







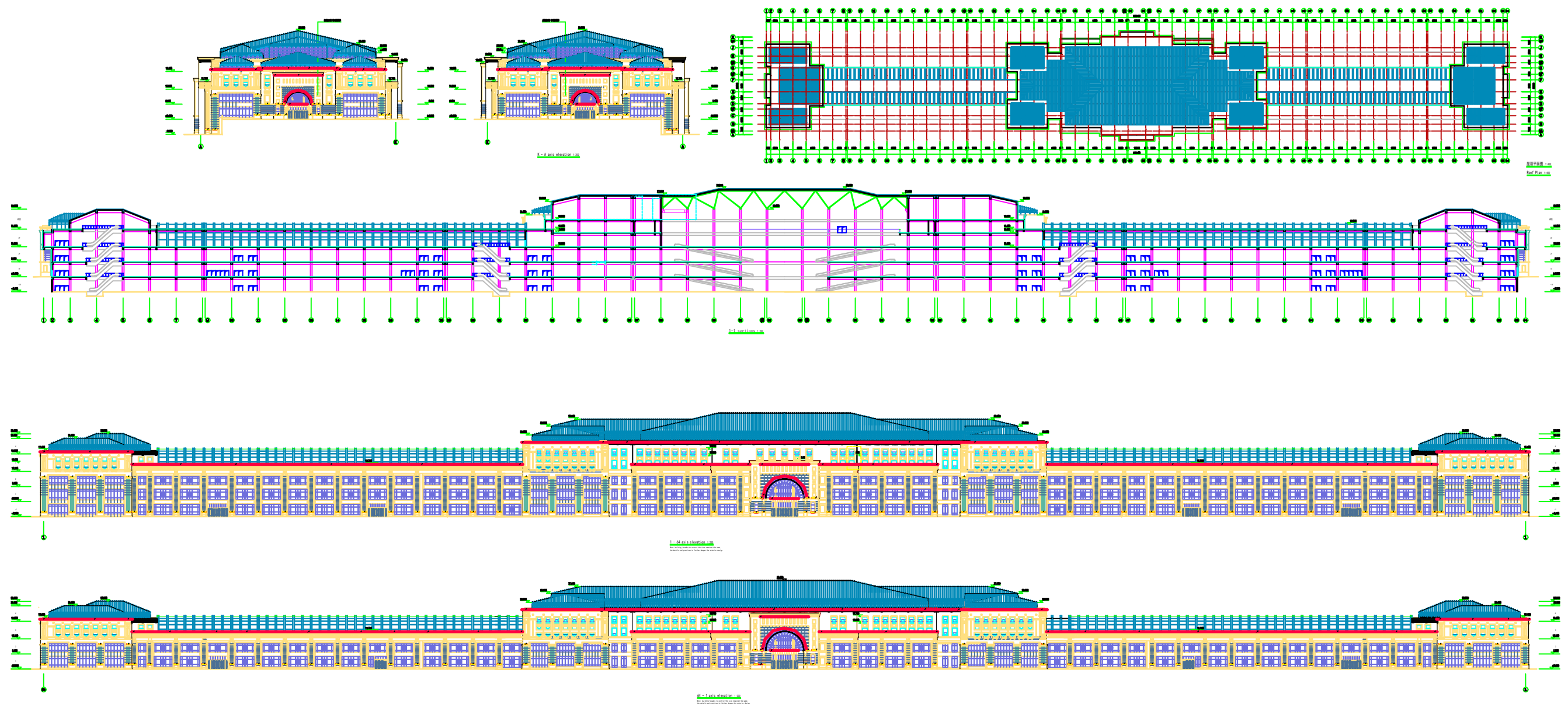
# ჰყაჲთონჲ თბოჲთისი ჰჲთაზა

მინათების კონცეფცია

განმარტებითი ბარათი

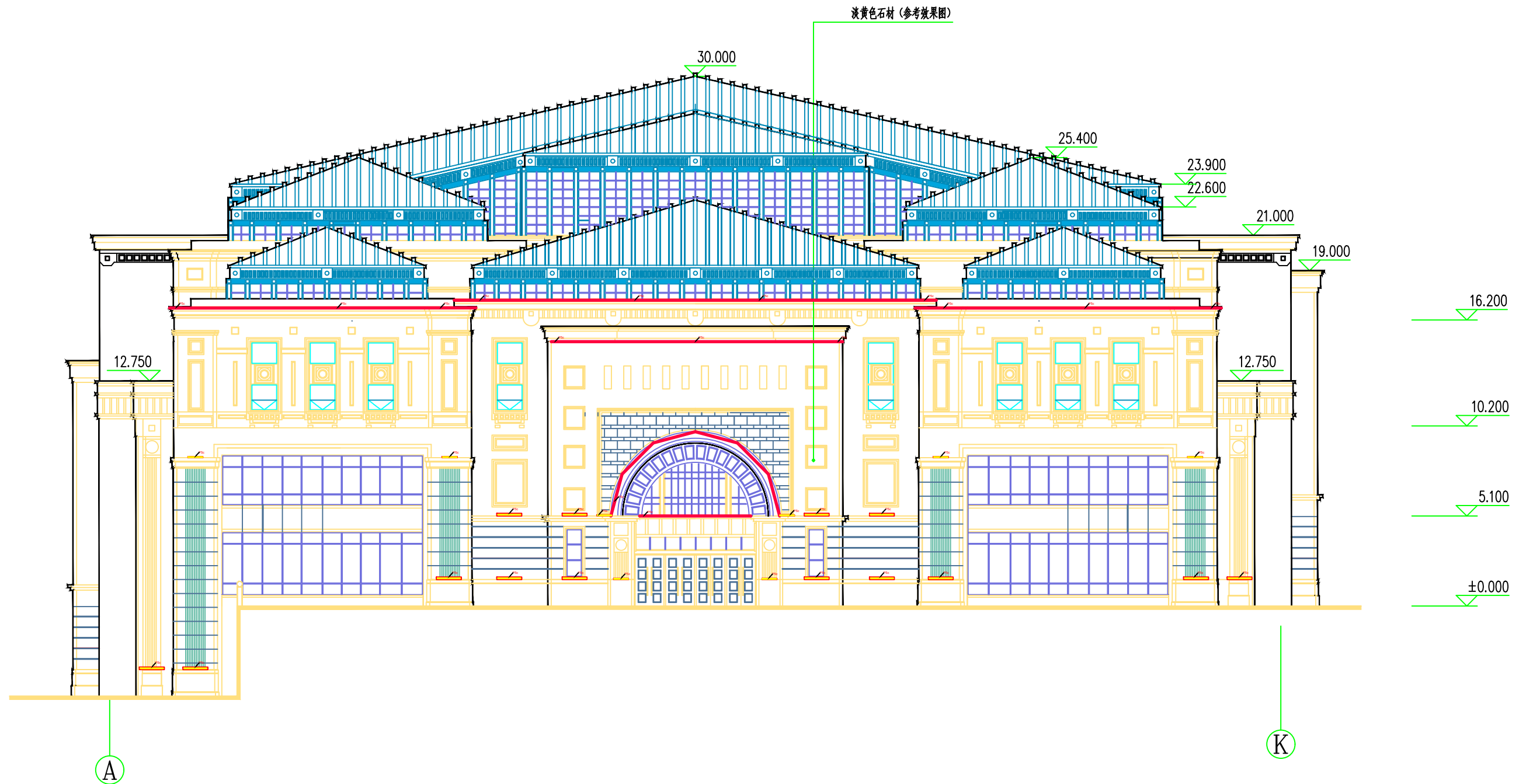
პროექტი წარმოადგენს სავაჭრო ცენტრის ფასადის გარე განათების გეგმას. ობიექტი მიეკუთვნება ელმომარაგების II კატეგორიას. ქსელის მახასიათებლები: 380v 50Hz. მოთხოვნილი სიმძლავრეა: 69.42 kW, 124.09A, 85.97 kVA. ობიექტი იკვებება შენობის I სართულზე განთავსებული კვების წყაროდან. კვების წყაროდან იკვებება 4 გამანაწილებელი კარადა DB1,DB2,DB3,DB4 , რომლებით მოთავსებულია ნახაზებზე მითითებულ ადგილებზე. კაბელები მოძრაობს I და III სართულის ჭერებზე კაბელსატარებით, ხოლო სართულებზე ადის შახტების საშუალებით. რადგან დაკაბელება ხდება ინტერიერში, ამიტომ იხვრიტება ფასადი და კაბელი უერთდება თითოეულ სანათს, რომლებიც ფასადზეა განთავსებული. ფასადზე დატანილია სანათები, რომელის დანომრილია შესაბამისი კაბელის ნუმერაციით და წარმოადგენს ჯგუფებს. სანათების მახასიათებლები და მონტაჟის ტიპი წარმოდგენილია დანართში. განათების შუქტექნიკური გათვლა გაკეთებულია პროგრამა DIALux- ში და წარმოდგენილია დანართის სახით.

ემსპლიკაცია	
ლედ სანათი 40w	
ლედ სანათი 28w	
ლედ სანათი 30w/m	
გამანაწილებელი კარადა	
კაბელი	
კაბელსატარი	



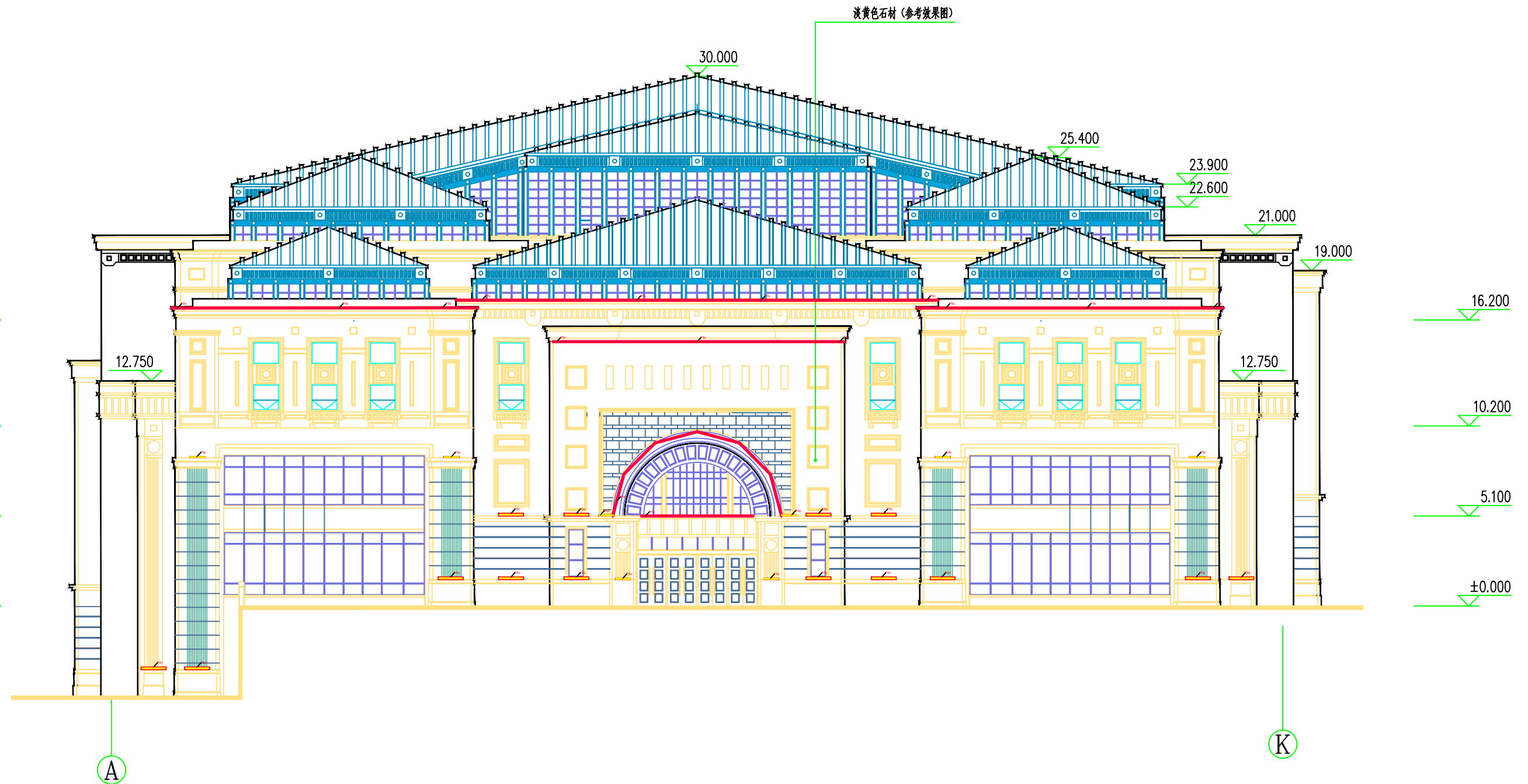
ECONCEPT Ltd.  
Address: 48 T.Tabidze Street; Tbilisi 0179, Georgia  
info@econcept.ge

Rev.	Description.	Date.	Name	Signed	Date	Drawing Title:	Lighting Plan			
-	-	-	Designed:	N.Tokhadze		Drawing No:	E.02	Rev. ID:	-	Issued: 12 JAN 2018
			Draftsman:	N.Tokhadze		Drawing Status:	Design	Size:	A3	Scale: -
			Checked:			Project Name:	Hualing Tbilisi Sea Plaza			



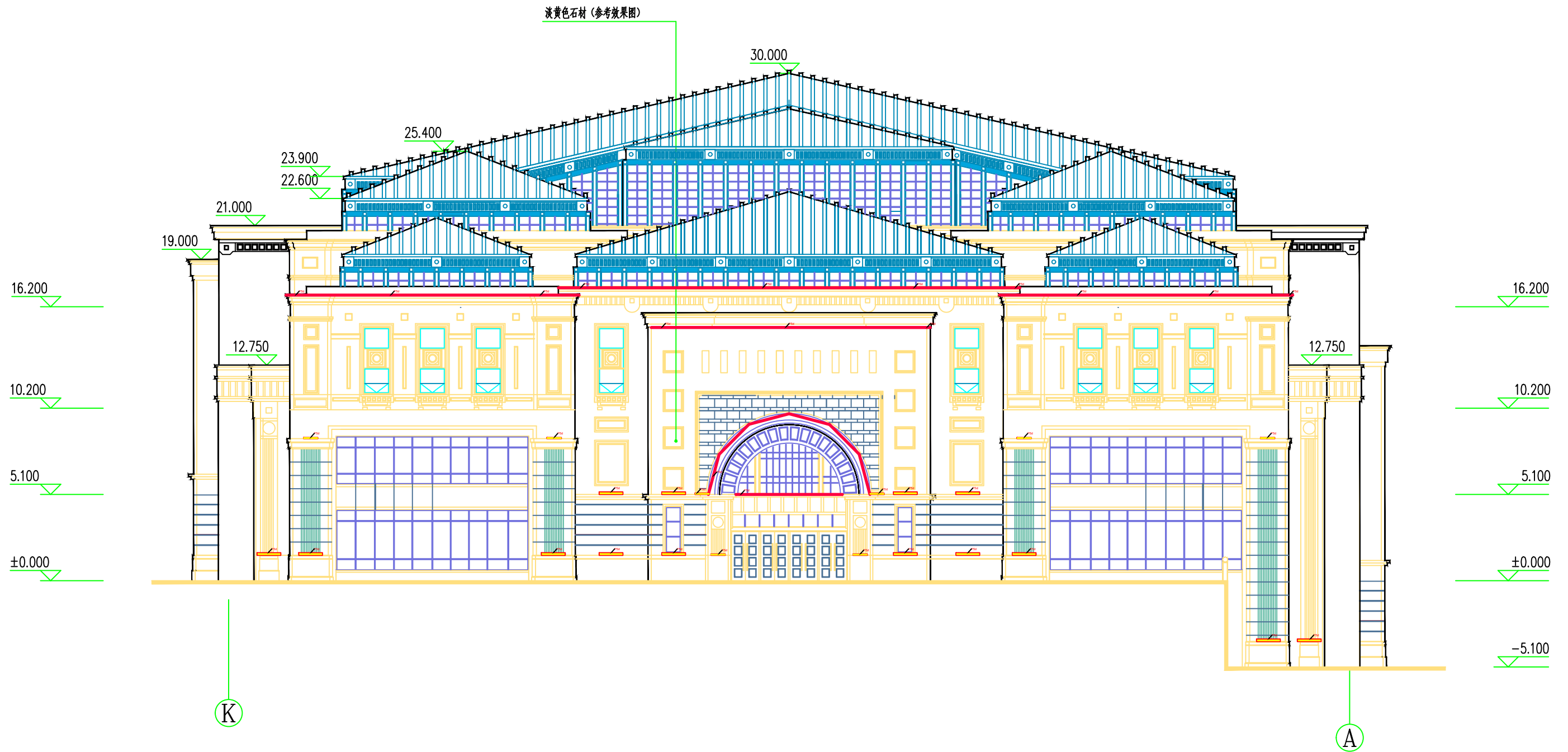
ECONCEPT Ltd.  
Address: 48 T.Tabidze Street; Tbilisi 0179, Georgia  
info@econcept.ge

Rev.	Description.	Date.	Name	Signed	Date	Drawing Title:	Lighting Plan			
-	-	-	Designed:	N.Tokhadze		Drawing No:	E.03	Rev. ID:	-	Issued: 12 JAN 2018
			Draftsman:	N.Tokhadze		Drawing Status:	Design	Size:	A3	Scale: -
			Checked:			Project Name:	Hualing Tbilisi Sea Plaza			



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Rev.	Description.	Date.	Name	Signed	Date	Drawing Title:	Lighting Plan			
-	-	-	Designed:	N.Tokhadze		Drawing No:	E.04	Rev. ID:	-	Issued: 12 JAN 2018
			Draftsman:	N.Tokhadze		Drawing Status:	Design	Size:	A3	Scale: -
			Checked:			Project Name:	Hualing Tbilisi Sea Plaza			

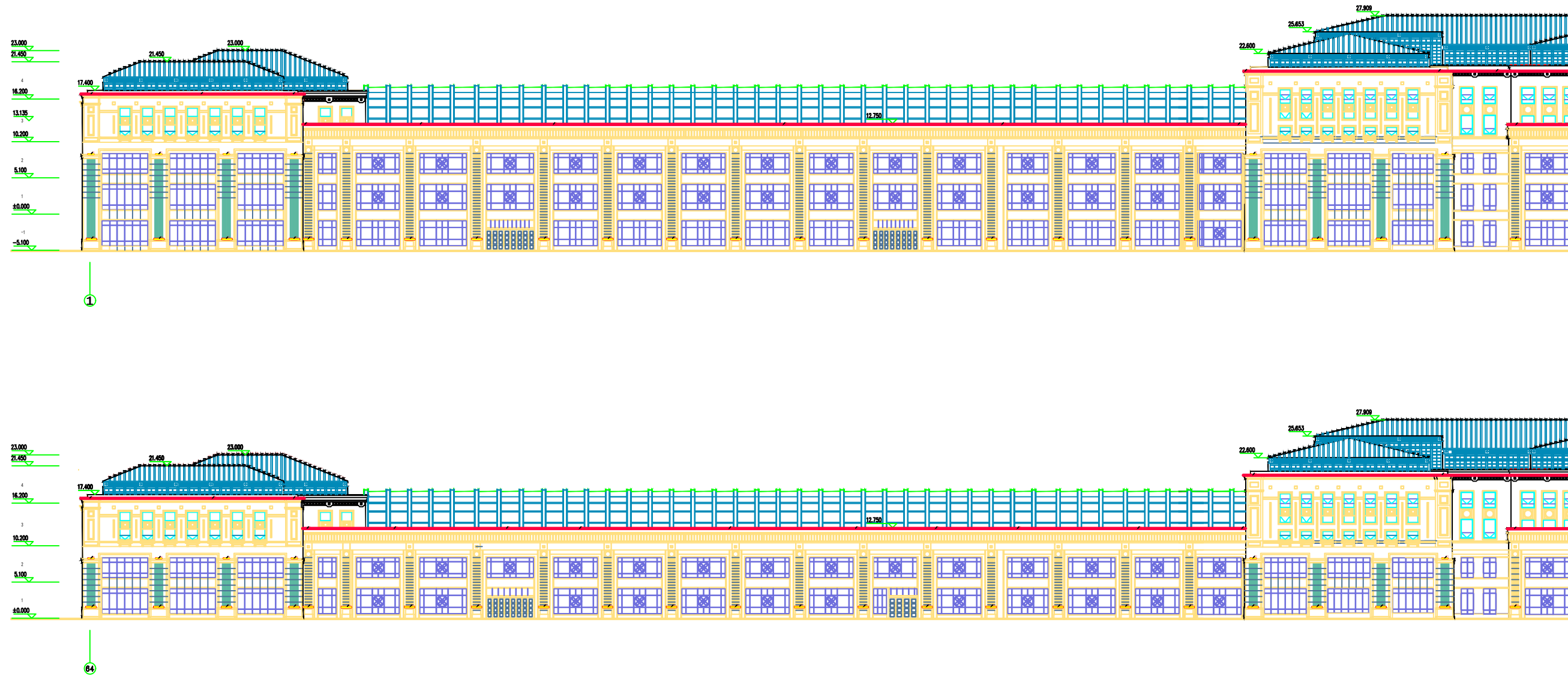


K - A axis elevation 1:200



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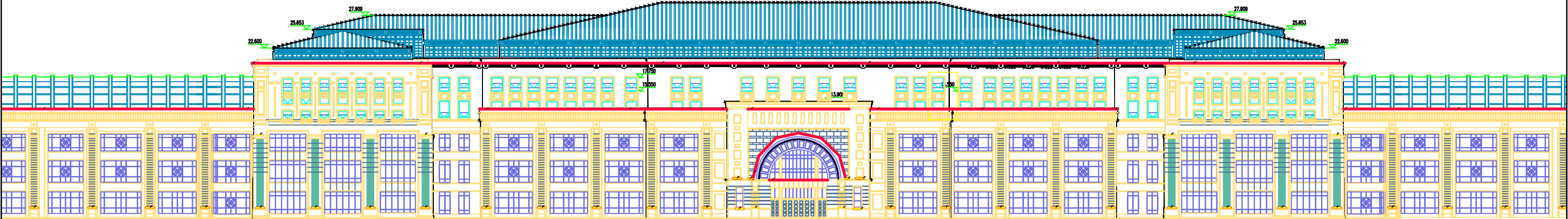
Rev.	Description.	Date.		Name	Signed	Date	Drawing Title:	Lighting Plan				
-	-	-	Designed:	N.Tokhadze			Drawing No:	E.05	Rev. ID:	-	Issued:	12 JAN 2018
			Draftsman:	N.Tokhadze			Drawing Status:	Design	Size:	A3	Scale:	-
			Checked:				Project Name:	Hualing Tbilisi Sea Plaza				



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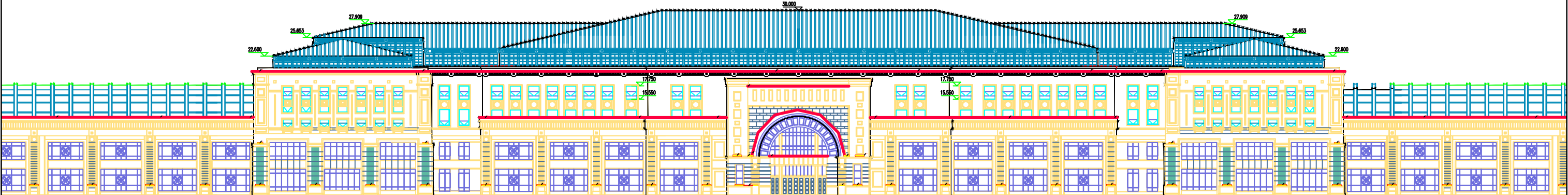
Rev.	Description.	Date.	Name	Signed	Date	Drawing Title:	Lighting Plan				
-	-	-	Designed:	N.Tokhadze		Drawing No:	E.06	Rev. ID:	-	Issued:	12 JAN 2018
			Draftsman:	N.Tokhadze		Drawing Status:	Design	Size:	A3	Scale:	-
			Checked:			Project Name:	Hualing Tbilisi Sea Plaza				






1 - 64 axis elevation 1:200

Note: building facades to control the size remained the same,  
the details and practices to further deepen the exterior design.

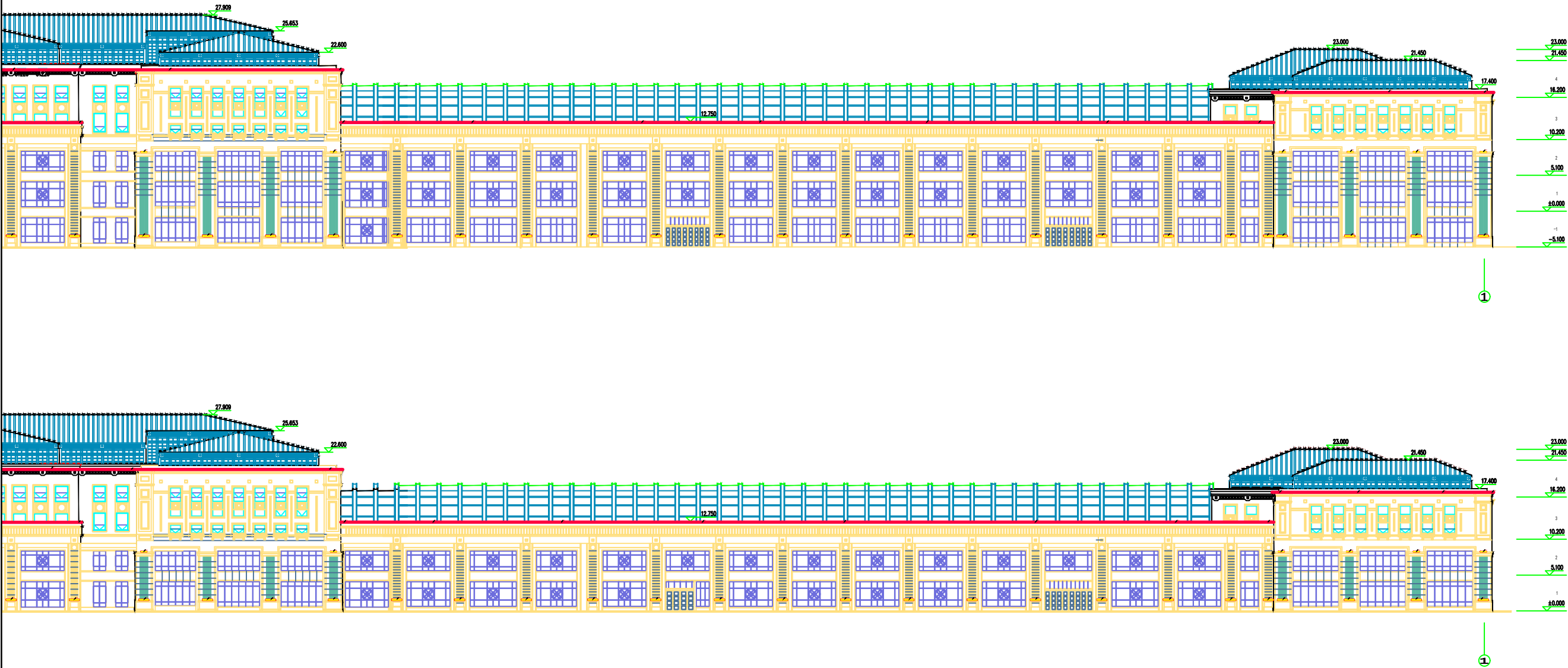


64 - 1 axis elevation 1:200

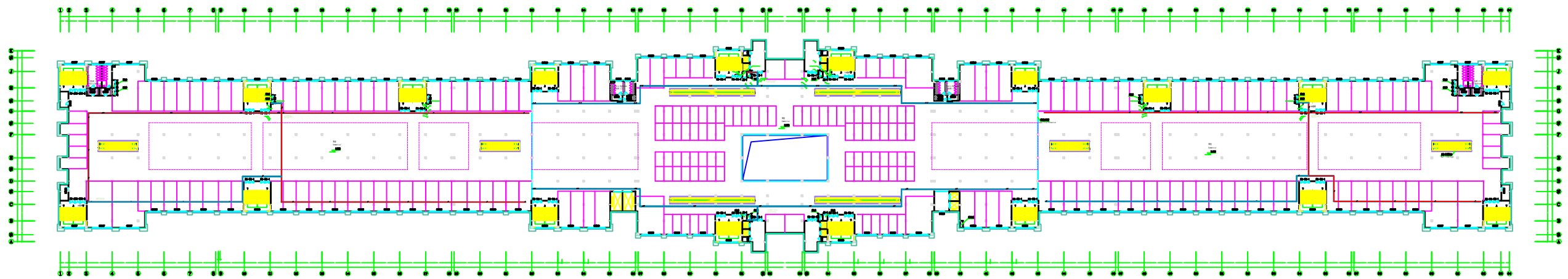
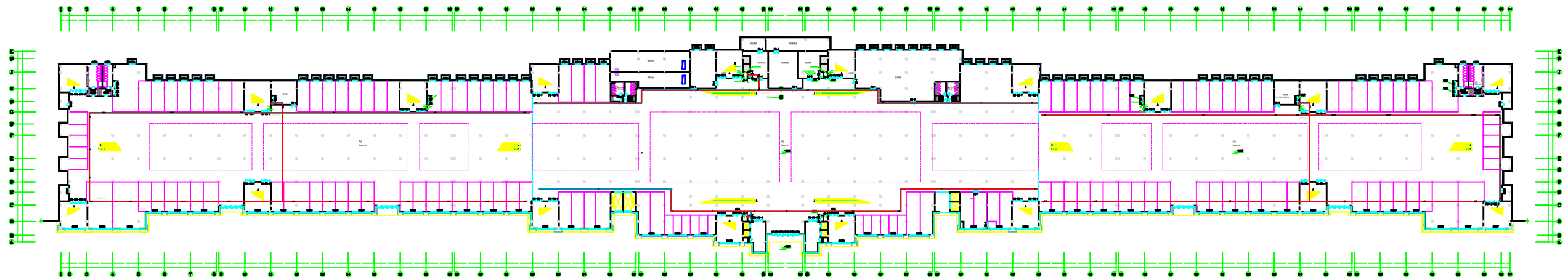
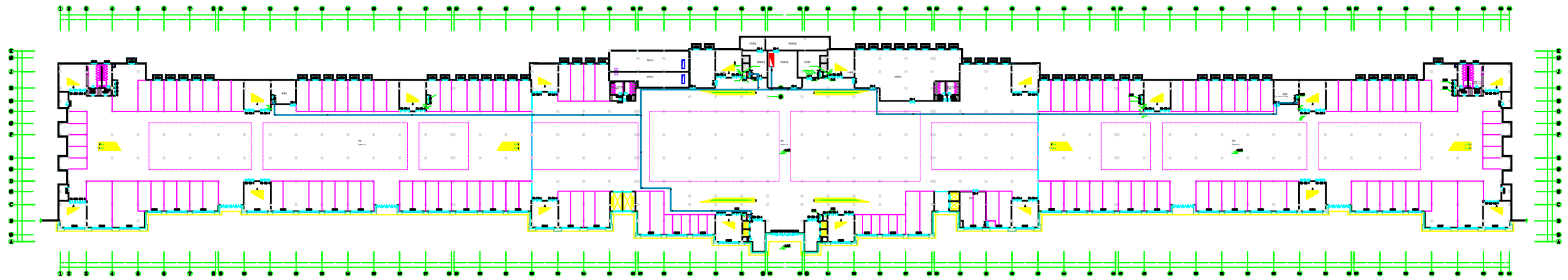
Note: building facades to control the size remained the same,  
the details and practices to further deepen the exterior design.

 <div>ECONCEPT Ltd. Address: 48 T.Tabidze Street; Tbilisi 0179, Georgia info@econcept.ge</div>	Rev.	Description.	Date.		Name	Signed	Date	Drawing Title: Lighting Plan					
	-	-	-	Designed:	N.Tokhadze			Drawing No:	E.07	Rev. ID:	-	Issued:	12 JAN 2018
				Draftsman:	N.Tokhadze			Drawing Status:	Design	Size:	A3	Scale:	-
				Checked:				Project Name:	Hualing Tbilisi Sea Plaza				





Rev.	Description.	Date.		Name	Signed	Date	Drawing Title:	Lighting Plan				
-	-	-	Designed:	N.Tokhadze			Drawing No:	E.08	Rev. ID:	-	Issued:	12 JAN 2018
			Draftsman:	N.Tokhadze			Drawing Status:	Design	Size:	A3	Scale:	-
			Checked:				Project Name:	Hualing Tbilisi Sea Plaza				



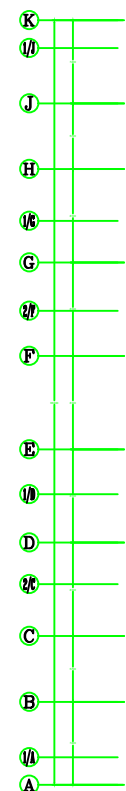
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Address: 48 T.Tabidze Street; Tbilisi 0179, Georgia  
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Rev.	Description.	Date.		Name	Signed	Date	Drawing Title:	Lighting Plan			
-	-	-	Designed:	N.Tokhadze			Drawing No:	E.09	Rev. ID:	-	Issued: 12 JAN 2018
			Draftsman:	N.Tokhadze			Drawing Status:	Design	Size:	A3	Scale: -
			Checked:				Project Name:	Hualing Tbilisi Sea Plaza			



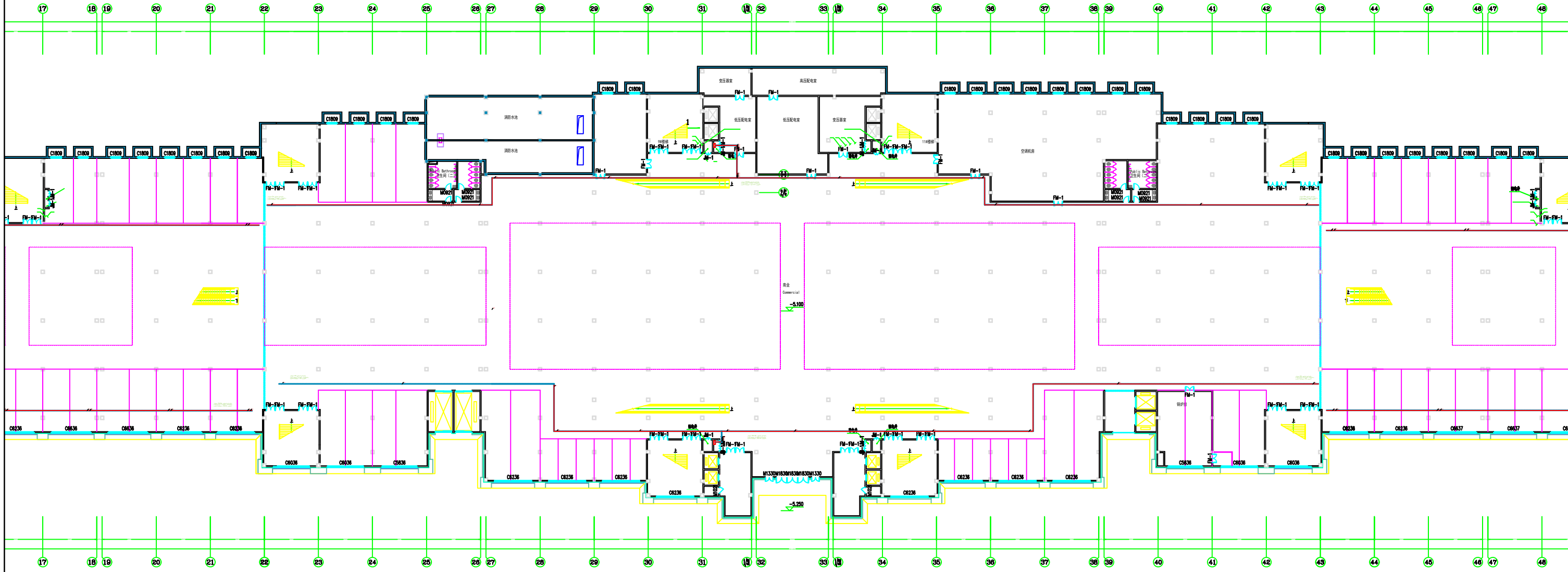





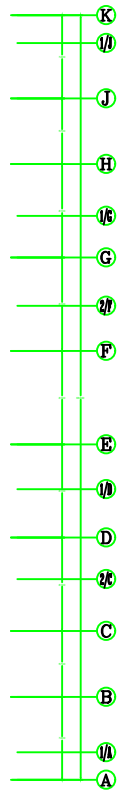
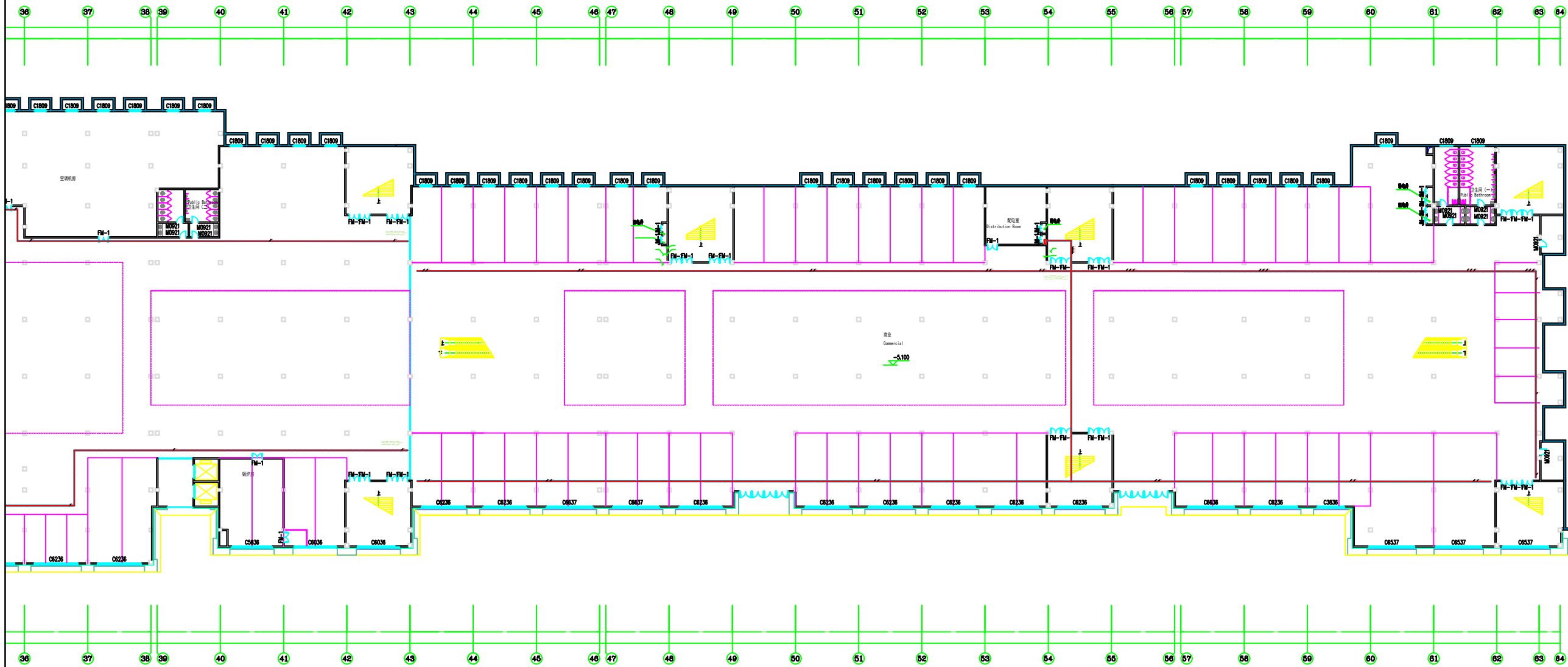


Rev.	Description.	Date.		Name	Signed	Date	Drawing Title:	Lighting Plan				
-	-	-	Designed:	N.Tokhadze			Drawing No:	E.13	Rev. ID:	-	Issued:	12 JAN 2018
			Draftsman:	N.Tokhadze			Drawing Status:	Design	Size:	A3	Scale:	-
			Checked:				Project Name:	Hualing Tbilisi Sea Plaza				

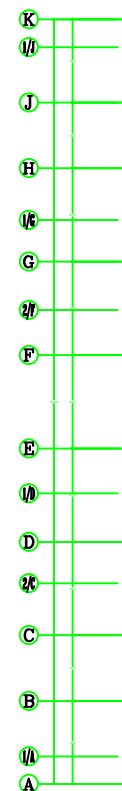




 <div>ECONCEPT Ltd. Address: 48 T.Tabidze Street; Tbilisi 0179, Georgia info@econcept.ge</div>	Rev.	Description.	Date.		Name	Signed	Date	Drawing Title:	Lighting Plan				
	-	-	-	Designed:	N.Tokhadze			Drawing No:	E.14	Rev. ID:	-	Issued:	12 JAN 2018
				Draftsman:	N.Tokhadze			Drawing Status:	Design	Size:	A3	Scale:	-
				Checked:				Project Name:	Hualing Tbilisi Sea Plaza				

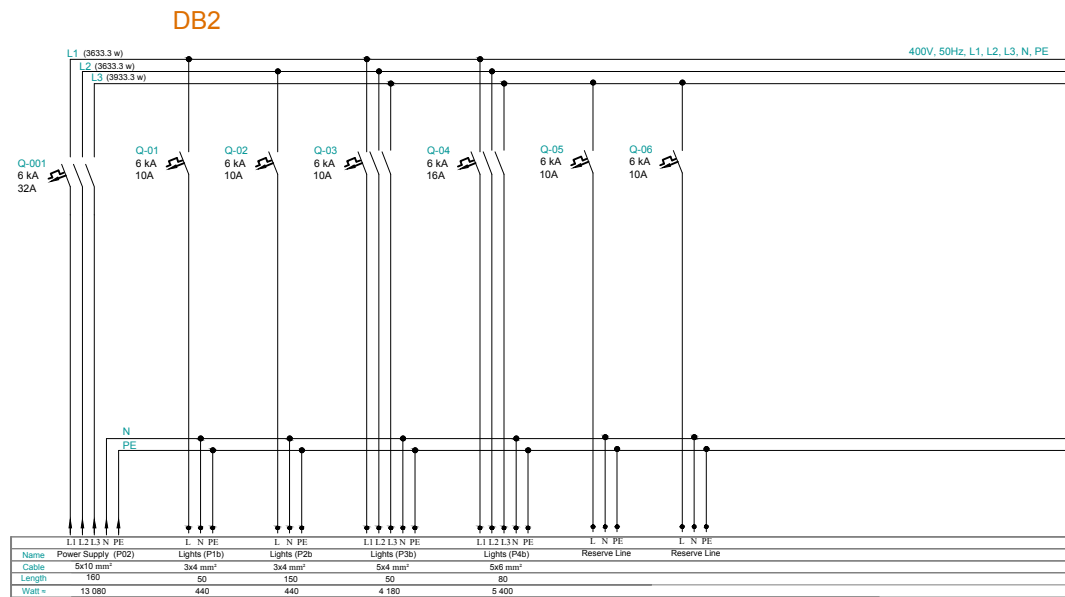
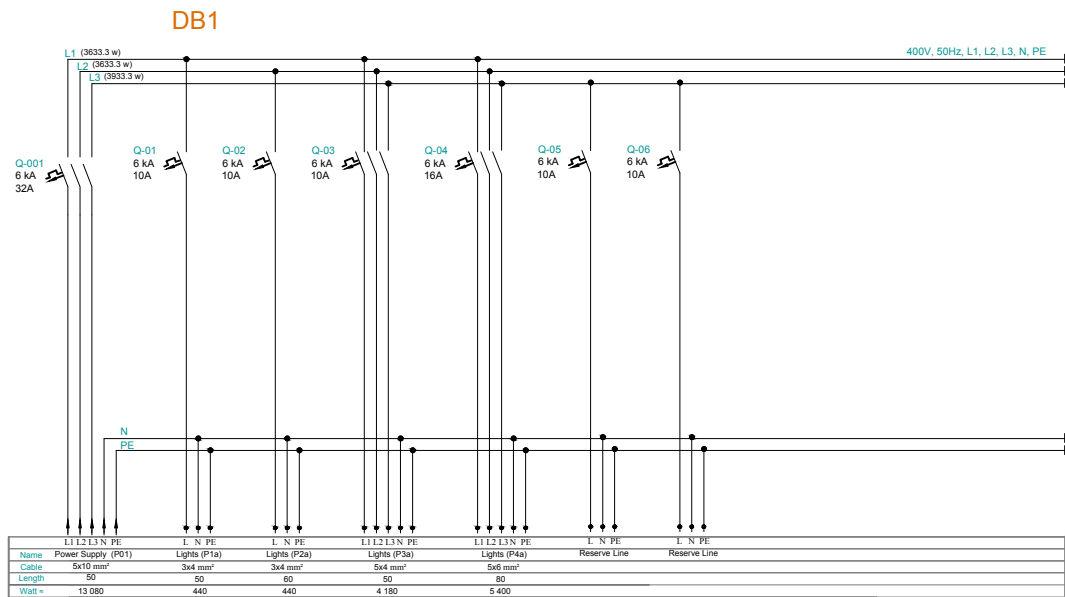


Rev.	Description.	Date.	Name	Signed	Date	Drawing Title:	Lighting Plan			
-	-	-	Designed:	N.Tokhadze		Drawing No:	E.15	Rev. ID:	-	Issued: 12 JAN 2018
			Draftsman:	N.Tokhadze		Drawing Status:	Design	Size:	A3	Scale: -
			Checked:			Project Name:	Hualing Tbilisi Sea Plaza			









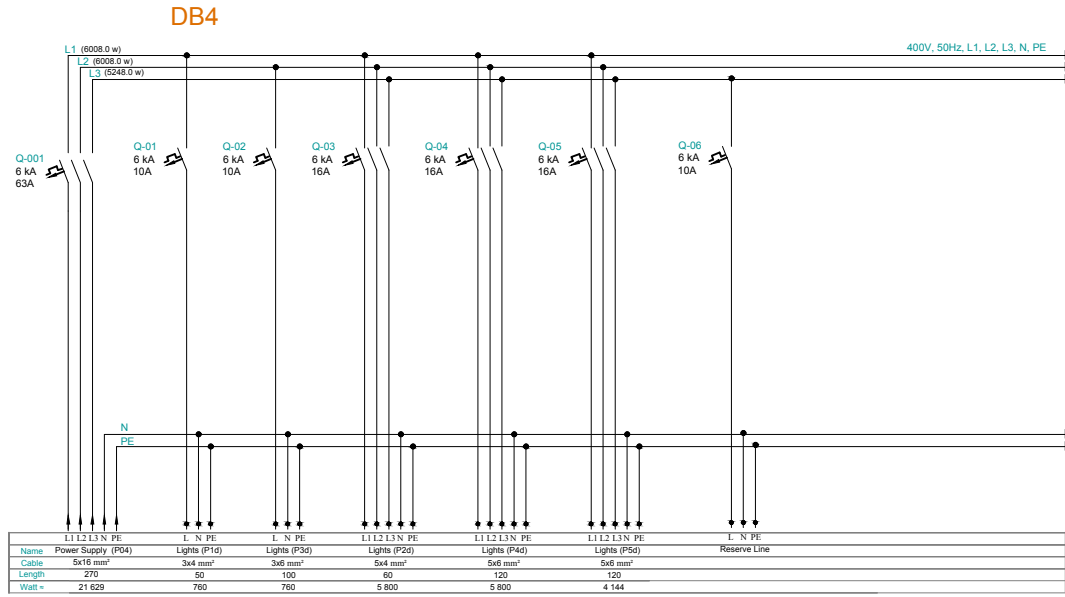
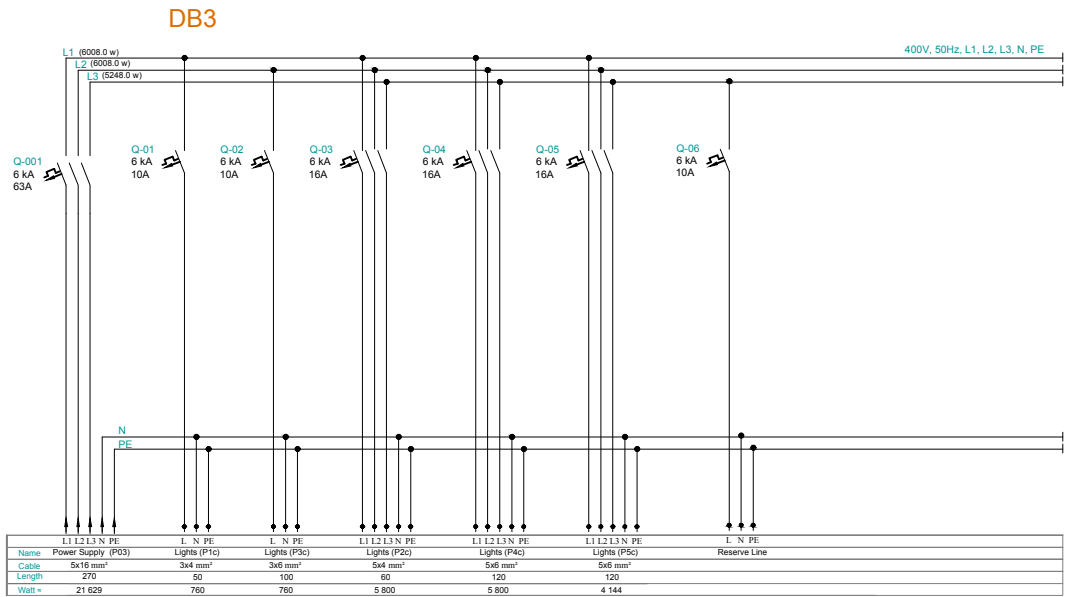
	NAME	TO	Co unt	W	Ks	W SUM	MANUFACTURER	FROM	V	F	A	Feeding Circuit Breaker	CABLE (m)	CABLE TYPE	ΔU	ΔU%	F(n)	F(1)	F(2)	F(3)
	P01	DB1			1.0	69418	DB1	MDB	380	3	124.09	3P 32A	60	5x10 NYM-J	17.26	4.54		3633.3	3633.3	3193.3
01	P1a	Light 220V	1	440	1.0	440	Light 220V	P1a	220	1	2.35	1P 10A	50	3x4 NYM-J	0.95	0.43	1	440		
		Light 220V	1	480	1.0	480	Light 220V	0	220	1	2.57		100	3x2.5 NYM-J	3.30	1.50	1			
02	P2a	Light 220V	1	440	1.0	440	Light 220V	P2a	220	1	2.35	1P 10A	60	3x4 NYM-J	1.13	0.52	2		440	
		Light 220V	1	480	1.0	480	Light 220V	0	220	1	2.57		150	3x2.5 NYM-J	4.95	2.25	0			
03	P3a	Light 220V	1	4180	1.0	4180	Light 220V	P3a	380	3	7.47	3P 10A	50	5x4 NYM-J	2.60	0.68	0	1393.333	1393.3333	1393.333
		Light 220V	1	1200	1.0	1200	Light 220V	0	220	1	6.42		50	3x2.5 NYM-J	4.12	1.87	0			
		Light 220V	1	1200	1.0	1200	Light 220V	0	220	1	6.42		50	3x2.5 NYM-J	4.12	1.87	0			
		Light 220V	1	540	1.0	540	Light 220V	0	220	1	2.89		50	3x2.5 NYM-J	1.86	0.84	0			
04	P4a	Light 220V	1	5400	1.0	5400	Light 220V	P4a	380	3	9.65	3P 16A	80	5x6 NYM-J	3.58	0.94	0	1800	1800	1800
		Light 220V	1	1500	1.0	1500	Light 220V	0	220	1	8.02		80	3x2.5 NYM-J	8.25	3.75	0			
		Light 220V	1	1500	1.0	1500	Light 220V	0	220	1	8.02		80	3x2.5 NYM-J	8.25	3.75	0			
		Light 220V	1	2400	1.0	2400	Light 220V	0	220	1	12.83		50	3x2.5 NYM-J	8.25	3.75	0			
						69418.0												3633.3	3633.3	3193.3
	P02	DB2			1.2	13080	DB2	MDB	380	3	23.38	3P 32A	160	5x10 NYM-J	10.41	2.74		3633.3	3633.3	3193.3
01	P1b	Light 220V	1	440	1.0	440	Light 220V	P1b	220	1	2.35	1P 10A	50	3x4 NYM-J	0.95	0.43	1	440		
		Light 220V	1	480	1.0	480	Light 220V	0	220	1	2.57		100	3x2.5 NYM-J	3.30	1.50	0			
02	P2b	Light 220V	1	440	1.0	440	Light 220V	P2b	220	1	2.35	1P 10A	60	3x4 NYM-J	1.13	0.52	2		440	
		Light 220V	1	480	1.0	480	Light 220V	0	220	1	2.57		150	3x2.5 NYM-J	4.95	2.25	0			
03	P3b	Light 220V	1	4180	1.0	4180	Light 220V	P3b	380	3	7.47	3P 10A	50	5x4 NYM-J	2.60	0.68	0	1393.333	1393.3333	1393.333
		Light 220V	1	1200	1.0	1200	Light 220V	0	220	1	6.42		50	3x2.5 NYM-J	4.12	1.87				
		Light 220V	1	1200	1.0	1200	Light 220V	0	220	1	6.42		50	3x2.5 NYM-J	4.12	1.87				
		Light 220V	1	540	1.0	540	Light 220V	0	220	1	2.89		50	3x2.5 NYM-J	1.86	0.84				
04	P4b	Light 220V	1	5400	1.0	5400	Light 220V	P4b	380	3	9.65	3P 16A	80	5x6 NYM-J	3.58	0.94	0	1800	1800	1800
		Light 220V	1	1500	1.0	1500	Light 220V	0	220	1	8.02		80	3x2.5 NYM-J	8.25	3.75				
		Light 220V	1	1500	1.0	1500	Light 220V	0	220	1	8.02		80	3x2.5 NYM-J	8.25	3.75				
		Light 220V	1	2400	1.0	2400	Light 220V	0	220	1	12.83		50	3x2.5 NYM-J	8.25	3.75				
						10900.0												3633.3	3633.3	3193.3



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Rev.	Description.	Date.	Name	Signed	Date	Drawing Title:	Single Line Diagram				
-	-	-	Designed:	N.Tokhadze		Drawing No:	E.19	Rev. ID:	-	Issued:	12 JAN 2018
			Draftsman:	N.Tokhadze		Drawing Status:	Design	Size:	A3	Scale:	-
			Checked:			Project Name:	Hualing Tbilisi Sea Plaza				





	NAME	TO	Co unt	W	Ks	W SUM	MANUFACTURER	FROM	V	F	A	Feeding Circuit Breaker	CABLE (m)	CABLE TYPE	AU	AU%	F(n)	F(1)	F(2)	F(3)
	P03	DB3			1,2	21629	DB3	MDB	380	3	38.66	3P 63A	270	5x16 NYM-J	18.15	4.78		6008.0	6008.0	5248.0
01	P1c	Light 220V	1	760	1.0	760	Light 220V	P1c	220	1	4.06	1P 10A	50	3x4 NYM-J	1.63	0.74	1	760		
		Light 220V	1	760	1.0	760	Light 220V	0	220	1	4.06	80	3x2.5 NYM-J	4.18	1.90	0				
		Light 220V	1	760	1.0	760	Light 220V	0	220	1	4.06	100	3x2.5 NYM-J	5.22	2.37	0				
02	P2c	Light 220V	1	5800	1.0	5,800	Light 220V	P2c	380	3	10.37	3P 16A	60	5x4 NYM-J	4.33	1.14	0	1933.333	1933.3333	1933.333
		Light 220V	1	2400	1.0	2,400	Light 220V	0	220	1	12.83	80	3x2.5 NYM-J	13.20	6.00	0				
		Light 220V	1	2400	1.0	2,400	Light 220V	0	220	1	12.83	80	3x2.5 NYM-J	13.20	6.00	0				
		Light 220V	1	1000	1.0	1,000	Light 220V	0	220	1	5.35	100	3x2.5 NYM-J	6.87	3.12	0				
03	P3c	Light 220V	1	760	1.0	760	Light 220V	P3c	220	1	4.06	1P 10A	100	3x6 NYM-J	2.18	0.99	2		760	
		Light 220V	1	760	1.0	760	Light 220V	0	220	1	4.06	80	3x2.5 NYM-J	4.18	1.90	0				
		Light 220V	1	760	1.0	760	Light 220V	0	220	1	4.06	100	3x2.5 NYM-J	5.22	2.37	0				
04	P4c	Light 220V	1	5800	1.0	5,800	Light 220V	P4c	380	3	10.37	3P 16A	120	5x6 NYM-J	5.77	1.52	0	1933.333	1933.3333	1933.333
		Light 220V	1	2400	1.0	2,400	Light 220V	0	220	1	12.83	80	3x2.5 NYM-J	13.20	6.00	0				
		Light 220V	1	2400	1.0	2,400	Light 220V	0	220	1	12.83	80	3x2.5 NYM-J	13.20	6.00	0				
		Light 220V	1	1000	1.0	1,000	Light 220V	0	220	1	5.35	100	3x2.5 NYM-J	6.87	3.12	0				
05	P5c	Light 220V	1	4144	1.0	4,144	Light 220V	P5c	380	3	7.41	3P 16A	120	5x6 NYM-J	4.12	1.08	0	1381.333	1381.3333	1381.333
		Light 220V	1	480	1.0	480	Light 220V	0	220	1	2.57	80	3x2.5 NYM-J	2.64	1.20	0				
		Light 220V	1	964	1.0	964	Light 220V	0	220	1	5.16	100	3x2.5 NYM-J	6.63	3.01	0				
		Light 220V	1	2700	1.0	2,700	Light 220V	0	220	1	14.44	100	3x2.5 NYM-J	18.56	8.43	0				
						18024.0												6008.0	6008.0	5248.0
	P04	DB4			1,2	21629	DB4	MDB	380	3	38.66	3P 63A	270	5x16 NYM-J	18.15	4.78		6008.0	6008.0	5248.0
01	P1d	Light 220V	1	760	1.0	760	Light 220V	P1d	220	1	4.06	1P 10A	50	3x4 NYM-J	1.63	0.74	1	760		
		Light 220V	1	760	1.0	760	Light 220V	0	220	1	4.06	80	3x2.5 NYM-J	4.18	1.90	0				
		Light 220V	1	760	1.0	760	Light 220V	0	220	1	4.06	100	3x2.5 NYM-J	5.22	2.37	0				
02	P2d	Light 220V	1	5800	1.0	5,800	Light 220V	P2d	380	3	10.37	3P 16A	60	5x4 NYM-J	4.33	1.14	0	1933.333	1933.3333	1933.333
		Light 220V	1	2400	1.0	2,400	Light 220V	0	220	1	12.83	80	3x2.5 NYM-J	13.20	6.00	0				
		Light 220V	1	2400	1.0	2,400	Light 220V	0	220	1	12.83	80	3x2.5 NYM-J	13.20	6.00	0				
		Light 220V	1	1000	1.0	1,000	Light 220V	0	220	1	5.35	100	3x2.5 NYM-J	6.87	3.12	0				
03	P3d	Light 220V	1	760	1.0	760	Light 220V	P3d	220	1	4.06	1P 10A	100	3x6 NYM-J	2.18	0.99	1		760	
		Light 220V	1	760	1.0	760	Light 220V	0	220	1	4.06	80	3x2.5 NYM-J	4.18	1.90	0				
		Light 220V	1	760	1.0	760	Light 220V	0	220	1	4.06	100	3x2.5 NYM-J	5.22	2.37	0				
04	P4d	Light 220V	1	5800	1.0	5,800	Light 220V	P4d	380	3	10.37	3P 16A	120	5x6 NYM-J	5.77	1.52	0	1933.333	1933.3333	1933.333
		Light 220V	1	2400	1.0	2,400	Light 220V	0	220	1	12.83	80	3x2.5 NYM-J	13.20	6.00	0				
		Light 220V	1	2400	1.0	2,400	Light 220V	0	220	1	12.83	80	3x2.5 NYM-J	13.20	6.00	0				
		Light 220V	1	1000	1.0	1,000	Light 220V	0	220	1	5.35	100	3x2.5 NYM-J	6.87	3.12	0				
05	P5d	Light 220V	1	4144	1.0	4,144	Light 220V	P5d	380	3	7.41	3P 16A	120	5x6 NYM-J	4.12	1.08	0	1381.333	1381.3333	1381.333
		Light 220V	1	480	1.0	480	Light 220V	0	220	1	2.57	80	3x2.5 NYM-J	2.64	1.20	0				
		Light 220V	1	964	1.0	964	Light 220V	0	220	1	5.16	100	3x2.5 NYM-J	6.63	3.01	0				
		Light 220V	1	2700	1.0	2,700	Light 220V	0	220	1	14.44	100	3x2.5 NYM-J	18.56	8.43	0				
						18024.0												6008.0	6008.0	5248.0



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Rev.	Description.	Date.		Name	Signed	Date	Drawing Title:	Single Line Diagram				
-	-	-	Designed:	N.Tokhadze			Drawing No:	E.20	Rev. ID:	-	Issued:	12 JAN 2018
			Draftsman:	N.Tokhadze			Drawing Status:	Design	Size:	A3	Scale:	-
			Checked:				Project Name:	Hualing Tbilisi Sea Plaza				