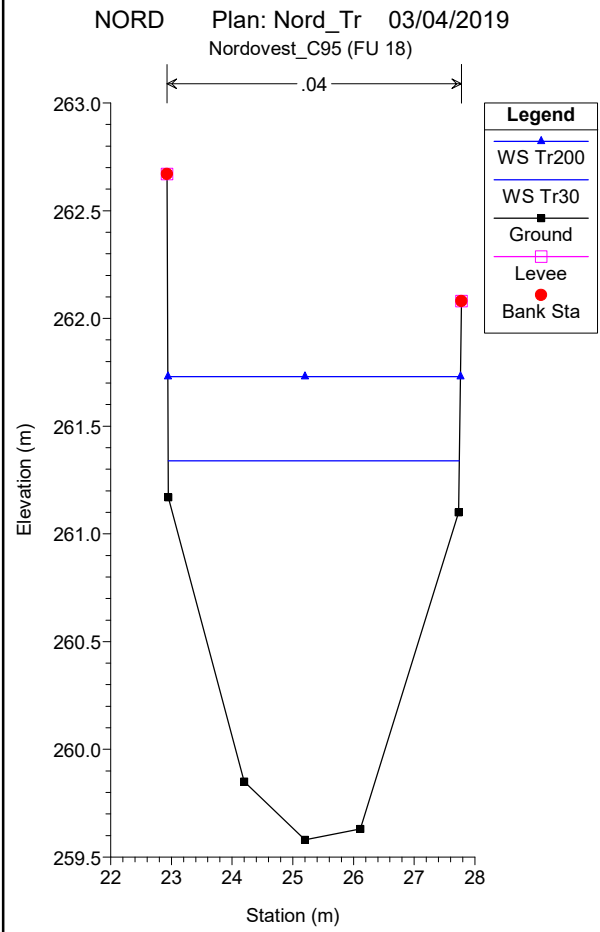
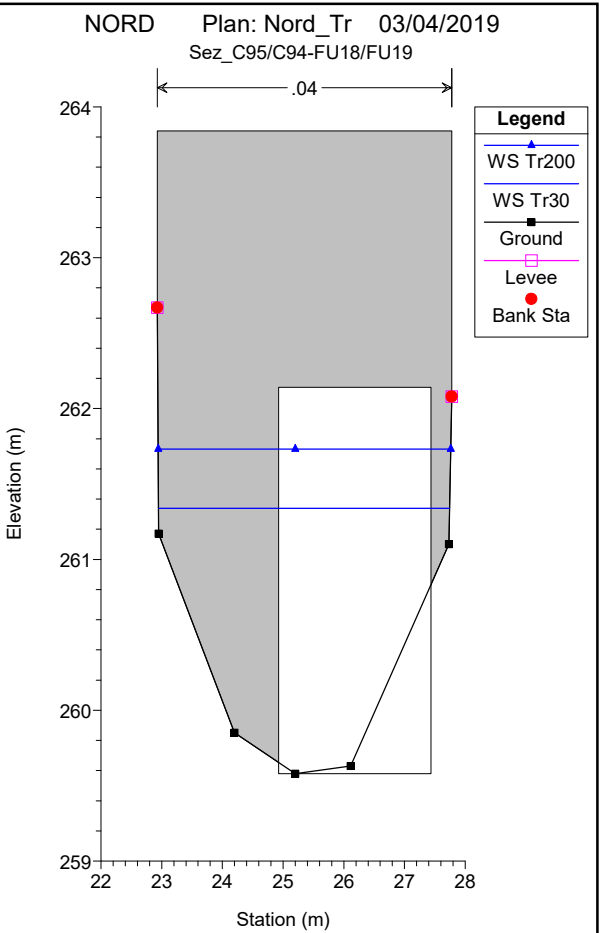
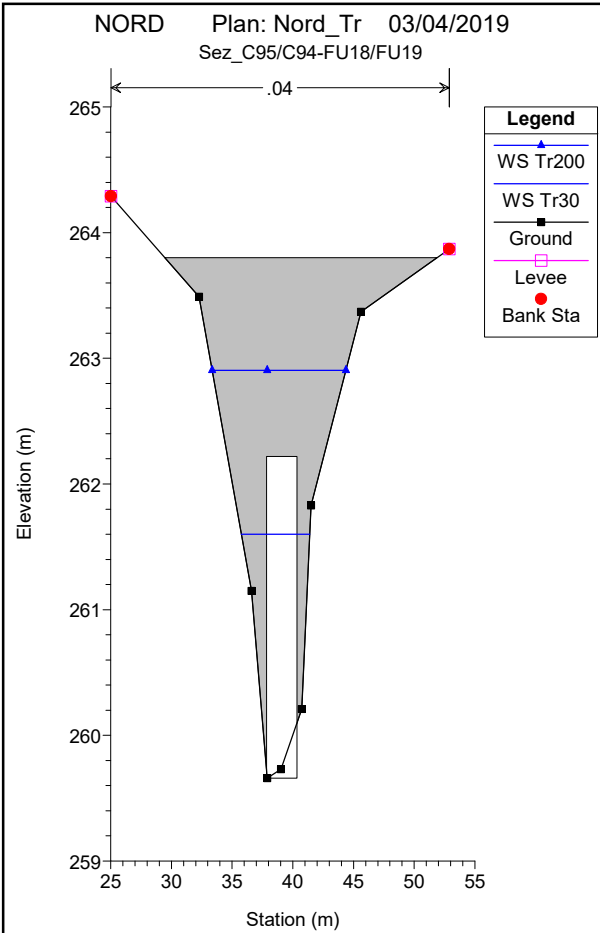
Geol. Maurizio Costa  
Geol. Antonio Pitzalis  
Ing. Nicola Buchignani (Prima STP)  
Ing. Pietro Chiavaccini  
Ing. Elisa Formica

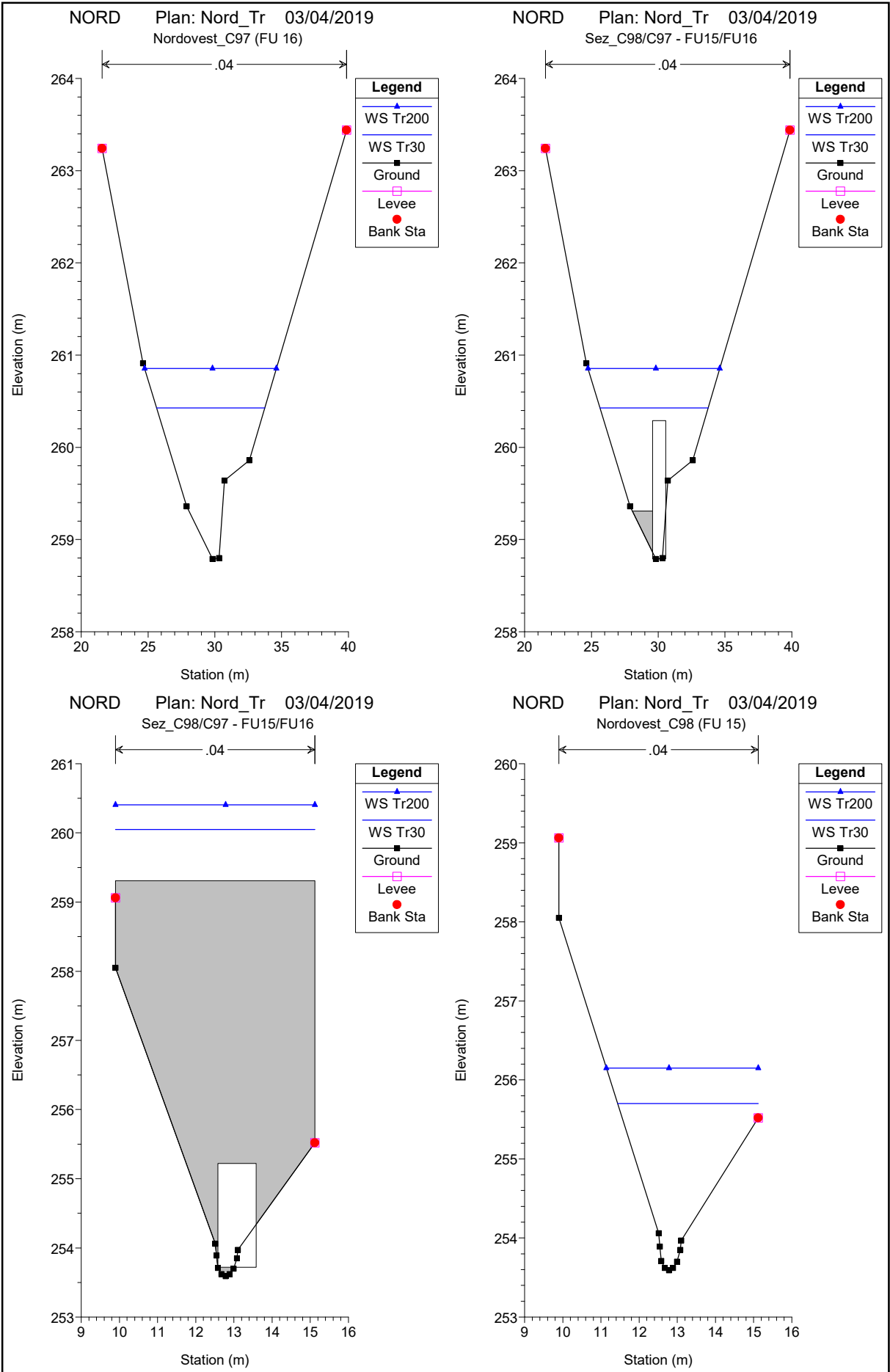
**Dott. Pian.t. Matteo Scamporrino**  
**Arch Luca Di Figlia**  
**Avv. Agostino Zanelli Quarantini**

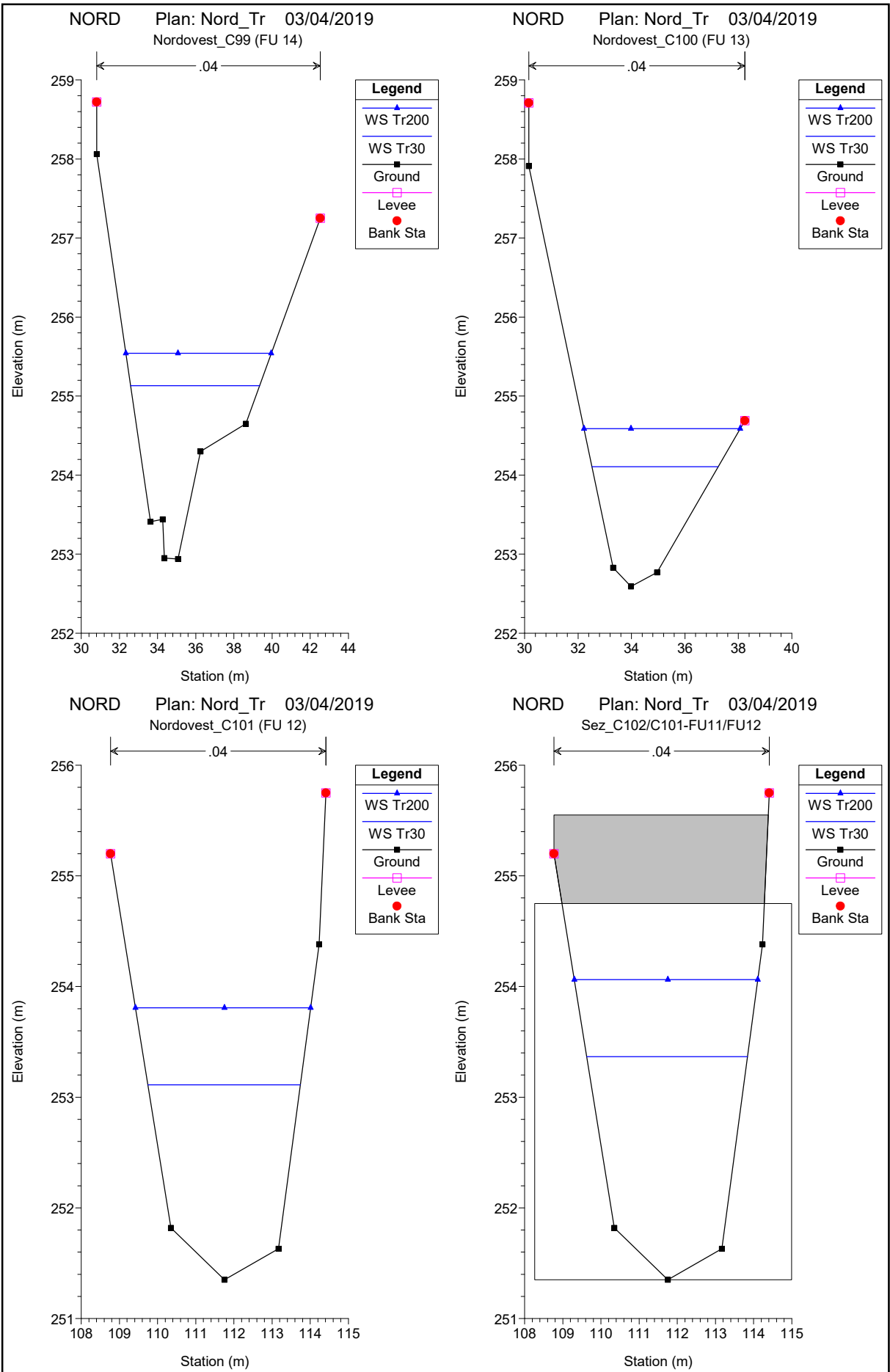




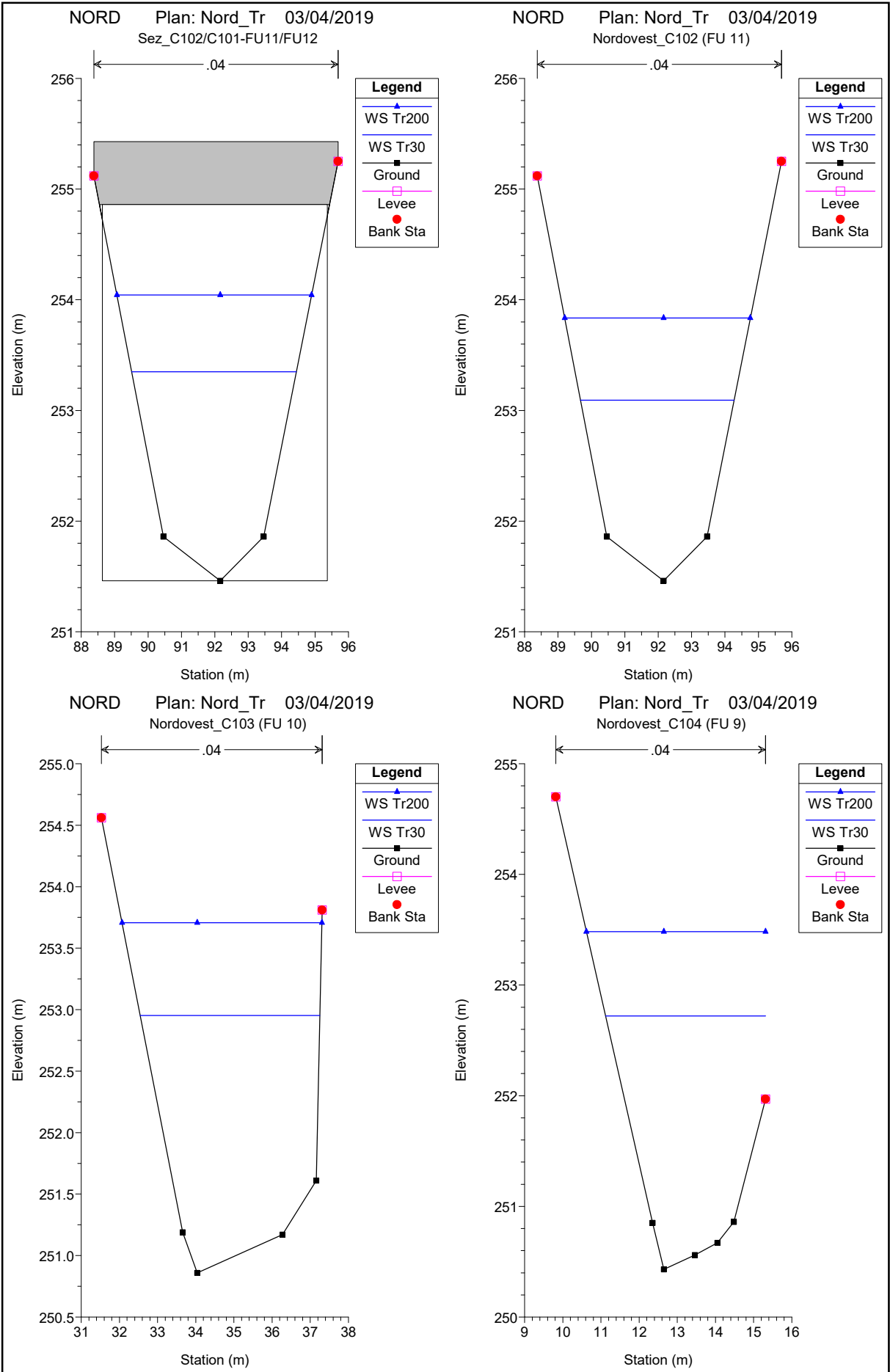


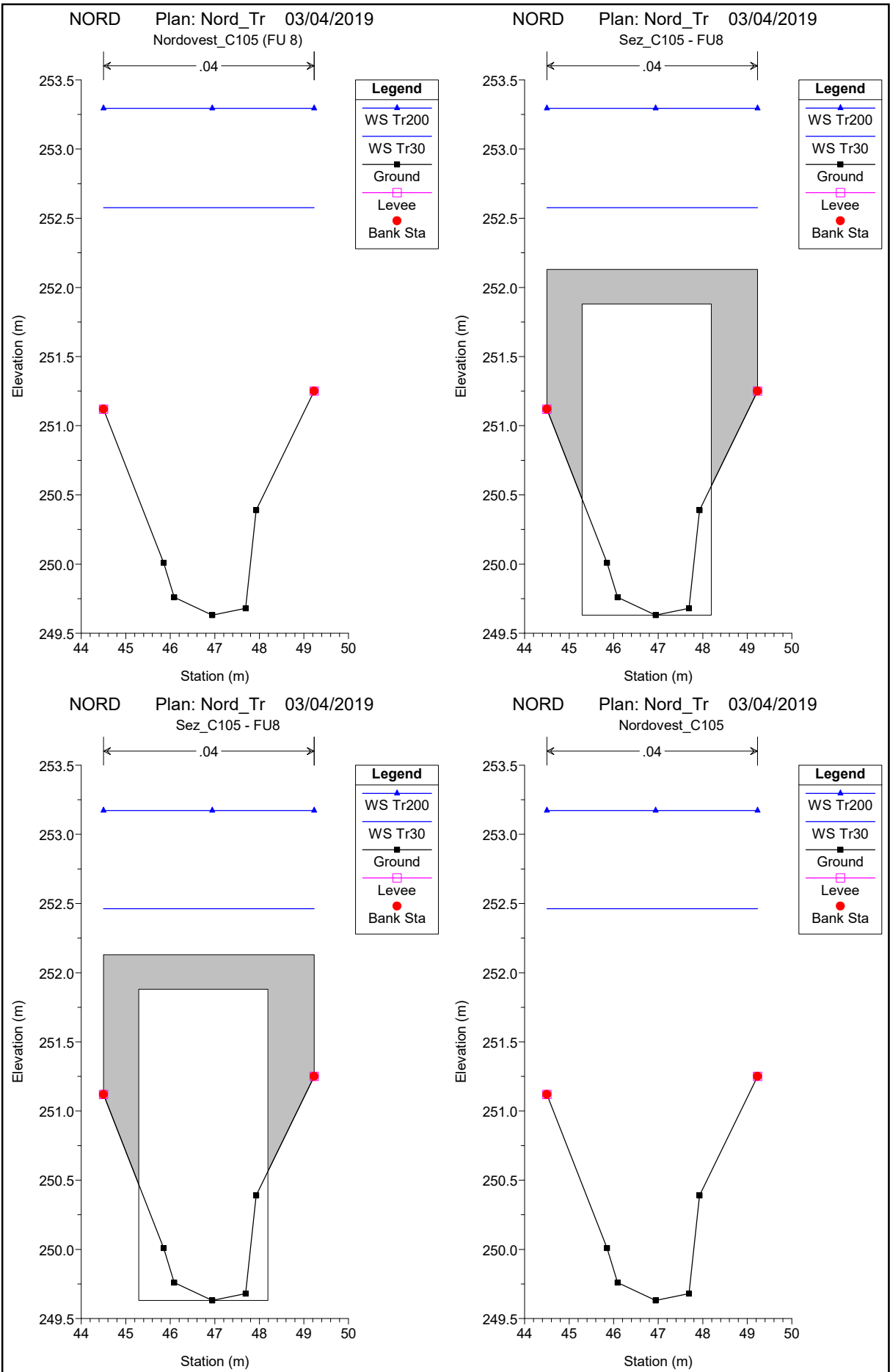


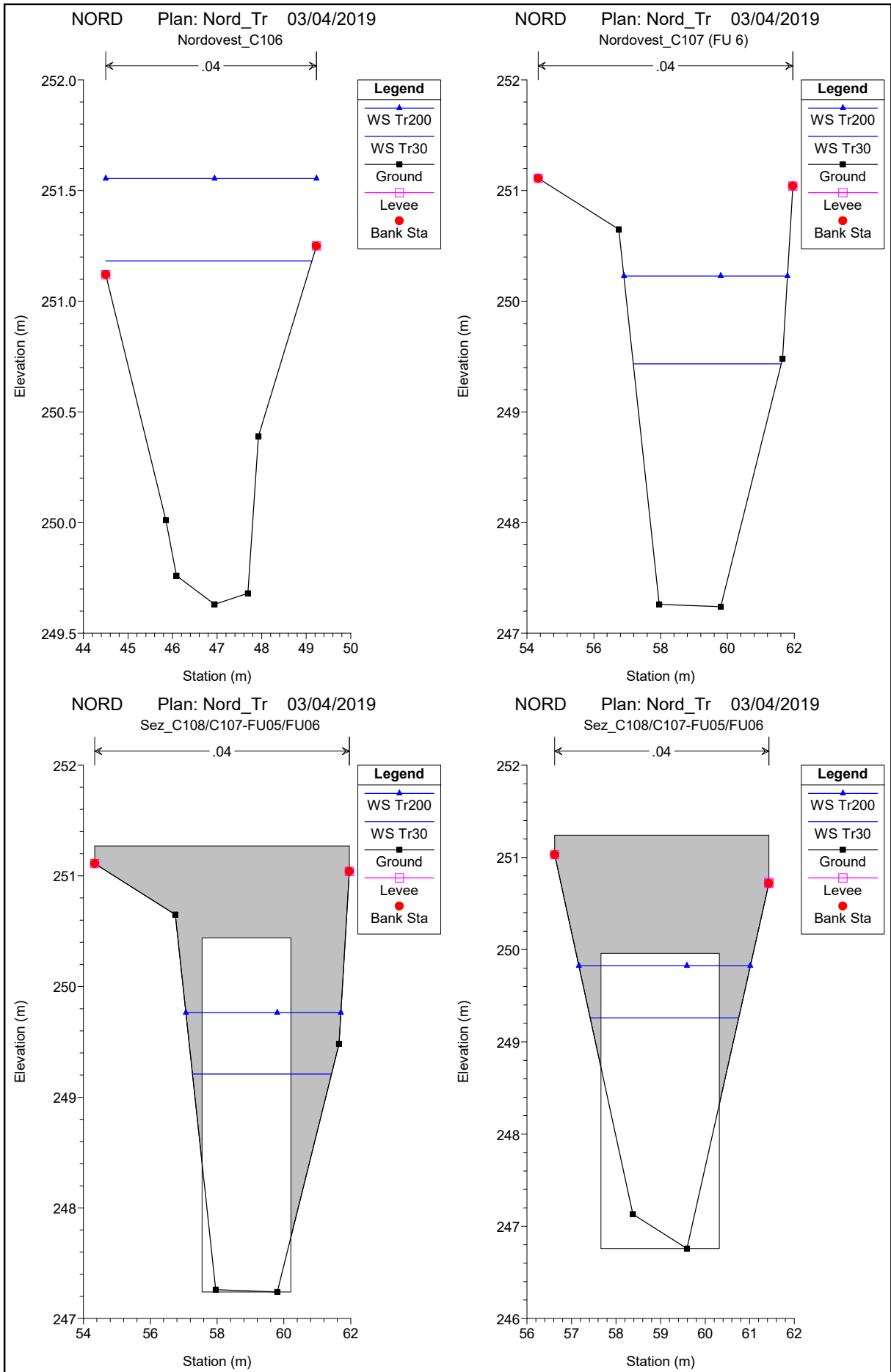


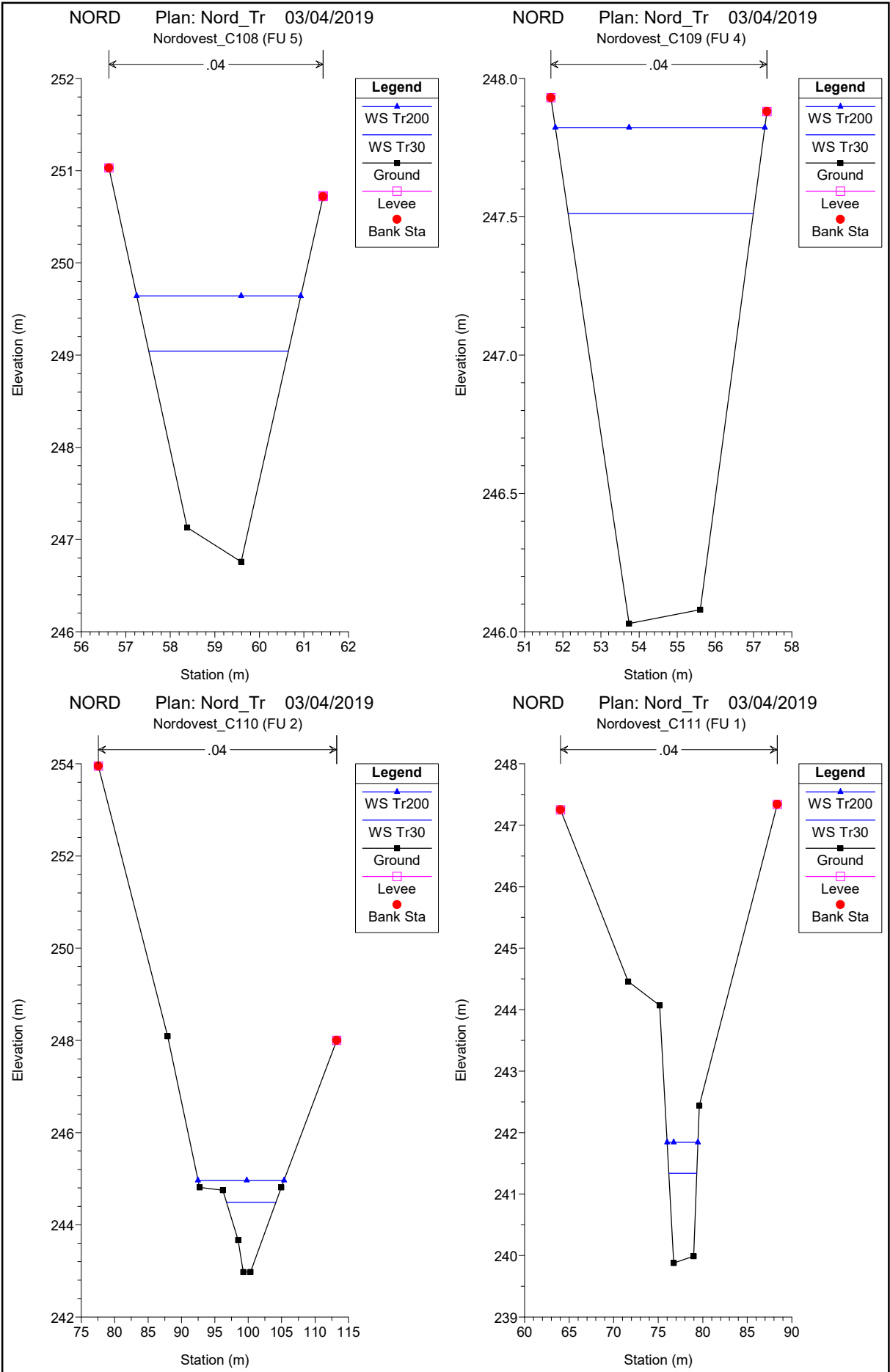


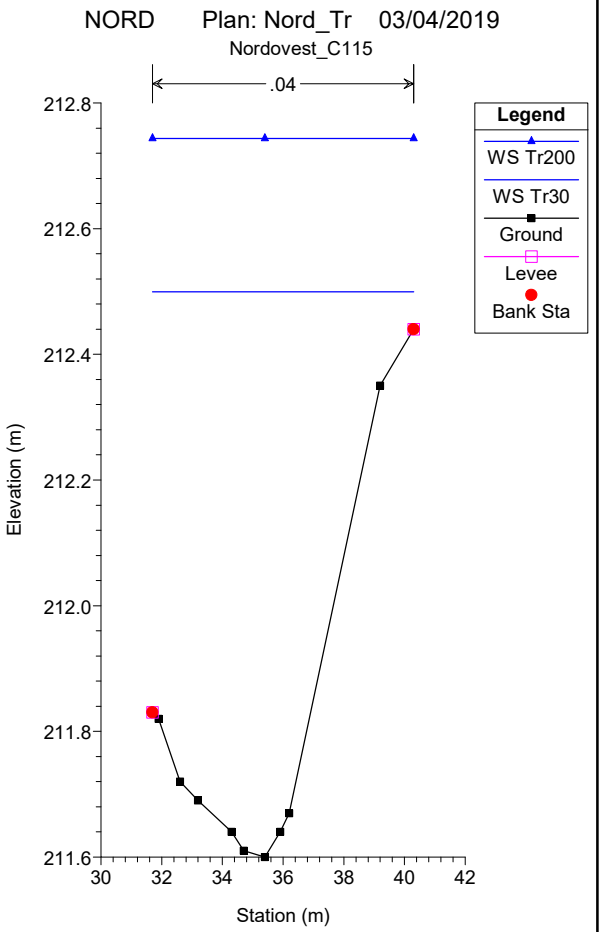
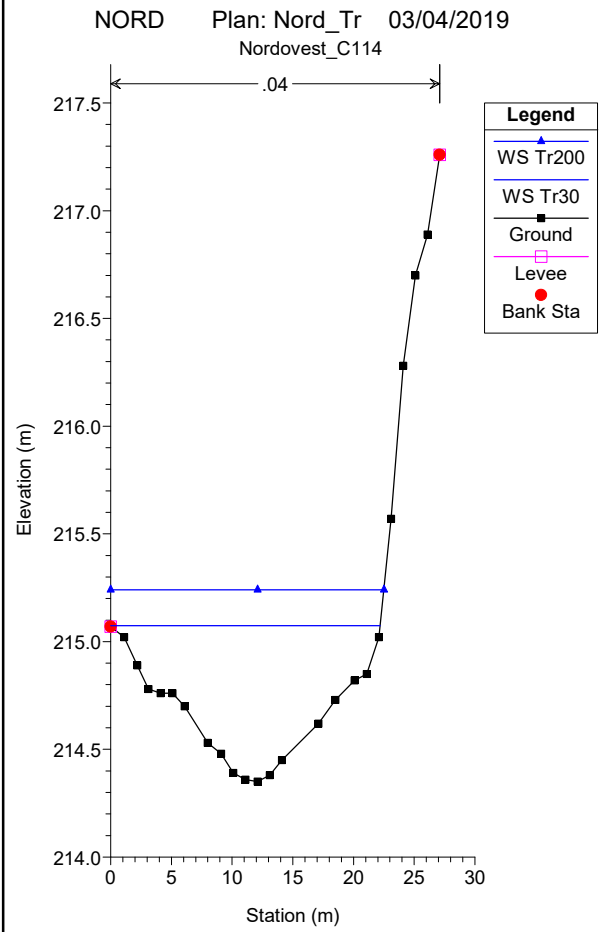
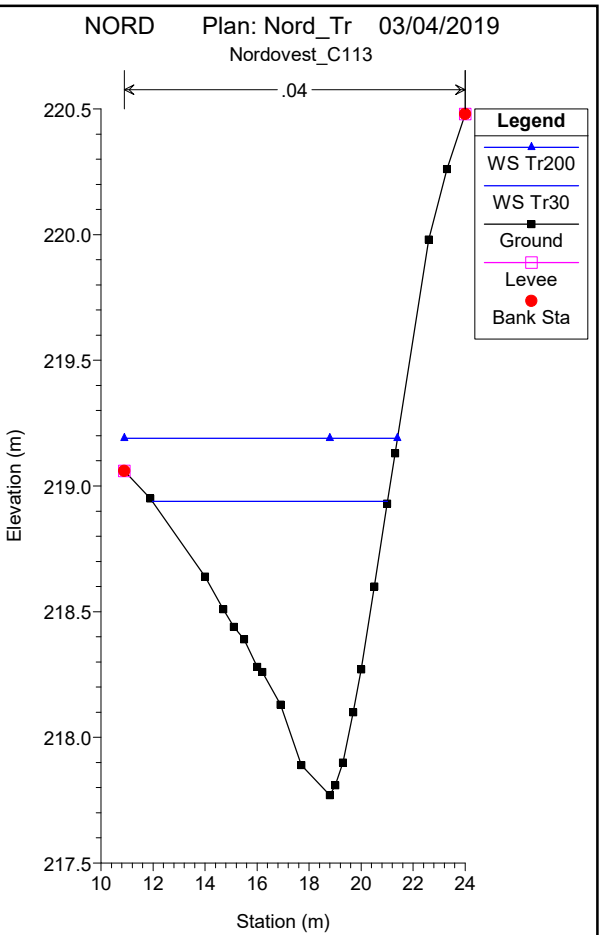
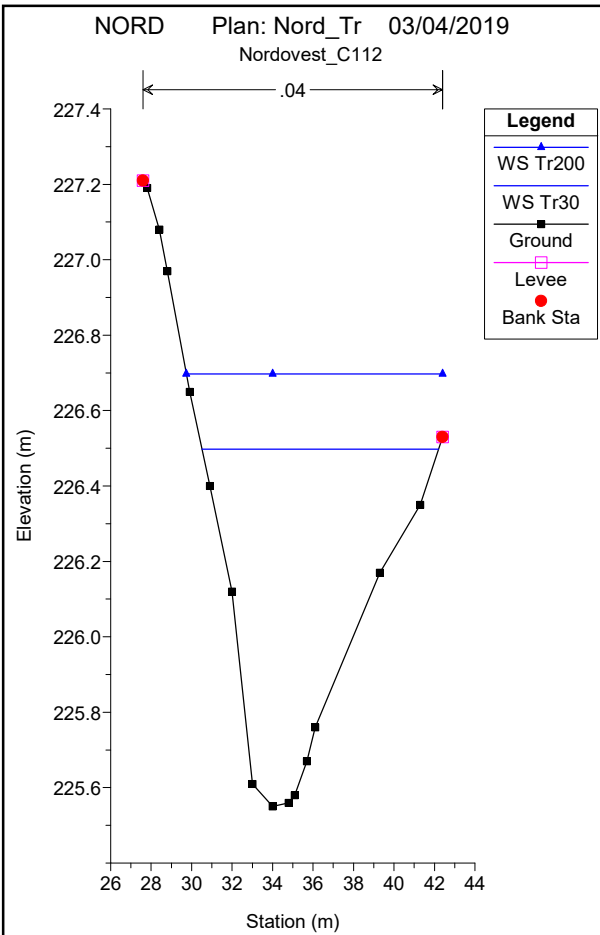


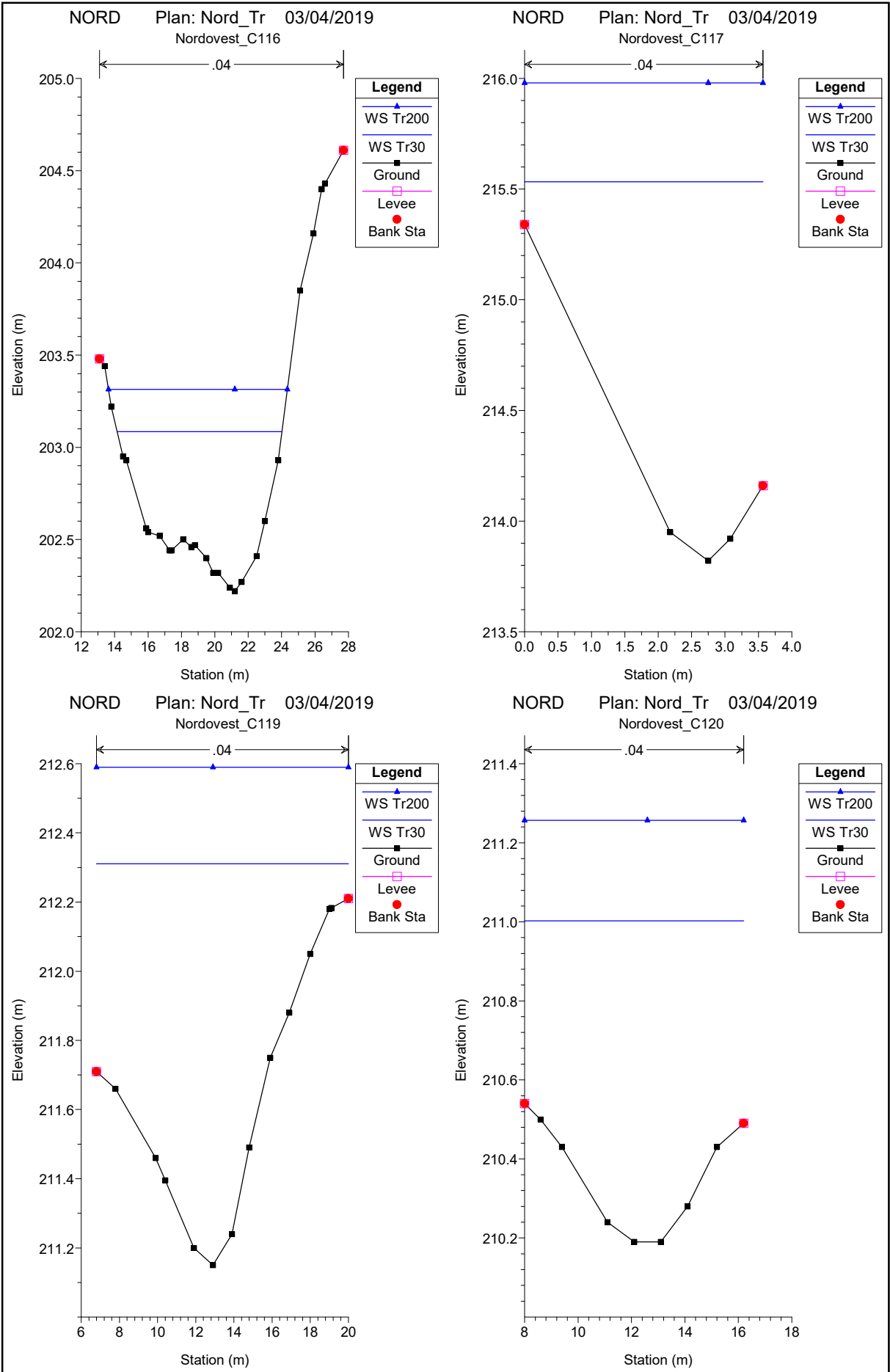


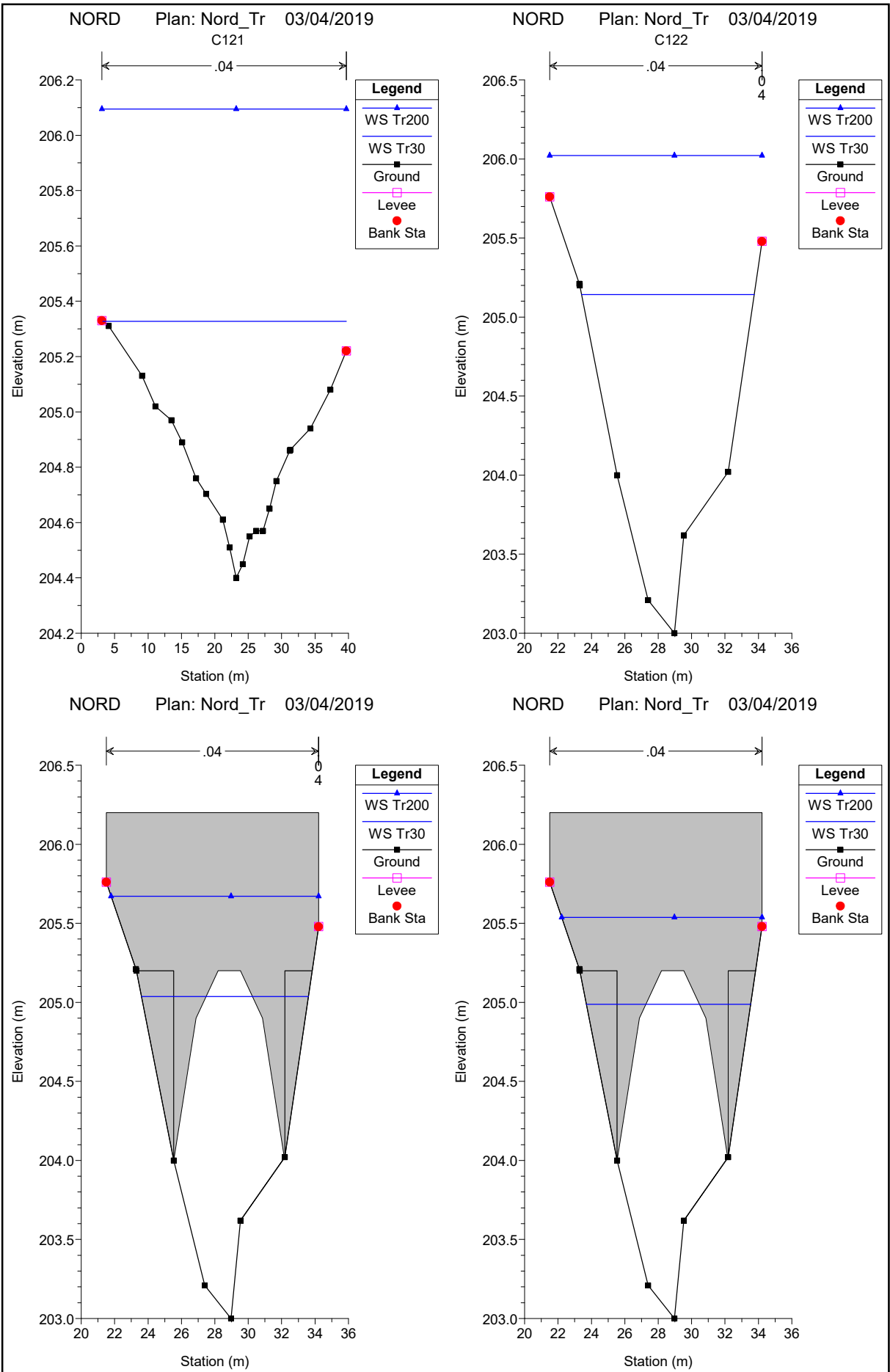


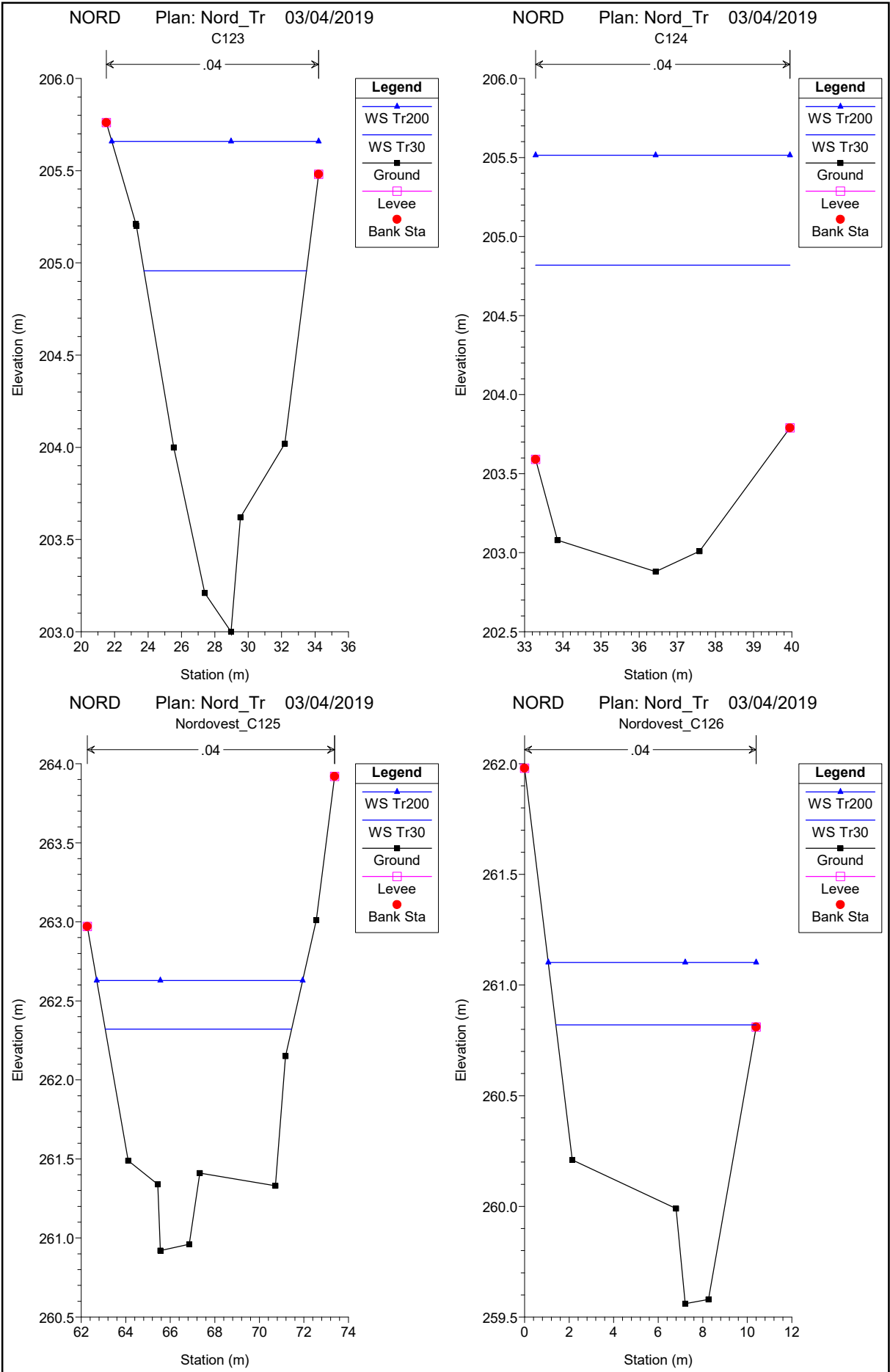




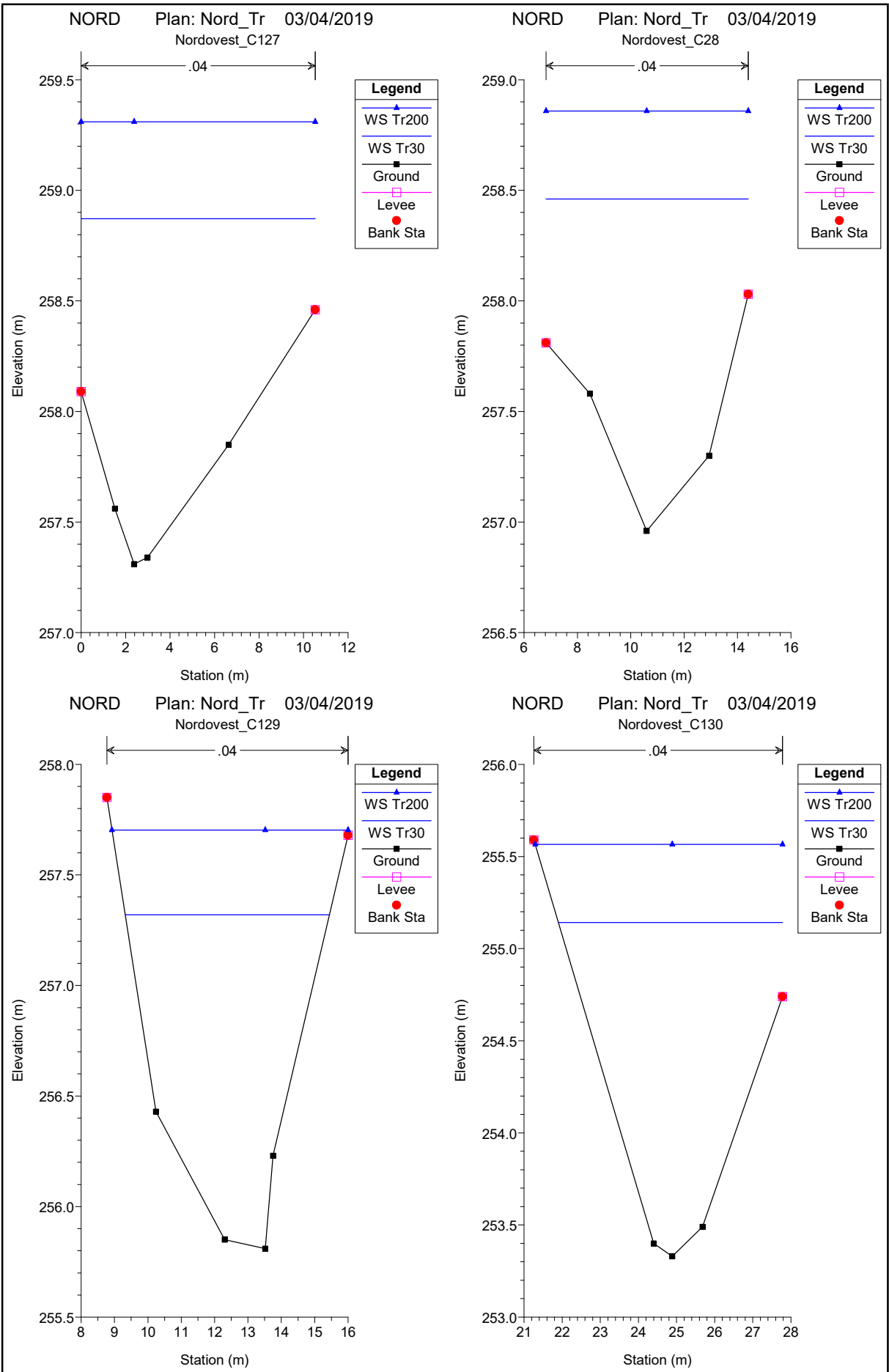


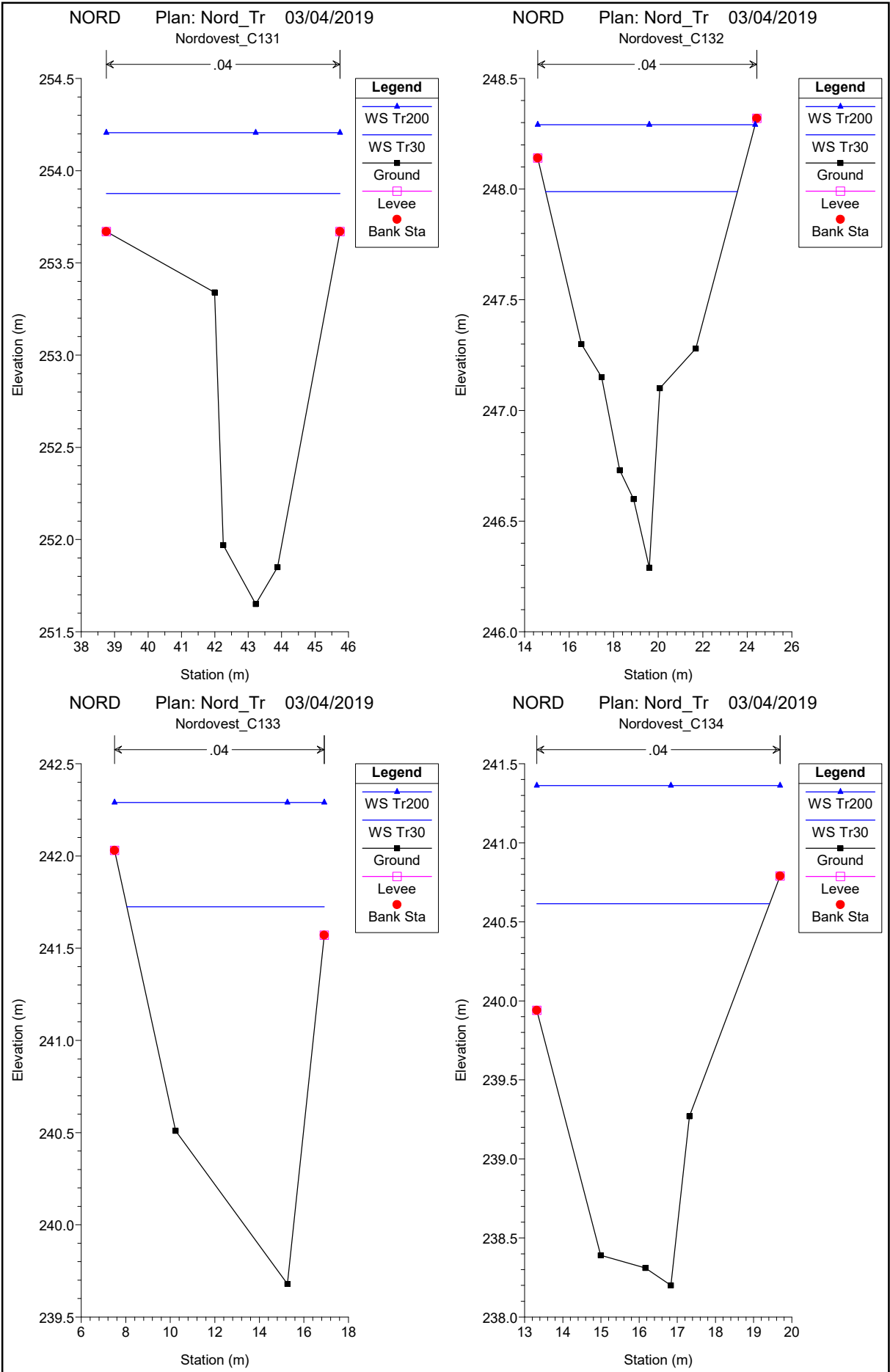


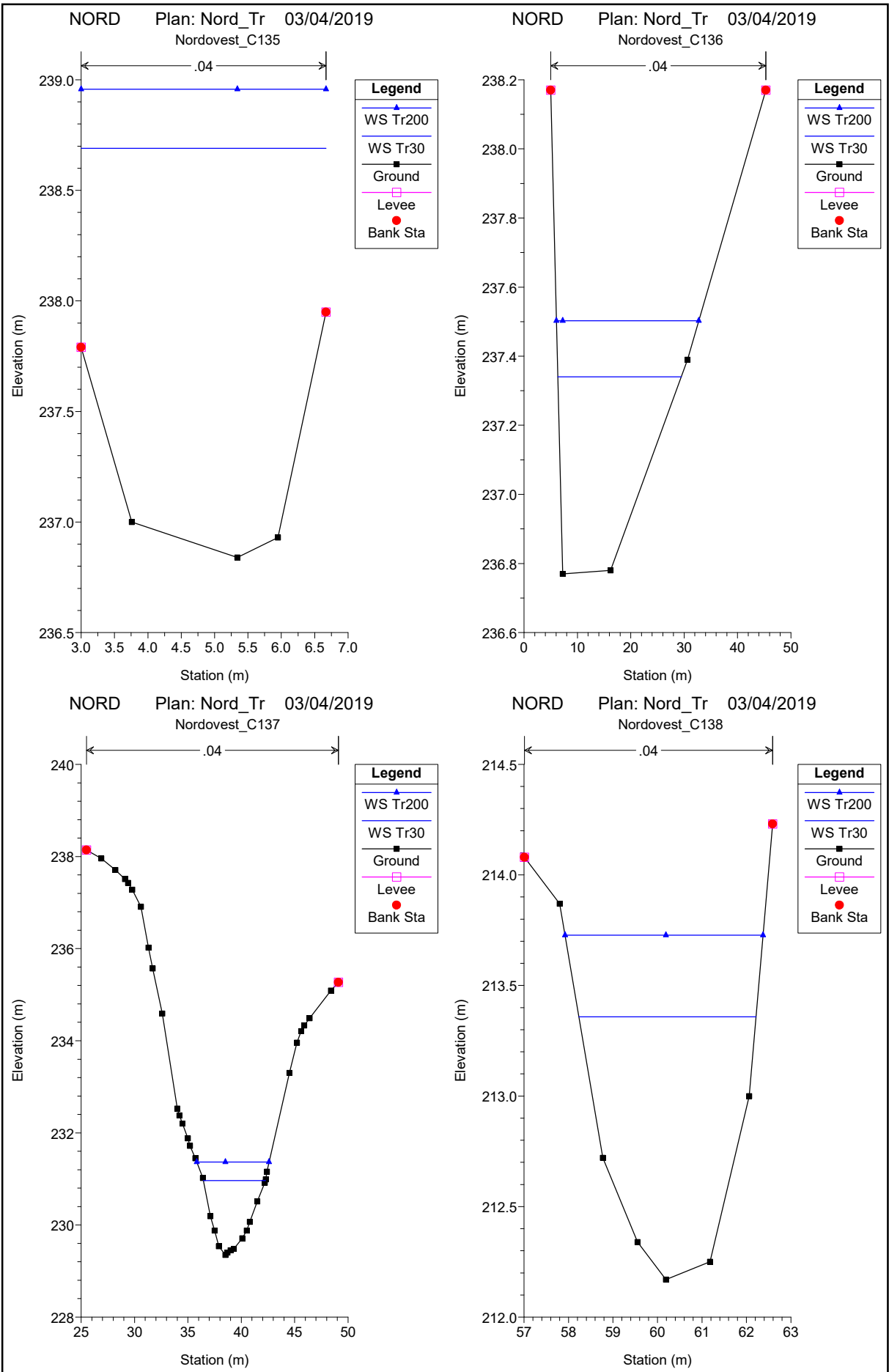


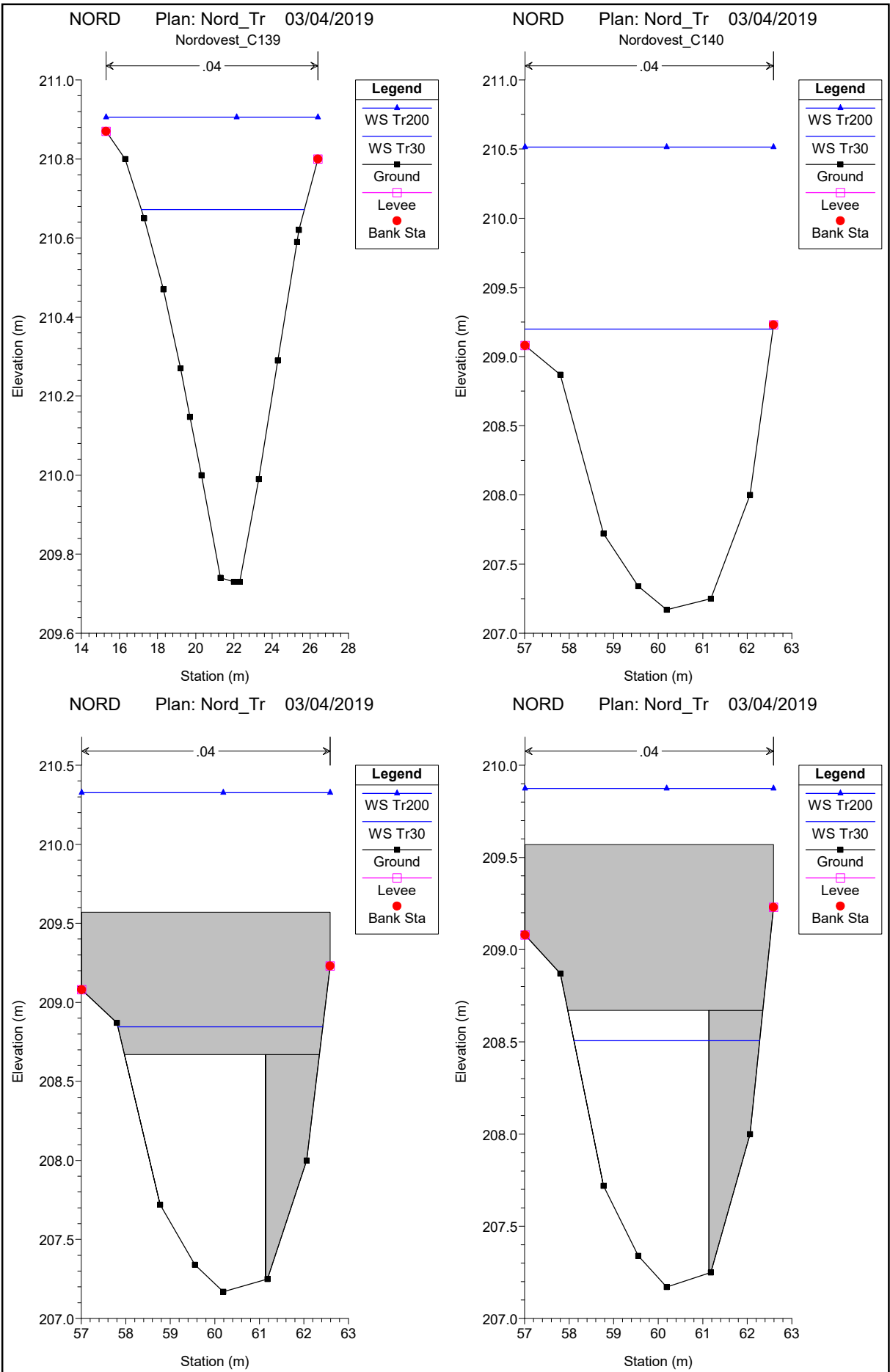


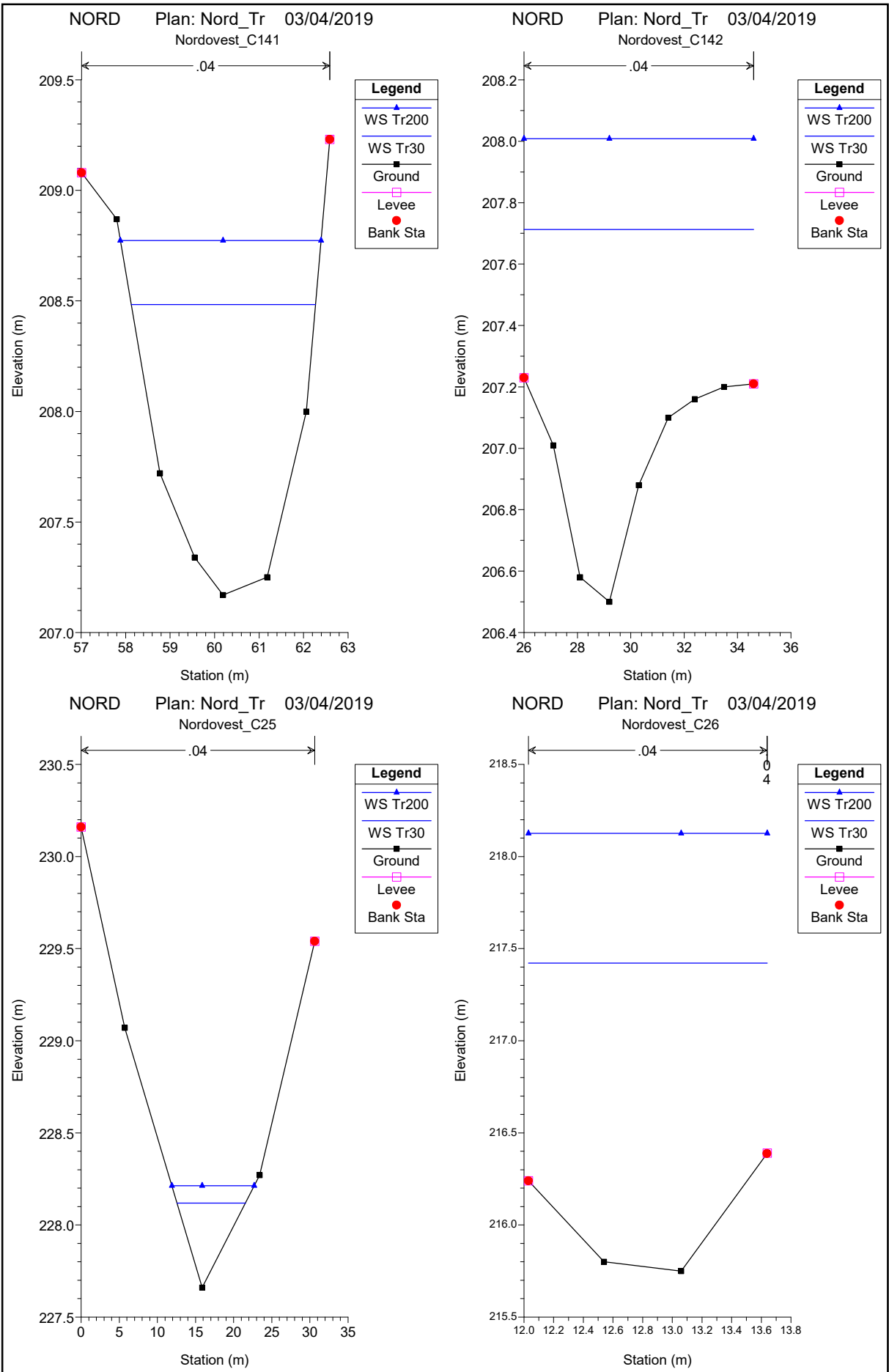


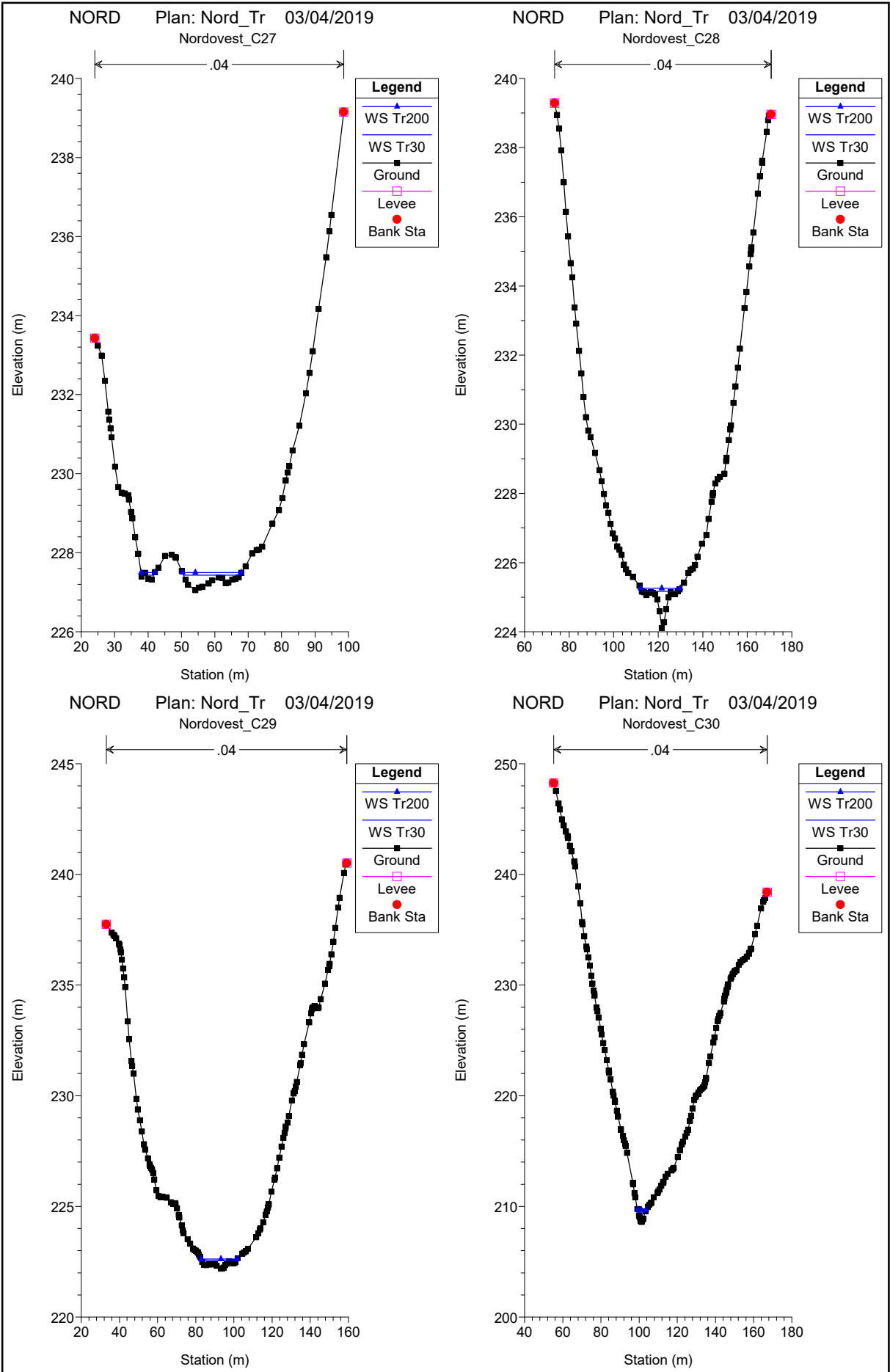


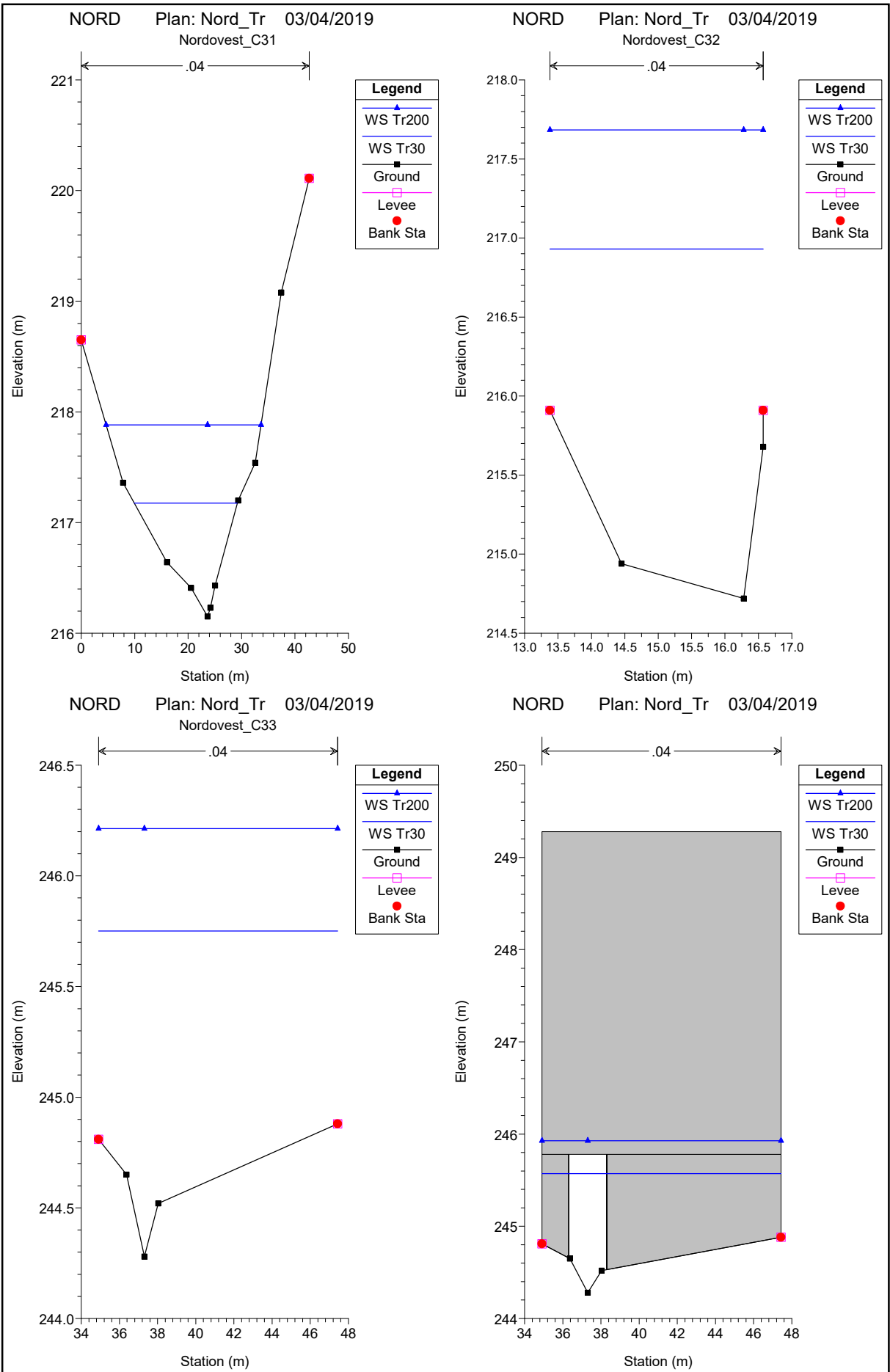


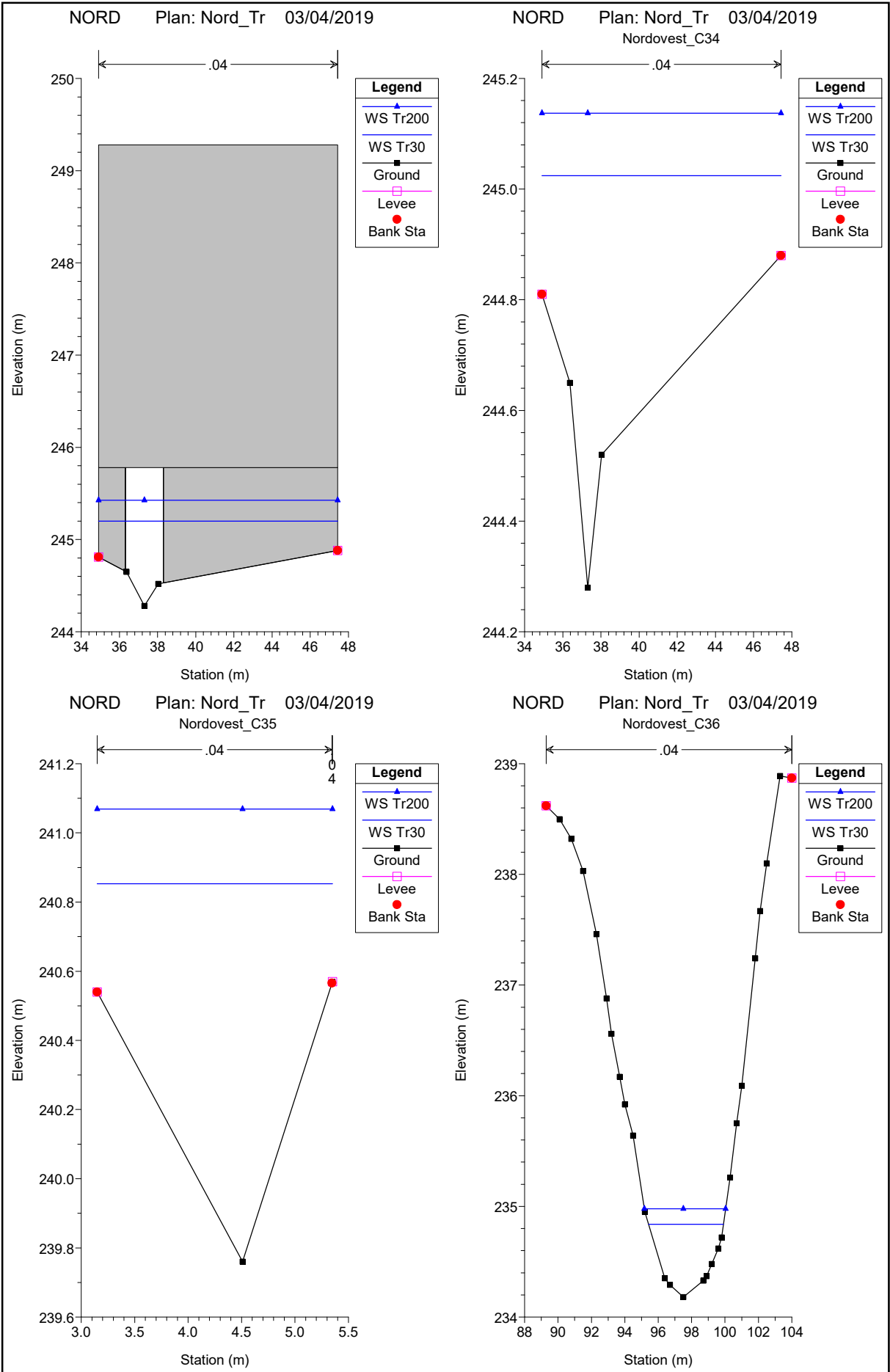




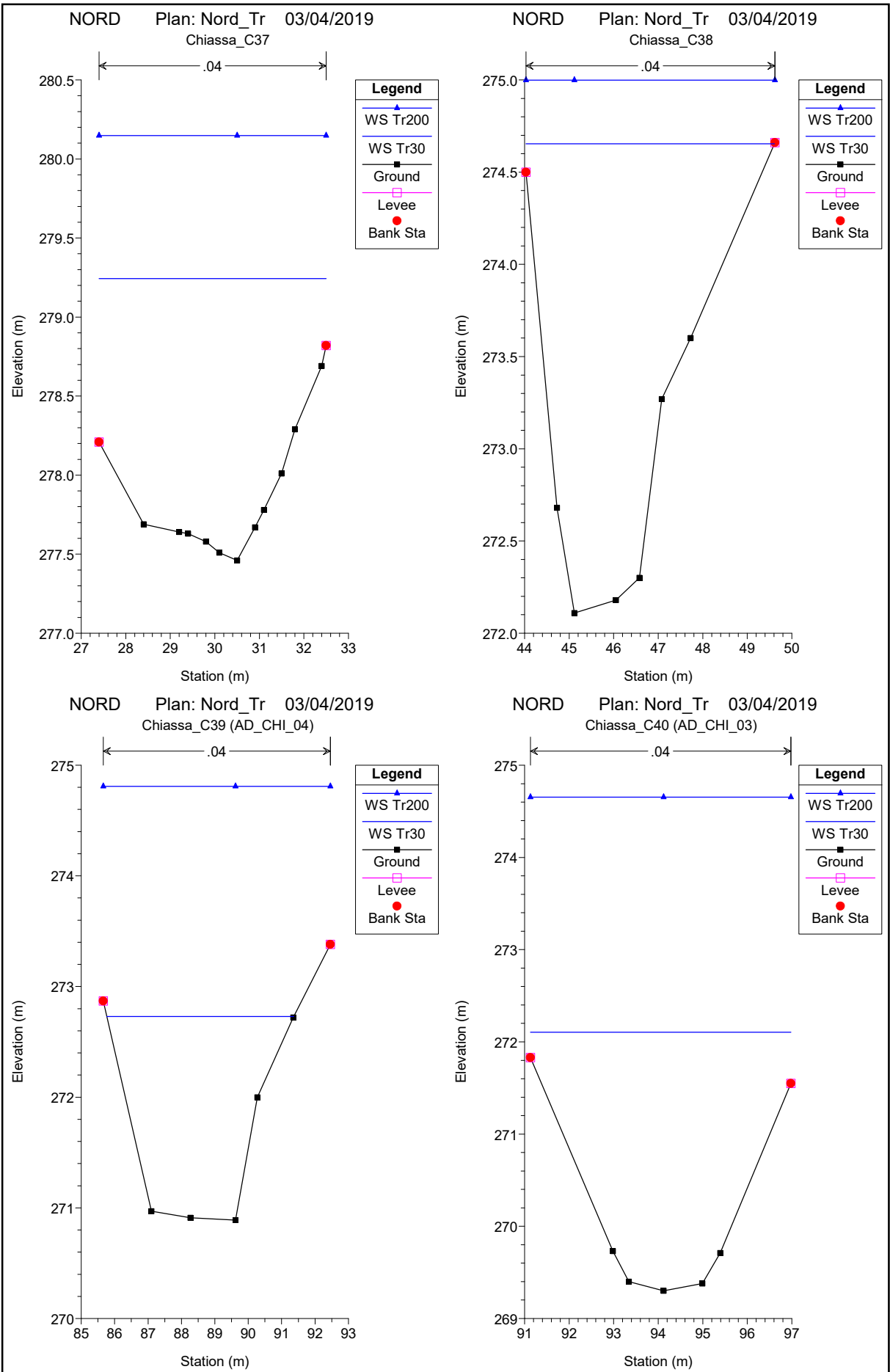


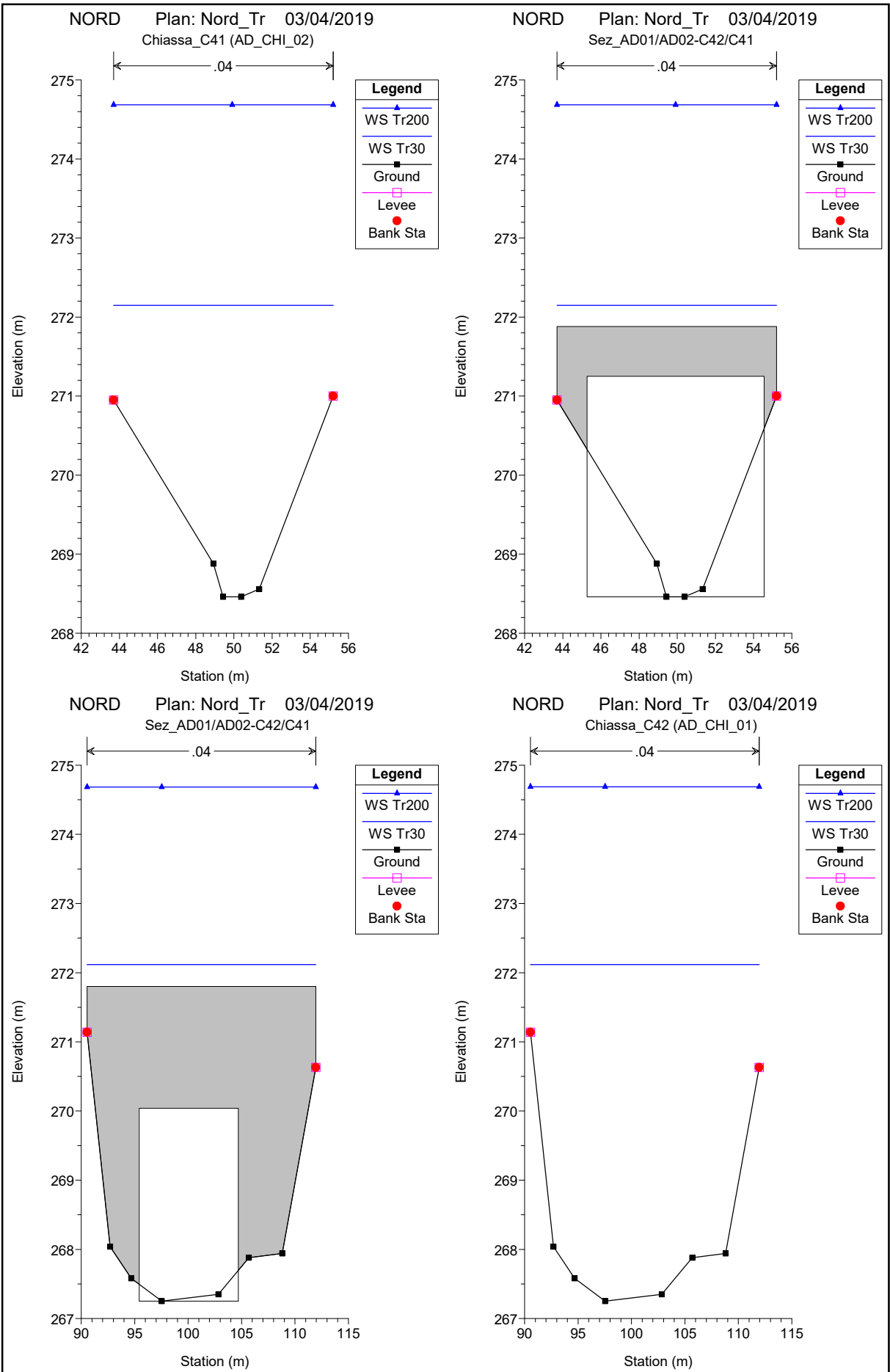


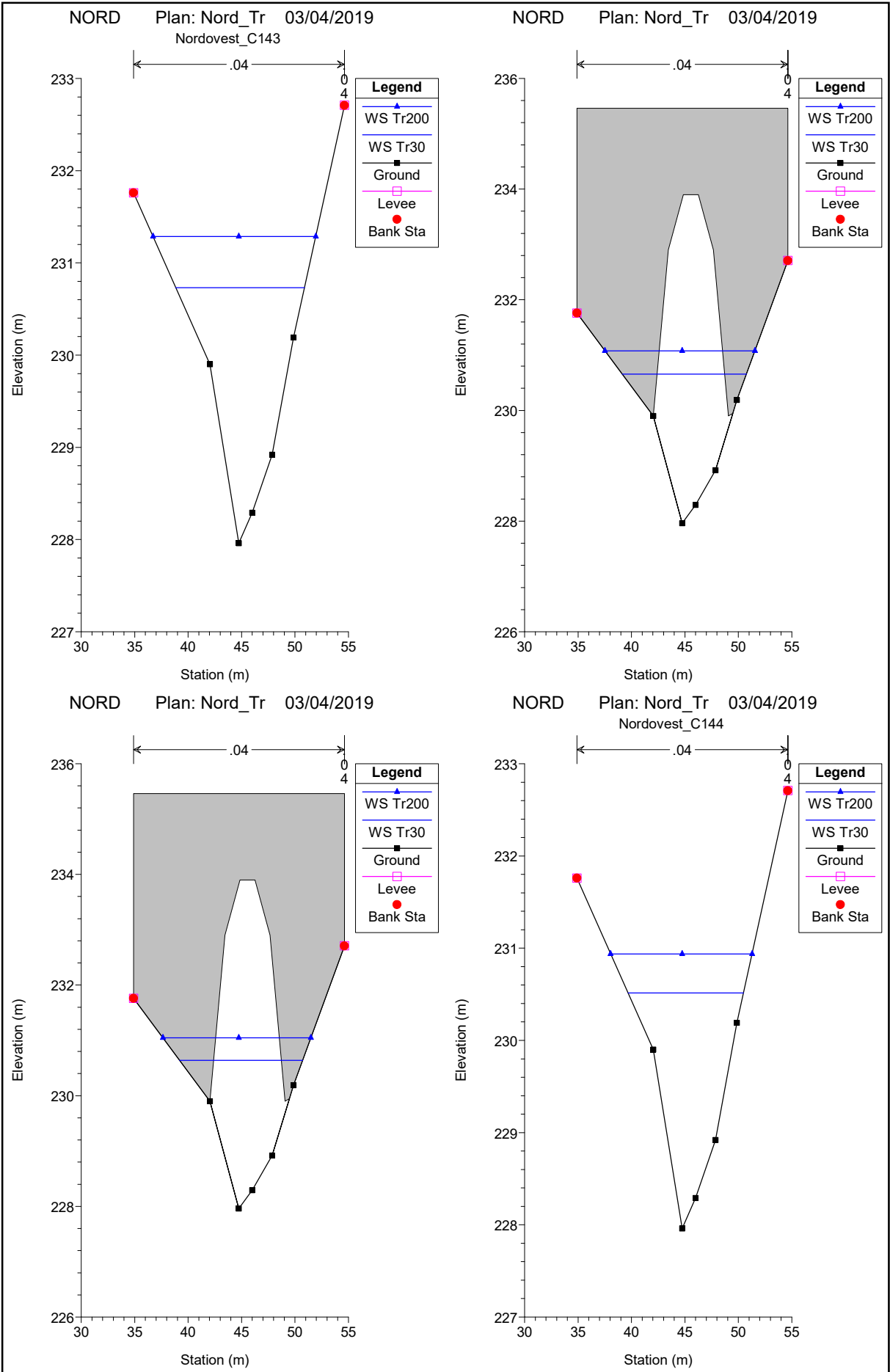


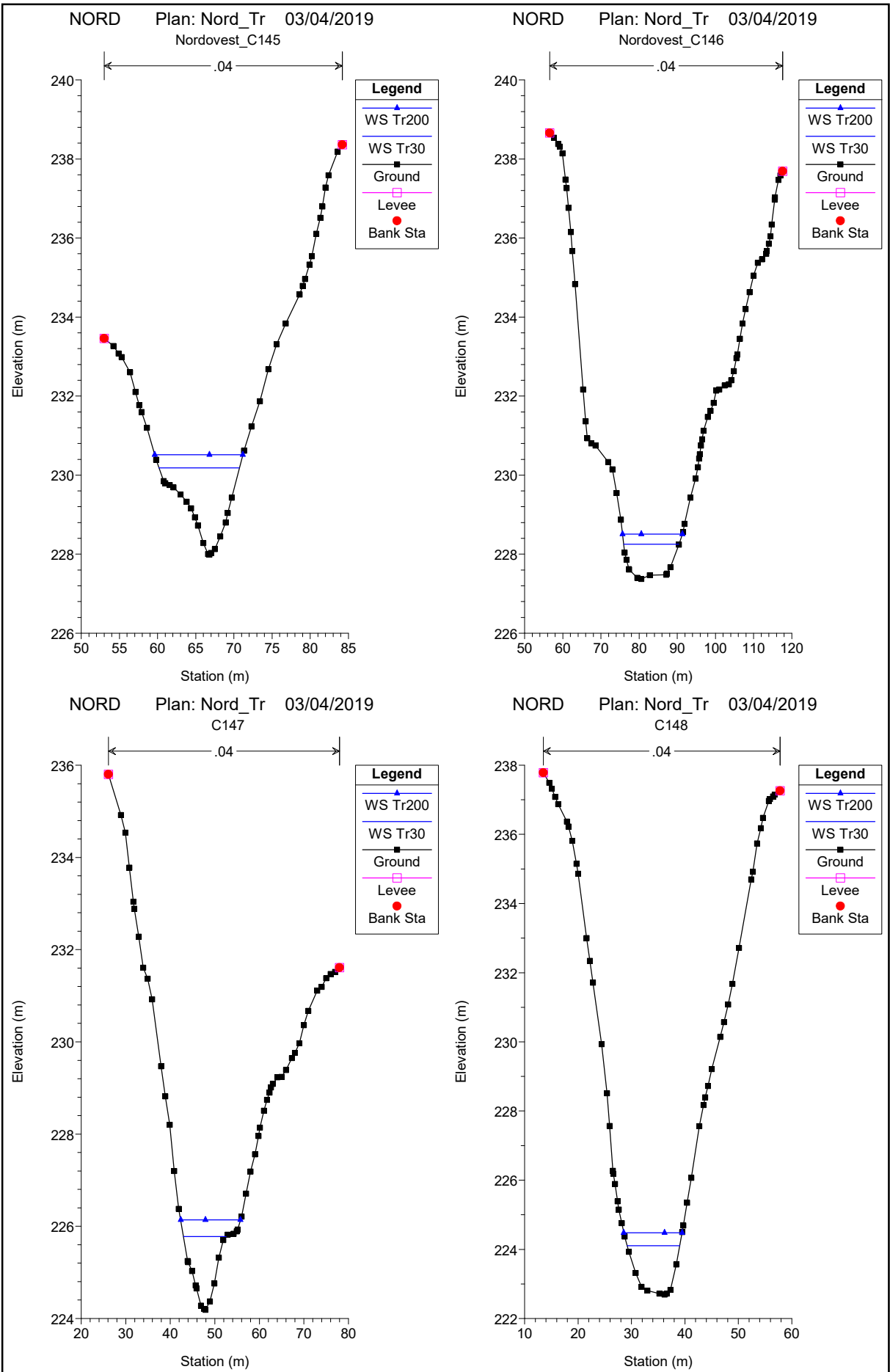


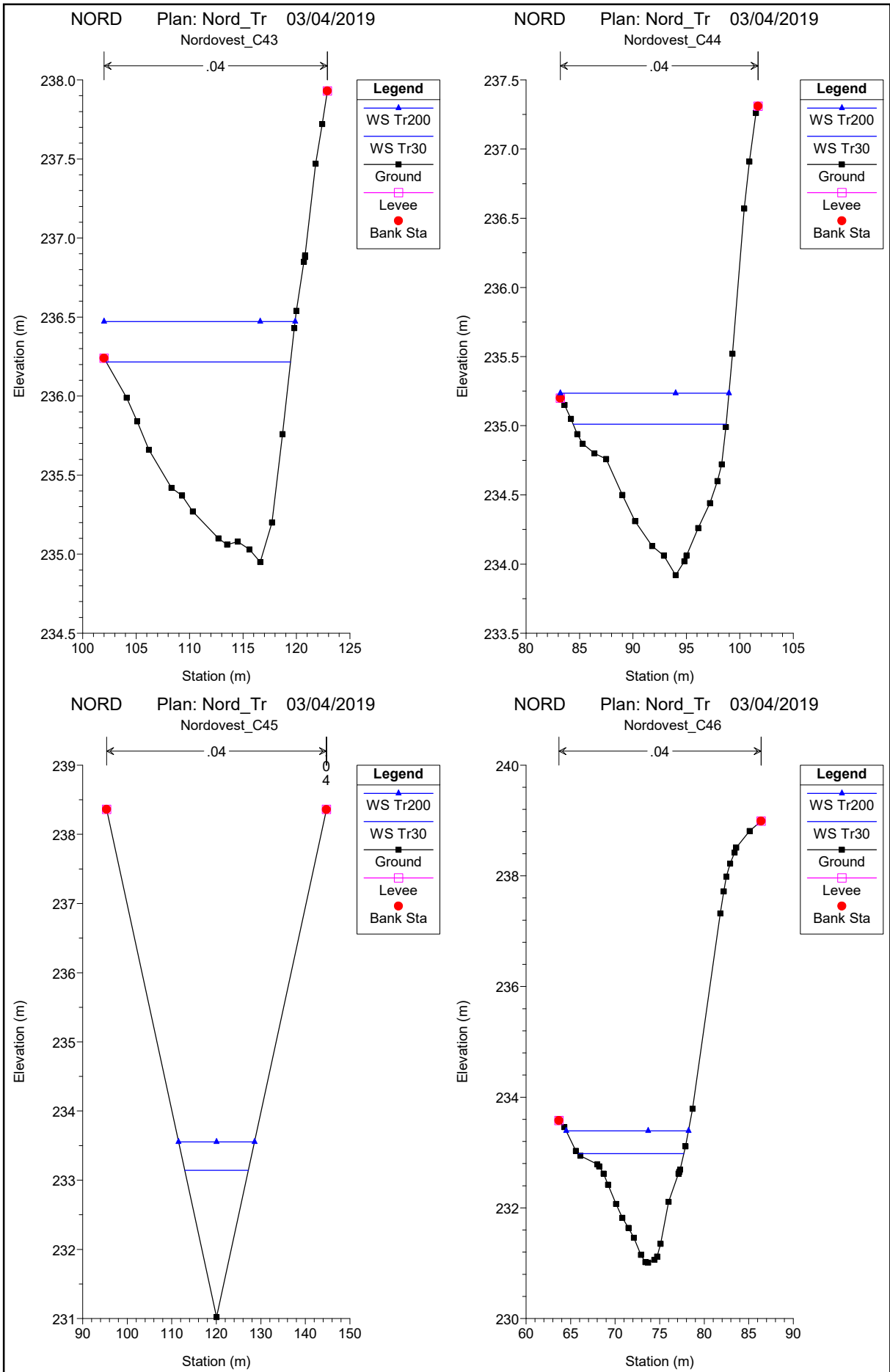


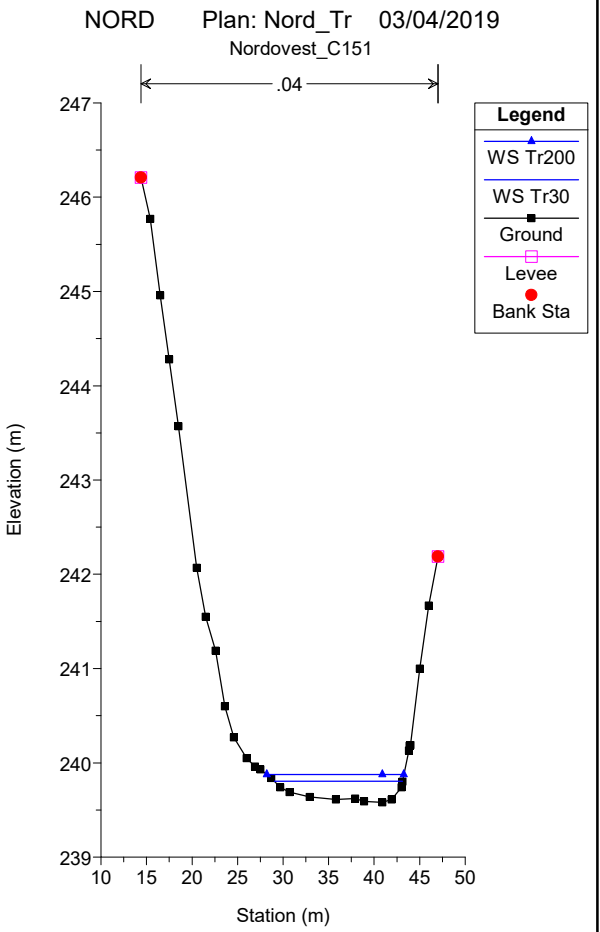
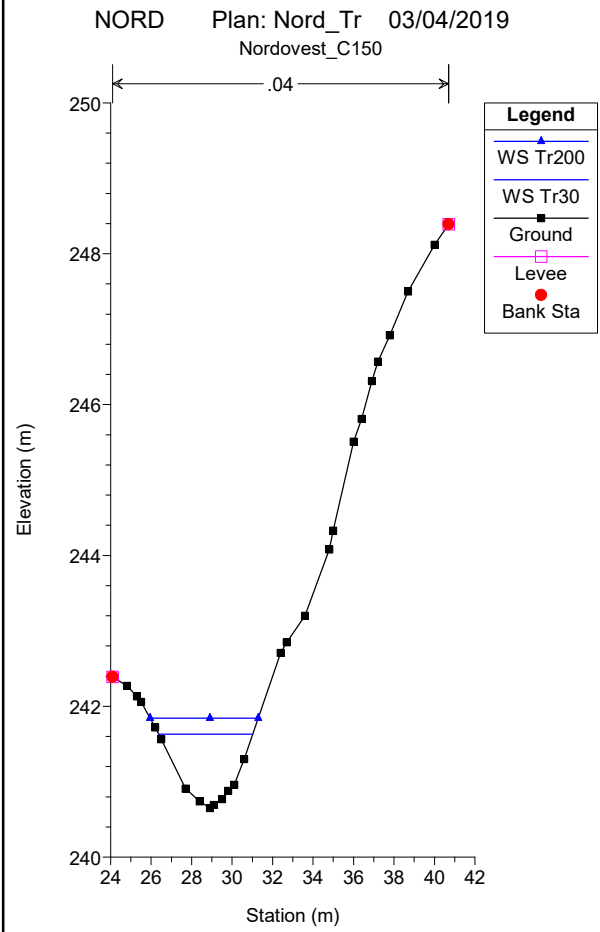
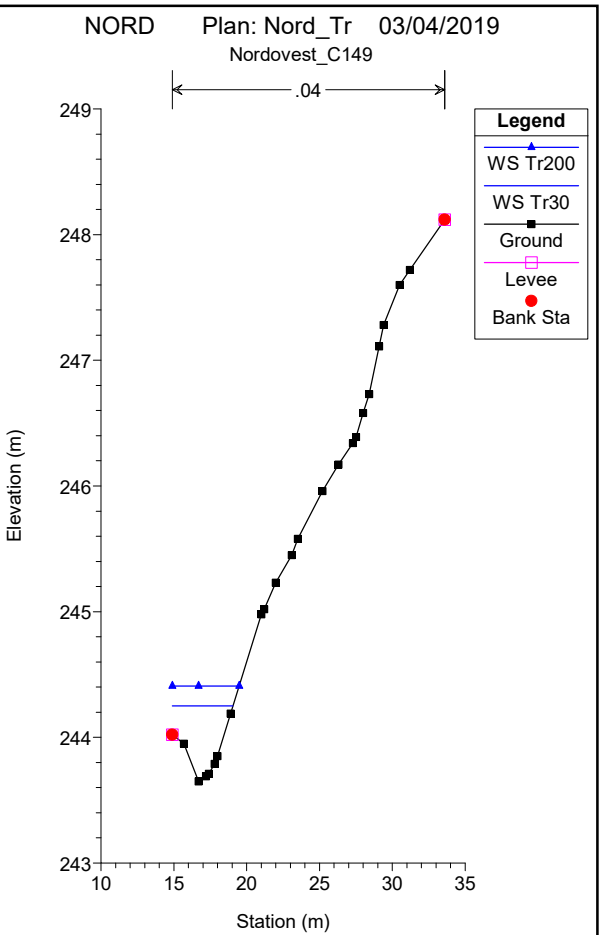
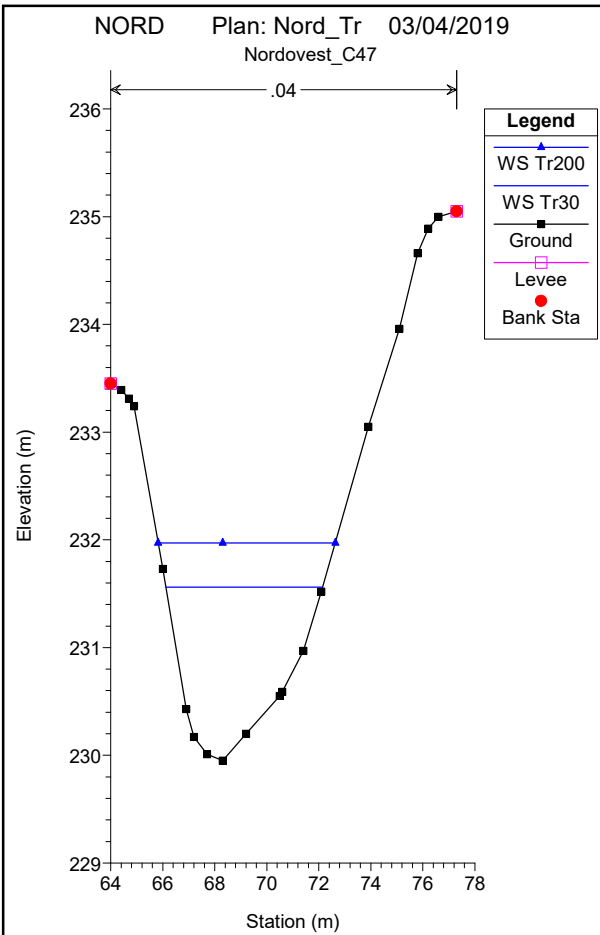


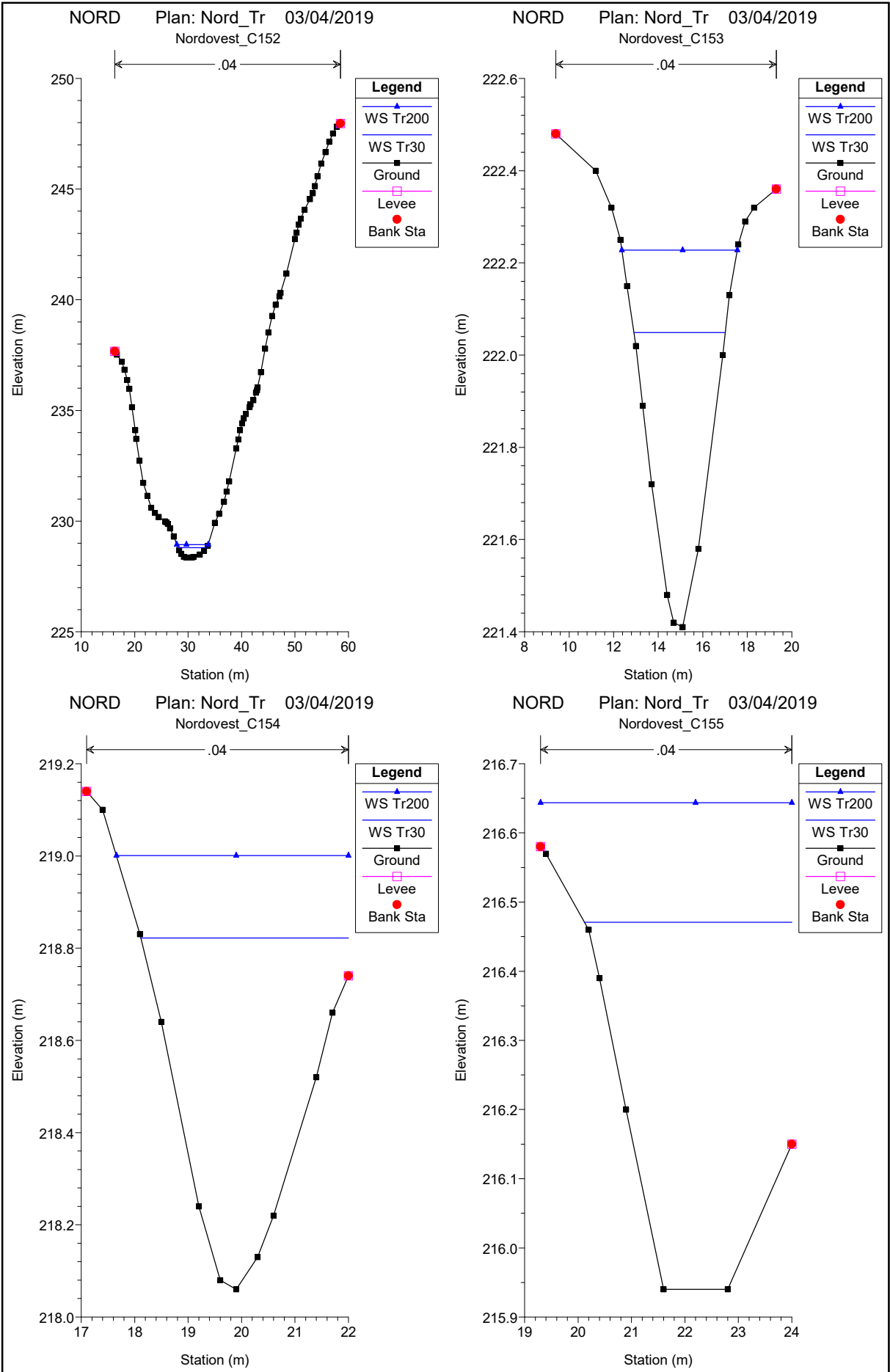


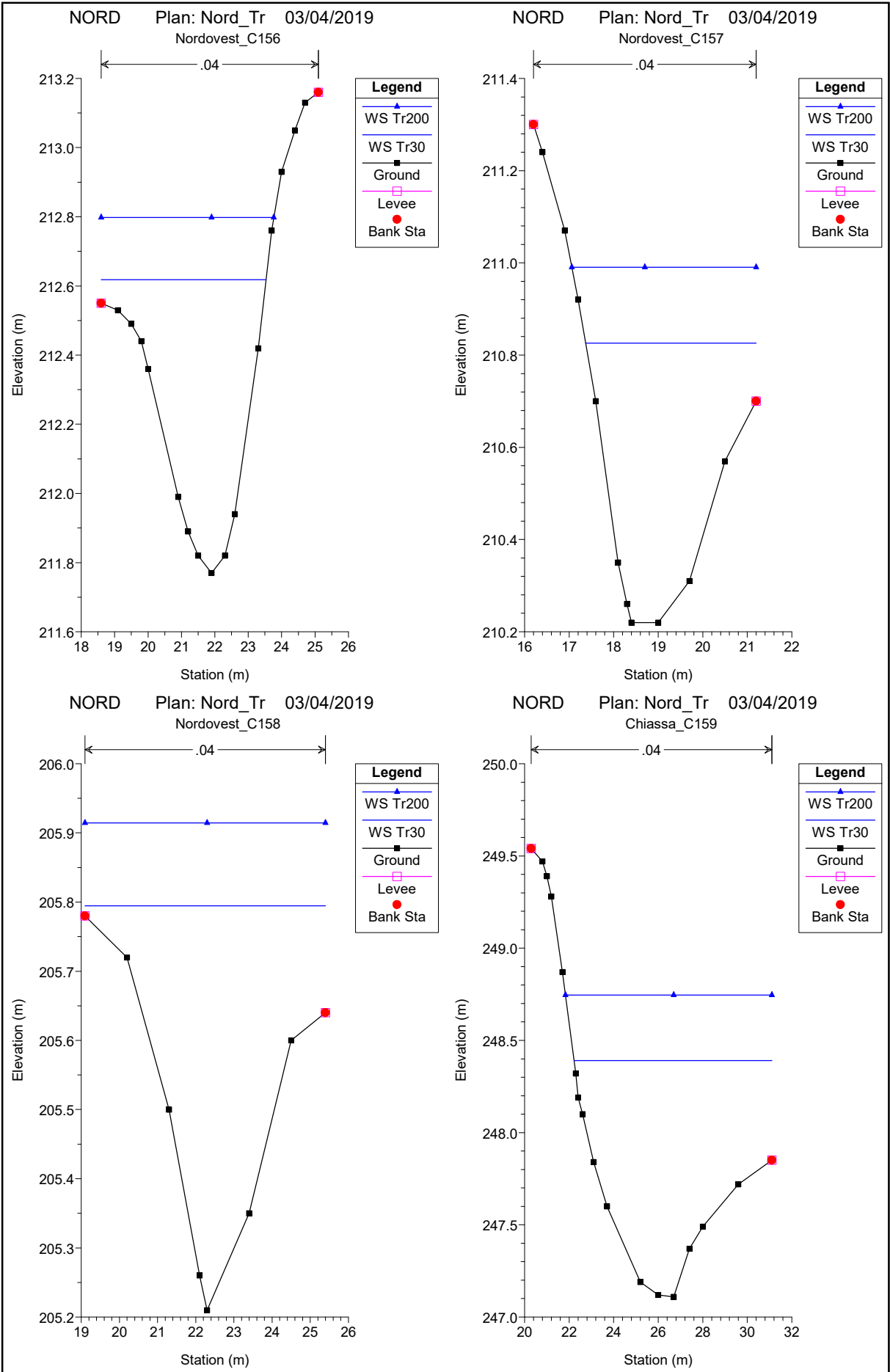




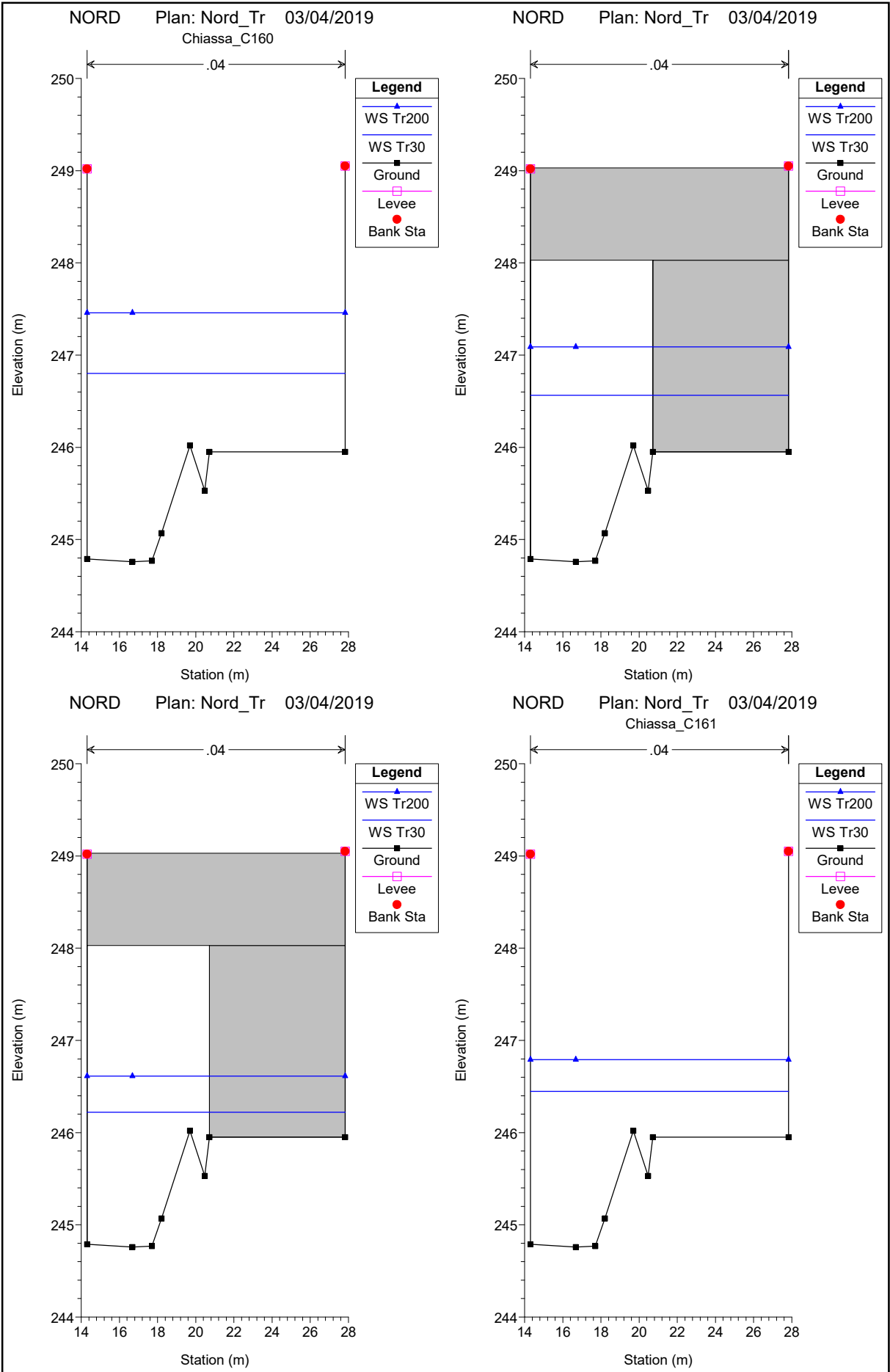


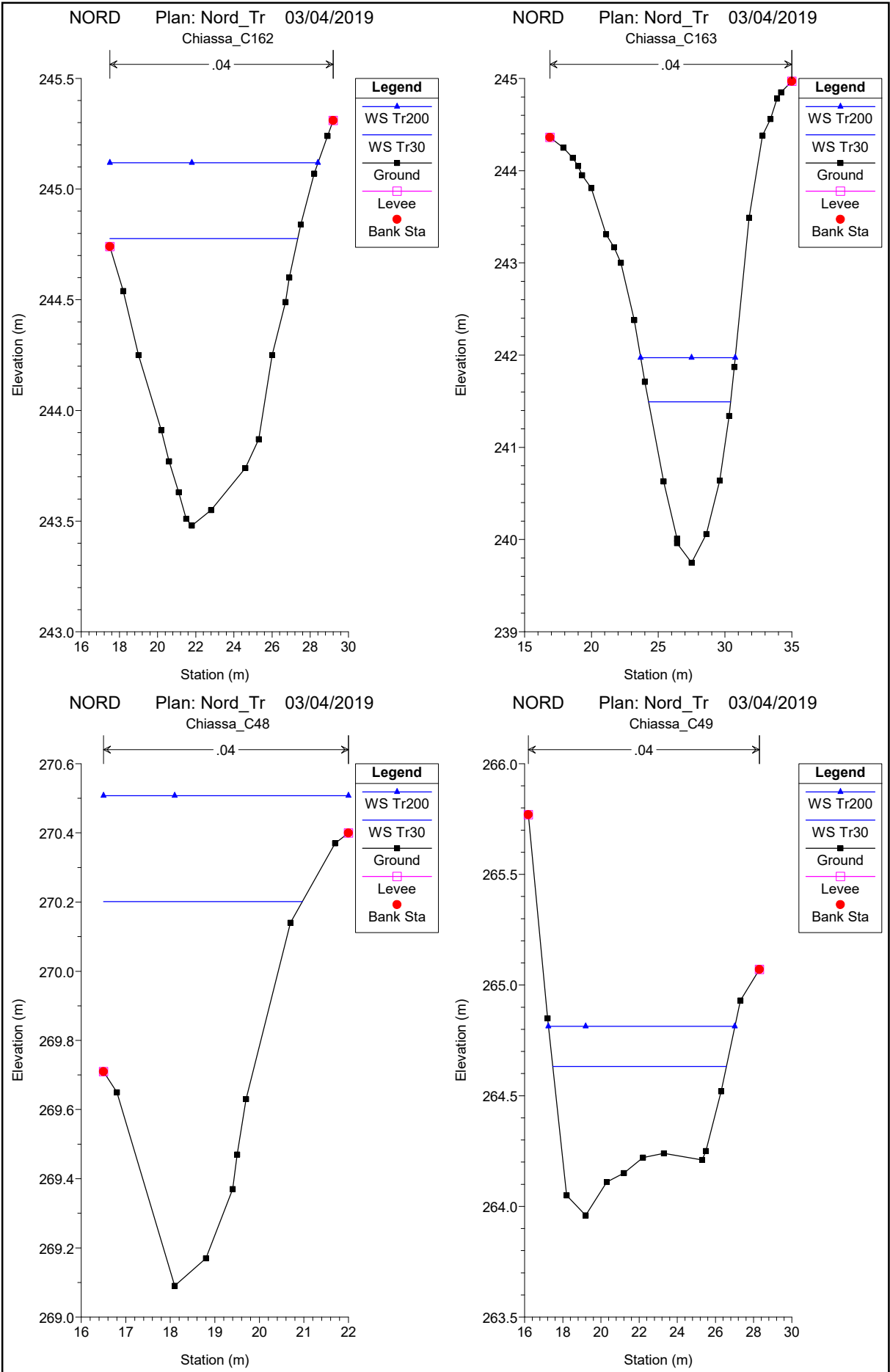


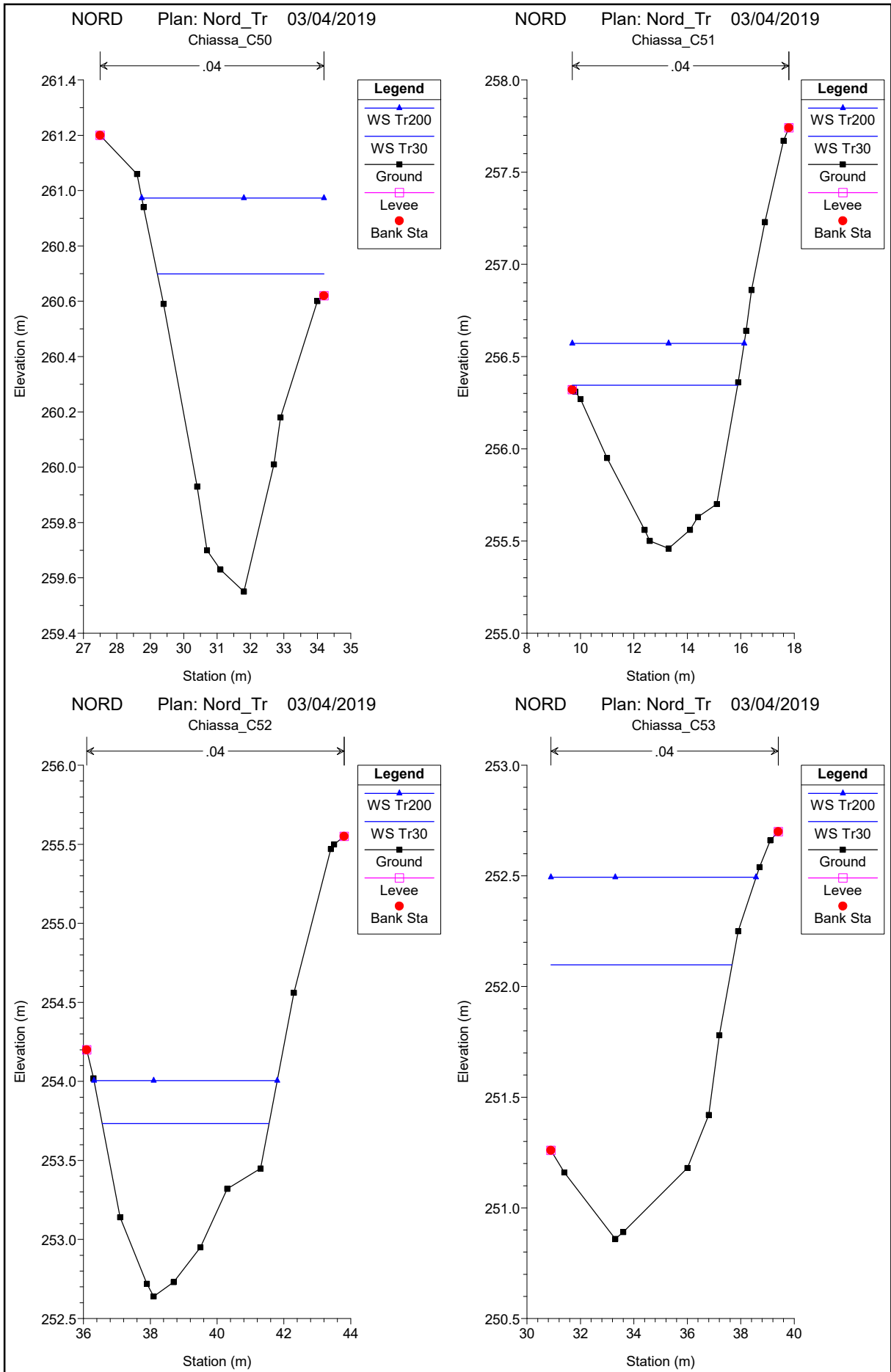


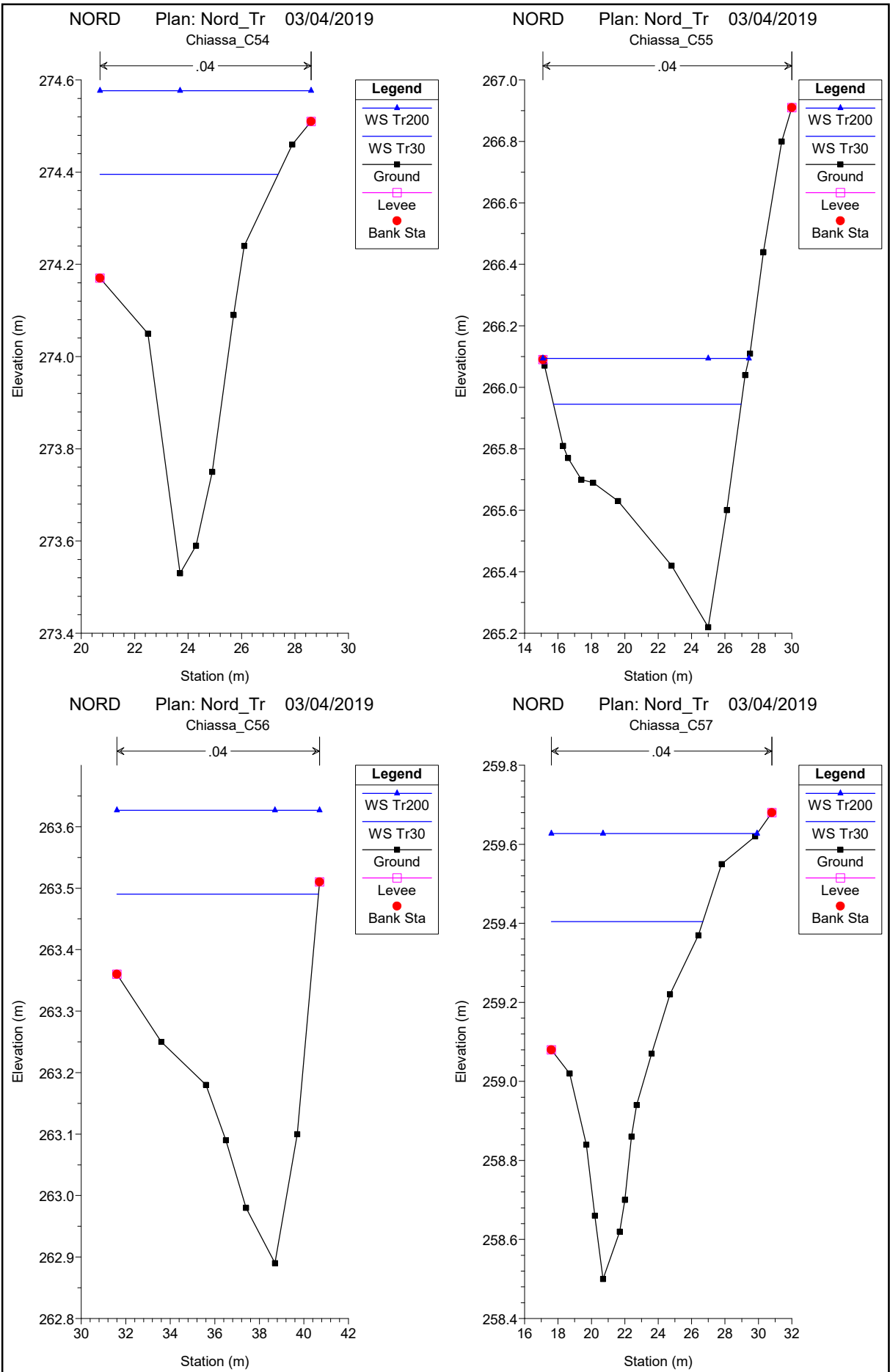


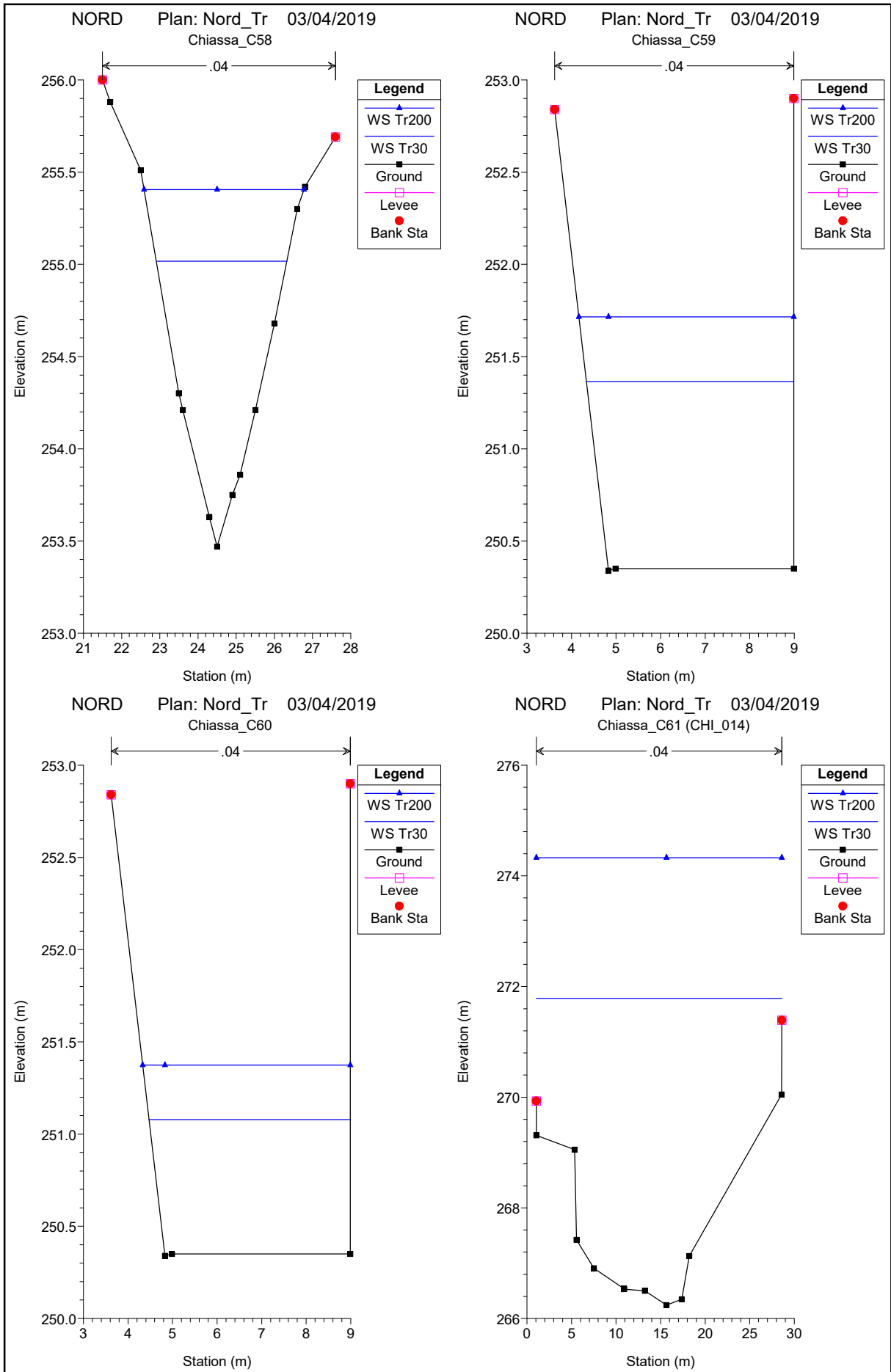


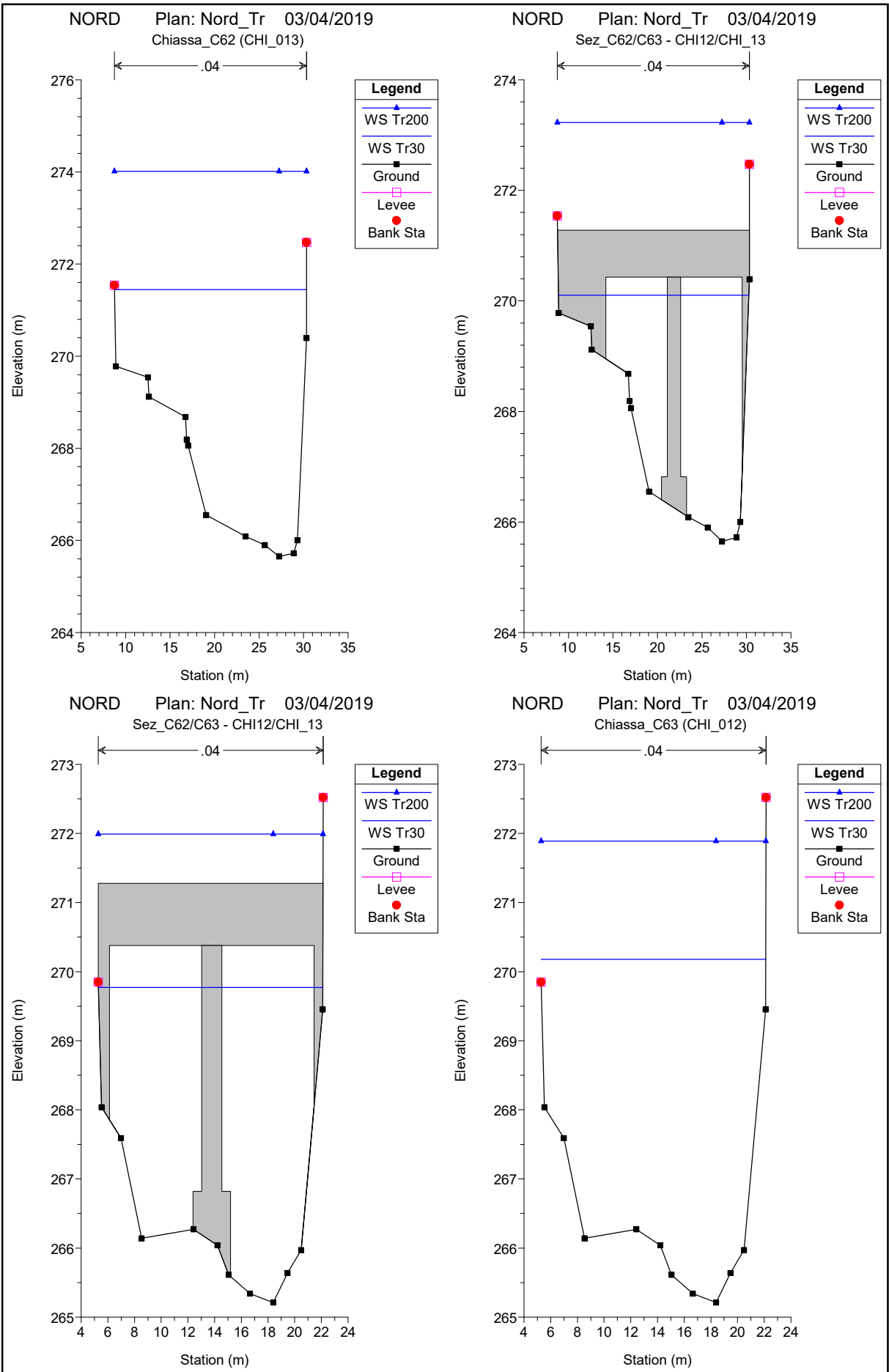


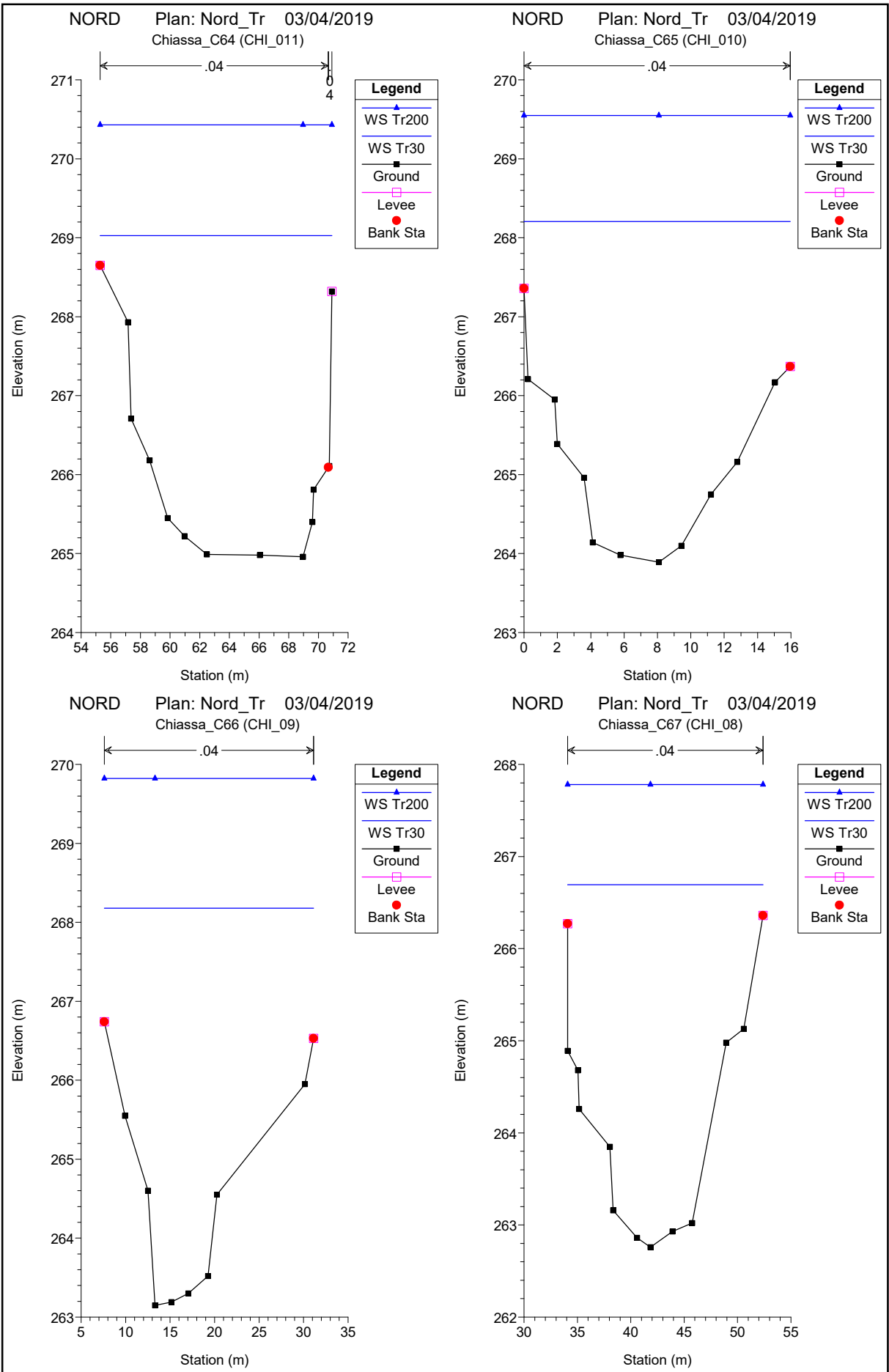


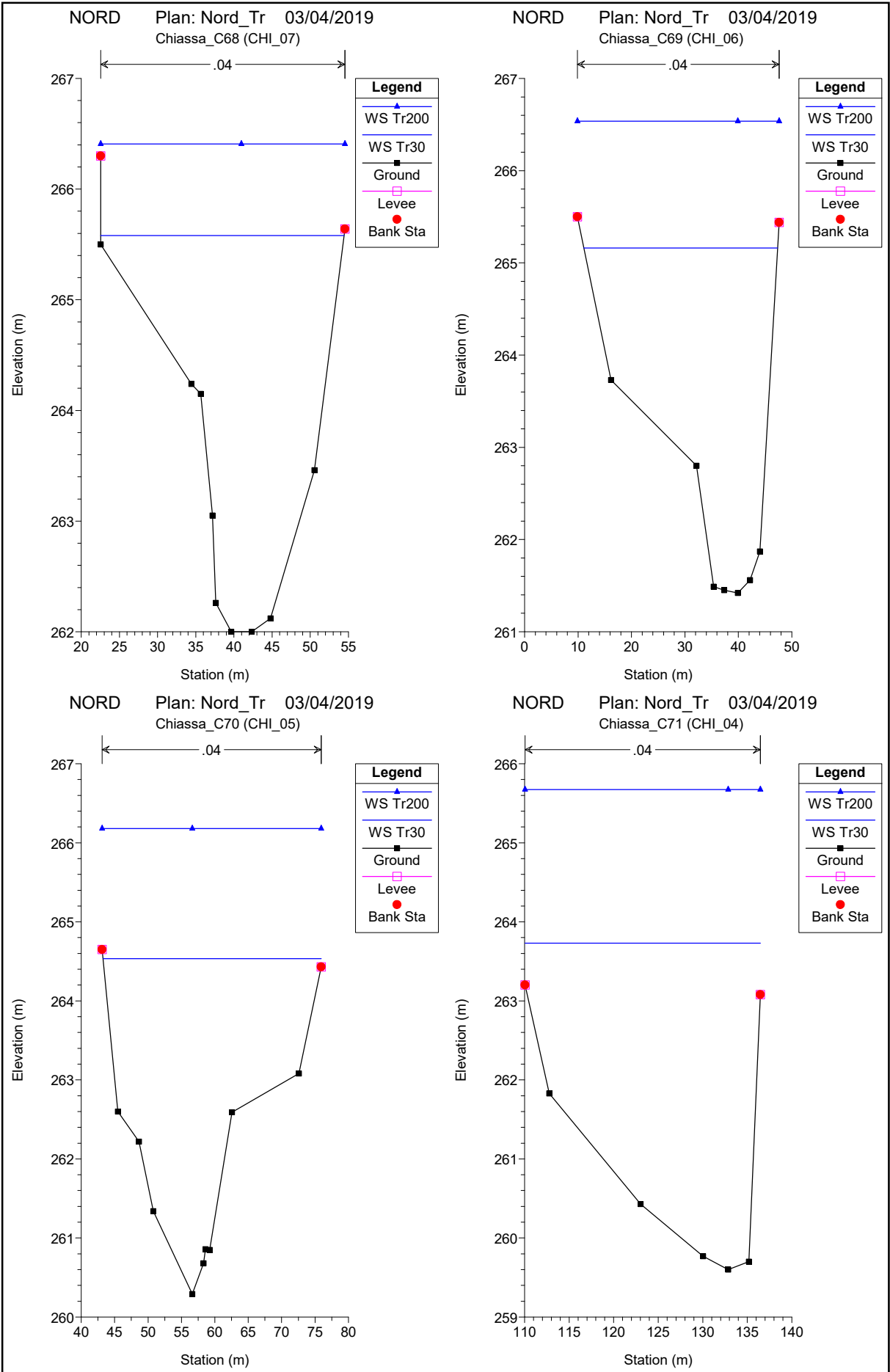




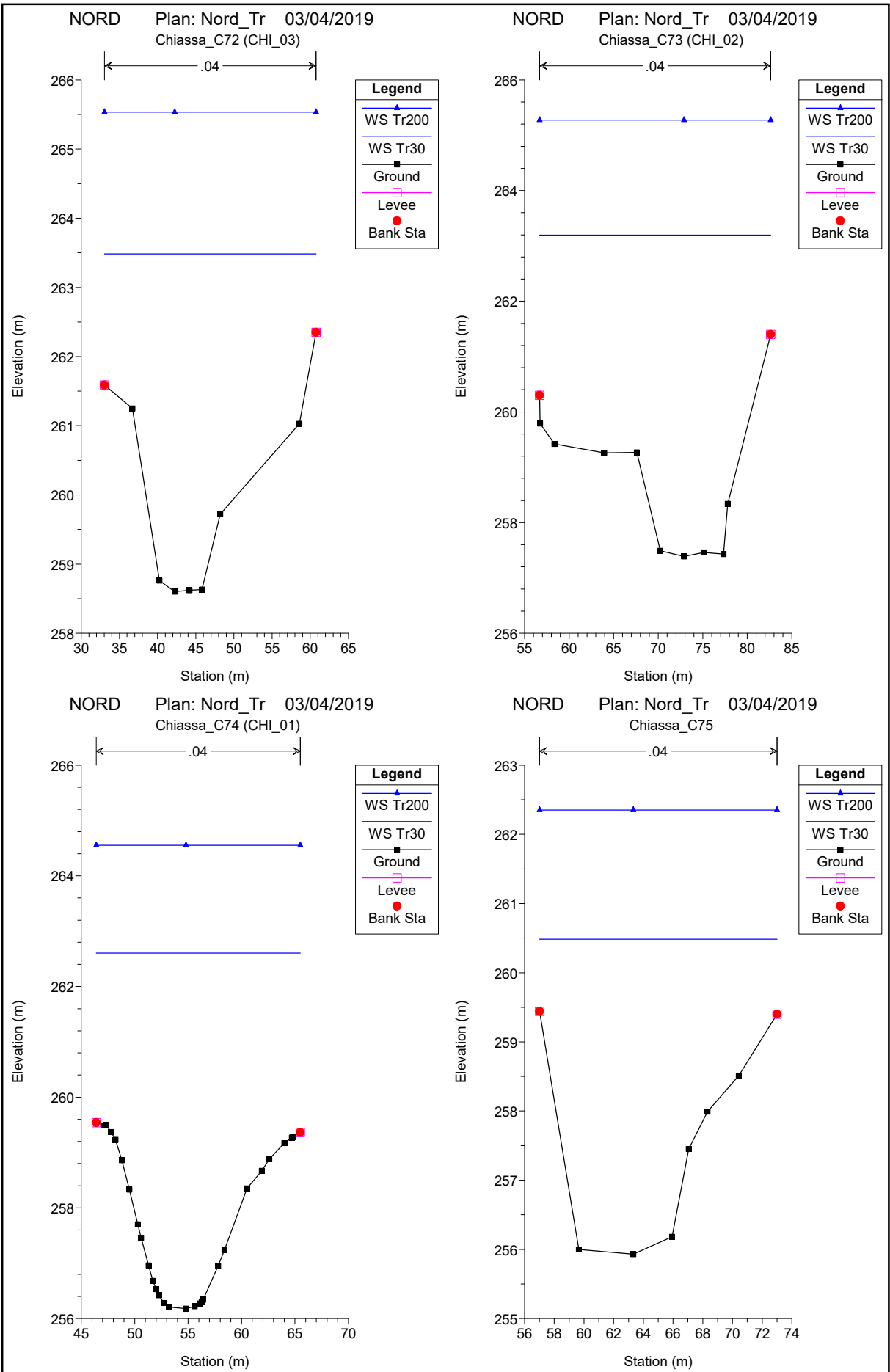


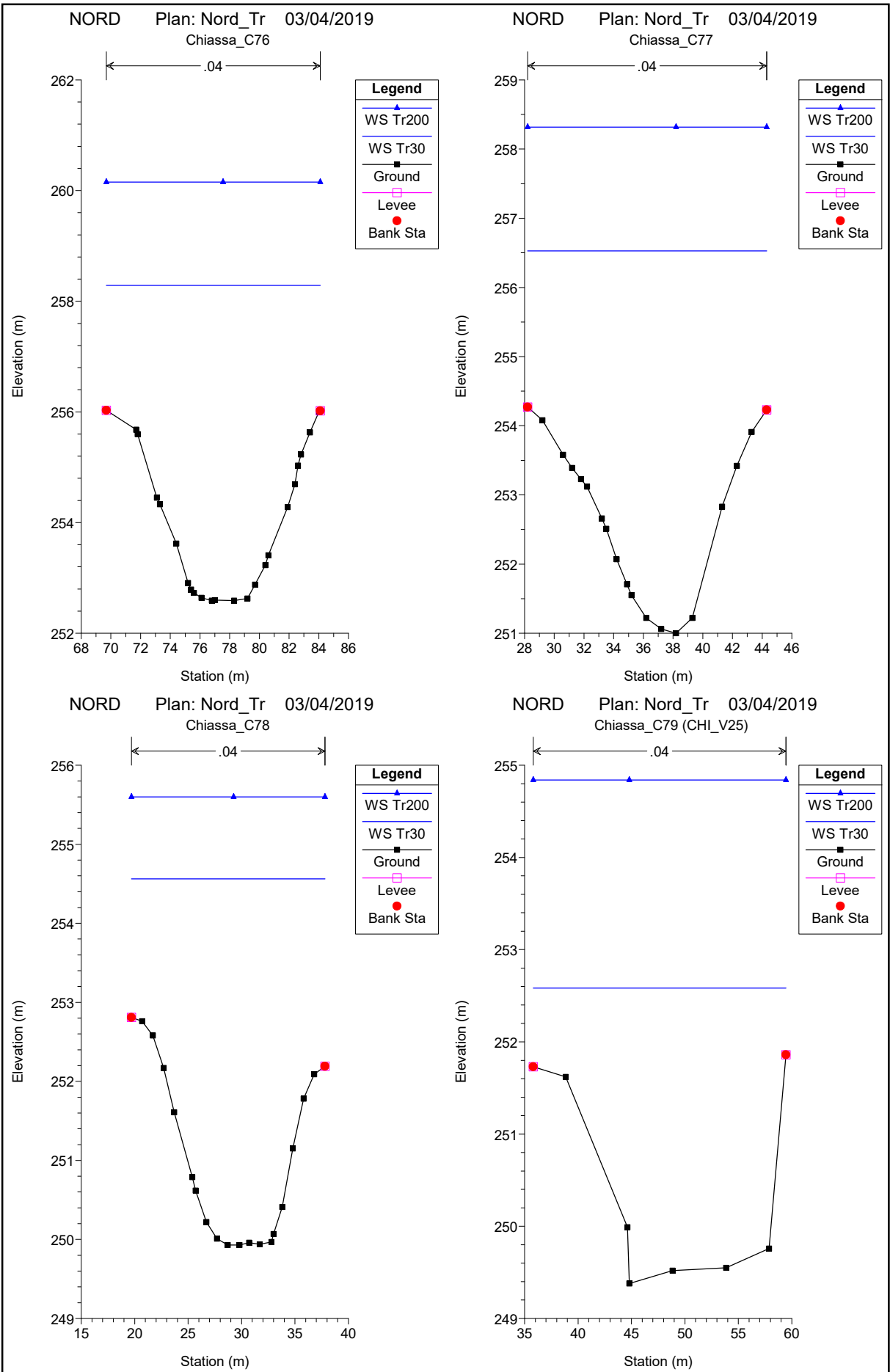


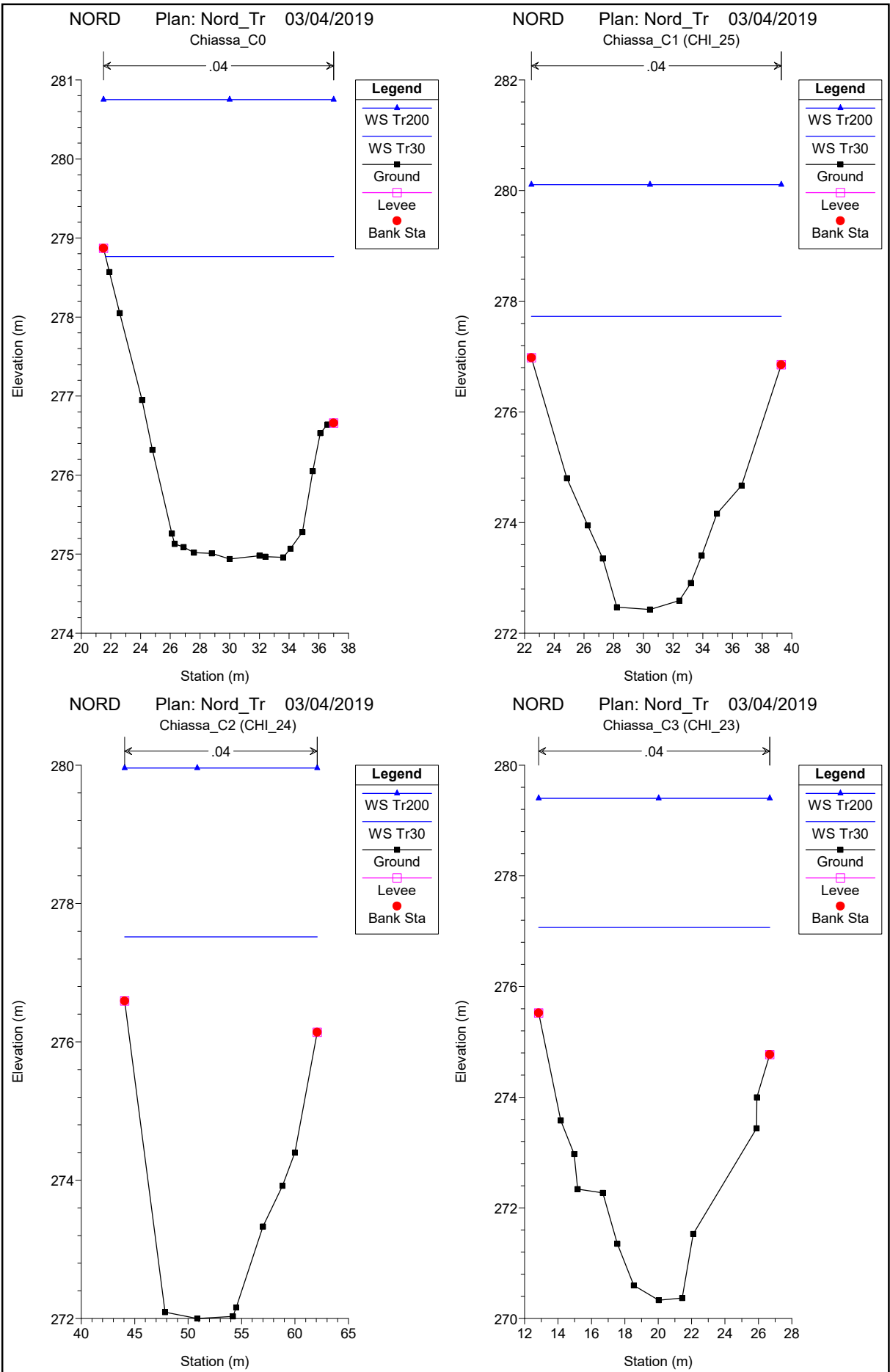


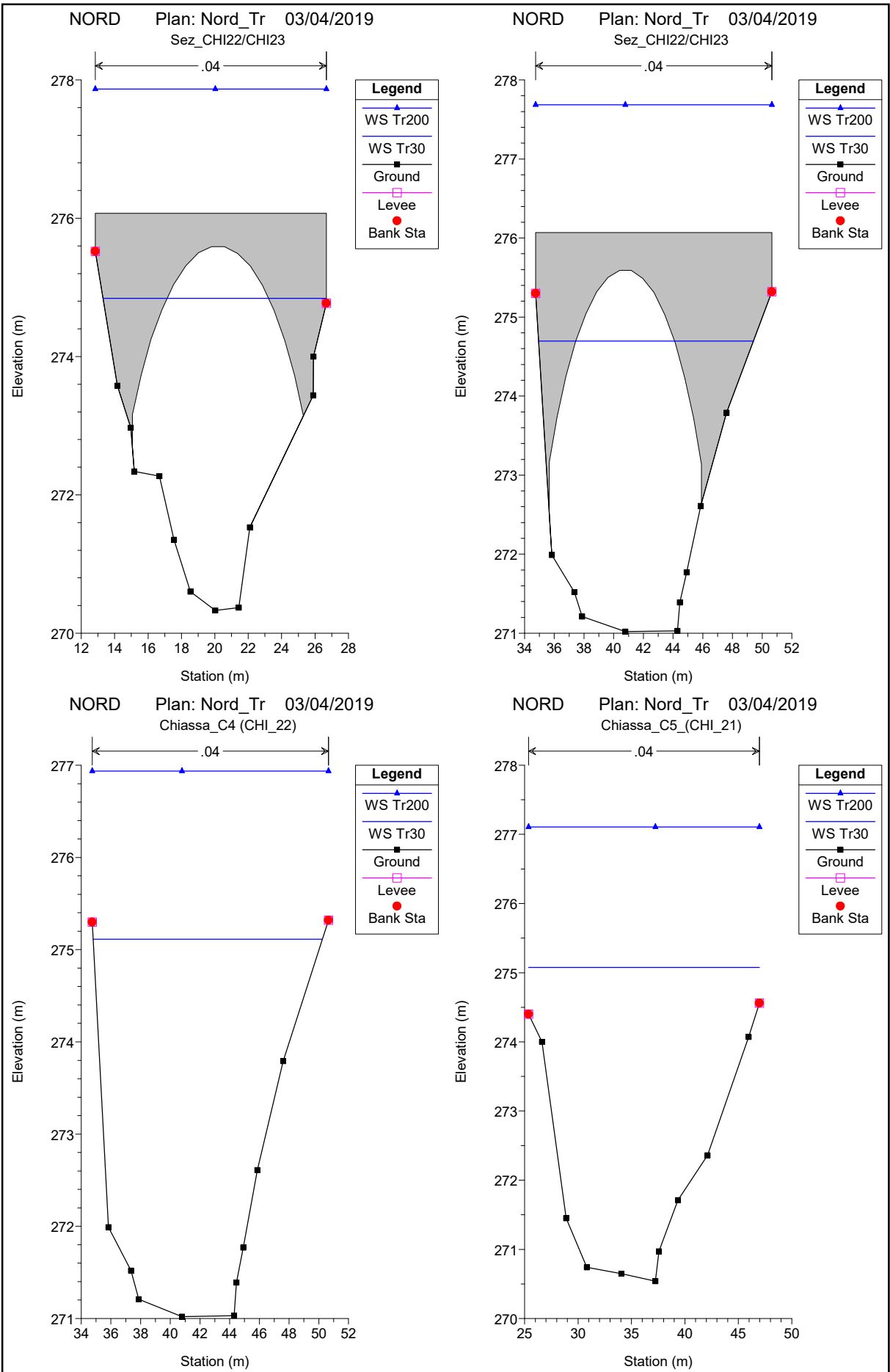


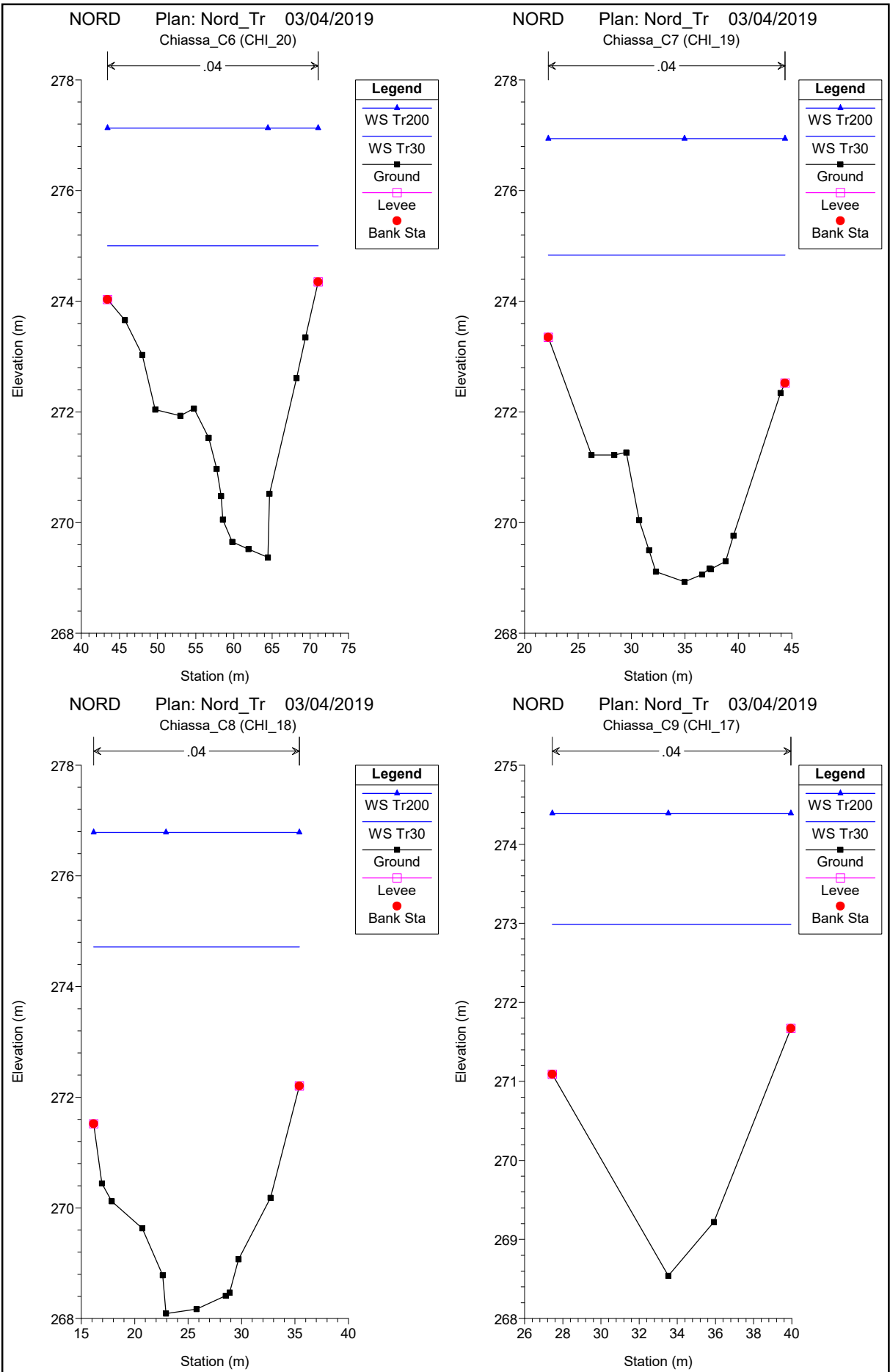


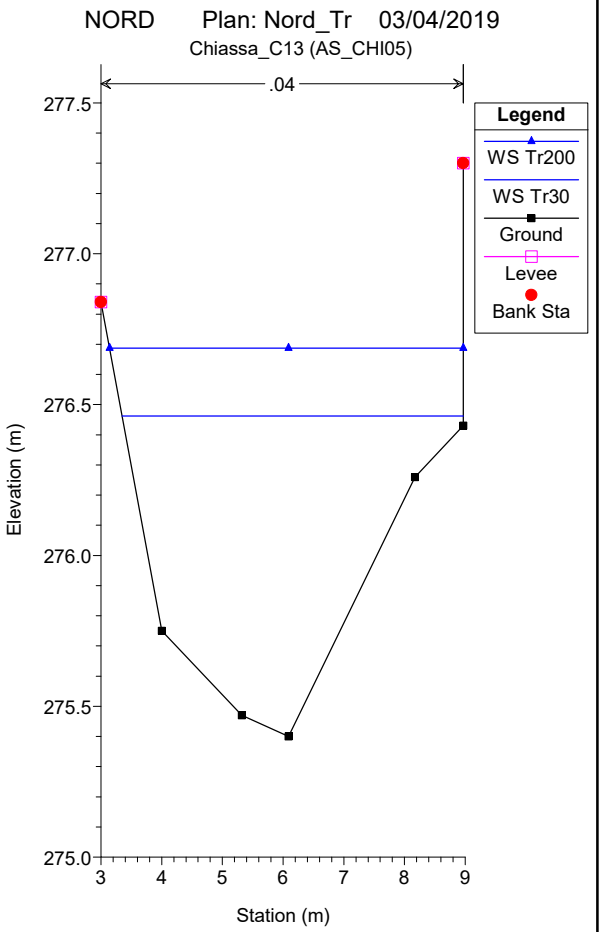
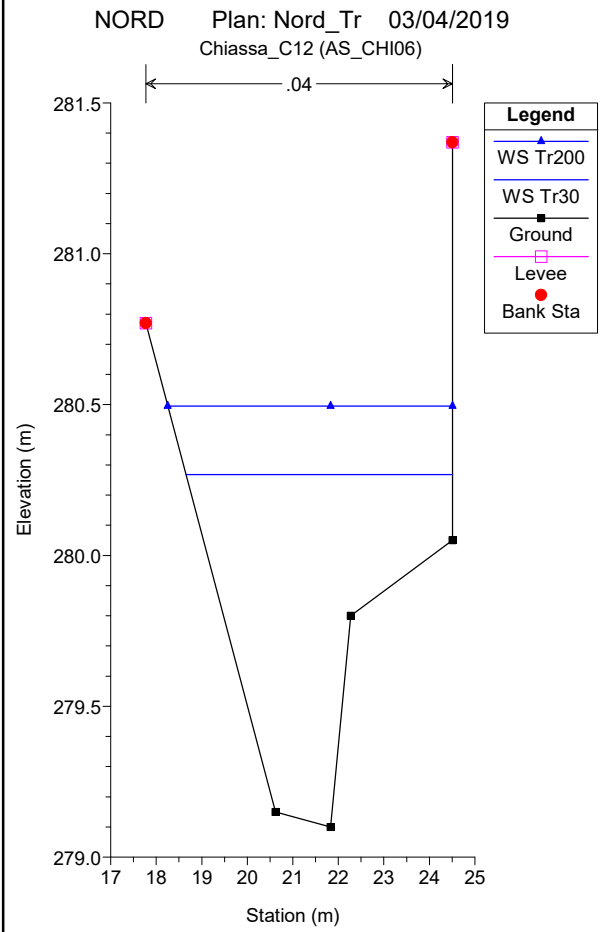
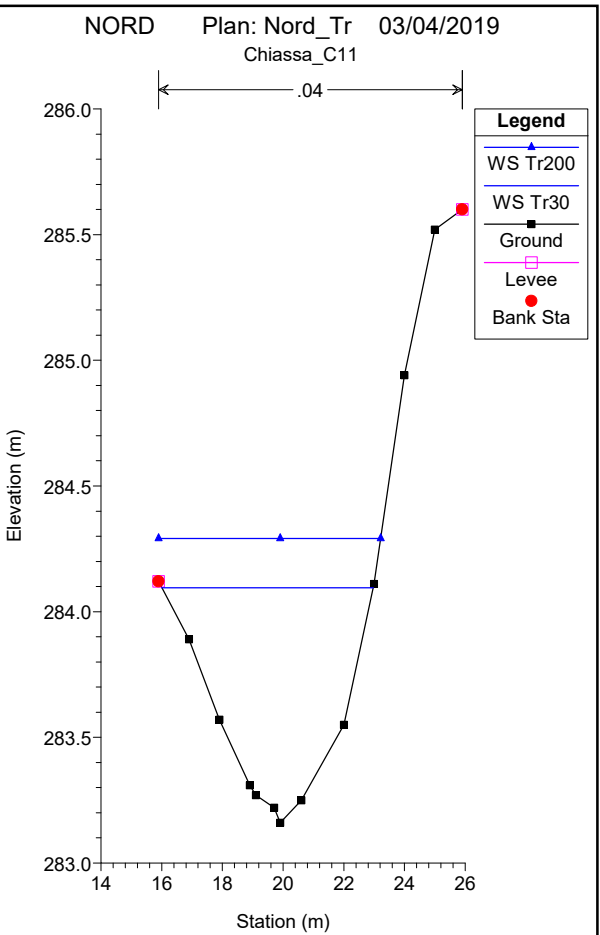
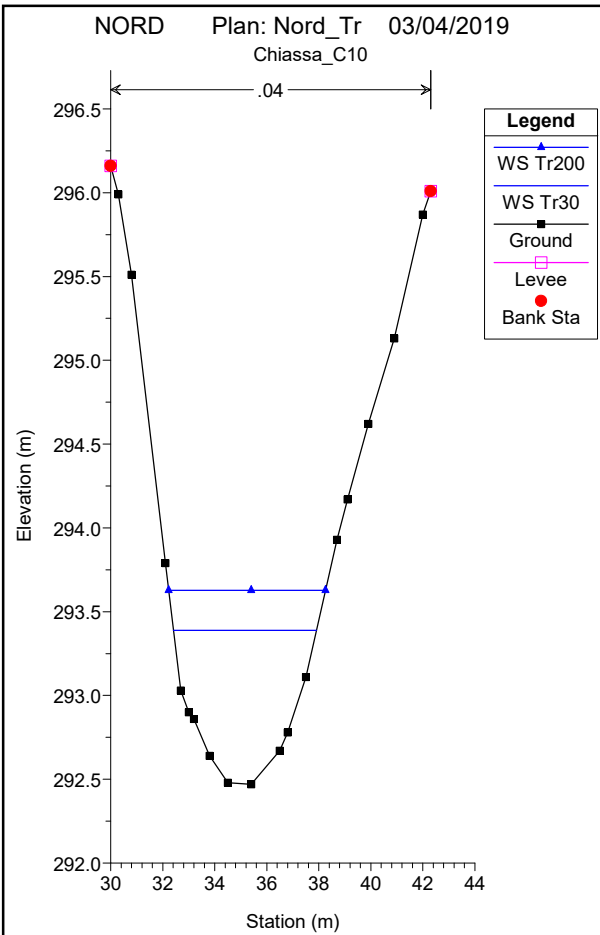


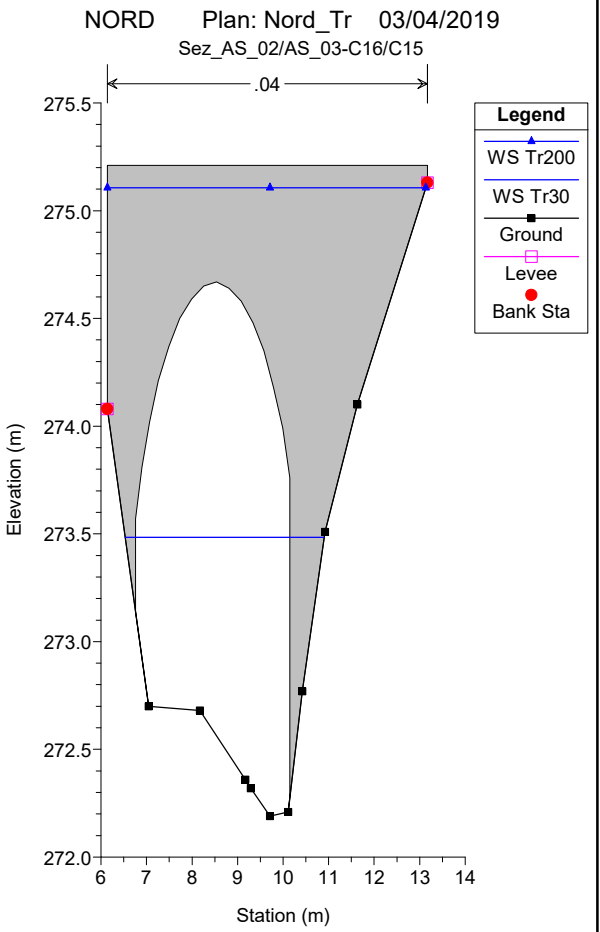
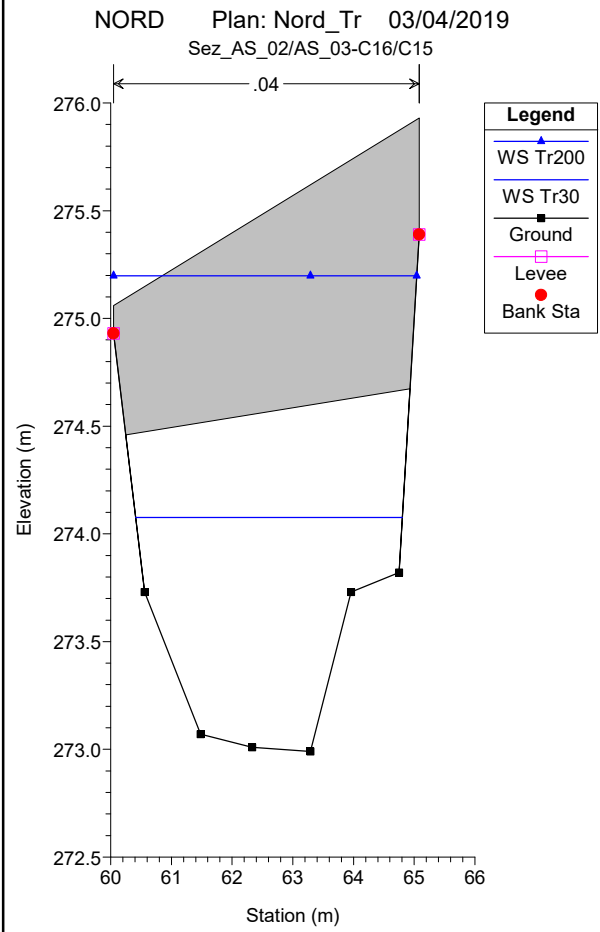
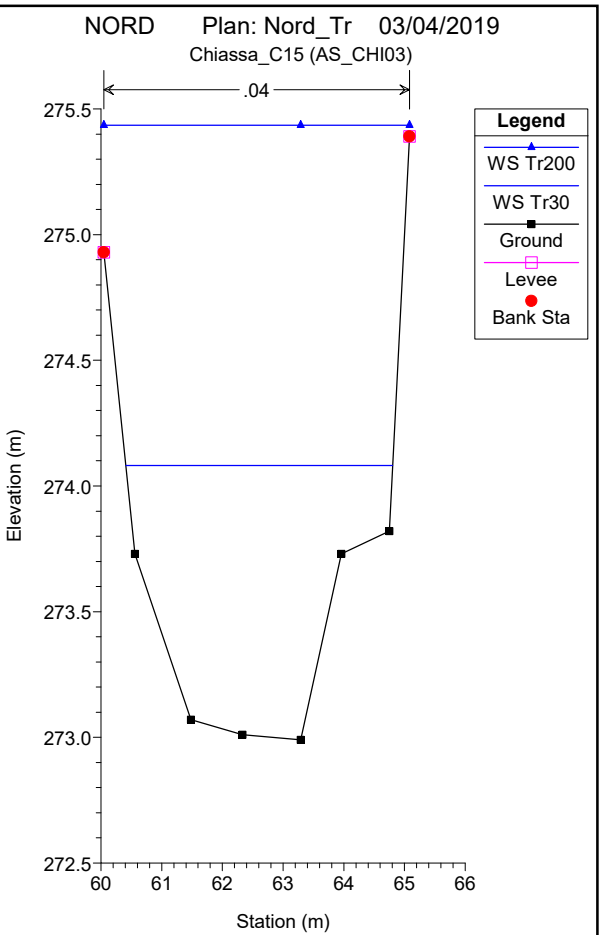
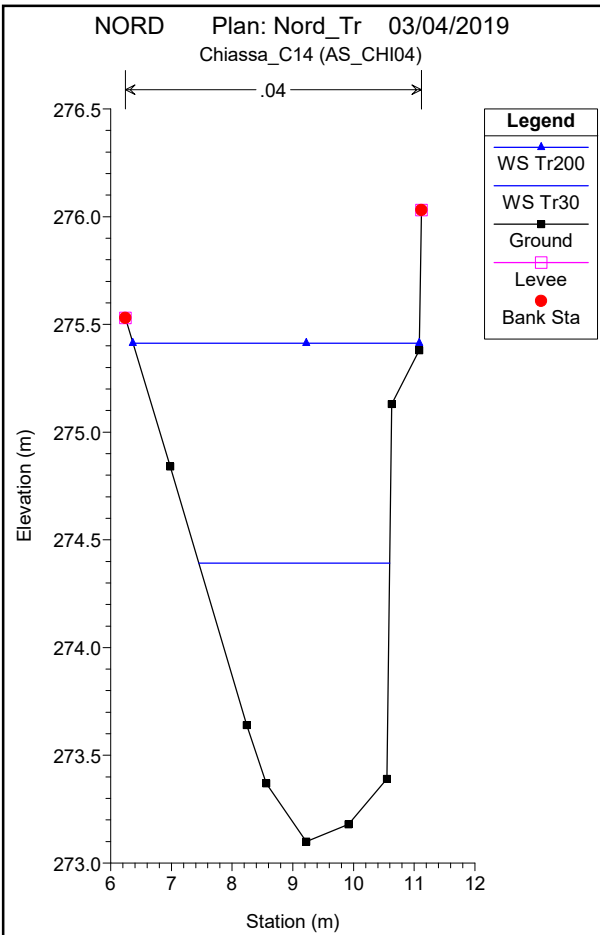


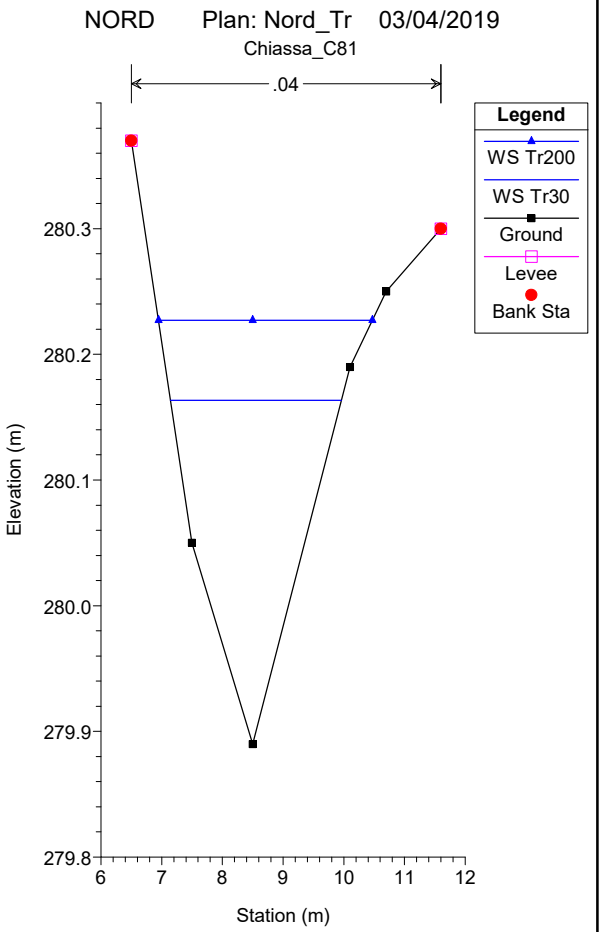
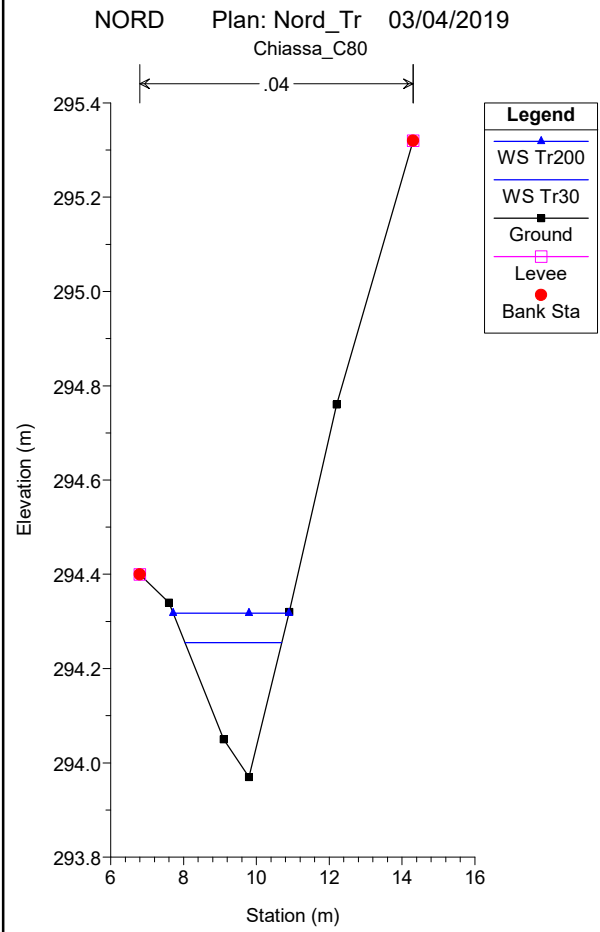
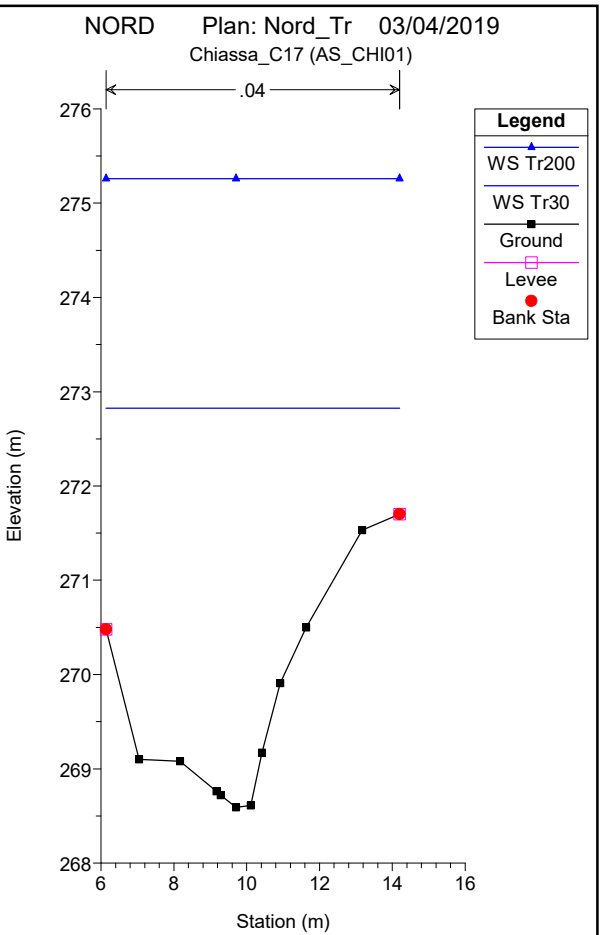
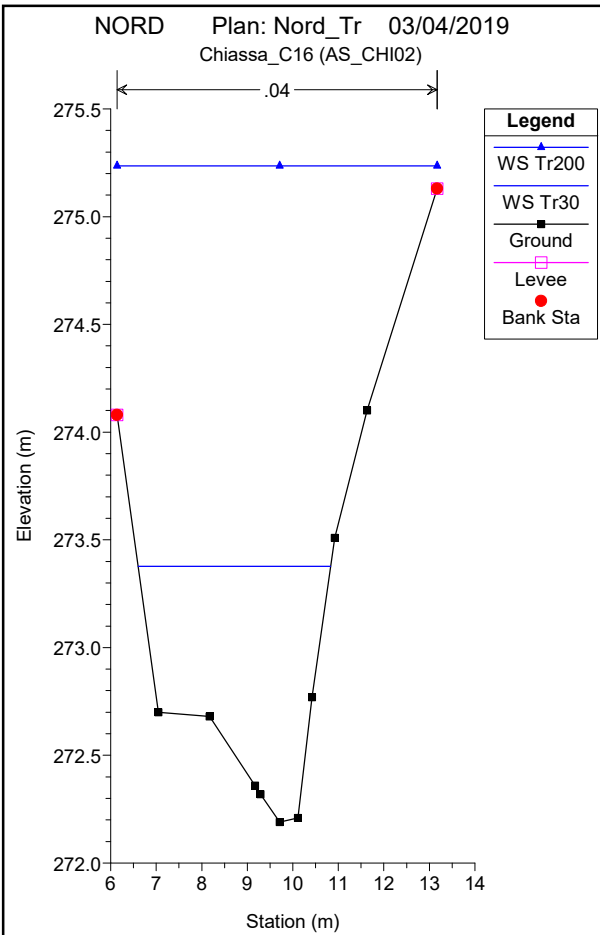




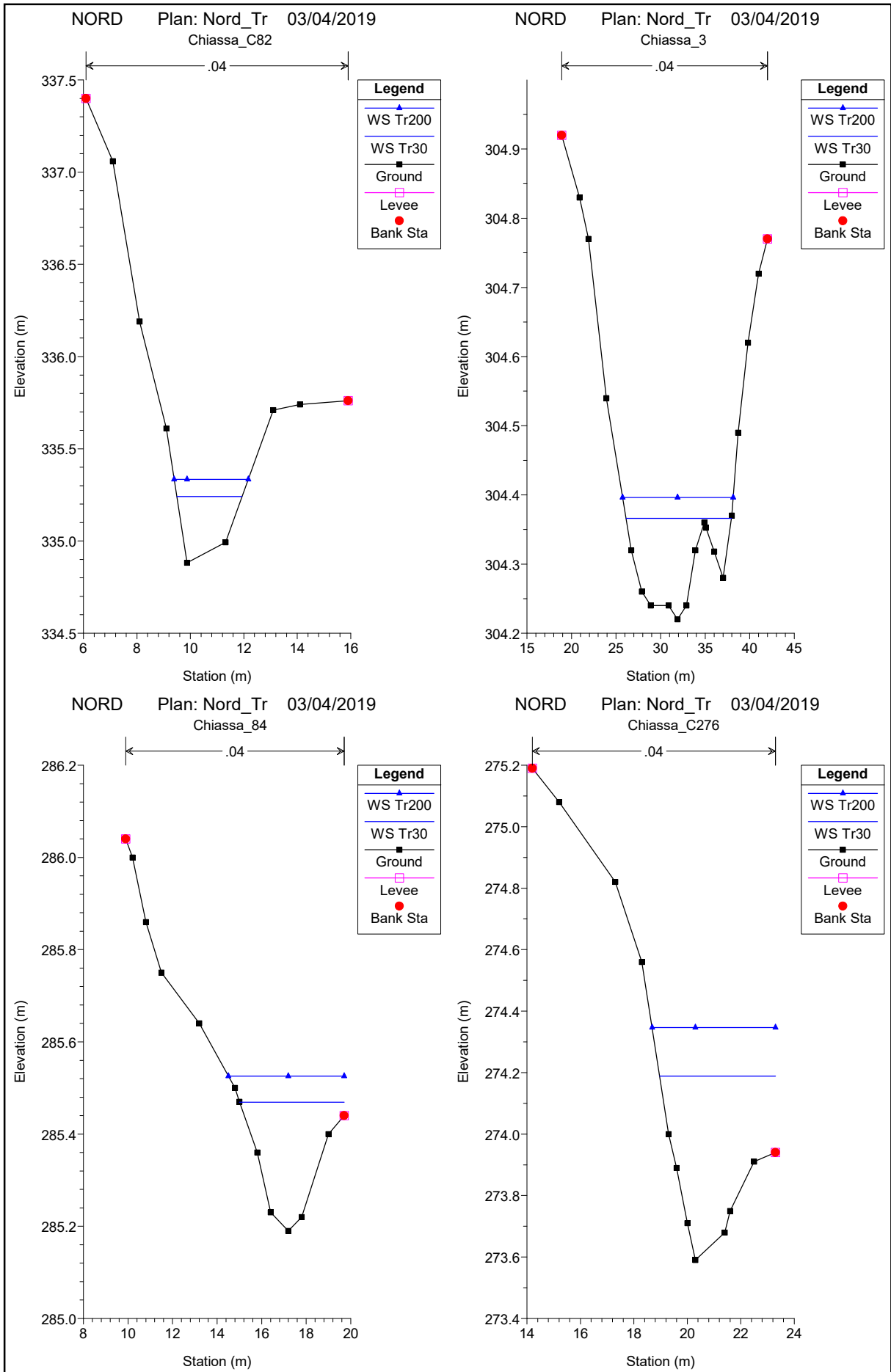


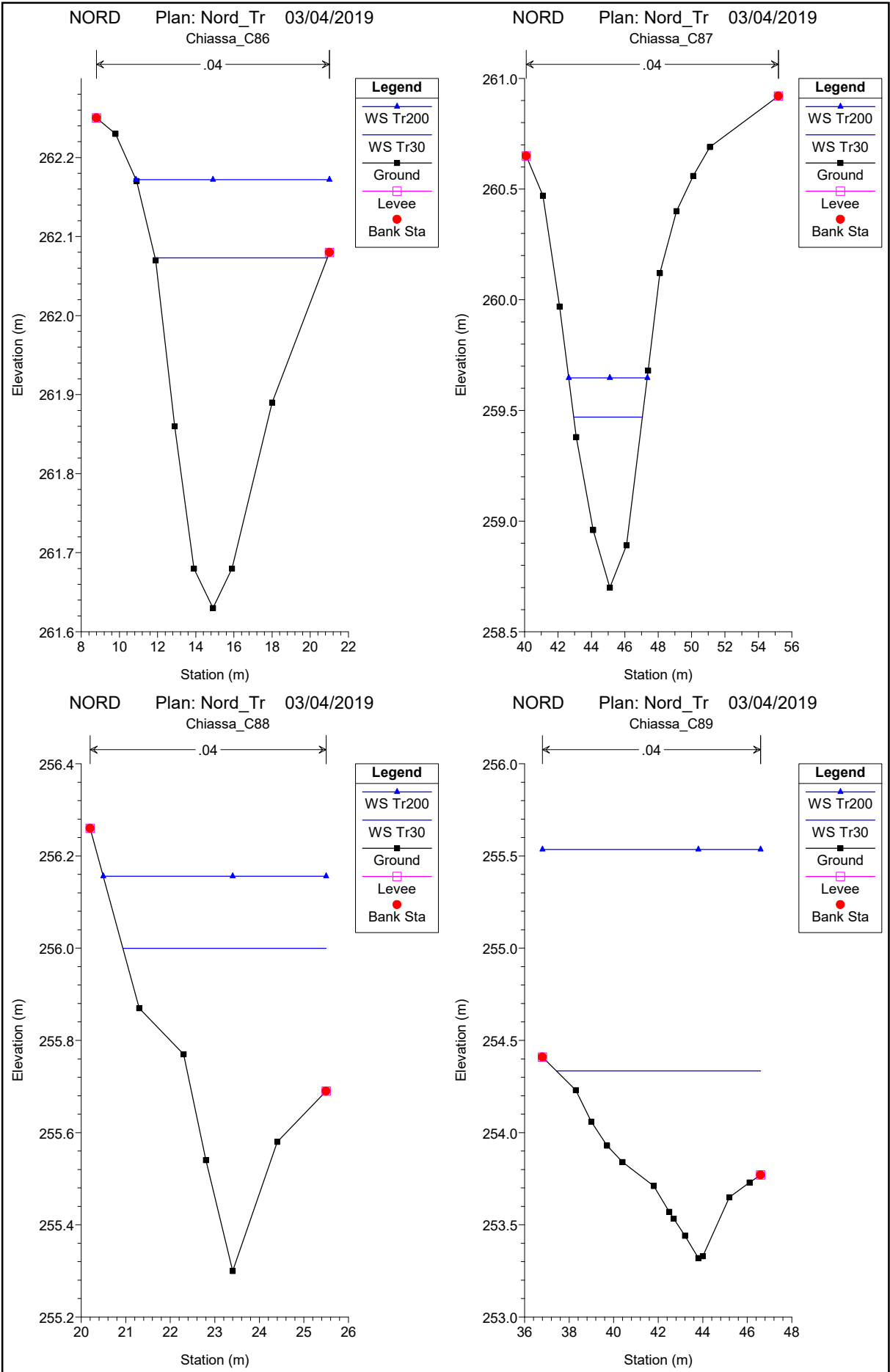


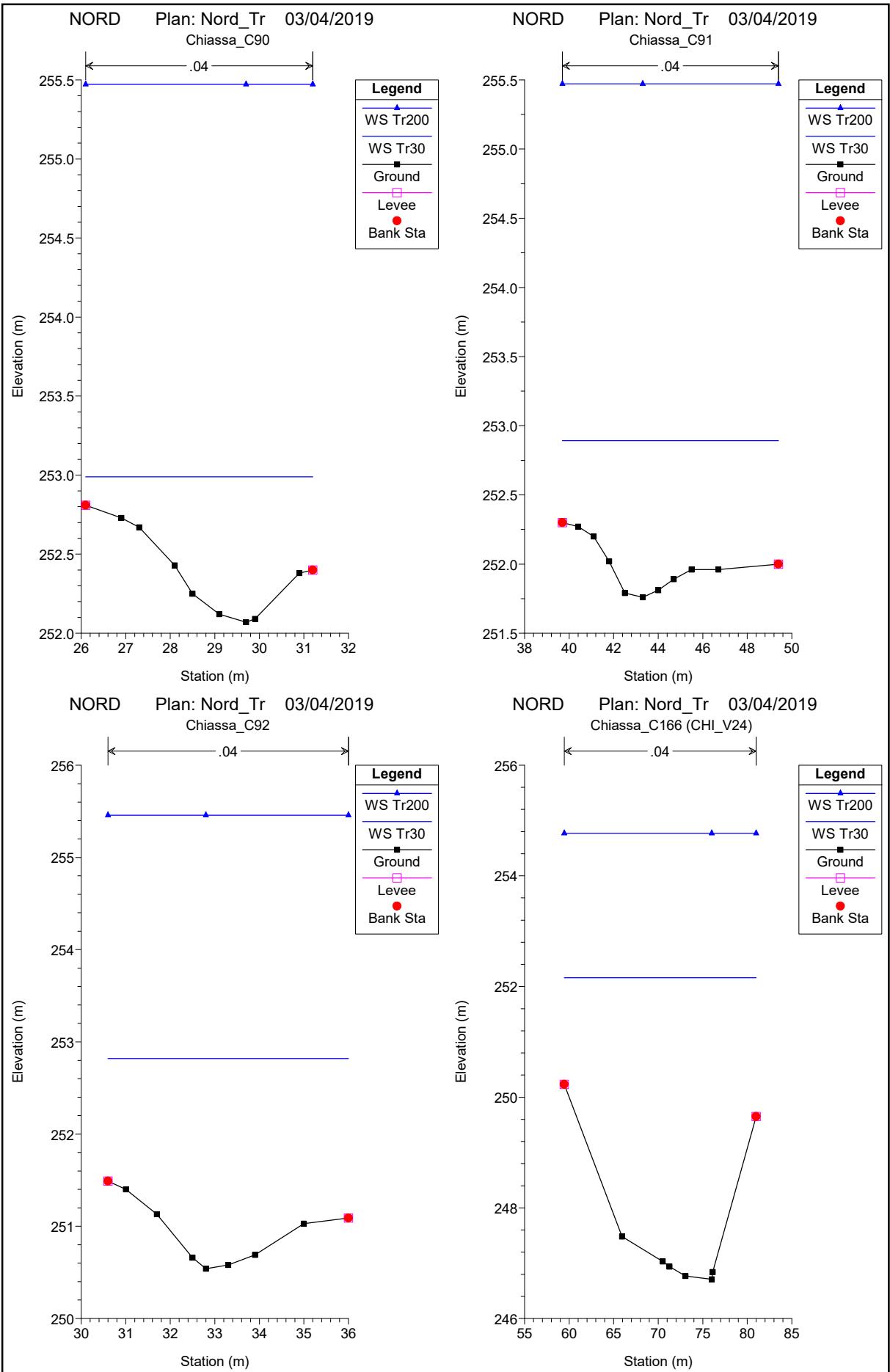


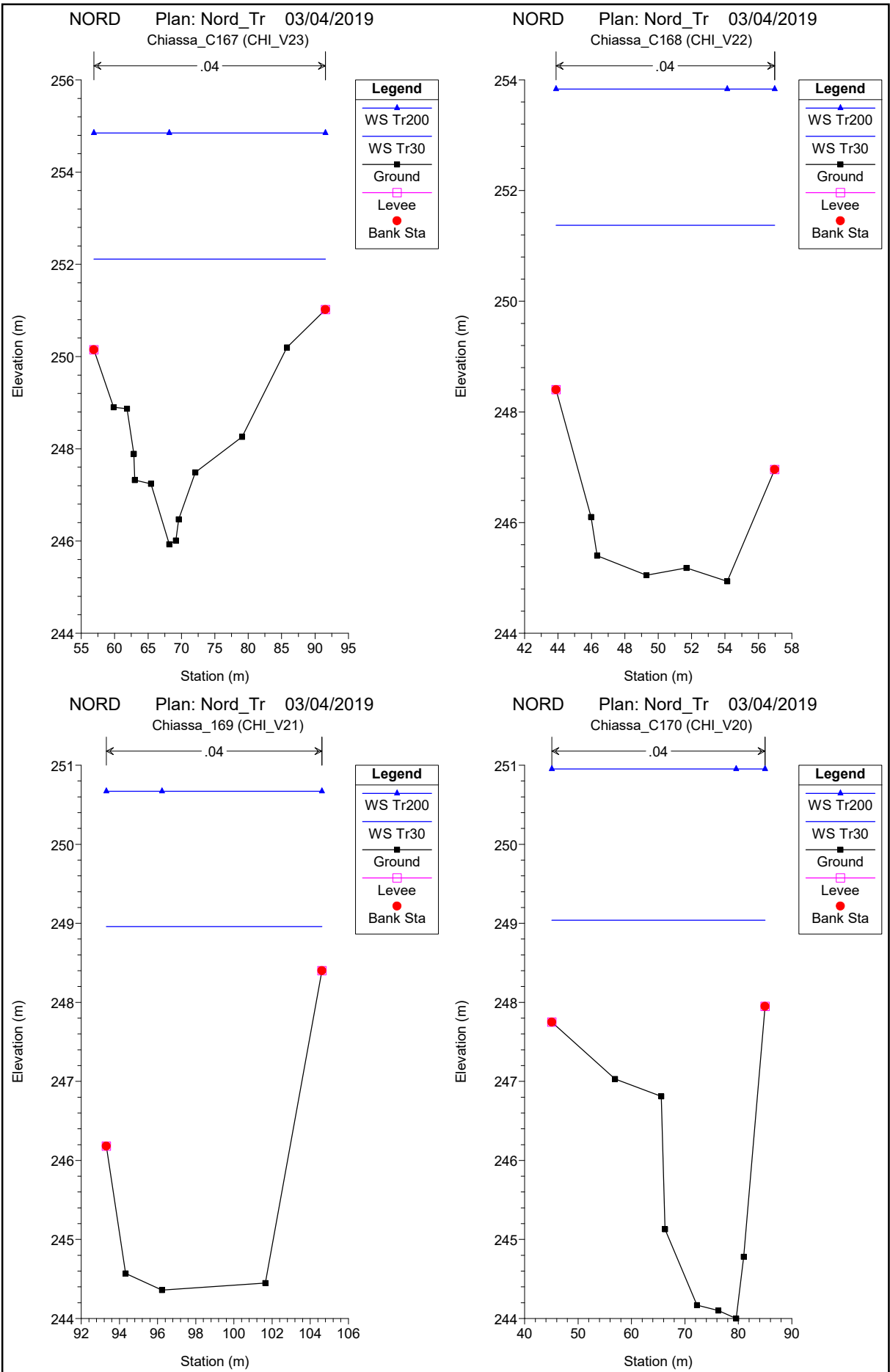


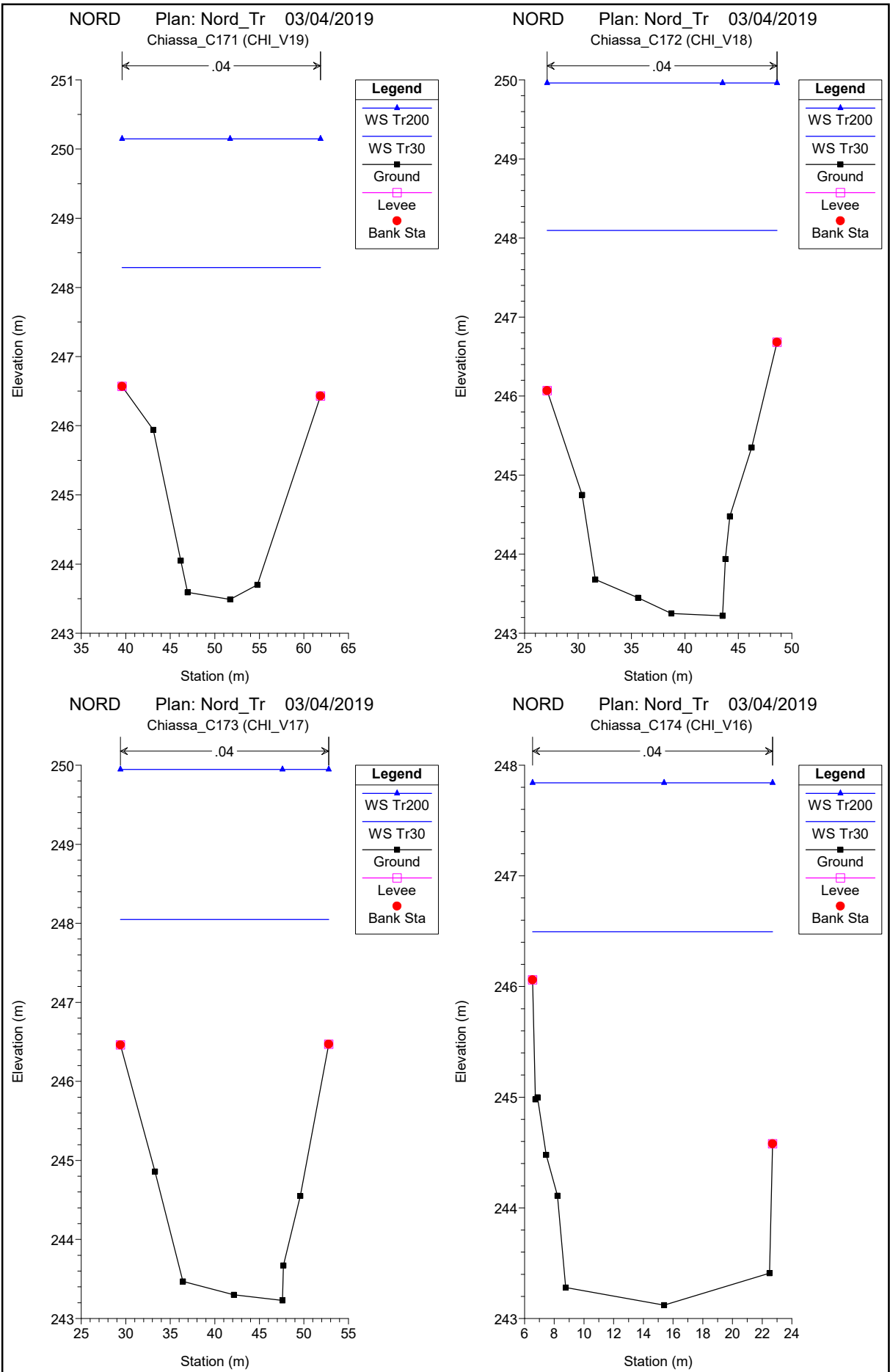


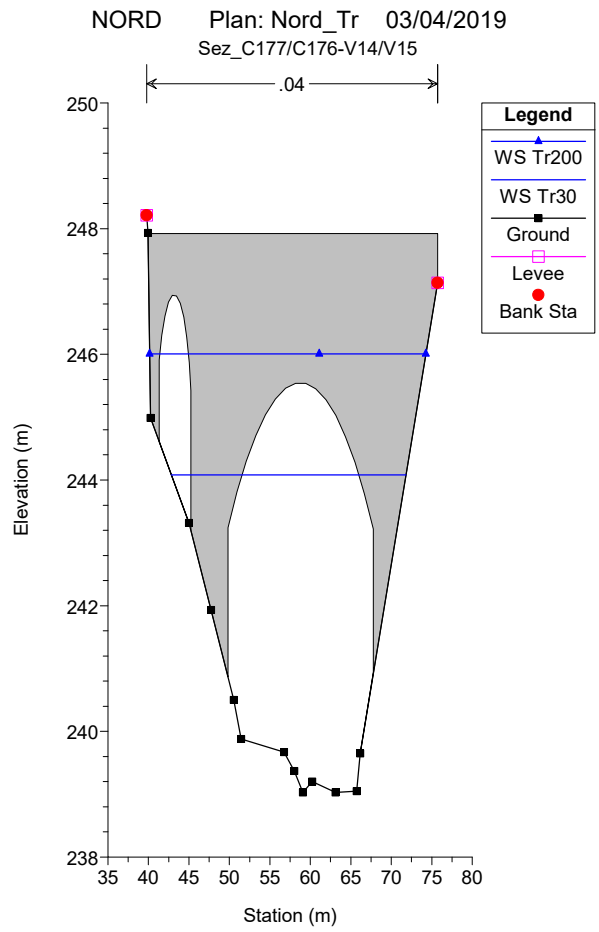
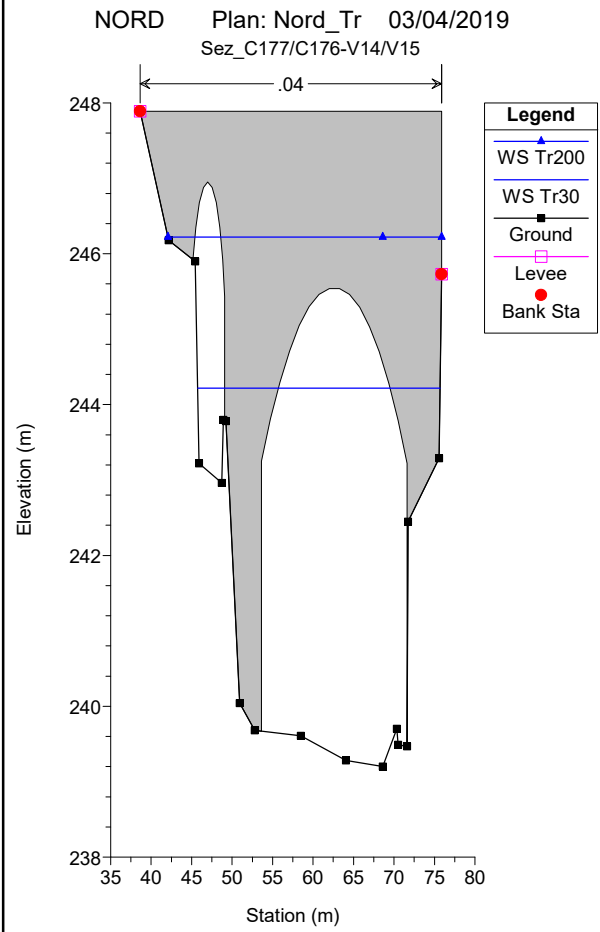
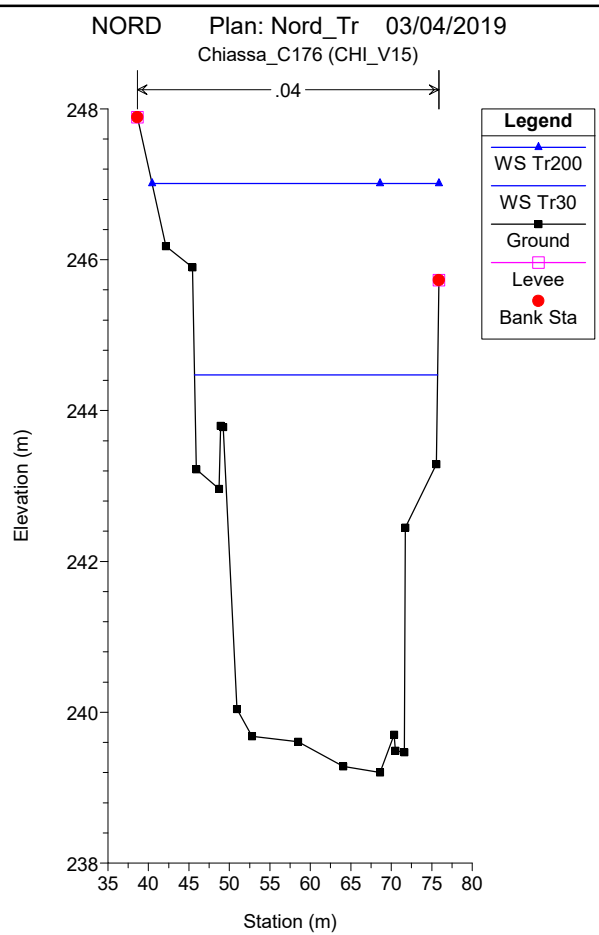
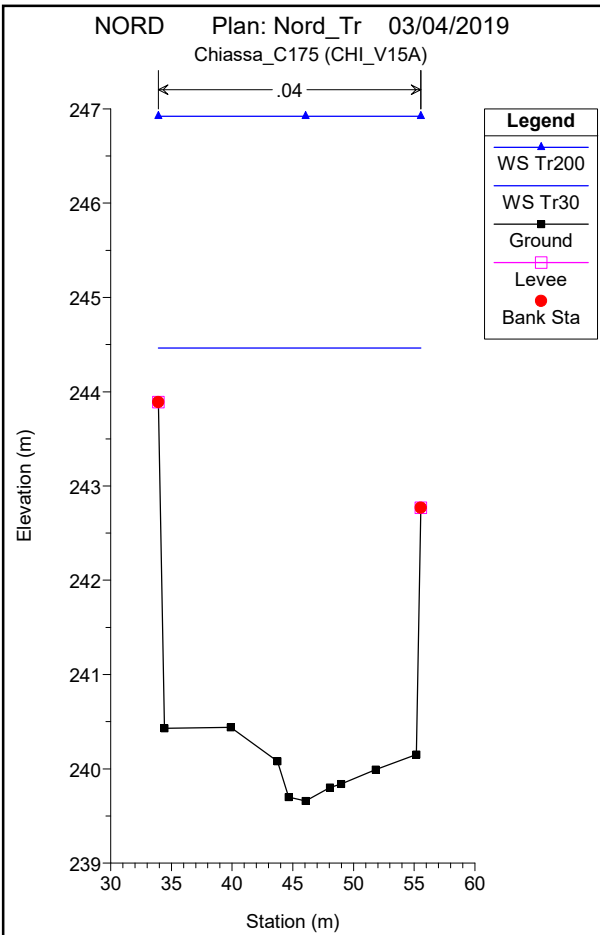


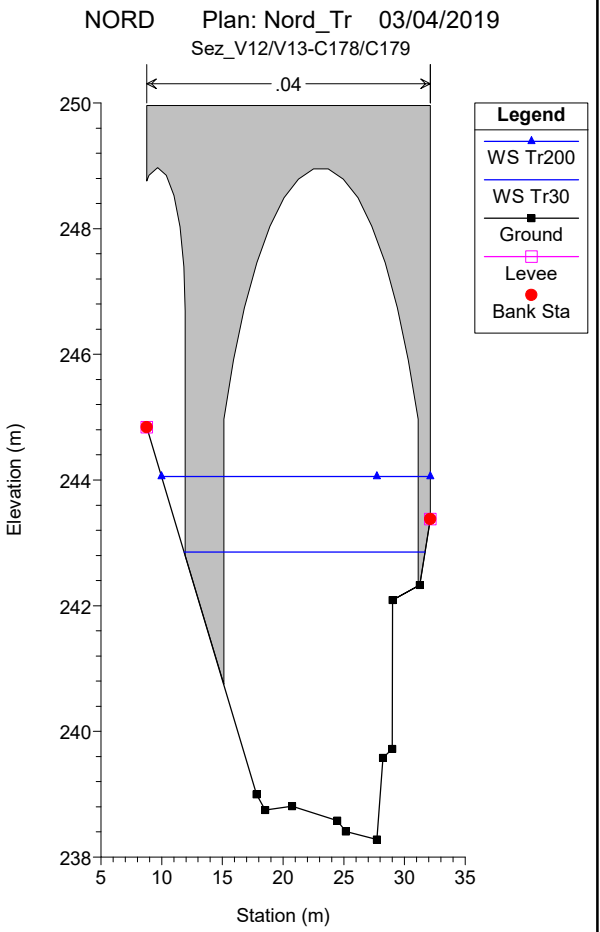
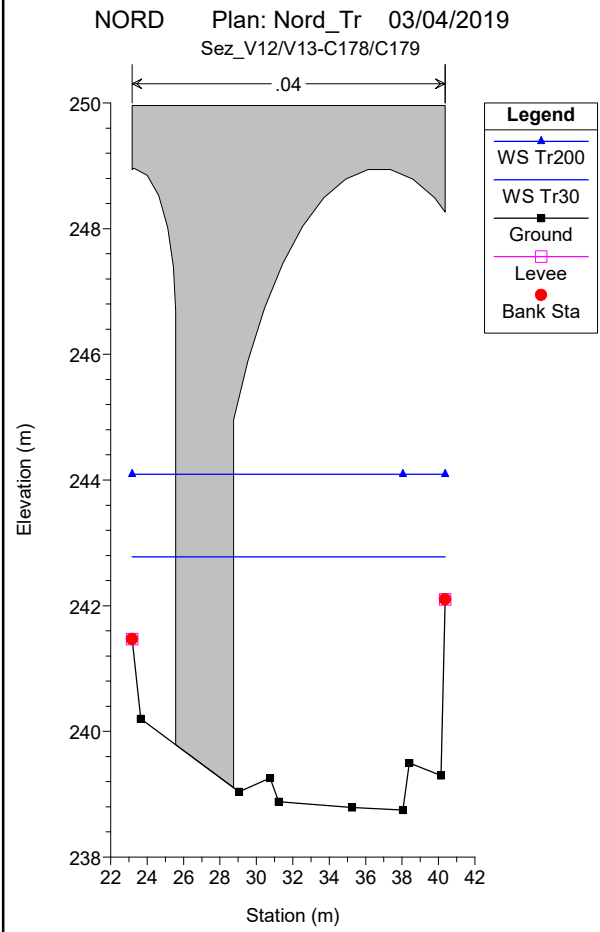
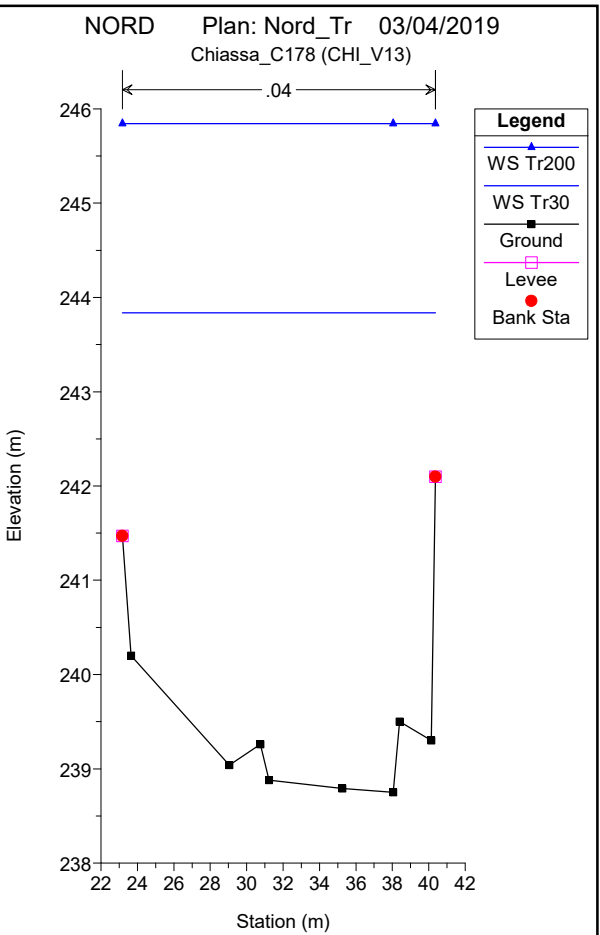
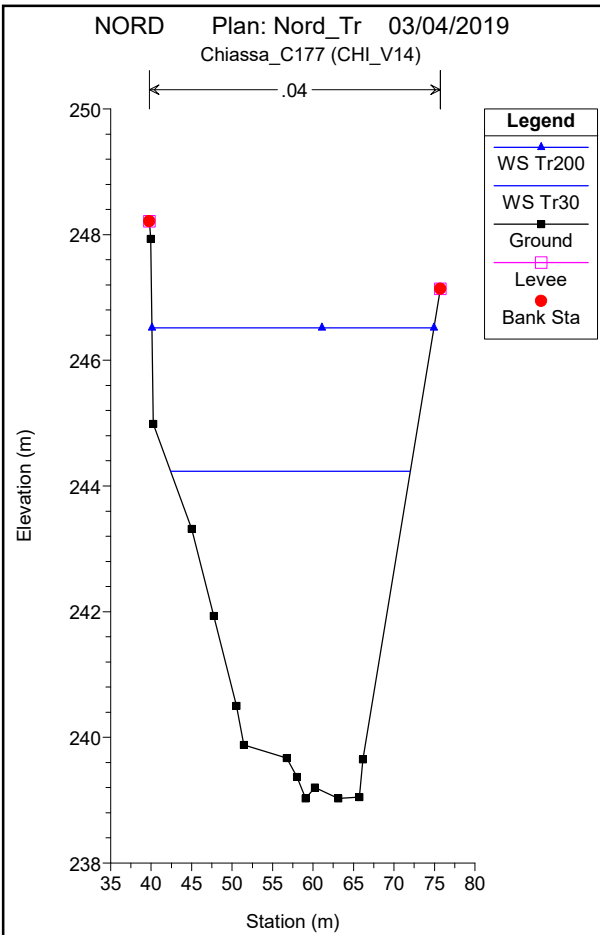


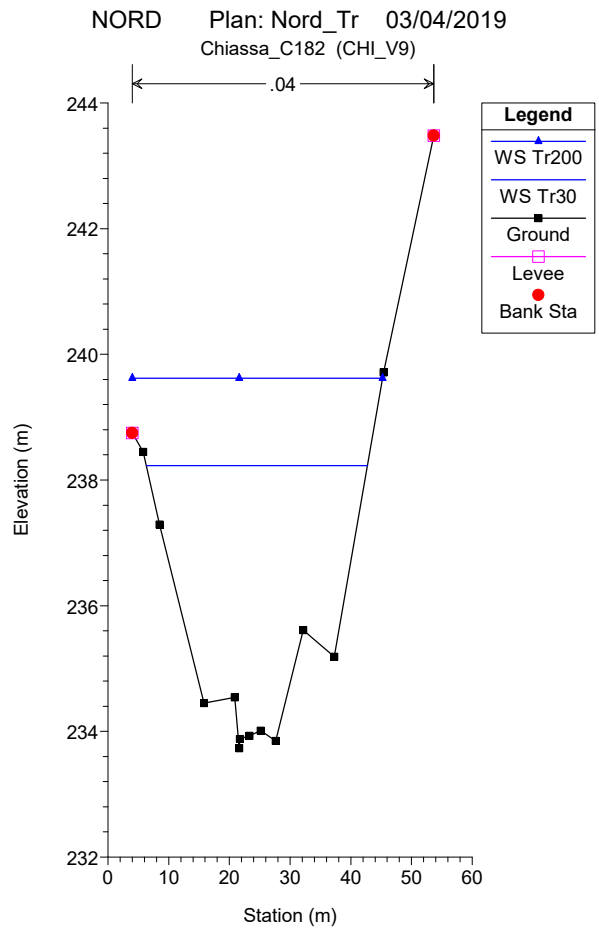
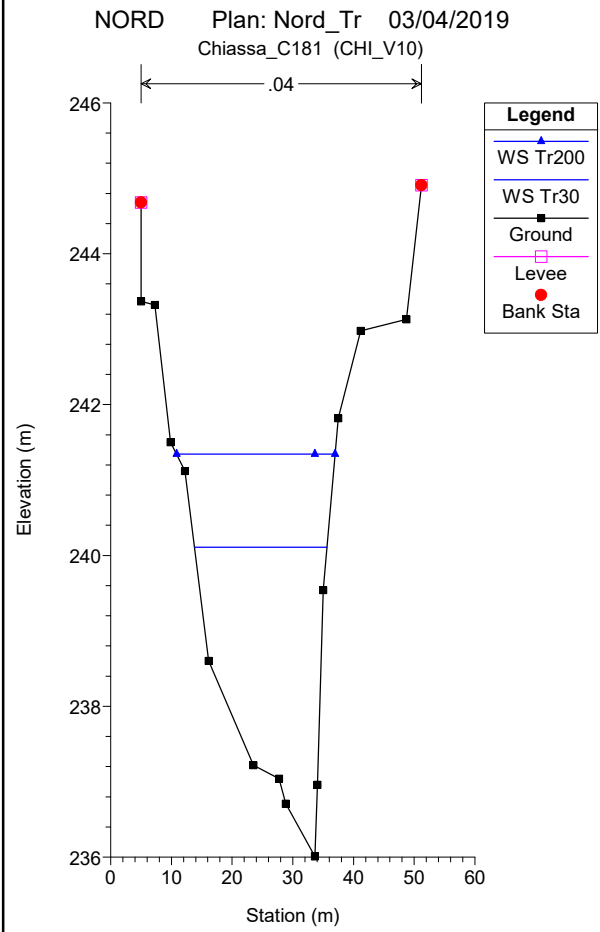
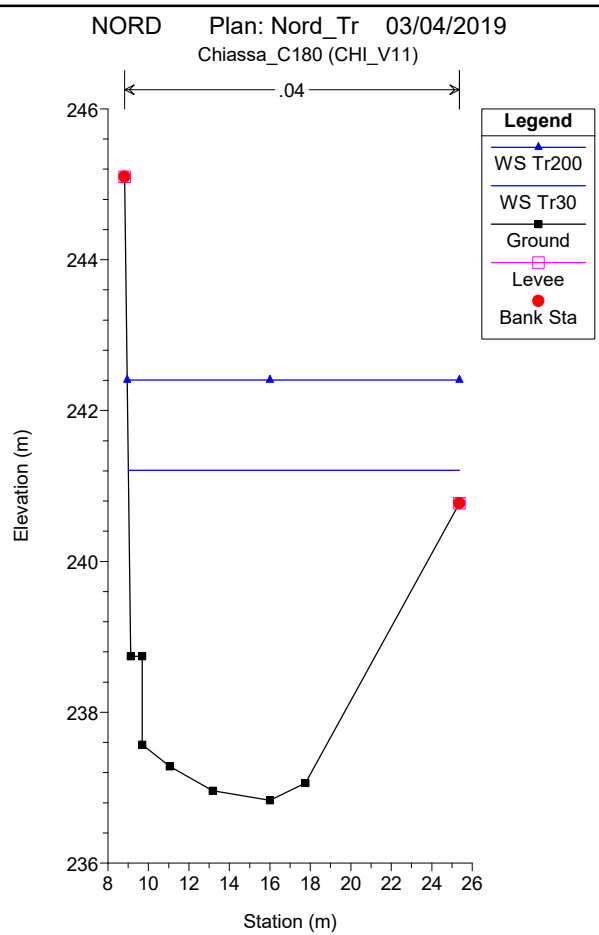
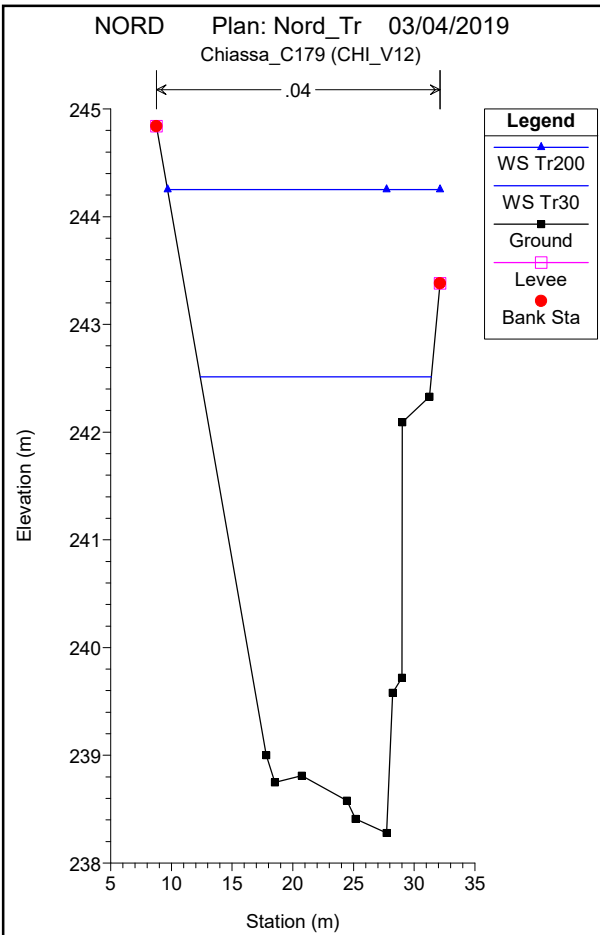




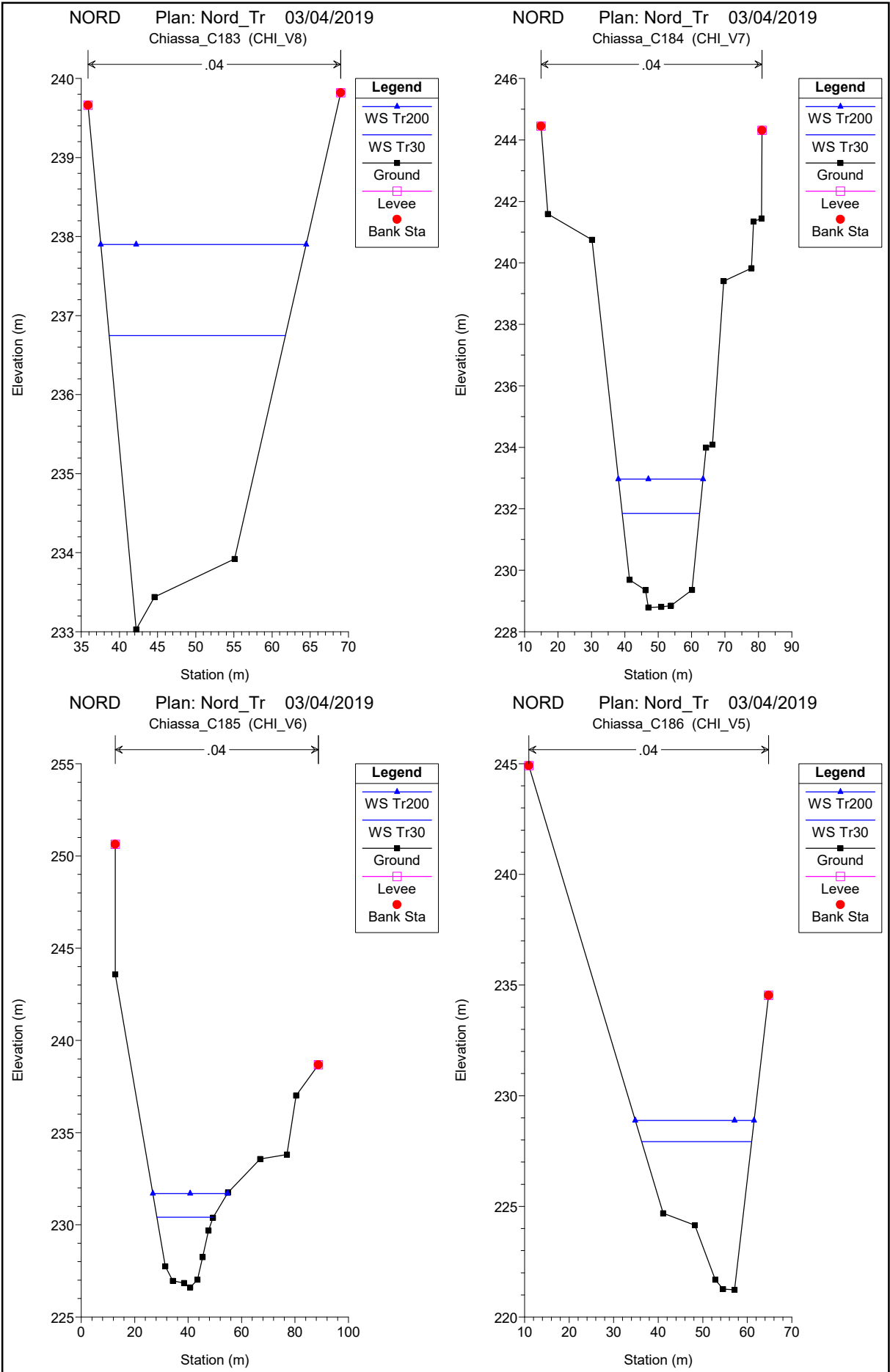


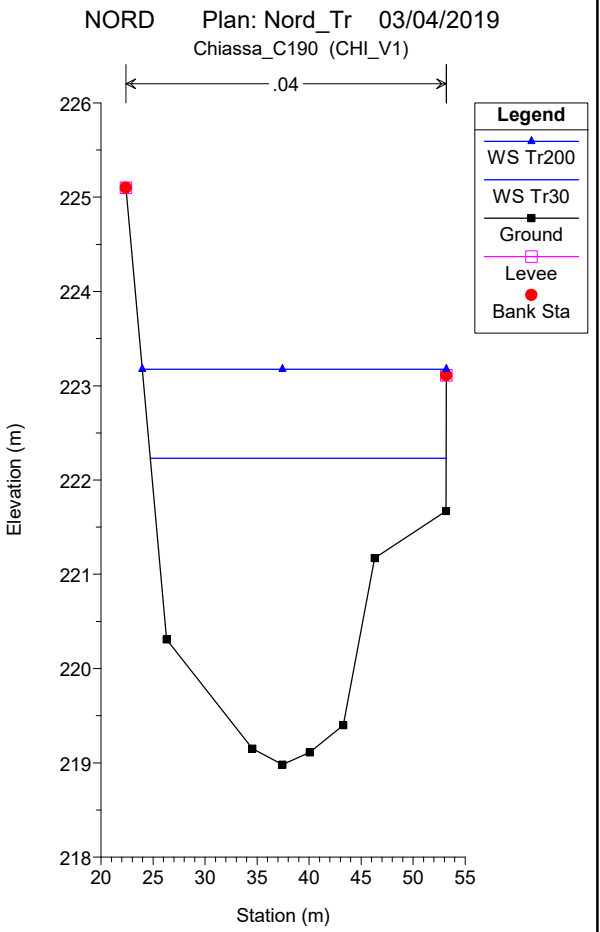
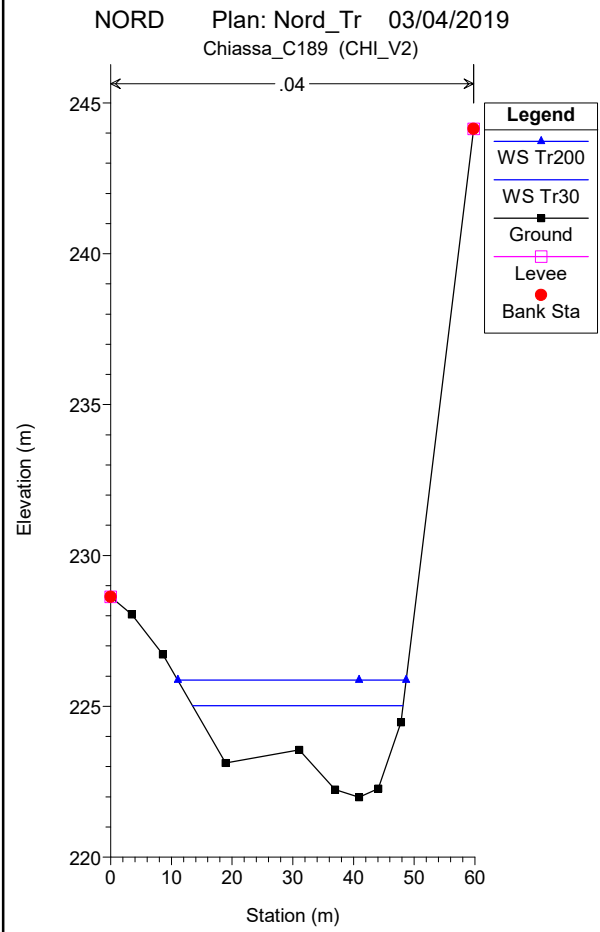
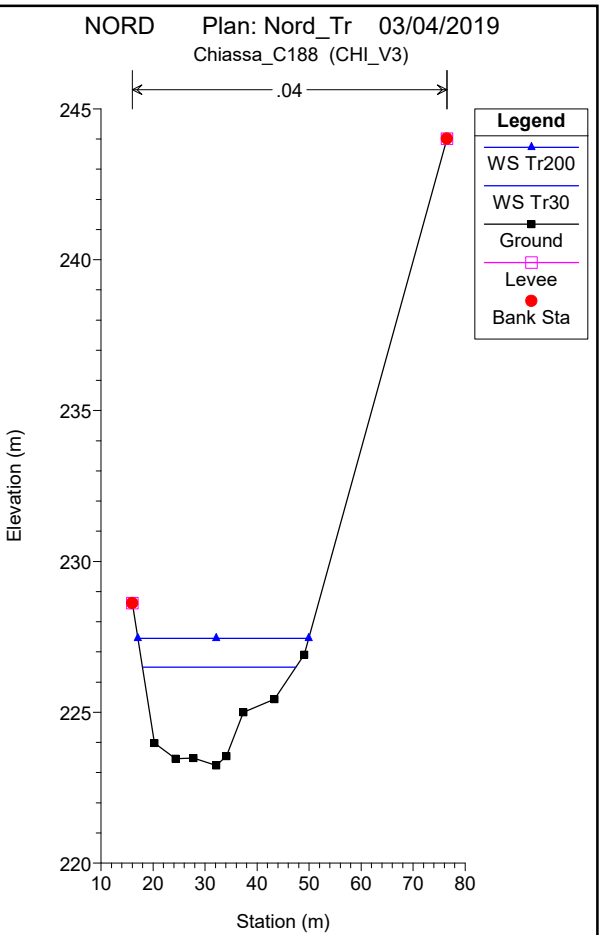
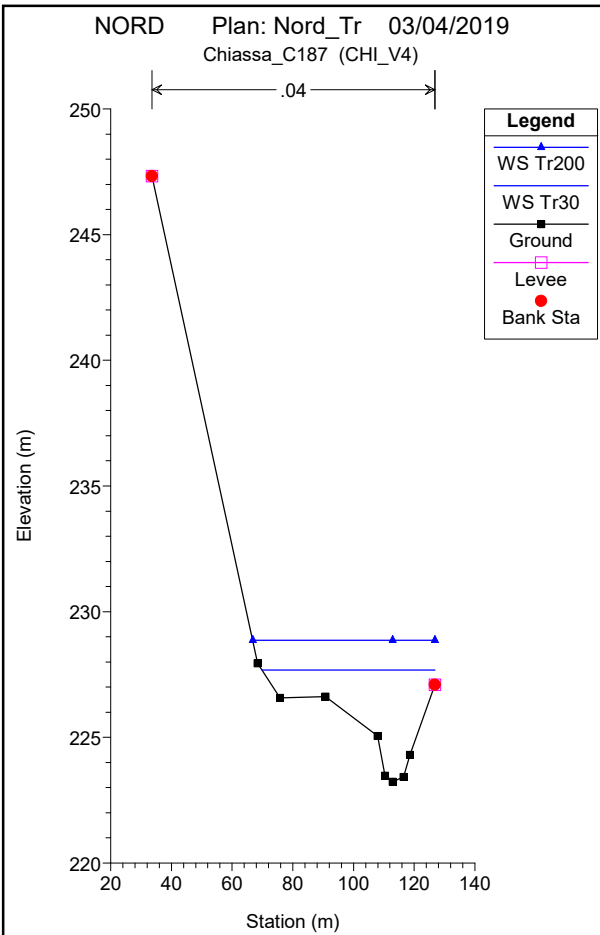




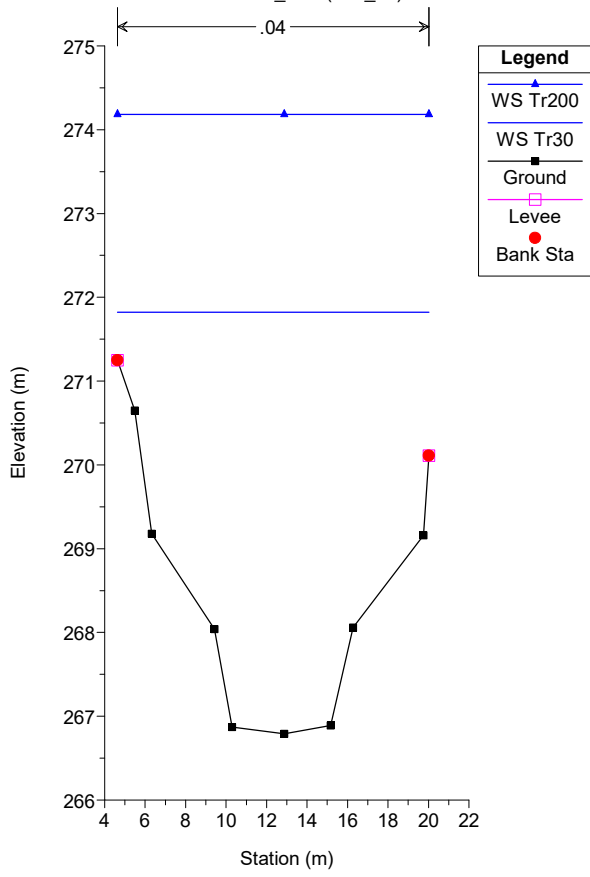




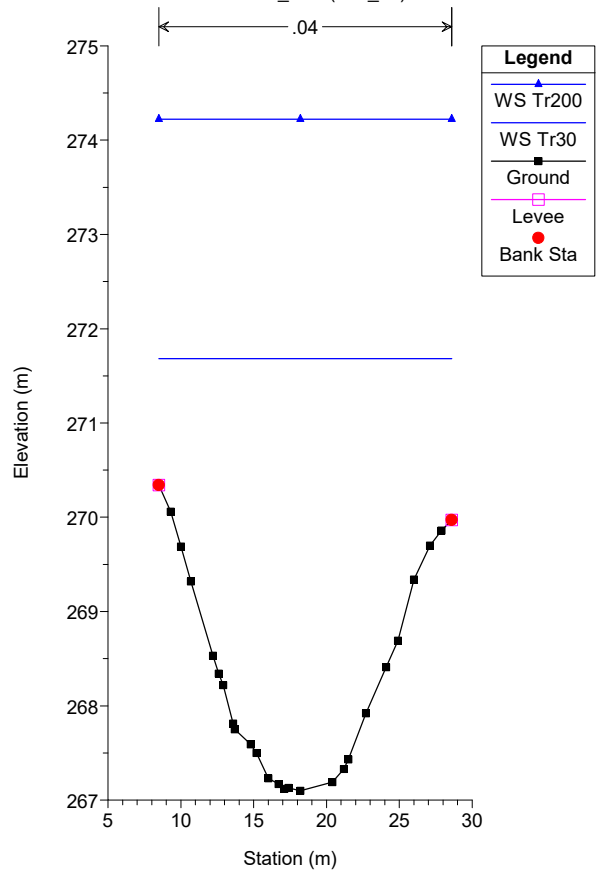




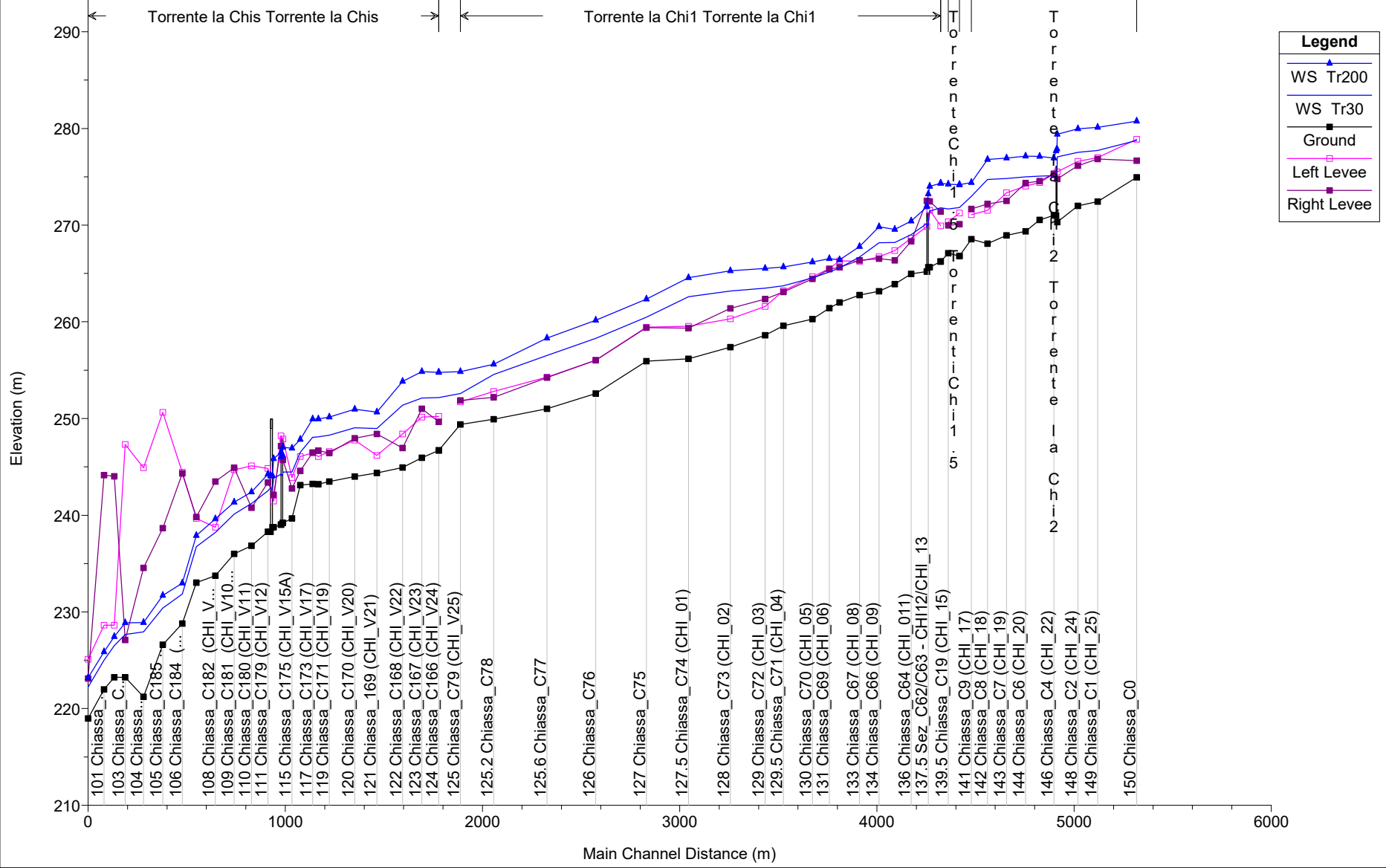
NORD Plan: Nord\_Tr 03/04/2019  
Chiassa\_C18 (CHI\_16)



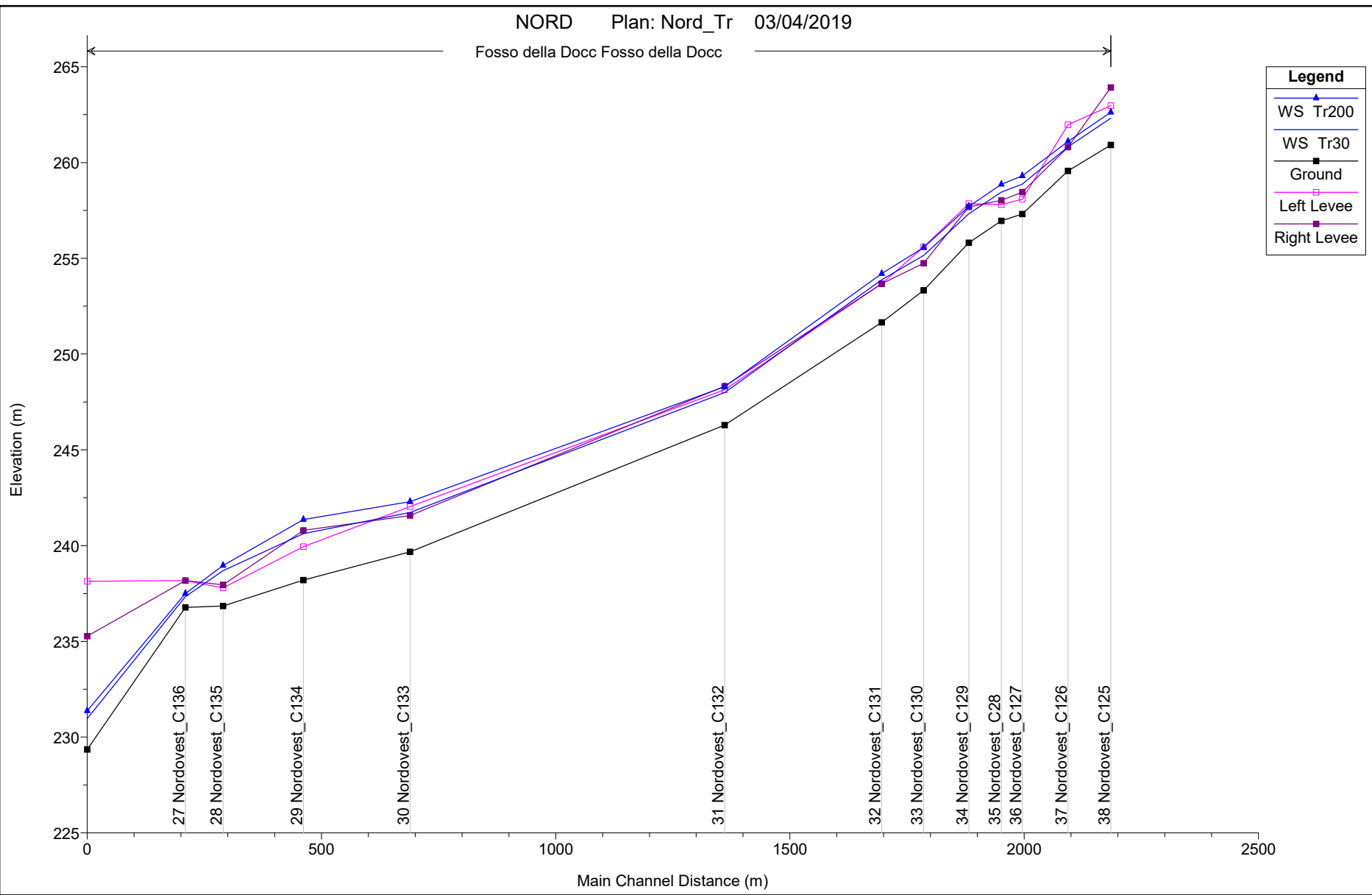
NORD Plan: Nord\_Tr 03/04/2019  
Chiassa\_C19 (CHI\_15)



NORD Plan: Nord\_Tr 03/04/2019

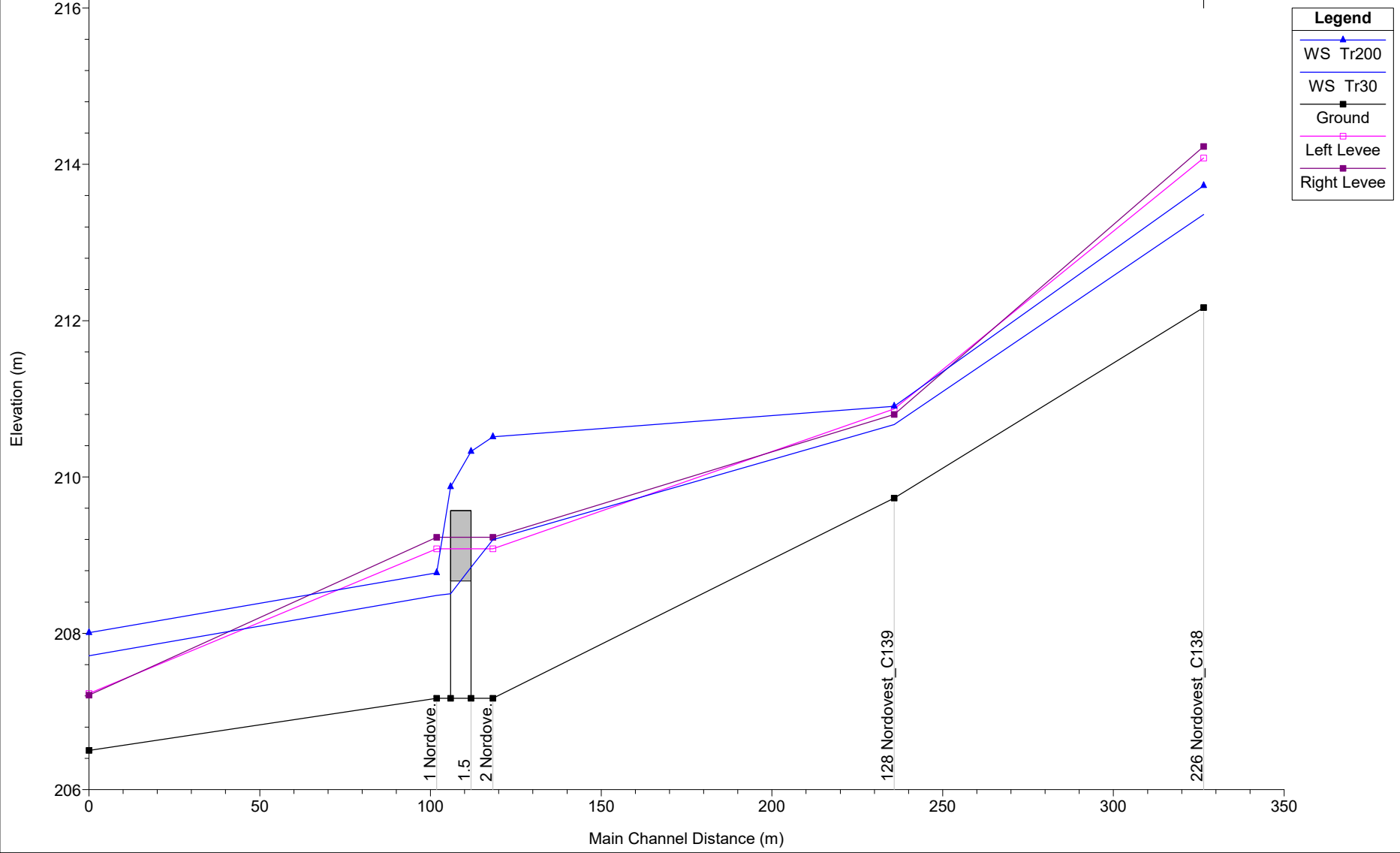


Fosso della Docc Fosso della Docc



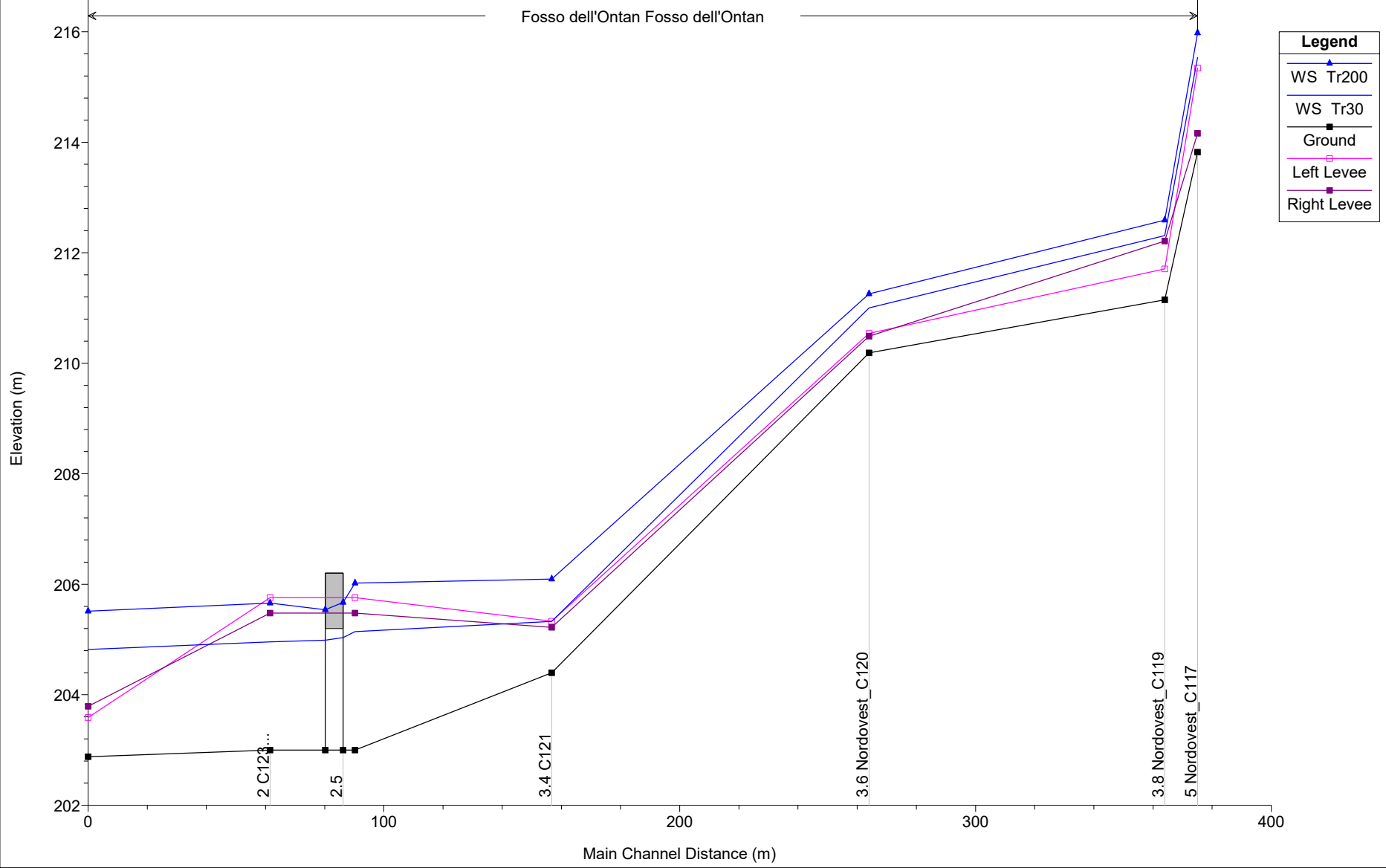
NORD Plan: Nord\_Tr 03/04/2019

Fosso della Grot Fosso della Grot



NORD Plan: Nord\_Tr 03/04/2019

Fosso dell'Ontan Fosso dell'Ontan

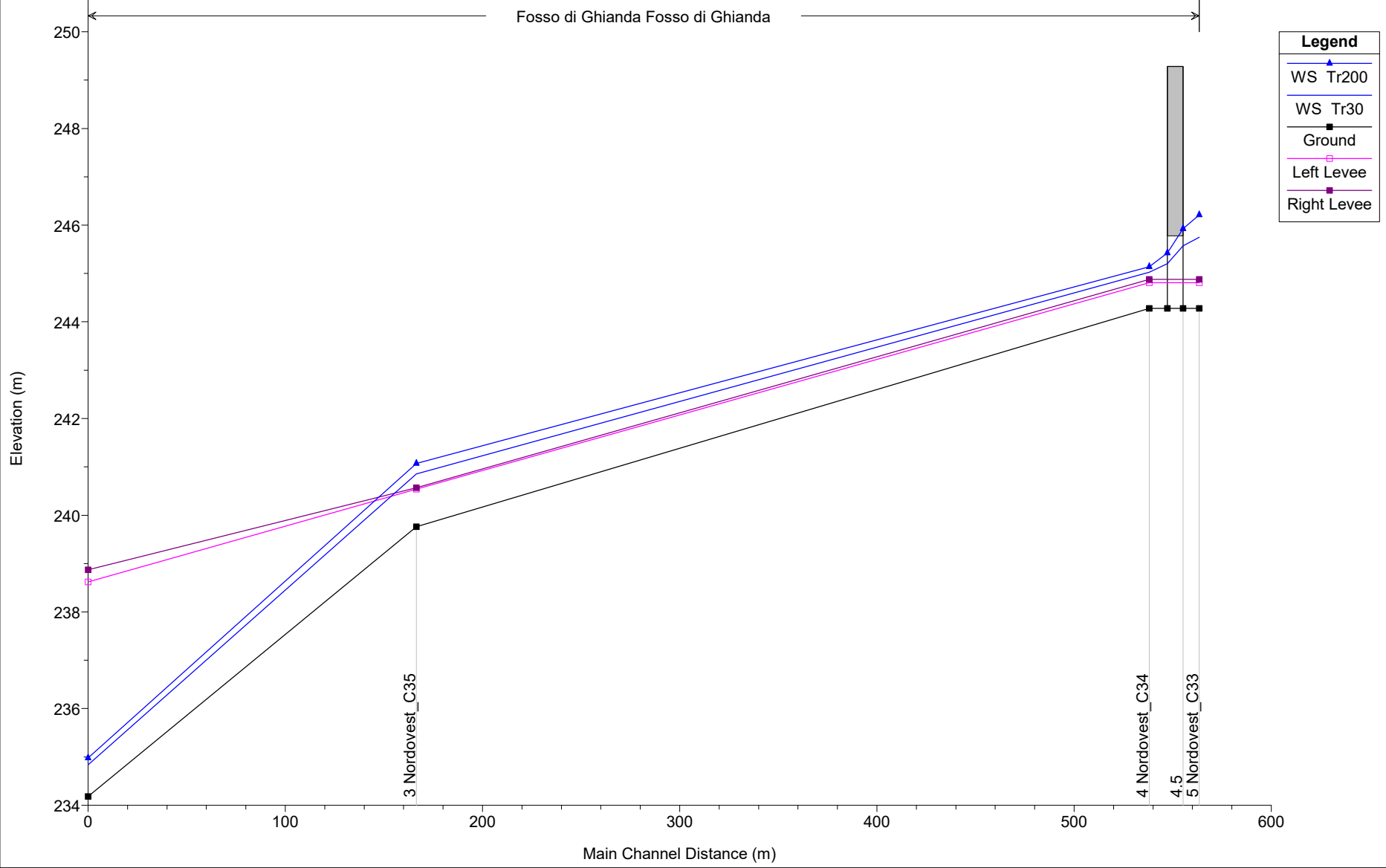


**Legend**

- WS Tr200
- WS Tr30
- Ground
- Left Levee
- Right Levee

NORD Plan: Nord\_Tr 03/04/2019

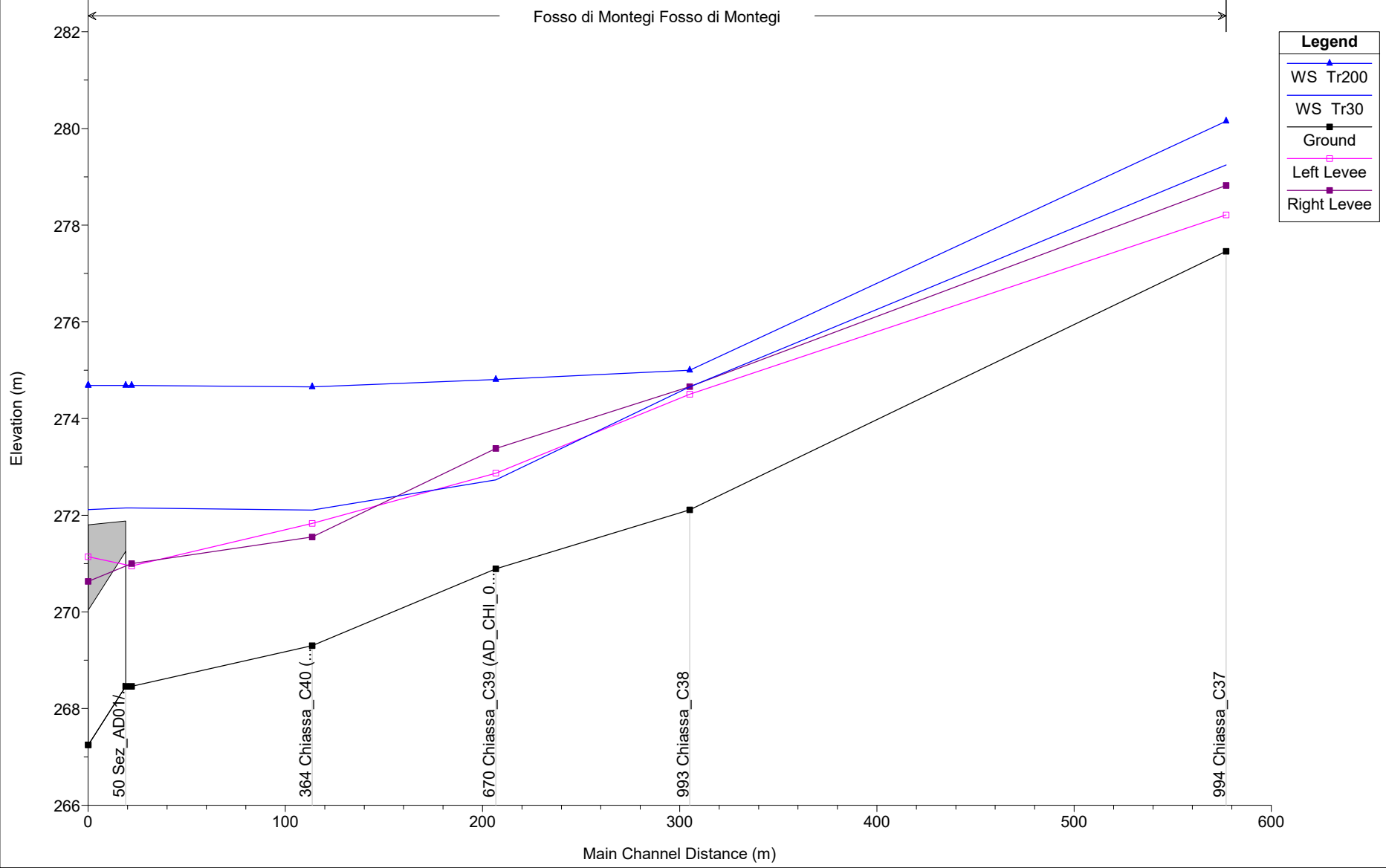
Fosso di Ghianda Fosso di Ghianda

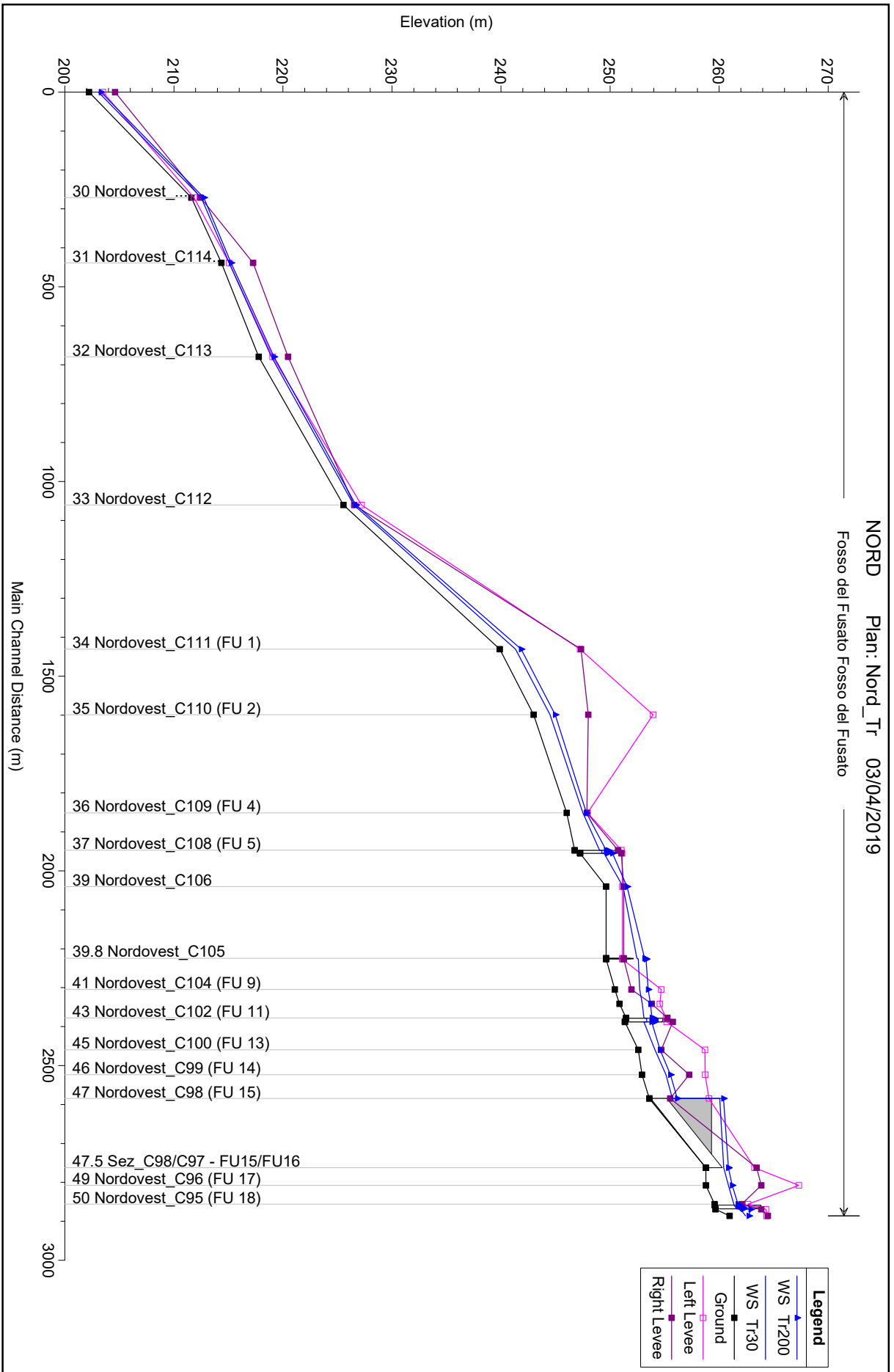


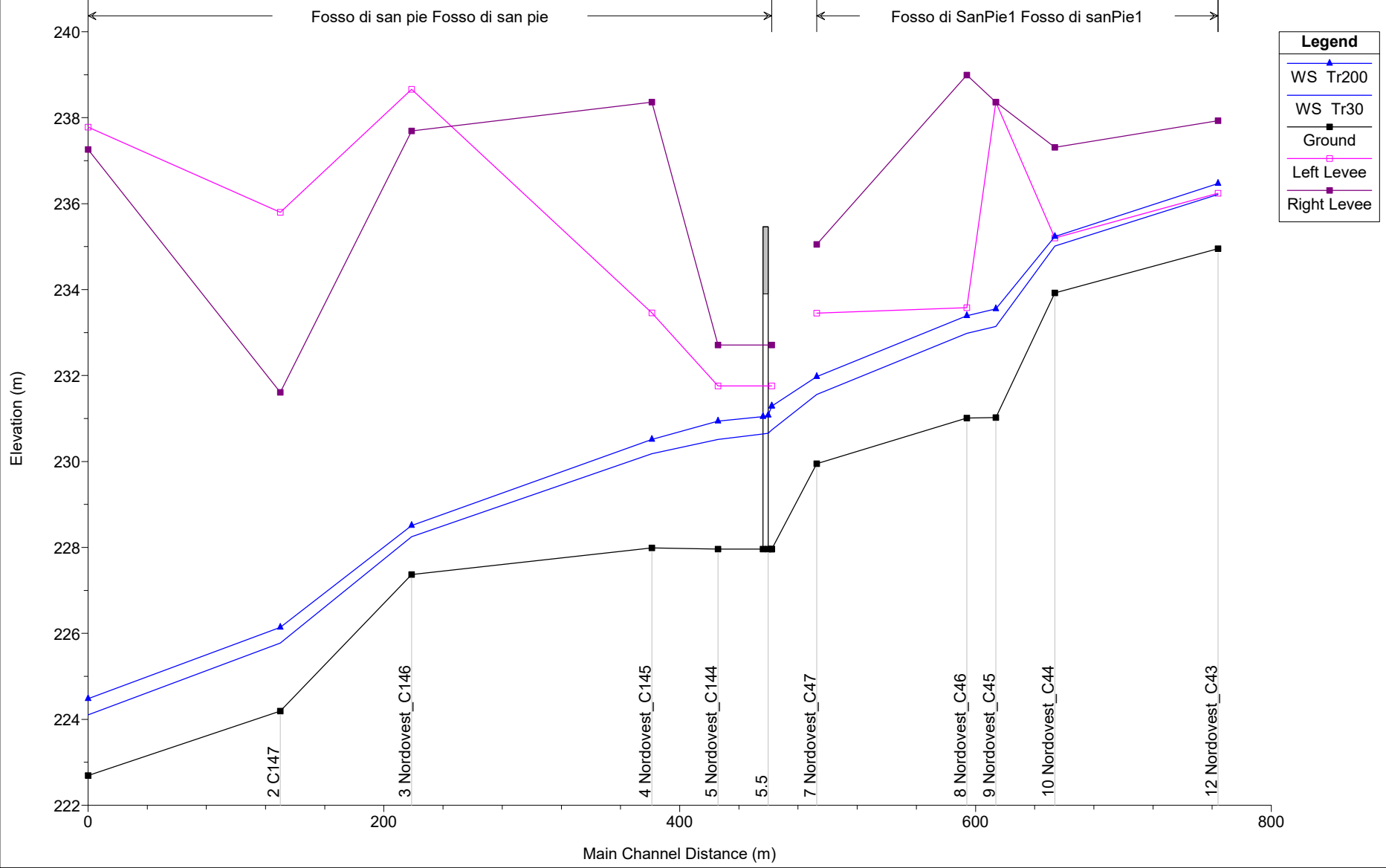


NORD Plan: Nord\_Tr 03/04/2019

Fosso di Montegi Fosso di Montegi

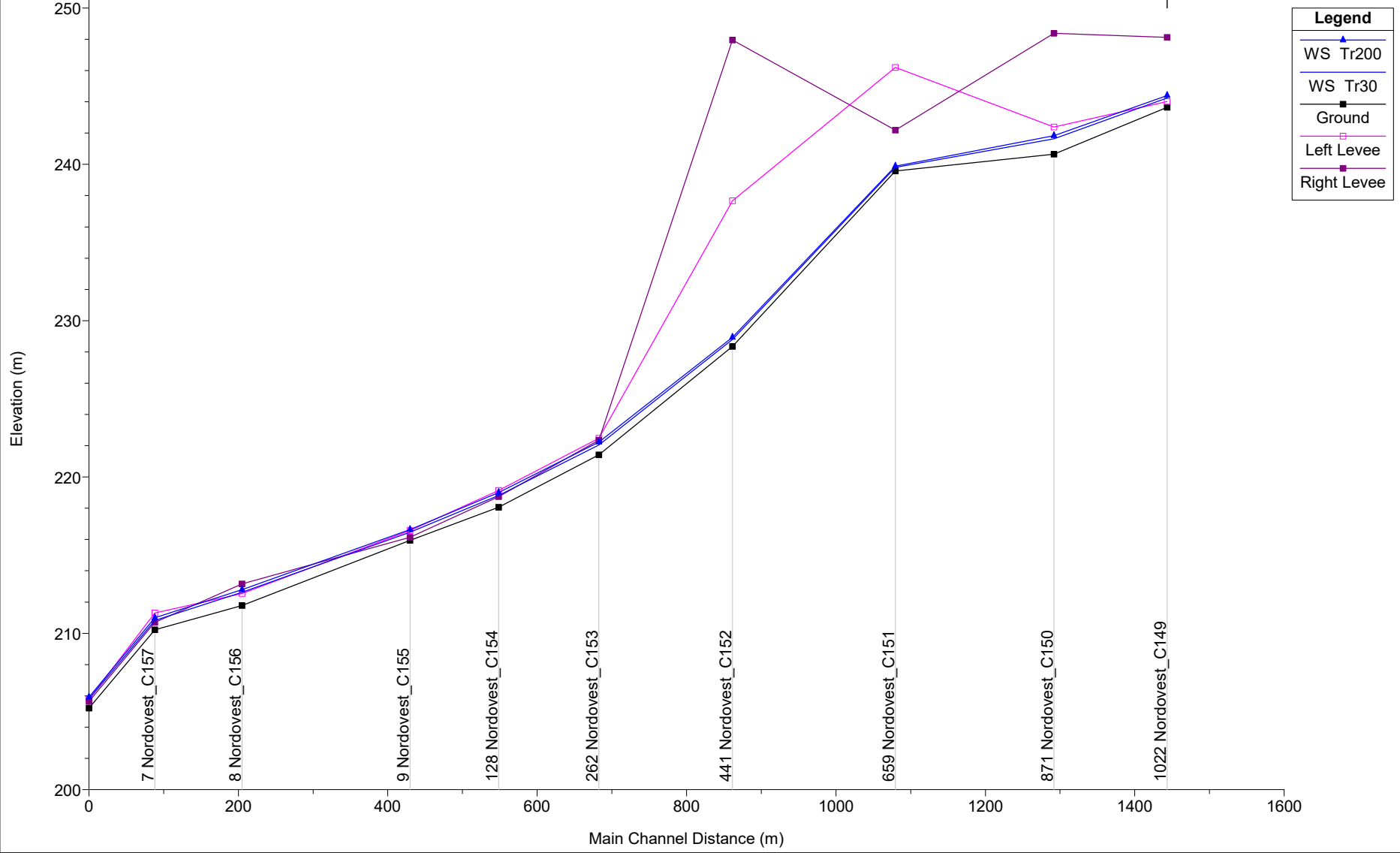






NORD Plan: Nord\_Tr 03/04/2019

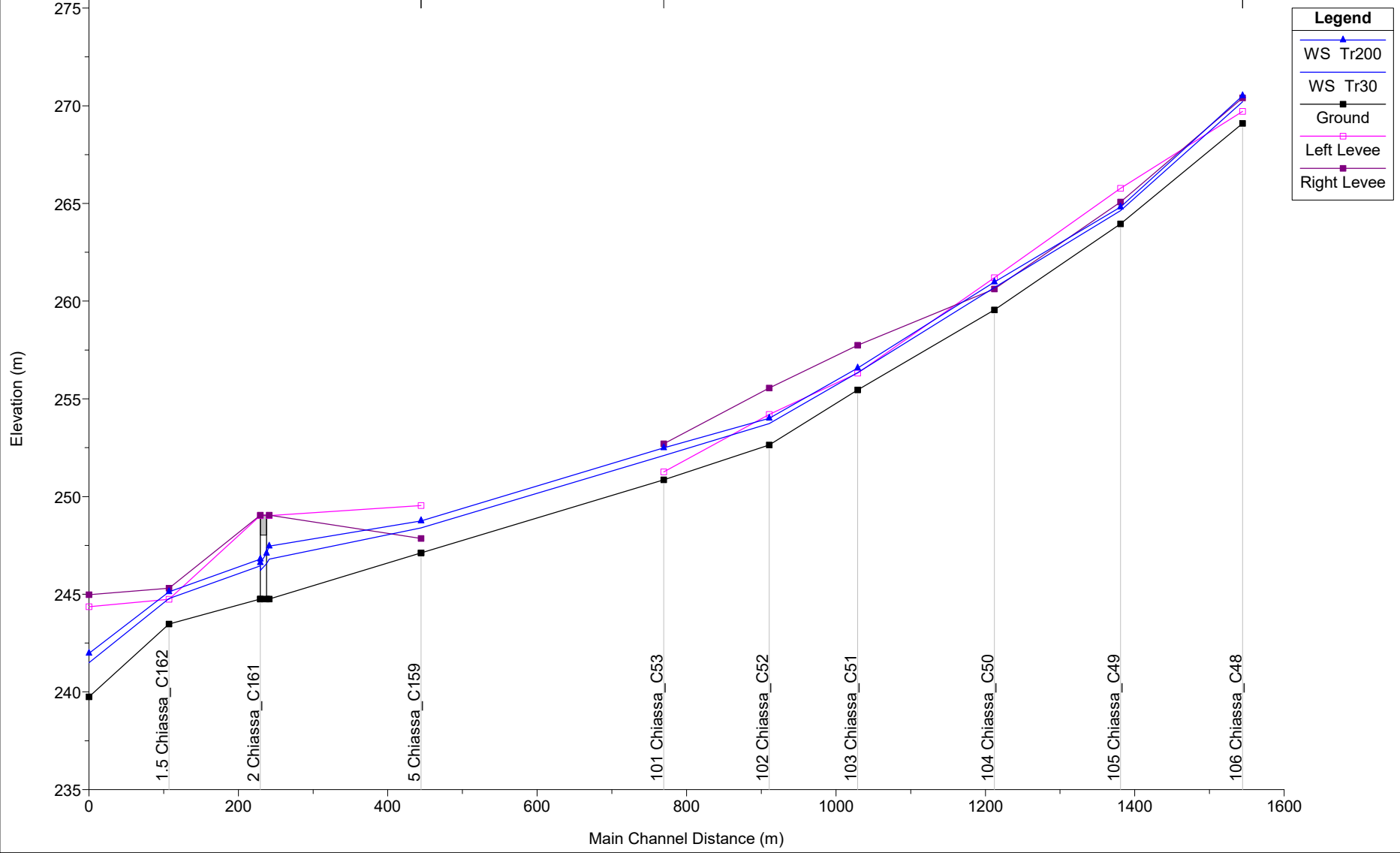
Quarata Quarata



NORD Plan: Nord\_Tr 03/04/2019

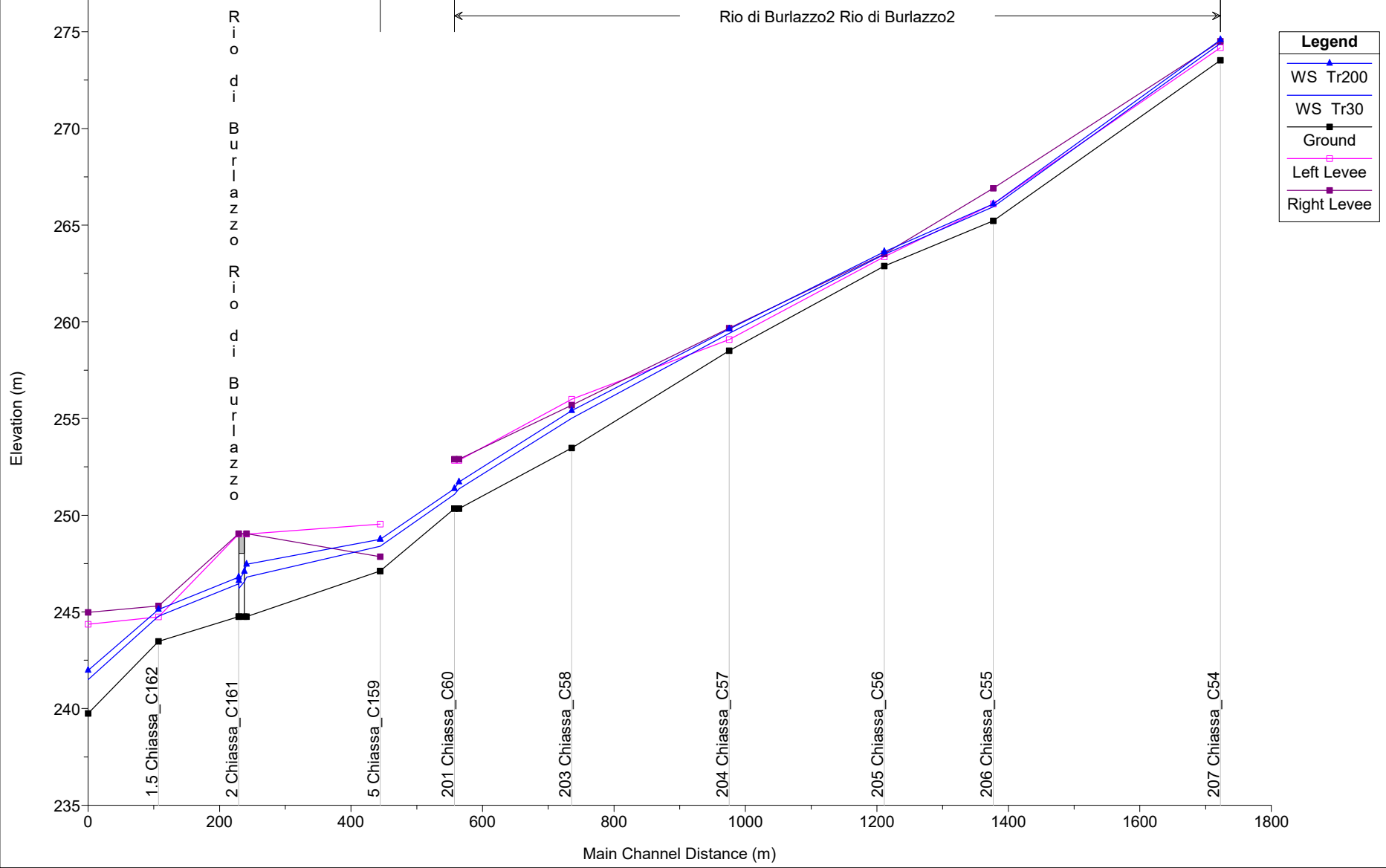
Rio di Burlazzo Rio di Burlazzo

Rio di Burlazzo1 Rio di Burlazzo1



NORD Plan: Nord\_Tr 03/04/2019

Rio di Burlazzo2 Rio di Burlazzo2



HEC-RAS Plan: Nord\_Tr

River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
TorrenteChil1.5	TorrentiChil1.5	140	Tr30	227.40	266.79	271.82	270.89	272.64	0.006694	3.99	56.99	15.38	0.66
TorrenteChil1.5	TorrentiChil1.5	140	Tr200	393.40	266.79	274.18	272.17	275.09	0.005085	4.22	93.28	15.38	0.55
TorrenteChil1.5	TorrentiChil1.5	139.5	Tr30	227.40	267.10	271.68	270.65	272.25	0.004555	3.34	67.99	20.10	0.58
TorrenteChil1.5	TorrentiChil1.5	139.5	Tr200	393.40	267.10	274.22	271.70	274.78	0.002712	3.30	119.05	20.10	0.43
Torrente la Chis	Torrente la Chis	124	Tr30	274.80	246.71	252.16	250.40	252.60	0.002747	2.96	92.91	21.55	0.45
Torrente la Chis	Torrente la Chis	124	Tr200	472.60	246.71	254.77	251.50	255.28	0.002115	3.17	149.18	21.55	0.38
Torrente la Chis	Torrente la Chis	123	Tr30	274.80	245.93	252.11	250.21	252.36	0.001714	2.21	124.36	34.65	0.37
Torrente la Chis	Torrente la Chis	123	Tr200	472.60	245.93	254.85	251.20	255.08	0.000910	2.16	219.14	34.65	0.27
Torrente la Chis	Torrente la Chis	122	Tr30	274.80	244.94	251.37	249.23	252.06	0.004412	3.68	74.62	13.09	0.49
Torrente la Chis	Torrente la Chis	122	Tr200	472.60	244.94	253.84	250.77	254.83	0.005126	4.42	106.88	13.09	0.49
Torrente la Chis	Torrente la Chis	121	Tr30	274.80	244.36	248.96	248.96	250.92	0.017793	6.20	44.35	11.29	1.00
Torrente la Chis	Torrente la Chis	121	Tr200	472.60	244.36	250.67	250.67	253.48	0.020005	7.42	63.67	11.29	1.00
Torrente la Chis	Torrente la Chis	120	Tr30	274.80	244.00	249.04	247.71	249.31	0.002271	2.29	119.74	39.88	0.42
Torrente la Chis	Torrente la Chis	120	Tr200	472.60	244.00	250.95	248.47	251.25	0.001450	2.41	195.96	39.88	0.35
Torrente la Chis	Torrente la Chis	119	Tr30	274.80	243.49	248.29	247.17	248.88	0.004358	3.41	80.52	22.27	0.57
Torrente la Chis	Torrente la Chis	119	Tr200	472.60	243.49	250.15	248.26	250.91	0.003833	3.87	121.98	22.27	0.53
Torrente la Chis	Torrente la Chis	118	Tr30	274.80	243.22	248.10	246.75	248.64	0.003754	3.27	84.01	21.51	0.53
Torrente la Chis	Torrente la Chis	118	Tr200	472.60	243.22	249.96	247.86	250.70	0.003594	3.81	124.12	21.51	0.51
Torrente la Chis	Torrente la Chis	117	Tr30	274.80	243.23	248.05	246.60	248.52	0.003146	3.04	90.31	23.39	0.49
Torrente la Chis	Torrente la Chis	117	Tr200	472.60	243.23	249.95	247.66	250.57	0.002905	3.51	134.69	23.39	0.47
Torrente la Chis	Torrente la Chis	116	Tr30	274.80	243.12	246.50	246.50	248.04	0.015378	5.50	49.97	16.17	1.00
Torrente la Chis	Torrente la Chis	116	Tr200	472.60	243.12	247.84	247.84	250.06	0.015995	6.59	71.72	16.17	1.00
Torrente la Chis	Torrente la Chis	115	Tr30	274.80	239.66	244.46	242.71	244.91	0.003019	2.96	92.72	21.62	0.46
Torrente la Chis	Torrente la Chis	115	Tr200	472.60	239.66	246.92	243.83	247.46	0.002426	3.24	145.86	21.62	0.40
Torrente la Chis	Torrente la Chis	114	Tr30	274.80	239.20	244.47	242.11	244.75	0.001923	2.32	118.30	30.02	0.37
Torrente la Chis	Torrente la Chis	114	Tr200	472.60	239.20	247.01	243.43	247.30	0.001332	2.37	199.26	35.44	0.32
Torrente la Chis	Torrente la Chis	113.5		Bridge									
Torrente la Chis	Torrente la Chis	113	Tr30	274.80	239.03	244.23	242.45	244.60	0.002503	2.68	102.44	29.60	0.46
Torrente la Chis	Torrente la Chis	113	Tr200	472.60	239.03	246.52	243.63	246.88	0.001562	2.66	177.52	34.83	0.38
Torrente la Chis	Torrente la Chis	112	Tr30	274.80	238.75	243.84	242.22	244.46	0.004326	3.49	78.79	17.19	0.52
Torrente la Chis	Torrente la Chis	112	Tr200	472.60	238.75	245.85	243.51	246.73	0.004629	4.17	113.33	17.19	0.52
Torrente la Chis	Torrente la Chis	111.5		Bridge									
Torrente la Chis	Torrente la Chis	111	Tr30	274.80	238.28	242.51	242.51	243.89	0.014697	5.20	52.80	19.02	1.00
Torrente la Chis	Torrente la Chis	111	Tr200	472.60	238.28	244.25	243.80	245.68	0.009909	5.30	89.14	22.44	0.85
Torrente la Chis	Torrente la Chis	110	Tr30	274.80	236.83	241.21	241.06	242.60	0.013135	5.23	52.49	16.36	0.93
Torrente la Chis	Torrente la Chis	110	Tr200	472.60	236.83	242.40	242.40	244.59	0.015553	6.56	72.10	16.42	1.00
Torrente la Chis	Torrente la Chis	109	Tr30	277.05	236.01	240.11	240.11	241.38	0.013808	4.98	55.58	21.83	1.00
Torrente la Chis	Torrente la Chis	109	Tr200	476.50	236.01	241.34	241.34	242.96	0.012848	5.63	84.63	26.11	1.00
Torrente la Chis	Torrente la Chis	108	Tr30	277.05	233.73	238.23	236.99	238.58	0.002978	2.65	104.66	36.44	0.50
Torrente la Chis	Torrente la Chis	108	Tr200	476.50	233.73	239.62	237.91	240.08	0.002621	2.98	159.66	41.25	0.48
Torrente la Chis	Torrente la Chis	107	Tr30	277.05	233.03	236.75	236.75	237.97	0.013142	4.90	56.54	23.07	1.00
Torrente la Chis	Torrente la Chis	107	Tr200	476.50	233.03	237.90	237.90	239.49	0.012260	5.58	85.39	26.89	1.00
Torrente la Chis	Torrente la Chis	106	Tr30	277.05	228.79	231.85	231.85	233.07	0.013145	4.89	56.61	23.18	1.00
Torrente la Chis	Torrente la Chis	106	Tr200	476.50	228.79	232.97	232.97	234.62	0.012313	5.69	83.69	25.31	1.00
Torrente la Chis	Torrente la Chis	105	Tr30	277.05	226.61	230.41	230.41	231.70	0.012866	5.04	54.92	21.09	1.00
Torrente la Chis	Torrente la Chis	105	Tr200	476.50	226.61	231.70	231.70	233.24	0.012105	5.50	86.64	27.96	1.00
Torrente la Chis	Torrente la Chis	104	Tr30	277.05	221.23	227.93	226.06	228.34	0.002751	2.85	97.12	24.72	0.46
Torrente la Chis	Torrente la Chis	104	Tr200	476.50	221.23	228.88	227.27	229.67	0.004318	3.91	121.72	26.69	0.59
Torrente la Chis	Torrente la Chis	103	Tr30	277.05	223.23	227.67	227.03	228.00	0.004414	2.52	109.92	56.93	0.58
Torrente la Chis	Torrente la Chis	103	Tr200	476.50	223.23	228.86	227.67	229.22	0.002786	2.65	180.00	60.03	0.49
Torrente la Chis	Torrente la Chis	102	Tr30	277.05	223.24	226.50	226.50	227.53	0.013116	4.51	61.47	29.49	1.00
Torrente la Chis	Torrente la Chis	102	Tr200	476.50	223.24	227.45	227.45	228.83	0.012142	5.21	91.38	32.84	1.00
Torrente la Chis	Torrente la Chis	101	Tr30	277.05	221.98	225.02	225.02	225.95	0.013336	4.27	64.88	34.67	1.00
Torrente la Chis	Torrente la Chis	101	Tr200	476.50	221.98	225.87	225.87	227.13	0.012282	4.98	95.62	37.62	1.00
Torrente la Chis	Torrente la Chis	100	Tr30	277.05	218.98	222.23	222.23	223.29	0.013344	4.57	60.67	28.46	1.00
Torrente la Chis	Torrente la Chis	100	Tr200	476.50	218.98	223.17	223.17	224.67	0.012562	5.42	87.92	29.24	1.00
Torrente la Chia	Torrente la Chia	955	Tr30	3.20	273.59	274.19	274.19	274.38	0.024229	1.93	1.66	4.34	1.00
Torrente la Chia	Torrente la Chia	955	Tr200	5.30	273.59	274.35	274.35	274.60	0.023060	2.24	2.37	4.62	1.00
Torrente la Chia	Torrente la Chia	511	Tr30	3.20	261.63	262.07	262.07	262.19	0.025517	1.51	2.12	9.02	1.00
Torrente la Chia	Torrente la Chia	511	Tr200	5.30	261.63	262.17	262.17	262.32	0.023948	1.73	3.07	10.14	1.00
Torrente la Chia	Torrente la Chia	389	Tr30	3.20	258.70	259.47	259.39	259.61	0.014039	1.68	1.90	4.11	0.79
Torrente la Chia	Torrente la Chia	389	Tr200	5.30	258.70	259.65	259.57	259.85	0.014841	1.98	2.68	4.70	0.84
Torrente la Chia	Torrente la Chia	202	Tr30	3.20	255.30	256.00	256.00	256.18	0.024923	1.90	1.68	4.57	1.00
Torrente la Chia	Torrente la Chia	202	Tr200	5.30	255.30	256.16	256.16	256.40	0.023467	2.18	2.43	5.01	1.00
Torrente la Chia	Torrente la Chia	201.5	Tr30	5.00	253.32	254.33	254.02	254.38	0.003395	0.95	5.24	9.17	0.40
Torrente la Chia	Torrente la Chia	201.5	Tr200	8.40	253.32	255.54	254.17	255.55	0.000269	0.49	16.99	9.80	0.12

HEC-RAS Plan: Nord Tr (Continued)

River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chi
Torrente la Chia	Torrente la Chia	201	Tr30	5.00	252.07	252.99	252.86	253.13	0.010747	1.65	3.04	5.10	0.68
Torrente la Chia	Torrente la Chia	201	Tr200	8.40	252.07	255.47	253.05	255.49	0.000284	0.54	15.70	5.10	0.10
Torrente la Chia	Torrente la Chia	98	Tr30	5.00	251.76	252.89	252.27	252.91	0.000697	0.56	8.88	9.70	0.19
Torrente la Chia	Torrente la Chia	98	Tr200	8.40	251.76	255.47	252.40	255.47	0.000037	0.25	33.89	9.70	0.04
Torrente la Chia	Torrente la Chia	80	Tr30	5.00	250.54	252.82	251.35	252.83	0.000313	0.49	10.20	5.40	0.11
Torrente la Chia	Torrente la Chia	80	Tr200	8.40	250.54	255.46	251.56	255.46	0.000090	0.34	24.45	5.40	0.05
Torrente la Chi5	Torrente la Chi5	205	Tr30	0.90	334.88	335.24	335.24	335.36	0.028426	1.54	0.58	2.44	1.01
Torrente la Chi5	Torrente la Chi5	205	Tr200	1.40	334.88	335.33	335.33	335.48	0.026018	1.70	0.82	2.77	0.99
Torrente la Chi5	Torrente la Chi5	204.5	Tr30	0.90	304.22	304.37	304.37	304.41	0.035499	0.90	1.00	11.85	0.99
Torrente la Chi5	Torrente la Chi5	204.5	Tr200	1.40	304.22	304.40	304.40	304.45	0.032285	1.03	1.36	12.42	0.99
Torrente la Chi5	Torrente la Chi5	204	Tr30	0.90	285.19	285.47	285.47	285.54	0.028379	1.22	0.74	4.70	0.98
Torrente la Chi5	Torrente la Chi5	204	Tr200	1.40	285.19	285.53	285.53	285.62	0.027551	1.38	1.02	5.19	0.99
Torrente la Chi4	Torrente la Chia	206	Tr30	0.50	293.97	294.25	294.25	294.33	0.030344	1.23	0.41	2.66	1.00
Torrente la Chi4	Torrente la Chia	206	Tr200	0.80	293.97	294.32	294.32	294.41	0.028812	1.36	0.59	3.17	1.01
Torrente la Chi4	Torrente la Chia	75	Tr30	0.50	279.89	280.16	280.16	280.24	0.031126	1.21	0.41	2.81	1.01
Torrente la Chi4	Torrente la Chia	75	Tr200	0.80	279.89	280.23	280.23	280.31	0.028977	1.31	0.61	3.52	1.00
Torrente la Chi3	Torrente la Chi3	2278	Tr30	8.90	292.47	293.39	293.39	293.71	0.020295	2.52	3.54	5.49	1.00
Torrente la Chi3	Torrente la Chi3	2278	Tr200	13.90	292.47	293.63	293.63	294.04	0.019404	2.83	4.90	6.03	1.00
Torrente la Chi3	Torrente la Chi3	2126	Tr30	8.90	283.16	284.10	284.10	284.37	0.020353	2.33	3.83	6.97	1.00
Torrente la Chi3	Torrente la Chi3	2126	Tr200	13.90	283.16	284.29	284.29	284.65	0.019365	2.65	5.24	7.32	1.00
Torrente la Chi3	Torrente la Chi3	2053	Tr30	8.90	279.10	280.27	280.27	280.58	0.022441	2.46	3.61	5.86	1.00
Torrente la Chi3	Torrente la Chi3	2053	Tr200	13.90	279.10	280.50	280.50	280.89	0.021239	2.79	4.99	6.26	1.00
Torrente la Chi3	Torrente la Chi3	1750	Tr30	8.90	275.40	276.46	276.46	276.78	0.020996	2.50	3.56	5.62	1.01
Torrente la Chi3	Torrente la Chi3	1750	Tr200	13.90	275.40	276.69	276.69	277.11	0.020377	2.87	4.84	5.83	1.01
Torrente la Chi3	Torrente la Chi3	1626	Tr30	8.90	273.10	274.39	274.39	274.86	0.026525	3.02	2.94	3.15	1.00
Torrente la Chi3	Torrente la Chi3	1626	Tr200	13.90	273.10	275.41	274.74	275.63	0.007457	2.05	6.80	4.72	0.54
Torrente la Chi3	Torrente la Chi3	1582	Tr30	8.90	272.99	274.08	274.08	274.45	0.022160	2.69	3.31	4.39	0.99
Torrente la Chi3	Torrente la Chi3	1582	Tr200	13.90	272.99	275.44	274.34	275.54	0.002548	1.42	9.79	5.03	0.33
Torrente la Chi3	Torrente la Chi3	1565		Bridge									
Torrente la Chi3	Torrente la Chi3	1546	Tr30	8.90	272.19	273.38	273.38	273.76	0.023257	2.74	3.25	4.23	1.00
Torrente la Chi3	Torrente la Chi3	1546	Tr200	13.90	272.19	275.24	273.66	275.29	0.001073	1.00	13.93	7.03	0.23
Torrente la Chi3	Torrente la Chi3	1337	Tr30	8.90	268.59	272.83	269.77	272.83	0.000110	0.38	23.55	8.06	0.07
Torrente la Chi3	Torrente la Chi3	1337	Tr200	13.90	268.59	275.26	270.07	275.26	0.000054	0.32	43.15	8.06	0.04
Torrente la Chi2	Torrente la Chi2	150	Tr30	218.50	274.94	278.77	278.48	279.92	0.011406	4.76	45.93	15.36	0.88
Torrente la Chi2	Torrente la Chi2	150	Tr200	379.50	274.94	280.75	279.75	282.00	0.008024	4.95	76.70	15.50	0.71
Torrente la Chi2	Torrente la Chi2	149	Tr30	218.50	272.43	277.72	276.59	278.36	0.004839	3.53	61.85	16.83	0.59
Torrente la Chi2	Torrente la Chi2	149	Tr200	379.50	272.43	280.11	277.78	280.81	0.003608	3.72	101.96	16.83	0.48
Torrente la Chi2	Torrente la Chi2	148	Tr30	218.50	272.00	277.52	275.67	277.94	0.002751	2.87	76.14	18.01	0.45
Torrente la Chi2	Torrente la Chi2	148	Tr200	379.50	272.00	279.96	276.86	280.47	0.002336	3.16	120.10	18.01	0.39
Torrente la Chi2	Torrente la Chi2	147	Tr30	218.50	270.33	277.07	275.08	277.60	0.003698	3.22	67.87	13.83	0.46
Torrente la Chi2	Torrente la Chi2	147	Tr200	379.50	270.33	279.40	276.42	280.13	0.003940	3.79	100.16	13.83	0.45
Torrente la Chi2	Torrente la Chi2	146.7		Bridge									
Torrente la Chi2	Torrente la Chi2	146	Tr30	218.50	271.02	275.11	274.92	276.33	0.012370	4.88	44.74	15.43	0.92
Torrente la Chi2	Torrente la Chi2	146	Tr200	379.50	271.02	276.94	276.17	278.29	0.009040	5.15	73.73	15.91	0.76
Torrente la Chi2	Torrente la Chi2	145	Tr30	218.50	270.54	275.08	274.08	275.62	0.004599	3.27	66.91	21.59	0.59
Torrente la Chi2	Torrente la Chi2	145	Tr200	379.50	270.54	277.11	275.13	277.71	0.003158	3.43	110.78	21.59	0.48
Torrente la Chi2	Torrente la Chi2	144	Tr30	218.50	269.37	275.00	273.47	275.31	0.002484	2.45	89.15	27.57	0.44
Torrente la Chi2	Torrente la Chi2	144	Tr200	379.50	269.37	277.13	274.45	277.47	0.001638	2.57	147.80	27.57	0.35
Torrente la Chi2	Torrente la Chi2	143	Tr30	218.50	268.93	274.83	272.65	275.11	0.001706	2.31	94.40	22.14	0.36
Torrente la Chi2	Torrente la Chi2	143	Tr200	379.50	268.93	276.94	273.67	277.31	0.001626	2.69	141.05	22.14	0.34
Torrente la Chi2	Torrente la Chi2	142	Tr30	218.50	268.09	274.72	271.77	274.95	0.001285	2.15	101.60	19.25	0.30
Torrente la Chi2	Torrente la Chi2	142	Tr200	379.50	268.09	276.79	272.85	277.15	0.001552	2.68	141.47	19.25	0.32
Torrente la Chi2	Torrente la Chi2	141	Tr30	218.50	268.54	272.99	272.99	274.56	0.016142	5.56	39.33	12.50	1.00
Torrente la Chi2	Torrente la Chi2	141	Tr200	379.50	268.54	274.39	274.39	276.66	0.017436	6.67	56.91	12.50	1.00
Torrente la Chi1	Torrente la Chi1	139	Tr30	256.90	266.24	271.78	269.83	272.06	0.001807	2.33	110.26	27.53	0.37
Torrente la Chi1	Torrente la Chi1	139	Tr200	443.05	266.24	274.33	270.76	274.64	0.001257	2.46	180.32	27.53	0.31
Torrente la Chi1	Torrente la Chi1	138	Tr30	256.90	265.65	271.44	269.92	271.91	0.003451	3.01	85.31	21.58	0.48
Torrente la Chi1	Torrente la Chi1	138	Tr200	443.05	265.65	274.02	270.99	274.52	0.002598	3.15	140.80	21.59	0.39
Torrente la Chi1	Torrente la Chi1	137.5		Bridge									
Torrente la Chi1	Torrente la Chi1	137	Tr30	256.90	265.21	270.18	269.19	270.98	0.006172	3.96	64.81	16.82	0.65
Torrente la Chi1	Torrente la Chi1	137	Tr200	443.05	265.21	271.89	270.46	273.03	0.006499	4.73	93.63	16.84	0.64
Torrente la Chi1	Torrente la Chi1	136	Tr30	256.90	264.96	269.03	268.76	270.31	0.009937	5.03	51.51	15.63	0.88
Torrente la Chi1	Torrente la Chi1	136	Tr200	443.05	264.96	270.43	270.10	272.32	0.010074	6.09	73.45	15.63	0.90
Torrente la Chi1	Torrente la Chi1	135	Tr30	256.90	263.89	268.21	267.89	269.42	0.011161	4.88	52.64	15.96	0.86
Torrente la Chi1	Torrente la Chi1	135	Tr200	443.05	263.89	269.55	269.19	271.37	0.012486	5.98	74.07	15.96	0.89



HEC-RAS Plan: Nord\_Tr (Continued)

River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chi
Torrente la Chi1	Torrente la Chi1	134	Tr30	256.90	263.15	268.18	267.07	268.70	0.004144	3.20	80.26	23.51	0.55
Torrente la Chi1	Torrente la Chi1	134	Tr200	443.05	263.15	269.82	268.07	270.53	0.003844	3.73	118.91	23.51	0.53
Torrente la Chi1	Torrente la Chi1	133	Tr30	256.90	262.76	266.69	266.60	267.96	0.012897	4.98	51.61	18.30	0.95
Torrente la Chi1	Torrente la Chi1	133	Tr200	443.05	262.76	267.78	267.78	269.74	0.014645	6.20	71.51	18.30	1.00
Torrente la Chi1	Torrente la Chi1	132	Tr30	256.90	262.00	265.58	265.58	266.52	0.013626	4.29	59.87	31.88	1.00
Torrente la Chi1	Torrente la Chi1	132	Tr200	443.05	262.00	266.41	266.41	267.75	0.012801	5.13	86.31	31.99	1.00
Torrente la Chi1	Torrente la Chi1	131	Tr30	262.10	261.42	265.16	264.63	265.70	0.006209	3.25	80.70	36.25	0.70
Torrente la Chi1	Torrente la Chi1	131	Tr200	451.60	261.42	266.54	265.47	267.13	0.004022	3.41	132.31	37.72	0.58
Torrente la Chi1	Torrente la Chi1	130	Tr30	262.10	260.29	264.53	264.05	265.14	0.006752	3.46	75.67	32.65	0.73
Torrente la Chi1	Torrente la Chi1	130	Tr200	451.60	260.29	266.18	264.91	266.80	0.003767	3.48	129.67	32.78	0.56
Torrente la Chi1	Torrente la Chi1	129.5	Tr30	262.10	259.60	263.73	262.86	264.29	0.004865	3.31	79.28	26.40	0.61
Torrente la Chi1	Torrente la Chi1	129.5	Tr200	451.60	259.60	265.67	263.83	266.28	0.003213	3.46	130.59	26.40	0.50
Torrente la Chi1	Torrente la Chi1	129	Tr30	262.10	258.60	263.48	262.20	263.89	0.003056	2.81	93.37	27.73	0.49
Torrente la Chi1	Torrente la Chi1	129	Tr200	451.60	258.60	265.53	263.12	265.99	0.002183	3.01	150.17	27.73	0.41
Torrente la Chi1	Torrente la Chi1	128	Tr30	262.10	257.39	263.19	260.96	263.46	0.001632	2.30	113.90	25.92	0.35
Torrente la Chi1	Torrente la Chi1	128	Tr200	451.60	257.39	265.28	261.94	265.84	0.001558	2.69	167.87	25.92	0.34
Torrente la Chi1	Torrente la Chi1	127.5	Tr30	262.10	256.18	262.61	260.48	263.02	0.002539	2.85	91.88	19.10	0.42
Torrente la Chi1	Torrente la Chi1	127.5	Tr200	451.60	256.18	264.55	261.65	265.18	0.002907	3.50	129.06	19.10	0.43
Torrente la Chi1	Torrente la Chi1	127	Tr30	269.80	255.93	260.48	260.32	261.87	0.012911	5.22	51.65	15.98	0.93
Torrente la Chi1	Torrente la Chi1	127	Tr200	464.20	255.93	262.35	261.67	264.01	0.010425	5.70	81.50	15.98	0.81
Torrente la Chi1	Torrente la Chi1	126	Tr30	269.80	252.59	258.29	257.32	259.27	0.007465	4.40	61.34	14.40	0.68
Torrente la Chi1	Torrente la Chi1	126	Tr200	464.20	252.59	260.15	258.76	261.56	0.008172	5.26	88.23	14.40	0.68
Torrente la Chi1	Torrente la Chi1	125.6	Tr30	269.80	251.00	256.53	255.65	257.45	0.007125	4.25	63.47	16.10	0.68
Torrente la Chi1	Torrente la Chi1	125.6	Tr200	464.20	251.00	258.32	256.99	259.61	0.007399	5.03	92.25	16.10	0.67
Torrente la Chi1	Torrente la Chi1	125.2	Tr30	269.80	249.93	254.56	253.87	255.47	0.007499	4.23	63.81	18.10	0.72
Torrente la Chi1	Torrente la Chi1	125.2	Tr200	464.20	249.93	255.60	255.10	257.21	0.010530	5.62	82.56	18.10	0.84
Torrente la Chi1	Torrente la Chi1	125	Tr30	269.80	249.38	252.58	252.58	253.76	0.013972	4.81	56.05	23.64	1.00
Torrente la Chi1	Torrente la Chi1	125	Tr200	464.20	249.38	254.84	253.62	255.76	0.005473	4.24	109.38	23.64	0.63
Rio di Burlazzo2	Rio di Burlazzo2	207	Tr30	5.53	273.53	274.40	274.40	274.60	0.023179	2.01	2.75	6.67	1.00
Rio di Burlazzo2	Rio di Burlazzo2	207	Tr200	9.27	273.53	274.58	274.58	274.84	0.022030	2.26	4.10	7.90	1.00
Rio di Burlazzo2	Rio di Burlazzo2	206	Tr30	5.53	265.22	265.94	265.84	266.03	0.009637	1.28	4.31	11.23	0.66
Rio di Burlazzo2	Rio di Burlazzo2	206	Tr200	9.27	265.22	266.09	265.97	266.21	0.009851	1.53	6.07	12.33	0.70
Rio di Burlazzo2	Rio di Burlazzo2	205	Tr30	5.53	262.89	263.49	263.49	263.66	0.023137	1.81	3.05	9.05	1.00
Rio di Burlazzo2	Rio di Burlazzo2	205	Tr200	9.27	262.89	263.63	263.63	263.86	0.021782	2.16	4.30	9.10	1.00
Rio di Burlazzo2	Rio di Burlazzo2	204	Tr30	5.53	258.50	259.40	259.29	259.51	0.010560	1.42	3.91	9.07	0.69
Rio di Burlazzo2	Rio di Burlazzo2	204	Tr200	9.27	258.50	259.63	259.46	259.74	0.009739	1.50	6.18	12.31	0.68
Rio di Burlazzo2	Rio di Burlazzo2	203	Tr30	8.30	253.47	255.02	255.02	255.44	0.024770	2.87	2.89	3.42	1.00
Rio di Burlazzo2	Rio di Burlazzo2	203	Tr200	13.90	253.47	255.41	255.41	255.92	0.023509	3.19	4.36	4.19	1.00
Rio di Burlazzo2	Rio di Burlazzo2	202	Tr30	8.30	250.34	251.36	251.08	251.54	0.008719	1.86	4.47	4.66	0.60
Rio di Burlazzo2	Rio di Burlazzo2	202	Tr200	13.90	250.34	251.72	251.37	251.98	0.009871	2.26	6.14	4.83	0.64
Rio di Burlazzo2	Rio di Burlazzo2	201	Tr30	8.30	250.34	251.08	251.08	251.43	0.024218	2.62	3.16	4.52	1.00
Rio di Burlazzo2	Rio di Burlazzo2	201	Tr200	13.90	250.34	251.37	251.37	251.86	0.023685	3.07	4.52	4.66	1.00
Rio di Burlazzo1	Rio di Burlazzo1	106	Tr30	8.10	269.09	270.20	270.20	270.55	0.023118	2.63	3.08	4.47	1.01
Rio di Burlazzo1	Rio di Burlazzo1	106	Tr200	13.40	269.09	270.51	270.51	270.93	0.022153	2.88	4.65	5.50	1.00
Rio di Burlazzo1	Rio di Burlazzo1	105	Tr30	8.10	263.96	264.63	264.63	264.85	0.021514	2.06	3.94	9.10	1.00
Rio di Burlazzo1	Rio di Burlazzo1	105	Tr200	13.40	263.96	264.81	264.81	265.10	0.019621	2.37	5.66	9.77	0.99
Rio di Burlazzo1	Rio di Burlazzo1	104	Tr30	8.10	259.55	260.70	260.70	261.02	0.021555	2.52	3.21	4.99	1.00
Rio di Burlazzo1	Rio di Burlazzo1	104	Tr200	13.40	259.55	260.97	260.97	261.40	0.020719	2.89	4.64	5.45	1.00
Rio di Burlazzo1	Rio di Burlazzo1	103	Tr30	8.10	255.46	256.34	256.34	256.62	0.020594	2.34	3.46	6.18	1.00
Rio di Burlazzo1	Rio di Burlazzo1	103	Tr200	13.40	255.46	256.57	256.57	256.95	0.019857	2.74	4.89	6.43	1.00
Rio di Burlazzo1	Rio di Burlazzo1	102	Tr30	8.10	252.64	253.73	253.73	254.06	0.021298	2.51	3.22	5.00	1.00
Rio di Burlazzo1	Rio di Burlazzo1	102	Tr200	13.40	252.64	254.00	254.00	254.43	0.020273	2.89	4.64	5.49	1.00
Rio di Burlazzo1	Rio di Burlazzo1	101	Tr30	8.10	250.86	252.10	251.65	252.18	0.003513	1.28	6.35	6.77	0.42
Rio di Burlazzo1	Rio di Burlazzo1	101	Tr200	13.40	250.86	252.49	251.88	252.60	0.003484	1.46	9.17	7.67	0.43
Rio di Burlazzo	Rio di Burlazzo	5	Tr30	22.00	247.11	248.39	248.39	248.82	0.018751	2.89	7.60	8.88	1.00
Rio di Burlazzo	Rio di Burlazzo	5	Tr200	36.50	247.11	248.75	248.75	249.33	0.017807	3.37	10.83	9.27	1.00
Rio di Burlazzo	Rio di Burlazzo	3	Tr30	22.00	244.76	246.80	246.20	246.89	0.002801	1.31	16.82	13.52	0.37
Rio di Burlazzo	Rio di Burlazzo	3	Tr200	36.50	244.76	247.46	246.46	247.56	0.002068	1.42	25.72	13.52	0.33
Rio di Burlazzo	Rio di Burlazzo	2.5	Bridge										
Rio di Burlazzo	Rio di Burlazzo	2	Tr30	22.00	244.76	246.45	246.20	246.62	0.008107	1.83	12.03	13.52	0.62
Rio di Burlazzo	Rio di Burlazzo	2	Tr200	36.50	244.76	246.79	246.46	247.04	0.007908	2.19	16.69	13.52	0.63
Rio di Burlazzo	Rio di Burlazzo	1.5	Tr30	22.00	243.48	244.78	244.78	245.18	0.017950	2.80	7.86	9.84	1.00
Rio di Burlazzo	Rio di Burlazzo	1.5	Tr200	36.50	243.48	245.12	245.12	245.64	0.017041	3.20	11.41	10.90	1.00
Rio di Burlazzo	Rio di Burlazzo	1	Tr30	22.00	239.75	241.49	241.49	242.04	0.018994	3.28	6.72	6.14	1.00
Rio di Burlazzo	Rio di Burlazzo	1	Tr200	36.50	239.75	241.97	241.97	242.67	0.018130	3.69	9.88	7.08	1.00

HEC-RAS Plan: Nord Tr (Continued)

River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W. S. Elev (m)	Crit W. S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Quarata	Quarata	1022	Tr30	3.00	243.65	244.25	244.25	244.44	0.024376	1.92	1.56	4.16	1.00
Quarata	Quarata	1022	Tr200	5.00	243.65	244.41	244.41	244.66	0.023626	2.22	2.25	4.58	1.01
Quarata	Quarata	871	Tr30	3.00	240.65	241.63	241.31	241.69	0.003952	1.06	2.83	4.65	0.43
Quarata	Quarata	871	Tr200	5.00	240.65	241.84	241.49	241.93	0.004626	1.28	3.90	5.34	0.48
Quarata	Quarata	659	Tr30	3.00	239.58	239.80	239.80	239.89	0.029185	1.29	2.33	14.05	1.01
Quarata	Quarata	659	Tr200	5.00	239.58	239.88	239.88	239.99	0.025782	1.48	3.38	15.05	1.00
Quarata	Quarata	441	Tr30	3.00	228.35	228.80	228.80	228.96	0.023566	1.77	1.70	5.31	1.00
Quarata	Quarata	441	Tr200	5.00	228.35	228.93	228.93	229.14	0.021826	2.03	2.47	5.87	1.00
Quarata	Quarata	262	Tr30	3.00	221.41	222.05	222.05	222.24	0.023548	1.94	1.55	4.10	1.01
Quarata	Quarata	262	Tr200	5.00	221.41	222.23	222.23	222.45	0.021532	2.10	2.38	5.19	0.99
Quarata	Quarata	128	Tr30	3.00	218.06	218.82	218.76	218.97	0.015543	1.72	1.74	3.88	0.82
Quarata	Quarata	128	Tr200	5.00	218.06	219.00	218.94	219.21	0.016254	2.02	2.48	4.34	0.85
Quarata	Quarata	9	Tr30	3.00	215.94	216.47	216.47	216.67	0.024714	1.97	1.53	3.88	1.00
Quarata	Quarata	9	Tr200	5.00	215.94	216.64	216.64	216.89	0.023764	2.18	2.29	4.70	1.00
Quarata	Quarata	8	Tr30	3.00	211.77	212.62	212.46	212.71	0.009612	1.36	2.21	4.93	0.65
Quarata	Quarata	8	Tr200	5.00	211.77	212.80	212.64	212.93	0.009498	1.60	3.12	5.17	0.66
Quarata	Quarata	7	Tr30	3.00	210.22	210.83	210.83	211.02	0.023724	1.97	1.53	3.83	0.99
Quarata	Quarata	7	Tr200	5.00	210.22	210.99	210.99	211.26	0.023419	2.29	2.18	4.14	1.01
Quarata	Quarata	6	Tr30	3.00	205.21	205.79	205.79	205.94	0.026462	1.70	1.77	6.30	1.02
Quarata	Quarata	6	Tr200	5.00	205.21	205.91	205.91	206.11	0.023564	1.98	2.52	6.30	1.00
Fosso di SanPie1	Fosso di sanPie1	12	Tr30	20.30	234.95	236.22	235.90	236.33	0.005349	1.52	13.35	17.24	0.55
Fosso di SanPie1	Fosso di sanPie1	12	Tr200	32.20	234.95	236.47	236.14	236.64	0.005477	1.80	17.85	17.87	0.58
Fosso di SanPie1	Fosso di sanPie1	10	Tr30	20.30	233.92	235.01	235.01	235.31	0.019104	2.40	8.44	14.31	1.00
Fosso di SanPie1	Fosso di sanPie1	10	Tr200	32.20	233.92	235.24	235.24	235.61	0.017890	2.72	11.84	15.78	1.00
Fosso di SanPie1	Fosso di sanPie1	9	Tr30	20.30	231.02	233.14	232.51	233.23	0.002805	1.34	15.16	14.28	0.42
Fosso di SanPie1	Fosso di sanPie1	9	Tr200	32.20	231.02	233.55	232.82	233.67	0.002743	1.49	21.60	17.05	0.42
Fosso di SanPie1	Fosso di sanPie1	8	Tr30	20.30	231.01	232.98	232.54	233.15	0.006225	1.81	11.20	11.84	0.60
Fosso di SanPie1	Fosso di sanPie1	8	Tr200	32.20	231.01	233.39	232.94	233.59	0.005279	1.95	16.49	13.73	0.57
Fosso di SanPie1	Fosso di sanPie1	7	Tr30	20.30	229.95	231.56	231.56	232.09	0.019249	3.21	6.33	6.03	1.00
Fosso di SanPie1	Fosso di sanPie1	7	Tr200	32.20	229.95	231.97	231.97	232.63	0.018506	3.59	8.97	6.81	1.00
Fosso di san pie	Fosso di san pie	6	Tr30	24.60	227.96	230.73	229.85	230.85	0.002947	1.53	16.08	12.05	0.42
Fosso di san pie	Fosso di san pie	6	Tr200	39.20	227.96	231.29	230.30	231.43	0.002799	1.66	23.62	15.22	0.43
Fosso di san pie	Fosso di san pie	5.5		Bridge									
Fosso di san pie	Fosso di san pie	5	Tr30	24.60	227.96	230.51	229.85	230.68	0.004488	1.81	13.59	10.81	0.52
Fosso di san pie	Fosso di san pie	5	Tr200	39.20	227.96	230.94	230.30	231.16	0.005109	2.10	18.69	13.23	0.56
Fosso di san pie	Fosso di san pie	4	Tr30	24.60	227.99	230.18	229.88	230.42	0.007562	2.15	11.43	10.53	0.66
Fosso di san pie	Fosso di san pie	4	Tr200	39.20	227.99	230.52	230.23	230.86	0.008651	2.59	15.11	11.55	0.72
Fosso di san pie	Fosso di san pie	3	Tr30	24.60	227.37	228.25	228.25	228.58	0.018442	2.55	9.63	14.49	1.00
Fosso di san pie	Fosso di san pie	3	Tr200	39.20	227.37	228.51	228.51	228.94	0.016954	2.90	13.52	15.69	1.00
Fosso di san pie	Fosso di san pie	2	Tr30	24.60	224.19	225.78	225.78	226.21	0.017669	2.93	8.41	9.56	1.00
Fosso di san pie	Fosso di san pie	2	Tr200	39.20	224.19	226.14	226.14	226.61	0.017132	3.06	12.82	13.44	1.00
Fosso di san pie	Fosso di san pie	1.5	Tr30	24.60	222.69	224.11	223.92	224.41	0.010003	2.43	10.12	9.86	0.77
Fosso di san pie	Fosso di san pie	1.5	Tr200	39.20	222.69	224.48	224.27	224.88	0.010016	2.80	14.01	10.92	0.79
Fosso di Montegi	Fosso di Montegi	994	Tr30	24.30	277.46	279.24	279.18	279.84	0.018951	3.43	7.09	5.10	0.93
Fosso di Montegi	Fosso di Montegi	994	Tr200	41.10	277.46	280.15	279.73	280.78	0.013789	3.51	11.70	5.10	0.74
Fosso di Montegi	Fosso di Montegi	993	Tr30	24.30	272.11	274.65	274.44	275.13	0.015663	3.05	7.95	5.58	0.82
Fosso di Montegi	Fosso di Montegi	993	Tr200	41.10	272.11	275.00	275.00	275.88	0.024211	4.16	9.88	5.59	1.00
Fosso di Montegi	Fosso di Montegi	670	Tr30	24.30	270.89	272.73	272.73	273.35	0.020814	3.49	6.97	5.60	1.00
Fosso di Montegi	Fosso di Montegi	670	Tr200	41.10	270.89	274.81	273.30	275.01	0.003077	1.98	20.74	6.80	0.36
Fosso di Montegi	Fosso di Montegi	364	Tr30	24.30	269.30	272.11	271.31	272.34	0.005260	2.15	11.29	5.85	0.49
Fosso di Montegi	Fosso di Montegi	364	Tr200	41.10	269.30	274.65	271.89	274.78	0.001679	1.57	26.20	5.85	0.24
Fosso di Montegi	Fosso di Montegi	63	Tr30	24.30	268.46	272.15	270.14	272.18	0.000442	0.82	29.55	11.50	0.16
Fosso di Montegi	Fosso di Montegi	63	Tr200	41.10	268.46	274.69	270.59	274.71	0.000189	0.70	58.72	11.50	0.10
Fosso di Montegi	Fosso di Montegi	50		Culvert									
Fosso di Montegi	Fosso di Montegi	41	Tr30	24.30	267.25	272.12	268.18	272.12	0.000025	0.28	87.79	21.40	0.04
Fosso di Montegi	Fosso di Montegi	41	Tr200	41.10	267.25	274.69	268.43	274.69	0.000018	0.29	142.76	21.40	0.04
Fosso di Ghianda	Fosso di Ghianda	5	Tr30	4.00	244.28	245.75	244.88	245.76	0.000152	0.30	13.55	12.52	0.09
Fosso di Ghianda	Fosso di Ghianda	5	Tr200	6.00	244.28	246.21	244.96	246.22	0.000113	0.31	19.35	12.52	0.08
Fosso di Ghianda	Fosso di Ghianda	4.5		Bridge									
Fosso di Ghianda	Fosso di Ghianda	4	Tr30	4.00	244.28	245.02	244.88	245.07	0.005390	0.90	4.45	12.52	0.48
Fosso di Ghianda	Fosso di Ghianda	4	Tr200	6.00	244.28	245.14	244.96	245.19	0.004961	1.02	5.86	12.52	0.48
Fosso di Ghianda	Fosso di Ghianda	3	Tr30	4.00	239.76	240.85	240.85	241.20	0.027210	2.61	1.53	2.20	1.00
Fosso di Ghianda	Fosso di Ghianda	3	Tr200	6.00	239.76	241.07	241.07	241.52	0.027299	2.99	2.01	2.20	1.00
Fosso di Ghianda	Fosso di Ghianda	1	Tr30	4.00	234.18	234.84	234.84	235.05	0.022026	2.05	1.95	4.48	0.99
Fosso di Ghianda	Fosso di Ghianda	1	Tr200	6.00	234.18	234.98	234.98	235.25	0.021350	2.30	2.61	4.87	1.00

HEC-RAS Plan: Nord Tr (Continued)

River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W. S. Elev (m)	Crit W. S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Fosso dell'Onta1	Fosso dell'Onta1	7	Tr30	8.50	216.15	217.18	216.84	217.21	0.002665	0.84	10.15	19.27	0.37
Fosso dell'Onta1	Fosso dell'Onta1	7	Tr200	14.10	216.15	217.88	216.99	217.90	0.000437	0.51	27.87	29.01	0.16
Fosso dell'Onta1	Fosso dell'Onta1	6	Tr30	8.50	214.72	216.93	215.96	217.03	0.003882	1.43	5.96	3.19	0.33
Fosso dell'Onta1	Fosso dell'Onta1	6	Tr200	14.10	214.72	217.68	216.32	217.83	0.004506	1.69	8.36	3.19	0.33
Fosso delle Capa	Fosso delle Capa	4	Tr30	4.20	227.05	227.43	227.43	227.52	0.028529	1.28	3.28	19.52	1.00
Fosso delle Capa	Fosso delle Capa	4	Tr200	6.80	227.05	227.50	227.50	227.61	0.026717	1.46	4.67	21.79	1.01
Fosso delle Capa	Fosso delle Capa	3.5	Tr30	4.20	224.11	225.17	224.92	225.23	0.011604	1.05	4.00	16.14	0.67
Fosso delle Capa	Fosso delle Capa	3.5	Tr200	6.80	224.11	225.25	225.19	225.33	0.012511	1.25	5.45	17.90	0.72
Fosso delle Capa	Fosso delle Capa	2	Tr30	4.20	222.19	222.55	222.55	222.64	0.027921	1.31	3.20	18.14	1.00
Fosso delle Capa	Fosso delle Capa	2	Tr200	6.80	222.19	222.62	222.62	222.74	0.025238	1.52	4.48	18.93	1.00
Fosso delle Capa	Fosso delle Capa	1	Tr30	4.20	208.59	209.48	209.48	209.74	0.023010	2.25	1.87	3.60	1.00
Fosso delle Capa	Fosso delle Capa	1	Tr200	6.80	208.59	209.71	209.71	210.01	0.021765	2.44	2.78	4.57	1.00
Fosso delle Bilo	Fosso delle Bilo	2	Tr30	3.10	227.66	228.12	228.12	228.23	0.025949	1.50	2.06	8.98	1.00
Fosso delle Bilo	Fosso delle Bilo	2	Tr200	4.90	227.66	228.21	228.21	228.35	0.023998	1.64	2.99	10.82	0.99
Fosso delle Bilo	Fosso delle Bilo	1	Tr30	3.10	215.75	217.42	216.68	217.51	0.004256	1.32	2.35	1.61	0.35
Fosso delle Bilo	Fosso delle Bilo	1	Tr200	4.90	215.75	218.13	216.94	218.23	0.003728	1.41	3.49	1.61	0.30
Fosso della Grot	Fosso della Grot	226	Tr30	9.60	212.17	213.36	213.36	213.78	0.022213	2.88	3.33	3.98	1.01
Fosso della Grot	Fosso della Grot	226	Tr200	16.00	212.17	213.73	213.73	214.27	0.021467	3.27	4.89	4.45	1.00
Fosso della Grot	Fosso della Grot	128	Tr30	9.60	209.73	210.67	210.67	210.93	0.020508	2.23	4.31	8.54	1.00
Fosso della Grot	Fosso della Grot	128	Tr200	16.00	209.73	210.91	210.91	211.20	0.019387	2.41	6.63	11.10	1.00
Fosso della Grot	Fosso della Grot	2	Tr30	9.60	207.17	209.20	208.36	209.29	0.002883	1.32	7.26	5.57	0.37
Fosso della Grot	Fosso della Grot	2	Tr200	16.00	207.17	210.51	208.72	210.58	0.001169	1.10	14.60	5.58	0.22
Fosso della Grot	Fosso della Grot	1.5		Bridge									
Fosso della Grot	Fosso della Grot	1	Tr30	9.60	207.17	208.48	208.36	208.80	0.014956	2.50	3.84	4.14	0.83
Fosso della Grot	Fosso della Grot	1	Tr200	16.00	207.17	208.77	208.72	209.28	0.019185	3.14	5.09	4.51	0.94
Fosso della Grot	Fosso della Grot	0.9	Tr30	9.60	206.50	207.71	207.46	207.82	0.006002	1.48	6.51	8.60	0.54
Fosso della Grot	Fosso della Grot	0.9	Tr200	16.00	206.50	208.01	207.66	208.17	0.006001	1.77	9.05	8.60	0.55
Fosso della Docc	Fosso della Docc	38	Tr30	18.00	260.92	262.32	262.17	262.61	0.012375	2.36	7.61	8.37	0.79
Fosso della Docc	Fosso della Docc	38	Tr200	28.80	260.92	262.63	262.49	263.03	0.013211	2.79	10.32	9.25	0.84
Fosso della Docc	Fosso della Docc	37	Tr30	18.00	259.56	260.82	260.82	261.19	0.019391	2.70	6.66	9.00	1.00
Fosso della Docc	Fosso della Docc	37	Tr200	28.80	259.56	261.10	261.10	261.60	0.018315	3.11	9.25	9.34	1.00
Fosso della Docc	Fosso della Docc	36	Tr30	18.00	257.31	258.87	258.47	259.00	0.004483	1.61	11.21	10.52	0.50
Fosso della Docc	Fosso della Docc	36	Tr200	28.80	257.31	259.31	258.72	259.48	0.004004	1.82	15.81	10.52	0.47
Fosso della Docc	Fosso della Docc	35	Tr30	18.00	256.96	258.46	258.23	258.72	0.009164	2.23	8.06	7.57	0.69
Fosso della Docc	Fosso della Docc	35	Tr200	28.80	256.96	258.86	258.54	259.20	0.009122	2.60	11.08	7.57	0.69
Fosso della Docc	Fosso della Docc	34	Tr30	18.00	255.81	257.32	257.32	257.80	0.019392	3.06	5.88	6.12	1.00
Fosso della Docc	Fosso della Docc	34	Tr200	28.80	255.81	257.70	257.70	258.30	0.018651	3.42	8.41	7.08	1.00
Fosso della Docc	Fosso della Docc	33	Tr30	18.00	253.33	255.14	254.99	255.52	0.013543	2.74	6.57	5.88	0.83
Fosso della Docc	Fosso della Docc	33	Tr200	28.80	253.33	255.57	255.38	256.07	0.013854	3.13	9.19	6.48	0.84
Fosso della Docc	Fosso della Docc	32	Tr30	18.00	251.65	253.88	253.75	254.21	0.015540	2.57	7.01	7.00	0.82
Fosso della Docc	Fosso della Docc	32	Tr200	28.80	251.65	254.21	254.08	254.69	0.016871	3.09	9.32	7.00	0.86
Fosso della Docc	Fosso della Docc	31	Tr30	18.00	246.29	247.99	247.99	248.37	0.019696	2.74	6.58	8.62	1.00
Fosso della Docc	Fosso della Docc	31	Tr200	28.80	246.29	248.29	248.29	248.77	0.018538	3.07	9.38	9.76	1.00
Fosso della Docc	Fosso della Docc	30	Tr30	18.00	239.68	241.72	241.10	241.85	0.003540	1.59	11.33	8.86	0.45
Fosso della Docc	Fosso della Docc	30	Tr200	28.80	239.68	242.29	241.44	242.44	0.003047	1.74	16.56	9.41	0.42
Fosso della Docc	Fosso della Docc	29	Tr30	18.00	238.20	240.62	240.00	240.82	0.005938	2.00	8.99	6.10	0.53
Fosso della Docc	Fosso della Docc	29	Tr200	28.80	238.20	241.36	240.43	241.59	0.004700	2.10	13.72	6.37	0.46
Fosso della Docc	Fosso della Docc	28	Tr30	18.00	236.84	238.69	238.46	239.18	0.016978	3.11	5.78	3.67	0.79
Fosso della Docc	Fosso della Docc	28	Tr200	28.80	236.84	238.96	238.96	239.88	0.028792	4.26	6.76	3.67	1.00
Fosso della Docc	Fosso della Docc	27	Tr30	18.00	236.77	237.34	237.34	237.54	0.022339	1.99	9.05	23.14	1.02
Fosso della Docc	Fosso della Docc	27	Tr200	28.80	236.77	237.50	237.50	237.75	0.020187	2.20	13.10	26.69	1.00
Fosso della Docc	Fosso della Docc	26.7	Tr30	18.00	229.35	230.96	230.96	231.46	0.019538	3.12	5.76	5.81	1.00
Fosso della Docc	Fosso della Docc	26.7	Tr200	28.80	229.35	231.37	231.37	231.98	0.018549	3.46	8.31	6.77	1.00
Fosso dell'Ontan	Fosso dell'Ontan	5	Tr30	14.00	213.82	215.53	215.53	216.11	0.027226	3.37	4.15	3.57	1.00
Fosso dell'Ontan	Fosso dell'Ontan	5	Tr200	22.80	213.82	215.98	215.98	216.78	0.029781	3.97	5.75	3.57	1.00
Fosso dell'Ontan	Fosso dell'Ontan	3.8	Tr30	14.00	211.15	212.31	212.06	212.43	0.006477	1.52	9.21	13.20	0.58
Fosso dell'Ontan	Fosso dell'Ontan	3.8	Tr200	22.80	211.15	212.59	212.29	212.75	0.005892	1.77	12.90	13.20	0.57
Fosso dell'Ontan	Fosso dell'Ontan	3.6	Tr30	14.00	210.19	211.00	211.00	211.34	0.020928	2.56	5.47	8.20	1.00
Fosso dell'Ontan	Fosso dell'Ontan	3.6	Tr200	22.80	210.19	211.26	211.26	211.72	0.020317	3.02	7.56	8.20	1.00
Fosso dell'Ontan	Fosso dell'Ontan	3.4	Tr30	14.00	204.40	205.33	205.08	205.37	0.003624	0.87	16.10	36.47	0.42
Fosso dell'Ontan	Fosso dell'Ontan	3.4	Tr200	22.80	204.40	206.09	205.21	206.11	0.000353	0.52	44.17	36.60	0.15
Fosso dell'Ontan	Fosso dell'Ontan	3	Tr30	14.00	203.00	205.14	204.32	205.20	0.001701	1.10	12.69	10.33	0.32
Fosso dell'Ontan	Fosso dell'Ontan	3	Tr200	22.80	203.00	206.02	204.62	206.07	0.000815	0.98	23.17	12.72	0.23
Fosso dell'Ontan	Fosso dell'Ontan	2.5		Bridge									
Fosso dell'Ontan	Fosso dell'Ontan	2	Tr30	14.00	203.00	204.96	204.32	205.04	0.002644	1.29	10.84	9.73	0.39
Fosso dell'Ontan	Fosso dell'Ontan	2	Tr200	22.80	203.00	205.66	204.62	205.74	0.001634	1.23	18.59	12.39	0.32

HEC-RAS Plan: Nord Tr (Continued)

River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Fosso dell'Ontan	Fosso dell'Ontan	1	Tr30	14.00	202.88	204.82	203.92	204.90	0.002000	1.26	11.10	6.66	0.31
Fosso dell'Ontan	Fosso dell'Ontan	1	Tr200	22.80	202.88	205.51	204.22	205.62	0.002000	1.45	15.72	6.66	0.30
Fosso del Fusato	Fosso del Fusato	52	Tr30	13.00	260.96	262.42	262.42	262.78	0.019941	2.64	4.92	6.92	1.00
Fosso del Fusato	Fosso del Fusato	52	Tr200	21.40	260.96	262.73	262.73	263.18	0.018777	2.97	7.21	8.13	1.01
Fosso del Fusato	Fosso del Fusato	51	Tr30	13.00	259.66	261.98	261.01	262.07	0.002746	1.37	9.48	6.84	0.37
Fosso del Fusato	Fosso del Fusato	51	Tr200	21.40	259.66	262.91	261.44	262.98	0.001599	1.20	17.77	11.02	0.30
Fosso del Fusato	Fosso del Fusato	50.5		Culvert									
Fosso del Fusato	Fosso del Fusato	50	Tr30	13.00	259.58	261.34	261.01	261.59	0.008992	2.23	5.82	4.79	0.65
Fosso del Fusato	Fosso del Fusato	50	Tr200	21.40	259.58	261.73	261.39	262.12	0.011188	2.78	7.70	4.82	0.70
Fosso del Fusato	Fosso del Fusato	49	Tr30	13.00	258.79	260.84	260.61	261.10	0.011612	2.22	5.87	6.41	0.74
Fosso del Fusato	Fosso del Fusato	49	Tr200	21.40	258.79	261.20	261.03	261.51	0.012905	2.46	8.69	9.16	0.81
Fosso del Fusato	Fosso del Fusato	48	Tr30	13.00	258.79	260.43	260.20	260.62	0.009047	1.94	6.70	8.10	0.68
Fosso del Fusato	Fosso del Fusato	48	Tr200	21.40	258.79	260.85	260.50	261.06	0.007048	2.03	10.53	9.86	0.63
Fosso del Fusato	Fosso del Fusato	47.5		Culvert									
Fosso del Fusato	Fosso del Fusato	47	Tr30	13.00	253.59	255.70	255.70	256.24	0.027998	3.25	4.00	3.68	1.00
Fosso del Fusato	Fosso del Fusato	47	Tr200	21.40	253.59	256.15	256.15	256.86	0.028344	3.74	5.71	3.98	1.00
Fosso del Fusato	Fosso del Fusato	46	Tr30	13.00	252.94	255.13	254.73	255.30	0.006831	1.80	7.24	6.76	0.55
Fosso del Fusato	Fosso del Fusato	46	Tr200	21.40	252.94	255.54	255.06	255.77	0.007050	2.10	10.17	7.62	0.58
Fosso del Fusato	Fosso del Fusato	45	Tr30	13.00	252.59	254.11	254.10	254.56	0.021061	2.98	4.36	4.72	0.99
Fosso del Fusato	Fosso del Fusato	45	Tr200	21.40	252.59	254.59	254.50	255.08	0.016712	3.10	6.91	5.85	0.91
Fosso del Fusato	Fosso del Fusato	44	Tr30	13.00	251.35	253.11	252.79	253.42	0.011527	2.47	5.25	4.00	0.69
Fosso del Fusato	Fosso del Fusato	44	Tr200	21.40	251.35	253.81	253.23	254.15	0.009427	2.60	8.24	4.59	0.62
Fosso del Fusato	Fosso del Fusato	43.5		Culvert									
Fosso del Fusato	Fosso del Fusato	43	Tr30	13.00	251.46	253.09	252.84	253.40	0.011579	2.46	5.29	4.60	0.73
Fosso del Fusato	Fosso del Fusato	43	Tr200	21.40	251.46	253.83	253.26	254.12	0.007351	2.36	9.05	5.56	0.59
Fosso del Fusato	Fosso del Fusato	42	Tr30	13.00	250.86	252.95	252.21	253.11	0.004564	1.74	7.48	4.71	0.44
Fosso del Fusato	Fosso del Fusato	42	Tr200	21.40	250.86	253.71	252.62	253.89	0.004204	1.90	11.24	5.23	0.41
Fosso del Fusato	Fosso del Fusato	41	Tr30	13.00	250.43	252.72	252.03	252.91	0.005979	1.93	6.75	4.19	0.48
Fosso del Fusato	Fosso del Fusato	41	Tr200	21.40	250.43	253.48	252.48	253.71	0.005619	2.11	10.13	4.69	0.46
Fosso del Fusato	Fosso del Fusato	40	Tr30	13.00	249.63	252.58	251.18	252.65	0.001713	1.19	10.89	4.73	0.25
Fosso del Fusato	Fosso del Fusato	40	Tr200	21.40	249.63	253.29	251.55	253.41	0.002298	1.50	14.29	4.73	0.28
Fosso del Fusato	Fosso del Fusato	39.9		Culvert									
Fosso del Fusato	Fosso del Fusato	39.8	Tr30	13.00	249.63	252.46	251.18	252.54	0.001958	1.26	10.36	4.73	0.27
Fosso del Fusato	Fosso del Fusato	39.8	Tr200	21.40	249.63	253.17	251.55	253.30	0.002554	1.56	13.71	4.73	0.29
Fosso del Fusato	Fosso del Fusato	39	Tr30	13.00	249.63	251.18	251.18	251.65	0.022491	3.02	4.30	4.63	1.00
Fosso del Fusato	Fosso del Fusato	39	Tr200	21.40	249.63	251.55	251.55	252.19	0.023048	3.53	6.06	4.73	1.00
Fosso del Fusato	Fosso del Fusato	38	Tr30	13.00	247.24	249.43	248.71	249.62	0.005924	1.90	6.85	4.43	0.49
Fosso del Fusato	Fosso del Fusato	38	Tr200	21.40	247.24	250.23	249.18	250.44	0.005037	2.03	10.56	4.90	0.44
Fosso del Fusato	Fosso del Fusato	37.5		Culvert									
Fosso del Fusato	Fosso del Fusato	37	Tr30	13.00	246.76	249.04	248.74	249.46	0.018012	2.84	4.58	3.14	0.75
Fosso del Fusato	Fosso del Fusato	37	Tr200	21.40	246.76	249.64	249.30	250.18	0.018723	3.23	6.62	3.68	0.77
Fosso del Fusato	Fosso del Fusato	36	Tr30	13.00	246.03	247.51	247.39	247.87	0.014960	2.66	4.89	4.85	0.85
Fosso del Fusato	Fosso del Fusato	36	Tr200	21.40	246.03	247.82	247.79	248.38	0.018900	3.29	6.50	5.49	0.97
Fosso del Fusato	Fosso del Fusato	35	Tr30	13.00	242.98	244.49	244.30	244.72	0.010366	2.11	6.16	7.42	0.74
Fosso del Fusato	Fosso del Fusato	35	Tr200	21.40	242.98	244.97	244.63	245.17	0.008657	1.98	10.83	12.89	0.69
Fosso del Fusato	Fosso del Fusato	34	Tr30	13.00	239.88	241.34	241.34	241.94	0.028992	3.44	3.78	3.13	1.00
Fosso del Fusato	Fosso del Fusato	34	Tr200	21.40	239.88	241.84	241.84	242.63	0.030029	3.94	5.43	3.45	1.00
Fosso del Fusato	Fosso del Fusato	33	Tr30	13.00	225.55	226.50	226.49	226.74	0.019324	2.19	5.95	11.70	0.98
Fosso del Fusato	Fosso del Fusato	33	Tr200	21.40	225.55	226.70	226.70	227.03	0.018795	2.55	8.40	12.66	1.00
Fosso del Fusato	Fosso del Fusato	32	Tr30	13.00	217.77	218.94	218.94	219.24	0.020022	2.42	5.36	9.03	1.00
Fosso del Fusato	Fosso del Fusato	32	Tr200	21.40	217.77	219.19	219.19	219.57	0.018677	2.72	7.88	10.49	1.00
Fosso del Fusato	Fosso del Fusato	31	Tr30	13.00	214.35	215.07	214.96	215.17	0.010004	1.40	9.30	22.20	0.69
Fosso del Fusato	Fosso del Fusato	31	Tr200	21.40	214.35	215.24	215.11	215.38	0.009136	1.64	13.01	22.50	0.69
Fosso del Fusato	Fosso del Fusato	30	Tr30	13.00	211.60	212.50	212.50	212.81	0.020828	2.46	5.29	8.60	1.00
Fosso del Fusato	Fosso del Fusato	30	Tr200	21.40	211.60	212.74	212.74	213.17	0.019840	2.90	7.39	8.60	1.00
Fosso del Fusato	Fosso del Fusato	29	Tr30	13.00	202.22	203.08	203.08	203.36	0.019655	2.34	5.55	9.87	1.00
Fosso del Fusato	Fosso del Fusato	29	Tr200	21.40	202.22	203.31	203.31	203.69	0.018385	2.70	7.91	10.71	1.00
Fosso del Felcai	Fosso del Felcai	5	Tr30	6.20	213.18	213.70	213.66	213.78	0.015637	1.29	4.80	17.92	0.80
Fosso del Felcai	Fosso del Felcai	5	Tr200	10.50	213.18	213.80	213.76	213.93	0.016483	1.58	6.63	18.99	0.86
Fosso del Felcai	Fosso del Felcai	4	Tr30	6.20	210.95	211.34	211.34	211.45	0.025398	1.42	4.37	20.42	0.98
Fosso del Felcai	Fosso del Felcai	4	Tr200	10.50	210.95	211.43	211.43	211.58	0.024106	1.69	6.22	21.61	1.00
Fosso del Felcai	Fosso del Felcai	3	Tr30	6.20	209.41	210.00	209.93	210.05	0.010888	1.02	6.08	24.82	0.66
Fosso del Felcai	Fosso del Felcai	3	Tr200	10.50	209.41	210.12	210.02	210.18	0.010993	1.08	9.70	36.43	0.67
Fosso del Felcai	Fosso del Felcai	1	Tr30	6.20	207.66	208.34	208.34	208.47	0.024596	1.60	3.88	14.79	1.00

HEC-RAS Plan: Nord\_Tr (Continued)

River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Fosso del Felcai	Fosso del Felcai	1	Tr200	10.50	207.66	208.46	208.46	208.63	0.022710	1.86	5.66	16.20	1.00
Foce_Felcaio_Cap	Foce_Felcaio_Cap	1	Tr30	12.40	200.46	201.05	200.88	201.09	0.004721	0.90	13.76	36.15	0.47
Foce_Felcaio_Cap	Foce_Felcaio_Cap	1	Tr200	17.30	200.46	201.15	200.94	201.20	0.004588	1.00	17.38	38.50	0.47
Foce_Felcaio_Cap	Foce_Felcaio_Cap	0.5	Tr30	12.40	200.45	200.95	200.85	201.03	0.010008	1.24	9.98	28.41	0.67
Foce_Felcaio_Cap	Foce_Felcaio_Cap	0.5	Tr200	17.30	200.45	201.04	200.93	201.13	0.010003	1.37	12.66	31.25	0.69