



برئاسة إقطاع الكهرباء السريع من الحين السخنة إلى القطار المدين نائق المبرعة القطاع السابع رقم ٤١ و ٤٢ عند محطات (553+310), (552+084)

م	البلد	الوحدة	القيمة	الفترة	الإجمالي
١	بالمرتر المطولي تنفيذ جسات في جميع أنواع التربة عند الصخرية وعلى أن يتم تحديد (Q unconfined) لكل طبقة طبقاً لتقرير التربة والبلد يشمل لكل ما قبله الجسات وجميع مستلزماتها إلى الموقع مهما كانت الظروف المحيطة بالموقع ونفذ جميع الكارثات اللازمة من مكان نقلها إلى الموقع ثم نقلها خارج الموقع بعد الانتهاء من كافة الأعمال واستخراج التقارير واعتمادها من جهة الإشراف وكل ما يلزم لتجهيز العمل كاملاً طبقاً لأصول الصناعة والشروط والمواصفات وتعليمات المهندسين المشرفين (ستون متر طولي)	م.ط	٦٠,٠٠٠	٤٥٠	٢٧,٠٠٠
٢	بالمرتر المكعب حفر في التربة المتماسكة وشديدة التماسك بالمعنى المطلوب لزوم الأساسات بحيث يصل عمق الحفر إلى المنسوب الصالح للتأسيس حسب الأبعاد والمقاسات الموضحة بالرسومات التنفيذية والمبهر يشمل سند جدران الحفر وإزالة أي عوائق تعترضه ونزع مياه الرشح إذا لزم الأمر ونقل نواتج الحفر الزائدة إلى المنقلب العمومية والبلد شامل مما يسببه طبقاً لأصول الصناعة والرسومات والمواصفات وتعليمات المهندسين المشرفين (ستة آلاف وتسعمائة وخمسون متر مكعب)	م.م	٦٦٥٠,٠٠٠	٨٠	٥٥٦,٠٠٠
٣	بالمرتر المكعب توريد وتشغيل طبقة إحتلال من (من + رمل) ونسبة ٢ : ١ موزدة من خارج الموقع حسب تعليمات المهندسين المشرفين والسعر يشمل الردم طبقات لا يزيد سمك أي منها عن ٢٥ سم مع الرش بالمياه والدمك جيداً باستخدام آلات الدمك الميكانيكي للوصول إلى أقصى كثافة جافة وكل ما يلزم لتجهيز العمل كاملاً طبقاً لأصول الصناعة وتعليمات المهندسين المشرفين (أربعة آلاف ومائتان وخمسون متر مكعب)	م.م	٤٢٥٠,٠٠٠	٢٣٠	١,١٠٦,٥٠٠
٤	بالمرتر المكعب توريد وتشغيل رمل نظيفة أو تربة زلطفية موزدة من خارج الموقع حول الأساسات وحول جسم الكوبري وحسب تعليمات المهندسين المشرفين والمبهر يشمل الردم طبقات لا يزيد سمك أي منها عن ٢٥ سم مع الرش بالمياه والدمك جيداً باستخدام آلات الدمك الميكانيكي للوصول إلى أقصى كثافة جافة وكل ما يلزم لتجهيز العمل كاملاً طبقاً لأصول الصناعة وتعليمات المهندسين المشرفين مسافة نقل ٤٠ كم يتم احتساب علاوة ١ جنيه لكل كم زيادة (ثلاثمائة وخمسون متر مكعب)	م.م	٣٥٠,٠٠٠	١٦٠	٥٦,٠٠٠
٥	بالمرتر المكعب توريد وفرش طبقة من الأحجار الصلبة سمك ٦٠ سم (بدون مونة) في نهاية مخرج البربخ والتجحر لا تقل أضلاعه عن ٣٠ سم ويصمم المطلوب والأحجار لا يقل الوزن النوعي لها عن ٢,٠٦ ولا يزيد الإحتصاص لها عن ٦% ولا يزيد التآكل عن ٤% ولا يزيد سمك الطبقة الأولى من الأحجار بعد إتمام الدمك لها عن ٢٠ سم ويتم التنفيذ طبقاً لأصول الصناعة والرسومات المعتمدة ومواصفات المشروع (مائة وخمسون متر مكعب)	م.م	١٥٠,٠٠٠	٢٨٠	٤٢,٠٠٠
٦	بالمرتر المكعب أصل توريد وبناء تكليس من الدبش من الأحجار الصلبة والسليمة الخشنة من البطح والحرق الطرية لا يقل أضلاعه عن ٤٠ سم بحيث لا يقل الوزن النوعي عن ٢,٠٦ ولا يزيد الإحتصاص عن ٩% ولا يزيد التآكل عن ٤% ويتم إستعمال الوجه الخارجى أجانب الدبش وجعلها قائمة الزوايا وتكون المونة المستعملة من الأسمنت والرمل بنسبة خلط ٣٠٠ كجم /م من الرمل الحرش النظيف مع الكتلة المعروفة بالكتلة الخشنة القاطنة ويتم التنفيذ طبقاً لأصول الصناعة والرسومات والتفاصيل المعتمدة والبلد بجميع مشتعلاته طبقاً لمواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندسين المشرفين مسافة النقل حتى ٢٠ كم يتم صرف الكارثات والموازن مع قيام الشركة المنفذة بتقديم ما يثبت . يتم إضافة قيمة المادة المحجورة مع قيام الشركة المنفذة بتقديم ما يثبت من الجهات الرسمية المشرفة عن المخارج . يتم احتساب علاوة ١ جنيه لكل ١ كم بالزيادة أو النقصان. (مائتان وثلاثون متر مكعب)	م.م	٢٣٠,٠٠٠	٢٩٠	٦٦,٧٠٠
٧	بالمرتر المكعب توريد وصب خرسانة عادية بالسمك المطلوب أسفل البربخ بإجهاد ٢٥٠ كجم / سم ٢ ومحتوى أسمنت لا يقل عن ٣٠٠ كجم / م ٢م خرسانة عادية والفله تشمل الخرسانة الجاهزة والشدات والنقل والخلط والصب والتشطيب والمعالجة والإختبارات طبقاً للرسومات والمواصفات والمبهر يشمل دفع جميع الكارثات (اربعمائة وخمسون متر مكعب)	م.م	٤٥٠,٠٠٠	٢١٠٠	٩٤٥,٠٠٠



عبدالله بن محمد

بريقي لقطار الكورنيل السريع من العين السخنة الى القطار للملين فائق السرعة القطاع السابع رقم ٤١ و ٤٢ عند محطتي (553+310)، (552+064)

الكمية	الوحدة	القيمة	المبلغ	البيان
٢٠٠	م ^٣	٧٢٠,٠٠٠	١٤٤,٠٠٠	بالمتر المكعب توريد وصب خرسانة مسلحة لزوم الأساسات حسب الرسومات التنفيذية والخرسانة ذات محتوى اسمنتى لا يقل عن ٤٢٠ كجم / م ^٣ اسمنت بورتلاندى عالى واستخدام اضافات خاصة (CORROSION INHIBITOR) وازدقة السليكا لدمج مع الدمك الميكانيكى جيدا وتسوية السطح الطولى اللازمة للحصول على رتبة لا تقل عن ٤٥٠ كجم / م ^٣ (على ان يحقق الرمل والركام والخرسانة الناتجة حدود المواصفات القياسية المصرية والكود المصري) واستخدام مواد الإضافات المعتمدة للحصول على (DUARABILTY) لا تقل عن ١٢٠ سنة للعصر واستخدام شدادات معتمدة خاصة للحصول على أقصى جساءة سطح الفلة لا تشمل حديد التسليح والفلة تشمل عمل الشدات والفرم ومعالجة الخرسانة بعد الصب طبقا للشروط والمواصفات الفنية والرسومات وحسب اصول الصناعة وتعليمات المهندسين المشرفين (سبعة وعشرون متر مكعب)
٢٠٠	م ^٣	٢١٠,٠٠٠	٤٢,٠٠٠	بالمتر المكعب اعمال تنفيذ خرسانة مسلحة حائط مستد مع استخدام اسمنت بورتلاندى عالى ومحتوى اسمنت لا يقل عن ٤٠٠ كجم / م ^٣ واجهات لا يقل عن ٣٥٠ كجم / م ^٣ والسور لا تشمل حديد التسليح (مائتان وتسعون متر مكعب)
٢٠٠	م ^٣	٥٢٢,٠٠٠	١٠٤,٤٠٠	بالمتر المكعب خرسانة مسلحة لزوم البلاطة CAST IN SITU SLABS مع تصميم الخلطة الخرسانية على ان يكون الخلط والدمك ميكانيكى وعلى الاقل المقاومة المميزة للمكعب القياسى للخرسانة عن ٤٥٠ كجم / م ^٣ بعد ٢٨ يوم من الصب بالطريقة والا يقل محتوى الاسمنت عن ٤١٠ كجم / م ^٣ اسمنت بورتلاندى عالى على ان تكون الخرسانة ذات سطح أملس (FAIR FACE) واستخدام اضافات خاصة (CORROSION INHIBITOR) وازدقة السليكا واستخدام مواد الإضافات المعتمدة للحصول على (DUARABILTY) لا تقل عن ١٢٠ سنة للتعرض والسور يشمل تصميم الخلطة وعمل الشدات والفرم الخاصة ومعالجة الخرسانة بعد الصب وذلك طبقا للشروط والمواصفات الفنية والرسومات حسب اصول الصناعة وتعليمات المهندسين المشرفين (خمسمائة وثلاثة وعشرون متر مكعب)
جديد التسليح من النوع DWR (FV = 500 Mpa) :-				
٢٠٠	طن	٢٥١,٠٠٠	٥٠,٢٠٠	بالطن توريد وتركيب وتشكيل حديد تسليح بالاقطار المطلوبة والواجهات المطلوبة والفلة وسلك الرباط والكراسي والوصلات والاكسسوارات وبكرات عمل لغطاء الخرسانة وتفاصيل الحائط على التساقط بين الانسيخ وذلك طبقا للرسومات والمواصفات وتعليمات الجهة المصنعة لمحدد التسليح على ان يقوم المقاول بتقديم رسومات الورشة لجهات الاشراف من الاستشارى والجهة المالكة للاعتداف على تشكيل حديد التسليح وتركيبه (مائتان وواحد وخمسون طن)
٢٠٠	م ^٣	١٩٥,٠٠٠	٣٩,٠٠٠	بالمتر المربع توريد دهان ثلاثى ارجه من البيتومين البارد وذلك للأسطح الخرسانية الملاصقة للتربة على ان يتم عمل العزل طبقا لتعليمات الجهة المصنعة وطبقا للرسومات والمواصفات وتعليمات الجهة المصنعة للعزل (الف وتسعمائة وخمسون متر مربع)
٢٠٠	م ^٣	٢٢٠,٠٠٠	٤٤,٠٠٠	جيوستابل GM 250 بالمتر الطولى توريد وتركيب طبقة من الجيوستابل كثافة ٢٥٠ كجم / م ^٣ ذات عرض ٥٠ سم والبند يشمل النقل والتقطيع والفرم على ان يتم العمل طبقا لتعليمات الجهة المصنعة وطبقا للرسومات والمواصفات وتعليمات الجهة المصنعة (ثلاثة الاف وثلاثمائة متر طولى)
٢٠٠	م ^٣	١٣٧,٠٠٠	٢٧,٤٠٠	بالمتر المربع توريد وعمل دهانات مقاومة للكربنة ذات أساس أكريك Anticarbonation ومواد مقاومة للأخضر والمواد الجوية لحماية الاجزاء المكشوفة من جسم الجسر وبتر على الاقل عن عدد ٢ وجه بالإضافة الى وجه شمسي وحمل كل ما يلزم للعمل نهوا كاملا والبند شامل مما جديعه طبقا لاصول الصناعة والرسومات والمواصفات وتعليمات المهندسين المشرفين على ان يتم اعتماد الكميات وعمل الاختبارات اللازمة قبل التنفيذ (الف وثلاثمائة وسبعون متر مربع)

يريفي النظام الكهربائي السريع من العين السخنة إلى القطار العنبري قنق السرعة القطاع السابع رقم ٤١ و ٢٢ عند محطتي (552+064), (553+310)

م	البنو	الوحدة	الكمية	القيمة	الإجمالي
١٧	بالمتر الطولي لتوريد وتركيب ووتر ستوب (water stop) من شرائح مائية ممتعة للتلافية من النوع الذي يتكفل في حلة صب الخرسانة المسلحة عليه وذلك عند فواصل السب وعند محيط البريخ في منطقة الفاصل الإنشائي وعند اتصال سطح اللبشة المسلحة بالحائط الخرساني ويتم وضع وتأثيرت الوتر ستوب في منطقة الغطاء الخرساني جهة القدم وليس بين شبكتي حديد التسليح وذلك بغرض الحفاظ على حديد التسليح من تسرب المياه إليه وعلى أن يتم توريد الوتر ستوب من إحدى الشركات المتخصصة في هذا المجال والسعر يشمل التركيب وعمل الوصلات وجميع الإكسسوارات وذلك طبقاً للرسومات ومستندات التعاقد وتعليمات الشركة المنتجة (خمسة وأربعون متر طولي)	خط	٥٤٠,٠٠	٢٢٠	١١٨,٨٠٠
١٨	بالمتر الطولي لتوريد وملء الفواصل الإنشائية بعنق ٢,٥ سم ويعرض ١ سم بمادة قابلة للإضافة ومقاومة للتعدد والتكسار ومتعة لتسرب المياه من خلالها ولها خاصية التماسك مع العنصر الخرساني ويتم ملء الفواصل بمادة Sealant ذات مركب واحد بوليسيليل-Terminated Polyether Polymer لتشكل فواصل التمدد والإنشائية والمادة تسمح بصلابة حركة (أو -) 50 طبقاً للمواصفة القياسية ASTM ٧١٩ ولها استجابة ١٠٠% طبقاً للمواصفة القياسية ASTM ١٣٨٢ ولها مقاومة شد ١,٥ ميجا باسكال طبقاً للمواصفة ASTM D412 ولها قوة التصاق عالية بجدران الفاصل مقدارها ٦٤ كجم / سم ٢ طبقاً للمواصفة ASTM C794 كما أن لها مقاومة عالية للأجواء الحارة والبرودة والكيماويات والمادة من إنتاج إحدى الشركات المتخصصة وعلى المفاضل تقديم الكتلوجات الفنية لملاء الفواصل للمكتب الاستشاري للاعتماد قبل التوريد ويتم تنفيذ ملء الفواصل بعد تنظيف الفاصل من الأتربة والشحوم والزيوت والموالح وتنفيذ المادة باستخدام المسدس والبند يشمل كل ما يلزم للهو الاتصال طبقاً للمواصفات الفنية وأصول الصناعة (خمسة عشر متر طولي)	خط	١٥,٠٠	٢٢٠	٣,٣٠٠
الإجمالي (تسعة عشر مليون وتسعمائة وتسعون ألف ووثلاثمائة وتسعة وسبعون جنيه فقط لا غير)					١٩,٩٩٩,٣٧٩

الأسعار طبقاً للقائمة المرفقة ٢٠٢٢

الأسعار المذكورة على أساس متوسط سعر حديد التسليح (30000 جنيه / طن) على أرض المصنع غير شامل النقل والتسليم والتركيب

الأسعار المذكورة على أساس متوسط سعر الاسمنت (2000 جنيه / طن) على أرضية المصنع غير شامل النقل

طبقاً للقانون يتم صرف أرباح الأسعار سواء بالزيادة أو نقصان للبلد الشراء عليها بالإضافة إلى ما يتبعه من الرسوم والضرائب والرسوم

الأسعار تقديرية لحين مقابلة الشركة عليها



محمد ع. محمد

	Electric Express Train - MSR		
	From El Ain El Sokhna City To El Alamein - MATROUH		
	Section - 7 From FOXA To MARSA MATROUH		
	From Station 504+000 To Station 584+177		

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE	17/03/23	CODE	ZONE	SS2+000
LOCATION	K.p(540+200)	WH-CUM-1	Material	PREPARED
NAME COMPANY	EL MAHQOUB		QUANTITY	1500 M3 cm

1-Visual inspection test

2-Gradient test

A-gradation of bulk material				SAMPLE WEIGHT (g)				gm	table classify
sieve size	2	1.5	1	4/3	3/1	5/3	# 4	PASS	
Mass retained (g)	6.0	854.8	1760.0	2807.0	3374.8	2607.8	4186.0		
Cumulative Retained (g)	6.0	854.8	2622.8	6009.8	10483.8	13148.8	17528.8		
Cumulative Retained %	6.0	3.6	10.5	26.0	40.1	52.8	79.5		PRO
Cumulative Passing %	100.0	96.4	89.5	73.4	59.9	47.2	20.5		WC
									CBR

B-soft material gradation				WT. OF sample				gm
sieve size	10	40	200					
Cumulative Retained (g)	186.93	243.93	370.93					
Cumulative Retained %	31.20	48.00	74.00					
Cumulative Passing %	68.80	51.00	26.00					

C-General gradient										
sieve size(n)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	80.0	37.5	25.0	19.0	12.5	9.5	4.75	2.50	0.425	0.075
Cumulative Passing %	100.0	96.0	89.5	73.4	57.9	47.2	20.5	20.3	15.2	7.7
REMARKS		97-98		70-79		66-75		6-35		6-12

ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.P	N.P	N.P

Contractor

Consultant



14/3/23

	Electric Express Train - HSR		
	From El Ain El Sekkha Dry To El Alamein - MATROUH		
	Section - 7 From FOKA TO MARSA MATROUH		
From Station 904+000 To Station 908+173			

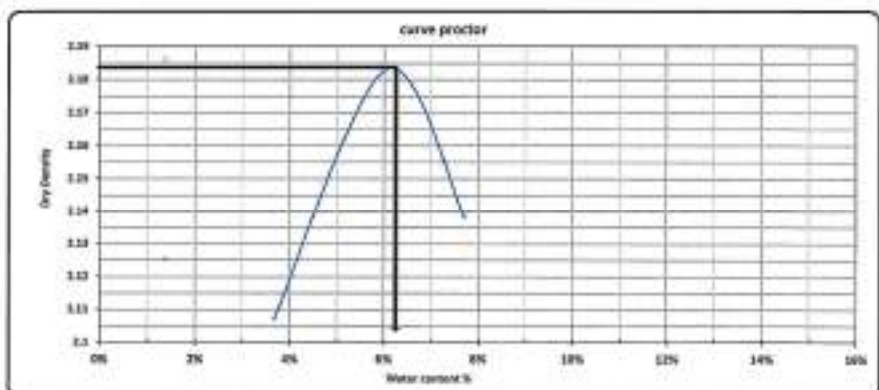
PROCTOR TEST

TESTING DATE:	18/02/2023	9039	ZONE	902+990
LOCATION	k.p(549+200)	M=0.211-1	Material	PERPAVED
NAME COMPANY	EL MAHGOUB		QUANTITY	1500 M3 cm

Weight of empty mold:	6863.0	MAX Dry Density	2.180
Mold Volume:	1032.0	Water content %	6.2%

trial no:	1	2	3	4	5
Wt. Of Mold+ wet soil	10933.0	10705.0	10763.0		
WT. NET SOIL	4440.0	4704.0	4688.0		
Wt. Density	3.385	3.319	3.383		

Tare No.	0	1	2	3	4	5	6	7	8
Tare wt.	36.12	26.71	30.78	34.98	28.48	26.74			
Wt. Of wet soil & tare	187.8	169.9	168.2	197.0	166.8	186.3			
Wt. Of dry soil & tare	165.3	155.9	156.7	145.8	151.7	147.8			
Wt. Of water	4.8	8.8	7.8	7.2	8.2	8.5			
Wt. Of dry soil	133.3	127.3	138.8	134.8	123.3	138.8			
Water content %	3.6%	3.9%	5.6%	6.2%	7.0%	7.9%			
AV. Water content %		3.7%		6.8%		7.7%			
Dry Density		3.187		3.185		3.129			



Consultant

19/2/23

California Bearing Ratio TEST

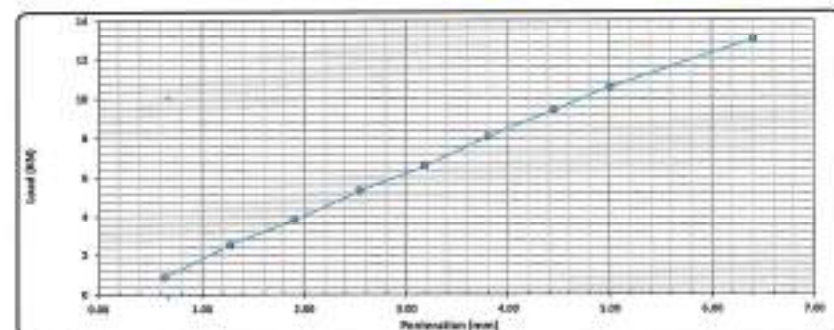
Testing Date:	19/01/2023	Code:	FORM 17A		
Location:	ILP(349+290)	MHCMB-1	Metric	PERFAPED	
Layer No.:	EL-MARJOM		Layer Thickness		

1. Test Results

Compaction % for Mold		Moisture Ratio After Compacted Mold		Swelling	
Mold No.	05	Test No.	1	Mold No.	3
Mold Vol. (cm ³)	2000	Test WT. (g)	16	Date	19-01-2023
Mold WT. (g)	799.9	Test WT. + Mold WT. (g)	160	Initial Height (mm)	1.00
Mold WT. + Wet WT. (g)	10790	Test WT. + Dry WT. (g)	100	Final Height (mm)	1.00
Wet WT. (g)	4990	Wet WT. (g)	84	Shrinkage	0
Wet Density (g/cm ³)	2.50	Dry WT. (g)	1000	Sample Height (mm)	177.38
Dry Density (g/cm ³)	2.149	Moisture Content %	8.4	Swelling Ratio %	0%
Proctor Density (g/cm ³)	2.100				
Compaction %	99				

Loading Results:

Penetration (mm)	0.44	1.27	0.41	0.34	1.18	0.80	4.40	0.00	0.40
Load Reading (kg)	38.00	110.00	381.00	140.00	870.00	821.00	555.00	1875.00	1704.00
Load (kN)	0.9	2.5	3.8	9.3	8.6	8.0	9.8	18.8	16.0



Calculations:

Penetration	Load	Standard Load	CBR	Mold Compaction	Compaction	CBR
(mm)	(kN)	(kN)	(%)	(%)	(%)	50 mm Standard
1.18	9.3	10.4	89.8%	100	99	89.8%
0.80	8.0	10.0	80.0%			80.0%

Lab. Specialist

Name: _____

Signature: _____

Lab. Engineer

Name: _____

Signature: _____

Consultant Engineer

Name: _____

Signature: _____

وزارة النقل والبنية التحتية
قطاع السكك الحديدية - شوكية - الرياض

**Absorption & Aggregate specific gravity
AASHTO-T85**

Testing date >	17/02/2023
Location >	K.p(540+200)
material >	prepared subgrade
NAME COMPANY	EL MAHGOUB

Weight of sample		gm
Weight of saturated -dry surface sample (B)		gm
Weight of saturated sample in water (C)		gm
Weight of dry sample after heating (A)		gm

Results:

Dry specific gravity = $A / (B - C)$		
Apparent specific gravity = $A / (A - C)$		
Absorption = $(B - A) / A$		

Los Angeles abrasion AASHTO-T96

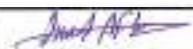
Results:

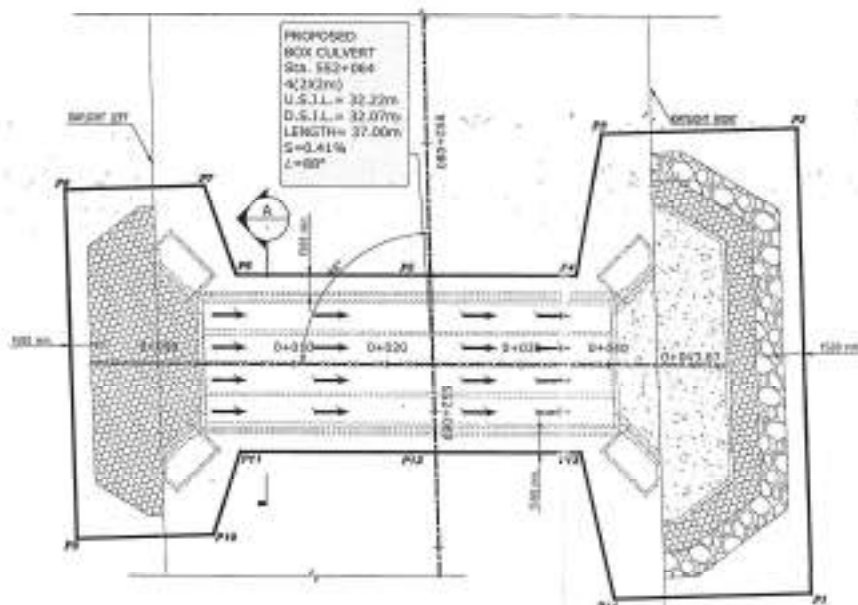
Weight of sample before	Weight of sample before test (gm)	Abrasion ratio (%)
5993	3264	34.72

Lab Engineer

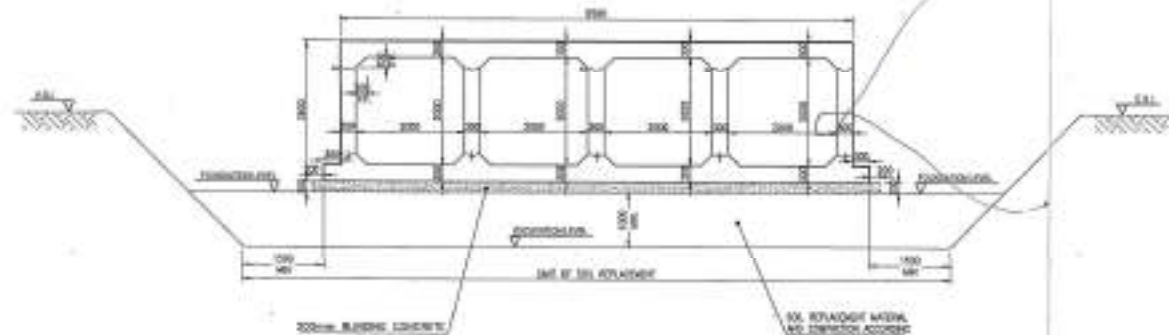


19/2/23

	Electric Express Train - HSR							
	From El Ain El Solhisa City To El Alamein - MATROUH							
	Section - 7 From FOXA To MARSA MATROUH							
	From Station 548+000 To Station 599+000							
Testing Date :	22/5/2023	Company :	ELASHGOUR COMPANY					
Material :							Code :	
Location :	CU41 552+051						Code :	
Layer Thickness :			Level Layer	-8.5				
Station								
Hole no	5							
Bulk density smooth sand (gm/cm3)	1.40							
wt. of sand before test	8883							
WT. of sand after test	5132							
WT. of sand fill core	2856							
WT. of sand in hole	2397							
Volume of hole	1642							
WT. of sample from hole (gm)	3089							
Bulk density of soil (gm/cm3)	2.25							
Average water content %	7.0%							
Dry density (gm/cm3)	2.10							
Max dry density (gm/cm3)	2.183							
Compaction ratio %	96.3							
Observations								
Lab Engineer :	AHMED ELALFY	Consultant Eng. :	Hossam Mostafa					
Sign :		Sign :	22/6/2023					



CULVERT EXCAVATION PLAN



CULVERT EXCAVATION SECTION

SETTING OUT POINTS			PROPOSED EXCAVATION LEVEL
Point	Existing	Setting	
P1	2528.85	8718.11	35.50
P2	2528.87	8718.13	35.50
P3	2528.89	8718.15	35.50
P4	2528.91	8718.17	35.50
P5	2528.93	8718.19	35.50
P6	2528.95	8718.21	35.50
P7	2528.97	8718.23	35.50
P8	2528.99	8718.25	35.50
P9	2529.01	8718.27	35.50
P10	2529.03	8718.29	35.50
P11	2529.05	8718.31	35.50
P12	2529.07	8718.33	35.50
P13	2529.09	8718.35	35.50
P14	2529.11	8718.37	35.50

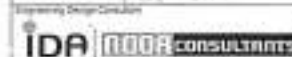
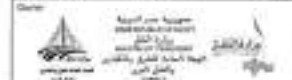
KEY PLAN

NOTES

1. ALL DIMENSIONS ARE IN METERS.
2. DO NOT MEASURE FROM DRAWINGS. ALL DIMENSIONS SHOULD BE READ OF COMPLETES.
3. CONCRETE COVER (MIN) = 40 MM.
4. REINFORCEMENT STEEL, 4A = 160 MM (MINIMUM).
5. CONCRETE COVER SHALL EXCEPT FOR 30% UNIFORM FACES 100%.
6. THE CONTRACTOR MUST ENSURE THAT THERE IS NO CONFLICTION BETWEEN THE SUBMITTED DOCUMENT AND TECHNICAL SPECIFICATIONS. IN CASE OF ANY CONTRADICTION THE CONTRACTOR MUST GET BACK TO THE CLIENT FOR APPROVAL BEFORE COMMENCEMENT OF WORK.
7. ALL LEVELS, COORDINATES AND STATIONS SHALL BE CHECKED WITH PLANNING DRAWINGS BEFORE COMMENCEMENT OF WORK.
8. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR MUST ENSURE THAT THERE IS NO CONFLICT BETWEEN THE LOCATIONS OF CULVERT AND UNDERGROUND UTILITIES.
9. THE CONTRACTOR MUST ENSURE AND COORDINATE ALL RELATED UTILITIES THE SAME DISTANCES FOR THE UNDERGROUND UTILITIES OF FOUND.

LEGEND

ST	ISSUED	DESIGN FOR APPROVAL	04
RE	ISSUED	DESIGN FOR APPROVAL	04
Rev.	DATE	DESCRIPTION	APP.



Engineering Design Consultant

IDA ROOF CONSULTANTS

Project Title

GET PROJECT SECTOR 7
FUKA TO MATROUS
FROM STATION 584+000
TO STATION 688+178.54

Working Title

BOX CULVERT AT
582+00 OLD STATION
582+00 NEW STATION
EXCAVATION DETAILS FOR SOIL
REPLACEMENT

Contract Details				
DESIGN	DRAWN	CHECK	APPROVED	DATE
Rev.	TM	WP	BN	ALB/2022

Working Date

DATE OF DESIGN

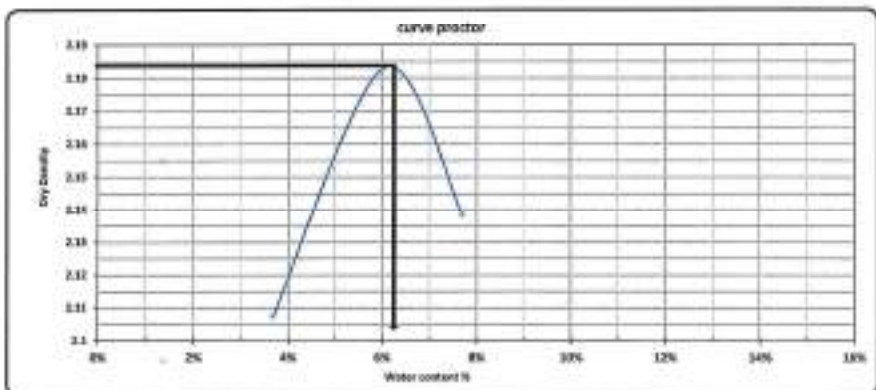


TESTING DATE:	19/02/2023	CODE	ZONE	ISS-000
LOCATION:	k.p(309+288)	MHCUST.1	Material	PREPARED
NAME COMPANY	EL MAHGOUB		QUANTITY	1500 M3 cm

Weight of empty mold :	6893.9	MAX Dry Density	1.183
Mold Volume :	1831.8	Water content %	6.3%

trial no :	1	2	3	4	5
Wt. of Moisture wet soil	1052.0	1070.0	1076.0		
WT. WET SOIL	4040.0	4700.0	4480.0		
Wt. Density	1.385	2.310	1.303		

Test No.	1	2	3	4	5	6	7	8		
Test wt.	36.12	26.71	10.79	14.99	29.45	26.26				
Wt. Of wet soil & tare	107.5	100.5	106.2	101.9	100.8	106.2				
Wt. Of dry soil & tare	103.2	100.0	100.7	100.0	101.2	107.0				
Wt. Of water	4.3	0.5	5.5	1.9	9.6	9.2				
Wt. Of dry soil	135.1	117.1	120.0	114.6	121.3	118.8				
Water content %	3.3%	1.9%	5.0%	0.2%	7.9%	7.9%				
AV. Water content %		5.7%		6.0%		7.7%				
Dry Density		1.307		1.181		1.339				



Contractor

مقر العمل: شارع الملك فيصل - الرياض
 هاتف: ٤٤٤٤٤٤٤٤ - ٤٤٤٤٤٤٤٤
 فاكس: ٤٤٤٤٤٤٤٤ - ٤٤٤٤٤٤٤٤
 بريد إلكتروني: info@alsharh.com

Consultant

California Bearing Ratio TEST

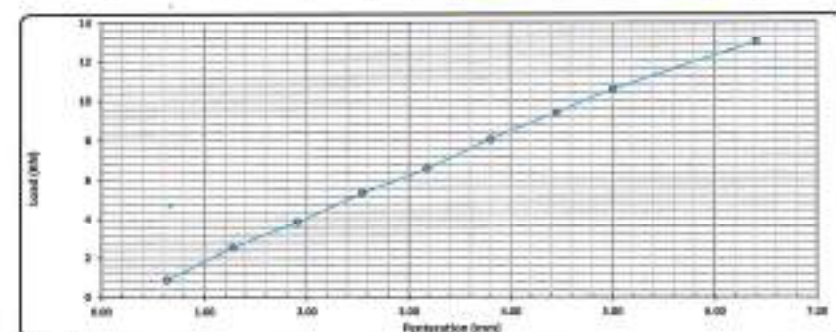
Testing Date :	19/6/2023	Code :	HSR01-STA-1		
Location :	K.P(549+200)	MISC000-1	Material :	PERFAPED	
Layer No. :	EL-MARSHED		Layer Thickness :		

1. Test Results

Compaction % for Mold		Moisture Ratio after Compacted Mold		Swelling	
Mold No.	95	Tare No.	4	Mold No.	3
Mold Vol. (cm ³)	1000	Tare WT. (gms)	34	Date	19-6-2023
Mold WT. (gms)	7992	Tare WT. + Wet WT. (gms)	100	Initial Height (mm)	2.05
Mold WT. + Wet WT. (gms)	10796	Tare WT. + Wet WT. (gms)	100	Final Height (mm)	2.65
Wet WT. (gms)	2800	Water WT. (gms)	8.8	Difference	0
Wet Density (g/cm ³)	2.80	Dry WT. (gms)	91.2	Swelling Height (mm)	11.20
Dry Density (g/cm ³)	2.148	Moisture Content %	9.6	Swelling Ratio %	0%
Proctor Density (g/cm ³)	2.183				
Compaction %	100				

Loading Reading:

Penetration (mm)	0.24	0.77	1.81	3.34	5.38	8.89	14.45	20.00	25.58
Load Reading (kg)	30.30	120.00	330.00	660.00	990.00	1320.00	1650.00	1980.00	2310.00
Load (kN)	0.3	1.2	3.3	6.6	9.9	13.2	16.5	19.8	23.1



Calculation:

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(kN)	(kN)	(%)	(%)	(%)	(%)
2.5	0.31	15.0	20.6%	100	98	20.6%
5.0	19.54	30.0	65.1%			65.1%

Lab. Specialist

Name: _____

Signature: _____

Lab. Engineer

Consultant Engineer

Name: _____

Signature: _____

Stamp:

EL Mahgoub company

Express Electric Train project



Absorption & Aggregate specific gravity
AASHTO-T85

Testing date >	17/6/2023
location >	k.p(549+200)
material >	prepared subgrade
NAME COMPANY	EL MAHGOUB

Weight of sample		gm
Weight of saturated - dry surface sample (B)		gm
Weight of saturated sample in water (C)		gm
Weight of dry sample after heating (A)		gm

Results:

Bulk specific gravity = $B / (B - C)$		
Apparent specific gravity = $A / (A - C)$		
Absorption = $(B - A) / A$		

Los Angeles abrasion: AASHTO-T96

Results:

Weight of sample before	Weight of sample before test (gm)	Abrasion ratio (%)
5000	3264	34.72

Lab Engineer/



Date: 08/07/2023

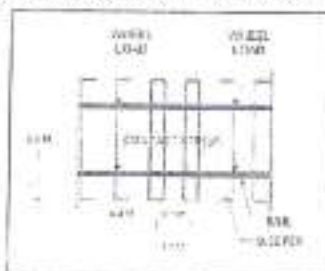
Project : EET From Fuka To Marsa Matruh
Company : شركة المحجوب للمقاولات
Location : Old Station 552+204/New Station 552+051
Test Date : 05-07-2023
Reports No. : (35)
Type of soil : Pit Run Gravel according to AASHTO (A-1-a)
Subject : Check the immediate settlement of Raft due to Rail way of High Speed Electric train, on replacement layer of Pit run Gravel layer, based on the Results of the PLT no. (35).

1- Introduction

The aim of this report is to analyze the results of plate load tests (PLT) carried out on the compacted layer of Pit run gravel (Stone fragments /Gravel and Sand), prepared for Culvert rail foundation for High Speed Electric Train.

The borelogs of the site investigation report prepared by A&A Consultam indicate that, the soil formation in the site of BH 61 (Station 552+051) consists of Clayey Silt with interlayers of Sand and crushed stone extends from depth 2.00 To 16.50 m. The Ground water table is at depth 8.7-11.00 m below ground surface.

The recommended foundation system is raft foundation with dimensions BxL = 7.40 m x 30.63 m on 1.00 m thickness of pit run gravel. The recommended allowable bearing capacity at foundation level is 2.30 kg/cm². According to Technical report prepared by CIVILCON GROUP, the to represent a plate load test is takes as 2.50 m x 2.50 m (as shown in Figure).



2- Plate Load Tests

All Tests were carried out with the following specification

The test was carried out according to ASTM D 1196 and project specs requirements.

Existing plates consists of iron plates with 500 mm and 300 mm diameter.



Test Procedure

1. Clean the ground on test area in the required level with undisturbed soil
2. Install loading plates 500/500 mm dia. 30 mm thickness, 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. The Geotechnique report recommended soil bearing capacity equal (1.50 Kg/cm^2)
6. To satisfy this bearing capacity the loading by 3 times the required, with machine 45 tons.

3- Evaluation the Results of PLT No. (35)

The maximum required allowable bearing pressure at foundation level on the examined compacted natural ground is $(q) = 2.50 \text{ kg/cm}^2$. The results of PLT (35) is shown in Fig. (1).

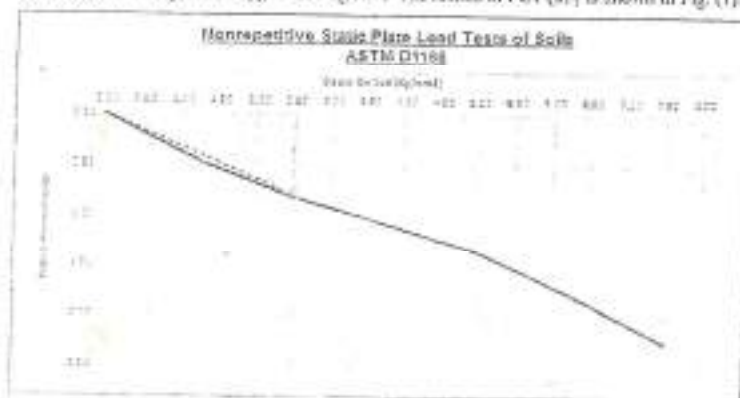


Figure (1) Load-settlement PLT (35) on replacement layer for Raft Foundation

- The plate diameter = 0.500 m
- Footing width (B) = 2.50 m
- The settlement of the plate under stress of $2.50 \text{ kg/cm}^2 = 8.5 \text{ mm}$

3.1 Footing Immediate settlement (S_i) based on Settlement of PLT (at dry conditions)

The plate load test can be used to directly estimate the immediate settlement of a footing. For settlement of medium to dense sands caused by an applied surface loading, an empirical equation developed Terzaghi and Peck (1967) relates the depth of penetration of the steel plate S_p to the settlement of the actual footing S_i is as follows:

$$S_i = \frac{S_p}{\left(1 - \frac{D_p}{D}\right)^2}$$

Where: S = settlement of the footing (mm)

S_p = settlement of the steel plate (mm) or (mm)

D_p = smallest dimensions of the steel plate (m)

D = smallest dimensions of the footing (m)

$$S_{eq} = 4 \times S_p / (1 + D_p/D)^2 = 4 \times 0.85 / (1 + (0.50/2.5))^2 = 3.4 / 1.44 = \underline{2.36 \text{ mm}} < 25 \text{ mm (OK)}$$

3.2 Footing: Immediate settlement (S_i) based on modulus of deformation estimated from the results of plate load test

$$S_i = \frac{1}{E_s} \cdot \frac{P}{L} \cdot \frac{b}{L} \cdot \frac{1}{1-\mu}$$

- Poisson's ratio (μ) For granular soil = 0.50

- L : For rigid square loaded area = 0.82

- b = 2.50 m

- E_s = 1100 kg/cm² (Average value of the deformation modulus at stress in the range from 0.50 to 2.50 kg/cm²)

- The required allowable bearing capacity over the replacement layer = 2.00 kg/cm²

$$S_i = (0.91/1100) \cdot 2.50^2 \cdot 2.50 / 0.82 = 0.00138 \text{ m} = \underline{1.38 \text{ mm}} < 25 \text{ mm (OK)}$$



4. Summary

Based on the results of plate load test carried out on replacement layer for subsoil raft foundation, the immediate settlement estimated for loading area with $B=2.50$ m and under design load of 2.30 kg/cm^2 are summarized in the following table.

P.L.T (No.)	Testing at dry State					
	Place	Facing immediate settlement (S_p)		(K_s)		
		Eqn. (1) (mm)	Eqn. (2) (mm)	(kg/cm ²)	(MN/m ²)	(t/m ²)
35	0.85	2.36	4.24	1100	39	5900

- (a)- The estimated immediate settlements are within the allowable limits for loaded area on cohesionless soil.
- (b)- The deformation modulus (E_s) as estimated from the plate load test results reflects the stiffness of the compacted replacement layer; the value of E_s is at about 1100 kg/cm^2 .
- (c)- The modulus of subgrade reaction ($K_s = q/S$) is parameter depends on the induced settlement under design load, can be assumed to be 39 MN/m^2 (5900 t/m^2).
- (d)- The geotechnical report prepared by A&A Consultant assumed the value of the subgrade reaction, K_s , under design load of 25 t/m^2 to be in the range of $500 - 600 \text{ t/m}^2$ for rafts with width less than 10 m; this value is based on maximum allowable raft settlement of 50 mm. On the other hand, the analysis of P.L.T No. (35) for assumed loaded area of $2.50 \text{ m} \times 2.50 \text{ m}$ under allowable design load of 25 t/m^2 showed that, the value of modulus of subgrade reaction (K_s) is 5900 t/m^2 , which is corresponding to estimated settlement of only $\sim 24 \text{ mm}$.

5. General Conclusions

The relative low immediate settlement and high values of E_s and K_s reflect the good quality of the compacted layer.

Consultant Engineer

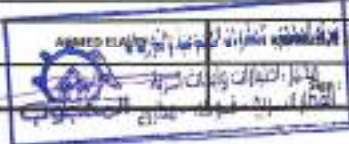


	Electric Express Train - HSR		
	From El Ain El Sekheia City To El Alamein - MATROUH		
	Section - 7 From FOKA To MARSA MATROUH		
	From Station 548+000 To Station 559+000		

Testing Date :	23/6/2023	Company :	EL-MAHMOUD COMPANY	
Material :				Code :
Location :	CURL 552+051			Code :
Layer Thickness :		Level layer	SEHMA	

Station								
Hole no	1							
Wt. density specified sand (gm/cm ³)	1.46							
Wt. of sand before test	9042							
WT. of sand after test	5431							
WT. of sand fill cone	1355							
WT. of sand in hole	2350							
Volume of hole	1545							
WT. of sample from hole (gm)	3481							
Bulk density of soil (gm/cm ³)	2.24							

Average water content %	7.0%							
Dry density (gm/cm ³)	2.09							
Max dry density (gm/cm ³)	2.385							
Compaction ratio %	88.9							
Observations								

Lab Engineer :		
Sign :		23/6/2023





14-6-2023

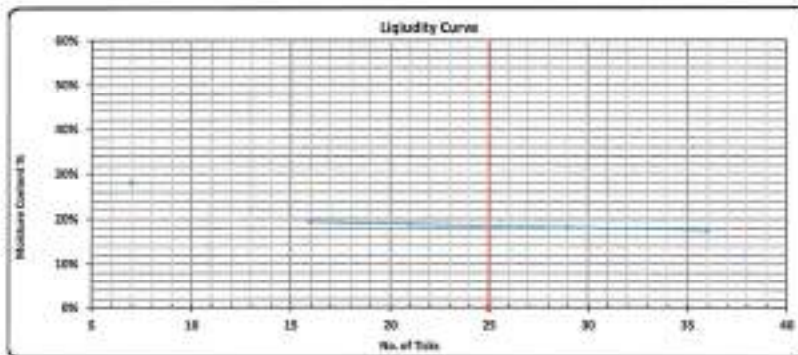
 	Electric Express Train - HSR	 
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Plasticity and Liquidity Test -Atterberg Limits

Testing Date:	13-6-2023	Code:	FROM STA:	TO STA:
Location:	(852+664) C141	MH	Material:	embankment
Layer No.:	at road level		Layer Thickness:	

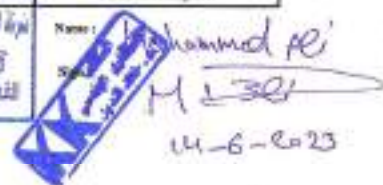
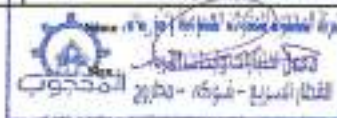
Testing Results :-

Test	Liquid Limit				Plastic Limit	
No. of Tests	16	11	18	16	-	-
Tare No.	20	7	11	15	9	23
Tare WT. (gm)	18.03	18.29	17.68	13.29	19.49	17.85
Tare WT. + Wet WT. (gm)	36.13	34.33	38.23	36.76	11.32	18.29
Tare WT. + Dry WT. (gm)	33.18	32.18	38.30	28.36	11.21	18.21
Water WT. (gm)	2.95	2.15	1.93	2.88	0.18	8.07
Dry WT. (gm)	15.35	11.80	18.61	14.77	0.73	8.57
Moisture Content %	19.5%	18.5%	18.2%	17.6%	13.7%	12.9%
Average %					13.1%	



L.L.	P.L.	P.I.
18.5%	13.1%	5.5%

Lab. Specialist	Test Engineer	Consultant Engineer
Name :	Name :	Name :
Sign :	Sign :	Sign :



Name : **Mohammed Al**
 Sign : **M. Al**
 14-6-2023

	Electric Express Train - HSR		
	From El Ain El Bostani City To El Alamein - MATROUH		
	Section - 7 From FOKA TO MARSA MATROUH		
From Station 504+690 To Station 505+517			

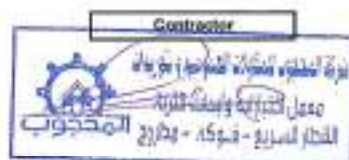
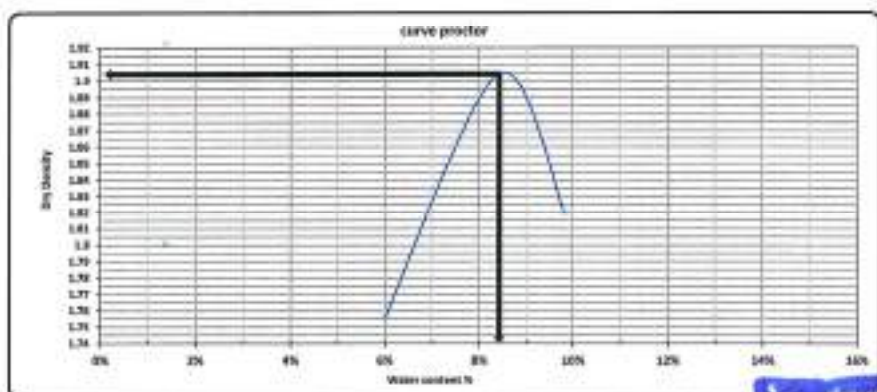
PROCTOR TEST

TESTING DATE:	14/6/2023	code	Station	
LOCATION	CU41 (502+004)	rdh	Material	
NAME COMPANY	el mahjoub		layer thickness	

Weight of empty mold :	3907.8	MAX Dry Density	1.905
Mold Volume:	903.9	Water content %	8.3

trial no :	1	2	3	4	5
Wt. Of mold + wet soil	5190.8	5771.6	5713.6		
WT. WET SOIL	1581.8	1864.8	1805.0		
Wt. Density	1.802	2.064	1.999		

Tare No.	1	2	3	4	5	6				
Tare wt.	28.02	29.85	35.86	37.43	38.32	28.17				
Wt. Of wet soil & tare	151.3	167.3	155.39	159.44	148.62	159.87				
Wt. Of dry soil & tare	144.7	159.2	146	145.78	136.7848	146.114858				
Wt. Of water	6.7	8.1	9.3	9.7	5.8	13.8				
Wt. Of dry soil	116.6	118.6	112.9	112.6	101.8	118.8				
Water content %	5.8%	6.8%	8.2%	8.6%	5.7%	11.6%				
AV. Water content %	6.8%		8.4%		8.8%					
Dry Density	1.798		1.994		1.826					



Consultant

M. A. El Mahjoub
14-6-2023

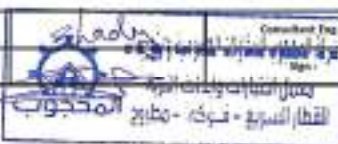
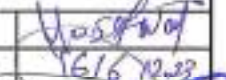
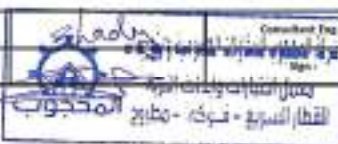
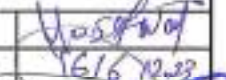
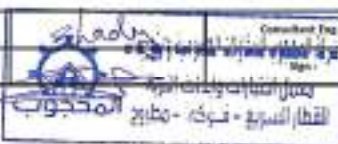
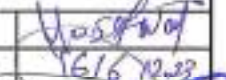
	Electric Express Train - HSE																																																																																																													
	From El Atia El Bahaa City To El Mansourah -MARTROUH																																																																																																													
	Section - 7 From FOGA To MARIUT MARIUT																																																																																																													
	From Station 540+00 To Station 555+00																																																																																																													
Testing Date :	15-6-2023	Company :	El Mansourah																																																																																																											
Material :			Code																																																																																																											
Location :	CUK 052+000	CU(41)	Code																																																																																																											
Layer Thickness :		Level layer	EXCAVATION 005																																																																																																											
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Plate Load Test Results

Layer: excavation bed
Station: 552+064 E:275339.5409 N:947137.5709
Date: 18/6/2023

COMPANY	if available
SAMPLE LOCATION	CU 40 (IN)

Loadng	Load	Load	Stress	Dist.1	Dist.2	Dist.3	Dist.4	Dist.5	Dist.6	Dist.7	Dist.8	Dist.9	Dist.10	Dist.11	Dist.12	Dist.13	Dist.14	Dist.15	Dist.16	Dist.17	Dist.18	Dist.19	Dist.20	Dist.21	Dist.22	Dist.23	Dist.24	Dist.25	Dist.26	Dist.27	Dist.28	Dist.29	Dist.30	Dist.31	Dist.32	Dist.33	Dist.34	Dist.35	Dist.36	Dist.37	Dist.38	Dist.39	Dist.40	Dist.41	Dist.42	Dist.43	Dist.44	Dist.45	Dist.46	Dist.47	Dist.48	Dist.49	Dist.50	Dist.51	Dist.52	Dist.53	Dist.54	Dist.55	Dist.56	Dist.57	Dist.58	Dist.59	Dist.60	Dist.61	Dist.62	Dist.63	Dist.64	Dist.65	Dist.66	Dist.67	Dist.68	Dist.69	Dist.70	Dist.71	Dist.72	Dist.73	Dist.74	Dist.75	Dist.76	Dist.77	Dist.78	Dist.79	Dist.80	Dist.81	Dist.82	Dist.83	Dist.84	Dist.85	Dist.86	Dist.87	Dist.88	Dist.89	Dist.90	Dist.91	Dist.92	Dist.93	Dist.94	Dist.95	Dist.96	Dist.97	Dist.98	Dist.99	Dist.100	Dist.101	Dist.102	Dist.103	Dist.104	Dist.105	Dist.106	Dist.107	Dist.108	Dist.109	Dist.110	Dist.111	Dist.112	Dist.113	Dist.114	Dist.115	Dist.116	Dist.117	Dist.118	Dist.119	Dist.120	Dist.121	Dist.122	Dist.123	Dist.124	Dist.125	Dist.126	Dist.127	Dist.128	Dist.129	Dist.130	Dist.131	Dist.132	Dist.133	Dist.134	Dist.135	Dist.136	Dist.137	Dist.138	Dist.139	Dist.140	Dist.141	Dist.142	Dist.143	Dist.144	Dist.145	Dist.146	Dist.147	Dist.148	Dist.149	Dist.150	Dist.151	Dist.152	Dist.153	Dist.154	Dist.155	Dist.156	Dist.157	Dist.158	Dist.159	Dist.160	Dist.161	Dist.162	Dist.163	Dist.164	Dist.165	Dist.166	Dist.167	Dist.168	Dist.169	Dist.170	Dist.171	Dist.172	Dist.173	Dist.174	Dist.175	Dist.176	Dist.177	Dist.178	Dist.179	Dist.180	Dist.181	Dist.182	Dist.183	Dist.184	Dist.185	Dist.186	Dist.187	Dist.188	Dist.189	Dist.190	Dist.191	Dist.192	Dist.193	Dist.194	Dist.195	Dist.196	Dist.197	Dist.198	Dist.199	Dist.200	Dist.201	Dist.202	Dist.203	Dist.204	Dist.205	Dist.206	Dist.207	Dist.208	Dist.209	Dist.210	Dist.211	Dist.212	Dist.213	Dist.214	Dist.215	Dist.216	Dist.217	Dist.218	Dist.219	Dist.220	Dist.221	Dist.222	Dist.223	Dist.224	Dist.225	Dist.226	Dist.227	Dist.228	Dist.229	Dist.230	Dist.231	Dist.232	Dist.233	Dist.234	Dist.235	Dist.236	Dist.237	Dist.238	Dist.239	Dist.240	Dist.241	Dist.242	Dist.243	Dist.244	Dist.245	Dist.246	Dist.247	Dist.248	Dist.249	Dist.250	Dist.251	Dist.252	Dist.253	Dist.254	Dist.255	Dist.256	Dist.257	Dist.258	Dist.259	Dist.260	Dist.261	Dist.262	Dist.263	Dist.264	Dist.265	Dist.266	Dist.267	Dist.268	Dist.269	Dist.270	Dist.271	Dist.272	Dist.273	Dist.274	Dist.275	Dist.276	Dist.277	Dist.278	Dist.279	Dist.280	Dist.281	Dist.282	Dist.283	Dist.284	Dist.285	Dist.286	Dist.287	Dist.288	Dist.289	Dist.290	Dist.291	Dist.292	Dist.293	Dist.294	Dist.295	Dist.296	Dist.297	Dist.298	Dist.299	Dist.300	Dist.301	Dist.302	Dist.303	Dist.304	Dist.305	Dist.306	Dist.307	Dist.308	Dist.309	Dist.310	Dist.311	Dist.312	Dist.313	Dist.314	Dist.315	Dist.316	Dist.317	Dist.318	Dist.319	Dist.320	Dist.321	Dist.322	Dist.323	Dist.324	Dist.325	Dist.326	Dist.327	Dist.328	Dist.329	Dist.330	Dist.331	Dist.332	Dist.333	Dist.334	Dist.335	Dist.336	Dist.337	Dist.338	Dist.339	Dist.340	Dist.341	Dist.342	Dist.343	Dist.344	Dist.345	Dist.346	Dist.347	Dist.348	Dist.349	Dist.350	Dist.351	Dist.352	Dist.353	Dist.354	Dist.355	Dist.356	Dist.357	Dist.358	Dist.359	Dist.360	Dist.361	Dist.362	Dist.363	Dist.364	Dist.365	Dist.366	Dist.367	Dist.368	Dist.369	Dist.370	Dist.371	Dist.372	Dist.373	Dist.374	Dist.375	Dist.376	Dist.377	Dist.378	Dist.379	Dist.380	Dist.381	Dist.382	Dist.383	Dist.384	Dist.385	Dist.386	Dist.387	Dist.388	Dist.389	Dist.390	Dist.391	Dist.392	Dist.393	Dist.394	Dist.395	Dist.396	Dist.397	Dist.398	Dist.399	Dist.400	Dist.401	Dist.402	Dist.403	Dist.404	Dist.405	Dist.406	Dist.407	Dist.408	Dist.409	Dist.410	Dist.411	Dist.412	Dist.413	Dist.414	Dist.415	Dist.416	Dist.417	Dist.418	Dist.419	Dist.420	Dist.421	Dist.422	Dist.423	Dist.424	Dist.425	Dist.426	Dist.427	Dist.428	Dist.429	Dist.430	Dist.431	Dist.432	Dist.433	Dist.434	Dist.435	Dist.436	Dist.437	Dist.438	Dist.439	Dist.440	Dist.441	Dist.442	Dist.443	Dist.444	Dist.445	Dist.446	Dist.447	Dist.448	Dist.449	Dist.450	Dist.451	Dist.452	Dist.453	Dist.454	Dist.455	Dist.456	Dist.457	Dist.458	Dist.459	Dist.460	Dist.461	Dist.462	Dist.463	Dist.464	Dist.465	Dist.466	Dist.467	Dist.468	Dist.469	Dist.470	Dist.471	Dist.472	Dist.473	Dist.474	Dist.475	Dist.476	Dist.477	Dist.478	Dist.479	Dist.480	Dist.481	Dist.482	Dist.483	Dist.484	Dist.485	Dist.486	Dist.487	Dist.488	Dist.489	Dist.490	Dist.491	Dist.492	Dist.493	Dist.494	Dist.495	Dist.496	Dist.497	Dist.498	Dist.499	Dist.500	Dist.501	Dist.502	Dist.503	Dist.504	Dist.505	Dist.506	Dist.507	Dist.508	Dist.509	Dist.510	Dist.511	Dist.512	Dist.513	Dist.514	Dist.515	Dist.516	Dist.517	Dist.518	Dist.519	Dist.520	Dist.521	Dist.522	Dist.523	Dist.524	Dist.525	Dist.526	Dist.527	Dist.528	Dist.529	Dist.530	Dist.531	Dist.532	Dist.533	Dist.534	Dist.535	Dist.536	Dist.537	Dist.538	Dist.539	Dist.540	Dist.541	Dist.542	Dist.543	Dist.544	Dist.545	Dist.546	Dist.547	Dist.548	Dist.549	Dist.550	Dist.551	Dist.552	Dist.553	Dist.554	Dist.555	Dist.556	Dist.557	Dist.558	Dist.559	Dist.560	Dist.561	Dist.562	Dist.563	Dist.564	Dist.565	Dist.566	Dist.567	Dist.568	Dist.569	Dist.570	Dist.571	Dist.572	Dist.573	Dist.574	Dist.575	Dist.576	Dist.577	Dist.578	Dist.579	Dist.580	Dist.581	Dist.582	Dist.583	Dist.584	Dist.585	Dist.586	Dist.587	Dist.588	Dist.589	Dist.590	Dist.591	Dist.592	Dist.593	Dist.594	Dist.595	Dist.596	Dist.597	Dist.598	Dist.599	Dist.600	Dist.601	Dist.602	Dist.603	Dist.604	Dist.605	Dist.606	Dist.607	Dist.608	Dist.609	Dist.610	Dist.611	Dist.612	Dist.613	Dist.614	Dist.615	Dist.616	Dist.617	Dist.618	Dist.619	Dist.620	Dist.621	Dist.622	Dist.623	Dist.624	Dist.625	Dist.626	Dist.627	Dist.628	Dist.629	Dist.630	Dist.631	Dist.632	Dist.633	Dist.634	Dist.635	Dist.636	Dist.637	Dist.638	Dist.639	Dist.640	Dist.641	Dist.642	Dist.643	Dist.644	Dist.645	Dist.646	Dist.647	Dist.648	Dist.649	Dist.650	Dist.651	Dist.652	Dist.653	Dist.654	Dist.655	Dist.656	Dist.657	Dist.658	Dist.659	Dist.660	Dist.661	Dist.662	Dist.663	Dist.664	Dist.665	Dist.666	Dist.667	Dist.668	Dist.669	Dist.670	Dist.671	Dist.672	Dist.673	Dist.674	Dist.675	Dist.676	Dist.677	Dist.678	Dist.679	Dist.680	Dist.681	Dist.682	Dist.683	Dist.684	Dist.685	Dist.686	Dist.687	Dist.688	Dist.689	Dist.690	Dist.691	Dist.692	Dist.693	Dist.694	Dist.695	Dist.696	Dist.697	Dist.698	Dist.699	Dist.700	Dist.701	Dist.702	Dist.703	Dist.704	Dist.705	Dist.706	Dist.707	Dist.708	Dist.709	Dist.710	Dist.711	Dist.712	Dist.713	Dist.714	Dist.715	Dist.716	Dist.717	Dist.718	Dist.719	Dist.720	Dist.721	Dist.722	Dist.723	Dist.724	Dist.725	Dist.726	Dist.727	Dist.728	Dist.729	Dist.730	Dist.731	Dist.732	Dist.733	Dist.734	Dist.735	Dist.736	Dist.737	Dist.738	Dist.739	Dist.740	Dist.741	Dist.742	Dist.743	Dist.744	Dist.745	Dist.746	Dist.747	Dist.748	Dist.749	Dist.750	Dist.751	Dist.752	Dist.753	Dist.754	Dist.755	Dist.756	Dist.757	Dist.758	Dist.759	Dist.760	Dist.761	Dist.762	Dist.763	Dist.764	Dist.765	Dist.766	Dist.767	Dist.768	Dist.769	Dist.770	Dist.771	Dist.772	Dist.773	Dist.774	Dist.775	Dist.776	Dist.777	Dist.778	Dist.779	Dist.780	Dist.781	Dist.782	Dist.783	Dist.784	Dist.785	Dist.786	Dist.787	Dist.788	Dist.789	Dist.790	Dist.791	Dist.792	Dist.793	Dist.794	Dist.795	Dist.796	Dist.797	Dist.798	Dist.799	Dist.800	Dist.801	Dist.802	Dist.803	Dist.804	Dist.805	Dist.806	Dist.807	Dist.808	Dist.809	Dist.810	Dist.811	Dist.812	Dist.813	Dist.814	Dist.815	Dist.816	Dist.817	Dist.818	Dist.819	Dist.820	Dist.821	Dist.822	Dist.823	Dist.824	Dist.825	Dist.826	Dist.827	Dist.828	Dist.829	Dist.830	Dist.831	Dist.832	Dist.833	Dist.834	Dist.835	Dist.836	Dist.837	Dist.838	Dist.839	Dist.840	Dist.841	Dist.842	Dist.843	Dist.844	Dist.845	Dist.846	Dist.847	Dist.848	Dist.849	Dist.850	Dist.851	Dist.852	Dist.853	Dist.854	Dist.855	Dist.856	Dist.857	Dist.858	Dist.859	Dist.860	Dist.861	Dist.862	Dist.863	Dist.864	Dist.865	Dist.866	Dist.867	Dist.868	Dist.869	Dist.870	Dist.871	Dist.872	Dist.873	Dist.874	Dist.875	Dist.876	Dist.877	Dist.878	Dist.879	Dist.880	Dist.881	Dist.882	Dist.883	Dist.884	Dist.885	Dist.886	Dist.887	Dist.888	Dist.889	Dist.890	Dist.891	Dist.892	Dist.893	Dist.894	Dist.895	Dist.896	Dist.897	Dist.898	Dist.899	Dist.900	Dist.901	Dist.902	Dist.903	Dist.904	Dist.905	Dist.906	Dist.907	Dist.908	Dist.909	Dist.910	Dist.911	Dist.912	Dist.913	Dist.914	Dist.915	Dist.916	Dist.917	Dist.918	Dist.919	Dist.920	Dist.921	Dist.922	Dist.923	Dist.924	Dist.925	Dist.926	Dist.927	Dist.928	Dist.929	Dist.930	Dist.931	Dist.932	Dist.933	Dist.934	Dist.935	Dist.936	Dist.937	Dist.938	Dist.939	Dist.940	Dist.941	Dist.942	Dist.943	Dist.944	Dist.945	Dist.946	Dist.947	Dist.948	Dist.949	Dist.950	Dist.951	Dist.952	Dist.953	Dist.954	Dist.955	Dist.956	Dist.957	Dist.958	Dist.959	Dist.960	Dist.961	Dist.962	Dist.963	Dist.964	Dist.965	Dist.966	Dist.967	Dist.968	Dist.969	Dist.970	Dist.971	Dist.972	Dist.973	Dist.974	Dist.975	Dist.976	Dist.977	Dist.978	Dist.979	Dist.980	Dist.981	Dist.982	Dist.983	Dist.984	Dist.985	Dist.986	Dist.987	Dist.988	Dist.989	Dist.990	Dist.991	Dist.992	Dist.993	Dist.994	Dist.995	Dist.996	Dist.997	Dist.998	Dist.999	Dist.1000	Dist.1001	Dist.1002	Dist.1003	Dist.1004	Dist.1005	Dist.1006	Dist.1007	Dist.1008	Dist.1009	Dist.1010	Dist.1011	Dist.1012	Dist.1013	Dist.1014	Dist.1015	Dist.1016	Dist.1017	Dist.1018	Dist.1019	Dist.1020	Dist.1021	Dist.1022	Dist.1023	Dist.1024	Dist.1025	Dist.1026	Dist.1027	Dist.1028	Dist.1029	Dist.1030	Dist.1031	Dist.1032	Dist.1033	Dist.1034	Dist.1035	Dist.1036	Dist.1037	Dist.1038	Dist.1039	Dist.1040	Dist.1041	Dist.1042	Dist.1043	Dist.1044	Dist.1045	Dist.1046	Dist.1047	Dist.1048	Dist.1049	Dist.1050	Dist.1051	Dist.1052	Dist.1053	Dist.1054	Dist.1055	Dist.1056	Dist.1057	Dist.1058	Dist.1059	Dist.1060	Dist.1061	Dist.1062	Dist.1063	Dist.1064	Dist.1065	Dist.1066	Dist.1067	Dist.1068	Dist.1069	Dist.1070	Dist.1071	Dist.1072	Dist.1073	Dist.1074	Dist.1075	Dist.1076	Dist.1077	Dist.1078	Dist.1079	Dist.1080	Dist.1081	Dist.1082	Dist.1083	Dist.1084	Dist.1085	Dist.1086	Dist.1087	Dist.1088	Dist.1089	Dist.1090	Dist.1091	Dist.1092	Dist.1093	Dist.1094	Dist.1095	Dist.1096	Dist.1097	Dist.1098	Dist.1099	Dist.1100	Dist.1101	Dist.1102	Dist.1103	Dist.1104	Dist.1105	Dist.1106	Dist.1107	Dist.1108	Dist.1109	Dist.1110	Dist.1111	Dist.1112	Dist.1113	Dist.1114	Dist.1115	Dist.1116	Dist.1117	Dist.1118	Dist.1119	Dist.1120	Dist.1121	Dist.1122	Dist.1123	Dist.1124	Dist.1125	Dist.1126	Dist.1127	Dist.1128	Dist.1129	Dist.1130	Dist.1131	Dist.1132	Dist.1133	Dist.1134	Dist.1135	Dist.1136	Dist.1137	Dist.1138	Dist.1139	Dist.1140	Dist.1141	Dist.1142	Dist.1143	Dist.1144	Dist.1145	Dist.1146	Dist.1147	Dist.1148	Dist.1149	Dist.1150	Dist.1151	Dist.1152	Dist.1153	Dist.1154	Dist.1155	Dist.1156	Dist.1157	Dist.1158	Dist.1159	Dist.1160	Dist.1161	Dist.1162	Dist.1163	Dist.1164	Dist.1165	Dist.1166	Dist.1167	Dist.1168	Dist.1169	Dist.1170	Dist.1171	Dist.1172	Dist.1173	Dist.1174	Dist.1175	Dist.1176	Dist.1177	Dist.1178	Dist.1179	Dist.1180	Dist.1181	Dist.1182	Dist.1183	Dist.1184	Dist.1185	Dist.1186	Dist.1187	Dist.1188	Dist.1189	Dist.1190	Dist.1191	Dist.1192	Dist.1193	Dist.1194	Dist.1195	Dist.1196	Dist.1197	Dist.1198	Dist.1199	Dist.1200	Dist.1201	Dist.1202	Dist.1203	Dist.1204	Dist.1205	Dist.1206	Dist.1207	Dist.1208	Dist.1209	Dist.1210	Dist.1211	Dist.1212	Dist.1213	Dist.1214	Dist.1215	Dist.1216	Dist.1217	Dist.1218	Dist.1219	Dist.1220	Dist.1221	Dist.1222	Dist.1223	Dist.1224
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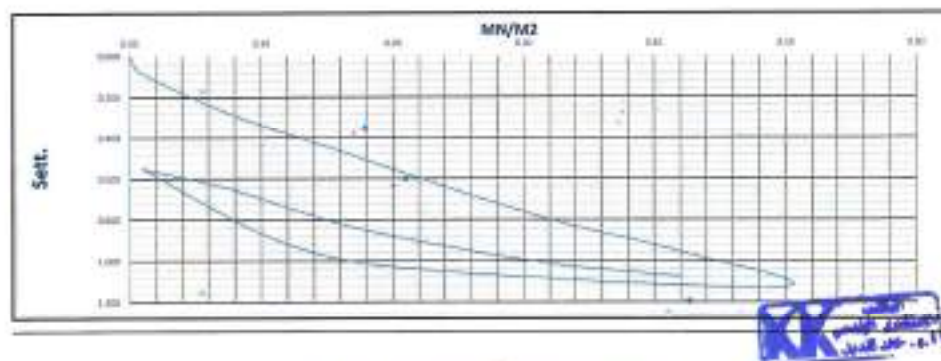
	α	AS	$\delta\alpha$
0.7 α_1	0.30	0.00629	0.2
0.3 α_1	0.15	0.00313	
0.7 α_2	0.30	1.03222	
0.3 α_2	0.15	0.79001	
D [mm]	360		0.2
E_1	123.62		
E_2	165.31		
Area [kg/m ²]	0.0960		

8x10x4	1.23		
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LOAD

UNLOAD

RELOAD



Lab. Specialist

Number of

Signs :

As Follows:

Consultant Engineer

Name: 6202
 Roll: 6202



Colombia



Plate Load Test Results

Layer: excavation bed

Station: 552+064 E:275346.1441 N:947173.9791

Date: 18/6/2023

COMPANY: al-mahjoub

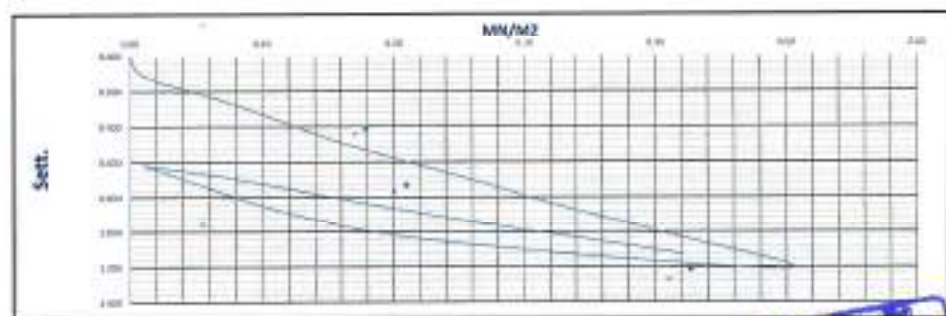
SAMPLE LOCATION: CU-41 (OUT)

Load	Load	Load	Stress	Dist. 1	Dist. 2	Dist. 3	Dist. 4	Dist. 5	Dist. 6	Dist. 7	Dist. 8
kg	kg	kg	kg/cm ²	mm	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	15.15	14.37	0.000	0.000	0.000	0.000	0.000	0.000
1.000	2.4	0.797	0.01	15.04	14.16	0.110	0.110	0.110	0.110	0.110	0.110
2.000	18.8	5.652	0.08	14.88	13.99	0.270	0.280	0.270	0.270	0.270	0.270
4.000	37.7	11.304	0.16	14.72	13.72	0.430	0.500	0.480	0.480	0.480	0.480
6.000	56.9	17.663	0.25	14.52	13.54	0.630	0.750	0.680	0.680	0.680	0.680
8.000	77.7	23.315	0.33	14.40	13.31	0.750	0.960	0.850	0.850	0.850	0.850
10.000	98.9	29.673	0.42	14.25	13.13	0.930	1.160	1.030	1.030	1.030	1.030
12.000	117.8	35.325	0.50	14.08	12.91	1.070	1.350	1.210	1.210	1.210	1.210
14.000	138.9	41.663	0.58	14.00	12.69	1.250	1.500	1.360	1.360	1.360	1.360
16.000	159.4	48.331	0.67	14.34	13.28	1.410	1.690	1.500	1.500	1.500	1.500
18.000	179.4	55.325	0.75	14.40	13.59	1.550	1.880	1.610	1.610	1.610	1.610
20.000	199.4	62.315	0.83	14.60	13.59	1.690	2.070	1.750	1.750	1.750	1.750
22.000	219.4	69.315	0.92	14.55	13.50	1.810	2.260	1.930	1.930	1.930	1.930
24.000	239.4	76.315	1.00	14.33	13.23	1.920	2.440	2.080	2.080	2.080	2.080
26.000	259.4	83.315	1.08	14.24	13.14	2.010	2.630	2.230	2.230	2.230	2.230
28.000	279.4	90.315	1.17	14.35	13.02	2.100	2.820	2.380	2.380	2.380	2.380

		s	ΔS	Δw
0.7 σ_1	0.35	0.0125	0.00007	0.2
0.2 σ_1	0.18	0.00102		
0.7 σ_2	0.35	0.00102		
0.3 σ_2	0.18	0.00102		
D (mm)	200			
E _{v1}	105.02			
E _{v2}	107.73			
Area (Sqmm)	0.0706			

0.000	0.01		
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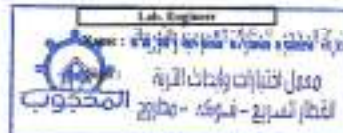
LOAD
UN LOAD
RE LOAD



Lab. Specialist

Name:

Sign:



Lab. Engineer

Construction Engineer

Name: 19/6/2023
Sign: [Signature]



Abdelhak

أحمد



SUBMISSION of TEST RESULTS



شركة نور استشارات



Green Line

Location Name		Contractor Company		Designer Company	
		EL-MAHGOUB COMPANY		IDA Noor Consultants	
Issued by Contractor	Name	Sign	Date	Designation	
	ENG/Ahmed turk		25/11/2023		
Contractor Reference					Revision
Received by ER	Name	Sign	TRF	DD	MM
	A. Idress			14	12
				YY	HH
				23	13
				01	

NB: Package 1 Only(Package 2 via Aconex)

THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW

Description of Test	ليشة مسلحة				
Location of Test	CU-41 - AT OLD ST (552+064) NEW ST (552+051)				
Item	Specification	Test Requirement	Test Result Attachment	Remarks	
1	COMORESSIVE STRENGTH OF CONCRETE CUBS AT 28 DAYS				
2					
3					
4					
5					

Comments by:	Comments by:
* Test results are approved as per attached. * Test results are under responsibility of Contractor & 3rd party lab.	

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG/Ahmed turk		25/11/2023	A
Designer				A
GARB *				
Employers Representative	A. Idress		14/12/23	A

* Alignment / Bridges: Culvert Only

A= Approved; AWC= Approved with Comments; R= Rejected

Reference: POR.001/2016

Project : Express Electric Train

Client : AL MAHGOUB

Location: Matrouh

File No. : 0235

Date : 25/11/2023

Sample: Cube(15x15x15 cm)

Compressive Strength
of Cubical Concrete Specimens
Bs 1881 , Part 4 ,1983

Mix Description : C40 - 400 kg/cm²

Area Loaded : 225 Cm²

Casting by : Concrete Team

Curing by: Concrete Team

Date of Casting : **28-Oct-2023**

Type of Curing : Sub in Water .

Element: RC Footing for Culvert No :41 Station (552 +064)

Cubic Ident No.	Weight Of Sample	Date Of Testing	Age of Cubic (Days)	Comb Strength (kN/cm ²)	Comb Strength (kg/cm ²)	Average Stress (kg/cm ²)
1	0	25-Nov-2023	28	1260	571.032	555.9
2	0	25-Nov-2023	28	1150	521.18	
3	0	25-Nov-2023	28	1270	575.564	

Note:

The concrete specimens have been cured according to (ASTM C31)

QC/QA Department	Name	Signature	Witness by:
Tested by:	Asem		Name: Eng : Mohamed Salah
			Signature: M-salah

SUBMISSION of TEST RESULTS



Contractor Company	EL-MAHGOUB COMPANY		Designer Company	IDA Noor Consultants	
Issued by Contractor	Name	Sign	Date	Time	
	ENG: Ibrahim Mohammed		4 / 11 / 2023		
Received by ER	A. Zedress		STR	G1	C 2
				DD	MM
				KP552 +051	23 11 23 16 05

CODE - 1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp 553 Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

NB: Package 1 Only (Package 2 via Aconex)				
THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW				
Description of Test Materials	لينة مسلحة			
Location of Test	CU-41 - At Old st.(552+064) New S.T (552+051)			
Item	Specification	Test Requirement	Test Result Attachment	Remarks
1	COMPRESSIVE STRENGTH OF CONCRETE CUBES AT 7 DAYS	400	395	
2				
3				
4				
5				

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG : Ibrahim Mohammed			A
Designer				A
GARB *				

Reference: POR.001/2016

Project : **Express Electric Trein**

File No. : 0235

Client : **AL MAHGOUB**

Date : 04/11/2023

Location: **Matrouh**

Sample: Cube(15x15x15 cm)

Compressive Strength
of Cubical Concrete Specimens
Bs 1881 , Part 4 ,1983

Mix Description : C40 - 400 kg/cm²

Area Loaded : 225 Cm²

Casting by : Concrete Team

Curing by: Concrete Team

Date of Casting : **28-Oct-2023**

Type of Curing : Sub in Water .

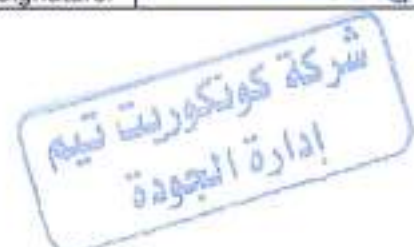
Element: RC Footing for Culvert No :41 Station (552 +064)

Cubic Ident No.	Weight Of Sample	Date Of Testing	Age of Cubic (Days)	Comb Strength (kN/cm ²)	Comb Strength (kg/cm ²)	Average Stress (kg/cm ²)
1	8090	4-Nov-2023	7	870	394.284	395.0
2	8100	4-Nov-2023	7	885	401.082	
3	8110	4-Nov-2023	7	860	389.752	

Note:

The concrete specimens have been cured according to (ASTM C31)

QC/QA Department	Name	Signature	Witness by:	
Tested by:	Said		Name:	Eng : Mohamed Salah
			Signature:	M - Salah



SUBMISSION of TEST RESULTS



Contractor Company	EL-MAHGOUB COMPANY		Designer Company	IDA Noor Consultants																
Issued by Contractor	Name	Sign	Date	Time																
	ENG: Ibrahim Mohammed		010/08/2023																	
Received by ER	A. Idress	STR 552	<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td>KP +064</td> <td>CU</td> <td>CS</td> <td>16</td> <td>8</td> <td>23</td> <td>14</td> <td>30</td> </tr> </table>		C1	C2	C3	DD	MM	YY	HH	MM	KP +064	CU	CS	16	8	23	14	30
C1	C2	C3	DD	MM	YY	HH	MM													
KP +064	CU	CS	16	8	23	14	30													

CODE-1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp 533 Note For Kilometer point only Start Km is used
CODE-2	Work Activity		
CODE-3	Sub Element of Activity		

NB: Package 1 Only (Package 2 via Aconex)				
THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW				
Description of Test Materials	لبشة عادية			
Location of Test	CU-38 at st. 552+064			
Item	Specification	Test Requirement	Test Result Attachment	Remarks
1	COMPRESSIVE STRENGTH OF CONCRETE CUBES AT 28 DAYS			
2				
3				
4				
5				

Comments by: C.R.I.	Comments by:
*Test results are approved as per attached. *Final approval of this element subjected to the approval of 28 days. *Test results are under responsibility of Contractor and lab.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG : Ibrahim Mohammed		10/ 08 /2023	A
Designer				A
GARB *				
Employers Representative	A. Idress		16/8/23	A

* Alignment / Bridges: Culvert Only



شركة كونكريتو ريدى ميكس الخرسانة الجاهزة

COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : الممول
Consultant : مستشار
Project : برج 38 (552+564) S.T
Element : طبقة خضراء
Date of Casting : 12/7/2023

Plant	مباري حليش
Concrete Type	OPC
Concrete Content	300
STRENGTH	200

SNO	Description	7 Day		
		19/7/2023		
1	Cube number	1	2	3
2	Weight (gm)	8303	8353	8418
3	Density (gm/cm ³)	2.46	2.47	2.49
4	Failure Load (kN)	874	630	557
5	Comp. Strength Kg/cm ²	260	185	151
6	Average Strength Kg/cm ²	266		
SNO	Description	28 Day		
		9/08/2023		
1	Cube number	1	2	3
2	Weight (gm)	8337	8224	8360
3	Density (gm/cm ³)	2.48	2.44	2.48
4	Failure Load (kN)	809	831	821
5	Comp. Strength Kg/cm ²	366	374	372
6	Average Strength Kg/cm ²	372		

Concrete QC Engineer :

Mohamed Abdelkder

Consultant Engineer :

شركة كونكريتو
ريدى ميكس
ادارة المعمل

SUBMISSION of TEST RESULTS



Contractor Company	ALARABIA for real estate development & contracting		Designer Company																	
Issued by Contractor	Name ENG: Ibrahim mohammed	Sign	Date 09/07/2023	Time																
Received by ER	Abdelrahman Idress	STR 532	<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td>06</td> <td>04</td> <td>CU</td> <td>07</td> <td>23</td> <td>7</td> <td>23</td> <td>12 03</td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM	06	04	CU	07	23	7	23	12 03	
C1	C2	C3	DD	MM	YY	HH	MM													
06	04	CU	07	23	7	23	12 03													

CODE - 1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp 533 Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

NB: Package 1 Only (Package 2 via Aconex)				
THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW				
Description of Test Materials	لبشة عادية			
Location of Test	CU-38 at st. 552+064			
Item	Specification	Test Requirement	Test Result Attachment	Remarks
1	COMPRESSIVE STRENGTH OF CONCRETE CUBES AT 7 DAYS			
2				
3				
4				
5				

Comments by: L-Ri	Comments by:
+ Test results are approved as per attached. + Final approval subjected to 28 days test. + Test results are under responsibility of Contractor and Lab.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG : Ibrahim mohammed		09 / 07 / 2023	A
Designer				A
GARB *				
Employers Representative	Abdelrahman Idress		25/7/23	A

* Alignment / Bridges: Culvert Only

SUBMISSION of TEST RESULTS



Contractor Company	EL-MAHGOUB COMPANY			Designer Company		IDA Noor Consutants					
Issued by Contractor	Name	Sign		Date		Time					
	ENG: Ibrahim Mohammed			19 / 07 / 2023							
Received by ER			STR	C1	C2	C3	D0	MM	YY	HH	MM

CODE - 1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp 533 Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

NB: Package 1 Only (Package 2 via Aconex)				
THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW				
Description of Test Materials	لبشة عادية			
Location of Test	CU-41 – At Old st.(552+064) New S.T (552+051)			
Item	Specification	Test Requirement	Test Result Attachment	Remarks
1	COMPRESSIVE STRENGTH OF CONCRETE CUBES AT 7 DAYS	200	266	
2				
3				
4				
5				

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG : Ibrahim Mohammed		19 / 07 / 2023	A
Designer				A
GARB *				
Employers Representative				

* Alignment / Bridges: Culvert Only

COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client :
 Consultant :
 Project :
 Element :
 Date of Casting :

المحجوب

مسترا

S.T (552+064) 38 بربخ

لبشة عنية

12/7/2023

Plant	ميدى حليش
Cement Type	OPC
Cement Content	300
STRENGTH	200

SNO	Description	7 Day		
		19/7/2023		
1	Cube number	1	2	3
2	Weight (gm)	8303	8353	8418
3	Denisty (gm/cm ³)	2.46	2.47	2.49
4	Failure Load (kN)	574	630	557
5	Comp. Strength Kg/cm ²	260	285	252
6	Average Strength Kg/cm ²	266		
SNO	Description	28 Day		
		9/08/2023		
1	Cube number	1	2	3
2	Weight (gm)			
3	Denisty (gm/cm ³)	0.00	0.00	0.00
4	Failure Load (kN)			
5	Comp. Strength Kg/cm ²	0	0	0
6	Average Strength Kg/cm ²	0		

Concreto QC Engineer :

Mohamed Abdelkder


19/7/23

Consultant Engineer :

شركة كونكريتو ريدي ميكس
إدارة المعمل

SUBMISSION of TEST RESULTS



Contractor Company	EL-MAHGOUB COMPANY		Designer Company																	
Issued by Contractor	Name	Sign	Date	Time																
	ENG: Ibrahim mohamed		11/07/2023																	
Received by ER	Abdel Rahman Idress		STR 552	<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td>KO</td> <td>CU</td> <td>CS</td> <td>11</td> <td>7</td> <td>23</td> <td>15</td> <td>10</td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM	KO	CU	CS	11	7	23	15	10
	C1		C2	C3	DD	MM	YY	HH	MM											
KO	CU	CS	11	7	23	15	10													

CODE-1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp 552 Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

NB: Package 1 Only (Package 2 via Aconex)				
THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW				
Description of Test Materials	Plate load			
Location of Test	CU-38 at st. 552+064			
Item	Specification	Test Requirement	Test Result Attachment	Remarks
1	Plate load			
2				
3				
4				
5				

Comments by:	Comments by:
* Test results are approved as per attached and as per approved geo tech. report. * Test results are under responsibility of Contractor and 3rd party lab.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG: Ibrahim mohamed		11 / 07 / 2023	A
Designer				A
GARB *				
Employers Representative	Abdel Rahman Idress		11/7/23	A

* Alignment / Bridges: Culvert Only

Company

شركة المحجوب للمقاولات

Project : EET From Foka to Marsa Matrouh.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according ASTM D 1196 and project specs requirements
Test Date : 05/07/2023
Report Date : 08/07/2023
Test location : Old st. 552+064 / New st. 552+051
Test level : Middle embankment.
Report No. : 01

Dear Gentleman,

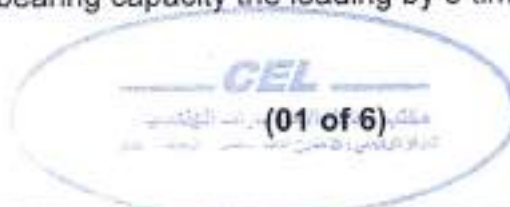
According to the above mentioned subject the test performed as follows:-

Apparatus:

1. Loading plates consists of two plates with 500 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 machine 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 500 mm diameter, hydraulic jack and 4 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. The job specification required soil bearing capacity equal (2.50 Kg/cm²)
6. To satisfy this bearing capacity the loading by 3 times the required



7. Start loading with equal increment according the calculation sheet (attached)
8. The loading until **14.732 ton** to achieve soil stress (**7.5 Kg/cm²**)
9. Records the reading of dial gauge for settlement
10. Remove the loads
11. Record the deformation of the soil under the loading plate

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 plates
 - Measuring device used
 - Type of soil
 - Type of bedding material below the plate
 - Weather condition
 - Time and date of measurement
 - Time of start and compilation of test
 - Unusual observation made during test
 - Dial gauge reading and corresponding normal stress
 - Load – settlement curve
 - Description of the soil conditions below the plate after testing



Determine the deformation and strength characteristics of soil
By the plate loading test according specifications
ASTM D 1196

Report

- Test location : Old st. 552+064 / New st. 552+051
- TEST No. : 01
- Type of soil : Middle embankment.

Item	Descriptions
- Plate Diameter (mm)	500
- date of measurement	08/07/2023
- Unusual observation made during test	NO
- Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

No.	Settlement (mm)	Soil stress Kg/cm ²
1	2.25 ✓	7.50
2	0.82 ✓	2.50

Signature /


 مكتب معامل الاستشارات الهندسية
 ٣ شارع الملك الأفدال - القاهرة

(03 of 6)



Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : شركة المحجوب للمقاولات
Project : EET From Foka to Marsa Matrouh
Test Date : 05/07/2023
report date : 08/07/2023
Location : Old st. 552+064 / New st. 552+051
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
ASTM D 1196

Data sheet

Loading Stage

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	0.00
1	1.25	19.70	0.30	19.36	0.64	19.56	0.44	0.46
2	2.50	19.40	0.60	18.95	1.05	19.20	0.80	0.82
3	3.75	19.22	0.78	18.66	1.34	18.90	1.10	1.07
4	5.00	19.04	0.96	18.37	1.63	18.56	1.44	1.34
5	6.25	18.75	1.25	17.95	2.05	18.00	2.00	1.77
6	7.50	18.32	1.68	17.55	2.45	17.39	2.61	2.25

Unloading Stage

Loading	Stress Kg/cm2	Dial 1	Settlement mm	Dial 2	Settlement mm	Dial 3	Settlement mm	Average
1	7.50	18.32	1.68	17.55	2.45	17.39	2.61	2.25
2	5.00	18.36	1.64	17.60	2.40	17.43	2.57	2.20
3	2.50	18.54	1.46	17.83	2.17	17.61	2.39	2.01
4	0.00	19.23	0.77	18.98	1.02	18.55	1.45	1.08

Signature/


مكتب معامل الاستشارات الهندسية
شارع الملك الأفضل - القاهرة (4 of 6)

Company Name : شركة المحجوب للمقاولات
Project : EET From Foka to Marsa Matrouh
Test Date : 05/07/2023
report date : 08/07/2023
Location : Old st. 552+064 / New st. 552+051
Test No. : 01

Plate Bearing Test

Egyptian Code Part (3) Page 98

$$S = p \cdot B (1 - \mu^2 / E_s) \cdot I$$

S (mm) : Settlement immediately
p (kg/cm²) : Stress at foundation level
B (m) : Foundation Width
I : Factor depends on the foundation shape and rigidity
E_s : Modulus of elasticity
μ : Poisson's ratio

NO.	Settlement (mm)	Stress (kg/cm ²)	Load (kg)	B (cm)	μ	I	E _s (kg/cm ²)
1	0.46	1.25	2455	50	0.3	0.79	976.8
2	0.82	2.50	4911	50	0.3	0.79	1100.4
3	0.82	3.75	7366	50	0.3	0.79	1650.5
4	1.07	5.00	9821	50	0.3	0.79	1674.5
5	1.34	6.25	12277	50	0.3	0.79	1672.4
6	1.77	7.50	14732	50	0.3	0.79	1526.0

Average values of the deformation modulus at mentioned stress is from 9.00 to 7.5 kg/cm²

1433.4	Kg/cm ²
--------	--------------------

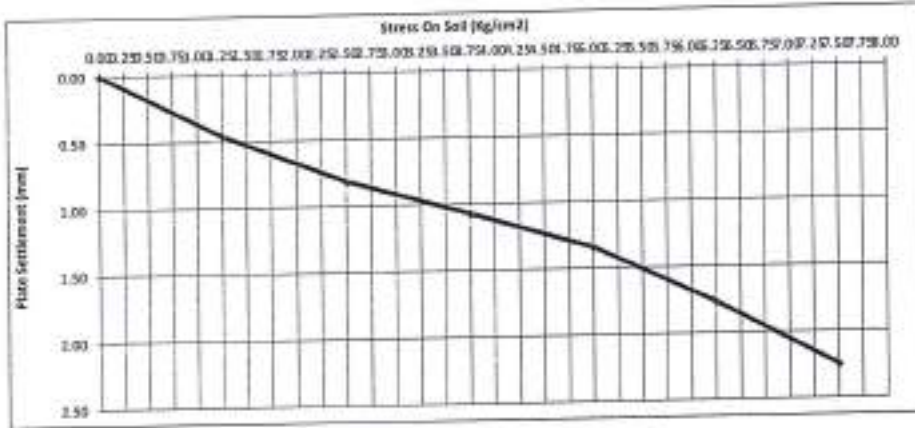
Signature:  CEL
مكتب معامل الاستشارات الهندسية
شركة المحجوب للمقاولات - الزمالة - القاهرة

(5 of 6)

Company Name
Project
Test Date
report date
Location
Test No.

شركة المحجوب للمقاولات
EET From Foka to Marsa Matrouh
05/07/2023
08/07/2023
Old st. 552+064 / New st. 552+051
01

Nonrepetitive Static Plate Load Tests of Soils
ASTM D1196



Loading	0	1	2	3	4	5	6
Stage(Kg)	0	2455	4911	7366	9821	12277	14732
Stress (Kg/cm²)	0.00	1.25	2.50	3.75	5.00	6.25	7.50
Settlement (mm)	0.00	0.46	0.82	1.07	1.34	1.77	2.25

Unloading	2	3	4	5
Stage(Kg)	14732	9821	4911	0
Stress (Kg/cm²)	7.50	5.00	2.50	0.00
Settlement (mm)	2.25	2.20	2.01	1.08

Signature

[Signature]
مكتب معامل الاستشارات الهندسية
أبرار القوي و قاسم عبد السلام - الزمالة - القاهرة

(6 of 6)

SUBMISSION of TEST RESULTS



Contractor Company	EL-MAHGOUB COMPANY		Designer Company	IDA Noor Consultants																	
Issued by Contractor	Name ENG: Ibrahim mohammed	Sign	Date 22/07/2023	Time																	
Received by ER	A. Idress	STR 553	<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DO</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td>Kp</td> <td>CU</td> <td>CS</td> <td>16</td> <td>8</td> <td>23</td> <td>14</td> <td>31</td> </tr> </table>			C1	C2	C3	DO	MM	YY	HH	MM	Kp	CU	CS	16	8	23	14	31
C1	C2	C3	DO	MM	YY	HH	MM														
Kp	CU	CS	16	8	23	14	31														

CODE-1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE-2	Work Activity		
CODE-3	Sub Element of Activity		

NB: Package 1 Only (Package 2 via Aconex)				
THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW				
Description of Test Materials	Plate load			
Location of Test	CU-39 at ST. 553+310			
Item	Specification	Test Requirement	Test Result Attachment	Remarks
1				
2				
3				
4				
5				

Comments by: E-R	Comments by:
* PLT approved as per geo-tech. report. * Test results are under responsibility of Contractor and 3 rd party lab.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG: Ibrahim mohammed		22/07/2023	A
Designer				A
GARB *				
Employers Representative	A. Idress		18/6/23	A

* Alignment / Bridges: Culvert Only

Company

شركة المحجوب للمقاولات

Project : EET From Foka to Marsa Matrouh.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according ASTM D 1196 and project specs requirements
Test Date : 23/07/2023
Report Date : 25/07/2023
Test location : 39 - ST (553+310)
Test level : Prepared Subgrade.
Report No. : 02

Dear Gentleman,

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

1. Loading plates consists of two plates with 500 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 machine 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 500 mm diameter, hydraulic jack and 4 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. The job specification required soil bearing capacity equal (2.50 Kg/cm²)
6. To satisfy this bearing capacity the loading by 3 times the required



(01 of 6)

7. Start loading with equal increment according the calculation sheet (attached)
8. The loading until 14.732 ton to achieve soil stress (7.5 Kg/cm²)
9. Records the reading of dial gauge for settlement
10. Remove the loads
11. Record the deformation of the soil under the loading plate

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 plates
 - Measuring device used
 - Type of soil
 - Type of bedding material below the plate
 - Weather condition
 - Time and date of measurement
 - Time of start and completion of test
 - Unusual observation made during test
 - Dial gauge reading and corresponding normal stress
 - Load – settlement curve
 - Description of the soil conditions below the plate after testing



(02 of 6)

Determine the deformation and strength characteristics of soil
By the plate loading test according specifications

ASTM D 1196

Report

- * Test location : 39 - ST (553+310) - برج
- * TEST No. : 01
- * Type of soil : Prepared Subgrade.

Item	Descriptions
- Plate Diameter (mm)	500
- date of measurement	23/07/2023
- Unusual observation made during test	NO
- Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

No.	Settlement (mm)	Soil stress Kg/cm ²
1	3.37	7.50
2	0.87	2.50

Signature:  مكتب معامل الاستشارات الهندسية
السلطانة الشمالية
رقم تسجيل المراسلة: 027 - 001 - 210
البريد الإلكتروني: 3 شارع شوك النخل - الزمالة - القاهرة (03 of 6)

Company Name : شركة المحجوب للمقاولات
Project : EET From Foka to Marsa Matrouh
Test Date : 23/07/2023
Report date : 25/07/2023
Location : 39 - ST (553+310)
Test No. : 01

Non-pertitive Static Plate Load Tests of Soils
ASTM D 1196

Data sheet

Loading Stage

Loading	Stress Kg/cm ²	Dial 1 Settlement mm	Dial 2 Settlement mm	Dial 3 Settlement mm	Average
0	0.00	29.00	29.00	29.00	0.00
1	1.25	29.58	29.55	29.35	0.51
2	2.50	29.25	29.30	28.95	0.87
3	3.75	28.95	28.55	28.60	1.20
4	5.00	28.85	28.40	28.25	1.50
5	6.25	28.55	27.85	27.35	2.22
6	7.50	27.25	26.75	25.95	3.37

Unloading Stage

Loading	Stress Kg/cm ²	Dial 1 Settlement mm	Dial 2 Settlement mm	Dial 3 Settlement mm	Average
1	7.50	27.25	26.70	25.95	3.37
2	5.00	27.30	26.30	26.05	3.29
3	2.50	27.55	26.95	26.20	3.12
4	0.00	27.65	27.00	27.50	3.22

Signature: **CEL**
مكتب معامل الإستشارات الهندسية
الساحل الشمالي
بم تقسيم فوكس : 537 - 553 - 210
فيلا فوكس : شارع الملك فيصل - الزمك - القاهرة
(4 of 6)

Company Name
Project
Test Date
report date
Location
Test No.

شركة المعجزة للمقاولات
EST From Foka to Marsa Matruh
23/07/2023
25/07/2023
39 - برج ST (563+310)
01

Plate Bearing Test

Egyptian Code Part (3) Page 98

$$S = p.B (1-\mu^2) / E_s.M$$

S (mm) : Settlement immediately
p (kg/cm²) : Stress at foundation level
B (cm) : Foundation Width
I : Factor depends on the foundation shape and rigidity
E_s : Modulus of elasticity
μ : Poisson's ratio

NO.	Settlement (mm)	Stress (kg/cm ²)	Load (kg)	B (cm)	μ	I	E _s (kg/cm ²)
1	0.21	1.25	2455	50	0.3	0.79	888.8
2	0.41	2.50	4911	50	0.3	0.79	2694.8
3	0.61	3.75	7366	50	0.3	0.79	3525.1
4	1.01	5.00	9821	50	0.3	0.79	3497.7
5	1.36	6.25	12277	50	0.3	0.79	3411.9
6	2.57	7.50	14732	50	0.3	0.79	2216.2

Average values of the deformation modulus at mentioned stress is from 8.02 to 7.5 kg/cm²

1269.1 kg/cm²



Company Name : شركة المحجوب - المملوك
Project : EBT From Fuka to Mersa Matruh
Test Date : 25/07/2023
Report Date : 25/07/2023
Location : 30 Km - 53 (153+260)
Test No : 03

Compressive Static Plate Load Tests of Soils
ASTM D1190



Loading	0	1	2	3	4	5	6
Stage(kg)	0	1161	2321	3486	4652	5817	6982
Stress (kg/cm²)	0.00	1.25	2.50	3.75	5.00	6.25	7.50
Settlement (mm)	0.00	0.51	1.07	1.25	1.68	2.22	3.27

Unloading	2	3	4	5
Stage(kg)	11722	2321	4911	8
Stress (kg/cm²)	1.25	0.50	2.50	0.00
Settlement (mm)	0.77	0.27	0.12	0.00

Signature :

مكتب معامل الاستشارات الهندسية

الاساحل الشمالي

رقم التسجيل مهنى : 215-001-637
المرکز القامس : 3 شارع توكه المملوك - المملكه - القاهرة

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