



Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 28/11/2023
Test Date : 29/11/2023
Location : st : from 692+780 To 692+880
Report No. : 11

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	From 692+780 To 692+880	10	10	1114.9	1137.2	741.7	
2		10	10	688.0	701.8		
3		10	10	652.9	666.0		
4		10	10	685.8	699.5		
5		10	10	1128.9	1151.5		
6		10	10	529.0	539.6		
7		10	10	526.6	537.1		
8		10	10	569.9	581.3		
9		10	10	648.6	661.6		

Note :- All tests are preformed according to ES 7325-2011

Signature /.....

El Mostafa El Abdou
Zouheir Gado
Tel/Fax: 2733/331 - 27463190



إبراهيم عبد الله
مهندس
2733/331 - 27463190

CEL

Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 09/09/2023
Test Date : 09/09/2023
Location : st : from 692+880 To 692+930
Report No. : 03

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	from 692+880 To 692+930	10	10.2	314	320.3	601.8	
2		10	10.1	593	604.9		
3		10	10.3	863	880.3		

Note :- All tests are preformed according to ES 7325-2011

Signature /...



El Malek El Ahdal Street
Zamalek, Cairo.
Tel/Fax: 27367231 - 27367090



أ.م. خالد الأماشي
إ.م. خالد الأماشي
م.م. خالد الأماشي

Company : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 09/09/2023
Test Date : 09/09/2023
Location : st : from 692+930 to 692+980
Report No. : 04

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	from 692+930 to 692+980	10	10.2	279.1	284.7	512.1	
2		10	10.1	862	879.2		
3		10	10.3	365	372.3		

Note :- All tests are performed according to ES 7325-2011

Signature 
CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
مشاريع (سكك حديدية وبنية)
رقم التسجيل المهنى: 219 - 991 - 537
المركز الرئيسى: شارع الملك الأفضل - الزمالك - القاهرة



Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 09/09/2023
Test Date : 09/09/2023
Location : st : from 692+980 To 693+030
Report No. : 05

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	from 692+980 To 693+030	10	10.2	454.2	463.3	544.1	
2		10	10.1	486	495.7		
3		10	10.3	660	673.2		

Note :- All tests are preformed according to ES 7325-2011

Signature /



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Zamalek, Cairo.
Tel& Fax : 27397331 - 27363093



إدارة المختبر
الهيئة العامة
للبحوث والدراسات

CEL

Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 09/09/2023
Test Date : 09/09/2023
Location : st : from 693+030 to 693+080
Report No. : 06

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	from 693+030 to 693+080	10	10.2	307.7	313.9	469.1	
2		10	10.1	349.3	356.3		
3		10	10.3	722.6	737.1		

Note :- All tests are preformed according to ES 7325-2011

Signature /



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شركة عبد الرحمن
القاهرة - القاهرة
الهاتف : 27367231 - 27363265



Consulting Engineering Bureau & Laboratories
مكتب محامل الاستشارات الهندسية

Company : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 09/09/2023
Test Date : 09/09/2023
Location : st : from 693+080 to 693+130
Report No. : 07

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	from 693+080 to 693+130	10	10.2	518	528.4	424.3	
2		10	10.1	404	412.1		
3		10	10.3	326	332.5		

Note :- All tests are performed according to ES 7325-2011

Signature /



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CEL

Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 09/09/2023
Test Date : 09/09/2023
Location : st : from 693+180 to 693+210
Report No. : 09

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	from 693+180 to 693+210	10	10.2	497.9	507.9	416.8	
2		10	10.1	291	296.8		
3		10	10.3	437	445.7		

Note :- All tests are performed according to ES 7325-2011

Signature : 
CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
مشاريع و دراسات
رقم التسجيل المبرمج : 537 - 991 - 219
المركز الرئيسي : شارع الملك الأفضل - الزمالك - القاهرة

1 El Madak El Ahdal Street
Zamalek, Cairo
Tel/Fax : 27363201 - 27363203

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إلى انهاء العمل
الهيئة العامة
للجودة والاعتماد
T037451-001/0001



محضر اعتماد حصر كميات



التاريخ: ٢٠٢٤/٢/٢٥

اسم المشروع: مشروع القطر الكهربائي السريع (٦ أكتوبر - اسوان - ابوسمبل) القطاع الخامس

قامت شركة برافانت كونلت للاستشارات الهندسية المساحية (استشارى الاعمال المساحية لهيئة الطرق والكبارى)

باعتماد الكميات المنقذة الخاصة بشركة عباد الرحمن للتنمية الزراعية والمقاربة والمقاولات

عدد (٥٧/٢٠٢٣/٢٠٢٤) بتاريخ ٢٠٢٣/١٠/١

م	من المحطة رقم	الى المحطة رقم	التصنيف	الكمية بالمتر المكعب	الملاحظات
1	692+780	692+870	تربة صفيرة	2113.6	الحفر على REV07
2	672+870	693+210	تربة صفيرة	15639.36	الحفر على REV07
3	693+210	693+240	تربة شديدة التماسك	128.77	الحفر على REV07
4	693+240	693+290	تربة شديدة التماسك	706.53	الحفر على REV07
5	693+290	693+370	تربة شديدة التماسك	4718.11	الحفر على REV07
اجملى الكمية				23308.37	

حصر جارى (٣)

المرققات :

استلام ميزانية شبكية

قطاعات عرضية

ثبت اكسبل موضع به الكميات

مكتب استشارى اسبكتروم

استشارى المساحة





محضر اعتماد حصر كميات



التاريخ: ٢٠٢٤/٢/٢٤

اسم المشروع: مشروع القطار الكهربائي السريع (٦ أكتوبر - اسوان - ابوسمبل) القطاع الخامس

قامت شركة برابوت كونت للاستشارات الهندسية المساحية (استشارى الاعمال المساحية لهيئة الطرق والكبارى)

باعتماد الكميات المتلقة الخاصة بشركة عهد الرحمن للتنمية الزراعية والعقارية والمقاولات

عقد (٢٠٢٤/٢٠٢٣/٤٥٧) بتاريخ ١/١٠/٢٠٢٣

م	من المحطة رقم	الى المحطة رقم	التصنيف	الكمية بالمتر المكعب	الملاحظات
1	691+980	692+480	ردم التربة	6011.49	ردم على REV07
إجمالي الكمية				6011.49	

حصر جارى (٣)

المرفقات:

استلام ميزانية شبيكة

قطاعات عرضية

شيت الكميات موضح به الكميات

مكتب استشارى اسيكترم



مهندس الشركة
إيفادات كونسالت للمسابقات الهندسية
HSR - Blue Line - Sec.05
استشارى الاعمال المساحية بالقطاع الخامس

شركة عهد الرحمن
تتميز بالدراسية والعقارية والمقاولات
٢٠٢٤/٢٠٢٣/٤٥٧
١٥٢٢٥



جدول توضيح اعداد المحصر				
الرقم	من المحطة	الى المحطة	الكمية	REV
1	691+980	692+480	6011.49	REV 07
	الاجملى		6011.49	



HSR - Blue Line - Sec.05

شركة عباد الرحمن
للتنمية الزراعية
م.ع. ٢٢٢/٦٥٦/٦٥٠
١٥٢٢



توضيح اعمال الحصر صفحة رقم ٢



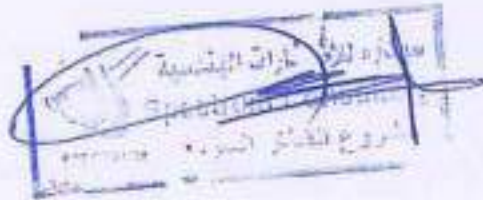
شركة عباد الرحمن للتنمية الزراعية والطرية والمقاولات

شيت موضح به الكميات				
رقم	المحطة	Cut area	Cut volume	cum.cut vol.
1	691+980.00	2.48	12.39	12.390
2	691+990.00	2.28	23.81	36.200
3	692+000.00	1.97	21.27	57.470
4	692+010.00	6.43	42.01	99.480
5	692+020.00	12.2	93.14	192.620
6	692+030.00	15.01	136.05	328.670
7	692+040.00	16.12	156.68	484.350
8	692+050.00	15.77	159.45	643.800
9	692+060.00	16.1	154.34	798.140
10	692+070.00	13.99	145.43	943.570

مكتب استشاري اسبكتروم

استشاري المصاحبة

مهندس الشركة المنفذة





توضيح اعمال الحصر صفحة رقم ٣



شركة عباد الرحمن للتنمية الزراعية والطاوية والمقاولات

شيت موضح به الكميات				
الرقم	المحطة	Cut area	Cut volume	cum.cut vol.
11	692+080.00	13.05	135.18	1078.75
12	692+090.00	12.34	126.98	1205.73
13	692+100.00	11.31	118.28	1324.01
14	692+110.00	10.48	108.94	1432.95
15	692+120.00	10.03	102.51	1535.46
16	692+130.00	10.12	100.73	1636.19
17	692+140.00	9.57	98.44	1734.63
18	692+150.00	8.61	90.88	1825.51
19	692+160.00	7.48	80.43	1905.94
20	692+170.00	9.07	82.72	1988.66
21	692+180.00	10.35	97.07	2085.73
22	692+190.00	8.59	94.67	2180.40
23	692+200.00	6.92	77.53	2257.93
24	692+210.00	8.02	74.72	2332.65
25	692+220.00	9.62	88.21	2420.86
26	692+230.00	11.1	103.6	2524.46
27	692+240.00	12.36	117.32	2641.78
28	692+250.00	11.75	120.58	2762.36
29	692+260.00	11.03	113.94	2876.30
30	692+270.00	10.38	107.08	2983.38

مكتب استشارى اسبكتروم



برقيات كولستار للمباني الهندسية
HSR - Blue Line - Sec.05
استشارى الاعمال المساعدة بالمطامح الحافض

مهندس الشركة المتفذة
شركة عباد الرحمن
للتنمية الزراعية والطاوية والمقاولات
ع.م.س. ٢٠٢٠/٢٠٢١
١٥٢٢٢



توضيح اعمال الحصر صفحة رقم ٤



شركة عباد الرحمن للتنمية الزراعية والطارية والمقاولات

ثبت موضع به الكميات				
الرقم	المحطة	Cut area	Cut volume	cum.cut vol.
31	692+280.00	9.96	101.7	3085.08
32	692+290.00	8.63	92.44	3177.52
33	692+300.00	7.04	77.86	3255.38
34	692+310.00	9	80.23	3335.61
35	692+320.00	11.73	103.67	3439.28
36	692+330.00	13.6	126.65	3565.93
37	692+340.00	15.07	143.36	3709.29
38	692+350.00	15.97	155.22	3864.51
39	692+360.00	16.14	160.55	4025.06
40	692+370.00	17.05	166.96	4191.02
41	692+380.00	18.11	175.79	4366.81
42	692+390.00	19.41	187.56	4554.37
43	692+400.00	20.18	197.91	4752.28
44	692+410.00	20.98	205.79	4958.07
45	692+420.00	22.03	215.06	5173.13
46	692+430.00	18.95	204.92	5378.05
47	692+440.00	15.05	170	5548.05
48	692+450.00	14.19	146.2	5694.25
49	692+460.00	12.33	132.64	5826.89
50	692+470.00	9.12	107.29	5934.18
51	692+480.00	6.34	77.31	6011.49
الاجملى				6011.49

مكتب استشارى اسيتكم



معلومات كوتسلاست للاستشارات الهندسية
HSR - Blue Line - Sec.05
استشارى الاعمال الهندسية بالتمويل الخاص

شركة عباد الرحمن
مهندس الشركة الهندسية
للتعمية الزراعية والعتارية والمقاولات
ب.م.س. ٢٠٢٢/٦٥٦/٢٥٠ ص.ف. ١٥٢٢٢



توضيح اعمال الحصر صفحة رقم ١



شركة عباد الرحمن للتنمية الزراعية والعقارية والمقاولات

جدول توضيح اعمال الحصر				
الرقم	من المحطة	الى المحطة	الكمية	REV
1	692+780	692+870	2113.6	REV 07
2	692+870	693+370	21192.8	REV 07
الإجمالي			23306.37	

مكتب استشاري اسيكترم



مهندس الشركة المفضلة





توضيح اعمال الحصر صفحة رقم ٢



شركة عباد الرحمن للتنمية الزراعية والطايرة والملاولات

شيت موضح به الكميات				
الرقم	المحطة	Cut area	Cut volume	cum.cut vol.
1	692+780.00	24.61	0	0
2	692+790.00	10.27	51.38	51.4
3	692+800.00	19.12	146.94	198.3
4	692+810.00	33.6	263.08	461.4
5	692+820.00	26.27	298.88	760.3
6	692+830.00	42.14	342.08	1102.3
7	692+840.00	37.19	396.66	1499.0
8	692+850.00	24.33	307.59	1806.6
9	692+860.00	11.93	181.31	1987.9
10	692+870.00	13.21	125.7	2113.6
الاجمالي			2113.6	

مكتب استشارى اسكترم



بلديات كونسول استشارى المصاحبة
HSR - Blue Line - Sec.05
استشارى الاعمال المساحية بالمطامع الحافض

مهندس الشركة المصاحبة

شركة عباد الرحمن
لتنمية الزراعة والبناء والملاولات
ب.م.س ٢٢/٦٥٦/٦٥٠ ص.ب ١٥٢٢٤

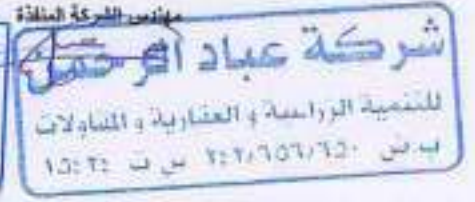
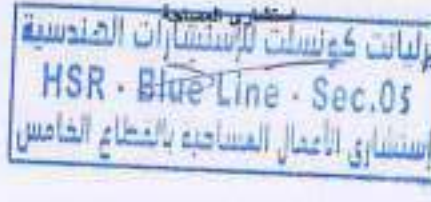


توضيح اعمال الحصر صفحة رقم ٣



شركة عباد الرحمن للتنمية الزراعية والعقارية والمقاولات

شيت موضح به الكميات				
الرقم	المحطة	Cut area	Cut volume	cum.cut vol.
11	692+870.00	20.9	104.5	104.5
12	692+880.00	10.45	156.75	261.3
13	692+890.00	7.23	88.42	349.7
14	692+900.00	18.13	126.83	476.5
15	692+910.00	96.28	572.04	1048.5
16	692+920.00	88.55	924.11	1972.7
17	692+930.00	73.88	812.13	2784.8
18	692+940.00	75.86	748.71	3533.5
19	692+950.00	76.66	762.61	4296.1
20	692+960.00	71.93	742.94	5039.0
21	692+970.00	73.05	724.87	5763.9
22	692+980.00	54.27	636.58	6400.5
23	692+990.00	63.42	588.45	6988.9
24	693+000.00	48.08	557.51	7546.5
25	693+010.00	22.63	353.08	7899.5
26	693+020.00	40.52	315.27	8214.8
27	693+030.00	56.33	484.28	8699.1
28	693+040.00	61.94	591.35	9290.4
29	693+050.00	88.26	750.99	10041.4
30	693+060.00	53.66	709.09	10750.5



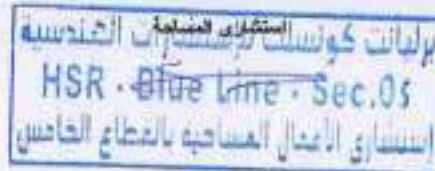


توضيح اعمال الحصر صفحة رقم 1



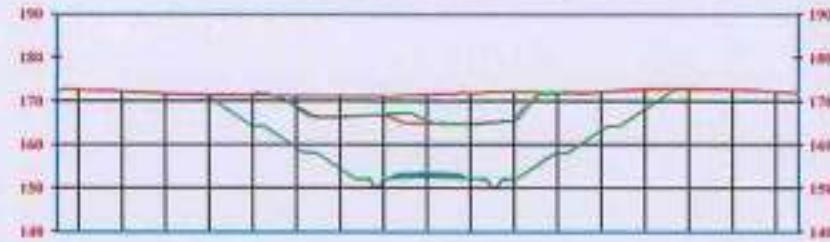
شركة عباد الرحمن للتعمية الزراعية والعقارية والمقاولات

شيت موضع به الكميات				
ترقيم	المحطة	Cut area	Cut volume	cum.cut vol.
31	693+070.00	60.05	568.04	11318.6
32	693+080.00	63.05	615.51	11934.1
33	693+090.00	42.49	527.69	12461.8
34	693+100.00	26.5	344.93	12806.7
35	693+110.00	17.48	219.88	13026.6
36	693+120.00	15.28	183.7	13190.3
37	693+130.00	24.52	198.9	13389.2
38	693+140.00	26.82	256.73	13645.9
39	693+150.00	36.35	310.85	13956.7
40	693+160.00	40.65	380	14336.7
41	693+170.00	47.96	443.06	14779.8
42	693+180.00	13.04	304.97	15084.8
43	693+190.00	21.18	171.11	15255.9
44	693+200.00	25.92	235.53	15491.4
45	693+210.00	3.67	147.96	15639.4
46	693+220.00	5.43	45.49	15684.9
47	693+230.00	4	47.14	15732.0
48	693+240.00	3.23	36.14	15768.1
49	693+250.00	1.84	25.36	15793.5
50	693+260.00	13.91	78.73	15872.2
51	693+270.00	17.49	156.96	16029.2
52	693+280.00	15.87	166.8	16196.0
53	693+290.00	39.87	278.69	16474.7
54	693+300.00	45.88	428.71	16903.4
55	693+310.00	46.43	461.55	17364.9
56	693+320.00	62.22	543.25	17908.2
57	693+330.00	103.18	827.01	18735.2
58	693+340.00	95.69	994.38	19729.6
59	693+350.00	27.78	617.37	20346.9
60	693+360.00	55.74	417.62	20764.6
61	693+370.00	29.9	428.22	21192.8
المجموع				21192.8



شركة هياكل حمن
للتنمية الزراعية والعقارية والمقاولات
ب.ش. ٢٠٢٢/٦٥٦/٦٥٠ من ب ١:٥٠

692+980.00



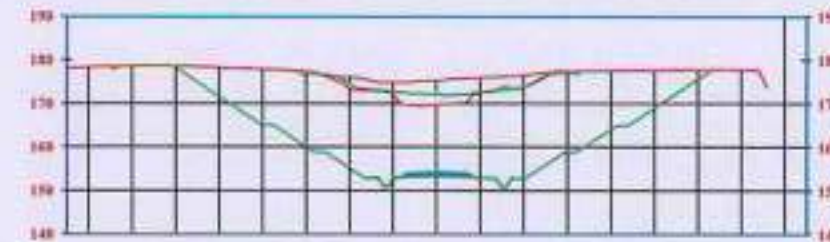
Total Volume of Station 692+980.00	
Cut Area	18.72
Fill Area	0.00
Cut Vol	128.82
Fill Vol	0.00
Net Cut Vol	128.82
Net Fill Vol	0.00

EXISTING ELEVATIONS	172.687	172.147	171.683	171.289	171.343	171.245	171.258	171.179	171.443	171.844	172.082	172.813	172.687	172.331	171.985	171.138
DESIGN ELEVATIONS				170.814	164.523	169.301	164.454	162.136	162.777	163.377	162.067	163.112	163.494	168.541		
OFFSET	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	80

بيانات كونسلت الإستشارات الهندسية
HSR - Blue Line - Sec.05
استشاري الأعمال المساحية بالنطاق الخامس

بيانات كونسلت الإستشارات الهندسية
HSR - Blue Line - Sec.05
استشاري الأعمال المساحية بالنطاق الخامس

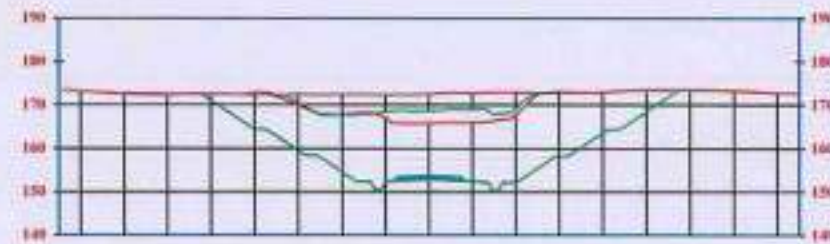
692+990.00



Total Volume of Station 692+990.00	
Cut Area	26.27
Fill Area	0.00
Cut Vol	128.08
Fill Vol	0.00
Net Cut Vol	128.08
Net Fill Vol	0.00

EXISTING ELEVATIONS	173.281	172.963	172.638	172.268	171.947	171.556	171.005	170.405	170.256	170.882	170.511	170.487	170.472	170.624	170.782	170.781
DESIGN ELEVATIONS			170.249	171.882	160.281	160.809	165.322	162.904	163.548	163.143	163.638	160.881	164.202	165.109	170.776	
OFFSET	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	80

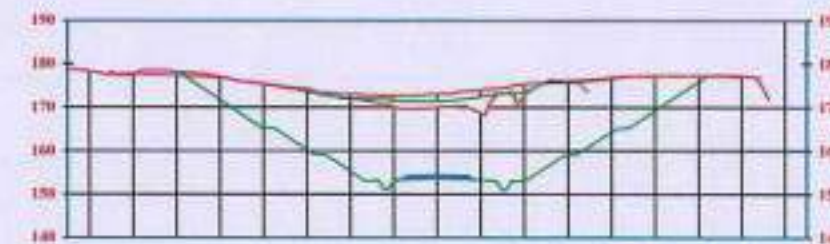
692+910.00



Total Volume of Station 692+910.00	
Cut Area	26.20
Fill Area	0.00
Cut Vol	202.04
Fill Vol	0.00
Net Cut Vol	202.04
Net Fill Vol	0.00

EXISTING ELEVATIONS	172.995	172.566	172.273	172.686	172.329	172.382	172.372	172.300	172.699	172.898	172.799	172.725	172.841	173.215	173.274	173.046	172.675
DESIGN ELEVATIONS				170.910	164.619	169.267	164.650	162.132	162.873	162.473	163.163	162.269	163.989	168.437			
OFFSET	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80

692+999.00



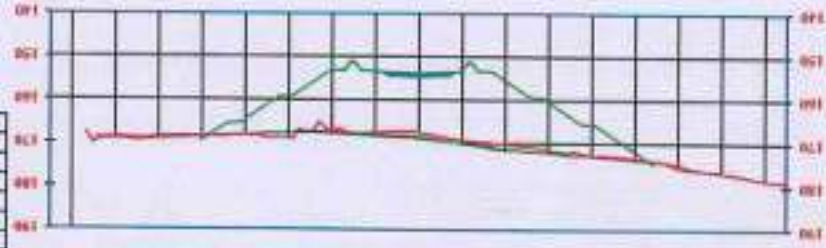
Total Volume of Station 692+999.00	
Cut Area	25.40
Fill Area	0.00
Cut Vol	128.45
Fill Vol	0.00
Net Cut Vol	128.45
Net Fill Vol	0.00

EXISTING ELEVATIONS	170.241	170.654	170.050	170.661	170.145	169.683	172.855	172.406	172.999	173.776	173.205	170.941	164.898	170.800	171.291	171.478	171.338
DESIGN ELEVATIONS				171.278	165.287	168.165	165.318	163.880	163.641	163.241	162.931	163.977	164.898	163.205	163.205	171.478	
OFFSET	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80

شركة هياكل حمن
Spectrum Consulting
مشاريع المساحة والبناء



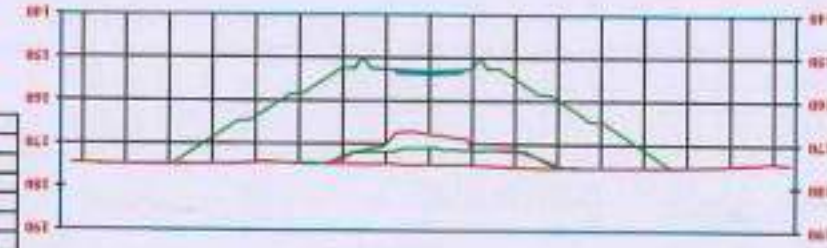
EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
174.173	174.173	-40
174.278	174.278	-30
174.387	174.387	-20
174.491	174.491	-10
174.594	174.594	0
174.697	174.697	10
174.799	174.799	20
174.897	174.897	30
174.991	174.991	40
175.084	175.084	50
175.173	175.173	60
175.257	175.257	70
175.336	175.336	80
175.410	175.410	90
175.479	175.479	100



STATION	PA	HA
0+00	174.173	174.173
0+10	174.278	174.278
0+20	174.387	174.387
0+30	174.491	174.491
0+40	174.594	174.594
0+50	174.697	174.697
0+60	174.799	174.799
0+70	174.897	174.897
0+80	174.991	174.991
0+90	175.084	175.084
0+100	175.173	175.173

0+00 to 0+100

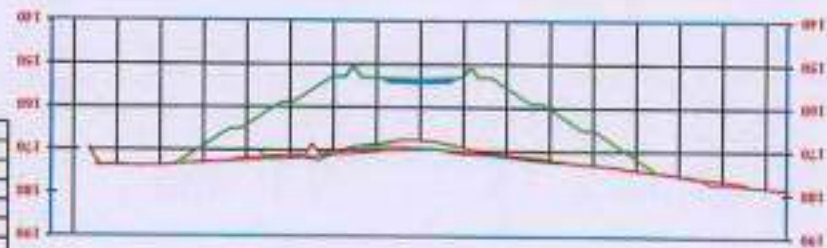
EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
174.173	174.173	-40
174.278	174.278	-30
174.387	174.387	-20
174.491	174.491	-10
174.594	174.594	0
174.697	174.697	10
174.799	174.799	20
174.897	174.897	30
174.991	174.991	40
175.084	175.084	50
175.173	175.173	60
175.257	175.257	70
175.336	175.336	80
175.410	175.410	90
175.479	175.479	100



STATION	PA	HA
0+100	174.278	174.278
0+110	174.387	174.387
0+120	174.491	174.491
0+130	174.594	174.594
0+140	174.697	174.697
0+150	174.799	174.799
0+160	174.897	174.897
0+170	174.991	174.991
0+180	175.084	175.084
0+190	175.173	175.173
0+200	175.257	175.257

0+100 to 0+200

EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
175.562	175.562	-40
175.661	175.661	-30
175.763	175.763	-20
175.863	175.863	-10
175.964	175.964	0
176.064	176.064	10
176.164	176.164	20
176.264	176.264	30
176.364	176.364	40
176.464	176.464	50
176.564	176.564	60
176.664	176.664	70
176.764	176.764	80
176.864	176.864	90
176.964	176.964	100

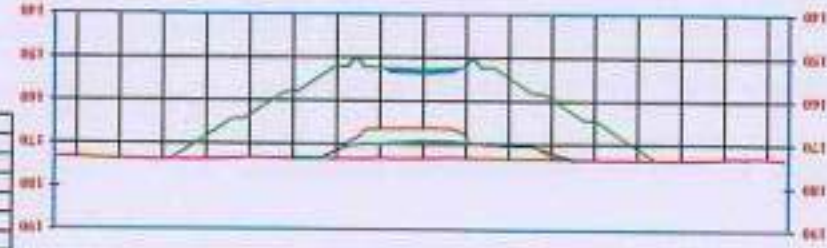


STATION	PA	HA
0+200	175.562	175.562
0+210	175.661	175.661
0+220	175.763	175.763
0+230	175.863	175.863
0+240	175.964	175.964
0+250	176.064	176.064
0+260	176.164	176.164
0+270	176.264	176.264
0+280	176.364	176.364
0+290	176.464	176.464
0+300	176.564	176.564

0+200 to 0+300

HSR - Blue Line - Sec. 05
محطة 5 كوكبة في الخط الأزرق لقطار
السرعة العالية

EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
177.300	177.300	-40
177.399	177.399	-30
177.493	177.493	-20
177.584	177.584	-10
177.671	177.671	0
177.754	177.754	10
177.833	177.833	20
177.908	177.908	30
177.979	177.979	40
178.046	178.046	50
178.109	178.109	60
178.168	178.168	70
178.223	178.223	80
178.274	178.274	90
178.321	178.321	100



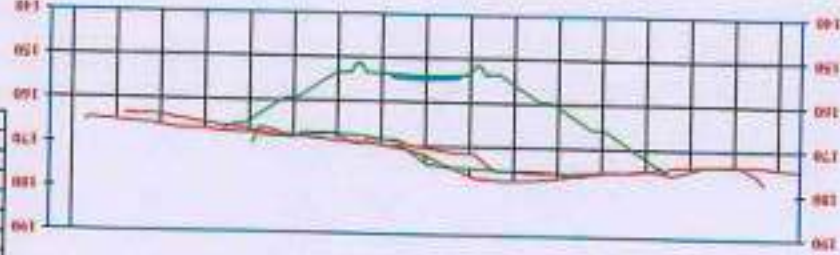
STATION	PA	HA
0+300	177.300	177.300
0+310	177.399	177.399
0+320	177.493	177.493
0+330	177.584	177.584
0+340	177.671	177.671
0+350	177.754	177.754
0+360	177.833	177.833
0+370	177.908	177.908
0+380	177.979	177.979
0+390	178.046	178.046
0+400	178.109	178.109

0+300 to 0+400

محطة 6 كوكبة في الخط الأزرق لقطار
السرعة العالية
10/10/2010



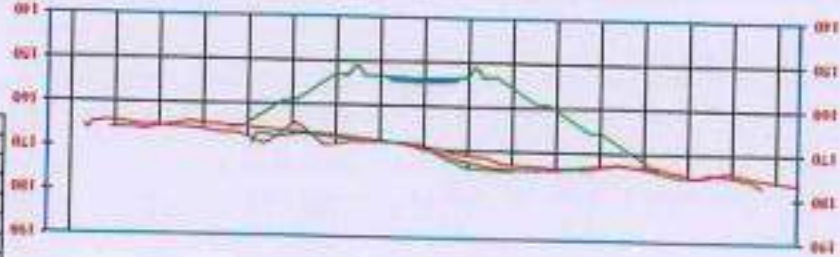
EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
173.895		-40
173.419		-30
173.274		-20
173.082		-10
172.866		0
172.771		10
172.654		20
172.527		30
172.438		40
172.464		50
172.464		60
172.464		70
172.464		80



Station	Offset	Existing Elev.	Design Elev.
0+00	-40	173.895	
0+10	-30	173.419	
0+20	-20	173.274	
0+30	-10	173.082	
0+40	0	172.866	
0+50	10	172.771	
0+60	20	172.654	
0+70	30	172.527	
0+80	40	172.438	
0+90	50	172.464	
1+00	60	172.464	
1+10	70	172.464	
1+20	80	172.464	

693+030.00

EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
176.175		-40
176.209		-30
176.319		-20
176.412		-10
176.475		0
176.544		10
176.618		20
176.686		30
176.744		40
176.791		50
176.829		60
176.860		70
176.885		80

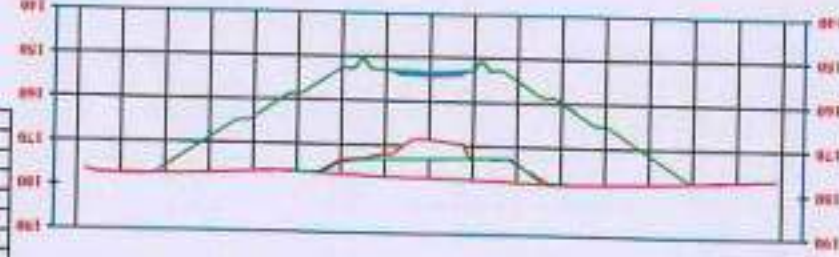


Station	Offset	Existing Elev.	Design Elev.
0+00	-40	176.175	
0+10	-30	176.209	
0+20	-20	176.319	
0+30	-10	176.412	
0+40	0	176.475	
0+50	10	176.544	
0+60	20	176.618	
0+70	30	176.686	
0+80	40	176.744	
0+90	50	176.791	
1+00	60	176.829	
1+10	70	176.860	
1+20	80	176.885	

693+030.00

HSR - Blue line - Sec.05
المسار الأزرق - الخط الأزرق - القسم 05

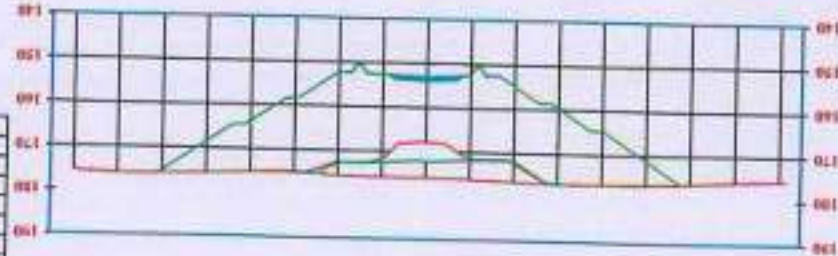
EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
177.087		-40
177.453		-30
177.926		-20
178.173		-10
178.277		0
178.300		10
178.300		20
178.300		30
178.300		40
178.300		50
178.300		60
178.300		70
178.300		80



Station	Offset	Existing Elev.	Design Elev.
0+00	-40	177.087	
0+10	-30	177.453	
0+20	-20	177.926	
0+30	-10	178.173	
0+40	0	178.277	
0+50	10	178.300	
0+60	20	178.300	
0+70	30	178.300	
0+80	40	178.300	
0+90	50	178.300	
1+00	60	178.300	
1+10	70	178.300	
1+20	80	178.300	

692+950.00

EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
178.562		-40
178.592		-30
178.620		-20
178.648		-10
178.675		0
178.702		10
178.729		20
178.756		30
178.783		40
178.810		50
178.837		60
178.864		70
178.891		80



Station	Offset	Existing Elev.	Design Elev.
0+00	-40	178.562	
0+10	-30	178.592	
0+20	-20	178.620	
0+30	-10	178.648	
0+40	0	178.675	
0+50	10	178.702	
0+60	20	178.729	
0+70	30	178.756	
0+80	40	178.783	
0+90	50	178.810	
1+00	60	178.837	
1+10	70	178.864	
1+20	80	178.891	

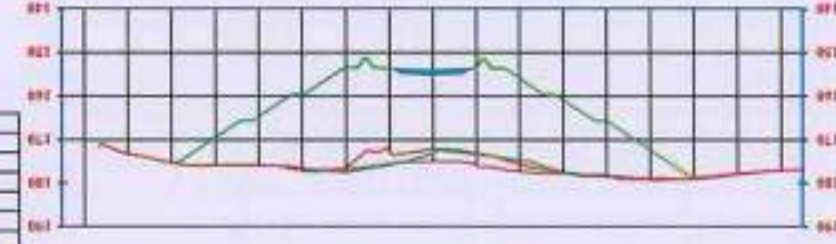
692+950.00

المسار الأزرق - الخط الأزرق - القسم 05
HSR - Blue line - Sec.05

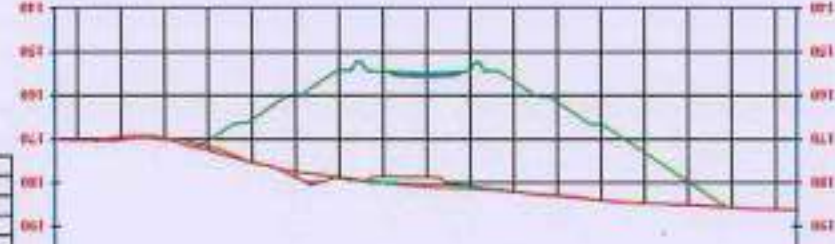
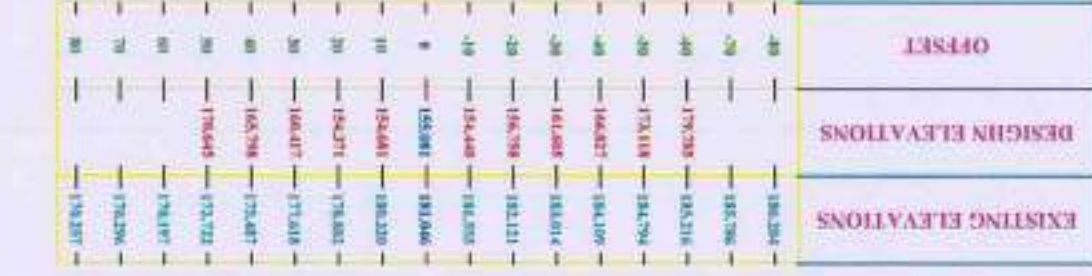
Handwritten signature and date: 10/10/10



EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
177.003		-40
177.683		-79
178.813		-48
179.276	177.288	-39
178.885	166.688	-49
177.847	166.837	-38
177.341	155.988	-29
176.082	153.672	-18
175.880	154.818	0
175.346	153.313	18
177.655	153.605	28
177.128	156.646	38
176.810	165.838	48
175.346	168.877	58
175.382		68
174.299		78
		88

[illegible]

18/06/2019	PA. 190
08/07	PA. 02. 190
18/06/2019	PA. 190. 190
08/07	PA. 02
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08/07	PA. 02
08/07	PA. 190
08/06-08/07. 190. 190. 190. 190. 190. 190.	

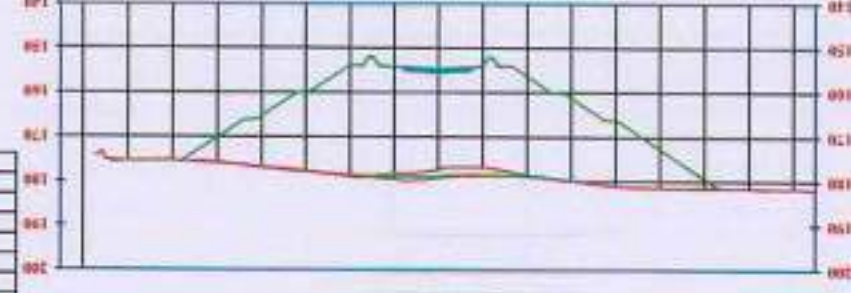


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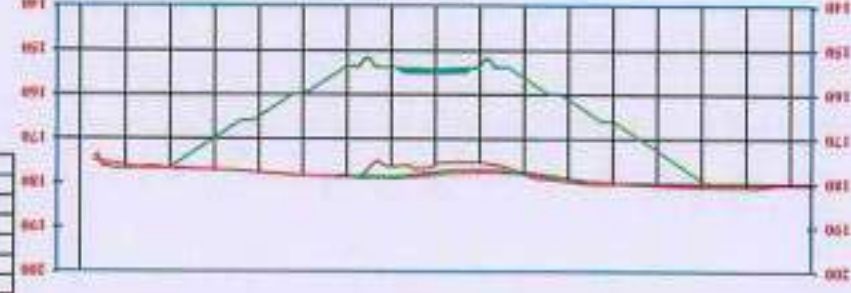
EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
181.699		-80
181.502		-70
181.342	179.305	-60
181.262	179.148	-50
180.921	180.347	-40
179.888	181.125	-30
179.879	186.178	-20
179.728	183.960	-10
179.184	184.881	0
179.439	184.281	10
179.649	183.891	20
179.535	189.437	30
179.609	186.318	40
179.963	179.144	50
179.143		60
179.297		70
		80



TYPE	VALUE
GRADIENT	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00

6+93.100 (m)

EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
180.344		-80
180.982		-70
180.586	179.249	-60
180.388	179.244	-50
180.174	186.281	-40
179.541	181.003	-30
179.973	186.183	-20
179.383	183.844	-10
179.446	184.888	0
179.808	184.165	10
179.644	183.796	20
179.215	189.441	30
179.645	186.212	40
177.111	179.609	50
176.788		60
176.078		70
		80

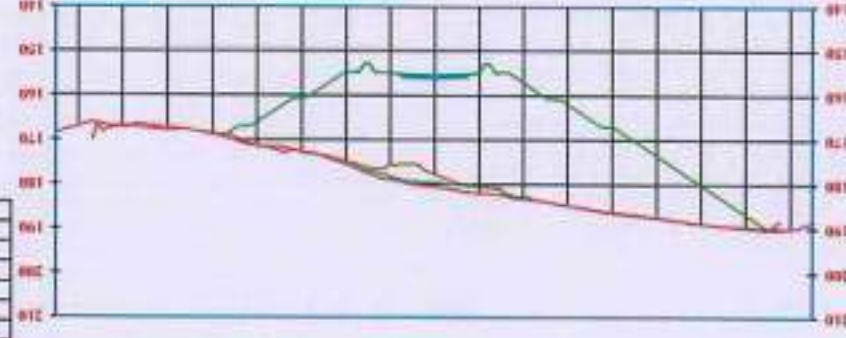


TYPE	VALUE
GRADIENT	0.00
CHG. GR. GR.	0.00
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CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00

6+93.150 (m)

مجلس إدارة شركة
التطوير والتشييد
14/10/1430 هـ
موافق

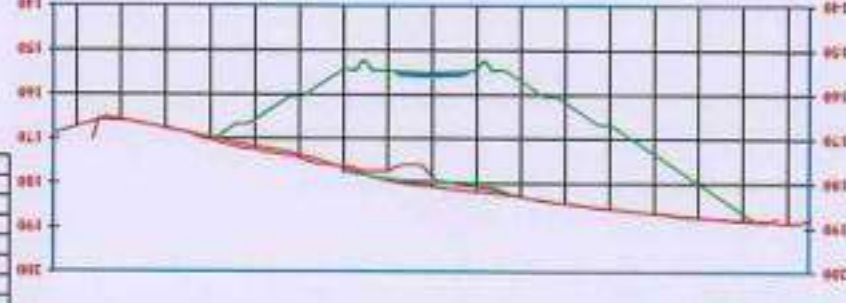
EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
189.013		-80
188.405	186.749	-70
188.753	188.873	-60
187.416	179.488	-50
186.308	187.115	-40
184.636	183.393	-30
182.312	187.844	-20
181.099	186.728	-10
180.256	188.369	0
179.893	184.060	10
179.403	184.609	20
177.484	186.708	30
177.389	184.096	40
187.785		50
184.466		60
184.438		70
		80



TYPE	VALUE
GRADIENT	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00

6+93.179 (m)

EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
188.813		-80
188.247	186.644	-70
187.648	179.977	-60
186.721	179.218	-50
185.544	187.019	-40
184.616	183.797	-30
183.145	186.900	-20
182.066	184.632	-10
180.892	188.275	0
179.496	184.873	10
179.418	184.663	20
179.430	186.689	30
177.811	185.999	40
189.379		50
187.628		60
186.895		70
187.341		80



TYPE	VALUE
GRADIENT	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
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CHG. GR. GR.	0.00
CHG. GR. GR.	0.00
CHG. GR. GR.	0.00

6+93.160 (m)

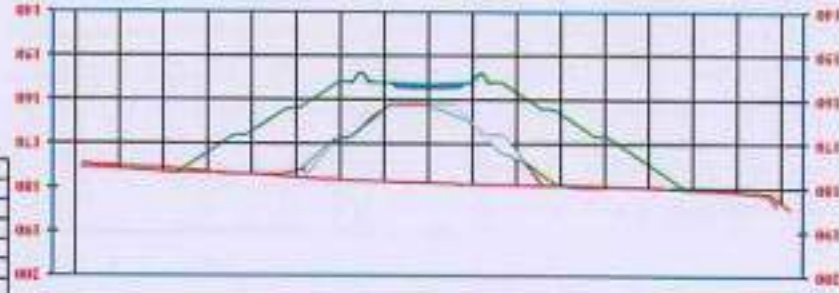
مجلس إدارة شركة
التطوير والتشييد
14/10/1430 هـ
موافق



OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	179.127	179.127
10	179.161	179.161
20	179.195	179.195
30	179.229	179.229
40	179.263	179.263
50	179.297	179.297
60	179.331	179.331
70	179.365	179.365
80	179.399	179.399
90	179.433	179.433
100	179.467	179.467
110	179.501	179.501
120	179.535	179.535
130	179.569	179.569
140	179.603	179.603
150	179.637	179.637
160	179.671	179.671
170	179.705	179.705
180	179.739	179.739
190	179.773	179.773
200	179.807	179.807
210	179.841	179.841
220	179.875	179.875
230	179.909	179.909
240	179.943	179.943
250	179.977	179.977
260	180.011	180.011
270	180.045	180.045
280	180.079	180.079
290	180.113	180.113
300	180.147	180.147
310	180.181	180.181
320	180.215	180.215
330	180.249	180.249
340	180.283	180.283
350	180.317	180.317
360	180.351	180.351
370	180.385	180.385
380	180.419	180.419
390	180.453	180.453
400	180.487	180.487
410	180.521	180.521
420	180.555	180.555
430	180.589	180.589
440	180.623	180.623
450	180.657	180.657
460	180.691	180.691
470	180.725	180.725
480	180.759	180.759
490	180.793	180.793
500	180.827	180.827
510	180.861	180.861
520	180.895	180.895
530	180.929	180.929
540	180.963	180.963
550	180.997	180.997
560	181.031	181.031
570	181.065	181.065
580	181.099	181.099
590	181.133	181.133
600	181.167	181.167
610	181.201	181.201
620	181.235	181.235
630	181.269	181.269
640	181.303	181.303
650	181.337	181.337
660	181.371	181.371
670	181.405	181.405
680	181.439	181.439
690	181.473	181.473
700	181.507	181.507
710	181.541	181.541
720	181.575	181.575
730	181.609	181.609
740	181.643	181.643
750	181.677	181.677
760	181.711	181.711
770	181.745	181.745
780	181.779	181.779
790	181.813	181.813
800	181.847	181.847
810	181.881	181.881
820	181.915	181.915
830	181.949	181.949
840	181.983	181.983
850	182.017	182.017
860	182.051	182.051
870	182.085	182.085
880	182.119	182.119
890	182.153	182.153
900	182.187	182.187
910	182.221	182.221
920	182.255	182.255
930	182.289	182.289
940	182.323	182.323
950	182.357	182.357
960	182.391	182.391
970	182.425	182.425
980	182.459	182.459
990	182.493	182.493
1000	182.527	182.527
1010	182.561	182.561
1020	182.595	182.595
1030	182.629	182.629
1040	182.663	182.663
1050	182.697	182.697
1060	182.731	182.731
1070	182.765	182.765
1080	182.799	182.799
1090	182.833	182.833
1100	182.867	182.867
1110	182.901	182.901
1120	182.935	182.935
1130	182.969	182.969
1140	183.003	183.003
1150	183.037	183.037
1160	183.071	183.071
1170	183.105	183.105
1180	183.139	183.139
1190	183.173	183.173
1200	183.207	183.207
1210	183.241	183.241
1220	183.275	183.275
1230	183.309	183.309
1240	183.343	183.343
1250	183.377	183.377
1260	183.411	183.411
1270	183.445	183.445
1280	183.479	183.479
1290	183.513	183.513
1300	183.547	183.547
1310	183.581	183.581
1320	183.615	183.615
1330	183.649	183.649
1340	183.683	183.683
1350	183.717	183.717
1360	183.751	183.751
1370	183.785	183.785
1380	183.819	183.819
1390	183.853	183.853
1400	183.887	183.887
1410	183.921	183.921
1420	183.955	183.955
1430	183.989	183.989
1440	184.023	184.023
1450	184.057	184.057
1460	184.091	184.091
1470	184.125	184.125
1480	184.159	184.159
1490	184.193	184.193
1500	184.227	184.227
1510	184.261	184.261
1520	184.295	184.295
1530	184.329	184.329
1540	184.363	184.363
1550	184.397	184.397
1560	184.431	184.431
1570	184.465	184.465
1580	184.499	184.499
1590	184.533	184.533
1600	184.567	184.567
1610	184.601	184.601
1620	184.635	184.635
1630	184.669	184.669
1640	184.703	184.703
1650	184.737	184.737
1660	184.771	184.771
1670	184.805	184.805
1680	184.839	184.839
1690	184.873	184.873
1700	184.907	184.907
1710	184.941	184.941
1720	184.975	184.975
1730	185.009	185.009
1740	185.043	185.043
1750	185.077	185.077
1760	185.111	185.111
1770	185.145	185.145
1780	185.179	185.179
1790	185.213	185.213
1800	185.247	185.247
1810	185.281	185.281
1820	185.315	185.315
1830	185.349	185.349
1840	185.383	185.383
1850	185.417	185.417
1860	185.451	185.451
1870	185.485	185.485
1880	185.519	185.519
1890	185.553	185.553
1900	185.587	185.587
1910	185.621	185.621
1920	185.655	185.655
1930	185.689	185.689
1940	185.723	185.723
1950	185.757	185.757
1960	185.791	185.791
1970	185.825	185.825
1980	185.859	185.859
1990	185.893	185.893
2000	185.927	185.927
2010	185.961	185.961
2020	185.995	185.995
2030	186.029	186.029
2040	186.063	186.063
2050	186.097	186.097
2060	186.131	186.131
2070	186.165	186.165
2080	186.199	186.199
2090	186.233	186.233
2100	186.267	186.267
2110	186.301	186.301
2120	186.335	186.335
2130	186.369	186.369
2140	186.403	186.403
2150	186.437	186.437
2160	186.471	186.471
2170	186.505	186.505
2180	186.539	186.539
2190	186.573	186.573
2200	186.607	186.607
2210	186.641	186.641
2220	186.675	186.675
2230	186.709	186.709
2240	186.743	186.743
2250	186.777	186.777
2260	186.811	186.811
2270	186.845	186.845
2280	186.879	186.879
2290	186.913	186.913
2300	186.947	186.947
2310	186.981	186.981
2320	187.015	187.015
2330	187.049	187.049
2340	187.083	187.083
2350	187.117	187.117
2360	187.151	187.151
2370	187.185	187.185
2380	187.219	187.219
2390	187.253	187.253
2400	187.287	187.287
2410	187.321	187.321
2420	187.355	187.355
2430	187.389	187.389
2440	187.423	187.423
2450	187.457	187.457
2460	187.491	187.491
2470	187.525	187.525
2480	187.559	187.559
2490	187.593	187.593
2500	187.627	187.627
2510	187.661	187.661
2520	187.695	187.695
2530	187.729	187.729
2540	187.763	187.763
2550	187.797	187.797
2560	187.831	187.831
2570	187.865	187.865
2580	187.899	187.899
2590	187.933	187.933
2600	187.967	187.967
2610	188.001	188.001
2620	188.035	188.035
2630	188.069	188.069
2640	188.103	188.103
2650	188.137	188.137
2660	188.171	188.171
2670	188.205	188.205
2680	188.239	188.239
2690	188.273	188.273
2700	188.307	188.307
2710	188.341	188.341
2720	188.375	188.375
2730	188.409	188.409
2740	188.443	188.443
2750	188.477	188.477
2760	188.511	188.511
2770	188.545	188.545
2780	188.579	188.579
2790	188.613	188.613
2800	188.647	188.647
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2820	188.715	188.715
2830	188.749	188.749
2840	188.783	188.783
2850	188.817	188.817
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2890	188.953	188.953
2900	188.987	188.987
2910	189.021	189.021
2920	189.055	189.055
2930	189.089	189.089
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2970	189.225	189.225
2980	189.259	189.259
2990	189.293	189.293
3000	189.327	189.327
3010	189.361	189.361
3020	189.395	189.395
3030	189.429	189.429
3040	189.463	189.463
3050	189.497	189.497
3060	189.531	189.531
3070	189.565	189.565
3080	189.599	189.599
3090	189.633	189.633
3100	189.667	189.667
3110	189.701	189.701
3120	189.735	189.735
3130	189.769	189.769
3140	189.803	189.803
3150	189.837	189.837
3160	189.871	189.871
3170	189.	



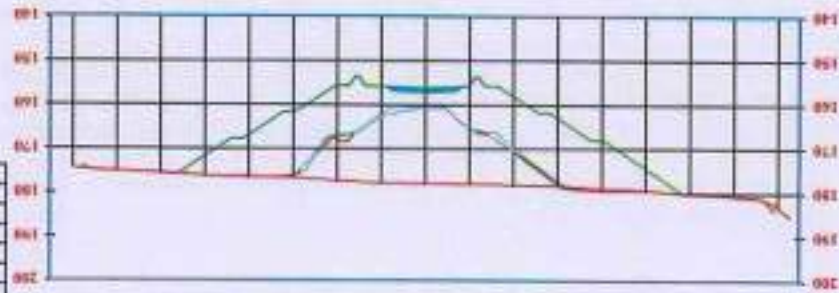
OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	186.421	178.729
10	186.421	178.477
20	186.421	178.146
30	186.421	177.822
40	186.421	177.500
50	186.421	177.178
60	186.421	176.856
70	186.421	176.534
80	186.421	176.212



186.421	178.729
186.421	178.477
186.421	178.146
186.421	177.822
186.421	177.500
186.421	177.178
186.421	176.856
186.421	176.534
186.421	176.212

6931-290.00

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	186.425	177.000
10	186.425	177.782
20	186.425	177.194
30	186.425	176.707
40	186.425	176.420
50	186.425	176.134
60	186.425	175.847
70	186.425	175.560
80	186.425	175.273

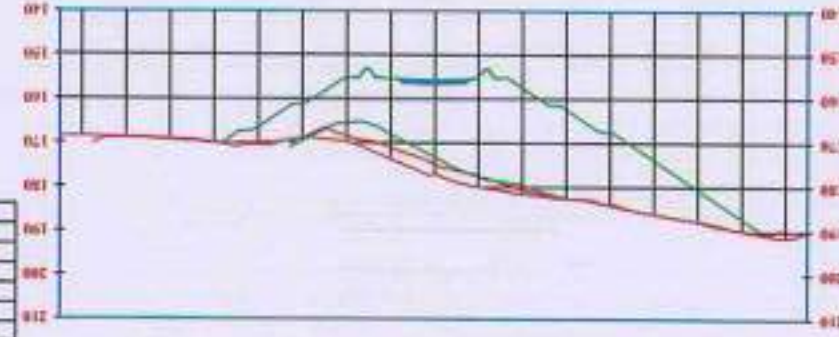


186.425	177.000
186.425	177.782
186.425	177.194
186.425	176.707
186.425	176.420
186.425	176.134
186.425	175.847
186.425	175.560
186.425	175.273

6931-280.00

HSR - Blue Line - S&S-05
محطة كوستة للسكك الحديدية
الخط الجديد للسكك الحديدية

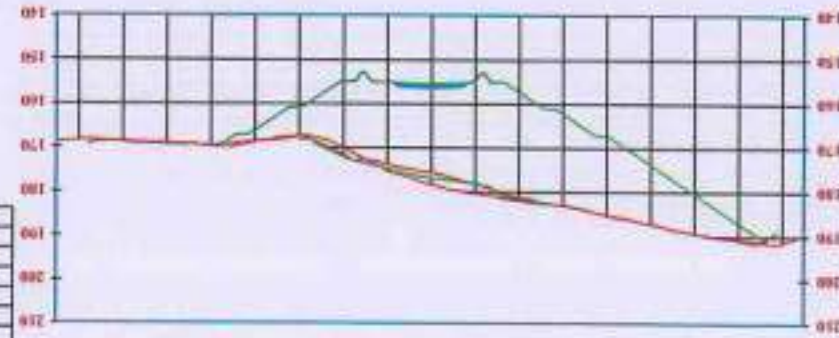
OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	185.933	177.125
10	185.933	177.125
20	185.933	176.875
30	185.933	176.625
40	185.933	176.375
50	185.933	176.125
60	185.933	175.875
70	185.933	175.625
80	185.933	175.375



185.933	177.125
185.933	177.125
185.933	176.875
185.933	176.625
185.933	176.375
185.933	176.125
185.933	175.875
185.933	175.625
185.933	175.375

6931-210.00

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	185.457	176.271
10	185.457	176.271
20	185.457	176.021
30	185.457	175.771
40	185.457	175.521
50	185.457	175.271
60	185.457	175.021
70	185.457	174.771
80	185.457	174.521

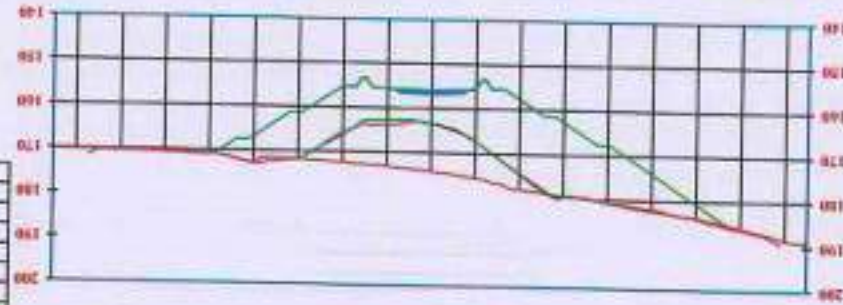


185.457	176.271
185.457	176.271
185.457	176.021
185.457	175.771
185.457	175.521
185.457	175.271
185.457	175.021
185.457	174.771
185.457	174.521

6931-200.00

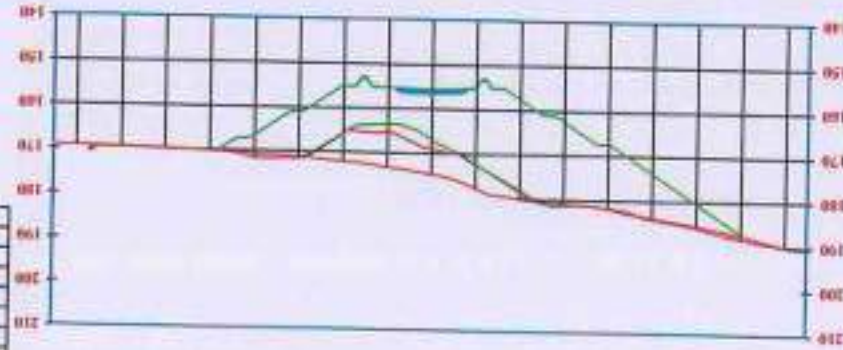
محطة كوستة للسكك الحديدية
الخط الجديد للسكك الحديدية
محطة كوستة للسكك الحديدية

EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
108.440	108.440	-40
105.540	106.649	-30
102.700	103.902	-20
100.000	101.400	-10
97.400	99.400	0
95.000	97.400	10
92.400	95.400	20
90.000	93.400	30
87.400	91.400	40
85.000	89.400	50
82.400	87.400	60
80.000	85.400	70
77.400	83.400	80



STATION	EXISTING ELEVATION	DESIGN ELEVATION	OFFSET
1+100.00	108.440	108.440	-40
1+110.00	105.540	106.649	-30
1+120.00	102.700	103.902	-20
1+130.00	100.000	101.400	-10
1+140.00	97.400	99.400	0
1+150.00	95.000	97.400	10
1+160.00	92.400	95.400	20
1+170.00	90.000	93.400	30
1+180.00	87.400	91.400	40
1+190.00	85.000	89.400	50
1+200.00	82.400	87.400	60
1+210.00	80.000	85.400	70
1+220.00	77.400	83.400	80

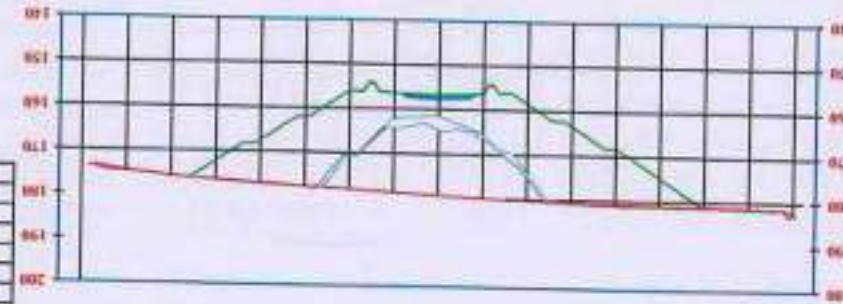
EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
100.000	100.000	-40
97.500	98.500	-30
95.000	96.500	-20
92.500	94.500	-10
90.000	92.500	0
87.500	90.500	10
85.000	88.500	20
82.500	86.500	30
80.000	84.500	40
77.500	82.500	50
75.000	80.500	60
72.500	78.500	70
70.000	76.500	80



STATION	EXISTING ELEVATION	DESIGN ELEVATION	OFFSET
1+200.00	100.000	100.000	-40
1+210.00	97.500	98.500	-30
1+220.00	95.000	96.500	-20
1+230.00	92.500	94.500	-10
1+240.00	90.000	92.500	0
1+250.00	87.500	90.500	10
1+260.00	85.000	88.500	20
1+270.00	82.500	86.500	30
1+280.00	80.000	84.500	40
1+290.00	77.500	82.500	50
1+300.00	75.000	80.500	60
1+310.00	72.500	78.500	70
1+320.00	70.000	76.500	80

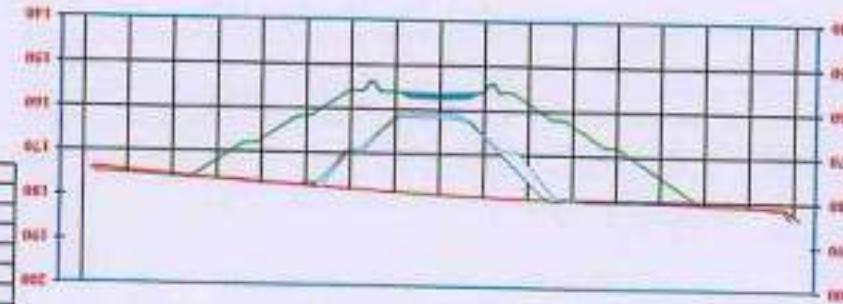
Handwritten signature and stamp at the bottom right of the page.

EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
101.200	101.200	-40
98.000	99.000	-30
95.000	96.000	-20
92.000	93.000	-10
90.000	91.000	0
88.000	89.000	10
86.000	87.000	20
84.000	85.000	30
82.000	83.000	40
80.000	81.000	50
78.000	79.000	60
76.000	77.000	70
74.000	75.000	80



STATION	EXISTING ELEVATION	DESIGN ELEVATION	OFFSET
1+300.00	101.200	101.200	-40
1+310.00	98.000	99.000	-30
1+320.00	95.000	96.000	-20
1+330.00	92.000	93.000	-10
1+340.00	90.000	91.000	0
1+350.00	88.000	89.000	10
1+360.00	86.000	87.000	20
1+370.00	84.000	85.000	30
1+380.00	82.000	83.000	40
1+390.00	80.000	81.000	50
1+400.00	78.000	79.000	60
1+410.00	76.000	77.000	70
1+420.00	74.000	75.000	80

EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
101.700	101.700	-40
98.500	99.500	-30
95.500	96.500	-20
92.500	93.500	-10
90.500	91.500	0
88.500	89.500	10
86.500	87.500	20
84.500	85.500	30
82.500	83.500	40
80.500	81.500	50
78.500	79.500	60
76.500	77.500	70
74.500	75.500	80

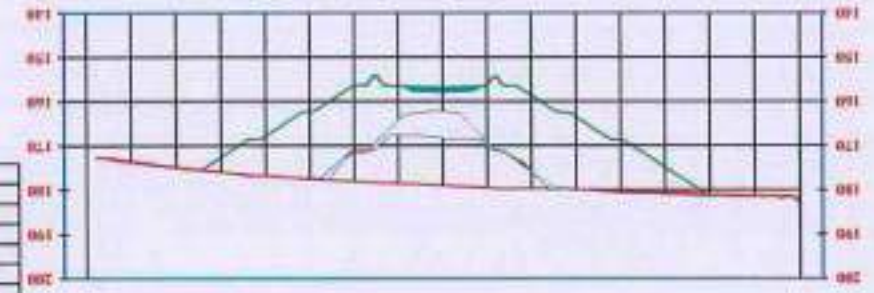


STATION	EXISTING ELEVATION	DESIGN ELEVATION	OFFSET
1+400.00	101.700	101.700	-40
1+410.00	98.500	99.500	-30
1+420.00	95.500	96.500	-20
1+430.00	92.500	93.500	-10
1+440.00	90.500	91.500	0
1+450.00	88.500	89.500	10
1+460.00	86.500	87.500	20
1+470.00	84.500	85.500	30
1+480.00	82.500	83.500	40
1+490.00	80.500	81.500	50
1+500.00	78.500	79.500	60
1+510.00	76.500	77.500	70
1+520.00	74.500	75.500	80

Handwritten signature and stamp at the bottom center of the page.

The Design Office
 Speedway Construction Co.
 10/10/2017

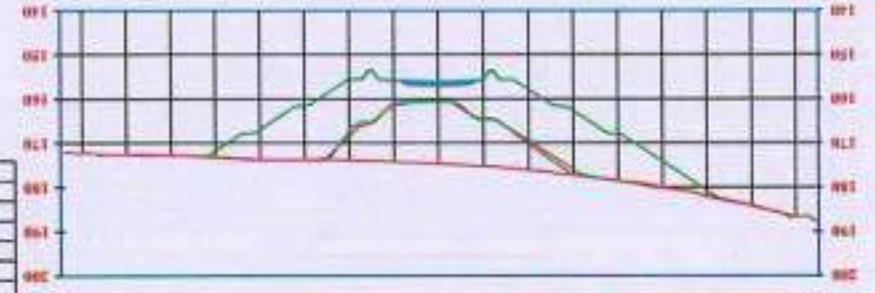
OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-80		181.227
-70		180.945
-60	179.431	180.558
-50	180.449	180.273
-40	180.428	179.252
-30	180.381	179.859
-20	180.382	179.447
-10	180.394	178.979
0	180.394	178.979
10	180.394	178.463
20	180.310	177.473
30	180.239	177.443
40	187.621	176.784
50	172.408	175.935
60		174.765
70		173.423
80		



STATION	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH

693+250.00

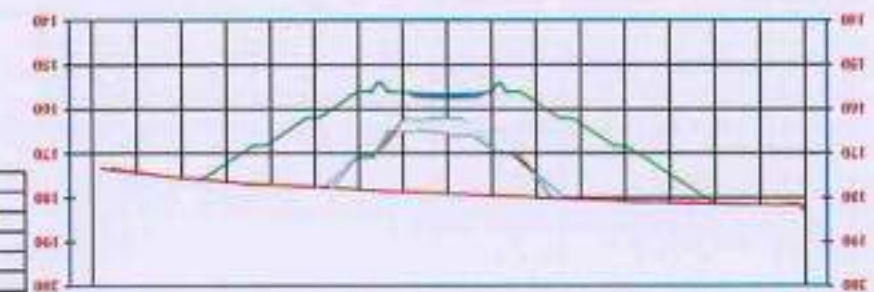
OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-80		180.802
-70		180.228
-60	180.841	181.249
-50	179.474	179.586
-40	187.383	178.400
-30	182.644	177.134
-20	187.314	176.348
-10	185.498	175.138
0	186.127	174.641
10	185.737	174.071
20	186.427	173.298
30	181.475	173.566
40	180.884	173.612
50	171.701	173.123
60		172.863
70		172.481
80		172.127



STATION	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH

693+250.00

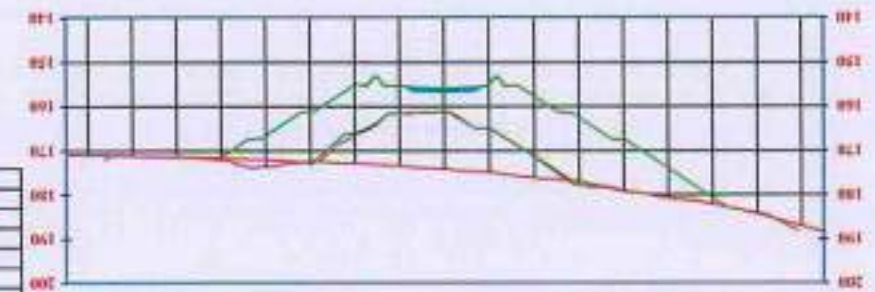
OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-80		181.678
-70		181.513
-60	174.887	181.103
-50	180.805	180.874
-40	180.533	180.425
-30	180.487	179.987
-20	180.480	179.502
-10	180.480	179.100
0	180.480	179.100
10	180.480	178.728
20	180.480	178.190
30	180.480	177.628
40	187.527	177.123
50	172.273	176.258
60		175.508
70		174.261
80		



STATION	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH

693+250.00

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-80		187.170
-70		186.470
-60	180.545	182.171
-50	174.078	180.623
-40	187.287	178.695
-30	182.500	177.203
-20	187.718	176.570
-10	180.498	176.004
0	186.081	174.299
10	180.441	173.808
20	185.531	172.909
30	181.277	172.509
40	186.708	172.282
50	173.095	171.858
60		171.418
70		171.174
80		170.818



STATION	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH
693+250.00	PA	PH

693+250.00

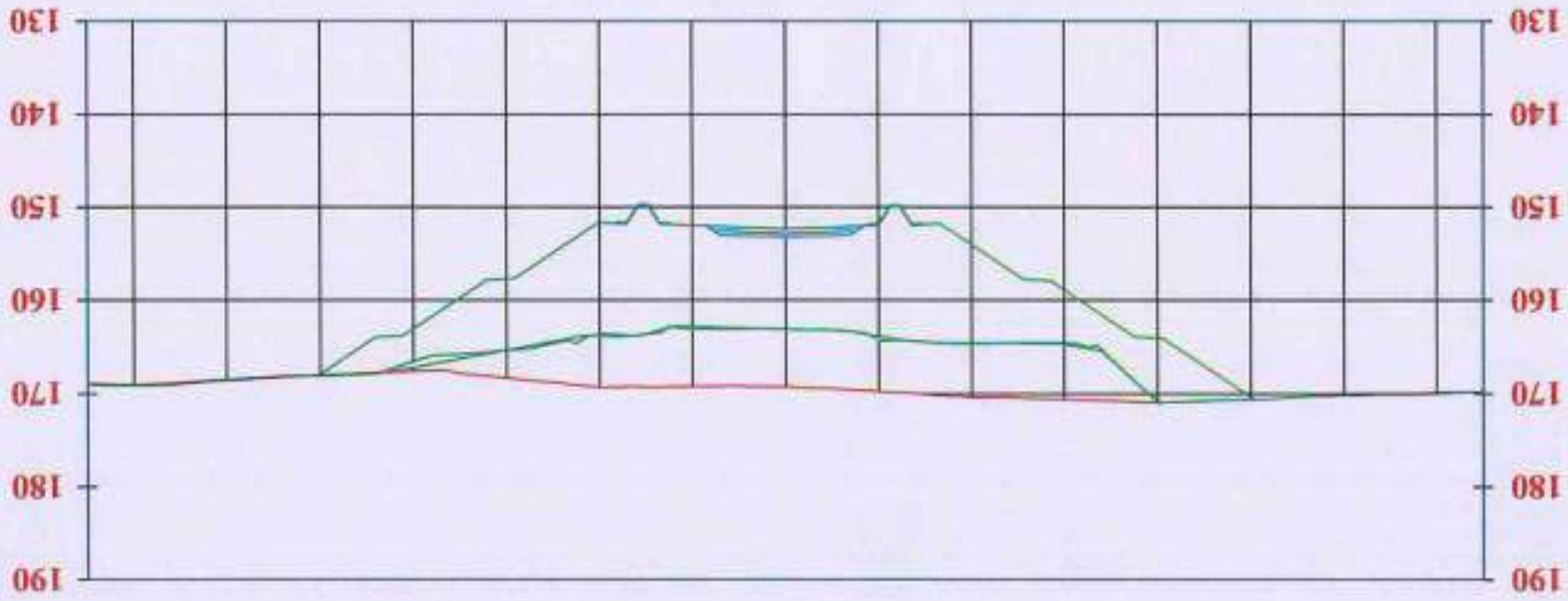
HSR - Blue Line - Sec.05
 10/10/2017

10/10/2017
 10/10/2017

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 HSR - Blue Line - Sec.05

HSR - Blue Line - Sec.05
 HSR - Blue Line - Sec.05
 HSR - Blue Line - Sec.05

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-70	169.902	169.902
-60	170.275	170.275
-50	170.675	170.675
-40	170.972	170.972
-30	170.641	170.641
-20	170.431	170.431
-10	169.808	169.808
0	169.321	169.321
10	169.282	169.282
20	169.372	169.372
30	168.371	168.371
40	167.630	167.630
50	168.061	168.061
60	168.540	168.540
70	169.063	169.063



692+860.00

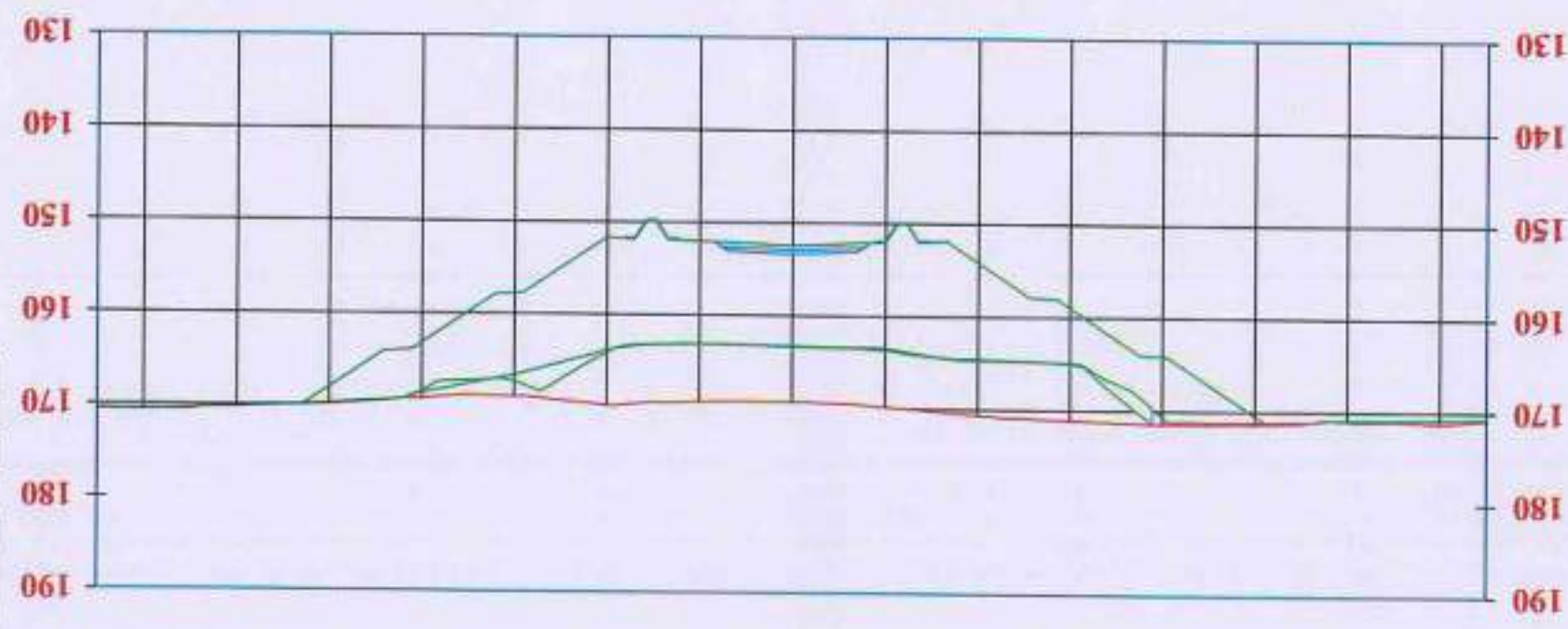
Total Volume at Station 692+860.00	Cut Area	11.93
	Fill Area	0.00
	Cut Vol	181.31
	Fill Vol	0.00
	Cum. Cut Vol	1987.90
	Cum. Fill Vol	0.00
	Net Vol	1987.90

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 HSR - Blue Line - Sec.05
 HSR - Blue Line - Sec.05

HSR - Blue Line - Sec.05
 10/11/2017
 10:11



OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-70	170.526	171.203
-60	170.526	171.026
-50	170.526	171.409
-40	164.235	171.464
-30	159.013	171.157
-20	154.166	170.654
-10	151.848	169.809
0	152.489	169.355
10	152.089	169.393
20	151.779	169.817
30	157.825	168.946
40	163.206	169.216
50	168.053	169.773
60		170.214
70		170.533



Total Volume at Station 692+870.00	Cut Area	13.21	Fill Area	0.00	Cut Vol	125.70	Fill Vol	0.00	Cum Cut Vol	2113.60	Cum Fill Vol	0.00	Net Vol	2113.60
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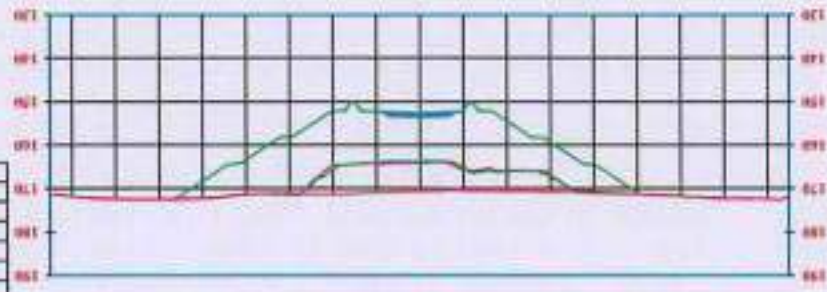
692+870.00

10/11/2017
 10:11
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مجلس البلديات
HSA - Blue Line Sec.05
البلدية العامة

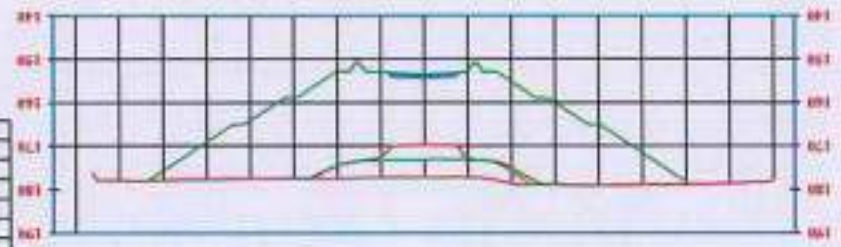
Engineering Consultant
Siddiqui Consulting
[Signature]

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	172.287	172.287
10	172.011	172.011
20	171.289	171.289
30	170.718	171.190
40	169.427	170.511
50	169.345	170.097
60	168.888	170.472
70	167.840	170.484
80	167.801	170.465
90	167.380	170.773
100	167.971	171.284
110	168.817	171.184
120	168.798	171.208
130	168.248	171.209
140		171.208
150		171.464



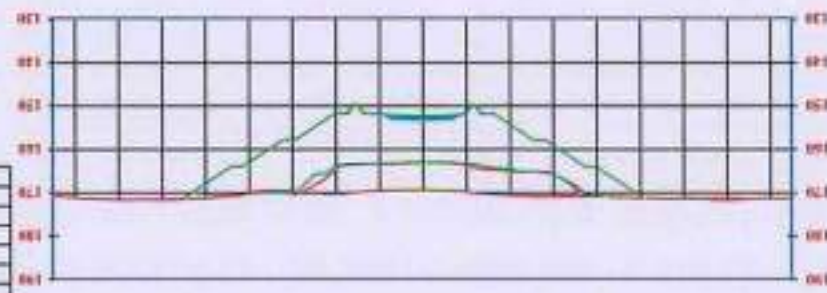
STATION	PG	PG
692	PG	PG
693	PG	PG
694	PG	PG
695	PG	PG
696	PG	PG
697	PG	PG
698	PG	PG
699	PG	PG
700	PG	PG

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	177.891	177.891
10	178.413	178.413
20	178.110	178.400
30	177.408	178.794
40	168.376	178.620
50	169.973	178.613
60	168.136	178.503
70	167.808	177.123
80	165.449	176.287
90	163.899	175.018
100	162.730	177.280
110	160.780	177.273
120	164.166	177.393
130	160.013	177.133
140	175.680	177.810
150		177.808



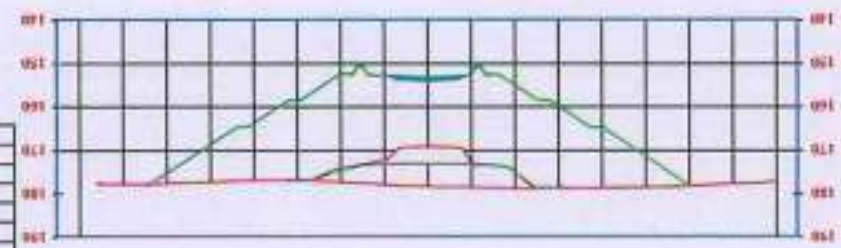
STATION	PG	PG
692	PG	PG
693	PG	PG
694	PG	PG
695	PG	PG
696	PG	PG
697	PG	PG
698	PG	PG
699	PG	PG
700	PG	PG

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	171.348	171.348
10	171.279	171.279
20	170.689	171.289
30	170.622	171.279
40	169.831	170.837
50	169.109	170.996
60	168.262	170.849
70	167.944	169.818
80	167.285	169.483
90	167.180	169.884
100	167.875	170.221
110	167.021	170.364
120	166.382	170.242
130	168.649	171.897
140		171.545
150		171.879



STATION	PG	PG
693	PG	PG
694	PG	PG
695	PG	PG
696	PG	PG
697	PG	PG
698	PG	PG
699	PG	PG
700	PG	PG

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	177.303	177.303
10	178.057	178.198
20	177.380	178.585
30	168.099	178.179
40	169.877	178.381
50	168.039	178.893
60	167.712	178.644
70	165.243	178.298
80	162.553	177.908
90	162.643	177.468
100	160.489	178.987
110	166.079	178.970
120	168.917	177.485
130	178.584	177.720
140		177.779

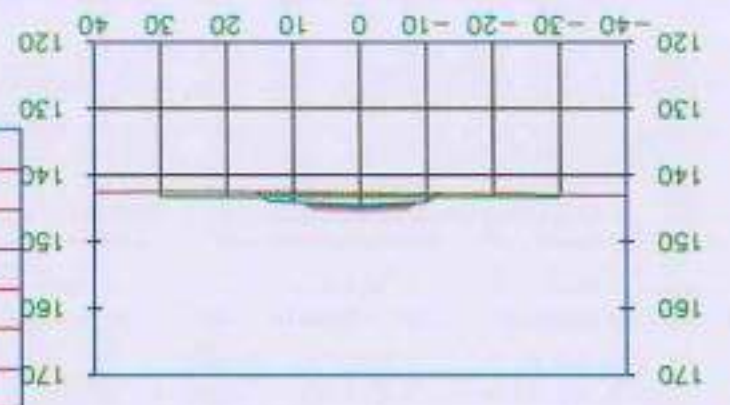


STATION	PG	PG
693	PG	PG
694	PG	PG
695	PG	PG
696	PG	PG
697	PG	PG
698	PG	PG
699	PG	PG
700	PG	PG

مجلس البلديات
HSA - Blue Line Sec.05
البلدية العامة

Engineering & Surveying
 10/10/2019

HSR - Blue Line - Sec.03
 10/10/2019



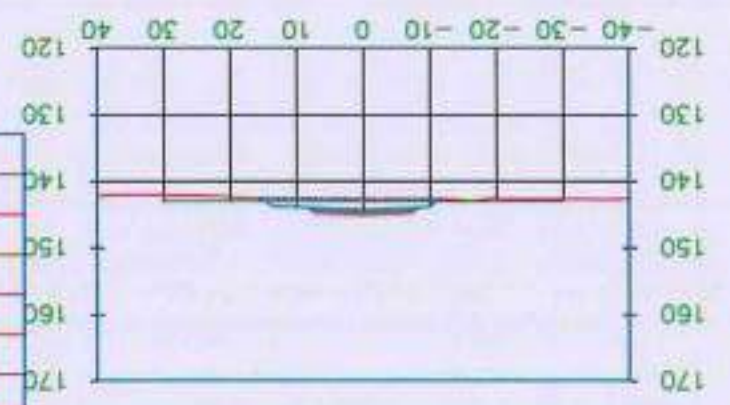
Net Vol	-328.67
Cum Fill Vol	328.67
Cum Cut Vol	0.00
Fill Vol	136.05
Cut Vol	0.00
Fill Area	15.01
Cut Area	0.00
Total Volume at Station 692+030.00	

692+030.00



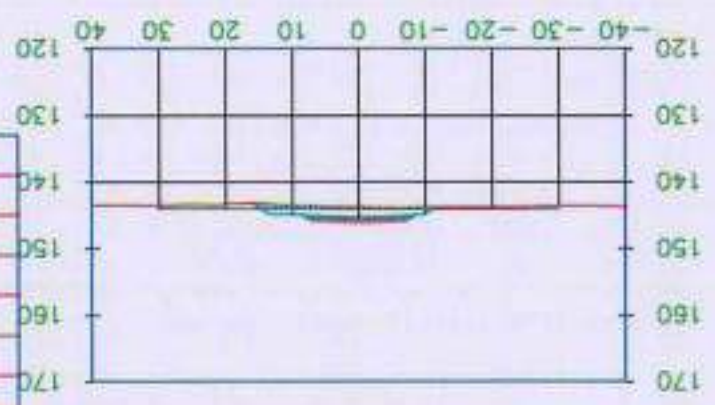
Net Vol	-1734.64
Cum Fill Vol	1734.64
Cum Cut Vol	0.00
Fill Vol	98.44
Cut Vol	0.00
Fill Area	9.57
Cut Area	0.00
Total Volume at Station 692+140.00	

692+140.00



Net Vol	-192.62
Cum Fill Vol	192.62
Cum Cut Vol	0.00
Fill Vol	93.14
Cut Vol	0.00
Fill Area	12.20
Cut Area	0.00
Total Volume at Station 692+020.00	

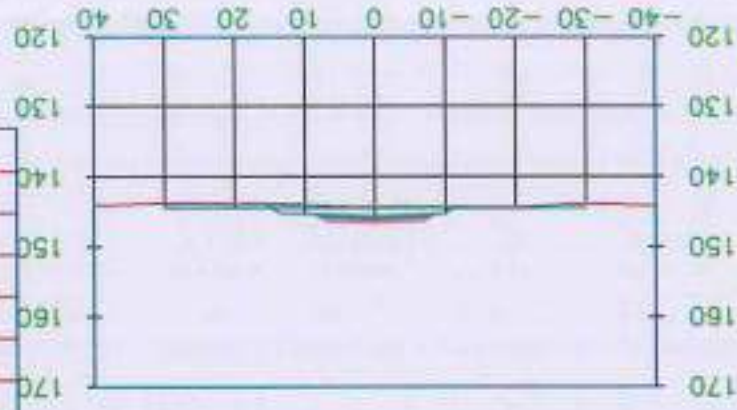
692+020.00



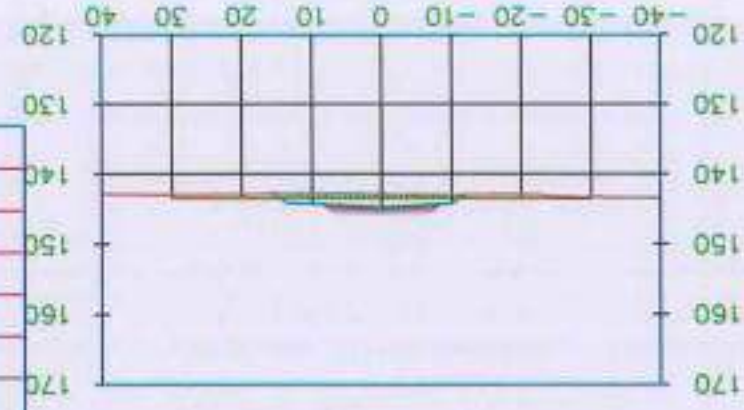
Net Vol	-1636.20
Cum Fill Vol	1636.20
Cum Cut Vol	0.00
Fill Vol	100.73
Cut Vol	0.00
Fill Area	10.12
Cut Area	0.00
Total Volume at Station 692+130.00	

692+130.00

10/10/2019
 10/10/2019
 10/10/2019

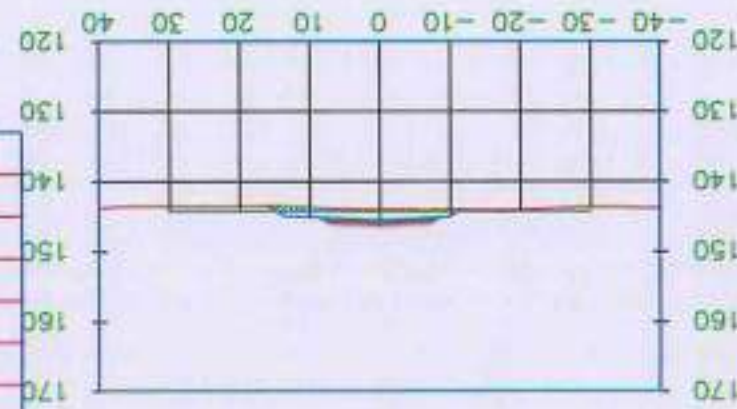


Total Volume at Station 692+160.00	
Cut Area	0.00
Fill Area	7.48
Cut Vol	0.00
Fill Vol	80.43
Cum Cut Vol	0.00
Cum Fill Vol	1905.94
Net Vol	-1905.94

 $6992 + 160.00$ 

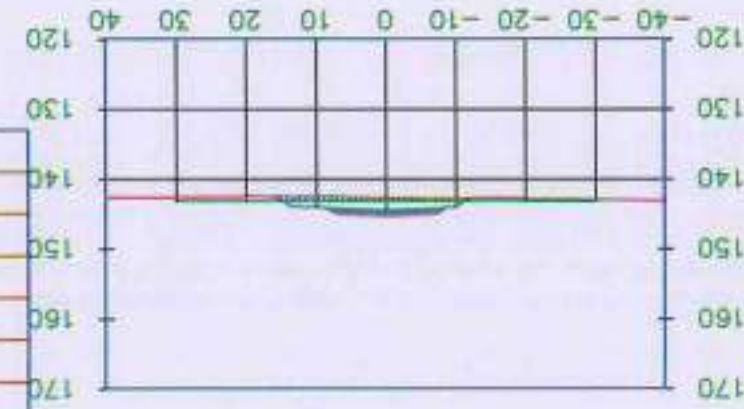
Total Volume at Station 692+050.00	
Cut Area	0.00
Fill Area	15.77
Cut Vol	0.00
Fill Vol	159.45
Cum Cut Vol	0.00
Cum Fill Vol	643.80
Net Vol	-643.80

692+050.00



Total Volume at Station 692+150.00	
Cut Area	0.00
Fill Area	8.61
Cut Vol	0.00
Fill Vol	90.88
Cum Cut Vol	0.00
Cum Fill Vol	1825.52
Net Vol	-1825.52

692+150.00

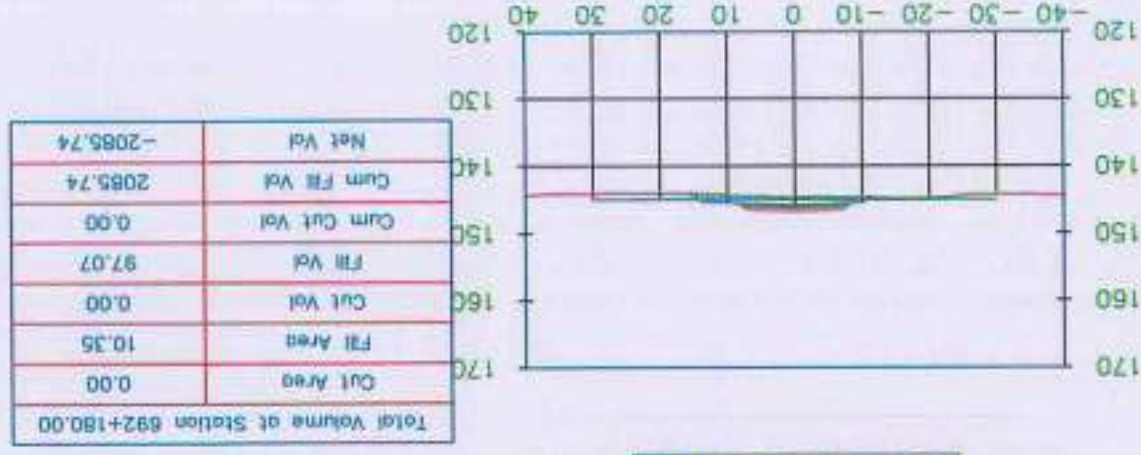


Total Volume at Station 692+0=0.00	
Cut Area	0.00
Fill Area	18.12
Cut Vol	0.00
Fill Vol	155.68
Curr Cut Vol	0.00
Curr Fill Vol	484.35
Net Vol	-484.35

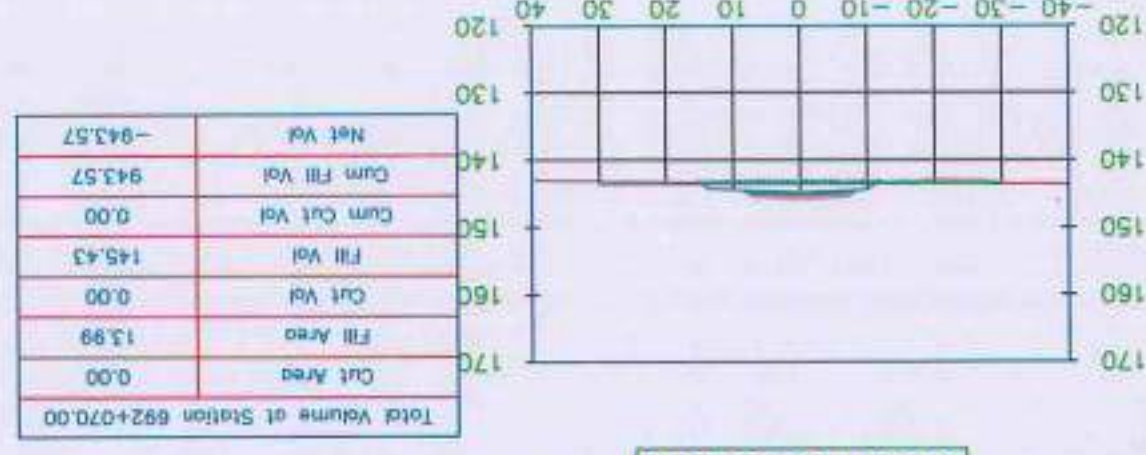
692+040.00

CL/LDL

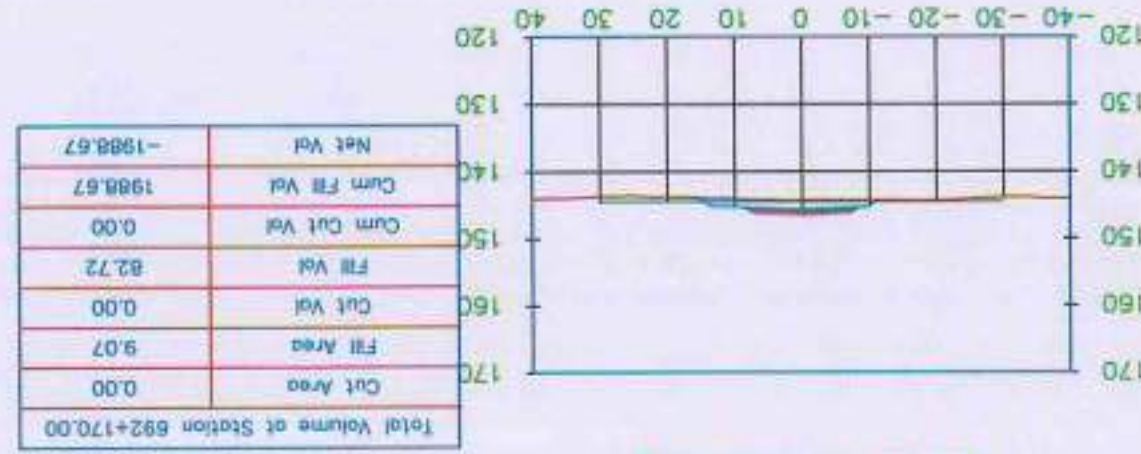
محطة 692+180.00
 HSR - Blue Line - Sec.05
 محطة 692+180.00



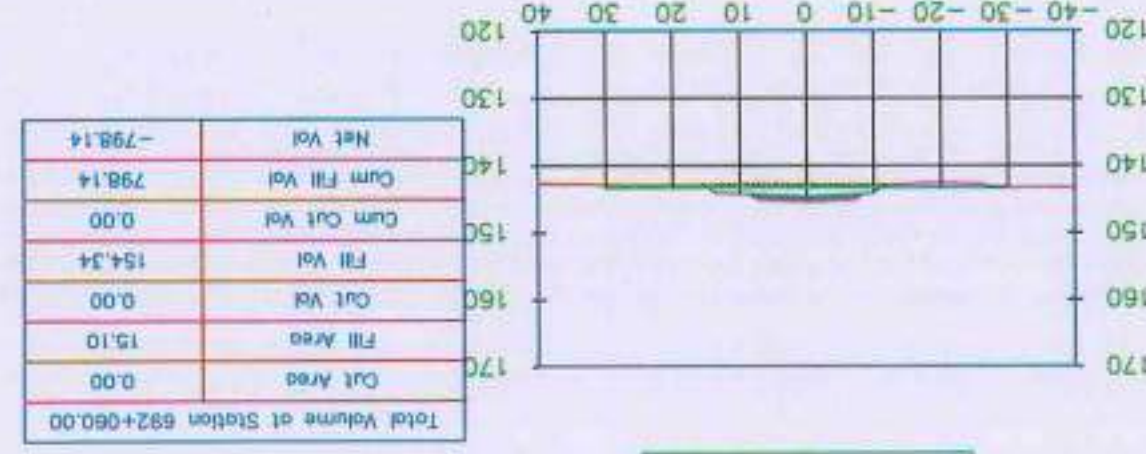
692+180.00



692+070.00



692+170.00



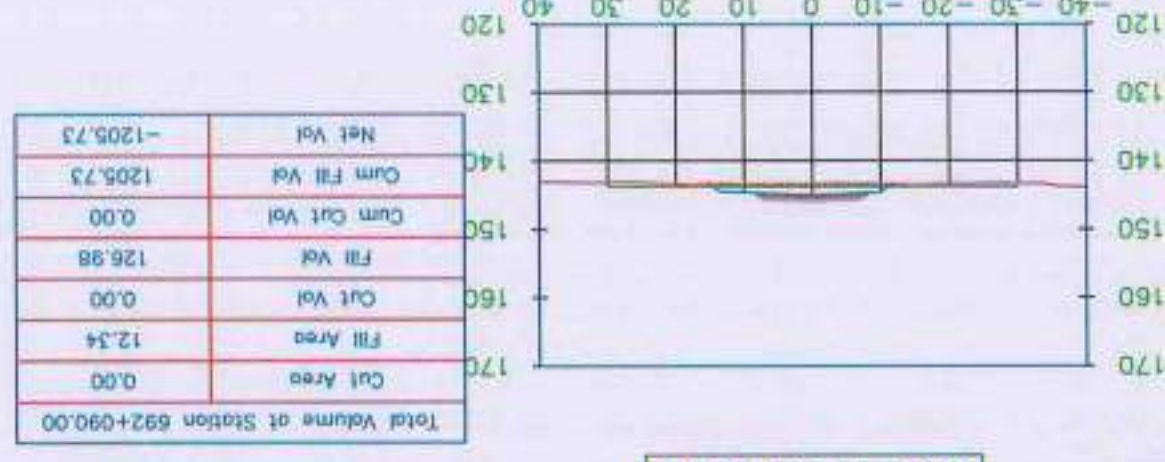
692+060.00

محطة 692+060.00
 HSR - Blue Line - Sec.05
 محطة 692+060.00

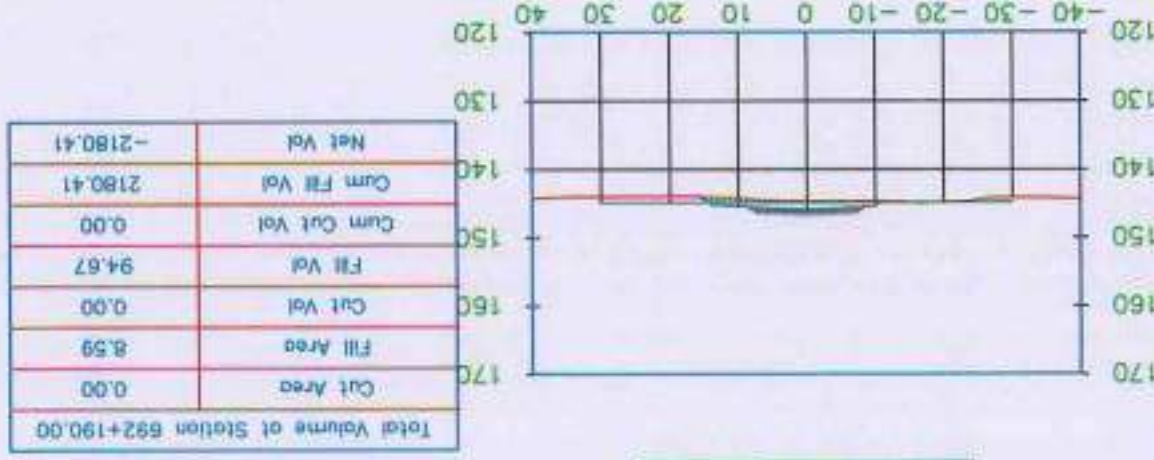
MSR - Blue Line - Sec.05
 مخطط المسار الأزرق - القسم 05



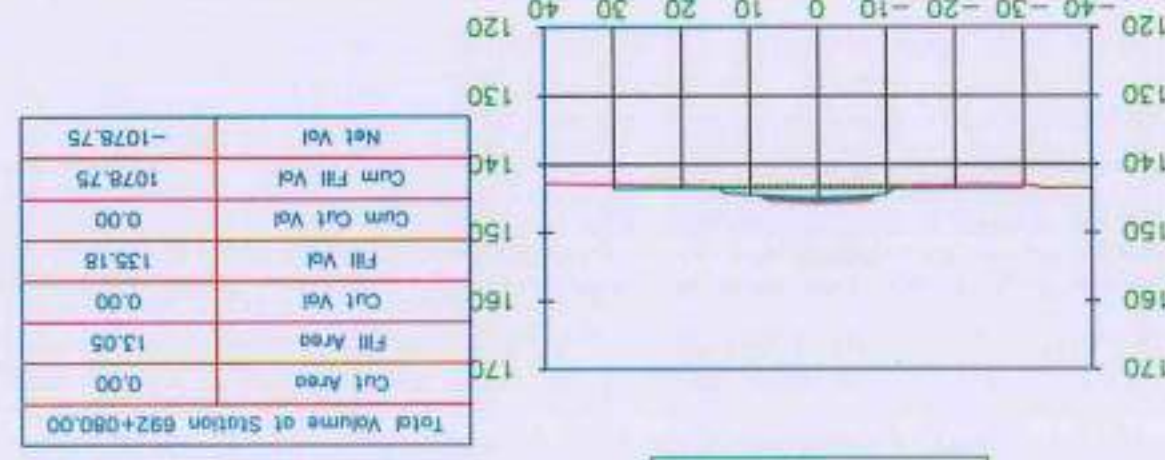
692+200.00



692+090.00



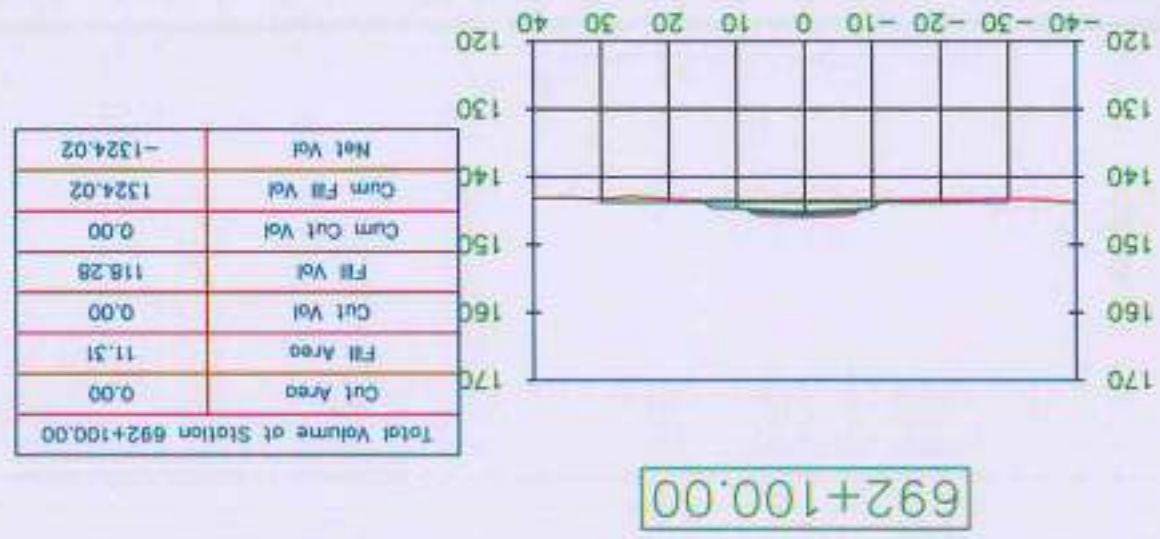
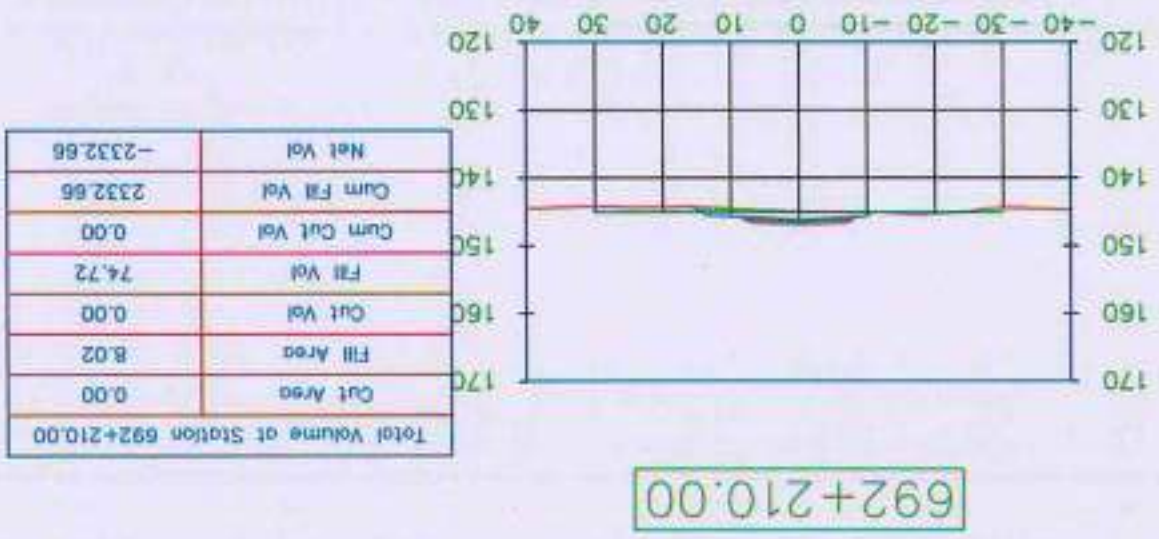
692+190.00



692+080.00

مخطط المسار الأزرق - القسم 05
 مخطط المسار الأزرق - القسم 05
 10/10/2017

مملكة البحرين
 وزارة النقل
 HSR - Blue Line - Sec. 03
 مشروع الخط السريع
 البحرين - الرياض

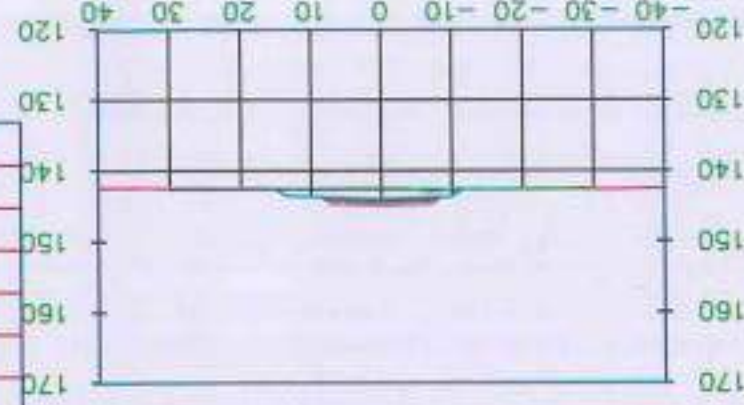


مملكة البحرين
 وزارة النقل
 HSR - Blue Line - Sec. 03
 مشروع الخط السريع
 البحرين - الرياض

HSR - Blue Line - Sec.05
 قطار الارتفاعات العالية
 الخط الأزرق - القسم 05

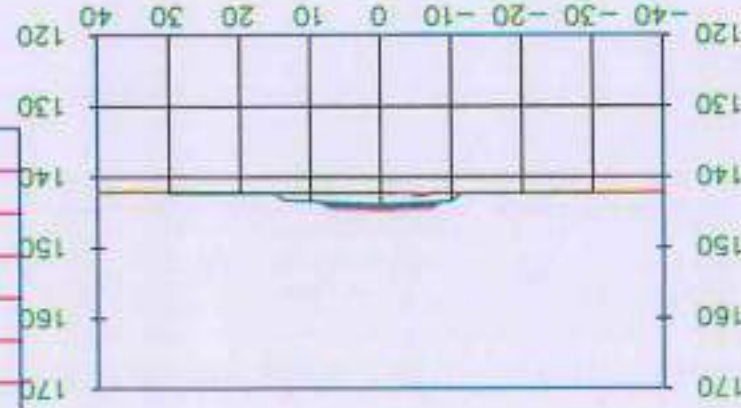


Total Volume at Station 691+990.00	
Cut Area	0.00
Fill Area	2.28
Cut Vol	0.00
Fill Vol	23.81
Cum Cut Vol	0.00
Cum Fill Vol	36.20
Net Vol	-36.20



691+990.00

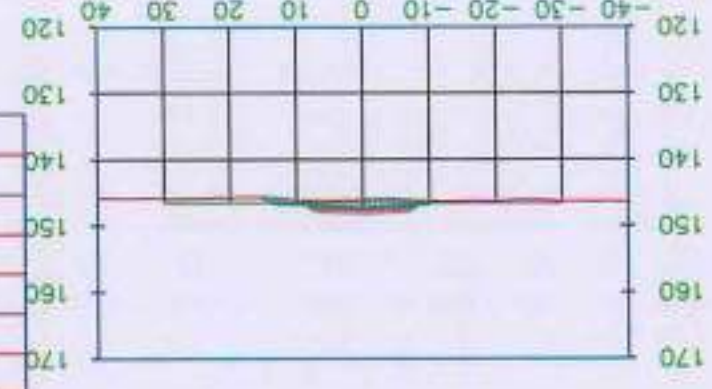
Total Volume at Station 691+980.00	
Cut Area	0.00
Fill Area	2.48
Cut Vol	0.00
Fill Vol	12.39
Cum Cut Vol	0.00
Cum Fill Vol	12.39
Net Vol	-12.39



691+980.00

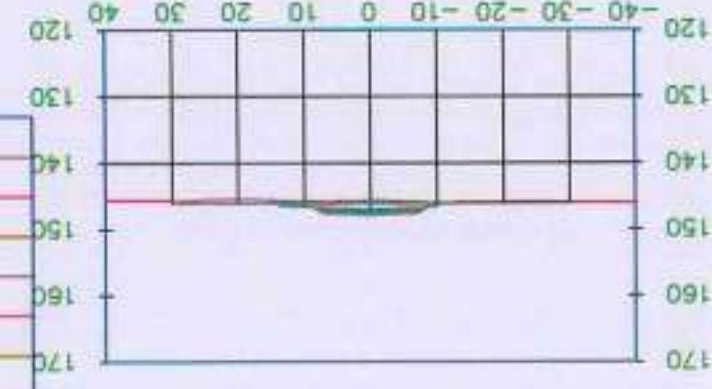


پروجیکٹ: حیدرآباد - ممبئی
 ڈسٹرکٹ: حیدرآباد
 ڈیپارٹمنٹ: پبلک ورکس
 ڈیٹ: 15/07/2015



Net Vol	-3439.30
Cum Fill Vol	3439.30
Cum Cut Vol	0.00
Fill Vol	103.67
Cut Vol	0.00
Fill Area	11.73
Cut Area	0.00
Total Volume at Station 692+320.00	

692+320.00

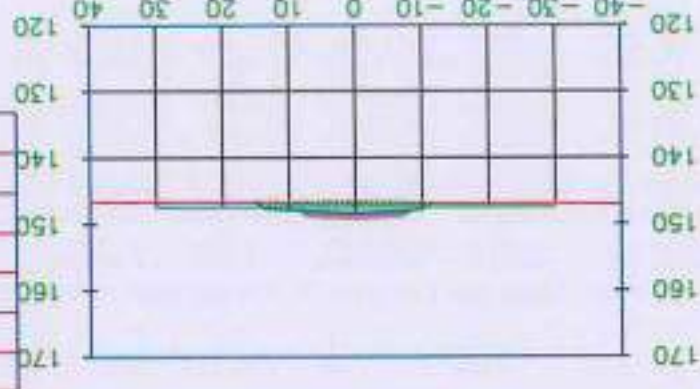


Net Vol	-3335.63
Cum Fill Vol	3335.63
Cum Cut Vol	0.00
Fill Vol	80.23
Cut Vol	0.00
Fill Area	9.00
Cut Area	0.00
Total Volume at Station 692+310.00	

692+310.00

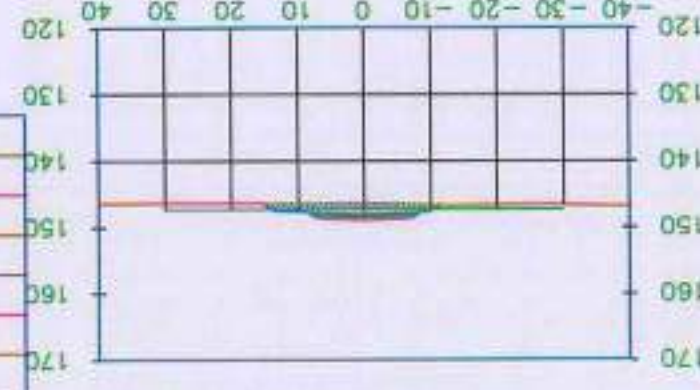
پروجیکٹ: حیدرآباد - ممبئی
 ڈسٹرکٹ: حیدرآباد
 ڈیپارٹمنٹ: پبلک ورکس
 ڈیٹ: 15/07/2015

پروجیکٹ: حیدرآباد - ممبئی
 ڈسٹرکٹ: حیدرآباد
 ڈیپارٹمنٹ: پبلک ورکس
 ڈیٹ: 15/07/2015



Net Vol	-5378.07
Cum Fill Vol	5378.07
Cum Cut Vol	0.00
Fill Vol	204.92
Cut Vol	0.00
Fill Area	18.95
Cut Area	0.00
Total Volume at Station 692+430.00	

692+430.00



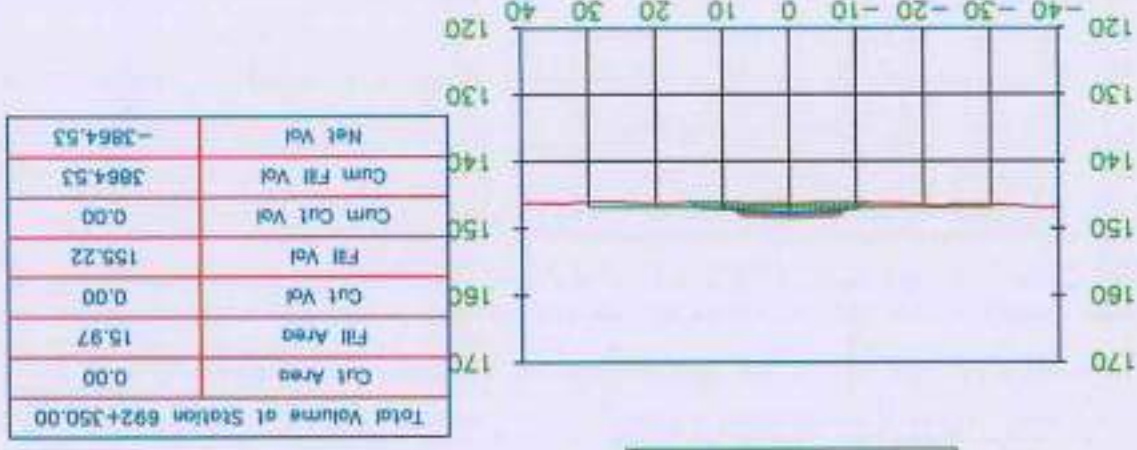
Net Vol	-5173.16
Cum Fill Vol	5173.16
Cum Cut Vol	0.00
Fill Vol	215.06
Cut Vol	0.00
Fill Area	22.03
Cut Area	0.00
Total Volume at Station 692+420.00	

692+420.00

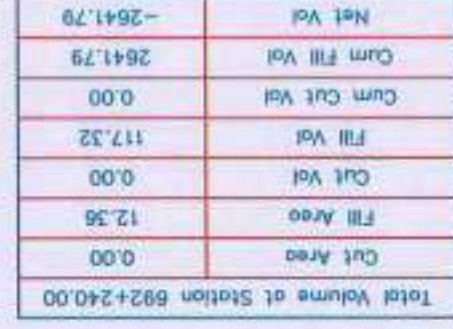
HSR - Blue Line - Sec.05
 مخطط خطوط السكك الحديدية الخط الأزرق - القسم 05

مخطط خطوط السكك الحديدية الخط الأزرق - القسم 05

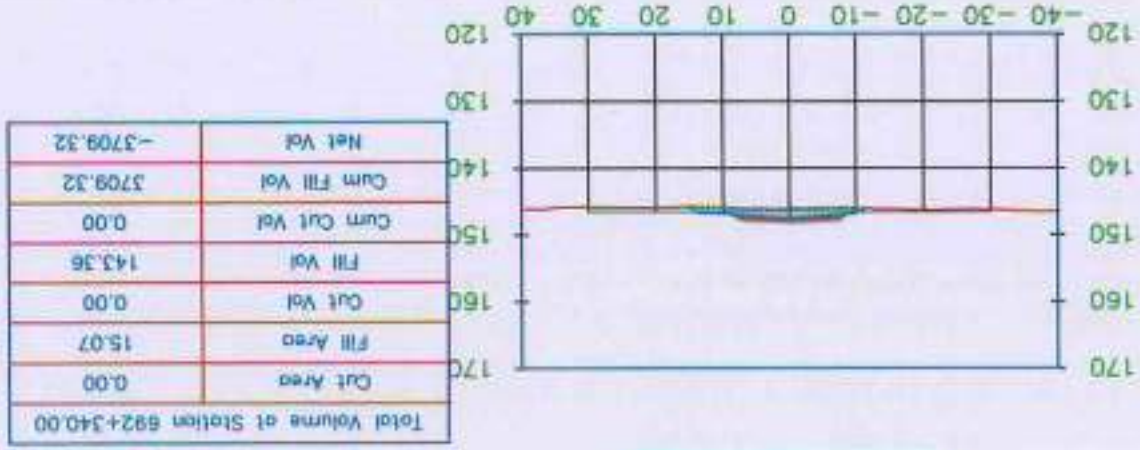
مخطط خطوط السكك الحديدية الخط الأزرق - القسم 05



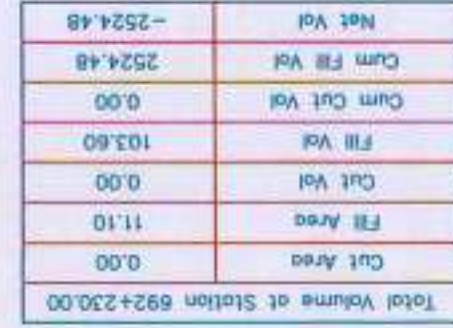
692+350.00



692+240.00



692+340.00



692+230.00

محكمة العدل العليا
السلطنة
11/10/10

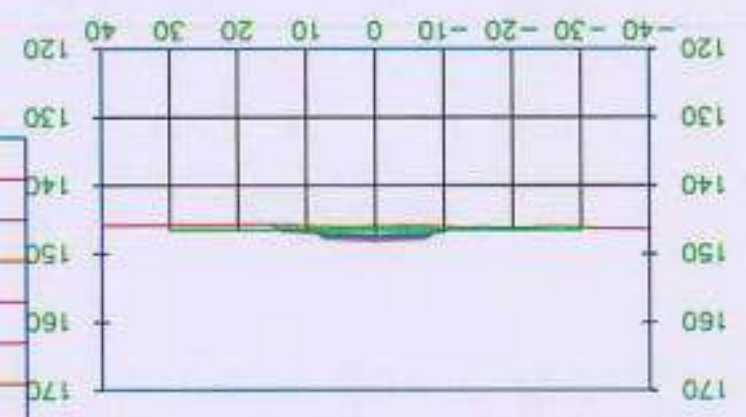
محكمة العدل العليا
السلطنة
11/10/10

محكمة العدل العليا
السلطنة
11/10/10



Total Volume at Station 692+220.00	Cut Area	0.00
	Fill Area	9.62
	Cut Vol	0.00
	Fill Vol	88.21
	Cum Cut Vol	0.00
	Cum Fill Vol	2420.87
	Net Vol	-2420.87

692+220.00



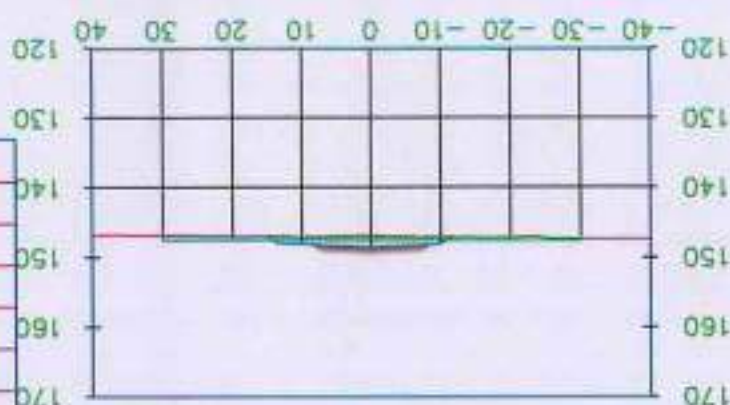
Total Volume at Station 692+330.00	Cut Area	0.00
	Fill Area	13.60
	Cut Vol	0.00
	Fill Vol	126.65
	Cum Cut Vol	0.00
	Cum Fill Vol	3565.95
	Net Vol	-3565.95

692+330.00

HSR - Blue Line - Sec.05
 10/10/2013
 11/10/2013



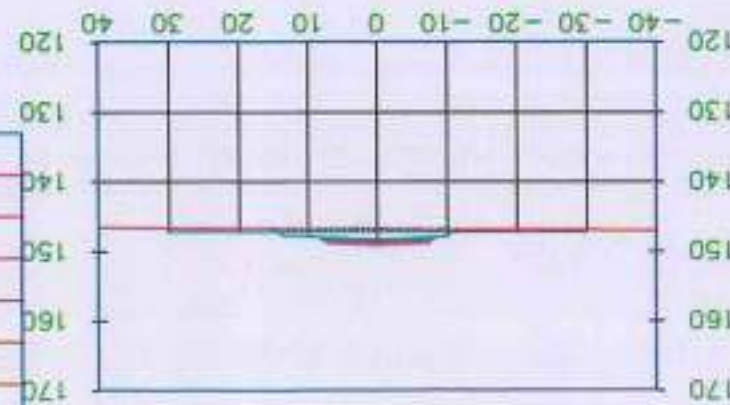
Total Volume at Station 692+450.00	
Cut Area	0.00
Fill Area	14.19
Cut Vol	0.00
Fill Vol	146.20
Cum Cut Vol	0.00
Cum Fill Vol	5694.27
Net Vol	-5694.27



692+450.00

10/10/2013
 11/10/2013
 12/10/2013

Total Volume at Station 692+440.00	
Cut Area	0.00
Fill Area	15.05
Cut Vol	0.00
Fill Vol	170.00
Cum Cut Vol	0.00
Cum Fill Vol	5548.07
Net Vol	-5548.07

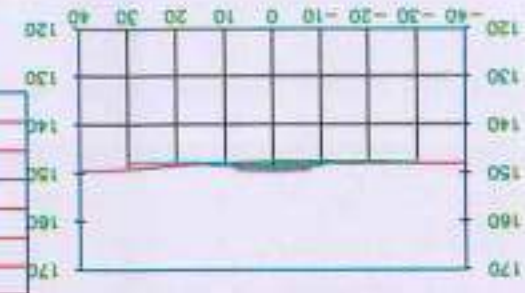


692+440.00

HSR Blue Line - See-05
 مخطط خطوط السكك الحديدية
 مخطط خطوط السكك الحديدية



Total Volume at Station 692+480.00	Cut Area	0.00
	Fill Area	0.00
	Cut Vol	0.00
	Fill Vol	0.00
	Cum Cut Vol	0.00
	Cum Fill Vol	6011.56
	Net Vol	-6011.56



692+480.00

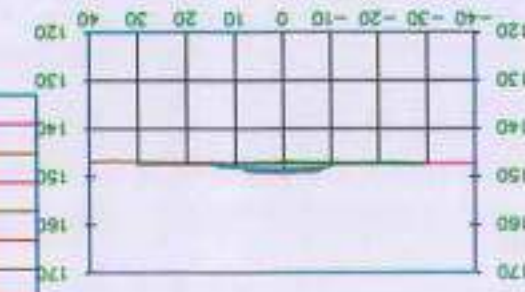
92
 مخطط خطوط السكك الحديدية
 مخطط خطوط السكك الحديدية
 مخطط خطوط السكك الحديدية

Total Volume at Station 692+470.00	Cut Area	0.00
	Fill Area	0.12
	Cut Vol	0.00
	Fill Vol	107.29
	Cum Cut Vol	0.00
	Cum Fill Vol	5924.20
	Net Vol	-5924.20



692+470.00

Total Volume at Station 692+460.00	Cut Area	0.00
	Fill Area	12.23
	Cut Vol	0.00
	Fill Vol	132.64
	Cum Cut Vol	0.00
	Cum Fill Vol	5936.91
	Net Vol	-5936.91

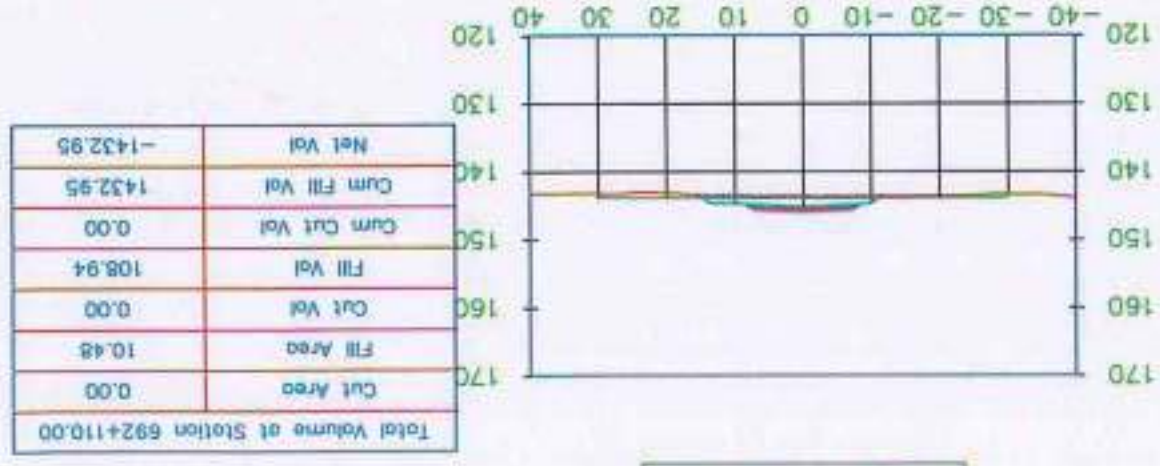


692+460.00

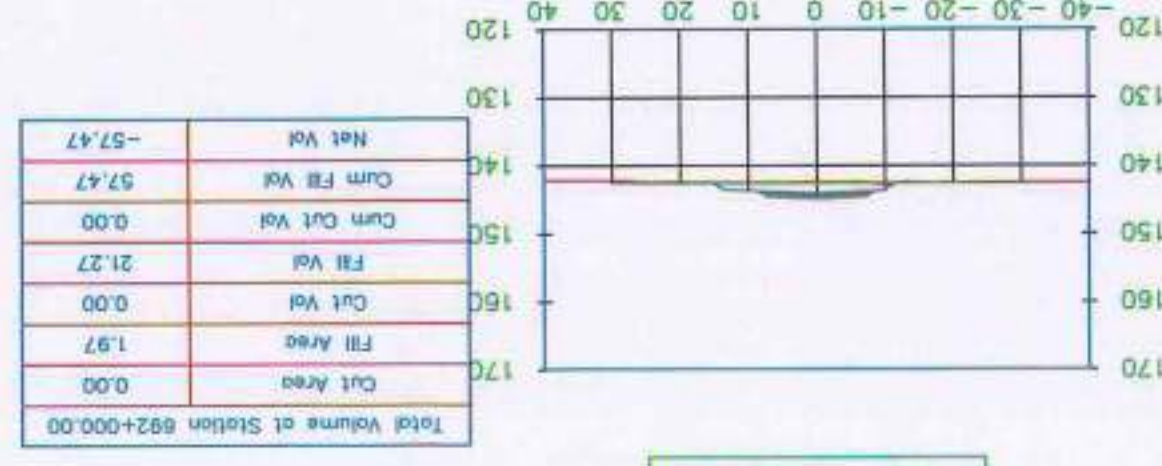
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$$692 + 120.00$$


692+010.00

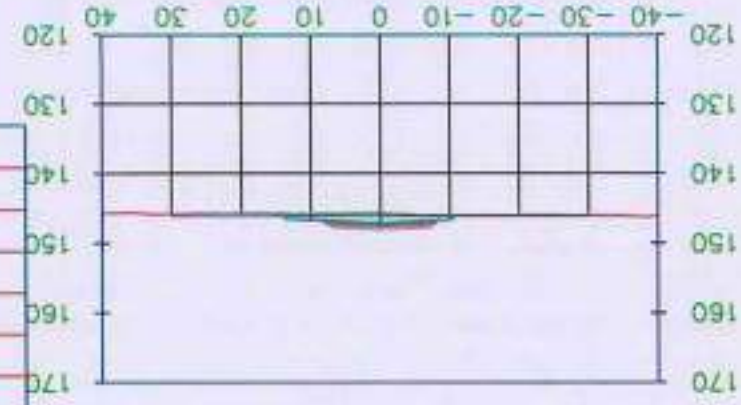


$$692 + 110.00$$


$$6992 + 000.00$$

Butterfly

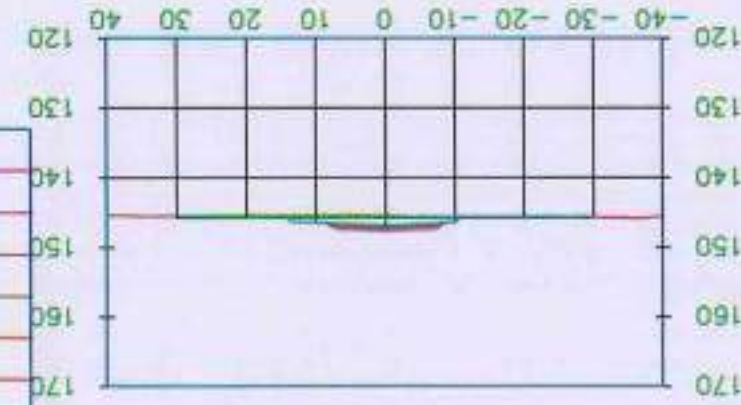
Handwritten signature and date: 10/10/10



Total Volume at Station 692+300.00	
Cut Area	0.00
Fill Area	7.04
Cut Vol	0.00
Fill Vol	77.86
Curr Cut Vol	0.00
Cum Fill Vol	3255.40
Net Vol	-3255.40

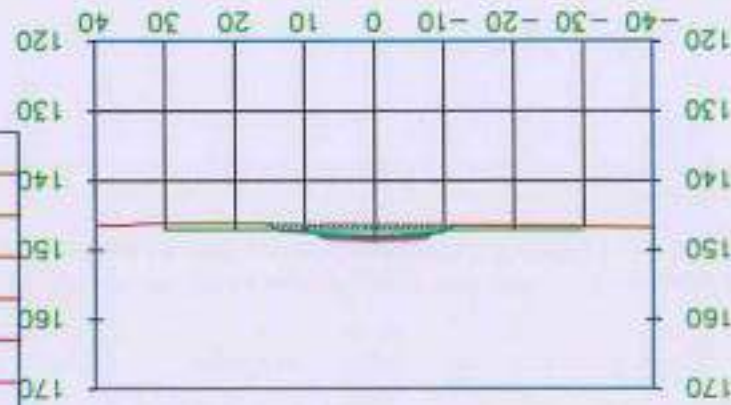
$$692 + 300.00$$


Total Volume at Station 692+410.00	
Cut Area	0.00
Fill Area	20.98
Cut Vol	0.00
Fill Vol	205.79
Cum Cut Vol	0.00
Cum Fill Vol	4958.09
Net Vol	-4958.09

$$692 + 410.00$$


Total Volume at Station 692+290.00	
Cut Area	0.00
Fill Area	8.53
Cut Vol	0.00
Fill Vol	92.44
Cum Cut Vol	0.00
Cum Fill Vol	3177.53
Net Vol	-3177.53

692+290.00

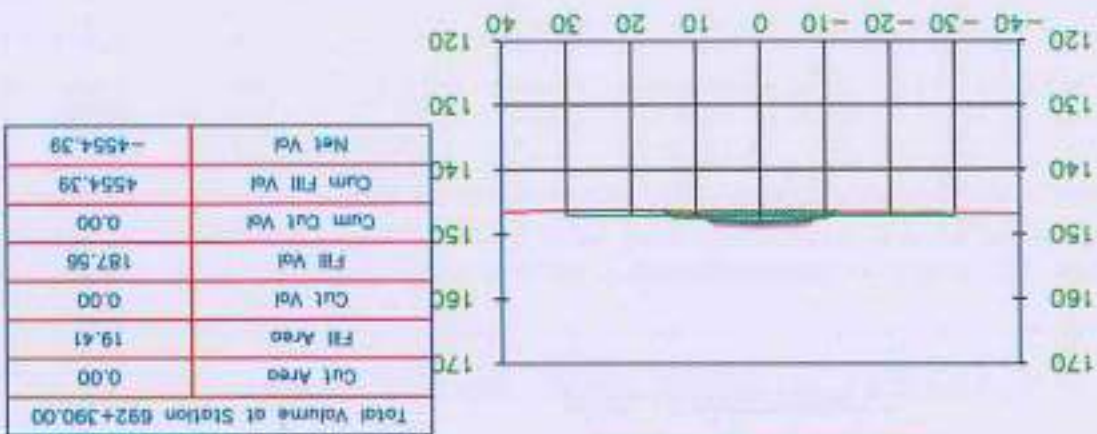


Total Volume at Station 892+400.00	
Cut Area	0.00
Fill Area	20.18
Cut Vol	0.00
Fill Vol	197.91
Curr Cut Vol	0.00
Curr Fill Vol	4752.30
Net Vol	-4752.30

692+400.00

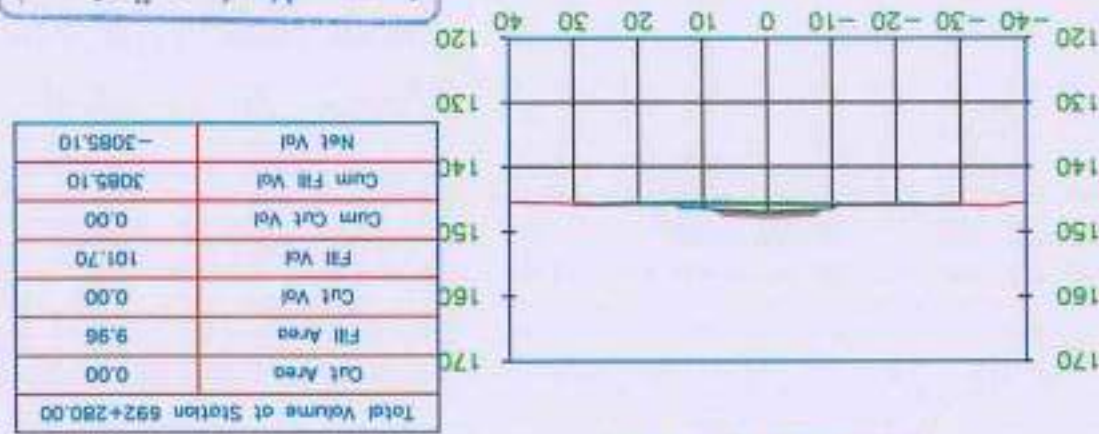


محطة كوسيلة للهندسة المدنية
HSR - Blue Line - Sec.05

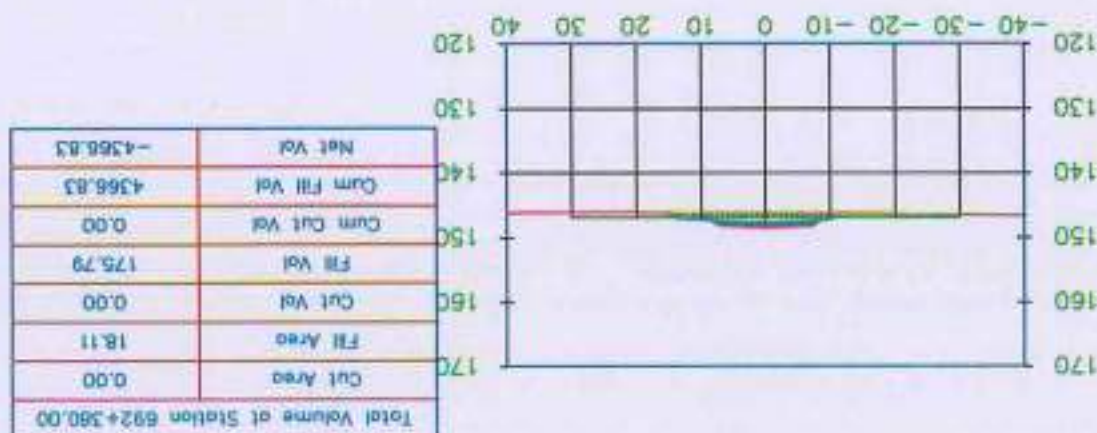


692+390.00

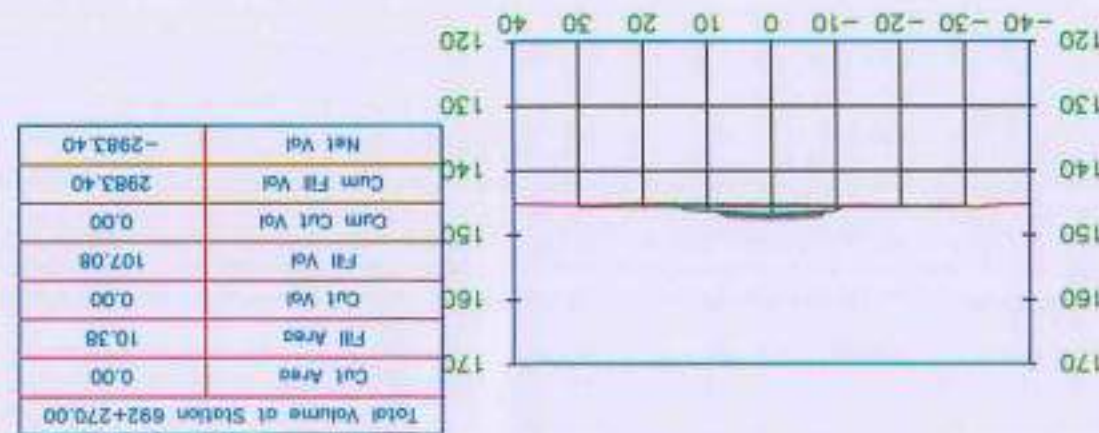
محطة كوسيلة للهندسة المدنية
HSR - Blue Line - Sec.05



692+280.00



692+380.00



692+270.00

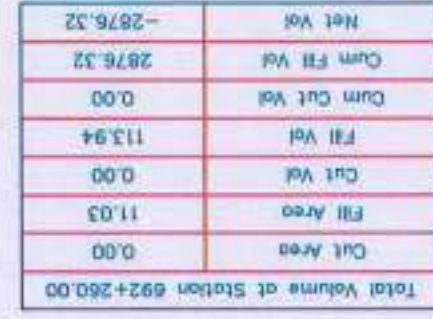
HSR - Blue Line - Sec. 05
 حیدرآباد - ممبئی ریلوے لائن
 حیدرآباد - ممبئی ریلوے لائن

HSR - Blue Line - Sec. 05
 حیدرآباد - ممبئی ریلوے لائن
 حیدرآباد - ممبئی ریلوے لائن

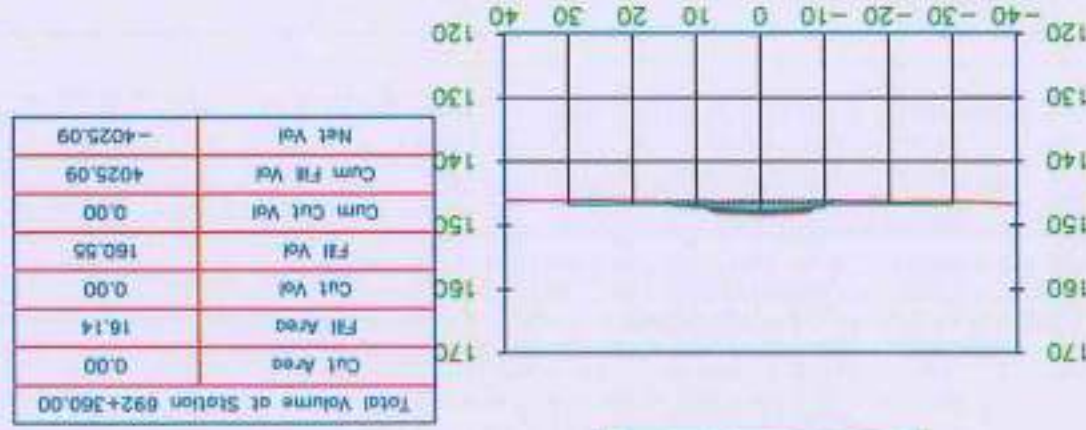
HSR - Blue Line - Sec. 05
 حیدرآباد - ممبئی ریلوے لائن
 حیدرآباد - ممبئی ریلوے لائن



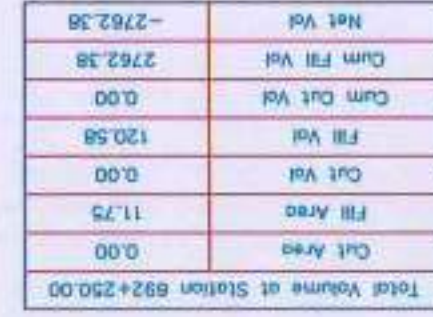
692+370.00



692+260.00



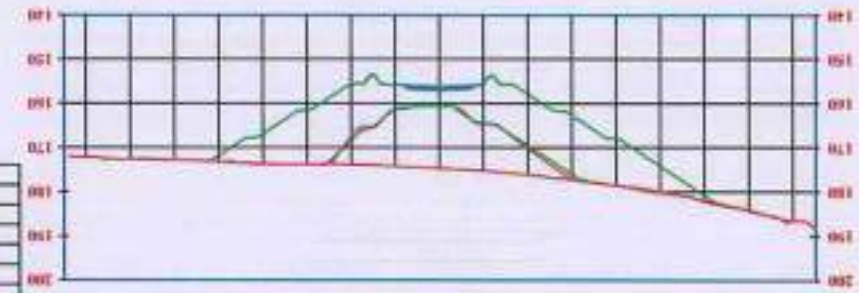
692+360.00



692+250.00

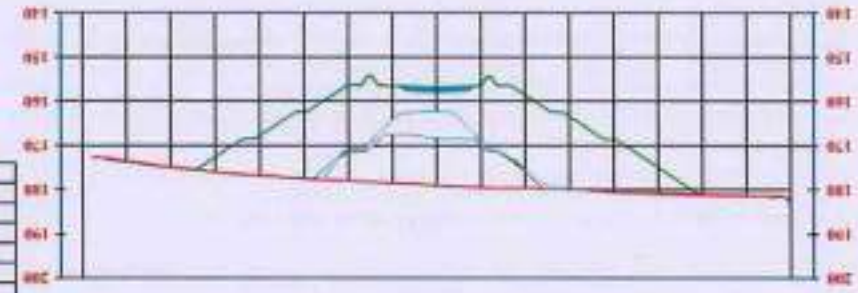
Approved
for Construction

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-80		186.002
-70		184.225
-60	180.841	181.840
-50	174.174	179.806
-40	167.883	178.400
-30	162.601	177.124
-20	157.814	176.005
-10	153.496	175.120
0	150.127	174.611
10	146.737	174.071
20	144.437	173.739
30	141.479	173.566
40	138.864	173.613
50	171.701	173.120
60		172.662
70		172.481
80		172.127



0+00 to 0+100

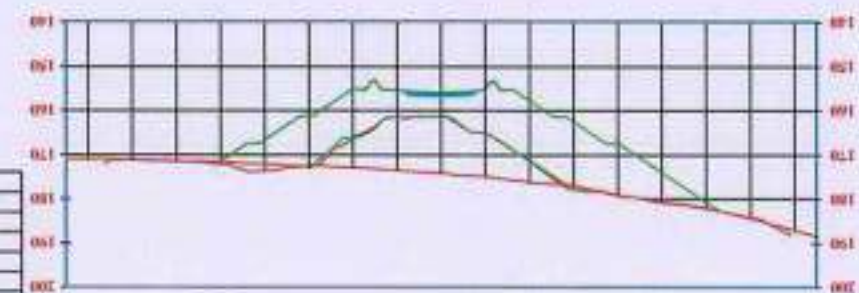
OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-80		181.227
-70		180.841
-60	174.941	180.620
-50	168.649	180.273
-40	163.423	179.752
-30	158.881	179.529
-20	154.302	179.445
-10	150.906	178.979
0	148.504	178.463
10	146.193	177.875
20	143.139	177.447
30	140.221	176.700
40	137.466	176.625
50		174.765
60		173.623
70		
80		



0+100 to 0+200

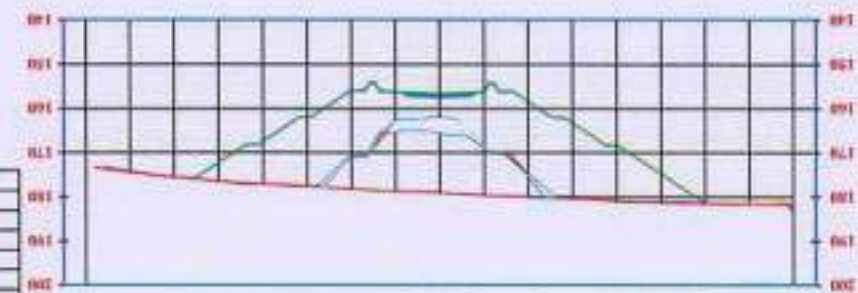
Scale: 1:100
Date: 10/10/2017
Sheet: 1 of 1

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-80		187.179
-70		186.479
-60	180.745	182.171
-50	174.878	180.613
-40	167.787	179.095
-30	162.586	177.283
-20	157.718	176.279
-10	153.489	175.094
0	149.841	174.299
10	146.441	173.686
20	143.131	173.069
30	141.277	172.669
40	138.750	172.284
50	171.605	171.609
60		171.418
70		171.154
80		171.018



0+200 to 0+300

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-80		181.578
-70		181.251
-60	174.847	181.182
-50	168.555	180.574
-40	163.333	180.422
-30	158.487	179.987
-20	154.158	179.672
-10	150.899	179.188
0	148.489	178.728
10	146.489	178.199
20	144.489	177.628
30	142.187	177.428
40	140.227	177.123
50	171.173	176.558
60		175.998
70		174.281
80		



0+300 to 0+400

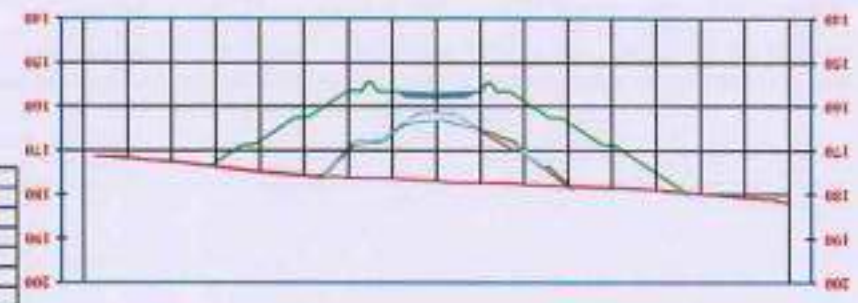
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Sheet: 2 of 1

HSR - Blue Line - Sec.05
مخطط خطوط السكك الحديدية
مخطط خطوط السكك الحديدية

مخطط خطوط السكك الحديدية
مخطط خطوط السكك الحديدية
مخطط خطوط السكك الحديدية



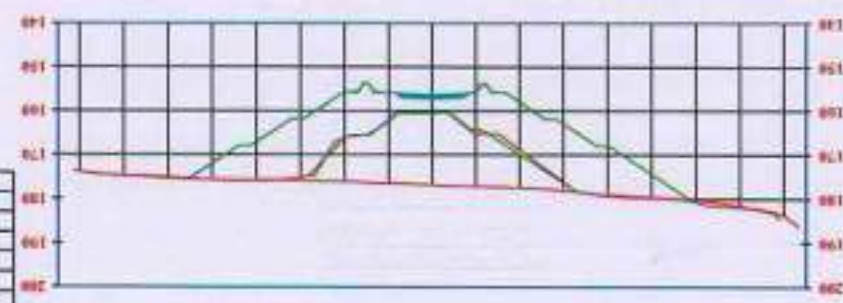
OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	187.000	176.825
10	186.400	176.350
20	186.375	176.025
30	186.410	175.550
40	187.000	174.884
50	177.047	173.483
60		172.437
70		171.444
80		



693+270.00

187.000	PA	PA
186.400	PA	PA
186.375	PA	PA
186.410	PA	PA
187.000	PA	PA
177.047	PA	PA
176.825	PA	PA
176.350	PA	PA
176.025	PA	PA
175.550	PA	PA
174.884	PA	PA
173.483	PA	PA
172.437	PA	PA
171.444	PA	PA

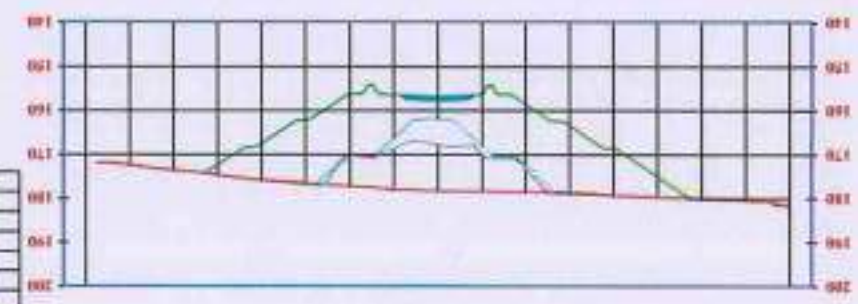
OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	186.420	176.608
10	186.920	176.351
20	186.610	175.987
30	186.666	175.744
40	187.000	175.600
50	177.000	175.529
60		174.978
70		174.487
80		173.729



693+270.00

186.420	PA	PA
186.920	PA	PA
186.610	PA	PA
186.666	PA	PA
187.000	PA	PA
177.000	PA	PA
176.608	PA	PA
176.351	PA	PA
175.987	PA	PA
175.744	PA	PA
175.600	PA	PA
175.529	PA	PA
174.978	PA	PA
174.487	PA	PA
173.729	PA	PA

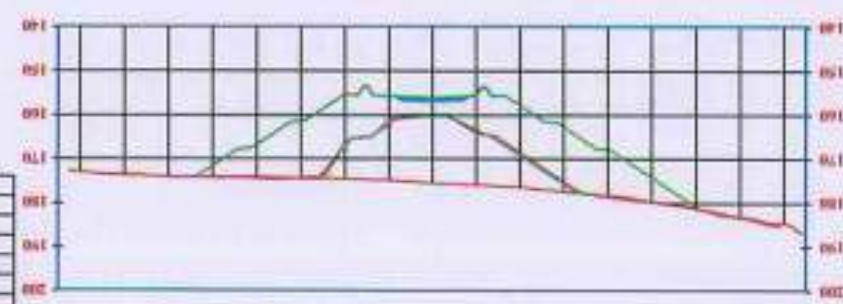
OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	186.998	178.296
10	186.590	177.974
20	186.208	177.287
30	186.354	176.507
40	187.710	175.881
50	177.582	174.722
60		173.565
70		172.566
80		



693+260.00

186.998	PA	PA
186.590	PA	PA
186.208	PA	PA
186.354	PA	PA
187.710	PA	PA
177.582	PA	PA
178.296	PA	PA
177.974	PA	PA
177.287	PA	PA
176.507	PA	PA
175.881	PA	PA
174.722	PA	PA
173.565	PA	PA
172.566	PA	PA

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
0	186.338	175.678
10	185.833	174.857
20	186.923	174.631
30	186.800	174.495
40	186.550	174.137
50	177.797	174.668
60		174.402
70		173.703
80		172.996

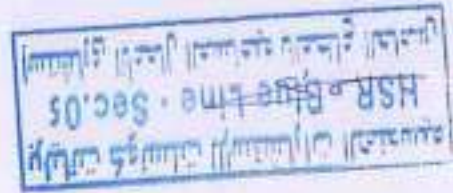


693+260.00

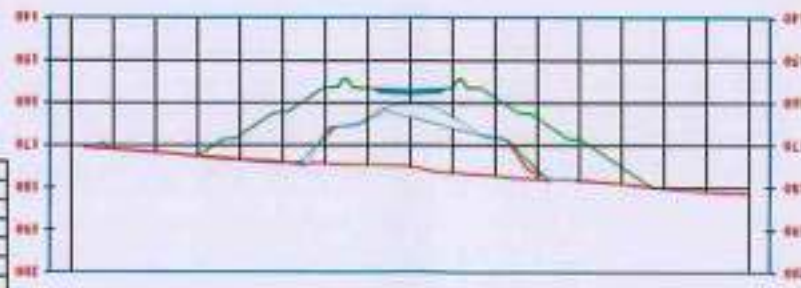
186.338	PA	PA
185.833	PA	PA
186.923	PA	PA
186.800	PA	PA
186.550	PA	PA
177.797	PA	PA
175.678	PA	PA
174.857	PA	PA
174.631	PA	PA
174.495	PA	PA
174.137	PA	PA
174.668	PA	PA
174.402	PA	PA
173.703	PA	PA
172.996	PA	PA

HSR - Blue Line - Sec.05
 HSR - Blue Line - Sec.05
 HSR - Blue Line - Sec.05

HSR - Blue Line - Sec.05
 HSR - Blue Line - Sec.05
 HSR - Blue Line - Sec.05



EXISTING ELEVATIONS	DESIGN ELEVATIONS	OFFSET
100.000		-00'
100.007		-70"
100.007		-00'
178.137	178.300	-20"
178.246	180.073	-01'
178.027	183.001	-20'
177.207	180.848	-20'
178.003	186.820	-10'
178.003	187.107	-09'
174.003	180.707	-10'
174.003	182.903	-08'
173.800	187.888	-04'
173.718		-00'
173.003		-70"
		00'

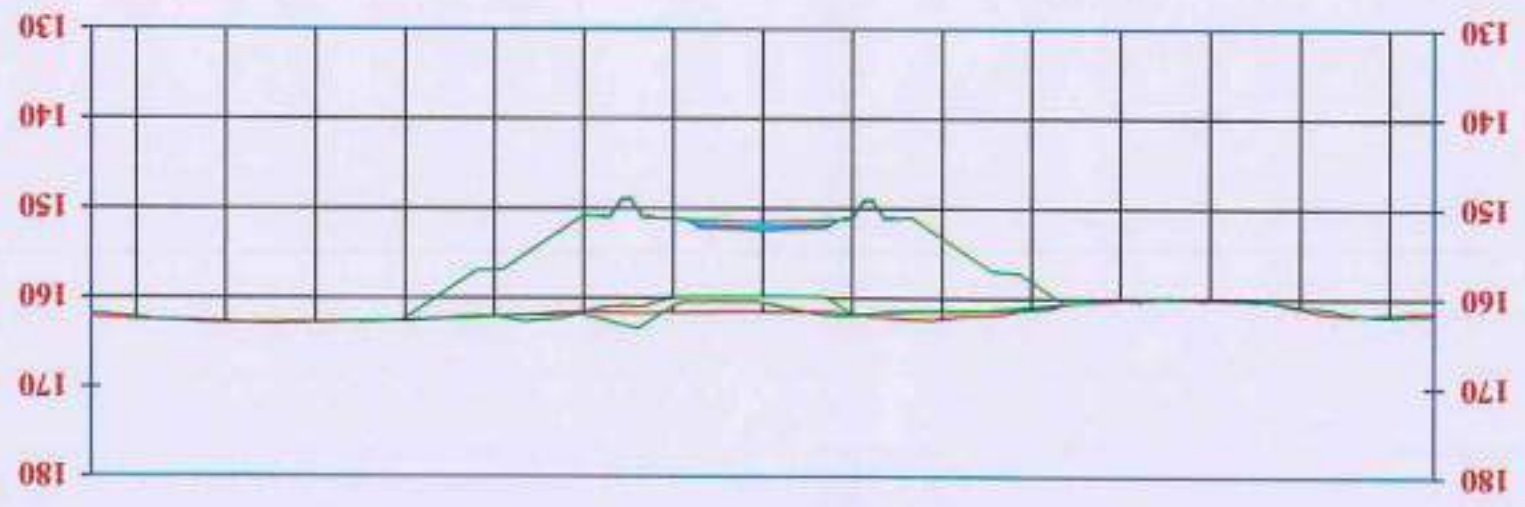


圖書分類：文學類

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OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-70		161.797
-60		161.081
-50		160.191
-40		160.248
-30	158.149	161.143
-20	153.302	162.281
-10	150.983	161.823
0	151.625	161.551
10	151.225	161.637
20	150.915	161.605
30	156.960	162.165
40	162.342	162.592
50		162.786
60		162.774
70		162.509



692+780.00

Total Volume at Station 692+780.00	Out Area	24.61
	Fill Area	0.00
	Cut Vol	0.00
	Fill Vol	0.00
	Cum Cut Vol	0.00
	Cum Fill Vol	0.00
	Net Vol	0.00

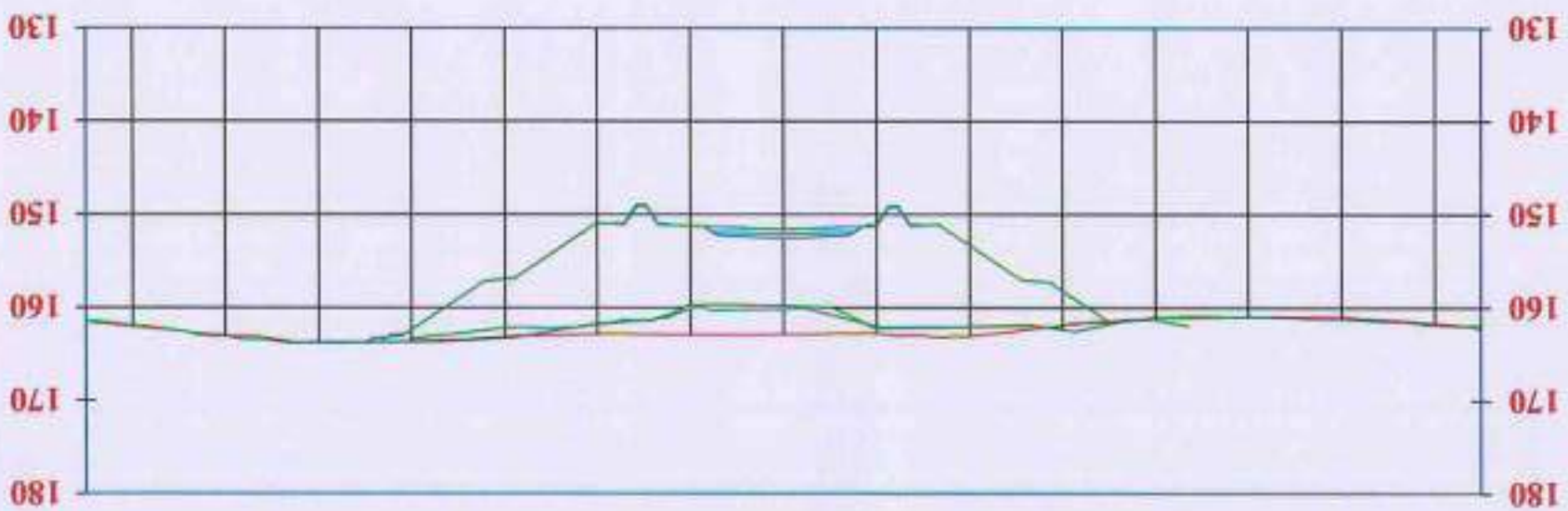
HSR - Blue Line - Sec.05
 (مسار الحزام الأزرق - القسم 05)
 10/11/2017

مجلس إدارة المشروع
 10/11/2017
 10/11/2017

مدينتي
 HSR - Blue Line - Sec.05
 10/11/2017



OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-70		161.704
-60		161.050
-50		161.073
-40		161.169
-30	158.245	161.953
-20	153.398	163.098
-10	151.079	162.819
0	151.721	162.906
10	151.321	162.969
20	151.011	162.860
30	157.056	163.221
40	162.438	163.713
50		163.805
60		163.166
70		162.094



692+790.00

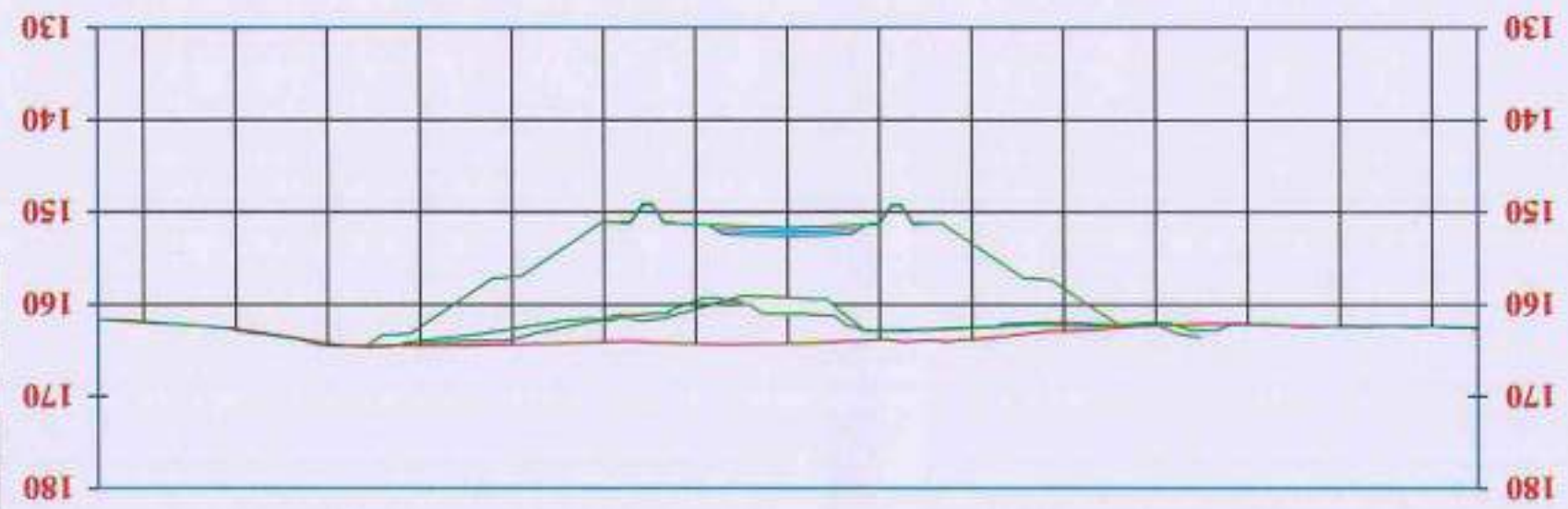
مدينتي
 HSR - Blue Line - Sec.05
 10/11/2017

Total Volume of Station 692+790.00	Cut Area	10.27	Fill Area	0.00	Cut Vol	51.36	Fill Vol	0.00	Cum Cut Vol	51.36	Cum Fill Vol	0.00	Net Vol	51.36
------------------------------------	----------	-------	-----------	------	---------	-------	----------	------	-------------	-------	--------------	------	---------	-------

HSR - Blue Line - Sec. 05
 (مسقط رأس الخط الأزرق - القسم 05)
 مخطط تقسيم الأراضي

12/10/13
 12/10/13
 12/10/13

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-70		162.474
-60		162.476
-50		162.166
-40		162.368
-30	158.341	162.957
-20	153.494	163.875
-10	151.175	163.904
0	151.817	164.267
10	151.417	164.338
20	151.107	164.149
30	157.152	164.431
40	162.534	164.591
50		164.312
60		162.751
70		161.971



692+800.00

12/10/13
 12/10/13
 12/10/13

Total Volume at Station 692+800.00	Cut Area	19.12	Fill Area	0.00	Cut Vol	146.94	Fill Vol	0.00	Cum Cut Vol	198.31	Cum Fill Vol	0.00	Net Vol	198.31
------------------------------------	----------	-------	-----------	------	---------	--------	----------	------	-------------	--------	--------------	------	---------	--------

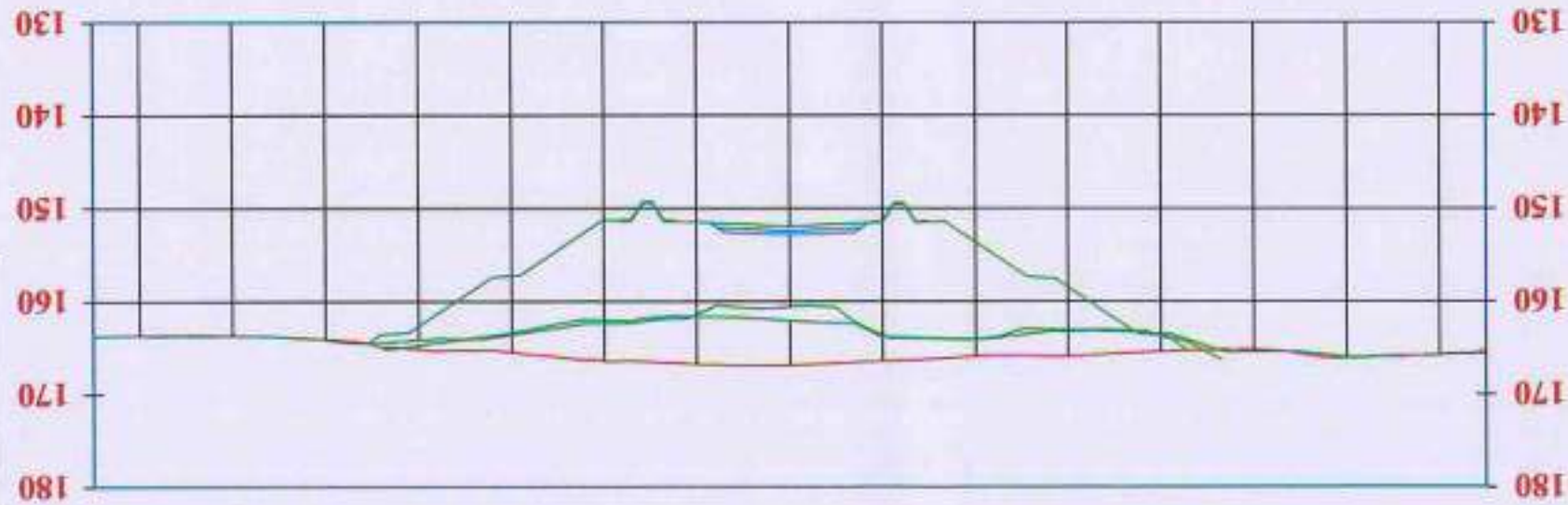


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HSR - Blue Line - Sec.05
 شركة هندسة وبنية تحتية
 للمواصلات العامة

13/09/2019
 13/09/2019
 13/09/2019

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-70	163.754	165.780
-60	158.533	166.132
-50	153.686	165.277
-40	152.009	165.444
-30	151.367	165.955
-20	151.609	166.459
-10	151.299	166.801
0	157.344	166.891
10	162.726	166.444
20	164.151	166.231
30	163.789	165.523
40	163.773	164.151
50		163.789
60		163.773
70		163.773



Total Volume at Station 692+820.00	Cut Area	26.27	Fill Area	0.00	Cut Vol	298.88	Fill Vol	0.00	Cum Cut Vol	760.27	Cum Fill Vol	0.00	Net Vol	760.27
------------------------------------	----------	-------	-----------	------	---------	--------	----------	------	-------------	--------	--------------	------	---------	--------

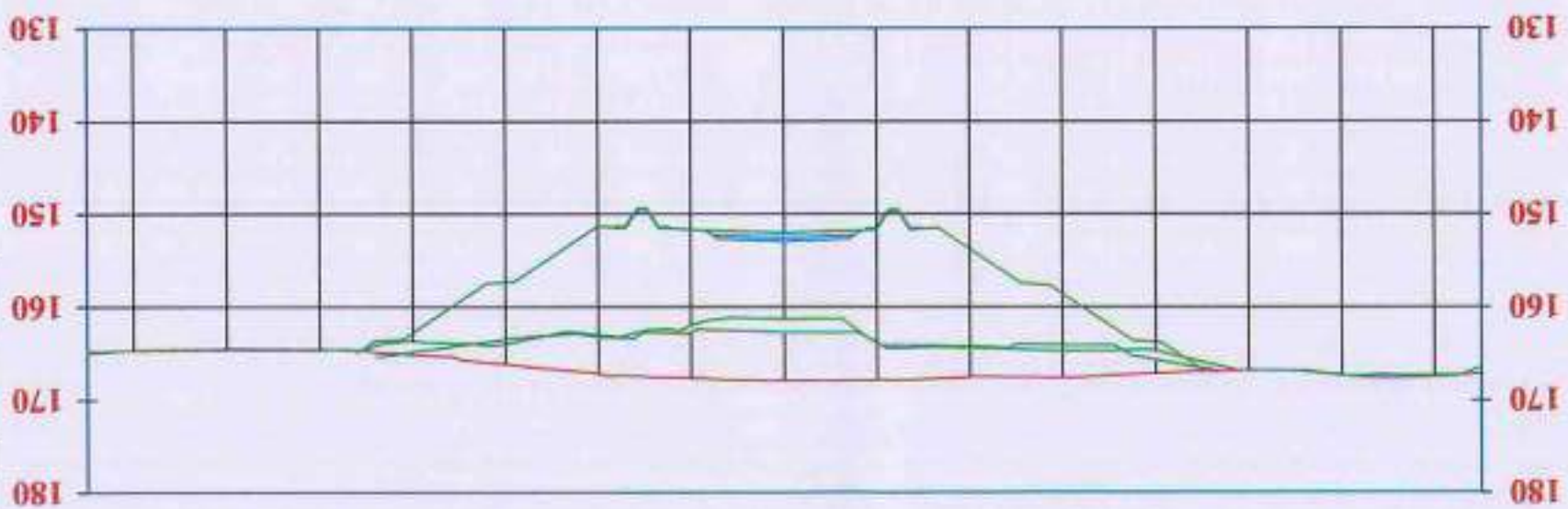
692+820.00

13/09/2019
 13/09/2019
 13/09/2019

HSR - Blue Line - Sec.05
 وزارة النقل
 قطاع الطرق
 إدارة مشاريع الطرق



OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-70		167.514
-60		167.371
-50		166.895
-40	163.851	167.157
-30	158.629	167.620
-20	153.782	167.581
-10	151.463	167.825
0	152.105	167.917
10	151.705	167.703
20	151.395	167.219
30	157.441	166.210
40	162.822	165.152
50		164.570
60		164.518
70		164.725



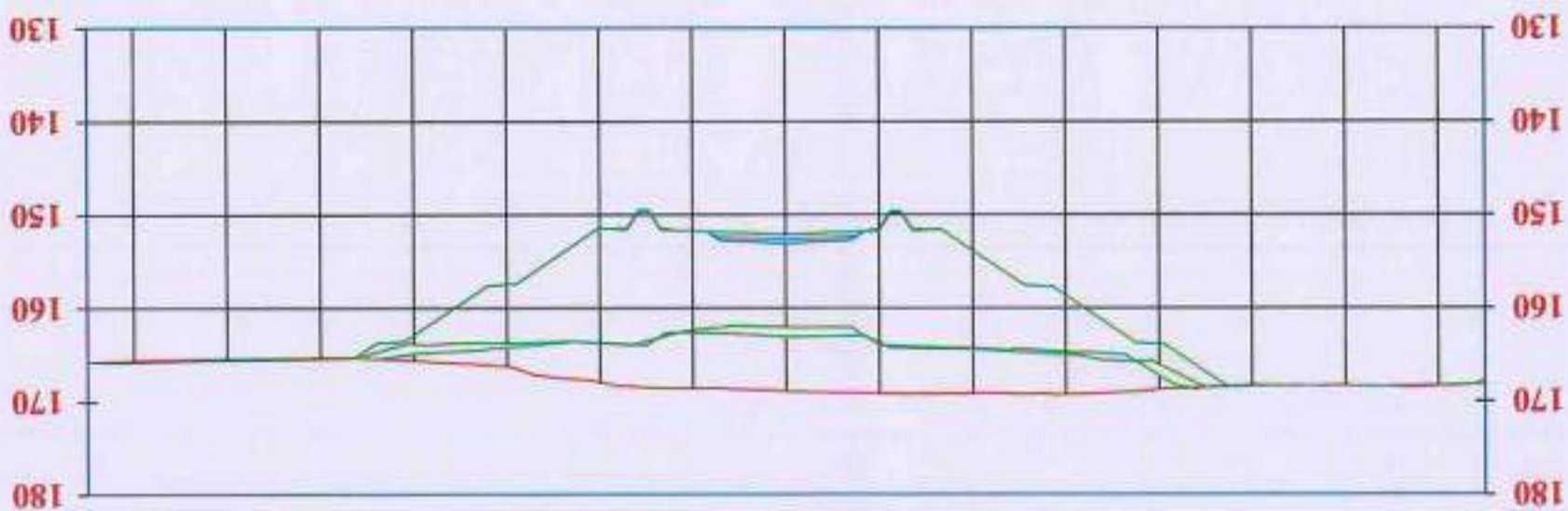
692+830.00

مهندس
 محمد عبد الله
 10/11/2011

Total Volume at Station 692+830.00	
Cut Area	42.14
Fill Area	0.00
Cut Vol	342.08
Fill Vol	0.00
Cum Cut Vol	1102.35
Cum Fill Vol	0.00
Net Vol	1102.35

~~Specimen destroyed~~

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-70	—	168.414
-60	—	168.370
-50	—	168.310
-40	163.947	168.755
-30	158.725	169.298
-20	153.878	169.195
-10	151.559	169.191
0	152.201	168.939
10	151.801	168.592
20	151.491	167.995
30	157.537	166.256
40	162.918	165.667
50	—	165.372
60	—	165.448
70	—	165.658

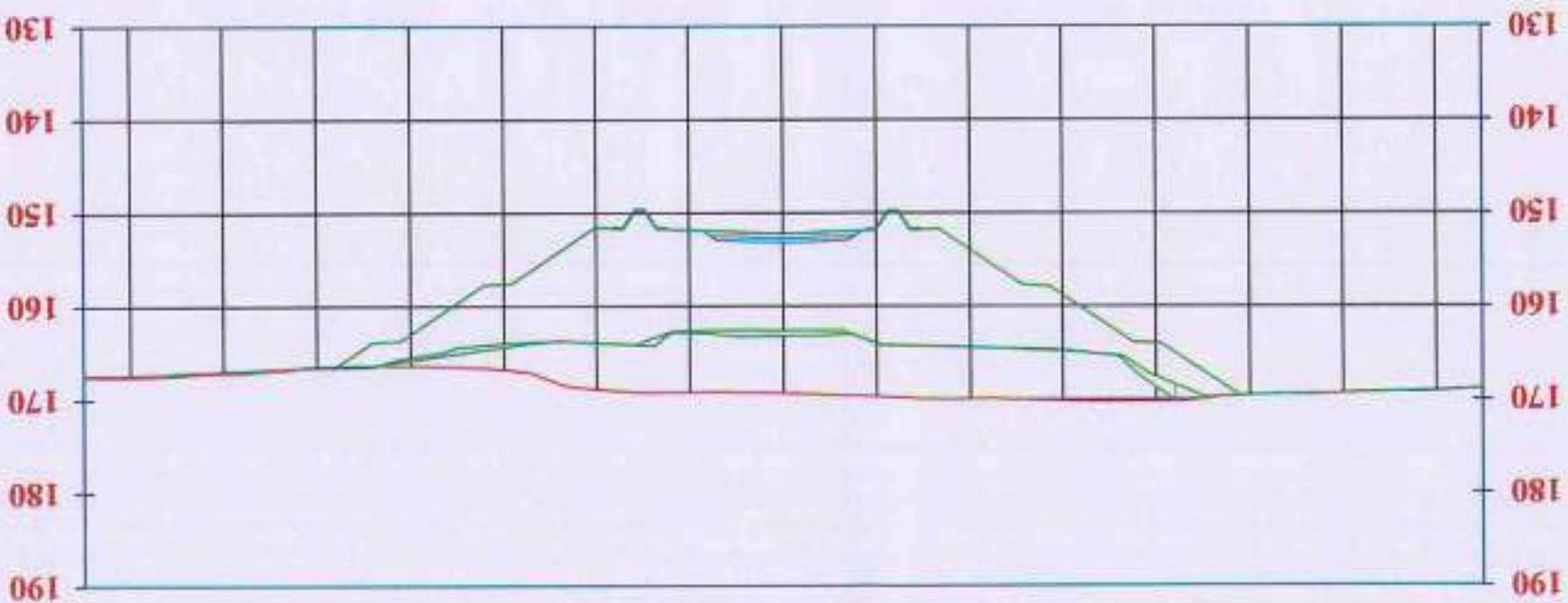


Total Volume at Station 692+840.00	
Cut Area	37.19
Fill Area	0.00
Cut Vol	396.65
Fill Vol	0.00
Cum Cut Vol	1499.00
Cum Fill Vol	0.00
Net Vol	1499.00

HSR - Blue Line - Sec.05
 ١٠٢١٢٣٤٥٦٧٨٩١٠١١١٢١٣١٤١٥١٦١٧١٨١٩٢٠٢١٢٢٢٣٢٤٢٥٢٦٢٧٢٨٢٩٣٠٣١٣٢٣٣٣٤٣٥٣٦٣٧٣٨٣٩٤٠٤١٤٢٤٣٤٤٤٥٤٦٤٧٤٨٤٩٥٠٥١٥٢٥٣٥٤٥٥٥٦٥٧٥٨٥٩٦٠٦١٦٢٦٣٦٤٦٥٦٦٦٦٧٦٨٦٩٧٠٧١٧٢٧٣٧٤٧٥٧٦٧٧٧٧٨٧٩٨٠٨١٨٢٨٣٨٤٨٥٨٦٨٧٨٨٨٩٩٠٩١٩٢٩٣٩٤٩٥٩٦٩٧٩٨٩٩١٠١١١٢١٣١٤١٥١٦١٧١٨١٩٢٠٢١٢٢٢٣٢٤٢٥٢٦٢٧٢٨٢٩٣٠٣١٣٢٣٣٣٤٣٥٣٦٣٧٣٨٣٩٤٠٤١٤٢٤٣٤٤٤٥٤٦٤٧٤٨٤٩٥٠٥١٥٢٥٣٥٤٥٥٥٦٥٧٥٨٥٩٦٠٦١٦٢٦٣٦٤٦٥٦٦٦٦٧٦٨٦٩٧٠٧١٧٢٧٣٧٤٧٥٧٦٧٧٧٧٨٧٩٨٠٨١٨٢٨٣٨٤٨٥٨٦٨٧٨٨٨٩٩٠٩١٩٢٩٣٩٤٩٥٩٦٩٧٩٨٩٩

١٠٢١٢٣٤٥٦٧٨٩١٠١١١٢١٣١٤١٥١٦١٧١٨١٩٢٠٢١٢٢٢٣٢٤٢٥٢٦٢٧٢٨٢٩٣٠٣١٣٢٣٣٣٤٣٥٣٦٣٧٣٨٣٩٤٠٤١٤٢٤٣٤٤٤٥٤٦٤٧٤٨٤٩٥٠٥١٥٢٥٣٥٤٥٥٥٦٥٧٥٨٥٩٦٠٦١٦٢٦٣٦٤٦٥٦٦٦٦٧٦٨٦٩٧٠٧١٧٢٧٣٧٤٧٥٧٦٧٧٧٧٨٧٩٨٠٨١٨٢٨٣٨٤٨٥٨٦٨٧٨٨٨٩٩٠٩١٩٢٩٣٩٤٩٥٩٦٩٧٩٨٩٩

OFFSET	DESIGN ELEVATIONS	EXISTING ELEVATIONS
-70		169.118
-60		169.388
-50		169.644
-40	164.043	170.195
-30	158.821	170.124
-20	153.974	169.948
-10	151.656	169.717
0	152.297	169.312
10	151.897	169.189
20	151.587	168.928
30	157.633	166.797
40	163.014	166.384
50		166.518
60		167.180
70		167.563



692+850.00

Total Volume at Station 692+850.00	Cut Area	24.33	Fill Area	0.00	Cut Vol	307.59	Fill Vol	0.00	Cum. Cut Vol	1806.59	Cum. Fill Vol	0.00	Net Vol	1806.59
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١٠٢١٢٣٤٥٦٧٨٩١٠١١١٢١٣١٤١٥١٦١٧١٨١٩٢٠٢١٢٢٢٣٢٤٢٥٢٦٢٧٢٨٢٩٣٠٣١٣٢٣٣٣٤٣٥٣٦٣٧٣٨٣٩٤٠٤١٤٢٤٣٤٤٤٥٤٦٤٧٤٨٤٩٥٠٥١٥٢٥٣٥٤٥٥٥٦٥٧٥٨٥٩٦٠٦١٦٢٦٣٦٤٦٥٦٦٦٦٧٦٨٦٩٧٠٧١٧٢٧٣٧٤٧٥٧٦٧٧٧٧٨٧٩٨٠٨١٨٢٨٣٨٤٨٥٨٦٨٧٨٨٨٩٩٠٩١٩٢٩٣٩٤٩٥٩٦٩٧٩٨٩٩



مشروع القطر السريع ٦ أكتوبر /ابوسمبل القطاع الخامس (قوص -ارمنت) بيان بتصنيف كميات الحفر لشركة جاد الرحمن للتنمية الزراعية والعقارية

م	station		الكمية الاجمالية	تربة عالية	النسبة	تربة المتوسطة	النسبة	تربة شديدة التماسك	النسبة	الصخرية	النسبة	المفرق	النسبة
	from	to											
1	693+210	693+370	5553.41	---	---	---	5553.41	100%	---	---	---	---	---
الاجمالي			5553.41	0		0	5553.41		0				

التاريخ	تربة عالية	متوسطة	شديدة التماسك	صخرية
٢٠٢٣-٥-٤ قبل	---	---	---	---
٢٠٢٣-٥-٤ بعد	---	---	5553.41	---

استشاري الهيئة (استقرام)

المهندس /
التوقيع



استشاري مكتب المساحة

(برليند كونسولت) ان الاستشارات الهندسية
المهندس /المساحة HSR . Blue line
التوقيع /المساحة



مهندس الشركة المنفذة

المهندس /عبد الوهاب
التوقيع /عبد الوهاب
للتشييد والبناء والتجارة
ب.ش. ١٥٢٤ - ١٥٢٤ / ١٥٢٤ / ١٥٢٤

مشروع القطر الكهربائي السريع القطاع الخامس							
تلفيز شركة عبدالرحمن للتنمية الزراعية والعقارية والمقاولات							
من الكم. ١٧١+٧٨٠ إلى ١٧٢+٧٨٠ بطول ١ كيلو							
من الكم. ١٩١+٧٨٣ إلى ١٩٢+٧٨٣ بطول ٢ كيلو							
بيان اعمال توضيحي لمستخلص جاري ٢ عقد (٢٤ - ٢٣/٢ - ٢٠٢٤)							
رقم	عقد	قيمة العقد	المستخلص	كميات حفر في تربة خفيفة	كميات الحفر في تربة متوسطة	كميات الحفر في تربة شديدة التماسك	كميات الحفر في تربة صخرية
1	(52/2023/2024)	19.966.900	جاري ١	0	0	0	29406.83
3	(457/2023/2024)	19.990.855	جاري ١	21778.092	43550.164	43550.164	9586.86
			جاري ٢	4644.8	7240.858	7240.858	33758.026
			جاري ٣	0	0	5553.41	17752.96
4	(458/2023/2024)	19.990.855	جاري ١	13845.27	27690.54	27690.54	0
			جاري ٢	0	0	0	73649.53
		اجمالي كميات تم حفرها	عقد ٢	0	0	0	29406.83
			عقد ٢٠٢٧	26422.592	50796.842	51098.845	6011.49
			عقد ٢٠٢٨	13845.27	27690.54	27690.54	73649.53
		اجمالي كميات تم صرفها	عقد ٢	0	0	0	26466.147
			عقد ٢٠٢٧	23760.3328	45717.1678	50715.2298	54987.1605
			عقد ٢٠٢٨	12460.743	24921.486	24921.486	69967.0636
		المبقي من التكلفة	عقد ٢	0	0	0	2940.683
			عقد ٢٠٢٧	2642.2592	5079.6842	5109.6845	300.6745
			عقد ٢٠٢٨	1384.527	2769.054	2769.054	3682.4765



إبانات كونسولت للمهندسين
 HSR - Blue Line - Set.05
 استشاري الأعمال الهندسية والمقاولات

شركة عباد الرحمن
 للتنمية الزراعية والعقارية والمقاولات
 ب.ش ١٥٤٢٤ ٢٤٢/٦٥٦/٦٥٠

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 691+900 Zone: From 691+780 To 692+480
Type of sample : Original Earth
Delivery Date : 16/09/2023
Reporting Date : 20/09/2023
Reporting No. : 01

Dear Gentleman,

Attached here with the delivered on 16 / 9 / 2023

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

Signature



CEL

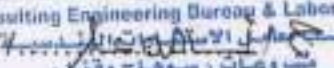
Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 691+900 Zone: From 691+780 To 692+480
Type of sample : Original Earth
Delivery Date : 16/09/2023
Reporting Date : 20/09/2023
Reporting No. : 01

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	100
37.5	1.5	98.8
25	1	93.2
19	¾	89.3
12.50	½	80.8
9.50	3/8	77.4
4.75	4	71.2
2.00	10	53.5
0.425	40	27.5

Signature: 
CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
مسرورات (سوهاج وقنا)
رقم التسجيل المزدوج: 537 - 991 - 219
المركز الرئيسي: شارع الملك الأفضل - الزمالك - القاهرة

VE: Mounir E. Attia, Shouk
Zohair, Gany
Tel: 011 2706222 - 020 65581

IAS
ACCREDITED
Incorporated in Egypt

في القاهرة
إبراهيم العبدى
مدير عام

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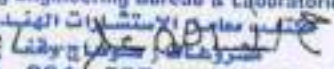
Consulting Engineering Bureau & Laboratories

مكتب محامل الاستشارات الهندسية

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 691+900 Zone: From 691+780 To 692+480
Type of sample : Original Earth
Delivery Date : 16/09/2023
Reporting Date : 20/09/2023
Reporting No. : 01

Materials finer than 75 μ m (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	9.8

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Signature: 
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رقم التسجيل الفردي: 557 - 991 - 219
المركز الرئيسي: شارع الملك الأفضل - الزمالك - القاهرة

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إلى: المهندس
المرسل: المهندس
تاريخ: 20/09/2023



Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 691+900 Zone: From 691+780 To 692+480
Type of sample : Original Earth
Delivery Date : 16/09/2023
Reporting Date : 20/09/2023
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**Results of liquid limit and plasticity index
of soils according to ASTM D-4318**

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0



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Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 691+900 Zone: From 691+780 To 692+480
Type of sample : Original Earth
Delivery Date : 16/09/2023
Reporting Date : 20/09/2023
Reporting No. : 01

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-b)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	53.5	Max 50 %	-----	-----
0.425 mm (No. 40).	27.5	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	9.8	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (☐ Comply - ☐ Not Comply) with specifications limits

Signature



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الزمالك - القاهرة
الهاتف : 27967021 - 27963699

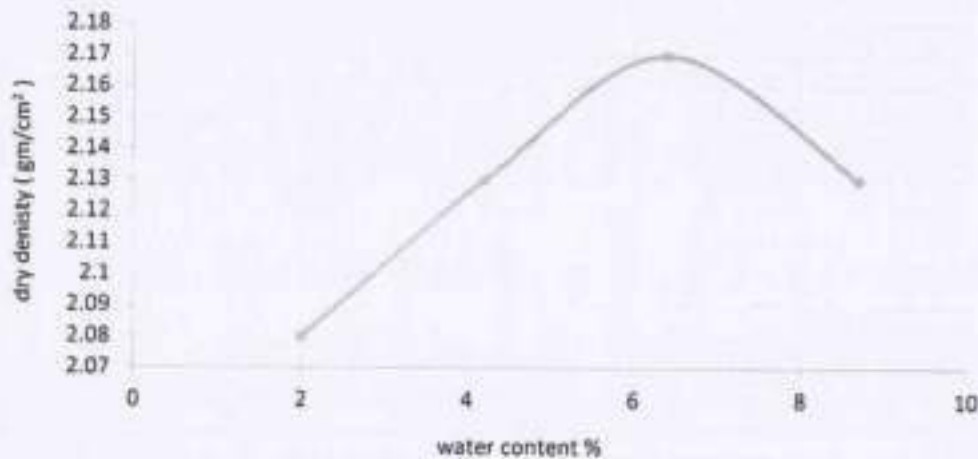
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مكتب معامل الاستشارات الهندسية

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 691+900 Zone: From 691+780 To 692+480
Type of sample : Original Earth
Delivery Date : 16/09/2023
Reporting Date : 20/09/2023
Reporting No. : 01

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm³) : 2.17
- Optimum moisture content % : 6.4%

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Zurab, Cam
Tel/Fax: 27067011 - 27063305



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تلفون - فاكس : 27067011 - 27063305

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 691+900 Zone: From 691+780 To 692+480
Type of sample : Original Earth
Delivery Date : 16/09/2023
Reporting Date : 20/09/2023
Reporting No. : 01

Test Results of California Bearing Ratio on Base Materials ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.31
1.27	0.050	1.12
1.91	0.075	1.95
2.54	0.100	2.94
3.18	0.125	3.82
3.81	0.150	4.59
4.45	0.175	5.23
5.08	0.200	5.63
6.35	0.250	5.91

CBR Result	Stress (Mpa)		CBR 100 %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	42.6 %
	6.90	2.94	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.17 (gm /cm³)
At = 6.4% optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR = 40 for middle and lower embankments according project spec page No 36.

Signature

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رقم التسجيل المهنى: 537 - 991 - 219
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Zakaria, Cairo

Tel: 0111 3704721 3704050

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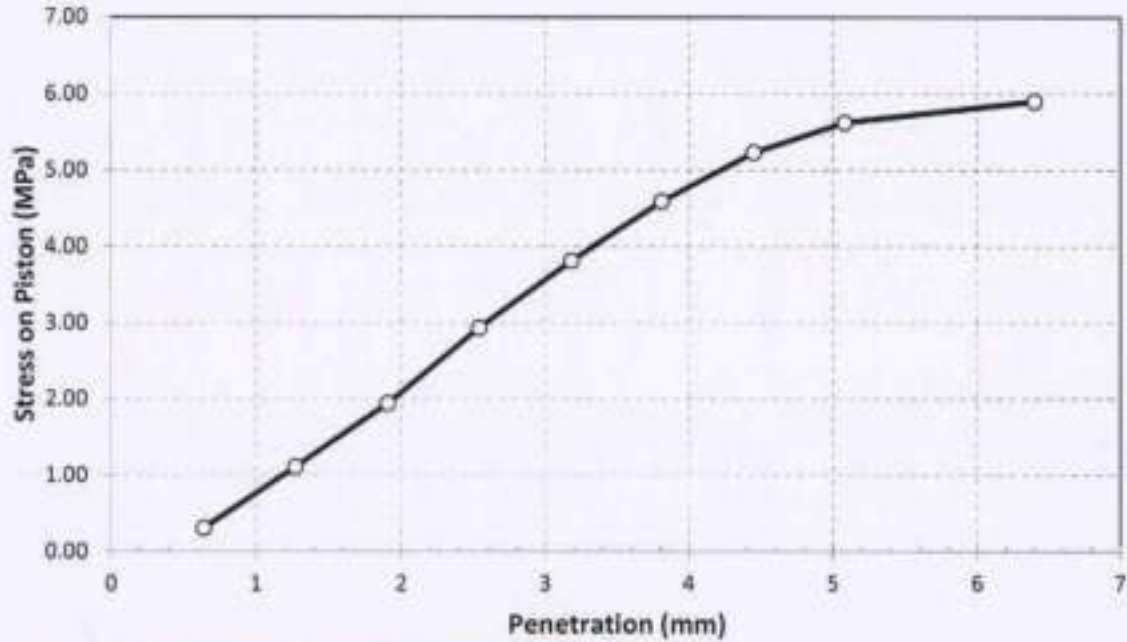
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Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 691+900 Zone: From 691+780 To 692+480
Type of sample : Original Earth
Delivery Date : 16/09/2023
Reporting Date : 20/09/2023
Reporting No. : 01

Load Penetration Curve of CBR Test ASTM D-1883



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رقم التسجيل الفردي: 537 - 991 - 219
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أ. محمد عباد الرحمن
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تليفون - فاكس : 202 3395522 - 3395525

Company : شركة عبد الرحمن للتشييد والمقاولات

Project : Electric Express Train - Sector (B) - Gous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the
plate loading test according specifications DIN 18134:2012 64 and project requirements
Test Location : Station 692+220 to 692+320
Station : 692+300
Level : -1.5
Test Date : 04/10/2023
Report Date : 07/10/2023
Type of soil : Original Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates: 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 %, 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads



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Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report content the following:-

- location of test site - Dimension of loading plate.
- Measuring device used - Type of soil.
- Type of Bedding material below the plate -Weathering condition.
- Time and date of measurements - Unusual observation made during test .
- Dial gauge reading and corresponding normal stress - Loading-settlement curve.
- Description of the soil condition below the plate after testing.

Report

- Type of soil : Original Earth
- Job requiremer : $E_{v2} > 40 \text{ MPa}$

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
date of measurement	04/10/2023
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{v2}/E_{v1} Ratio
	From	To			E_{v1} (MPa)	E_{v2} (Mpa)	
1	692+220	692+320	: 692+300	-1.5	128.8	115.1	0.89



Company Name : شركة عبد الرحمن للتعبئة والمقاولات
Project : Electric Express Train - Sector (B) - Gouda to Asyut
Test Date : 04/10/2023
report date : 07/10/2023
Station : 692+300
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.79	0.21	19.73	0.27	0.24
2	1.66	19.62	0.38	19.60	0.40	0.39
3	2.50	19.50	0.50	19.42	0.58	0.54
4	3.33	19.39	0.61	19.30	0.70	0.65
5	4.17	19.15	0.85	19.06	0.94	0.90
6	5.00	18.99	1.01	18.92	1.08	1.05

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
1	2.50	19.07	0.93	19.03	0.97	0.95
2	1.25	19.27	0.73	19.33	0.67	0.70
3	0.100	19.58	0.42	19.60	0.40	0.41

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.83	19.48	0.51	19.50	0.50	0.51
immediately equal	1.66	19.70	0.71	19.40	0.60	0.68
stress is reached.						
2	2.50	19.01	0.90	19.27	0.73	0.86
3	3.33	18.83	1.07	19.10	0.90	0.98
4	4.17	18.80	1.20	18.99	1.01	1.11

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مشروعات (سوهاج وقنا)
رقم التسجيل التجاري: 219 - 991 - 537
المركز الرئيسي ٢ شارع الملك الأفضل - الزمالك - القاهرة

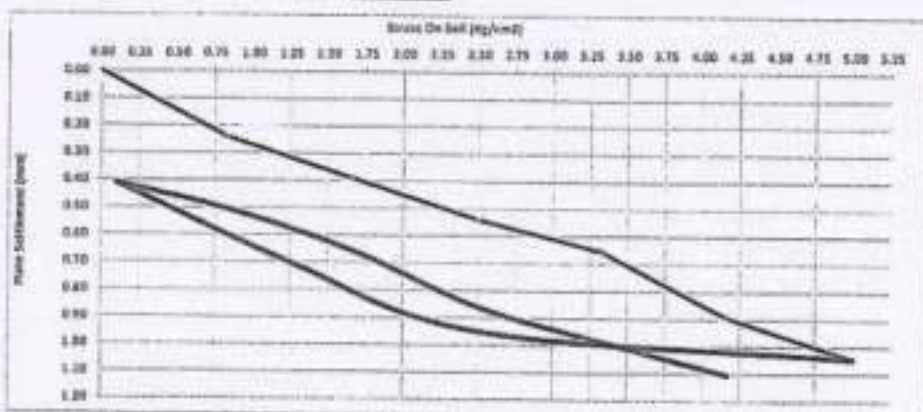


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مكتب معامل الاستشارات الهندسية
مشروعات محافظات الوجه القبلي

Company Name : شركة عبد الرحمن للتنبؤ والمقاولات
Project : Electric Express Train - Sector (B) - Gous to Arment.
Test Date : 04/10/2023
report date : 07/10/2023
Station : 692+300
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (t)	0	1	2	3	4	5	6
Stage(Kg)	0	888	1172.8	1766.3	2352.6	2946.1	3532.5
Stress (Kg/cm²)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.24	0.36	0.54	0.65	0.90	1.05

UnLoading (t)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm²)	5.00	2.50	1.250	0.10
Settlement (mm)	1.05	0.95	0.70	0.41

D (mm) = 300	S1 (mm) = 0.36	S2(mm) = 0.70	ΔS = 0.34
Ev1 (MPa) = $(0.75 \cdot D^2 \cdot \Delta s) / \Delta S$	126.8		

$$Ev2/Ev1 = 0.89$$

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	884.395	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm²)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.41	0.71	0.90	0.90	0.98	1.11

D (mm) = 300	S1 (mm) = 0.83	S2(mm) = 1.01	ΔS = 0.38
Ev2 (MPa) = $(0.75 \cdot D^2 \cdot \Delta s) / \Delta S$	115.1		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the unloading stage.

D = Plate diameter (mm)

Δs = The difference between S2 and S1 from the maximum loading (stress) (kg/cm²)

ΔS = Difference in settlements corresponding to S2 and S1 from the maximum loading (mm)

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الوكالة الرئيسة شارع الملك الأفضل - الزمالك - القاهرة

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مكتب معامل الاستشارات الهندسية
مشروعات محاضرات الوجه القبلي

Company : شركة عبد الرحمن للتشييد والمقاولات

Project : Electric Express Train - Sector (5) - Qous to Arment.
Subject : Determining the deformation and strength characteristics of soil by the
plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location : Station 692+329 to 692+420
Station : 692+380
Level : -1.5
Test Date : 04/10/2023
Report Date : 07/10/2023
Type of soil : Original Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enorbsa)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the test values are 5.0 kg/cm^2
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 90 %, 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penetration stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads



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Report

1. Evaluation and representation of results.
2. Load Settlement curve
3. The test report content the following:-
 - location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of Bedding material below the plate -Weathering condition.
 - Time and date of measurements - Unusual observation made during test .
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Report

- Type of soil : Original Earth
- Job requiremer : $E_{v2} > 40 \text{ MPa}$

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
date of measurement	: 04/10/2023
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{v2} / E_{v1} Ratio
	From	To			$E_{v1} \text{ (MPa)}$	$E_{v2} \text{ (Mpa)}$	
1	692+320	692+420	: 692+380	: -1.5	83.7	155.3	1.86



Company Name : شركة عبد الرحمن للتنمية والمقاولات
Project : Electric Express Train - Sector (B) - Giza to Arment.
Test Date : 04/10/2023
report date : 07/10/2023
Station : 692+380
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.95	0.05	19.90	0.10	0.08
2	1.66	19.70	0.30	19.58	0.42	0.36
3	2.50	19.47	0.53	19.45	0.55	0.54
4	3.33	19.30	0.80	19.19	0.81	0.81
5	4.17	19.05	0.95	19.07	0.93	0.94
6	5.00	18.87	1.13	18.90	1.10	1.12

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
1	2.50	19.10	0.90	19.15	0.85	0.88
2	1.25	19.37	0.63	19.40	0.60	0.62
3	0.100	19.70	0.30	19.78	0.22	0.26

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.83	19.59	0.41	19.55	0.45	0.43
ultimately equ	1.00	19.40	0.80	19.39	0.81	0.81
stress is reached.						
2	2.50	19.30	0.70	19.37	0.73	0.72
3	3.33	19.19	0.81	19.15	0.85	0.83
4	4.17	19.05	0.95	19.04	0.96	0.96





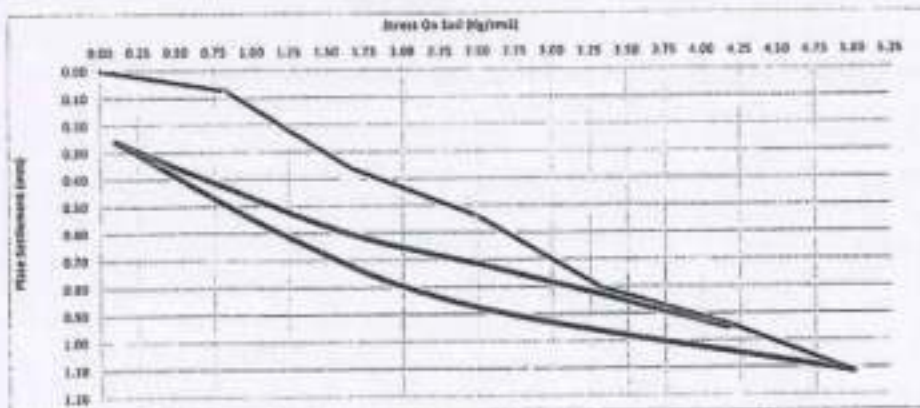
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Company Name
Project
Test Date
report date
Station
Test No.

شركة عبد الرحمن للتشييد والمشاريع
Electric Express Train - Sector (5) - Gous to Arment.
06/10/2023
07/10/2023
002-100
01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	596	1172.4	1766.3	2352.6	2946.1	3532.5
Stress (Kg/cm²)	0.00	0.63	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.08	0.26	0.54	0.81	0.94	1.12

D (mm) =	300	S1 (mm) =	0.31	S2 (mm) =	0.83	ΔS =	0.53
E _{v1} (MPa) =	(0.75 * D² * ΔS) / ΔS						

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	596.395	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm²)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.20	0.43	0.61	0.72	0.89	0.98

D (mm) =	300	S1 (mm) =	0.87	S2 (mm) =	0.86	ΔS =	0.28
E _{v2} (MPa) =	(0.75 * D² * ΔS) / ΔS						

UnLoading (1)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm²)	5.00	2.50	1.250	0.10
Settlement (mm)	1.12	0.88	0.62	0.26

$$E_{v2}/E_{v1} = 1.86$$

E_{v1} = Modulus of deformation during the loading stage.
E_{v2} = Modulus of deformation during the reloading stage.
D = Plate diameter (mm)
ΔS = The difference between 0.3 and 0.7 from the maximum loading (mm) (kg/cm²)
ΔS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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المركز الرئيسي: شارع الملك الأفضل - الزمالك - القاهرة

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Company : شركة عبد الرحمن للتشييد والمقاولات

Project : Electric Express Train - Sector (5) - Qous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the
plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location : Station 082+420 to 082+480
Station : 082+440
Level : -1.5
Test Date : 04/10/2023
Report Date : 07/10/2023
Type of soil : Original Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm^2
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum nominal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 55 %, 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads



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Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report content the following:-
 - location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of Bedding material below the plate -Weathering condition.
 - Time and date of measurements - Unusual observation made during test .
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Report

- Type of soil : Original Earth
- Job requiremer : $E_{v2} > 40 \text{ MPa}$

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
date of measurement	: 04/10/2023
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{v2} / E_{v1} Ratio
	From	To			$E_{v1} \text{ (MPa)}$	$E_{v2} \text{ (Mpa)}$	
1	692+420	692+480	: 692+440	: -1.5	104.8	156.3	1.49





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مكتب معامل الاستشارات الهندسية
مشروعات محافظات الوجه القبلي

Company Name : شركة عبد الرحمن للشحمة والمقاولات
Project : Electric Express Train - Sector (5) - Gous to Armet.
Test Date : 04/10/2023
report date : 07/10/2023
Station : 692+440
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils

DIN 18134

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	19.00	0.00	19.00	0.00	0.00
1	0.83	19.87	0.13	19.87	0.03	0.08
2	1.66	19.74	0.26	19.65	0.35	0.31
3	2.50	19.65	0.38	19.40	0.60	0.48
4	3.33	19.49	0.51	19.20	0.80	0.66
5	4.17	19.33	0.67	19.06	0.92	0.80
6	5.00	19.08	0.92	18.92	1.08	1.00

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
1	2.50	19.18	0.82	19.10	0.90	0.86
2	1.25	19.37	0.63	19.27	0.73	0.68
3	0.100	19.70	0.30	19.60	0.40	0.35

Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.83	19.63	0.37	19.47	0.53	0.45
approximately 1.66	1.66	19.51	0.49	19.11	0.69	0.59
stress is reached.						
2	2.50	19.47	0.53	19.21	0.78	0.60
3	3.33	19.30	0.70	19.07	0.93	0.82
4	4.17	19.10	0.90	18.97	1.03	0.97



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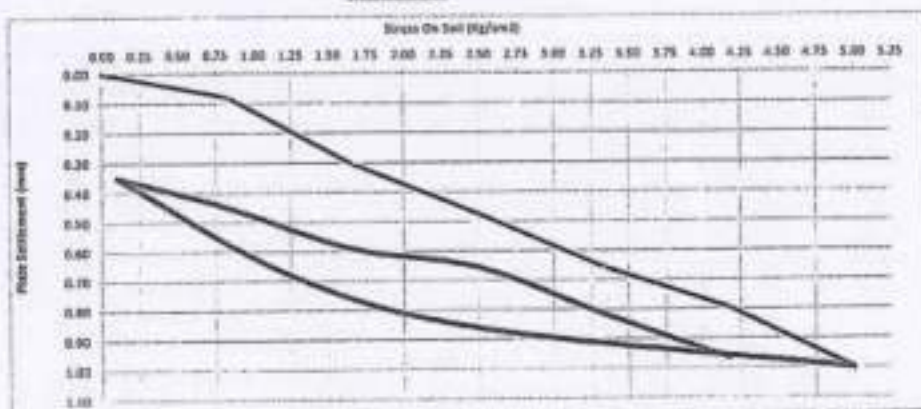
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مشروعات محافظات الوجه القبلي

Company Name
Project
Test Date
report date
Station
Test No

شركة عبد الرحمن للتجارة والمقاولات
Electric Express Train - Sector (5) - Oous to Amman.
04/10/2023
07/10/2023
692+440
01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (t)	0	1	2	3	4	5	6
Stage(Kg)	0	886	1172.8	1786.3	2352.6	2946.1	3532.5
Stress (Kg/cm²)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.08	0.31	0.48	0.66	0.80	1.00

UnLoading (t)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm²)	5.00	2.50	1.250	0.10
Settlement (mm)	1.00	0.86	0.68	0.35

D (mm) = 300	S1 (mm) = 0.29	S2 (mm) = 0.68	ΔS = 0.42
Ev1 (MPa) = $(\frac{0.79 \cdot D^2 \cdot \Delta S}{\Delta S}) / 25$	194.6		

$$Ev2/Ev1 = 1.40$$

Loading (t)	0	1	2	3	4	5
Stage(Kg)	0	585.395	1172.8	1786.3	2352.6	2946.1
Stress (Kg/cm²)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.00	0.45	0.59	0.95	0.86	0.97

D (mm) = 300	S1 (mm) = 0.90	S2 (mm) = 0.85	ΔS = 0.26
Ev2 (MPa) = $(\frac{0.79 \cdot D^2 \cdot \Delta S}{\Delta S}) / 25$	156.3		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the reloading stage.

D = Plate diameter (mm)

ΔS = The difference between S2 and S1 from the maximum loading (mm) (kg/cm²)

S1 = Settlement (mm) at the minimum loading (mm)

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Company : شركة عبد الرحمن للتنمية والمقاولات

Project : Electric Express Train - Sector (5) - Qous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location : Station 691+780 to 691+880
Station : 691+800
Level : -3.0
Test Date : 08/10/2023
Report Date : 11/10/2023
Type of soil : Original Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 %, 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads



Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report content the following:-
 - location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of Bedding material below the plate -Weathering condition.
 - Time and date of measurements - Unusual observation made during test .
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Report

- Type of soil : Original Earth
- Job requiremer : $E_{v2} > 40 \text{ MPa}$

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
date of measurement	08/10/2023
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{v2} / E_{v1} Ratio
	From	To			E_{v1} (MPa)	E_{v2} (Mpa)	
1	891+700	891+800	- 891+800	-3.0	81.2	159.7	1.97

Signature

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المركز الرئيسي ٢ شارع الملك الأفضل - الزمالة - القاهرة

Company Name : شركة عبد الرحمن للتبعية والمقاولات
Project : Electric Power Train - Sector (R) - Giza to Asmat
Test Date : 08/10/2023
report date : 11/10/2023
Station : 891+800
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.80	0.20	19.97	0.03	0.12
2	1.66	19.59	0.41	19.80	0.20	0.31
3	2.50	19.17	0.83	19.53	0.47	0.55
4	3.33	19.13	0.87	19.32	0.68	0.78
5	4.17	18.90	1.10	19.19	0.81	0.96
6	5.00	18.72	1.28	18.90	1.10	1.19

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
1	2.50	18.83	1.19	19.03	0.97	1.08
2	1.25	19.18	0.82	19.20	0.80	0.81
3	0.100	19.39	0.41	19.35	0.65	0.53

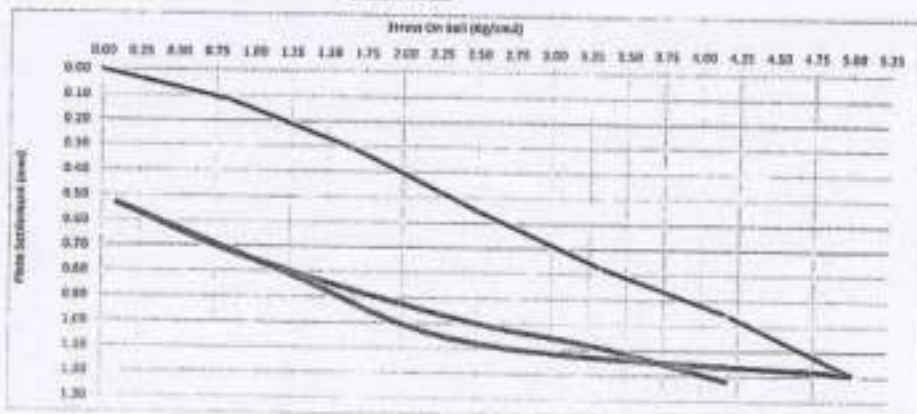
Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.83	19.38	0.62	19.19	0.81	0.72
1	1.66	19.19	0.81	19.07	0.93	0.87
stress is reached.						
2	2.50	19.03	0.97	18.97	1.03	1.00
3	3.33	18.99	1.01	18.83	1.17	1.09
4	4.17	18.87	1.13	18.69	1.31	1.22



Company Name : شركة عبد الرحمن للتشييد والتجارة
Project : Electric Express Train - Sector (5) - Giza to Asmat
Test Date : 08/10/2023
report date : 11/10/2023
Station : 841+030
Test No. : 31

Nonrepulsive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	888	1172.8	1766.3	2352.6	2946.1	3532.9
Stress (Kg/cm²)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.12	0.31	0.65	0.78	0.96	1.10

Unloading (1)	1	2	3	4
Stage(Kg)	3532	1766	884	71
Stress (Kg/cm²)	5.00	2.50	1.250	0.10
Settlement (mm)	1.15	1.06	0.81	0.53

D (mm) = 300	S1 (mm) = 0.37	S2 (mm) = 0.21	ΔS = 0.54
Ev1 (MPa) = (0.79'D³ΔS)/ΔS	81.3		

Ev2/Ev1 = 1.97

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	596.305	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm²)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.03	0.77	0.87	1.00	1.00	1.77

D (mm) = 300	S1 (mm) = 0.84	S2 (mm) = 1.12	ΔS = 0.28
Ev2 (MPa) = (0.79'D³ΔS)/ΔS	180.3		

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the reloading stage.

D = Plate diameter (mm)

S1 = The difference between 0.1 and 0.7 from the maximum loading (mm)

S2 = Difference in settlements at corresponding to 0.1 and 0.7 from the maximum loading (mm)

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Company : شركة حبة الاربع للتجارة والمقاولات
Project : Electric Express Train - Sector (5) - Gous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location : Station 691+880 to 691+980
Station : 691+800
Level : -1.0
Test Date : 08/10/2023
Report Date : 11/10/2023
Type of soil : Original Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum nominal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 %, 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min



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Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The last report content the following:-
 - location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of Bedding material below the plate -Weathering condition.
 - Time and date of measurements - Unusual observation made during test .
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Report

- Type of soil : Original Earth
- Job requiremer : $E_{v2} > 40 \text{ MPa}$

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
date of measurement	08/10/2023
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{v2}/E_{v1} Ratio
	From	To			E_{v1} (MPa)	E_{v2} (Mpa)	
1	691+880	691+980	691+900	-3.0	82.6	90.2	1.09



Company Name : شركة عبد الرحمن للتقنية والمقاولات
Project : Electric Express Train - Sector (5) - Oous to Arment
Test Date : 08/10/2023
report date : 11/10/2023
Station : 691+900
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.78	0.22	19.79	0.21	0.22
2	1.66	19.57	0.43	19.58	0.42	0.43
3	2.50	19.35	0.65	19.37	0.63	0.64
4	3.33	19.12	0.88	19.13	0.87	0.88
5	4.17	18.90	1.10	18.92	1.08	1.09
6	5.00	18.69	1.31	18.70	1.30	1.31

Unloading Stage (1)

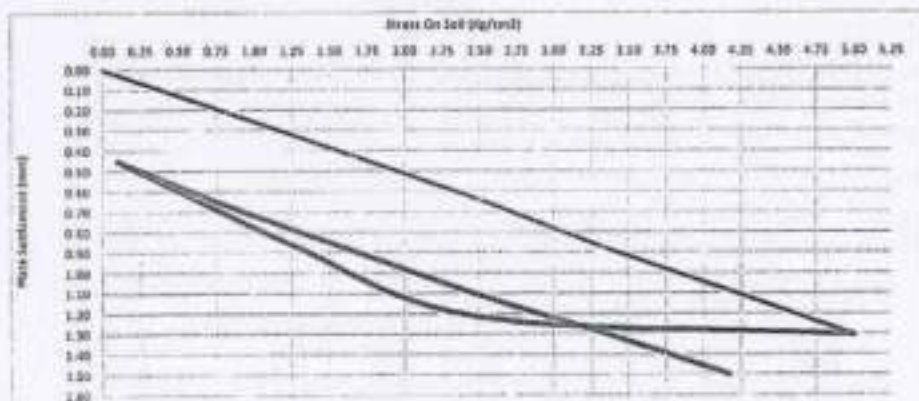
Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
1	2.50	18.78	1.22	18.79	1.21	1.22
2	1.25	19.13	0.87	19.15	0.85	0.86
3	0.100	19.54	0.46	19.56	0.44	0.45

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.83	19.32	0.68	19.34	0.66	0.67
1	1.66	19.10	0.90	19.12	0.88	0.89
stress is reached.						
2	2.50	18.88	1.12	18.90	1.10	1.11
3	3.33	18.67	1.33	18.74	1.26	1.30
4	4.17	18.45	1.51	18.51	1.49	1.50

Company Name : شركة عبد الرحمن قنمية والمقاولات
Project : Electric Express Train - Sector (S) -- Giza to Asmat
Test Date : 08/10/2023
Report date : 11/10/2023
Station : 991-900
Test No. : 01

Normalized Static Plate Load Tests of Soils DIN 18134



Loading (t)	0	1	2	3	4	5	6
Stage(Kg)	0	986	1172.8	1786.3	2352.6	2946.1	3532.5
Stress (Kg/cm²)	0.00	0.83	1.06	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.22	0.43	0.64	0.88	1.09	1.31

UnLoading (t)	1	2	3	4
Stage(Kg)	3533	1786	984	71
Stress (Kg/cm²)	5.00	2.50	1.250	0.10
Settlement (mm)	1.31	1.22	0.86	0.45

D (mm) =	300	S1 (mm) =	0.38	S2 (mm) =	0.92	ΔS =	0.53
Ev1 (MPa) =	(0.75*D*Δσ)/ΔS		82.6				

$$Ev2/Ev1 = 1.89$$

Loading (t)	0	1	2	3	4	5
Stage(Kg)	0	986.399	1172.8	1786.3	2352.6	2946.1
Stress (Kg/cm²)	0.10	0.83	1.06	2.50	3.33	4.17
Settlement (mm)	0.45	0.07	0.88	1.11	1.30	1.51

D (mm) =	300	S1 (mm) =	0.89	S2 (mm) =	1.34	ΔS =	0.45
Ev2 (MPa) =	(0.75*D*Δσ)/ΔS		90.2				

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
ΔS = The difference between 0.3 and 0.7 from the maximum loading (mm)
ΔS = Difference in settlement, corresponding to 0.3 and 0.7 from the maximum loading (mm)



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Company : شركة عبد الرحمن للتنمية والتطويرات

Project : Electric Express Train - Sector (5) - Qous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements.
Test Location : Station 891+980 to 892+080
Station : 891+980
Level : 3.0
Test Date : 06/10/2023
Report Date : 11/10/2023
Type of soil : Original Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm^2
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 %, 25 %, and approximately 2 % of the maximum load
9. Following unloading, a further (2^{nd}) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads



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Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report content the following:-
 - location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of Bedding material below the plate -Weathering condition.
 - Time and date of measurements - Unusual observation made during test .
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Report

- Type of soil : Original Earth
- Job requiremer : $E_{v2} > 40 \text{ MPa}$

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
Date of measurement	08/10/2023
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{v2} / E_{v1} Ratio
	From	To			$E_{v1} \text{ (MPa)}$	$E_{v2} \text{ (MPa)}$	
1	691+980	692+080	: 691+990	-3.0	83.4	88.9	1.07

Signature



Company Name : شركة عبد الرحمن للتنمية والمقاولات
Project : Electric Express Train - Sector (5) - Gous to Arment.
Test Date : 08/10/2023
report date : 11/10/2023
Station : 691+990
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	30.00	0.00	30.00	0.00	0.00
1	0.83	15.78	0.22	19.80	0.20	0.21
2	1.66	19.57	0.43	19.59	0.41	0.42
3	2.50	19.35	0.65	19.37	0.63	0.64
4	3.33	19.12	0.88	19.15	0.85	0.87
5	4.17	18.90	1.10	18.94	1.06	1.08
6	5.00	18.69	1.31	18.72	1.28	1.30

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
1	2.50	18.78	1.22	18.81	1.19	1.21
2	1.25	19.10	0.90	19.12	0.88	0.89
3	0.100	19.61	0.39	19.63	0.37	0.38

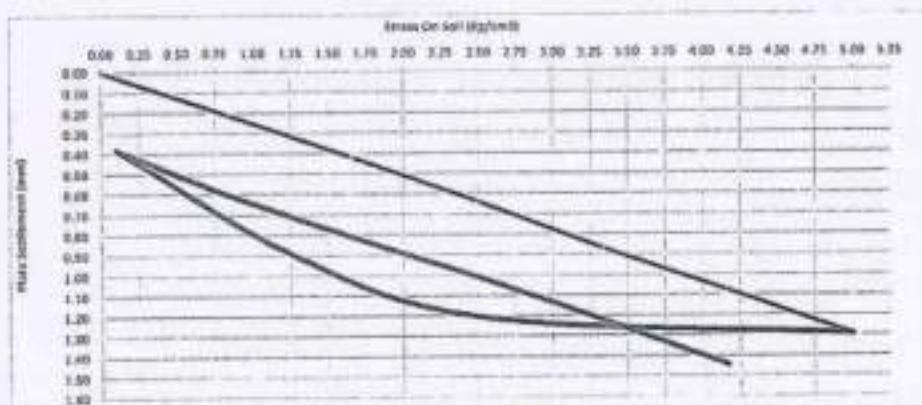
Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.83	19.39	0.61	19.41	0.59	0.60
initially equ	1.00	19.18	0.82	19.20	0.80	0.81
stress is reached.						
2	2.50	18.98	1.02	19.00	1.00	1.01
3	3.33	18.77	1.23	18.79	1.21	1.22
4	4.17	18.54	1.46	18.57	1.43	1.45



Company Name : شركة جيه الرحمن للتصميم والهندسة
Project : Electric Express Train - Sector (S) - Ours to Amari.
Test Date : 08/10/2023
report date : 11/10/2023
Station : G81+000
Test No : 01

Nonrepulsive Static Plate Load Tests of Soils DIN 18134



Loading (t)	0	1	2	3	4	5	6
Stage(Kg)	0	586	1172.8	1766.3	2352.6	2946.1	3532.5
Stress (Kg/cm²)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.21	0.42	0.64	0.87	1.08	1.30

UnLoading (t)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm²)	5.00	2.50	1.250	0.10
Settlement (mm)	1.30	1.21	0.88	0.38

D (mm) =	300	S1 (mm) =	0.38	S2 (mm) =	0.91	ΔS =	0.53
Ev1 (MPa) =	$(0.75 \cdot D^2 \cdot \Delta \sigma) / \Delta S$						
	85.4						

$$Ev2/Ev1 = 1.07$$

Loading (Z)	0	1	2	3	4	5
Stage(Kg)	0	586.395	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm²)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.30	0.60	0.81	1.01	1.22	1.45

D (mm) =	300	S1 (mm) =	6.77	S2 (mm) =	1.27	ΔS =	0.90
Ev2 (MPa) =	$(0.75 \cdot D^2 \cdot \Delta \sigma) / \Delta S$						
	88.8						

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

Δs = The difference between S2 and S1 from the maximum loading (mm)

ΔS = Difference in settlements corresponding to 0.1 and 0.7 from the maximum loading (mm)

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Company : شركة عبد الرحمن للتشييد والمقاولات

Project : Electric Express Train - Sector (5) - Qous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134-2012-04 and project requirements
Test Location : Station 692+080 to 692+180
Station : 692+080
Level : -3.0
Test Date : 08/10/2023
Report Date : 11/10/2023
Type of soil : Original Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 lbar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clear the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 %, 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min

11. Remove the loads

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Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report content the following:-
 - location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of Bedding material below the plate -Weathering condition.
 - Time and date of measurements - Unusual observation made during test .
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Report

- Type of soil : Original Earth
- Job requiremer : $E_{v2} > 40 \text{ MPa}$

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
Date of measurement	08/10/2023
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{v2} / E_{v1} Ratio
	From	To			$E_{v1} \text{ (MPa)}$	$E_{v2} \text{ (Mpa)}$	
1	692+080	692+180	692+090	-3.0	83.2	94.3	1.13

Signature



Company Name : شركة عبد الرحمن للتشييد والمقاولات
Project : Electric Express Train - Sector (B) - Gous to Arment.
Test Date : 08/10/2023
report date : 11/10/2023
Station : 892+090
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.79	0.21	19.80	0.20	0.21
2	1.66	19.58	0.42	19.59	0.41	0.42
3	2.50	19.36	0.64	19.38	0.62	0.63
4	3.33	19.13	0.87	19.15	0.85	0.86
5	4.17	18.90	1.10	18.94	1.06	1.08
6	5.00	18.69	1.31	18.72	1.26	1.30

Unloading Stage (1)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
1	2.50	18.79	1.21	18.81	1.19	1.20
2	1.25	19.08	0.92	19.10	0.90	0.91
3	0.100	19.48	0.52	19.51	0.49	0.50

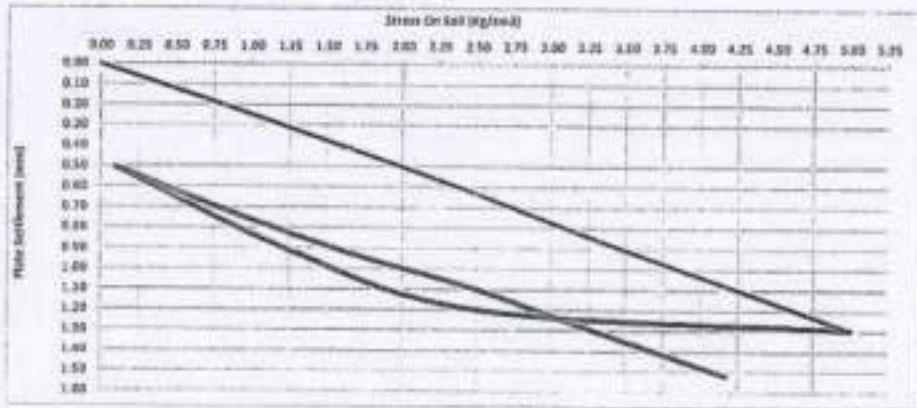
Loading Stage (2)

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.83	19.27	0.73	19.30	0.70	0.72
1	1.66	19.05	0.94	19.08	0.91	0.93
stress is reached.						
2	2.50	18.89	1.11	18.91	1.09	1.10
3	3.33	18.68	1.32	18.70	1.30	1.31
4	4.17	18.47	1.53	18.49	1.51	1.52



Company Name : شركة عبد الرحمن للتشييد والمقاولات
Project : Electric Express Train - Sector (D) - Qous to Asmat.
Test Date : 08/10/2023
report date : 11/10/2023
Station : 682+686
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	588	1172.8	1766.3	2352.6	2946.1	3532.5
Stress (Kg/cm²)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.21	0.42	0.63	0.86	1.08	1.30

UnLoading (1)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm²)	5.00	2.50	1.250	0.10
Settlement (mm)	1.30	1.20	0.91	0.50

D (mm) =	300	S1 (mm) =	6.37	S2 (mm) =	8.86	ΔS =	6.63
Ev1 (MPa) =	$(8.75 \times D^2 \Delta S) / 0.05$						
	83.3						

$$Ev2/Ev1 = 1.13$$

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	588.305	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm²)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.60	0.73	0.83	1.10	1.31	1.57

D (mm) =	300	S1 (mm) =	6.88	S2 (mm) =	1.35	ΔS =	0.47
Ev2 (MPa) =	$(8.75 \times D^2 \Delta S) / 0.05$						
	94.3						

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

S1 = Difference between S1 and S2 from the maximum loading (smax) (kg/cm²)

S2 = Difference in settlements corresponding to S1 from the maximum loading (mm)



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Company : شركة عبد الرحمن للتشييد والمقاولات

Project : Electric Express Train - Sector (5) - Gous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location : Station 892+188 to 892+220
Station : 892+200
Level : -3.0
Test Date : 08/10/2023
Report Date : 11/10/2023
Type of soil : Original Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum nominal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, in 50 %, 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.

11. Remove the load.

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Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The last report content the following:-
 - location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of Bedding material below the plate -Weathering condition.
 - Time and date of measurements - Unusual observation made during test .
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Report

- Type of soil : Original Earth
- Job requiremer : $E_{v2} > 40 \text{ MPa}$

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
date of measurement	08/10/2028
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{v2} / E_{v1} Ratio
	From	To			E_{v1} (MPa)	E_{v2} (Mpa)	
1	692+180	692+220	692+200	-3.0	121.3	127.7	1.05

Signature: 
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Company Name : شركة حركة الوجه القبلي للنقل
Project : Electric Express Train - Sector (5) - Gous to Arment.
Test Date : 08/10/2023
report date : 11/10/2023
Station : 692+200
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134.

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.95	0.05	19.86	0.14	0.10
2	1.66	19.80	0.20	19.50	0.50	0.35
3	2.50	19.65	0.35	19.41	0.59	0.47
4	3.33	19.52	0.48	19.22	0.78	0.63
5	4.17	19.30	0.70	19.10	0.90	0.80
6	5.00	19.10	0.90	18.85	1.15	1.03

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
1	2.50	19.21	0.79	18.91	1.09	0.94
2	1.25	19.44	0.56	19.21	0.79	0.67
3	0.100	19.63	0.37	19.80	0.20	0.29

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.83	19.51	0.49	19.71	0.29	0.39
1	1.66	19.18	0.61	19.60	0.40	0.50
stress is reached.						
2	2.50	19.21	0.79	19.49	0.51	0.65
3	3.33	19.10	0.90	19.28	0.72	0.81
4	4.17	19.00	1.00	19.20	0.80	0.90



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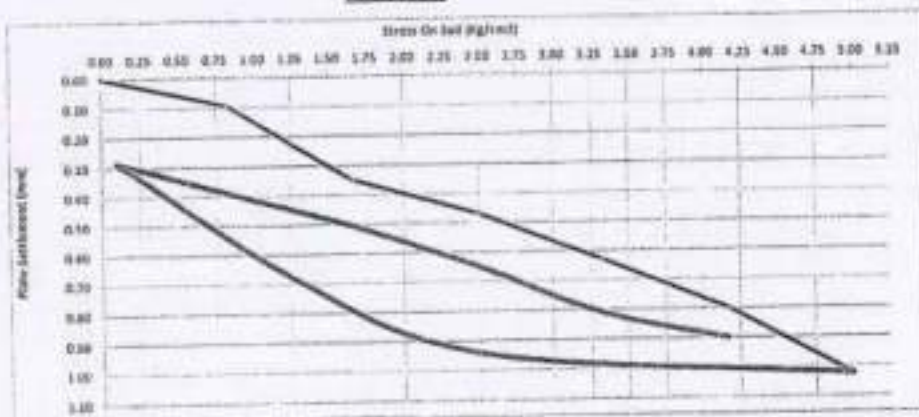


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Company Name
Project
Test Date
Report date
Station
Test No.

شركة عبد الرحمن للتشييد والمقاولات
Electric Express Train - Sector (5) - Gous to Amman
08/10/2023
11/10/2023
892+205
01

Nonresonantive Static Plate Load Tests of Soils DIN 18134



Loading (t)	0	1	2	3	4	5	6
Stage(Kg)	0	880	1172.8	1766.3	2352.6	2946.1	3532.6
Stress (Kg/cm²)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.10	0.35	0.47	0.63	0.80	1.03

UnLoading (t)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm²)	5.00	2.50	1.250	0.10
Settlement (mm)	1.03	0.94	0.87	0.29

D (mm) =	300	St (mm/s)	0.36	S2(mm/s)	0.69	ΔS =	0.36
Ev1 (MPa) =	$(\frac{1}{0.75} \cdot D^2 \cdot \Delta S) / \Delta S$		121.3				

$$Ev2/Ev1 = 3.05$$

Loading (t)	0	1	2	3	4	5
Stage(Kg)	0	886.395	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm²)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.29	0.39	0.50	0.65	0.81	0.90

D (mm) =	300	St (mm/s)	0.69	S2(mm/s)	0.63	ΔS =	0.36
Ev2 (MPa) =	$(\frac{1}{0.75} \cdot D^2 \cdot \Delta S) / \Delta S$		197.7				

Ev1 = Modulus of deformation during the loading stage.

Ev2 = Modulus of deformation during the Reloading stage.

D = Plate diameter (mm)

ΔS = The difference between 0.3 and 0.7 from the maximum loading (mm)

S2 = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)



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Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 10/10/2023
Soil type : Middle Embankment
Location : ST From 692+400 To 692+480
Level : -1.5 M
Report No. : 29

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+440	1291	2.37	5.5	2.24	97.1%	Comply
2	692+460	1459	2.43	5.6	2.30	99.8%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature /

مكتب معامل الاستشارات الهندسية
شركة عبد الرحمن
رقم الترخيص المصري رقم 219 - 521
المركز الرئيسي : شارع الملك فيصل - الجيزة - 12511 - 12511



Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 10/09/2023
Reporting Date : 14/09/2023
Reporting No. : 01

Dear Gentleman,

Attached here with the delivered on 10 / 09 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /



3 El Malek El Akbar Street
Zakaria, Cairo
T/A Fax: 27387231 - 27385600



إلى السيد المهندس
الزبدان - القاهرة
المهندس / خالد

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Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 10/09/2023
Reporting Date : 14/09/2023
Reporting No. : 01

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	94.7
37.5	1.5	90.3
25	1	75.1
19	¾	66.3
12.50	½	51.3
9.50	3/8	46.7
4.75	4	34.7
2.00	10	27.6
0.425	40	18.5

Signature /



30 Malek El Attar Street
Zamalek, Cairo
Tel/Fax: 27367231 - 27363095



في مكتب PPI
فرع مكتب القاهرة
مكتب : مكتب
27367231 - 27363095

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Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train -- HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 10/09/2023
Reporting Date : 14/09/2023
Reporting No. : 01

Materials finer than 75 μ m (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	8.7

Signature /



3 El Mares El Akhd Street
Zakaria, Cairo
Tel/Fax: 27307237 - 27300001



إدارة الجودة
إشراك العملاء
الامتثال للمواصفات

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مكتب دراسات الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 10/09/2023
Reporting Date : 14/09/2023
Reporting No. : 01

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /



15 El Masara El Akhira Street
Zamaten, Cairo
Tel/Fax: 27967231 - 27960005



شركة عبد الرحمن
الهندسة المدنية
مكتب دراسات

15 El Masara El Akhira Street



Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 10/09/2023
Reporting Date : 14/09/2023
Reporting No. : 01

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-b)	(A-2-4)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	27.6	Max 50 %	-----	-----
0.425 mm (No. 40).	18.5	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.7	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (☒ Comply ☐ Not Comply) with specifications limits

Signature /



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Cairo, Egypt
Tel: Fax: 27347231 - 27340003



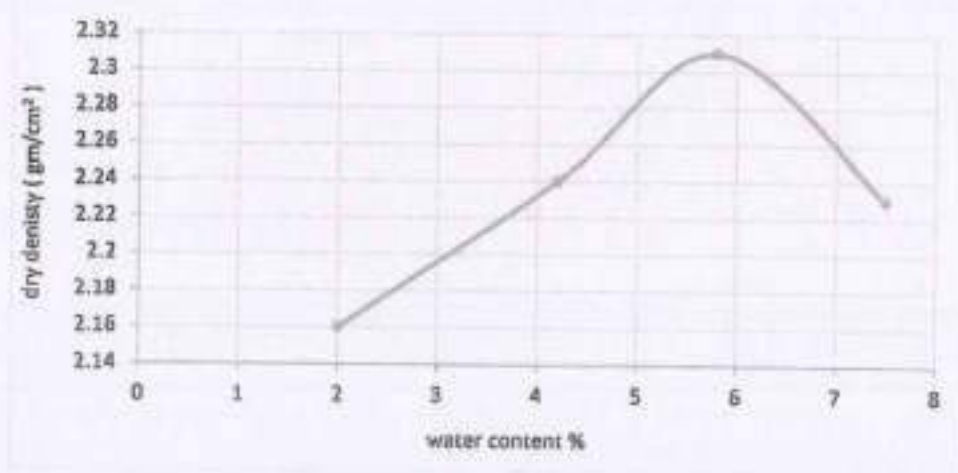
إلى السيد المهندس
المهندس الدكتور
المهندس

CEL

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مكتب معامل الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 10/09/2023
Reporting Date : 14/09/2023
Reporting No. : 01

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm³) : 2.31
- Optimum moisture content % : 5.8

Signature /



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Zamalek, Cairo
Tel/Fax : 27367031 - 27360000



إلى السيد المهندس
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Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة عيد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 10/09/2023
Reporting Date : 14/09/2023
Reporting No. : 01

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.62
1.27	0.050	1.36
1.91	0.075	2.36
2.54	0.100	3.31
3.18	0.125	4.32
3.81	0.150	5.18
4.45	0.175	5.86
5.08	0.200	5.90
6.35	0.250	5.06

CBR Result	Stress (Mpa)		CBR 100 %
At 0.2 inch (5.08 mm) penetration	St. Value	Sample results	57.2%
	10.3	5.9	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\approx 2.31 \text{ (gm/cm}^3\text{)}$
At = 5.8 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 35.

Signature /

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مكتب دراسات الاستشارات الهندسية
شروعات و دراسات
للمسجلين 537 - 991 - 210
بازار المهندس شارع بنك الافضل - الزمالك - القاهرة

J El Mokri E Abdel Salam
Cairo, Egypt
Tel: 27362221 - 27362222

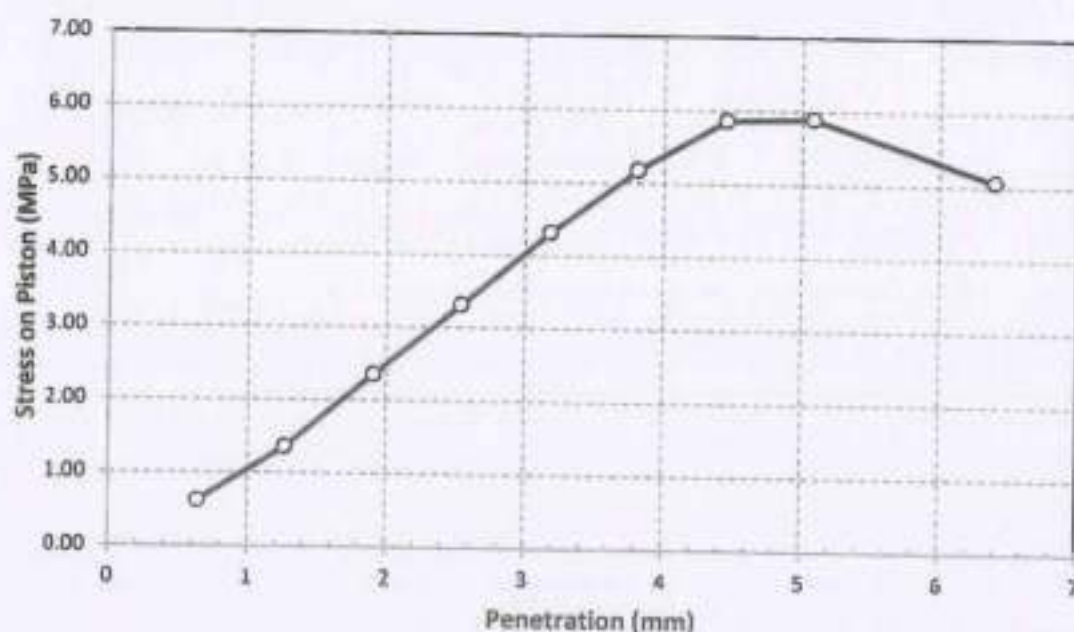


إدارة الجودة
إشراك العملاء
الشفافية
التعاون

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arment
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 10/09/2023
Reporting Date : 14/09/2023
Reporting No. : 01

Load Penetration Curve of CBR Test

ASTM D-1883



Signature



Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 10/10/2023
Soil type : Middle Embankment
Location : ST From 692+240 To 692+260
Level : -1.5 M
Report No. : 28

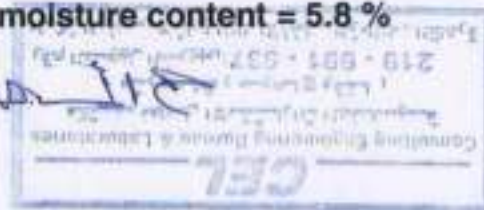
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+250	1332	2.30	5.8	2.17	98.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature /



Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 11/10/2023
Soil type : Middle Embankment
Location : ST From 692+040 TO 692+100
Level : -1.75 M
Report No. : 30

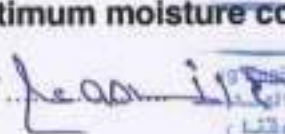
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+060	1279	2.39	5.8	2.25	97.6%	Comply
2	692+080	1278	2.41	6.4	2.27	98.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature /


Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
قسم بحوث ودراسات
رقم التسجيل 537 - 991
المركز الرئيسي : القاهرة - ميدان التحرير - الزمالة

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 11/10/2023
Soil type : Middle Embankment
Location : ST From 691+860 To 691+880
Level : -2 M
Report No. : 31

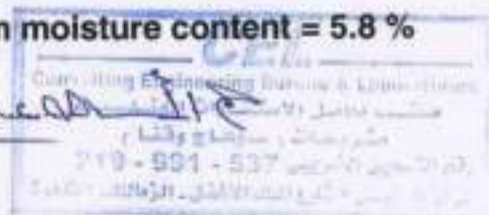
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	691+870	1407	2.36	6	2.23	96.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature /



Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 16/10/2023
Soil type : Upper Embankment
Location : ST From 692+340 To 692+400
Level : -1.25M
Report No. : 38

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	693+350	1332	2.42	5.8	2.29	99.0%	Comply
2	693+360	1299	2.40	5.8	2.26	98.0%	Comply
3	693+370	1363	2.36	5.8	2.23	96.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature /

Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
رقم التسجيل 219 - 001 - 137
المركز الرئيسي - القاهرة - الجيزة

3 El Malek El Afdal Street
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في مكة المكرمة
البريد الإلكتروني : info@cel.com.eg
تليفون : 011-27367231

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مكتب معامل الاستشارات الهندسية

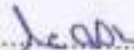
Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 16/10/2023
Soil type : Upper Embankment
Location : ST From 692+400 To 692+480
Level : -1.25M
Report No. : 35

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+430	1374	2.35	5.8	2.22	96.2%	Comply
2	692+450	1268	2.37	5.8	2.24	96.8%	Comply
3	692+450	1363	2.35	5.8	2.22	96.0%	Comply
4	692+70	1374	2.42	5.8	2.29	99.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 

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Zamalek, Cairo
Tel& Fax : 27367231 - 27363000



شركة عبد الرحمن
القاهرة - مصر
الهاتف - الفاكس

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 16/10/2023
Soil type : Upper Embankment
Location : ST From 692+220 To 692+240 استبدال
Level : -1.25M
Report No. : 37

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+250	1466	2.33	5.8	2.20	95.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature /



Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 16/10/2023
Soil type : Upper Embankment
Location : ST From 692+240 To 692+260
Level : -1.25M
Report No. : 36

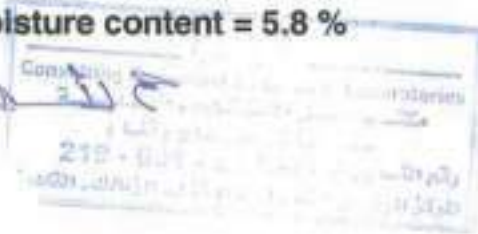
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+250	1568	2.33	5.8	2.20	95.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature /



Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 19/10/2023
Soil type : Middle Embankment
Location : ST From 692+980/692+040
Level : -1.5 M
Report No. : 41-2

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	693+000	1484	2.37	6.4	2.23	96.5%	Comply
2	693+020	1370	2.37	5.8	2.24	96.9%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature /



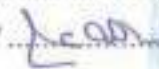
Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 18/10/2023
Soil type : Middle Embankment
Location : ST From 692+040 To 692+100
Level : -1.5 M
Report No. : 41

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+060	1563	2.36	6.4	2.22	96.1%	Comply
2	692+080	1386	2.42	5.8	2.29	99.0%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 



Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 18/10/2023
Soil type : Middle Embankment
Location : ST From 692+100 To 692+140
Level : -1.5 M
Report No. : 40

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+120	1614	2.36	5.8	2.23	96.7%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature /



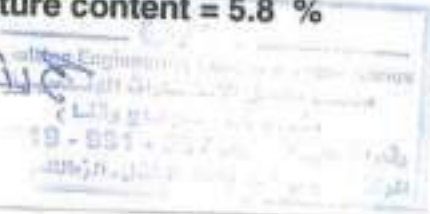
Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 16/10/2023
Soil type : Upper Embankment
Location : ST From 692+260/692+320
Level : -1.25M
Report No. : 38-2

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+280	1434	2.40	5.8	2.27	98.2%	Comply
2	692+300	1459	2.37	5.8	2.24	97.1%	Comply
3	692+318	1529	2.33	5.8	2.20	95.1%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature /  

El Mostafa El Afendi Street
Zamalek, Cairo
Tel & Fax : 27367531 - 27363680



مكتب محامل الاستشارات الهندسية
الهندسة المدنية
الهندسة الجيوتقنية

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 22/10/2023
Soil type : Upper Embankment
Location : ST From 692+340 To 692+480
Level : -1 M
Report No. : 44

**Compaction test by using Sand – Cone Test Method
ASTM D- 1556**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+360	1599	2.34	6.4	2.20	95.2%	Comply
2	692+385	1492	2.34	6	2.20	95.4%	Comply
3	692+415	1565	2.36	6.4	2.22	96.0%	Comply
4	692+435	1653	2.34	6	2.20	95.4%	Comply
5	692+465	1415	2.41	6.4	2.27	98.1%	Comply
6	692+475	1654	2.37	6.4	2.23	96.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.31 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 


3 B Malek E Abdel Street
Zamalek, Cairo
Tel/Fax : 27367211 - 27363683



إدارة المختبر المركزي
مركز الأبحاث
الهندسة المدنية

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 26/10/2023
Soil type : Upper Embankment
Location : ST From 692+180 To 692+220
Level : - 1 M
Report No. : 48-2

**Compaction test by using Sand – Cone Test Method
ASTM D- 1556**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+190	1454	2.40	5.6	2.27	99.1%	Comply
2	692+210	1601	2.31	5.8	2.18	95.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.29 gm/cm³
- At optimum moisture content = 5.8 %

Signature /

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مكتب محامل الاستشارات الهندسية
شروط الاستخدام
210 - 201 - 200
القاهرة - مصر
www.cel-eg.com

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 05/10/2023
Reporting Date : 10/10/2023
Reporting No. : 01-2

Dear Gentleman,

Attached here with the delivered on 05 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /.....



Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 05/10/2023
Reporting Date : 10/10/2023
Reporting No. : 01-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	95.4
37.5	1.5	91.3
25	1	76.4
19	¾	67.7
12.50	½	53.0
9.50	3/8	47.9
4.75	4	35.4
2.00	10	29.2
0.425	40	20.1

Signature / 



El Moteik El Abdel Street
Zematek, Cairo
Tel& Fax: 27367231 - 27363089



في القاهرة
إمارة القاهرة
القاهرة - مصر

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 05/10/2023
Reporting Date : 10/10/2023
Reporting No. : 01-2

Materials finer than 75 μ m (no.200) sieve
By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	8.2

Signature: 



Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 05/10/2023
Reporting Date : 10/10/2023
Reporting No. : 01-2

**Results of liquid limit and plasticity index
of soils according to ASTM D-4318**

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 05/10/2023
Reporting Date : 10/10/2023
Reporting No. : 01-2

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	29.2	Max 50 %	-----	-----
0.425 mm (No. 40).	20.1	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.2	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (☐ Comply - ☒ Not Comply) with specifications limits

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219 - 541 - 537
بريد الإلكتروني : info@cel-eg.com

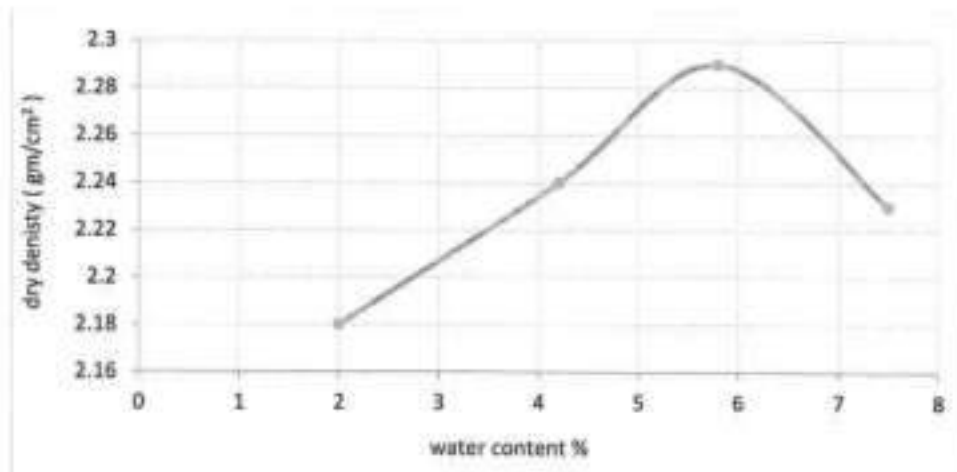
3 B Nilek E. Afdal Street
Zamalek, Cairo
Toll Fax : 27367231 - 27363061



إلى مكتب المهندس
فرماتك المحترم
الطيب ، القاهرة
2023/10/10

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 05/10/2023
Reporting Date : 10/10/2023
Reporting No. : 01-2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm³) : 2.29
- Optimum moisture content % : 5.8 %

Signature /





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مكتب محامل الاستشارات الهندسية

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 05/10/2023
Reporting Date : 10/10/2023
Reporting No. : 01-2

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.52
1.27	0.050	1.22
1.91	0.075	2.10
2.54	0.100	3.03
3.18	0.125	4.00
3.81	0.150	4.89
4.45	0.175	5.57
5.08	0.200	5.68
6.35	0.250	5.01

CBR Result	Stress (Mpa)		CBR 100 %
At 0.2 inch (5.08 mm) penetration	St. Value	Sample results	55.2%
	10.3	5.68	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\approx 2.29 \text{ (gm/cm}^3\text{)}$
At = 5.8 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /

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مكتب محامل الاستشارات الهندسية

شروعات ومعدات

10 Jan 2024

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مركز اختبار المعايير

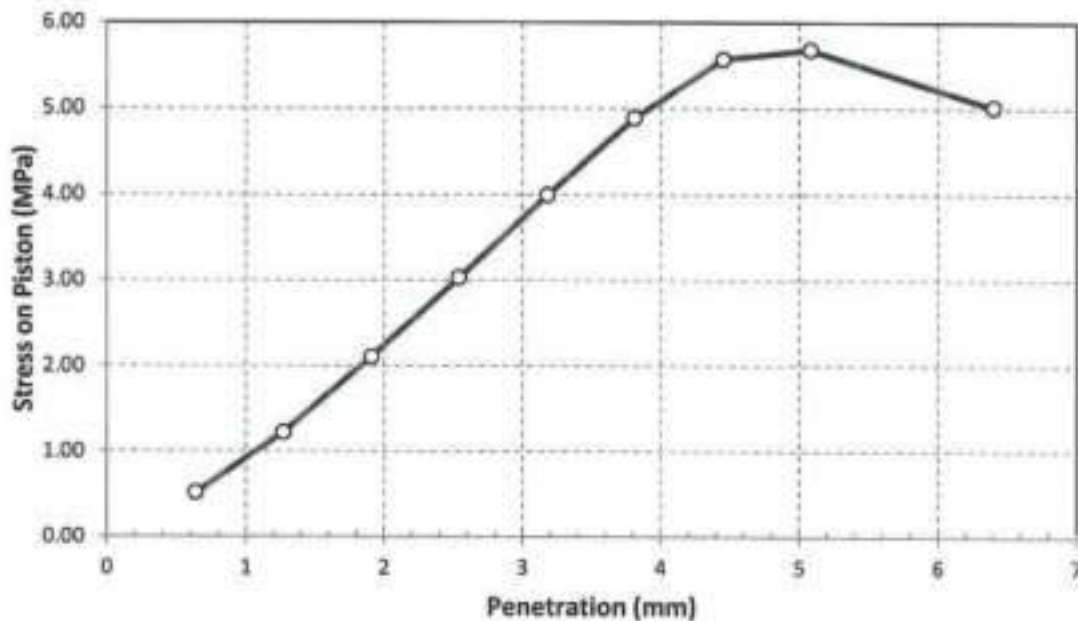
الهيئة العامة للمقايير

القياس - القاهرة

2023/10/10 2023/10/10

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 692+120 E=32.6067822 N=25.5653467
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 05/10/2023
Reporting Date : 10/10/2023
Reporting No. : 01-2

Load Penetration Curve of CBR Test
ASTM D-1883



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إدارة المختبر
البريد الإلكتروني: info@cel-eg.com
الهاتف: 011 27367231 - 27363093

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 26/10/2023
Soil type : Upper Embankment
Location : ST From 692+220 To 692+320
Level : - 1 M
Report No. : 48-3

**Compaction test by using Sand – Cone Test Method
ASTM D- 1556**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+240	1392	2.40	5.6	2.28	99.4%	Comply
2	692+260	1530	2.33	5.8	2.20	96.2%	Comply
3	692+280	1368	2.38	6.4	2.24	97.6%	Comply
4	692+300	1430	2.42	6.4	2.28	99.5%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.29 gm/cm³
- At optimum moisture content = 5.8 %

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Tels. Fax: 27367531 - 27367530



3 شارع الملكة اوفى
الزمالك - القاهرة
الهاتف - الفاكس : 27367531 - 27367530

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 29/10/2023
Soil type : Upper Embankment
Location : ST From 692+140 To 692+180
Level : - 1.25 M
Report No. : 51

**Compaction test by using Sand – Cone Test Method
ASTM D- 1556**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+150	1443	2.30	5.3	2.19	95.6%	Comply
2	692+170	1275	2.34	5	2.23	97.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.29 gm/cm³
- At optimum moisture content = 5.8 %

Signature /

[Handwritten Signature]
Consulting Engineering Bureau & Laboratories
مكتب محامل الاستشارات الهندسية
210 - 991 - 637
27367231 - 27360000

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 30/10/2023
Soil type : Middle Embankment
Location : ST From 692+020 To 692+140
Level : - 1.25 M
Report No. : 50

**Compaction test by using Sand – Cone Test Method
ASTM D- 1556**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+030	1567	2.31	5.5	2.19	95.8%	Comply
2	692+050	1523	2.33	5.5	2.20	96.3%	Comply
3	692+080	1464	2.32	5.3	2.20	96.2%	Comply
4	692+100	1461	2.30	5.5	2.18	95.2%	Comply
5	692+120	1310	2.36	5.8	2.23	97.5%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.29 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 

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مركز اختبار
في
مبنى
مركز
مبنى

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 07/11/2023
Soil type : Upper Embankment
Location : ST From 692+320 To 692+420
Level : - 0.75 M
Report No. : 55-2

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	692+340	1446	2.36	6.4	2.22	96.8%	Comply
2	692+360	1450	2.34	6.4	2.20	96.1%	Comply
3	692+385	1502	2.31	6.4	2.17	95.0%	Comply
4	692+410	1392	2.39	6.4	2.25	98.3%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.29 gm/cm³
- At optimum moisture content = 5.8 %

Signature /

