



قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر الترابي بمشروع إنشاء الخط الأول لشبكة القطر الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلي الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند و بيانه : (1-2) أعمال حفر باستخدام المعدات الميكانيكية في التربة المتماسكة عدا الصخرية
تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

مقدار العمل السابق : 0.0 م 3

الكمية	الابعاد (متر)		الموقع الكيلومتری		بيان الاعمال بالمقايضة
	مساحة المقطع	طول	الى	من	
213157.89	142.105	1500.00	511+500	510+000	القطاع الأول
213157.89	اجمالي الكميات خلال فترة المستخلص الحالية (م ³)				
213157.89	الاجمالي الكلي (م ³)				

مهندس الهيئة العامة
للطرق والكباري
م / إبراهيم الحناوى

مهندس الاستشاري
مكتب د/ خالد قنديل
م / خالد فوزي

مهندس الاستشاري
مكتب XYZ
م / محمد خليل

مهندس الشركة
م / توني عربي امام

قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر الترابي بمشروع إنشاء الخط الأول لشبكة القطر الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلي الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند و بيانه : (1-3) أعمال حفر باستخدام المعدات الميكانيكية في تربة صخرية ذات اجهاد (100 - 200) كجم/سم²
تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

مقدار العمل السابق : 0.0 م 3

الكمية	الابعاد (متر)		الموقع الكيلومري		بيان الاعمال بالمقايضة
	مساحة المقطع	طول	الى	من	
98736.84	65.825	1500.00	511+500	510+000	القطاع الأول
98736.84	اجمالي الكميات خلال فترة المستخلص الحالية (م ³)				
98736.84	الاجمالي الكلي (م ³)				

مهندس الهيئة العامة
للطرق والكباري
م / إبراهيم الحناوي

مهندس الإستشاري
مكتب د/خالد قنديل
م / خالد فوزي

مهندس الإستشاري (xyz)
م / محمد خليل

مهندس الشركة
م / تونى عربى امام

قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر الترابي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلي الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند و بيانه : (1-3) أعمال حفر باستخدام المعدات الميكانيكية في تربة صخرية ذات اجهاد (300 - 200) كجم/سم²

تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

مقدار العمل السابق : 0.0 م 3

الكمية	الابعاد (متر)		الموقع الكيلومري		بيان الاعمال بالمقايضة
	مساحة المقطع	طول	الى	من	
94421.04	62.947	1500.00	511+500	510+000	القطاع الأول
94421.04	اجمالي الكميات خلال فترة المستخلص الحالية (م ³)				
94421.04	الاجمالي الكلي (م ³)				

مهندس الهيئة العامة
للطرق والكباري
م / إبراهيم الحناوي

مهندس الإستشاري
مكتب د/خالد قنديل
م / خالد فوزي

مهندس الإستشاري (xyz)
م / محمد خليل

مهندس الشركة
م / تونى عربى امام

قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر الترابي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلي الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند و بيانه : (1-3) أعمال حفر باستخدام المعدات الميكانيكية في تربة صخرية ذات اجهاد (300 - 400) كجم/سم²

تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

مقدار العمل السابق : 0.0 م 3

الكمية	الابعاد (متر)		الموقع الكيلومتری		بيان الاعمال بالمقايضة
	مساحة المقطع	طول	الى	من	
315263.16	210.175	1500.00	511+500	510+000	القطاع الأول
315263.16	اجمالي الكميات خلال فترة المستخلص الحالية (م ³)				
315263.16	الاجمالي الكلي (م ³)				

مهندس الهيئة العامة
للطرق والكباري
م / إبراهيم الخناوي

مهندس الإستشاري
مكتب د/خالد فتنديل
م / خالد فوزي

مهندس الإستشاري (xyz)
م / محمد خليل

مهندس الشركة
م / تونى عربى امام

قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر الترابي بمشروع إنشاء الخط الأول لشبكة القطر الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلي الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند و بيانه : (3-1) أعمال توريد و تشغيل اترية صالحة للردم مطابقة للمواصفات

تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

مقدار العمل السابق : 0.0 3م

الكمية	الابعاد (متر)		الموقع الكيلوميتري		بيان الاعمال بالمقايضة
	مساحة المقطع	طول	الى	من	
20000.00	40.000	500.00	511+000	510+500	القطاع الأول
20000.00	40.000	500.00	511+500	511+000	القطاع الثاني
40000.00	اجمالي الكميات خلال فترة المستخلص الحالية (م ³)				
40000.00	الاجمالي الكلي (م ³)				

مهندس الهيئة العامة
للطرق والكباري
م / إبراهيم الحناوي

مهندس الإستشاري
مكتب د/ خالد قنديل
م / خالد فوزي

مهندس الإستشاري (xyz)
م / محمد خليل

مهندس الشركة
م / تونى عربى امام

المحاسب

محمد خليل

م / تونى عربى امام

قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر الترابي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلي الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند و بيانه : (3-1) علاوة تحصيل رسوم الكارثة والموازن طبقا للائحة الشركة الوطنية

تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

الكارثات والموازن

مقدار العمل السابق : 0.0 3م

الكمية	بيان الكميات
40000.00	الكميات طبقا لقوائم الكميات
40000.00	اجمالي الكميات خلال فترة المستخلص الحالية (م ³)
40000.00	الاجمالي الكلي (م ³)

مهندس الهيئة العامة
للطرق والكباري
م / إبراهيم الحناوي

مهندس الإستشاري
مكتب د/خالد قنديل
م / خالد فوزي

مهندس الإستشاري (xyz)
م / محمد خليل

مهندس الشركة
م / تونى عربى امام

الحمد لوليس

محمد خليل

م / تونى عربى امام

قائمة كميات بالمستخلص جارى (4)

مشروع استكمال أعمال تنفيذ الجسر الترابي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلي الكم 500+511 بطول 1.5 كم اتجاه مطروح

رقم البند و بيانه : (3-1) علاوة تحصيل رسوم الكارثة والموازين طبقا للائحة الشركة الوطنية 288.5 كم

علاوة مسافة النقل

تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

مقدار العمل السابق : 0.00 م 3

الكمية	بيان بالكميات
40000.00	الكمية طبقاً لقوائم الكميات
40000.00	اجمالي الكميات خلال فترة المستخلص الحالية (م3)
40000.00	الاجمالي الكلي (م3)

مهندس الهيئة العامة
للطرق والكباري
م / إبراهيم الحناوي

مهندس الإستشاري
مكتب د/خالد قنديل
م / خالد فوزي

مهندس الإستشاري (xyz)
م / محمد خليل

مهندس الشركة
م / تونى عربى امام



المنطقة الخامسة - (غرب الدلتا)

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة وبعد،،،

بالإحالة إلى مشروع القطار الكهربائي فائق السرعة (فوكه - مطروح) (القطاع السابع)

نتشرف بأن نرفق لسيادتكم طيه المقايضة المعدلة للقطاعات الآتية:

مسلسل	اسم الشركة	بداية القطاع (كم)	نهاية القطاع (كم)	اتجاه
1	الحياة للمقاولات العامة وأعمال المحاجر	510+000	511+500	مطروح

برجاء من سيادتكم التفضل بالإحاطة والتوجيه اللازم

وتفضلوا سيادتكم بقبول فائق الاحترام والتقدير،،،

رئيس الإدارة المركزية

المنطقة الخامسة - غرب الدلتا

عميد مهندس /
٢٠٢٢/٥/٩

" هانى محمد محمود طه "



مشروع القطار الكهربائي السريع
المقايضة المعدلة لبنود الاعمال للقطاع السابع (فوكه - مطروح) - شركة الحياة للمقاولات العامة وأعمال المحاجر
القطاع من المحطة 510+000 إلى المحطة 511+500

رقم البند	بيان الأعمال	الوحدة	الكمية	الفئة	الإجمالي
4	طبقات الأساس				
4-1	بالمتر المكعب أعمال توريد وفرش طبقة تأسيس (prepared Subgrade) من الاحجار الصلبة المتدرجة ناتج تكسير الكسارات والمطابقة للمواصفات وأقصى حجم للحبيبات 100 مم والا تزيد نسبة المار من منخل 200 عن 12 % و التدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن 25 % والا تزيد نسبة الفاقد بجهاز لوس انجلوس عن 30 % والا يزيد الامتصاص عن 15% والا يقل معامل المرونة (Ev2) من تجربة لوح التحميل عن 80 ميجاباسكال ويتم فردها علي طبقتين باستخدام الات التسوية الحديثة علي ان لا يزيد سمك الطبقة بعد تمام الدمك عن 25 سم و رشها بالمياه الاصولية للوصول الي نسبة الرطوبة المطلوبة والدمك الجيد للهراسات للوصول الي اقصى كثافة جافة قصوي (لا تقل عن 95 %) من الكثافة المعملية والفئة تشمل اجراء التجارب المعملية والحقلية ويتم التنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقا للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف -مسافة النقل لا تقل عن 20 كم - يتم احتساب علاوة 1.3 جنيه لكل 1 كم بالزيادة او النقصان	3م	4,748	146.40	695,089
	قيمة المادة المحجرة بمشتملاتها		4,748	161.00	764,408
	علاوة مسافة النقل 68 كم		4,748	62.40	296,268
	علاوة تحصيل رسوم الماكينة والموازن طبقا لللائحة الشركة الوطنية		4,748	25.00	118,697
	الإجمالي				78,523,000
	(فقط ثمانية وتسعون مليوناً وخمسة مائة وثلاثة وعشرون ألف جنيهها لا غير)				

مدير عام المشروعات
م/محمد حسني فياض

مدير المشروع المالك
م/إبراهيم الحناوي

مدير المشروع الاستشاري
م/خالد فوزي

مدير المشروع المقاول

يعتمد
رئيس الإدارة المركزية
منطقة غرب الدلتا
الأسكندرية - مرسى مطروح

عميد مهندس /

"هاني محمد محمود طه"

٣٠٨٣



مشروع القطار الكهربائي السريع
المقاييس المعدلة لبنود الاعمال للقطاع السابع (فوكه - مطروح) - شركة الحياة للمقاولات العامة وأعمال المحاجر
القطاع من المحطة 510+000 إلى المحطة 511+500

رقم البند	بيان الأعمال	الوحدة	الكمية	الفئة	الاجمالي
1	اعمال الحفر				
1-2	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية في التربة المتماسكة عدا التربة الصخرية (باستخدام البلدوزر) وتسوية السطح بالآلات التسوية والرش بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة (95% من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الاتربة الزائدة لمسافة 500 متر من محور الطريق و يتم التنفيذ طبقا للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع شتملاته طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. يتم احتساب علاوة 1 جنيه لكل 1 كم بالزيادة.	م ³	213,200	30.50	6,502,600
	بالمتر المكعب اعمال حفر بالمعدات الميكانيكية في تربة صخرية				
	ذات إجهاد (100-200) كجم/سم ²	م ³	99,000	71.60	7,088,400
	ذات إجهاد (200-300) كجم/سم ²	م ³	95,000	86.80	8,246,000
	ذات إجهاد (300-400) كجم/سم ²	م ³	316,000	100.70	31,821,200
1-3	و محمل على البند الاتي: 1- تحميل و نقل ناتج الحفر لمسافة لا تقل عن 500 متر 2- توريد التربة مطابقة للمواصفات وتشغيلها باستخدام الات التسوية بسبك لا يزيد عن 25 سم لاستكمال المنسوب التصميمي لتشكيل الجسر والاكتاف (نسبة تحمل كاليفورنيا لا تقل عن 10 %) ورشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة (95% من الكثافة الجافة القصوى). ويتم التنفيذ طبقا للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع شتملاته طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. وفي حالة زيادة مسافة نقل ناتج الحفر عن 500 متر من محور الطريق يتم حساب 0.8 جنيه للكيلومتر زيادة				
3	اعمال الردم				
3-1	بالمتر المكعب اعمال توريد وتشغيل التربة صالحة للردم ومطابقة للمواصفات والتشغيل باستخدام الات التسوية بسبك لا يزيد عن 50 سم حتى منسوب 2- متر وبسبك لا يزيد عن 25 سم لاستكمال المنسوب التصميمي لتشكيل الجسر والاكتاف (نسبة تحمل كاليفورنيا لا تقل عن 15%) ورشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة (95 % من الكثافة الجافة القصوى) ويتم التنفيذ طبقا للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع شتملاته طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. وفي حالة طلب جهاز الإشراف زيادة نسبة الدمك عن 95 % بحسب زيادة 1 جنيه علي زيادة نسبة الدمك لكل 1 % - مسافة النقل 2 كم ويتم احتساب علاوة 1.5 جنيه لكل 1 كم بالزيادة او التخصيص - السعر يشمل عمل تشوينات وتخليط واختبارات ونقل لمواقع العمل حتى مسافة 2 كم - السعر يشمل قيمة المادة المحجرة طبقا لأفاداة المنطقة لهذا القطاع (7) من الكم 504 إلى 568	م ³	42,250.00	101.400	4,284,150
	علاوة مسافة النقل 288.5 كم	م ³	42,250.00	429.750	18,156,938
	علاوة تحصيل رسوم الكارثة والموازن طبقا لللائحة الشركة الوطنية	م ³	42,250.00	13.000	549,250

مدير عام المشروعات
م/محمد حسني فياض

مدير المشروع المالك
م/ابراهيم الحناوي

مدير المشروع الاستشاري
م/خالد فوزي

مدير المشروع المقاول

SUBMISSION of TEST RESULTS



Contractor Company			Designer Company		
Issued by Contractor	Name	Sign	Date	Time	
	ENG:TONY ARABY		23/10/2023		
Received by ER					



C1	C2	C3	DD	MM	YY	HH	MM
			23	10	23		

AH-118 / HA-11

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		SAND CONE TEST FILL LAYER			
Location of Test		511+380 TO 511+500 (-1.75)			
Item	TEST LOCATION	Specification	Test Requirement	Test Result	REMARKS
1	511+405	ASTM D1556	≥ 95% MDD	97.4%	APPROVED
2	511+430			97.4%	APPROVED
3	511+455			97.7%	APPROVED
4	511+480			97.3%	APPROVED
5	511+500			97.8%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG:TONY ARABY		23-10-2023	A
Designer QA/QC	Eng / Attia	M. Attia	23-10-2023	A
GARB *	Hussein Fouad		23-10-2023	
Employers Representative				

* Alignment / Bridges: Culvert Only

UNIVERSAL INSPECTION REQUEST



RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24

The Work described below will be complete and ready for inspection at planned time shown

Contractor Company	AL-HAYAA		Designer Company*	KK CONSULT.							
Issued by Contractor	Name	Sign	Date	Time							
	Eng. AHMED TAWFIK	<i>[Signature]</i>	22/10/2023								
Received by Employers Representative	M-A	10/22/2023	UIR	C1	C2	C3	DD	MM	YY	HH	MM
				K.P.10	EW	CS	22	10	2023		
CODE-1	S1 to S21 Station Reference		D1 to S3 Depot Reference	Kp 510 Note For Kilometer point only Start Km is used							
CODE-2			Work Activity								
CODE-3			Sub Element of Activity								

EXPLANATION OF WORK TO BE INSPECTED

Description	Element	Item
CIVIL/SURVEY/MATERIAL	REPLACEMENT FILL LAYER -1.75 FROM T.O.E	From st. (511+380) To (511+500)

INSPECTION DETAILS The Following will be ready at the Planned Inspection Time

Planned Inspection Date	Planned Inspection Time

COMPLIANCE EVIDENCE Must be included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference	MS Reference	

Civil	Survey	Material
Mohammed shahbana visual inspection is accepted 22-10-2023	<i>[Signature]</i> Leveisi APPROVED	Mohammed shahbana Compaction is accepted 23-10-2023

INSPECTION RESULT

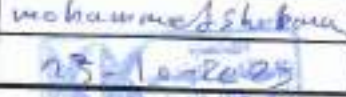
Organisation	Name	Sign	Date	Time	Approval Status	Please Tick if Not Attend
Contractor	Eng. AHMED TAWFIK	<i>[Signature]</i>			A-AWC-R	
QA/QC*						
GARB**	ENG/Khaled fawzy	<i>[Signature]</i>			A	
Employers Representative Notes						
Employers Representative Sign	M-A	10/30/2023			A	

* Designer

** Alignment: Bridges, Culvert only

	Electric Express Train - HSR			
	From El Ain El Sokhna City To Matrouh			
	Section - 7 From foka - Matrouh			
	From Station 510+000 To Station 511+500			
Testing Date :	23 /10/2023	Company	AL HAYAH	
Material :			Code	AH-1-18
Location :	511+380	511+500	Code	HA-(1)
Layer Thickness :	-	Level layer	REPLACEMENT FILL LAYER -1.75 FROM T.O.E	

Station	511+405	511+430	511+455	511+480	511+500	
Hole no	1	2	3	4	5	
Bulk density specifid sand (gm/cm3)	1.50	1.50	1.50	1.50	1.50	
wt .of sand befor test	8387	8427	8462	8512	8552	
WT .of sand after test	4128	4163	4198	4233	4268	
WT . Of sand fill cone	1550	1550	1550	1550	1550	
WT . Of sand in hole	2709	2714	2714	2729	2734	
Volume of hole	1806	1809	1809	1819	1823	
WT . Of sample from hole (gm)	4094	4107	4127	4139	4159	
Bulk density of soil (gm/cm3)	2.27	2.27	2.28	2.28	2.28	

Average water content %	7.8	7.9	8.1	8.2	8	
Dry density (gm/cm3)	2.10	2.10	2.11	2.10	2.11	
Max dry density (gm/cm3)	2.16	2.16	2.16	2.16	2.16	
Compaction ratio %	97.4	97.4	97.7	97.3	97.8	
Observations						
Lab Engineer :	AHMED TAWRIK		Consultant Eng. :	mohammed shokran		
Sign :			Sign :			

SUBMISSION of TEST RESULTS



Contractor Company		Designer Company	
Issued by Contractor	Name	Sign	Date
	ENG:TONY ARABY		27/10/2023
Received by ER			Time

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	SAND CONE TEST FILL LAYER				
Location of Test	510+820 TO 510+980 (-1.75)				
Item	TEST LOCATION	Specification	Test Requirement	Test Result	REMARKS
1	510+845	ASTM D1556	≥ 95% MDD	97.8%	APPROVED
2	510+870			97.8%	APPROVED
3	510+895			98.4%	APPROVED
4	510+920			98%	APPROVED
5	510+945			98.5%	APPROVED
6	510+970			98.4%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG:TONY ARABY		27-10-2023	A
Designer	QA/QC Eng / Attia	M. Attia	27-10-2023	A
GARB *	Hussein Fouad		27-10-2023	
Employers Representative				

* Alignment / Bridges: Culvert Only



RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24

The Work described below will be complete and ready for inspection at planned time shown

Contributor Company	AL-HAYAA		Designer Company*	KK CONSULT				
Issued by Contractor	Name	Sign	Date	Time				
	Eng. AHMEDTAWFIK	Ahmed Tawfik	26/10/2023					
Received by Employers Representative	M.A		10/26/2023		UIR			
CODE-1	S1 to S21 Station Reference		Q1 to Q3 Depot Reference		Kp 510 Note			
CODE-2			Work Activity		For Kilometer point only Start Km is used			
CODE-3			Sub Element of Activity					

EXPLANATION OF WORK TO BE INSPECTED

Description	Element	Item
CIVIL/SURVEY/MATERIAL	1.5 م. من الطريق	From st. (510+820) To(510+980)

INSPECTION DETAILS The following will be ready at the Planned inspection Time

Planned Inspection Date	Planned Inspection Time
26-10-2023	

COMPLIANCE EVIDENCE must be included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference	MS Reference	

Civil mohammed shehane visual inspection is accepted. 26-10-2023	Survey Ahmed Tawfik LEVELS is APPROVED 27-10-2023	Material mohammed shehane Construction is accepted. 27-10-2023
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INSPECTION RESULT

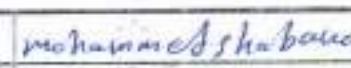
Organisation	Name	Sign	Date	Time	Approval Status	Please Tick if Not Attend
Contractor	Eng. AHMEDTAWFIK	Ahmed Tawfik			A-AWC-R	
QA/QC*						
GARB**	ENG/Khaled fawzy				A	
Employers Representative Notes						
Employers Representative Sign	M.A	10/26/2023			A	

* Designer

** Alignment, Bridges, Culvert only

	Electric Express Train - HSR		
	From El Ain El Sokhna City To Matrouh		
	Section - 7 From foka - Matrouh		
	From Station 510+000 To Station 511+500		
Testing Date :	27/10/2023	Company	AL HAYAH
Material :			Code AH-1-22
Location :	510+820	510+980	Code HA-(2)
Layer Thickness :		Level layer	REPLACEMENT FILL LAYER -1.75 FROM T.O.E

Station	510+845	510+870	510+895	510+920	510+945	510+970
Hole no	1	2	3	4	5	6
Bulk density specifid sand (gm/cm3)	1.50	1.50	1.50	1.50	1.50	1.50
wt .of sand befor test	8700	8740	8775	8825	8865	8905
W/T .of sand after test	4400	4435	4470	4505	4540	4575
WT . Of sand fill cone	1350	1350	1350	1350	1350	1350
WT . Of sand in hole	2750	2755	2755	2770	2775	2780
Volume of hole	1833	1837	1837	1847	1850	1853
WT . Of sample from hole (gm)	4170	4183	4203	4215	4235	4248
Bulk density of soil (gm/cm3)	2.27	2.28	2.29	2.28	2.29	2.29

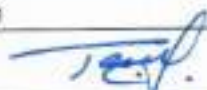
Average water content %	7.7	7.8	7.7	7.8	7.7	7.8
Dry density (gm/cm3)	2.11	2.11	2.12	2.12	2.13	2.13
Max dry density (gm/cm3)	2.16	2.16	2.16	2.16	2.16	2.16
Compaction ratio %	97.8	97.8	98.4	98.0	98.4	98.4
Observations						
Lab Engineer :			Consultant Eng. :			
Sign :			Sign :	27-10-2023		

Contractor Company				Designer Company			
Issued by Contractor	Name	Sign		Date	Time		
	ENG:TONY ARABY			15/11/2023			
Received by ER							

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		SAND CONE TEST FILL LAYER			
Location of Test		510+640 TO 510+760 (-1.25)			
Item	TEST LOCATION	Specification	Test Requirement	Test Result	REMARKS
1	510+665	ASTM D1556	≥ 95% MDD	97.1%	APPROVED
2	510+690			97.1%	APPROVED
3	510+715			97.4%	APPROVED
4	510+740			97.1%	APPROVED
5	510+760			97.6%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG:TONY ARABY		15-11-2023	A
Designer	Eng. Altia		15-11-2023	A
GARB *	Hussien Fouad		15-11-2023	
Employers Representative				

AM-2-38



RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24

The Work described below will be complete and ready for inspection at planned time shown

Contractor Company	AL-HAYAA		Designer Company*	KK CONSULT							
Issued by Contractor	Name	Sign	Date	Time							
	Eng.AHMED TAWFIK	Ahmed Tawfik	14/11/2023								
Received by Employers Representative	M.A	11/11/2023	UIR	G1	G2	G3	DD	MM	YY	HH	MM
				K.P.510	EW	CS	14	11	2023		
CODE-1	S1 to S21 Station Reference		D1 to S3 Depot Reference	Kp 510 Note For Kilometer point only Start Km is used							
CODE-2	Work Activity										
CODE-3	Sub Element of Activity										

EXPLANATION OF WORK TO BE INSPECTED

Description	Element	Item
CIVIL/SURVEY/MATERIAL	REPLACEMENT FILL LAYER -1.25 FROM T.O.E	From st. (510+640) To(510+760)

INSPECTION DETAILS The Following will be ready at the Planned Inspection Time

Planned Inspection Date	Planned Inspection Time
-------------------------	-------------------------

COMPLIANCE EVIDENCE Must be included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference	MS Reference	

Civil	Survey	Material
moment esmaced visual inspection is approved	Ahmed Tawfik Levels is Approved	moment esmaced compaction test is approved 15/11/2023

INSPECTION RESULT

Organisation	Name	Sign	Date	Time	Approval Status	Please Tick if Not Attend
Contractor	Eng.AHMED TAWFIK	Ahmed Tawfik	14/11/2023		A-AWC-R	
QA/QC*						
GARB**	ENG/Khaled fawzy	Khaled			A	
Employers Representative Notes						
Employers Representative Sign	M.A	11/11/2023			A	

* Designer
** Approval: Bridges: Culvert only

	Electric Express Train - HSR		
	From El Ain El Sokhna City To Matrouh		
	Section - 7 From foka - Matrouh		
	From Station 510+000 To Station 511+500		
Testing Date :	15 /11/2023	Company	AL HAYAH
Material :		Code	AW-2-38
Location :	510+640	510+760	Code HA-(4)
Layer Thickness :		Level layer	REPLACEMENT FILL LAYER -1.25 FROM T.O.E

Station	510+665	510+690	510+715	510+740	510+760	
Hole no	1	2	3	4	5	
Bulk density specifid sand (gm/cm3)	1.50	1.50	1.50	1.50	1.50	
wt .of sand befor test	8377	8417	8452	8502	8542	
WT .of sand after test	4158	4193	4228	4263	4298	
WT . Of sand fill cone	1550	1550	1550	1550	1550	
WT . Of sand in hole	2669	2674	2674	2689	2694	
Volume of hole	1779	1783	1783	1793	1796	
WT . Of sample from hole (gm)	3984	3997	4017	4029	4049	
Bulk density of soil (gm/cm3)	2.24	2.24	2.25	2.25	2.25	

Average water content %	5.8	5.9	6.1	6.2	6	
Dry density (gm/cm3)	2.12	2.12	2.12	2.12	2.13	
Max dry density (gm/cm3)	2.18	2.18	2.18	2.18	2.18	
Compaction ratio %	97.1	97.1	97.4	97.1	97.6	
Observations						
Lab Engineer :	AHMED TAWFIK		Consultant Eng. :			
Sign :	Ahmed Tawfik		Sign :			

SUBMISSION of TEST RESULTS



Contractor Company			Designer Company																		
Issued by Contractor	Name ENG:TONY ARABY	Sign 	Date 17/11/2023	Time																	
Received by ER			<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></td> <td></td> <td></td> <td>17</td> <td>11</td> <td>23</td> <td></td> <td></td> </tr> </table>			C1	C2	C3	DD	MM	YY	HH	MM				17	11	23		
C1	C2	C3	DD	MM	YY	HH	MM														
			17	11	23																

AH-2-41 / HA-4

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	SAND CONE TEST FILL LAYER				
Location of Test	511+380 TO 511+500. (-1.00)				
Item	TEST LOCATION	Specification	Test Requirement	Test Result	REMARKS
1	511+405	ASTM D1556	≥ 95% MDD	97.8%	APPROVED
2	511+430			97.8%	APPROVED
3	511+455			98.2%	APPROVED
4	511+480			97.8%	APPROVED
5	511+500			98.1%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG:TONY ARABY		17-11-2023	A
Designer	Eng-Attia		17-11-2023	A
GARB *	Hussein Fouad		17-11-2023	
Employers Representative				

* Alignment / Bridges: Culvert Only

AH-2-41

UNIVERSAL
INSPECTION
REQUEST

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24

The Work described below will be complete and ready for inspection at planned time shown

Contractor Company	AL-HAYAA		Designer Company*	KK CONSULT.	
Issued by Contractor	Name	Sign	Date	Time	
	Eng.AHMED TAWFIK		16/11/2023		
Received by Employers Representative	M.A		11/16/2023	3UR	
CODE-1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp 510 Note For Kilometer point only Start Km is used		
CODE-2		Work Activity			
CODE-3	Sub Element of Activity				

EXPLANATION OF WORK TO BE INSPECTED

Description	Element	Item
CIVIL/SURVEY/MATERIAL	REPLACEMENT FILL LAYER -1.00 FROM T.O.E	From St. (511+380) To (511+500)

INSPECTION DETAILS The Following will be ready at the Planned Inspection Time

Planned Inspection Date	Planned Inspection Time

COMPLIANCE EVIDENCE Must be included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference	MS Reference	

Civil	Survey	Material
Women esmaeel visual inspection is approved	 level is approved	Women esmaeel compaction test is approved 17/11/2023

INSPECTION RESULT

Organisation	Name	Sign	Date	Time	Approval Status	Please Tick if Not Attend
Contractor	Eng.AHMED TAWFIK				A-AWC-R	
QA/QC*						
GARB**	ENG/Khaled fawzy				A	
Employers Representative Notes						
Employers Representative Sign	M.A		11/30/2023		A	

* Designer

** Alignment: Bridges/Culvert only

	Electric Express Train - HSR		
	From El Ain El Sokhna City To Matrouh		
	Section - 7 From foka - Matrouh		
	From Station 510+000 To Station 511+500		
Testing Date :	17/11/2023	Company	AL HAYAH
Material :		Code	AH-2-41
Location :	511+380	511+500	Code HA-(4)
Layer Thickness :	-	Level layer	REPLACEMENT FILL LAYER -1.00 FROM T.O.E

Station	511+405	511+430	511+455	511+480	511+500	
Hole no	1	2	3	4	5	
Bulk density specifid sand (gm/cm3)	1.50	1.50	1.50	1.50	1.50	
wt .of sand befor test	8078	8118	8153	8203	8238	
WT .of sand after test	3980	4015	4050	4085	4120	
WT . Of sand fill cone	1550	1550	1550	1550	1550	
WT . Of sand in hole	2548	2553	2553	2568	2568	
Volume of hole	1699	1702	1702	1712	1712	
WT . Of sample from hole (gm)	3832	3845	3865	3877	3897	
Bulk density of soil (gm/cm3)	2.26	2.26	2.27	2.26	2.28	

Average water content %	5.8	5.9	6.1	6.2	6.4	
Dry density (gm/cm3)	2.13	2.13	2.14	2.13	2.14	
Max dry density (gm/cm3)	2.18	2.18	2.18	2.18	2.18	
Compaction ratio %	97.8	97.8	98.2	97.8	98.1	
Observations						
Lab Engineer :	AHMED TAWFIK		Consultant Eng. :	Momen Elgayed		
Sign :			Sign :	17/11/2023		

SUBMISSION of TEST RESULTS



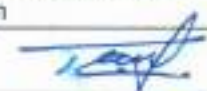
Contractor Company			Designer Company																	
Issued by Contractor			Date	Time																
	Name	Sign	5/12/2023																	
Received by ER	ENG:TONY ARABY																			
STR			<table border="1"> <tr> <th>C1</th> <th>C2</th> <th>C3</th> <th>DD</th> <th>MM</th> <th>YY</th> <th>HH</th> <th>MM</th> </tr> <tr> <td></td> <td></td> <td></td> <td>5</td> <td>12</td> <td>23</td> <td></td> <td></td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM				5	12	23			
C1	C2	C3	DD	MM	YY	HH	MM													
			5	12	23															

AH-2-54 / HA-6

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		SAND CONE TEST FILL LAYER			
Location of Test		511+120 TO 511+260 (-0.75)			
Item	TEST LOCATION	Specification	Test Requirement	Test Result	REMARKS
1	511+145	ASTM D1556	≥ 95% MDD	97.5%	APPROVED
2	511+170			97.6%	APPROVED
3	511+195			97.9%	APPROVED
4	511+220			97.5%	APPROVED
5	511+240			98%	APPROVED
6	511+260			98.2%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG:TONY ARABY		5-12-2023	A
Designer	Eng. A. Alia		5-12-2023	A
GARB *	Hussein Fouad		5-12-2023	
Employers Representative				

* Alignment / Bridges: Culvert Only



RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24

The Work described below will be complete and ready for inspection at planned time shown

Contractor Company	AL-HAYAA		Designer Company*	KK CONSULT							
Issued by Contractor	Name	Sign	Date	Time							
	Eng.AHMED TAWFIK		4/12/2023								
Received by Employers Representative	M.A	12/4/2023	UIR	D1	C2	C3	DD	MM	YY	HH	MM
				KP510	EW	CS	4	12	2023		
CODE-1			S1 to S21 Station Reference	D1 to S3 Depot Reference		Kp 510 Note For Kilometer point only Start Km is used					
CODE-2			Work Activity								
CODE-3			Sub Element of Activity								

EXPLANATION OF WORK TO BE INSPECTED

Description	Element	Item
CIVIL/SURVEY/MATERIAL	REPLACEMENT FILL LAYER -0.75 FROM T.O.E	From St. (511+120) To (513+160)

INSPECTION DETAILS The following will be ready at the Planned Inspection Time

Planned Inspection Date	Planned Inspection Time
4.12.2023	

COMPLIANCE EVIDENCE Must be included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference	MS Reference	

Civil	Survey	Material
Handy 4/12/2023 Visual inspection is accepted	Handy 4/12/2023 Levels is approved	Handy 5/12/2023 Accepted sufficient compaction

INSPECTION RESULT

Organisation	Name	Sign	Date	Time	Approval Status	Please Tick if Not Attend
Contractor	Eng.AHMED TAWFIK				A-AWC-R	
QA/QC*						
GARB**	ENG/Khaled fawzy				A	
Employers Representative Notes						
Employers Representative Sign	M.A	12/25/2023			A	

* Designer

** Alignment: Bridges, Culverts only

	Electric Express Train - HSR			
	From El Ain El Sokhna City To Matrouh			
	Section - 7 From foka - Matrouh			
	From Station 510+000 To Station 511+500			
Testing Date :	5/12/2023	Company	AL HAYAH	
Material :			Code	AH-2-54
Location :	511+120	511+260	Code	HA-(6)
Layer Thickness :	-	Level layer	REPLACEMENT FILL LAYER -0.75 FROM T.O.E	

Station	511+145	511+170	511+195	511+220	511+240	511+260
Hole no	1	2	3	4	5	6
Bulk density specifid sand (gm/cm3)	1.50	1.50	1.50	1.50	1.50	1.50
wt .of sand befor test	8387	8427	8462	8512	8552	8592
WT .of sand after test	4128	4163	4198	4233	4268	4303
WT . Of sand fill cone	1550	1550	1550	1550	1550	1550
WT . Of sand in hole	2709	2714	2714	2729	2734	2739
Volume of hole	1806	1809	1809	1819	1823	1826
WT . Of sample from hole (gm)	4094	4107	4127	4139	4159	4179
Bulk density of soil (gm/cm3)	2.27	2.27	2.28	2.28	2.28	2.29

Average water content %	6.6	6.7	6.9	7	6.8	6.9
Dry density (gm/cm3)	2.13	2.13	2.13	2.13	2.14	2.14
Max dry density (gm/cm3)	2.18	2.18	2.18	2.18	2.18	2.18
Compaction ratio %	97.5	97.6	97.9	97.5	98.0	98.2
Observations						
Lab Engineer :	AHMED TAWFIK	Consultant Eng. :				
Sign :		Sign :				



SUBMISSION of TEST RESULTS



Contractor Company			Designer Company		
Issued by Contractor	Name	Sign	Date	Time	
	ENG:TONY ARABY		12/12/2023		
Received by ER					

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	SAND CONE TEST FILL LAYER				
Location of Test	510+600 TO 510+680 (-0.75)				
Item	TEST LOCATION	Specification	Test Requirement	Test Result	REMARKS
1	510+625	ASTM D1556	95% MDD	98.1%	APPROVED
2	510+650			98.1%	APPROVED
3	510+675			98.4%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG:TONY ARABY		12-12-2023	A
Designer	Eng. Attia		12-12-2023	A
GARB *	Hussein Fouad		12-12-2023	
Employers Representative				

* Alignment / Bridges: Culvert Only

AH-2-59

UNIVERSAL INSPECTION REQUEST



RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24

The Work described below will be complete and ready for inspection at planned time shown

Contractor Company	AL-HAYAA		Designer Company*	KK CONSULT.							
Issued by Contractor	Name	Sign	Date	Time							
	Eng.AHMED TAWFIK		11/12/2023								
Received by Employer Representative	M.A	12/12/2023	UIR	C1	C2	C3	DD	MM	YY	HH	MM
				KP510	EW	CS	11	12	2023		
CODE-1	S1 to S21 Station Reference		D1 to S3 Depot Reference		Kp 510 Note						
CODE-2			Work Activity		For Kilometer point only Start Km is used						
CODE-3	Sub Element of Activity										

EXPLANATION OF WORK TO BE INSPECTED

Description	Element	Item
CIVIL/SURVEY/MATERIAL	REPLACEMENT FILL LAYER 0.75 FROM T.O.E	From ST- (510+400) To (510+680)

INSPECTION DETAILS The Following will be ready at the Planned Inspection Time

Planned Inspection Date	Planned Inspection Time
-------------------------	-------------------------

COMPLIANCE EVIDENCE Must be included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference	MS Reference	

Civil	Survey	Material
Handy 11/12/2023 Visual inspection is accepted	Handy 12/12/2023 Levels is approved	Handy 12/12/2023 Accepted, sufficient compaction

INSPECTION RESULT

Organisation	Name	Sign	Date	Time	Approval Status	Please Tick if Not Attend
Contractor	Eng.AHMED TAWFIK				A-AWC-R	
QA/QC*						
GARB**	ENG/Khaled fawzy				A	
Employers Representative Notes						
Employers Representative Sign	M.A	12/25/2023			A	

* Designer

** Alignment, Bridge, Culvert only

	Electric Express Train - HSR			
	From El Ain El Sokhna City To Matrouh			
	Section - 7 From foka - Matrouh			
	From Station 510+000 To Station 511+500			
Testing Date :	12 /12/2023	Company	AL HAYAH	
Material :		Code	AH-2-59	
Location :	510+600	510+680	Code	HA-(7)
Layer Thickness :	-	Level layer	REPLACEMENT FILL LAYER -0.75 FROM T.O.E	

Station	510+625	510+650	510+675			
Hole no	1	2	3			
Bulk density specifid sand (gm/cm3)	1.50	1.50	1.50			
wt .of sand befor test	8377	8417	8452			
WT .of sand after test	4128	4163	4198			
WT . Of sand fill cone	1550	1550	1550			
WT . Of sand in hole	2699	2704	2704			
Volume of hole	1799	1803	1803			
WT . Of sample from hole (gm)	4067	4080	4100			
Bulk density of soil (gm/cm3)	2.26	2.26	2.27			

Average water content %	6.7	6.8	7			
Dry density (gm/cm3)	2.12	2.12	2.13			
Max dry density (gm/cm3)	2.16	2.16	2.16			
Compaction ratio %	98.1	98.1	98.4			
Observations						
Lab Engineer :	AHMED TAWKIL		Consultant Eng. :	Handou		
Sign :			Sign :	12/12/2023		

MATERIAL INSPECTION REQUEST



Location Name	Contractor Company		Designer Company	
Electric express train	AL-HAYAH COMPANY		k.k	
Issued by Contractor	Name	Sign	Date	Time
	Eng. Ahmed TAWFIK	<i>Ahmed Tawfik</i>	19-10-2023	
Contractor reference	HA - (2) 19-10-2023			
Received by ER		MIR	C1	C2
			C3	DD
			MM	YY
			HH	MM
			19	10
			23	

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		

Description of Materials	FILL MATERIAL RESULTS		
Location to be Used	From	To	LAYER
	510+500	510+600	استبدال / -1.75
	510+600	510+700	استبدال / -1.75
	510+720	510+820	استبدال / -1.75
	510+820	510+920	استبدال / -1.75
	510+920	510+980	استبدال / -1.75
	511+000	511+180	FILL REPLACEMENT LAYER -1.5
	511+180	511+280	FILL REPLACEMENT LAYER -1.5
	511+280	511+380	FILL REPLACEMENT LAYER -1.5
	511+380	511+500	FILL REPLACEMENT LAYER -1.5

MAR Approval No		Date	
Supplier Name			
Test Requirement	Specification	Clause	
Reference Photos	Yes attached / No	Other	

Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	m³	3000	17-10-2023	
2	Classification	m³	3000	17-10-2023	
3	Proctor & O.m.c	m³	3000	18-10-2023	
4	L.L & P.L & PI	m³	3000	17-10-2023	
5	C.B.R	m³	3000	19-10-2023	

Comments by:	Comments by:
A sample has been taken from fill material by K.K office to (Al Tawakol laboratory) and the results founded meet the specifications and accepted.	Test result for estimated quantities of about (3000m³)

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK	<i>Ahmed Tawfik</i>	19-10-2023	
QA/QC *	<i>Klascan</i>	<i>Klascan</i>	19-10-2023	
GARB**	Hussein Fouad	<i>Hussein Fouad</i>	19-10-2023	
Comments by				
Employers Representative				

* Designer

** Alignment / Bridges: Culvert Only

MATERIAL APPROVAL REQUEST



Location Name	Contractor Company		Designer Company																	
Electric express train	AL- HAYAH Company		k.k																	
Issued by Contractor	Name	Sign	Date	Time																
	Eng. Ahmed TAWFIK	Ahmed Tawfik	19-10-2023																	
Contractor Reference	HA - (2) - 19-10-2023																			
Received by ER	MAR		<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></td> <td></td> <td></td> <td>19</td> <td>10</td> <td>23</td> <td></td> <td></td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM				19	10	23			
C1	C2	C3	DD	MM	YY	HH	MM													
			19	10	23															

NB: Package 1 only (Package 2 via Content)				
The following test result are attached for review				
Description of Materials	Soil (A-1-A)			
Location to be Used	K.P (510+500)			
Item	Specification	Test requirement	Test result attachment	Remarks
1	ASTM D 75	Aggregate Sampling	According to specifications	
2	ASTM C 136	Sieve Analysis	According to specifications	
3	ASTM D 1440	Passing Sieve, No 200	14.11	
4	ASTM D 4318	Atterberg limit	N. PI	
5	ASTM D 2974	Moisture content	7.3 %	
6	ASTM D 1557	Modified proctor	2.16	
7	ASTM D 1883	CBR	67.2%	
Comments by:			Comments by:	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK	Ahmed Tawfik	19-10-2023	
Contractor QA/QC *	mohamed elsaied	m-elsaied	22-10-2023	
GARB**	Hussien Fouad	Hussien	22-10-2023	
Employers Representative				

* Designer

** Alignment/Bridges: Culvert only

 K.K. CONSULTING ENGINEERS شركة ك.ك. للاستشارات الهندسية	 وزارة النقل والبنى التحتية الهيئة العامة للطرق والكباري	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARSA MATROUH From Station 504+000 To Station 564+177
Operating lap	Al Tawkol Central Lab	

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	17/10/2023	CODE	ZONE	510+000	511+500
LOCATION	K.P (510+500)	AL Hayah (2) HA-2	Material	fill material layer	
NAME COMPANY	AL Hayah		quantity	3500m³	

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT (gm)				40235.00	gm	table classify
sieve size	2 "	1.5 "	1 "	3/4 "	2/1 "	3/8 "	# 4	PASS		soil classify
Mass retained (g)	0.0	1105.0	2335.0	4340.0	3825.0	4200.0	4860.0		CLASS	A1-a
Cumulative Retained (g)	0.0	1105.0	3440.0	7780.0	11605.0	15805.0	20665.0	19570.0	PRO	2.16
Cumulative Retained %	0.0	2.7	8.5	19.3	28.8	39.3	51.4		WC	7.3%
Cumulative Passing %	100.0	97.3	91.5	80.7	71.2	60.7	48.6		CBR	67.2%
									CORR. PRO	-
									CORR. WC	-

B-soft material gradation				WT.OF sample		500.00		gm
sieve size	#10	#40	#200					
Cumulative Retained (g)	43.00	254.00	355.00					
Cumulative Retained %	8.60	50.80	71.00					
Cumulative Passing %	91.40	49.20	29.00					

C-General gradient										
sieve size(in)	2 "	1.5 "	1 "	3/4 "	1/2 "	3/8 "	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	5.0	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	97.3	91.5	80.7	71.2	60.7	48.6	44.5	23.9	14.11

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

Contractor

ENG

Ahmed Halem

SIGN

Consultant

mohamed elsaied

m-elsaied

29/10/2023



 	Electric Express Train - HSR			
	From El Ain El Sokhna City To El Alamein - MATROUH			
	Section - T From FOKA TO MARSA MATROUH			
From Station 504+000 To Station 568+177				

MODIFIED PROCTOR TEST ASTM D1557

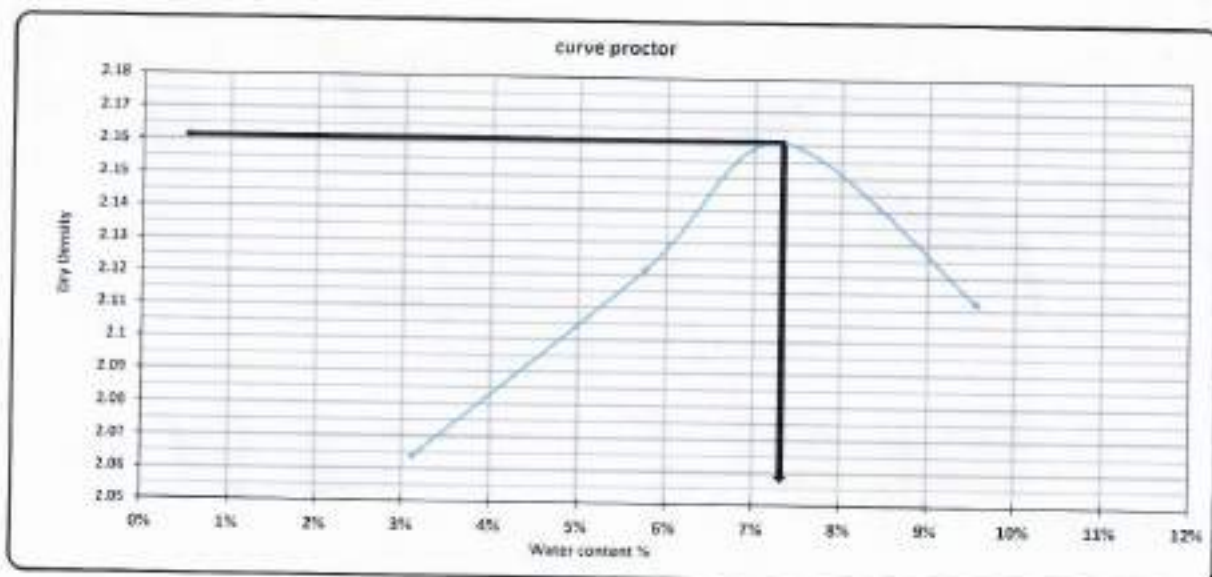
TESTING DATE:	18/10/2023	code	Station	510+000	511+500
LOCATION	K.P (510+500)	Al Hayah (2)	Material	fill material	
NAME COMPANY	AL Hayah	HA-2	quantity	3500m³	

Weight of empty mold :	5620.0
Mold Volume:	2124.0

MAX Dry Density	2.14
Water content %	7.3%

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10160.0	10385.0	10545.0	10535	
WT. WET SOIL	4520.0	4765.0	4925.0	4915.0	
Wt. Density	2.128	2.243	2.318	2.314	

Tare No.	10	11	12	13	14	15	18	19		
Tare wt.	85.34	55.83	55.83	53.21	53.66	53.41	57.21	56.33		
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
Wt. Of dry soil & tare	147.10	147.20	145.20	144.30	143.35	143.50	141.91	141.82		
Wt. Of water	2.9	2.8	4.8	5.7	6.7	6.5	8.1	8.2		
Wt. Of dry soil	91.8	91.4	91.4	91.1	89.7	89.1	84.7	85.5		
Water content %	3.2%	3.1%	5.3%	6.3%	7.4%	7.2%	9.6%	9.6%		
AV. Water content %	3.1%		5.8%		7.3%		9.6%			
Dry Density	2.064		2.121		2.161		2.112			



Contractor

ENG Ahmed Haseen

SIG



المصنع المشترك رقم (١)



Consultant

mohamed elabd



22-10-2023



Electric Express Train - HSR



California Bearing Ratio TEST

Testing Date :	19/10/2023	Code	FROM STA :	510+000	511+500
Location :	K.P (510+500)	AL Hayah (2)	Material	fill material	
Company Name	AL Hayah	HA-2	quantity	3500m ³	

Test Results

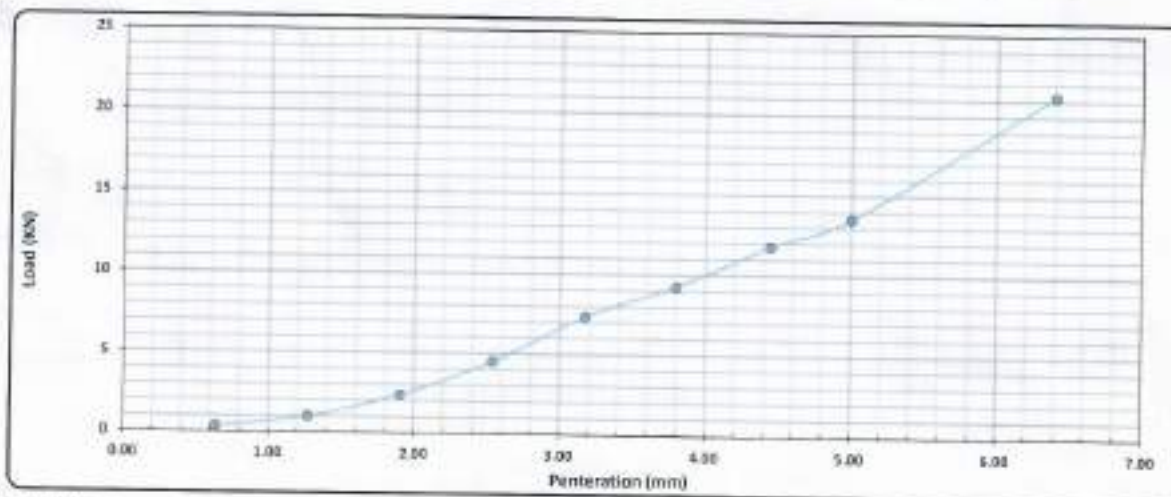
Compaction % for Mold	
Mold No.	2
Mold Vol (cm ³)	2715
Mold WT. (gm)	8178
Mold WT. + Wet WT. (gm)	10065
Wet WT. (gm)	4887
Wet Density (g/cm ³)	2.218
Dry Density (g/cm ³)	1.968
Proctor Density (g/cm ³)	2.160
Compaction %	95.7

Moisture Ratio After Compacted Mold	
Tare No.	12
Tare WT. (gm)	89.6
Tare WT. + Wet WT. (gm)	158
Tare WT. + Dry WT. (gm)	145.9
Water WT. (gm)	8.4
Dry WT. (gm)	93.0
Moisture Content %	6.8

Swelling	
Mold No.	2
Date	19/10/2023
Initial Height (mm)	0.80
Final Height (mm)	0.80
Difference	0.00
Sample Height (mm)	126.8
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.08	6.40
Load Reading (Kg)	34	110	264	592	817	1030	1389	1505	2360
Load (kN)	0.3	1.0	2.4	4.5	7.4	9.3	11.8	13.5	21.2



Calculations :-

Penetration (mm)	Load (kN)	Standard Load (kN)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR (%)
2.50	4.52	15.4	33.8%	96	95	33.6%
5.08	13.55	28.0	67.0%			67.2%

Lab. Specialist

Name :

Sign :



Lab. Engineer

Name :

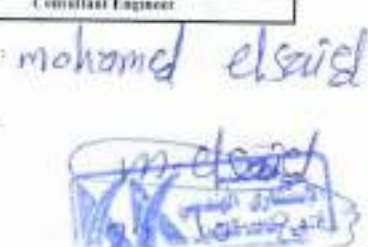
Sign :



Consultant Engineer

Name :

Sign :



Location Name	Contractor Company	Designer Company	
Electric express train	AL-HAYAH COMPANY	k.k	
Issued by Contractor	Name	Date	Time
	Eng. Ahmed TAWFIK	20-11-2023	
Contractor reference	HA - (5) 20-11-2023		
Received by ER	C1 C2 C3 DD MM YY HH MM		

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		

Description of Materials	FILL MATERIAL RESULTS		
Location to be Used	From	To	LAYER
	510+500	511+120	REPLACEMENT FILL LAYER -1.00 FROM T.O.E
	511+320	511+500	REPLACEMENT FILL LAYER -0.75 FROM T.O.E

MAR Approval No	Date	
Supplier Name		
Test Requirement	Specification	Clause
Reference Photos	Yes attached / No	Other

Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	m³	5000	18-11-2023	
2	Classification	m³	5000	18-11-2023	
3	Proctor & O.m.c	m³	5000	19-11-2023	
4	LL & P.L & PI	m³	5000	18-11-2023	
5	C.B.R	m³	5000	20-11-2023	

Comments by: A sample has been taken from fill material by K.K office to (Al Tawakol laboratory) and the results founded meet the specifications and accepted.	Comments by: Test result for estimated quantity of about (5000m³)
--	--

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		20-11-2023	
QA/QC *	Hassan		20-11-2023	
GARB**	Hassan Fouad		20-11-2023	
Comments by				
Employers Representative				

* Designer
 ** Alignment / Bridges: Culvert Only

MATERIAL APPROVAL REQUEST



Location Name	Contractor Company		Designer Company							
Electric express train	AL- HAYAH Company		k.k							
Issued by Contractor	Name	Sign	Date	Time						
	Eng. Ahmed TAWFIK		20-11-2023							
Contractor Reference	HA - (5) - 20-11-2023									
Received by ER	MAR		C1	C2	C3	DD	MM	YY	HH	MM
						20	11	23		

NB: Package 1 only (Package 2 via Content)				
The following test result are attached for review				
Description of Materials	Soil (A-1-A)			
Location to be Used	K.P (510+500)			
Item	Specification	Test requirement	Test result attachment	Remarks
1	ASTM D 75	Aggregate Sampling	According to specifications	
2	ASTM C 136	Sieve Analysis	According to specifications	
3	ASTM D 1440	Passing Sieve, No 200	8.93	
4	ASTM D 4318	Atterberg limit	N. PI	
5	ASTM D 2974	Moisture content	6 %	
6	ASTM D 1557	Modified proctor	2.17	
7	ASTM D 1883	CBR	60%	
Comments by:			Comments by:	
			Test result	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		20-11-2023	
Contractor QA/QC *	Hassa		20-11-2023	
GARB**	Hussein Fouad	Hussein Fouad	20-11-2023	
Employers Representative				

* Designer

** Alignment/Bridges: Culvert only



Electric Express Train - HSR
 From El Ain El Sokhna City To El Alamein - MATROUH
 Section - 7 From FOKA To MARSA MATROUH
 From Station 504+000 To Station 568+177



Operating lap: Al Tawkol Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	18/11/2023	code	ZONE	510+000	511+500
LOCATION	K.P (510+500)	AL Hayah (S)	Material	fill material layer	
NAME COMPANY	AL Hayah		quantity	5000m³	

1-visual inspection test

HA-5

2-Gradient test

1-gradation of bulk materials				SAMPLE WEIGHT [gm]		20745.00		gm	table classify	soil classify
sieve size	2"	1.5"	1"	3/4"	2/1"	3/8"	#4	PASS		
Mass retained (g)	0.0	0.0	1552.0	2366.0	3752.0	3348.0	3362.0		CLASS	A-1-A
Cumulative Retained (g)	0.0	0.0	1552.0	2366.0	7600.0	11008.0	14360.0	6385.0	PRO	2.17
Cumulative Retained %	0.0	0.0	7.5	18.8	36.9	53.1	69.2		WC	6%
Cumulative Passing %	100.0	100.0	92.5	81.2	63.1	46.9	30.78		CBR	60%
									CORR. PRO	-
									CORR. WC	-

3-soft material gradation

				WT.OF sample		500.00		gm		
sieve size	#10	#40	#200							
Cumulative Retained (g)	50.00	195.00	365.00							
Cumulative Retained %	10.00	39.00	71.00							
Cumulative Passing %	90.00	61.00	29.00							

4-General gradient

sieve size(in)	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#200
sieve size(mm)	50.0	37.5	25.0	19.0	5.0	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	100.0	82.5	81.2	63.1	46.9	30.8	27.7	18.8	8.85
										<15

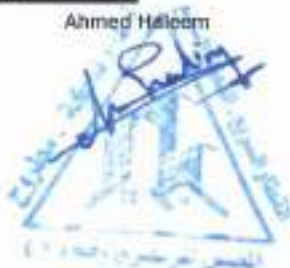
ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.L	N.P	N.PI

Contractor

ENG

Ahmed Hilem

SIGN



Consultant

Hassan





Electric Express Train - HSR
 From El Ain El Sekhna City To El Alamein - MATROUH
 Section - 7 From FOKA TO MARSA MATROUH
 From Station 504+800 To Station 508+177



MODIFIED PROCTOR TEST ASTM D1557

TESTING DATE:	19/11/2023	code	ZONE	510+000	511+500
LOCATION	K.P (510+500)	AL Hayah (S)	Material	fill material layer	
NAME COMPANY	AL Hayah		quantity	5000m³	

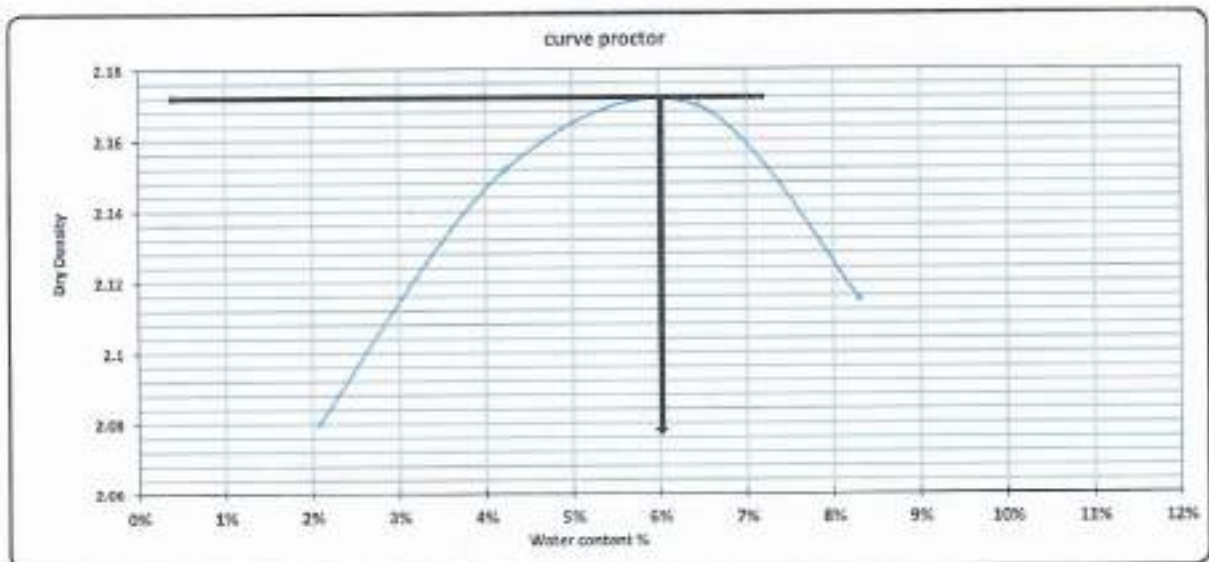
HA-S

Weight of empty mold :	5620.0
Mold Volume:	1124.0

MAX Dry Density	2.17
Water content %	6.0%

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	19130.0	19380.0	19525.0	19495	
WT. WET SOIL	4510.0	4763.0	4905.0	4865.0	
Wt. Density	3.125	3.242	3.399	3.290	

Tare No.	1	2	3	4	5	6	7	8		
Tare wt.	82.33	86.32	84.21	83.22	85.36	83.21	81.23	85.26		
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	158.0	158.0	158.0	158.0		
Wt. Of dry soil & tare	145.00	145.10	145.20	145.00	144.22	144.21	142.80	143.40		
Wt. Of water	5.0	4.9	4.8	4.9	5.8	5.8	7.2	7.6		
Wt. Of dry soil	95.7	91.5	92.0	92.8	88.9	91.8	91.6	87.0		
Water content %	2.1%	2.1%	4.1%	4.3%	6.5%	6.4%	7.9%	8.7%		
AV. Water content %	2.1%		4.2%		6.4%		8.3%			
Dry Density	2.080		2.152		2.170		2.115			



Contractor

ENG Ahmed Hafeem
 SIG



Consultant



 	Electric Express Train - HSR	 
---	-------------------------------------	---

California Bearing Ratio TEST

Testing Date :	20/11/2023	Code	FROM STA :	510+000	511+500
Location :	K.P (510+500)	AL Hayah (S)	Material	fill material	
Company Name	AL Hayah	HA-5	quantity	2000m ³	

1- Test Results

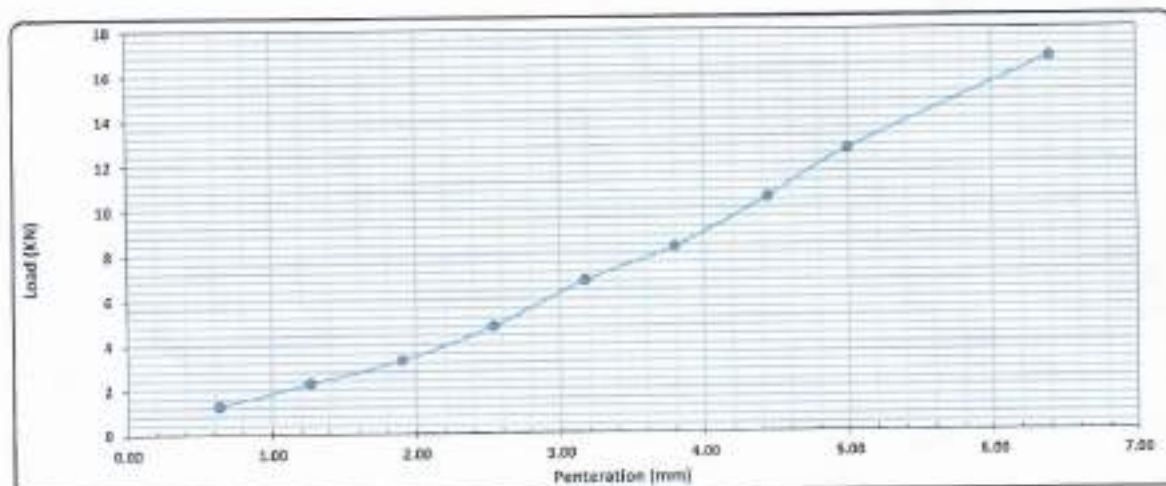
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2210
Mold WT. (gm)	5210
Mold WT. + Wet WT. (gm)	10058
Wet WT. (gm)	5003
Wet Density (g/cm ³)	2.292
Dry Density (g/cm ³)	2.163
Proctor Density (g/cm ³)	2.178
Compaction %	95.7

Moisture Ratio After Compacted Mold	
Non soltery	05
Tare WT. (gm)	85.43
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	100.7
Water WT. (gm)	2.3
Dry WT. (gm)	88.3
Moisture Content %	2.6

Swelling	
Mold No.	1
Date	20/11/2023
Initial Height (mm)	9.00
Final Height (mm)	9.00
Difference	0.00
Sample Height (mm)	128.0
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.08	6.40
Load Reading (Kg)	140	251	305	392	536	920	1163	1400	1852
Load (KN)	1.3	2.3	3.3	4.3	5.6	8.3	10.5	12.6	16.7



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(KN)	(lb)	(%)	(%)	(%)	(%)
2.54	4.3	13.4	25.3%	100	95	34.2%
5.08	12.00	26.9	44.9%			60.0%

Lab. Specialist

Name :

Sign :



Lab. Engineer

Name : Ahmed Mubarek

Sign :



Consultant Engineer

Name : Hassan

Sign :



MATERIAL INSPECTION REQUEST



Location Name	Contractor Company	Designer Company	
Electric express train	AL-HAYAH COMPANY	k.k	
Issued by Contractor	Name	Date	Time
	Eng. Ahmed TAWFIK	19-12-2023	
Contractor reference	HA - (8) 19-12-2023		
Received by ER	MIR	C1	C2
		C3	DD
		MM	YY
		HH	MM

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		

Description of Materials	FILL MATERIAL RESULTS		
	From	To	LAYER
Location to be Used	510+500	510+880	Fill replacement layer -0.5 from T.O.E
	511+060	511+500	Fill replacement layer -0.25 from T.O.E

MAR Approval No	Date
Supplier Name	
Test Requirement	Specification
Reference Photos	Yes attached / No
	Other

Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	m³	5000	17-12-2023	
2	Classification	m³	5000	17-12-2023	
3	Proctor & O.m.c	m³	5000	18-12-2023	
4	L.L & P.L & PI	m³	5000	17-12-2023	
5	C.B.R	m³	5000	19-12-2023	

Comments by:	Comments by:
A sample has been taken from fill material by K.K office to (Al Tawakol laboratory) and the results founded meet the specifications and accepted.	Test result for estimated quantity for about (5000m³)

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		19-12-2023	
QA/QC *	Mohamed Salham		26/12/2023	
GARB**	Hussein Fouad		26-12-2023	
Comments by				
Employers Representative				

* Designer

** Alignment / Bridges: Culvert Only

MATERIAL APPROVAL REQUEST



Location Name	Contractor Company		Designer Company																	
Electric express train	AL- HAYAH Company		k.k																	
Issued by Contractor	Name	Sign	Date	Time																
	Eng. Ahmed TAWFIK		19-12-2023																	
Contractor Reference	HA - (8) - 19-12-2023																			
Received by ER	MAR		<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></td> <td></td> <td></td> <td>19</td> <td>12</td> <td>23</td> <td></td> <td></td> </tr> </table>		C1	C2	C3	DD	MM	YY	HH	MM				19	12	23		
C1	C2	C3	DD	MM	YY	HH	MM													
			19	12	23															

NB: Package 1 only (Package 2 via Content)				
The following test result are attached for review				
Description of Materials	Soil (A-1-a)			
Location to be Used	K.P (510+500)			
Item	Specification	Test requirement	Test result attachment	Remarks
1	ASTM D 75	Aggregate Sampling	According to specifications	
2	ASTM C 136	Sieve Analysis	According to specifications	
3	ASTM D 1440	Passing Sieve, No 200	9.39	
4	ASTM D 4318	Atterberg limit	N.A	
5	ASTM D 2974	Moisture content	7.2%	
6	ASTM D 1557	Modified proctor	2.17	
7	ASTM D 1883	CBR	50.7%	
Comments by:			Comments by:	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		19-12-2023	
Contractor QA/QC *	mohamed sallah		26/12/2023	
GARB**	Hussein Fouad		26-12-2023	
Employers Representative				

* Designer

** Alignment/Bridges: Culvert only

 KK ENGINEERING CONSULTING شركة الاستشارات الهندسية ك.ك.	 Electric Express Train قطار التوربينات السريع	Electric Express Train - HSR	 الهيئة العامة للإتقار جمهورية مصر العربية
		From El Ain El Sokhna City To El Alamein - MATROUH	
		Section - 7 From FOKA To MARSA MATROUH	
		From Station 504+000 To Station 568+177	
Operating lap	Al Tawkol Central Lab		

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE	17-12-2023	CODE	ZONE	510+000	511+500
LOCATION	K.P (510+500)	AL Hayah (8)	Material	fill material layer	
NAME COMPANY	AL Hayah		quantity	5000m³	

1-visual inspection test

HA-8

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT (gm)		24530.00		gm	table classify
sieve size	2 "	1.5 "	1 "	3/4 "	2/1 "	3/8 "	# 4	PASS	soil classify
Mass retained (g)	0.0	0.0	1520.0	2280.0	3554.0	3576.0	5370.0		CLASS
Cumulative Retained (g)	0.0	0.0	1520.0	3800.0	7354.0	10930.0	16300.0	8236.0	A-1-a
Cumulative Retained %	0.0	0.0	6.2	15.5	30.0	44.6	66.4		PRO
Cumulative Passing %	100.0	100.0	93.8	84.5	70.0	55.4	33.55		WC
									CBR
									CORR. PRO
									CORR. WC

B-soft material gradation				WT. OF sample		500.00		gm
sieve size	#10	#40	#200					
Cumulative Retained (g)	40.00	240.00	360.00					
Cumulative Retained %	8.00	48.00	72.00					
Cumulative Passing %	92.00	52.00	28.00					

C-General gradient										
sieve size(in)	2 "	1.5 "	1 "	3/4 "	1/2 "	3/8 "	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	5.0	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	100.0	93.8	84.5	70.0	55.4	33.6	30.9	17.4	9.35
										<15

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

Contractor

ENG
SIGN

Ahmed Haleem

مهندس أحمد هاليم



Consultant

26/12
2023



 	Electric Express Train - HSR			
	From El Ain El Sekhna City To El Alamein - MATROUH			
	Section - 7 From FOHA TO MARSA MATROUH			
From Station 504+000 To Station 508+177				

MODIFIED PROCTOR TEST ASTM D1557

TESTING DATE:	18-12-2023	CODE	ZONE	510+000	511+500
LOCATION	K.P (510+000)	AL Hayah (8)	Material	fill material layer	
NAME COMPANY	AL Hayah		quantity	5000m³	

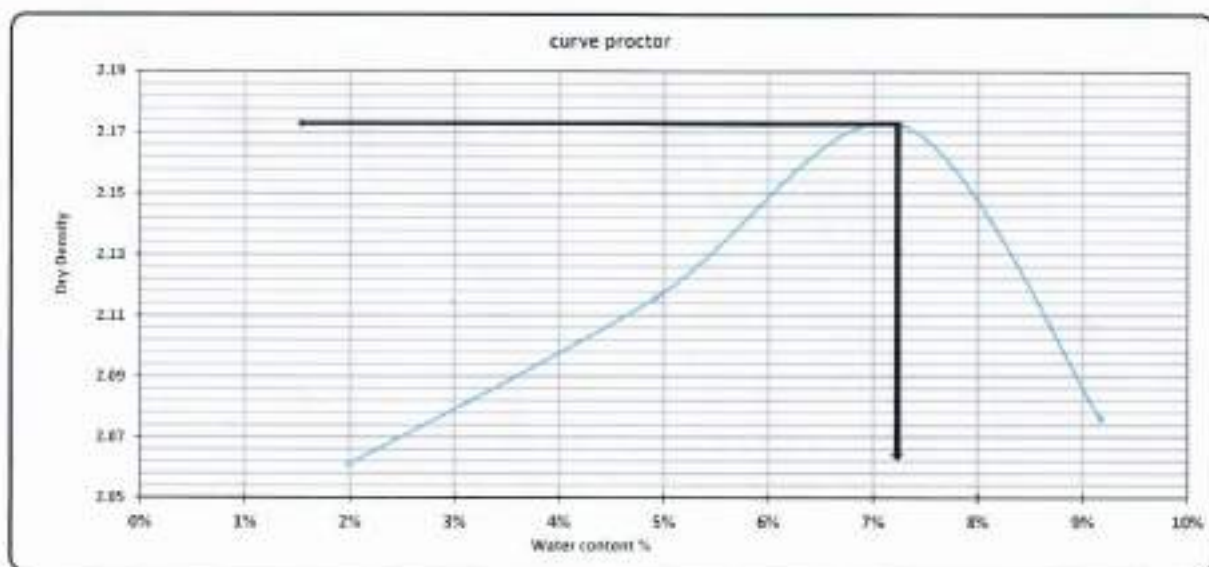
HA-8

Weight of empty mold :	5620.0
Mold Volume:	1114.0

MAX Dry Density	2.17
Water content %	7.2%

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10985.0	10335.0	10569.0	10434	
Wt. WET SOIL	4465.0	4715.0	4949.0	4814.0	
Wt. Density	2.102	2.220	2.330	2.200	

Tare No.	9	10	11	12	13	14	15	16		
Tare wt.	55.45	55.47	55.31	53.96	53.48	54.83	54.33	55.35		
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
Wt. Of dry soil & tare	148.21	148.10	145.45	145.61	143.40	143.65	141.80	142.15		
Wt. Of water	1.8	1.9	4.6	4.4	6.6	6.3	8.1	7.8		
Wt. Of dry soil	92.8	92.2	90.1	91.7	89.9	88.8	87.5	86.8		
Water content %	1.9%	2.1%	5.0%	4.8%	7.3%	7.1%	9.3%	9.0%		
AV. Water content %	2.0%		4.9%		7.2%		9.2%			
Dry Density	2.061		2.110		2.173		2.076			



Contractor
 ENG Ahmed Hafeem
 SIC





Consultant

26/12/2023


المكتب الاستشاري الهندسي
 ا.م. خالد قنديل


California Bearing Ratio TEST

Testing Date :	18-12-2023	Code	FROM STA :	510+000	511+500
Location :	K.P. (510+500)	AL Hayah (B)	Material	fill material	
Company Name	AL Hayah		quantity	5000m ³	

HA-B

Test Results

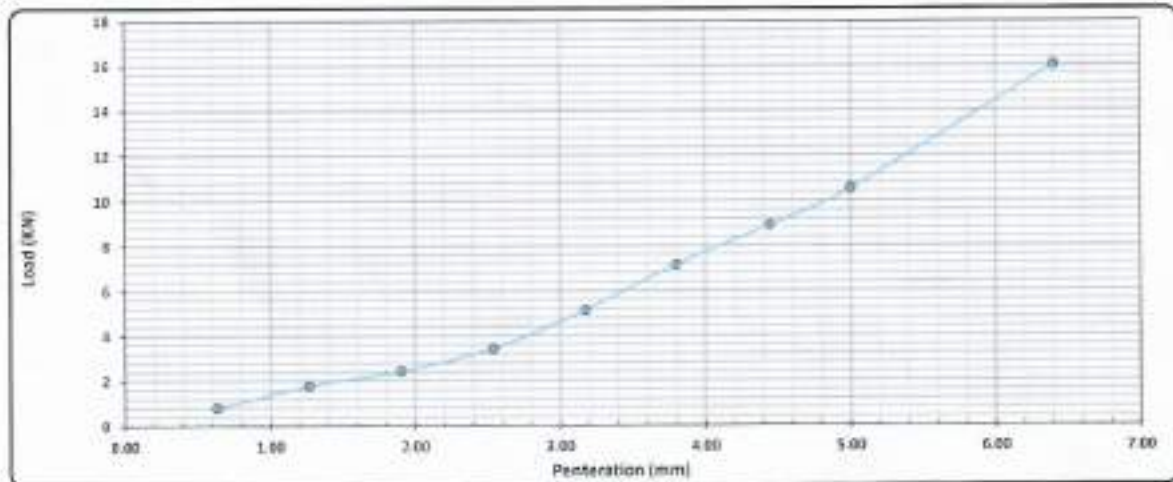
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2210
Mold WT. (gm)	4110
Mold WT. + Wat WT. (gm)	10305
Wat WT. (gm)	6095
Wat Density (g/cm ³)	2.287
Dry Density (g/cm ³)	2.140
Proctor Density (g/cm ³)	2.17
Compaction %	98.6

Moisture Ratio After Compacted Mold	
Num of tests	21
Tare WT. (gm)	55.35
Tare WT. + Wet WT. (gm)	180
Tare WT. + Dry WT. (gm)	143.8
Water WT. (gm)	6.1
Dry WT. (gm)	85.6
Moisture Content %	6.9

Swelling	
Mold No.	1
Date	18-12-2023
Initial Height (mm)	8.00
Final Height (mm)	8.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.94	1.27	1.91	2.54	3.18	3.80	4.45	5.08	6.40
Load Reading (kg)	99	197	270	380	570	755	990	1170	1790
Load (kN)	0.9	1.8	2.4	3.4	5.1	7.2	8.9	10.9	16.9



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(kN)	(lb)	(%)	(%)	(%)	نسبة نسبة 95
2.54	3.42	13.4	25.6%	98	95	24.7%
5.08	10.93	20.0	52.6%			48.7%

Lab. Specialist

Name :

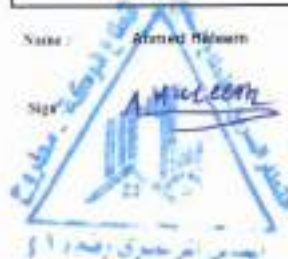
Sign :



Lab. Engineer

Name : Ahmed Alkham

Sign :



Consultant Engineer

Name :

Sign :

26/12/2023



MATERIAL INSPECTION REQUEST



المملكة العربية السعودية
وزارة النقل والبنى التحتية
(GARBT)



Location Name	Contractor Company	Designer Company																	
Electric express train	AL-HAYAH COMPANY	k.k																	
Issued by Contractor	Name	Date	Time																
	Eng. Ahmed TAWFIK	17-01-2024																	
Contractor reference	HA - (10) 17-01-2024																		
Received by ER	MIR	<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></td><td></td><td></td><td>17</td><td>01</td><td>24</td><td></td><td></td></tr> </table>		C1	C2	C3	DD	MM	YY	HH	MM				17	01	24		
C1	C2	C3	DD	MM	YY	HH	MM												
			17	01	24														

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		

Description of Materials	FILL MATERIAL RESULTS		
Location to be Used	From	To	LAYER
	510+500	511+220	Fill replacement layer ferma level

MAR Approval No	Date	
Supplier Name		
Test Requirement	Specification	Clause
Reference Photos	Yes attached / No	Other

Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	m³	4300	15-01-2024	
2	Classification	m³	4300	15-01-2024	
3	Proctor & O.m.c	m³	4300	16-01-2024	
4	L.L & P.L & PI	m³	4300	15-01-2024	
5	C.B.R	m³	4300	17-01-2024	

Comments by:	Comments by:
A sample has been taken from fill material by K.K office to (Al Tawakol laboratory) and the results founded meet the specifications and accepted.	Test result for estimated quantities of about (4300m³)

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		17-01-2024	
QA/QC *	Mohamed Zallam		17/1/2024	
GARB **	Hussein Fouad		17-1-2024	
Comments by				
Employers Representative				

* Designer

** Alignment / Bridges: Culvert Only

MATERIAL APPROVAL REQUEST



Location Name	Contractor Company		Designer Company	
Electric express train	AL- HAYAH Company		k.k	
Issued by Contractor	Name	Sign	Date	Time
	Eng. Ahmed TAWFIK		5-01-2024	
Contractor Reference	HA - (10) - 17-01-2024			
Received by ER	MAR	C1	C2	C3
		DD	MM	YY
		17	01	24

NB: Package 1 only (Package 2 via Content)				
The following test result are attached for review				
Description of Materials	Soil (A-1-b)			
Location to be Used	K.P (510+500)			
Item	Specification	Test requirement	Test result attachment	Remarks
1	ASTM D 75	Aggregate Sampling	According to specifications	
2	ASTM C 136	Sieve Analysis	According to specifications	
3	ASTM D 1440	Passing Sieve, No 200	14.84	
4	ASTM D 4318	Atterberg limit	N.A	
5	ASTM D 2974	Moisture content	7.3%	
6	ASTM D 1557	Modified proctor	2.15	
7	ASTM D 1883	CBR	53.7%	
Comments by:			Comments by:	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		17-01-2024	
Contractor QA/QC*	Mohamed Sallam		17/1/2024	
GARB**	Hussein Fouad		17-1-2024	
Employers Representative				

* Designer

** Alignment/Bridges: Culvert only



Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein - MATROUH
Section - 7 From FOKA To MARSA MATROUH
From Station 504+000 To Station 562+177



Operating lap: Al Tawkol Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	15-01-2024	code	ZONE	510+000	511+500
LOCATION	K.P (510+500)	AL Hayah (10)	Material	fill material layer	
NAME COMPANY	AL Hayah		quantity	4300m³	

1-visual inspection test

HA-10

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT (gm)		37316.00	gm	table classify
sieve size	2 "	1.5 "	1 "	3/4 "	2/1 "	3/8 "	# 4	PASS
Mass retained (g)	0.0	1233.0	2111.0	2062.0	3144.0	3665.0	4286.0	CLASS
Cumulative Retained (g)	0.0	1233.0	3344.0	5406.0	8550.0	12215.0	16501.0	20665.0
Cumulative Retained %	0.0	3.3	9.0	15.3	23.7	33.2	44.8	PRO
Cumulative Passing %	100.0	96.7	91.0	84.7	76.3	66.8	55.20	WC
								CBR
								53.7%
								COBR PRO
								-
								COBR WC
								-

B-soft material gradation				WT. OF sample		500.00	gm
sieve size	#10	#40	#200				
Cumulative Retained (g)	25.00	205.00	366.00				
Cumulative Retained %	5.00	41.00	73.20				
Cumulative Passing %	95.00	59.00	26.80				

C-General gradient										
sieve size(in)	2 "	1.5 "	1 "	3/4 "	1/2 "	3/8 "	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	5.0	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	96.7	91.0	84.7	76.3	66.8	55.4	52.8	32.7	14.56
										<15

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

Contractor

ENG
SIGN

Ahmed Hafeez



Consultant



 	Electric Express Train - HSR		
	From El Ain El Sokhna City To El Alamein - MATROUH		
	Section - 7 From FOKA TO MARSA MATROUH		
From Station 504+000 To Station 568+177			

MODIFIED PROCTOR TEST ASTM D1557

TESTING DATE:	16-01-2024	code	ZONE	510+000	511+500
LOCATION	K.P (510+500)	AL Hayah (10)	Material	fill material layer	
NAME COMPANY	AL Hayah		quantity	4300m³	

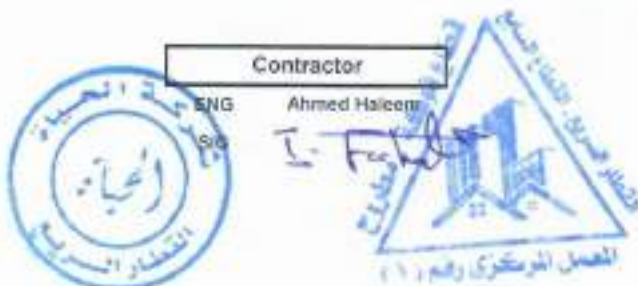
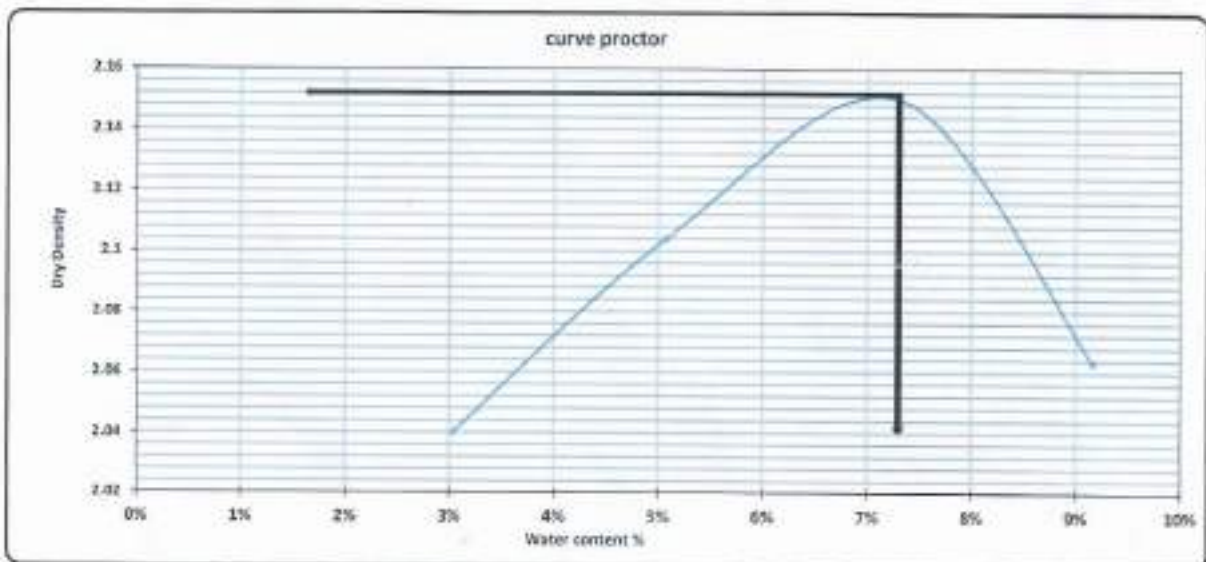
HA-10

Weight of empty mold :	5620.0
Mold Volume:	2124.0

MAX Dry Density	2.165
Water content %	7.2%

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10085.0	10335.0	10320.0	10004	
WT. WET SOIL	4465.0	4695.0	4700.0	4384.0	
Wt. Density	2.192	2.210	2.207	2.252	

Tare No.	30	11	13	14	15	2	2	4		
Tare wt.	53.21	54.32	52.06	51.22	56.23	53.71	54.68	55.11		
Wt. Of wet soil & tare	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0		
Wt. Of dry soil & tare	147.21	147.11	145.31	145.22	143.52	143.53	141.87	142.16		
Wt. Of water	2.8	2.9	4.7	4.8	6.5	6.5	8.1	7.8		
Wt. Of dry soil	94.0	92.8	93.0	93.9	87.3	88.3	87.2	87.1		
Water content %	3.0%	3.1%	5.0%	5.1%	7.4%	7.2%	9.2%	9.0%		
AV. Water content %	3.0%		5.1%		7.3%		9.2%			
Dry Density	2.048		2.104		2.159		2.063			



Consultant





Electric Express Train - HSR



California Bearing Ratio TEST

Testing Date :	17-01-2024	Code	FROM SEA :	510+000	511+500
Location :	K.P. (510+500)	AL Hayah (1B)	Material	fill material	
Company Name :	AL Hayah		quantity	4300m ³	

HA-10

Test Results

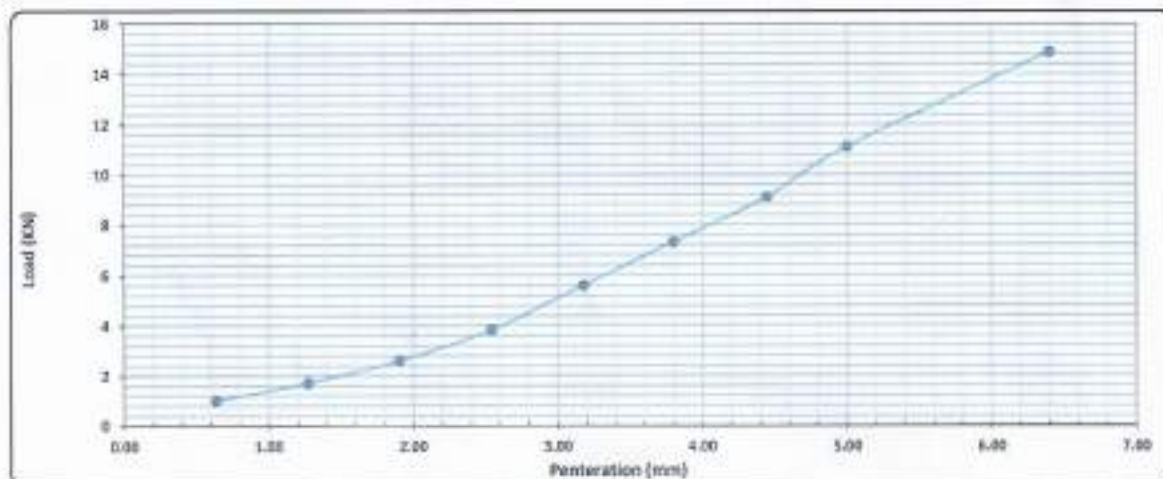
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2178
Mold WT. (gm)	4982
Mold WT. + Wat WT. (gm)	9896
Wat WT. (gm)	4914
Wat Density (g/cm ³)	1.00
Dry Density (g/cm ³)	2.116
Proctor Density (g/cm ³)	2.126
Compaction %	99.5

Moisture Ratio After Compacted Mold	
Sum of 1 gm	1
Tare WT. (gm)	95.30
Tare WT. + Wat WT. (gm)	150
Tare WT. + Dry WT. (gm)	142.65
Water WT. (gm)	7.35
Dry WT. (gm)	80.3
Moisture Content %	7.2

Swelling	
Mold No.	2
Date	17-01-2024
Initial Height (mm)	8.00
Final Height (mm)	8.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.54	1.27	1.91	2.54	3.18	3.80	4.45	5.09	6.43
Load Reading (Kg)	110	198	290	425	621	812	1014	1235	1652
Load (kN)	1.0	1.7	2.6	3.8	5.6	7.3	9.1	11.1	14.9



Calculations :-

Penetration (mm)	Load (kN)	Standard Load (kN)	CBR (%)	Mold - Compaction (%)	Compaction (%)	CBR (%)
2.50	3.83	13.4	28.7%	98	98	27.7%
5.00	11.12	10.0	88.5%			88.7%

Lab. Specialist

Name :

Sign :



Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :





Owner/Consultant	Contractor/Consultant	CENTRAL LAB	Contractor	Owner
Plate Load Test Results				
Company Name	AL HAYAH			
Location	511 + 280	To	511 + 480	Station
Test Date	1-11-2023			
Layer level	-1.5			

EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable and (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	352 Sett.
Stage No	Bar	kN	MPa/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.88	19.95		0.120	0.050		0.085
2.000	17.1	5.652	0.08	19.75	19.86		0.250	0.140		0.195
3.000	34.2	11.304	0.16	19.50	19.75		0.500	0.250		0.375
4.000	53.3	17.663	0.25	19.12	19.73		0.880	0.270		0.575
5.000	70.5	23.315	0.33	18.85	19.69		1.150	0.310		0.730
6.000	89.8	29.673	0.42	18.65	19.60		1.350	0.400		0.875
7.000	106.8	35.325	0.50	18.40	19.50		1.600	0.500		1.050
8.000	53.4	17.663	0.25	18.55	19.65		1.450	0.350		0.900
9.000	26.7	8.831	0.12	18.65	19.70		1.350	0.300		0.825
9.000	2.1	0.707	0.01	18.92	19.80		1.080	0.200		0.640
10.000	2.1	0.707	0.01	18.92	19.80		1.080	0.200		0.640
11.000	17.1	5.652	0.08	18.81	19.78		1.190	0.220		0.705
12.000	34.2	11.304	0.16	18.77	19.69		1.230	0.310		0.770
13.000	53.3	17.663	0.25	18.70	19.64		1.300	0.360		0.830
14.000	70.5	23.315	0.33	18.64	19.55		1.360	0.450		0.905
15.000	89.8	29.673	0.42	18.59	19.45		1.410	0.550		0.980

		σ	SS	3 σ
0.7 σ_1	0.35	0.72187	0.76937	0.2
0.3 σ_1	0.15	0.3525		
0.7 σ_2	0.35	0.92167		
0.3 σ_2	0.15	0.77001	0.15166	0.2
D (mm)	300			
Ev ₁	121.81			
Ev ₂	296.72			
Area (Square)	0.07065			

Ev2/Ev1	2.44
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$$E_s = 8.75 \cdot D \cdot \Delta \sigma \cdot \Delta s$$

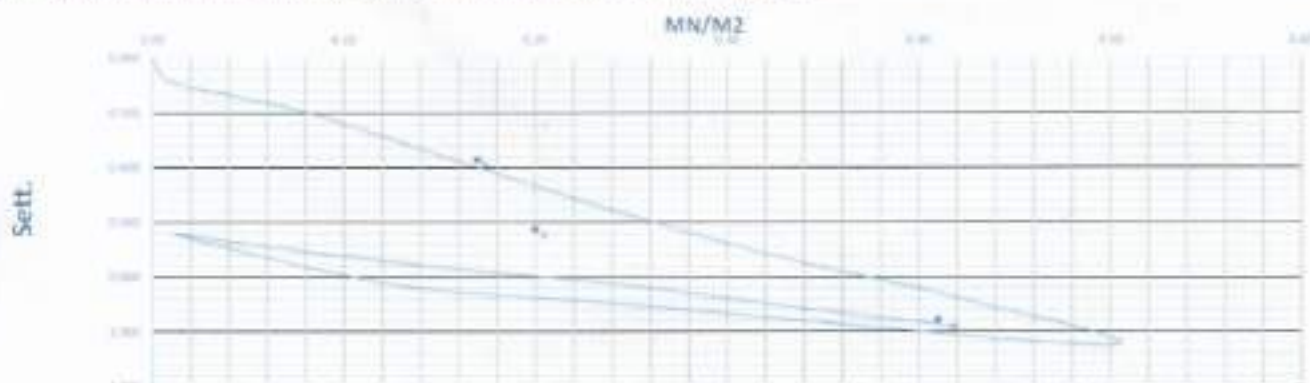
E_s = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \sigma$ and Δs are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max}



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : Hassan AS

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH			
Location	511 + 280	To	511 + 480	
Test Date	1-11-2023			
Layer level	-1.5			

Station	511 + 440
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm										
Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MPa/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.98	19.95		0.020	0.050		0.035
2.000	17.1	5.652	0.08	19.85	19.88		0.150	0.120		0.135
3.000	34.2	11.304	0.16	19.77	19.76		0.230	0.240		0.235
4.000	51.3	17.663	0.25	19.65	19.60		0.350	0.400		0.375
5.000	70.5	23.315	0.33	19.55	19.55		0.450	0.450		0.450
6.000	89.8	29.673	0.42	19.50	19.50		0.500	0.500		0.500
7.000	106.8	35.325	0.50	19.47	19.42		0.530	0.580		0.555
8.000	53.4	17.663	0.25	19.47	19.49		0.530	0.510		0.520
9.000	26.7	8.831	0.12	19.51	19.52		0.490	0.480		0.485
9.000	2.1	0.707	0.01	19.64	19.61		0.360	0.390		0.375
10.000	2.1	0.707	0.01	19.64	19.61		0.360	0.390		0.375
11.000	17.1	5.652	0.08	19.62	19.59		0.380	0.410		0.395
12.000	34.2	11.304	0.16	19.55	19.56		0.450	0.440		0.445
13.000	51.3	17.663	0.25	19.51	19.50		0.490	0.500		0.495
14.000	70.5	23.315	0.33	19.45	19.46		0.550	0.540		0.545
15.000	89.8	29.673	0.42	19.40	19.44		0.600	0.560		0.580

		s	AS	Δs
0.7 σ_c	0.35	0.45188	0.22938	0.2
0.3 σ_c	0.15	0.2225		
0.7 σ_c	0.35	0.55278	0.13778	0.2
0.3 σ_c	0.15	0.415		
D (mm)	300			
E_{s1}	196.19			
E_{s2}	525.62			
Area (Sq.m)	0.07065			

0.22938	1.00	0.500
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$$E_s = 0.73 \cdot D \cdot \Delta s / \Delta s$$

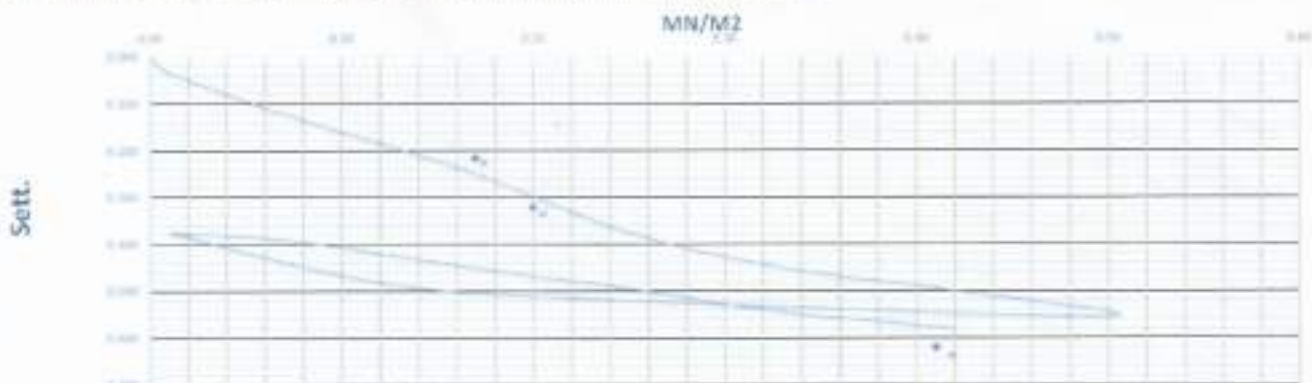
E_s = deformation modulus

Δs = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δs and Δs are usually taken from the load span between 0.3 σ_{peak} and 0.7 σ_{peak}



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Sign :



Owner/Consultant	Contractor/Consultant	CENTRAL LAB	Contractor	Owner
Plate Load Test Results				
Company Name	AL HAYAH			
Location	511 + 180	To	511 + 280	Station
Test Date	2-11-2023			
Layer level	-1.5			

EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 8 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps: A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm										
Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	5% Sett.
Stage No.	Bar	KN	MPa/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.92	19.98		0.080	0.020		0.050
2.000	17.1	5.652	0.08	19.72	19.85		0.280	0.150		0.215
3.000	34.2	11.304	0.16	19.45	19.76		0.550	0.240		0.395
4.000	51.3	17.663	0.25	19.15	19.70		0.850	0.300		0.575
5.000	70.5	23.315	0.33	19.00	19.60		1.000	0.400		0.700
6.000	89.8	29.673	0.42	18.75	19.52		1.250	0.480		0.865
7.000	106.8	35.325	0.50	18.52	19.42		1.480	0.580		1.030
8.000	53.4	17.663	0.25	18.56	19.67		1.440	0.330		0.885
9.000	26.7	8.831	0.12	18.67	19.72		1.330	0.280		0.805
9.000	2.1	0.707	0.01	18.94	19.82		1.060	0.180		0.620
10.000	2.1	0.707	0.01	18.94	19.82		1.060	0.180		0.620
11.000	17.1	5.652	0.08	18.82	19.76		1.180	0.240		0.710
12.000	34.2	11.304	0.16	18.78	19.66		1.220	0.340		0.780
13.000	51.3	17.663	0.25	18.70	19.60		1.300	0.400		0.850
14.000	70.5	23.315	0.33	18.62	19.55		1.380	0.450		0.915
15.000	89.8	29.673	0.42	18.55	19.49		1.450	0.510		0.980

	σ	ΔS	S_w
$0.7 \sigma_1$	0.35	0.72063	0.34813
$0.3 \sigma_1$	0.15	0.37215	
$0.7 \sigma_2$	0.35	0.92944	0.12944
$0.3 \sigma_2$	0.15	0.80001	
D (mm)	300		
E_{v1}	129.26		
E_{v2}	347.66		
Area (Sq.m)	0.07065		

Load No.	1.00	0.500
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta S$$

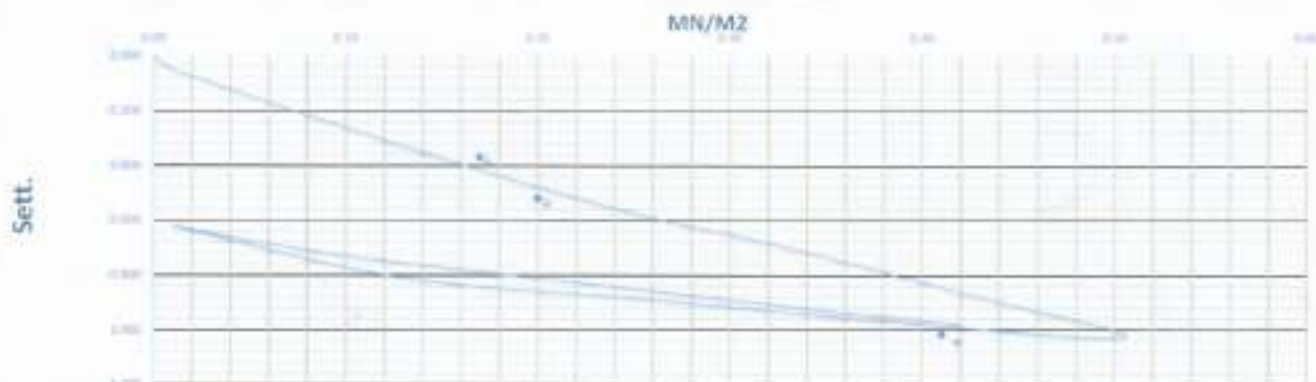
E_v = deformation modulus

$\Delta \sigma$ = load increment

ΔS = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \sigma$ and ΔS are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : Hassan

Sign :



Signature of Consultant Engineer



Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
Plate Load Test Results				
Company Name	AL HAYAH			
Location	511 + 000	To	511 + 180	Station
Test Date	4-11-2023			
Layer level	-1.5			

EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Sett1	Sett2	Sett3	Sett1	Sett2	Sett3	Avg Sett
Stage No.	Bar	kN	kN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.92	19.89		0.080	0.110		0.095
2.000	17.1	5.652	0.08	19.85	19.65		0.150	0.350		0.250
3.000	34.2	11.304	0.16	19.60	19.25		0.400	0.750		0.575
4.000	53.3	17.663	0.25	19.50	18.95		0.500	1.050		0.775
5.000	70.5	23.315	0.33	19.30	18.65		0.700	1.350		1.025
6.000	89.8	29.673	0.42	19.20	18.35		0.800	1.650		1.225
7.000	106.8	35.325	0.50	18.90	18.13		1.100	1.870		1.485
8.000	53.4	17.663	0.25	19.15	18.20		0.850	1.800		1.325
9.000	26.7	8.831	0.12	19.25	18.31		0.750	1.690		1.220
9.000	2.1	0.707	0.01	19.40	18.58		0.600	1.420		1.010
10.000	2.1	0.707	0.01	19.40	18.58		0.600	1.420		1.010
11.000	17.1	5.652	0.08	19.25	18.52		0.750	1.480		1.115
12.000	34.2	11.304	0.16	19.12	18.42		0.880	1.580		1.230
13.000	53.3	17.663	0.25	18.85	18.30		1.150	1.700		1.425
14.000	70.5	23.315	0.33	18.65	18.28		1.350	1.720		1.535
15.000	89.8	29.673	0.42	18.45	18.18		1.550	1.820		1.685

	s	Δs	Δs
0.7 σ_1	0.35	0.9975	0.46312
0.3 σ_1	0.15	0.53437	
0.7 σ_2	0.35	1.56033	0.34832
0.3 σ_2	0.15	1.22001	
D (mm)	300		
E_v	97.17		
E_v	229.19		
Area (sq.m)	0.07068		

Factor	1.00	Factor
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$$E_v = 0.75 \cdot D \cdot \Delta s / \Delta \epsilon$$

E_v = deformation modulus

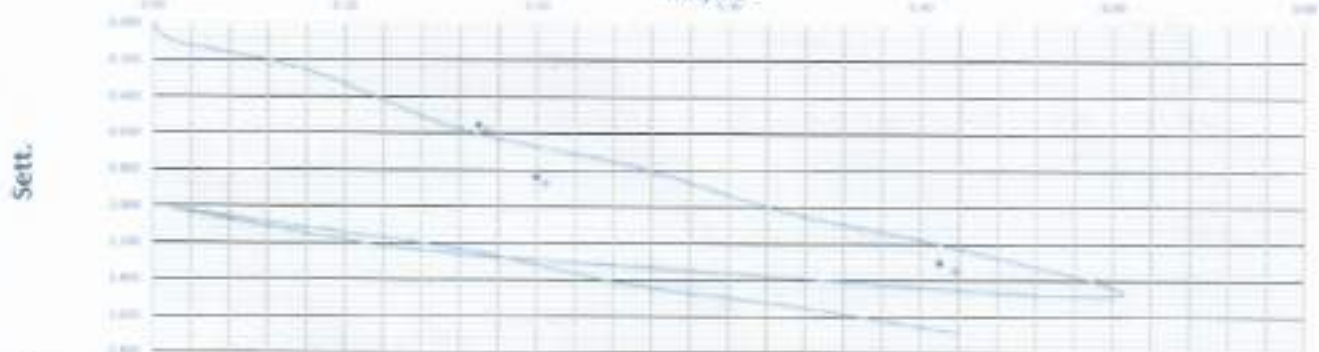
D = load increment

$\Delta \epsilon$ = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \epsilon$ and $\Delta \epsilon$ are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max}

MN/M2



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : Hassan

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
Plate Load Test Results				
Company Name	AL HAYAH			
Location	511 + 000	To	511 + 180	Status 511 + 140
Test Date	4-11-2023			
Layer level	-1.5			

EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MPa/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.95	19.98		0.050	0.020		0.035
2.000	17.1	5.652	0.08	19.85	19.87		0.150	0.130		0.140
3.000	34.2	11.304	0.16	19.80	19.83		0.200	0.170		0.185
4.000	53.3	17.663	0.25	19.72	19.75		0.280	0.250		0.265
5.000	70.5	23.315	0.33	19.62	19.65		0.380	0.350		0.365
6.000	89.8	29.673	0.42	19.53	19.54		0.470	0.460		0.465
7.000	106.8	35.325	0.50	19.48	19.47		0.520	0.530		0.525
8.000	53.4	17.663	0.25	19.50	19.52		0.500	0.480		0.490
9.000	26.7	8.831	0.12	19.59	19.61		0.410	0.390		0.400
9.000	2.1	0.707	0.01	19.68	19.70		0.320	0.300		0.310
10.000	2.1	0.707	0.01	19.68	19.70		0.320	0.300		0.310
11.000	17.1	5.652	0.08	19.64	19.66		0.360	0.340		0.350
12.000	34.2	11.304	0.16	19.60	19.60		0.400	0.400		0.400
13.000	53.3	17.663	0.25	19.55	19.54		0.450	0.460		0.455
14.000	70.5	23.315	0.33	19.49	19.48		0.510	0.520		0.515
15.000	89.8	29.673	0.42	19.44	19.42		0.560	0.580		0.570

		σ	ΔS	$\Delta \sigma$
0.7 σ_1	0.35	0.4125	0.23312	0.2
0.3 σ_1	0.15	0.17938		
0.7 σ_2	0.35	0.52722	0.13722	0.2
0.3 σ_2	0.15	0.39		
D (mm)	300			
E_{v_1}	193.63			
E_{v_2}	517.94			
Area (Square)	0.07065			

$$E = 2 \frac{D \cdot \sigma}{\Delta S} \cdot \frac{1}{\Delta \sigma}$$

$$E_v = 0.75 \cdot D \cdot \frac{\Delta \sigma}{\Delta S}$$

E_v = deformation modulus

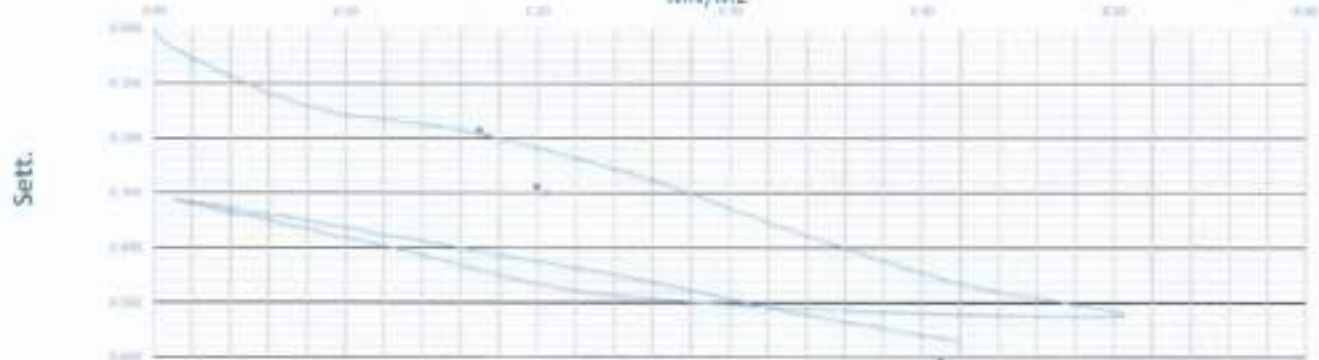
D_v = load increment

D_v = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \sigma$ and ΔS are usually taken from the load span between 0.3 σ_{peak} and 0.7 σ_{peak}

MN/M2



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : Hassan

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
Plate Load Test Results				
Company Name	AL HAYAH			
Location	510 + 780	To	510 + 880	Station
Test Date	5-11-2023			
Layer level	-1.5			

EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Sett 1	Sett 2	Sett 3	Sett 4	Sett 5	Sett 6	Sett 7	Sett 8
Stage No.	Bar	kN	MPa/M2	mm	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000	
1.000	2.1	0.707	0.01	19.86	19.95		0.140	0.050		0.095	
2.000	17.1	5.652	0.08	19.75	19.92		0.250	0.080		0.165	
3.000	34.2	11.304	0.16	19.50	19.82		0.500	0.180		0.340	
4.000	53.3	17.663	0.25	19.10	19.72		0.900	0.280		0.590	
5.000	70.5	23.315	0.33	18.94	19.65		1.060	0.350		0.705	
6.000	89.8	29.673	0.42	18.77	19.63		1.230	0.370		0.800	
7.000	106.8	35.325	0.50	18.52	19.60		1.480	0.400		0.940	
8.000	53.4	17.663	0.25	18.59	19.65		1.410	0.350		0.880	
9.000	26.7	8.831	0.12	18.68	19.70		1.320	0.300		0.810	
9.000	2.1	0.707	0.01	18.89	19.78		1.110	0.220		0.665	
10.000	2.1	0.707	0.01	18.89	19.78		1.110	0.220		0.665	
11.000	17.1	5.652	0.08	18.84	19.77		1.160	0.230		0.695	
12.000	34.2	11.304	0.16	18.74	19.75		1.260	0.250		0.755	
13.000	53.3	17.663	0.25	18.65	19.73		1.350	0.270		0.810	
14.000	70.5	23.315	0.33	18.58	19.71		1.420	0.290		0.855	
15.000	89.8	29.673	0.42	18.50	19.68		1.500	0.310		0.910	

	σ	SS	Se
0.7 σ_1	0.35	0.4775	0.35938
0.3 σ_1	0.15	0.31813	
0.7 σ_2	0.35	0.86722	0.14222
0.3 σ_2	0.15	0.725	
D (mm)	300		
E_v	125.22		
E_v	114.41		
Area (Square)	0.07065		

Modulus	1.75	1.7500
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

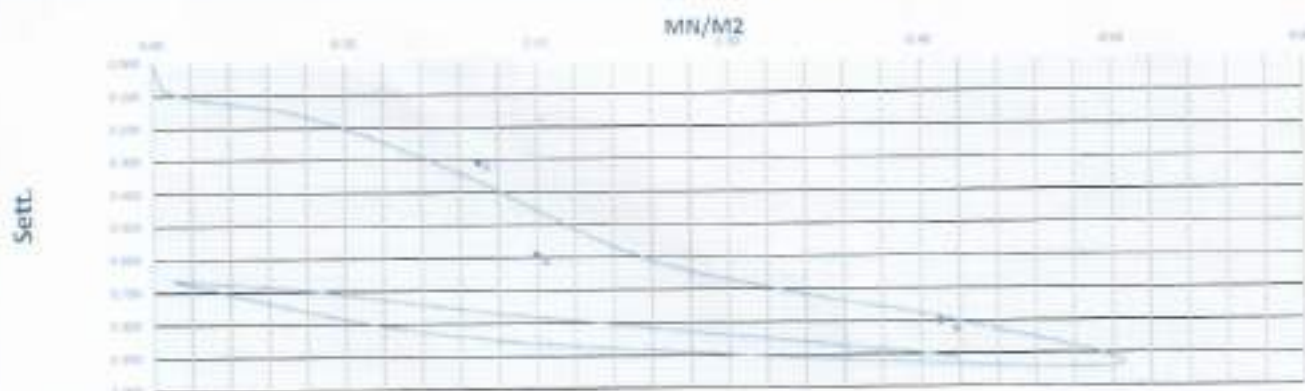
E_v = deformation modulus

D = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \sigma$ and Δs are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max} .



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : HASSAN

Sign :





Order Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH		
Location	510 + 880	To	511 + 000
Test Date	5-11-2023		
Layer level	-1.5		

Station	510 + 880
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 5 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.80	19.89		0.200	0.110		0.155
2.000	17.1	5.652	0.08	19.58	19.84		0.420	0.160		0.290
3.000	34.2	11.304	0.16	19.46	19.80		0.540	0.200		0.370
4.000	51.3	17.663	0.25	19.33	19.75		0.670	0.250		0.460
5.000	70.5	23.315	0.33	19.25	19.64		0.750	0.360		0.555
6.000	89.8	29.673	0.42	19.12	19.50		0.880	0.500		0.690
7.000	106.8	35.325	0.50	19.05	19.43		0.950	0.570		0.760
8.000	83.4	17.663	0.25	19.10	19.45		0.900	0.550		0.725
9.000	26.7	8.831	0.12	19.15	19.47		0.850	0.530		0.690
9.000	2.1	0.707	0.01	19.23	19.60		0.770	0.400		0.585
10.000	2.1	0.707	0.01	19.23	19.60		0.770	0.400		0.585
11.000	17.1	5.652	0.08	19.20	19.54		0.800	0.460		0.630
12.000	34.2	11.304	0.16	19.15	19.50		0.850	0.500		0.675
13.000	51.3	17.663	0.25	19.10	19.46		0.900	0.540		0.720
14.000	70.5	23.315	0.33	19.08	19.40		0.920	0.600		0.760
15.000	89.8	29.673	0.42	19.06	19.34		0.940	0.660		0.800

	σ	Δs	Δs	σ
0.7 σ_1	0.35	0.62875	0.26875	0.2
0.3 σ_1	0.15	0.36		
0.7 σ_2	0.35	0.76889	0.69388	0.2
0.3 σ_2	0.15	0.675		
D (mm)	300			
E_{s1}	107.44			
E_{s2}	479.11			
Area (Sq. cm)	0.07068			

$E = 1.75 \cdot D \cdot \Delta \sigma / \Delta s$	1.75	0.76889
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$$E_s = 1.75 \cdot D \cdot \Delta \sigma / \Delta s$$

E_s = deformation modulus

$\Delta \sigma$ = load increment

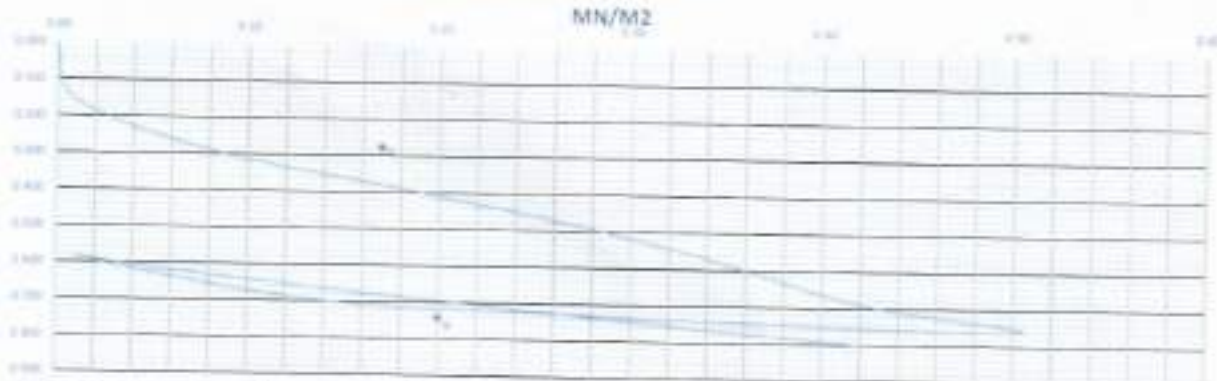
Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \sigma$ and Δs are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max} .

MN/M2

Sett.



Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

Name : AHMED HALEEM

Name :

Sign :

Sign :

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Order
Plate Load Test Results				
Company Name	AL HAYAH			
Location	510 + 880	To	511 + 000	Station
Test Date	5-11-2023			
Layer level	-1.5			

EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dist 1	Dist 2	Dist 3	Sett. 1	Sett. 2	Sett. 3	Sett. 4
Stage No.	Bar	kN	N/m ²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.82	19.82		0.180	0.180		0.180
2.000	17.1	5.652	0.08	19.75	19.76		0.250	0.240		0.245
3.000	34.2	11.304	0.16	19.51	19.55		0.490	0.450		0.470
4.000	53.3	17.663	0.25	19.35	19.43		0.650	0.570		0.610
5.000	70.5	23.315	0.33	19.16	19.32		0.840	0.680		0.760
6.000	89.8	29.673	0.42	19.00	19.23		1.000	0.770		0.885
7.000	106.8	35.325	0.50	18.87	19.15		1.130	0.850		0.990
8.000	53.4	17.663	0.25	18.90	19.17		1.100	0.830		0.965
9.000	26.7	8.831	0.12	19.05	19.25		0.950	0.750		0.850
9.000	2.1	0.707	0.01	19.18	19.38		0.820	0.620		0.720
10.000	2.1	0.707	0.01	19.18	19.38		0.820	0.620		0.720
11.000	17.1	5.652	0.08	19.17	19.37		0.830	0.630		0.730
12.000	34.2	11.304	0.16	19.08	19.35		0.920	0.650		0.785
13.000	53.3	17.663	0.25	18.96	19.25		1.040	0.750		0.895
14.000	70.5	23.315	0.33	18.93	19.20		1.070	0.800		0.935
15.000	89.8	29.673	0.42	18.89	19.17		1.110	0.830		0.970

	s	AS	SA
0.7 σ_1	0.35	0.79512	0.35125
0.3 σ_1	0.15	0.44187	
0.7 σ_2	0.35	0.94278	0.20278
0.3 σ_2	0.15	0.74	
D (mm)	300		
E_{v1}	128.11		
E_{v2}	121.02		
Area / Sq.m	0.07065		

$A_v(15\%)$	1.75	0.006
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$$E_v = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

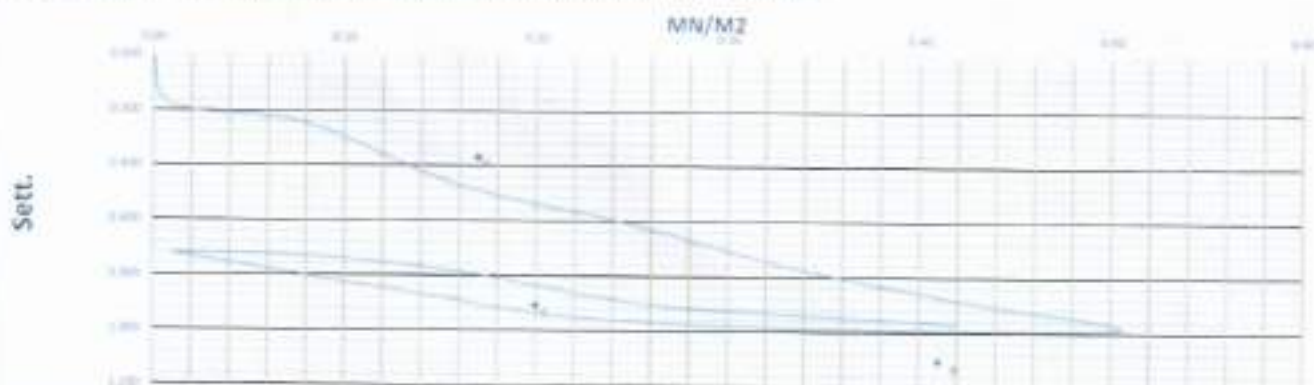
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation, $\Delta \sigma$ and Δs are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max}



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HADEEM

Sign :

Consultant Engineer

Name :

Sign :



Owner/Consultant	Contractor/Consultant	CENTRAL LAB	Contractor	Drawn
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Plate Load Test Results

Company Name	AL HAYAH		
Location	510 + 520	To	510 + 660
Test Date	7-11-2023		
Layer level	-1.5		

Station	510 + 500
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable and (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dist 1	Dist 2	Dist 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No	Bar	KN	MPa/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.87	19.87		0.130	0.130		0.130
2.000	17.1	5.652	0.08	19.63	19.72		0.370	0.280		0.325
3.000	34.2	11.304	0.16	19.46	19.57		0.540	0.430		0.485
4.000	51.3	17.663	0.25	19.30	19.42		0.700	0.580		0.640
5.000	70.5	23.315	0.33	19.14	19.25		0.860	0.750		0.805
6.000	89.8	29.673	0.42	19.02	19.14		0.980	0.860		0.920
7.000	106.8	35.325	0.50	18.90	19.01		1.100	0.990		1.045
8.000	133.4	44.163	0.62	18.92	19.05		1.080	0.950		1.015
9.000	167.7	55.234	0.77	19.00	19.18		1.000	0.820		0.910
10.000	2.1	0.707	0.01	19.10	19.30		0.900	0.700		0.800
11.000	2.1	0.707	0.01	19.10	19.30		0.900	0.700		0.800
12.000	17.1	5.652	0.08	19.09	19.29		0.910	0.710		0.810
13.000	34.2	11.304	0.16	19.05	19.22		0.950	0.780		0.865
14.000	51.3	17.663	0.25	19.00	19.15		1.000	0.850		0.925
15.000	70.5	23.315	0.33	18.96	19.09		1.040	0.910		0.975
16.000	89.8	29.673	0.42	18.90	19.03		1.100	0.970		1.035

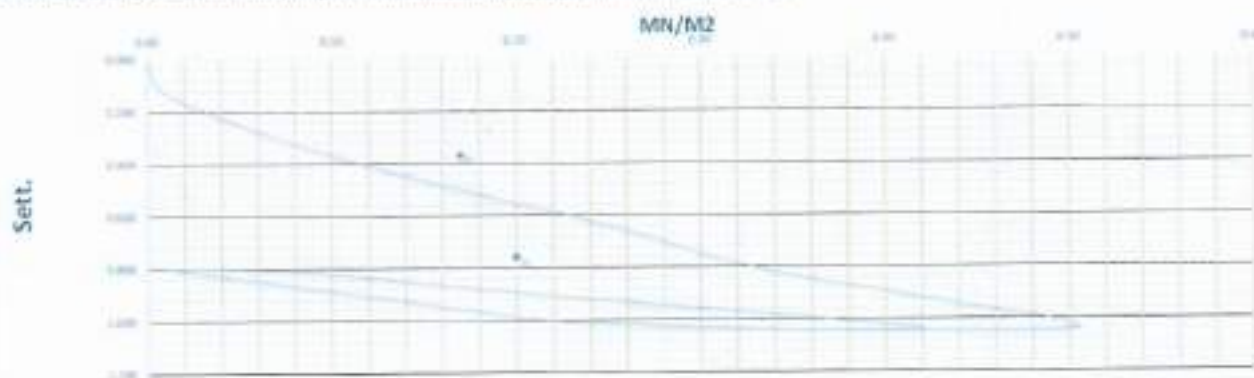
	σ	$\Delta\sigma$	Δs	E_s
0.7 σ_1	0.35	0.81063	0.14563	0.2
0.3 σ_1	0.15	0.405		
0.7 σ_2	0.35	0.98633	0.16833	0.2
0.3 σ_2	0.15	0.392		
D (mm)	300			
E_s	198.28			
E_s	267.33			
Area (Sq. m)	0.07065			

$E_s = 198.28$	2.00	7.930
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$$E_s = 0.75 \cdot \sigma / \Delta\sigma / \Delta s$$

- E_s = deformation modulus
- $\Delta\sigma$ = load increment
- Δs = settlement increment
- D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max}



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Sign :

Handwritten signature and stamp of the Lab. Engineer, Ahmed Haleem.



Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH		
Location	510 + 520	To	510 + 660
Test Date	7-11-2023		
Layer level	-1.5		

Station	510 + 640
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.50$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable and (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm										
Loading	Load	Load	Stress	Dist 1	Dist 2	Dist 3	Sett. 1	Sett. 2	Sett. 3	Sett. 4
Stage No.	Bar	KN	MM/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.96	19.97		0.040	0.030		0.035
2.000	17.1	5.652	0.08	19.78	19.88		0.220	0.120		0.170
3.000	34.2	11.304	0.16	19.53	19.78		0.470	0.220		0.345
4.000	53.3	17.663	0.25	19.40	19.62		0.600	0.380		0.490
5.000	70.5	23.315	0.33	19.23	19.50		0.770	0.500		0.635
6.000	89.8	29.673	0.42	19.12	19.44		0.880	0.560		0.720
7.000	106.8	35.325	0.50	19.02	19.37		0.980	0.630		0.805
8.000	53.4	17.663	0.25	19.06	19.41		0.940	0.590		0.765
9.000	26.7	8.831	0.12	19.14	19.48		0.860	0.520		0.690
10.000	2.1	0.707	0.01	19.34	19.61		0.660	0.390		0.525
11.000	2.1	0.707	0.01	19.34	19.61		0.660	0.390		0.525
12.000	17.1	5.652	0.08	19.32	19.58		0.680	0.420		0.550
13.000	34.2	11.304	0.16	19.21	19.52		0.790	0.480		0.635
14.000	53.3	17.663	0.25	19.14	19.47		0.880	0.530		0.695
15.000	70.5	23.315	0.33	19.06	19.41		0.940	0.590		0.765
16.000	89.8	29.673	0.42	19.02	19.38		0.980	0.620		0.800

	α	AS	$\Delta\sigma$
0.7 σ_1	0.35	0.64562	0.3227
0.3 σ_1	0.15	0.32312	
0.7 σ_2	0.35	0.77218	
0.3 σ_2	0.15	0.575	0.19178
D (mm)	300		
Ev ₁	139.52		
Ev ₂	227.51		
Area (Sq.m)	0.07065		

Ev (25%)	1.03	7.606
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$$E_s = 0.25 \times D \times \Delta\sigma / \Delta s$$

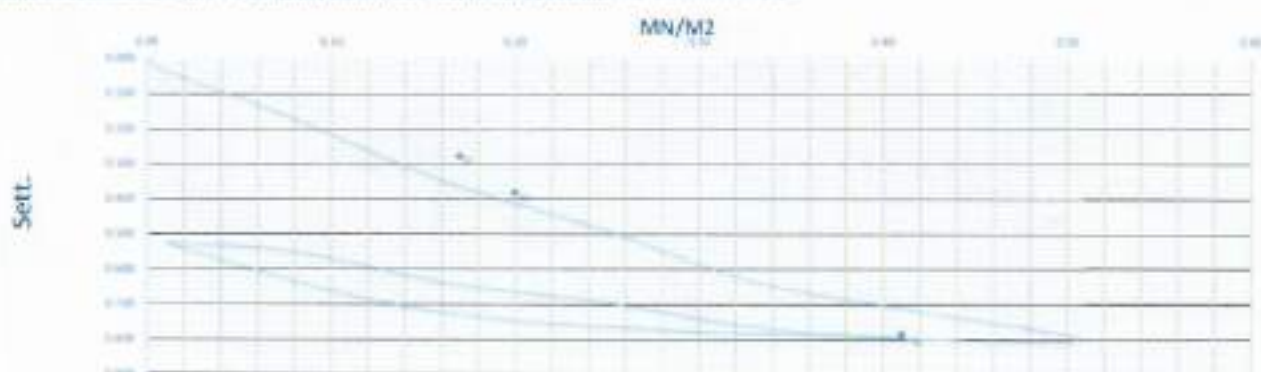
E_s = deformation modulus

$\Delta\sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between 0.5 σ_{max} and 0.7 σ_{max}



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH		
Location	510+500	To	510+700
Test Date	09/10/2023		
Layer level	BED EXCAVATION		

Station	510+550
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable and (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	35% Sett.
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.93	19.92		0.070	0.080		0.075
2.000	17.1	5.652	0.08	19.85	19.89		0.150	0.110		0.130
3.000	34.2	11.304	0.16	19.74	19.81		0.260	0.190		0.225
4.000	53.3	17.663	0.25	19.58	19.74		0.420	0.260		0.340
5.000	70.5	23.315	0.33	19.42	19.70		0.580	0.300		0.440
6.000	89.8	29.673	0.42	19.28	19.65		0.720	0.350		0.535
7.000	106.8	35.325	0.50	19.20	19.57		0.800	0.430		0.615
8.000	53.4	17.663	0.25	19.25	19.66		0.750	0.340		0.545
9.000	26.7	8.831	0.12	19.27	19.71		0.730	0.290		0.510
9.000	2.1	0.707	0.01	19.34	19.81		0.660	0.190		0.425
10.000	2.1	0.707	0.01	19.34	19.81		0.660	0.190		0.425
11.000	17.1	5.652	0.08	19.33	19.78		0.670	0.220		0.445
12.000	34.2	11.304	0.16	19.28	19.75		0.720	0.250		0.485
13.000	53.3	17.663	0.25	19.25	19.71		0.750	0.290		0.520
14.000	70.5	23.315	0.33	19.21	19.69		0.790	0.310		0.550
15.000	89.8	29.673	0.42	19.18	19.64		0.820	0.360		0.590

	σ	ΔS	A_s
$0.7 \sigma_1$	0.35	0.445	0.25187
$0.3 \sigma_1$	0.15	0.21313	
$0.7 \sigma_2$	0.35	0.55889	0.09389
$0.3 \sigma_2$	0.15	0.445	
D (mm)	300		
E_{v1}	178.66		
E_{v2}	479.20		
Area (Square)	0.07065		

E_{v2}/E_{v1}	2.68		
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$$E_v = 0.71 \cdot D \cdot \Delta \sigma / \Delta s$$

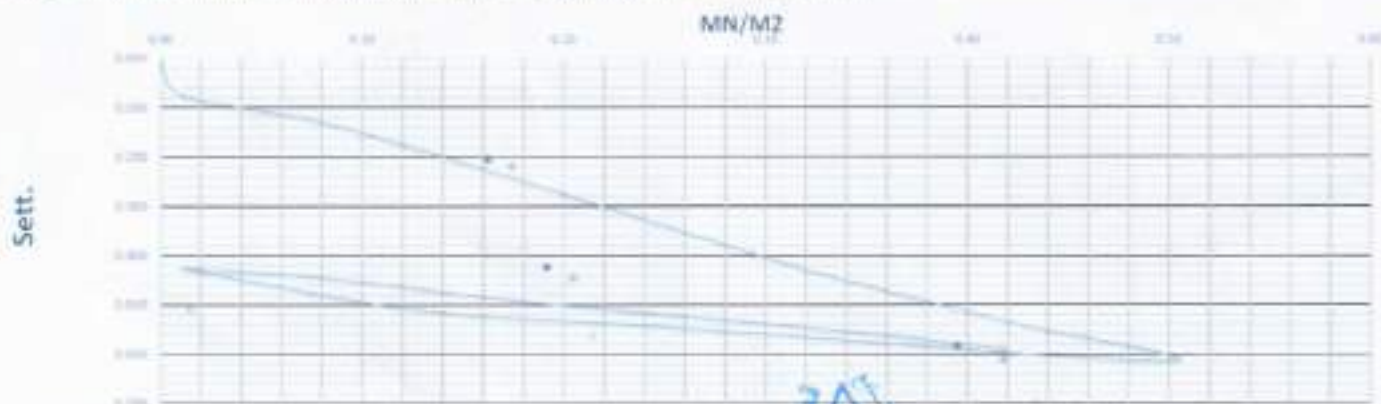
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

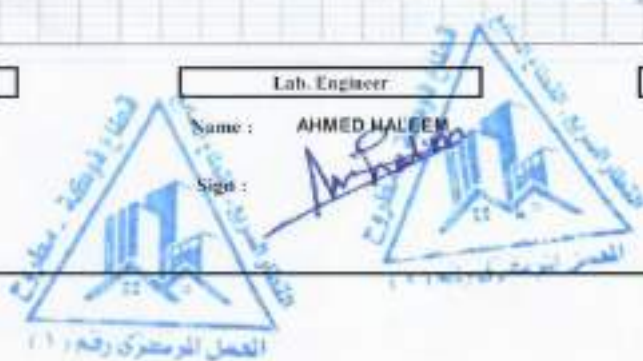
Name : AHMED HALEEM

Sign :

Consult Engineer

Name :

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH			
Location	510+500	To	510+700	
Test Date	09/10/2023			
Layer level	BED EXCAVATION			

Station	510+650
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Av. Sett.
Stage No.	Bar	KN	KN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.90	19.94		0.100	0.060		0.080
2.000	17.1	5.652	0.08	19.72	19.85		0.280	0.150		0.215
3.000	34.2	11.304	0.16	19.56	19.75		0.440	0.250		0.345
4.000	53.3	17.463	0.25	19.41	19.65		0.590	0.350		0.470
5.000	70.5	23.315	0.33	19.29	19.57		0.710	0.430		0.570
6.000	89.8	29.673	0.42	19.18	19.51		0.820	0.490		0.655
7.000	106.8	35.325	0.50	19.10	19.47		0.900	0.530		0.715
8.000	53.4	17.463	0.25	19.14	19.50		0.860	0.500		0.680
9.000	26.7	8.831	0.12	19.22	19.56		0.780	0.440		0.610
9.000	2.1	0.707	0.01	19.41	19.70		0.590	0.300		0.445
10.000	2.1	0.707	0.01	19.41	19.70		0.590	0.300		0.445
11.000	17.1	5.652	0.08	19.37	19.66		0.630	0.340		0.485
12.000	34.2	11.304	0.16	19.30	19.62		0.700	0.380		0.540
13.000	53.3	17.463	0.25	19.21	19.59		0.790	0.410		0.600
14.000	70.5	23.315	0.33	19.16	19.56		0.840	0.440		0.640
15.000	89.8	29.673	0.42	19.09	19.53		0.910	0.470		0.690

		γ	SS	dr
0.7 σ_1	0.35	0.6025	0.27375	0.2
0.3 σ_1	0.15	0.32875		
0.7 σ_2	0.35	0.65111	0.12611	0.2
0.3 σ_2	0.15	0.525		
D (mm)	300			
E_{s1}	164.38			
E_{s2}	356.84			
Area (Square)	0.07065			

E_{s2}/E_{s1}	2.17		
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$$E_s = 0.75 \cdot D \cdot dr / d_s$$

E_s = deformation modulus

D_s = load increment

d_s = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation d_r and d_s are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max} .

KN/M2



Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

Name :

AHMED HALEEM

Name :

Sign :

Sign :

Sign :



Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH		
Location	510+700	To	510+900
Test Date	09/10/2023		
Layer level	BED EXCAVATION		

Station	510+750
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	$\Delta \sigma$
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.80	19.87		0.200	0.130		0.165
2.000	17.1	5.652	0.08	19.61	19.70		0.390	0.300		0.345
3.000	34.2	11.304	0.16	19.39	19.45		0.610	0.550		0.580
4.000	53.3	17.663	0.25	19.21	19.27		0.790	0.730		0.760
5.000	70.5	23.315	0.33	19.12	19.08		0.880	0.920		0.900
6.000	89.8	29.673	0.42	19.02	18.94		0.980	1.060		1.020
7.000	106.8	35.325	0.50	18.91	18.84		1.090	1.160		1.125
8.000	83.4	27.663	0.25	18.95	18.90		1.050	1.100		1.075
9.000	26.7	8.831	0.12	19.02	18.97		0.980	1.030		1.005
9.000	2.1	0.707	0.01	19.17	19.12		0.830	0.880		0.855
10.000	2.1	0.707	0.01	19.17	19.12		0.830	0.880		0.855
11.000	17.1	5.652	0.08	19.12	19.09		0.880	0.910		0.895
12.000	34.2	11.304	0.16	19.07	19.04		0.930	0.960		0.945
13.000	53.3	17.663	0.25	19.02	19.00		0.980	1.000		0.990
14.000	70.5	23.315	0.33	18.97	18.97		1.030	1.030		1.030
15.000	89.8	29.673	0.42	18.92	18.85		1.080	1.150		1.115

		s	Δs	$\Delta \sigma$
$0.7 \sigma_1$	0.35	0.92812	0.3775	0.2
$0.3 \sigma_1$	0.15	0.55063		
$0.7 \sigma_2$	0.35	1.04809	0.11388	0.2
$0.3 \sigma_2$	0.15	0.935		
D (mm)	300			
E_s	119.21			
E_s	395.14			
Area (Sq.m)	0.07065			

E_s/E_v	1.31		
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$$E_s = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

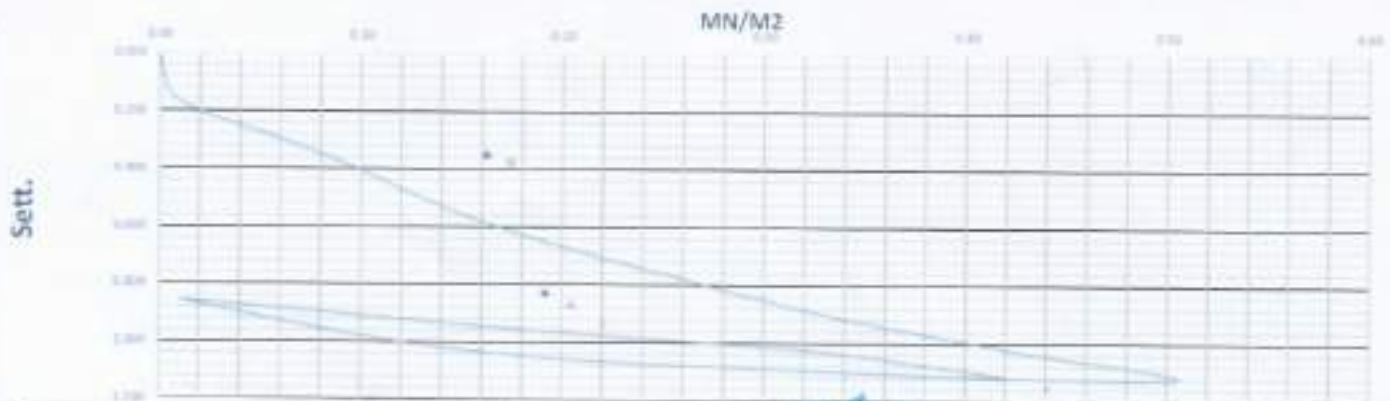
E_s = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \sigma$ and Δs are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : 2/10/2023

Sign :



Owner/Consultant	Contractor/Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH		
Location	510+700	To	510+900
Test Date	09/10/2023		
Layer level	BED EXCAVATION		

Station	510+850
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MS/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.90	19.91		0.100	0.090		0.095
2.000	17.1	5.652	0.08	19.81	19.87		0.190	0.130		0.160
3.000	34.2	11.304	0.16	19.70	19.82		0.300	0.180		0.240
4.000	53.3	17.663	0.25	19.56	19.76		0.440	0.240		0.340
5.000	70.5	23.315	0.33	19.45	19.72		0.550	0.280		0.415
6.000	89.8	29.673	0.42	19.35	19.70		0.650	0.300		0.475
7.000	106.8	35.325	0.50	19.24	19.65		0.760	0.350		0.555
8.000	83.4	17.663	0.25	19.27	19.67		0.730	0.330		0.530
9.000	26.7	8.831	0.12	19.31	19.74		0.690	0.260		0.475
9.000	2.1	0.707	0.01	19.38	19.79		0.620	0.210		0.415
10.000	2.1	0.707	0.01	19.38	19.79		0.620	0.210		0.415
11.000	17.1	5.652	0.08	19.35	19.78		0.650	0.220		0.435
12.000	34.2	11.304	0.16	19.33	19.73		0.670	0.270		0.470
13.000	53.3	17.663	0.25	19.29	19.70		0.710	0.300		0.505
14.000	70.5	23.315	0.33	19.23	19.68		0.770	0.320		0.545
15.000	89.8	29.673	0.42	19.19	19.65		0.810	0.350		0.580

		ν	AS	$\Delta\sigma$
0.7 σ_1	0.35	0.405	0.175	0.2
0.3 σ_1	0.15	0.13		
0.7 σ_2	0.35	0.55278	0.09778	0.2
0.3 σ_2	0.15	0.455		
D (mm)	300			
E_{v1}	257.14			
E_{v2}	400.24			
Area (Square)	0.07065			

E_{v2}/E_{v1}	1.55		
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$$E_v = 0.75 \cdot D \cdot \Delta\sigma / \Delta s$$

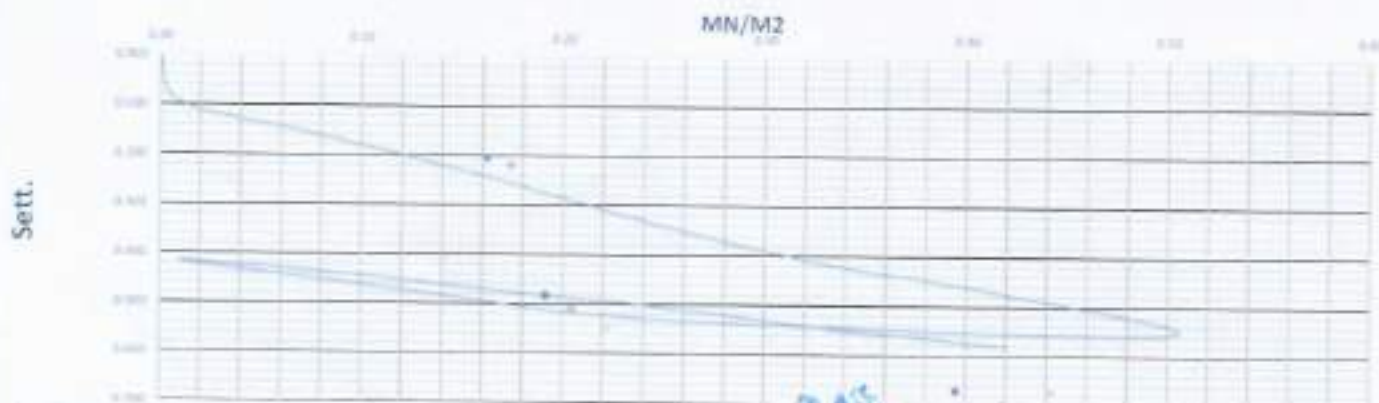
E_v = deformation modulus

$\Delta\sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta\sigma$ and Δs are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max}



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : /m 10 2023

Sign :



Owner/Consultant	Contractor/Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH		
Location	510+900	To	511+100
Test Date	09/10/2023		
Layer level	BED EXCAVATION		

Station	510+950
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.98	19.98		0.020	0.020		0.020
2.000	17.1	5.652	0.08	19.96	19.96		0.040	0.040		0.040
3.000	34.2	11.304	0.16	19.90	19.94		0.100	0.060		0.080
4.000	53.3	17.663	0.25	19.85	19.90		0.150	0.100		0.125
5.000	70.5	23.315	0.33	19.78	19.88		0.220	0.120		0.170
6.000	89.8	29.673	0.42	19.72	19.85		0.280	0.150		0.215
7.000	106.8	35.325	0.50	19.69	19.80		0.310	0.200		0.255
8.000	53.4	17.663	0.25	19.70	19.82		0.300	0.180		0.240
9.000	26.7	8.831	0.12	19.73	19.85		0.270	0.150		0.210
9.000	2.1	0.707	0.01	19.80	19.89		0.200	0.110		0.155
10.000	2.1	0.707	0.01	19.80	19.89		0.200	0.110		0.155
11.000	17.1	5.652	0.08	19.79	19.88		0.210	0.120		0.165
12.000	34.2	11.304	0.16	19.76	19.87		0.240	0.130		0.185
13.000	53.3	17.663	0.25	19.72	19.86		0.280	0.140		0.210
14.000	70.5	23.315	0.33	19.71	19.82		0.290	0.180		0.235
15.000	89.8	29.673	0.42	19.69	19.79		0.310	0.210		0.260

		σ	AS	Δs
0.7 σ_1	0.35	0.18	0.105	0.2
0.3 σ_1	0.15	0.075		
0.7 σ_2	0.35	0.14056	0.06555	0.2
0.3 σ_2	0.15	0.175		
D (mm)	300			
E_{v1}	428.57			
E_{v2}	688.45			
Area $\times$ Sq. m	0.07065			

E_{s2}/E_{s1}	1.60		
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$$E_s = 3.75 \times D \times \Delta \sigma / \Delta s$$

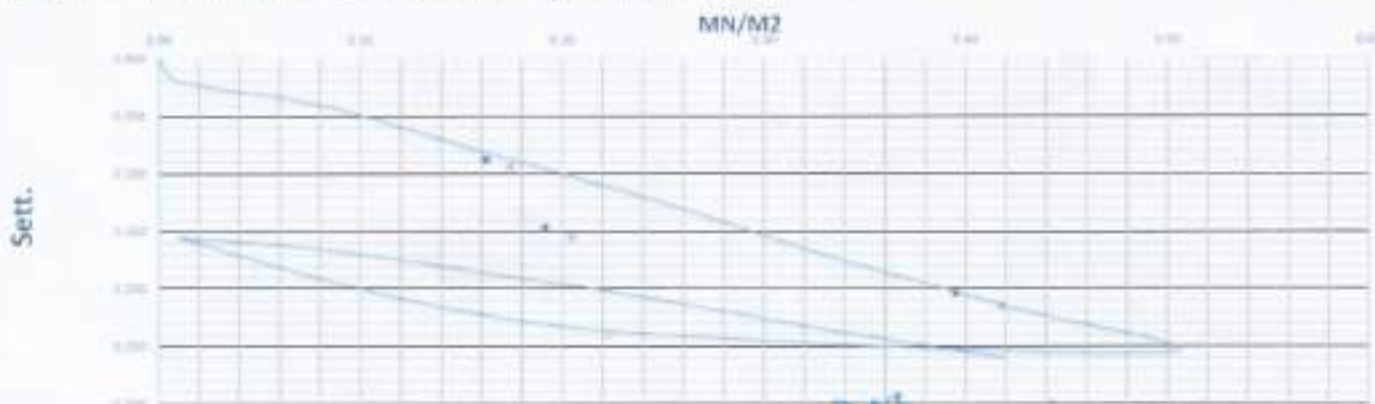
E_s = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δs and $\Delta \sigma$ are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max}



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : *[Signature]*

Sign :



Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH		
Location	510+900	To	511+100
Test Date	09/10/2023		
Layer level	BED EXCAVATION		

Station	511+050
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.95	19.88		0.050	0.120		0.085
2.000	17.1	5.652	0.08	19.80	19.55		0.200	0.450		0.325
3.000	34.2	11.304	0.16	19.50	19.10		0.500	0.900		0.700
4.000	53.3	17.663	0.25	19.48	18.93		0.520	1.070		0.795
5.000	70.5	23.315	0.33	19.25	18.65		0.750	1.350		1.050
6.000	89.8	29.673	0.42	19.05	18.35		0.950	1.650		1.300
7.000	106.8	35.325	0.50	18.80	18.00		1.200	2.000		1.600
8.000	53.4	17.663	0.25	18.90	18.12		1.100	1.880		1.490
9.000	26.7	8.831	0.12	19.00	18.29		1.000	1.710		1.355
9.000	2.1	0.707	0.01	19.20	18.55		0.800	1.450		1.125
10.000	2.1	0.707	0.01	19.20	18.55		0.800	1.450		1.125
11.000	17.1	5.652	0.08	19.17	18.52		0.830	1.480		1.155
12.000	34.2	11.304	0.16	19.12	18.42		0.880	1.580		1.230
13.000	53.3	17.663	0.25	19.05	18.30		0.950	1.700		1.325
14.000	70.5	23.315	0.33	18.97	18.18		1.030	1.820		1.425
15.000	89.8	29.673	0.42	18.91	18.12		1.090	1.880		1.485

	σ	AS	AS
0.7 σ_c	0.35	1.0375	0.38437
0.3 σ_c	0.15	0.65312	
0.7 σ_u	0.35	1.43833	0.25333
0.3 σ_u	0.15	1.185	
D (mm)	300		
Ev ₁	113.07		
Ev ₂	173.63		
Area (Sq.m)	0.07069		

Ev2/Ev1	1.52		
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$$E_s = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

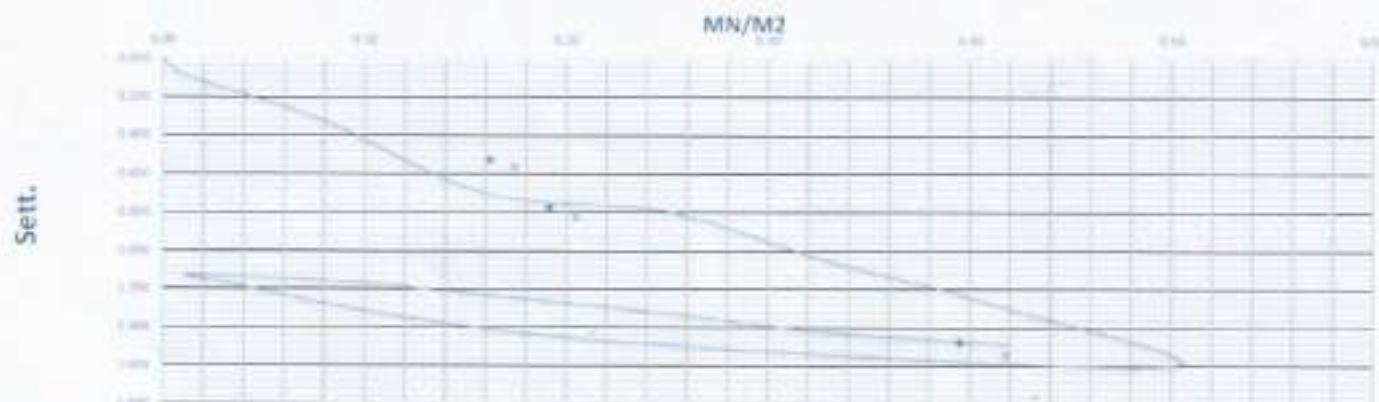
E_s = deformation modulus

D_s = load increment

D_s = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \sigma$ and Δs are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max} .



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH			
Location	511+100	To	511+300	
Test Date	09/10/2023			
Layer level	BED EXCAVATION			

Station	511+158
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.91	19.92		0.090	0.080		0.085
2.000	17.1	5.652	0.08	19.75	19.90		0.250	0.100		0.175
3.000	34.2	11.304	0.16	19.63	19.90		0.370	0.100		0.235
4.000	53.3	17.663	0.25	19.45	19.88		0.550	0.120		0.335
5.000	70.5	23.315	0.33	19.34	19.87		0.660	0.130		0.395
6.000	89.8	29.673	0.42	19.20	19.85		0.800	0.150		0.475
7.000	106.8	35.325	0.50	19.05	19.80		0.950	0.200		0.575
8.000	53.4	17.663	0.25	19.10	19.73		0.900	0.270		0.585
9.000	26.7	8.831	0.12	19.15	19.76		0.850	0.240		0.545
9.000	2.1	0.707	0.01	19.22	19.83		0.780	0.170		0.475
10.000	2.1	0.707	0.01	19.22	19.83		0.780	0.170		0.475
11.000	17.1	5.652	0.08	19.21	19.82		0.790	0.180		0.485
12.000	34.2	11.304	0.16	19.18	19.80		0.820	0.200		0.510
13.000	53.3	17.663	0.25	19.12	19.76		0.880	0.240		0.560
14.000	70.5	23.315	0.33	19.08	19.73		0.920	0.270		0.595
15.000	89.8	29.673	0.42	19.04	19.70		0.960	0.300		0.630

		σ	AS	Δs
0.7 σ_1	0.35	0.3875	0.16	0.2
0.3 σ_1	0.15	0.2275		
0.7 σ_2	0.35	0.40278	0.10778	0.2
0.3 σ_2	0.15	0.495		
D (mm)	300			
E_{v1}	281.25			
E_{v2}	417.53			
Area (Square)	0.07065			

E_{v2}/E_{v1}	1.48		
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$$E_v = 3.75 \cdot D \cdot \Delta s / \Delta \sigma$$

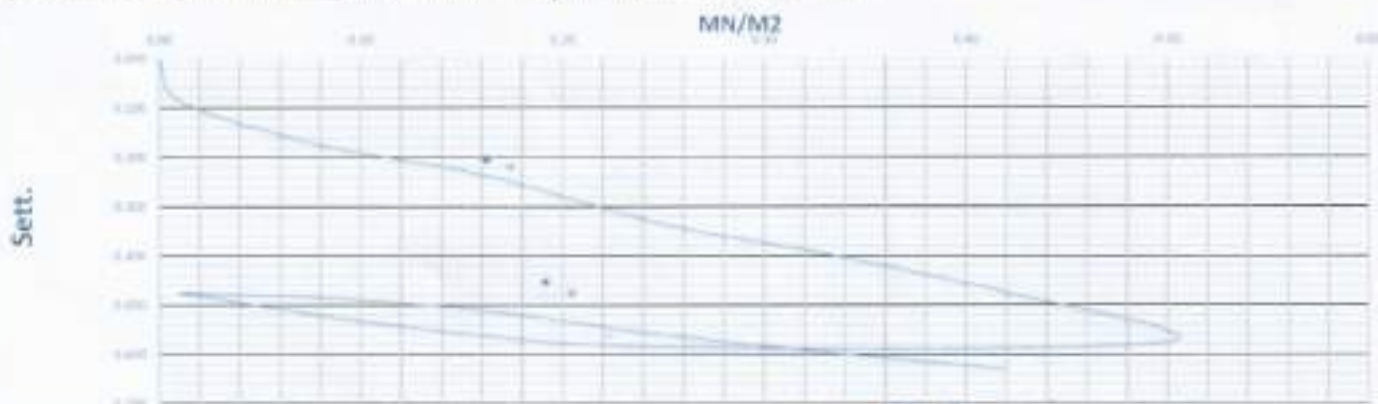
E_v = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δs and $\Delta \sigma$ are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max}



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH		
Location	511+100	To	511+300
Test Date	09/10/2023		
Layer level	BED EXCAVATION		

Station	511+250
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MPa/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.97	19.98		0.030	0.020		0.025
2.000	17.1	5.652	0.08	19.80	19.89		0.200	0.110		0.155
3.000	34.2	11.304	0.16	19.65	19.72		0.350	0.280		0.315
4.000	53.3	17.663	0.25	19.50	19.57		0.500	0.430		0.465
5.000	70.5	23.315	0.33	19.35	19.45		0.650	0.550		0.600
6.000	89.8	29.673	0.42	19.24	19.33		0.760	0.670		0.715
7.000	106.8	35.325	0.50	19.15	19.22		0.850	0.780		0.815
8.000	53.4	17.663	0.25	19.18	19.28		0.820	0.720		0.770
9.000	26.7	8.831	0.12	19.25	19.38		0.750	0.620		0.685
9.000	2.1	0.707	0.01	19.40	19.52		0.600	0.480		0.540
10.000	2.1	0.707	0.01	19.40	19.52		0.600	0.480		0.540
11.000	17.1	5.652	0.08	19.35	19.48		0.650	0.520		0.585
12.000	34.2	11.304	0.16	19.28	19.42		0.720	0.580		0.650
13.000	53.3	17.663	0.25	19.22	19.35		0.780	0.650		0.715
14.000	70.5	23.315	0.33	19.17	19.30		0.830	0.700		0.765
15.000	89.8	29.673	0.42	19.16	19.24		0.840	0.760		0.800

		s	ΔS	Δe
0.7 σ_1	0.35	0.4275	0.3325	0.2
0.3 σ_1	0.15	0.295		
0.7 σ_2	0.35	0.77278	0.14277	0.2
0.3 σ_2	0.15	0.63		
D (mm)	300			
Ev ₁	135.34			
Ev ₂	315.19			
Area (Square)	0.07065			

E-2/E-1	2.33		
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$$E_s = 0.75 \cdot D \cdot \Delta \sigma / \Delta s$$

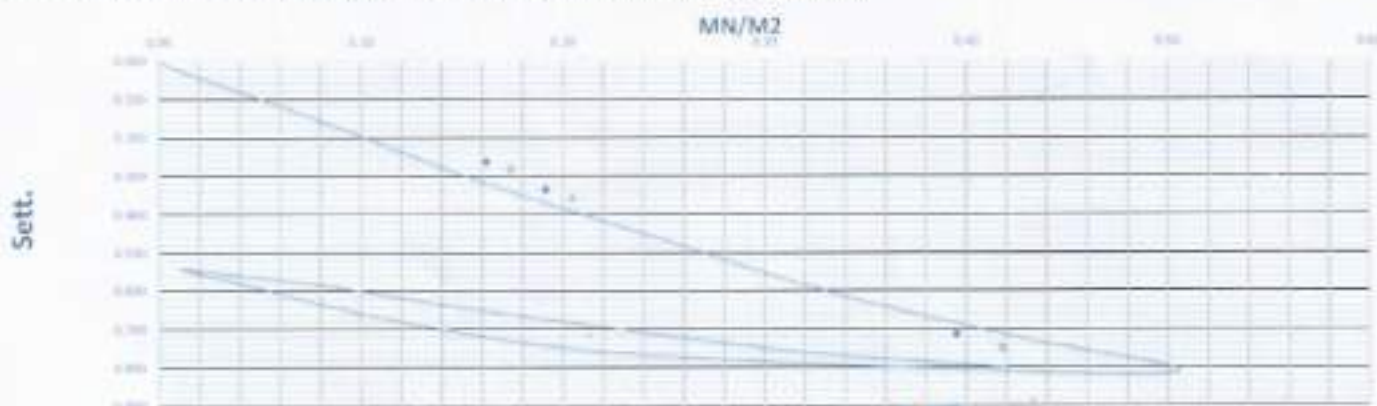
E_s = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \sigma$ and Δs are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max}



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Sign :





Owner/Consultant	Contractor/Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH		
Location	511+300	To	511+500
Test Date	09/10/2023		
Layer level	BED EXCAVATION		

Station	511+350
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.80$ m and $D = 0.762$ m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MPa/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.95	19.97		0.050	0.030		0.040
2.000	17.1	5.652	0.08	19.70	19.74		0.300	0.260		0.280
3.000	34.2	11.304	0.16	19.45	19.50		0.550	0.500		0.525
4.000	53.3	17.663	0.25	19.30	19.30		0.700	0.700		0.700
5.000	70.5	23.315	0.33	19.20	19.15		0.800	0.850		0.825
6.000	89.8	29.673	0.42	19.10	19.08		0.900	0.920		0.910
7.000	106.8	35.325	0.50	18.95	18.90		1.050	1.100		1.075
8.000	53.4	17.663	0.25	19.00	18.92		1.000	1.080		1.040
9.000	26.7	8.831	0.12	19.05	18.95		0.950	1.050		1.000
9.000	2.1	0.707	0.01	19.10	19.01		0.900	0.990		0.945
10.000	2.1	0.707	0.01	19.10	19.01		0.900	0.990		0.945
11.000	17.1	5.652	0.08	19.09	19.00		0.910	1.000		0.955
12.000	34.2	11.304	0.16	19.07	18.98		0.930	1.020		0.975
13.000	53.3	17.663	0.25	19.03	18.95		0.970	1.050		1.010
14.000	70.5	23.315	0.33	19.00	18.94		1.000	1.060		1.030
15.000	89.8	29.673	0.42	18.98	18.92		1.020	1.080		1.050

		σ	AS	AS
0.7 σ_1	0.35	0.76542	0.27125	0.2
0.3 σ_1	0.15	0.49438		
0.7 σ_2	0.35	1.03444	0.86944	0.2
0.3 σ_2	0.15	0.965		
D (mm)	300			
E_v	165.90			
E_v	648.81			
Area (Square)	0.07067			

E_v/E_v	3.91		
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$$E_v = 0.71 \cdot D \cdot \Delta \sigma / \Delta s$$

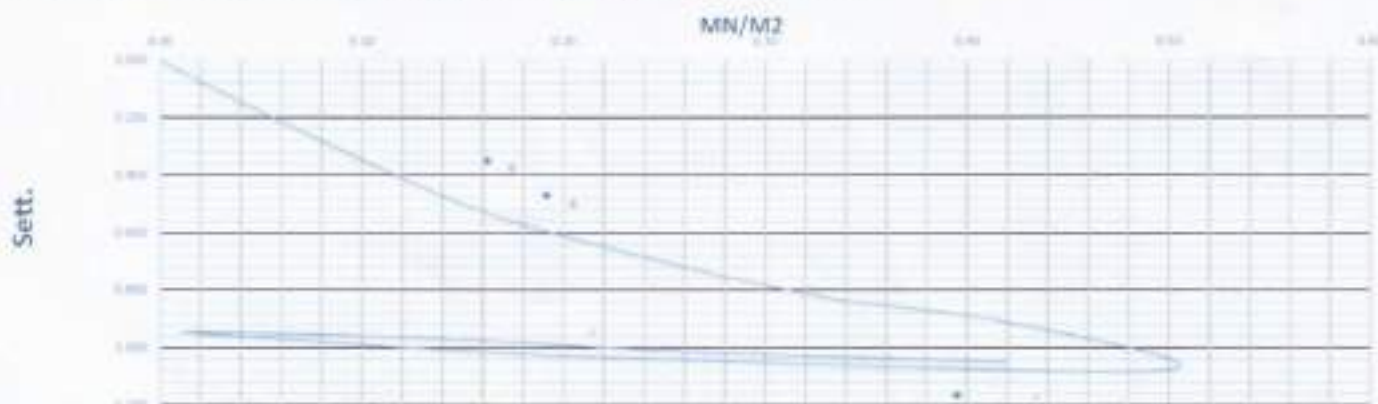
E_v = deformation modulus

D_s = load increment

D_s = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation $\Delta \sigma$ and Δs are usually taken from the load span between 0.3 σ_{max} and 0.7 σ_{max} .



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consulting Engineer

Name : 9/10/2023

Sign :



Owner/Consultant	Contractor/Consultant	CENTRAL LAB	Contractor	Owner
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Plate Load Test Results

Company Name	AL HAYAH		
Location	511+300	To	511+500
Test Date	09/10/2023		
Layer level	BED EXCAVATION		

Station	511+450
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EQUIPMENT AND TEST PROCEDURE :-

The diameter D of the plate is generally 0.30 m. For very coarse grained material also plates with diameter $D = 0.60$ m and $D = 0.762$ m are used

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable and (< 0.02 mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.95	19.99		0.050	0.010		0.030
2.000	17.1	5.652	0.08	19.89	19.90		0.110	0.100		0.105
3.000	34.2	11.304	0.16	19.81	19.79		0.190	0.210		0.200
4.000	53.3	17.663	0.25	19.72	19.64		0.280	0.360		0.320
5.000	70.5	23.315	0.33	19.70	19.55		0.300	0.450		0.375
6.000	89.8	29.673	0.42	19.64	19.45		0.360	0.550		0.455
7.000	106.8	35.325	0.50	19.59	19.30		0.410	0.700		0.555
8.000	53.4	17.663	0.25	19.62	19.40		0.380	0.600		0.490
9.000	26.7	8.831	0.12	19.68	19.50		0.320	0.500		0.410
9.000	2.1	0.707	0.01	19.78	19.69		0.220	0.310		0.265
10.000	2.1	0.707	0.01	19.78	19.69		0.220	0.310		0.265
11.000	17.1	5.652	0.08	19.73	19.65		0.270	0.350		0.310
12.000	34.2	11.304	0.16	19.70	19.56		0.300	0.440		0.370
13.000	53.3	17.663	0.25	19.65	19.50		0.350	0.500		0.425
14.000	70.5	23.315	0.33	19.62	19.41		0.380	0.590		0.485
15.000	89.8	29.673	0.42	19.59	19.33		0.410	0.670		0.540

		σ	AS	Δs
$0.3 \sigma_1$	0.35	0.3675	0.17937	0.2
$0.3 \sigma_1$	0.15	0.18813		
$0.7 \sigma_2$	0.35	0.49122	0.14222	0.2
$0.3 \sigma_2$	0.15	0.355		
D (mm)	300			
E_{v1}	250.87			
E_{v2}	316.42			
Area (Sq.m)	0.07065			

$E = 2E_v$	1.26		
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$$E_v = \frac{E_s}{1 + \mu} = \frac{D \cdot \Delta \sigma}{\Delta s}$$

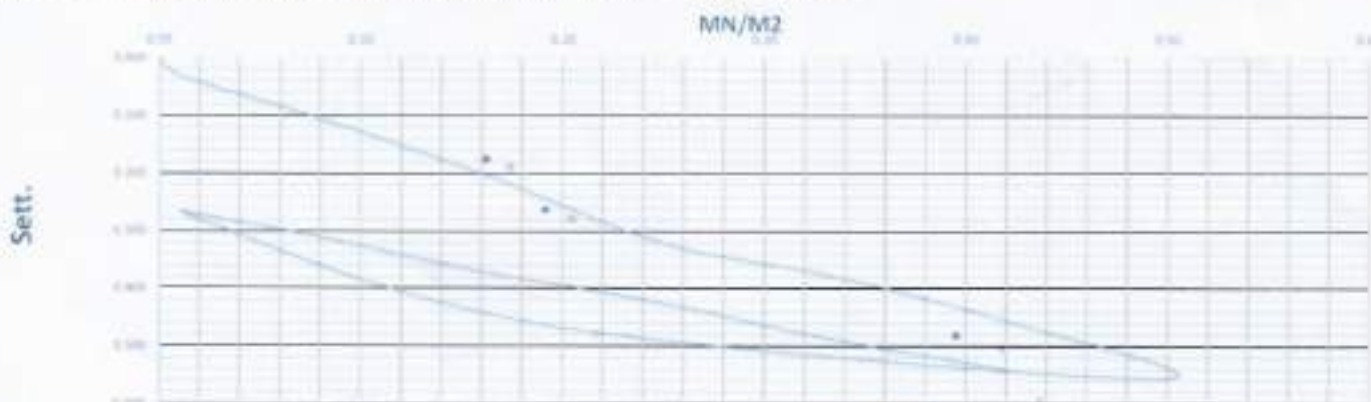
E_s = deformation modulus

$\Delta \sigma$ = load increment

Δs = settlement increment

D = diameter of the plate, generally 0.30 m

For this calculation Δs and $\Delta \sigma$ are usually taken from the load span between $0.3 \sigma_{max}$ and $0.7 \sigma_{max}$



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : 9/10/2023

Sign :

