Roads Department,
Ministry of Regional Development
and Infrastructure (RDMRDI)

Preparatory Survey for East-West Highway (E-60) Development Project (Phase 2) in Georgia

Final Report

Appendix – Volume 1

Disclosure Document

September 2018

JAPAN INTERNATIONAL COOPERATION AGENCY

PADECO Co., Ltd.
Oriental Consultants Global Co., Ltd.

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18-007

<Appendix List>

(Appendix - Volume 1)

Appendix 4.1	Design Drawings of Super Structure for Steel Bridge
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Appendix 4.3	Inter-Change Design Change History (from FS to final DD version)
Appendix 4.4	Topography and Tunnel Location
Appendix 4.5	Additional Geotechnical Investigation
Appendix 6.1	Evidence for the calculation results of Construction Cost by Construction Period : (A part has been removed because of confidential information.)
Appendix 7.1	F4-Bill of Quantities (Final Version) : (This appendix has been removed because of confidential information.)

(Appendix - Volume 2)

Appendix 8.1	EIA (Final Version)
Appendix 8.2	LARAP (Final Version)
Appendix 12.1	Team Member List
Appendix 12.2	Minutes of the Meeting – Extract the main ones - : (This appendix has been removed because of confidential information.)

Appendix 4.1

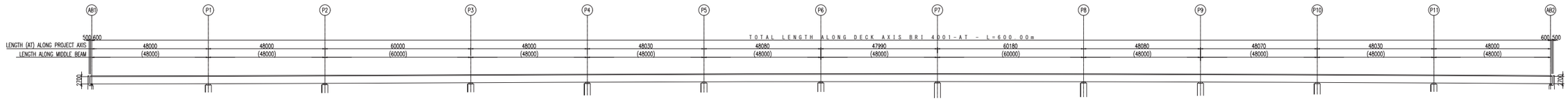
Design Drawings of Super Structure for Steel Bridge

STEEL BRIDGE SUPER STRUCTURE DRAWINGS (A3 long size) 2018/3/13

No.	TITLE	
1	Superstructure General View (Dimensions)	
2	Superstructure General View (Dimensions) BRI4101-AT	
3	Superstructure General View (Dimensions) BRI4102-TA	
4	Superstructure General View (Dimensions) BRI4102-AT	
5	Superstructure General View (Dimensions) BRI4104-TA	
6	Superstructure General View (Dimensions) BRI4104-AT	
7	BRI4101-TA/AT Bearing and Expansion Joint (Reference Drawing)	
8	BRI4102-TA/AT Bearing and Expansion Joint (Reference Drawing)	
9	BRI4104-TA/AT Bearing and Expansion Joint (Reference Drawing)	
10	Main Girder Configuration BRI4101-TA (G1,G2,G3)	
11	Main Girder Configuration BRI4101-AT (G1,G2,G3)	
12	Main Girder Configuration BRI4102-TA (G1,G2,G3)	
13	Main Girder Configuration BRI4102-AT (G1,G2,G3)	
14	Main Girder Configuration BRI4104-TA (G1,G2,G3)	
15	Main Girder Configuration BRI4104-AT (G1,G2,G3)	

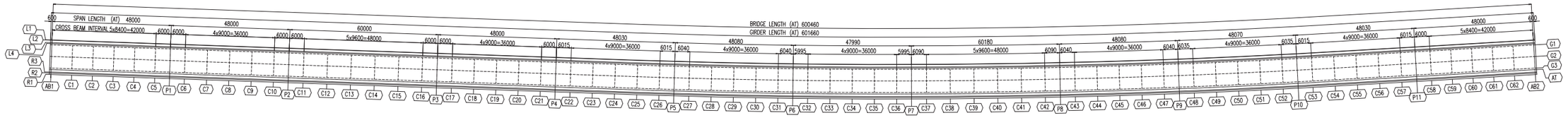
LONGITUDINAL PROFILE BRI-4001-AT

(SCALE 1 : 500)



PLAN VIEW BRI-4001-AT

(SCALE 1 : 500)



TRANSVERSAL SECTION

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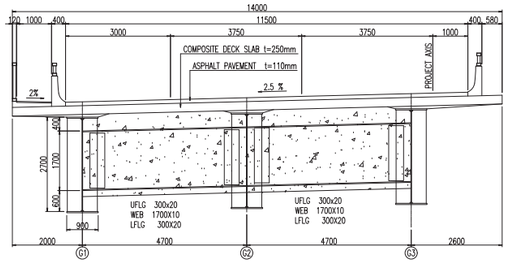
CROSS BEAM (AB1,AB2)



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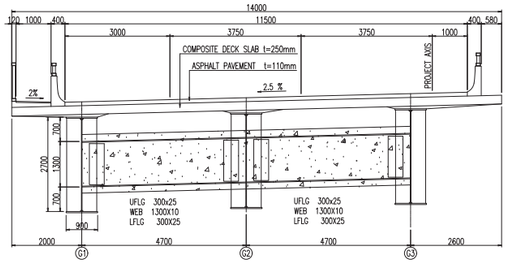

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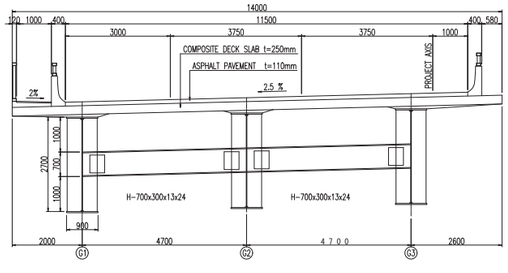

DESIGN CONDITION

BRIDGE TYPE	DESIGN CONDISION SPECIFICATION
TYPE OF STRUCTURE	12-SPAN CONTINUOUS BRIDGE
LIVE LOAD	B-LIVE LOAD,SIDEWALK LOAD (JRA)
BRIDGE LENGTH (AT)	600.460 m
GIRDER LENGTH (AT)	601.660 m
ALL WIDTH	14.000 m
SKEW ANGLE	θ = 90°00'00"
HORIZONTAL ALIGNMENT	
GIRDER HEIGHT	2700 mm
SLAB	COMPOSITE DECK SLAB t=250 mm (fck=30 N/mm2)
VERTICAL SLOPE	
TRANSVERSE SLOPE	2.5%
MATERIALS	SMA400 SMA490 SMA520 SMA570
APPLIED SPECIFICATION	SPECIFICATION FOR HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

NOTE:
Detail drawings and design of deck including slab will be prepared by contractor.

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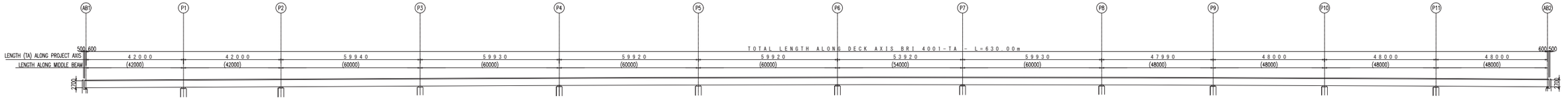
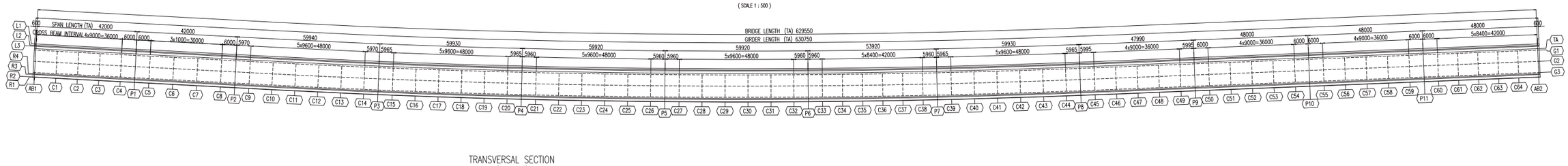
LONGITUDINAL PROFILE BRI-4001-TA

(SCALE 1 : 500)



PLAN VIEW BRI-4001-TA

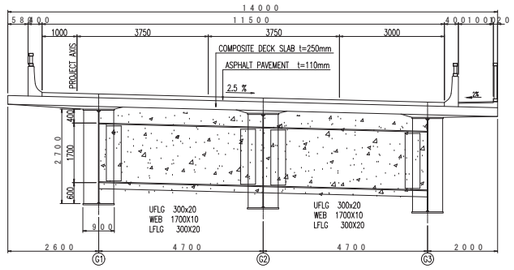
(SCALE 1 : 500)



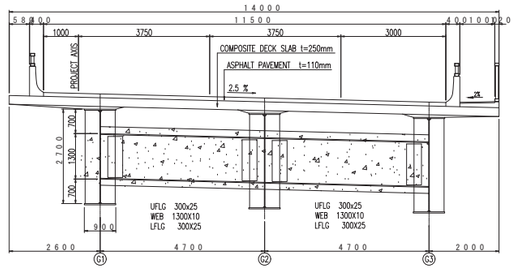
TRANSVERSAL SECTION

(SCALE 1:50)

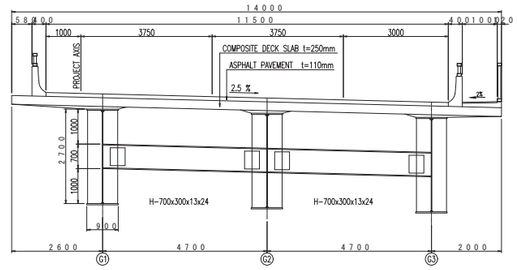
CROSS BEAM (AB1,AB2)



CROSS BEAM (P1~P11)



CROSS BEAM (Intermediate)



DESIGN CONDITION

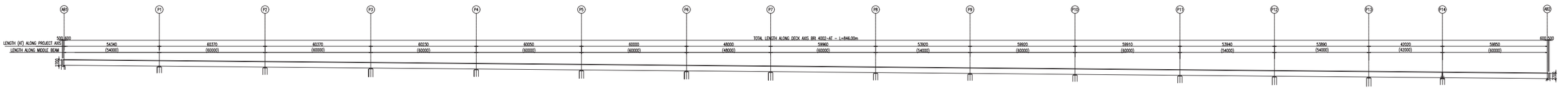
BRIDGE TYPE	DESIGN CONDISION SPECIFICATION
TYPE OF STRUCTURE	12-SPAN CONTINUOUS BRIDGE
LIVE LOAD	B-LIVE LOAD,SIDEWALK LOAD (JRA)
BRIDGE LENGTH (TA)	629.550 m
GIRDER LENGTH (TA)	630.750 m
ALL WIDTH	14.000 m
SKEW ANGLE	θ = 90°00'00"
HORIZONTAL ALIGNMENT	
GIRDER HEIGHT	2700 mm
SLAB	COMPOSITE DECK SLAB t=250 mm (σck=30 N/mm2)
VERTICAL SLOPE	
TRANSVERSE SLOPE	2.5%
MATERIALS	SMA400 SMA490 SMA520 SM570
APPLIED SPECIFICATION	SPECIFICATION FOR HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

NOTE:
Detail drawings and design of deck including slab will be prepared by contractor.

DRAFT

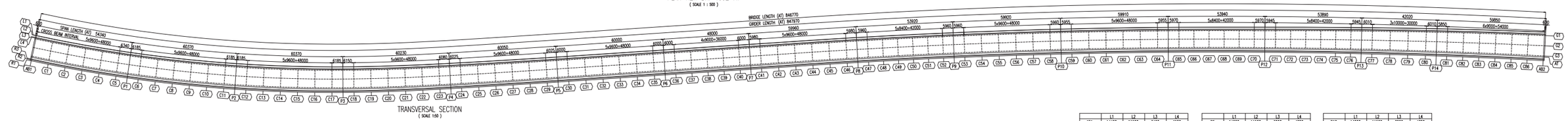
LONGITUDINAL PROFILE BRI-4002-AT

(SCALE 1 : 500)



PLAN VIEW BRI-4002-AT

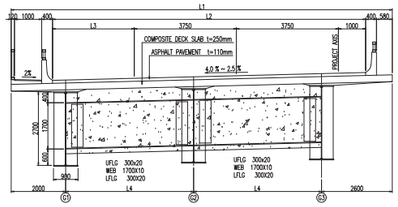
(SCALE 1 : 500)



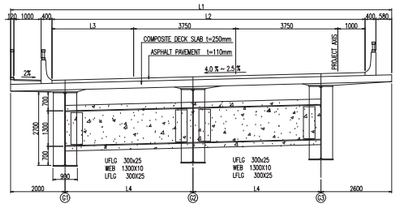
TRANSVERSAL SECTION

(SCALE 1:50)

CROSS BEAM (AB1,AB2)



CROSS BEAM (P1~P14)



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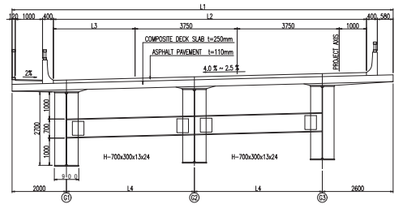


DESIGN CONDITION

BRIDGE TYPE	DESIGN CONDISION SPECIFICATION
TYPE OF STRUCTURE	15-SPAN CONTINUOUS BRIDGE
LIVE LOAD	B-LIVE LOAD,SIDEWALK LOAD (JRA)
BRIDGE LENGTH (AT)	846.770 m
GIRDER LENGTH (AT)	847.970 m
ALL WIDTH	14.000 m ~ 15.500m
SKEW ANGLE	θ = 90°0'00"
HORIZONTAL ALIGNMENT	R=∞
GIRDER HEIGHT	2700 mm
SLAB	COMPOSITE DECK SLAB t=250 mm (σck=30 N/mm2)
VERTICAL SLOPE	0%
TRANSVERSE SLOPE	2.5% ~ 4.0%
MATERIALS	SM400 SM490 SMA520 SMA570
APPLIED SPECIFICATION	SPECIFICATION FOR HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

	L1	L2	L3	L4
AB1	14400	11900	3400	4900
C1	14400	11900	3400	4900
C2	14400	11900	3400	4900
C3	14400	11900	3400	4900
C4	14400	11900	3400	4900
C5	14400	11900	3400	4900
P1	14400	11900	3400	4900
C6	14400	11900	3400	4900
C7	14400	11900	3400	4900
C8	14400	11900	3400	4900
C9	14400	11900	3400	4900
C10	14400	11900	3400	4900
C11	14400	11900	3400	4900
P2	14400	11900	3400	4900
C12	14394.9	11894.9	3394.9	4897.5
C13	14386.9	11886.9	3386.9	4893.5
C14	14379	11879	3379	4889.5
C15	14371	11871	3371	4885.5
C16	14363.1	11863.1	3363.1	4881.6
C17	14355.1	11855.1	3355.1	4877.6
P3	14350	11850	3350	4875
C18	14329.6	11829.6	3329.6	4864.8
C19	14297.7	11797.7	3297.7	4848.9
C20	14265.8	11765.8	3265.8	4832.9
C21	14233.9	11733.9	3233.9	4817
C22	14202.1	11702.1	3202.1	4801.1
C23	14170.2	11670.2	3170.2	4785.1
P4	14150	11650	3150	4775
C24	14135	11635	3135	4767.5
C25	14111	11611	3111	4755.5
C26	14087	11587	3087	4743.5
C27	14063	11563	3063	4731.5
C28	14039	11539	3039	4719.5
C29	14015	11515	3015	4707.5

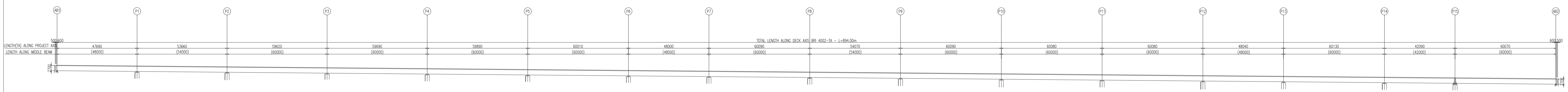
	L1	L2	L3	L4
P5	14000	11500	3000	4700
C30	14000	11500	3000	4700
C31	14000	11500	3000	4700
C32	14000	11500	3000	4700
C33	14000	11500	3000	4700
C34	14000	11500	3000	4700
C35	14000	11500	3000	4700
P6	14000	11500	3000	4700
C36	14000	11500	3000	4700
C37	14000	11500	3000	4700
C38	14000	11500	3000	4700
C39	14000	11500	3000	4700
C40	14000	11500	3000	4700
P7	14000	11500	3000	4700
C41	14000	11500	3000	4700
C42	14000	11500	3000	4700
C43	14000	11500	3000	4700
C44	14000	11500	3000	4700
C45	14000	11500	3000	4700
C46	14000	11500	3000	4700
P8	14000	11500	3000	4700
C47	14000	11500	3000	4700
C48	14000	11500	3000	4700
C49	14000	11500	3000	4700
C50	14000	11500	3000	4700
C51	14000	11500	3000	4700
C52	14000	11500	3000	4700
P9	14000	11500	3000	4700
C53	14000	11500	3000	4700
C54	14000	11500	3000	4700
C55	14000	11500	3000	4700
C56	14000	11500	3000	4700
C57	14000	11500	3000	4700
C58	14000	11500	3000	4700

	L1	L2	L3	L4
P10	14000	11500	3000	4700
C59	14000	11500	3000	4700
C60	14000	11500	3000	4700
C61	14000	11500	3000	4700
C62	14000	11500	3000	4700
C63	14000	11500	3000	4700
C64	14000	11500	3000	4700
P11	14000	11500	3000	4700
C65	14000	11500	3000	4700
C66	14000	11500	3000	4700
C67	14000	11500	3000	4700
C68	14000	11500	3000	4700
C69	14000	11500	3000	4700
C70	14000	11500	3000	4700
P12	14000	11500	3000	4700
C71	14037.5	11537.5	3037.5	4718.8
C72	14090.5	11590.5	3090.5	4745.3
C73	14143.5	11643.5	3143.5	4771.8
C74	14196.5	11696.5	3196.5	4798.3
C75	14249.5	11749.5	3249.5	4824.8
C76	14302.5	11802.5	3302.5	4851.3
P13	14340	11840	3340	4870
C77	14453	11953	3453	4926.5
C78	14641	12141	3641	5020.5
C79	14829	12329	3829	5114.5
C80	15017	12517	4017	5208.5
P14	15130	12630	4130	5265
C81	15166.2	12666.2	4166.2	5283.1
C82	15221.8	12721.8	4221.8	5310.9
C83	15277.4	12777.4	4277.4	5338.7
C84	15333.1	12833.1	4333.1	5366.6
C85	15388.7	12888.7	4388.7	5394.4
C86	15444.4	12944.4	4444.4	5422.2
AB2	15500	13000	4500	5450

NOTE:
Detail drawings and design of deck including slab will be prepared by contractor.

DRAFT

LONGITUDINAL PROFILE BRI-4002-TA
(SCALE 1 : 500)



PLAN VIEW BRI-4002-TA
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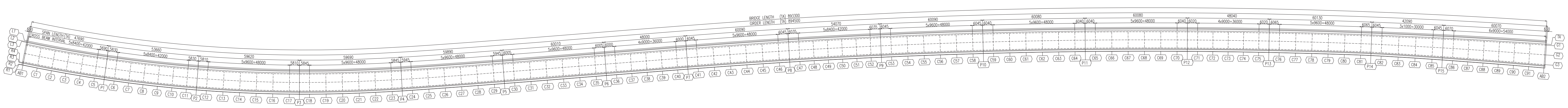

TRANSVERSAL SECTION
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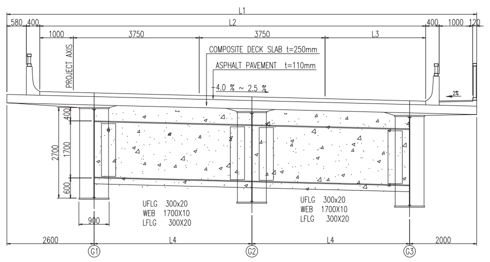
CROSS BEAM (AB1,AB2)



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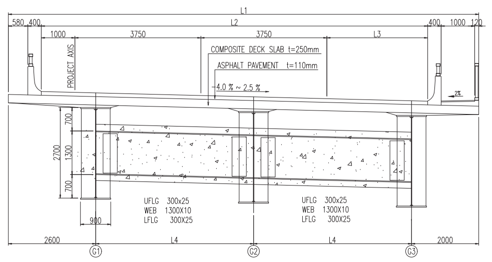

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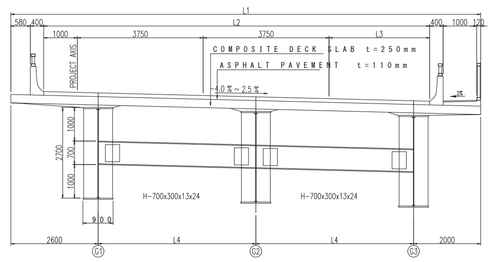

DESIGN CONDITION

BRIDGE TYPE	DESIGN CONDISION SPECIFICATION
TYPE OF STRUCTURE	16-SPAN CONTINUOUS BRIDGE
LIVE LOAD	B-LIVE LOAD,SIDEWALK LOAD (JRA)
BRIDGE LENGTH (TA)	893.300 m
GIRDER LENGTH (TA)	894.500 m
ALL WIDTH	14.000 m ~ 15.500m
SKEW ANGLE	θ = 90°00'00"
HORIZONTAL ALIGNMENT	
GIRDER HEIGHT	2700 mm
SLAB	COMPOSITE DECK SLAB t=250 mm (σck=30 N/mm2)
VERTICAL SLOPE	
TRANSVERSE SLOPE	-4.0% ~ 2.5%
MATERIALS	SMA400 SMA490 SMA520 SMA570
APPLIED SPECIFICATION	SPECIFICATION FOR HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

	L1	L2	L3	L4
AB1	14400	11900	3400	4900
C1	14400	11900	3400	4900
C2	14400	11900	3400	4900
C3	14400	11900	3400	4900
C4	14400	11900	3400	4900
C5	14400	11900	3400	4900
P1	14400	11900	3400	4900
C6	14400	11900	3400	4900
C7	14400	11900	3400	4900
C8	14400	11900	3400	4900
C9	14400	11900	3400	4900
C10	14400	11900	3400	4900
C11	14400	11900	3400	4900
P2	14400	11900	3400	4900
C12	14400	11900	3400	4900
C13	14400	11900	3400	4900
C14	14400	11900	3400	4900
C15	14400	11900	3400	4900
C16	14400	11900	3400	4900
C17	14400	11900	3400	4900
P3	14400	11900	3400	4900
C18	14382.4	11882.4	3382.4	4891.2
C19	14353.4	11853.4	3353.4	4876.7
C20	14324.5	11824.5	3324.5	4862.3
C21	14295.5	11795.5	3295.5	4847.8
C22	14266.6	11766.6	3266.6	4833.3
C23	14237.6	11737.6	3237.6	4818.8
P4	14220	11720	3220	4810
C24	14200.1	11700.1	3200.1	4800.1
C25	14168.1	11668.1	3168.1	4784.1
C26	14136	11636	3136	4768
C27	14104	11604	3104	4752
C28	14071.9	11571.9	3071.9	4736
C29	14039.9	11539.9	3039.9	4720
P5	14020	11520	3020	4710
C30	14018	11518	3018	4709

	L1	L2	L3	L4
C31	14014.8	11514.8	3014.8	4707.4
C32	14011.6	11511.6	3011.6	4705.8
C33	14008.4	11508.4	3008.4	4704.2
C34	14005.2	11505.2	3005.2	4702.6
C35	14002	11502	3002	4701
P6	14000	11500	3000	4700
C36	14000	11500	3000	4700
C37	14000	11500	3000	4700
C38	14000	11500	3000	4700
C39	14000	11500	3000	4700
C40	14000	11500	3000	4700
P7	14000	11500	3000	4700
C41	14000	11500	3000	4700
C42	14000	11500	3000	4700
C43	14000	11500	3000	4700
C44	14000	11500	3000	4700
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C46	14000	11500	3000	4700
P8	14000	11500	3000	4700
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C49	14000	11500	3000	4700
C50	14000	11500	3000	4700
C51	14000	11500	3000	4700
C52	14000	11500	3000	4700
P9	14000	11500	3000	4700
C53	14000	11500	3000	4700
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C55	14000	11500	3000	4700
C56	14000	11500	3000	4700
C57	14000	11500	3000	4700
C58	14000	11500	3000	4700
P10	14000	11500	3000	4700
C59	14000	11500	3000	4700
C60	14000	11500	3000	4700
C61	14000	11500	3000	4700

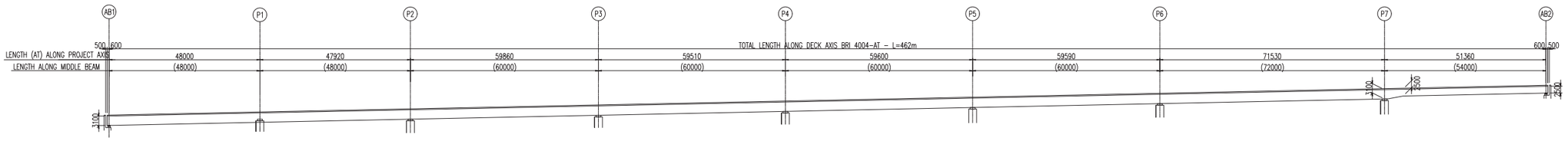
	L1	L2	L3	L4
C62	14000	11500	3000	4700
C63	14000	11500	3000	4700
C64	14000	11500	3000	4700
P11	14000	11500	3000	4700
C65	14000	11500	3000	4700
C66	14000	11500	3000	4700
C67	14000	11500	3000	4700
C68	14000	11500	3000	4700
C69	14000	11500	3000	4700
C70	14000	11500	3000	4700
P12	14000	11500	3000	4700
C71	14000	11500	3000	4700
C72	14000	11500	3000	4700
C73	14000	11500	3000	4700
C74	14000	11500	3000	4700
C75	14000	11500	3000	4700
P13	14000	11500	3000	4700
C76	14000	11500	3000	4700
C77	14000	11500	3000	4700
C78	14000	11500	3000	4700
C79	14000	11500	3000	4700
C80	14000	11500	3000	4700
C81	14000	11500	3000	4700
P14	14000	11500	3000	4700
C82	14030.2	11530.2	3030.2	4715.1
C83	14080.1	11580.1	3080.1	4740.1
C84	14130	11630	3130	4765
C85	14179.9	11679.9	3179.9	4790
C85	14229.8	11729.8	3229.8	4814.9
P15	14260	11760	3260	4830
C86	14373.2	11873.2	3373.2	4886.6
C87	14541	12041	3541	4970.5
C88	14708.8	12208.8	3708.8	5054.4
C89	14876.6	12376.6	3876.6	5138.3
C90	15044.4	12544.4	4044.4	5222.2
C91	15212.2	12712.2	4212.2	5306.1
AB2	15380	12880	4380	5390

NOTE:
Detail drawings and design of deck including slab will be prepared by contractor.

DRAFT

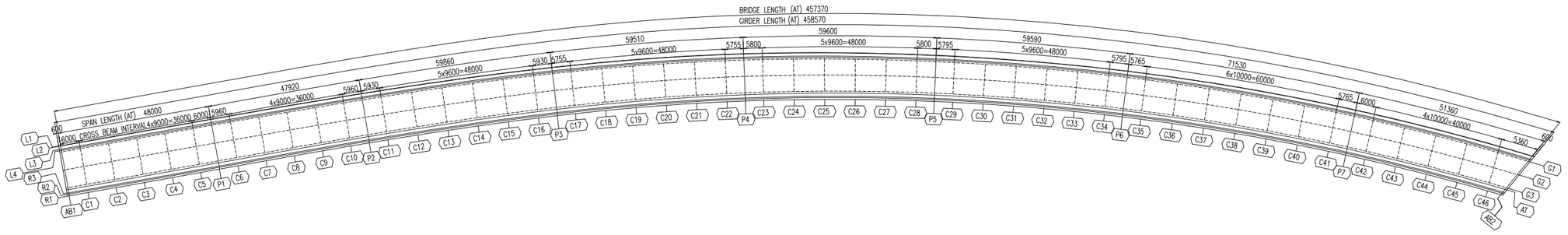
LONGITUDINAL PROFILE BRI-4004-AT

(SCALE 1 : 500)



PLAN VIEW BRI-4004-AT

(SCALE 1 : 500)

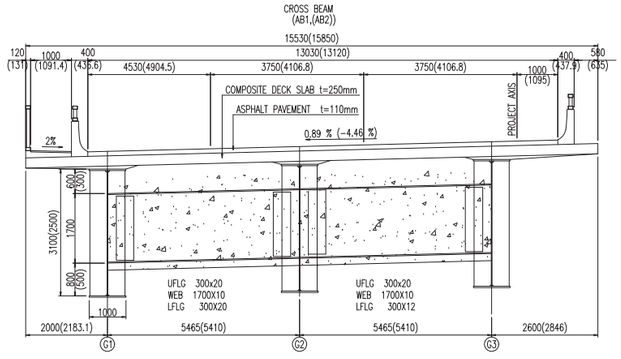


	L1	L2	L3	L4
AB1	15530	13030	4530	5465
C1	15518.8	13018.8	4518.8	5459.4
C2	15501.9	13001.9	4501.9	5451
C3	15485	12985	4485	5442.5
C4	15468.1	12968.1	4468.1	5434.1
C5	15451.3	12951.3	4451.3	5425.7
P1	15440	12940	4440	5420
C6	15351.7	12851.7	4351.7	5375.9
C7	15218.3	12718.3	4218.3	5309.2
C8	15085	12585	4085	5242.5
C9	14951.7	12451.7	3951.7	5175.9
C10	14818.3	12318.3	3818.3	5109.2
P2	14730	12230	3730	5065
C11	14701.3	12201.3	3701.3	5050.7
C12	14654.8	12154.8	3654.8	5027.4
C13	14608.3	12108.3	3608.3	5004.2
C14	14561.7	12061.7	3561.7	4980.9
C15	14515.2	12015.2	3515.2	4957.6
C16	14468.7	11968.7	3468.7	4934.4
P3	14440	11940	3440	4920
C17	14445.8	11945.8	3445.8	4922.9
C18	14455.5	11955.5	3455.5	4927.8
C19	14465.2	11965.2	3465.2	4932.6
C20	14474.8	11974.8	3474.8	4937.4
C21	14484.5	11984.5	3484.5	4942.3
C22	14494.2	11994.2	3494.2	4947.1
P4	14500	12000	3500	4950
C23	14500	12000	3500	4950
C24	14500	12000	3500	4950
C25	14500	12000	3500	4950
C26	14500	12000	3500	4950
C27	14500	12000	3500	4950
C28	14500	12000	3500	4950
P5	14500	12000	3500	4950
C29	14500	12000	3500	4950
C30	14500	12000	3500	4950
C31	14500	12000	3500	4950
C32	14500	12000	3500	4950
C33	14500	12000	3500	4950
C34	14500	12000	3500	4950
P6	14500	12000	3500	4950
C35	14500	12000	3500	4950
C36	14500	12000	3500	4950
C37	14500	12000	3500	4950
C38	14500	12000	3500	4950
C39	14500	12000	3500	4950
C40	14500	12000	3500	4950
C41	14500	12000	3500	4950
P7	14500	12000	3500	4950
C42	14500	12000	3500	4950
C43	14500	12000	3500	4950
C44	14500	12000	3500	4950
C45	14500	12000	3500	4950
C46	14500	12000	3500	4950
AB2	15850	13120	4904.5	5410

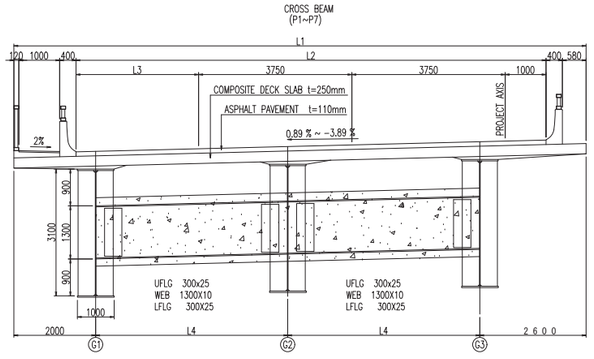
TRANSVERSAL SECTION

(SCALE 1:50)

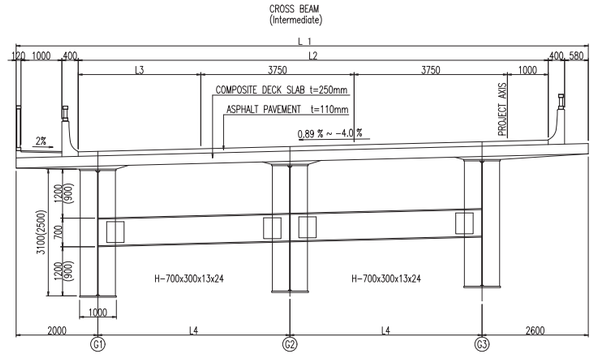
CROSS BEAM
(AB1,(AB2))



CROSS BEAM
(P1~P7)



CROSS BEAM
(Intermediate)



DESIGN CONDITION

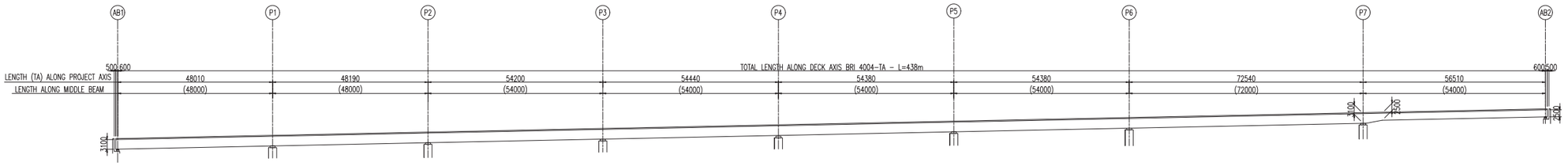
BRIDGE TYPE	DESIGN CONDISION SPECIFICATION
TYPE OF STRUCTURE	8-SPAN CONTINUOUS BRIDGE
LIVE LOAD	B-LIVE LOAD,SIDEWALK LOAD (JRA)
BRIDGE LENGTH (AT)	457.370 m
GIRDER LENGTH (AT)	458.570 m
ALL WIDTH	14.500 m ~ 15.540m
SKEW ANGLE	θ = 90°00'00" , 67°00'00"
HORIZONTAL ALIGNMENT	
GIRDER HEIGHT	3100 mm, 2500 mm
SLAB	COMPOSITE DECK SLAB t=250 mm (σck=30 N/mm2)
VERTICAL SLOPE	
TRANSVERSE SLOPE	0.89% ~ -4.0%
MATERIALS	SMA400 SMA490 SMA520 SMA570
APPLIED SPECIFICATION	SPECIFICATION FOR HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

NOTE:
Detail drawings and design of deck including slab will be prepared by contractor.

DRAFT

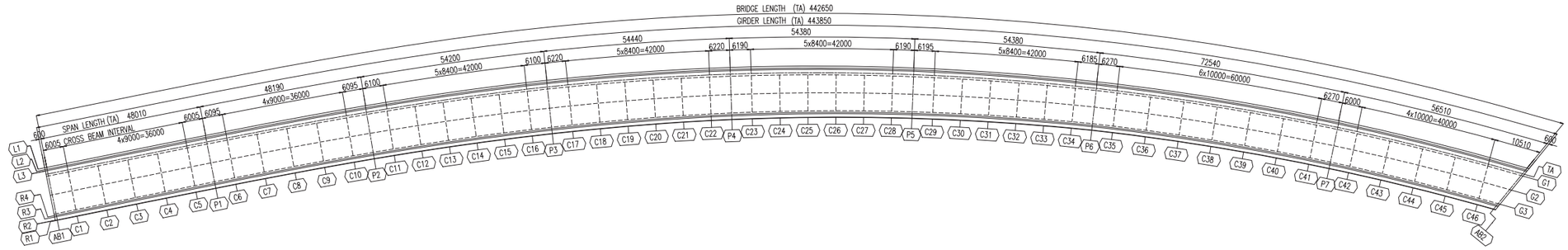
LONGITUDINAL PROFILE BRI-4004-TA

(SCALE 1 : 500)



PLAN VIEW BRI-4004-TA

(SCALE 1 : 500)

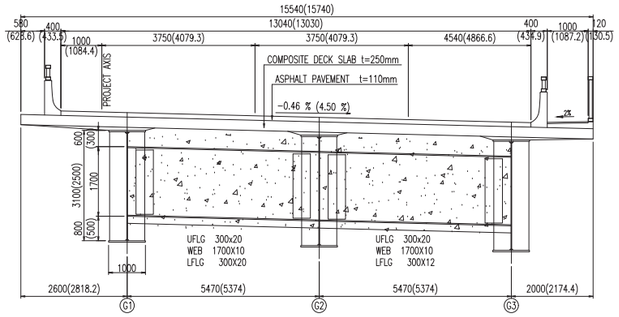


	L1	L2	L3	L4
AB1	15540	13040	4540	5470
C1	15548.8	13048.8	4548.8	5474.4
C2	15561.9	13061.9	4561.9	5481
C3	15575	13075	4575	5487.5
C4	15588.1	13088.1	4588.1	5494.1
C5	15601.2	13101.2	4601.2	5500.6
P1	15610	13110	4610	5505
C6	15636.6	13136.6	4636.6	5518.3
C7	15675.8	13175.8	4675.8	5537.9
C8	15715	13215	4715	5557.5
C9	15754.2	13254.2	4754.2	5577.1
C10	15793.4	13293.4	4793.4	5596.7
P2	15820	13320	4820	5610
C11	15795.2	13295.2	4795.2	5597.6
C12	15761.1	13261.1	4761.1	5580.6
C13	15727	13227	4727	5563.5
C14	15693	13193	4693	5546.5
C15	15658.9	13158.9	4658.9	5529.5
C16	15624.8	13124.8	4624.8	5512.4
P3	15600	13100	4600	5500
C17	15484.6	12984.6	4484.6	5442.3
C18	15328.8	12828.8	4328.8	5364.4
C19	15172.9	12672.9	4172.9	5286.5
C20	15017.1	12517.1	4017.1	5208.6
C21	14861.2	12361.2	3861.2	5130.6
C22	14705.4	12205.4	3705.4	5052.7
P4	14590	12090	3590	4995
C23	14579.8	12079.8	3579.8	4989.9
C24	14565.9	12065.9	3565.9	4983
C25	14552	12052	3552	4976
C26	14538	12038	3538	4969
C27	14524.1	12024.1	3524.1	4962.1
C28	14510.2	12010.2	3510.2	4955.1
P5	14500	12000	3500	4950
C29	14500	12000	3500	4950
C30	14500	12000	3500	4950
C31	14500	12000	3500	4950
C32	14500	12000	3500	4950
C33	14500	12000	3500	4950
C34	14500	12000	3500	4950
P6	14500	12000	3500	4950
C35	14500	12000	3500	4950
C36	14500	12000	3500	4950
C37	14500	12000	3500	4950
C38	14500	12000	3500	4950
C39	14500	12000	3500	4950
C40	14500	12000	3500	4950
C41	14500	12000	3500	4950
P7	14500	12000	3500	4950
C42	14500	12000	3500	4950
C43	14500	12000	3500	4950
C44	14500	12000	3500	4950
C45	14500	12000	3500	4950
C46	14500	12000	3500	4950
AB2	15740	13030	4866.6	5374

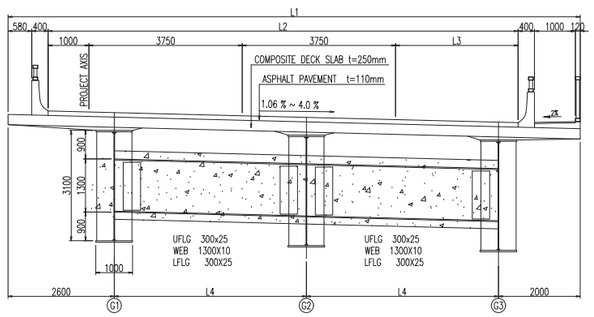
TRANSVERSAL SECTION

(SCALE 1:50)

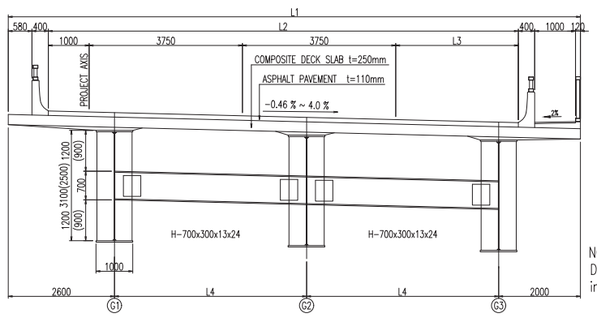
CROSS BEAM (AB1,(AB2))



CROSS BEAM (P1~P7)



CROSS BEAM (Intermediate)



DESIGN CONDITION

BRIDGE TYPE	DESIGN CONDISION SPECIFICATION
TYPE OF STRUCTURE	8-SPAN CONTINUOUS BRIDGE
LIVE LOAD	B-LIVE LOAD,SIDEWALK LOAD (JRA)
BRIDGE LENGTH (TA)	442.650 m
GIRDER LENGTH (TA)	443.850 m
ALL WIDTH	14.500 m ~ 15.540m
SKEW ANGLE	∅ = 90°00'00" , 67°00'00"
HORIZONTAL ALIGNMENT	
GIRDER HEIGHT	3100 mm, 2500 mm
SLAB	COMPOSITE DECK SLAB t=250 mm (σck=30 N/mm2)
VERTICAL SLOPE	
TRANSVERSE SLOPE	-0.46% ~ 4.0%
MATERIALS	SMA400 SMA490 SMA520 SMA570
APPLIED SPECIFICATION	SPECIFICATION FOR HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

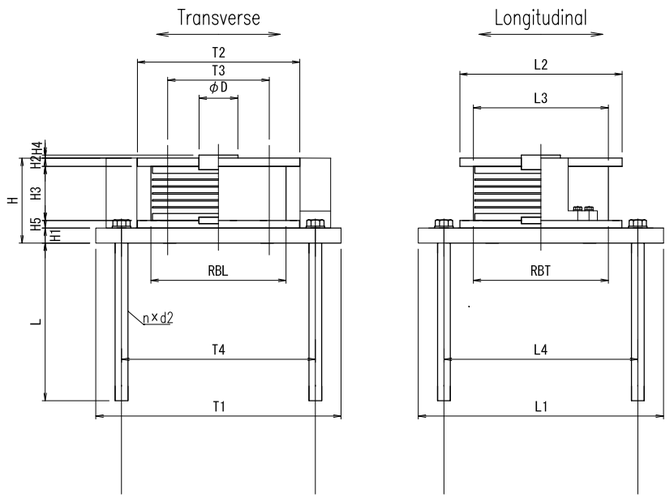
NOTE:
Detail drawings and design of deck including slab will be prepared by contractor.

DRAFT

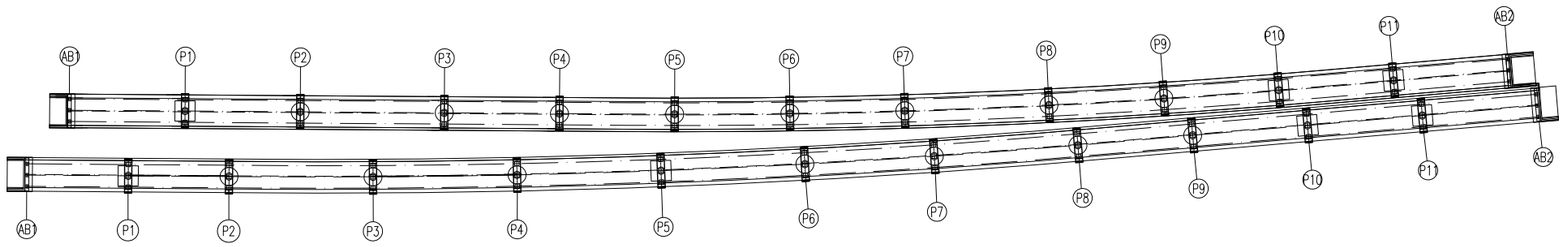
BRI-4101-TA/AT BEARING AND EXPANSION JOINT (REFERENCE DRAWING)

(SCALE 1 : 20)

HORIZONTAL FORCE DISPERSING BEARING (HFDB)



BRI-4101-AT



BRI-4101-TA

BR-1 TA 12SPANS

Properties

	Shear modulusGe (N/mm²)	dimension		cover rubber t c (mm)	Thickness t e (mm)	Number of layer n	Total Thick ∑ t e (mm)	Horizontal Spring KB (N/mm)	Vertical Spring Kv (N/mm)
		Longitudinal a' (mm)	Transverse b' (mm)						
AB1	0.8	970	970	10	29	8	232	3112.1	892037.0
P1	1.0	970	970	10	32	6	192	4700.5	1221033.7
P2	1.0	970	970	10	28	6	168	5372.0	1594819.6
P3	1.0	970	970	10	26	5	130	6942.3	2219535.9
P4	1.0	920	920	10	24	4	96	8437.5	2768554.7
P5	1.0	920	920	10	24	4	96	8437.5	2768554.7
P6	1.0	920	920	10	24	4	96	8437.5	2768554.7
P7	1.0	920	920	10	24	4	96	8437.5	2768554.7
P8	1.0	920	920	10	24	4	96	8437.5	2768554.7
P9	1.0	970	970	10	26	5	130	6942.3	2219535.9
P10	1.0	970	970	10	28	6	168	5372.0	1594819.6
P11	1.0	970	970	10	32	6	192	4700.5	1221033.7
AB2	0.8	970	970	10	29	8	232	3112.1	892037.0

Dimensions

	Lower Plate			Upper Plate					Rubber bearing		
	L1	T1	H1	L2	T2	H2	D	H4	RBT	RBL	H3
AB1	1150	1530	60	1020	1130	60	200	20	970	970	354
P1	1150	1600	80	1020	1130	60	270	20	970	970	305
P2	1150	1600	90	1020	1130	60	270	20	970	970	281
P3	1180	1630	80	1020	1160	60	270	20	970	970	238
P4	1150	1570	70	970	1100	60	250	20	920	920	200
P5	1150	1570	70	970	1100	60	250	20	920	920	200
P6	1150	1570	70	970	1100	60	250	20	920	920	200
P7	1150	1570	70	970	1100	60	250	20	920	920	200
P8	1150	1570	70	970	1100	60	250	20	920	920	200
P9	1180	1630	80	1020	1160	60	270	20	970	970	238
P10	1150	1600	90	1020	1130	60	270	20	970	970	281
P11	1150	1600	80	1020	1130	60	270	20	970	970	305
AB2	1150	1530	60	1020	1130	60	200	20	970	970	354

	Set Bolt				Anchor Bolt						
	d1	n	L3	T3	d2	L	n	L4	T4	H5	H
AB1	M36	8	1×720	3×240	ϕ55	550	4	980	1360	40	514
P1	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	485
P2	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	471
P3	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P4	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P5	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P6	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P7	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P8	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P9	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P10	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	471
P11	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	485
AB2	M36	8	1×720	3×240	ϕ55	550	4	980	1360	40	514

BR-1 AT 12SPANS

Properties

	Shear modulusGe (N/mm²)	dimension		cover rubber t c (mm)	Thickness t e (mm)	Number of layer n	Total Thick ∑ t e (mm)	Horizontal Spring KB (N/mm)	Vertical Spring Kv (N/mm)
		Longitudinal a' (mm)	Transverse b' (mm)						
AB1	0.8	970	970	10	29	8	232	3112.1	892037.0
P1	1.0	970	970	10	32	6	192	4700.5	1221033.7
P2	1.0	970	970	10	29	5	145	6224.1	1784074.0
P3	1.0	970	970	10	27	4	108	8356.5	2572713.0
P4	1.0	920	920	10	24	4	96	8437.5	2768554.7
P5	1.0	920	920	10	24	4	96	8437.5	2768554.7
P6	1.0	920	920	10	24	4	96	8437.5	2768554.7
P7	1.0	920	920	10	24	4	96	8437.5	2768554.7
P8	1.0	920	920	10	24	4	96	8437.5	2768554.7
P9	1.0	970	970	10	27	4	108	8356.5	2572713.0
P10	1.0	970	970	10	29	5	145	6224.1	1784074.0
P11	1.0	970	970	10	32	6	192	4700.5	1221033.7
AB2	0.8	970	970	10	29	8	232	3112.1	892037.0

Dimensions

	Lower Plate			Upper Plate					Rubber bearing		
	L1	T1	H1	L2	T2	H2	D	H4	RBT	RBL	H3
AB1	1150	1530	60	1020	1130	60	200	20	970	970	354
P1	1150	1600	80	1020	1130	60	270	20	970	970	305
P2	1150	1600	80	1020	1130	60	270	20	970	970	253
P3	1180	1630	80	1020	1160	60	270	20	970	970	212
P4	1150	1570	70	970	1100	60	250	20	920	920	200
P5	1150	1570	70	970	1100	60	250	20	920	920	200
P6	1150	1570	70	970	1100	60	250	20	920	920	200
P7	1150	1570	70	970	1100	60	250	20	920	920	200
P8	1150	1570	70	970	1100	60	250	20	920	920	200
P9	1180	1630	80	1020	1160	60	270	20	970	970	212
P10	1150	1600	80	1020	1130	60	270	20	970	970	253
P11	1150	1600	80	1020	1130	60	270	20	970	970	305
AB2	1150	1530	60	1020	1130	60	200	20	970	970	354

	Set Bolt				Anchor Bolt						
	d1	n	L3	T3	d2	L	n	L4	T4	H5	H
AB1	M36	8	1×720	3×240	ϕ55	550	4	980	1360	40	514
P1	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	485
P2	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	433
P3	M36	8	1×730	3×240	ϕ60	600	4	980	1400	40	392
P4	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P5	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P6	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P7	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P8	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P9	M36	8	1×730	3×240	ϕ60	600	4	980	1400	40	392
P10	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	433
P11	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	485
AB2	M36	8	1×720	3×240	ϕ55	550	4	980	1360	40	514

EXPANSION JOINT BASIC PARAMETER

		Gap Abutment-Girder (mm)	Effective Joint Movement (mm)	Angle (°)	Length (m)
TA	AB1	500	400	90	14.00
	AB2	500	400	90	14.00
AT	AB1	500	400	90	14.00
	AB2	500	400	90	14.00

Note

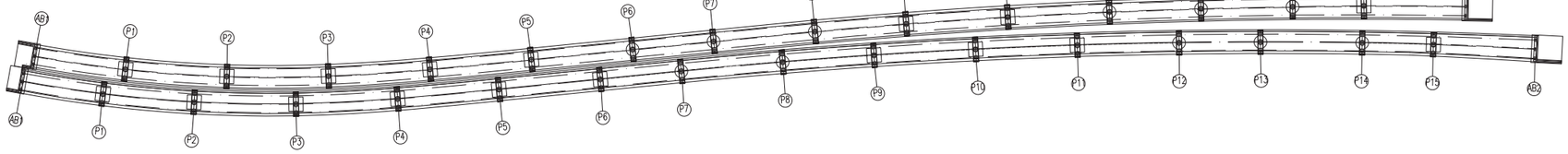
1. This drawing is for reference only

DRAFT

BRI-4102-TA/AT BEARING AND EXPANSION JOINT (REFERENCE DRAWING)

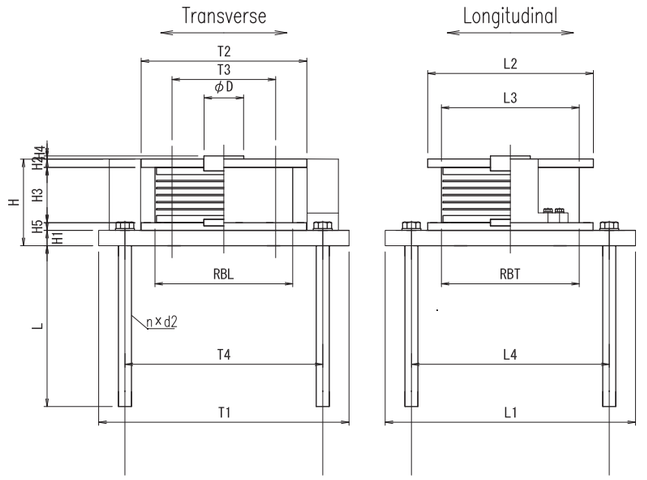
(SCALE 1 : 20)

BRI-4102-AT

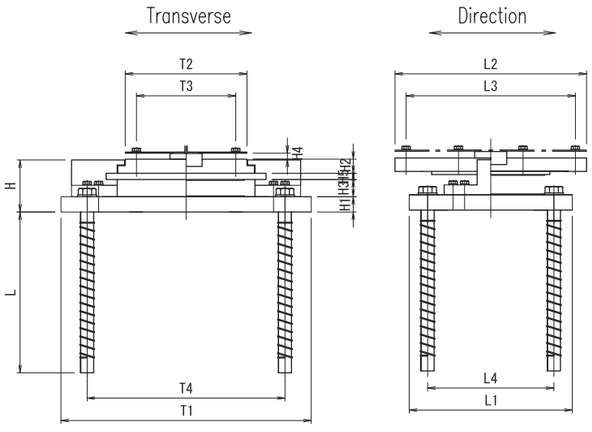


BRI-4102-TA

HORIZONTAL FORCE DISPERSING BEARING (HFDB)



SLIDING BEARING



BR-2 TA 16SPANS

Properties

	Shear modulusGe (N/mm²)	dimension Longitudinal a' (mm)	dimension Transverse b' (mm)	cover rubber t c (mm)	Thickness t e (mm)	Number of layer n	Total Thick ∑ t e (mm)	Horizontal Spring KB (N/mm)	Vertical Spring Kv (N/mm)
AB1	0.8	770	770	10	28	6	168	0.0	627790.2
P1	0.8	920	920	10	23	4	92	0.0	2411625.7
P2	1.0	1020	1020	10	30	8	240	4166.7	1215277.8
P3	1.0	1020	1020	10	29	7	203	4926.1	1486325.8
P4	1.0	970	970	10	28	6	168	5372.0	1594819.6
P5	1.0	970	970	10	26	5	130	6942.3	2219535.9
P6	1.0	970	970	10	26	5	130	6942.3	2219535.9
P7	1.0	970	970	10	26	5	130	6942.3	2219535.9
P8	1.0	970	970	10	26	5	130	6942.3	2219535.9
P9	1.0	970	970	10	26	5	130	6942.3	2219535.9
P10	1.0	970	970	10	26	5	130	6942.3	2219535.9
P11	1.0	970	970	10	26	5	130	6942.3	2219535.9
P12	1.0	970	970	10	28	6	168	5372.0	1594819.6
P13	1.0	1020	1020	10	29	7	203	4926.1	1486325.8
P14	1.0	1020	1020	10	30	8	240	4166.7	1215277.8
P15	0.8	920	920	10	23	4	92	0.0	2411625.7
AB2	0.8	770	770	10	28	6	168	0.0	627790.2

Dimensions

	Lower Plate L1	Lower Plate T1	Lower Plate H1	Upper Plate L2	Upper Plate T2	Upper Plate H2	Upper Plate D	Upper Plate H4	Rubber bearing RBT	Rubber bearing RBL	Rubber bearing H3
AB1	1000	1290	70	1110	770	80	200	20	770	770	213
P1	1160	1560	80	1260	920	110	250	20	920	920	128
P2	1210	1680	90	1070	1190	60	280	20	1020	1020	362
P3	1210	1680	90	1070	1190	60	280	20	1020	1020	320
P4	1150	1600	90	1020	1130	60	270	20	970	970	281
P5	1180	1630	80	1020	1160	60	270	20	970	970	238
P6	1180	1630	80	1020	1160	60	270	20	970	970	238
P7	1180	1630	80	1020	1160	60	270	20	970	970	238
P8	1180	1630	80	1020	1160	60	270	20	970	970	238
P9	1180	1630	80	1020	1160	60	270	20	970	970	238
P10	1180	1630	80	1020	1160	60	270	20	970	970	238
P11	1180	1630	80	1020	1160	60	270	20	970	970	238
P12	1150	1600	90	1020	1130	60	270	20	970	970	281
P13	1210	1680	90	1070	1190	60	280	20	1020	1020	320
P14	1210	1680	90	1070	1190	60	280	20	1020	1020	362
P15	1160	1560	80	1260	920	110	250	20	920	920	128
AB2	1000	1290	70	1110	770	80	200	20	770	770	213

	Set Bolt d1	Set Bolt n	Set Bolt L3	Set Bolt T3	Anchor Bolt d2	Anchor Bolt L	Anchor Bolt n	Anchor Bolt L4	T4	H5	H
AB1	M30	8	3×340	1×680	ϕ55	550	4	820	1110	32	398
P1	M36	8	3×380	1×810	ϕ60	600	4	960	1360	45	366
P2	M36	8	1×780	3×260	ϕ60	600	4	1010	1480	40	552
P3	M36	8	1×780	3×260	ϕ60	600	4	1010	1480	40	510
P4	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	471
P5	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P6	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P7	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P8	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P9	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P10	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P11	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P12	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	471
P13	M36	8	1×780	3×260	ϕ60	600	4	1010	1480	40	510
P14	M36	8	1×780	3×260	ϕ60	600	4	1010	1480	40	552
P15	M36	8	3×380	1×810	ϕ60	600	4	960	1360	45	366
AB2	M30	8	3×340	1×680	ϕ55	550	4	820	1110	32	398

BR-2 AT 15SPANS

Properties

	Shear modulusGe (N/mm²)	dimension Longitudinal a' (mm)	dimension Transverse b' (mm)	cover rubber t c (mm)	Thickness t e (mm)	Number of layer n	Total Thick ∑ t e (mm)	Horizontal Spring KB (N/mm)	Vertical Spring Kv (N/mm)
AB1	0.8	770	770	10	28	6	168	0.0	627790.2
P1	0.8	920	920	10	23	4	92	0.0	2411625.7
P2	1.0	970	970	10	28	8	224	4029.0	1196114.7
P3	1.0	970	970	10	26	7	182	4958.8	1585382.8
P4	1.0	970	970	10	29	5	145	6224.1	1784074.0
P5	1.0	970	970	10	26	5	130	6942.3	2219535.9
P6	1.0	970	970	10	26	5	130	6942.3	2219535.9
P7	1.0	970	970	10	26	5	130	6942.3	2219535.9
P8	1.0	970	970	10	26	5	130	6942.3	2219535.9
P9	1.0	970	970	10	26	5	130	6942.3	2219535.9
P10	1.0	970	970	10	26	5	130	6942.3	2219535.9
P11	1.0	970	970	10	29	5	145	6224.1	1784074.0
P12	1.0	970	970	10	26	7	182	4958.8	1585382.8
P13	1.0	970	970	10	28	8	224	4029.0	1196114.7
P14	0.8	920	920	10	23	4	92	0.0	2411625.7
AB2	0.8	770	770	10	28	6	168	0.0	627790.2

Dimensions

	Lower Plate L1	Lower Plate T1	Lower Plate H1	Upper Plate L2	Upper Plate T2	Upper Plate H2	Upper Plate D	Upper Plate H4	Rubber bearing RBT	Rubber bearing RBL	Rubber bearing H3
AB1	1000	1290	70	1110	770	80	200	20	770	770	213
P1	1160	1560	80	1260	920	110	250	20	920	920	128
P2	1160	1620	90	1020	1130	60	270	20	970	970	346
P3	1160	1620	90	1020	1130	60	270	20	970	970	299
P4	1150	1600	80	1020	1130	60	270	20	970	970	253
P5	1180	1630	80	1020	1160	60	270	20	970	970	238
P6	1180	1630	80	1020	1160	60	270	20	970	970	238
P7	1180	1630	80	1020	1160	60	270	20	970	970	238
P8	1180	1630	80	1020	1160	60	270	20	970	970	238
P9	1180	1630	80	1020	1160	60	270	20	970	970	238
P10	1180	1630	80	1020	1160	60	270	20	970	970	238
P11	1150	1600	80	1020	1130	60	270	20	970	970	253
P12	1160	1620	90	1020	1130	60	270	20	970	970	299
P13	1160	1620	90	1020	1130	60	270	20	970	970	346
P14	1160	1560	80	1260	920	110	250	20	920	920	128
AB2	1000	1290	70	1110	770	80	200	20	770	770	213

	Set Bolt d1	Set Bolt n	Set Bolt L3	Set Bolt T3	Anchor Bolt d2	Anchor Bolt L	Anchor Bolt n	Anchor Bolt L4	T4	H5	H
AB1	M30	8	3×340	1×680	ϕ55	550	4	820	1110	32	398
P1	M36	8	3×380	1×810	ϕ60	600	4	960	1360	45	366
P2	M36	8	1×730	3×240	ϕ60	600	4	960	1420	40	536
P3	M36	8	1×730	3×240	ϕ60	600	4	960	1420	40	489
P4	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	433
P5	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P6	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P7	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P8	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P9	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P10	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P11	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	433
P12	M36	8	1×730	3×240	ϕ60	600	4	960	1420	40	489
P13	M36	8	1×730	3×260	ϕ60	600	4	960	1420	40	536
P14	M36	8	3×380	1×810	ϕ60	600	4	960	1360	45	366
AB2	M30	8	3×340	1×680	ϕ55	550	4	820	1110	32	398

EXPANSION JOINT BASIC PARAMETER

		Gap Abutment-Girder (mm)	Effective Joint Movement (mm)	Angle (°)	Length (m)
TA	AB1	500	500	90	14.40
	AB2	500	500	90	15.38
AT	AB1	500	500	90	14.40
	AB2	500	500	90	15.50

Note

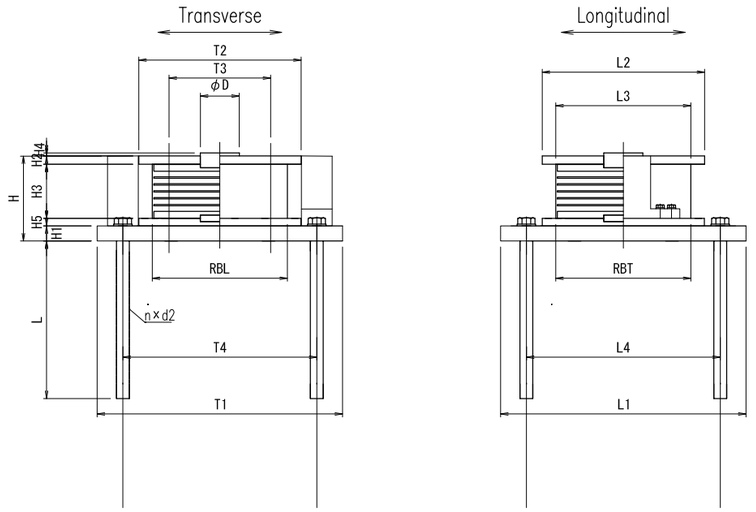
1. This drawing is for reference only

DRAFT

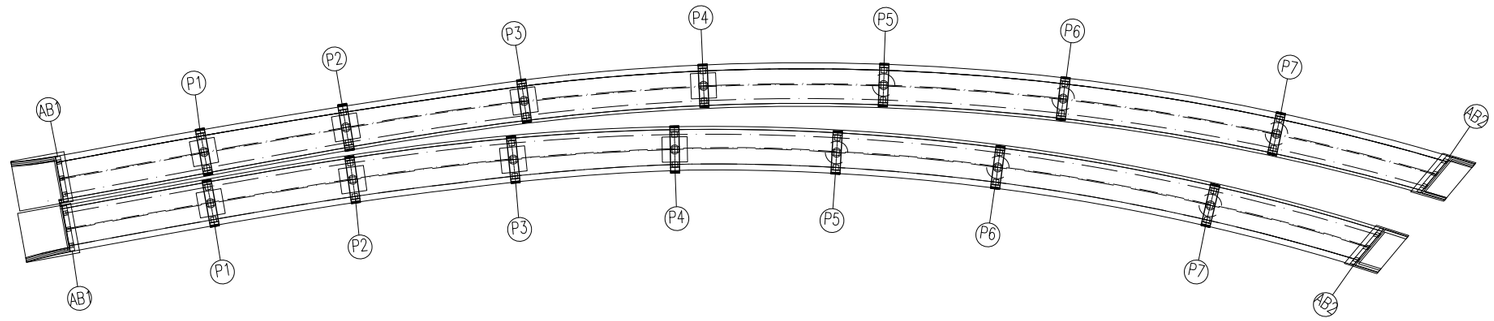
BRI-4104-TA/AT BEARING AND EXPANSION JOINT (REFERENCE DRAWING)

(SCALE 1 : 20)

HORIZONTAL FORCE DISPERSING BEARING (HFDB)



BRI-4104-AT



BRI-4104-TA

BR-4 TA 8SPANS

Properties

	Shear modulusGe (N/mm²)	dimension Longitudinal a' (mm)	dimension Transverse b' (mm)	cover rubber t c (mm)	Thickness t e (mm)	Number of layer n	Total Thick ∑ t e (mm)	Horizontal Spring KB (N/mm)	Vertical Spring Kv (N/mm)
AB1	0.8	770	770	10	29	6	174	2586.2	585240.8
P1	1.0	970	970	10	25	5	125	7220.0	2400650.0
P2	1.0	920	920	10	24	4	96	8437.5	2768554.7
P3	1.0	920	920	10	24	4	96	8437.5	2768554.7
P4	1.0	920	920	10	24	4	96	8437.5	2768554.7
P5	1.0	920	920	10	24	4	96	8437.5	2768554.7
P6	1.0	920	920	10	24	4	96	8437.5	2768554.7
P7	1.0	970	970	10	25	5	125	7220.0	2400650.0
AB2	0.8	770	770	10	29	6	174	2586.2	585240.8

Dimensions

	Lower Plate L1	T1	H1	Upper Plate L2	T2	H2	D	H4	Rubber bearing RBT	RBL	H3
AB1	970	1340	60	820	950	50	200	20	770	770	287
P1	1150	1600	80	1020	1130	60	250	20	970	970	233
P2	1150	1570	70	970	1100	60	250	20	920	920	200
P3	1150	1570	70	970	1100	60	250	20	920	920	200
P4	1150	1570	70	970	1100	60	250	20	920	920	200
P5	1150	1570	70	970	1100	60	250	20	920	920	200
P6	1150	1570	70	970	1100	60	250	20	920	920	200
P7	1150	1600	80	1020	1130	60	250	20	970	970	233
AB2	970	1340	60	820	950	50	200	20	770	770	287

	Set Bolt d1	n	L3	T3	Anchor Bolt d2	L	n	L4	T4	H5	H
AB1	M30	8	1×550	3×180	ϕ55	550	4	800	1170	40	437
P1	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	413
P2	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P3	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P4	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P5	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P6	M36	8	1×680	3×220	ϕ60	600	4	950	1370	40	370
P7	M36	8	1×730	3×240	ϕ60	600	4	950	1400	40	413
AB2	M30	8	1×550	3×180	ϕ55	550	4	800	1170	40	437

BR-4 AT 8SPANS

Properties

	Shear modulusGe (N/mm²)	dimension Longitudinal a' (mm)	dimension Transverse b' (mm)	cover rubber t c (mm)	Thickness t e (mm)	Number of layer n	Total Thick ∑ t e (mm)	Horizontal Spring KB (N/mm)	Vertical Spring Kv (N/mm)
AB1	0.8	820	820	10	32	6	192	2666.7	583333.3
P1	1.0	970	970	10	26	5	130	6942.3	2219535.9
P2	1.0	970	970	10	27	4	108	8356.5	2572713.0
P3	1.0	970	970	10	27	4	108	8356.5	2572713.0
P4	1.0	970	970	10	27	4	108	8356.5	2572713.0
P5	1.0	970	970	10	27	4	108	8356.5	2572713.0
P6	1.0	970	970	10	27	4	108	8356.5	2572713.0
P7	1.0	1020	1020	10	26	5	130	7692.3	2588757.4
AB2	0.8	820	820	10	32	6	192	2666.7	583333.3

Dimensions

	Lower Plate L1	T1	H1	Upper Plate L2	T2	H2	D	H4	Rubber bearing RBT	RBL	H3
AB1	1000	1370	60	870	980	50	200	20	820	820	305
P1	1180	1630	80	1020	1160	60	270	20	970	970	238
P2	1180	1630	80	1020	1160	60	270	20	970	970	212
P3	1180	1630	80	1020	1160	60	270	20	970	970	212
P4	1180	1630	80	1020	1160	60	270	20	970	970	212
P5	1180	1630	80	1020	1160	60	270	20	970	970	212
P6	1180	1630	80	1020	1160	60	270	20	970	970	212
P7	1220	1670	80	1070	1200	60	270	20	1020	1020	238
AB2	1000	1370	60	870	980	50	200	20	820	820	305

	Set Bolt d1	n	L3	T3	Anchor Bolt d2	L	n	L4	T4	H5	H
AB1	M30	8	1×580	3×190	ϕ55	550	4	830	1200	40	455
P1	M36	8	1×730	3×240	ϕ65	650	4	970	1420	40	418
P2	M36	8	1×730	3×240	ϕ60	600	4	980	1430	40	392
P3	M36	8	1×730	3×240	ϕ60	600	4	980	1430	40	392
P4	M36	8	1×730	3×240	ϕ60	600	4	980	1430	40	392
P5	M36	8	1×730	3×240	ϕ60	600	4	980	1430	40	392
P6	M36	8	1×730	3×240	ϕ60	600	4	980	1430	40	392
P7	M36	8	1×780	3×260	ϕ65	650	4	1010	1460	40	418
AB2	M30	8	1×580	3×190	ϕ55	550	4	830	1200	40	455

EXPANSION JOINT BASIC PARAMETER

		Gap Abutment-Girder (mm)	Effective Joint Movement (mm)	Angle (˚)	Length (m)
TA	AB1	500	300	90	15.54
	AB2	500	300	67	15.74
AT	AB1	500	300	90	15.53
	AB2	500	300	67	15.85

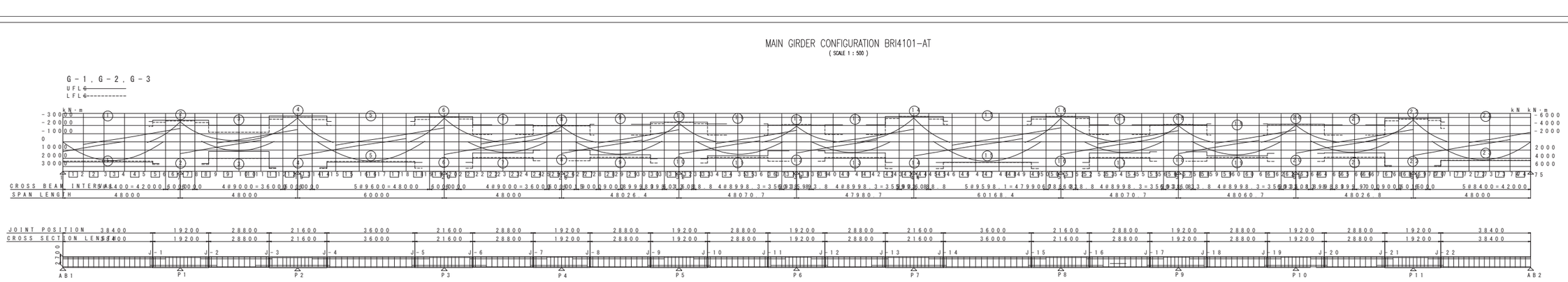
Note

1. This drawing is for reference only

DRAFT

MAIN GIRDER CONFIGURATION BRI4101-AT

(SCALE 1 : 500)



G-1

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16	Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23
Cross section length		38400	19200	28800	21600	36000	21600	28800	19200	28800	19200	28800	19200	28800	21600	36000	21600	28800	19200	28800	19200	28800	19200	38400
Material	UFLG	SMS20C-H	SM570	SM490YB	SM570	SMS20C-H	SM570-H	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SMS20C-H	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SMS20C-H
	WEB	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA
	LFLG	SM490YB	SM570-H	SM490YB	SM570-H	SM520C-H	SM570-H	SM490YB	SM570	SM490YB	SM570-H	SM490YB	SM570	SM490YB	SM570-H	SM520C-H	SM570-H	SM490YB	SM570	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	42	30	33	38	43	41	35	28	37	28	37	28	35	40	43	40	35	28	37	28	33	42	
WEB	Height	2658	2670	2667	2662	2657	2659	2665	2672	2663	2672	2663	2672	2665	2660	2657	2660	2665	2672	2663	2672	2665	2667	2658
	Thickness	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	40	43	32	45	43	45	32	40	28	42	28	40	32	45	42	45	32	40	28	41	29	44	38

G-2

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16	Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23
Cross section length		38400	19200	28800	21600	36000	21600	28800	19200	28800	19200	28800	19200	28800	21600	36000	21600	28800	19200	28800	19200	28800	19200	38400
Material	UFLG	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB
	WEB	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA
	LFLG	SM490YB	SM570	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	39	28	31	28	40	28	32	28	35	28	35	28	32	28	40	28	32	28	35	28	33	28	39
WEB	Height	2661	2672	2669	2672	2660	2672	2668	2672	2665	2672	2665	2672	2668	2672	2660	2672	2668	2672	2665	2672	2667	2672	2661
	Thickness	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	29	40	29	41	30	42	29	37	28	39	28	37	29	42	30	42	29	37	28	38	28	40	28

G-3

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16	Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23
Cross section length		38400	19200	28800	21600	36000	21600	28800	19200	28800	19200	28800	19200	28800	21600	36000	21600	28800	19200	28800	19200	28800	19200	38400
Material	UFLG	SMS20C-H	SM570	SM490YB	SM570	SMS20C-H	SM570-H	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570-H	SMS20C-H	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SMS20C-H
	WEB	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA
	LFLG	SMS20C-H	SM570-H	SM490YB	SM570-H	SMS20C-H	SM570-H	SM490YB	SM570	SM490YB	SM570-H	SM490YB	SM570	SM490YB	SM570-H	SMS20C-H	SM570-H	SM490YB	SM570	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	43	30	34	39	44	41	35	28	37	28	37	28	35	41	43	40	35	28	38	28	33	42	
WEB	Height	2657	2670	2666	2661	2656	2659	2665	2672	2663	2672	2663	2672	2665	2659	2657	2660	2665	2672	2662	2672	2665	2667	2658
	Thickness	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	42	43	32	45	44	45	32	40	28	42	28	40	32	45	43	45	32	40	28	41	29	44	40

DRAFT

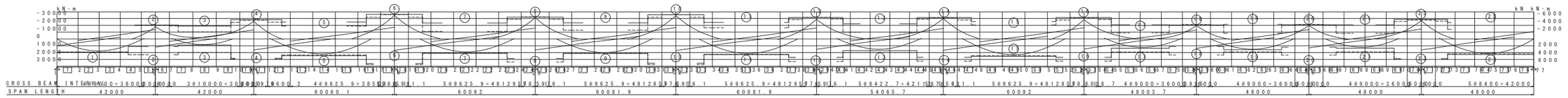
MAIN GIRDER CONFIGURATION BRI4101-TA

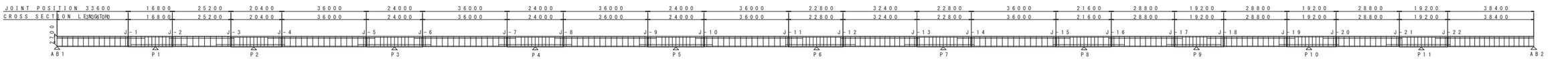
(SCALE 1 : 500)

G-1, G-2, G-3

UFLG

LFLG





G-1

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16	Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23
Cross section length		33600	16800	25200	20400	36000	24000	36000	24000	36000	24000	36000	22800	32400	22800	36000	21600	28800	19200	28800	19200	28800	19200	38400
Material	UFLG	SM490YB	SM570	SM490YB	SM570	SM520C-H	SM570-H	SM520C-H	SM570-H	SM520C-H	SM570-H	SM520C-H	SM570-H	SM490YB	SM570-H	SM520C-H	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM520C-H
	WEB	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA
	LFLG	SM490YB	SM570	SM490YB	SM570-H	SM520C-H	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM520C-H	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	40	28	31	32	43	53	41	47	41	52	42	41	38	44	43	40	35	28	38	28	35	34	42
WEB	Height	2660	2672	2669	2668	2657	2647	2659	2653	2659	2648	2658	2659	2662	2656	2657	2660	2665	2672	2662	2672	2665	2666	2658
	Thickness	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	31	39	32	43	42	55	36	49	37	54	40	45	31	47	43	45	32	41	28	41	29	44	40

G-2

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16	Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23
Cross section length		33600	16800	25200	20400	36000	24000	36000	24000	36000	24000	36000	22800	32400	22800	36000	21600	28800	19200	28800	19200	28800	19200	38400
Material	UFLG	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB
	WEB	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA
	LFLG	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	37	28	28	28	39	36	37	31	38	35	39	28	35	30	40	28	32	28	35	28	33	28	39
WEB	Height	2663	2672	2672	2672	2661	2664	2663	2669	2662	2665	2661	2672	2665	2670	2660	2672	2668	2672	2665	2672	2667	2672	2661
	Thickness	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	28	36	30	40	30	44	28	43	28	44	28	42	28	43	30	42	29	37	28	38	28	40	29

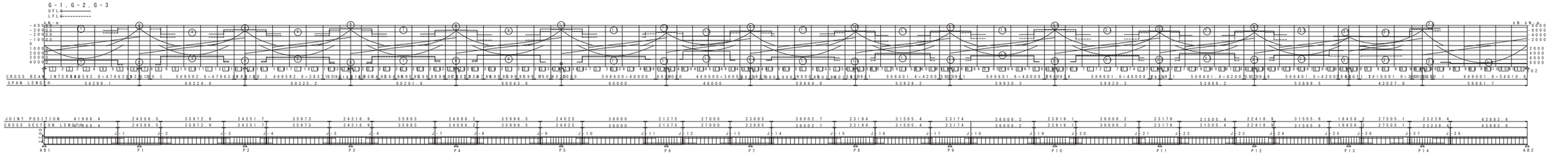
G-3

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16	Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23
Cross section length		33600	16800	25200	20400	36000	24000	36000	24000	36000	24000	36000	22800	32400	22800	36000	21600	28800	19200	28800	19200	28800	19200	38400
Material	UFLG	SM490YB	SM570	SM490YB	SM570	SM520C-H	SM570-H	SM520C-H	SM570-H	SM520C-H	SM570-H	SM520C-H	SM570-H	SM490YB	SM570-H	SM520C-H	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM520C-H
	WEB	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA	SM570	SM490YA
	LFLG	SM490YB	SM570	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM520C-H	SM570-H	SM490YB	SM570	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	39	28	30	32	42	52	41	46	41	51	42	41	37	44	42	39	35	28	37	28	35	33	42
WEB	Height	2661	2672	2670	2668	2658	2648	2659	2654	2659	2649	2658	2659	2663	2656	2658	2661	2665	2672	2663	2672	2665	2667	2658
	Thickness	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13	15	13
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	29	39	32	43	40	55	34	50	36	54	39	46	30	47	41	45	32	40	28	41	29	44	38

DRAFT

MAIN GIRDER CONFIGURATION BRI4102-AT

(SCALE 1 : 500)



G1

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16	Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23	Sec-24	Sec-25	Sec-26	Sec-27	Sec-28	Sec-29
Cross section length		41968.4	24506.5	35972.9	24351.7	35973	24318.9	35983	24098.2	35996.5	24025	36000	21375	27000	23605	36002.7	23194	31505.4	23174	36006.2	23919.1	36006.2	23179	31505.4	22418.9	31505.6	18458.3	27505.1	23239.4	43883.6
Material	UFLG	SM570-H	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H	SM520-H	SM520-H	SM520-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM570-H
	WEB	SM570	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM570
	LFLG	SM570-H	SM570-H	SM490YB	SM570-H	SM520-H	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM570-H
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	46	47	40	47	40	47	40	47	40	47	40	47	40	47	40	47	40	47	40	47	40	47	40	47	40	47	40	47	40
WEB	Height	2654	2643	2658	2652	2657	2649	2658	2654	2660	2649	2658	2649	2657	2645	2657	2657	2643	2657	2659	2651	2659	2657	2663	2657	2660	2669	2671	2648	2644
	Thickness	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	44	42	37	52	43	56	39	50	32	52	37	53	32	57	41	66	29	46	33	51	34	46	30	46	33	39	39	53	56

G2

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16	Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23	Sec-24	Sec-25	Sec-26	Sec-27	Sec-28	Sec-29
Cross section length		41710.3	24355.9	35751.7	24201.9	35752.5	24187.7	35845.7	24043.6	35868.9	24025	36000	21375	27000	23605	36034	23235.1	31547.3	23205.1	36054.5	23951.2	36054.1	23216.1	31547.3	22449.1	31548.9	18435.1	27548	23317.9	43913.1
Material	UFLG	SM520-H	SM570-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM520-H	SM490YB	SM490YB	SM490YB	SM570-H	SM490YB	SM490YB	SM490YB	SM570-H	SM490YB	SM490YB	SM490YB	SM570	SM570-H
	WEB	SM570	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM570	SM570
	LFLG	SM570	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM490YB	SM490YB	SM570-H	SM570-H
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	49	46	38	50	39	43	39	48	33	43	39	50	33	49	33	43	33	38	33	38	33	36	33	37	33	29	39	37	46
WEB	Height	2658	2654	2662	2650	2661	2658	2661	2662	2658	2661	2658	2670	2670	2667	2661	2658	2667	2665	2662	2667	2662	2664	2667	2663	2671	2683	2671	2664	2664
	Thickness	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	41	49	30	55	30	46	30	55	30	46	28	40	28	40	28	48	28	41	35	59	35	41	28	41	28	36	36	44	42

G3

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16	Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23	Sec-24	Sec-25	Sec-26	Sec-27	Sec-28	Sec-29
Cross section length		41452.3	24305.2	35630.5	24053.2	35552	24058.5	35708.5	23989.1	35941.4	24025.1	36000	21375	27000	23605	36045.2	23256.3	31590	23236.2	36102.9	24383.3	36104.9	23241.2	31590	22449.1	31595.3	18512.4	27588.7	23311.2	44014.1
Material	UFLG	SM570-H	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM520-H	SM570-H	SM490YB	SM570-H	SM520-H	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM490YB	SM490YB	SM570-H	SM570-H
	WEB	SM570	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM570	SM570
	LFLG	SM570	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM490YB	SM490YB	SM570-H	SM570-H
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	49	51	40	49	41	47	41	49	40	48	40	47	32	51	42	49	26	54	40	48	40	42	26	42	40	41	42	51	51
WEB	Height	2657	2649	2660	2657	2659	2653	2659	2657	2660	2652	2658	2653	2668	2649	2658	2658	2664	2666	2680	2652	2660	2658	2664	2658	2680	2669	2671	2649	2643
	Thickness	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	33	54	31	46	34	51	33	46	29	51	34	51	31	55	40	46	33	58	33	51	33	46	29	46	32	40	40	53	56

DRAFT

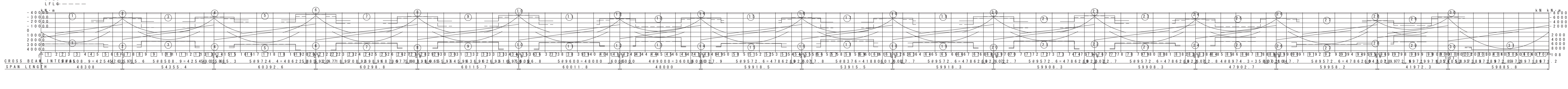
MAIN GIRDER CONFIGURATION BRI4102-TA

(SCALE 1 : 500)

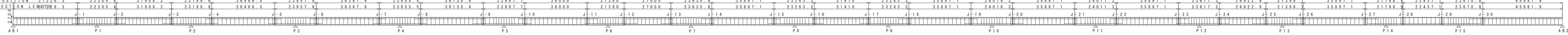
G-1, G-2, G-3

UFLG

LFLG



JOINT POSITION	37226.3	22305.4	31908.2	23186.6	36466.5	23957.8	36367.9	23955.5	36135.4	23967.7	36000	21380	27000	23635.8	35897.1	23263.3	31410	23263.3	35897.1	24016.2	35897.1	24011.2	35897.1	23617.3	26922.9	21398.7	35897.1	21798.9	22437.1	23670.8	45981.9
CROSS SECTION LENGTH	37226.3	22305.4	31908.2	23186.6	36466.5	23957.8	36367.9	23955.5	36135.4	23967.7	36000	21380	27000	23635.8	35897.1	23263.3	31410	23263.3	35897.1	24016.2	35897.1	24011.2	35897.1	23617.3	26922.9	21398.7	35897.1	21798.9	22437.1	23670.8	45981.9



G1

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16
Cross section length		37226.3	22305.4	31908.2	23186.6	36466.5	23957.8	36367.9	23955.5	36135.4	23967.7	36000	21380	27000	23635.8	35897.1	23263.3
Material	UFLG	SM520-H	SM570-H	SM490YB	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H	SM520-H	SM490YB	SM520-H	SM520-H	SM570-H
	WEB	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570
	LFLG	SM520-H	SM570-H	SM490YB	SM570-H	SM520-H	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	43	43	39	45	45	55	42	47	41	51	41	50	32	53	42	42
WEB	Height	2657	2657	2661	2655	2655	2645	2658	2653	2659	2649	2659	2650	2668	2647	2658	2658
	Thickness	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	43	46	30	48	44	58	38	51	33	55	36	54	32	57	40	46

Section name		Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23	Sec-24	Sec-25	Sec-26	Sec-27	Sec-28	Sec-29	Sec-30	Sec-31
Cross section length		31410	23263.3	35897.1	24016.2	35897.1	24011.2	35897.1	23617.3	26922.9	21398.7	35897.1	21798.9	22437.1	23670.8	45981.9
Material	UFLG	SM490YB	SM570-H	SM520-H	SM570-H	SM490YB	SM570-H	SM520-H	SM520-H	SM490YB	SM570	SM520-H	SM520-H	SM490YB	SM570-H	SM570-H
	WEB	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM570	SM570
	LFLG	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM570-H	SM520-H	SM520-H	SM490YB	SM570-H	SM570-H
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	36	41	41	47	39	50	42	48	32	40	45	41	28	46	54
WEB	Height	2664	2659	2659	2653	2661	2650	2658	2652	2668	2660	2655	2659	2672	2654	2646
	Thickness	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	29	45	36	50	29	53	38	53	32	45	45	45	35	48	54

G2

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16
Cross section length		37001.9	22170.9	31715.9	23046.9	36246.7	23815.1	36194.6	23877.6	36071.7	23959.4	36000	21380	27000	23651.9	35945.5	23294.7
Material	UFLG	SM490YB	SM490YB	SM490YB	SM520-H	SM490YB	SM570	SM490YB	SM520-H	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM520-H
	WEB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB
	LFLG	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM520-H
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	39	39	35	43	39	39	39	49	38	38	38	29	29	31	39	43
WEB	Height	2661	2661	2665	2657	2661	2661	2661	2651	2662	2662	2662	2671	2671	2669	2661	2657
	Thickness	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	28	43	28	47	28	45	29	54	29	44	28	39	28	40	28	49

Section name		Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23	Sec-24	Sec-25	Sec-26	Sec-27	Sec-28	Sec-29	Sec-30	Sec-31
Cross section length		31452.3	23294.7	35945.5	24048.5	35945.5	24043.5	35945.5	23649.1	26959.1	21427.5	35945.5	21827.2	22465.7	23702.3	46047.2
Material	UFLG	SM490YB	SM490YB	SM490YB	SM520-H	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM520-H	SM520-H
	WEB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB
	LFLG	SM490YB	SM490YB	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM490YB	SM490YB	SM520-H	SM490YB	SM490YB	SM490YB	SM520-H	SM520-H
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	34	38	38	51	38	38	38	29	29	37	40	30	28	48	60
WEB	Height	2666	2662	2662	2649	2662	2662	2662	2671	2671	2663	2660	2670	2672	2652	2640
	Thickness	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	28	42	32	57	32	44	28	39	29	41	32	38	34	51	60

G3

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15	Sec-16
Cross section length		36777.5	22036.5	31523.6	22907.1	36026.9	23672.5	36021.4	23799.7	36008	23951.1	36000	21380	27000	23667.9	35993.8	23326
Material	UFLG	SM520-H	SM520-H	SM490YB	SM570-H	SM520-H	SM570-H	SM520-H	SM570-H	SM490YB	SM570-H	SM520-H	SM520-H	SM490YB	SM520-H	SM520-H	SM570-H
	WEB	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570
	LFLG	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM520-H	SM520-H	SM570-H
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	41	52	37	42	42	50	41	44	40	50	42	50	33	56	43	43
WEB	Height	2659	2648	2663	2658	2658	2650	2659	2656	2660	2650	2658	2650	2667	2644	2657	2657
	Thickness	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	37	58	33	45	39	52	36	48	33	53	38	53	34	59	42	46

Section name		Sec-17	Sec-18	Sec-19	Sec-20	Sec-21	Sec-22	Sec-23	Sec-24	Sec-25	Sec-26	Sec-27	Sec-28	Sec-29	Sec-30	Sec-31
Cross section length		31494.6	23326	35993.8	24080.9	35993.8	24075.9	35993.8	23680.9	26995.4	21456.3	35993.8	21856.2	22496	23735.6	46116.1
Material	UFLG	SM490YB	SM570-H	SM520-H	SM570-H	SM490YB	SM570-H	SM520-H	SM520-H	SM490YB	SM570	SM520-H	SM520-H	SM490YB	SM570-H	SM570-H
	WEB	SM490YB	SM570	SM490YB	SM570	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM570	SM570
	LFLG	SM490YB	SM570-H	SM490YB	SM570-H	SM490YB	SM570-H	SM520-H	SM520-H	SM490YB	SM570-H	SM520-H	SM520-H	SM490YB	SM570-H	SM570-H
UFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	37	42	42	48	40	50	42	50	33	39	49	43	28	46	58
WEB	Height	2663	2658	2658	2652	2660	2650	2658	2650	2667	2661	2651	2657	2672	2654	2642
	Thickness	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LFLG	Width	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	Thickness	29	45	39	50	31	53	41	53	32	45	48	46	36	48	57

DRAFT

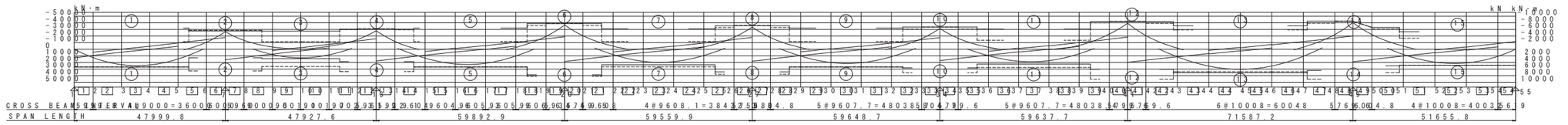
MAIN GIRDER CONFIGURATION BRI4104-AT

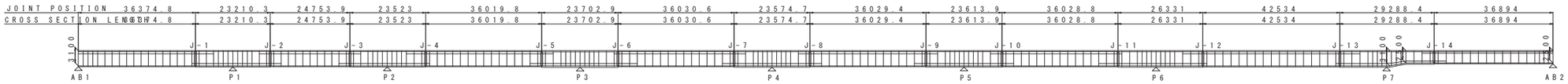
(SCALE 1 : 500)

G-1, G-2, G-3

UFLG

LFLG





G-1

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15
Cross section length		36374.8	23210.3	24753.9	23523	36019.8	23702.9	36030.6	23574.7	36029.4	23613.9	36028.8	26331	42534	29288.4	36894
Material	UFLG	SM520-H	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490Y	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM570	SM490YB
	WEB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570-H	SM520-H	SM570-H	SM490YB
	LFLG	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM520-H	SM570-H	SM490YB
UFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	43	32	34	37	43	51	41	46	43	43	40	44	47	45	45
WEB	Height	3057	3068	3066	3063	3057	3049	3059	3054	3057	3057	3060	3056	3053	3055	2455
	Thickness	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
LFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	31	44	31	45	31	56	31	51	31	47	33	50	44	50	39

G-2

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15
Cross section length		36372.8	23213.1	24785.5	23587.1	36180.3	23848.4	36279.6	23735.6	36271.3	23770	36266.4	26504.7	42814.5	29481.6	39235.2
Material	UFLG	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	38SM490Y	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB
	WEB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	18SM490Y	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570-H	SM490YB
	LFLG	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	45SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB
UFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	40	31	31	31	40	38	38	34	40	31	37	48	44	44	44
WEB	Height	3060	3069	3069	3069	3060	3062	3062	3066	3060	3069	3063	3052	3056	3056	2456
	Thickness	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
LFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	31	41	31	42	31	45	31	44	31	43	32	53	33	50	32

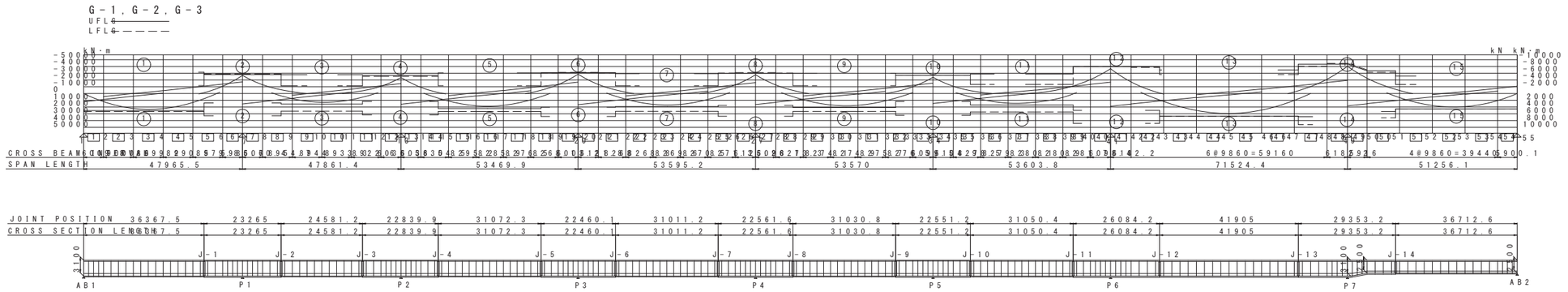
G-3

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15
Cross section length		36370.8	23216	24817.3	23651.4	36341.1	23994.1	36528.9	23896.8	36513.5	23926.2	36504	26678.3	43095	29674.7	41574
Material	UFLG	SM520-H	SM490YB	SM490YB	SM490YB	SM520-H	SM570-H	SM520-H	SM520-H	SM520-H	SM520-H	SM520-H	SM570-H	SM520-H	SM570-H	SM520-H
	WEB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM570	SM490YB
	LFLG	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM520-H	SM570-H	SM520-H
UFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	42	31	33	37	43	43	41	51	43	46	42	48	51	55	52
WEB	Height	3058	3069	3067	3063	3057	3057	3059	3049	3057	3054	3058	3052	3049	3045	2448
	Thickness	18	18	18	18	18	18	18	18	18	18	18	18	18	19	18
LFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	31	43	31	45	31	50	32	56	31	51	35	52	50	58	52

DRAFT

MAIN GIRDER CONFIGURATION BRI4104-TA

(SCALE 1 : 500)



G-1

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15
Cross section length		36367.5	23265	24581.2	22839.9	31072.3	22460.1	31011.2	22561.6	31030.8	22551.2	31050.4	26084.2	41905	29353.2	36712.6
Material	UFLG	SM520-H	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570-H	SM520-H	SM570-H	SM520-H
	WEB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM570	SM490YB
	LFLG	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM520-H	SM570-H	SM490YB
UFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	42	33	35	31	40	38	38	36	39	31	36	41	46	46	44
WEB	Height	3058	3067	3065	3069	3060	3062	3062	3064	3061	3069	3064	3059	3054	3054	2456
	Thickness	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
LFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	31	44	31	42	31	45	31	45	31	43	33	49	43	51	36

G-2

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15
Cross section length		36373.4	23305	24660.6	22948.2	31273.6	22629.4	31241	22725.4	31251.5	22708.3	31262	26258.9	42185.5	29549.7	39093.6
Material	UFLG	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570-H	SM520-H
	WEB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB
	LFLG	SM490YB	SM520-H	SM490YB	SM490YB	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM490YB	SM490YB	SM520-H	SM490YB	SM570-H	SM490YB
UFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	40	32	32	32	38	32	36	32	38	32	34	45	45	43	43
WEB	Height	3060	3068	3068	3068	3062	3068	3064	3068	3062	3068	3066	3055	3055	3057	2457
	Thickness	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
LFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	31	42	31	40	31	43	31	42	31	40	32	50	34	50	31

G-3

Section name		Sec-1	Sec-2	Sec-3	Sec-4	Sec-5	Sec-6	Sec-7	Sec-8	Sec-9	Sec-10	Sec-11	Sec-12	Sec-13	Sec-14	Sec-15
Cross section length		36379.3	23345	24740.1	23056.5	31474.8	22798.8	31471.3	22889.6	31472.7	22865.7	31474.1	26433.8	42466	29746.2	41471.9
Material	UFLG	SM520-H	SM490YB	SM490YB	SM490YB	SM520-H	SM520-H	SM490YB	SM520-H	SM520-H	SM490YB	SM490YB	SM570-H	SM520-H	SM570-H	SM520-H
	WEB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM490YB	SM570	SM490YB	SM570	SM490YB
	LFLG	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM520-H	SM490YB	SM570-H	SM520-H	SM570-H	SM520-H
UFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	42	33	35	32	42	42	40	42	42	33	38	46	54	57	54
WEB	Height	3058	3067	3065	3068	3058	3058	3060	3058	3058	3067	3062	3054	3046	3043	2446
	Thickness	18	18	18	18	18	18	18	18	18	18	18	18	18	19	18
LFLG	Width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Thickness	31	44	31	44	31	46	31	46	31	44	36	51	54	60	54

DRAFT

F4 Steel Bridge Basic Quantities

2018/2/28

Item		Unit	Quantity		
BR 1 TA Total Length (12spans)	631.2 m (structure center)				
Steel weight (Weathering steel)	Main girder	t	1,774.8		
	Cross beam	t	162.4		
	H.T.B	t	58.1		
	Expansin joint	t	6.2		
	Sub total	t	2,001.5		
	Deck slab steel	t	1,015.2		
	Total		3,016.7		
Bridge Expansin Joint		L.m	28.00		
Deck slab volume		m3	2,719.7		
Deck Surface area	Carriageway	m2	7,197.4		
	Foot way	m2	631.2		
	Barriers+curb	m2	631.2		
	total	m2	8,459.8		
BR 1 AT Total Length (12spans)	601.2 m (structure center)				
Steel weight (Weathering steel)	Main girder	t	1,639.7		
	Cross beam	t	158.4		
	H.T.B	t	53.9		
	Expansin joint	t	6.2		
	Sub total	t	1,858.2		
	Deck slab steel	t	966.9		
	Total		2,825.1		
Bridge Expansin Joint		L.m	28.00		
Deck slab volume		m3	2,590.3		
Deck Surface area	Carriageway	m2	6,855.1		
	Foot way	m2	601.2		
	Barriers+curb	m2	601.2		
	total	m2	8,057.5		
BR 2 TA Total Length (16spans)	895.2 m (structure center)				
Steel weight (Weathering steel)	Main girder	t	2,900.4		
	Cross beam	t	231.5		
	H.T.B	t	94.0		
	Expansin joint	t	6.7		
	Sub total	t	3,232.6		
	Deck slab steel	t	1,472.6		
	Total		4,705.2		
Bridge Expansin Joint		L.m	29.78		
Deck slab volume		m3	3,870.6		
Deck Surface area	Carriageway	m2	10,481.0		
	Foot way	m2	895.2		
	Barriers+curb	m2	895.2		
	total	m2	12,271.4		
BR 2 AT Total Length (15spans)	847.2 m (structure center)				
Steel weight (Weathering steel)	Main girder	t	2,731.2		
	Cross beam	t	218.6		
	H.T.B	t	88.5		
	Expansin joint	t	6.7		
	Sub total	t	3,045.0		
	Deck slab steel	t	1,401.9		
	Total		4,446.9		
Bridge Expansin Joint		L.m	29.90		
Deck slab volume		m3	3,680.9		
Deck Surface area	Carriageway	m2	9,987.8		
	Foot way	m2	847.2		
	Barriers+curb	m2	847.2		
	total	m2	11,682.2		

	Item		Unit	Quant.	Unit cost (USD)	
BR 4 TA	Total Length (8spans)		439.2 m (structure center)			
	Steel weight (Weathering steel)	Main girder	t	1,579.0		
		Cross beam	t	118.1		
		H.T.B	t	50.9		
		Expansin joint	t	7.0		
		Sub total	t	1,755.0		
		Deck slab steel	t	778.8		
		Total		2,533.8		
	Bridge Expansin Joint		L.m	31.28		
	Deck slab volume		m3	2,030.8		
	Deck Surface area	Carriageway	m2	5,611.8		
		Foot way	m2	439.2		
		Barriers+curb	m2	439.2		
		total	m2	6,490.2		
BR 4 AT	Total Length (8spans)		463.2 m (structure center)			
	Steel weight (Weathering steel)	Main girder	t	1,699.6		
		Cross beam	t	121.3		
		H.T.B	t	54.6		
		Expansin joint	t	7.0		
		Sub total	t	1,882.5		
		Deck slab steel	t	806.6		
		Total		2,689.1		
	Bridge Expansin Joint		L.m	31.38		
	Deck slab volume		m3	2,106.7		
	Deck Surface area	Carriageway	m2	5,795.0		
		Foot way	m2	463.2		
		Barriers+curb	m2	463.2		
		total	m2	6,721.4		
	TA total	Length	m	1965.6		
		Steel weight(exc deck)	t	6,989.1		
		Steel Deck	t	3,266.6		
		Bridge Expansion Joint	L.m	89.1		
		Deck Volume	m3	8,621.1		
		Deck Area	m2	27,221.4		
	AT total	Length	m	1,911.6		
		Steel weight(exc deck)	t	6,785.7		
		Steel Deck	t	3,175.3		
		Bridge Bearing	Unit	114.0		
		Bridge Expansion Joint	L.m	89.3		
		Deck Volume	m3	8,377.9		
		Deck Area	m2	26,461.1		
	Total	**Length**	**m**	**3,877.2**		
		Steel weight (exc. deck)	**t**	**13,774.8**		
		Steel Deck	**t**	**6,441.9**		
		Bridge Expansion Joint	**L.m**	**178.3**		
		Deck Volume	**m3**	**16,999.0**		
		Deck Area	**m2**	**53,682.5**		

BR1TA
Reactions
■With Impact (Rd＝Rd'＋Rds)

＜max 1－G1 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*1 - G1	1303.5	80.3	882.5	2266.4
1 - G2	1173.9	70.5	544.7	1789.1
1 - G3	1306.7	80.1	158.2	1545.1
＜max 1－G2 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
1 - G1	1303.5	80.3	465.6	1849.5
*1 - G2	1173.9	70.5	782.4	2026.8
1 - G3	1306.7	80.1	478.4	1865.3
＜max 1－G3 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
1 - G1	1303.5	80.3	223.9	1607.7
1 - G2	1173.9	70.5	634.7	1879.2
*1 - G3	1306.7	80.1	751.1	2137.9
＜着目支点 2－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*2 - G1	3089.3	207.7	1559.4	4856.4
2 - G2	2439.8	179.5	955.3	3574.6
2 - G3	3112.1	208.2	192.7	3513.0
＜着目支点 2－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
2 - G1	3089.3	207.7	763.5	4060.5
*2 - G2	2439.8	179.5	1412.7	4032.0
2 - G3	3112.1	208.2	870.4	4190.7
＜着目支点 2－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
2 - G1	3089.3	207.7	212.8	3509.8
2 - G2	2439.8	179.5	1098.3	3717.6
*2 - G3	3112.1	208.2	1431.7	4752.0
＜着目支点 3－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*3 - G1	3513.8	237.8	1706.3	5457.8
3 - G2	2734.4	200.5	1001.2	3936.1
3 - G3	3525.3	237.3	200.7	3963.4
＜着目支点 3－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
3 - G1	3513.8	237.8	860.9	4612.4
*3 - G2	2734.4	200.5	1487.7	4422.6
3 - G3	3525.3	237.3	981.1	4743.8
＜着目支点 3－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
3 - G1	3513.8	237.8	206.2	3957.7
3 - G2	2734.4	200.5	1091.7	4026.5
*3 - G3	3525.3	237.3	1604.4	5367.1
＜着目支点 4－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*4 - G1	4340.8	296.5	1861.1	6498.4
4 - G2	3366.0	245.2	1082.4	4693.5
4 - G3	4365.7	296.7	283.8	4946.2
＜着目支点 4－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
4 - G1	4340.8	296.5	967.7	5605.0
*4 - G2	3366.0	245.2	1571.3	5182.5
4 - G3	4365.7	296.7	1138.3	5800.6
＜着目支点 4－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
4 - G1	4340.8	296.5	272.1	4909.4
4 - G2	3366.0	245.2	1190.5	4801.7
*4 - G3	4365.7	296.7	1770.1	6432.5

＜着目支点　5－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*5 - G1	4097.9	279.4	1857.3	6234.6
5 - G2	3160.9	230.4	1064.1	4455.5
5 - G3	4118.9	279.4	250.2	4648.5
＜着目支点　5－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
5 - G1	4097.9	279.4	976.5	5353.8
*5 - G2	3160.9	230.4	1561.2	4952.5
5 - G3	4118.9	279.4	1117.9	5516.1
＜着目支点　5－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
5 - G1	4097.9	279.4	246.8	4624.1
5 - G2	3160.9	230.4	1192.7	4584.0
*5 - G3	4118.9	279.4	1762.7	6160.9
＜着目支点　6－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*6 - G1	4272.1	291.7	1883.0	6446.8
6 - G2	3298.6	240.3	1081.2	4620.2
6 - G3	4292.5	291.6	267.0	4851.0
＜着目支点　6－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
6 - G1	4272.1	291.7	976.6	5540.4
*6 - G2	3298.6	240.3	1579.7	5118.6
6 - G3	4292.5	291.6	1156.4	5740.4
＜着目支点　6－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
6 - G1	4272.1	291.7	257.5	4821.3
6 - G2	3298.6	240.3	1202.5	4741.4
*6 - G3	4292.5	291.6	1789.7	6373.7
＜着目支点　7－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*7 - G1	3864.1	263.0	1815.4	5942.4
7 - G2	2999.9	218.6	1043.2	4261.7
7 - G3	3885.1	263.1	230.0	4378.1
＜着目支点　7－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
7 - G1	3864.1	263.0	950.4	5077.4
*7 - G2	2999.9	218.6	1536.4	4754.9
7 - G3	3885.1	263.1	1084.6	5232.8
＜着目支点　7－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
7 - G1	3864.1	263.0	221.8	4348.8
7 - G2	2999.9	218.6	1145.7	4364.2
*7 - G3	3885.1	263.1	1720.7	5868.8
＜着目支点　8－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*8 - G1	4013.4	273.5	1813.5	6100.4
8 - G2	3131.3	228.1	1052.8	4412.1
8 - G3	4032.5	273.4	250.8	4556.7
＜着目支点　8－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
8 - G1	4013.4	273.5	941.0	5227.9
*8 - G2	3131.3	228.1	1541.5	4900.8
8 - G3	4032.5	273.4	1092.9	5398.8
＜着目支点　8－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
8 - G1	4013.4	273.5	242.3	4529.2
8 - G2	3131.3	228.1	1169.8	4529.1
*8 - G3	4032.5	273.4	1716.0	6021.9
＜着目支点　9－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*9 - G1	3843.8	261.4	1768.1	5873.3
9 - G2	2985.9	218.0	1028.4	4232.3
9 - G3	3866.2	261.6	234.7	4362.5
＜着目支点　9－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
9 - G1	3843.8	261.4	907.9	5013.0
*9 - G2	2985.9	218.0	1512.8	4716.7
9 - G3	3866.2	261.6	1048.9	5176.7
＜着目支点　9－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
9 - G1	3843.8	261.4	236.0	4341.1
9 - G2	2985.9	218.0	1125.7	4329.6
*9 - G3	3866.2	261.6	1670.4	5798.2

＜着目支点 10－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*10- G1	3197.8	215.6	1641.1	5054.5
10- G2	2557.9	187.5	980.8	3726.2
10- G3	3211.5	215.4	180.8	3607.7
＜着目支点 10－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
10- G1	3197.8	215.6	817.1	4230.5
*10- G2	2557.9	187.5	1463.9	4209.3
10- G3	3211.5	215.4	938.8	4365.7
＜着目支点 10－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
10- G1	3197.8	215.6	262.7	3676.2
10- G2	2557.9	187.5	1152.4	3897.9
*10- G3	3211.5	215.4	1518.5	4945.4
＜着目支点 11－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*11- G1	3248.4	219.2	1615.7	5083.3
11- G2	2607.6	191.0	978.4	3776.9
11- G3	3265.7	219.2	198.9	3683.9
＜着目支点 11－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
11- G1	3248.4	219.2	808.0	4275.7
*11- G2	2607.6	191.0	1448.8	4247.4
11- G3	3265.7	219.2	917.7	4402.7
＜着目支点 11－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
11- G1	3248.4	219.2	278.3	3746.0
11- G2	2607.6	191.0	1146.4	3945.0
*11- G3	3265.7	219.2	1494.2	4979.2
＜着目支点 12－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*12- G1	3739.7	254.1	1658.1	5651.9
12- G2	2970.7	216.6	1008.3	4195.6
12- G3	3759.6	254.2	262.6	4276.4
＜着目支点 12－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
12- G1	3739.7	254.1	846.0	4839.8
*12- G2	2970.7	216.6	1460.2	4647.5
12- G3	3759.6	254.2	957.1	4970.9
＜着目支点 12－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
12- G1	3739.7	254.1	257.0	4250.9
12- G2	2970.7	216.6	1109.0	4296.2
*12- G3	3759.6	254.2	1548.1	5561.9
＜着目支点 13－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*13- G1	1432.6	89.7	929.1	2451.3
13- G2	1260.5	76.4	556.9	1893.8
13- G3	1438.8	89.6	166.8	1695.2
＜着目支点 13－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
13- G1	1432.6	89.7	505.8	2028.0
*13- G2	1260.5	76.4	795.8	2132.6
13- G3	1438.8	89.6	516.9	2045.2
＜着目支点 13－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
13- G1	1432.6	89.7	231.7	1753.9
13- G2	1260.5	76.4	645.3	1982.1
*13- G3	1438.8	89.6	802.3	2330.6

BR1 TA
□Without Impact (Rd＝Rd'＋Rds)

＜max 1－G1 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*1 - G1	1303.5	80.3	726.5	2110.3
1 - G2	1173.9	70.5	447.0	1691.4
1 - G3	1306.7	80.1	128.0	1514.9
＜max 1－G2 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
1 - G1	1303.5	80.3	380.3	1764.1
*1 - G2	1173.9	70.5	646.0	1890.4
1 - G3	1306.7	80.1	404.8	1791.6
＜max 1－G3 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
1 - G1	1303.5	80.3	181.0	1564.8
1 - G2	1173.9	70.5	523.5	1768.0
*1 - G3	1306.7	80.1	636.7	2023.6
＜着目支点 2－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*2 - G1	3089.3	207.7	1284.5	4581.5
2 - G2	2439.8	179.5	782.6	3402.0
2 - G3	3112.1	208.2	150.4	3470.7
＜着目支点 2－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
2 - G1	3089.3	207.7	622.6	3919.6
*2 - G2	2439.8	179.5	1166.1	3785.4
2 - G3	3112.1	208.2	741.8	4062.1
＜着目支点 2－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
2 - G1	3089.3	207.7	166.6	3463.6
2 - G2	2439.8	179.5	903.4	3522.7
*2 - G3	3112.1	208.2	1230.2	4550.5
＜着目支点 3－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*3 - G1	3513.8	237.8	1435.0	5186.5
3 - G2	2734.4	200.5	831.1	3766.0
3 - G3	3525.3	237.3	145.4	3908.1
＜着目支点 3－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
3 - G1	3513.8	237.8	717.4	4468.9
*3 - G2	2734.4	200.5	1249.8	4184.6
3 - G3	3525.3	237.3	854.0	4616.7
＜着目支点 3－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
3 - G1	3513.8	237.8	166.3	3917.8
3 - G2	2734.4	200.5	919.7	3854.6
*3 - G3	3525.3	237.3	1401.8	5164.5
＜着目支点 4－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*4 - G1	4340.8	296.5	1575.9	6213.2
4 - G2	3366.0	245.2	913.7	4524.9
4 - G3	4365.7	296.7	234.4	4896.8
＜着目支点 4－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
4 - G1	4340.8	296.5	810.3	5447.6
*4 - G2	3366.0	245.2	1337.0	4948.2
4 - G3	4365.7	296.7	997.8	5660.1
＜着目支点 4－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
4 - G1	4340.8	296.5	221.4	4858.7
4 - G2	3366.0	245.2	1012.0	4623.2
*4 - G3	4365.7	296.7	1556.6	6219.0

＜着目支点　5－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*5 - G1	4097.9	279.4	1573.2	5950.6
5 - G2	3160.9	230.4	897.4	4288.7
5 - G3	4118.9	279.4	203.2	4601.5
＜着目支点　5－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
5 - G1	4097.9	279.4	817.7	5195.0
*5 - G2	3160.9	230.4	1328.4	4719.7
5 - G3	4118.9	279.4	980.1	5378.3
＜着目支点　5－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
5 - G1	4097.9	279.4	199.5	4576.8
5 - G2	3160.9	230.4	1013.7	4405.0
*5 - G3	4118.9	279.4	1549.8	5948.0
＜着目支点　6－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*6 - G1	4272.1	291.7	1595.2	6159.0
6 - G2	3298.6	240.3	912.4	4451.3
6 - G3	4292.5	291.6	218.6	4802.6
＜着目支点　6－G2 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
6 - G1	4272.1	291.7	817.8	5381.6
*6 - G2	3298.6	240.3	1344.5	4883.4
6 - G3	4292.5	291.6	1014.0	5598.0
＜着目支点　6－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
6 - G1	4272.1	291.7	208.7	4772.6
6 - G2	3298.6	240.3	1022.5	4561.4
*6 - G3	4292.5	291.6	1574.1	6158.1
＜着目支点　7－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*7 - G1	3864.1	263.0	1533.0	5660.1
7 - G2	2999.9	218.6	875.1	4093.6
7 - G3	3885.1	263.1	181.0	4329.2
＜着目支点　7－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
7 - G1	3864.1	263.0	792.8	4919.8
*7 - G2	2999.9	218.6	1302.1	4520.6
7 - G3	3885.1	263.1	948.0	5096.1
＜着目支点　7－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
7 - G1	3864.1	263.0	177.9	4304.9
7 - G2	2999.9	218.6	971.3	4189.8
*7 - G3	3885.1	263.1	1509.3	5657.5
＜着目支点　8－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*8 - G1	4013.4	273.5	1530.8	5817.7
8 - G2	3131.3	228.1	883.7	4243.0
8 - G3	4032.5	273.4	200.4	4506.3
＜着目支点　8－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
8 - G1	4013.4	273.5	784.8	5071.7
*8 - G2	3131.3	228.1	1306.4	4665.7
8 - G3	4032.5	273.4	954.9	5260.8
＜着目支点　8－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
8 - G1	4013.4	273.5	195.7	4482.6
8 - G2	3131.3	228.1	991.9	4351.2
*8 - G3	4032.5	273.4	1505.3	5811.3
＜着目支点　9－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*9 - G1	3843.8	261.4	1488.7	5593.9
9 - G2	2985.9	218.0	859.3	4063.2
9 - G3	3866.2	261.6	183.9	4311.7
＜着目支点　9－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
9 - G1	3843.8	261.4	756.6	4861.7
*9 - G2	2985.9	218.0	1276.4	4480.2
9 - G3	3866.2	261.6	914.8	5042.6
＜着目支点　9－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
9 - G1	3843.8	261.4	190.8	4296.0
9 - G2	2985.9	218.0	951.5	4155.4
*9 - G3	3866.2	261.6	1462.0	5589.8

＜着目支点 10－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*10- G1	3197.8	215.6	1366.3	4779.7
10- G2	2557.9	187.5	811.1	3556.5
10- G3	3211.5	215.4	140.3	3567.2
＜着目支点 10－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
10- G1	3197.8	215.6	672.3	4085.7
*10- G2	2557.9	187.5	1222.3	3967.7
10- G3	3211.5	215.4	808.7	4235.6
＜着目支点 10－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
10- G1	3197.8	215.6	209.5	3622.9
10- G2	2557.9	187.5	960.0	3705.4
*10- G3	3211.5	215.4	1315.4	4742.4
＜着目支点 11－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*11- G1	3248.4	219.2	1344.8	4812.4
11- G2	2607.6	191.0	810.1	3608.7
11- G3	3265.7	219.2	157.7	3642.6
＜着目支点 11－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
11- G1	3248.4	219.2	665.2	4132.8
*11- G2	2607.6	191.0	1209.6	4008.1
11- G3	3265.7	219.2	790.4	4275.4
＜着目支点 11－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
11- G1	3248.4	219.2	223.9	3691.5
11- G2	2607.6	191.0	955.2	3753.8
*11- G3	3265.7	219.2	1294.4	4779.4
＜着目支点 12－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*12- G1	3739.7	254.1	1378.3	5372.1
12- G2	2970.7	216.6	836.2	4023.4
12- G3	3759.6	254.2	214.5	4228.3
＜着目支点 12－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
12- G1	3739.7	254.1	696.0	4689.8
*12- G2	2970.7	216.6	1219.0	4406.3
12- G3	3759.6	254.2	824.8	4838.6
＜着目支点 12－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
12- G1	3739.7	254.1	205.6	4199.4
12- G2	2970.7	216.6	924.1	4111.4
*12- G3	3759.6	254.2	1340.7	5354.5
＜着目支点 13－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*13- G1	1432.6	89.7	772.4	2294.7
13- G2	1260.5	76.4	461.8	1798.6
13- G3	1438.8	89.6	136.4	1664.7
＜着目支点 13－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
13- G1	1432.6	89.7	417.0	1939.3
*13- G2	1260.5	76.4	664.1	2000.9
13- G3	1438.8	89.6	441.7	1970.0
＜着目支点 13－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
13- G1	1432.6	89.7	189.0	1711.2
13- G2	1260.5	76.4	538.2	1875.0
*13- G3	1438.8	89.6	686.2	2214.6

BR1 TA

□Reactions for Substructure Design (Rd＝Rd'＋Rds)

(Maximum of G1+G2+G3)

	Dead Load	Snow Load	Live Load	D + L
	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
1 (AB1)	3784.1	231.0	1546.1	5561.2
2 (P1)	8641.2	595.4	2822.9	12059.6
3 (P2)	9773.5	675.6	3129.2	13578.3
4 (P3)	12072.5	838.4	3450.2	16361.1
5 (P4)	11377.7	789.2	3428.6	15595.5
6 (P5)	11863.2	823.6	3480.7	16167.5
7 (P6)	10749.1	744.7	3339.5	14833.2
8 (P7)	11177.1	775.0	3343.7	15295.8
9 (P8)	10695.9	740.9	3247.7	14684.5
10 (P9)	8967.3	618.5	2990.9	12576.7
11 (P10)	9121.8	629.4	2953.0	12704.2
12 (P11)	10470.0	724.9	3033.9	14228.8
13 (AB2)	4131.8	255.6	1636.4	6023.9

BR1AT
Reactions
■With Impact (Rd＝Rd'＋Rds)

＜max 1－G1 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*1 - G1	1475.4	92.2	812.9	2380.5
1 - G2	1271.4	77.1	646.3	1994.8
1 - G3	1467.8	92.2	238.1	1798.1
＜max 1－G2 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
1 - G1	1475.4	92.2	526.4	2094.0
*1 - G2	1271.4	77.1	795.6	2144.2
1 - G3	1467.8	92.2	511.9	2071.9
＜max 1－G3 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
1 - G1	1475.4	92.2	172.9	1740.5
1 - G2	1271.4	77.1	558.0	1906.5
*1 - G3	1467.8	92.2	938.8	2498.8
＜着目支点 2－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*2 - G1	3604.8	243.2	1544.8	5392.8
2 - G2	2851.4	208.1	1114.9	4174.5
2 - G3	3585.0	243.3	233.7	4062.0
＜着目支点 2－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
2 - G1	3604.8	243.2	952.3	4800.3
*2 - G2	2851.4	208.1	1463.3	4522.8
2 - G3	3585.0	243.3	844.6	4672.9
＜着目支点 2－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
2 - G1	3604.8	243.2	236.3	4084.2
2 - G2	2851.4	208.1	1001.1	4060.6
*2 - G3	3585.0	243.3	1657.2	5485.5
＜着目支点 3－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*3 - G1	3812.5	257.7	1629.7	5699.9
3 - G2	2916.3	213.0	1104.2	4233.5
3 - G3	3790.0	257.6	243.5	4291.1
＜着目支点 3－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
3 - G1	3812.5	257.7	1013.7	5083.9
*3 - G2	2916.3	213.0	1484.8	4614.1
3 - G3	3790.0	257.6	892.4	4940.0
＜着目支点 3－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
3 - G1	3812.5	257.7	249.2	4319.4
3 - G2	2916.3	213.0	1014.2	4143.5
*3 - G3	3790.0	257.6	1730.7	5778.3
＜着目支点 4－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*4 - G1	3950.5	267.4	1658.5	5876.4
4 - G2	3023.3	220.6	1119.7	4363.7
4 - G3	3926.4	267.3	257.0	4450.6
＜着目支点 4－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
4 - G1	3950.5	267.4	1034.2	5252.1
*4 - G2	3023.3	220.6	1499.9	4743.8
4 - G3	3926.4	267.3	911.5	5105.2
＜着目支点 4－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
4 - G1	3950.5	267.4	261.6	4479.6
4 - G2	3023.3	220.6	1028.7	4272.6
*4 - G3	3926.4	267.3	1756.0	5949.6

＜着目支点　5－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*5 - G1	3152.1	211.2	1505.7	4868.9
5 - G2	2500.6	183.4	1141.9	3825.9
5 - G3	3136.3	211.3	258.6	3606.2
＜着目支点　5－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
5 - G1	3152.1	211.2	919.6	4282.8
*5 - G2	2500.6	183.4	1454.0	4138.0
5 - G3	3136.3	211.3	817.3	4165.0
＜着目支点　5－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
5 - G1	3152.1	211.2	176.9	3540.1
5 - G2	2500.6	183.4	974.3	3658.3
*5 - G3	3136.3	211.3	1627.7	4975.4
＜着目支点　6－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*6 - G1	3418.6	229.9	1525.1	5173.6
6 - G2	2769.0	202.5	1170.6	4142.1
6 - G3	3398.1	229.9	288.9	3916.9
＜着目支点　6－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
6 - G1	3418.6	229.9	946.0	4594.5
*6 - G2	2769.0	202.5	1476.5	4447.9
6 - G3	3398.1	229.9	823.9	4451.9
＜着目支点　6－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
6 - G1	3418.6	229.9	209.9	3858.4
6 - G2	2769.0	202.5	1002.3	3973.8
*6 - G3	3398.1	229.9	1644.6	5272.6
＜着目支点　7－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*7 - G1	3158.7	211.6	1507.3	4877.7
7 - G2	2506.3	183.8	1142.6	3832.7
7 - G3	3141.7	211.7	258.5	3611.8
＜着目支点　7－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
7 - G1	3158.7	211.6	918.5	4288.9
*7 - G2	2506.3	183.8	1455.0	4145.2
7 - G3	3141.7	211.7	820.5	4173.9
＜着目支点　7－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
7 - G1	3158.7	211.6	177.1	3547.5
7 - G2	2506.3	183.8	975.2	3665.3
*7 - G3	3141.7	211.7	1629.4	4982.8
＜着目支点　8－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*8 - G1	3924.2	265.6	1656.0	5845.8
8 - G2	3008.6	219.6	1118.2	4346.3
8 - G3	3902.3	265.6	252.1	4420.0
＜着目支点　8－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
8 - G1	3924.2	265.6	1032.6	5222.3
*8 - G2	3008.6	219.6	1499.6	4727.7
8 - G3	3902.3	265.6	909.1	5077.0
＜着目支点　8－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
8 - G1	3924.2	265.6	257.2	4446.9
8 - G2	3008.6	219.6	1027.7	4255.9
*8 - G3	3902.3	265.6	1754.6	5922.5
＜着目支点　9－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*9 - G1	3908.7	264.5	1653.3	5826.5
9 - G2	2999.3	218.9	1116.3	4334.5
9 - G3	3884.1	264.3	249.7	4398.1
＜着目支点　9－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
9 - G1	3908.7	264.5	1023.5	5196.7
*9 - G2	2999.3	218.9	1498.6	4716.8
9 - G3	3884.1	264.3	913.1	5061.4
＜着目支点　9－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
9 - G1	3908.7	264.5	255.4	4428.5
9 - G2	2999.3	218.9	1027.3	4245.5
*9 - G3	3884.1	264.3	1750.5	5898.8

＜着目支点 10－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*10- G1	3201.8	214.7	1509.4	4925.8
10- G2	2547.4	186.7	1146.8	3880.9
10- G3	3185.0	214.8	265.1	3664.9
＜着目支点 10－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
10- G1	3201.8	214.7	924.6	4341.0
*10- G2	2547.4	186.7	1457.1	4191.2
10- G3	3185.0	214.8	819.4	4219.1
＜着目支点 10－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
10- G1	3201.8	214.7	183.9	3600.3
10- G2	2547.4	186.7	978.9	3713.0
*10- G3	3185.0	214.8	1631.2	5031.0
＜着目支点 11－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*11- G1	3266.9	219.2	1491.1	4977.3
11- G2	2617.6	191.7	1147.5	3956.7
11- G3	3249.8	219.4	278.8	3747.9
＜着目支点 11－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
11- G1	3266.9	219.2	914.2	4400.3
*11- G2	2617.6	191.7	1450.4	4259.7
11- G3	3249.8	219.4	807.9	4277.0
＜着目支点 11－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
11- G1	3266.9	219.2	199.7	3685.8
11- G2	2617.6	191.7	980.2	3789.5
*11- G3	3249.8	219.4	1613.3	5082.5
＜着目支点 12－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*12- G1	3762.7	254.3	1548.6	5565.6
12- G2	2963.2	216.0	1105.8	4285.0
12- G3	3738.2	254.1	259.5	4251.7
＜着目支点 12－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
12- G1	3762.7	254.3	950.6	4967.6
*12- G2	2963.2	216.0	1458.7	4637.9
12- G3	3738.2	254.1	852.0	4844.3
＜着目支点 12－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
12- G1	3762.7	254.3	264.4	4281.5
12- G2	2963.2	216.0	1008.1	4187.3
*12- G3	3738.2	254.1	1656.6	5648.8
＜着目支点 13－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*13- G1	1447.0	90.2	805.1	2342.3
13- G2	1245.6	75.3	640.8	1961.7
13- G3	1441.0	90.3	236.1	1767.4
＜着目支点 13－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
13- G1	1447.0	90.2	519.3	2056.5
*13- G2	1245.6	75.3	789.3	2110.2
13- G3	1441.0	90.3	508.7	2039.9
＜着目支点 13－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
13- G1	1447.0	90.2	171.0	1708.2
13- G2	1245.6	75.3	553.1	1874.0
*13- G3	1441.0	90.3	932.1	2463.3

BR1AT
□Without Impact (Rd＝Rd'＋Rds)

＜max 1－G1 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*1 - G1	1475.4	92.2	695.7	2263.3
1 - G2	1271.4	77.1	539.2	1887.7
1 - G3	1467.8	92.2	194.3	1754.3
＜max 1－G2 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
1 - G1	1475.4	92.2	450.1	2017.6
*1 - G2	1271.4	77.1	664.1	2012.7
1 - G3	1467.8	92.2	422.2	1982.2
＜max 1－G3 ＞	Dead Load	Snow Load	Live Load	D + L
Support No.	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
1 - G1	1475.4	92.2	141.5	1709.1
1 - G2	1271.4	77.1	462.8	1811.4
*1 - G3	1467.8	92.2	780.7	2340.7
＜着目支点 2－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*2 - G1	3604.8	243.2	1337.9	5185.8
2 - G2	2851.4	208.1	928.8	3988.3
2 - G3	3585.0	243.3	185.3	4013.6
＜着目支点 2－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
2 - G1	3604.8	243.2	820.8	4668.7
*2 - G2	2851.4	208.1	1221.6	4281.2
2 - G3	3585.0	243.3	694.9	4523.1
＜着目支点 2－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
2 - G1	3604.8	243.2	190.3	4038.3
2 - G2	2851.4	208.1	829.3	3888.8
*2 - G3	3585.0	243.3	1378.1	5206.4
＜着目支点 3－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*3 - G1	3812.5	257.7	1426.0	5496.2
3 - G2	2916.3	213.0	932.9	4062.2
3 - G3	3790.0	257.6	197.9	4245.6
＜着目支点 3－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
3 - G1	3812.5	257.7	883.4	4953.6
*3 - G2	2916.3	213.0	1252.0	4381.3
3 - G3	3790.0	257.6	743.7	4791.4
＜着目支点 3－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
3 - G1	3812.5	257.7	192.1	4262.3
3 - G2	2916.3	213.0	845.1	3974.4
*3 - G3	3790.0	257.6	1456.4	5504.1
＜着目支点 4－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*4 - G1	3950.5	267.4	1451.2	5669.2
4 - G2	3023.3	220.6	946.1	4190.0
4 - G3	3926.4	267.3	208.9	4402.6
＜着目支点 4－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
4 - G1	3950.5	267.4	901.7	5119.6
*4 - G2	3023.3	220.6	1264.9	4508.8
4 - G3	3926.4	267.3	759.4	4953.1
＜着目支点 4－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
4 - G1	3950.5	267.4	203.1	4421.1
4 - G2	3023.3	220.6	857.4	4101.3
*4 - G3	3926.4	267.3	1477.5	5671.2

＜着目支点　5－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*5 - G1	3152.1	211.2	1304.0	4667.2
5 - G2	2500.6	183.4	950.8	3634.8
5 - G3	3136.3	211.3	206.2	3553.8
＜着目支点　5－G2 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
5 - G1	3152.1	211.2	791.9	4155.1
*5 - G2	2500.6	183.4	1213.6	3897.6
5 - G3	3136.3	211.3	672.5	4020.2
＜着目支点　5－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
5 - G1	3152.1	211.2	136.9	3500.1
5 - G2	2500.6	183.4	805.6	3489.6
*5 - G3	3136.3	211.3	1354.9	4702.6
＜着目支点　6－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*6 - G1	3418.6	229.9	1321.8	4970.4
6 - G2	2769.0	202.5	976.1	3947.5
6 - G3	3398.1	229.9	232.4	3860.4
＜着目支点　6－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
6 - G1	3418.6	229.9	815.7	4464.2
*6 - G2	2769.0	202.5	1233.3	4204.8
6 - G3	3398.1	229.9	678.2	4306.2
＜着目支点　6－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
6 - G1	3418.6	229.9	167.5	3816.0
6 - G2	2769.0	202.5	830.4	3801.9
*6 - G3	3398.1	229.9	1369.1	4997.1
＜着目支点　7－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*7 - G1	3158.7	211.6	1305.4	4675.8
7 - G2	2506.3	183.8	951.4	3641.5
7 - G3	3141.7	211.7	206.1	3559.4
＜着目支点　7－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
7 - G1	3158.7	211.6	791.1	4161.4
*7 - G2	2506.3	183.8	1214.5	3904.6
7 - G3	3141.7	211.7	675.2	4028.5
＜着目支点　7－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
7 - G1	3158.7	211.6	137.1	3507.5
7 - G2	2506.3	183.8	806.3	3496.5
*7 - G3	3141.7	211.7	1356.3	4709.6
＜着目支点　8－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*8 - G1	3924.2	265.6	1449.0	5638.8
8 - G2	3008.6	219.6	944.8	4172.9
8 - G3	3902.3	265.6	204.8	4372.7
＜着目支点　8－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
8 - G1	3924.2	265.6	900.2	5089.9
*8 - G2	3008.6	219.6	1264.6	4492.8
8 - G3	3902.3	265.6	757.5	4925.3
＜着目支点　8－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
8 - G1	3924.2	265.6	199.1	4388.9
8 - G2	3008.6	219.6	856.6	4084.8
*8 - G3	3902.3	265.6	1476.4	5644.3
＜着目支点　9－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*9 - G1	3908.7	264.5	1446.7	5619.8
9 - G2	2999.3	218.9	943.2	4161.4
9 - G3	3884.1	264.3	202.9	4351.2
＜着目支点　9－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
9 - G1	3908.7	264.5	892.5	5065.6
*9 - G2	2999.3	218.9	1263.8	4482.0
9 - G3	3884.1	264.3	760.8	4909.2
＜着目支点　9－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
9 - G1	3908.7	264.5	197.5	4370.7
9 - G2	2999.3	218.9	856.3	4074.5
*9 - G3	3884.1	264.3	1472.9	5621.3

＜着目支点 10－G1 ＞	Dead Load	Snow Load	Live Load	D + L
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*10- G1	3201.8	214.7	1307.3	4723.7
10- G2	2547.4	186.7	955.0	3689.1
10- G3	3185.0	214.8	211.6	3611.4
＜着目支点 10－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
10- G1	3201.8	214.7	796.3	4212.7
*10- G2	2547.4	186.7	1216.3	3950.4
10- G3	3185.0	214.8	674.2	4073.9
＜着目支点 10－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
10- G1	3201.8	214.7	143.2	3559.6
10- G2	2547.4	186.7	809.6	3543.6
*10- G3	3185.0	214.8	1357.7	4757.4
＜着目支点 11－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*11- G1	3266.9	219.2	1291.7	4777.8
11- G2	2617.6	191.7	956.1	3765.3
11- G3	3249.8	219.4	224.3	3693.4
＜着目支点 11－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
11- G1	3266.9	219.2	787.4	4273.5
*11- G2	2617.6	191.7	1210.8	4020.1
11- G3	3249.8	219.4	665.1	4134.2
＜着目支点 11－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
11- G1	3266.9	219.2	158.5	3644.6
11- G2	2617.6	191.7	811.7	3620.9
*11- G3	3249.8	219.4	1342.8	4811.9
＜着目支点 12－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*12- G1	3762.7	254.3	1341.0	5358.0
12- G2	2963.2	216.0	921.4	4100.6
12- G3	3738.2	254.1	207.7	4200.0
＜着目支点 12－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
12- G1	3762.7	254.3	819.4	4836.4
*12- G2	2963.2	216.0	1217.7	4396.9
12- G3	3738.2	254.1	701.1	4693.3
＜着目支点 12－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
12- G1	3762.7	254.3	216.0	4233.1
12- G2	2963.2	216.0	836.0	4015.2
*12- G3	3738.2	254.1	1377.0	5369.3
＜着目支点 13－G1 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
*13- G1	1447.0	90.2	688.6	2225.8
13- G2	1245.6	75.3	534.4	1855.3
13- G3	1441.0	90.3	192.7	1723.9
＜着目支点 13－G2 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
13- G1	1447.0	90.2	443.7	1980.9
*13- G2	1245.6	75.3	658.7	1979.5
13- G3	1441.0	90.3	419.5	1950.7
＜着目支点 13－G3 ＞	死荷重	雪荷重	活荷重	死＋活荷重
支点位置	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
13- G1	1447.0	90.2	139.8	1677.0
13- G2	1245.6	75.3	458.6	1779.5
*13- G3	1441.0	90.3	774.9	2306.1

BR1 AT

□Reactions for Substructure Design (Rd＝Rd'＋Rds)

(Maximum of G1+G2+G3)

	Dead Load	Snow Load	Live Load	D + L
	Rd'[kN]	Rds[kN]	Rz[kN]	Rd＋Rz[kN]
1 (AB1)	4214.6	261.5	1651.7	6127.8
2 (P1)	10041.2	694.6	3029.0	13764.8
3 (P2)	10518.8	728.3	3178.5	14425.7
4 (P3)	10900.2	755.4	3226.9	14882.4
5 (P4)	8789.0	605.9	2965.7	12360.6
6 (P5)	9585.7	662.3	3015.0	13263.0
7 (P6)	8806.7	607.1	2968.4	12382.2
8 (P7)	10835.0	750.7	3222.9	14808.7
9 (P8)	10792.1	747.7	3217.6	14757.3
10 (P9)	8934.1	616.1	2974.3	12524.6
11 (P10)	9134.2	630.3	2950.9	12715.4
12 (P11)	10464.0	724.5	3032.4	14220.8
13 (AB2)	4133.6	255.7	1636.7	6026.0

Reactions (kN)
BR2-AT
AB1 with Impact

			G1	G2	G3	Total
Dead Load			1648.5702	1450.39174	1476.272144	4575.234085
Snow Load			102.7866892	89.95225202	91.54454928	284.2834905
Live Load	Max	G1	1035.319235	601.1611545	103.3705838	1739.850974
		G2	547.2932427	884.6635543	508.6420213	1940.598818
		G3	113.0641561	694.5091696	806.5906877	1614.164013
		G1+G2+G3	961.9374981	673.0459225	447.2367335	2082.220154
	min	G1	-186.2161232	-16.19811158	229.742477	27.32824218
		G2	-73.00112265	-105.4624446	-25.10976421	-203.5733314
		G3	288.5474803	0.017542002	-146.1936583	142.371364
		G1+G2+G3	-151.7909158	-94.62856324	-39.93720627	-286.3566853
D+S+L	Max	G1	2786.676125	2141.505147	1671.187277	6599.368549
		G2	2298.650132	2425.007546	2076.458715	6800.116394
		G3	1864.421046	2234.853162	2374.407381	6473.681589
		G1+G2+G3	2713.294388	2213.389915	2015.053427	6941.737729
	min	G1	1565.140766	1524.14588	1797.559171	4886.845817
		G2	1678.355767	1434.881547	1542.706929	4655.944244
		G3	2039.90437	1540.361534	1421.623035	5001.888939
		G1+G2+G3	1599.565974	1445.715429	1527.879487	4573.16089

Reactions (kN)
BR2-AT
P1 with Impact

			G1	G2	G3	Total
Dead Load			4601.843227	3713.13686	4519.142729	12834.12282
Snow Load			308.983951	270.5141341	306.299164	885.7972492
Live Load	Max	G1	1888.464756	1171.004283	237.9326061	3297.401645
		G2	1073.688167	1649.973067	951.2078171	3674.869051
		G3	272.2709166	1225.774207	1693.232671	3191.277795
		G1+G2+G3	1825.888513	1262.91722	925.6495161	4014.45525
	min	G1	-264.8693844	-2.491800934	711.8714233	444.510238
		G2	-32.10797743	-167.4300071	72.18606349	-127.3519211
		G3	790.4110931	100.4973763	-266.9238657	623.9846037
		G1+G2+G3	-188.7226385	-132.0745353	-84.98847237	-405.7856462
D+S+L	Max	G1	6799.291934	5154.655277	5063.374499	17017.32171
		G2	5984.515345	5633.624061	5776.64971	17394.78912
		G3	5183.098095	5209.425201	6518.674564	16911.19786
		G1+G2+G3	6736.715692	5246.568215	5751.091409	17734.37532
	min	G1	4645.957794	3981.159193	5537.313317	14164.4303
		G2	4878.719201	3816.220987	4897.627957	13592.56814
		G3	5701.238272	4084.14837	4558.518028	14343.90467
		G1+G2+G3	4722.10454	3851.576459	4740.453421	13314.13442

Reactions (kN)
BR2-AT
P2 with Impact

			G1	G2	G3	Total
Dead Load			4154.44099	3518.060827	4113.308031	11785.80985
Snow Load			277.8357514	256.9286956	277.7070442	812.4714912
Live Load	Max	G1	1866.697478	1172.05018	147.0077487	3185.755406
		G2	1045.786684	1687.330609	933.6029215	3666.720214
		G3	161.8478011	1250.066863	1679.458234	3091.372898
		G1+G2+G3	1790.180141	1301.4074	902.1370025	3993.724543
	min	G1	-369.3184815	-60.88176964	726.189847	295.9895959
		G2	-128.1815675	-263.4799276	27.03829423	-364.6232009
		G3	787.9626425	59.29873506	-367.4568582	479.8045194
		G1+G2+G3	-279.4916927	-229.3273086	-123.6706813	-632.4896825
D+S+L	Max	G1	6298.97422	4947.039702	4538.022824	15784.03675
		G2	5478.063426	5462.320131	5324.617996	16265.00155
		G3	4594.124543	5025.056385	6070.473309	15689.65424
		G1+G2+G3	6222.456883	5076.396922	5293.152077	16592.00588
	min	G1	4062.95826	3714.107753	5117.204922	12894.27093
		G2	4304.095174	3511.509595	4418.053369	12233.65814
		G3	5220.239384	3834.288257	4023.558217	13078.08586
		G1+G2+G3	4152.785049	3545.662214	4267.344394	11965.79166

Reactions (kN)
BR2-AT
P3 with Impact

			G1	G2	G3	Total
Dead Load			4333.518591	3479.223563	4253.102742	12065.8449
Snow Load			290.2913253	253.5793848	287.4784666	831.3491768
Live Load	Max	G1	1918.224184	1155.971913	188.2771169	3262.473214
		G2	1086.842174	1659.107389	976.0169657	3721.966529
		G3	212.4070387	1238.995683	1718.560238	3169.962959
		G1+G2+G3	1841.264395	1274.632604	936.1826536	4052.079652
	min	G1	-377.9305207	-47.08112474	709.4282397	284.4165943
		G2	-124.7846483	-237.7594303	8.965421971	-353.5786566
		G3	779.9221936	45.60931651	-374.2406201	451.2908899
		G1+G2+G3	-288.1560741	-203.1379005	-136.5746576	-627.8686322
D+S+L	Max	G1	6542.0341	4888.774861	4728.858325	16159.66729
		G2	5710.65209	5391.910337	5516.598174	16619.1606
		G3	4836.216954	4971.79863	6259.141446	16067.15703
		G1+G2+G3	6465.07431	5007.435551	5476.763862	16949.27372
	min	G1	4245.879395	3685.721823	5250.009448	13181.61067
		G2	4499.025268	3495.043518	4549.54663	12543.61542
		G3	5403.732109	3778.412264	4166.340588	13348.48496
		G1+G2+G3	4335.653842	3529.665047	4404.006551	12269.32544

Reactions (kN)
BR2-AT
P4 with Impact

			G1	G2	G3	Total
Dead Load			4143.421821	3532.74811	4106.588637	11782.75857
Snow Load			276.0659394	255.9496466	276.078255	808.093841
Live Load	Max	G1	1876.281068	1139.95385	134.7559404	3150.990858
		G2	1015.639434	1678.493218	974.6217768	3668.754429
		G3	156.3772537	1274.901709	1668.489298	3099.768261
		G1+G2+G3	1710.279425	1313.981656	963.2148985	3987.47598
	min	G1	-385.7784593	-20.68090368	737.9412247	331.4818617
		G2	-126.3754377	-256.4789003	11.57021396	-371.2841241
		G3	791.9811147	30.81460817	-365.4240371	457.3716858
		G1+G2+G3	-258.8435377	-220.1901231	-154.1328903	-633.1665511
D+S+L	Max	G1	6295.768828	4928.651607	4517.422833	15741.84327
		G2	5435.127194	5467.190975	5357.288669	16259.60684
		G3	4575.865014	5063.599465	6051.156191	15690.62067
		G1+G2+G3	6129.767186	5102.679412	5345.881791	16578.32839
	min	G1	4033.709301	3768.016853	5120.608117	12922.33427
		G2	4293.112323	3532.218856	4394.237106	12219.56829
		G3	5211.468875	3819.512365	4017.242855	13048.2241
		G1+G2+G3	4160.644223	3568.507633	4228.534002	11957.68586

Reactions (kN)
BR2-AT
P5 with Impact

Dead Load			4362.828508	3468.589699	4345.936635	12177.35484
Snow Load			290.4123051	249.3972202	291.8883798	831.697905
Live Load	Max	G1	1892.433109	1096.902386	189.294388	3178.629883
		G2	1015.604139	1604.444074	1023.244291	3643.292504
		G3	219.1975309	1237.679917	1681.456881	3138.334329
		G1+G2+G3	1448.635797	1309.994646	1207.998879	3966.629322
	min	G1	-356.4645111	4.648955758	721.4239046	369.6083492
		G2	-79.73188159	-209.5645194	7.383048526	-281.9133524
		G3	766.9127982	26.84220817	-329.5550498	464.1999566
		G1+G2+G3	-249.7172964	-173.6505605	-127.9131771	-551.281034
D+S+L	Max	G1	6545.673922	4814.889305	4827.119403	16187.68263
		G2	5668.844952	5322.430993	5661.069306	16652.34525
		G3	4872.438344	4955.666836	6319.281896	16147.38708
		G1+G2+G3	6101.876609	5027.981565	5845.823894	16975.68207
	min	G1	4296.776302	3722.635875	5359.248919	13378.6611
		G2	4573.508931	3508.422399	4645.208063	12727.13939
		G3	5420.153611	3744.829127	4308.269965	13473.2527
		G1+G2+G3	4403.523516	3544.336358	4509.911838	12457.77171

Reactions (kN)
BR2-AT
P6 with Impact

			G1	G2	G3	Total
Dead Load			3772.237701	2755.168096	3737.72358	10265.12938
Snow Load			249.5145794	199.1982267	249.3634038	698.0762099
Live Load	Max	G1	1832.85378	1002.266028	165.8191367	3000.938945
		G2	950.7289644	1496.315754	995.431239	3442.475957
		G3	220.1379867	1092.286969	1628.635272	2941.060228
		G1+G2+G3	1527.842693	1005.130351	1240.768674	3773.741719
	min	G1	-446.2343507	-60.01771927	624.9732035	118.7211336
		G2	-109.7681607	-248.0111206	-114.7945924	-472.5738738
		G3	662.8086151	-57.05088836	-421.6050408	184.152686
		G1+G2+G3	-335.3265711	-210.7341289	-201.4779612	-747.5386612
D+S+L	Max	G1	5854.60606	3956.632351	4152.90612	13964.14453
		G2	4972.481245	4450.682076	4982.518222	14405.68154
		G3	4241.890267	4046.653292	5615.722256	13904.26581
		G1+G2+G3	5549.594973	3959.496674	5227.855658	14736.94731
	min	G1	3575.51793	2894.348603	4612.060187	11081.92672
		G2	3911.98412	2706.355202	3872.292391	10490.63171
		G3	4684.560895	2897.315434	3565.481943	11147.35827
		G1+G2+G3	3686.425709	2743.632193	3785.609022	10215.66692

Reactions (kN)
BR2-AT
P7 with Impact

			G1	G2	G3	Total
Dead Load			3899.276315	2810.91721	3878.877406	10589.07093
Snow Load			258.2447652	203.2142178	259.1427749	720.6017578
Live Load	Max	G1	1841.613952	1004.345125	185.8693804	3031.828458
		G2	945.3741621	1495.587663	1018.394012	3459.355837
		G3	244.5293856	1093.53912	1643.761753	2981.830259
		G1+G2+G3	1614.789763	1068.953001	1111.031793	3794.774557
	min	G1	-426.0911541	-51.00936696	634.2978317	157.1973106
		G2	-86.28005877	-235.558114	-106.2250975	-428.0632703
		G3	668.0279774	-51.02261526	-404.2918111	212.713551
		G1+G2+G3	-288.8305188	-198.1516151	-220.6619234	-707.6440573
D+S+L	Max	G1	5999.135033	4018.476553	4323.889561	14341.50115
		G2	5102.895243	4509.719091	5156.414192	14769.02853
		G3	4402.050466	4107.670548	5781.781933	14291.50295
		G1+G2+G3	5772.310844	4083.084429	5249.051973	15104.44725
	min	G1	3731.429926	2963.122061	4772.318012	11466.87
		G2	4071.241022	2778.573314	4031.795083	10881.60942
		G3	4825.549058	2963.108813	3733.728369	11522.38624
		G1+G2+G3	3868.690562	2815.979813	3917.358257	10602.02863

Reactions (kN)
BR2-AT
P8 with Impact

			G1	G2	G3	Total
Dead Load			4086.600752	3300.134494	4017.450447	11404.18569
Snow Load			271.3848443	237.276846	268.996438	777.6581283
Live Load	Max	G1	1832.468141	1059.05252	149.1581608	3040.678822
		G2	929.3220563	1587.921309	1020.602748	3537.846113
		G3	192.1602878	1253.334556	1619.053562	3064.548406
		G1+G2+G3	1112.801553	1356.187899	1384.182402	3853.171855
	min	G1	-359.2508151	6.573504478	698.9164728	346.2391622
		G2	-6.141879974	-231.9229395	-95.81711137	-333.8819308
		G3	743.4355854	-8.52610436	-354.2788189	380.6306621
		G1+G2+G3	-153.6388313	-197.0266086	-241.5702194	-592.2356593
D+S+L	Max	G1	6190.453738	4596.46386	4435.605046	15222.52264
		G2	5287.307653	5125.332649	5307.049633	15719.68993
		G3	4550.145884	4790.745896	5905.500447	15246.39223
		G1+G2+G3	5470.78715	4893.599239	5670.629287	16035.01568
	min	G1	3998.734781	3543.984845	4985.363358	12528.08298
		G2	4351.843716	3305.488401	4190.629774	11847.96189
		G3	5101.421182	3528.885236	3932.168066	12562.47448
		G1+G2+G3	4204.346765	3340.384731	4044.876666	11589.60816

Reactions (kN)
BR2-AT
P9 with Impact

			G1	G2	G3	Total
Dead Load			3927.344978	3026.703221	3935.382536	10889.43074
Snow Load			260.3169313	217.9183132	263.1456944	741.3809389
Live Load	Max	G1	1823.571992	1043.56539	171.0380384	3038.175421
		G2	961.2289177	1536.302821	1006.564155	3504.095893
		G3	212.3324381	1140.343252	1649.403195	3002.078885
		G1+G2+G3	928.4495734	1325.429558	1576.836542	3830.715673
	min	G1	-385.8661069	-32.92471151	655.9660769	237.1752585
		G2	-63.24786434	-230.785253	-98.27689585	-392.3100132
		G3	699.5076241	-17.08439716	-396.0270169	286.39621
		G1+G2+G3	-173.9199743	-193.0289337	-295.3102011	-662.2591092
D+S+L	Max	G1	6011.233902	4288.186924	4369.566269	14668.9871
		G2	5148.890827	4780.924355	5205.092385	15134.90757
		G3	4399.994348	4384.964786	5847.931426	14632.89056
		G1+G2+G3	5116.111483	4570.051093	5775.364772	15461.52735
	min	G1	3801.795803	3211.696823	4854.494308	11867.98693
		G2	4124.414045	3013.836281	4100.251335	11238.50166
		G3	4887.169534	3227.537137	3802.501214	11917.20788
		G1+G2+G3	4013.741935	3051.592601	3903.21803	10968.55257

Reactions (kN)
BR2-AT
P10 with Impact

			G1	G2	G3	Total
Dead Load			4300.936093	3703.462427	4247.496545	12251.89507
Snow Load			285.8692938	266.1710485	284.7428623	836.7832046
Live Load	Max	G1	1867.082341	1111.862328	141.6373383	3120.582007
		G2	937.948078	1670.817281	1041.461294	3650.226653
		G3	179.7236564	1322.545889	1650.372784	3152.642329
		G1+G2+G3	1060.810306	1477.132645	1431.218851	3969.161802
	min	G1	-330.2270213	50.71723219	755.5453849	476.0355957
		G2	24.86194398	-218.8653087	-59.75790625	-253.7612709
		G3	799.6505073	28.08614445	-318.8467761	508.8898757
		G1+G2+G3	-120.8078385	-183.290719	-213.0703699	-517.1689273
D+S+L	Max	G1	6453.887728	5081.495803	4673.876746	16209.26028
		G2	5524.753465	5640.450756	5573.700702	16738.90492
		G3	4766.529044	5292.179364	6182.612192	16241.3206
		G1+G2+G3	5647.615694	5446.76612	5963.458258	17057.84007
	min	G1	4256.578366	4020.350707	5287.784792	13564.71387
		G2	4611.667331	3750.768166	4472.481501	12834.917
		G3	5386.455895	3997.71962	4213.392631	13597.56815
		G1+G2+G3	4465.997549	3786.342756	4319.169038	12571.50934

Reactions (kN)
BR2-AT
P11 with Impact

			G1	G2	G3	Total
Dead Load			3925.774769	3124.20372	3899.472201	10949.45069
Snow Load			260.0731654	224.5244197	260.5705166	745.1681017
Live Load	Max	G1	1813.417955	1033.116299	152.2117121	2998.745966
		G2	915.8120257	1551.858206	1013.716803	3481.387035
		G3	193.4079497	1200.621609	1603.804352	2997.833911
		G1+G2+G3	912.8972668	1346.691232	1536.246499	3795.834997
	min	G1	-374.2532972	-1.746383155	672.9916366	296.9919562
		G2	-18.59927778	-228.5988446	-109.0916708	-356.2897932
		G3	707.7505032	-21.03004748	-358.7564286	327.9640271
		G1+G2+G3	-157.805213	-193.8296948	-262.397268	-614.0321758
D+S+L	Max	G1	5999.265889	4381.844438	4312.254429	14693.36476
		G2	5101.65996	4900.586346	5173.75952	15176.00583
		G3	4379.255884	4549.349749	5763.847069	14692.4527
		G1+G2+G3	5098.745201	4695.419371	5696.289216	15490.45379
	min	G1	3811.594637	3346.981756	4833.034354	11991.61075
		G2	4167.248656	3120.129295	4050.951046	11338.329
		G3	4893.598437	3327.698092	3801.286289	12022.58282
		G1+G2+G3	4028.042721	3154.898445	3897.645449	11080.58661

Reactions (kN)
BR2-AT
P12 with Impact

			G1	G2	G3	Total
Dead Load			3988.59013	3099.07426	4031.357006	11119.0214
Snow Load			265.5898716	223.7818604	270.8683218	760.2400538
Live Load	Max	G1	1791.228939	1034.421915	180.6143579	3006.265212
		G2	934.3230412	1520.881556	983.2125678	3438.417165
		G3	220.6057625	1162.168071	1612.062369	2994.836202
		G1+G2+G3	920.6570335	1309.291728	1532.163963	3762.112725
	min	G1	-337.7343888	-6.186328329	674.608944	330.6882269
		G2	-36.81069151	-200.8113892	-40.56791469	-278.1899954
		G3	699.0773602	4.424124361	-335.2439418	368.2575427
		G1+G2+G3	-139.8020308	-163.2603994	-241.724347	-544.7867773
D+S+L	Max	G1	6045.40894	4357.278036	4482.839686	14885.52666
		G2	5188.503043	4843.737677	5285.437896	15317.67862
		G3	4474.785764	4485.024192	5914.287696	14874.09765
		G1+G2+G3	5174.837035	4632.147849	5834.389291	15641.37417
	min	G1	3916.445613	3316.669792	4976.834272	12209.94968
		G2	4217.36931	3122.044732	4261.657413	11601.07145
		G3	4953.257362	3327.280245	3966.981386	12247.51899
		G1+G2+G3	4114.377971	3159.595721	4060.500981	11334.47467

Reactions (kN)
BR2-AT
P13 with Impact

			G1	G2	G3	Total
Dead Load			3109.282524	2416.222671	3088.838156	8614.343351
Snow Load			205.5251246	179.3238744	205.6545132	590.5035122
Live Load	Max	G1	1708.142305	976.6449054	92.31523874	2777.102449
		G2	818.8692745	1524.355835	891.345105	3234.570215
		G3	123.2842028	1127.777823	1512.951994	2764.01402
		G1+G2+G3	867.1693487	1283.347076	1428.149784	3578.666209
	min	G1	-472.3749375	-116.0448749	582.0775242	-6.342288182
		G2	-89.03880433	-318.9317654	-188.490643	-596.4612128
		G3	610.9122605	-127.1017962	-458.8862451	24.92421914
		G1+G2+G3	-221.0805179	-281.2691226	-378.4391285	-880.7887691
D+S+L	Max	G1	5022.949954	3572.19145	3386.807908	11981.94931
		G2	4133.676923	4119.902381	4185.837775	12439.41708
		G3	3438.091852	3723.324368	4807.444664	11968.86088
		G1+G2+G3	4181.976998	3878.893621	4722.642454	12783.51307
	min	G1	2842.432711	2479.50167	3876.570194	9198.504575
		G2	3225.768845	2276.61478	3106.002027	8608.385651
		G3	3925.719909	2468.444749	2835.606424	9229.771083
		G1+G2+G3	3093.727131	2314.277422	2916.053541	8324.058095

Reactions (kN)
BR2-AT
P14 with Impact

			G1	G2	G3	Total
Dead Load			4499.508658	3462.4097	4502.775525	12464.69388
Snow Load			308.9416439	260.779013	310.9149197	880.6355766
Live Load	Max	G1	1941.493403	1095.545472	270.7331559	3307.772031
		G2	965.1581006	1671.153861	1054.465476	3690.777438
		G3	326.4627824	1202.062428	1773.812929	3302.338139
		G1+G2+G3	1114.305144	1305.456523	1656.559352	4076.321018
	min	G1	-285.8662182	9.008905343	729.7125265	452.8552137
		G2	52.23743686	-183.4167137	-7.002144717	-138.1814216
		G3	769.5787513	1.057147562	-269.5283757	501.1075231
		G1+G2+G3	-118.8721028	-143.0904534	-192.0886082	-454.0511645
D+S+L	Max	G1	6749.943705	4818.734185	5084.4236	16653.10149
		G2	5773.608403	5394.342574	5868.155921	17036.1069
		G3	5134.913085	4925.251141	6587.503373	16647.6676
		G1+G2+G3	5922.755446	5028.645236	6470.249796	17421.65048
	min	G1	4522.584084	3732.197619	5543.402971	13798.18467
		G2	4860.687739	3539.772	4806.6883	13207.14804
		G3	5578.029054	3724.245861	4544.162069	13846.43698
		G1+G2+G3	4689.5782	3580.09826	4621.601836	12891.2783

Reactions (kN)
BR2-AT
AB2 with Impact

			G1	G2	G3	Total
Dead Load			1998.315324	1713.578055	2051.772694	5763.666074
Snow Load			131.1605262	112.8312538	135.7208544	379.7126343
Live Load	Max	G1	1112.758891	652.0887186	177.3878693	1942.235478
		G2	598.6479759	955.6022481	614.5336401	2168.783864
		G3	199.8090026	738.7895059	984.6702004	1923.268709
		G1+G2+G3	669.3489577	789.9364827	867.4458757	2326.731316
	min	G1	-103.3462206	31.39342486	299.834994	227.8821982
		G2	0.168254265	-50.57947481	5.324757785	-45.08646276
		G3	302.8945447	34.94103045	-99.71023991	238.1253352
		G1+G2+G3	-53.22037795	-40.36840068	-44.03816255	-137.6269412
D+S+L	Max	G1	3242.234741	2478.498028	2364.881418	8085.614187
		G2	2728.123826	2782.011557	2802.027189	8312.162572
		G3	2329.284853	2565.198815	3172.163749	8066.647417
		G1+G2+G3	2798.824808	2616.345792	3054.939424	8470.110024
	min	G1	2026.12963	1857.802734	2487.328543	6371.260906
		G2	2129.644105	1775.829834	2192.818306	6098.292245
		G3	2432.370395	1861.35034	2087.783309	6381.504043
		G1+G2+G3	2076.255472	1786.040909	2143.455386	6005.751767

Reactions (kN)
BR2-AT
AB1 without Impact

			G1	G2	G3	Total
Dead Load			1648.5702	1450.39174	1476.272144	4575.234085
Snow Load			102.7866892	89.95225202	91.54454928	284.2834905
Live Load	Max	G1	869.1385215	503.3300282	84.65005024	1457.1186
		G2	456.8513404	744.7941115	435.2311094	1636.876561
		G3	91.82302298	584.4210569	690.9949439	1367.239024
		G1+G2+G3	804.3143406	566.6122216	389.4517917	1760.378354
	min	G1	-159.9696166	-12.11658148	206.9747722	34.88857422
		G2	-61.81642592	-90.69386853	-17.6417338	-170.1520283
		G3	242.4450561	-1.31300294	-125.2419082	115.8901449
		G1+G2+G3	-127.8160599	-80.89190014	-35.61691934	-244.3248793
D+S+L	Max	G1	2620.495411	2043.67402	1652.466744	6316.636175
		G2	2208.20823	2285.138104	2003.047803	6496.394136
		G3	1843.179913	2124.765049	2258.811638	6226.756599
		G1+G2+G3	2555.67123	2106.956214	1957.268485	6619.895929
	min	G1	1591.387273	1528.227411	1774.791466	4894.406149
		G2	1689.540464	1449.650124	1550.17496	4689.365547
		G3	1993.801946	1539.030989	1442.574785	4975.40772
		G1+G2+G3	1623.54083	1459.452092	1532.199774	4615.192696

Reactions (kN)
BR2-AT
P1 without Impact

			G1	G2	G3	Total
Dead Load			4601.843227	3713.13686	4519.142729	12834.12282
Snow Load			308.983951	270.5141341	306.299164	885.7972492
Live Load	Max	G1	1590.345025	985.8743912	197.4476983	2773.667115
		G2	899.0627178	1393.422362	822.4026441	3114.887724
		G3	222.7860938	1031.627748	1467.888976	2722.302817
		G1+G2+G3	1530.967683	1064.205781	822.4985946	3417.672059
	min	G1	-229.8689221	-1.683478262	642.5391752	410.9867748
		G2	-28.06417198	-145.0618294	78.95551362	-94.17048777
		G3	666.364665	83.70656255	-228.4294944	521.6417331
		G1+G2+G3	-158.9029741	-112.3834355	-74.83075841	-346.1171681
D+S+L	Max	G1	6501.172204	4969.525385	5022.889592	16493.58718
		G2	5809.889896	5377.073356	5647.844537	16834.80779
		G3	5133.613272	5015.278742	6293.330869	16442.22288
		G1+G2+G3	6441.794862	5047.856775	5647.940488	17137.59212
	min	G1	4680.958256	3981.967516	5467.981068	14130.90684
		G2	4882.763007	3838.589165	4904.397407	13625.74958
		G3	5577.191843	4067.357557	4597.012399	14241.5618
		G1+G2+G3	4751.924204	3871.267559	4750.611135	13373.8029

Reactions (kN)
BR2-AT
P2 without Impact

			G1	G2	G3	Total
Dead Load			4154.44099	3518.060827	4113.308031	11785.80985
Snow Load			277.8357514	256.9286956	277.7070442	812.4714912
Live Load	Max	G1	1581.066595	990.1877817	118.9127648	2690.167142
		G2	879.7430878	1431.861894	811.377784	3122.982766
		G3	131.3191669	1059.418587	1462.461537	2653.199291
		G1+G2+G3	1508.568355	1102.598942	804.89161	3416.058907
	min	G1	-317.1561199	-49.06027604	656.178081	289.9616851
		G2	-106.3809735	-226.1728406	37.7007381	-294.853076
		G3	668.743024	49.28916486	-315.5096908	402.522498
		G1+G2+G3	-233.396942	-194.5438781	-109.9516938	-537.8925138
D+S+L	Max	G1	6013.343337	4765.177304	4509.92784	15288.44848
		G2	5312.01983	5206.851416	5202.392859	15721.2641
		G3	4563.595909	4834.408109	5853.476612	15251.48063
		G1+G2+G3	5940.845097	4877.588464	5195.906685	16014.34025
	min	G1	4115.120622	3725.929246	5047.193156	12888.24302
		G2	4325.895768	3548.816682	4428.715813	12303.42826
		G3	5101.019766	3824.278687	4075.505384	13000.80384
		G1+G2+G3	4198.8798	3580.445644	4281.063381	12060.38883

Reactions (kN)
BR2-AT
P3 without Impact

			G1	G2	G3	Total
Dead Load			4333.518591	3479.223563	4253.102742	12065.8449
Snow Load			290.2913253	253.5793848	287.4784666	831.3491768
Live Load	Max	G1	1624.461111	976.4458388	153.4900124	2754.396962
		G2	914.012962	1407.992686	848.3683862	3170.374035
		G3	173.3428854	1049.891965	1496.613174	2719.848024
		G1+G2+G3	1551.332028	1079.974151	834.7318294	3466.038009
	min	G1	-326.0436695	-38.17755761	642.8885144	278.6672873
		G2	-104.8535083	-205.3479067	21.86907125	-288.3323437
		G3	661.4396005	37.04632524	-322.3708489	376.1150768
		G1+G2+G3	-242.0741785	-173.3411311	-121.3399061	-536.7552157
D+S+L	Max	G1	6248.271026	4709.248787	4694.071221	15651.59103
		G2	5537.822878	5140.795634	5388.949594	16067.56811
		G3	4797.152801	4782.694913	6037.194382	15617.0421
		G1+G2+G3	6175.141944	4812.777099	5375.313038	16363.23208
	min	G1	4297.766246	3694.62539	5183.469723	13175.86136
		G2	4518.956408	3527.455041	4562.450279	12608.86173
		G3	5285.249516	3769.849273	4218.210359	13273.30915
		G1+G2+G3	4381.735737	3559.461817	4419.241302	12360.43886

Reactions (kN)
BR2-AT
P4 without Impact

			G1	G2	G3	Total
Dead Load			4143.421821	3532.74811	4106.588637	11782.75857
Snow Load			276.0659394	255.9496466	276.078255	808.093841
Live Load	Max	G1	1589.216906	962.3777773	108.1950866	2659.78977
		G2	853.2240328	1425.301124	847.5304951	3126.055652
		G3	125.4925996	1081.160789	1453.52977	2660.18316
		G1+G2+G3	1440.0777	1114.195532	856.8816097	3411.154842
	min	G1	-333.1460665	-14.9156453	666.2894316	318.2277198
		G2	-105.8861617	-221.6582883	23.0385046	-304.5059454
		G3	671.877762	24.01769547	-314.9231488	380.9723087
		G1+G2+G3	-217.0405383	-188.2699086	-136.2016264	-541.5120732
D+S+L	Max	G1	6008.704666	4751.075534	4490.861979	15250.64218
		G2	5272.711793	5213.99888	5230.197387	15716.90806
		G3	4544.98036	4869.858546	5836.196663	15251.03557
		G1+G2+G3	5859.565461	4902.893289	5239.548502	16002.00725
	min	G1	4086.341694	3773.782111	5048.956324	12909.08013
		G2	4313.601599	3567.039468	4405.705397	12286.34646
		G3	5091.365523	3812.715452	4067.743743	12971.82472
		G1+G2+G3	4202.447222	3600.427848	4246.465266	12049.34034

Reactions (kN)
BR2-AT
P5 without Impact

			G1	G2	G3	Total
Dead Load			4362.828508	3468.589699	4345.936635	12177.35484
Snow Load			290.4123051	249.3972202	291.8883798	831.697905
Live Load	Max	G1	1602.772647	926.6479855	155.6986197	2685.119252
		G2	853.2605335	1362.871985	889.2480279	3105.380546
		G3	179.0095488	1049.977933	1465.476566	2694.464047
		G1+G2+G3	1218.576699	1110.977853	1065.071234	3394.625786
	min	G1	-307.6608423	6.950771929	653.4496029	352.7395326
		G2	-66.04872113	-181.1373698	21.33425282	-225.8518381
		G3	650.7589884	21.54847369	-282.8592056	389.4482565
		G1+G2+G3	-208.8723958	-147.9704658	-112.5883102	-469.4311718
D+S+L	Max	G1	6256.01346	4644.634904	4793.523634	15694.172
		G2	5506.501346	5080.858904	5527.073043	16114.43329
		G3	4832.250362	4767.964852	6103.30158	15703.51679
		G1+G2+G3	5871.817512	4828.964772	5702.896248	16403.67853
	min	G1	4345.579971	3724.937691	5291.274618	13361.79228
		G2	4587.192092	3536.849549	4659.159267	12783.20091
		G3	5303.999801	3739.535393	4354.965809	13398.501
		G1+G2+G3	4444.368417	3570.016453	4525.236704	12539.62157

Reactions (kN)
BR2-AT
P6 without Impact

			G1	G2	G3	Total
Dead Load			3772.237701	2755.168096	3737.72358	10265.12938
Snow Load			249.5145794	199.1982267	249.3634038	698.0762099
Live Load	Max	G1	1544.284765	836.4694078	132.3079124	2513.062085
		G2	794.3656607	1260.054143	858.3711977	2912.791001
		G3	178.4630194	920.56697	1412.34193	2511.37192
		G1+G2+G3	1275.657868	846.131494	1086.954778	3208.74414
	min	G1	-383.4680704	-50.03193943	566.0499411	132.5499312
		G2	-92.91941549	-214.6816479	-85.17216488	-392.7732283
		G3	558.1559015	-51.12273928	-363.7744651	143.2586972
		G1+G2+G3	-281.410602	-180.530076	-177.9096279	-639.8503059
D+S+L	Max	G1	5566.037046	3790.83573	4119.394896	13476.26767
		G2	4816.117941	4214.420465	4845.458181	13875.99659
		G3	4200.2153	3874.933292	5399.428914	13474.57751
		G1+G2+G3	5297.410148	3800.497816	5074.041762	14171.94973
	min	G1	3638.28421	2904.334383	4553.136925	11095.75552
		G2	3928.832865	2739.684674	3901.914819	10570.43236
		G3	4579.908182	2903.243583	3623.312518	11106.46428
		G1+G2+G3	3740.341678	2773.836246	3809.177355	10323.35528

Reactions (kN)
BR2-AT
P7 without Impact

			G1	G2	G3	Total
Dead Load			3899.276315	2810.91721	3878.877406	10589.07093
Snow Load			258.2447652	203.2142178	259.1427749	720.6017578
Live Load	Max	G1	1551.74746	838.1723253	150.7810021	2540.700787
		G2	789.8119115	1259.376267	878.0765208	2927.264699
		G3	199.4678291	921.7041826	1425.754319	2546.92633
		G1+G2+G3	1360.974832	905.0008426	961.1933754	3227.16905
	min	G1	-365.8159053	-42.19794464	574.67898	166.6651301
		G2	-72.77220493	-203.6757098	-76.66086551	-353.1087803
		G3	562.6597761	-45.53158253	-348.0257457	169.1024478
		G1+G2+G3	-241.6186415	-169.3721693	-193.3017073	-604.292518
D+S+L	Max	G1	5709.268541	3852.303753	4288.801182	13850.37348
		G2	4947.332992	4273.507695	5016.096701	14236.93739
		G3	4356.98891	3935.835611	5563.774499	13856.59902
		G1+G2+G3	5518.495913	3919.132271	5099.213556	14536.84174
	min	G1	3791.705175	2971.933483	4712.69916	11476.33782
		G2	4084.748876	2810.455718	4061.359315	10956.56391
		G3	4720.180857	2968.599846	3789.994435	11478.77514
		G1+G2+G3	3915.902439	2844.759259	3944.718473	10705.38017

Reactions (kN)
BR2-AT
P8 without Impact

			G1	G2	G3	Total
Dead Load			4086.600752	3300.134494	4017.450447	11404.18569
Snow Load			271.3848443	237.276846	268.996438	777.6581283
Live Load	Max	G1	1546.596974	890.4112653	120.8916154	2557.899855
		G2	777.2577354	1343.721481	883.3068344	3004.286051
		G3	159.498405	1051.619557	1407.391102	2618.509064
		G1+G2+G3	930.4799217	1145.768712	1209.427914	3285.676547
	min	G1	-309.6055398	8.460340119	630.7713604	329.6261607
		G2	-4.087891356	-200.3155441	-67.59307571	-271.9965112
		G3	628.4797991	-9.364696868	-304.2085992	314.906503
		G1+G2+G3	-127.3918289	-168.2086492	-209.3079476	-504.9084257
D+S+L	Max	G1	5904.582571	4427.822605	4407.3385	14739.74368
		G2	5135.243332	4881.132821	5169.753719	15186.12987
		G3	4517.484001	4589.030897	5693.837987	14800.35289
		G1+G2+G3	5288.465518	4683.180052	5495.874799	15467.52037
	min	G1	4048.380056	3545.87168	4917.218245	12511.46998
		G2	4353.897705	3337.095796	4218.853809	11909.84731
		G3	4986.465395	3528.046643	3982.238286	12496.75032
		G1+G2+G3	4230.593767	3369.202691	4077.138937	11676.9354

Reactions (kN)
BR2-AT
P9 without Impact

			G1	G2	G3	Total
Dead Load			3927.344978	3026.703221	3935.382536	10889.43074
Snow Load			260.3169313	217.9183132	263.1456944	741.3809389
Live Load	Max	G1	1538.876407	876.7620053	136.6414554	2552.279867
		G2	804.4979447	1299.264927	870.7054143	2974.468286
		G3	172.2920985	964.0429747	1433.563043	2569.898116
		G1+G2+G3	776.0817518	1118.659817	1371.463526	3266.205094
	min	G1	-332.6688794	-26.33486986	594.8524899	235.8487406
		G2	-53.12486631	-200.0530106	-70.35791316	-323.5357901
		G3	590.9300607	-17.08824461	-341.4516119	232.3902041
		G1+G2+G3	-145.2015198	-165.4098267	-256.5432083	-567.1545548
D+S+L	Max	G1	5726.538316	4121.38354	4335.169686	14183.09154
		G2	4992.159854	4543.886461	5069.233645	14605.27996
		G3	4359.954008	4208.664509	5632.091273	14200.70979
		G1+G2+G3	4963.743661	4363.281351	5569.991756	14897.01677
	min	G1	3854.99303	3218.286664	4793.380721	11866.66042
		G2	4134.537043	3044.568524	4128.170318	11307.27588
		G3	4778.59197	3227.53329	3857.076619	11863.20188
		G1+G2+G3	4042.46039	3079.211708	3941.985022	11063.65712

Reactions (kN)
BR2-AT
P10 without Impact

			G1	G2	G3	Total
Dead Load			4300.936093	3703.462427	4247.496545	12251.89507
Snow Load			285.8692938	266.1710485	284.7428623	836.7832046
Live Load	Max	G1	1581.316246	938.9324973	115.5604168	2635.80916
		G2	787.1150486	1419.937669	904.684992	3111.73771
		G3	145.4249624	1122.881413	1438.638002	2706.944377
		G1+G2+G3	890.1299252	1253.348504	1253.371995	3396.850424
	min	G1	-284.94678	47.5510368	681.9721806	444.5764375
		G2	22.91738789	-188.6145497	-35.13074123	-200.8279031
		G3	678.7008581	22.77354481	-273.0169989	428.457404
		G1+G2+G3	-99.48617227	-155.8148673	-183.6518089	-438.9528485
D+S+L	Max	G1	6168.121633	4908.565972	4647.799824	15724.48743
		G2	5373.920436	5389.571144	5436.9244	16200.41598
		G3	4732.23035	5092.514888	5970.877409	15795.62265
		G1+G2+G3	5476.935312	5222.981979	5785.611402	16485.52869
	min	G1	4301.858607	4017.184512	5214.211588	13533.25471
		G2	4609.722775	3781.018925	4497.108666	12887.85037
		G3	5265.506245	3992.40702	4259.222409	13517.13567
		G1+G2+G3	4487.319215	3813.818608	4348.587599	12649.72542

Reactions (kN)
BR2-AT
P11 without Impact

			G1	G2	G3	Total
Dead Load			3925.774769	3124.20372	3899.472201	10949.45069
Snow Load			260.0731654	224.5244197	260.5705166	745.1681017
Live Load	Max	G1	1530.257172	868.065572	122.0151417	2520.337886
		G2	765.9131747	1312.906941	876.6175716	2955.437688
		G3	156.3255589	1015.751756	1393.760378	2565.837694
		G1+G2+G3	762.6134815	1137.324001	1335.874433	3235.811915
	min	G1	-322.5660157	0.938629937	608.0654876	286.4381019
		G2	-14.91547899	-197.7606767	-79.42787215	-292.1040279
		G3	598.0477478	-20.1806974	-308.5618087	269.3052417
		G1+G2+G3	-131.2465857	-165.7926562	-227.3626088	-524.4018508
D+S+L	Max	G1	5716.105106	4216.793712	4282.057859	14214.95668
		G2	4951.761109	4661.635081	5036.660289	14650.05648
		G3	4342.173493	4364.479896	5553.803095	14260.45648
		G1+G2+G3	4948.461415	4486.052141	5495.91715	14930.43071
	min	G1	3863.281918	3349.66677	4768.108205	11981.05689
		G2	4170.932455	3150.967463	4080.614845	11402.51476
		G3	4783.895682	3328.547442	3851.480908	11963.92403
		G1+G2+G3	4054.601348	3182.935483	3932.680108	11170.21694

Reactions (kN)
BR2-AT
P12 without Impact

			G1	G2	G3	Total
Dead Load			3988.59013	3099.07426	4031.357006	11119.0214
Snow Load			265.5898716	223.7818604	270.8683218	760.2400538
Live Load	Max	G1	1504.479243	866.1564959	146.441391	2517.07713
		G2	778.5278027	1280.390899	846.2306628	2905.149364
		G3	178.6614667	976.5818292	1394.33618	2549.579476
		G1+G2+G3	765.941687	1100.000363	1327.285306	3193.227356
	min	G1	-290.5013691	-3.891930161	607.7243394	313.3310401
		G2	-30.79916193	-173.45354	-19.0103955	-223.2630975
		G3	588.0945958	1.776487174	-286.9664281	302.904655
		G1+G2+G3	-115.9812005	-139.0368473	-208.4365896	-463.4546374
D+S+L	Max	G1	5758.659244	4189.012617	4448.666719	14396.33858
		G2	5032.707804	4603.24702	5148.455991	14784.41081
		G3	4432.841468	4299.43795	5696.561508	14428.84093
		G1+G2+G3	5020.121688	4422.856484	5629.510634	15072.48881
	min	G1	3963.678632	3318.964191	4909.949667	12192.59249
		G2	4223.38084	3149.402581	4283.214932	11655.99835
		G3	4842.274597	3324.632608	4015.2589	12182.16611
		G1+G2+G3	4138.198801	3183.819273	4093.788738	11415.80681

Reactions (kN)
BR2-AT
P13 without Impact

			G1	G2	G3	Total
Dead Load			3109.282524	2416.222671	3088.838156	8614.343351
Snow Load			205.5251246	179.3238744	205.6545132	590.5035122
Live Load	Max	G1	1425.887445	808.5913429	67.76894261	2302.24773
		G2	679.1800322	1269.665201	760.6837115	2709.528945
		G3	96.59018247	940.6674456	1300.523863	2337.781491
		G1+G2+G3	718.1901739	1066.888329	1228.848041	3013.926544
	min	G1	-403.2491642	-98.85172954	521.5278963	19.42700249
		G2	-76.48733573	-274.4370234	-147.6455779	-498.569937
		G3	509.1633539	-111.0622095	-394.7610227	3.340121701
		G1+G2+G3	-184.2902093	-240.1489288	-327.3922108	-751.8313489
D+S+L	Max	G1	4740.695094	3404.137888	3362.261612	11507.09459
		G2	3993.987681	3865.211746	4055.176381	11914.37581
		G3	3411.397831	3536.213991	4595.016532	11542.62835
		G1+G2+G3	4032.997823	3662.434874	4523.340711	12218.77341
	min	G1	2911.558485	2496.694815	3816.020566	9224.273866
		G2	3238.320313	2321.109522	3146.847092	8706.276927
		G3	3823.971003	2484.484335	2899.731647	9208.186985
		G1+G2+G3	3130.51744	2355.397616	2967.100459	8453.015515

Reactions (kN)
BR2-AT
P14 without Impact

			G1	G2	G3	Total
Dead Load			4499.508658	3462.4097	4502.775525	12464.69388
Snow Load			308.9416439	260.779013	310.9149197	880.6355766
Live Load	Max	G1	1632.868115	919.3672059	224.4058817	2776.641203
		G2	808.5136653	1402.024559	907.9444707	3118.482695
		G3	269.6108582	1010.191328	1532.780729	2812.582915
		G1+G2+G3	929.2254756	1098.579265	1435.060458	3462.865198
	min	G1	-245.3816709	8.27484576	653.1621204	416.0552953
		G2	42.58183584	-157.9137316	12.45760303	-102.8742927
		G3	644.8694658	-0.069189735	-229.8021017	414.9981743
		G1+G2+G3	-98.67156096	-121.1541491	-164.7227258	-384.5484358
D+S+L	Max	G1	6441.318418	4642.555919	5038.096326	16121.97066
		G2	5616.963968	5125.213272	5721.634915	16463.81215
		G3	5078.061161	4733.380041	6346.471174	16157.91238
		G1+G2+G3	5737.675778	4821.767978	6248.750902	16808.19466
	min	G1	4563.068631	3731.463559	5466.852565	13761.38476
		G2	4851.032138	3565.274982	4826.148047	13242.45517
		G3	5453.319768	3723.119524	4583.888343	13760.32763
		G1+G2+G3	4709.778741	3602.034564	4648.967719	12960.78102

Reactions (kN)
BR2-AT
AB2 without Impact

			G1	G2	G3	Total
Dead Load			1998.315324	1713.578055	2051.772694	5763.666074
Snow Load			131.1605262	112.8312538	135.7208544	379.7126343
Live Load	Max	G1	941.6785272	551.472922	149.4629874	1642.614437
		G2	504.094961	810.6204624	528.8656139	1843.581037
		G3	166.695132	626.5442958	848.7310973	1641.970525
		G1+G2+G3	563.5414248	669.6500942	749.6348669	1982.826386
	min	G1	-88.56487114	28.63595755	269.7515709	209.8226573
		G2	1.351036073	-43.02137239	11.31731569	-30.35302063
		G3	448.9040999	94.07309644	-83.99630864	458.9808877
		G1+G2+G3	-43.40137024	-33.58177699	-37.27436413	-114.2575114
D+S+L	Max	G1	3071.154378	2377.882231	2336.956536	7785.993145
		G2	2633.570811	2637.029772	2716.359163	7986.959745
		G3	2296.170982	2452.953605	3036.224646	7785.349233
		G1+G2+G3	2693.017275	2496.059403	2937.128415	8126.205094
	min	G1	2040.910979	1855.045267	2457.245119	6353.201365
		G2	2130.826886	1783.387937	2198.810864	6113.025688
		G3	2578.37995	1920.482406	2103.49724	6602.359596
		G1+G2+G3	2086.07448	1792.827532	2150.219184	6029.121197

Reactions (kN)
BR2-TA
AB1 with Impact

			G1	G2	G3	Total
Dead Load			1537.832045	1247.155537	1326.274677	4111.262259
Snow Load			94.58486317	75.37161889	85.16754288	255.1240249
Live Load	Max	G1	872.7707944	656.3105226	139.5892593	1668.670576
		G2	554.2262055	821.6770259	500.3955283	1876.29876
		G3	108.038773	558.781816	941.0379522	1607.858541
		G1+G2+G3	848.15629	703.0843165	469.4057341	2020.646341
	min	G1	-171.1015655	-18.92419088	208.8744823	18.84872593
		G2	-45.37860493	-94.51974878	-54.55547408	-194.4538278
		G3	266.1942097	-10.9385448	-160.5287199	94.72694504
		G1+G2+G3	-140.6134948	-81.27284061	-60.98963237	-282.8759678
D+S+L	Max	G1	2505.187702	1978.837678	1551.03148	6035.05686
		G2	2186.643113	2144.204182	1911.837749	6242.685044
		G3	1740.455681	1881.308972	2352.480173	5974.244825
		G1+G2+G3	2480.573198	2025.611472	1880.847954	6387.032625
	min	G1	1461.315342	1303.602965	1620.316703	4385.23501
		G2	1587.038303	1228.007407	1356.886746	4171.932456
		G3	1898.611117	1311.588611	1250.9135	4461.113229
		G1+G2+G3	1491.803413	1241.254315	1350.452588	4083.510316

Reactions (kN)
BR2-TA
P1 with Impact

			G1	G2	G3	Total
Dead Load			4123.591298	3172.547953	4031.290392	11327.42964
Snow Load			274.3417505	231.5149336	274.0223087	779.8789928
Live Load	Max	G1	1661.151715	1251.066409	265.0889933	3177.307117
		G2	1087.163002	1564.626817	846.2358238	3498.025643
		G3	209.4980538	1001.86268	1800.370873	3011.731606
		G1+G2+G3	1617.534399	1340.065074	894.1253359	3851.724809
	min	G1	-265.2075532	-42.67116121	675.3613563	367.4826419
		G2	-34.19197249	-185.5690873	60.26664821	-159.4944115
		G3	749.5352808	64.8515121	-305.1346955	509.2520974
		G1+G2+G3	-198.556198	-148.7696167	-112.3338045	-459.6596191
D+S+L	Max	G1	6059.084763	4655.129296	4570.401694	15284.61575
		G2	5485.096051	4968.689703	5151.548525	15605.33428
		G3	4607.431102	4405.925566	6105.683574	15119.04024
		G1+G2+G3	6015.467447	4744.12796	5199.438037	15959.03344
	min	G1	4132.725495	3361.391725	4980.674057	12474.79128
		G2	4363.741076	3218.493799	4365.579349	11947.81422
		G3	5147.468329	3468.914399	4000.178006	12616.56073
		G1+G2+G3	4199.37685	3255.29327	4192.978897	11647.64902

Reactions (kN)
BR2-TA
P2 with Impact

			G1	G2	G3	Total
Dead Load			4067.753369	3244.273834	3957.392791	11269.41999
Snow Load			270.3824996	236.9505019	268.6900126	776.0230141
Live Load	Max	G1	1720.89078	1300.504369	200.4974617	3221.89261
		G2	1125.820667	1626.790112	869.9868084	3622.597588
		G3	153.5475	1025.354842	1842.833929	3021.736271
		G1+G2+G3	1667.05398	1401.153282	904.5830292	3972.790291
	min	G1	-354.678527	-62.16883421	708.6711402	291.8237789
		G2	-105.7359266	-240.2371249	21.3076856	-324.6653659
		G3	783.4289086	50.81675347	-377.3650548	456.8806073
		G1+G2+G3	-274.4666689	-203.7041848	-140.8623329	-619.0331866
D+S+L	Max	G1	6059.026649	4781.728705	4426.580265	15267.33562
		G2	5463.956536	5108.014448	5096.069612	15668.0406
		G3	4491.683369	4506.579177	6068.916732	15067.17928
		G1+G2+G3	6005.189849	4882.377618	5130.665833	16018.2333
	min	G1	3983.457342	3419.055501	4934.753944	12337.26679
		G2	4232.399942	3240.987211	4247.390489	11720.77764
		G3	5121.564778	3532.041089	3848.717749	12502.32362
		G1+G2+G3	4063.6692	3277.520151	4085.22047	11426.40982

Reactions (kN)
BR2-TA
P3 with Impact

			G1	G2	G3	Total
Dead Load			4414.454291	3497.005713	4317.493558	12228.95356
Snow Load			294.1302155	254.7651511	293.9562579	842.8516245
Live Load	Max	G1	1802.116562	1350.818491	226.174875	3379.109928
		G2	1196.97382	1670.761417	919.6424084	3787.377646
		G3	185.918068	1061.766758	1925.393698	3173.078523
		G1+G2+G3	1746.268305	1444.166481	953.3633871	4143.798173
	min	G1	-346.2436398	-46.52439235	752.4438692	359.675837
		G2	-86.10894613	-230.2432193	21.66382034	-294.6883451
		G3	822.6046081	67.00615591	-380.0219287	509.5888354
		G1+G2+G3	-259.4596346	-192.8059293	-144.9783266	-597.2438905
D+S+L	Max	G1	6510.701069	5102.589355	4837.624691	16450.91511
		G2	5905.558327	5422.532281	5531.092224	16859.18283
		G3	4894.502575	4813.537622	6536.843514	16244.88371
		G1+G2+G3	6454.852812	5195.937345	5564.813203	17215.60336
	min	G1	4362.340867	3705.246472	5363.893685	13431.48102
		G2	4622.475561	3521.527645	4633.113636	12777.11684
		G3	5531.189115	3818.77702	4231.427887	13581.39402
		G1+G2+G3	4449.124872	3558.964935	4466.471489	12474.5613

Reactions (kN)
BR2-TA
P4 with Impact

			G1	G2	G3	Total
Dead Load			4177.617784	3468.454604	4091.775665	11737.84805
Snow Load			276.7577058	251.3591012	276.8017115	804.9185184
Live Load	Max	G1	1766.595363	1326.382902	168.0639946	3261.042259
		G2	1134.617854	1679.870641	912.527671	3727.016165
		G3	124.9799327	1077.647555	1879.269312	3081.896799
		G1+G2+G3	1698.877663	1458.631865	919.3102087	4076.819737
	min	G1	-381.8520854	-31.50427294	771.1852192	357.8288609
		G2	-96.79398119	-259.4845545	9.512959163	-346.7655765
		G3	833.9827348	40.23040807	-391.4131496	482.7999932
		G1+G2+G3	-281.4553726	-221.9849709	-141.1850596	-644.6254031
D+S+L	Max	G1	6220.970853	5046.196607	4536.641371	15803.80883
		G2	5588.993344	5399.684346	5281.105048	16269.78274
		G3	4579.355423	4797.46126	6247.846689	15624.66337
		G1+G2+G3	6153.253154	5178.44557	5287.887585	16619.58631
	min	G1	4072.523405	3688.309432	5139.762596	12900.59543
		G2	4357.581509	3460.329151	4378.090336	12196.001
		G3	5288.358225	3760.044113	3977.164227	13025.56656
		G1+G2+G3	4172.920118	3497.828734	4227.392317	11898.14117

Reactions (kN)
BR2-TA
P5 with Impact

			G1	G2	G3	Total
Dead Load			4443.428816	3433.38744	4325.040158	12201.85641
Snow Load			294.3343546	246.9804877	292.1038514	833.4186937
Live Load	Max	G1	1808.123045	1220.338385	232.6219331	3261.083362
		G2	1114.028524	1609.00619	992.9923122	3716.027026
		G3	183.134296	1084.512946	1885.825589	3153.472831
		G1+G2+G3	1515.310105	1403.758483	1153.173836	4072.242425
	min	G1	-362.9733655	13.61921433	759.695453	410.3413018
		G2	-40.92012877	-211.1791019	-9.529562281	-261.6287929
		G3	819.5425409	21.12333067	-346.8771665	493.788705
		G1+G2+G3	-249.4910703	-171.6598365	-143.6808011	-564.831708
D+S+L	Max	G1	6545.886215	4900.706312	4849.765943	16296.35847
		G2	5851.791695	5289.374118	5610.136322	16751.30213
		G3	4920.897466	4764.880874	6502.969599	16188.74794
		G1+G2+G3	6253.073276	5084.126411	5770.317846	17107.51753
	min	G1	4374.789805	3693.987142	5376.839463	13445.61641
		G2	4696.843042	3469.188826	4607.614447	12773.64632
		G3	5557.305711	3701.491259	4270.266843	13529.06381
		G1+G2+G3	4488.2721	3508.708091	4473.463209	12470.4434

Reactions (kN)
BR2-TA
P6 with Impact

			G1	G2	G3	Total
Dead Load			3794.642785	2744.244802	3716.23278	10255.12037
Snow Load			249.691169	198.4234446	249.250495	697.3651086
Live Load	Max	G1	1731.38706	1092.535325	213.1000108	3037.022396
		G2	1048.401377	1505.555744	949.9466503	3503.903772
		G3	151.6439864	1000.275952	1829.417938	2981.337877
		G1+G2+G3	1501.645986	1131.190619	1233.314596	3866.151201
	min	G1	-445.2497212	-59.27451894	663.5099909	158.9857507
		G2	-76.94421518	-256.5988917	-131.326263	-464.8693699
		G3	716.5073152	-57.22457584	-452.5709104	206.7118289
		G1+G2+G3	-253.5932157	-216.6796034	-300.6147035	-770.8875226
D+S+L	Max	G1	5775.721014	4035.203571	4178.583286	13989.50787
		G2	5092.735331	4448.223991	4915.429925	14456.38925
		G3	4195.97794	3942.944199	5794.901213	13933.82335
		G1+G2+G3	5545.97994	4073.858866	5198.79787	14818.63668
	min	G1	3599.084233	2883.393728	4628.993266	11111.47123
		G2	3967.389739	2686.069355	3834.157012	10487.61611
		G3	4760.841269	2885.443671	3512.912364	11159.1973
		G1+G2+G3	3790.740738	2725.988643	3664.868571	10181.59795

Reactions (kN)
BR2-TA
P7 with Impact

			G1	G2	G3	Total
Dead Load			3919.433615	2801.937533	3874.449468	10595.82062
Snow Load			258.2543043	202.5954178	260.2509881	721.1007102
Live Load	Max	G1	1739.544596	1092.552864	237.5176669	3069.615127
		G2	1046.416565	1504.169525	973.1853104	3523.7714
		G3	174.4338231	1005.811536	1849.50086	3029.74622
		G1+G2+G3	1204.08016	1090.040542	1598.078773	3892.199475
	min	G1	-427.5933334	-47.33886602	675.8812201	200.9490206
		G2	-41.18707627	-242.9374574	-132.5164516	-416.6409852
		G3	720.3276175	-53.28962461	-432.0461098	234.9918831
		G1+G2+G3	-270.873455	-202.105811	-254.5435097	-727.5227757
D+S+L	Max	G1	5917.232516	4097.085815	4372.218123	14386.53645
		G2	5224.104484	4508.702476	5107.885766	14840.69273
		G3	4352.121743	4010.344487	5984.201316	14346.66755
		G1+G2+G3	5381.76808	4094.573493	5732.779229	15209.1208
	min	G1	3750.094586	2957.194085	4810.581676	11517.87035
		G2	4136.500843	2761.595494	4002.184004	10900.28034
		G3	4898.015537	2951.243326	3702.654346	11551.91321
		G1+G2+G3	3906.814464	2802.42714	3880.156946	10589.39855

Reactions (kN)
BR2-TA
P8 with Impact

			G1	G2	G3	Total
Dead Load			4086.046378	3292.923395	4011.153347	11390.12312
Snow Load			269.8158394	236.7614155	270.0456936	776.6229484
Live Load	Max	G1	1720.797845	1242.035974	176.43998	3139.273798
		G2	1021.702639	1600.830474	980.0734668	3602.606579
		G3	144.6291158	1079.790812	1828.713958	3053.133886
		G1+G2+G3	1084.466875	1269.91829	1592.391631	3946.776796
	min	G1	-365.7203493	11.82402673	744.4578289	390.5615063
		G2	19.55812688	-241.0986689	-98.36431076	-319.9048528
		G3	788.0974172	-11.83183163	-371.3941454	404.8714401
		G1+G2+G3	-156.0801285	-203.8562963	-247.0513546	-606.9877794
D+S+L	Max	G1	6076.660062	4771.720784	4457.63902	15306.01987
		G2	5377.564856	5130.515284	5261.272507	15769.35265
		G3	4500.491333	4609.475623	6109.912998	15219.87995
		G1+G2+G3	5440.329093	4799.6031	5873.590671	16113.52286
	min	G1	3990.141868	3541.508837	5025.656869	12557.30757
		G2	4375.420344	3288.586142	4182.83473	11846.84122
		G3	5143.959635	3517.852979	3909.804895	12571.61751
		G1+G2+G3	4199.782089	3325.828514	4034.147686	11559.75829

Reactions (kN)
BR2-TA
P9 with Impact

			G1	G2	G3	Total
Dead Load			3975.105555	3081.550469	3903.476255	10960.13228
Snow Load			262.2021717	221.6948834	262.5137583	746.4108135
Live Load	Max	G1	1728.717859	1166.269585	195.0098958	3089.99734
		G2	1029.699038	1562.8578	988.1364368	3580.693275
		G3	150.8210026	1054.352807	1837.533295	3042.707105
		G1+G2+G3	994.7891487	1196.163967	1737.147015	3928.100131
	min	G1	-397.0938211	-6.949728948	713.2234992	309.1799491
		G2	-3.018191104	-244.1533696	-129.9142532	-377.0858139
		G3	756.389128	-27.90815895	-403.4548962	325.0260728
		G1+G2+G3	-179.4334397	-204.2555021	-285.5015627	-669.1905046
D+S+L	Max	G1	5966.025586	4469.514938	4360.999909	14796.54043
		G2	5267.006765	4866.103153	5154.12645	15287.23637
		G3	4388.128729	4357.59816	6003.523308	14749.2502
		G1+G2+G3	5232.096875	4499.40932	5903.137029	15634.64322
	min	G1	3840.213905	3296.295623	4879.213512	12015.72304
		G2	4234.289535	3059.091983	4036.07576	11329.45728
		G3	4993.696854	3275.337193	3762.535117	12031.56916
		G1+G2+G3	4057.874287	3098.98985	3880.48845	11037.35259

Reactions (kN)
BR2-TA
P10 with Impact

			G1	G2	G3	Total
Dead Load			4228.370475	3549.93262	4146.837722	11925.14082
Snow Load			279.305508	255.1885434	279.3434828	813.8375342
Live Load	Max	G1	1754.184922	1286.921177	158.9579823	3200.064081
		G2	1041.930688	1663.651207	991.4401711	3697.022067
		G3	131.7347731	1120.83708	1859.45089	3112.022744
		G1+G2+G3	1074.431686	1346.068815	1623.468912	4043.969412
	min	G1	-357.8293476	33.89061843	787.134671	463.1959418
		G2	35.26986286	-243.325291	-86.31414453	-294.3695727
		G3	831.8550313	8.001647214	-362.8885306	476.9681478
		G1+G2+G3	-134.9988295	-205.6346378	-244.7639339	-585.3974012
D+S+L	Max	G1	6261.860905	5092.04234	4585.139187	15939.04243
		G2	5549.606672	5468.772371	5417.621376	16436.00042
		G3	4639.410756	4925.958244	6285.632095	15851.0011
		G1+G2+G3	5582.107669	5151.189978	6049.650117	16782.94776
	min	G1	4149.846636	3839.011782	5213.315876	13202.17429
		G2	4542.945846	3561.795873	4339.867061	12444.60878
		G3	5339.531014	3813.122811	4063.292674	13215.9465
		G1+G2+G3	4372.677154	3599.486526	4181.417271	12153.58095

Reactions (kN)
BR2-TA
P11 with Impact

			G1	G2	G3	Total
Dead Load			4377.921386	3440.759534	4295.217673	12113.89859
Snow Load			289.7731454	247.2781016	289.8603669	826.9116139
Live Load	Max	G1	1776.407771	1233.489781	213.3022149	3223.199767
		G2	1061.685414	1609.071354	1018.932333	3689.689102
		G3	181.8665428	1097.921266	1878.695167	3158.482976
		G1+G2+G3	1060.700199	1245.120138	1736.776374	4042.596711
	min	G1	-344.8866025	31.53917377	763.7684329	450.4210041
		G2	39.56840016	-213.500414	-80.01521101	-253.9472249
		G3	807.5125841	4.951160788	-352.0175398	460.4462051
		G1+G2+G3	-157.2719391	-173.1865789	-221.6209773	-552.0794952
D+S+L	Max	G1	6444.102302	4921.527416	4798.380255	16164.00997
		G2	5729.379945	5297.10899	5604.010373	16630.49931
		G3	4849.561074	4785.958902	6463.773207	16099.29318
		G1+G2+G3	5728.394731	4933.157774	6321.854413	16983.40692
	min	G1	4322.807929	3719.576809	5348.846473	13391.23121
		G2	4707.262932	3474.537222	4505.062829	12686.86298
		G3	5475.207116	3692.988796	4233.0605	13401.25641
		G1+G2+G3	4510.422592	3514.851057	4363.457063	12388.73071

Reactions (kN)
BR2-TA
P12 with Impact

			G1	G2	G3	Total
Dead Load			3767.730146	2716.963709	3706.763846	10191.4577
Snow Load			247.8382872	196.4372707	248.4894806	692.7650386
Live Load	Max	G1	1709.081074	1071.441519	218.0553392	2998.577933
		G2	1002.384293	1490.912519	969.4648944	3462.761706
		G3	160.9355444	1002.012539	1813.890018	2976.838101
		G1+G2+G3	995.2096207	1115.074646	1715.929459	3826.213726
	min	G1	-422.5085812	-43.19510655	661.2058001	195.5021123
		G2	-19.3897404	-245.2882691	-156.3481458	-421.0261553
		G3	702.9457	-58.61978475	-427.3621994	216.9637158
		G1+G2+G3	-212.0270286	-204.6095857	-308.8675895	-725.5042038
D+S+L	Max	G1	5724.649508	3984.842499	4173.308666	13882.80067
		G2	5017.952727	4404.313499	4924.718221	14346.98445
		G3	4176.503978	3915.413519	5769.143344	13861.06084
		G1+G2+G3	5010.778054	4028.475626	5671.182786	14710.43647
	min	G1	3593.059852	2870.205874	4616.459127	11079.72485
		G2	3996.178693	2668.112711	3798.905181	10463.19658
		G3	4718.514133	2854.781195	3527.891127	11101.18646
		G1+G2+G3	3803.541405	2708.791394	3646.385737	10158.71854

Reactions (kN)
BR2-TA
P13 with Impact

			G1	G2	G3	Total
Dead Load			3991.403429	3043.864791	3919.684801	10954.95302
Snow Load			263.4195251	219.6307493	263.7036569	746.7539314
Live Load	Max	G1	1689.27292	1138.752082	213.4985741	3041.523576
		G2	993.3542807	1535.840696	961.7820784	3490.977055
		G3	167.7553717	1040.148397	1799.174211	3007.07798
		G1+G2+G3	1058.096716	1210.783591	1577.213145	3846.093452
	min	G1	-361.0050135	-6.181405139	702.7950717	335.6086531
		G2	24.6534571	-227.806553	-107.539009	-310.6921049
		G3	743.0159316	-30.6991271	-372.736279	339.5805255
		G1+G2+G3	-146.9524439	-189.4809249	-272.1720854	-608.6054543
D+S+L	Max	G1	5944.095874	4402.247623	4396.887032	14743.23053
		G2	5248.177235	4799.336236	5145.170537	15192.68401
		G3	4422.578326	4303.643937	5982.56267	14708.78493
		G1+G2+G3	5312.91967	4474.279132	5760.601604	15547.8004
	min	G1	3893.817941	3257.314136	4886.18353	12037.31561
		G2	4279.476411	3035.688988	4075.849449	11391.01485
		G3	4997.838886	3232.796414	3810.652179	12041.28748
		G1+G2+G3	4107.87051	3074.014616	3911.216373	11093.1015

Reactions (kN)
BR2-TA
P14 with Impact

			G1	G2	G3	Total
Dead Load			3566.720186	2480.217348	3437.263094	9484.200628
Snow Load			233.0737296	180.1617421	228.6426367	641.8781084
Live Load	Max	G1	1669.542157	1011.636027	188.4541096	2869.632293
		G2	918.6868931	1465.107908	917.3610939	3301.155895
		G3	134.2346498	986.7474229	1736.030932	2857.013004
		G1+G2+G3	962.7228797	1078.777748	1648.869939	3690.370567
	min	G1	-454.3058166	-70.02310399	633.2496337	108.9207131
		G2	1.625170897	-285.6681749	-191.6178138	-475.6608178
		G3	686.9901437	-122.2241246	-446.2968126	118.4692065
		G1+G2+G3	-204.4652628	-242.8950908	-356.1081471	-803.4685007
D+S+L	Max	G1	5469.336073	3672.015117	3854.35984	12995.71103
		G2	4718.480809	4125.486998	4583.266824	13427.23463
		G3	3934.028566	3647.126513	5401.936662	12983.09174
		G1+G2+G3	4762.516796	3739.156838	5314.775669	13816.4493
	min	G1	3345.488099	2590.355986	4299.155364	10234.99945
		G2	3801.419087	2374.710915	3474.287917	9650.417919
		G3	4486.78406	2538.154965	3219.608918	10244.54794
		G1+G2+G3	3595.328653	2417.483999	3309.797583	9322.610236

Reactions (kN)
BR2-TA
P15 with Impact

			G1	G2	G3	Total
Dead Load			4242.466811	3479.501562	4221.271648	11943.24002
Snow Load			286.5562254	259.6688529	287.6435158	833.868594
Live Load	Max	G1	1789.364817	1214.450505	239.5155769	3243.330899
		G2	1022.011424	1680.222303	964.5244575	3666.758185
		G3	191.0696195	1121.212775	1881.259234	3193.541628
		G1+G2+G3	1036.212684	1288.347553	1740.909824	4065.47006
	min	G1	-311.851438	16.71726394	766.839687	471.7055129
		G2	50.25769255	-209.4978815	-33.84666606	-193.086855
		G3	804.0657334	1.84228501	-327.9426352	477.9653833
		G1+G2+G3	-124.9410154	-167.6820166	-231.8013571	-524.4243891
D+S+L	Max	G1	6318.387854	4953.62092	4748.430741	16020.43951
		G2	5551.034461	5419.392718	5473.439621	16443.8668
		G3	4720.092656	4860.38319	6390.174397	15970.65024
		G1+G2+G3	5565.23572	5027.517967	6249.824988	16842.57868
	min	G1	4217.171599	3755.887678	5275.754851	13248.81413
		G2	4579.280729	3529.672533	4475.068498	12584.02176
		G3	5333.08877	3741.0127	4180.972529	13255.074
		G1+G2+G3	4404.082021	3571.488398	4277.113807	12252.68423

Reactions (kN)
BR2-TA
AB2 with Impact

			G1	G2	G3	Total
Dead Load			1962.35039	1846.232585	1992.715737	5801.298712
Snow Load			127.0358078	122.29982	132.0981619	381.4337897
Live Load	Max	G1	985.8737979	772.3220579	164.6261112	1922.821967
		G2	616.53621	1001.994349	583.2215233	2201.752082
		G3	145.7488	672.7476999	1118.568743	1937.065243
		G1+G2+G3	534.1495773	754.0266767	1078.952694	2367.128948
	min	G1	-107.5274548	134.3147317	576.0391015	602.8263784
		G2	18.31355368	-56.0743207	2.518592644	-35.24217437
		G3	334.1852356	46.99430729	-108.6128412	272.5667017
		G1+G2+G3	-29.60704411	-44.06020689	-61.95822477	-135.6254758
D+S+L	Max	G1	3075.259995	2740.854463	2289.44001	8105.554469
		G2	2705.922407	2970.526754	2708.035422	8384.484584
		G3	2235.134997	2641.280105	3243.382642	8119.797744
		G1+G2+G3	2623.535775	2722.559082	3203.766593	8549.861449
	min	G1	1981.858743	2102.847137	2700.853001	6785.55888
		G2	2107.699751	1912.458084	2127.332492	6147.490327
		G3	2423.571433	2015.526712	2016.201058	6455.299203
		G1+G2+G3	2059.779153	1924.472198	2062.855674	6047.107026

Reactions (kN)
BR2-TA
AB1 without Impact

			G1	G2	G3	Total
Dead Load			1537.832045	1247.155537	1326.274677	4111.262259
Snow Load			94.58486317	75.37161889	85.16754288	255.1240249
Live Load	Max	G1	745.9191974	546.7383031	112.2559419	1404.913442
		G2	472.3285969	685.2362685	412.8299671	1570.394832
		G3	86.19127594	463.1307991	783.0130319	1332.335107
		G1+G2+G3	725.4049227	585.7371467	386.5642781	1697.706348
	min	G1	-146.567835	-17.22270677	174.4267075	10.63616581
		G2	-32.82182063	-81.21190167	-45.59685344	-159.6305757
		G3	241.6190678	-8.004320252	-137.8879584	95.7267892
		G1+G2+G3	-121.1643974	-69.1811942	-50.15320011	-240.4987917
D+S+L	Max	G1	2378.336105	1869.265459	1523.698162	5771.299726
		G2	2104.745505	2007.763424	1824.272187	5936.781116
		G3	1718.608184	1785.657955	2194.455252	5698.721391
		G1+G2+G3	2357.82183	1908.264303	1798.006499	6064.092632
	min	G1	1485.849073	1305.304449	1585.868928	4377.02245
		G2	1599.595087	1241.315254	1365.845367	4206.755708
		G3	1874.035976	1314.522836	1273.554262	4462.113073
		G1+G2+G3	1511.25251	1253.345962	1361.28902	4125.887492

Reactions (kN)
BR2-TA
P1 without Impact

			G1	G2	G3	Total
Dead Load			4123.591298	3172.547953	4031.290392	11327.42964
Snow Load			274.3417505	231.5149336	274.0223087	779.8789928
Live Load	Max	G1	1440.658389	1046.795379	211.7007359	2699.154503
		G2	938.5631714	1313.585396	698.6752644	2950.823832
		G3	167.9405521	833.9782109	1503.726002	2505.644765
		G1+G2+G3	1404.917072	1123.40396	737.2403651	3265.561397
	min	G1	-228.3132281	-39.29254165	564.8865122	297.2807424
		G2	-11.02767022	-161.8701299	49.56651035	-123.3312898
		G3	680.8271474	57.63184121	-265.6749815	472.784007
		G1+G2+G3	-172.5428906	-128.0771468	-93.45586742	-394.0759047
D+S+L	Max	G1	5838.591437	4450.858265	4517.013437	14806.46314
		G2	5336.49622	4717.648282	5003.987966	15058.13247
		G3	4565.8736	4238.041097	5809.038703	14612.9534
		G1+G2+G3	5802.85012	4527.466846	5042.553066	15372.87003
	min	G1	4169.61982	3364.770345	4870.199213	12404.58938
		G2	4386.905378	3242.192757	4354.879211	11983.97735
		G3	5078.760196	3461.694728	4039.63772	12580.09264
		G1+G2+G3	4225.390158	3275.98574	4211.856834	11713.23273

Reactions (kN)
BR2-TA
P2 without Impact

			G1	G2	G3	Total
Dead Load			4067.753369	3244.273834	3957.392791	11269.41999
Snow Load			270.3824996	236.9505019	268.6900126	776.0230141
Live Load	Max	G1	1507.273135	1097.682942	163.0875045	2768.043582
		G2	980.985696	1379.272931	725.7616718	3086.020299
		G3	122.9781785	860.8357915	1556.31859	2540.13256
		G1+G2+G3	1461.130669	1186.024043	754.089861	3401.244573
	min	G1	-306.3682553	-55.807385	599.9155419	237.7399016
		G2	-72.91969341	-208.819108	19.71802791	-262.0207735
		G3	715.839758	48.34399772	-326.4832569	437.7004987
		G1+G2+G3	-238.7817391	-175.0496018	-115.9033534	-529.7346943
D+S+L	Max	G1	5845.409004	4578.907277	4389.170308	14813.48659
		G2	5319.121565	4860.497266	4951.844475	15131.46331
		G3	4461.114047	4342.060127	5782.401393	14585.57557
		G1+G2+G3	5799.266538	4667.248379	4980.172664	15446.68758
	min	G1	4031.767614	3425.416951	4825.998345	12283.18291
		G2	4265.216176	3272.405228	4245.800831	11783.42223
		G3	5053.975627	3529.568333	3899.599546	12483.14351
		G1+G2+G3	4099.35413	3306.174734	4110.17945	11515.70831

Reactions (kN)
BR2-TA
P3 without Impact

			G1	G2	G3	Total
Dead Load			4414.454291	3497.005713	4317.493558	12228.95356
Snow Load			294.1302155	254.7651511	293.9562579	842.8516245
Live Load	Max	G1	1582.454307	1149.144471	182.3709424	2913.969721
		G2	1046.597791	1422.737788	769.741522	3239.0771
		G3	150.3273173	895.0836396	1631.234533	2676.64549
		G1+G2+G3	1535.268943	1228.011633	797.2601501	3560.540726
	min	G1	-299.5599597	-42.38499658	639.0952203	297.150264
		G2	-55.62923126	-200.7377696	20.05863352	-236.3083673
		G3	753.9734105	63.13646122	-330.1602154	486.9496563
		G1+G2+G3	-226.182329	-166.0730502	-119.9372942	-512.1926734
D+S+L	Max	G1	6291.038814	4900.915335	4793.820758	15985.77491
		G2	5755.182297	5174.508652	5381.191338	16310.88229
		G3	4858.911824	4646.854503	6242.684349	15748.45068
		G1+G2+G3	6243.85345	4979.782497	5408.709966	16632.34591
	min	G1	4409.024547	3709.385867	5250.545036	13368.95545
		G2	4652.955276	3551.033094	4631.508449	12835.49682
		G3	5462.557917	3814.907325	4281.2896	13558.75484
		G1+G2+G3	4482.402178	3585.697814	4491.512522	12559.61251

Reactions (kN)
BR2-TA
P4 without Impact

			G1	G2	G3	Total
Dead Load			4177.617784	3468.454604	4091.775665	11737.84805
Snow Load			276.7577058	251.3591012	276.8017115	804.9185184
Live Load	Max	G1	1551.755918	1127.896008	132.8398239	2812.49175
		G2	993.1306851	1429.994762	763.6590833	3186.784531
		G3	97.53536763	908.0036816	1592.450932	2597.989981
		G1+G2+G3	1494.503561	1239.741523	768.3325691	3502.577653
	min	G1	-331.1658194	-30.33930377	655.0264089	293.5212857
		G2	-66.11162645	-226.1994461	9.754286021	-282.5567865
		G3	762.8275305	39.79919022	-340.3999128	462.2268079
		G1+G2+G3	-246.2671212	-191.4210845	-116.7124907	-554.4006963
D+S+L	Max	G1	6006.131408	4847.709713	4501.4172	15355.25832
		G2	5447.506175	5149.808467	5132.23646	15729.5511
		G3	4551.910858	4627.817387	5961.028308	15140.75655
		G1+G2+G3	5948.879051	4959.555228	5136.909946	16045.34422
	min	G1	4123.209671	3689.474401	5023.603785	12836.28786
		G2	4388.263864	3493.614259	4378.331663	12260.20979
		G3	5217.203021	3759.612895	4028.177464	13004.99338
		G1+G2+G3	4208.108369	3528.392621	4251.864886	11988.36588

Reactions (kN)
BR2-TA
P5 without Impact

			G1	G2	G3	Total
Dead Load			4443.428816	3433.38744	4325.040158	12201.85641
Snow Load			294.3343546	246.9804877	292.1038514	833.4186937
Live Load	Max	G1	1589.011472	1036.985724	188.3930467	2814.390243
		G2	976.9633814	1368.895725	832.2762132	3178.135319
		G3	148.1830511	915.4322507	1597.716404	2661.331706
		G1+G2+G3	1341.369698	1191.957946	966.7083258	3500.03597
	min	G1	-313.4108836	9.628254027	645.1868284	341.4041989
		G2	-16.37650143	-183.7204676	-6.236620028	-206.333589
		G3	752.8383305	22.56508291	-301.5178692	473.8855442
		G1+G2+G3	-217.6303329	-147.0177847	-118.7282446	-483.3763622
D+S+L	Max	G1	6326.774642	4717.353652	4805.537056	15849.66535
		G2	5714.726552	5049.263652	5449.420223	16213.41043
		G3	4885.946222	4595.800179	6214.860414	15696.60681
		G1+G2+G3	6079.132869	4872.325874	5583.852335	16535.31108
	min	G1	4424.352287	3689.996182	5262.330838	13376.67931
		G2	4721.386669	3496.64746	4610.90739	12828.94152
		G3	5490.601501	3702.933011	4315.62614	13509.16065
		G1+G2+G3	4520.132837	3533.350143	4498.415765	12551.89875

Reactions (kN)
BR2-TA
P6 without Impact

			G1	G2	G3	Total
Dead Load			3794.642785	2744.244802	3716.23278	10255.12037
Snow Load			249.691169	198.4234446	249.250495	697.3651086
Live Load	Max	G1	1514.093099	922.0219114	170.8632634	2606.978274
		G2	912.5973197	1269.532516	792.0439105	2974.173746
		G3	117.4656232	834.1859432	1541.900209	2493.551775
		G1+G2+G3	1324.787041	956.9237717	1019.568104	3301.278918
	min	G1	-386.7197586	-53.86937136	559.3419171	118.7527872
		G2	-50.59866939	-223.2462967	-110.6759404	-384.5209065
		G3	658.3382878	-46.43027273	-390.4825694	221.4254456
		G1+G2+G3	-224.9527603	-186.4009381	-251.4251365	-662.778835
D+S+L	Max	G1	5558.427053	3864.690158	4136.346538	13559.46375
		G2	4956.931274	4212.200763	4757.527185	13926.65922
		G3	4161.799577	3776.85419	5507.383483	13446.03725
		G1+G2+G3	5369.120996	3899.592019	4985.051379	14253.76439
	min	G1	3657.614195	2888.798875	4524.825192	11071.23826
		G2	3993.735285	2719.42195	3854.807334	10567.96457
		G3	4702.672242	2896.237974	3575.000705	11173.91092
		G1+G2+G3	3819.381194	2756.267309	3714.058138	10289.70664

Reactions (kN)
BR2-TA
P7 without Impact

			G1	G2	G3	Total
Dead Load			3919.433615	2801.937533	3874.449468	10595.82062
Snow Load			258.2543043	202.5954178	260.2509881	721.1007102
Live Load	Max	G1	1521.543787	921.9603043	191.9858145	2635.489906
		G2	910.9303269	1268.133941	811.8541765	2990.918444
		G3	138.5988911	839.1465858	1559.44927	2537.194746
		G1+G2+G3	1051.711654	921.6236252	1350.580708	3323.915987
	min	G1	-370.4031485	-43.08769975	569.9169222	156.4260739
		G2	-18.77297947	-211.0396649	-111.328949	-341.1415934
		G3	662.2446706	-43.04883638	-372.4091607	246.7866736
		G1+G2+G3	-238.4737353	-173.3607716	-212.0262102	-623.8607171
D+S+L	Max	G1	5699.231707	3926.493255	4326.686271	13952.41123
		G2	5088.618246	4272.666892	4946.554633	14307.83977
		G3	4316.28681	3843.679537	5694.149726	13854.11607
		G1+G2+G3	5229.399573	3926.156576	5485.281164	14640.83731
	min	G1	3807.284771	2961.445251	4704.617378	11473.3474
		G2	4158.91494	2793.493286	4023.371507	10975.77973
		G3	4839.93259	2961.484115	3762.291295	11563.708
		G1+G2+G3	3939.214184	2831.172179	3922.674246	10693.06061

Reactions (kN)
BR2-TA
P8 without Impact

			G1	G2	G3	Total
Dead Load			4086.046378	3292.923395	4011.153347	11390.12312
Snow Load			269.8158394	236.7614155	270.0456936	776.6229484
Live Load	Max	G1	1508.335424	1039.906387	145.6794819	2693.921293
		G2	893.8610489	1356.130322	818.5276331	3068.519004
		G3	115.3345227	907.5639258	1543.846416	2566.744864
		G1+G2+G3	971.7547009	1076.353855	1331.054162	3379.162718
	min	G1	-315.8555236	7.33610356	629.6999487	321.1805287
		G2	33.1606288	-208.9695829	-81.69082223	-257.4997763
		G3	721.1790011	-5.972897006	-321.6314651	393.574639
		G1+G2+G3	-139.0774618	-174.4264296	-205.9553656	-519.4592571
D+S+L	Max	G1	5864.197642	4569.591198	4426.878522	14860.66736
		G2	5249.723266	4885.815133	5099.726674	15235.26507
		G3	4471.19674	4437.248736	5825.045456	14733.49093
		G1+G2+G3	5327.616918	4606.038666	5612.253202	15545.90879
	min	G1	4040.006694	3537.020914	4910.898989	12487.9266
		G2	4389.022846	3320.715228	4199.508218	11909.24629
		G3	5077.041219	3523.711914	3959.567575	12560.32071
		G1+G2+G3	4216.784756	3355.258381	4075.243675	11647.28681

Reactions (kN)
BR2-TA
P9 without Impact

			G1	G2	G3	Total
Dead Load			3975.105555	3081.550469	3903.476255	10960.13228
Snow Load			262.2021717	221.6948834	262.5137583	746.4108135
Live Load	Max	G1	1515.174244	987.7059336	155.7646993	2658.644877
		G2	900.3658667	1323.689682	825.4057059	3049.461255
		G3	118.4867576	885.3917181	1551.57643	2555.454906
		G1+G2+G3	895.5247449	1011.629606	1455.815849	3362.970199
	min	G1	-344.3152811	-9.131830653	603.1291151	249.6820034
		G2	12.68649538	-212.2811627	-109.0502911	-308.6449584
		G3	694.1086531	-20.41329549	-349.5155111	324.1798465
		G1+G2+G3	-160.4834181	-175.4930055	-239.025378	-575.0018015
D+S+L	Max	G1	5752.48197	4290.951286	4321.754712	14365.18797
		G2	5137.673593	4626.935035	4991.395719	14756.00435
		G3	4355.794484	4188.63707	5717.566444	14261.998
		G1+G2+G3	5132.832471	4314.874958	5621.805862	15069.51329
	min	G1	3892.992445	3294.113522	4769.119128	11956.2251
		G2	4249.994222	3090.96419	4056.939722	11397.89813
		G3	4931.416379	3282.832057	3816.474502	12030.72294
		G1+G2+G3	4076.824308	3127.752347	3926.964635	11131.54129

Reactions (kN)
BR2-TA
P10 without Impact

			G1	G2	G3	Total
Dead Load			4228.370475	3549.93262	4146.837722	11925.14082
Snow Load			279.305508	255.1885434	279.3434828	813.8375342
Live Load	Max	G1	1541.689482	1093.57827	125.7936916	2761.061443
		G2	914.984887	1415.265763	830.6729754	3160.923625
		G3	104.3664697	945.7092187	1575.301415	2625.377103
		G1+G2+G3	966.7406354	1143.391803	1364.375126	3474.507565
	min	G1	-309.5147497	26.32788004	668.2735858	385.0867161
		G2	47.0317795	-211.2016703	-71.25666576	-235.4265566
		G3	761.5632694	11.74027286	-315.4305184	457.8730238
		G1+G2+G3	-121.3163448	-176.1576179	-204.2202463	-501.6942089
D+S+L	Max	G1	6049.365465	4898.699434	4551.974897	15500.0398
		G2	5422.66087	5220.386927	5256.85418	15899.90198
		G3	4612.042453	4750.830382	6001.48262	15364.35545
		G1+G2+G3	5474.416619	4948.512967	5790.556331	16213.48592
	min	G1	4198.161233	3831.449044	5094.454791	13124.06507
		G2	4554.707763	3593.919493	4354.924539	12503.5518
		G3	5269.239252	3816.861437	4110.750687	13196.85138
		G1+G2+G3	4386.359638	3628.963546	4221.960959	12237.28414

Reactions (kN)
BR2-TA
P11 without Impact

			G1	G2	G3	Total
Dead Load			4377.921386	3440.759534	4295.217673	12113.89859
Snow Load			289.7731454	247.2781016	289.8603669	826.9116139
Live Load	Max	G1	1561.053606	1047.773912	172.2325333	2781.060051
		G2	931.8135584	1368.501538	854.2733292	3154.588425
		G3	147.4889054	926.8923668	1591.347265	2665.728537
		G1+G2+G3	955.676622	1057.342603	1460.556443	3473.575668
	min	G1	-297.6867258	24.97278194	648.3814218	375.6674779
		G2	51.86681142	-185.3751038	-65.91841957	-199.426712
		G3	741.6213698	8.62093713	-305.6289706	444.6133363
		G1+G2+G3	-139.4335729	-148.0604404	-184.5718704	-472.0658837
D+S+L	Max	G1	6228.748137	4735.811547	4757.310573	15721.87026
		G2	5599.50809	5056.539173	5439.351369	16095.39863
		G3	4815.183437	4614.930002	6176.425305	15606.53874
		G1+G2+G3	5623.371153	4745.380238	6045.634483	16414.38587
	min	G1	4370.007806	3713.010418	5233.459462	13316.47768
		G2	4719.561343	3502.662532	4519.15962	12741.38349
		G3	5409.315901	3696.658573	4279.449069	13385.42354
		G1+G2+G3	4528.260959	3539.977195	4400.506169	12468.74432

Reactions (kN)
BR2-TA
P12 without Impact

			G1	G2	G3	Total
Dead Load			3767.730146	2716.963709	3706.763846	10191.4577
Snow Load			247.8382872	196.4372707	248.4894806	692.7650386
Live Load	Max	G1	1494.228396	903.6008229	175.3897705	2573.218989
		G2	872.7050459	1256.482925	808.6530314	2937.841002
		G3	126.4036738	835.8654505	1528.501648	2490.770773
		G1+G2+G3	892.9970483	937.9951834	1435.229983	3266.222215
	min	G1	-366.7813036	-39.96708324	557.0240505	150.2756636
		G2	-1.133888174	-213.3049737	-132.0369094	-346.4757713
		G3	645.9555956	-48.12154161	-368.771489	229.062565
		G1+G2+G3	-189.1402442	-175.8062105	-258.597553	-623.5440077
D+S+L	Max	G1	5509.796829	3817.001803	4130.643097	13457.44173
		G2	4888.273479	4169.883905	4763.906358	13822.06374
		G3	4141.972107	3749.266431	5483.754975	13374.99351
		G1+G2+G3	4908.565482	3851.396164	5390.48331	14150.44495
	min	G1	3648.78713	2873.433897	4512.277377	11034.4984
		G2	4014.434545	2700.096006	3823.216417	10537.74697
		G3	4661.524029	2865.279439	3586.481838	11113.28531
		G1+G2+G3	3826.428189	2737.59477	3696.655774	10260.67873

Reactions (kN)
BR2-TA
P13 without Impact

			G1	G2	G3	Total
Dead Load			3991.403429	3043.864791	3919.684801	10954.95302
Snow Load			263.4195251	219.6307493	263.7036569	746.7539314
Live Load	Max	G1	1477.690502	961.4237504	172.1672017	2611.281454
		G2	865.506629	1294.889629	801.9820832	2962.378342
		G3	134.7717427	870.4408879	1514.679058	2519.891689
		G1+G2+G3	946.7564396	1027.083805	1309.03681	3282.877054
	min	G1	-311.2146067	-7.745128635	592.0345662	273.0748309
		G2	38.83613674	-197.3509486	-90.28548867	-248.8003005
		G3	680.0708513	-23.42069995	-321.6998753	334.9502761
		G1+G2+G3	-131.0337489	-161.8847873	-227.0854949	-520.0040311
D+S+L	Max	G1	5732.513456	4224.919291	4355.55566	14312.98841
		G2	5120.329583	4558.38517	4985.370541	14664.08529
		G3	4389.594697	4133.936429	5698.067516	14221.59864
		G1+G2+G3	5201.579394	4290.579346	5492.425268	14984.58401
	min	G1	3943.608347	3255.750412	4775.423024	11974.78178
		G2	4293.659091	3066.144592	4093.10297	11452.90665
		G3	4934.893805	3240.074841	3861.688583	12036.65723
		G1+G2+G3	4123.789205	3101.610754	3956.302963	11181.70292

Reactions (kN)
BR2-TA
P14 without Impact

			G1	G2	G3	Total
Dead Load			3566.720186	2480.217348	3437.263094	9484.200628
Snow Load			233.0737296	180.1617421	228.6426367	641.8781084
Live Load	Max	G1	1456.877585	848.952487	151.9513772	2457.781449
		G2	796.4271415	1227.225329	765.7929712	2789.445441
		G3	105.786839	821.780435	1460.042414	2387.609688
		G1+G2+G3	863.1659566	902.4859793	1377.187397	3142.839333
	min	G1	-392.5532613	-61.93453083	531.5488455	77.06105328
		G2	19.90640553	-246.9265936	-162.1777802	-389.1979682
		G3	629.2949302	-103.6752441	-382.6747043	142.9449818
		G1+G2+G3	-182.0808681	-207.2888171	-297.7036913	-687.0733765
D+S+L	Max	G1	5256.671501	3509.331577	3817.857108	12583.86019
		G2	4596.221058	3887.604419	4431.698702	12915.52418
		G3	3905.580755	3482.159525	5125.948144	12513.68842
		G1+G2+G3	4662.959873	3562.865069	5043.093128	13268.91807
	min	G1	3407.240655	2598.444559	4197.454576	10203.13979
		G2	3819.700322	2413.452496	3503.72795	9736.880768
		G3	4429.088846	2556.703846	3283.231026	10269.02372
		G1+G2+G3	3617.713048	2453.090273	3368.202039	9439.00536

Reactions (kN)
BR2-TA
P15 without Impact

			G1	G2	G3	Total
Dead Load			4242.466811	3479.501562	4221.271648	11943.24002
Snow Load			286.5562254	259.6688529	287.6435158	833.868594
Live Load	Max	G1	1559.895699	1021.853561	193.7690728	2775.518333
		G2	888.3645846	1412.52667	805.9005271	3106.791782
		G3	154.6395597	940.2970499	1582.672521	2677.609131
		G1+G2+G3	926.1246362	1084.192285	1456.931287	3467.248208
	min	G1	-268.9402309	11.70308983	642.9670398	385.7298987
		G2	63.12842336	-182.0444043	-30.74792212	-149.6639031
		G3	729.718896	2.72999922	-284.298453	448.1504422
		G1+G2+G3	-111.1779363	-143.5629741	-194.6071107	-449.3480211
D+S+L	Max	G1	6088.918736	4761.023975	4702.684237	15552.62695
		G2	5417.387621	5151.697085	5314.815691	15883.9004
		G3	4683.662596	4679.467464	6091.587685	15454.71775
		G1+G2+G3	5455.147673	4823.362699	5965.846451	16244.35682
	min	G1	4260.082806	3750.873504	5151.882204	13162.83851
		G2	4592.15146	3557.12601	4478.167242	12627.44471
		G3	5258.741933	3741.900414	4224.616711	13225.25906
		G1+G2+G3	4417.845101	3595.60744	4314.308053	12327.76059

Reactions (kN)
BR2-TA
AB2 without Impact

			G1	G2	G3	Total
Dead Load			1962.35039	1846.232585	1992.715737	5801.298712
Snow Load			127.0358078	122.29982	132.0981619	381.4337897
Live Load	Max	G1	855.1569161	656.4976409	136.0723128	1647.72687
		G2	534.8513797	851.4779929	490.2018192	1876.531192
		G3	122.4816294	568.8470762	946.7843495	1638.113055
		G1+G2+G3	473.0443748	640.8258366	909.2596817	2023.129893
	min	G1	-91.48852538	113.4987251	487.9913532	510.0015528
		G2	23.0868982	-47.76180052	3.4100556	-21.26484672
		G3	304.0922148	43.45380328	-93.93462368	253.6113944
		G1+G2+G3	-25.57997466	-36.79053573	-50.49593048	-112.8664409
D+S+L	Max	G1	2944.543113	2625.030046	2260.886212	7830.459371
		G2	2624.237577	2820.010398	2615.015718	8059.263693
		G3	2211.867827	2537.379481	3071.598249	7820.845557
		G1+G2+G3	2562.430572	2609.358242	3034.073581	8205.862395
	min	G1	1997.897672	2082.03113	2612.805252	6692.734054
		G2	2112.473096	1920.770605	2128.223955	6161.467655
		G3	2393.478412	2011.986208	2030.879275	6436.343896
		G1+G2+G3	2063.806223	1931.741869	2074.317969	6069.866061

Reactions (kN)
BR4-AT
AB1 with Impact

			G1	G2	G3	Total
Dead Load			1628.4	1515.8	1630.8	4775.0
Snow Load			101.3	95.4	101.6	298.3
Live Load	Max	G1	1025.3	625.3	118.5	1769.1
		G2	518.3	941.9	535.4	1995.7
		G3	135.2	715.3	881.2	1731.7
		G1+G2+G3	755.2	723.6	676.8	2155.6
	min	G1	-134.6	-3.5	256.3	118.3
		G2	-26.7	-86.9	-21.7	-135.3
		G3	269.1	-0.5	-131.4	137.2
		G1+G2+G3	-57.9	-74.0	-96.6	-228.5
D+S+L	Max	G1	2755.0	2236.5	1850.9	6842.3
		G2	2248.0	2553.2	2267.8	7068.9
		G3	1864.9	2326.5	2613.6	6804.9
		G1+G2+G3	2484.9	2334.8	2409.2	7228.9
	min	G1	1595.1	1607.7	1988.7	5191.6
		G2	1703.0	1524.3	1710.7	4937.9
		G3	1998.8	1610.7	1601.0	5210.4
		G1+G2+G3	1671.7	1537.2	1635.8	4844.7

Reactions (kN)
BR4-AT
P1 with Impact

			G1	G2	G3	Total
Dead Load			4126.8	3436.4	4052.0	11615.2
Snow Load			276.0	257.0	272.2	805.2
Live Load	Max	G1	1842.8	1122.1	176.2	3141.1
		G2	878.6	1741.0	936.1	3555.7
		G3	206.6	1304.8	1649.9	3161.3
		G1+G2+G3	1460.1	1297.8	1187.9	3945.8
	min	G1	-288.3	-17.6	713.7	407.8
		G2	69.7	-215.1	-36.8	-182.3
		G3	759.1	-35.7	-294.7	428.7
		G1+G2+G3	-123.2	-174.0	-229.9	-527.2
D+S+L	Max	G1	6245.7	4815.5	4500.3	15561.5
		G2	5281.5	5434.4	5260.2	15976.1
		G3	4609.5	4998.2	5974.0	15581.7
		G1+G2+G3	5863.0	4991.2	5512.0	16366.2
	min	G1	4114.5	3675.8	5037.8	12828.2
		G2	4472.5	3478.3	4287.3	12238.1
		G3	5161.9	3657.7	4029.4	12849.1
		G1+G2+G3	4279.6	3519.4	4094.2	11893.2

Reactions (kN)
BR4-AT
P2 with Impact

			G1	G2	G3	Total
Dead Load			4082.8	3354.2	4140.9	11577.9
Snow Load			271.3	248.7	276.7	796.7
Live Load	Max	G1	1889.7	1106.0	157.3	3153.0
		G2	895.7	1738.9	1011.9	3646.5
		G3	189.5	1296.2	1723.9	3209.5
		G1+G2+G3	1128.5	1377.2	1532.6	4038.4
	min	G1	-378.6	-31.6	739.0	328.8
		G2	20.2	-259.5	-85.0	-324.2
		G3	755.3	-69.5	-367.2	318.5
		G1+G2+G3	-247.6	-213.0	-210.0	-670.6
D+S+L	Max	G1	6243.9	4708.8	4574.9	15527.6
		G2	5249.8	5341.8	5429.4	16021.0
		G3	4543.6	4899.1	6141.5	15584.1
		G1+G2+G3	5482.6	4980.1	5950.2	16412.9
	min	G1	3975.5	3571.3	5156.5	12703.4
		G2	4374.3	3343.4	4332.6	12050.3
		G3	5109.4	3533.4	4050.4	12693.1
		G1+G2+G3	4106.5	3389.9	4207.6	11704.0

Reactions (kN)
BR4-AT
P3 with Impact

			G1	G2	G3	Total
Dead Load			4754.2	3829.5	4685.2	13269.0
Snow Load			316.3	279.6	313.0	908.9
Live Load	Max	G1	2010.6	1114.7	195.5	3320.9
		G2	944.8	1778.6	1128.3	3851.7
		G3	252.0	1407.8	1785.0	3444.8
		G1+G2+G3	1145.2	1454.6	1629.3	4229.1
	min	G1	-351.1	62.2	793.9	505.0
		G2	78.7	-226.3	-84.1	-231.6
		G3	808.7	-59.8	-326.5	422.4
		G1+G2+G3	-155.0	-182.7	-232.5	-570.3
D+S+L	Max	G1	7081.1	5223.9	5193.8	17498.8
		G2	6015.3	5887.8	6126.6	18029.7
		G3	5322.5	5517.0	6783.2	17622.7
		G1+G2+G3	6215.7	5563.7	6627.5	18407.0
	min	G1	4719.4	4171.4	5792.1	14682.9
		G2	5149.3	3882.9	4914.2	13946.3
		G3	5879.2	4049.4	4671.8	14600.4
		G1+G2+G3	4915.5	3926.5	4765.7	13607.7

Reactions (kN)
BR4-AT
P4 with Impact

			G1	G2	G3	Total
Dead Load			4518.0	3603.1	4559.2	12680.3
Snow Load			297.2	259.8	301.6	858.6
Live Load	Max	G1	1974.1	1087.5	187.0	3248.6
		G2	930.8	1729.7	1145.3	3805.8
		G3	231.1	1377.9	1778.5	3387.5
		G1+G2+G3	987.7	1462.2	1725.3	4175.1
	min	G1	-397.2	35.0	765.5	403.2
		G2	41.5	-250.8	-128.5	-337.8
		G3	765.0	-82.9	-371.7	310.4
		G1+G2+G3	-160.0	-210.7	-293.2	-663.9
D+S+L	Max	G1	6789.4	4950.4	5047.7	16787.5
		G2	5746.0	5592.6	6006.1	17344.7
		G3	5046.3	5240.7	6639.3	16926.3
		G1+G2+G3	5802.9	5325.0	6586.0	17714.0
	min	G1	4418.0	3897.8	5626.3	13942.1
		G2	4856.8	3612.0	4732.3	13201.1
		G3	5580.3	3780.0	4489.1	13849.3
		G1+G2+G3	4655.2	3652.1	4567.6	12875.0

Reactions (kN)
BR4-AT
P5 with Impact

			G1	G2	G3	Total
Dead Load			4323.8	3375.4	4348.6	12047.8
Snow Load			281.8	240.9	285.3	808.0
Live Load	Max	G1	1939.8	1059.8	159.6	3159.2
		G2	923.8	1680.2	1140.9	3744.8
		G3	218.1	1338.8	1759.7	3316.6
		G1+G2+G3	965.8	1435.1	1703.6	4104.5
	min	G1	-434.3	6.1	734.8	306.7
		G2	10.3	-283.4	-195.2	-468.4
		G3	728.6	-111.4	-441.3	175.8
		G1+G2+G3	-179.6	-244.0	-359.8	-783.5
D+S+L	Max	G1	6545.5	4676.1	4793.5	16015.1
		G2	5529.5	5296.5	5774.7	16600.7
		G3	4823.8	4955.1	6393.5	16172.4
		G1+G2+G3	5571.5	5051.4	6337.5	16960.3
	min	G1	4171.4	3622.4	5368.7	13162.5
		G2	4616.0	3332.9	4438.6	12387.5
		G3	5334.3	3504.9	4192.6	13031.7
		G1+G2+G3	4426.0	3372.3	4274.0	12072.4

Reactions (kN)
BR4-AT
P6 with Impact

			G1	G2	G3	Total
Dead Load			4908.7	4104.8	4854.7	13868.2
Snow Load			321.4	291.1	319.7	932.2
Live Load	Max	G1	2020.3	1127.8	171.0	3319.2
		G2	952.8	1802.5	1200.9	3956.2
		G3	253.3	1413.5	1814.4	3481.2
		G1+G2+G3	996.6	1559.1	1751.3	4307.0
	min	G1	-372.5	91.1	820.3	539.0
		G2	58.0	-262.7	-124.8	-329.5
		G3	834.1	-63.6	-367.3	403.2
		G1+G2+G3	-131.0	-224.2	-279.3	-634.5
D+S+L	Max	G1	7250.4	5523.7	5345.5	18119.6
		G2	6182.8	6198.4	6375.4	18756.6
		G3	5483.4	5809.4	6988.8	18281.6
		G1+G2+G3	6226.6	5955.1	6925.7	19107.4
	min	G1	4857.6	4487.1	5994.8	15339.4
		G2	5288.1	4133.2	5049.6	14470.9
		G3	6064.1	4332.3	4807.1	15203.6
		G1+G2+G3	5099.0	4171.8	4895.2	14165.9

Reactions (kN)
BR4-AT
P7 with Impact

			G1	G2	G3	Total
Dead Load			5114.4	4302.0	5360.9	14777.2
Snow Load			336.2	303.8	354.6	994.6
Live Load	Max	G1	1973.6	1145.2	281.3	3400.1
		G2	952.5	1749.4	1213.0	3914.9
		G3	318.9	1402.8	1816.4	3538.2
		G1+G2+G3	992.7	1506.9	1769.6	4269.3
	min	G1	-235.6	133.3	826.6	724.2
		G2	112.7	-140.4	14.9	-12.9
		G3	811.4	31.0	-218.3	624.1
		G1+G2+G3	-71.9	-102.5	-140.5	-314.8
D+S+L	Max	G1	7424.2	5751.0	5996.8	19172.0
		G2	6403.0	6355.3	6928.5	19686.8
		G3	5769.5	6008.6	7531.9	19310.1
		G1+G2+G3	6443.3	6112.7	7485.1	20041.2
	min	G1	5215.0	4739.1	6542.0	16496.1
		G2	5563.3	4465.4	5730.3	15759.0
		G3	6262.0	4636.9	5497.2	16396.0
		G1+G2+G3	5378.7	4503.4	5575.0	15457.1

Reactions (kN)
BR4-AT
AB2 with Impact

			G1	G2	G3	Total
Dead Load			1421.9	1348.7	1692.6	4463.2
Snow Load			85.6	78.6	102.3	266.5
Live Load	Max	G1	981.8	505.3	92.0	1579.1
		G2	462.3	841.7	618.2	1922.2
		G3	174.2	716.9	871.2	1762.4
		G1+G2+G3	703.3	723.9	735.6	2162.8
	min	G1	-189.9	42.7	272.7	125.6
		G2	-13.7	-106.6	-103.6	-223.9
		G3	187.5	-65.5	-170.0	-48.1
		G1+G2+G3	-59.4	-96.3	-148.1	-303.8
D+S+L	Max	G1	2489.2	1932.6	1887.0	6308.8
		G2	1969.8	2269.0	2413.2	6652.0
		G3	1681.7	2144.2	2666.2	6492.1
		G1+G2+G3	2210.8	2151.2	2530.6	6892.5
	min	G1	1317.6	1470.0	2067.7	4855.3
		G2	1493.7	1320.7	1691.4	4505.8
		G3	1694.9	1361.8	1625.0	4681.7
		G1+G2+G3	1448.1	1330.9	1646.9	4425.9

Reactions (kN)
BR4-AT
AB1 without Impact

			G1	G2	G3	Total
Dead Load			1628.4	1515.8	1630.8	4775.0
Snow Load			101.3	95.4	101.6	298.3
Live Load	Max	G1	852.5	518.8	96.9	1468.1
		G2	428.9	784.2	452.3	1665.4
		G3	110.2	595.0	746.8	1452.0
		G1+G2+G3	625.3	602.0	577.0	1804.2
	min	G1	-114.0	-2.1	227.6	111.5
		G2	-22.0	-73.8	-12.5	-108.3
		G3	224.3	-1.1	-110.9	112.3
		G1+G2+G3	-47.6	-62.2	-81.9	-191.7
D+S+L	Max	G1	2582.1	2130.0	1829.2	6541.3
		G2	2158.6	2395.4	2184.7	6738.7
		G3	1839.8	2206.2	2479.2	6525.2
		G1+G2+G3	2354.9	2213.2	2309.4	6877.5
	min	G1	1615.6	1609.1	1960.0	5184.8
		G2	1707.6	1537.4	1719.9	4964.9
		G3	1953.9	1610.1	1621.5	5185.6
		G1+G2+G3	1682.0	1549.0	1650.5	4881.6

Reactions (kN)
BR4-AT
P1 without Impact

			G1	G2	G3	Total
Dead Load			4126.8	3436.4	4052.0	11615.2
Snow Load			276.0	257.0	272.2	805.2
Live Load	Max	G1	1532.4	930.3	141.1	2603.8
		G2	727.0	1448.6	793.6	2969.2
		G3	166.4	1082.5	1411.6	2660.5
		G1+G2+G3	1208.9	1077.2	1027.6	3313.7
	min	G1	-247.4	-17.6	632.9	367.8
		G2	55.7	-186.0	-13.1	-143.3
		G3	631.0	-33.2	-252.7	345.2
		G1+G2+G3	-103.1	-148.6	-198.6	-450.3
D+S+L	Max	G1	5935.3	4623.7	4465.2	15024.2
		G2	5129.8	5142.0	5117.7	15389.6
		G3	4569.3	4775.9	5735.7	15080.9
		G1+G2+G3	5611.7	4770.6	5351.7	15734.1
	min	G1	4155.4	3675.8	4957.0	12788.2
		G2	4458.6	3507.4	4311.1	12277.1
		G3	5033.9	3660.2	4071.5	12765.6
		G1+G2+G3	4299.7	3544.8	4125.5	11970.1

Reactions (kN)
BR4-AT
P2 without Impact

			G1	G2	G3	Total
Dead Load			4082.8	3354.2	4140.9	11577.9
Snow Load			271.3	248.7	276.7	796.7
Live Load	Max	G1	1590.1	926.1	125.8	2642.0
		G2	749.9	1462.8	869.5	3082.2
		G3	155.2	1091.6	1492.3	2739.1
		G1+G2+G3	942.1	1156.9	1332.0	3430.9
	min	G1	-321.7	-25.6	662.1	314.7
		G2	18.3	-222.6	-53.2	-257.5
		G3	635.6	-60.8	-315.2	259.7
		G1+G2+G3	-204.5	-180.5	-182.6	-567.5
D+S+L	Max	G1	5944.2	4529.0	4543.4	15016.6
		G2	5104.0	5065.7	5287.1	15456.7
		G3	4509.3	4694.5	5909.9	15113.7
		G1+G2+G3	5296.2	4759.7	5749.6	15805.5
	min	G1	4032.4	3577.2	5079.7	12689.3
		G2	4372.4	3380.3	4364.4	12117.1
		G3	4989.8	3542.1	4102.4	12634.2
		G1+G2+G3	4149.7	3422.4	4235.0	11807.1

Reactions (kN)
BR4-AT
P3 without Impact

			G1	G2	G3	Total
Dead Load			4754.2	3829.5	4685.2	13269.0
Snow Load			316.3	279.6	313.0	908.9
Live Load	Max	G1	1702.8	941.0	160.8	2804.6
		G2	794.0	1510.0	975.7	3279.7
		G3	207.4	1193.5	1552.9	2953.8
		G1+G2+G3	962.4	1232.9	1421.4	3616.8
	min	G1	-302.4	55.2	714.6	467.4
		G2	67.9	-196.2	-53.7	-182.0
		G3	686.2	-52.6	-280.5	353.1
		G1+G2+G3	-128.5	-156.5	-201.4	-486.4
D+S+L	Max	G1	6773.3	5050.2	5159.0	16982.5
		G2	5864.5	5619.2	5973.9	17457.6
		G3	5277.9	5302.7	6551.2	17131.8
		G1+G2+G3	6032.9	5342.1	6419.7	17794.7
	min	G1	4768.1	4164.4	5712.8	14645.3
		G2	5138.5	3913.0	4944.5	13995.9
		G3	5756.7	4056.6	4717.7	14531.0
		G1+G2+G3	4942.0	3952.7	4796.8	13691.5

Reactions (kN)
BR4-AT
P4 without Impact

			G1	G2	G3	Total
Dead Load			4518.0	3603.1	4559.2	12680.3
Snow Load			297.2	259.8	301.6	858.6
Live Load	Max	G1	1672.8	917.5	152.2	2742.5
		G2	782.2	1469.3	991.4	3242.9
		G3	189.2	1168.9	1548.8	2906.9
		G1+G2+G3	829.4	1240.0	1503.7	3573.1
	min	G1	-342.5	32.2	691.5	381.3
		G2	36.4	-217.9	-93.2	-274.7
		G3	649.6	-72.9	-320.6	256.1
		G1+G2+G3	-133.2	-181.0	-254.1	-568.4
D+S+L	Max	G1	6488.0	4780.4	5012.9	16281.4
		G2	5597.5	5332.1	5852.2	16781.8
		G3	5004.4	5031.8	6409.6	16445.7
		G1+G2+G3	5644.6	5102.8	6364.5	17111.9
	min	G1	4472.8	3895.1	5552.3	13920.2
		G2	4851.6	3645.0	4767.6	13264.2
		G3	5464.9	3790.0	4540.2	13795.0
		G1+G2+G3	4682.1	3681.8	4606.6	12970.5

Reactions (kN)
BR4-AT
P5 without Impact

			G1	G2	G3	Total
Dead Load			4323.8	3375.4	4348.6	12047.8
Snow Load			281.8	240.9	285.3	808.0
Live Load	Max	G1	1643.9	893.0	126.7	2663.6
		G2	776.0	1427.1	987.4	3190.5
		G3	177.0	1135.0	1532.9	2844.9
		G1+G2+G3	810.5	1216.7	1485.3	3512.5
	min	G1	-377.2	6.1	664.8	293.7
		G2	8.4	-248.1	-153.9	-393.6
		G3	618.0	-99.4	-383.9	134.7
		G1+G2+G3	-151.3	-211.7	-314.9	-677.9
D+S+L	Max	G1	6249.6	4509.3	4760.5	15519.4
		G2	5381.7	5043.3	5621.3	16046.4
		G3	4782.7	4751.3	6166.8	15700.7
		G1+G2+G3	5416.2	4833.0	6119.2	16368.4
	min	G1	4228.4	3622.4	5298.7	13149.6
		G2	4614.1	3368.2	4480.0	12462.2
		G3	5223.6	3516.9	4249.9	12990.5
		G1+G2+G3	4454.4	3404.6	4319.0	12178.0

Reactions (kN)
BR4-AT
P6 without Impact

			G1	G2	G3	Total
Dead Load			4908.7	4104.8	4854.7	13868.2
Snow Load			321.4	291.1	319.7	932.2
Live Load	Max	G1	1727.8	959.6	143.0	2830.4
		G2	807.4	1545.0	1050.7	3403.1
		G3	210.5	1213.4	1594.8	3018.7
		G1+G2+G3	844.4	1334.4	1540.7	3719.5
	min	G1	-322.2	83.8	744.8	506.4
		G2	52.2	-227.4	-89.4	-264.7
		G3	714.4	-55.1	-315.9	343.4
		G1+G2+G3	-108.0	-191.8	-240.9	-540.8
D+S+L	Max	G1	6957.8	5355.5	5317.5	17630.8
		G2	6037.5	5941.0	6225.1	18203.6
		G3	5440.5	5609.3	6769.2	17819.1
		G1+G2+G3	6074.4	5730.4	6715.2	18520.0
	min	G1	4907.8	4479.7	5919.2	15306.8
		G2	5282.2	4168.5	5085.0	14535.8
		G3	5944.5	4340.9	4858.5	15143.8
		G1+G2+G3	5122.0	4204.1	4933.5	14259.6

Reactions (kN)
BR4-AT
P7 without Impact

			G1	G2	G3	Total
Dead Load			5114.4	4302.0	5360.9	14777.2
Snow Load			336.2	303.8	354.6	994.6
Live Load	Max	G1	1672.0	970.8	234.0	2876.9
		G2	801.3	1490.6	1053.1	3345.1
		G3	262.7	1190.5	1583.5	3036.7
		G1+G2+G3	832.1	1283.0	1544.5	3659.5
	min	G1	-207.1	117.5	747.5	657.9
		G2	95.6	-122.9	31.1	3.9
		G3	690.2	25.7	-187.3	528.5
		G1+G2+G3	-60.0	-87.8	-121.2	-269.1
D+S+L	Max	G1	7122.6	5576.7	5949.5	18648.8
		G2	6251.9	6096.5	6768.6	19117.0
		G3	5713.3	5796.3	7299.0	18808.6
		G1+G2+G3	6282.7	5888.8	7260.0	19431.4
	min	G1	5243.5	4723.3	6463.0	16429.8
		G2	5546.2	4483.0	5746.6	15775.8
		G3	6140.7	4631.5	5528.1	16300.4
		G1+G2+G3	5390.6	4518.0	5594.3	15502.8

Reactions (kN)
BR4-AT
AB2 without Impact

			G1	G2	G3	Total
Dead Load			1421.9	1348.7	1692.6	4463.2
Snow Load			85.6	78.6	102.3	266.5
Live Load	Max	G1	825.2	422.0	73.7	1320.9
		G2	384.5	709.1	527.8	1621.4
		G3	141.8	603.4	746.9	1492.1
		G1+G2+G3	586.2	609.4	633.0	1828.6
	min	G1	-165.8	36.9	243.9	114.9
		G2	-11.9	-93.5	-85.5	-190.9
		G3	157.9	-58.0	-148.0	-48.2
		G1+G2+G3	-49.9	-84.0	-129.5	-263.3
D+S+L	Max	G1	2332.6	1849.3	1868.7	6050.6
		G2	1892.0	2136.4	2322.8	6351.1
		G3	1649.2	2030.7	2541.9	6221.8
		G1+G2+G3	2093.7	2036.7	2428.0	6558.4
	min	G1	1341.6	1464.2	2038.8	4844.7
		G2	1495.5	1333.8	1709.5	4538.8
		G3	1665.3	1369.2	1647.0	4681.6
		G1+G2+G3	1457.6	1343.3	1665.5	4466.4

Reactions (kN)
BR4-TA
AB1 with Impact

			G1	G2	G3	Total
Dead Load			1623.9	1501.1	1600.5	4725.6
Snow Load			100.1	94.3	100.3	294.8
Live Load	Max	G1	871.7	708.2	131.9	1711.8
		G2	516.7	938.3	528.1	1983.2
		G3	119.6	626.6	1022.3	1768.5
		G1+G2+G3	635.2	740.6	767.1	2142.8
	min	G1	-126.1	3.5	269.1	146.4
		G2	-9.4	-86.7	-37.6	-133.7
		G3	251.3	-8.5	-136.6	106.2
		G1+G2+G3	-45.8	-75.3	-105.5	-226.7
D+S+L	Max	G1	2595.7	2303.6	1832.8	6732.1
		G2	2240.8	2533.8	2229.0	7003.5
		G3	1843.6	2222.1	2723.1	6788.8
		G1+G2+G3	2359.2	2336.1	2468.0	7163.2
	min	G1	1597.9	1599.0	1969.9	5166.8
		G2	1714.6	1508.8	1663.2	4886.6
		G3	1975.3	1586.9	1564.3	5126.5
		G1+G2+G3	1678.2	1520.2	1595.3	4793.7

Reactions (kN)
BR4-TA
P1 with Impact

			G1	G2	G3	Total
Dead Load			4247.9	3493.3	4139.3	11880.4
Snow Load			282.2	261.4	280.6	824.3
Live Load	Max	G1	1645.9	1278.9	212.3	3137.0
		G2	901.2	1733.7	902.1	3537.0
		G3	210.5	1144.2	1838.7	3193.4
		G1+G2+G3	1066.3	1238.7	1629.8	3934.7
	min	G1	-233.7	6.5	773.4	546.2
		G2	69.9	-186.6	31.9	-84.7
		G3	711.5	-23.1	-266.2	422.2
		G1+G2+G3	-85.4	-142.9	-210.3	-438.6
D+S+L	Max	G1	6176.0	5033.5	4632.2	15841.7
		G2	5431.3	5488.4	5322.1	16241.7
		G3	4740.6	4898.9	6258.6	15898.1
		G1+G2+G3	5596.4	4993.4	6049.7	16639.5
	min	G1	4296.4	3761.2	5193.3	13250.9
		G2	4600.0	3568.1	4451.9	12620.0
		G3	5241.6	3731.6	4153.8	13127.0
		G1+G2+G3	4444.7	3611.8	4209.6	12266.1

Reactions (kN)
BR4-TA
P2 with Impact

			G1	G2	G3	Total
Dead Load			3888.9	3208.7	3867.8	10965.4
Snow Load			257.4	240.7	261.3	759.4
Live Load	Max	G1	1649.6	1245.5	152.3	3047.4
		G2	888.2	1726.9	922.8	3537.9
		G3	156.8	1132.4	1850.5	3139.7
		G1+G2+G3	901.3	1234.1	1795.9	3931.3
	min	G1	-348.6	-31.7	762.9	382.6
		G2	14.7	-260.1	-65.6	-310.9
		G3	685.3	-88.0	-357.2	240.1
		G1+G2+G3	-167.8	-215.7	-269.9	-653.4
D+S+L	Max	G1	5796.0	4694.9	4281.3	14772.3
		G2	5034.6	5176.3	5051.9	15262.8
		G3	4303.2	4581.8	5979.5	14864.5
		G1+G2+G3	5047.7	4683.5	5925.0	15656.2
	min	G1	3797.8	3417.6	4892.0	12107.4
		G2	4161.1	3189.3	4063.5	11413.9
		G3	4831.7	3361.4	3771.9	11964.9
		G1+G2+G3	3978.6	3233.7	3859.2	11071.5

Reactions (kN)
BR4-TA
P3 with Impact

			G1	G2	G3	Total
Dead Load			4286.6	3589.1	4275.9	12151.6
Snow Load			285.3	267.2	290.3	842.8
Live Load	Max	G1	1721.2	1285.7	191.2	3198.0
		G2	936.8	1771.3	1000.9	3709.0
		G3	197.4	1187.8	1924.1	3309.3
		G1+G2+G3	939.7	1288.3	1867.5	4095.4
	min	G1	-314.1	25.4	811.7	523.0
		G2	63.6	-230.7	-72.9	-240.1
		G3	720.1	-58.1	-331.8	330.1
		G1+G2+G3	-114.9	-191.4	-264.8	-571.0
D+S+L	Max	G1	6293.0	5142.1	4757.4	16192.5
		G2	5508.7	5627.7	5567.1	16703.5
		G3	4769.3	5044.2	6490.3	16303.8
		G1+G2+G3	5511.5	5144.7	6433.7	17089.9
	min	G1	4257.7	3881.8	5377.9	13517.4
		G2	4635.4	3625.7	4493.3	12754.4
		G3	5291.9	3798.3	4234.4	13324.5
		G1+G2+G3	4457.0	3665.0	4301.4	12423.4

Reactions (kN)
BR4-TA
P4 with Impact

			G1	G2	G3	Total
Dead Load			4219.3	3450.8	4196.3	11866.4
Snow Load			278.2	253.7	282.1	814.0
Live Load	Max	G1	1706.5	1251.2	182.4	3140.1
		G2	923.5	1726.4	1015.8	3665.7
		G3	189.4	1174.8	1906.6	3270.7
		G1+G2+G3	927.9	1269.4	1847.4	4044.8
	min	G1	-344.9	25.4	792.3	472.8
		G2	51.6	-245.6	-104.7	-298.7
		G3	700.0	-81.6	-355.5	262.9
		G1+G2+G3	-128.6	-206.4	-286.3	-621.3
D+S+L	Max	G1	6204.1	4955.7	4660.9	15820.6
		G2	5421.1	5430.9	5494.2	16346.2
		G3	4686.9	4879.3	6385.0	15951.2
		G1+G2+G3	5425.5	4973.9	6325.9	16725.2
	min	G1	4152.7	3729.9	5270.7	13153.3
		G2	4549.2	3458.9	4373.7	12381.8
		G3	5197.6	3622.9	4122.9	12943.4
		G1+G2+G3	4369.0	3498.1	4192.1	12059.2

Reactions (kN)
BR4-TA
P5 with Impact

			G1	G2	G3	Total
Dead Load			3846.8	3124.7	3799.0	10770.6
Snow Load			250.2	226.8	251.8	728.8
Live Load	Max	G1	1653.5	1207.2	124.7	2985.3
		G2	897.5	1679.2	1003.6	3580.3
		G3	142.1	1144.0	1859.9	3146.0
		G1+G2+G3	889.2	1252.0	1794.5	3935.7
	min	G1	-424.4	-16.7	741.5	300.5
		G2	3.1	-318.2	-212.0	-527.1
		G3	660.0	-144.9	-454.8	60.3
		G1+G2+G3	-164.1	-280.9	-380.1	-825.2
D+S+L	Max	G1	5750.6	4558.6	4175.5	14484.7
		G2	4994.6	5030.6	5054.5	15079.7
		G3	4239.2	4495.4	5910.7	14645.4
		G1+G2+G3	4986.3	4603.5	5845.4	15435.1
	min	G1	3672.7	3334.8	4792.4	11799.9
		G2	4100.2	3033.2	3838.8	10972.3
		G3	4757.1	3206.5	3596.1	11559.7
		G1+G2+G3	3932.9	3070.6	3670.7	10674.2

Reactions (kN)
BR4-TA
P6 with Impact

			G1	G2	G3	Total
Dead Load			4838.5	3878.6	4684.6	13401.6
Snow Load			315.0	275.8	310.4	901.2
Live Load	Max	G1	1812.7	1189.7	235.1	3237.4
		G2	972.5	1743.8	1126.3	3842.5
		G3	214.9	1242.6	1964.4	3421.9
		G1+G2+G3	973.4	1336.8	1896.6	4206.8
	min	G1	-359.1	92.0	834.0	566.9
		G2	65.7	-256.1	-124.4	-314.8
		G3	759.8	-86.6	-367.3	305.9
		G1+G2+G3	-117.3	-216.7	-287.9	-621.9
D+S+L	Max	G1	6966.1	5344.1	5230.1	17540.3
		G2	6126.0	5898.2	6121.2	18145.4
		G3	5368.3	5397.1	6959.3	17724.7
		G1+G2+G3	6126.8	5491.3	6891.6	18509.6
	min	G1	4794.3	4246.4	5829.0	14869.7
		G2	5219.1	3898.3	4870.6	13988.0
		G3	5913.2	4067.8	4627.7	14608.8
		G1+G2+G3	5036.2	3937.7	4707.1	13680.9

Reactions (kN)
BR4-TA
P7 with Impact

			G1	G2	G3	Total
Dead Load			5190.2	4276.0	5372.2	14838.3
Snow Load			339.2	302.1	357.6	998.8
Live Load	Max	G1	1772.5	1262.3	345.9	3380.6
		G2	982.7	1728.1	1169.9	3880.7
		G3	283.9	1241.7	2006.9	3532.5
		G1+G2+G3	972.1	1323.8	1948.2	4244.0
	min	G1	-207.5	149.7	882.3	824.5
		G2	124.4	-124.5	39.3	39.2
		G3	753.0	31.5	-198.5	586.0
		G1+G2+G3	-48.9	-86.2	-127.2	-262.3
D+S+L	Max	G1	7301.8	5840.4	6075.6	19217.8
		G2	6512.1	6306.2	6899.6	19717.9
		G3	5813.3	5819.8	7736.6	19369.7
		G1+G2+G3	6501.4	5901.9	7677.9	20081.2
	min	G1	5321.9	4727.8	6612.0	16661.7
		G2	5653.7	4453.6	5769.1	15876.4
		G3	6282.4	4609.6	5531.2	16423.2
		G1+G2+G3	5480.4	4491.9	5602.6	15574.9

Reactions (kN)
BR4-TA
AB2 with Impact

			G1	G2	G3	Total
Dead Load			1417.1	1310.4	1674.7	4402.2
Snow Load			84.4	76.5	101.5	262.4
Live Load	Max	G1	826.4	544.2	123.3	1493.9
		G2	458.9	830.0	607.1	1896.0
		G3	151.9	612.5	1027.4	1791.8
		G1+G2+G3	585.4	656.6	896.1	2138.0
	min	G1	-178.5	38.6	282.3	142.3
		G2	-5.2	-105.2	-107.1	-217.5
		G3	174.8	-66.9	-177.6	-69.7
		G1+G2+G3	-50.3	-94.4	-154.3	-298.9
D+S+L	Max	G1	2328.0	1931.1	1899.4	6158.5
		G2	1960.5	2216.9	2383.2	6560.6
		G3	1653.5	1999.4	2803.5	6456.4
		G1+G2+G3	2086.9	2043.5	2672.2	6802.6
	min	G1	1323.0	1425.5	2058.4	4806.9
		G2	1496.4	1281.7	1669.0	4447.1
		G3	1676.4	1320.0	1598.5	4594.9
		G1+G2+G3	1451.3	1292.5	1621.9	4365.7

Reactions (kN)
BR4-TA
AB1 without Impact

			G1	G2	G3	Total
Dead Load			1623.9	1501.1	1600.5	4725.6
Snow Load			100.1	94.3	100.3	294.8
Live Load	Max	G1	738.4	588.8	107.5	1434.7
		G2	436.2	780.9	437.1	1654.2
		G3	97.9	519.9	849.7	1467.4
		G1+G2+G3	541.8	615.8	635.2	1792.8
	min	G1	-106.2	2.3	224.1	120.1
		G2	-2.0	-73.5	-31.2	-106.7
		G3	223.1	-6.5	-115.6	101.0
		G1+G2+G3	-39.5	-63.2	-87.2	-189.9
D+S+L	Max	G1	2462.4	2184.3	1808.4	6455.0
		G2	2160.2	2376.4	2137.9	6674.5
		G3	1821.9	2115.3	2550.5	6487.8
		G1+G2+G3	2265.8	2211.3	2336.1	6813.1
	min	G1	1617.8	1597.8	1924.9	5140.5
		G2	1722.0	1522.0	1669.7	4913.7
		G3	1947.1	1589.0	1585.3	5121.4
		G1+G2+G3	1684.5	1532.3	1613.7	4830.5

Reactions (kN)
BR4-TA
P1 without Impact

			G1	G2	G3	Total
Dead Load			4247.9	3493.3	4139.3	11880.4
Snow Load			282.2	261.4	280.6	824.3
Live Load	Max	G1	1407.5	1060.3	171.9	2639.7
		G2	762.8	1441.7	746.8	2951.4
		G3	171.6	949.4	1528.2	2649.2
		G1+G2+G3	925.9	1027.1	1350.0	3303.1
	min	G1	-198.3	3.7	642.9	448.3
		G2	80.3	-160.4	24.8	-55.4
		G3	631.1	-21.9	-226.7	382.5
		G1+G2+G3	-74.4	-120.7	-175.5	-370.6
D+S+L	Max	G1	5937.6	4814.9	4591.9	15344.4
		G2	5292.9	5196.4	5166.8	15656.1
		G3	4701.7	4704.1	5948.1	15354.0
		G1+G2+G3	5456.0	4781.8	5769.9	16007.8
	min	G1	4331.8	3758.4	5062.8	13153.0
		G2	4610.4	3594.3	4444.7	12649.4
		G3	5161.2	3732.8	4193.3	13087.2
		G1+G2+G3	4455.7	3634.0	4244.4	12334.1

Reactions (kN)
BR4-TA
P2 without Impact

			G1	G2	G3	Total
Dead Load			3888.9	3208.7	3867.8	10965.4
Snow Load			257.4	240.7	261.3	759.4
Live Load	Max	G1	1417.0	1037.6	123.7	2578.3
		G2	756.1	1443.4	768.6	2968.1
		G3	125.9	944.2	1547.5	2617.6
		G1+G2+G3	791.7	1029.2	1496.4	3317.3
	min	G1	-296.2	-27.7	638.7	314.8
		G2	32.1	-221.8	-54.1	-243.8
		G3	614.5	-72.3	-302.0	240.2
		G1+G2+G3	-145.4	-181.4	-223.4	-550.1
D+S+L	Max	G1	5563.4	4487.0	4252.8	14303.1
		G2	4902.5	4892.8	4897.7	14692.9
		G3	4272.3	4393.6	5676.5	14342.5
		G1+G2+G3	4938.1	4478.6	5625.5	15042.1
	min	G1	3850.2	3421.7	4767.8	12039.7
		G2	4178.5	3227.6	4075.0	11481.0
		G3	4760.9	3377.1	3827.1	11965.0
		G1+G2+G3	4001.0	3268.0	3905.7	11174.7

Reactions (kN)
BR4-TA
P3 without Impact

			G1	G2	G3	Total
Dead Load			4286.6	3589.1	4275.9	12151.6
Snow Load			285.3	267.2	290.3	842.8
Live Load	Max	G1	1483.6	1077.7	156.0	2717.3
		G2	802.1	1487.7	835.8	3125.7
		G3	161.0	994.7	1614.7	2770.3
		G1+G2+G3	828.4	1079.6	1561.4	3469.4
	min	G1	-267.8	20.0	682.0	434.2
		G2	72.6	-197.7	-60.6	-185.7
		G3	644.3	-49.3	-282.4	312.7
		G1+G2+G3	-100.9	-161.6	-220.4	-482.9
D+S+L	Max	G1	6055.5	4934.0	4722.2	15711.7
		G2	5374.0	5344.1	5402.1	16120.1
		G3	4732.8	4851.0	6180.9	15764.8
		G1+G2+G3	5400.3	4935.9	6127.7	16463.8
	min	G1	4304.0	3876.4	5248.2	13428.7
		G2	4644.5	3658.7	4505.6	12808.7
		G3	5216.2	3807.1	4283.8	13307.1
		G1+G2+G3	4470.9	3694.7	4345.8	12511.5

Reactions (kN)
BR4-TA
P4 without Impact

			G1	G2	G3	Total
Dead Load			4219.3	3450.8	4196.3	11866.4
Snow Load			278.2	253.7	282.1	814.0
Live Load	Max	G1	1472.9	1048.9	148.7	2670.5
		G2	791.6	1450.9	849.3	3091.8
		G3	153.6	984.4	1601.3	2739.3
		G1+G2+G3	819.5	1064.4	1545.6	3429.5
	min	G1	-294.6	20.2	666.6	392.1
		G2	62.2	-210.5	-87.4	-235.7
		G3	628.4	-69.1	-302.7	256.6
		G1+G2+G3	-113.2	-174.4	-238.5	-526.1
D+S+L	Max	G1	5970.4	4753.4	4627.1	15351.0
		G2	5289.2	5155.3	5327.7	15772.2
		G3	4651.2	4688.9	6079.8	15419.8
		G1+G2+G3	5317.1	4768.9	6024.1	16110.0
	min	G1	4202.9	3724.7	5145.0	13072.6
		G2	4559.8	3493.9	4391.1	12444.8
		G3	5126.0	3635.4	4175.7	12937.1
		G1+G2+G3	4384.4	3530.1	4239.9	12154.4

Reactions (kN)
BR4-TA
P5 without Impact

			G1	G2	G3	Total
Dead Load			3846.8	3124.7	3799.0	10770.6
Snow Load			250.2	226.8	251.8	728.8
Live Load	Max	G1	1427.8	1011.0	97.6	2536.4
		G2	770.6	1411.0	837.9	3019.4
		G3	111.0	957.1	1561.9	2630.0
		G1+G2+G3	786.4	1049.6	1500.1	3336.1
	min	G1	-367.6	-18.7	622.1	235.7
		G2	16.4	-276.0	-182.9	-442.5
		G3	593.3	-125.7	-392.3	75.2
		G1+G2+G3	-146.7	-241.6	-322.8	-711.0
D+S+L	Max	G1	5524.9	4362.5	4148.4	14035.8
		G2	4867.6	4762.4	4888.8	14518.8
		G3	4208.1	4308.5	5612.8	14129.4
		G1+G2+G3	4883.5	4401.1	5551.0	14835.5
	min	G1	3729.4	3332.7	4673.0	11735.1
		G2	4113.5	3075.4	3868.0	11056.9
		G3	4690.3	3225.8	3658.5	11574.6
		G1+G2+G3	3950.4	3109.9	3728.1	10788.3

Reactions (kN)
BR4-TA
P6 without Impact

			G1	G2	G3	Total
Dead Load			4838.5	3878.6	4684.6	13401.6
Snow Load			315.0	275.8	310.4	901.2
Live Load	Max	G1	1589.2	1015.9	197.2	2802.3
		G2	849.6	1485.9	956.7	3292.2
		G3	183.3	1058.5	1676.5	2918.3
		G1+G2+G3	873.3	1138.7	1611.6	3623.6
	min	G1	-307.7	78.9	711.6	482.9
		G2	75.3	-219.4	-102.4	-246.5
		G3	690.2	-71.3	-314.3	304.5
		G1+G2+G3	-103.5	-182.8	-240.0	-526.3
D+S+L	Max	G1	6742.7	5170.3	5192.2	17105.1
		G2	6003.0	5640.3	5951.7	17595.0
		G3	5336.8	5212.9	6671.4	17221.1
		G1+G2+G3	6026.8	5293.1	6606.6	17926.4
	min	G1	4845.8	4233.4	5706.6	14785.7
		G2	5228.8	3935.0	4892.5	14056.3
		G3	5843.6	4083.1	4680.6	14607.4
		G1+G2+G3	5049.9	3971.6	4755.0	13776.5

Reactions (kN)
BR4-TA
P7 without Impact

			G1	G2	G3	Total
Dead Load			5190.2	4276.0	5372.2	14838.3
Snow Load			339.2	302.1	357.6	998.8
Live Load	Max	G1	1543.8	1067.8	287.1	2898.7
		G2	853.8	1468.6	986.5	3309.0
		G3	238.4	1052.7	1699.7	2990.8
		G1+G2+G3	866.3	1121.7	1644.0	3632.0
	min	G1	-176.9	127.3	750.1	700.5
		G2	126.8	-108.3	34.0	52.6
		G3	683.1	28.1	-173.1	538.1
		G1+G2+G3	-42.8	-72.8	-106.2	-221.7
D+S+L	Max	G1	7073.1	5645.9	6016.8	18735.9
		G2	6383.2	6046.7	6716.2	19146.2
		G3	5767.7	5630.8	7429.5	18828.0
		G1+G2+G3	6395.7	5699.8	7373.7	19469.2
	min	G1	5352.4	4705.4	6479.8	16537.7
		G2	5656.1	4469.9	5763.8	15889.7
		G3	6212.4	4606.2	5556.7	16375.3
		G1+G2+G3	5486.5	4505.4	5623.6	15615.4

Reactions (kN)
BR4-TA
AB2 without Impact

			G1	G2	G3	Total
Dead Load			1417.1	1310.4	1674.7	4402.2
Snow Load			84.4	76.5	101.5	262.4
Live Load	Max	G1	706.6	456.4	100.4	1263.4
		G2	392.4	697.2	507.6	1597.2
		G3	124.6	513.0	861.8	1499.4
		G1+G2+G3	504.1	551.2	749.5	1804.9
	min	G1	-154.5	31.0	236.0	112.5
		G2	-1.7	-91.1	-93.0	-185.8
		G3	159.6	-57.2	-153.9	-51.4
		G1+G2+G3	-45.4	-81.4	-132.1	-258.8
D+S+L	Max	G1	2208.2	1843.3	1876.5	5928.0
		G2	1894.0	2084.1	2283.7	6261.8
		G3	1626.2	1899.9	2637.9	6164.0
		G1+G2+G3	2005.7	1938.1	2525.7	6469.5
	min	G1	1347.1	1417.9	2012.1	4777.1
		G2	1499.9	1295.8	1683.2	4478.9
		G3	1661.2	1329.8	1622.2	4613.2
		G1+G2+G3	1456.2	1305.5	1644.1	4405.8

単位：mm,kN

(BR1-AT)				AB1	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	AB2
G1	Displacement	Temperature		-135.7	-113.0	-90.8	-63.7	-42.5	-21.7	-1.0	19.6	45.8	67.0	88.7	110.9	133.6
		Earthquake(Longitudinal)		98.8	98.8	98.6	98.1	97.8	97.6	97.5	97.6	97.7	97.9	98.2	98.5	98.5
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	422.3	531.3	565.3	532.0	358.7	183.1	8.7	-165.3	-386.4	-559.7	-551.9	-521.3	-415.8
			Trans.	16.3	22.5	21.8	16.6	18.8	-27.1	-37.5	-45.1	-31.0	-1.2	18.7	45.5	28.3
		Earthquake (Longi.)	Longi.	-307.5	-464.3	-613.4	-819.8	-825.0	-823.4	-822.9	-823.5	-824.7	-818.2	-611.3	-462.8	-306.5
			Trans.	-2.9	4.7	0.0	-6.3	-11.3	-9.8	-3.5	1.7	7.5	15.2	10.9	-7.3	6.5
		Earthquake (Trans.)	Longi.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
			Trans.	-274.0	-738.6	-773.7	-799.3	-641.1	-701.9	-640.7	-794.9	-792.6	-652.3	-664.3	-774.0	-267.7
G2	Displacement	Temperature		-135.7	-113.0	-90.8	-63.7	-42.5	-21.7	-1.0	19.6	45.8	67.0	88.7	110.9	133.6
		Earthquake(Longitudinal)		98.8	98.7	98.5	98.1	97.7	97.6	97.5	97.6	97.7	97.9	98.2	98.4	98.4
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	422.3	531.2	565.4	532.3	358.7	182.9	8.5	-165.6	-386.3	-559.6	-551.8	-521.1	-415.7
			Trans.	24.4	38.7	43.8	46.3	34.2	-21.7	-37.6	-44.6	-29.0	9.2	39.4	66.5	39.5
		Earthquake (Longi.)	Longi.	-307.4	-464.1	-613.1	-819.5	-824.7	-823.1	-822.6	-823.2	-824.4	-817.9	-611.0	-462.5	-306.3
			Trans.	-1.3	9.4	6.8	0.1	-7.4	-6.8	-2.4	1.5	5.2	10.2	0.7	-20.9	1.5
		Earthquake (Trans.)	Longi.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Trans.	-274.0	-738.7	-773.7	-799.4	-641.3	-702.6	-641.3	-796.1	-793.7	-652.8	-664.7	-773.7	-267.6
G3	Displacement	Temperature		-135.5	-112.8	-90.6	-63.5	-42.3	-21.5	-0.9	19.6	45.7	66.8	88.5	110.7	133.4
		Earthquake(Longitudinal)		98.7	98.7	98.5	98.0	97.7	97.5	97.4	97.5	97.7	97.8	98.1	98.4	98.4
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	421.6	530.3	564.0	530.3	357.1	181.7	8.0	-165.4	-385.7	-558.4	-550.5	-520.1	-415.0
			Trans.	3.5	-7.1	-6.3	-9.8	-7.3	-45.6	-42.2	-45.2	-38.6	-23.9	-27.0	-10.8	4.1
		Earthquake (Longi.)	Longi.	-307.3	-464.0	-612.9	-819.2	-824.3	-822.7	-822.1	-822.7	-823.9	-817.5	-610.8	-462.4	-306.2
			Trans.	1.0	14.1	9.8	4.1	-0.1	0.0	1.1	0.9	-0.2	2.2	-6.9	-26.4	-1.5
		Earthquake (Trans.)	Longi.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Trans.	-274.0	-738.8	-773.8	-799.4	-641.4	-703.4	-641.9	-797.4	-794.8	-653.2	-665.0	-773.5	-267.5

単位：mm,kN

(BR1-TA)				AB1	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	AB2
G1	Displacement	Temperature		-141.9	-122.0	-102.7	-75.5	-49.0	-22.9	3.0	26.2	52.4	73.6	95.2	117.4	140.0
		Earthquake(Longitudinal)		109.1	109.1	109.1	108.9	108.6	108.4	108.2	108.2	108.2	108.4	108.6	108.8	108.8
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	441.5	573.7	551.6	524.3	413.3	193.3	-25.1	-221.1	-441.9	-510.7	-511.5	-551.7	-435.8
			Trans.	19.6	27.3	18.8	-18.7	-27.1	-41.1	-40.6	-40.9	-9.3	22.7	11.9	14.8	13.4
		Earthquake (Longi.)	Longi.	-339.5	-513.0	-586.1	-756.1	-916.3	-914.4	-912.9	-912.5	-913.0	-752.5	-583.6	-511.4	-338.6
			Trans.	-9.5	-4.0	-4.7	-5.8	-9.7	-4.7	0.8	4.3	11.0	8.4	2.7	-4.2	5.2
		Earthquake (Trans.)	Longi.	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
			Trans.	-242.8	-630.2	-723.0	-881.7	-837.7	-869.3	-790.8	-817.2	-786.9	-654.9	-663.8	-774.2	-267.4
G2	Displacement	Temperature		-141.9	-122.1	-102.7	-75.6	-49.0	-22.9	3.0	26.3	52.4	73.6	95.3	117.5	140.1
		Earthquake(Longitudinal)		109.1	109.1	109.1	108.9	108.6	108.3	108.2	108.1	108.2	108.4	108.6	108.8	108.8
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	441.7	573.9	551.9	524.9	413.5	193.0	-25.5	-221.7	-442.1	-511.1	-511.9	-552.1	-436.1
			Trans.	47.4	79.4	73.6	26.8	-16.7	-42.8	-36.8	-20.3	18.8	59.4	58.6	62.4	36.5
		Earthquake (Longi.)	Longi.	-339.4	-512.7	-585.8	-755.7	-916.0	-914.1	-912.7	-912.3	-912.8	-752.3	-583.4	-511.3	-338.5
			Trans.	-3.7	10.0	11.2	3.3	-7.0	-4.3	0.4	3.8	9.0	5.7	-2.2	-10.8	3.1
		Earthquake (Trans.)	Longi.	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
			Trans.	-242.7	-630.0	-723.0	-883.0	-838.9	-870.6	-791.9	-818.4	-787.8	-655.0	-663.9	-774.2	-267.4
G3	Displacement	Temperature		-141.7	-121.9	-102.5	-75.4	-48.9	-22.9	2.9	26.1	52.2	73.4	95.1	117.2	139.9
		Earthquake(Longitudinal)		109.0	109.1	109.0	108.8	108.5	108.3	108.1	108.1	108.1	108.3	108.6	108.7	108.7
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	440.9	572.8	550.6	523.3	412.6	193.0	-24.8	-220.2	-440.4	-509.5	-510.6	-550.9	-435.3
			Trans.	3.1	-11.1	-20.1	-41.1	-35.0	-42.2	-42.0	-49.7	-33.9	-3.6	-13.5	-10.7	2.8
		Earthquake (Longi.)	Longi.	-339.3	-512.6	-585.7	-755.5	-915.6	-913.6	-912.2	-911.8	-912.3	-751.9	-583.2	-511.1	-338.4
			Trans.	-2.1	13.1	12.6	7.9	-1.4	-1.8	-1.9	-3.2	-1.4	-4.1	-9.6	-16.4	0.1
		Earthquake (Trans.)	Longi.	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
			Trans.	-242.7	-629.8	-723.1	-884.1	-840.0	-871.9	-792.9	-819.5	-788.7	-655.0	-663.9	-774.3	-267.4

単位：mm, kN

(BR2-AT)				AB1	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	AB2
G1	Displacement	Temperature		-199.4	-172.9	-143.8	-115.5	-87.9	-60.9	-34.4	-13.4	12.8	36.3	62.7	89.6	114.4	139.7	159.9	188.6
		Earthquake(Longitudinal)		173.5	173.2	171.9	170.4	168.9	167.6	166.7	166.2	166.1	166.3	166.9	167.9	169.0	170.1	171.0	171.5
		Earthquake(Transversal)		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	0.0	0.0	579.5	572.7	546.8	422.7	238.5	92.9	-88.8	-251.9	-435.5	-557.9	-567.2	-562.8	0.0	0.0
			Trans.	101.5	53.9	14.9	-69.6	-17.8	29.4	37.3	56.7	99.4	76.5	51.5	30.2	33.4	1.6	18.2	9.1
		Earthquake (Longi.)	Longi.	0.0	0.0	-692.5	-845.1	-1051.5	-1163.6	-1156.9	-1153.8	-1152.9	-1154.4	-1158.7	-1044.7	-837.9	-685.4	0.0	0.0
			Trans.	34.8	40.6	-103.9	-88.0	-22.7	12.1	23.3	23.8	13.0	5.2	-7.7	-13.6	-16.3	-21.9	13.1	10.6
		Earthquake (Trans.)	Longi.	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0
			Trans.	-297.5	-916.3	-839.1	-859.3	-844.6	-882.9	-745.3	-767.8	-827.4	-795.4	-887.1	-804.6	-796.6	-612.7	-855.1	-356.1
G2	Displacement	Temperature		-199.1	-172.8	-143.9	-115.7	-88.1	-61.1	-34.6	-13.6	12.5	36.1	62.7	89.7	114.5	139.8	160.0	188.8
		Earthquake(Longitudinal)		173.5	173.1	171.8	170.4	168.9	167.7	166.7	166.2	166.1	166.3	166.9	167.9	169.0	170.1	171.0	171.4
		Earthquake(Transversal)		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	0.0	0.0	579.6	573.6	548.3	423.9	239.9	94.6	-87.0	-250.6	-435.0	-558.1	-567.6	-563.3	0.0	0.0
			Trans.	25.0	5.5	33.5	-66.1	-63.6	-3.6	1.4	-7.2	28.6	44.2	51.7	35.3	-5.3	-23.6	-24.5	-20.7
		Earthquake (Longi.)	Longi.	0.0	0.0	-692.3	-845.0	-1051.5	-1163.9	-1157.1	-1154.0	-1153.1	-1154.7	-1158.9	-1044.7	-837.8	-685.3	0.0	0.0
			Trans.	81.3	104.9	-93.7	-87.3	-6.9	51.0	54.1	47.6	38.4	22.0	0.3	-13.8	-9.2	-13.8	28.9	21.2
		Earthquake (Trans.)	Longi.	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Trans.	-295.9	-916.0	-841.7	-864.4	-848.6	-885.0	-747.0	-769.3	-827.9	-795.4	-886.3	-803.7	-795.3	-612.0	-853.2	-354.8
G3	Displacement	Temperature		-198.8	-172.6	-143.8	-115.8	-88.3	-61.4	-34.8	-13.9	12.3	36.0	62.5	89.5	114.3	139.6	159.9	188.7
		Earthquake(Longitudinal)		173.5	173.1	171.8	170.3	168.8	167.5	166.6	166.1	166.0	166.3	166.9	167.8	169.0	170.1	171.1	171.5
		Earthquake(Transversal)		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	0.0	0.0	579.5	574.2	549.8	426.1	241.8	96.2	-85.7	-249.6	-433.8	-556.8	-566.6	-562.6	0.0	0.0
			Trans.	-86.9	-102.5	14.8	-58.8	-112.7	-114.3	-85.7	-66.6	-1.1	21.7	28.6	23.4	-25.0	9.1	16.9	2.6
		Earthquake (Longi.)	Longi.	0.0	0.0	-692.2	-844.6	-1050.8	-1163.0	-1156.4	-1153.3	-1152.5	-1154.2	-1158.5	-1044.7	-837.9	-685.5	0.0	0.0
			Trans.	55.4	79.1	-82.7	-88.4	-46.4	-15.4	2.0	5.5	1.5	-0.7	-10.5	-14.0	-4.3	-21.8	5.6	7.4
		Earthquake (Trans.)	Longi.	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
			Trans.	-294.3	-916.0	-844.0	-869.7	-852.3	-887.0	-748.9	-771.0	-828.1	-795.3	-885.4	-802.7	-794.1	-611.4	-851.3	-353.4

単位：mm,kN

(BR2-TA)				AB1	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	AB2
G1	Displacement	Temperature		-205.1	-181.6	-155.4	-127.1	-99.5	-72.6	-46.3	-25.5	0.2	23.3	49.1	75.3	102.1	124.0	152.1	172.3	201.1
		Earthquake(Longitudinal)		170.0	169.7	168.6	167.4	166.0	164.7	163.7	163.2	163.0	163.2	163.7	164.5	165.6	166.6	167.9	168.8	169.3
		Earthquake(Transversal)		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	0.0	0.0	647.4	626.0	534.6	504.1	321.2	177.2	-1.6	-161.5	-340.9	-522.8	-548.6	-610.8	-633.8	0.0	0.0
			Trans.	102.1	66.9	37.4	-87.5	-47.7	33.6	42.6	94.6	110.5	76.8	59.1	38.6	22.9	3.8	43.8	19.8	11.3
		Earthquake (Longi.)	Longi.	0.0	0.0	-702.6	-824.5	-892.0	-1143.6	-1136.7	-1133.3	-1131.9	-1132.8	-1136.3	-1142.0	-889.6	-820.8	-699.6	0.0	0.0
			Trans.	29.2	39.9	-84.0	-89.5	-43.8	14.7	30.5	31.0	15.6	7.7	-4.9	-11.8	-17.9	-15.7	-36.6	47.8	23.9
		Earthquake (Trans.)	Longi.	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0
			Trans.	-266.7	-807.1	-803.1	-869.7	-841.7	-883.9	-745.1	-769.4	-827.3	-799.4	-867.1	-882.5	-743.1	-793.6	-693.8	-826.2	-360.4
G2	Displacement	Temperature		-204.9	-181.5	-155.4	-127.2	-99.7	-72.8	-46.5	-25.8	-0.1	23.1	49.1	75.4	102.2	124.1	152.2	172.4	201.3
		Earthquake(Longitudinal)		170.0	169.7	168.6	167.3	166.0	164.7	163.7	163.2	163.1	163.2	163.7	164.5	165.6	166.6	167.9	168.8	169.2
		Earthquake(Transversal)		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	0.0	0.0	647.4	626.7	535.8	505.5	322.8	179.2	0.4	-160.3	-340.6	-523.4	-549.0	-611.3	-634.3	0.0	0.0
			Trans.	17.1	-10.2	36.8	-76.2	-87.9	-14.1	-23.9	-17.0	10.8	44.2	61.6	49.3	17.9	-12.7	-26.5	-18.4	-11.6
		Earthquake (Longi.)	Longi.	0.0	0.0	-702.5	-824.3	-891.9	-1143.7	-1136.7	-1133.3	-1132.0	-1132.9	-1136.4	-1141.8	-889.6	-820.9	-699.8	0.0	0.0
			Trans.	59.2	89.0	-80.2	-88.3	-38.1	37.0	41.3	32.8	23.4	12.3	-3.6	-14.5	-17.7	-17.1	-35.7	43.7	31.0
		Earthquake (Trans.)	Longi.	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	0.0
			Trans.	-265.4	-806.2	-805.1	-875.1	-846.1	-886.0	-746.5	-769.7	-827.3	-799.1	-866.2	-881.3	-742.2	-792.4	-692.9	-824.7	-359.1
G3	Displacement	Temperature		-204.6	-181.3	-155.3	-127.3	-100.0	-73.2	-46.8	-26.0	-0.1	23.0	48.9	75.2	102.1	124.0	152.2	172.4	201.3
		Earthquake(Longitudinal)		169.9	169.6	168.6	167.3	166.0	164.7	163.7	163.2	163.0	163.2	163.7	164.5	165.6	166.7	167.9	168.9	169.3
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Horizontal Force	Temperature	Longi.	0.0	0.0	647.3	627.3	537.2	507.8	324.6	180.4	0.8	-159.5	-339.6	-522.1	-548.5	-611.0	-634.2	0.0	0.0
			Trans.	-76.8	-102.8	26.3	-65.1	-144.7	-145.7	-106.7	-41.0	29.3	28.8	39.6	34.4	23.3	-0.8	-54.0	-5.5	-6.6
		Earthquake (Longi.)	Longi.	0.0	0.0	-702.3	-824.0	-891.5	-1143.2	-1136.4	-1133.2	-1131.9	-1132.9	-1136.5	-1142.2	-889.8	-821.0	-699.8	0.0	0.0
			Trans.	62.3	93.5	-62.5	-86.3	-61.2	-6.8	19.9	26.7	16.5	10.9	-1.8	-10.3	-19.1	-19.6	-24.7	33.5	18.3
		Earthquake (Trans.)	Longi.	0.0	0.0	-0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
			Trans.	-264.0	-805.6	-807.0	-880.6	-850.2	-888.2	-748.3	-770.6	-826.9	-798.6	-865.2	-880.0	-741.3	-791.2	-692.1	-823.0	-357.8

単位：mm,kN

(BR4-AT)				AB1	P1	P2	P3	P4	P5	P6	P7	AB2
G1	Displacement	Temperature		-103.2	-80.1	-57.5	-29.7	-2.5	24.7	52.2	86.3	111.9
		Earthquake(Longitudinal)		114.2	114.1	114.1	114.2	114.4	114.6	114.8	115.1	115.2
		Earthquake(Transversal)		-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Horizontal Force	Temperature	Longi.	275.3	556.0	480.1	248.0	20.5	-206.6	-436.4	-663.5	-298.5
			Trans.	93.0	208.3	255.9	274.7	166.2	17.2	-157.4	-398.0	230.4
		Earthquake (Longi.)	Longi.	-304.5	-792.3	-953.6	-954.6	-955.9	-957.5	-959.6	-885.0	-307.1
			Trans.	-11.4	-32.8	-11.8	-33.1	-15.7	-8.5	27.2	93.5	55.6
		Earthquake (Trans.)	Longi.	0.1	0.3	0.3	0.3	0.2	0.1	0.2	-0.2	-0.2
			Trans.	-296.7	-806.4	-819.2	-951.1	-927.5	-887.9	-1020.6	-1078.8	-317.3
G2	Displacement	Temperature		-103.7	-80.6	-58.0	-30.2	-2.9	24.3	51.9	85.9	112.5
		Earthquake(Longitudinal)		114.2	114.2	114.2	114.3	114.5	114.7	114.9	115.1	115.2
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	Horizontal Force	Temperature	Longi.	276.6	559.7	484.6	252.4	24.4	-203.2	-433.4	-660.8	-300.1
			Trans.	-75.5	-139.6	-71.7	80.4	133.8	92.4	15.0	-93.2	-112.3
		Earthquake (Longi.)	Longi.	-304.6	-792.7	-954.1	-955.2	-956.5	-958.1	-960.1	-885.5	-307.2
			Trans.	3.2	3.8	24.6	-9.4	-11.1	-24.0	-9.0	41.4	-2.4
		Earthquake (Trans.)	Longi.	0.1	0.2	0.3	0.2	0.1	-0.1	-0.1	-0.5	-0.3
			Trans.	-294.5	-802.1	-812.7	-941.6	-920.7	-887.9	-1027.6	-1093.0	-291.2
G3	Displacement	Temperature		-104.1	-81.0	-58.5	-30.7	-3.4	23.9	51.4	85.5	113.1
		Earthquake(Longitudinal)		114.3	114.2	114.2	114.4	114.5	114.7	115.0	115.2	115.3
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	Horizontal Force	Temperature	Longi.	277.7	562.6	488.6	256.6	28.4	-199.5	-429.9	-657.8	-301.7
			Trans.	-157.7	-336.7	-307.5	-104.5	95.4	183.1	269.5	291.0	-452.1
		Earthquake (Longi.)	Longi.	-304.7	-792.9	-954.5	-955.6	-957.0	-958.7	-960.7	-886.0	-307.3
			Trans.	13.3	23.4	44.2	10.4	-6.1	-40.1	-44.0	-23.7	-57.4
		Earthquake (Trans.)	Longi.	0.1	0.2	0.2	0.1	0.0	-0.2	-0.3	-0.7	-0.4
			Trans.	-292.7	-797.4	-806.3	-932.9	-914.3	-887.2	-1031.0	-1102.9	-280.4

単位：mm,kN

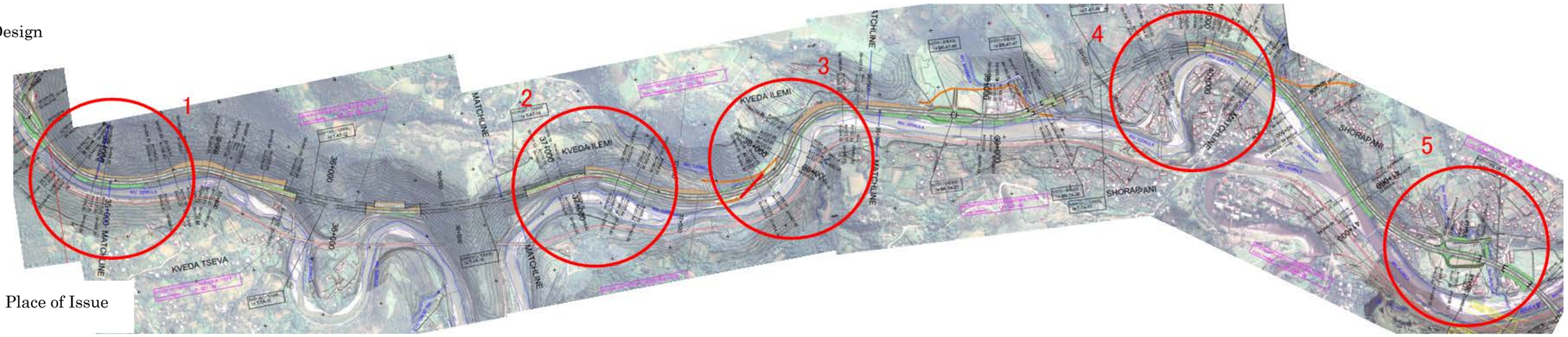
(BR4-TA)				AB1	P1	P2	P3	P4	P5	P6	P7	AB2
G1	Displacement	Temperature		-96.5	-73.2	-50.5	-28.4	-1.1	23.5	48.3	82.3	107.8
		Earthquake(Longitudinal)		109.3	109.2	109.2	109.3	109.5	109.7	110.1	110.5	110.6
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Horizontal Force	Temperature	Longi.	249.5	528.8	426.3	240.0	9.0	-197.9	-407.2	-594.5	-278.8
			Trans.	121.8	283.8	285.6	237.9	136.4	-9.4	-108.8	-364.3	253.3
		Earthquake (Longi.)	Longi.	-282.7	-788.6	-921.2	-922.1	-923.9	-925.9	-928.8	-797.4	-286.0
			Trans.	-18.2	-48.5	-6.2	-31.3	-22.2	-14.5	14.2	106.0	62.4
		Earthquake (Trans.)	Longi.	0.1	0.2	0.3	0.3	0.2	0.1	0.2	-0.2	-0.2
			Trans.	-293.5	-858.7	-683.9	-869.5	-925.1	-761.7	-1002.5	-1099.0	-314.7
G2	Displacement	Temperature		-97.0	-73.8	-51.1	-29.0	-1.5	23.1	47.9	82.0	108.4
		Earthquake(Longitudinal)		109.4	109.3	109.3	109.4	109.6	109.8	110.1	110.5	110.6
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	Horizontal Force	Temperature	Longi.	250.9	532.9	431.1	244.2	12.6	-194.8	-404.4	-592.1	-280.4
			Trans.	-84.5	-150.0	-61.2	62.4	120.2	69.0	1.2	-88.4	-107.7
		Earthquake (Longi.)	Longi.	-282.8	-789.1	-921.8	-922.8	-924.6	-926.6	-929.3	-797.8	-286.1
			Trans.	0.3	-1.1	43.2	-0.4	-18.5	-33.8	-16.4	59.5	5.6
		Earthquake (Trans.)	Longi.	0.1	0.1	0.2	0.2	0.0	0.0	0.0	-0.4	-0.3
			Trans.	-291.2	-853.8	-679.2	-861.1	-918.5	-764.0	-1008.6	-1110.9	-290.5
G3	Displacement	Temperature		-97.5	-74.3	-51.6	-29.4	-2.0	22.6	47.5	81.6	109.0
		Earthquake(Longitudinal)		109.4	109.3	109.3	109.4	109.7	109.9	110.2	110.6	110.7
		Earthquake(Transversal)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	Horizontal Force	Temperature	Longi.	252.0	536.2	435.0	248.2	16.4	-191.0	-400.7	-589.3	-282.0
			Trans.	-189.2	-400.3	-291.6	-79.4	99.1	184.5	239.4	297.4	-457.4
		Earthquake (Longi.)	Longi.	-282.9	-789.4	-922.2	-923.2	-925.2	-927.2	-930.0	-798.3	-286.2
			Trans.	12.6	20.9	59.6	13.6	-16.1	-50.1	-57.6	-11.8	-51.4
		Earthquake (Trans.)	Longi.	0.1	0.1	0.1	0.1	-0.1	-0.2	-0.2	-0.6	-0.3
			Trans.	-289.4	-848.4	-674.9	-853.2	-912.0	-765.5	-1011.5	-1119.7	-280.9

Appendix 4.2

Alignment Design Change History of Mountainous Side (from FS to final DD version)

Alignments Along River Dzirula

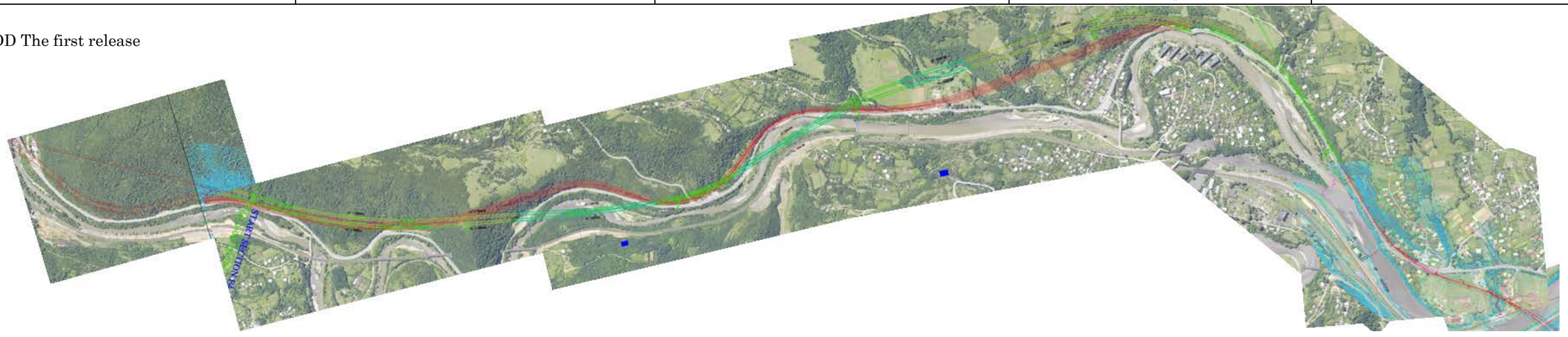
FS Design



Place of Issue

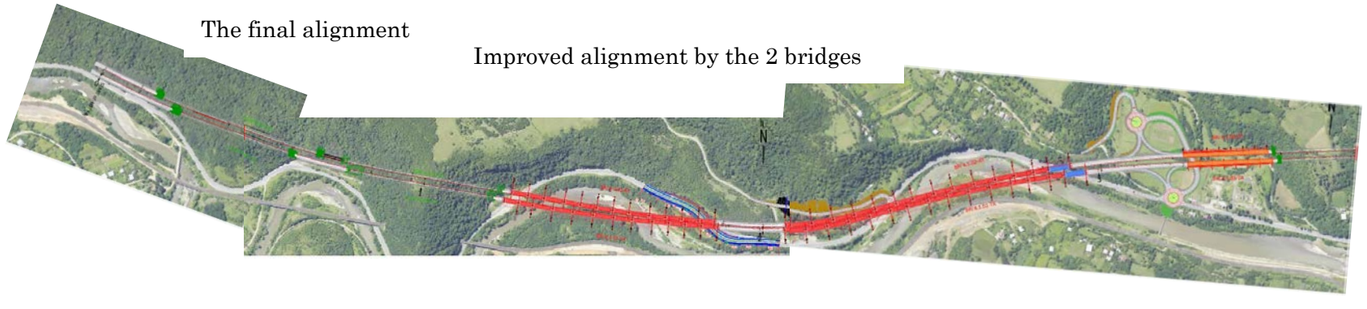
1. Along R. Dzirula by minimum radius of R=250m	2. Along R. Dzirula by radius of R=330m	3. Along R. Dzirula by minimum radius of R=250m.	4. Limited space between the mountain and the river. Structure plans restricted.	5. Radius of S curves ; R=600m.

DD The first release



1. Along river by R=400m. Included in F3 section. The final plan is tunnel structure.	2. Along river by R=400m. Bridge plan discussed. The final plan is bridge structure.	3. Improvement of alignments by bridge. Discussed at ICR negotiation.	4. Bigger distance between directional carriageways.	5. Radius of S curve; R=750m, because of interchenge areas.

The final alignment

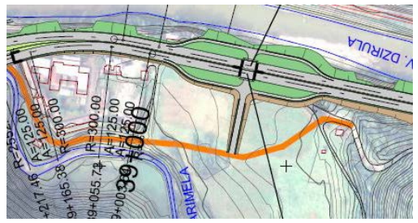
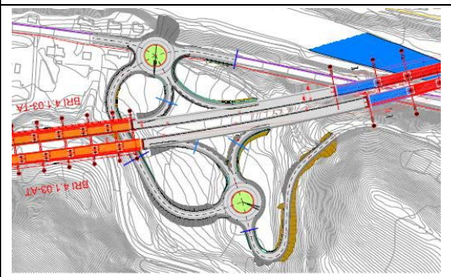
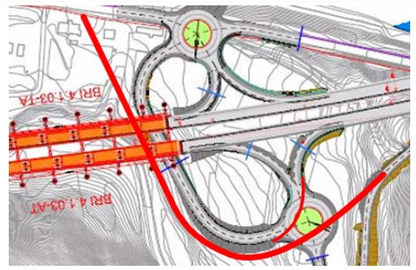
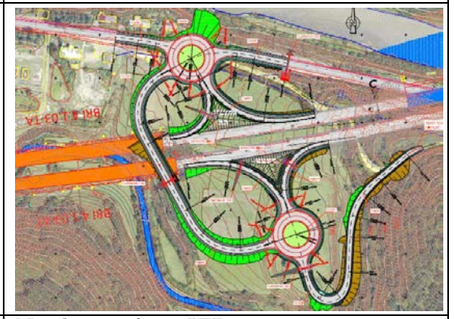
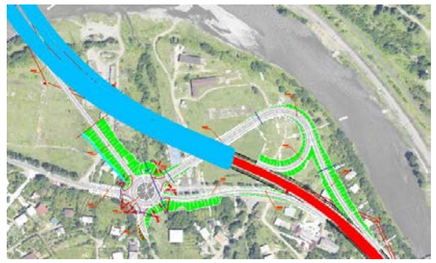
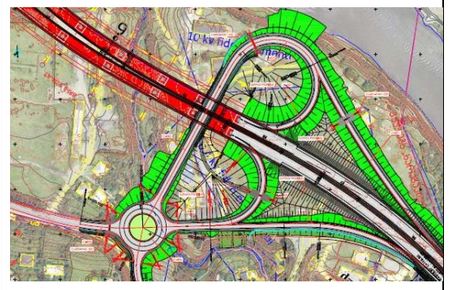
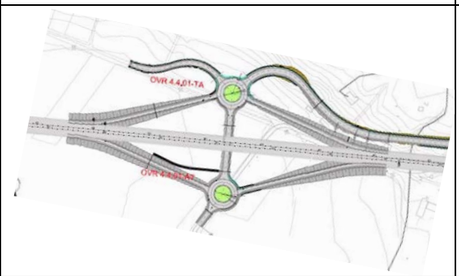
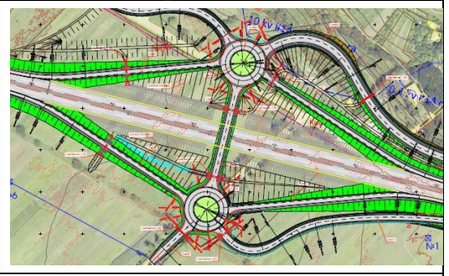
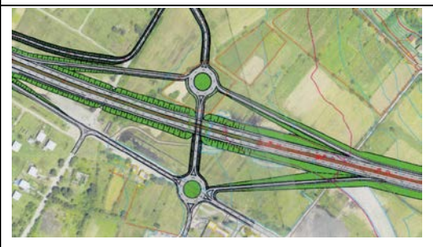
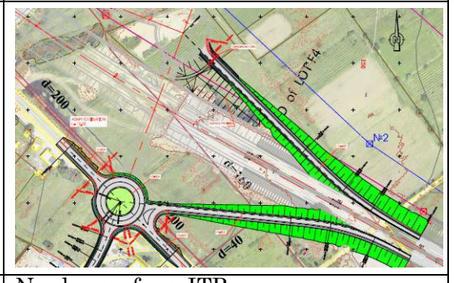


Improved alignment by the 2 bridges

Appendix 4.3

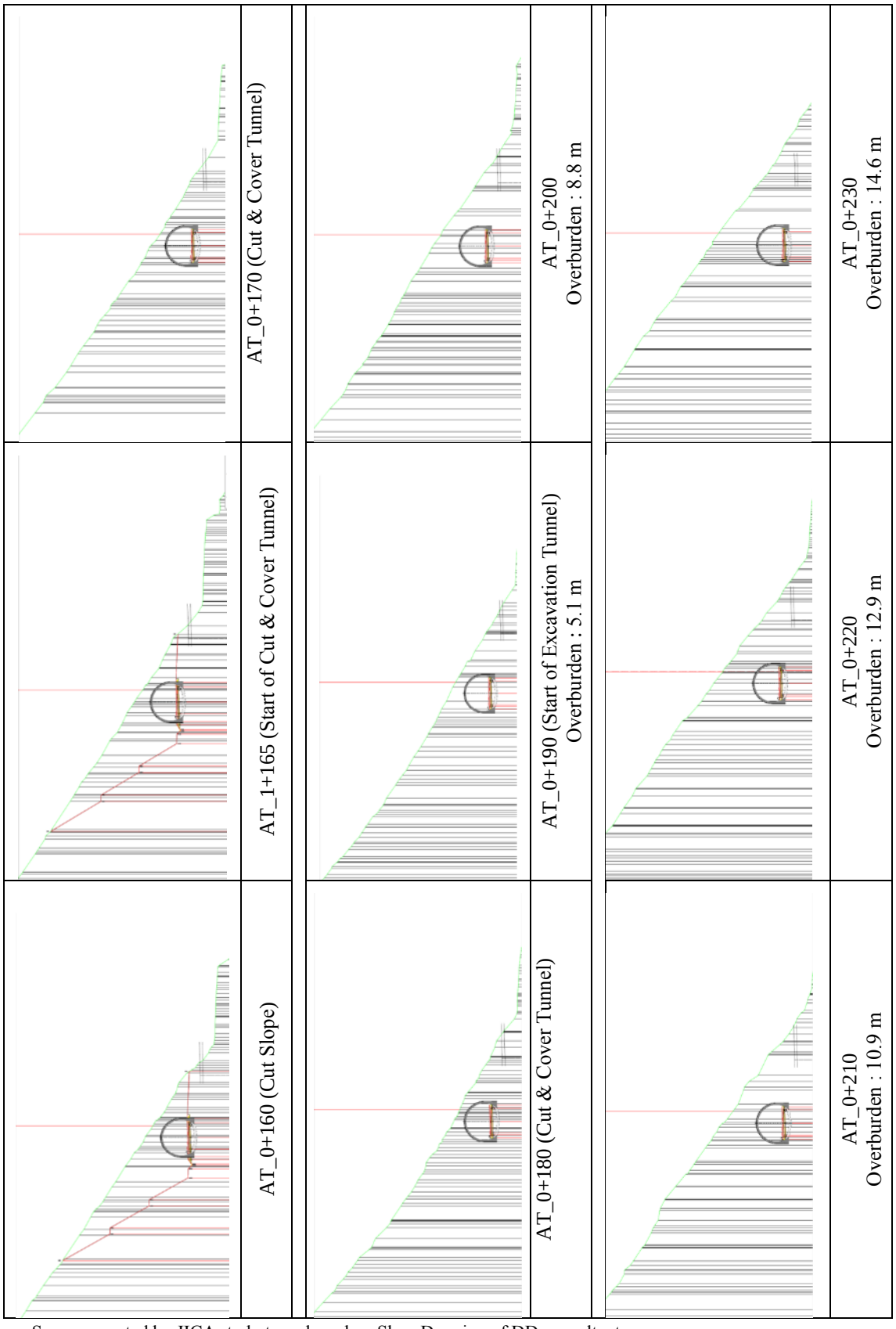
Inter-Change Design Change History
(from FS to final DD version)

Interchange Negotiation Particulars

	FS	Early August 2017	ITR（shown only by line）	Proposals of JST	Draft Final Report
IC-1 Shorapani IC					
JST comments	・Vertical clearance of main line and ramp way is enough?, ・Is an intersection set up at crossing points of ramp ways?	A normal trumpet type IC, an intersection of ramp way and existing road should be well designed.	To set up an intersection at middle of ramp way is a problem. Radius of roundabout is too small. Can semi-trailer turn?	A local road should connect to the existing road through separate road, and roundabout there should be demolished.	No change from ITR.
IC-2 Zestafoni East					
JST comments	This is a variation of trumpet IC, the radius of loop is too small. (about 25m)	A normal trumpet type IC, an intersection of ramp way and existing road should be well designed.	A deceleration lane length of an off ramp facing to Tbilisi seems to be not enough.	The off ramp is moved, to have enough deceleration lane length, but the radius is too small. It should be more than 50m	Radii of main line was enlarged, but basic type of the IC is not changed. The radius is enlarged to 50m.
IC-3 Zestafoni West					
JST comments	The localroads connect to ramp way can bear heavy traffic of Highway?		Radius of roundabout is too small. Can a semi-trailer turn 270 degree?	A simple arrangement of ramp ways. Left turning traffics are treated at weaving section.	No change from ITR.
IC-4 Argveta					
JST comments	This is a variation of half clover leaf type, but radii are too small.		Radius of roundabout is too small. Can a semi-trailer turn 270 degree?		No change from ITR.

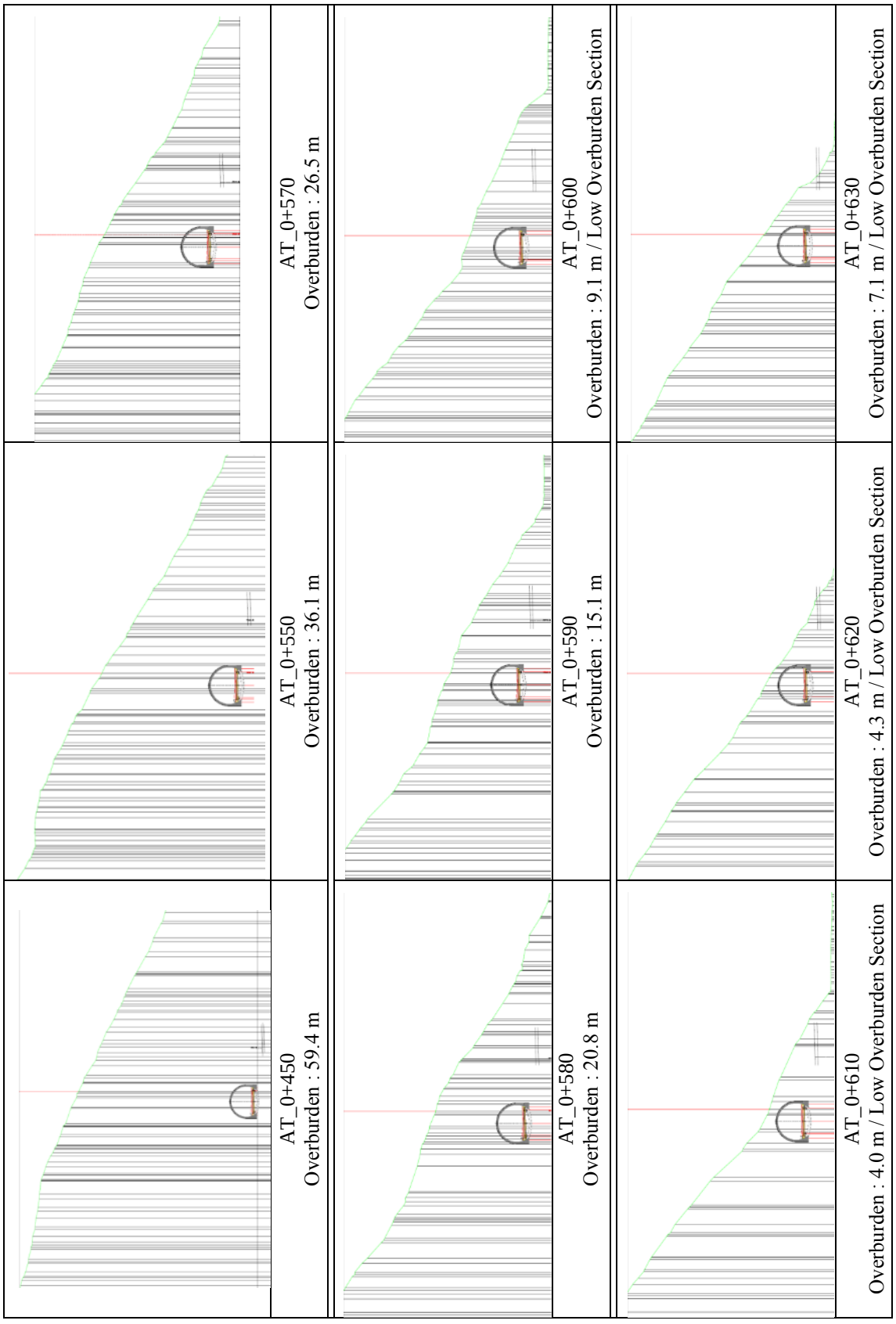
Appendix 4.4

Topography and Tunnel Location



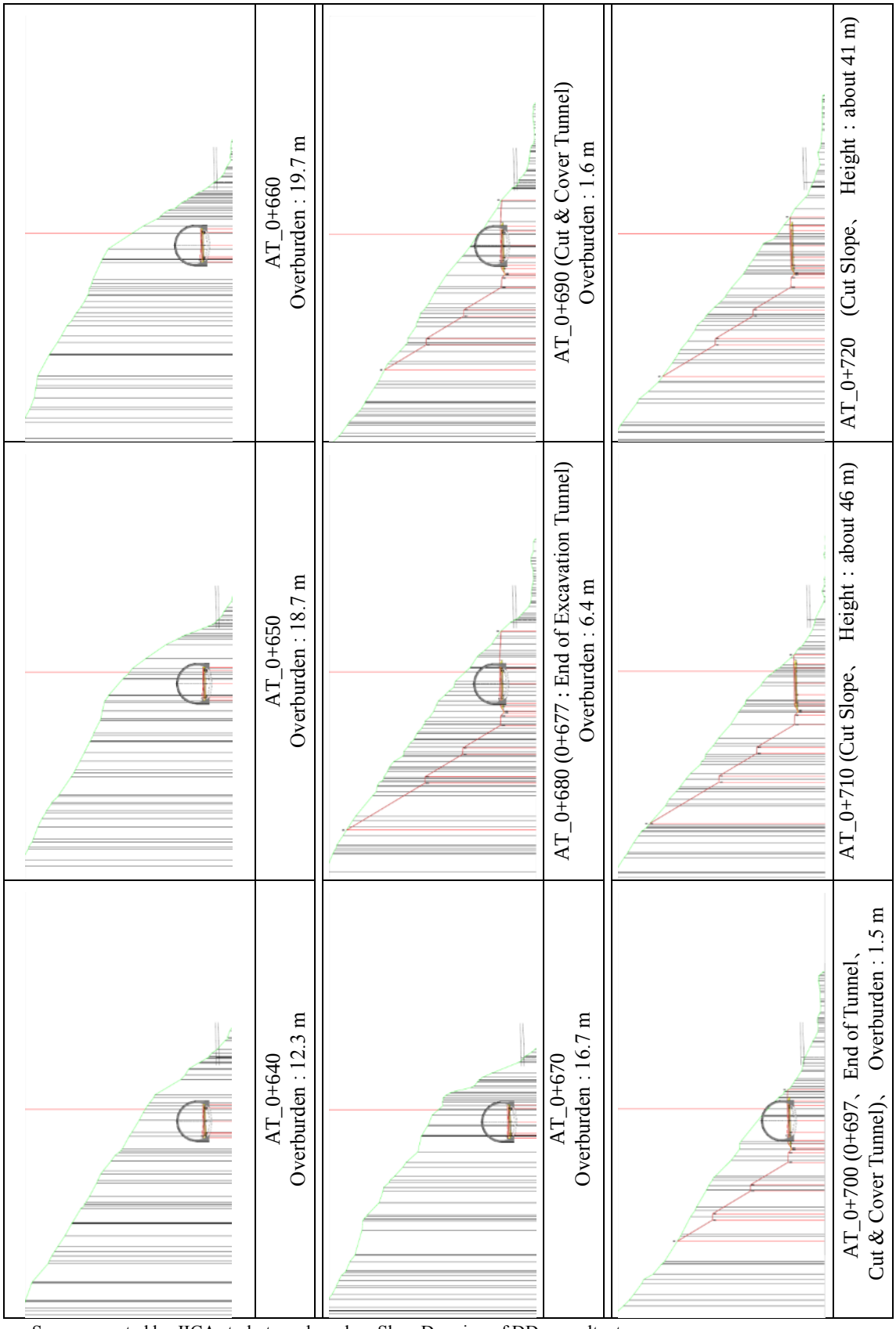
Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 1: Topography and Tunnel Location in Portal Zone (East) of Tunnel AT-1



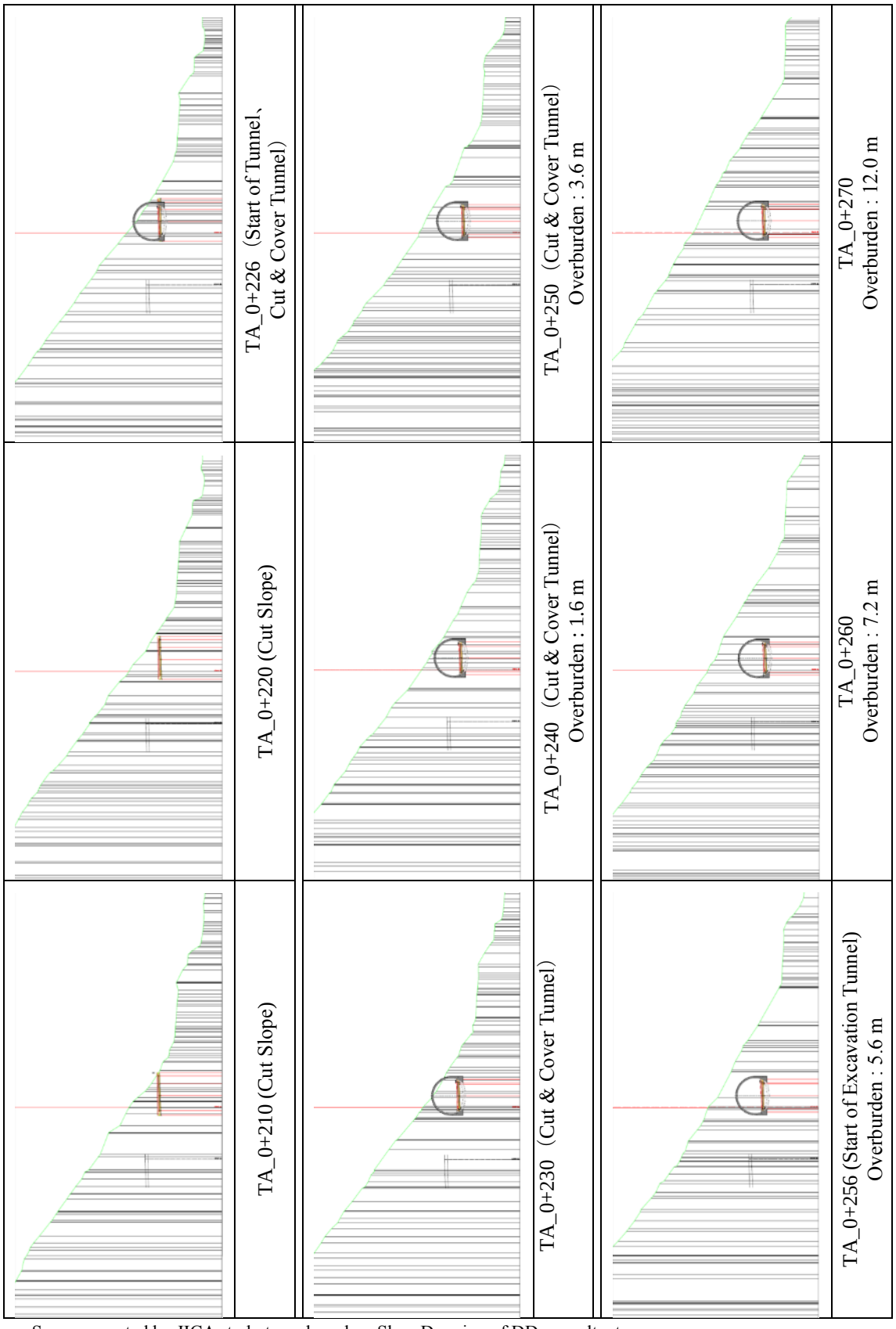
Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 2: Topography and Tunnel Location in Portal Zone (West) of Tunnel AT-1 (1/2)



Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 2: Topography and Tunnel Location in Portal Zone (West) of Tunnel AT-1 (2/2)

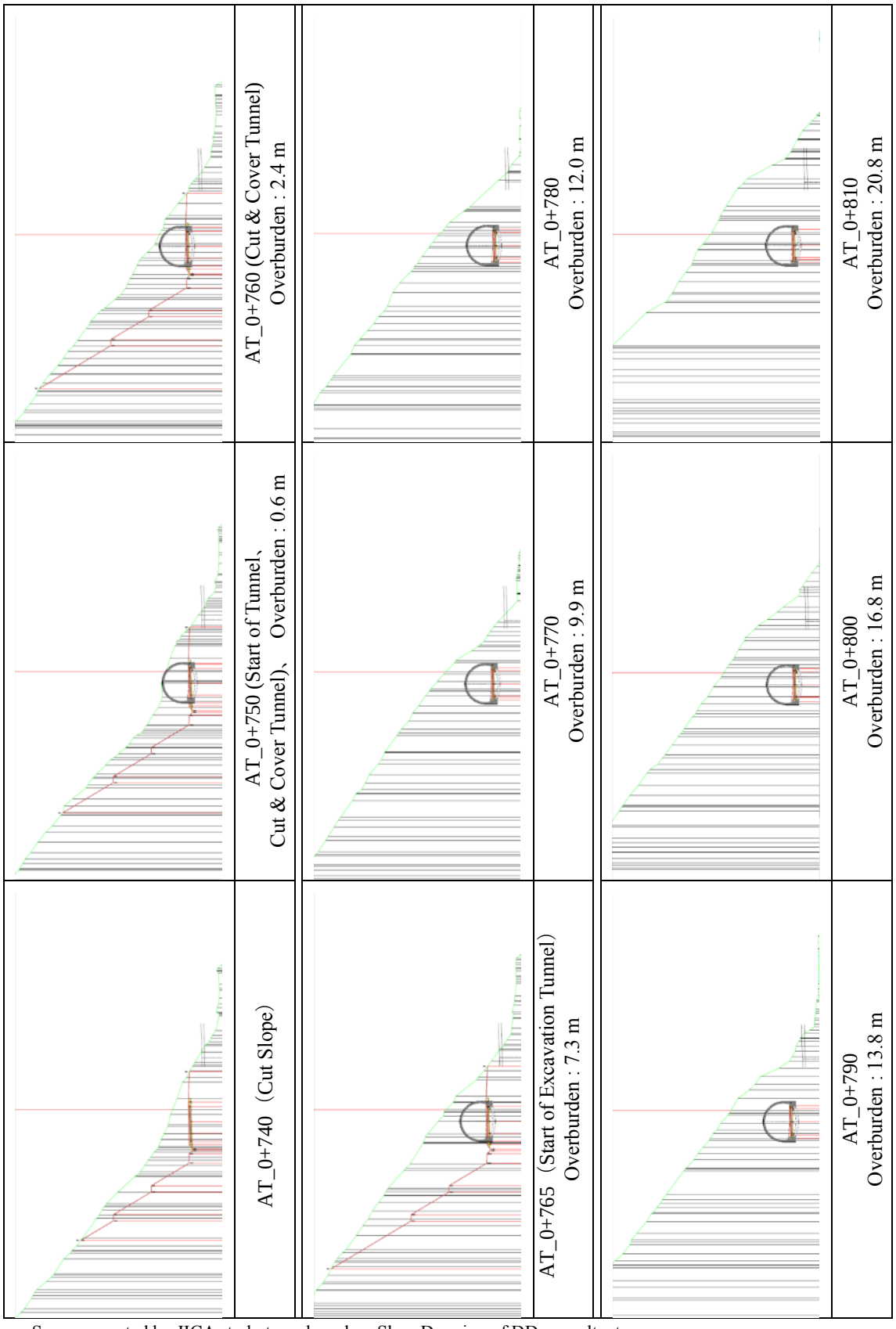


Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 3: Topography and Tunnel Location in Portal Zone (East) of Tunnel TA-1

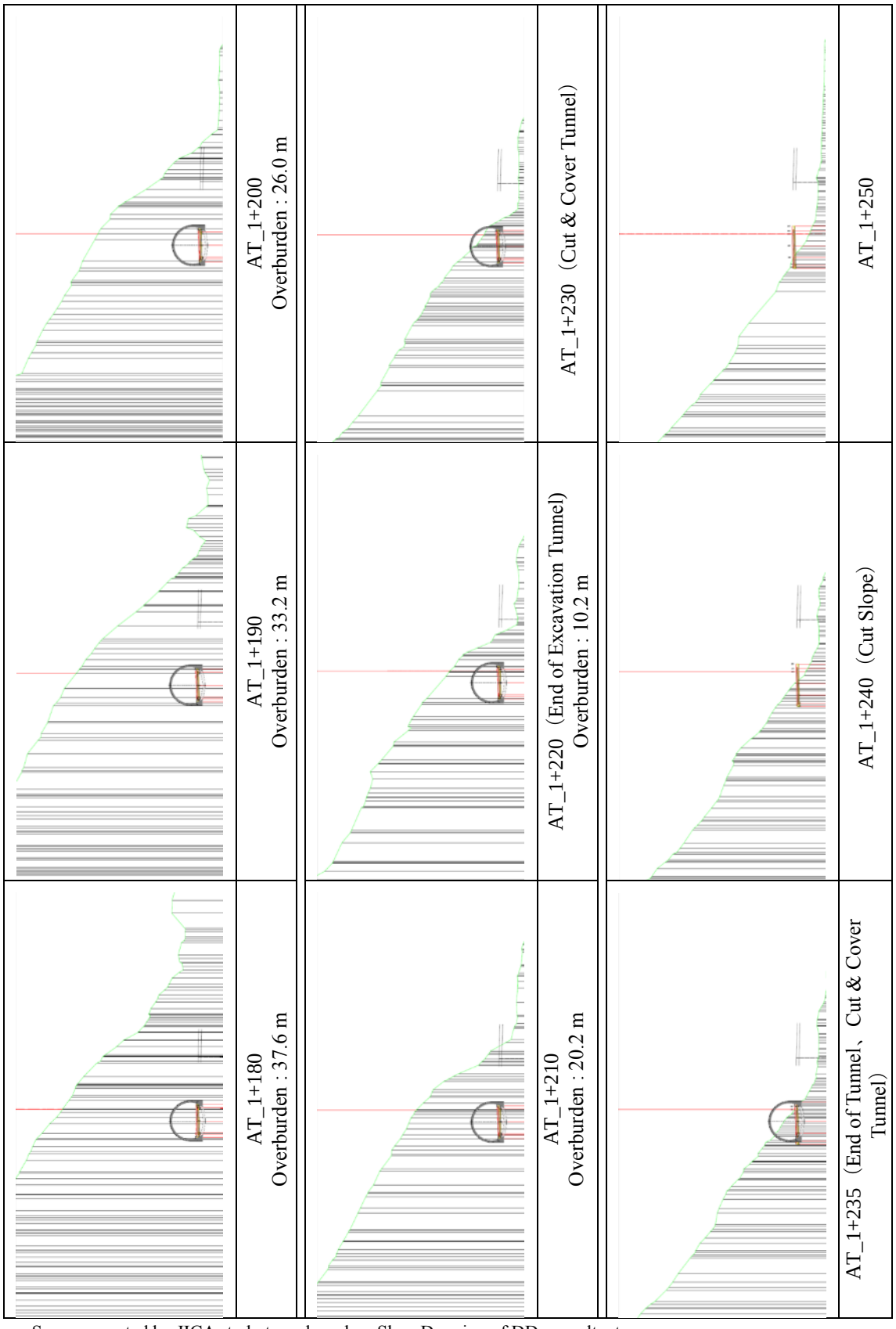
Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 4: Topography and Tunnel Location in Portal Zone (West) of Tunnel TA-1



Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 5: Topography and Tunnel Location in Portal Zone (East) of Tunnel AT-2

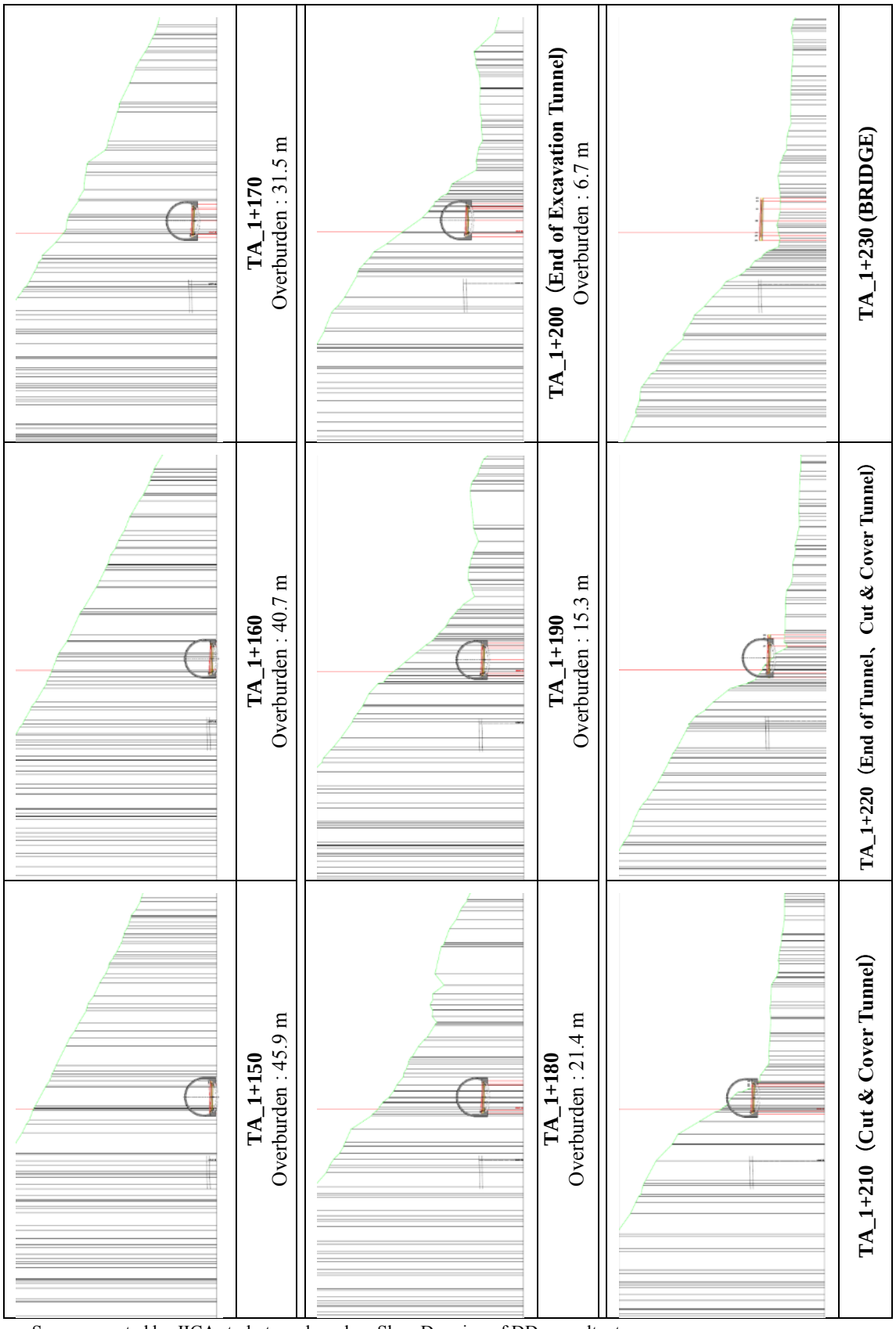


Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 6: Topography and Tunnel Location in Portal Zone (West) of Tunnel AT-2

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 7: Topography and Tunnel Location in Portal Zone (East) of Tunnel TA-2



Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 8: Topography and Tunnel Location in Portal Zone (West) of Tunnel TA-2

Source: created by JICA study team based on Shop Drawing of DD consultants

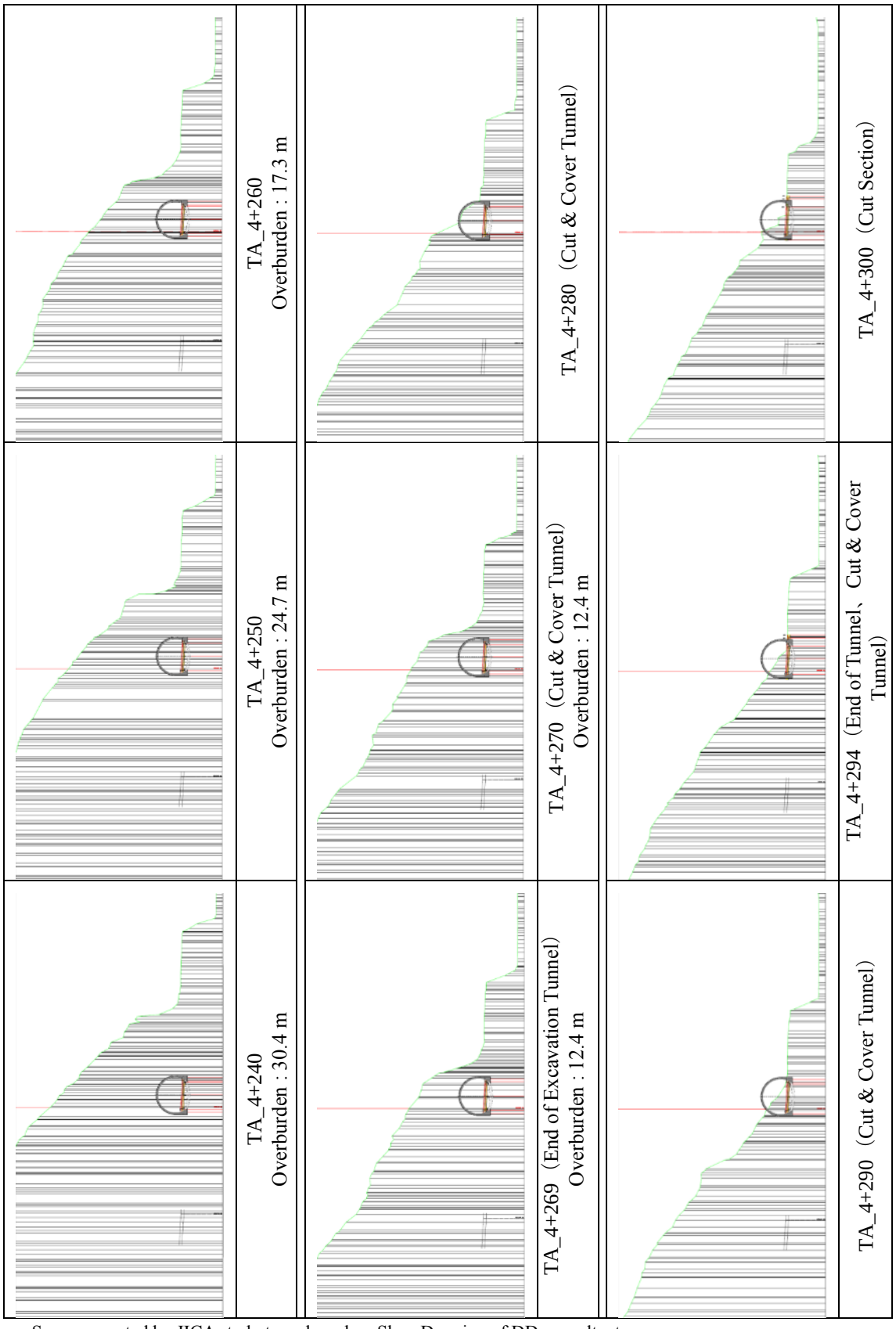
Figure 9: Topography and Tunnel Location in Portal Zone (East) of Tunnel AT-3

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 10: Topography and Tunnel Location in Portal Zone (West) of Tunnel AT-3

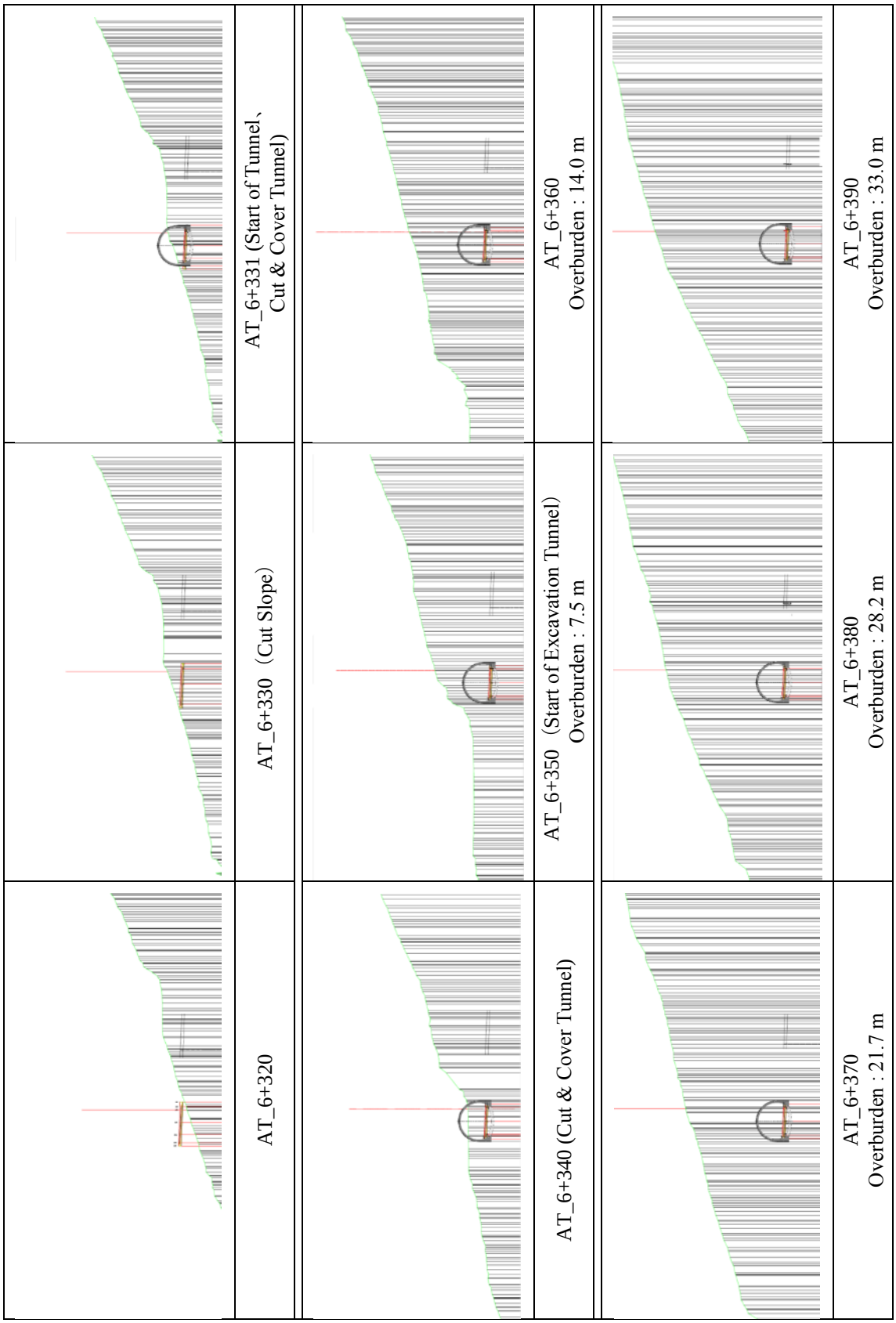
Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 11: Topography and Tunnel Location in Portal Zone (East) of Tunnel TA-3



Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 12: Topography and Tunnel Location in Portal Zone (West) of Tunnel TA-3



Source: created by JICA study team based on Shop Drawing of DD consultants

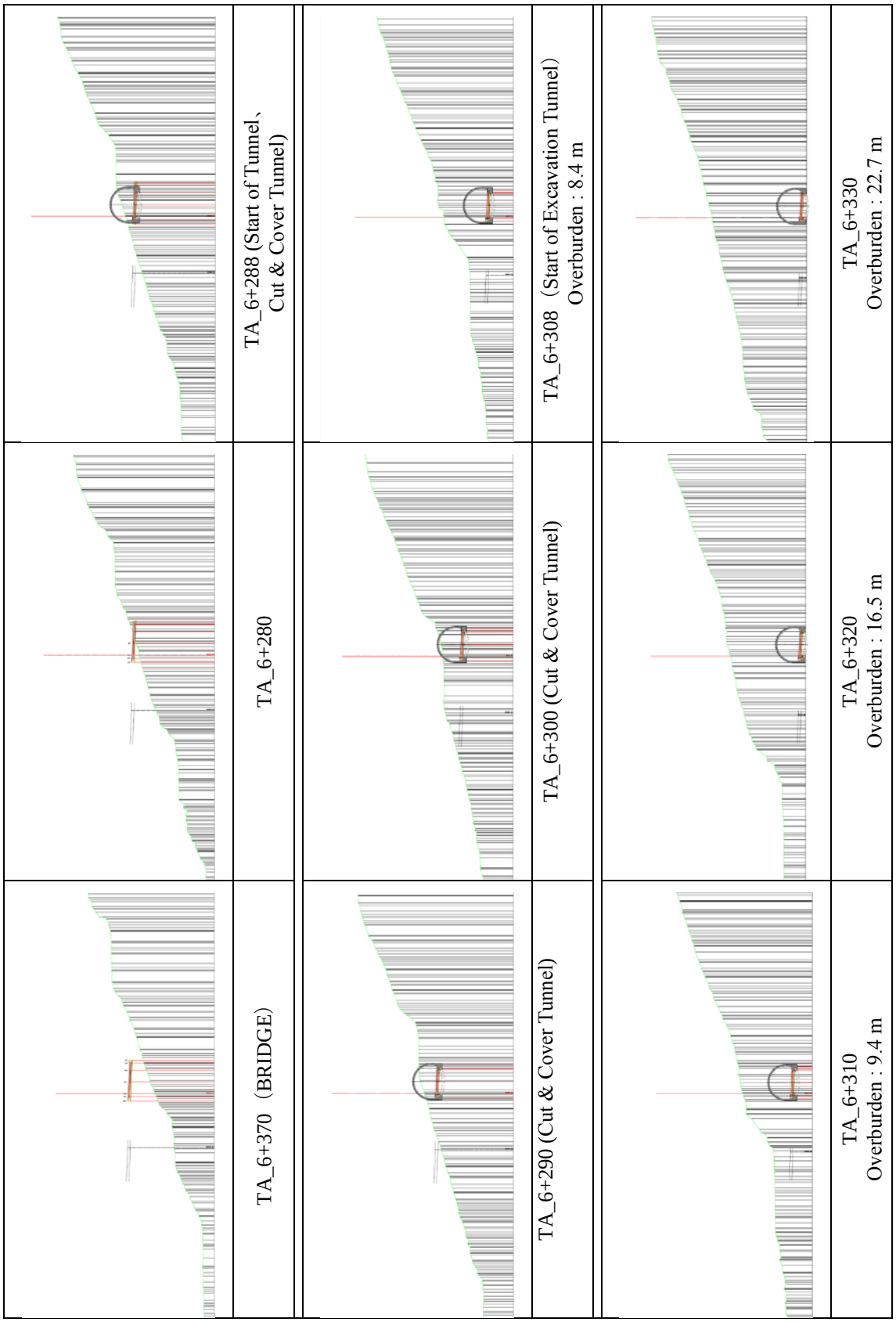
Figure 13: Topography and Tunnel Location in Portal Zone (East) of Tunnel AT-4

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 14: Topography and Tunnel Location in Low Overburden Zone of Tunnel AT-4

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 15: Topography and Tunnel Location in Portal Zone (West) of Tunnel AT-4



Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 16: Topography and Tunnel Location in Portal Zone (East) of Tunnel TA-4

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 17: Topography and Tunnel Location in Low Overburden Zone of Tunnel TA-4

Source: created by JICA study team based on Shop Drawing of DD consultants

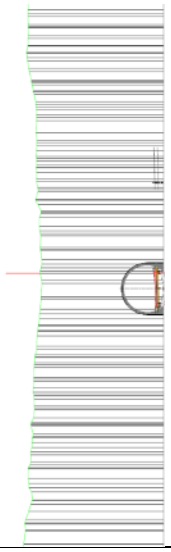
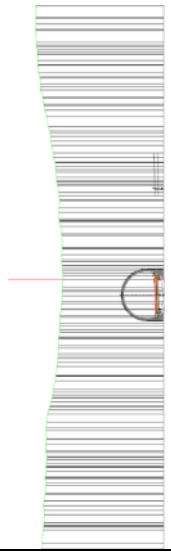
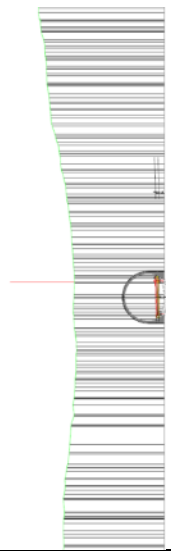
Figure 18: Topography and Tunnel Location in Portal Zone (West) of Tunnel TA-4

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 19: Topography and Tunnel Location in Portal Zone (East) of Tunnel AT-5

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 20: Topography and Tunnel Location in Low overburden Zone of Tunnel AT-5 (1/2)

	AT_7+710 Overburden : 20.3 m				
	AT_7+700 Overburden : 15.0 m				
	AT_7+690 Overburden : 12.6 m				

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 20: Topography and Tunnel Location in Low Overburden Zone of Tunnel AT-5 (2/2)

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 21: Topography and Tunnel Location in Portal zone (West) of Tunnel AT-5 (1/2)

Source: created by JICA study team based on Shop Drawing of DD consultants

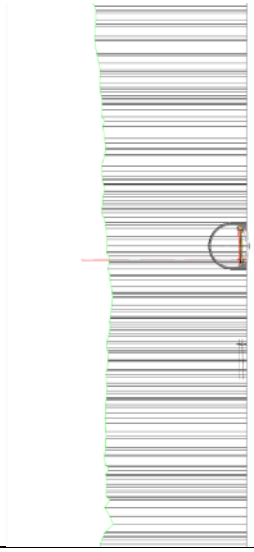
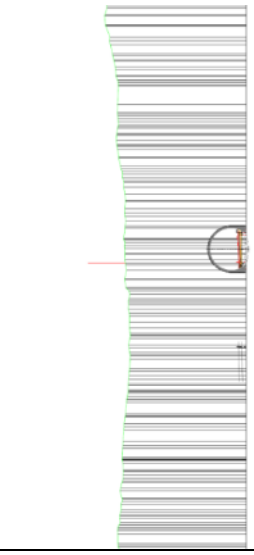
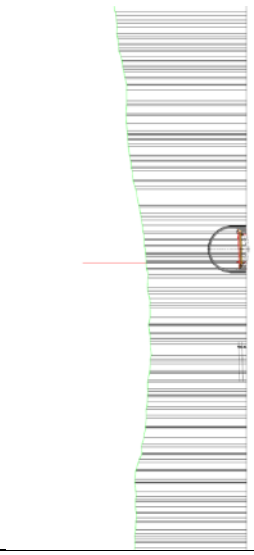
Figure 21: Topography and Tunnel Location in Portal Zone (West) of Tunnel AT-5 (2/2)

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 22: Topography and Tunnel Location in Portal Zone (East) of Tunnel TA-5

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 23: Topography and Tunnel Location in Low overburden Zone of Tunnel TA-5 (1/2)

	TA__7+700 Overburden : 26.8 m				
	TA__7+690 Overburden : 22.1 m				
	TA__7+680 Overburden : 16.8 m				

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 23: Topography and Tunnel Location in Low Overburden Zone of Tunnel TA-5 (2/2)

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 24: Topography and Tunnel Location in Portal Zone (West) of Tunnel TA-5 (1/2)

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 24: Topography and Tunnel Location in Portal Zone (West) of Tunnel TA-5 (2/2)

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 25: Topography and Tunnel Location in Portal Zone (East) of Tunnel AT-6

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 26: Topography and Tunnel Location in Center Zone of Tunnel AT-6

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 27: Topography and Tunnel Location in Portal Zone (West) of Tunnel AT-6

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 28: Topography and Tunnel Location in Portal Zone (East) of Tunnel TA-6

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 29: Topography and Tunnel Location in Center Zone of Tunnel TA-6

Source: created by JICA study team based on Shop Drawing of DD consultants

Figure 30: Topography and Tunnel Location in Portal Zone (West) of Tunnel TA-6

Appendix 4.5

Additional Geotechnical Investigation

Geoengineering Ltd.
Engineering Survey, Design, Construction

GEOTECHNICAL INVESTIGATION WORKS FOR THE PREPARATORY SURVEY FOR EAST-WEST HIGHWAY (E-60) DEVELOPMENT PROJECT (PHASE-2) IN GEORGIA

Factual Report

Tbilisi, Georgia
2018

Geoengineering Ltd.
Engineering Survey, Design, Construction

GEOTECHNICAL INVESTIGATION WORKS FOR THE PREPARATORY SURVEY FOR EAST-WEST HIGHWAY (E-60) DEVELOPMENT PROJECT (PHASE-2) IN GEORGIA

Factual Report

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Tbilisi, Georgia
2018

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GENERAL DESCRIPTION OF PERFORMED WORKS

GeoEngineering Ltd carried out GEOTECHNICAL INVESTIGATION WORKS THE PREPARATORY SURVEY FOR EAST-WEST HIGHWAY (E-60) DEVELOPMENT PROJECT (PHASE-2) IN GEORGIA in April-August period, 2018 based on the Contract No. GC-1813 (as GeoEngineering's internal number) concluded on 28 March, 2018 between PADECO Co., Ltd (JICA Survey Team) and GeoEngineering Ltd (Contractor).

The type and scope of works were determined by the JICA Survey Team.

The Field Works included the following services:

- Drilling of vertical and horizontal boreholes with dirrerent depths;
- Standard Penetration Testing (SPT);
- Collection of undisturbed and disturbed samples.

The location and depth of boreholes were provided by the CLIENT. The boreholes were drilled by the following Drilling Rigs: UGB 50; URB 2A2, SKB 8, UKB-2794. The drilling diameters were as follow: 151, 132, 112, 93 and 76 mm. Where borehole walls were not stabile, casing tubes were used. Samples taken from the borehole were placed into the special core boxes (wooden/plastic) with appropriate labeling and then were transported to the Contractor's geotechnical laboratory for testing purposes. During the drilling process engineering-geological documentation (BH logs) was being prepared describing each encountered strata, sampling interval, SPT data, ground water level, etc. (see Annex 1). Samples placed in the core boxes were photographed (see Annex 3).

List of performed survey works and general information is given in the tables below as per the Sections.

No	Position	As-built X	As-built Y	As-built Z	Soils	Soft Rocks	Hard Rocks	Total Depth, actual
1	Tbilisi side of Tunnel 1	345266.46	4661690.12	237.13	2.0	0.0	9.2	11.2
2	Argveta side of Tunnel 1-1	344941.54	4661818.56	216.74	8.5	0.0	6.5	15.0
3	Argveta side of Tunnel 1-2	344964.08	4661854.86	199.06	2.5	0.0	16.3	18.8
4	Argveta side of Tunnel 1-3	344992.22	4661817.87	232.87	1.3	0.0	7.9	9.2
5	Tbilisi side of Tunnel 2	Cancelled borehole.						
6	Argveta side of Tunnel 2	Cancelled borehole.						
7	Tbilisi side of Tunnel 3	342064.48	4661695.66	254.39	13.3	0.0	16.7	30.0
8	Argveta side of Tunnel 3	341089.88	4661814.47	208.07	2.5	0.0	17.5	20.0
9	Argveta side of Tunnel 4	Cancelled borehole.						
10	Tbilisi side of Tunnel 5	Cancelled borehole.						
11	Argveta side of Tunnel 5	338737.48	4664483.29	239.04	0.3	0.0	19.7	20.0
12	BR1-1	344313.85	4661961.84	189.49	5.8	0.0	2.2	8.0
13	BR1-2	344258.43	4661955.13	189.45	15.0	0.0	0.0	15.0
13A	BR1-2	344259.61	4661953.58	189.45	22.0	0.0	3.0	25.0
14	BR1-3	344140.29	4661991.53	176.11	4.7	0.0	11.3	16.0
15	BR1-4	344019.94	4662004.69	174.75	4.5	0.0	10.5	15.0
16	BR1-5	343824.22	4662012.25	189.72	13.0	0.0	3.0	16.0
17	BR1-6	343717.28	4662024.26	199.56	14.8	0.0	3.2	18.0

No	Position	As-built X	As-built Y	As-built Z	Soils	Soft Rocks	Hard Rocks	Total Depth, actual
18	BR2-1	343481.48	4662036.53	187.21	1.6	0.0	3.4	5.0
19	BR2-2	343342.21	4662040.74	175.23	7.0	0.0	3.0	10.0
20	BR2-3	343230.01	4661972.03	183.19	15.6	0.0	4.4	20.0
21	BR2-4	343018.11	4661882.21	171.92	8.7	0.0	11.3	20.0
22	BR2-5	342842.20	4661855.02	168.13	7.7	0.0	7.3	15.0
23	BR2-6	342701.58	4661817.75	174.93	2.2	0.0	7.8	10.0
24	BR3-1	342370.99	4661743.26	177.31	6.8	0.0	3.2	10.0
25	BR3-2	342241.80	4661730.72	170.99	7.0	0.0	3.0	10.0
26	BR3-3	342180.09	4661730.55	169.15	13.0	0.0	7.0	20.0
27	BR3-4	342159.82	4661737.67	168.25	4.5	0.0	3.5	8.0
28	BR4	340048.33	4663090.71	158.78	6.0	0.0	9.0	15.0
29	BR5-1	337956.09	4664557.78	208.32	1.0	0.0	27.0	28.0
30	BR5-2	337894.84	4664560.26	198.81	1.0	0.0	22.0	23.0
31	BR5-3	337820.48	4664586.52	177.01	3.0	0.0	22.0	25.0
32A	Risk check for Land slide * (Horizontal) Direction – SE-155°	344963.90	4661861.02	192.15	10.0	0.0	80.0	90.0
				TOTALS:	205.3	0.0	340.9	546.2

The following information was recorded on the Borehole logs prepared by Contractor:

- The Project name;
- Location of boring;
- Boring log number;
- Method of drilling;
- Diameter of borehole;
- Name of Driller;
- Sheet number and total number of log sheets for the boring;
- Geotechnical description of soils/rocks;
- SPT data;
- Stratigraphical profile;
- RQD %;
- Weathering degree of rocks;
- Strength;
- Number of discounties.

Unconfined Compression Tests were carried out in laboratory on the samples taken from the boreholes (test results can be found in the Annex 2).

Results of the field and laboratory tests are given in form of Annexes to this Report.

Annexes

Annex No.	Annex name	Number of Pages/sheets
1	**Borehole Logs**	59
2	**Laboratory Testing Results:**	
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2.2	Results of Unconfined Compression Tests	66
3	**Photographic documentation**	26

ANNEX 1

Borehole Logs

START DATE: 12.08.2018 **END DATE**: 14.08.2018	**CASING DIAMETER (MM)**: 89, 76	**BOREHOLE No. BH-1**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: UKB-2794 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: K. Kakhoshvili	**LOCATION**: Tbilisi side of Tunnel 1	**COORDINATES**: X(m): 345266.46 Y(m): 4661690.12 Z(m): 237.13

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					0 10 20 30 40 50
0.5 – 1.5					Moist, blackish-dark brown, slightly silty, slightly sandy CLAY with some angular gravel and angular cobbles content (gravel is angular and sub-angular)					
2.0	2.0									
4.0		U	4.0-4.3		Slightly weathered, moderately strong to strong, heavily fissured, gray PORPHYRITE. Spacing between the fissures is filled with clay. The surface is rough and stepped.					
6.5		U	6.2-6.5							
8.0		U	8.0-8.3							
8.9	8.9									
9.0 – 10.0					Highly weathered, disintegrated, partly clayed zone					

REMARKS:	***Groundwater Observations, m :*** no water encountered	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

START DATE: 12.08.2018 **END DATE**: 14.08.2018	**CASING DIAMETER (MM)**: 89, 76	**BOREHOLE No. BH-1**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: UKB-2794 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: K. Kakhoshvili	**LOCATION**: Tbilisi side of Tunnel 1	**COORDINATES**: X(m): 345266.46 Y(m): 4661690.12 Z(m): 237.13

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0		U	10.3-10.6		Highly weathered, disintegrated, partly clayed zone					0 10 20 30 40 50
10.5										
11.0	11.2									
11.5										
12.0										
12.5										
13.0										
13.5										
14.0										
14.5										
15.0										
15.5										
16.0										
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :*** no water encountered	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 2

START DATE: 17.07.2018 **END DATE**: 25.07.2018	**CASING DIAMETER (MM)**: 89, 76	**BOREHOLE No. BH-2**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: UKB-2794 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: K. Kakhoshvili	**LOCATION**: Argveta side of Tunnel 1- 1	**COORDINATES**: X(m): 344941.54 Y(m): 4661818.56 Z(m): 216.74

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					0 10 20 30 40 50
0.5 – 8.0					Moist, blackish-dark brown, slightly silty, slightly sandy CLAY with some angular gravel and angular cobbles content and individual boulders inclusions (gravel is angular and sub-angular)					
8.5	8.5									
9.0 – 10.0					Slightly weathered, strong, grinish-pinkish grey, PORPHYRITE					

REMARKS:	***Groundwater Observations, m :*** no water encountered	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

START DATE: 17.07.2018 **END DATE**: 25.07.2018	**CASING DIAMETER (MM)**: 89, 76	**BOREHOLE No. BH-2**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: UKB-2794 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: K. Kakhoshvili	**LOCATION**: Argveta side of Tunnel 1- 1	**COORDINATES**: X(m): 344941.54 Y(m): 4661818.56 Z(m): 216.74

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0					Slightly weathered, strong, grinish-pinkish grey, PORPHYRITE					0 10 20 30 40 50
10.5										
11.0										
11.5										
12.0										
12.5										
12.9	12.9									
13.0					Highly weathered, disintegrated, partly clayed zone					
13.5	13.6									
14.0					Slightly weathered, strong, grinish-pinkish grey, PORPHYRITE					
14.5										
15.0	15.0									
15.5										
16.0										
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :*** no water encountered	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 2

START DATE: 24.07.2018 **END DATE**: 01.08.2018	**CASING DIAMETER (MM)**: 89, 76	**BOREHOLE No. BH-3**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: UKB-2794 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: K. Kakhoshvili	**LOCATION**: Argveta side of Tunnel 1-2	**COORDINATES**: X(m): 344964.08 Y(m): 4661854.86 Z(m): 199.06

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					0 10 20 30 40 50
0.5 – 2.0	2.5				Very moist, brown, slightly sandy, slightly silty CLAY with a little quantity of angular gravel and cobbles content (gravel is angular and sub-angular).					
2.5 – 4.0	4.0				Heavily weathered, weak, heavily fissured, greenish-grayish TUFF					
4.0 – 10.0					Slightly weathered, moderately strong to strong, heavily fissured, gray TUFF. Spacing between the fissures is filled with clay. The surface is rough and stepped.					

REMARKS:	***Groundwater Observations, m :*** no water encountered	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

START DATE: 24.07.2018 **END DATE**: 01.08.2018	**CASING DIAMETER (MM)**: 89, 76	**BOREHOLE No. BH-3**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: UKB-2794 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: K. Kakhoshvili	**LOCATION**: Argveta side of Tunnel 1-2	**COORDINATES**: X(m): 344964.08 Y(m): 4661854.86 Z(m): 199.06

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5										
11.0										
11.5										
12.0										
12.5										
13.0										
13.5		U	13.5-13.65		Slightly weathered, moderately strong to strong, heavily fissured, gray TUFF. Spacing between the fissures is filled with clay. The surface is rough and stepped.					
14.0										
14.5										
15.0										
15.5		U	15.3-15.5							
16.0										
16.5										
17.0										
17.5										
18.0										
18.5		U	18.3-18.65							
	18.8									
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :*** no water encountered	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 2

START DATE: 03.08.2018 END DATE: 11.08.2018	CASING DIAMETER (MM): 89, 76	**BOREHOLE No. BH-4**
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: UKB-2794 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: K. Kakhoshvili	LOCATION: Argveta side of Tunnel 1- 3	COORDINATES: X(m): 344992.22 Y(m): 4661817.87 Z(m): 232.87

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					0 10 20 30 40 50
0.5 – 1.0	1.3				Moist, blackish-dark brown, slightly silty, slightly sandy CLAY with some angular gravel and angular cobbles content (gravel is angular and sub-angular)					
1.5 – 3.5					Moderately weathered, moderately strong, heavily fissured, brownish gray PORPHYRITE. Spacing between the fissures is filled with clay. The surface is rough and stepped.					
4.0	4.0	U	4.0-4.25							
4.5 – 8.5		U	6.0-6.25		Slightly weathered, moderately strong to strong, heavily fissured, gray PORPHYRITE. Spacing between the fissures is filled with clay. The surface is rough and stepped.					
9.0	9.2	U	9.0-9.25							
9.5 – 10.0										

REMARKS:	Groundwater Observations, m : no water encountered	Logged By: O. Gianashvili
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 1

START DATE: 14.05.2018 END DATE: 17.05.2018	CASING DIAMETER (MM): 148, 127	BOREHOLE No. BH-7
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION: Tbilisi side of Tunnel 3	COORDINATES: X(m): 342064.48 Y(m): 4661695.66 Z(m): 254.39

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					0 10 20 30 40 50
0.5	0.2				**Topsoil -** moist, brown, stiff, slightly sandy, silty CLAY, with plant roots.					
1.0		D	1.3-1.6		Moist, brown, very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion up-to 5-10%.					
1.5										
2.0										
2.5	2.5									
3.0										
3.5										
4.0										
4.5										
5.0										
5.5		D	5.3-5.7		Moist, brown, very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion up-to 10-20%.					
6.0										
6.5										
7.0		D	7.1-7.5							
7.5										
8.0										
8.5										
9.0										
9.5		D	9.0-9.3							
10.0										

REMARKS:	Groundwater Observations, m : no water encountered	Logged By: G. Gogichaishvili
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813
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START DATE: 14.05.2018 END DATE: 17.05.2018	CASING DIAMETER (MM): 148, 127	BOREHOLE No. BH-7
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION: Tbilisi side of Tunnel 3	COORDINATES: X(m): 342064.48 Y(m): 4661695.66 Z(m): 254.39

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5										
11.0										
11.5										
12.0					Moist, brown, very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion up-to 10-20%.					
12.5		D	12.3-12.6							
13.0										
	13.3									
13.5					Moderately to hightly weathered, moderately strong to weack, heavily fissured, brownish gray PORPHYRITE. Spacing between the fissures is filled with clay. The surface is rough and stepped.					
14.0										
14.5										
15.0		D	15.0-15.3							
15.5										
16.0										
	16.3									
16.5					Slightly weathered, gray, moderately strong and strong PORPHYRITES, fissured. Surfaces of fissures are rough and smooth, with rusty iron oxides spots. Fissures are filling by silty clayey filler.					
17.0		D	16.5-17.0							
17.5										
18.0										
18.5										
19.0										
19.5										
20.0		D	19.7-20.0							

REMARKS:	Groundwater Observations, m : no water encountered	Logged By: G. Gogichaishvili
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 2 / 3

START DATE: 14.05.2018 END DATE: 17.05.2018	CASING DIAMETER (MM): 148, 127	BOREHOLE No. BH-7
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION: Tbilisi side of Tunnel 3	COORDINATES: X(m): 342064.48 Y(m): 4661695.66 Z(m): 254.39

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
20.0										0 10 20 30 40 50
20.5										
21.0		D	21.0-21.3							
21.5										
22.0		D	22.3-22.6							
22.5										
23.0					Slightly weathered, gray, moderately strong and strong PORPHYRITES, fissured. Surfaces of fissures are rough and smooth, with rusty iron oxides spots. Fissures are filling by silty clayey filler.					
23.5		D	23.5-23.9							
24.0										
24.5										
25.0										
25.5										
26.0		D	25.6-26.0							
26.5										
27.0										
27.5										
28.0										
28.5										
29.0										
29.5		D	29.4-29.7							
30.0	30.0									

REMARKS:	Groundwater Observations, m : no water encountered	Logged By: G. Gogichaishvili
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 3 / 3

START DATE: 26.04.2018 END DATE: 28.04.2018	CASING DIAMETER (MM): 148, 127, 108	BOREHOLE No. BH-8
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION: Argveta side of Tunnel 3	COORDINATES: X(m): 341089.88 Y(m): 4661814.47 Z(m): 208.07

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5 – 2.5					Moist, dark brown, stiff, with a certain quantity of gravel and some boulders.	1.0	4	4	4	
2.5	2.5									
2.5 – 10.0		U	7.5.-7.9		Slightly weathered, greenish-gray, PORPHYRITES, fissured.					
		U	8.7-9.0							

SPT N-blows B+C: 0 10 20 30 40 50

REMARKS:	Groundwater Observations, m :	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 2

START DATE: 26.04.2018 END DATE: 28.04.2018	CASING DIAMETER (MM): 148, 127, 108	BOREHOLE No. BH-8
DRILLING METHOD : ROTARY DRILLING EQUIPMENT : URB-2A2 DRILLING CONTRACTOR : GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION: Argveta side of Tunnel 3	COORDINATES: X(m): 341089.88 Y(m): 4661814.47 Z(m): 208.07

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5										
11.0		U	11.0-11.3							
11.5										
12.0										
12.5										
13.0										
13.5		U	13.4-13.7		Slightly weathered, greenish-gray, PORPHYRITES, fissured.					
14.0										
14.5										
15.0										
15.5		U	15.5-15.7							
16.0										
16.5										
17.0										
17.5		U	17.2-17.4							
18.0										
18.5										
19.0		U	19.1-19.4							
19.5										
20.0	20.0									

REMARKS:	Groundwater Observations, m :	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 2 / 2

START DATE: 15.08.2018 **END DATE**: 17.08.2018	**CASING DIAMETER (MM)**: 89, 76	**BOREHOLE No. BH-11**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: UKB-2794 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: K. Kakhoshvili	**LOCATION**: Argveta side of Tunnel 5	**COORDINATES**: X(m): 338737.48 Y(m): 4664483.29 Z(m): 239.04

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					0 10 20 30 40 50
0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0	0.3				Moist, brown, slightly sandy, slightly gravely, silty CLAY (gravel is angular and sub-angular).					
	8.0				Moderately weathered to slightly weathered, moderately weak to moderately strong, heavily fissured, brownish light gray CARBONATIC SANDSTONES. Spacing between the fissures is filled with Sandy-silty-clay. The surface is rough and planer, rare stepped.					
		U	9.0-9.3		Slightly weathered, moderately strong - strong, fissured, light gray CARBONATIC SANDSTONES. Spacing between the fissures is filled with Sandy-silty-clay. The surface is rough and planer, rare stepped.					

REMARKS:	***Groundwater Observations, m :*** no water encountered	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

START DATE: 15.08.2018 END DATE: 17.08.2018	CASING DIAMETER (MM): 89, 76	BOREHOLE No. BH-11
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: UKB-2794 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: K. Kakhoshvili	LOCATION: Argveta side of Tunnel 5	COORDINATES: X(m): 338737.48 Y(m): 4664483.29 Z(m): 239.04

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5										
11.0										
11.5										
12.0										
12.5										
13.0										
13.5										
14.0										
14.5					Slightly weathered, moderately strong - strong, fissured, light gray CARBONATIC SANDSTONES. Spacing between the fissures is filled with Sandy-silty-clay. The surface is rough and planer, rare stepped.					
15.0										
15.5										
16.0										
16.5										
17.0										
17.5		U	17.5-17.9							
18.0										
18.5										
19.0		U	19.0-19.3							
19.5										
20.0	20.0									

REMARKS:	Groundwater Observations, m : no water encountered	Logged By: O. Gianashvili
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 2 / 2

START DATE: 11.04.2018 **END DATE**: 11.04.2018	**CASING DIAMETER (MM)**: 148, 127	**BOREHOLE No. BH-12 (BR1-1)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: Khv. Chikhashvili	**LOCATION**:	**COORDINATES**: X(m): 344313.85 Y(m): 4661961.84 Z(m): 189.49

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
	0.3				**Topsoil -** moist, brown CLAY, with plant roots.					
0.5										
1.0		D	1.0-1.4		Slightly moist, bluish-gray, very silty-cleyey, sandy, angular GRAVEL, with angular cobbles inclusion.					
1.5	1.5					1.5	7	8	12	
2.0										
2.5		U	2.5-2.75		Moist, brown, medium dense, slightly sandy, very silty-cleyey, angular GRAVEL, with gravel and angular cobbles inclusion and clay lenses					
3.0						3.0	14	11	13	
3.5										
4.0		D	3.6-4.0							
4.5						4.5	12	12	14	
5.0										
5.5										
	5.8									
6.0		U	5.8-6.0							
		U	6.0-6.25		Moderately weathered to slightly weathered, brownish-gray and bluish-gray, moderately strong to strong, fissured PORPHYRITES. Surfaces of fissures are rough, in places smoth and step. Fissures are filling by sitly-clayey filler.					
6.5										
7.0		U	7.0-7.3							
7.5										
	8.0									
8.0										
8.5										
9.0										
9.5										
10.0										

SPT N-blows B+C: 0 10 20 30 40 50

REMARKS:	***Groundwater Observations, m :*** no water encountered	**Logged By: G. Urgebadze**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 1

START DATE: 02.04.2018 **END DATE**: 02.04.2018	**CASING DIAMETER (MM)**: 148, 127, 108	**BOREHOLE No. BH-13 (BR1-2)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: Khv. Chikhashvili	**LOCATION**:	**COORDINATES**: X(m): 344258.43 Y(m): 4661955.13 Z(m): 189.45

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm	SPT N-blows B+C
0					Ground Surface					
0.5	0.15				**Topsoil -** moist, brown CLAY, with plant roots.					
1.0										
1.5										
2.0						2.0	4	3	4	
2.5					Moist, brown, very silty-cleyey, slightly sandy, angular GRAVEL, with angular cobbles inclusion.					
3.0										
3.5										
4.0		D	4.0-4.4			4.0	9	6	5	
4.5										
5.0	5.2									
5.5										
6.0						6.0	5	9	9	
6.5		D	6.3-6.5		Moist, brown, stiff to very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion.					
7.0										
7.5										
8.0										
8.5										
9.0										
9.5										
10.0										

SPT N-blows B+C: 0 10 20 30 40 50

REMARKS:	***Groundwater Observations, m :***	**Logged By: G. Urgebadze**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

START DATE: 02.04.2018 **END DATE**: 02.04.2018	**CASING DIAMETER (MM)**: 148, 127, 108	**BOREHOLE No. BH-13 (BR1-2)**
DRILLING METHOD : ROTARY **DRILLING EQUIPMENT** : URB-2A2 **DRILLING CONTRACTOR** : GeoEngineering Ltd **DRILLER**: Khv. Chikhashvili	**LOCATION**:	**COORDINATES**: X(m): 344258.43 Y(m): 4661955.13 Z(m): 189.45

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5		D	10.6-10.8							
11.0										
11.5										
12.0					Moist, brown, stiff to very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion.					
12.5		D	12.4-12.6							
13.0										
13.5										
14.0										
14.5										
15.0	15.0									
15.5										
16.0										
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :***	**Logged By: G. Urgebadze**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 2

START DATE: 10.04.2018 END DATE: 11.04.2018	CASING DIAMETER (MM): 148, 127, 108	BOREHOLE No. BH-13A (BR1-2A)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: Khv. Chikhashvili	LOCATION:	COORDINATES: X(m): 344259.61 Y(m): 4661953.58 Z(m): 189.45

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5	0.15				**Topsoil -** moist, brown CLAY, with plant roots.					
1.0										
1.5										
2.0						2.0	4	4	4	
2.5					Moist, brown, very silty-cleyey, slightly sandy, angular GRAVEL, with angular cobbles inclusion.					
3.0										
3.5										
4.0						4.0	10	6	6	
4.5		D	4.0-4.45							
5.0										
5.5	5.5									
6.0						6.0	4	10	8	
6.5		D	6.45-6.55		Moist, brown, stiff to very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion.					
7.0										
7.5										
8.0										
8.5										
9.0										
9.5										
10.0										

REMARKS:	Groundwater Observations, m : 17.5	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 3

START DATE: 10.04.2018 END DATE: 11.04.2018	CASING DIAMETER (MM): 148, 127, 108	BOREHOLE No. BH-13A (BR1-2A)
DRILLING METHOD : ROTARY DRILLING EQUIPMENT : URB-2A2 DRILLING CONTRACTOR : GeoEngineering Ltd DRILLER: Khv. Chikhashvili	LOCATION:	COORDINATES: X(m): 344259.61 Y(m): 4661953.58 Z(m): 189.45

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5										
11.0		D	10.9-11.0							
11.5										
12.0										
12.5		D	12.6-12.8							
13.0										
13.5										
14.0					Moist, brown, stiff to very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion.					
14.5										
15.0										
15.5		D	15.4-15.5							
16.0										
16.5										
17.0		D	17.5-17.6							
17.5				▼17.5						
18.0										
18.5		D	18.6-18.8							
19.0										
19.5										
20.0										

REMARKS:	Groundwater Observations, m : 17.5	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813
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START DATE: 10.04.2018 END DATE: 11.04.2018	CASING DIAMETER (MM): 148, 127, 108	**BOREHOLE No. BH-13A (BR1-2A)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: Khv. Chikhashvili	**LOCATION**:	**COORDINATES**: X(m): 344259.61 Y(m): 4661953.58 Z(m): 189.45

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
20.0										0 10 20 30 40 50
20.5		U	22.0-22.25		Moist, brown, stiff to very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion.					
21.0										
21.5										
22.0	22.0									
22.5					Moderately weathered, reddish-brown, moderately strong, very fissured PORPHYRITES.					
	22.8									
23.0		U	22.9-23.0		Slightly weathered, gray and brownish-gray, moderately strong to strong Basaltic PORPHYRITES and TUFFS. Layered, fissured. Surfaces of fissures are smooth and rough. Fissures are filling by iron oxides, in places white mineral filler.					
23.5										
24.0		U	24.0-24.1							
24.5										
25.0	25.0	U	24.9-25.0							
25.5										
26.0										
26.5										
27.0										
27.5										
28.0										
28.5										
29.0										
29.5										
30.0										

REMARKS:	***Groundwater Observations, m :*** 17.5	**Logged By: G. Urgebadze**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813
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START DATE: 25.07.2018 **END DATE**: 27.07.2018	**CASING DIAMETER (MM)**: 148, 127	**BOREHOLE No. BH-14 (BR1-3)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 344140.29 Y(m): 4661991.53 Z(m): 176.11

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm A	15-30cm B	30-45cm C	SPT N-blows B+C
0					Ground Surface					
	0.1				Moist, brown, slightly sandy, silty CLAY with plant roots.					
				▼1.0						
					Moist and saturated from 1.0 m depth, brownish-grey, very silty-sandy GRAVEL with cobbles. Gravel is rounded.	2.0	4	5	4	
						4.0	5	8	13	
	4.7				Highly weathered, greenish-gray TUFFACEOUS SANDSTONE.					
	5.6				Moderately to slightly weathered, moderately strong to moderately weack, heavily fissured, grinish gray BRECCIA. Spacing between the fissures is filled with clay. The surface is rough and stepped.					
	8.2				Moderately and slightly weathered, moderately strong, fissured, grinish gray PORPHYRITES. Spacing between the fissures is filled with clay. The surface is rough and stepped.					
	9.0									
10.0										

SPT N-blows B+C: 0 10 20 30 40 50

REMARKS:	***Groundwater Observations, m :*** 1.0	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

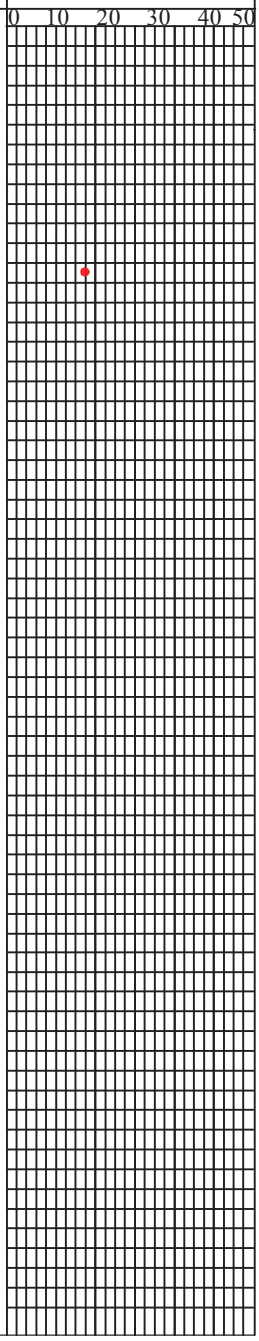
START DATE: 25.07.2018 **END DATE**: 27.07.2018	**CASING DIAMETER (MM)**: 148, 127	**BOREHOLE No. BH-14 (BR1-3)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 344140.29 Y(m): 4661991.53 Z(m): 176.11

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0					Slightly weathered, moderately strong, fissured, grinish gray TUFF.					0 10 20 30 40 50
	10.4									
10.5										
11.0		U U	10.8-10.9 11.0-11.1		Slightly weathered, strong, fissured, grinish gray PORPHYRITES.					
11.5										
	11.85									
12.0										
12.5										
13.0					Slightly weathered, moderately strong to strong, fissured, gray TUFF-SANDSTONES. Spacing between the fissures is filled with clay. The surface is rough and stepped.					
13.5		U	13.5-13.7							
14.0										
14.5		U	14.3-14.45							
	15.0									
15.0										
15.5										
16.0										
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :*** 1.0	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 2

START DATE: 22.07.2018 **END DATE**: 24.07.2018	**CASING DIAMETER (MM)**: 148, 127	**BOREHOLE No. BH-15 (BR1-4)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 344019.94 Y(m): 4662004.69 Z(m): 174.75

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5 – 2.0	2.0				Moist, brown, silty-sandy CLAY with gravel. Gravel is sub-rounded.	2.0	8	7	9	
2.0 – 4.5	4.5			▼2.42	Water saturated, brownish-grey, silty-sandy GRAVEL with cobbles. Gravel is rounded.					
4.5 – 9.0	9.0				Moist, brown, stiff to very stiff slightly sandy, slightly gravely silty- CLAY with cobbles. Gravel is sub-angular and angular (Gravel and cobbles lithologically reprezented by porphirites) -RESIDUAL SOIL.					
9.0 – 10.0	10.0				Moderately weathered, moderately strong to moderately weak, fissured, light greish brown TUFF-SANDSTONES. Spacing between the fissures is filled with clay. The surface is rough and planer.					



REMARKS:	***Groundwater Observations, m :*** 2.42	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

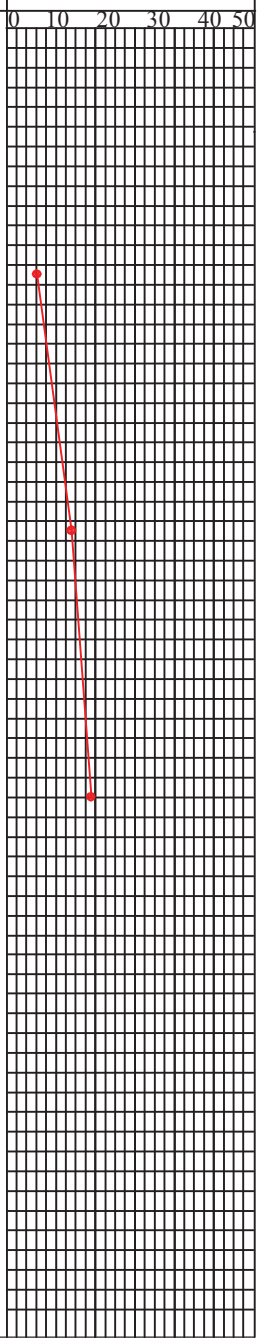
START DATE: 22.07.2018 **END DATE**: 24.07.2018	**CASING DIAMETER (MM)**: 148, 127	**BOREHOLE No. BH-15 (BR1-4)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 344019.94 Y(m): 4662004.69 Z(m): 174.75

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5										
11.0		U	10.85-11.05							
11.5										
12.0					Slightly weathered, moderately strong to strong, fissured, gray TUFF-SANDSTONES. Spacing between the fissures is filled with clay. The surface is rough and planer.					
12.5		U	12.25-12.45							
13.0										
13.5										
14.0										
14.5										
15.0	15.0	U	14.7-14.9							
15.5										
16.0										
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :*** 2.42	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 2

START DATE: 24.04.2018 END DATE: 25.04.2018	CASING DIAMETER (MM): 148, 127, 108	**BOREHOLE No. BH-16 (BR1-5)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 343824.22 Y(m): 4662012.25 Z(m): 189.72

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5 – 10.0					Moist, brown, stiff to very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion.	2.0	3	3	3	
						4.0	11	7	6	
						6.0	6	8	9	



REMARKS:	Groundwater Observations, m :	Logged By: G. Urgebadze
GeoEngineering Ltd	**Project name:** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813
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START DATE: 24.04.2018 END DATE: 25.04.2018	CASING DIAMETER (MM): 148, 127, 108	BOREHOLE No. BH-16 (BR1-5)
DRILLING METHOD : ROTARY DRILLING EQUIPMENT : URB-2A2 DRILLING CONTRACTOR : GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION:	COORDINATES: X(m): 343824.22 Y(m): 4662012.25 Z(m): 189.72

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0					Moist, brown, stiff to very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion.					0 10 20 30 40 50
10.5										
11.0										
11.5										
12.0										
12.5										
13.0	13.0									
13.5		U	13.5-13.7		Slightly weathered, gray, strong PORPHYRITES, fissured. Fissures are filling by clay filler.					
14.0		U	13.7-13.85							
14.5		U	14.8-14.9							
15.0										
15.5										
16.0	16.0									
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

REMARKS:	Groundwater Observations, m :	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 2 / 2

START DATE: 16.04.2018 END DATE: 17.04.2018	CASING DIAMETER (MM): 148, 127, 108	BOREHOLE No. BH-17 (BR1-6)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: Khv. Chikhashvili	LOCATION:	COORDINATES: X(m): 343717.28 Y(m): 4662024.26 Z(m): 199.56

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5	0.2	U	0.3-0.6		**Topsoil -** moist, dark brown CLAY, with plant roots.					
1.0										
1.5										
2.0						2.0	4	6	10	
2.5										
3.0					Moist, dark brown-blackish, stiff, sandy CLAY, with angular cobbles inclusion.					
3.5		U	3.4-3.7							
4.0						4.0	6	8	8	
4.5										
5.0										
5.5										
6.0	6.0	U	5.7-6.0	▼6.2		6.0	14	23	50/10	
6.5					Moist, dark brown, soft, very sandy-silty CLAY, occasional with angular cobbles inclusion.					
7.0										
7.5										
8.0										
8.5										
9.0										
9.5										
10.0										

SPT N-blows B+C: 0 10 20 30 40 50

REMARKS:	Groundwater Observations, m : 6.2	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 2

START DATE: 16.04.2018 **END DATE**: 17.04.2018	**CASING DIAMETER (MM)**: 148, 127, 108	**BOREHOLE No. BH-17 (BR1-6)**
DRILLING METHOD : ROTARY **DRILLING EQUIPMENT** : URB-2A2 **DRILLING CONTRACTOR** : GeoEngineering Ltd **DRILLER**: Khv. Chikhashvili	**LOCATION**:	**COORDINATES**: X(m): 343717.28 Y(m): 4662024.26 Z(m): 199.56

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm A	15-30cm B	30-45cm C	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5										
11.0										
11.5										
12.0		U	12.2-12.35		Moist, dark brown, soft, very sandy-silty CLAY, occasional with angular cobbles inclusion.					
12.5										
13.0										
13.5		U	13.7-13.85							
14.0										
14.5										
	14.8									
15.0	15.2				Gray, highly weathered PORPHYRITES. With slightly sandy clay filling.					
15.5		U	15.5-15.8							
16.0					Gray-greenish, slightly weathered, strong PORPHYRITES, fissured. Fissures are filling by white mineral ($CaCO_3$) and clayey filler.					
16.5										
17.0		U	16.85-17.0							
17.5										
18.0	18.0	U	17.85-18.0							
18.5										
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :*** 6.2	**Logged By: G. Urgebadze**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 2

START DATE: 12.07.2018 END DATE: 14.07.2018	CASING DIAMETER (MM): 89, 76	BOREHOLE No. BH-18 (BR2-1)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: UKB-2794 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: K. Kakhoshvili	LOCATION:	COORDINATES: X(m): 343481.48 Y(m): 4662036.53 Z(m): 187.21

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					0 10 20 30 40 50
0.5	0.4				Moist, brown, slightly sandy, silty CLAY with plant roots.					
1.0					Moist, brown, stiff, slightly gravely, slightly sandy, silty CLAY. (Gravel is angular and sub-angular)					
1.5	1.6									
2.0										
2.5		U	2.4-2.55							
3.0					Slightly weathered, strong, fissured, grinish-pinkish-gray PORPHYRITE. Spacing between the fissures is filled with clay.					
3.5		U	3.3-3.5							
4.0										
4.5		U	4.0-4.4							
5.0	5.0									
5.5										
6.0										
6.5										
7.0										
7.5										
8.0										
8.5										
9.0										
9.5										
10.0										

REMARKS:	Groundwater Observations, m : no water encountered	Logged By: O. Gianashvili
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 1

START DATE: 12.04.2018 END DATE: 12.04.2018	CASING DIAMETER (MM): 148, 127	BOREHOLE No. BH-19 (BR2-2)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: Khv. Chikhashvili	LOCATION:	COORDINATES: X(m): 343342.21 Y(m): 4662040.74 Z(m): 175.23

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5	0.2				**Topsoil -** moist, brown CLAY, with plant roots.					
1.0										
1.5		U	1.45-1.60		Moist, brown, stiff to very stiff, slightly sandy, slightly gravelly, silty CLAY, with angular cobbles inclusion.					
2.0		U	2.0-2.25			2.0	7	11	12	
2.5				▼2.4						
3.0										
3.5	3.5				Saturated, brown, silty-clayey GRAVEL and ROUNDED GRAVEL.	4.0	16	12	8	
4.0										
4.5	4.3				Moist, bluish-gray, dense to stiff, slightly sandy, slightly gravelly, silty CLAY.					
5.0										
5.5		U	5.5-5.7							
6.0						6.0	13	10	15	
6.5	6.5	U	6.4-6.65		Moist, brown, gravelly, slightly sandy CLAY.					
7.0	7.0									
7.5		U	7.25-7.4		Moderately weathered to slightly weathered, brownish-gray and bluish-gray, moderately strong to strong PORPHYRITES, very fissured. Surfaces of fissures are rough, in places smoth and step. Fissures are filling by sitly-clayey filler, in places by mineral filler and iron oxides.					
8.0		U	7.75-8.0							
8.5										
9.0										
9.5										
10.0	10.0	U	9.8-10.0							

0 10 20 30 40 50

REMARKS:	Groundwater Observations, m : 2.4	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 1

START DATE: 06.04.2018 **END DATE**: 06.04.2018	**CASING DIAMETER (MM)**: 148, 127, 108	**BOREHOLE No. BH-20 (BR2-3)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: Khv. Chikhashvili	**LOCATION**:	**COORDINATES**: X(m): 343230.01 Y(m): 4661972.03 Z(m): 183.19

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5	0.15	U	0.5-0.75		**Topsoil -** moist, dark brown CLAY, with plant roots.					
1.0										
1.5										
2.0		U	2.05-2.3		Moist, dark brown, soft CLAY, with angular gravel and angular cobbles inclusion.					
2.5										
3.0										
3.5										
4.0	4.0	SPT	4.0-4.45		Moist, gray-brownish, slightly sandy CLAY, with angular gravel, angular cobbles and boulders inclusion.	4.0	15	25	31	
4.5										
5.0										
5.5	5.3									
6.0		SPT	6.0-6.45			6.0	50/12			
6.5										
7.0					Moist, brown, stiff to very stiff slightly sandy, slightly gravely silty- CLAY with cobbles. Gravel is sub-angular and angular (Gravel and cobbles lithologically reprezented by porphirites) -RESIDUAL SOIL.					
7.5										
8.0		U	8.0-8.5							
8.5										
9.0		U	9.25-9.45							
9.5										
10.0										

SPT N-blows B+C: 0 20 40 60 80 100

REMARKS:	***Groundwater Observations, m :*** 12.4	**Logged By: G. Urgebadze**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

START DATE: 06.04.2018 END DATE: 06.04.2018	CASING DIAMETER (MM): 148, 127, 108	BOREHOLE No. BH-20 (BR2-3)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: Khv. Chikhashvili	LOCATION:	COORDINATES: X(m): 343230.01 Y(m): 4661972.03 Z(m): 183.19

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0		U	10.2-10.4	▼12.4	Moist, brown, stiff to very stiff slightly sandy, slightly gravely silty- CLAY with cobbles. Gravel is sub-angular and angular (Gravel and cobbles lithologically reprezented by porphirites) -RESIDUAL SOIL.					0 20 40 60 80 100
10.5										
11.0										
11.5										
12.0										
12.5										
13.0										
13.5		U	13.3-13.5							
14.0										
14.5										
15.0										
15.5	15.6									
16.0		U	16.1-16.15		Slightly weathered, moderately strong to strong, fissured, grinish -gray PORPHYRITES. Spacing between the fissures is filled with clay.					
16.5										
17.0		U U	17.05-17.2 17.2-17.25							
17.5										
18.0		U U	18.0-18.05 18.05-18.1							
18.5										
19.0		U	19.0-19.05							
19.5										
20.0	20.0									

REMARKS:	Groundwater Observations, m : 12.4	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 2 / 2

START DATE: 15.07.2018 **END DATE**: 17.07.2018	**CASING DIAMETER (MM)**: 148, 127	**BOREHOLE No. BH-21 (BR2-4)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 343018.11 Y(m): 4661882.21 Z(m): 171.92

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5	0.2				Moist, brown, slightly sandy, silty CLAY with plant roots.					
1.0					Moist, brown, slightly silty, slightly sandy CLAY with some angular gravel and angular cobbles content (gravel is angular and sub-angular)					
1.5	1.5									
2.0					Saturated, brownish-gray, medium dense GRAVEL with some cobbles and rounded boulders content.	2.0	3	3	12	
2.5										
3.0										
3.5	3.8									
4.0				▼4.2		4.0	2	2	3	
4.5										
5.0										
5.5										
6.0					Moist, brown, slightly silty, slightly sandy CLAY with some angular gravel content (gravel is angular and sub-angular)	6.0	3	2	3	
6.5										
7.0										
7.5										
8.0						8.0	2	3	3	
8.5	8.7									
9.0					Slightly weathered, moderately strong to strong, fissured with litle disintegrated zones, grinish-gray PORPHYRITES. Spacing between the fissures is filled with clay.					
9.5										
10.0										

SPT N-blows B+C: 0 10 20 30 40 50

REMARKS:	***Groundwater Observations, m :*** 4.2	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

START DATE: 15.07.2018 END DATE: 17.07.2018	CASING DIAMETER (MM): 148, 127	BOREHOLE No. BH-21 (BR2-4)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION:	COORDINATES: X(m): 343018.11 Y(m): 4661882.21 Z(m): 171.92

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0		U	10.0-10.2							0 10 20 30 40 50
10.5										
11.0		U	11.28-11.45							
11.5										
12.0										
12.5										
13.0										
13.5		U	13.3-14.45							
14.0					Slightly weathered, moderately strong to strong, fissured with litle disintegrated zones, grinish-gray PORPHYRITES. Spacing between the fissures is filled with clay.					
14.5										
15.0										
15.5										
16.0										
16.5										
17.0										
17.5		U	17.6-17.73							
18.0										
18.5										
19.0										
19.5										
20.0	20.0									

REMARKS:	Groundwater Observations, m : 4.2	Logged By: O. Gianashvili
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 2 / 2

START DATE: 17.07.2018 **END DATE**: 19.07.2018	**CASING DIAMETER (MM)**: 148, 127	**BOREHOLE No. BH-22 (BR2-5)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 342842.20 Y(m): 4661855.02 Z(m): 168.13

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm A	15-30cm B	30-45cm C	SPT N-blows B+C
0					Ground Surface					
0.5	0.8				Very moist, yellowish-gray, fine-grained SAND, with some gravel and cobbles content (gravel and cobbles are rounded).					
1.0				▼1.3						
1.5										
2.0						2.0	7	15	17	
2.5										
3.0										
3.5										
4.0					Saturated, gray, rounded COBBLES with fine-grained, silty sand matrix and individual boulders inclusions	4.0	4	9	8	
4.5										
5.0										
5.5										
6.0						6.0	6	7	11	
6.5										
7.0										
7.5	7.7									
8.0					Moderately to Slightly weathered, moderately strong, fissured with litle disintegrated zones, grinish-gray PORPHYRITES. Spacing between the fissures is filled with clay.					
8.5										
9.0										
9.5										
10.0										

SPT N-blows B+C: 0 10 20 30 40 50

REMARKS:	***Groundwater Observations, m :*** 1.3	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

START DATE: 17.07.2018 **END DATE**: 19.07.2018	**CASING DIAMETER (MM)**: 148, 127	**BOREHOLE No. BH-22 (BR2-5)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 342842.20 Y(m): 4661855.02 Z(m): 168.13

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5										
11.0										
11.5										
12.0					Moderately to Slightly weathered, moderately strong, fissured with litle disintegrated zones, grinish-gray PORPHYRITES. Spacing between the fissures is filled with clay.					
12.5		U	12.4-12.75							
13.0										
13.5		U	13.6-13.75							
14.0										
14.5		U	14.7-14.85							
15.0	15.0									
15.5										
16.0										
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :*** 1.3	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 2

START DATE: 20.07.2018 END DATE: 21.07.2018	CASING DIAMETER (MM): 148, 127	BOREHOLE No. BH-23 (BR2-6)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION:	COORDINATES: X(m): 342701.58 Y(m): 4661817.75 Z(m): 174.93

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
	0.1				Moist, brown, slightly sandy, silty CLAY with plant roots.					0 10 20 30 40 50
0.5										
1.0					Slightly moist, grayish-brown, sandy, slightly clayey, slightl ysilty COBBLES with gravel, Cobbles is sub-angular.					
1.5										
2.0	2.2									
2.5										
3.0										
3.5										
4.0										
4.5										
5.0										
5.5										
6.0					Slightly weathered, moderately strong to strong, fissured, grinish-gray PORPHYRITES. Spacing between the fissures is filled with clay.					
6.5		U	6.3-6.6							
7.0										
7.5		U	7.6-7.75							
8.0										
8.5										
9.0										
9.5		U	9.4-9.6							
10.0	10.0									

REMARKS:	Groundwater Observations, m : no water encountered	Logged By: O. Gianashvili
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 1

START DATE: 13.04.2018 END DATE: 14.04.2018	CASING DIAMETER (MM): 148, 127	BOREHOLE No. BH-24 (BR3-1)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: Khv. Chikhashvili	LOCATION:	COORDINATES: X(m): 342370.99 Y(m): 4661743.26 Z(m): 177.31

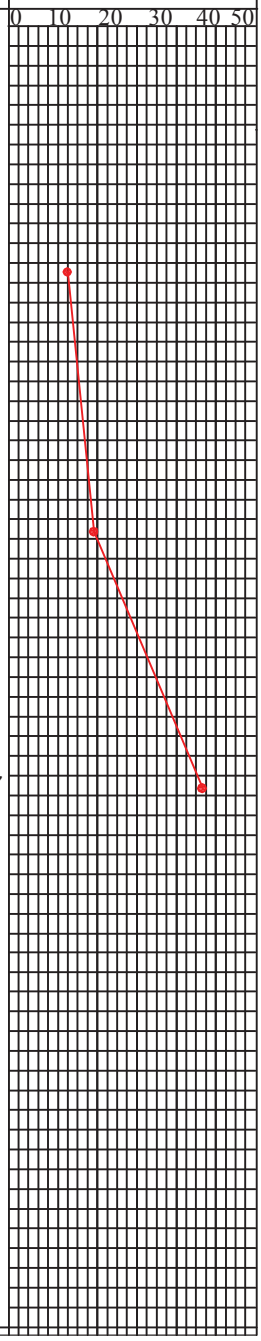
Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
	0.2				Humus layer.					
0.5		U	0.5-0.75		Moist, brown, dense to stiff, slightly sandy, slightly gravelly CLAY, with cobbles inclusion.	1.5	4	4	6	
1.0										
1.5										
2.0	2.0	D	2.0-2.45							
2.5					Moist, brown, slightly sandy, very clayey GRAVEL, with rounded gravel inclusion, very dense.					
3.0				▼3.0		3.0	15	23	30	
3.5		D	3.3-4.0							
4.0	4.0									
4.5		D	4.5-4.7		Saturated, gray, sandy-clayey angular GRAVEL and angular COBBLES, very dense.	4.5	50/10			
5.0										
5.5										
6.0						6.0	50/14			
6.5		D	6.4-6.9							
	6.8									
7.0					Slightly weathered, gray, strong PORPHYRITES, fissured. Surfaces of fissures are rough and smoth, in places step. Fissures are filling by white mineral filler and iron oxides.					
7.5		U	7.7-8.0							
8.0		U	8.0-8.2							
8.5										
9.0										
9.5										
10.0	10.0	U	9.8-10.0							

SPT N-blows B+C: 0 10 20 30 40 50

REMARKS:	Groundwater Observations, m : 3.0	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 1

START DATE: 14.04.2018 END DATE: 14.04.2018	CASING DIAMETER (MM): 148, 127	BOREHOLE No. BH-25 (BR3-2)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: Khv. Chikhashvili	LOCATION:	COORDINATES: X(m): 342241.80 Y(m): 4661730.72 Z(m): 170.99

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
	0.15				**Topsoil -** moist, brown CLAY, with plant roots.					
0.5					Moist, brown, stiff, slightly sandy CLAY, with gravel inclusion.					
1.0										
1.5		U	1.5-1.7							
	1.75	U	1.7-2.0			2.0	4	6	6	
2.0					Moist, brownish-grayish, stiff to very stiff, slightly sandy, silty CLAY.					
2.5										
3.0	3.0									
		U	3.0-3.45							
3.5				▼3.7						
4.0		U	4.0-4.3		Moist, brownish-gray, dense to stiff, sandy, silty CLAY.	4.0	9	8	9	
4.5										
5.0										
5.5										
		U	5.85-6.0							
6.0	6.0					6.0	15	22	17	
		D	6.1-6.6		Moist, brown, slightly sandy, slightly gravely silty- CLAY with cobbles. Gravel is sub-angular and angular (Gravel and cobbles lithologically reprezented by porphirites) -RESIDUAL SOIL.					
6.5										
7.0	7.0									
7.5										
8.0										
8.5					Moderately to Slightly weathered, moderately strong, fissured, grinish-gray PORPHYRITES. Spacing between the fissures is filled with clay.					
		U	8.8-9.0							
9.0		U	9.2-9.3							
9.5										
10.0	10.0	U	9.8-9.9							



REMARKS:	Groundwater Observations, m : 3.7	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 1

START DATE: 15.04.2018 END DATE: 16.04.2018	CASING DIAMETER (MM): 148, 127, 108	**BOREHOLE No. BH-26 (BR3-3)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: Khv. Chikhashvili	**LOCATION**:	**COORDINATES**: X(m): 342159.82 Y(m): 4661737.67 Z(m): 168.25

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5	0.1				**Topsoil -** moist, brown CLAY, with plant roots.					
1.0	1.0	D	1.0-1.4		Moist, brown, silty, slightly clayey, fine grained SAND, occasional with gravel inclusions.	1.5	13	26	33	
1.5				▼1.5						
2.0										
2.5					Moist, gray, sandy, slightly clayey, ROUNDED GRAVEL and GRAVEL.					
3.0		D	3.0-3.4			3.0	11	23	34	
3.5										
4.0	4.0				Moist, bluish-gray, slightly sandy, soft CLAY, occasional with gravel inclusions.					
4.5						4.5	9	11	12	
5.0	5.0	U	4.9-5.0							
5.5					Moist, brown, sandy-clayey, very dense, ROUNDED GRAVEL and GRAVEL.					
6.0										
6.5										
7.0										
7.5										
8.0	8.0				Moist, brown, slightly sandy, slightly gravely silty- CLAY with cobbles. Gravel is sub-angular and angular (Gravel and cobbles lithologically represented by porphirites) -RESIDUAL SOIL.					
8.5										
9.0										
9.5		U	9.4-9.65							
10.0		U	9.8-10.0							

SPT N-blows B+C: 0 20 40 60 80 100

REMARKS:	Groundwater Observations, m : 1.5	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 2

START DATE: 15.04.2018 END DATE: 16.04.2018	CASING DIAMETER (MM): 148, 127, 108	BOREHOLE No. BH-26 (BR3-3)
DRILLING METHOD : ROTARY DRILLING EQUIPMENT : URB-2A2 DRILLING CONTRACTOR : GeoEngineering Ltd DRILLER: Khv. Chikhashvili	LOCATION:	COORDINATES: X(m): 342159.82 Y(m): 4661737.67 Z(m): 168.25

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0										0 20 40 60 80 100
10.5		U	10.4-10.6		Moist, brown, slightly sandy, slightly gravely silty- CLAY with cobbles. Gravel is sub-angular and angular (Gravel and cobbles lithologically represented by porphirites) -RESIDUAL SOIL.					
11.0										
11.5										
12.0		U	12.2-12.35							
12.5										
13.0	13.0	U	12.7-13.0							
13.5					Moderately weathered, moderately strong, fissured, grinish-gray PORPHYRITES.					
14.0										
14.5										
15.0										
15.5										
16.0										
16.5										
17.0	17.0									
17.5		U	17.7-17.8		Slightly weathered, moderately strong, fissured, grinish-gray PORPHYRITES.					
18.0		U	18.0-18.15							
18.5										
19.0		U	19.0-19.1							
19.5										
20.0	20.0									

REMARKS:	Groundwater Observations, m : 1.5	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 2 / 2

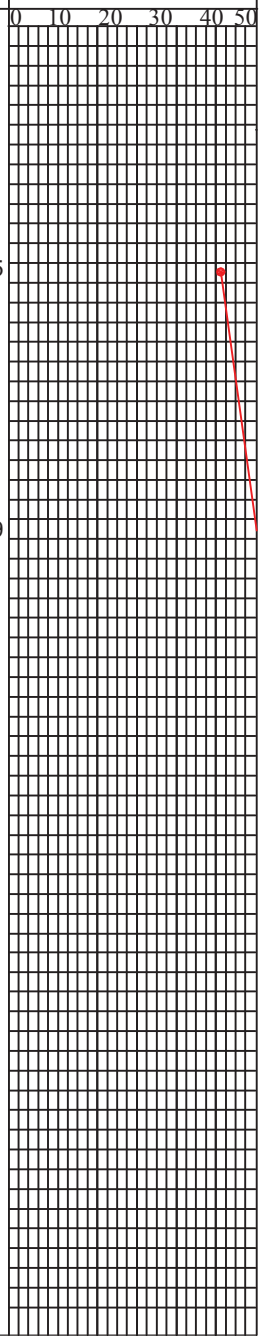
START DATE: 25.04.2018 END DATE: 26.04.2018	CASING DIAMETER (MM): 148, 127	BOREHOLE No. BH-27 (BR3-4)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: URB-2A2 DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION:	COORDINATES: X(m): 342180.09 Y(m): 4661730.55 Z(m): 169.15

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm A	15-30cm B	30-45cm C	SPT N-blows B+C
0					Ground Surface					0 10 20 30 40 50
0.5					Moist, gray, silty, slightly clayey, fine grained SAND, occasional with gravel inclusions.					
1.0	1.0			▽1.0		1.0	4	4	3	
1.5										
2.0						2.0	3	4	4	
2.5					Saturated, gray GRAVELLY GROUND, with a certain quantity of rounded gravel, sand matrix.					
3.0										
3.5										
4.0										
4.5	4.5									
5.0										
5.5		U	5.5-5.7		Slightly weathered, greenish-gray, strong PORPHYRITES, fissured. Fissures are filling by clay filler.					
6.0										
6.5		U	6.2-6.4							
7.0										
7.5		U	7.4-7.6							
8.0	8.0									
8.5										
9.0										
9.5										
10.0										

REMARKS:	Groundwater Observations, m : 1.0	Logged By: G. Urgebadze
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813 Page 1 / 1

START DATE: 12.07.2018 **END DATE**: 14.07.2018	**CASING DIAMETER (MM)**: 148, 127	**BOREHOLE No. BH-28 (BR4)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 340048.33 Y(m): 4663090.71 Z(m): 158.78

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5	0.2				Moist, brown, slightly sandy, silty CLAY with plant roots.					
1.0					Moist, blackish-dark brown, slightly silty, slightly sandy CLAY with some angular gravel and angular cobbles content (gravel is angular and sub-angular)					
1.5										
2.0	2.1					2.0	15	18	25	
2.5					Saturated, gray, rounder COBBLES with fine-grained, silty-clayey sand matrix and individual boulders inclusions					
3.0										
3.5										
4.0						4.0	20	28	39	
4.5										
5.0										
5.5										
6.0	6.0									
6.5					Slightly weathered, strong, heavily fissured, gray PORPHYRITE. Spacing between the fissures is filled with clay. The surface is rough and stepped.					
7.0										
7.5										
8.0		U	7.8-8.0							
8.5										
9.0										
9.5										
10.0		U	9.6-9.9							



REMARKS:	***Groundwater Observations, m :*** no water encountered	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 2

START DATE: 12.07.2018 **END DATE**: 14.07.2018	**CASING DIAMETER (MM)**: 148, 127	**BOREHOLE No. BH-28 (BR4)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: URB-2A2 **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 340048.33 Y(m): 4663090.71 Z(m): 158.78

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5										
11.0										
11.5										
12.0										
12.5										
13.0										
13.5										
14.0		U	13.8-13.9		Slightly weathered, strong, heavily fissured, gray PORPHYRITE. Spacing between the fissures is filled with clay. The surface is rough and stepped.					
14.5										
15.0	15.0									
15.5										
16.0										
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :*** no water encountered	**Logged By: O. Gianashvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 2

START DATE: 01.05.2018 **END DATE**: 03.05.2018	**CASING DIAMETER (MM)**: 132, 112	**BOREHOLE No. BH-29 (BR5-1)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: УГБ 1 ВС **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 337894.84 Y(m): 4664560.26 Z(m): 198.81

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					0 10 20 30 40 50
0.5	0.2	U	0.5-0.65		**Topsoil -** moist, brown, stiff, slightly sandy, silty CLAY, with plant roots.					
1.0	1.0				Moist, light brown, very stiff, slightly sandy, slightly gravely, silty CLAY.					
1.5										
2.0	1.8				Moderately weathered, light brown and light gray, moderately weak to moderately strong, fissured, carbonate SANDSTONES. Surfaces of fissures are smooth, rough and step.					
2.5										
3.0										
3.5		U	3.4-3.5							
4.0					Highly weathered, light brown, weak in places clayey zones, thinly and medium bedded, carbonate carbonate SANDSTONES, fissured. Surfaces of fissures are rough, with rusty iron oxides spots. Fissures are filling by clay filler.					
4.5				▼4.05						
5.0	5.0	U	5.1-5.3							
5.5										
6.0										
6.5										
7.0		U	7.1-7.3		Weakly weathered, light gray, moderately strong, in places moderately weak and strong, fissured, carbonate SANDSTONES, with shell inclusion.					
7.5										
8.0										
8.5										
9.0										
9.5										
10.0										

REMARKS:	***Groundwater Observations, m :*** 4.05	**Logged By:** **G. Gogichaishvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 1 / 3

START DATE: 01.05.2018 **END DATE**: 03.05.2018	**CASING DIAMETER (MM)**: 132, 112	**BOREHOLE No. BH-29 (BR5-1)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: УГБ 1 ВС **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 337894.84 Y(m): 4664560.26 Z(m): 198.81

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0										0 10 20 30 40 50
10.5										
11.0		U	10.8-11.0							
11.5										
12.0										
12.5										
13.0										
13.5					Weakly weathered, light gray, moderately strong, in places moderately weak and strong, fissured, carbonate SANDSTONES, with shell inclusion.					
14.0										
14.5		U	14.5-14.9							
15.0										
15.5										
16.0										
16.5										
17.0		U	17.0-17.15							
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :*** 4.05	**Logged By:** **G. Gogichaishvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 3

START DATE: 01.05.2018 **END DATE**: 03.05.2018	**CASING DIAMETER (MM)**: 132, 112	**BOREHOLE No. BH-29 (BR5-1)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: УГБ 1 ВС **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 337894.84 Y(m): 4664560.26 Z(m): 198.81

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
20.0										0 10 20 30 40 50
20.5										
21.0		U	21.0-21.2							
21.5										
22.0										
22.5										
23.0					Weakly weathered, light gray, moderately strong, in places moderately weak and strong, fissured, carbonate SANDSTONES, with shell inclusion.					
23.5		U	23.2-23.35							
24.0										
24.5		U	24.2-24.5							
25.0										
25.5										
26.0		U	26.0-26.15							
26.5										
27.0										
27.5										
28.0	28.0	U	27.9-28.0							
28.5										
29.0										
29.5										
30.0										

REMARKS:	***Groundwater Observations, m :*** 4.05	**Logged By:** **G. Gogichaishvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 3 / 3

START DATE: 04.05.2018 END DATE: 07.05.2018	CASING DIAMETER (MM): 132, 112	**BOREHOLE No. BH-30 (BR5-2)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: УГБ 1 ВС **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 337956.09 Y(m): 4664557.78 Z(m): 208.32

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5	0.2				**Topsoil -** moist, brown, stiff, silty CLAY, with plant roots.					0 10 20 30 40 50
1.0	1.0				Moist, brown, very stiff, slightly sandy, slightly gravely, silty CLAY. Gravel is angular - Residual soil.					
1.5										
2.0	2.0									
2.5		U	2.1-2.3		Highly weathered, light brown, moderately weak and weak, in places moderately strong, carbonate SANDSTONES. very fissured. Surfaces of fissures are rough, smooth, in places step, with rusty iron oxides spots. Fissures are filling by clay filler.					
3.0										
3.5										
4.0										
4.5					Weakly and moderately weathered, gray and light brown, moderately strong, in places moderately weak fissured, carbonate SANDSTONES, surfaces of fissures are rough and smooth.					
5.0										
5.5	5.7									
6.0					Weakly weathered, light gray, moderately strong, in places strong, fissured, carbonate SANDSTONES, with shell inclusion. Surfaces of fissures are rough and smooth. Fissures are filling by silty-clayey filler.					
6.5										
7.0										
7.5										
8.0										
8.5		U	8.4-8.7							
9.0										
9.5										
10.0										

REMARKS:	***Groundwater Observations, m :*** 4.05	**Logged By:** G. Gogichaishvili
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813
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START DATE: 04.05.2018 END DATE: 07.05.2018	CASING DIAMETER (MM): 132, 112	BOREHOLE No. BH-30 (BR5-2)
DRILLING METHOD : ROTARY DRILLING EQUIPMENT : УГБ 1 ВС DRILLING CONTRACTOR : GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION:	COORDINATES: X(m): 337956.09 Y(m): 4664557.78 Z(m): 208.32

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0				▼10.22						0 10 20 30 40 50
10.5		U	10.6-10.9							
11.0										
11.5										
12.0		U	12.2-12.5							
12.5										
13.0										
13.5										
14.0					Weakly weathered, light gray, moderately strong, in places strong, fissured, carbonate SANDSTONES, with shell inclusion. Surfaces of fissures are rough and smooth. Fissures are filling by silty-clayey filler.					
14.5										
15.0										
15.5										
16.0										
16.5										
17.0										
17.5		U	17.4-17.7							
18.0										
18.5										
19.0										
19.5		U	19.3-19.6							
20.0										

REMARKS:	Groundwater Observations, m : 4.05	Logged By: G. Gogichaishvili
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813
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START DATE: 04.05.2018 **END DATE**: 07.05.2018	**CASING DIAMETER (MM)**: 132, 112	**BOREHOLE No. BH-30 (BR5-2)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: УГБ 1 ВС **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 337956.09 Y(m): 4664557.78 Z(m): 208.32

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
20.0		U	20.3-20.6		Weakly weathered, light gray, moderately strong, in places strong, fissured, carbonate SANDSTONES, with shell inclusion. Surfaces of fissures are rough and smooth. Fissures are filling by silty-clayey filler.					0 10 20 30 40 50
20.5										
21.0										
21.5										
22.0		U	22.0-22.3							
22.5										
23.0	23.0									
23.5										
24.0										
24.5										
25.0										
25.5										
26.0										
26.5										
27.0										
27.5										
28.0										
28.5										
29.0										
29.5										
30.0										

REMARKS:	***Groundwater Observations, m :*** 4.05	**Logged By:** **G. Gogichaishvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 3 / 3

START DATE: 08.05.2018 END DATE: 11.05.2018	CASING DIAMETER (MM): 132, 112	BOREHOLE No. BH-31 (BR5-3)
DRILLING METHOD: ROTARY DRILLING EQUIPMENT: УГБ 1 ВС DRILLING CONTRACTOR: GeoEngineering Ltd DRILLER: G. Lomidze	LOCATION:	COORDINATES: X(m): 337820.48 Y(m): 4664586.52 Z(m): 177.01

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
0					Ground Surface					
0.5	0.2				**Topsoil -** moist, brown, stiff, silty CLAY, with plant roots.					0 10 20 30 40 50
1.0				▼1.63						
1.5					Moist, brown, very stiff, slightly sandy, silty CLAY, with angular gravel and angular cobbles inclusion up-to 3-15%.					
2.0		U	2.0-2.3							
2.5										
3.0	3.0				Slightly weathered, light brown and light gray, moderately weak to moderately strong, carbonate SANDSTONES, fissured. Surfaces of fissures are rough, smooth and step.					
3.5		U	3.4-3.7							
4.0	3.8									
4.5										
5.0										
5.5		U	5.2-5.5							
6.0					Weakly weathered, light gray, weak to moderately strong, thinly and medium bedded, carbonate SANDSTONES and MARLS, fissured. Surfaces of fissures are rough, with rusty iron oxides spots and shell inclusions. Fissures are filling by clay filler.					
6.5										
7.0										
7.5										
8.0										
8.5										
9.0										
9.5										
10.0										

REMARKS:	Groundwater Observations, m : 1.63	Logged By: G. Gogichaishvili
GeoEngineering Ltd	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	Contract No. GC-1813
		Page 1 / 3

START DATE: 08.05.2018 **END DATE**: 11.05.2018	**CASING DIAMETER (MM)**: 132, 112	**BOREHOLE No. BH-31 (BR5-3)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: УГБ 1 ВС **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 337820.48 Y(m): 4664586.52 Z(m): 177.01

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
10.0					Weakly weathered, light gray, weak to moderately strong, thinly and medium bedded, carbonate SANDSTONES and MARLS, fissured. Surfaces of fissures are rough, with rusty iron oxides spots and shell inclusions. Fissures are filling by clay filler.					0 10 20 30 40 50
10.5										
11.0										
11.5										
12.0										
12.5										
13.0										
13.5										
14.0										
14.5										
15.0										
15.5										
16.0										
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

REMARKS:	***Groundwater Observations, m :*** 1.63	**Logged By:** **G. Gogichaishvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 2 / 3

START DATE: 08.05.2018 **END DATE**: 11.05.2018	**CASING DIAMETER (MM)**: 132, 112	**BOREHOLE No. BH-31 (BR5-3)**
DRILLING METHOD: ROTARY **DRILLING EQUIPMENT**: УГБ 1 ВС **DRILLING CONTRACTOR**: GeoEngineering Ltd **DRILLER**: G. Lomidze	**LOCATION**:	**COORDINATES**: X(m): 337820.48 Y(m): 4664586.52 Z(m): 177.01

Scale, m	Depth, m	Sample/Core Recovery: Type U-undisturbed D-disturbed	Sample/Core Recovery: Sample section, m	LITHOLOGICAL SYMBOL	DESCRIPTION OF STRATA	Standard Penetration Test: Depth (m)	0-15cm (A)	15-30cm (B)	30-45cm (C)	SPT N-blows B+C
20.0					Weakly weathered, light gray, weak to moderately strong, thinly and medium bedded, carbonate SANDSTONES and MARLS, fissured. Surfaces of fissures are rough, with rusty iron oxides spots and shell inclusions. Fissures are filling by clay filler.					0 10 20 30 40 50
20.5										
21.0										
21.5										
22.0										
22.5										
23.0										
23.5										
24.0										
24.5										
25.0	25.0									
25.5										
26.0										
26.5										
27.0										
27.5										
28.0										
28.5										
29.0										
29.5										
30.0										

REMARKS:	***Groundwater Observations, m :*** 1.63	**Logged By:** **G. Gogichaishvili**
GeoEngineering Ltd	***Project name:*** Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	**Contract No.** GC-1813 Page 3 / 3

CUSTOMER/დამკვეთი PADECO Co., Ltd / შ.პ.ს. „პადეკო კო“	GEOENGINEERING	SUBCONTRACTOR / ქვეკონტრაქტორი Ltd Geoengineering / შპს "ჯეოინჟინირინგი"
PAGES / გვერდი: 1 / 6	**BOREHOLE LOG / ჭაბურღილის დოკუმენტაცია**	BOREHOLE No. / ჭაბურღილის # **BH-32a**

PROJECT NAME / პროექტის დასახელება
GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

BORING LOCATION / ადგილმდებარეობა:	CHAINAGE / პიკეტაჟი
BORING INCLINATION / დახრა (°): ჰორიზონტალური/horizontal 4°	CASING DEPTH / საცავი მილის სიღრმე (m): /
BOREHOLE DEPTH / სიღრმე (m): 85	START-FINISH DATE / დაწყებისა და დამთავების თარიღი: 12.04.2018 - 16.04.2018
BOREHOLE ELEVATION / ნიშნული (m):	COORDINATE / კოორდინატები (N-S) Y: 4661861.017
GROUNDWATER / გრუნტისწყალი (m): No water encountered / არ დაფიქსირდა	COORDINATE / კოორდინატები (E-W) X: 344963.903
SUPERVISOR / LOGGED BY / დოკუმენტაცია შეასრულა: L. Gorgidze / ლ. გორგიძე	DRILLER / მბურღავი: მ. მამულაშვილი

Depth / სიღრმე (m)	Boring Depth / ბურღვის სიღრმე (m)	Boring Diameter / ბურღვის დიამეტრი (mm)	Drilling System / ბურღვის ტიპი	Run / რეისი (m)	Run / რეისის No.	Recovery / კერნის სრული გამოსავალი TCR(%)	Stratigraphic Profile / სტრატიგრაფიული პროფილი	Geological and Geotechnical Descirption / გეოლოგიური და გეოტექნიკური აღწერა	RQD (%)	Weathering Degree / ქანის გამოფიტულობა	Rock Strength / ქანის სიმტკიცე	α Angle / α კუთხე	Number / რაოდენობა	Number of Discontinuities / ნაპრალთა რაოდენობა (Nº / m)	Joint Roughness and Shape/ ნაპრალის ხორკლიანობა და ფორმა	Joint Infilling / ნაპრალის შემავსებელი	RMR	SAMPLES TYPE / ნიმუშის ტიპი: Type / ტიპი	SAMPLES TYPE / ნიმუშის ტიპი: Depth / სიღრმე (m)	Standard Penetration Test / SPT — Number of Blows / დარტყმათა რაოდენობა: 0-15cm	15-30cm	30-45cm	N
								ბეტონის კედელი/Concrete wall (0.0-0.5m)															
1.00 2.00 3.00								ხრეში ნაცრისფერი, ქვიშის შემავსებლით. ხრეში არის მომრგვალებული / Gray GRAVEL, with sandy matrix. Gravel is rounded (0.5-3.5m).															
4.00 5.00 6.00 7.00 8.00 9.00	90.0m							ხვინჭოვანი გრუნტი მტვეროვანი, სუსტად ქვიშიანი თიხის შემავსებლით. ხვინჭა არის კუთხოვანი და ნახევრად მომრგვალებული / GRAVEL with silty, slightly sandy clay matrix. Gravel is angular and sub rounded (3.5-10.0m).															
10.00				1.0	1	100		ღია ნაცრისფერი, ნაპრალოვანი, საშუალო სიმტკიცის პორფირიტი. ნაპრალები შევსებულია მტვეროვანი, სუსტად ქვიშიანი თიხით / Light gray, fissured, moderately strong PORPHYRITES. Fissures are filling by silty, slightly sandy clay (10.0-13.0m).	35			50 60	2 3	5									
11.00 12.00				2.0	2	70			10			10	3	3									
13.00 14.00				1.8	3	100		ნაცრისფერი, ნაპრალოვანი პორფირიტი. ნაპრალები შევსებულია თიხით. ნაპრალების ზედაპირი ხორკლიანი, საფეხურებრივი / Gray, fissured PORPHYRITES. Fissures are filling with clay.Surfaces of fissures are rough, step (13.0-14.8m).	25			50 55-60	2 10	12									
15.00				1.2	4	100			80			50	2	2									

DATE / თარიღი	16.04.2018	
GROUND WATER / გრუნტის წყალი (m)		
Remarks / შენიშვნები		

CUSTOMER/დამკვეთი PADECO Co., Ltd / შ.პ.ს. „პადეკო კო“		SUBCONTRACTOR / ქვეკონტრაქტორი Ltd Geoengineering / შპს "ჯეოინჟინირინგი"	
PAGES / გვერდი: 2 / 6	**BOREHOLE LOG / ჭაბურღილის დოკუმენტაცია**	BOREHOLE No. / ჭაბურღილის #	**BH-32a**

PROJECT NAME / პროექტის დასახელება

GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia

GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

BORING LOCATION / ადგილმდებარეობა:	CHAINAGE / პიკეტაჟი
BORING INCLINATION / დახრა (°): ჰორიზონტალური/horizontal 4°	CASING DEPTH / საცავი მილის სიღრმე (m): /
BOREHOLE DEPTH / სიღრმე (m): 85	START-FINISH DATE / დაწყებისა და დამთავების თარიღი: 12.04.2018 - 16.04.2018
BOREHOLE ELEVATION / ნიშნული (m):	COORDINATE / კოორდინატები (N-S) Y: 4661861.017
GROUNDWATER / გრუნტისწყალი (m): No water encountered / არ დაფიქსირდა	COORDINATE / კოორდინატები (E-W) X: 344963.903
SUPERVISOR / LOGGED BY / დოკუმენტაცია შეასრულა: L. Gorgidze / ლ. გორგიძე	DRILLER / მბურღავი: მ. მამულაშვილი

Depth / სიღრმე (m)	Boring Depth / ბურღვის სიღრმე (m)	Boring Diameter / ბურღვის დიამეტრი (mm)	Drilling System / ბურღვის ტიპი	Run / რეისი (m)	Run / რეისის No.	Recovery / ჯერნის სრული გამოსავალი TCR(%)	Stratigraphic Profile / სტრატიგრაფიული პროფილი	Geological and Geotechnical Descirption / გეოლოგიური და გეოტექნიკური აღწერა	RQD (%)	Weathering Degree / ქანის გამოფიტულობა	Rock Strength / ქანის სიმტკიცე	α Angle / α კუთხე	Number / რაოდენობა	Number of Discontinuities / ნაპრალთა რაოდენობა (N° / m)	Joint Roughness and Shape/ ნაპრალის ხორკლიანობა და ფორმა	Joint Infilling / ნაპრალის შევსებული	RMR	SAMPLES TYPE / ნიმუშის ტიპი: Type / ტიპი	SAMPLES TYPE / ნიმუშის ტიპი: Depth / სიღრმე (m)	Standard Penetration Test / SPT: Number of Blows / დარტყმათა რაოდენობა: 0-15cm	15-30cm	30-45cm	N
16.00	90.0m			1.2	4	100		ნაცრისფერი, ნაპრალოვანი, მტკიცე პორფირიტი / Gray, fissured, strong PORPHYRITES (14.8-16.0m).	80			50	2	2								
17.00				1.7	5	100		ნაცრისფერი, ნაპრალოვანი, მტკიცე პორფირიტი (17.5-17.7მ ინტერვალში - ანდეზიტი). / Gray, fissured, strong PORPHYRITES [from 17.5m to 17.7m - andesite] (16.6-17.7m).	35			2 55	1 10	11								
18.00				1.3	6	84		ნაცრისფერი, ნაპრალოვანი პორფირიტი / Gray, fissured PORPHYRITES (17.7-19.0m).	59			30 40 45	2 2 3	7								
19.00				1.6	7	95		ღია ნაცრისფერი, ნაპრალოვანი, მტკიცე პორფირიტი / Light gray, fissured, strong PORPHYRITES (19.0-20.6m).	31			5 10 60	1 4 4	9								
21.00				1.4	8	100			42			40 60	1 4	5								
22.00				0.9	9	100			42			10 45	2 2	4								
23.00				0.2	10	100			0													
24.00				1.1	11	100			0													
25.00				0.8	12	100		ნაპრალოვანი, საშუალო სიმტკიცის და მტკიცე პორფირიტი / Fissured, Moderately strong and strong PORPHYRITES (20.6-28.0m).	0														
26.00				3.0	13.0	100			0			დაშლილი / disturbed										
27.00																						
28.00									40			10 55-60	1 9	10								
29.00				3.0	14	100		მუქი ჟავისფერი, ნაპრალოვანი, მტკიცე პორფირიტი / Dark gray, fissured, strong PORPHYRITES (28.0-31.0m).	50			10 50 60	1 5 3	9								
30.00																						

DATE / თარიღი	16.04.2018
GROUND WATER / გრუნტის წყალი (m)	
Remarks / შენიშვნები	

CUSTOMER/დამკვეთი PADECO Co., Ltd / შ.პ.ს. „პადეკო კო“	GEOENGINEERING	SUBCONTRACTOR / ქვეკონტრაქტორი Ltd Geoengineering / შპს "ჯეოინჟინირინგი"
PAGES / გვერდი: 3 / 6	**BOREHOLE LOG / ჭაბურღილის დოკუმენტაცია**	BOREHOLE No. / ჭაბურღილის # **BH-32a**

PROJECT NAME / პროექტის დასახელება

GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia

GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

BORING LOCATION / ადგილმდებარეობა:	CHAINAGE / პიკეტაჟი
BORING INCLINATION / დახრა (°): ჰორიზონტალური/horizontal 4°	CASING DEPTH / საცავი მილის სიღრმე (m): /
BOREHOLE DEPTH / სიღრმე (m): 85	START-FINISH DATE / დაწყებისა და დამთავების თარიღი: 12.04.2018 - 16.04.2018
BOREHOLE ELEVATION / ნიშნული (m):	COORDINATE / კოორდინატები (N-S) Y: 4661861.017
GROUNDWATER / გრუნტისწყალი (m): No water encountered / არ დაფიქსირდა	COORDINATE / კოორდინატები (E-W) X: 344963.903
SUPERVISOR / LOGGED BY / დოკუმენტაცია შეასრულა: L. Gorgidze / ლ. გორგიძე	DRILLER / მბურღავი: მ. მამულაშვილი

Depth / სიღრმე (m)	Boring Depth / ბურღვის სიღრმე (m)	Boring Diameter / ბურღვის დიამეტრი (mm)	Drilling System / ბურღვის ტიპი	Run / რეისი (m)	Run / რეისის No.	Recovery / ჯერზე სრული გამოსავალი TCR(%)	Stratigraphic Profile / სტრატიგრაფიული პროფილი	Geological and Geotechnical Descirption / გეოლოგიური და გეოტექნიკური აღწერა	RQD (%)	Weathering Degree / ქანის გამოფიტულობა	Rock Strength / ქანის სიმტკიცე	α Angle / α კუთხე	Number / რაოდენობა	Number of Discontinuities / ნაპრალება რაოდენობა (N° / m)	Joint Roughness and Shape/ ნაპრალის ხორკლიანობა და ფორმა	Joint Infilling / ნაპრალს შემავსებელი	RMR	SAMPLES TYPE / ნიმუშის ტიპი		Standard Penetration Test / SPT Number of Blows / დარტყმათა რაოდენობა			
																		Type / ტიპი	Depth / სიღრმე (m)	0-15cm	15-30cm	30-45cm	N
31.00	90.0m			3.0	14	100		მუქი ნაცრისფერი, ნაპრალოვანი, მტკიცე **პორფირიტი** / Dark gray, fissured, strong PORPHYRITES (28.0-31.0m).	50			10 50 60	1 5 3	9									
32.00				3.0	15	100		ნაცრისფერი, ნაპრალოვანი **პორფირიტი**. ნაპრალთა ზედაპირები საფეხურებრივი, ხორკლიანი. / Gray, fissured PORPHYRITES. Surphaces of fissures are step, rough (31.0-37.0m).	83			25 60	2 12	14									
34.00																							
35.00				3.0	16	100			87			60	8	8									
37.00				3.0	17	100		ღია ნაცრისფერი, ნაპრალოვანი, მტკიცე **პორფირიტი**. ნაპრალები შევსებულია მტვროვანი თიხით. ნაპრალთა ზედაპირები სწორი, ზოგან საფეხურებრივი, ხორკლიანი. / Light gray, fissured, strong PORPHYRITES. Fissures are filiing by silty clay filler. Surphaces of fissures are smooth, occasional - step and rough (37.0-40.0m).	81			10 30	3 1	4									
40.00																							
41.00				3.0	18	100		მონაცრისფრო-მომწვანო ფერის, ნაპრალოვანი, მტკიცე **პორფირიტი**. ნაპრალთა ზედაპირები სწორი, ხორკლიანი / Grayish-greenish, fissured, strong PORPHYRITES. Surfasec of fissures are smooth, rough (40.0-43.0m).	76			40 60	2 7	9									
43.00																							
44.00				3.0	19	100		მომწვანო ფერის, ნაპრალოვანი, მტკიცე **პორფირიტი**. ნაპრალთა ზედაპირები საფეხურებრივი, ხორკლიანი, ზოგან სწორი / Greenish, fissured, strong PORPHYRITES. Surfasec of fissures are step, rough, occasional smooth (43.0-46.0m).	79			60	7	7									
45.00																							

DATE / თარიღი	16.04.2018	
GROUND WATER / გრუნტის წყალი (m)		
Remarks / შენიშვნები		

CUSTOMER/დამკვეთი PADECO Co., Ltd / შ.პ.ს. „პადეკო კო“		SUBCONTRACTOR / ქვეკონტრაქტორი Ltd Geoengineering / შპს "ჯეოინჟინირინგი"	
PAGES / გვერდი: 4 / 6	**BOREHOLE LOG / ჭაბურღილის დოკუმენტაცია**	BOREHOLE No. / ჭაბურღილის #	**BH-32a**

PROJECT NAME / პროექტის დასახელება

GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia

GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

BORING LOCATION / ადგილმდებარეობა:	CHAINAGE / პიკეტაჟი
BORING INCLINATION / დახრა (°): ჰორიზონტალური/horizontal 4°	CASING DEPTH / საცავი მილის სიღრმე (m): /
BOREHOLE DEPTH / სიღრმე (m): 85	START-FINISH DATE / დაწყებისა და დამთავების თარიღი: 12.04.2018 - 16.04.2018
BOREHOLE ELEVATION / ნიშნული (m):	COORDINATE / კოორდინატები (N-S) Y: 4661861.017
GROUNDWATER / გრუნტისწყალი (m): No water encountered / არ დაფიქსირდა	COORDINATE / კოორდინატები (E-W) X: 344963.903
SUPERVISOR / LOGGED BY / დოკუმენტაცია შეასრულა: L. Gorgidze / ლ. გორგიძე	DRILLER / მბურღავი: მ. მამულაშვილი

Depth / სიღრმე (m)	Boring Depth / ბურღვის სიღრმე (m)	Boring Diameter / ბურღვის დიამეტრი (mm)	Drilling System / ბურღვის ტიპი	Run / რეისი (m)	Run / რეისის No.	Recovery / კერნის სრული გამოსავალი TCR(%)	Stratigraphic Profile / სტრატიგრაფიული პროფილი	Geological and Geotechnical Descirption / გეოლოგიური და გეოტექნიკური აღწერა	RQD (%)	Weathering Degree / ქანის გამოფიტულობა	Rock Strength / ქანის სიმტკიცე	α Angle / α კუთხე	Number / რაოდენობა	Number of Discontinuities / ნაპრალოვნება რაოდენობა (N° / m)	Joint Roughness and Shape/ ნაპრალის ხორკლიანობა და ფორმა	Joint Infilling / ნაპრალის შევსებული	RMR	SAMPLES TYPE / ნიმუშის ტიპი		Standard Penetration Test / SPT			
																		Type / ტიპი	Depth / სიღრმე (m)	Number of Blows / დარტყმათა რაოდენობა			
																				0-15cm	15-30cm	30-45cm	N
46.00	90.0m			3.0	19.0	100		მომწვანო ფერის, ნაპრალოვანი, მტკიცე პორფირიტი. ნაპრალთა ზედაპირები საფეხურებრივი, ხორკლიანი, ზოგან სწორი / Greenish, fissured, strong PORPHYRITES. Surfasec of fissures are step, rough, occasional smooth (43.0-46.0m).	79			60	7	7								
47.00				3.0	20	100		მონაცრისფრო-მომწვანო ფერის, ნაპრალოვანი **პორფირიტი**, კალციტის ძარღვებით. ნაპრალები შევსებულია თიხით. / Grayish-greenish, fissured PORPHYRITES, with veins of calcite (46.0-49.0m).	67														
48.00																							
49.00																							
50.00				3.0	21	100		ნაცრისფერი, ნაპრალოვანი **პორფირიტი**, კალციტის ძარღვებით. / Gray, fissured PORPHYRITES, with veins of calcite (49.0-52.0m).	92			30	1	5								
51.00													40	1									
52.00													55	3									
53.00				3.0	22	100			73			40	3	9									
54.00												60	6										
55.00																							
56.00				3.0	23	100		ნაცრისფერი, ნაპრალოვანი, **პორფირიტი**. ნაპრალთა ზედაპირები საფეხურებრივი, ხორკლიანი / Gray, fissured PORPHYRITES. Surphaces of fissures are step, rough (52.0-73.0m).	76			45	3	15								
57.00												60	12										
58.00																							
59.00				3.0	24	100			54			50-55	12	12									
60.00																							

DATE / თარიღი	16.04.2018	
GROUND WATER / გრუნტის წყალი (m)		
Remarks / შენიშვნები		

CUSTOMER/დამკვეთი PADECO Co., Ltd / შ.პ.ს. „პადეკო კო“		SUBCONTRACTOR / ქვეკონტრაქტორი Ltd Geoengineering / შპს "ჯეოინჟინირინგი"	
PAGES / გვერდი: 5 / 6	**BOREHOLE LOG / ჭაბურღილის დოკუმენტაცია**	BOREHOLE No. / ჭაბურღილის #	**BH-32a**

PROJECT NAME / პროექტის დასახელება

GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia

GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

BORING LOCATION / ადგილმდებარეობა:	CHAINAGE / პიკეტაჟი
BORING INCLINATION / დახრა (°): ჰორიზონტალური/horizontal 4°	CASING DEPTH / საცავი მილის სიღრმე (m): /
BOREHOLE DEPTH / სიღრმე (m): 85	START-FINISH DATE / დაწყებისა და დამთავების თარიღი: 12.04.2018 - 16.04.2018
BOREHOLE ELEVATION / ნიშნული (m):	COORDINATE / კოორდინატები (N-S) Y: 4661861.017
GROUNDWATER / გრუნტისწყალი (m): No water encountered / არ დაფიქსირდა	COORDINATE / კოორდინატები (E-W) X: 344963.903
SUPERVISOR / LOGGED BY / დოკუმენტაცია შეასრულა: L. Gorgidze / ლ. გორგიძე	DRILLER / მბურღავი: მ. მამულაშვილი

Depth / სიღრმე (m)	Boring Depth / ბურღვის სიღრმე (m)	Boring Diameter / ბურღვის დიამეტრი (mm)	Drilling System / ბურღვის ტიპი	Run / რეისი (m)	Run / რეისის No.	Recovery / კერნის სრული გამოსავალი TCR(%)	Stratigraphic Profile / სტრატიგრაფიული პროფილი	Geological and Geotechnical Descirption / გეოლოგიური და გეოტექნიკური აღწერა	RQD (%)	Weathering Degree / ქანის გამოფიტულობა	Rock Strength / ქანის სიმტკიცე	α Angle / α კუთხე	Number / რაოდენობა	Number of Discontinuities / ნაპრალოვნება რაოდენობა (N° / m)	Joint Roughness and Shape/ ნაპრალის ხორკლიანობა და ფორმა	Joint Infilling / ნაპრალის შევსებული	RMR	SAMPLES TYPE / ნიმუშის ტიპი: Type / ტიპი	SAMPLES TYPE / ნიმუშის ტიპი: Depth / სიღრმე (m)	Standard Penetration Test / SPT: Number of Blows / დარტყმათა რაოდენობა: 0-15cm	15-30cm	30-45cm	N
61.00	90.0m			3.0	24	100		ნაცრისფერი, ნაპრალოვანი, პორფირიტი. ნაპრალთა ზედაპირები საფეხურებრივი, ხორკლიანი / Gray, fissured PORPHYRITES. Surphaces of fissures are step, rough (52.0-73.0m).	54			50-55	12	12								
62.00				3.0	25.0	100			81			30	1	5								
63.00												50	4									
64.00																						
65.00				3.0	26.0	100			82			55-60	6	6								
66.00																						
67.00																						
68.00				3.0	27.0	100			91			60	5	5								
69.00																						
70.00																						
71.00				3.0	28.0	100			68			10	1	5								
72.00												30	1									
73.00												50-55	3									
74.00				3.0	29	100		ღია ნაცრისფერი, ნაპრალოვანი, პორფირიტი. ნაპრალთა ზედაპირები საფეხურებრივი, ხორკლიანი / Light gray, fissured PORPHYRITES. Surphaces of fissures are step, rough (73.0-76.0m).	92			10	4	7								
75.00												60	3									

DATE / თარიღი	16.04.2018	
GROUND WATER / გრუნტის წყალი (m)		
Remarks / შენიშვნები		

CUSTOMER/დამკვეთი PADECO Co., Ltd / შ.პ.ს. „პადეკო კო“		SUBCONTRACTOR / ქვეკონტრაქტორი Ltd Geoengineering / შპს "ჯეოინჟინირინგი"	
PAGES / გვერდი: 6 / 6	**BOREHOLE LOG / ჭაბურღილის დოკუმენტაცია**	BOREHOLE No. / ჭაბურღილის #	**BH-32a**

PROJECT NAME / პროექტის დასახელება

GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia

GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

BORING LOCATION / ადგილმდებარეობა:	CHAINAGE / პიკეტაჟი
BORING INCLINATION / დახრა (°): ჰორიზონტალური/horizontal 4°	CASING DEPTH / საცავი მილის სიღრმე (m): /
BOREHOLE DEPTH / სიღრმე (m): 85	START-FINISH DATE / დაწყებისა და დამთავების თარიღი: 12.04.2018 - 16.04.2018
BOREHOLE ELEVATION / ნიშნული (m):	COORDINATE / კოორდინატები (N-S) Y: 4661861.017
GROUNDWATER / გრუნტისწყალი (m): No water encountered / არ დაფიქსირდა	COORDINATE / კოორდინატები (E-W) X: 344963.903
SUPERVISOR / LOGGED BY / დოკუმენტაცია შეასრულა: L. Gorgidze / ლ. გორგიძე	DRILLER / მბურღავი: მ. მამულაშვილი

Depth / სიღრმე (m)	Boring Depth / ბურღვის სიღრმე (m)	Boring Diameter / ბურღვის დიამეტრი (mm)	Drilling System / ბურღვის ტიპი	Run / რეისი (m)	Run / რეისის No.	Recovery / კერნის სრული გამოსაყვანი TCR(%)	Stratigraphic Profile / სტრატიგრაფიული პროფილი	Geological and Geotechnical Descirption / გეოლოგიური და გეოტექნიკური აღწერა	RQD (%)	Weathering Degree / ქანის გამოფიტულობა	Rock Strength / ქანის სიმტკიცე	α Angle / α კუთხე	Number / რაოდენობა	Number of Discontinuities / ნაპრალთა რაოდენობა (N° / m)	Joint Roughness and Shape/ ნაპრალის ხორკლიანობა და ფორმა	Joint Infilling / ნაპრალის შევსებული	RMR	SAMPLES TYPE / ნიმუშის ტიპი: Type / ტიპი	SAMPLES TYPE / ნიმუშის ტიპი: Depth / სიღრმე (m)	Standard Penetration Test / SPT: Number of Blows / დარტყმათა რაოდენობა: 0-15cm	15-30cm	30-45cm	N
76.00	90.0m			3.0	29	100		ღია ნაცრისფერი, ნაპრალოვანი, პორფირიტი. ნაპრალთა ზედაპირები საფეხურებრივი, ხორკლიანი / Light gray, fissured PORPHYRITES. Surphaces of fissures are step, rough (73.0-76.0m).	92			10	4	7								
												60	3									
77.00				3.0	30	98		ღია ნაცრისფერი, ნაპრალოვანი, **პორფირიტ**ი. ნაპრალთა ზედაპირები ხორკლიანი, სწორი, ზოგან საფეხურებრივი / Light gray, fissured PORPHYRITES. Surphaces of fissures are rough, smooth, occasional step (76.0-79.0m).	72			55-60	10	10									
78.00																						
79.00																						
80.00				3.0	31	100			87			50-55	7	7									
81.00																						
82.00				3.0	32			ღია ნაცრისფერი, ნაპრალოვანი, **პორფირიტ**ი. ნაპრალთა ზედაპირები ხორკლიანი, საფეხურებრივი, ნაპრალების ზედაპირზე ადინიშნება კალციტი / Light gray, fissured PORPHYRITES. Surphasec of fissures are rough, step, with calcite at the surfaces of fissures (79.0-85.0m).				30	2	10									
83.00																						
84.00												55-60	8									
85.00																						
86.00																						
87.00																						
88.00																						
89.00																						
90.00																						

DATE / თარიღი	16.04.2018	
GROUND WATER / გრუნტის წყალი (m)		
Remarks / შენიშვნები		

ANNEX 2

Laboratory Testing Results

ANNEX 2.1

Summary Table of Laboratory Testing Results

Project name: GC-1813 Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia

#	BH #	Soil Sample Depth, m	Density , ρ g/cm^2	Uni-axial compression test Mpa	Rocks Description
1	BH-7	19.7-20.0	2.40	29.80	Phorpirite
2		25.6-26.0	2.49	24.90	
3		29.5-29.9	2.47	23.80	
4	BH-8	4.10-4.30	2.53	53.80	
5		11.20-11.35	2.29	11.80	
6		17.60-17.75	2.53	56.80	
7	BH-12	6.0-6.25	2.45	79.80	
8		7.0-7.3	2.47	89.50	
9		13.8-13.9	2.50	40.90	
10	BH-13A	22.9-23.0	2.45	40.60	
11		24.0-24.1	2.45	31.80	
12	BH-16	14.8-14.9	2.49	64.30	
13	BH-17	15.2-15.5	2.48	45.80	
14		16.8-17.0	2.52	49.50	
15		17.8-18.0	2.50	151.50	
16	BH-19	7.25-7.40	2.43	35.60	
17		7.75-8.0	2.40	35.80	
18	BH-24	8.0-8.2	2.46	36.90	
19		9.8-10.0	2.58	116.70	
20	BH-25	9.80-10.0	2.49	53.90	
21	BH-26	16.0-16.2	2.33	21.10	

#	BH #	Soil Sample Depth, m	Density , ρ g/cm^2	Uni-axial compression test Mpa	Rocks Description
22	BH-26	18.0-18.15	2.45	38.60	Phorpirite
23	BH-27	7.1-7.25	2.46	13.70	
24	BH-29	23.2-23.35	2.22	26.70	
25		24.2-24.5	2.35	22.60	
26	BH-30	17.2-17.5	2.32	11.20	
27		17.5-17.7	2.50	104.70	
28	BH-31	13.0-13.4	2.35	26.40	
29		13.5-13.8	2.33	21.40	
30	BH-31A	11.9-12.0	2.60	95.70	
31		31.4-31.7	2.64	121.70	
32		38.4-38.6	2.64	242.80	
33		49.1-49.75	2.40	24.80	
34		59.5-59.7	2.52	51.00	
35		64.1-64.45	2.56	71.50	
36		66.0-66.7	2.58	55.80	
37		73.0-73.3	2.56	48.20	
38		74.6-75.0	2.47	76.60	
39		81.3-81.7	2.52	84.90	
40		82.5-82.7	2.55	54.50	
Operator		Checked		Approved	Date
Nino Jvaridze		Tamar Gorgidze		Roin Kavelashvili	21.05.2018

Project name: GC-1813 Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia

#	BH #	Soil Sample Depth, m	Density , ρ g/cm^2	Uni-axial compression test, Mpa	Rocks Description
1	BH-1	4.8-4.95	2.73	28.20	PORPHYRITE
2		8.0-8.15	2.61	41.20	
3	BH-2	10.3-10.6	2.60	56.00	PORPHYRITE
4		14.25-14.5	2.87	54.30	
5	BH-3	15.3-15.5	2.60	90.80	TUFF
6		18.3-18.65	2.60	97.30	
7	BH-4	4.0-4.25	2.66	25.00	PORPHYRITE
8		9.0-9.2	2.46	49.40	
9	BH-11	9.0-9.3	2.21	29.80	TUFFACEOUS SANDSTONE
10		19.0-19.3	2.23	37.20	
11	BH-14	10.8-10.95	2.58	36.90	TUFFACEOUS SANDSTONE
12		11.0-11.15	2.74	44.80	
13	BH-15	10.8-11.5	2.74	48.10	TUFFACEOUS SANDSTONE
14		12.25-12.45	2.51	36.30	
15	BH-18	2.4-2.55	2.51	68.40	PORPHYRITE
16		3.3-3.5	2.42	33.00	
17		4.0-4.4	2.46	63.50	
18	BH-21	10.0-10.2	2.50	52.40	PORPHYRITE
19		17.6-17.75	2.47	27.20	
20	BH-22	13.6-13.75	2.56	44.00	PORPHYRITE
21		14.7-14.85	2.55	30.90	
22	BH-23	6.3-6.6	2.42	39.20	PORPHYRITE
23		7.6-7.75	2.55	43.70	
24		9.4-9.6	2.49	39.10	
25	BH-28	9.6-9.9	2.49	66.40	PORPHYRITE
26		13.8-13.9	2.51	87.60	
Operator		Checked		Approved	Date
Natalia Gachechiladze		Tamar Gorgidze		Roin Kavelashvili	21.08.2018

ANNEX 2.2

Results of Unconfined Compression Tests

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-1
PORPHYRITE	Sample no:	
	Depth, m	4.8-4.95
	Date of testing	20.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	50.7	Axial Force, P KN	57.00	
Area A_0, cm^2	20.19	Mosture content,%		
Length L_0, mm	108.5			
Volume V, cm^3	219.05			
Weight, g	597.1			
Density , ρ	2.73			

		Compression test results
Compressice stress	σ	28.2 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-1
PORPHYRITE	Sample no:	
	Depth, m	8.0-8.15
	Date of testing	20.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	57.2	Axial Force, P KN	106.00	
Area A_0, cm^2	25.70	Mosture content,%		
Length L_0, mm	60.3			
Volume V, cm^3	154.95			
Weight, g	405.2			
Density , ρ	2.61			

		Compression test results
Compressice stress	σ	41.2 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-2
PORPHYRITE	Sample no:	
	Depth, m	10.3-10.6
	Date of testing	17.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	58.8	Axial Force, P KN	152.00	
Area A_0, cm^2	27.15	Mosture content,%		
Length L_0, mm	110.8			
Volume V, cm^3	300.87			
Weight, g	783.6			
Density , ρ	2.60			

		Compression test results
Compressice stress	σ	56.0 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-2
PORPHYRITE	Sample no:	
	Depth, m	14.25-14.5
	Date of testing	17.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	50.8	Axial Force, P KN	122.30	
Area A_0, cm^2	20.27	Mosture content,%		
Length L_0, mm	90.4			
Volume V, cm^3	183.23			
Weight, g	525.0			
Density , ρ	2.87			

		Compression test results
Compressice stress	σ	54.3 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-3
TUFF	Sample no:	
	Depth, m	15.3-15.5
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	57.8	Axial Force, P KN	238.15	
Area A_0, cm^2	26.24	Mosture content,%		
Length L_0, mm	119.5			
Volume V, cm^3	313.55			
Weight, g	814.7			
Density , ρ	2.60			

		Compression test results
Compressice stress	σ	90.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-3
TUFF	Sample no:	
	Depth, m	18.3-18.65
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	57.7	Axial Force, P KN	254.50	
Area A_0, cm^2	26.15	Mosture content,%		
Length L_0, mm	120.4			
Volume V, cm^3	314.82			
Weight, g	818.0			
Density , ρ	2.60			

	Compression test results
Compressice stress σ	97.3 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-4
PORPHYRITE	Sample no:	
	Depth, m	4.0-4.25
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	56.8	Axial Force, P KN	70.30	
Area A_0, cm^2	25.34	Mosture content,%		
Length L_0, mm	100.9			
Volume V, cm^3	255.67			
Weight, g	680.9			
Density , ρ	2.66			

		Compression test results
Compressice stress	σ	25.0 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-4
PORPHYRITE	Sample no:	
	Depth, m	9.0-9.2
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	56.9	Axial Force, P KN	139.70	
Area A_0, cm^2	25.43	Mosture content,%		
Length L_0, mm	88.2			
Volume V, cm^3	224.28			
Weight, g	550.6			
Density , ρ	2.46			

	Compression test results
Compressice stress σ	49.4 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-7
Phorpirite	Sample no:	
	Depth, m	19.7-20.0
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	93.0	Axial Force, P KN	224.80	
Area A_0, cm^2	67.93	Mosture content,%		
Length L_0, mm	188.0			
Volume V, cm^3	1277.07			
Weight, g	3065.9			
Density , ρ	2.40			

		Compression test results
Compressice stress	σ	29.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-7
Phorpirite	Sample no:	
	Depth, m	25.6-26.0
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	72.5	Axial Force, P KN	122.40	
Area A_0, cm^2	41.28	Mosture content,%		
Length L_0, mm	135.0			
Volume V, cm^3	557.31			
Weight, g	1385.2			
Density , ρ	2.49			

		Compression test results
Compressice stress	σ	24.9 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-7
Phorpirite	Sample no:	
	Depth, m	29.5-29.9
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	93.0	Axial Force, P KN	207.00	
Area A_0, cm^2	67.93	Mosture content,%		
Length L_0, mm	174.6			
Volume V, cm^3	1186.04			
Weight, g	2935.1			
Density , ρ	2.47			

		Compression test results
Compressice stress	σ	23.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-8
Phorpirite	Sample no:	
	Depth, m	4.10-4.30
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	85.4	Axial Force, P KN	308.00	
Area A_0, cm^2	57.28	Mosture content,%		
Length L_0, mm	125.5			
Volume V, cm^3	718.87			
Weight, g	1820.5			
Density , ρ	2.53			

		Compression test results
Compressice stress	σ	53.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-8
Phorpirite	Sample no:	
	Depth, m	11.20-11.35
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	20.85	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	92.5			
Volume V, cm^3	163.92			
Weight, g	375.5			
Density , ρ	2.29			

		Compression test results
Compressice stress	σ	11.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-8
Phorpirite	Sample no:	
	Depth, m	17.60-17.75
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	90.0	Axial Force, P KN	361.15	
Area A_0, cm^2	63.62	Mosture content,%		
Length L_0, mm	175.4			
Volume V, cm^3	1115.85			
Weight, g	2827.3			
Density , ρ	2.53			

		Compression test results
Compressice stress	σ	56.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-11
TUFFACEOUS SANDSTONE	Sample no:	
	Depth, m	19.0-19.3
	Date of testing	17.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	52.3	Axial Force, P KN	79.90	
Area A_0, cm^2	21.48	Mosture content,%		
Length L_0, mm	106.3			
Volume V, cm^3	228.36			
Weight, g	508.7			
Density , ρ	2.23			

		Compression test results
Compressice stress	σ	37.2 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-11
TUFFACEOUS SANDSTONE	Sample no:	
	Depth, m	9.0-9.3
	Date of testing	20.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	56.6	Axial Force, P KN	75.10	
Area A_0, cm^2	25.16	Mosture content,%		
Length L_0, mm	107.6			
Volume V, cm^3	270.73			
Weight, g	599.5			
Density , ρ	2.21			

		Compression test results
Compressice stress	σ	29.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-12
Phorpirite	Sample no:	
	Depth, m	13.8-13.9
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	86.0	Axial Force, P KN	237.35	
Area A_0, cm^2	58.09	Mosture content,%		
Length L_0, mm	125.5			
Volume V, cm^3	729.01			
Weight, g	1825.3			
Density , ρ	2.50			

		Compression test results
Compressice stress	σ	40.9 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-12
Phorpirite	Sample no:	
	Depth, m	6.0-6.25
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	87.5	Axial Force, P KN	480.15	
Area A_0, cm^2	60.13	Mosture content,%		
Length L_0, mm	170.4			
Volume V, cm^3	1024.65			
Weight, g	2514.3			
Density , ρ	2.45			

		Compression test results
Compressice stress	σ	79.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-12
Phorpirite	Sample no:	
	Depth, m	7.0-7.3
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	80.5	Axial Force, P KN	455.12	
Area A_0, cm^2	50.83	Mosture content,%		
Length L_0, mm	131.5			
Volume V, cm^3	668.19			
Weight, g	1647.3			
Density , ρ	2.47			

		Compression test results
Compressice stress	σ	89.5 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-13A
Phorpirite	Sample no:	
	Depth, m	22.9-23.0
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	92.0	Axial Force, P KN	270.00	
Area A_0, cm^2	66.48	Mosture content,%		
Length L_0, mm	134.5			
Volume V, cm^3	894.10			
Weight, g	2188.3			
Density , ρ	2.45			

		Compression test results
Compressice stress	σ	40.6 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-13A
Phorpirite	Sample no:	
	Depth, m	24.0-24.1
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	91.7	Axial Force, P KN	210.00	
Area A_0, cm^2	66.04	Mosture content,%		
Length L_0, mm	154.6			
Volume V, cm^3	1021.03			
Weight, g	2499.3			
Density , ρ	2.45			

		Compression test results
Compressice stress	σ	31.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-14
TUFFACEOUS SANDSTONE	Sample no:	
	Depth, m	10.8-10.95
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	72.2	Axial Force, P KN	167.70	
Area A_0, cm^2	40.94	Mosture content,%		
Length L_0, mm	84.6			
Volume V, cm^3	346.37			
Weight, g	893.5			
Density , ρ	2.58			

Compression test results	
Compressice stress σ	36.9 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-14
TUFFACEOUS SANDSTONE	Sample no:	
	Depth, m	11.0-11.15
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	70.2	Axial Force, P KN	192.80	
Area A_0, cm^2	38.70	Mosture content,%		
Length L_0, mm	95.7			
Volume V, cm^3	370.40			
Weight, g	1014.8			
Density , ρ	2.74			

Compression test results	
Compressice stress σ	44.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-15
TUFFACEOUS SANDSTONE	Sample no:	
	Depth, m	10.8-11.5
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	60.8	Axial Force, P KN	155.30	
Area A_0, cm^2	29.03	Mosture content,%		
Length L_0, mm	72.7			
Volume V, cm^3	211.07			
Weight, g	579.3			
Density , ρ	2.74			

		Compression test results
Compressice stress	σ	48.1 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-15
TUFFACEOUS SANDSTONE	Sample no:	
	Depth, m	12.25-12.45
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	68.1	Axial Force, P KN	147.00	
Area A_0, cm^2	36.42	Mosture content,%		
Length L_0, mm	91.0			
Volume V, cm^3	331.46			
Weight, g	831.8			
Density , ρ	2.51			

		Compression test results
Compressice stress	σ	36.3 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-16
Phorpirite	Sample no:	
	Depth, m	14.8-14.9
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	90.2	Axial Force, P KN	411.12	
Area A_0, cm^2	63.90	Mosture content,%		
Length L_0, mm	170.5			
Volume V, cm^3	1089.18			
Weight, g	2715.3			
Density , ρ	2.49			

		Compression test results
Compressice stress	σ	64.3 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-17
Phorpirite	Sample no:	
	Depth, m	15.2-15.5
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	92.0	Axial Force, P KN	304.40	
Area A_0, cm^2	66.48	Mosture content,%		
Length L_0, mm	175.5			
Volume V, cm^3	1166.66			
Weight, g	2894.3			
Density , ρ	2.48			

		Compression test results
Compressice stress	σ	45.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-17
Phorpirite	Sample no:	
	Depth, m	16.85-17.0
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	92.0	Axial Force, P KN	328.80	
Area A_0, cm^2	66.48	Mosture content,%		
Length L_0, mm	171.5			
Volume V, cm^3	1140.07			
Weight, g	2878.5			
Density , ρ	2.52			

		Compression test results
Compressice stress	σ	49.5 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-17
Phorpirite	Sample no:	
	Depth, m	17.8-18.0
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	87.4	Axial Force, P KN	907.85	
Area A_0, cm^2	59.94	Mosture content,%		
Length L_0, mm	168.5			
Volume V, cm^3	1009.81			
Weight, g	2525.3			
Density , ρ	2.50			

		Compression test results
Compressice stress	σ	151.5 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-18
PORPHYRITE	Sample no:	
	Depth, m	2.4-2.55
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	69.5	Axial Force, P KN	259.30	
Area A_0, cm^2	37.94	Mosture content,%		
Length L_0, mm	140.1			
Volume V, cm^3	531.49			
Weight, g	1332.6			
Density , ρ	2.51			

		Compression test results
Compressice stress	σ	68.4 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-18
PORPHYRITE	Sample no:	
	Depth, m	19.7-20.0
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	69.3	Axial Force, P KN	138.40	
Area A_0, cm^2	37.72	Mosture content,%		
Length L_0, mm	109.6			
Volume V, cm^3	413.40			
Weight, g	1002.4			
Density , ρ	2.42			

		Compression test results
Compressice stress	σ	33.0 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-18
PORPHYRITE	Sample no:	
	Depth, m	4.0-4.4
	Date of testing	17.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	69.8	Axial Force, P KN	269.90	
Area A_0, cm^2	38.26	Mosture content,%		
Length L_0, mm	142.6			
Volume V, cm^3	545.66			
Weight, g	1340.0			
Density , ρ	2.46			

		Compression test results
Compressice stress	σ	63.5 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-19
Phorpirite	Sample no:	
	Depth, m	7.25-7.40
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	90.0	Axial Force, P KN	226.36	
Area A_0, cm^2	63.62	Mosture content,%		
Length L_0, mm	171.5			
Volume V, cm^3	1090.72			
Weight, g	2647.3			
Density , ρ	2.43			

		Compression test results
Compressice stress	σ	35.6 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-19
Phorpirite	Sample no:	
	Depth, m	7.75-8.0
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	86.7	Axial Force, P KN	211.45	
Area A_0, cm^2	59.04	Mosture content,%		
Length L_0, mm	156.4			
Volume V, cm^3	923.35			
Weight, g	2215.8			
Density , ρ	2.40			

		Compression test results
Compressice stress	σ	35.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-21
PORPHYRITE	Sample no:	
	Depth, m	10.0-10.2
	Date of testing	17.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	91.0	Axial Force, P KN	340.90	
Area A_0, cm^2	65.04	Mosture content,%		
Length L_0, mm	181.0			
Volume V, cm^3	1177.20			
Weight, g	2948.5			
Density , ρ	2.50			

		Compression test results
Compressice stress	σ	52.4 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-21
PORPHYRITE	Sample no:	
	Depth, m	17.6-17.75
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	70.0	Axial Force, P KN	116.10	
Area A_0, cm^2	38.48	Mosture content,%		
Length L_0, mm	108.5			
Volume V, cm^3	417.56			
Weight, g	1031.0			
Density , ρ	2.47			

		Compression test results
Compressice stress	σ	27.2 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-22
PORPHYRITE	Sample no:	
	Depth, m	13.6-13.75
	Date of testing	17.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	54.5	Axial Force, P KN	102.65	
Area A_0, cm^2	23.33	Mosture content,%		
Length L_0, mm	110.0			
Volume V, cm^3	256.61			
Weight, g	656.3			
Density , ρ	2.56			

		Compression test results
Compressice stress	σ	44.0 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-22
PORPHYRITE	Sample no:	
	Depth, m	14.7-14.85
	Date of testing	17.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	54.5	Axial Force, P KN	72.08	
Area A_0, cm^2	23.33	Mosture content,%		
Length L_0, mm	105.5			
Volume V, cm^3	246.11			
Weight, g	628.5			
Density , ρ	2.55			

		Compression test results
Compressice stress	σ	30.9 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-23
PORPHYRITE	Sample no:	
	Depth, m	6.3-6.6
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	94.4	Axial Force, P KN	305.00	
Area A_0, cm^2	69.99	Mosture content,%		
Length L_0, mm	160.0			
Volume V, cm^3	1119.83			
Weight, g	2710.0			
Density , ρ	2.42			

		Compression test results
Compressice stress	σ	39.2 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-23
PORPHYRITE	Sample no:	
	Depth, m	7.6-7.75
	Date of testing	15.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	94.4	Axial Force, P KN	340.20	
Area A_0, cm^2	69.99	Mosture content,%		
Length L_0, mm	145.0			
Volume V, cm^3	1014.85			
Weight, g	2590.2			
Density , ρ	2.55			

		Compression test results
Compressice stress	σ	43.7 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-23
PORPHYRITE	Sample no:	
	Depth, m	9.4-9.6
	Date of testing	17.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	68.8	Axial Force, P KN	161.40	
Area A_0, cm^2	37.18	Mosture content,%		
Length L_0, mm	100.4			
Volume V, cm^3	373.25			
Weight, g	927.8			
Density , ρ	2.49			

		Compression test results
Compressice stress	σ	39.1 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-24
Phorpirite	Sample no:	
	Depth, m	8.0-8.2
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	82.0	Axial Force, P KN	194.65	
Area A_0, cm^2	52.81	Mosture content,%		
Length L_0, mm	198.5			
Volume V, cm^3	1048.28			
Weight, g	2575.8			
Density , ρ	2.46			

		Compression test results
Compressice stress	σ	36.9 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-24
Phorpirite	Sample no:	
	Depth, m	9.8-10.0
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	90.2	Axial Force, P KN	745.60	
Area A_0, cm^2	63.90	Mosture content,%		
Length L_0, mm	172.5			
Volume V, cm^3	1102.28			
Weight, g	2846.8			
Density , ρ	2.58			

		Compression test results
Compressice stress	σ	116.7 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-25
Phorpirite	Sample no:	
	Depth, m	9.80-10.0
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	84.2	Axial Force, P KN	299.95	
Area A_0, cm^2	55.68	Mosture content,%		
Length L_0, mm	162.5			
Volume V, cm^3	904.83			
Weight, g	2255.8			
Density , ρ	2.49			

		Compression test results
Compressice stress	σ	53.9 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-26
Phorpirite	Sample no:	
	Depth, m	16.0-16.2
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	82.2	Axial Force, P KN	112.20	
Area A_0, cm^2	53.07	Mosture content,%		
Length L_0, mm	147.5			
Volume V, cm^3	782.75			
Weight, g	1825.8			
Density , ρ	2.33			

		Compression test results
Compressice stress	σ	21.1 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-26
Phorpirite	Sample no:	
	Depth, m	18.0-18.15
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	84.0	Axial Force, P KN	214.00	
Area A_0, cm^2	55.42	Mosture content,%		
Length L_0, mm	165.4			
Volume V, cm^3	916.33			
Weight, g	2242.8			
Density , ρ	2.45			

		Compression test results
Compressice stress	σ	38.6 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-27
Phorpirite	Sample no:	
	Depth, m	7.10-7.25
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	88.0	Axial Force, P KN	83.20	
Area A_0, cm^2	60.82	Mosture content,%		
Length L_0, mm	182.5			
Volume V, cm^3	1109.99			
Weight, g	2734.8			
Density , ρ	2.46			

		Compression test results
Compressice stress	σ	13.7 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-28
PORPHYRITE	Sample no:	
	Depth, m	9.6-9.9
	Date of testing	17.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	93.2	Axial Force, P KN	453.10	
Area A_0, cm^2	68.22	Mosture content,%		
Length L_0, mm	181.0			
Volume V, cm^3	1234.81			
Weight, g	3079.6			
Density , ρ	2.49			

		Compression test results
Compressice stress	σ	66.4 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-28
PORPHYRITE	Sample no:	
	Depth, m	13.8-14.0
	Date of testing	17.08.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	70.3	Axial Force, P KN	340.10	
Area A_0, cm^2	38.82	Mosture content,%		
Length L_0, mm	135.0			
Volume V, cm^3	524.00			
Weight, g	1313.7			
Density , ρ	2.51			

		Compression test results
Compressice stress	σ	87.6 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-29
Phorpirite	Sample no:	
	Depth, m	23.2-23.35
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	84.0	Axial Force, P KN	147.80	
Area A_0, cm^2	55.42	Mosture content,%		
Length L_0, mm	131.5			
Volume V, cm^3	728.74			
Weight, g	1615.6			
Density , ρ	2.22			

		Compression test results
Compressice stress	σ	26.7 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-29
Phorpirite	Sample no:	
	Depth, m	24.2-24.5
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	83.0	Axial Force, P KN	122.20	
Area A_0, cm^2	54.11	Mosture content,%		
Length L_0, mm	168.5			
Volume V, cm^3	911.69			
Weight, g	2142.6			
Density , ρ	2.35			

		Compression test results
Compressice stress	σ	22.6 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-30
Phorpirite	Sample no:	
	Depth, m	17.2-17.5
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	93.0	Axial Force, P KN	75.75	
Area A_0, cm^2	67.93	Mosture content,%		
Length L_0, mm	167.5			
Volume V, cm^3	1137.81			
Weight, g	2641.8			
Density , ρ	2.32			

		Compression test results
Compressice stress	σ	11.2 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-30
Phorpirite	Sample no:	
	Depth, m	17.5-17.7
	Date of testing	21.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	93.2	Axial Force, P KN	714.00	
Area A_0, cm^2	68.22	Mosture content,%		
Length L_0, mm	179.2			
Volume V, cm^3	1222.53			
Weight, g	3050.8			
Density , ρ	2.50			

		Compression test results
Compressice stress	σ	104.7 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-31
Phorpirite	Sample no:	
	Depth, m	13.0-13.4
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	90.0	Axial Force, P KN	167.80	
Area A_0, cm^2	63.62	Mosture content,%		
Length L_0, mm	171.0			
Volume V, cm^3	1087.85			
Weight, g	2557.0			
Density , ρ	2.35			

		Compression test results
Compressice stress	σ	26.4 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-31
Phorpirite	Sample no:	
	Depth, m	13.5-13.8
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	90.0	Axial Force, P KN	136.30	
Area A_0, cm^2	63.62	Mosture content,%		
Length L_0, mm	172.0			
Volume V, cm^3	1094.22			
Weight, g	2550.2			
Density , ρ	2.33			

		Compression test results
Compressice stress	σ	21.4 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	11.9-12.1
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	169.60	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	92.7			
Volume V, cm^3	164.27			
Weight, g	426.4			
Density , ρ	2.60			

		Compression test results
Compressice stress	σ	95.7 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	31.4-31.7
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	215.70	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	92.0			
Volume V, cm^3	163.03			
Weight, g	430.9			
Density , ρ	2.64			

		Compression test results
Compressice stress	σ	121.7 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	38.4-38.6
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	430.20	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	93.0			
Volume V, cm^3	164.80			
Weight, g	435.8			
Density , ρ	2.64			

		Compression test results
Compressice stress	σ	242.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	49.1-49.75
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	43.90	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	93.3			
Volume V, cm^3	165.33			
Weight, g	397.0			
Density , ρ	2.40			

		Compression test results
Compressice stress	σ	24.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	59.5-59.7
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	90.30	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	93.0			
Volume V, cm^3	164.80			
Weight, g	414.8			
Density , ρ	2.52			

		Compression test results
Compressice stress	σ	51.0 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	64.1-64.45
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	126.70	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	93.6			
Volume V, cm^3	165.86			
Weight, g	422.6			
Density , ρ	2.55			

		Compression test results
Compressice stress	σ	71.5 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	66.0-66.7
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	98.90	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	92.6			
Volume V, cm^3	164.09			
Weight, g	422.6			
Density , ρ	2.58			

		Compression test results
Compressice stress	σ	55.8 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	73.0-73.3
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	85.40	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	93.5			
Volume V, cm^3	165.69			
Weight, g	424.9			
Density , ρ	2.56			

		Compression test results
Compressice stress	σ	48.2 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	74.6-75.0
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	135.70	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	93.6			
Volume V, cm^3	165.86			
Weight, g	409.3			
Density , ρ	2.47			

		Compression test results
Compressice stress	σ	76.6 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	81.3-81.7
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	150.50	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	92.5			
Volume V, cm^3	163.92			
Weight, g	413.6			
Density , ρ	2.52			

		Compression test results
Compressice stress	σ	84.9 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

Uniaxial Compression Test

Location:	Job ref.GC-1813	Project name: Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia
Georgia		
Specimen lithologic description:	Borehole ref.	BH-32A
Phorpirite	Sample no:	
	Depth, m	82.5-82.7
	Date of testing	17.05.2018
Type of specimen: Undisturbed		
Feature of specimen:		
Test method ASTM D 2938-95		

Prepation procedure in accordance with Practice D 4543				
Specimen initially details				
Diameter D_0, mm	47.5	Axial Force, P KN	96.50	
Area A_0, cm^2	17.72	Mosture content,%		
Length L_0, mm	93.0			
Volume V, cm^3	164.80			
Weight, g	421.0			
Density , ρ	2.55			

		Compression test results
Compressice stress	σ	54.5 MPa

Operator	Checked	Approved
Kbilashvili	Jvaridze	Kavelashvili

ANNEX 3

Photographic documentation

ფოტოდოკუმენტაცია	**Photo Documents**
პროექტის დასახელება: GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში	
Project Name: GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	
BH 1	
	
BH 2	
	
	

ფოტოდოკუმენტაცია	**Photo Documents**
<u>პროექტის დასახელება: GC-1813 -</u> საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში	
<u>Project Name:</u> GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	

<u>BH 3</u>

ფოტოდოკუმენტაცია	**Photo Documents**
პროექტის დასახელება: GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში	
Project Name: GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia	

BH 4

BH 7

ფოტოდოკუმენტაცია	**Photo Documents**

პროექტის დასახელება: GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

Project Name: GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia

BH 8

ფოტოდოკუმენტაცია	**Photo Documents**

პროექტის დასახელება: GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

Project Name: GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia

BH 11

ფოტოდოკუმენტაცია	**Photo Documents**

პროექტის დასახელება: GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

Project Name: GC-1813 - Geotechnical Investigation Works for the Preparatory Survey for East-West Highway (E-60) Development Project (Phase-2) in Georgia

BH 12

BH 13

ფოტოდოკუმენტაცია	**Photo Documents**

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ფოტოდოკუმენტაცია	**Photo Documents**

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ფოტოდოკუმენტაცია	**Photo Documents**

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ფოტოდოკუმენტაცია	**Photo Documents**
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ფოტოდოკუმენტაცია	**Photo Documents**

<u>პროექტის დასახელება: GC-1813 -</u> საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

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ფოტოდოკუმენტაცია	**Photo Documents**
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ფოტოდოკუმენტაცია	**Photo Documents**

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ფოტოდოკუმენტაცია	**Photo Documents**

პროექტის დასახელება: GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

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ფოტოდოკუმენტაცია	**Photo Documents**

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ფოტოდოკუმენტაცია	**Photo Documents**
პროექტის დასახელება: GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში	
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ფოტოდოკუმენტაცია	**Photo Documents**
პროექტის დასახელება: GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში	
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პროექტის დასახელება: GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში

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ფოტოდოკუმენტაცია	**Photo Documents**
პროექტის დასახელება: GC-1813 - საქართველოში, გეოტექნიკური კვლევითი სამუშაოების ჩატარება აღმოსავლეთ-დასავლეთის ავტომაგისტრალის (E-60) განვითარების პროექტის (მე-2 ეტაპი) წინასწარი კვლევის ფარგლებში	
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ფოტოდოკუმენტაცია	**Photo Documents**
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Appendix 6.1

Evidence for the calculation results of Construction Cost by Construction Period

: (A part has been removed because of confidential information.)

Appendix 6.1

:A part has been removed because of confidential information.

A. Overall Construction Schedule

Following 3 construction schedules are considered;

Very Tight schedule – 2.5 Years,
Moderate Schedule – 5 Years and
Relaxed Schedule – 7 Years.

Overall project schedule for above 3 schedules are presented in Figure A.1 "2.5 Years Construction", Figure A.2 "5 Years Construction", and Figure A.3 "7 Years Construction" respectively.

All schedules indicate parties required for tunnel works, bridge works and road works to completed works within each construction period.

B. Project Cost

Project cost for the 3 different schedules are obtained and compared by following steps;

a) Calculate an Indicative construction cost,
b) Breakdown the Indicative construction cost into, Material Cost and Plant & Labour Cost,
c) Assume Material Cost is same for 3 schedules, but Plant & Labour cost is proportional to construction period and number of parties, i.e. cost / (construction period x number of parties) = constant,
d) Case 1 - Consider "5 Year Construction" being the Indicative Construction Cost, and calculate construction cost for "2.5 Years Construction" and "7 Years Construction" on the basis of above assumption c), and compare costs for the 3 different schedules by setting the cost for "5 Years Construction" as 100,
e) Case 2 - Repeat Step d) for "2.5 Years Construction", and
f) Case 3 - Repeat Step d) for "7 Years Construction",

Table B.1 "Indicative Project Cost for East West Highway, Phase 2" shows the result of Step a) and b), Table B.2 "Construction Period vs. Construction Cost" shows the results of calculations for Step d), e) and f).

Costs of 3 different schedule, Case 1- "5 Years Construction being the Indicative Construction Cost, Case 2 – "2.5 Years Construction being the Indicative Construction Cost" and Case 3 – "7 Years Construction being the Indicative Construction Cost" are compared in Attachment 9 "Cost Comparison of Construction Periods between 2.5 Years, 5 Years and 7 Years".

Followings are observed from the graph "Cost Comparison of Construction Periods between 2.5 Years, 5 Years and 7 Years";

i. Optimum construction period appears between 4-6 years,
ii. Shorter the construction period than the Optimum construction period, higher the cost, longer the construction period than the Optimum construction period, higher the cost. This represents general relation between Construction Period and Construction Cost well,
iii. Cost of "2.5 Years Construction" appears 24 – 36 % higher than the cost of "5 Years Construction" which seems to be a schedule close to the Optimum Construction Period, and
iv. Additional cost for the project management is not considered in above exercise, this will increase overall project cost for "2.5 Years Construction"

Figure A.1 "2.5 Years Construction Schedule

Construction Period 2.5 Years

Description									Year 1	2	3	4	5	6	Note
Work		Chainage	Length	Party	Qty	Progress Rate	Type								
East	Road	RTA1 RAT1	0+000 - 0+226 0+000 - 0+165	226 165	R1	Not included		Cut			Earthwork Subbase/Base course/Surfacing				Include Slope Protection
	Tunnel	TTA1 TAT1	0+226 - 0+625 0+165 - 0+697	399 532	T1	110,000	3m/day	Blasting			Drilling, Blasting and 1st Lining 2nd Lining Road Surfacing and Services				Start excavation from Argveta side
	Road	RTA2 RAT2	0+625 - 0+775 0+697 - 0+748	150 51	R1	Not included		Fill			Earthwork				Start excavation from Argveta side Slope protection works is most likely required.
	Tunnel	TTA2 TAT2	0+775 - 1+220 0+748 - 1+235	445 487	T2	110,000	3m/day	Blasting			Drilling, Blasting and 1st Lining 2nd Lining Road Surfacing and Services				Construct from Argveta side
	Road	RTA3 RAT3	1+220 - 1+246 1+235 - 1+258	26 22	R1	Not included		Fill			Earthwork Subbase/Base course/Surfacing				Start earthwork at TTA2/TA2 Agreveta side Portal area first to establish temporary yard Include Slope Protection
	Bridge	BTA1	1+246 - 1+876	630	B1		Refer Sheet 1 *Bridge BTA1 & BAT 1	CSG			Foundation and Substructure Superstructure , Incremental Launching 1				Start Launching from Abutment A2
		BAT1	1+258 - 1+858	600	B2						Access and Assemble & Launching Yard Foundation and Substructure Superstructure , Incremental Launching 2				
	Road	RTA4 RAT4	1+876 - 2+071 1+858 - 2+069	195 211	R1	Not included		Cut & Fill			Earthwork Subbase/Base course/Surfacing Access and Assemble & Launching Yard				Include Slope Protection
	Bridge	BTA2	2+071 - 2+965	894	B3		Refer Sheet 1 *Bridge BTA1 & BAT 1	CSG			Foundation and Substructure Superstructure, Crane on ground				Start Launching from Abutment A1
		BAT2	2+069 - 2+915	846	B4						Foundation and Substructure Superstructure, Crane on ground				
	Road	RTA5 RAT5	2+965 - 3+250 2+915 - 3+230	285 315	R1	Not included		Mostly cut			Earthwork Subbase/Base course/Surfacing				
	IC	Shorapani	3+200		R4	Not known		Fill			Earthwork Subbase/Base course/Surfacing				
	Bridge	BTA3 BAT3	3+250 - 3+486 3+230 - 3+466	236 236	B5			PSC	Mobilization Period 3 months		Foundation and Substructure Superstructure, Crane on ground				250 ton crane
	Road	RTA6 RAT6	3+486 - 3+490 3+466 - 3+472	4 6	R1	Not included		Fill			Earthwork Subbase/Base course/Surfacing				
	Tunnel	TTA3	3+490 - 4+293	803	T3	230,000	3-4 m/day	Blasting			Drilling, Blasting and 1st Lining 2nd Lining				Start excavation from Argveta side
		TAT3	3+472 - 4+637	1,165	T4		5 m/day				Drilling, Blasting and 1st Lining 2nd Lining Road Surfacing and Services				Start excavation from Argveta side
	Road	RTA7	4+293 - 5+786	1,493	R1	Not included		Fill			Earthwork Subbase/Base course/Surfacing				Divert Public Traffic to RAT 7 Divert Public Traffic to RAT 7
		RAT7	4+637 - 5+811	1,174		130,000	Existing traffic on E60 is diverted to RAT7	Cut			Subbase/Base course/Surfacing				Use as access road for Tunnel TTA3/TAT3. 500 m3/day by hydraulic hammers. Divert Public Traffic to RTA 7
	IC	Zestafoni E	6+000		R5	Not known		Fill			Earthwork Subbase/Base course/Surfacing				
	Road Services														
West	Bridge	BTA4	5+786 - 6+272	486	B6		Refer Sheet 2 *Bridge BTA4 & BAT4	CSG			Establish Temporary Staging at A2 side Foundation and Substructure Superstructure , Incremental Launching 3				Require Temporary staging at Abutment A2 over Georgian Rail Start Launching from Abutment A1
		BAT4	5+811 - 6+321	510	B7						Foundation and Substructure Superstructure , Incremental Launching 4				
	Road	RTA8 RAT8	6+272 - 6+288 6+321 - 6+331	16 11	R2	Not included		Cut							
	Tunnel	TTA4	6+288 - 7+023	735	T5	170,000	2-3 m/day	Bleaker			Drilling, Blasting and 1st Lining 2nd Lining Road Surfacing and Services				Start excavation from Tbilisi side
		TAT4	6+331 - 7+045	714	T6						Drilling, Blasting and 1st Lining 2nd Lining Road Surfacing and Services				
	Road	RTA9 RAT9	7+023 - 7+107 7+045 - 7+137	84 92	R2			Fill			Earthwork Subbase/Base course/Surfacing				
	Tunnel	TTA5	7+107 - 8+259	1,152	T7	280,000	5m/day	Road header (75)/Bleaker (25)			Drilling, Blasting and 1st Lining 2nd Lining Road Surfacing and Services				Start excavation from Tbilisi side
		TAT5	7+137 - 8+330	1,193	T8						Drilling, Blasting and 1st Lining 2nd Lining Road Surfacing and Services				
	Road	RTA10 RAT10	8+259 - 9+009 8+330 - 9+048	750 718	R2	190,000		Cut			Earthwork Road Surfacing and Services				Include Slope Protection
	Bridge	BTA5 BAT5	9+009 - 9+211 9+048 - 9+250	202 202	B8			PSC			Foundation and Substructure Superstructure Incremental Launching or Crane on the ground				Start Launching from Abutment A1
	Road	RTA11 RAT11	9+211- 9+265 9+250 - 9+277	54 27	R2	15,000		Cut			Earthwork Road Surfacing and Services				
	Tunnel	TTA6 TAT6	9+265 - 9+709 9+277 - 9+727	444 450	T9	100,000	5m/day	Road header			Drilling, Blasting and 1st Lining 2nd Lining Road Surfacing and Services				Start excavation from Argveta side
	Road	RTA12 RAT12	9+709 - 14+744 9+727 - 14+744	5,035 5,017	R3	1,680,000		Fill			Earthwork Road Surfacing and Services				
	IC	Zestafoni W	11+800		R6	Not known		Fill			Earthwork Road Surfacing and Services				
	Road Services														
Clean Up			Entire section												
Total Length			TA	14,744											
			AT	14,744											
			Total	29,488											
Cu t & Fill Balance	Cut		Tunnel			1,000,000									
			Road			335,000									
			Total			1,335,000									
	Fill		Road			1,680,000									
	Balance					345,000									

Defect Liability Period (1 Year)

Notes
1 working week = 6 working days
Assume 300 working days / year
Tunnel - 2 shifts , 2cycles / shift
Critical Works
Critical Pass
Works to support Critical Activities

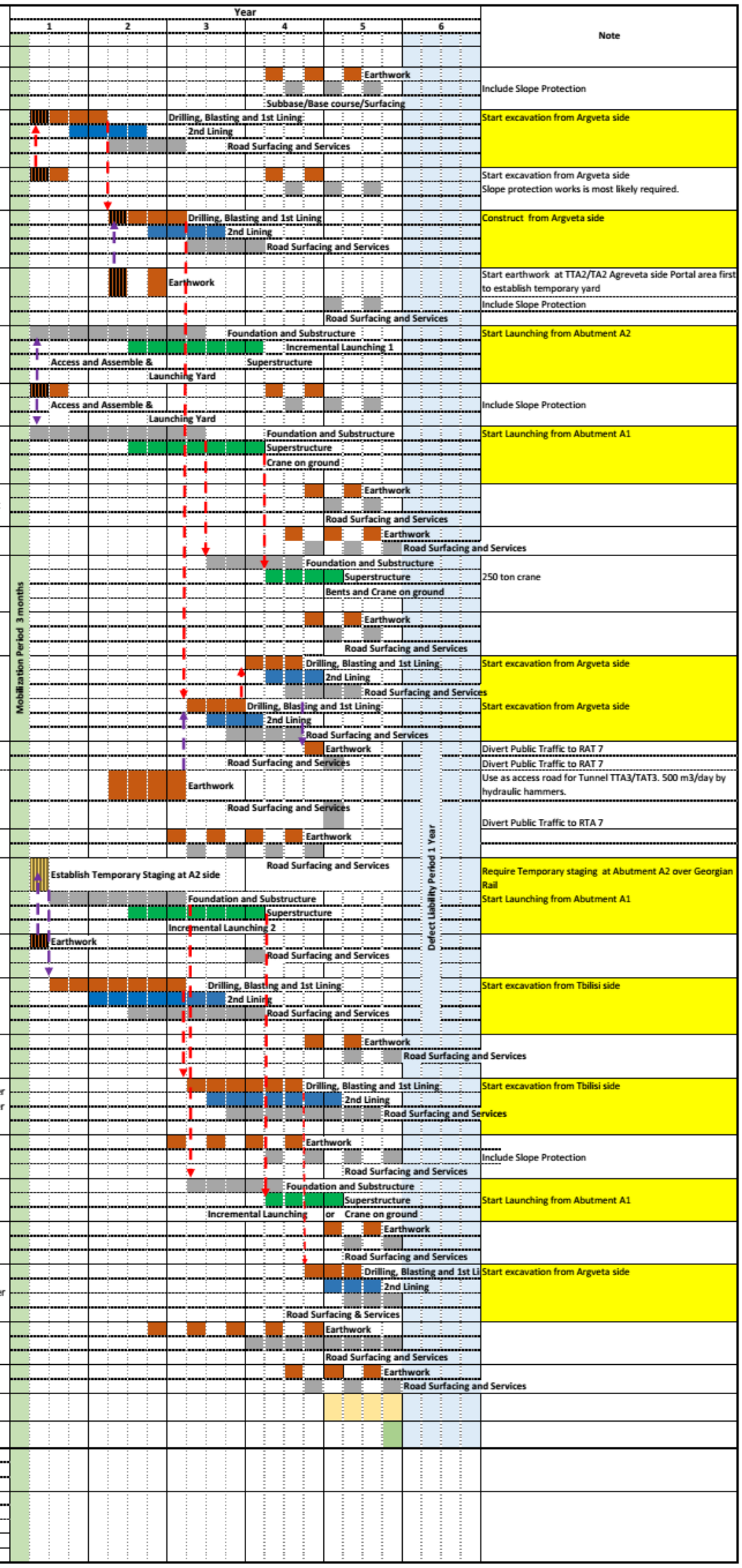
T1 - T8 Tunnel 8 Parties
B1 - B8 Bridge 8 Parties
R1 - R6 Road 6 Parties
Cut (m^3) Indicative only, Assume Tunnel average excavation area 90 m^2, Bulking 30%
Fill (m^3) Indicative only
PSC Pre Stressed Concrete
CSG Concrete Steel Girder - Steel Deck

Rev 2 Change type of BTA5/BAT5 from CSG to PSC
Add explanation for PSC and CSG
Rev 3 Modify according to IRD IR 2
Up date chainage for each activity
Delete Bridge 6

Figure A.2 "5 Years Construction Schedule"

Construction Period 5 Years

Description									Note
Work			Chainage	Length	Party	Qty	Progress Rate	Type	
East	Road	RTA1 RAT1	0+000 - 0+226 0+000 - 0+165	226 165	R1	Not included		Cut	Include Slope Protection
	Tunnel	TTA1 TAT1	0+226 - 0+625 0+165 - 0+697	399 532	T1	110,000	3m/day	Blasting	Start excavation from Argveta side
	Road	RTA2 RAT2	0+625 - 0+775 0+697 - 0+748	150 51	R1	Not included		Fill	Start excavation from Argveta side Slope protection works is most likely required.
	Tunnel	TTA2 TAT2	0+775 - 1+220 0+748 - 1+235	445 487	T1	110,000	3m/day	Blasting	Construct from Argveta side
	Road	RTA3 RAT3	1+220 - 1+246 1+235 - 1+258	26 22	R1	Not included		Fill	Start earthwork at TTA2/TA2 Agreveta side Portal area first to establish temporary yard Include Slope Protection
	Bridge	BTA1 BAT1	1+246 - 1+876 1+258 - 1+858	630 600	B1		Refer Sheet 1 "Bridge BTA1 & BAT 1	CSG	Start Launching from Abutment A2
	Road	RTA4 RAT4	1+876 - 2+071 1+858 - 2+069	195 211	R1	Not included		Cut & Fill	Include Slope Protection
	Bridge	BTA2 BAT2	2+071 - 2+965 2+069 - 2+915	894 846	B2		Refer Sheet 1 "Bridge BTA1 & BAT 1	CSG	Start Launching from Abutment A1
	Road	RTA5 RAT5	2+965 - 3+250 2+915 - 3+230	285 315	R1	Not included		Mostly cut	
	IC	Shorapani	3+200		R3	Not known		Fill	
	Bridge	BTA3 BAT3	3+250 - 3+486 3+230 - 3+466	236 236	B2			PSC	250 ton crane
	Road	RTA6 RAT6	3+486 - 3+490 3+466 - 3+472	4 6	R1	Not included		Fill	
	Tunnel	TTA3	3+490 - 4+293	803	T1	230,000	3-4 m/day	Blasting	Start excavation from Argveta side
		TAT3	3+472 - 4+637	1,165			5 m/day		Start excavation from Argveta side
	Road	RTA7	4+293 - 5+786	1,493	R1	Not included		Fill	Divert Public Traffic to RAT 7
		RAT7	4+637 - 5+811	1,174		130,000	Existing traffic on E60 is diverted to RAT7	Cut	Divert Public Traffic to RAT 7 Use as access road for Tunnel TTA3/TAT3. 500 m3/day by hydraulic hammers. Divert Public Traffic to RTA 7
	IC	Zestafoni E	6+000		R3	Not known		Fill	
West	Bridge	BTA4 BAT4	5+786 - 6+272 5+811 - 6+321	486 510	B3		Refer Sheet 2 "Bridge BTA4 & BAT4	CSG	Require Temporary staging at Abutment A2 over Georgian Rail Start Launching from Abutment A1
	Road	RTA8 RAT8	6+272 - 6+288 6+321 - 6+331	16 11	R2	Not included		Cut	
	Tunnel	TTA4 TAT4	6+288 - 7+023 6+331 - 7+045	735 714	T2	170,000	2-3 m/day	Bleaker	Start excavation from Tbilisi side
	Road	RTA9 RAT9	7+023 - 7+107 7+045 - 7+137	84 92	R2			Fill	
	Tunnel	TTA5 TAT5	7+107 - 8+259 7+137 - 8+330	1,152 1,193	T2	280,000	5m/day	Road header (75)/Bleaker (25)	Start excavation from Tbilisi side
	Road	RTA10 RAT10	8+259 - 9+009 8+330 - 9+048	750 718	R2	190,000		Cut	Include Slope Protection
	Bridge	BTA5 BAT5	9+009 - 9+211 9+048 - 9+250	202 202	B3			PSC	Start Launching from Abutment A1
	Road	RTA11 RAT11	9+211- 9+265 9+250 - 9+277	54 27	R2	15,000		Cut	
	Tunnel	TTA6 TAT6	9+265 - 9+709 9+277 - 9+727	444 450	T2	100,000	5m/day	Road header	Start excavation from Argveta side
	Road	RTA12 RAT12	9+709 - 14+744 9+727 - 14+744	5,035 5,017	R2	1,680,000		Fill	
	IC	Zestafoni W	11+800		R3	Not known		Fill	
Road Services			Entire section						
Clean Up			Entire section						
Total Length			TA	14,744					
			AT	14,744					
			Total	29,488					
Cu t & Fill Balance	Cut		Tunnel			1,000,000			
			Road			335,000			
			Total			1,335,000			
	Fill		Road			1,680,000			
	Balance					345,000			



Notes

1 working week = 6 working days
Assume 300 working days / year
Tunnel - 2 shifts , 2cycles / shift
Critical Works
Critical Pass
Works to support Critical Activities

T1/T2	Tunnel Parties
B1/B2/B3	Bridge Parties
R1/R2/R3	Road Parties
Cut (m^3)	Indicative only, Assume Tunnel average excavation area 90 m^2, Bulking 30%
Fill (m^3)	Indicative only
PSC	Pre Stressed Concrete
CSG	Concrete Steel Girder - Steel Deck

Rev 2	Change type of BTA5/BAT5 from CSG to PSC
	Add explanation for PSC and CSG
Rev 3	Modify according to IRD IR 2
	Up date chainage for each activity
	Delete Bridge 6

Figure A.3 "7 Years Construction Schedule"

Construction Period 7 Years

		Work		Chainage	Length	Party	Qty	Progress Rate	Type	Note
East	Road	RTA1 RAT1		0+000 - 0+226 0+000 - 0+165	226 165	R1	Not included		Cut	Include Slope Protection
	Tunnel	TTA1 TAT1		0+226 - 0+625 0+165 - 0+697	399 532	T1	110,000	3m/day	Blasting	Start excavation from Argveta side
	Road	RTA2 RAT2		0+625 - 0+775 0+697 - 0+748	150 51	R1	Not included		Fill	Start excavation from Argveta side Slope protection works is most likely required.
	Tunnel	TTA2 TAT2		0+775 - 1+220 0+748 - 1+235	445 487	T1	110,000	3m/day	Blasting	Construct from Argveta side
	Road	RTA3 RAT3		1+220 - 1+246 1+235 - 1+258	26 22	R1	Not included		Fill	Start earthwork at TTA2/TA2 Agreveta side Portal area first to establish temporary yard Include Slope Protection
	Bridge	BTA1 BAT1		1+246 - 1+876 1+258 - 1+858	630 600	B1		Refer Sheet 1 *Bridge BTA1 & BAT 1	CSG	Start Launching from Abutment A2
	Road	RTA4 RAT4		1+876 - 2+071 1+858 - 2+069	195 211	R1	Not included		Cut & Fill	Include Slope Protection
	Bridge	BTA2 BAT2		2+071 - 2+965 2+069 - 2+915	894 846	B1		Refer Sheet 1 *Bridge BTA1 & BAT 1	CSG	Start Launching from Abutment A1
	Road	RTA5 RAT5		2+965 - 3+250 2+915 - 3+230	285 315	R1	Not included		Mostly cut	
	IC	Shorapani		3+200		R3	Not known		Fill	
	Bridge	BTA3 BAT3		3+250 - 3+486 3+230 - 3+466	236 236	B2			PSC	250 ton crane
	Road	RTA6 RAT6		3+486 - 3+490 3+466 - 3+472	4 6	R1	Not included		Fill	
	Tunnel	TTA3 TAT3		3+490 - 4+293 3+472 - 4+637	803 1,165	T1	230,000	3-4 m/day 5 m/day	Blasting	Start excavation from Argveta side Start excavation from Argveta side
	Road	RTA7 RAT7		4+293 - 5+786 4+637 - 5+811	1,493 1,174	R1	Not included 130,000	Existing traffic on E60 is diverted to RAT7	Fill Cut	Divert Public Traffic to RAT 7 Divert Public Traffic to RAT 7 Use as access road for Tunnel TTA3/TAT3. 500 m3/day by hydralic hammers. Divert Public Traffic to RTA 7
	IC	Zestafoni E		6+000		R3	Not known		Fill	
West	Bridge	BTA4 BAT4		5+786 - 6+272 5+811 - 6+321	486 510	B2		Refer Sheet 2 *Bridge BTA4 & BAT4	CSG	Require Temporary staging at Abutment A2 over Georgian Rail Start Launching from Abutment A1
	Road	RTA8 RAT8		6+272 - 6+288 6+321 - 6+331	16 11	R2	Not included		Cut	
	Tunnel	TTA4 TAT4		6+288 - 7+023 6+331 - 7+045	735 714	T2	170,000	2-3 m/day	Bleaker	Start excavation from Tbilisi side
	Road	RTA9 RAT9		7+023 - 7+107 7+045 - 7+137	84 92	R2			Fill	
	Tunnel	TTA5 TAT5		7+107 - 8+259 7+137 - 8+330	1,152 1,193	T2	280,000	5m/day	Roadheader (75)/Bleaker (25)	Start excavation from Tbilisi side
	Road	RTA10 RAT10		8+259 - 9+009 8+330 - 9+048	750 718	R2	190,000		Cut	Include Slope Protection
	Bridge	BTA5 BAT5		9+009 - 9+211 9+048 - 9+250	202 202	B2			PSC	Start Launching from Abutment A1
	Road	RTA11 RAT11		9+211- 9+265 9+250 - 9+277	54 27	R2	15,000		Cut	
	Tunnel	TTA6 TAT6		9+265 - 9+709 9+277 - 9+727	444 450	T2	100,000	5m/day	Roadheader	Start excavation from Argveta side
	Road	RTA12 RAT12		9+709 - 14+744 9+727 - 14+744	5,035 5,017	R2	1,680,000		Fill	
	IC	Zestafoni W		11+800		R3	Not known		Fill	
Road Services				Entire section						
Clean Up				Entire section						
Total Length				TA	14,744					
				AT	14,744					
				Total	29,488					
Cu t & Fill Balance				Tunnel			1,000,000			
	Cut			Road			335,000			
				Total			1,335,000			
	Fill			Road			1,680,000			
	Balance						345,000			

Notes
1 working week = 6 working days
Assume 300 working days / year
Tunnel - 2 shifts , 2cycles / shift
Critical Works
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Works to support Critical Activities

Rev 2 Change type of BTA5/BAT5 from CSG to PSC
Add explanation for PSC and CSG
Rev 3 Modify according to IRD IR 2
Up date chainage for each activity
Delete Bridge 6

T1/T2	Tunnel Parties
B1/B2/B3	Bridge Parties
R1/R2/R3	Road Parties
Cut (m^3)	Indicative only, Assume Tunnel averagre excavation area 90 m^2, Bulking 30%
Fill (m^3)	Indicative only
PSC	Pre Stressed Concrete
CSG	Concrete Steel Girder - Steel Deck

Appendix 7.1

F4-Bill of Quantities

: (This appendix has been removed because of confidential information.)