

|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <b>MATERIAL<br/>INSPECTION<br/>REQUEST</b> |       |  |  |
|                                            | <p>الهيئة العامة للإشراف<br/>الهيئة العامة للإشراف<br/>الهيئة العامة للإشراف</p>                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |

|                      |                  |                                                                                   |            |                  |    |    |    |    |      |    |   |
|----------------------|------------------|-----------------------------------------------------------------------------------|------------|------------------|----|----|----|----|------|----|---|
| Contractor Company   | YOUSEF NEGIDA 3  |                                                                                   |            | Designer Company |    |    |    |    |      |    |   |
| Issued by Contractor | Name             | Sign                                                                              | Date       | Time             |    |    |    |    |      |    |   |
|                      | Eng/Shehab Hamdi |  | 31-10-2023 |                  |    |    |    |    |      |    |   |
| Contractor Reference | YN3-SUB 3        |                                                                                   |            |                  |    |    |    |    |      |    |   |
| Received by ER       |                  |                                                                                   | MIR        | C1               | C2 | C3 | DD | M  | YY   | HH | M |
|                      |                  |                                                                                   |            |                  |    |    | 31 | 10 | 2023 |    |   |

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

|                          |                                           |                                                                                      |              |              |      |
|--------------------------|-------------------------------------------|--------------------------------------------------------------------------------------|--------------|--------------|------|
| Description of Materials | Curshed Stone SUB-Ballast Material Result |                                                                                      |              |              |      |
| Location to be Used      | 546+000                                   | 546+100                                                                              | 0.70+        |              |      |
|                          | 546+100                                   | 546+200                                                                              | 0.70+        |              |      |
|                          | 546+500                                   | 546+600                                                                              | 0.70+        |              |      |
|                          | 546+300                                   | 546+400                                                                              | 0.90+        |              |      |
|                          | 546+400                                   | 546+500                                                                              | 0.90+        |              |      |
|                          | 546+500                                   | 546+600                                                                              | 0.90+        |              |      |
|                          | 546+000                                   | 546+100                                                                              | 0.90+        |              |      |
|                          | 546+100                                   | 546+200                                                                              | 0.90+        |              |      |
| MAR Approval No          | YN3-SUB 3                                 |                                                                                      | Date         |              |      |
| Supplier Name            |                                           |                                                                                      |              |              |      |
| Test Requirement         | Specification                             |                                                                                      | Clause       |              |      |
| Reference Photos         | Yes attached / No                         |                                                                                      | Other        |              |      |
| Item                     | Description                               | Unit                                                                                 | Quantity     | Arrival Date | Note |
| 1                        | L.I & P.I & O.M.C %                       | m3                                                                                   | 2400         | 29-10-2023   |      |
| 2                        | Proctor                                   | m3                                                                                   | 2400         | 30-10-2023   |      |
| 3                        | Classification                            | m3                                                                                   | 2400         | 29-10-2023   |      |
| 4                        | Sieve Analysis                            | m3                                                                                   | 2400         | 29-10-2023   |      |
| 5                        | C.B.R                                     | m3                                                                                   | 2400         | 31-10-2023   |      |
| 6                        | L.A                                       | m3                                                                                   | 2400         | 31-10-2023   |      |
| Comments by:             |                                           |                                                                                      | Comments by: |              |      |
|                          |                                           |                                                                                      |              |              |      |
| APPROVAL STATUS          |                                           |                                                                                      |              |              |      |
| Organisation             | Name                                      | Sign                                                                                 | Date         | A-AWC-R      |      |
| Contractor               | Eng/ Shehab Hamdi                         |  |              |              |      |
| QA/QC *                  | Abdullah SAMY                             |  |              |              |      |
| GARB**                   |                                           |                                                                                      |              |              |      |
| Employers Representative |                                           |                                                                                      |              |              |      |

\* Designer

\*\* Alignment / Bridges: Culvert Only

# MATERIAL APPROVAL REQUEST

المجلس  
للمواد والبنية  
(GARBL)



ENGINEERING CONSULTING OFFICE  
المكتب الاستشاري الهندسي  
أ. د. خالد شندب

الهيئة العامة للإسكان  
General Housing Authority  
GHA



|                        |                    |      |                  |      |
|------------------------|--------------------|------|------------------|------|
| Location Name          | Contractor Company |      | Designer Company |      |
| Electric express train | YOUSEF NEGIDA3     |      | k.k              |      |
| Issued by Contractor   | Name               | Sign | Date             | Time |
|                        | Eng/Shehab Hamdi   |      | 31-10-2023       |      |
| Contractor Reference   | YN3-SUB 3          |      |                  |      |
| Received by ER         |                    |      | MAR              |      |
|                        |                    |      |                  |      |

|                                                   |                      |                       |                             |         |
|---------------------------------------------------|----------------------|-----------------------|-----------------------------|---------|
| The Following Test Result are Attached For Review |                      |                       |                             |         |
| Description of Materials                          | SUB -BALLAST (A-1-a) |                       |                             |         |
| Location to be Used                               | 547+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 | 5.4 %                       |         |
| 4                                                 | ASTM D 4318          | Atterberg limit       | N.P                         |         |
| 5                                                 | ASTM D 2974          | Moisture content      | 7.8 %                       |         |
| 6                                                 | ASTM D 1557          | Modified proctor      | 2.235                       |         |
| 7                                                 | ASTM D 1883          | CBR                   | 104.5%                      |         |
| 8                                                 | AASHTO-T96           | L.A                   | 22 %                        |         |
| Comments by:                                      |                      |                       | Comments by:                |         |
|                                                   |                      |                       |                             |         |

| APPROVAL STATUS          |                  |      |      |         |
|--------------------------|------------------|------|------|---------|
| Organisation             | Name             | Sign | Date | A-AWC-R |
| Contractor               | Eng/Shehab Hamdi |      |      |         |
| QA/QC *                  | Abdallah SAMY    |      |      |         |
| GARB**                   |                  |      |      |         |
| Employers Representative |                  |      |      |         |

\* Designer

\*\* Alignment/Bridges: Culvert only

|                                                                              |                                                                                                                                                                                |                                     |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <br>K.K. KORDA<br>LABORATORY<br>١٠٠٠٠٠٠٠٠٠٠٠٠<br>LABORATORY<br>١٠٠٠٠٠٠٠٠٠٠٠٠ | <b>Electric Express Train - HSR</b><br>From El Ain El Sofhaz City To El Alamein - MATROUH<br>Section - 7 From FOKA To MARSA MATROUH<br>From Station 544+000 To Station 548+177 | <br>وزارة النقل والاقتصاد<br>(MTEA) |
| Operating Lab<br><b>Negida Central Lab</b>                                   |                                                                                                                                                                                |                                     |

### PARTICLE SIZE DISTRIBUTION OF SUB-BALLAST

|               |                 |           |      |              |            |
|---------------|-----------------|-----------|------|--------------|------------|
| TESTING DATE: | 29-10-2023      | Code      |      | FROM STATION | TO STATION |
| LOCATION      | K.P 547+500     | YN3-SUB 3 | Zone | 546+000      | 549+000    |
| COMPANY NAME  | YOUSEF NEGIDA 3 |           |      |              |            |
| MATERIALS     | SUB-BALLAST     |           |      |              |            |

1-visual inspection test

2-Gradient test

| A-gradation of bulk materials |       |        |        | SAMPLE WEIGHT (g) |         | 74456.00 |         | gm   | Table classify |        |
|-------------------------------|-------|--------|--------|-------------------|---------|----------|---------|------|----------------|--------|
| sieve size                    | 2     | 1.5    | 1      | 4/3               | 2/1     | 8/3      | # 4     | PASS | Soil Classify  | A-1-a  |
| Mass retained (g)             | 0.0   | 1598.0 | 6367.0 | 13960.0           | 5657.0  | 9232.0   | 9430.3  |      | PRO            | 2.235  |
| Cumulative Retained (g)       | 0.0   | 1598.0 | 7965.0 | 21925.0           | 26982.0 | 36214.0  | 45652.0 |      | WC             | 7.80   |
| Cumulative Retained %         | 0.0   | 2.1    | 10.7   | 29.4              | 36.2    | 48.6     | 61.3    |      | CBR            | 104.5% |
| Cumulative Passing %          | 100.0 | 97.9   | 89.3   | 70.6              | 63.8    | 51.4     | 38.7    |      | Los Angeles    | 22     |
|                               |       |        |        |                   |         |          |         |      | Absorption     | 1.418  |
|                               |       |        |        |                   |         |          |         |      | SP.Gravity     | 2.550  |

| B-soft material gradation |        |        |        | WT.OF sample |  | 500.00 |  | gm |
|---------------------------|--------|--------|--------|--------------|--|--------|--|----|
| sieve size                | 10     | 40     | 200    |              |  |        |  |    |
| Cumulative Retained (g)   | 122.00 | 298.00 | 430.00 |              |  |        |  |    |
| Cumulative Retained %     | 24.40  | 59.60  | 86.00  |              |  |        |  |    |
| Cumulative Passing %      | 75.60  | 40.40  | 14.00  |              |  |        |  |    |

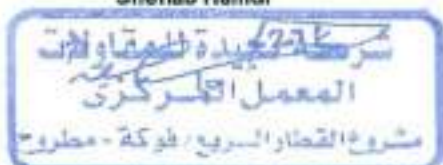
| C-General gradient   |       |      |      |         |      |         |      |        |       |       |
|----------------------|-------|------|------|---------|------|---------|------|--------|-------|-------|
| sieve size(in)       | 2     | 1.5  | 1    | 3/4     | 1/2  | 3/8     | # 4  | # 10   | # 40  | # 200 |
| sieve size(mm)       | 50.0  | 37.5 | 25.0 | 19.0    | 12.5 | 9.5     | 4.75 | 2.00   | 0.425 | 0.075 |
| Cumulative Passing % | 100.0 | 97.9 | 89.3 | 70.6    | 63.8 | 51.4    | 38.7 | 29.2   | 15.8  | 5.4   |
| SPECIFICATION        | —     | 97   | —    | 70 — 75 | —    | 15 — 60 | —    | 8 — 35 | —     | 0 — 7 |
|                      |       |      |      |         |      |         |      |        |       |       |
|                      |       |      |      |         |      |         |      |        |       |       |

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

Contractor

Shehab Hamdi

Consultant



*Abdel Salam*



Electric Express Train - HSR  
From El Ain El Sokhna City To El Alamein - MATROUH  
Section - 7 From FOKA TO MARSA MATROUH  
From Station 544+000 To Station 549+000



## PROCTOR TEST (SUB-BALLAST)

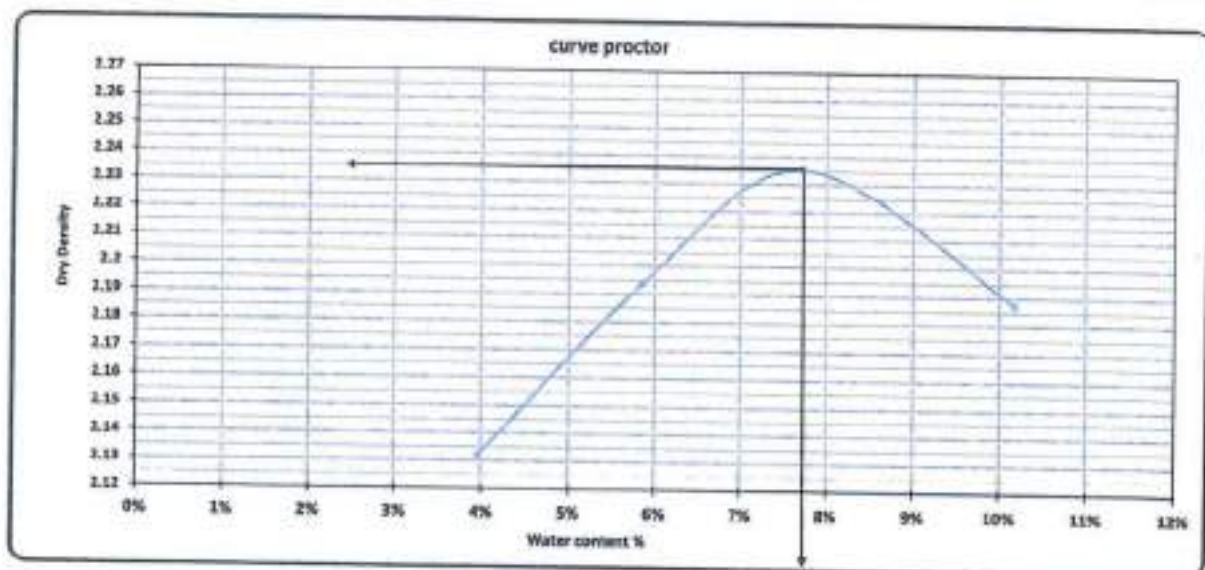
|               |                |           |      |         |         |
|---------------|----------------|-----------|------|---------|---------|
| TESTING DATE: | 30-10-2023     | Code      | zone | FROM    | TO      |
| LOCATION      | K.P 547+500    | YWG-BUD 3 |      | 546+000 | 549+000 |
| COMPANY NAME  | YUSEF NEGIDA 3 |           |      |         |         |

|                        |        |
|------------------------|--------|
| Weight of empty mold : | 5747.8 |
| Mold Volume:           | 2115.0 |

|                 |       |
|-----------------|-------|
| MAX Dry Density | 2.235 |
| Water content % | 7.8   |

|                       |         |         |         |         |  |
|-----------------------|---------|---------|---------|---------|--|
| trial no :            | 1       | 2       | 3       | 4       |  |
| Wt. Of Molde wet soil | 10435.8 | 10658.8 | 10800.0 | 10844.8 |  |
| WT. WET SOIL          | 4688.8  | 4911.8  | 5093.8  | 5097.8  |  |
| Wt. Density           | 2.217   | 2.322   | 2.408   | 2.418   |  |

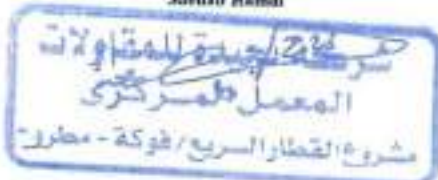
|                        |        |        |        |        |        |        |        |        |  |  |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Tare No.               | 6      | 19     | 13     | 17     | 15     | 7      | 15     | 40     |  |  |
| Tare wt.               | 42.2   | 44.1   | 53.6   | 53.2   | 30.9   | 46     | 30.8   | 46.3   |  |  |
| Wt. Of wet soil & tare | 156.0  | 158.0  | 150.0  | 150.8  | 150.0  | 158.8  | 159.8  | 150.0  |  |  |
| Wt. Of dry soil & tare | 145.80 | 146.95 | 144.63 | 144.68 | 141.59 | 142.58 | 139.10 | 143.32 |  |  |
| Wt. Of water           | 4.2    | 3.5    | 5.4    | 5.3    | 8.5    | 7.5    | 10.9   | 6.7    |  |  |
| Wt. Of dry soil        | 103.6  | 102.0  | 91.8   | 91.3   | 110.6  | 95.5   | 108.3  | 94.1   |  |  |
| Water content %        | 4.1%   | 3.5%   | 5.9%   | 5.8%   | 7.7%   | 7.8%   | 10.1%  | 10.3%  |  |  |
| AV. Water content %    | 4.0%   |        | 5.5%   |        | 7.7%   |        | 10.2%  |        |  |  |
| Dry Density            | 2.152  |        | 2.194  |        | 2.236  |        | 2.187  |        |  |  |



Contractor

Shahab Hamdi

Consultant



Handwritten signature of the Consultant.

|                                                                                                                                                                        |                                                                                                      |                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------|
|  <p>ENGINEERING CONSULTING OFFICE<br/>المكتب الاستشاري الهندسي<br/>أ.م. خالد خديج</p> |  <p>مصر<br/>مصر</p> | Electric Express Train - HSR                       |
|                                                                                                                                                                        |                                                                                                      | From El Ain El Solhna City To El Alamein - MATROUH |
|                                                                                                                                                                        |                                                                                                      | Section - 7 From FOKA To MARSA MATROUH             |
| Free Station 50+000 To Station 508+177                                                                                                                                 |                                                                                                      |                                                    |

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

**SUB-BALLAST**

|               |                 |           |      |         |         |
|---------------|-----------------|-----------|------|---------|---------|
| TESTING DATE: | 31-10-2023      | code      | zone | FROM    | TO      |
| LOCATION      | K.P 547+500     | YNS-SUB 3 |      | 546+000 | 549+000 |
| COMPANY NAME  | YOUSEF NEGIDA 3 |           |      |         |         |

|                                             |      |    |
|---------------------------------------------|------|----|
| Weight of sample Before Test                | —    | gm |
| Weight of saturated -dry surface sample (B) | 4295 | gm |
| Weight of saturated sample in water (C)     | 2827 | gm |
| Weight of dry sample after heating (A)      | 4236 | gm |

**Results:-**

|                                         |       |   |
|-----------------------------------------|-------|---|
| Bulk specific gravity = $A / (B-C)$     | 2.538 |   |
| Apparent specific gravity = $A / (A-C)$ | 2.633 |   |
| Absorption = $(B-A)/A$                  | 1.416 | % |

**Los Anglos abrasion AASHTO-T96**

**Results:-**

|                                   |                                  |                    |
|-----------------------------------|----------------------------------|--------------------|
| Weight of sample before test (gm) | Weight of sample after test (gm) | Abrasion ratio (%) |
| 5000                              | 3890                             | 22                 |

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Shehab Hamdi

Sign :



Consultant Engineer

Name :



Sign :

|                                                                                                                                                                     |                              |                    |                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Electric Express Train - HSR |                    |   |
|                                                                                                                                                                     | Operating Lab:               | Negida Central Lab |                                                                                                                                                                         |

### California Bearing Ratio TEST

|                |                 | SUB-BALLAST |      |         |         |
|----------------|-----------------|-------------|------|---------|---------|
| Testing Date : | 31-10-2023      | Code        | ZONE | FROM    | TO      |
| Location :     | K.P 547+500     | YN3-SUB 3   |      | 546+000 | 549+000 |
| COMPANY NAME   | YOUSEF NEGIDA 3 |             |      |         |         |

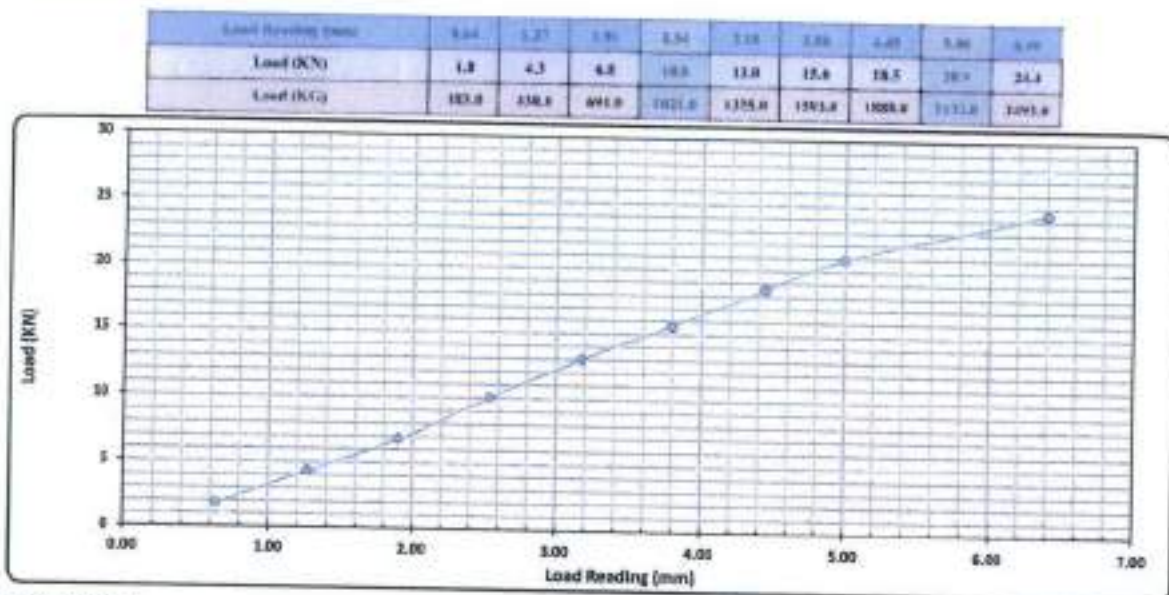
#### Test Results

| Compaction % for Mold                |       |
|--------------------------------------|-------|
| Mold No.                             | 5     |
| Mold Vol. (cm <sup>3</sup> )         | 2000  |
| Mold WT. (gms)                       | 8668  |
| Mold WT. + Wet WT. (gms)             | 13077 |
| Wet WT. (gms)                        | 5609  |
| Wet Density (g/cm <sup>3</sup> )     | 2.488 |
| Dry Density (g/cm <sup>3</sup> )     | 2.131 |
| Proctor Density (g/cm <sup>3</sup> ) | 2.256 |
| Compaction %                         | 100   |

| Moisture Ratio After Compacted Mold |        |
|-------------------------------------|--------|
| Tare No.                            | 7      |
| Tare WT. (gms)                      | 40     |
| Tare WT. + Wet WT. (gms)            | 193.26 |
| Tare WT. + Dry WT. (gms)            | 185    |
| Water WT. (gms)                     | 18.9   |
| Dry WT. (gms)                       | 137.0  |
| Moisture Content %                  | 1.6    |

| Swelling            |            |
|---------------------|------------|
| Mold No.            | 5          |
| Date                | 31-10-2023 |
| Initial Height (mm) | 0.99       |
| Final Height (mm)   | 0.00       |
| Difference          | 0          |
| Sample Height (mm)  | 136.40     |
| Swelling Ratio %    | 0.0%       |

#### Loading Reading :



#### Calculations :-

| Penetration | Load  | Standard Load | CBR    | Wet - Compaction | Compaction | CBR    |
|-------------|-------|---------------|--------|------------------|------------|--------|
| (mm)        | (KN)  | (kg)          | (%)    | (%)              | (%)        | (%)    |
| 2.50        | 14.01 | 11.4          | 76.9%  | 100              | 100        | 75.1%  |
| 5.00        | 28.89 | 24.0          | 104.7% |                  |            | 104.5% |

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Shihab Hamid  
 شهاب حميد  
 مهندس  
 مشروع القطار السريع / هوكة - مطروح

Consultant Engineer

Name :

Sign :

# MATERIAL INSPECTION REQUEST



|                      |                  |      |            |                  |    |    |    |    |      |    |   |
|----------------------|------------------|------|------------|------------------|----|----|----|----|------|----|---|
| Contractor Company   | YOUSSEF NEGIDA 3 |      |            | Designer Company |    |    |    |    |      |    |   |
| Issued by Contractor | Name             | Sign | Date       | Time             |    |    |    |    |      |    |   |
|                      | Eng/Shehab Hamdi |      | 29-10-2023 |                  |    |    |    |    |      |    |   |
| Contractor Reference | YN3-SUB 2        |      |            |                  |    |    |    |    |      |    |   |
| Received by ER       |                  |      | MIR        | C1               | C2 | C3 | DD | M  | YY   | HH | M |
|                      |                  |      |            |                  |    |    | 29 | 10 | 2023 |    |   |

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

| Description of Materials | Curshed Stone SUB-Ballast Material Result |         |       |
|--------------------------|-------------------------------------------|---------|-------|
| Location to be Used      | 548+080                                   | 548+180 | 0.90+ |
|                          | 548+180                                   | 548+280 | 0.90+ |
|                          | 548+280                                   | 548+380 | 0.90+ |
|                          | 548+380                                   | 548+480 | 0.90+ |
|                          | 548+480                                   | 548+580 | 0.90+ |
|                          | 548+580                                   | 548+680 | 0.90+ |
|                          | 548+680                                   | 548+780 | 0.90+ |
|                          | 548+780                                   | 548+880 | 0.90+ |
|                          | 548+880                                   | 548+980 | 0.90+ |
|                          | 547+280                                   | 547+380 | 0.90+ |
|                          | 547+380                                   | 547+480 | 0.90+ |
|                          | 547+480                                   | 547+580 | 0.90+ |
|                          | 547+580                                   | 547+680 | 0.90+ |
|                          | 547+680                                   | 547+780 | 0.90+ |
|                          | 547+780                                   | 547+900 | 0.90+ |
|                          | 546+300                                   | 546+400 | 0.70+ |
|                          | 546+400                                   | 546+500 | 0.70+ |

|                  |                   |        |  |
|------------------|-------------------|--------|--|
| MAR Approval No  | YN3-SUB 2         | Date   |  |
| Supplier Name    |                   |        |  |
| Test Requirement | Specification     | Clause |  |
| Reference Photos | Yes attached / No | Other  |  |

| Item | Description        | Unit | Quantity | Arrival Date | Note |
|------|--------------------|------|----------|--------------|------|
| 1    | LL & P.L & O.M.C % | m3   | 5000     | 26-10-2023   |      |
| 2    | Proctor            | m3   | 5000     | 28-10-2023   |      |
| 3    | Classification     | m3   | 5000     | 26-10-2023   |      |
| 4    | Sieve Analysis     | m3   | 5000     | 26-10-2023   |      |
| 5    | C.B.R              | m3   | 5000     | 29-10-2023   |      |
| 6    | LA                 | m3   | 5000     | 29-10-2023   |      |

|              |              |
|--------------|--------------|
| Comments by: | Comments by: |
|              |              |

| APPROVAL STATUS          |                   |      |      |         |
|--------------------------|-------------------|------|------|---------|
| Organisation             | Name              | Sign | Date | A-AWC-R |
| Contractor               | Eng/ Shehab Hamdi |      |      |         |
| QA/QC *                  |                   |      |      |         |
| GARB **                  |                   |      |      |         |
| Employers Representative |                   |      |      |         |

\* Designer  
\*\* Alignment / Bridges: Culvert Only

# MATERIAL APPROVAL REQUEST

المجلس  
التقني  
للمواصلات  
(SARL)



**KK**  
ENGINEERING CONSULTING OFFICE  
المكتب الاستشاري الهندسي  
أ. ج. خالد كركول

الهيئة العامة للإعانة  
الهيئة العامة للإعانة



|                        |                    |      |            |                  |    |    |    |      |    |   |
|------------------------|--------------------|------|------------|------------------|----|----|----|------|----|---|
| Location Name          | Contractor Company |      |            | Designer Company |    |    |    |      |    |   |
| Electric express train | YUSEF NEGIDA3      |      |            | k.k              |    |    |    |      |    |   |
| Issued by Contractor   | Name               | Sign | Date       | Time             |    |    |    |      |    |   |
|                        | Eng/Shehab Hamdi   |      | 29-10-2023 |                  |    |    |    |      |    |   |
| Contractor Reference   | YN3-SUB 2          |      |            |                  |    |    |    |      |    |   |
| Received by ER         |                    |      | MAR        | C2               | C3 | DD | M  | YY   | HH | M |
|                        |                    |      |            |                  |    | 29 | 10 | 2023 |    |   |

| The Following Test Result are Attached For Review |                      |                       |                             |         |
|---------------------------------------------------|----------------------|-----------------------|-----------------------------|---------|
| Description of Materials                          | SUB -BALLAST (A-1-a) |                       |                             |         |
| Location to be Used                               | 547+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 | 5.4 %                       |         |
| 4                                                 | ASTM D 4318          | Atterberg limit       | N.P                         |         |
| 5                                                 | ASTM D 2974          | Moisture content      | 7.8 %                       |         |
| 6                                                 | ASTM D 1557          | Modified proctor      | 2.225                       |         |
| 7                                                 | ASTM D 1883          | CBR                   | 97.6%                       |         |
| 8                                                 | AASHTO-T96           | LA                    | 23 %                        |         |
| Comments by:                                      |                      |                       | Comments by:                |         |
|                                                   |                      |                       |                             |         |

| APPROVAL STATUS          |                  |      |      |         |
|--------------------------|------------------|------|------|---------|
| Organisation             | Name             | Sign | Date | A-AWC-R |
| Contractor               | Eng/Shehab Hamdi |      |      |         |
| QA/QC *                  | Ahmed Abou Zeid  |      |      |         |
| GARB**                   |                  |      |      |         |
| Employers Representative |                  |      |      |         |

\* Designer

\*\* Alignment/Bridges: Culvert only

|                                                          |                                                                                                                                                                                |                                                            |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <br>Karama Karama<br>شركة كراما للمقاولات<br>كراما كراما | <b>Electric Express Train - HSR</b><br>From El Ain El Sekhna City To El Alamein - MATROUH<br>Section - 7 From FOKA To MARSA MATROUH<br>From Station 504+000 To Station 508+177 | <br>جمهورية مصر العربية<br>وزارة النقل والاقتصاد<br>(2023) |
|                                                          | Operating Lab: <b>Negida Central Lab</b>                                                                                                                                       |                                                            |
|                                                          |                                                                                                                                                                                |                                                            |

### PARTICLE SIZE DISTRIBUTION OF SUB-BALLAST

|               |                 |           |      |              |            |
|---------------|-----------------|-----------|------|--------------|------------|
| TESTING DATE: | 26-10-2023      | Code      | Zone | FROM STATION | TO STATION |
| LOCATION      | K.P 547+500     | YN3-SUB 2 |      | 546+000      | 549+000    |
| COMPANY NAME  | YOUSEF NEGIDA 3 |           |      |              |            |
| MATERIALS     | SUB-BALLAST     |           |      |              |            |

1-visual inspection test

2-Gradient test

| A-gradation of bulk materials |       |        |        | SAMPLE WEIGHT (g) |         | 68954.00 |         | gm   | Table classify |       |
|-------------------------------|-------|--------|--------|-------------------|---------|----------|---------|------|----------------|-------|
| sieve size                    | 2     | 1.5    | 1      | 4/3               | 2/1     | 3/3      | # 4     | PASS | Soil Classify  | A-1-a |
| Mass retained (g)             | 0.0   | 2154.0 | 6734.0 | 11699.0           | 5475.0  | 13279.8  | 5946.0  |      | PRO            | 2.225 |
| Cumulative Retained (g)       | 0.0   | 2154.0 | 8888.0 | 19587.0           | 25062.0 | 38741.8  | 44687.0 |      | WC             | 7.80  |
| Cumulative Retained %         | 0.0   | 3.1    | 12.9   | 29.0              | 36.9    | 56.2     | 64.8    |      | CBR            | 97.6% |
| Cumulative Passing %          | 100.0 | 96.9   | 87.1   | 71.0              | 63.1    | 43.8     | 35.2    |      | Los Angles     | 23    |
|                               |       |        |        |                   |         |          |         |      | Absorption     | 2.337 |
|                               |       |        |        |                   |         |          |         |      | SP.Gravity     | 2.541 |

| B-soft material gradation |        |        |        | WT.OF sample |  | 500.00 |  | gm |
|---------------------------|--------|--------|--------|--------------|--|--------|--|----|
| sieve size                | 10     | 40     | 200    |              |  |        |  |    |
| Cumulative Retained (g)   | 132.00 | 307.00 | 423.00 |              |  |        |  |    |
| Cumulative Retained %     | 26.40  | 61.40  | 84.60  |              |  |        |  |    |
| Cumulative Passing %      | 73.60  | 38.60  | 15.40  |              |  |        |  |    |

| 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    | 12.5 | 9.5     | 4.75 | 2.00   | 0.425 | 0.075 |
| Cumulative Passing % | 100.0 | 96.9 | 87.1 | 71.0    | 63.1 | 43.8    | 35.2 | 25.9   | 13.8  | 5.4   |
| SPECIFICATION        | —     | 97   | —    | 70 — 75 | —    | 15 — 50 | —    | 0 — 35 | —     | 0 — 7 |
|                      |       |      |      |         |      |         |      |        |       |       |
|                      |       |      |      |         |      |         |      |        |       |       |

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

Contractor

Shehab Hamdi

شركة شهاب للمقاولات  
 المعمل المركزي  
 مشروع القطار السريع فوكا - مرسى مطروح

Consultant

٢٩ / ١٠ / ٢٠٢٣



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



## PROCTOR TEST (SUB-BALLAST)

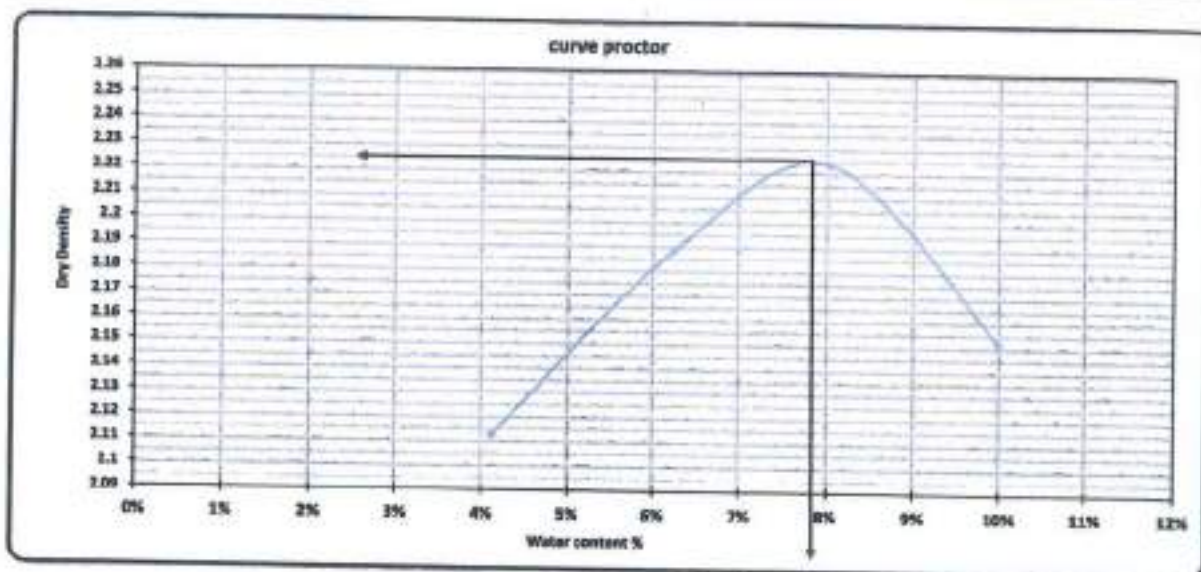
|               |                  |           |      |         |         |
|---------------|------------------|-----------|------|---------|---------|
| TESTING DATE: | 29-10-2023       | Code      | zone | FROM    | TO      |
| LOCATION      | K.P 547+500      | YN3-SUB 2 |      | 546+000 | 549+000 |
| COMPANY NAME  | YOUSSEF NEGIDA 3 |           |      |         |         |

|                        |        |
|------------------------|--------|
| Weight of empty mold : | 5747.0 |
| Mold Volume:           | 2115.0 |

|                 |       |
|-----------------|-------|
| MAX Dry Density | 2.225 |
| Water content % | 7.8   |

|                       |         |         |         |         |  |
|-----------------------|---------|---------|---------|---------|--|
| trial no :            | 1       | 2       | 3       | 4       |  |
| Wt. Of Mold+ wet soil | 10081.8 | 10666.8 | 10050.0 | 10735.0 |  |
| WT. WET SOIL          | 4654.8  | 4819.0  | 5083.0  | 5008.0  |  |
| Wt. Density           | 2.200   | 2.326   | 2.403   | 2.360   |  |

|                        |        |        |        |        |        |        |        |        |  |  |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Tare No.               | 7      | 10     | 13     | 17     | 15     | 40     | 15     | 40     |  |  |
| Tare wt.               | 42.1   | 44.1   | 53.4   | 53.2   | 30.9   | 46.2   | 30.0   | 46.2   |  |  |
| 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 | 144.96 | 144.87 | 142.38 | 142.24 | 146.18 | 149.08 | 148.18 | 148.80 |  |  |
| Wt. Of water           | 5.0    | 5.1    | 7.6    | 7.8    | 9.8    | 10.0   | 5.8    | 11.0   |  |  |
| Wt. Of dry soil        | 123.8  | 123.0  | 123.0  | 123.0  | 123.0  | 123.0  | 123.0  | 123.0  |  |  |
| Water content %        | 4.1%   | 4.3%   | 6.3%   | 6.3%   | 8.0%   | 8.1%   | 8.0%   | 8.1%   |  |  |
| AV. Water content %    | 4.1%   |        | 6.3%   |        | 8.1%   |        | 8.0%   |        |  |  |
| Dry Density            | 2.113  |        | 2.188  |        | 2.224  |        | 2.193  |        |  |  |



**Contractor**

Sachab Hamdi  
 شركة توريد البنية التحتية  
 29  
 المقاول الرئيسي  
 مشروع القطار السريع / المرحلة - مطروح

**Consultant**

Handwritten signature and stamp of the consultant.

|                                                                                                                                                                         |                                                                                   |                                                    |                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
|  <p>ENGINEERING CONSULTANCY OFFICE<br/>المكتب الاستشاري الهندسي<br/>إ.م. خالد خنجر</p> |  | 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 588+177

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

**SUB-BALLAST**

|               |                 |           |      |         |         |
|---------------|-----------------|-----------|------|---------|---------|
| TESTING DATE: | 28-10-2023      | code      | zone | FROM    | TO      |
| LOCATION      | K.P 547+500     | YH3-SUB 2 |      | 546+000 | 549+000 |
| COMPANY NAME  | YOUSEF NEGIDA 3 |           |      |         |         |

|                                             |      |    |
|---------------------------------------------|------|----|
| Weight of sample Before Test                | —    | gm |
| Weight of saturated -dry surface sample (B) | 4022 | gm |
| Weight of saturated sample in water (C)     | 2474 | gm |
| Weight of dry sample after heating (A)      | 3934 | gm |

**Results:-**

|                                         |       |   |
|-----------------------------------------|-------|---|
| Bulk specific gravity = $A / (B-C)$     | 2.541 |   |
| Apparent specific gravity = $A / (A-C)$ | 2.695 |   |
| Absorption = $(B-A)/A$                  | 2.237 | % |

**Los Anglos abrasion AASHTO-T96**

**Results:-**

|                                   |                                  |                    |
|-----------------------------------|----------------------------------|--------------------|
| Weight of sample before test (gm) | Weight of sample after test (gm) | Abrasion ratio (%) |
| 5000                              | 3864                             | 23                 |

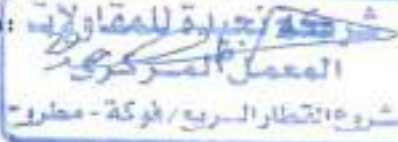
Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Shehab Hamdi

Sign : 

Consultant Engineer

Name : 

Sign :

|                                           |                                                          |                                                           |
|-------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------|
| <br>Karama Karama<br>شركة كراما للمقاولات | <h2 style="margin: 0;">Electric Express Train - HSR</h2> | <br>High Speed Rail<br>مشروع القطار السريع / شوكة - مطروح |
| Observing Lab<br>Negida Control Lab       |                                                          |                                                           |

### California Bearing Ratio TEST

|                |                 | SUB-BALLAST |      |         |         |
|----------------|-----------------|-------------|------|---------|---------|
| Testing Date : | 29-10-2023      | Code        | ZONE | FROM    | TO      |
| Location :     | K.P 547+500     | YM3-SUB 3   |      | 546+000 | 549+000 |
| COMPANY NAME   | YOUSEF NEGIDA 3 |             |      |         |         |

#### Test Results

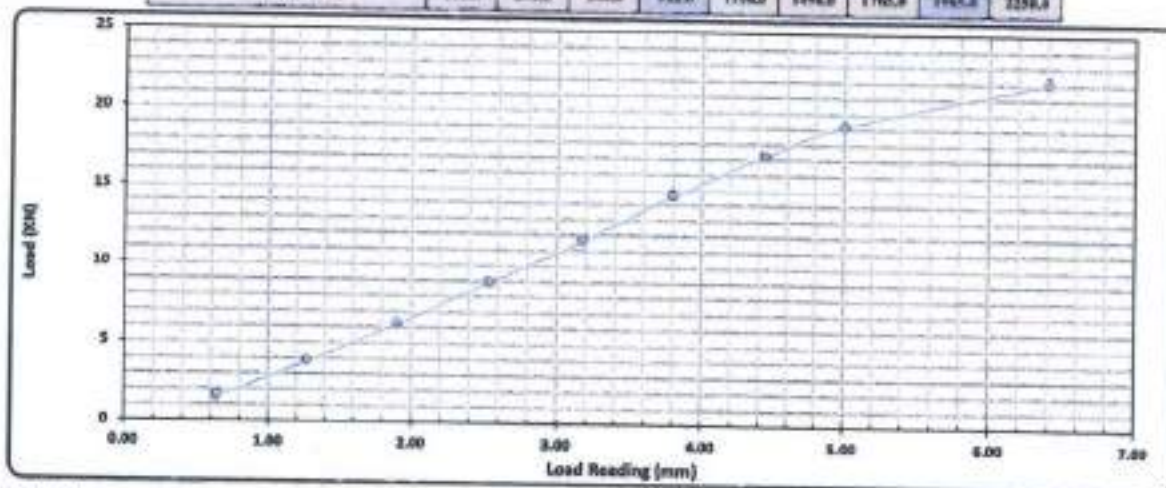
| Compaction % for Mold                |       |
|--------------------------------------|-------|
| Mold No.                             | 3     |
| Mold Vol. (cm <sup>3</sup> )         | 1000  |
| Mold WT. (gm)                        | 9960  |
| Mold WT. + Wet WT. (gm)              | 12962 |
| Wet WT. (gm)                         | 9920  |
| Wet Density (g/cm <sup>3</sup> )     | 1.365 |
| Dry Density (g/cm <sup>3</sup> )     | 1.192 |
| Proctor Density (g/cm <sup>3</sup> ) | 1.215 |
| Compaction %                         | 99    |

| Moisture Ratio After Compacted Mold |        |
|-------------------------------------|--------|
| Tare No.                            | 48     |
| Tare WT. (gm)                       | 46.2   |
| Tare WT. + Wet WT. (gm)             | 188.3  |
| Tare WT. + Dry WT. (gm)             | 178.68 |
| Water WT. (gm)                      | 10.4   |
| Dry WT. (gm)                        | 151.9  |
| Moisture Content %                  | 7.9    |

| Swelling            |            |
|---------------------|------------|
| Mold No.            | 3          |
| Date                | 29-10-2023 |
| Initial Height (mm) | 8.00       |
| Final Height (mm)   | 8.00       |
| Difference          | 0          |
| Sample Height (mm)  | 118.40     |
| Swelling Ratio %    | 0.0%       |

#### Loading Reading :

| Load Reading (mm) | 0.25  | 1.25  | 1.91  | 3.84  | 5.76   | 7.68   | 9.60   | 11.52  | 13.44  |
|-------------------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| Load (KN)         | 1.6   | 3.9   | 6.3   | 9.6   | 11.7   | 14.7   | 17.3   | 19.3   | 22.1   |
| Load (NIT)        | 186.8 | 385.6 | 644.8 | 932.0 | 1296.0 | 1496.0 | 1760.8 | 1955.2 | 2258.0 |



#### Calculations :-

| Penetration<br>(mm) | Load<br>(KN) | Standard Load<br>(lb) | CBR<br>(%) | Mold - Compaction<br>(%) | Compaction<br>(%) | CBR<br>100 % نسبة 100 |
|---------------------|--------------|-----------------------|------------|--------------------------|-------------------|-----------------------|
| 2.50                | 9.64         | 13.4                  | 67.7%      | 99                       | 100               | 68.7%                 |
| 5.00                | 19.28        | 20.0                  | 96.7%      |                          |                   | 97.6%                 |

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Bhehah Hamdi

Sign :

شركة نجادة للمقاولات  
المعمل المركزي  
مشروع القطار السريع / شوكة - مطروح

Client Engineer

Name : 27/10/23

Sign :

|                                    |                                                                                   |  |  |  |
|------------------------------------|-----------------------------------------------------------------------------------|--|--|--|
| <b>MATERIAL INSPECTION REQUEST</b> |  |  |  |  |
|                                    |                                                                                   |  |  |  |

|                      |                          |                                                                                           |                                                                                                                                                                                                                                         |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |  |
|----------------------|--------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----|----|---|----|----|---|--|--|--|----|----|------|--|--|--|
| Contractor Company   | YOUSEF NEGIDA 3          |                                                                                           | Designer Company                                                                                                                                                                                                                        |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |  |
| Issued by Contractor | Name<br>Eng/Shehab Hamdi | Sign<br> | Date<br>23-10-2023                                                                                                                                                                                                                      | Time |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |  |
| Contractor Reference | YN3-SUB 1                |                                                                                           |                                                                                                                                                                                                                                         |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |  |
| Received by ER       |                          | MIR                                                                                       | <table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>M</td> <td>YY</td> <td>HH</td> <td>M</td> </tr> <tr> <td></td> <td></td> <td></td> <td>23</td> <td>10</td> <td>2023</td> <td></td> <td></td> </tr> </table> | C1   | C2   | C3 | DD | M | YY | HH | M |  |  |  | 23 | 10 | 2023 |  |  |  |
| C1                   | C2                       | C3                                                                                        | DD                                                                                                                                                                                                                                      | M    | YY   | HH | M  |   |    |    |   |  |  |  |    |    |      |  |  |  |
|                      |                          |                                                                                           | 23                                                                                                                                                                                                                                      | 10   | 2023 |    |    |   |    |    |   |  |  |  |    |    |      |  |  |  |

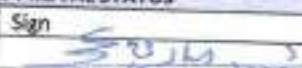
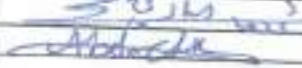
|          |                                |                             |                                                          |
|----------|--------------------------------|-----------------------------|----------------------------------------------------------|
| CODE - 1 | S1 to S21<br>Station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

| Description of Materials | Curshed Stone SUB-Ballast Material Result |       |
|--------------------------|-------------------------------------------|-------|
| Location to be Used      | 548+000... 548+100                        | 0.70+ |
|                          | 548+100... 548+200                        | 0.70+ |
|                          | 548+200... 548+300                        | 0.70+ |
|                          | 548+300... 548+400                        | 0.70+ |
|                          | 548+400... 548+500                        | 0.70+ |
|                          | 548+500... 548+600                        | 0.70+ |
|                          | 548+600... 548+700                        | 0.70+ |
|                          | 548+700... 548+800                        | 0.70+ |
|                          | 548+800... 548+900                        | 0.70+ |
|                          | 548+900... 548+980                        | 0.70+ |
|                          | 547+280... 547+380                        | 0.70+ |
|                          | 547+380... 547+480                        | 0.70+ |
|                          | 547+480... 547+580                        | 0.70+ |
|                          | 547+580... 547+680                        | 0.70+ |
|                          | 547+680... 547+780                        | 0.70+ |
|                          | 547+780... 547+900                        | 0.70+ |
|                          | 548+000... 548+080                        | 0.90+ |

|                  |                   |               |        |  |
|------------------|-------------------|---------------|--------|--|
| MAR Approval No  | YN3-SUB 1         |               | Date   |  |
| Supplier Name    |                   |               |        |  |
| Test Requirement |                   | Specification | Clause |  |
| Reference Photos | Yes attached / No | Other         |        |  |

| Item | Description        | Unit | Quantity | Arrival Date | Note |
|------|--------------------|------|----------|--------------|------|
| 1    | LL & P.L & O.M.C % | m3   | 5000     | 21-10-2023   |      |
| 2    | Proctor            | m3   | 5000     | 22-10-2023   |      |
| 3    | Classification     | m3   | 5000     | 21-10-2023   |      |
| 4    | Sieve Analysis     | m3   | 5000     | 21-10-2023   |      |
| 5    | C.B.R              | m3   | 5000     | 23-10-2023   |      |
| 6    | LA                 | m3   | 5000     | 23-10-2023   |      |

|              |              |
|--------------|--------------|
| Comments by: | Comments by: |
|              |              |

| APPROVAL STATUS          |                   |                                                                                      |      |         |
|--------------------------|-------------------|--------------------------------------------------------------------------------------|------|---------|
| Organisation             | Name              | Sign                                                                                 | Date | A-AWC-R |
| Contractor               | Eng/ Shehab Hamdi |  |      |         |
| QA/QC *                  | Abdullah SAMY     |  |      |         |
| GARB**                   |                   |                                                                                      |      |         |
| Employers Representative |                   |                                                                                      |      |         |

\* Designer

\*\* Alignment / Bridges Culvert Only

File: MIR YN1-SUB 1

| The Following Test Result are Attached For Review |               |                       |                             |         |
|---------------------------------------------------|---------------|-----------------------|-----------------------------|---------|
| Description of Materials                          |               | SUB -BALLAST (A-1-a)  |                             |         |
| Location to be Used                               |               | 547+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 | 6.5 %                       |         |
| 4                                                 | ASTM D 4318   | Atterberg limit       | N.P                         |         |
| 5                                                 | ASTM D 2974   | Moisture content      | 6 %                         |         |
| 6                                                 | ASTM D 1557   | Modified proctor      | 2.23                        |         |
| 7                                                 | ASTM D 1883   | CBR                   | 102.4%                      |         |
| 8                                                 | AASHTO-T96    | LA                    | 20 %                        |         |
| Comments by:                                      |               |                       | Comments by:                |         |
|                                                   |               |                       |                             |         |

\* Designer  
\*\* Alignment/Bridges: Culvert only

|                                                                                   |                                                                                                                                                                                |  |                                                                                     |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|
|  | <b>Electric Express Train - HSR</b><br>From El Ain El Sokhne City To El Alamein - MATROUH<br>Section - 7 From FOKA To MARSA MATROUH<br>From Station 504+000 To Station 508+177 |  |  |
|                                                                                   | Operating Lab: <b>Negida Central Lab</b>                                                                                                                                       |  |                                                                                     |
|                                                                                   |                                                                                                                                                                                |  |                                                                                     |

### PARTICLE SIZE DISTRIBUTION OF SUB-BALLAST

|               |                |           |      |              |            |
|---------------|----------------|-----------|------|--------------|------------|
| TESTING DATE: | 21-10-2023     | Code      | Zone | FROM STATION | TO STATION |
| LOCATION      | K.P 547+300    | YN3-SUB 1 |      | 546+000      | 549+000    |
| COMPANY NAME  | YUSEF NEGIDA 3 |           |      |              |            |
| MATERIALS     | SUB-BALLAST    |           |      |              |            |

1-visual inspection test

2-Gradient test

| A-gradation of bulk materials |       |        |        | SAMPLE WEIGHT (g) |         | 51153.00 |         | gm   | Table classify |        |
|-------------------------------|-------|--------|--------|-------------------|---------|----------|---------|------|----------------|--------|
| sieve size                    | 2     | 1.5    | 1      | 4/3               | 2/1     | 8/3      | # 4     | PASS | Soil Classify  | A-1-a  |
| Mass retained (g)             | 0.0   | 1200.0 | 6574.0 | 7346.0            | 5534.0  | 4171.0   | 4778.0  |      | PRO            | 2.130  |
| Cumulative Retained (g)       | 0.0   | 1200.0 | 7774.0 | 15120.0           | 20654.0 | 24825.0  | 29603.0 |      | WC             | 6.90   |
| Cumulative Retained %         | 0.0   | 2.3    | 15.2   | 29.6              | 40.4    | 48.5     | 57.9    |      | CBR            | 102.4% |
| Cumulative Passing %          | 100.0 | 97.7   | 84.8   | 70.4              | 59.6    | 51.5     | 42.1    |      | Los Angeles    | 20     |
|                               |       |        |        |                   |         |          |         |      | Absorption     | 1.544  |
|                               |       |        |        |                   |         |          |         |      | SP.Gravity     | 2.503  |

| B-soft material gradation |        |        |        | WT.OF sample |  | 800.00 |  | gm |
|---------------------------|--------|--------|--------|--------------|--|--------|--|----|
| sieve size                | 10     | 40     | 200    |              |  |        |  |    |
| Cumulative Retained (g)   | 145.00 | 329.00 | 423.00 |              |  |        |  |    |
| Cumulative Retained %     | 29.00  | 65.80  | 84.60  |              |  |        |  |    |
| Cumulative Passing %      | 71.00  | 34.20  | 15.40  |              |  |        |  |    |

| 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    | 12.5 | 9.5     | 4.75 | 2.00   | 0.425 | 0.075 |
| Cumulative Passing % | 100.0 | 97.7 | 84.8 | 70.4    | 59.6 | 51.5    | 42.1 | 29.9   | 16.4  | 6.3   |
| SPECIFICATION        | —     | 97   | —    | 70 — 75 | —    | 10 — 60 | —    | 0 — 35 | —     | 0 — 7 |
|                      |       |      |      |         |      |         |      |        |       |       |
|                      |       |      |      |         |      |         |      |        |       |       |

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

**Contractor**  
 شركة شهاب حمدي  
 المحمّل المصدّق  
 مشروع القطار الكهربائي / فوكا - مطروح

**Consultant**  




**Electric Express Train - HSR**  
 From El Ain El Sokhna City To El Alamein - MATROUH  
 Section - 7 From FOKA TO MARSA MATROUH  
 From Station 544+000 To Station 568+177



## PROCTOR TEST (SUB-BALLAST)

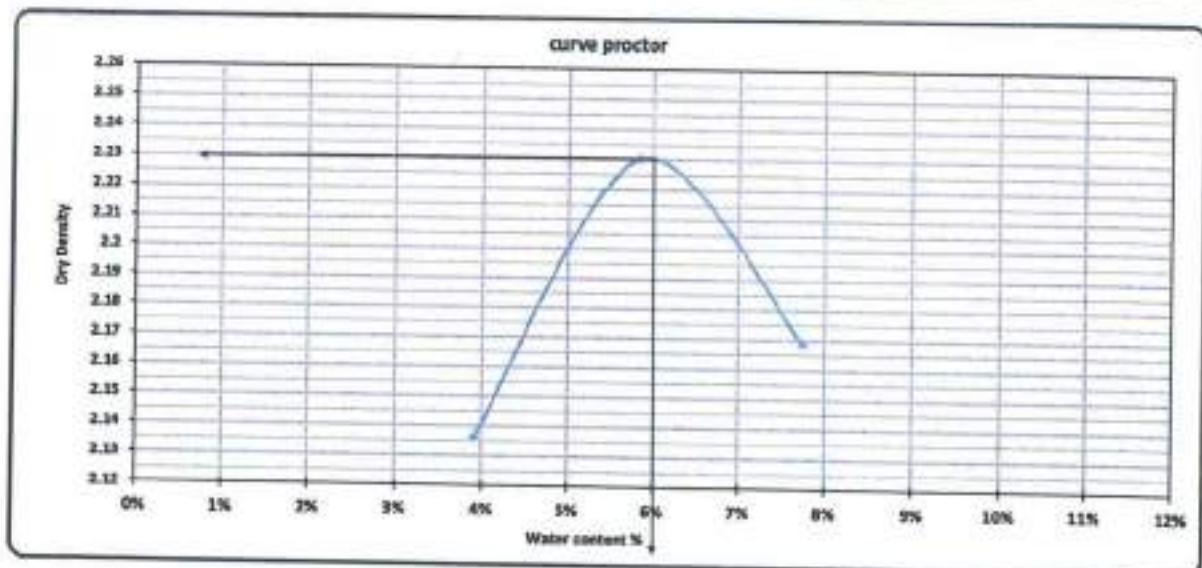
|               |                 |           |      |         |         |
|---------------|-----------------|-----------|------|---------|---------|
| TESTING DATE: | 22-10-2023      | Code      | zone | FROM    | TO      |
| LOCATION      | K.P 547+500     | YHS-SUB 1 |      | 545+000 | 548+000 |
| COMPANY NAME  | YOUSEF NEGIDA 3 |           |      |         |         |

|                        |        |
|------------------------|--------|
| Weight of empty mold : | 5747.0 |
| Mold Volume:           | 2115.0 |

|                 |      |
|-----------------|------|
| MAX Dry Density | 2.23 |
| Water content % | 6    |

|                       |         |         |         |  |  |
|-----------------------|---------|---------|---------|--|--|
| trial no :            | 1       | 2       | 3       |  |  |
| Wt. Of Mold+ wet soil | 10442.0 | 10748.0 | 10690.0 |  |  |
| WT. WET SOIL          | 4695.0  | 4993.0  | 4943.0  |  |  |
| Wt. Density           | 2.220   | 2.361   | 2.337   |  |  |

|                        |        |        |        |        |        |        |  |  |  |  |
|------------------------|--------|--------|--------|--------|--------|--------|--|--|--|--|
| Tare No.               | 7      | 19     | 13     | 17     | 15     | 48     |  |  |  |  |
| Tare wt.               | 42.3   | 44.1   | 83.6   | 53.2   | 38.9   | 46.2   |  |  |  |  |
| Wt. Of wet soil & tare | 158.0  | 150.0  | 159.0  | 150.0  | 150.0  | 158.0  |  |  |  |  |
| Wt. Of dry soil & tare | 145.10 | 145.26 | 142.78 | 142.83 | 148.29 | 148.62 |  |  |  |  |
| Wt. Of water           | 4.9    | 4.7    | 7.2    | 7.2    | 9.7    | 9.4    |  |  |  |  |
| Wt. Of dry soil        | 113.0  | 113.0  | 123.0  | 123.0  | 123.0  | 123.0  |  |  |  |  |
| Water content %        | 4.3%   | 3.9%   | 5.9%   | 5.8%   | 7.9%   | 7.6%   |  |  |  |  |
| AV. Water content %    | 3.8%   |        | 5.8%   |        | 7.8%   |        |  |  |  |  |
| Dry Density            | 2.136  |        | 2.238  |        | 2.169  |        |  |  |  |  |



**Contractor**  
 شركة شرف للمقاولات  
 المعمل المحترق  
 شرق القاهرة السبع / مملكة - مطروح

**Consultant**  
 [Signature]

|                                                                                                                                                                |                                                                                                      |                                                    |                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <br>ENGINEERING CONSULTING OFFICE<br>المكتب الاستشاري الهندسي<br>د. خالد هادي | <br>YOUSEF NEGIDA 3 | Electric Express Train - HSR                       | <br>وزارة النقل<br>الهيئة العامة للنقل |
|                                                                                                                                                                |                                                                                                      | From El Ain El Sokhna City To El Alamein - MATROUH |                                                                                                                           |
|                                                                                                                                                                |                                                                                                      | Section - 7 From FOKA To MARSA MATROUH             |                                                                                                                           |

From Station 504+000 To Station 588+177

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

**SUB-BALLAST**

|               |                 |           |      |         |         |
|---------------|-----------------|-----------|------|---------|---------|
| TESTING DATE: | 23-10-2023      | code      | zone | FROM    | TO      |
| LOCATION      | K.P 547+500     | YN3-SUB 1 |      | 546+000 | 549+000 |
| COMPANY NAME  | YOUSEF NEGIDA 3 |           |      |         |         |

|                                             |      |    |
|---------------------------------------------|------|----|
| Weight of sample Before Test                | —    | gm |
| Weight of saturated -dry surface sample (B) | 3586 | gm |
| Weight of saturated sample in water (C)     | 2212 | gm |
| Weight of dry sample after heating (A)      | 3528 | gm |

**Results:-**

|                                         |       |   |
|-----------------------------------------|-------|---|
| Bulk specific gravity = $A / (B-C)$     | 2.568 |   |
| Apparent specific gravity = $A / (A-C)$ | 2.681 |   |
| Absorption = $(B-A)/A$                  | 1.844 | % |

**Los Anglos abrasion AASHTO-T96**

**Results:-**

|                                   |                                  |                    |
|-----------------------------------|----------------------------------|--------------------|
| Weight of sample before test (gm) | Weight of sample after test (gm) | Abrasion ratio (%) |
| 5000                              | 4022                             | 20                 |

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Shehab Hamdi

Sign :

شركة نجدة للمقاولات  
والبناء  
المركزى  
شرف القطار السريع / فوكا - مطروح

Consultant Engineer

Name :

Sign :

Abdelsalam

### California Bearing Ratio TEST

|                |  |                  |             |      |         |         |
|----------------|--|------------------|-------------|------|---------|---------|
| Testing Date : |  | 23-10-2023       | SUB-BALLAST |      |         |         |
| Location :     |  | K.P 547+500      | Code        | ZONE | FROM    | TO      |
| COMPANY NAME   |  | YOUSSEF NEGIDA 3 | YN3-SUB 1   |      | 546+000 | 549+000 |
|                |  |                  |             |      |         |         |

### Test Results

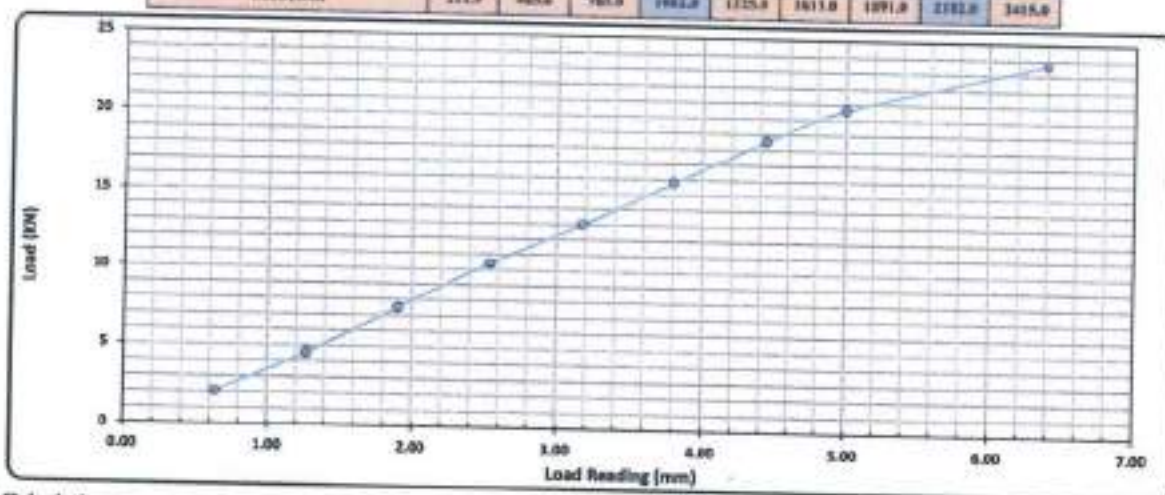
| Compaction % for Mold                |       |
|--------------------------------------|-------|
| Mold No.                             | 1     |
| Mold Vol. (cm <sup>3</sup> )         | 2133  |
| Mold WT. (gm)                        | 7724  |
| Mold WT. + Wet WT. (gm)              | 12785 |
| Wet WT. (gm)                         | 5061  |
| Wet Density (g/cm <sup>3</sup> )     | 2.373 |
| Dry Density (g/cm <sup>3</sup> )     | 2.240 |
| Proctor Density (g/cm <sup>3</sup> ) | 2.136 |
| Compaction %                         | 100   |

| Moisture Ratio After Compacted Mold |       |
|-------------------------------------|-------|
| Tare No.                            | 13    |
| Tare WT. (gm)                       | 51.6  |
| Tare WT. + Wet WT. (gm)             | 219.3 |
| Tare WT. + Dry WT. (gm)             | 216   |
| Water WT. (gm)                      | 9.3   |
| Dry WT. (gm)                        | 154.4 |
| Moisture Content %                  | 5.9   |

| Swelling            |            |
|---------------------|------------|
| Mold No.            | 1          |
| Date                | 23-10-2023 |
| Initial Height (mm) | 0.00       |
| Final Height (mm)   | 0.60       |
| Difference          | 0          |
| Sample Height (mm)  | 116.40     |
| Swelling Ratio %    | 0.05%      |

**Leading Reading :**

| Load Binding (mm) | 0.60 | 1.27 | 1.91 | 2.54  | 3.18  | 3.81  | 4.45  | 5.08  | 5.71  |
|-------------------|------|------|------|-------|-------|-------|-------|-------|-------|
| Load (kN)         | 2.1  | 4.6  | 7.5  | 10.1  | 13.0  | 15.8  | 18.5  | 21.6  | 23.7  |
| Load (kg)         | 33.9 | 69.0 | 76.0 | 100.2 | 132.9 | 161.0 | 189.9 | 219.2 | 249.6 |



**Calculations :-**

| Penetration | Load | Standard Load | CBR    | Mold - Compaction | Compaction | CBR                                       |
|-------------|------|---------------|--------|-------------------|------------|-------------------------------------------|
| (mm)        | (Kg) | (lb)          | (%)    | (%)               | (%)        | 100 $\frac{\text{kg}}{\text{cm}^2}$ air % |
| 2.50        | 10.0 | 13.4          | 78.8%  | 100               | 100        | 77.6%                                     |
| 5.00        | 20.0 | 26.8          | 102.2% |                   |            | 102.4%                                    |

Lab. Specialist

Name: \_\_\_\_\_

Size:

Lab. Engineer

Name : Shehabe Marry

Name : **Shahab Hamdy**

شركة تجيـدة لـلمـتـاحـنات  
المـعـدـة لـلـمـتـاحـنات  
شـرـع قـنـصـار الـسـريـح / قـنـصـار الـسـريـح - مـطـر-  
مـطـر

### Consultant Engineer

Name: \_\_\_\_\_

**Signs:**

|                                            |                                                                                    |  |  |  |
|--------------------------------------------|------------------------------------------------------------------------------------|--|--|--|
| <b>MATERIAL<br/>INSPECTION<br/>REQUEST</b> |  |  |  |  |
|                                            |                                                                                    |  |  |  |

|                      |                   |                                                                                   |                                                                                                                                                                                                                                           |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
|----------------------|-------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----|----|----|----|----|----|--|--|--|----|----|------|--|--|--|
| Contractor Company   | Yousef Negida (3) |                                                                                   | Designer Company                                                                                                                                                                                                                          |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| Issued by Contractor | Name              | Sign                                                                              | Date                                                                                                                                                                                                                                      | Time |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
|                      | Eng/Shehab Hamdi  |  | 13-11-2023                                                                                                                                                                                                                                |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| Contractor Reference | YN3-70            |                                                                                   |                                                                                                                                                                                                                                           |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| Received by ER       |                   | MIR                                                                               | <table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DO</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td></td> <td></td> <td></td> <td>13</td> <td>11</td> <td>2023</td> <td></td> <td></td> </tr> </table> | C1   | C2   | C3 | DO | MM | YY | HH | MM |  |  |  | 13 | 11 | 2023 |  |  |  |
| C1                   | C2                | C3                                                                                | DO                                                                                                                                                                                                                                        | MM   | YY   | HH | MM |    |    |    |    |  |  |  |    |    |      |  |  |  |
|                      |                   |                                                                                   | 13                                                                                                                                                                                                                                        | 11   | 2023 |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |

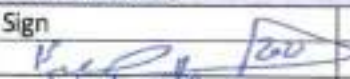
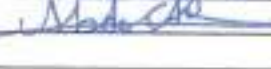
|          |                                |                             |                                                          |
|----------|--------------------------------|-----------------------------|----------------------------------------------------------|
| CODE - 1 | S1 to S21<br>Station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

| Description of Materials | Fill Material Result |         |       |
|--------------------------|----------------------|---------|-------|
| Location to be Used      | 546+860              | 546+940 | -2.50 |
|                          | 547+000              | 547+060 | -2.00 |
|                          | 547+060              | 547+140 | -2.00 |
|                          | 546+760              | 546+820 | -2.00 |
|                          | 546+820              | 546+860 | -2.00 |

|                  |                   |               |        |  |
|------------------|-------------------|---------------|--------|--|
| MAR Approval No  | YN3-70            |               | Date   |  |
| Supplier Name    |                   |               |        |  |
| Test Requirement |                   | Specification | Clause |  |
| Reference Photos | Yes attached / No | Other         |        |  |

| Item | Description         | Unit | Quantity | Arrival Date | Note |
|------|---------------------|------|----------|--------------|------|
| 1    | L.L & P.L & O.M.C % | m3   | 5000     | 11-11-2023   |      |
| 2    | Proctor             | m3   | 5000     | 12-11-2023   |      |
| 3    | Classification      | m3   | 5000     | 11-11-2023   |      |
| 4    | Sieve Analysis      | m3   | 5000     | 11-11-2023   |      |
| 5    | C.B.R               | m3   | 5000     | 13-11-2023   |      |

|              |              |
|--------------|--------------|
| Comments by: | Comments by: |
|              |              |

| APPROVAL STATUS          |                   |                                                                                      |      |         |
|--------------------------|-------------------|--------------------------------------------------------------------------------------|------|---------|
| Organisation             | Name              | Sign                                                                                 | Date | A-AWC-R |
| Contractor               | Eng/ Shehab Hamdi |  |      |         |
| QA/QC *                  | Abdallah SAMY     |   |      |         |
| GARB**                   |                   |                                                                                      |      |         |
| Employers Representative |                   |                                                                                      |      |         |

\* Designer

\*\* Alignment / Bridges: Culvert Only

# MATERIAL APPROVAL REQUEST

المجلس  
العالي  
للمهندسين  
(GARB)



**KK**  
ENGINEERING CONSULTING OFFICE  
المكتب الاستشاري الهندسي  
أ. م. خالد عبد الحليم

الهيئة العامة للإعاشة  
GENERAL AUTHORITY  
FOR  
HIGHWAY  
CONSTRUCTION



|                        |                          |          |                                                                                                                                                                                                                                         |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
|------------------------|--------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----|----|---|----|----|---|--|--|--|----|----|------|--|--|
| Location Name          | Contractor Company       |          | Designer Company                                                                                                                                                                                                                        |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
| Electric express train | Yousef Negida (3)        |          | k.k                                                                                                                                                                                                                                     |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
| Issued by Contractor   | Name<br>Eng/Shehab Hamdi | Sign<br> | Date<br>13-11-2023                                                                                                                                                                                                                      | Time |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
| Contractor Reference   | YN3-70                   |          |                                                                                                                                                                                                                                         |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
| Received by ER         |                          | MAR      | <table border="1"> <tr> <td>D1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>M</td> <td>YY</td> <td>HH</td> <td>M</td> </tr> <tr> <td></td> <td></td> <td></td> <td>13</td> <td>11</td> <td>2023</td> <td></td> <td></td> </tr> </table> | D1   | C2   | C3 | DD | M | YY | HH | M |  |  |  | 13 | 11 | 2023 |  |  |
| D1                     | C2                       | C3       | DD                                                                                                                                                                                                                                      | M    | YY   | HH | M  |   |    |    |   |  |  |  |    |    |      |  |  |
|                        |                          |          | 13                                                                                                                                                                                                                                      | 11   | 2023 |    |    |   |    |    |   |  |  |  |    |    |      |  |  |

The Following Test Result are Attached For Review

|                          |               |                       |                             |         |
|--------------------------|---------------|-----------------------|-----------------------------|---------|
| Description of Materials | Soil ( A-1-b) |                       |                             |         |
| Location Of Stock        | 547+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 | 13.2 %                      |         |
| 4                        | ASTM D 4318   | Atterberg limit       | 4.6                         |         |
| 5                        | ASTM D 2974   | Moisture content      | 6.1                         |         |
| 6                        | ASTM D 1557   | Modified proctor      | 2.206                       |         |
| 7                        | ASTM D 1883   | CBR                   | 53.66 %                     |         |
| Comments by:             |               |                       | Comments by:                |         |
|                          |               |                       |                             |         |

## APPROVAL STATUS

|                          |                  |      |      |         |
|--------------------------|------------------|------|------|---------|
| Organisation             | Name             | Sign | Date | A-AWC-R |
| Contractor               | Eng/Shehab Hamdi |      |      |         |
| Contractor QA/QC *       | Abdallah SAMY    |      |      |         |
| GARB**                   |                  |      |      |         |
| Employers Representative |                  |      |      |         |

\* Designer

\*\* Alignment/Bridges: Culvert only

|                                                                                                                                                                    |                                                                                                                                                                                |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|   | <b>Electric Express Train - HSR</b><br>From El Ain El Sokhna City To El Alamein - MATROUH<br>Section - 7 From FOKA To MARSA MATROUH<br>From Station 504+000 To Station 568+177 |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|

|                |                    |
|----------------|--------------------|
| Operating Lab: | Negida Central Lab |
|----------------|--------------------|

**PARTICLE SIZE DISTRIBUTION OF SOIL**

|                           |            |
|---------------------------|------------|
| Description of Materials: | Embankment |
|---------------------------|------------|

|              |                 |        |             |              |  |            |
|--------------|-----------------|--------|-------------|--------------|--|------------|
| Testing Date | 11-11-23        | code   | <b>Zone</b> | From Station |  | TO Station |
| Location     | K.P 547+500     | YN3-70 |             | 546+000      |  | 549+000    |
| Company Name | Yousef Negida 3 |        |             |              |  |            |

1-visual inspection test :-

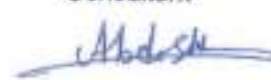
2-Gradient test :-

| A-gradation of bulk materials |       |       |        | SAMPLE WEIGHT (g) |         |         |         | 53790.00 |     | gm | table classify |  |
|-------------------------------|-------|-------|--------|-------------------|---------|---------|---------|----------|-----|----|----------------|--|
| sieve size                    | 2     | 1.5   | 1      | 3/4               | 1/2     | 3/8     | # 4     | PASS     |     |    | soil classify  |  |
| Mass retained (g)             | 0.0   | 594.0 | 4828.0 | 1828.0            | 7224.0  | 5812.0  | 3464.0  |          |     |    | A-1-b          |  |
| Cumulative Retained (g)       | 0.0   | 594.0 | 5422.0 | 7250.0            | 14474.0 | 20286.0 | 23750.0 |          | PRO |    | 2.206          |  |
| Cumulative Retained %         | 0.0   | 1.1   | 10.1   | 13.5              | 26.9    | 37.7    | 44.2    |          | WC  |    | 6.1            |  |
| Cumulative Passing %          | 100.0 | 98.9  | 89.9   | 86.5              | 73.1    | 62.3    | 55.8    |          | CBR |    | 53.66%         |  |

| B-soft material gradation |       |        |        | WT.OF sample |  |  |  | 500.00 |  | gm |
|---------------------------|-------|--------|--------|--------------|--|--|--|--------|--|----|
| sieve size                | 10    | 40     | 200    |              |  |  |  |        |  |    |
| Cumulative Retained (g)   | 22.50 | 170.00 | 382.00 |              |  |  |  |        |  |    |
| Cumulative Retained %     | 4.50  | 34.00  | 76.40  |              |  |  |  |        |  |    |
| Cumulative Passing %      | 95.50 | 66.00  | 23.60  |              |  |  |  |        |  |    |

| 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 | 12.5 | 9.5  | 4.75 | 2.00 | 0.425 | 0.075 |
| Cumulative Passing % | 100.0 | 98.9 | 89.9 | 86.5 | 73.1 | 62.3 | 55.8 | 53.3 | 38.9  | 13.2  |
|                      |       |      |      |      |      |      |      |      |       |       |
|                      |       |      |      |      |      |      |      |      |       |       |
|                      |       |      |      |      |      |      |      |      |       |       |

| ATTERBERG LIMITS | LIQUID LIMIT ( L.L.) | PLASTIC LIMIT (P.L.) | PLASTIC INDEX (P.I.) |
|------------------|----------------------|----------------------|----------------------|
|                  | 22.7%                | 18.1%                | 4.6%                 |

|                                                                                                                                                                                                                                                                      |                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <p>Contractor</p> <div style="border: 2px solid blue; padding: 5px; width: fit-content;">  </div> <p style="color: blue; font-weight: bold;">مشروع القطار السريع رفوكة - مطروح</p> | <p>Consultant</p>  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|



# Electric Express Train - HSR

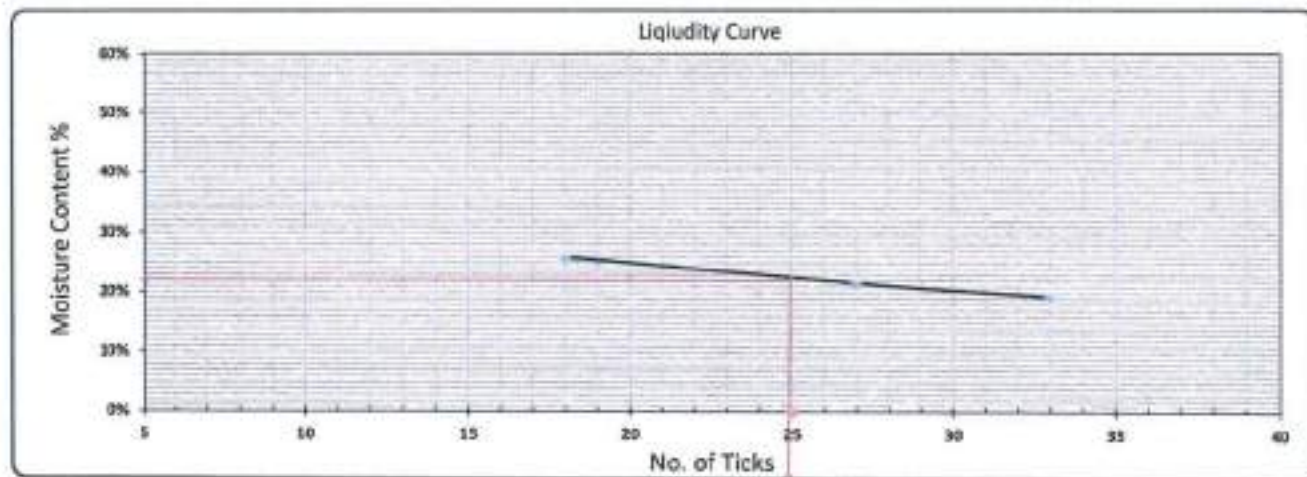


## Plasticity and Liquidity Test -Atterberg Limits

|              |                 |        |      |              |            |
|--------------|-----------------|--------|------|--------------|------------|
| Testing Date | 12-11-23        | Code   | Zone | From Station | To Station |
| Location     | K.P. 547+500    | YN3-70 |      | 546+000      |            |
| Company Name | Yousef Negida 3 |        |      |              |            |

### Testing Results :-

| Test                    | Liquid Limit |       |       |  | Plastic Limit |       |
|-------------------------|--------------|-------|-------|--|---------------|-------|
| No. of Ticks            | 33           | 27    | 18    |  | -             | -     |
| Tare No.                | 12           | 6     | 8     |  | 3             | 4     |
| Tare WT. (gm)           | 35.31        | 34.14 | 32.77 |  | 36.17         | 35.01 |
| Tare WT. + Wet WT. (gm) | 54.32        | 54.02 | 51.25 |  | 44.07         | 43.48 |
| Tare WT. + Dry WT. (gm) | 51.25        | 50.50 | 47.45 |  | 42.89         | 42.15 |
| Water WT. (gm)          | 3.07         | 3.52  | 3.80  |  | 1.18          | 1.33  |
| Dry WT. (gm)            | 15.94        | 16.36 | 14.68 |  | 6.72          | 7.14  |
| Moisture Content %      | 22.7%        | 21.4% | 25.8% |  | 17.5%         | 18.8% |
| Average %               |              |       |       |  | 18.1%         |       |



| L.L.  | P.L.  | P.I. |
|-------|-------|------|
| 22.7% | 18.1% | 4.6% |

|                 |                                |                                |
|-----------------|--------------------------------|--------------------------------|
| Lab. Specialist | Lab. Engineer                  | Consultant Engineer            |
| Name :          | Name : <i>Abdelhamid Hamed</i> | Name : <i>Abdelhamid Hamed</i> |
| Sign :          | Sign : <i>Abdelhamid Hamed</i> | Sign : <i>Abdelhamid Hamed</i> |



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



### PROCTOR TEST

|                 |                 |        |      |              |            |
|-----------------|-----------------|--------|------|--------------|------------|
| Testing Date    | 12-11-23        | code   | Zone | From Station | To Station |
| Location        | K.P 547+550     | YN3-70 |      | 548+000      | 549+000    |
| Yousef Negida 3 | Yousef Negida 3 |        |      |              |            |

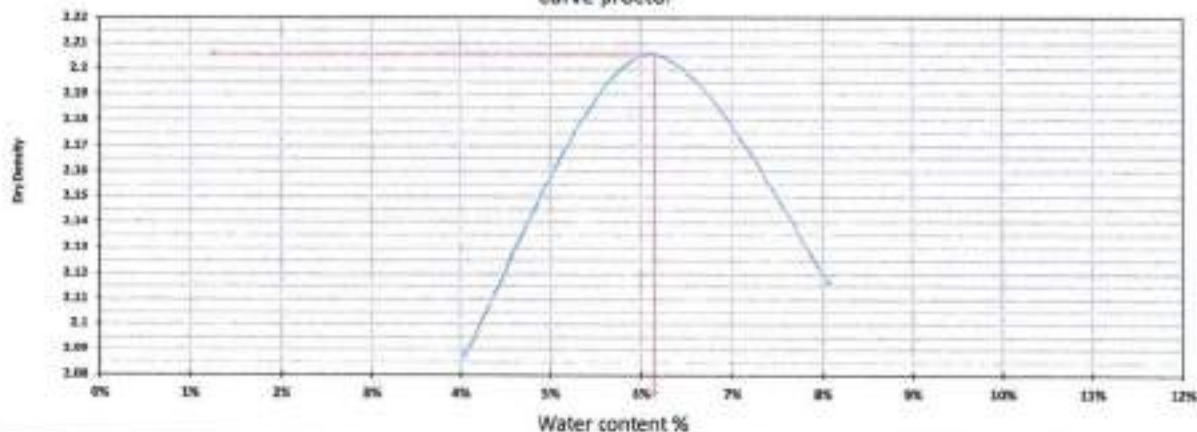
|                      |        |                 |       |
|----------------------|--------|-----------------|-------|
| Weight of empty mold | 5747.0 | MAX Dry Density | 2.208 |
| Mold Volume          | 2115.0 | Water content % | 6.1   |

|                       |         |         |         |  |  |
|-----------------------|---------|---------|---------|--|--|
| trial no :            | 1       | 2       | 3       |  |  |
| Wt. Of Mold+ wet soil | 10342.0 | 10694.0 | 10586.0 |  |  |
| WT. WET SOIL          | 4595.0  | 4947.0  | 4839.0  |  |  |
| Wt. Density           | 2.173   | 2.339   | 2.288   |  |  |

|                        |        |        |        |        |        |        |  |  |       |  |
|------------------------|--------|--------|--------|--------|--------|--------|--|--|-------|--|
| Tare No.               | 8      | 6      | 7      | 4      | 5      | 6      |  |  |       |  |
| Tare wt.               | 36.26  | 38.82  | 35.99  | 36.28  | 35.35  | 38.8   |  |  | A-1-b |  |
| Wt. Of wet soil & tare | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  |  |  |       |  |
| Wt. Of dry soil & tare | 155.12 | 155.36 | 152.88 | 153.00 | 150.74 | 150.89 |  |  |       |  |
| Wt. Of water           | 4.9    | 4.6    | 7.1    | 7.0    | 9.3    | 9.1    |  |  |       |  |
| Wt. Of dry soil        | 118.9  | 116.5  | 116.9  | 116.7  | 115.4  | 112.1  |  |  |       |  |
| Water content %        | 4.11%  | 3.98%  | 6.09%  | 6.00%  | 8.02%  | 8.13%  |  |  |       |  |
| AV. Water content %    | 4.045% |        | 6.04%  |        | 8.07%  |        |  |  |       |  |
| Dry Density            | 2.083  |        | 2.206  |        | 2.117  |        |  |  |       |  |

41 569

curve proctor



Contractor

Mohamed Hamed  
مهندس محمد حامد  
المعمل المركزي  
مشروع القطار السريع / فوكة - مطروح

Consultant

M. M. M. M.

### California Bearing Ratio TEST

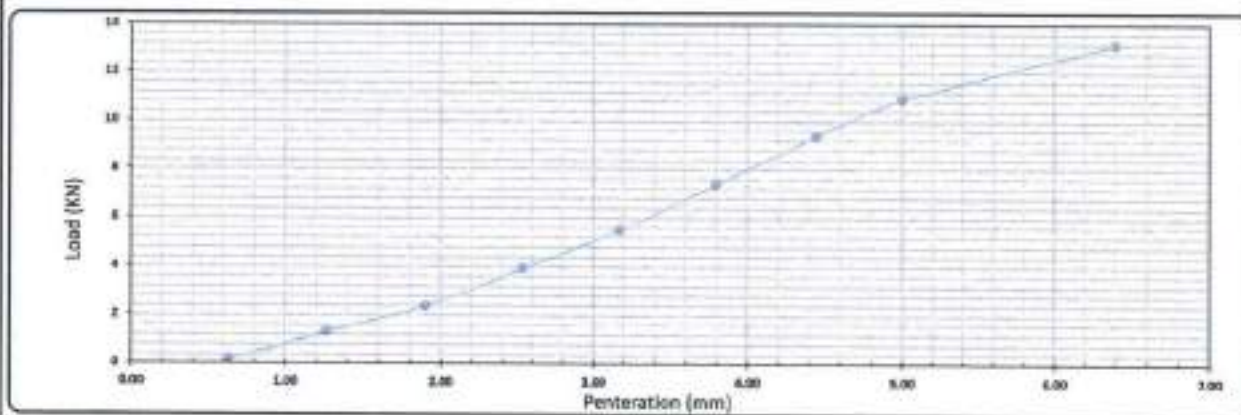
|              |                 |        |      |              |         |                       |
|--------------|-----------------|--------|------|--------------|---------|-----------------------|
| Testing Date | 13-11-2023      | node   | Zone | From Station | 546+000 | To station<br>549+000 |
| Location     | K.P. 547+500    | YN3-70 |      |              |         |                       |
| Company Name | Yousef Negida 3 |        |      |              |         |                       |

#### Test Results:

| Compaction % for Mold                |       | Moisture Ratio After Compacted Mold |       | Swelling            |            |
|--------------------------------------|-------|-------------------------------------|-------|---------------------|------------|
| Mold No.                             | 1     | Tare No.                            | 6     | Mold No.            | 1          |
| Mold Vol. (cm <sup>3</sup> )         | 2133  | Tare WT. (gm)                       | 38.8  | Date                | 13-11-2023 |
| Mold WT. (gm)                        | 7724  | Tare WT. + Wet WT. (gm)             | 275   | Initial Height (mm) | 0.00       |
| Mold WT. + Wet WT. (gm)              | 12691 | Tare WT. + Dry WT. (gm)             | 261.4 | Final Height (mm)   | 0.00       |
| Wet WT. (gm)                         | 4967  | Water WT. (gm)                      | 13.6  | Difference          | 0          |
| Wet Density (g/cm <sup>3</sup> )     | 2.329 | Dry WT. (gm)                        | 222.6 | Sample Height (mm)  | 116.40     |
| Dry Density (g/cm <sup>3</sup> )     | 2.195 | Moisture Content %                  | 6.1   | Swelling Ratio %    | 0%         |
| Proctor Density (g/cm <sup>3</sup> ) | 2.206 |                                     |       |                     |            |
| Compaction %                         | 99    |                                     |       |                     |            |

#### 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) | 20   | 135  | 244  | 402  | 561  | 755  | 958  | 1115 | 1345 |
| Load (KN)         | 0.2  | 1.2  | 2.4  | 3.9  | 5.0  | 7.0  | 8.4  | 10.0 | 12.2 |



#### Calculations :-

| Penetration | Load  | Standard Load | CBR   | Mold - Compaction | Compaction | CBR          |
|-------------|-------|---------------|-------|-------------------|------------|--------------|
| (mm)        | (Kn)  | (lb)          | ( % ) | ( % )             | ( % )      | معدل نسبة 98 |
| 2.50        | 3.94  | 13.4          | 29.5% | 99                | 98         | 29.1%        |
| 5.00        | 10.91 | 20.0          | 54.5% |                   |            | 53.7%        |

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Mohamed Hamed  
 محمد هادي محمد هادي  
 22/11/2023  
 مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name :

Sign :

Abdullah

# MATERIAL INSPECTION REQUEST

الهيئة العامة  
للمرور والبنية التحتية  
(GARBT)



ENGINEERING CONSULTING SERVICES  
المكتب الاستشاري الهندسي  
أ. د. خالد شهابي

الهيئة العامة للإعانة



|                      |                          |          |                                                                                                                                                                                                                                           |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
|----------------------|--------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----|----|----|----|----|----|--|--|--|----|----|------|--|--|--|
| Contractor Company   | Yousef Negida (3)        |          | Designer Company                                                                                                                                                                                                                          |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| Issued by Contractor | Name<br>Eng/Shehab Hamdi | Sign<br> | Date<br>07-11-2023                                                                                                                                                                                                                        | Time |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| Contractor Reference | YN3-69                   |          |                                                                                                                                                                                                                                           |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| 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>07</td> <td>11</td> <td>2023</td> <td></td> <td></td> </tr> </table> | C1   | C2   | C3 | DD | MM | YY | HH | MM |  |  |  | 07 | 11 | 2023 |  |  |  |
| C1                   | C2                       | C3       | DD                                                                                                                                                                                                                                        | MM   | YY   | HH | MM |    |    |    |    |  |  |  |    |    |      |  |  |  |
|                      |                          |          | 07                                                                                                                                                                                                                                        | 11   | 2023 |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |

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

| Description of Materials | Fill Material Result |         |       |
|--------------------------|----------------------|---------|-------|
| Location to be Used      | 546+880              | 546+940 | -3.00 |
|                          | 547+000              | 547+060 | -2.50 |
|                          | 547+060              | 547+140 | -2.50 |
|                          | 546+760              | 546+820 | -2.50 |
|                          | 546+820              | 546+860 | -2.50 |

|                  |                   |        |  |
|------------------|-------------------|--------|--|
| MAR Approval No  | YN3-69            | Date   |  |
| Supplier Name    |                   |        |  |
| Test Requirement | Specification     | Clause |  |
| Reference Photos | Yes attached / No | Other  |  |

| Item | Description         | Unit | Quantity | Arrival Date | Note |
|------|---------------------|------|----------|--------------|------|
| 1    | L.L & P.L & O.M.C % | m3   | 5000     | 06-11-2023   |      |
| 2    | Proctor             | m3   | 5000     | 06-11-2023   |      |
| 3    | Classification      | m3   | 5000     | 06-11-2023   |      |
| 4    | Sieve Analysis      | m3   | 5000     | 06-11-2023   |      |
| 5    | C.B.R               | m3   | 5000     | 07-11-2023   |      |

|              |              |
|--------------|--------------|
| Comments by: | Comments by: |
|              |              |

| APPROVAL STATUS          |                   |      |      |         |
|--------------------------|-------------------|------|------|---------|
| Organisation             | Name              | Sign | Date | A-AWC-R |
| Contractor               | Eng/ Shehab Hamdi |      |      |         |
| QA/QC *                  | Ahmed Abo Zaid    |      |      |         |
| GARB**                   |                   |      |      |         |
| Employers Representative |                   |      |      |         |

\* Designer  
\*\* Alignment / Bridges: Culvert Only

# MATERIAL APPROVAL REQUEST

الهيئة العامة  
للتنظيم والرقابة  
(GARBY)



**KK**  
ENGINEERING CONSULTING OFFICE  
المكتب الاستشاري الهندسي  
أ.د. خالد شندول

الهيئة العامة  
للتنظيم والرقابة  
(GARBY)



|                        |                          |          |                                                                                                                                                                                                                                                       |                  |
|------------------------|--------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Location Name          | Contractor Company       |          | Designer Company                                                                                                                                                                                                                                      |                  |
| Electric express train | Yousef Negida (3)        |          | k.k                                                                                                                                                                                                                                                   |                  |
| Issued by Contractor   | Name<br>Eng/Shehab Hamdi | Sign<br> | Date<br>07-11-2023                                                                                                                                                                                                                                    | Time             |
| Contractor Reference   | YN3-69                   |          |                                                                                                                                                                                                                                                       |                  |
| Received by ER         |                          | MAR      | <input checked="" type="checkbox"/> DD<br><input checked="" type="checkbox"/> M<br><input checked="" type="checkbox"/> M<br><input checked="" type="checkbox"/> YY<br><input checked="" type="checkbox"/> HH<br><input checked="" type="checkbox"/> M | 07<br>11<br>2023 |

The Following Test Result are Attached For Review

| Description of Materials | Soil ( A-1-b) |                       |                             |         |
|--------------------------|---------------|-----------------------|-----------------------------|---------|
| Location Of Stock        | 547+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 | 11.4 %                      |         |
| 4                        | ASTM D 4318   | Atterberg limit       | N.P                         |         |
| 5                        | ASTM D 2974   | Moisture content      | 6.2                         |         |
| 6                        | ASTM D 1557   | Modified proctor      | 2.212                       |         |
| 7                        | ASTM D 1883   | CBR                   | 59.5 %                      |         |
| Comments by:             |               |                       | Comments by:                |         |
|                          |               |                       |                             |         |

## APPROVAL STATUS

| Organisation             | Name             | Sign | Date | A-AWC-R |
|--------------------------|------------------|------|------|---------|
| Contractor               | Eng/Shehab Hamdi |      |      |         |
| Contractor QA/QC *       | Ahmed AboZaid    |      |      |         |
| GARB**                   |                  |      |      |         |
| 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 Lab: **Negida Central Lab**

**PARTICLE SIZE DISTRIBUTION OF SOIL**

Description of Materials: **Embankment**

|              |                 |        |      |              |            |
|--------------|-----------------|--------|------|--------------|------------|
| Testing Date | 06-11-23        | code   | Zone | From Station | TO Station |
| Location     | K.P 547+500     | YN3-69 |      | 546+000      |            |
| Company Name | Yousef Negida 3 |        |      |              |            |

**1-visual inspection test :-**

**2-Gradient test :-**

**A-gradation of bulk materials**

|                         |       |       |        |                   |         |          |         |      |     |                |
|-------------------------|-------|-------|--------|-------------------|---------|----------|---------|------|-----|----------------|
|                         |       |       |        | SAMPLE WEIGHT [g] |         | 49819.00 | gm      |      |     | table classify |
| sieve size              | 2     | 1.5   | 1      | 3/4               | 1/2     | 3/8      | # 4     | PASS |     | soil classify  |
| Mass retained (g)       | 0.0   | 354.0 | 1300.0 | 3756.0            | 7855.0  | 4322.0   | 2552.0  |      |     | A-1-b          |
| Cumulative Retained (g) | 0.0   | 354.0 | 1654.0 | 5410.0            | 13265.0 | 17587.0  | 20139.0 |      | PRO | 2.212          |
| Cumulative Retained %   | 0.0   | 0.7   | 3.3    | 10.9              | 26.8    | 35.3     | 40.4    |      | WC  | 6.2            |
| Cumulative Passing %    | 100.0 | 99.3  | 96.7   | 89.1              | 73.4    | 64.7     | 59.6    |      | CBR | 59.5%          |

**B-soft material gradation**

|                         |       |        |        |              |  |        |    |
|-------------------------|-------|--------|--------|--------------|--|--------|----|
|                         |       |        |        | WT.OF sample |  | 500.00 | gm |
| sieve size              | 10    | 40     | 200    |              |  |        |    |
| Cumulative Retained (g) | 28.00 | 186.00 | 404.00 |              |  |        |    |
| Cumulative Retained %   | 5.60  | 37.20  | 80.80  |              |  |        |    |
| Cumulative Passing %    | 94.40 | 62.80  | 19.20  |              |  |        |    |

**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 | 12.5 | 9.5  | 4.75 | 2.00 | 0.425 | 0.075 |
| Cumulative Passing % | 100.0 | 99.3 | 96.7 | 89.1 | 73.4 | 64.7 | 59.6 | 39.2 | 37.4  | 11.4  |
|                      |       |      |      |      |      |      |      |      |       |       |
|                      |       |      |      |      |      |      |      |      |       |       |

|                  |                   |                     |                     |
|------------------|-------------------|---------------------|---------------------|
| ATTERBERG LIMITS | LIQUID LIMIT (LL) | PLASTIC LIMIT (P.L) | PLASTIC INDEX (P.I) |
|                  | —                 | —                   | N.P                 |

Contractor

شركة الجيولوجيا والبيئة  
 المكمل المركزي  
 مشروع المتار السريع / فوكة - مطروح

Consultant

3/11/23



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



### PROCTOR TEST

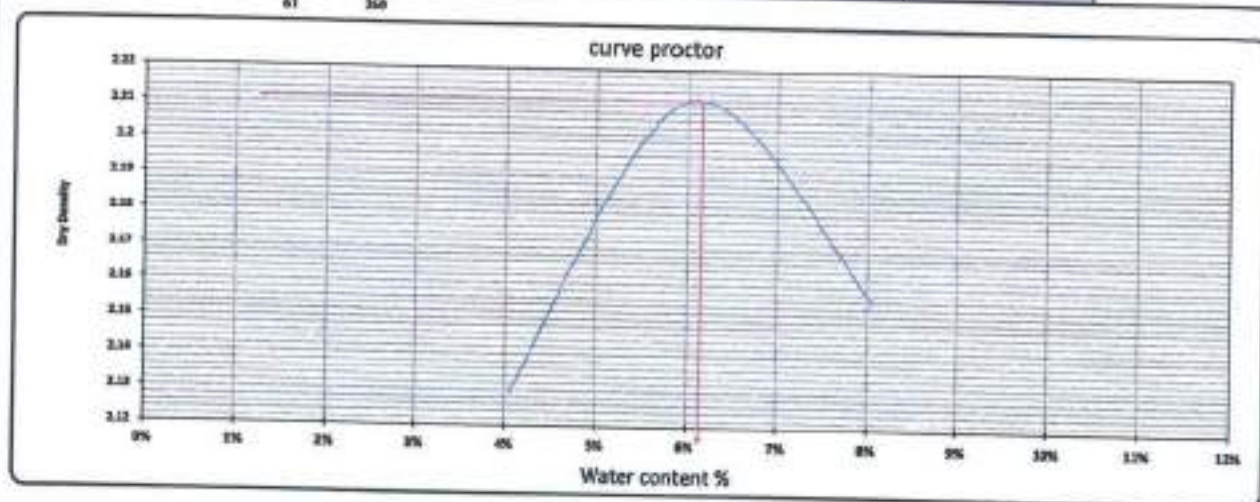
|                 |                 |        |      |              |            |
|-----------------|-----------------|--------|------|--------------|------------|
| Testing Date    | 06-11-23        | code   |      | From Station | To Station |
| Location        | K.P. 547+500    |        |      |              |            |
| Yousef Negida 3 | Yousef Negida 3 | YN3-89 | Zone | 546+000      | 549+000    |

|                      |        |                 |       |
|----------------------|--------|-----------------|-------|
| Weight of empty mold | 5747.0 | MAX Dry Density | 2.212 |
| Mold Volume          | 2115.0 | Water content % | 6.2   |

|                       |         |         |         |  |  |
|-----------------------|---------|---------|---------|--|--|
| trial no :            | 1       | 2       | 3       |  |  |
| Wt. Of Mold+ wet soil | 10435.0 | 10707.0 | 10675.0 |  |  |
| WT. WET SOIL          | 4688.0  | 4960.0  | 4928.0  |  |  |
| Wt Density            | 2.217   | 2.345   | 2.330   |  |  |

|                        |        |        |        |        |        |        |  |  |  |  |
|------------------------|--------|--------|--------|--------|--------|--------|--|--|--|--|
| Tare No.               | 8      | 6      | 7      | 4      | 5      | 6      |  |  |  |  |
| Tare wt.               | 36.26  | 38.82  | 35.99  | 36.28  | 35.35  | 38.8   |  |  |  |  |
| Wt. Of wet soil & tare | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  |  |  |  |  |
| Wt. Of dry soil & tare | 155.25 | 155.19 | 152.93 | 152.99 | 150.68 | 150.99 |  |  |  |  |
| Wt. Of water           | 4.8    | 4.8    | 7.1    | 7.0    | 9.3    | 9.0    |  |  |  |  |
| Wt. Of dry soil        | 119.0  | 116.4  | 116.9  | 116.7  | 115.3  | 112.2  |  |  |  |  |
| Water content %        | 3.99%  | 4.13%  | 6.05%  | 6.01%  | 8.08%  | 8.03%  |  |  |  |  |
| AV. Water content %    | 4.36%  | 4.36%  | 6.05%  | 6.01%  | 8.08%  | 8.03%  |  |  |  |  |
| Dry Density            | 1.130  | 1.212  | 1.156  |        |        |        |  |  |  |  |

61 360



Contractor

شركة تجارة الاسفلت  
المعمل المركزي  
مشروع القطار السريع / فوكة - مطروح

Consultant

F. 11 2023



# Electric Express Train - HSR



## California Bearing Ratio TEST

|              |                 |        |      |              |            |
|--------------|-----------------|--------|------|--------------|------------|
| Testing Date | 7-11-2023       | code   | Zone | From Station | To station |
| Location     | K.P. 547+500    | YN3-89 |      | 546+000      | 549+000    |
| Company Name | Yousef Negida 3 |        |      |              |            |

### Test Results:

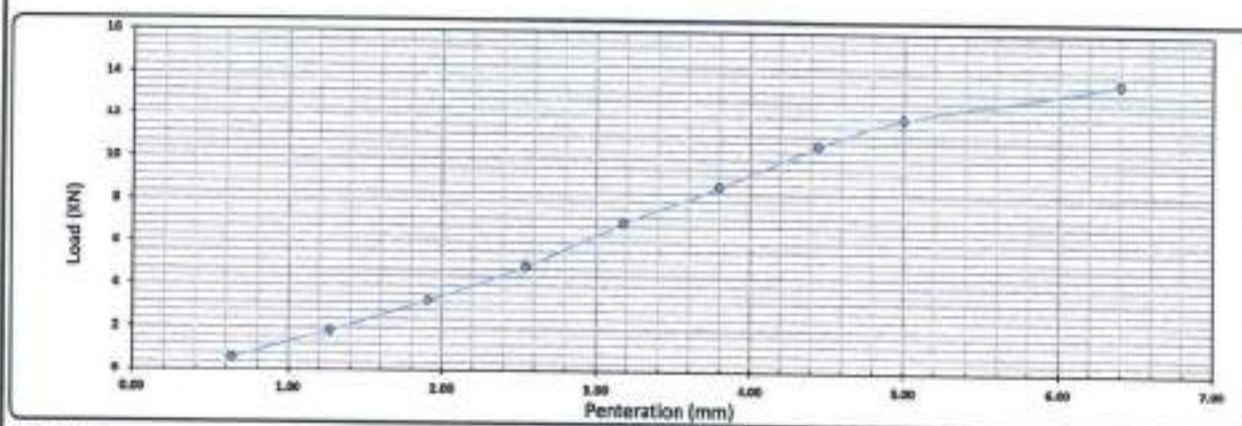
| Compaction % for Mold                |       |
|--------------------------------------|-------|
| Mold No.                             | 5     |
| Mold Vol. (cm <sup>3</sup> )         | 2080  |
| Mold WT. (gm)                        | 8068  |
| Mold WT. + Wet WT. (gm)              | 12874 |
| Wet WT. (gm)                         | 4806  |
| Wet Density (g/cm <sup>3</sup> )     | 2.311 |
| Dry Density (g/cm <sup>3</sup> )     | 2.175 |
| Proctor Density (g/cm <sup>3</sup> ) | 2.212 |
| Compaction %                         | 98    |

| Moisture Ratio After Compacted Mold |        |
|-------------------------------------|--------|
| Tare No.                            | 7      |
| Tare WT. (gm)                       | 35.99  |
| Tare WT. + Wet WT. (gm)             | 264.13 |
| Tare WT. + Dry WT. (gm)             | 250.7  |
| Water WT. (gm)                      | 13.4   |
| Dry WT. (gm)                        | 214.7  |
| Moisture Content %                  | 6.3    |

| Swelling            |           |
|---------------------|-----------|
| Mold No.            | 5         |
| Date                | 7-11-2023 |
| Initial Height (mm) | 0.00      |
| Final Height (mm)   | 0.00      |
| Difference          | 0         |
| Sample Height (mm)  | 116.40    |
| Swelling Ratio %    | 0% —      |

### Loading Reading :

|                   |      |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|------|
| Penetration (mm)  | 0.64 | 1.27 | 1.91 | 2.54 | 3.18 | 3.80 | 4.45 | 5.00 | 6.40 |
| Load Reading (kg) | 00   | 192  | 335  | 500  | 710  | 938  | 1089 | 1226 | 1335 |
| Load (KN)         | 0.6  | 1.9  | 3.3  | 4.9  | 7.8  | 9.7  | 10.7 | 11.9 | 13.7 |



### Calculations :-

| Penetration | Load  | Standard Load | CBR   | Mold - Compaction | Compaction | CBR       |
|-------------|-------|---------------|-------|-------------------|------------|-----------|
| (mm)        | (Kn)  | (lb)          | ( % ) | ( % )             | ( % )      | نسبة 98 % |
| 2.50        | 4.90  | 13.4          | 36.7% | 98                | 98         | 36.6%     |
| 5.00        | 11.96 | 20.0          | 59.7% |                   |            | 59.5%     |

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

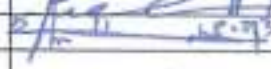
الهيئة العامة للغذاء والدواء  
مركز تجارة للمواد  
المعمل المركزي  
شروع القطار السريع / فوكة - مطروح

2=23

|                                            |                                                                                    |  |  |  |
|--------------------------------------------|------------------------------------------------------------------------------------|--|--|--|
| <b>MATERIAL<br/>INSPECTION<br/>REQUEST</b> |  |  |  |  |
|                                            | <p>الهيئة القومية للإنشافي<br/>المكتب الإشرافي الفني<br/>إد. نجاد غندي</p>         |  |  |  |

|                      |                   |                                                                                   |            |                                                                                                                                                                                                                                           |      |    |    |    |    |    |    |    |  |  |  |    |    |      |  |  |
|----------------------|-------------------|-----------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----|----|----|----|----|----|----|--|--|--|----|----|------|--|--|
| Contractor Company   | Yousef Negida (3) |                                                                                   |            | Designer Company                                                                                                                                                                                                                          |      |    |    |    |    |    |    |    |  |  |  |    |    |      |  |  |
| Issued by Contractor | Name              | Sign                                                                              | Date       | Time                                                                                                                                                                                                                                      |      |    |    |    |    |    |    |    |  |  |  |    |    |      |  |  |
|                      | Eng/Shehab Hamdi  |  | 05-11-2023 |                                                                                                                                                                                                                                           |      |    |    |    |    |    |    |    |  |  |  |    |    |      |  |  |
| Contractor Reference | YN3-68            |                                                                                   |            |                                                                                                                                                                                                                                           |      |    |    |    |    |    |    |    |  |  |  |    |    |      |  |  |
| Received by ER       |                   |                                                                                   | MIR        | <table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DO</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td></td> <td></td> <td></td> <td>05</td> <td>11</td> <td>2023</td> <td></td> <td></td> </tr> </table> | C1   | C2 | C3 | DO | MM | YY | HH | MM |  |  |  | 05 | 11 | 2023 |  |  |
| C1                   | C2                | C3                                                                                | DO         | MM                                                                                                                                                                                                                                        | YY   | HH | MM |    |    |    |    |    |  |  |  |    |    |      |  |  |
|                      |                   |                                                                                   | 05         | 11                                                                                                                                                                                                                                        | 2023 |    |    |    |    |    |    |    |  |  |  |    |    |      |  |  |

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

|                          |                     |                                                                                     |              |              |      |
|--------------------------|---------------------|-------------------------------------------------------------------------------------|--------------|--------------|------|
| Description of Materials |                     | Fill Material Result                                                                |              |              |      |
| Location to be Used      | 546+780             | 546+860                                                                             | -3.50        |              |      |
|                          | 546+860             | 546+940                                                                             | -3.50        |              |      |
|                          | 546+760             | 546+820                                                                             | -3.00        |              |      |
|                          | 546+820             | 546+880                                                                             | -3.00        |              |      |
| MAR Approval No          |                     | YN3-68                                                                              |              | Date         |      |
| Supplier Name            |                     |                                                                                     |              |              |      |
| Test Requirement         |                     | Specification                                                                       |              | Clause       |      |
| Reference Photos         |                     | Yes attached / No                                                                   |              | Other        |      |
| Item                     | Description         | Unit                                                                                | Quantity     | Arrival Date | Note |
| 1                        | L.L & P.L & O.M.C % | m3                                                                                  | 5000         | 02-11-2023   |      |
| 2                        | Proctor             | m3                                                                                  | 5000         | 04-11-2023   |      |
| 3                        | Classification      | m3                                                                                  | 5000         | 02-11-2023   |      |
| 4                        | Sieve Analysis      | m3                                                                                  | 5000         | 04-11-2023   |      |
| 5                        | C.B.R               | m3                                                                                  | 5000         | 05-11-2023   |      |
| Comments by:             |                     |                                                                                     | Comments by: |              |      |
|                          |                     |                                                                                     |              |              |      |
| APPROVAL STATUS          |                     |                                                                                     |              |              |      |
| Organisation             | Name                | Sign                                                                                | Date         | A-AWC-R      |      |
| Contractor               | Eng/ Shehab Hamdi   |  |              |              |      |
| QA/QC *                  | Ahmed Abou Zaid     |  |              |              |      |
| GARB **                  |                     |                                                                                     |              |              |      |
| Employers Representative |                     |                                                                                     |              |              |      |

\* Designer  
\*\* Alignment / Bridges: Culvert Only

# MATERIAL APPROVAL REQUEST

المجلس  
التقني  
للمواد  
والجسور  
(GARB)



**KK**  
ENGINEERING CONSULTING OFFICE  
المكتب الاستشاري الهندسي  
ل.د. خالد كندول

الهيئة العامة  
للإسكان  
General Authority  
for Housing



|                        |                    |      |                                                                                                                                                                                                                                         |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
|------------------------|--------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----|----|---|----|----|---|--|--|--|----|----|------|--|--|
| Location Name          | Contractor Company |      | Designer Company                                                                                                                                                                                                                        |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
| Electric express train | Yousef Negida (3)  |      | k.k                                                                                                                                                                                                                                     |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
| Issued by Contractor   | Name               | Sign | Date                                                                                                                                                                                                                                    | Time |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
|                        | Eng/Shehab Hamdi   |      | 05-11-2023                                                                                                                                                                                                                              |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
| Contractor Reference   | YN3-68             |      |                                                                                                                                                                                                                                         |      |      |    |    |   |    |    |   |  |  |  |    |    |      |  |  |
| Received by ER         |                    | MAR  | <table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>M</td> <td>YY</td> <td>HH</td> <td>M</td> </tr> <tr> <td></td> <td></td> <td></td> <td>05</td> <td>11</td> <td>2023</td> <td></td> <td></td> </tr> </table> | C1   | C2   | C3 | DD | M | YY | HH | M |  |  |  | 05 | 11 | 2023 |  |  |
| C1                     | C2                 | C3   | DD                                                                                                                                                                                                                                      | M    | YY   | HH | M  |   |    |    |   |  |  |  |    |    |      |  |  |
|                        |                    |      | 05                                                                                                                                                                                                                                      | 11   | 2023 |    |    |   |    |    |   |  |  |  |    |    |      |  |  |

The Following Test Result are Attached For Review

| Description of Materials | Soil ( A-1-a) |                       |                             |         |
|--------------------------|---------------|-----------------------|-----------------------------|---------|
| Location Of Stock        | 547+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 | 8.7 %                       |         |
| 4                        | ASTM D 4318   | Atterberg limit       | N.P                         |         |
| 5                        | ASTM D 2974   | Moisture content      | 8.1                         |         |
| 6                        | ASTM D 1557   | Modified proctor      | 2.225                       |         |
| 7                        | ASTM D 1883   | CBR                   | 43.8 %                      |         |
| Comments by:             |               |                       | Comments by:                |         |
|                          |               |                       |                             |         |

## APPROVAL STATUS

| Organisation             | Name             | Sign | Date | A-AWC-R |
|--------------------------|------------------|------|------|---------|
| Contractor               | Eng/Shehab Hamdi |      |      |         |
| Contractor QA/QC *       | Ahmed Abozeid    |      |      |         |
| GARB**                   |                  |      |      |         |
| Employers Representative |                  |      |      |         |

\* Designer

\*\* Alignment/Bridges: Culvert only



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



Operating Lab: Negida Central Lab

### PARTICLE SIZE DISTRIBUTION OF SOIL

Description of Materials: Embankment

|              |                 |        |      |              |  |            |         |
|--------------|-----------------|--------|------|--------------|--|------------|---------|
| Testing Date | 02-11-23        | code   | Zone | From Station |  | TO Station |         |
| Location     | K.P 547+500     | YN3-68 |      | 546+000      |  |            | 549+000 |
| Company Name | Yousef Negida 3 |        |      |              |  |            |         |

1-visual inspection test :-

2-Gradient test :-

#### A-gradation of bulk materials

|                         |       |       |        | SAMPLE WEIGHT [g] |         | 48940.00 |         | gm   | table classify |
|-------------------------|-------|-------|--------|-------------------|---------|----------|---------|------|----------------|
| sieve size              | 2     | 1.5   | 1      | 3/4               | 1/2     | 3/8      | # 4     | PASS |                |
| Mass retained (g)       | 0.0   | 862.0 | 3518.0 | 3356.0            | 9724.0  | 4006.0   | 4471.0  |      |                |
| Cumulative Retained (g) | 0.0   | 862.0 | 4380.0 | 7736.0            | 17460.0 | 21466.0  | 25937.0 |      |                |
| Cumulative Retained %   | 0.0   | 1.8   | 8.9    | 15.8              | 35.7    | 43.9     | 53.0    |      | PRO            |
| Cumulative Passing %    | 100.0 | 98.2  | 91.1   | 84.2              | 64.3    | 56.1     | 47.0    |      | WC             |
|                         |       |       |        |                   |         |          |         |      | CBR            |
|                         |       |       |        |                   |         |          |         |      | 43.8%          |

#### B-soft material gradation

|                         |       |        |        | WT.OF sample |  | 500.00 |  | gm |
|-------------------------|-------|--------|--------|--------------|--|--------|--|----|
| sieve size              | 10    | 40     | 200    |              |  |        |  |    |
| Cumulative Retained (g) | 82.00 | 221.00 | 407.00 |              |  |        |  |    |
| Cumulative Retained %   | 16.40 | 44.20  | 81.40  |              |  |        |  |    |
| Cumulative Passing %    | 83.60 | 55.80  | 18.60  |              |  |        |  |    |

#### 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 | 12.5 | 9.5  | 4.75 | 2.00 | 0.425 | 0.075 |
| Cumulative Passing % | 100.0 | 98.2 | 91.1 | 84.2 | 64.3 | 56.1 | 47.0 | 39.3 | 25.2  | 8.7   |
|                      |       |      |      |      |      |      |      |      |       |       |
|                      |       |      |      |      |      |      |      |      |       |       |

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

Contractor

Mohamed Alamein  
محمّد العلامين  
2023

Consultant

5/11/2023



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 508+177



### PROCTOR TEST

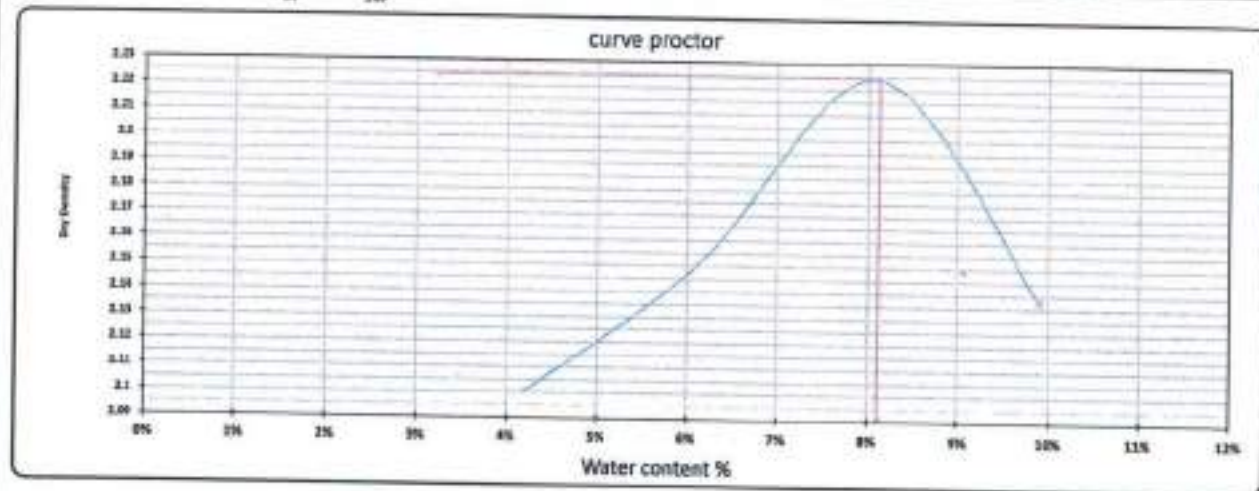
|                 |                 |        |      |              |            |
|-----------------|-----------------|--------|------|--------------|------------|
| Testing Date    | 04-11-23        | code   | Zone | From Station | To Station |
| Location        | K.P. 547+500    | YN3-68 |      | 546+000      | 549+000    |
| Yousef Negida 3 | Yousef Negida 3 |        |      |              |            |

|                      |        |                 |       |
|----------------------|--------|-----------------|-------|
| Weight of empty mold | 5861.0 | MAX Dry Density | 2.223 |
| Mold Volume          | 2118.0 | Water content % | 8.1   |

|                       |         |         |         |         |  |
|-----------------------|---------|---------|---------|---------|--|
| trial no :            | 1       | 2       | 3       | 4       |  |
| Wt. Of Mold+ wet soil | 10497.0 | 10695.0 | 10954.0 | 10837.0 |  |
| WT. WET SOIL          | 4636.0  | 4834.0  | 5093.0  | 4976.0  |  |
| Wt. Density           | 2.189   | 2.282   | 2.405   | 2.349   |  |

|                        |        |        |        |        |        |        |        |        |       |  |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--|
| Tare No.               | 8      | 6      | 7      | 4      | 5      | 6      | 7      | 8      |       |  |
| Tare wt.               | 36.26  | 38.82  | 35.99  | 36.28  | 35.35  | 38.8   | 35.99  | 36.26  | A-1-a |  |
| Wt. Of wet soil & tare | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  |       |  |
| Wt. Of dry soil & tare | 154.96 | 155.16 | 152.78 | 152.92 | 150.72 | 150.86 | 148.76 | 148.92 |       |  |
| Wt. Of water           | 5.0    | 4.8    | 7.2    | 7.1    | 9.3    | 9.1    | 11.2   | 11.1   |       |  |
| Wt. Of dry soil        | 118.7  | 116.3  | 116.8  | 116.6  | 115.4  | 112.1  | 112.8  | 112.7  |       |  |
| Water content %        | 4.25%  | 4.16%  | 6.18%  | 6.07%  | 8.04%  | 8.16%  | 9.97%  | 9.83%  |       |  |
| AV. Water content %    | 4.20%  |        | 6.12%  |        | 8.10%  |        | 9.90%  |        |       |  |
| Dry Density            | 2.181  |        | 2.151  |        | 2.224  |        | 2.138  |        |       |  |

61 340



Contractor

Mohamed Hamed  
5  
مشروع التطوير السريع - فوكا - مطروح

Consultant

5  
8027



# Electric Express Train - HSR



## California Bearing Ratio TEST

|              |                 |        |      |              |  |            |
|--------------|-----------------|--------|------|--------------|--|------------|
| Testing Date | 5-11-2023       | code   |      | From Station |  | To station |
| Location     | K.P. 547+580    |        |      |              |  |            |
| Company Name | Yousef Negida 3 | YN3-68 | Zone | 546+000      |  | 549+000    |

### Test Results:

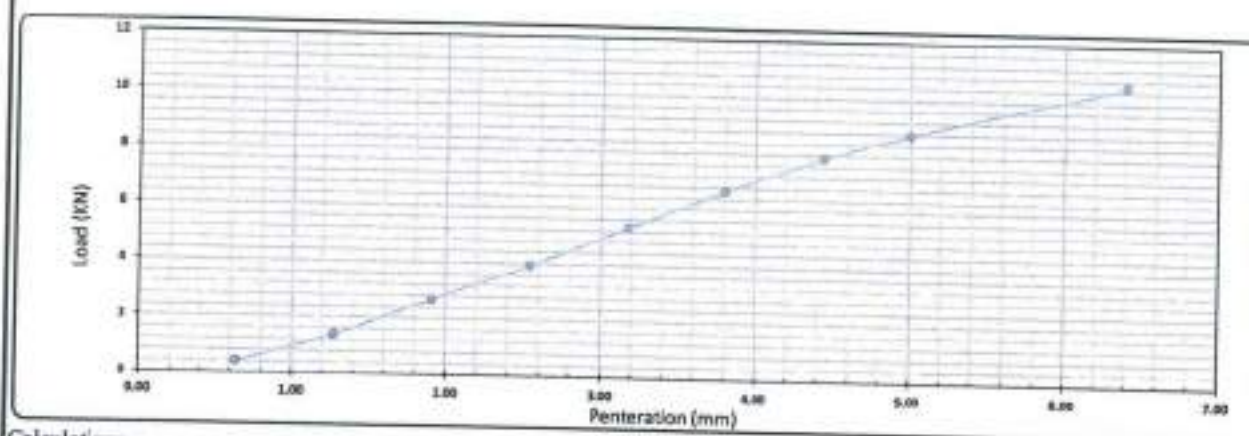
| Compaction % for Mold                |       |
|--------------------------------------|-------|
| Mold No.                             | 5     |
| Mold Vol. (cm <sup>3</sup> )         | 2080  |
| Mold WT. (gm)                        | 8068  |
| Mold WT. + Wet WT. (gm)              | 12966 |
| Wet WT. (gm)                         | 4898  |
| Wet Density (g/cm <sup>3</sup> )     | 2.355 |
| Dry Density (g/cm <sup>3</sup> )     | 2.180 |
| Proctor Density (g/cm <sup>3</sup> ) | 2.225 |
| Compaction %                         | 98    |

| Moisture Ratio After Compacted Mold |       |
|-------------------------------------|-------|
| Tare No.                            | 4     |
| Tare WT. (gm)                       | 56.28 |
| Tare WT. + Wet WT. (gm)             | 231.2 |
| Tare WT. + Dry WT. (gm)             | 216.7 |
| Water WT. (gm)                      | 14.5  |
| Dry WT. (gm)                        | 180.4 |
| Moisture Content %                  | 8.0   |

| Swelling            |           |
|---------------------|-----------|
| Mold No.            | 5         |
| Date                | 5-11-2023 |
| Initial Height (mm) | 0.00      |
| Final Height (mm)   | 0.00      |
| Difference          | 0         |
| Sample Height (mm)  | 116.40    |
| Swelling Ratio %    | 0%        |

### Loading Reading :

|                   |      |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|------|
| Penetration (mm)  | 0.64 | 1.27 | 1.91 | 2.54 | 3.18 | 3.80 | 4.43 | 5.00 | 6.40 |
| Load Reading (kg) | 47   | 142  | 217  | 283  | 343  | 403  | 464  | 524  | 603  |
| Load (KN)         | 0.47 | 1.42 | 2.17 | 2.83 | 3.43 | 4.03 | 4.64 | 5.24 | 6.03 |



### Calculations :-

| Penetration (mm) | Load (KN) | Standard Load (lb) | CBR (%) | Mold - Compaction (%) | Compaction (%) | CBR   |
|------------------|-----------|--------------------|---------|-----------------------|----------------|-------|
| 2.50             | 3.94      | 13.4               | 29.5%   | 98                    | 98             | 29.5% |
| 5.00             | 8.76      | 20.0               | 43.8%   |                       |                | 43.8% |

Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

Name :

Name :

Sign :

Sign :

Sign :

|                                            |                                                                                                                 |  |                                                                                                                 |  |                                                                                                                 |  |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------|--|
| <b>MATERIAL<br/>INSPECTION<br/>REQUEST</b> |                                                                                                                 |  |                                                                                                                 |  |                                                                                                                 |  |
|                                            | الهيئة القومية للإسقاط<br>GENERAL CONTRACTING OFFICE<br>المكتب العام للمشروعات الهندسية<br>أ.د. خالد عبد الحليم |  | الهيئة القومية للإسقاط<br>GENERAL CONTRACTING OFFICE<br>المكتب العام للمشروعات الهندسية<br>أ.د. خالد عبد الحليم |  | الهيئة القومية للإسقاط<br>GENERAL CONTRACTING OFFICE<br>المكتب العام للمشروعات الهندسية<br>أ.د. خالد عبد الحليم |  |

|                      |                   |      |            |                  |    |    |    |    |      |    |    |
|----------------------|-------------------|------|------------|------------------|----|----|----|----|------|----|----|
| Contractor Company   | Yousef Negida (3) |      |            | Designer Company |    |    |    |    |      |    |    |
| Issued by Contractor | Name              | Sign | Date       | Time             |    |    |    |    |      |    |    |
|                      | Eng/Shehab Hamdi  |      | 25-10-2023 |                  |    |    |    |    |      |    |    |
| Contractor Reference | YN3-67            |      |            |                  |    |    |    |    |      |    |    |
| Received by ER       |                   |      | MIR        | C1               | C2 | C3 | DO | MM | YY   | HH | MM |
|                      |                   |      |            |                  |    |    | 25 | 10 | 2023 |    |    |

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

| Description of Materials | Fill Material Result |         |      |
|--------------------------|----------------------|---------|------|
| Location to be Used      | 546+820              | 546+880 | -4   |
|                          | 546+880              | 546+940 | -4   |
|                          | 547+000              | 547+060 | -3   |
|                          | 547+060              | 547+140 | -3   |
|                          | 546+760              | 546+780 | -3.5 |

|                  |                   |        |      |  |
|------------------|-------------------|--------|------|--|
| MAR Approval No  | YN3-67            |        | Date |  |
| Supplier Name    |                   |        |      |  |
| Test Requirement | Specification     | Clause |      |  |
| Reference Photos | Yes attached / No | Other  |      |  |

| Item | Description           | Unit | Quantity | Arrival Date | Note |
|------|-----------------------|------|----------|--------------|------|
| 1    | L.I. & P.I. & O.M.C % | m3   | 5000     | 23-10-2023   |      |
| 2    | Proctor               | m3   | 5000     | 24-10-2023   |      |
| 3    | Classification        | m3   | 5000     | 23-10-2023   |      |
| 4    | Sieve Analysis        | m3   | 5000     | 23-10-2023   |      |
| 5    | C.B.R                 | m3   | 5000     | 25-10-2023   |      |

|              |              |
|--------------|--------------|
| Comments by: | Comments by: |
|              |              |

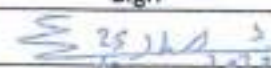
| APPROVAL STATUS          |                   |      |      |         |
|--------------------------|-------------------|------|------|---------|
| Organisation             | Name              | Sign | Date | A-AWC-R |
| Contractor               | Eng/ Shehab Hamdi |      |      |         |
| QA/QC *                  |                   |      |      |         |
| GARB**                   |                   |      |      |         |
| Employers Representative |                   |      |      |         |

\* Designer  
\*\* Alignment / Bridges: Culvert Only

|                                          |                                                                                    |  |  |  |
|------------------------------------------|------------------------------------------------------------------------------------|--|--|--|
| <b>MATERIAL<br/>APPROVAL<br/>REQUEST</b> |  |  |  |  |
|                                          |                                                                                    |  |  |  |

|                        |                    |                                                                                   |            |      |                  |    |    |     |      |    |     |
|------------------------|--------------------|-----------------------------------------------------------------------------------|------------|------|------------------|----|----|-----|------|----|-----|
| Location Name          | Contractor Company |                                                                                   |            |      | Designer Company |    |    |     |      |    |     |
| Electric express train | Yousef Negida (3)  |                                                                                   |            |      | k.k              |    |    |     |      |    |     |
| Issued by Contractor   | Name               | Sign                                                                              | Date       | Time |                  |    |    |     |      |    |     |
|                        | Eng/Shehab Hamdi   |  | 25-10-2023 |      |                  |    |    |     |      |    |     |
| Contractor Reference   | YN3-67             |                                                                                   |            |      |                  |    |    |     |      |    |     |
| Received by ER         |                    |                                                                                   | MAR        | C1   | C2               | C3 | DD | M M | YY   | HH | M M |
|                        |                    |                                                                                   |            |      |                  |    | 25 | 10  | 2023 |    |     |

|                                                   |               |                       |                             |         |
|---------------------------------------------------|---------------|-----------------------|-----------------------------|---------|
| The Following Test Result are Attached For Review |               |                       |                             |         |
| Description of Materials                          | Soil ( A-1-b) |                       |                             |         |
| Location Of Stock                                 | 547+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 | 12.3 %                      |         |
| 4                                                 | ASTM D 4318   | Atterberg limit       | N.P                         |         |
| 5                                                 | ASTM D 2974   | Moisture content      | 8                           |         |
| 6                                                 | ASTM D 1557   | Modified proctor      | 2.21                        |         |
| 7                                                 | ASTM D 1883   | CBR                   | 62.1 %                      |         |
| Comments by:                                      |               |                       | Comments by:                |         |
|                                                   |               |                       |                             |         |

| APPROVAL STATUS          |                  |                                                                                     |      |         |
|--------------------------|------------------|-------------------------------------------------------------------------------------|------|---------|
| Organisation             | Name             | Sign                                                                                | Date | A-AWC-R |
| Contractor               | Eng/Shehab Hamdi |  |      |         |
| Contractor QA/QC *       | Abdullah SAMY    |  |      |         |
| GARB**                   |                  |                                                                                     |      |         |
| 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 Lab: Negida Central Lab

### PARTICLE SIZE DISTRIBUTION OF SOIL

Description of Materials: Embankment

|              |                 |        |      |              |  |            |
|--------------|-----------------|--------|------|--------------|--|------------|
| Testing Date | 23-10-23        | code   |      | From Station |  | TO Station |
| Location     | K.P. 547+500    |        |      |              |  |            |
| Company Name | Yousef Negida 3 | YN3-67 | Zone | 546+000      |  | 549+000    |

1-visual inspection test :-

2-Gradient test :-

| A-gradation of bulk materials |       |       |        | SAMPLE WEIGHT [g] |         | 58923.00 | gm      |      | table classify |
|-------------------------------|-------|-------|--------|-------------------|---------|----------|---------|------|----------------|
| sieve size                    | 2     | 1.5   | 1      | 3/4               | 1/2     | 3/8      | # 4     | PASS | soil classify  |
| Mass retained (g)             | 0.0   | 952.0 | 3880.0 | 4595.0            | 6787.0  | 10106.0  | 4004.0  |      | A-1-b          |
| Cumulative Retained (g)       | 0.0   | 952.0 | 4832.0 | 9427.0            | 16214.0 | 26320.0  | 30324.0 | PRO  | 2.210          |
| Cumulative Retained %         | 0.0   | 1.7   | 8.5    | 16.6              | 28.5    | 46.2     | 53.3    | WC   | 8              |
| Cumulative Passing %          | 100.0 | 98.3  | 91.5   | 83.4              | 71.5    | 53.8     | 46.7    | CBR  | 62.1%          |

| B-soft material gradation |       |        |        | WT.OF sample |  | 500.00 | gm |
|---------------------------|-------|--------|--------|--------------|--|--------|----|
| sieve size                | 10    | 40     | 200    |              |  |        |    |
| Cumulative Retained (g)   | 26.00 | 168.00 | 368.00 |              |  |        |    |
| Cumulative Retained %     | 5.20  | 33.60  | 73.60  |              |  |        |    |
| Cumulative Passing %      | 94.80 | 66.40  | 26.40  |              |  |        |    |

| 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 | 12.5 | 9.5  | 4.75 | 2.00 | 0.425 | 0.075 |
| Cumulative Passing % | 100.0 | 98.3 | 91.5 | 83.4 | 71.5 | 53.8 | 46.7 | 44.3 | 31.0  | 12.3  |
|                      |       |      |      |      |      |      |      |      |       |       |
|                      |       |      |      |      |      |      |      |      |       |       |
|                      |       |      |      |      |      |      |      |      |       |       |

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

Contractor

شركة نجيدة للمقاولات  
المعمل المركزي  
مشروع القطار السريع / فوكا - مطروح

Consultant

Mohamed



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



### PROCTOR TEST

|                 |                 |        |      |              |            |
|-----------------|-----------------|--------|------|--------------|------------|
| Testing Date    | 24-10-23        | code   | Zone | From Station | To Station |
| Location        | K.P. 547+500    | YN3-67 |      | 546+000      | 549+000    |
| Yousef nagida 3 | Yousef Nagida 3 |        |      |              |            |

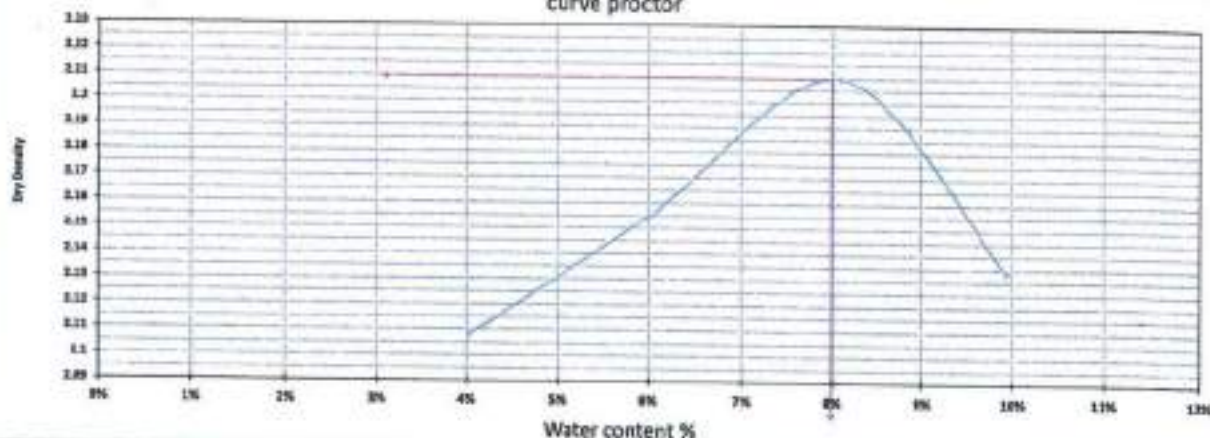
|                      |        |                 |      |
|----------------------|--------|-----------------|------|
| Weight of empty mold | 5747.0 | MAX Dry Density | 2.21 |
| Mold Volume          | 2115.0 | Water content % | 8    |

|                       |         |         |         |         |  |
|-----------------------|---------|---------|---------|---------|--|
| trial no :            | 1       | 2       | 3       | 4       |  |
| Wt. Of Mold+ wet soil | 10385.0 | 10577.0 | 10799.0 | 10708.0 |  |
| WT. WET SOIL          | 4638.0  | 4830.0  | 5052.0  | 4961.0  |  |
| Wt. Density           | 2.193   | 2.284   | 2.389   | 2.346   |  |

|                        |        |        |        |        |        |        |        |        |  |  |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Tare No.               | 8      | 6      | 7      | 4      | 5      | 6      | 7      | 8      |  |  |
| Tare wt.               | 36.26  | 38.82  | 35.99  | 36.28  | 35.35  | 38.8   | 35.99  | 36.26  |  |  |
| Wt. Of wet soil & tare | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  |  |  |
| Wt. Of dry soil & tare | 155.23 | 155.29 | 152.96 | 153.03 | 150.69 | 150.90 | 148.83 | 148.79 |  |  |
| Wt. Of water           | 4.8    | 4.7    | 7.0    | 7.0    | 9.3    | 9.1    | 11.2   | 11.2   |  |  |
| Wt. Of dry soil        | 119.0  | 116.5  | 117.0  | 116.8  | 115.3  | 112.1  | 112.8  | 112.5  |  |  |
| Water content %        | 4.01%  | 4.04%  | 6.02%  | 5.97%  | 8.07%  | 8.12%  | 9.90%  | 9.96%  |  |  |
| A.V. Water content %   | 4.01%  | 4.04%  | 5.97%  | 5.97%  | 8.07%  | 8.12%  | 9.90%  | 9.96%  |  |  |
| Dry Density            | 2.188  | 2.185  | 2.218  | 2.218  | 2.218  | 2.218  | 2.134  | 2.134  |  |  |

01 200

curve proctor



Contractor

شركة فوكا للمقاولات  
المعمارية والهندسة  
مشروع القطار السريع / فوكا - مطروح

Consultant

Abdelhak



# Electric Express Train - HSR



## California Bearing Ratio TEST

|              |                  |        |      |              |            |
|--------------|------------------|--------|------|--------------|------------|
| Testing Date | 25-10-2023       | code   | Zone | From Station | To station |
| Location     | K.P. 547-508     | Y03-67 |      | 546+000      | 549+000    |
| Company Name | Youssef Nagida 3 |        |      |              |            |

### Test Results:

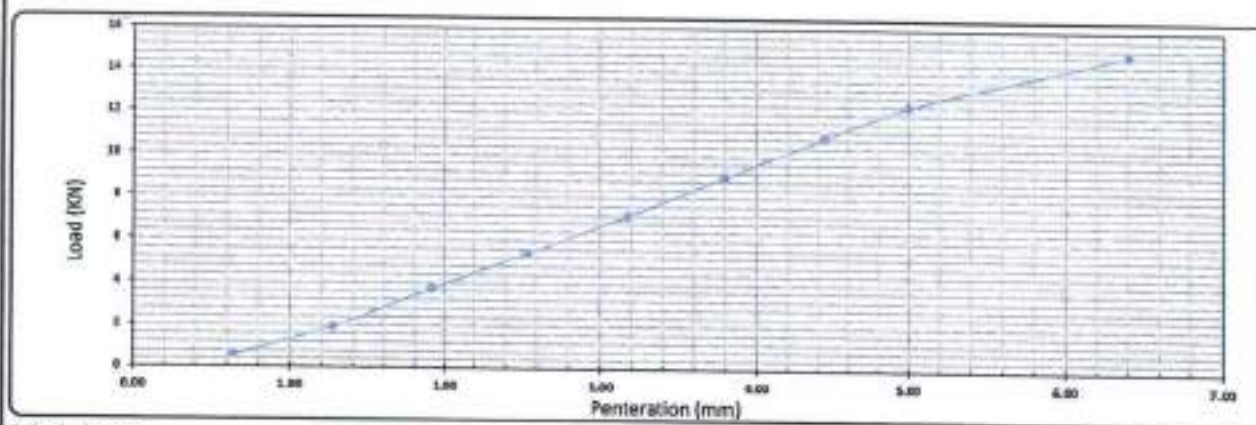
| Compaction % for Mold                |       |
|--------------------------------------|-------|
| Mold No.                             | 1     |
| Mold Vol. (cm <sup>3</sup> )         | 2133  |
| Mold WT. (gm)                        | 7724  |
| Mold WT. + Wet WT. (gm)              | 12693 |
| Wet WT. (gm)                         | 4969  |
| Wet Density (g/cm <sup>3</sup> )     | 2.330 |
| Dry Density (g/cm <sup>3</sup> )     | 2.159 |
| Proctor Density (g/cm <sup>3</sup> ) | 2.210 |
| Compaction %                         | 98    |

| Moisture Ratio After Compacted Mold |        |
|-------------------------------------|--------|
| Tare No.                            | 6      |
| Tare WT. (gm)                       | 38.8   |
| Tare WT. + Wet WT. (gm)             | 228.9  |
| Tare WT. + Dry WT. (gm)             | 215.02 |
| Water WT. (gm)                      | 13.9   |
| Dry WT. (gm)                        | 176.2  |
| Moisture Content %                  | 7.9    |

| Swelling            |            |
|---------------------|------------|
| Mold No.            | 1          |
| Date                | 25-10-2023 |
| Initial Height (mm) | 0.00       |
| Final Height (mm)   | 0.00       |
| Difference          | 0          |
| Sample Height (mm)  | 116.40     |
| Swelling Ratio %    | 0%         |

### Loading Reading :

|                   |      |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|------|
| Penetration (mm)  | 0.64 | 1.27 | 1.91 | 2.54 | 3.18 | 3.89 | 4.45 | 5.08 | 6.40 |
| Load Reading (kg) | 66   | 109  | 161  | 225  | 295  | 365  | 411  | 466  | 591  |
| Load (KN)         | 0.66 | 1.09 | 1.61 | 2.25 | 2.95 | 3.65 | 4.11 | 4.66 | 5.91 |



### Calculations :-

| Penetration (mm) | Load (Kn) | Standard Load (lb) | CBR (%) | Mold - Compaction (%) | Compaction (%) | CBR   |
|------------------|-----------|--------------------|---------|-----------------------|----------------|-------|
| 2.50             | 5.44      | 13.4               | 40.7%   | 98                    | 98             | 40.9% |
| 5.00             | 12.40     | 20.0               | 61.9%   |                       |                | 62.1% |

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

|                                            |                                                                                                                                                                                                                                                                                                                                           |  |  |  |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| <b>MATERIAL<br/>INSPECTION<br/>REQUEST</b> |     |  |  |  |
|                                            | ENGINEERING CONSULTING OFFICE<br>المكتب الاستشاري الهندسي<br>(أو ذلك المماثل)                                                                                                                                                                                                                                                             |  |  |  |

|                      |                          |                                                                                           |                                                                                                                                                                                                                                           |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
|----------------------|--------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----|----|----|----|----|----|--|--|--|----|----|------|--|--|--|
| Contractor Company   | Yousef Negida (3)        |                                                                                           | Designer Company                                                                                                                                                                                                                          |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| Issued by Contractor | Name<br>Eng/Shehab Hamdi | Sign<br> | Date<br>22-10-2023                                                                                                                                                                                                                        | Time |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| Contractor Reference | YN3-66                   |                                                                                           |                                                                                                                                                                                                                                           |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| 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>22</td> <td>10</td> <td>2023</td> <td></td> <td></td> </tr> </table> | C1   | C2   | C3 | DD | MM | YY | HH | MM |  |  |  | 22 | 10 | 2023 |  |  |  |
| C1                   | C2                       | C3                                                                                        | DD                                                                                                                                                                                                                                        | MM   | YY   | HH | MM |    |    |    |    |  |  |  |    |    |      |  |  |  |
|                      |                          |                                                                                           | 22                                                                                                                                                                                                                                        | 10   | 2023 |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |

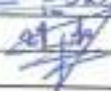
|          |                                |                             |                                                          |
|----------|--------------------------------|-----------------------------|----------------------------------------------------------|
| CODE - 1 | S1 to S21<br>Station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

| Description of Materials | Fill Material Result |         |      |
|--------------------------|----------------------|---------|------|
| Location to be Used      | 547+000              | 547+060 | -4   |
|                          | 547+060              | 547+140 | -4   |
|                          | 547+000              | 547+060 | -3.5 |
|                          | 547+060              | 547+140 | -3.5 |

|                  |                   |               |        |  |
|------------------|-------------------|---------------|--------|--|
| MAR Approval No  | YN3-66            |               | Date   |  |
| Supplier Name    |                   |               |        |  |
| Test Requirement |                   | Specification | Clause |  |
| Reference Photos | Yes attached / No | Other         |        |  |

| Item | Description        | Unit | Quantity | Arrival Date | Note |
|------|--------------------|------|----------|--------------|------|
| 1    | LL & P.L & O.M.C % | m3   | 5000     | 19-10-2023   |      |
| 2    | Proctor            | m3   | 5000     | 21-10-2023   |      |
| 3    | Classification     | m3   | 5000     | 19-10-2023   |      |
| 4    | Sieve Analysis     | m3   | 5000     | 19-10-2023   |      |
| 5    | C.B.R              | m3   | 5000     | 22-10-2023   |      |

|              |              |
|--------------|--------------|
| Comments by: | Comments by: |
|              |              |

| APPROVAL STATUS          |                   |                                                                                     |      |         |
|--------------------------|-------------------|-------------------------------------------------------------------------------------|------|---------|
| Organisation             | Name              | Sign                                                                                | Date | A-AWC-R |
| Contractor               | Eng/ Shehab Hamdi |  |      |         |
| QA/QC *                  | Hassan            |  |      |         |
| GARB**                   |                   |                                                                                     |      |         |
| Employers Representative |                   |                                                                                     |      |         |

\* Designer

\*\* Alignment / Bridges: Culvert Only

# MATERIAL APPROVAL REQUEST

المجلس  
للمواصلات  
(GARLT)



ENGINEERING CONSULTING OFFICE  
المكتب الاستشاري الهندسي  
أ.د. خالد قنديل

الهيئة العامة للإعانة  
GENERAL AUTHORITY FOR  
SPECIAL ASSISTANCE



|                        |                    |      |            |                  |   |   |    |    |      |    |    |
|------------------------|--------------------|------|------------|------------------|---|---|----|----|------|----|----|
| Location Name          | Contractor Company |      |            | Designer Company |   |   |    |    |      |    |    |
| Electric express train | Yousef Negida (3)  |      |            | k.k              |   |   |    |    |      |    |    |
| Issued by Contractor   | Name               | Sign | Date       | Time             |   |   |    |    |      |    |    |
|                        | Eng/Shehab Hamdi   |      | 22-10-2023 |                  |   |   |    |    |      |    |    |
| Contractor Reference   | YN3-S5             |      |            |                  |   |   |    |    |      |    |    |
| Received by ER         |                    |      | MAR        | 1                | 2 | 3 | DD | MM | YY   | HH | MM |
|                        |                    |      |            |                  |   |   | 22 | 10 | 2023 |    |    |

|                                                   |               |                       |                             |         |
|---------------------------------------------------|---------------|-----------------------|-----------------------------|---------|
| The Following Test Result are Attached For Review |               |                       |                             |         |
| Description of Materials                          | Soil ( A-1-a) |                       |                             |         |
| Location Of Stock                                 | 547+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 | 10.7 %                      |         |
| 4                                                 | ASTM D 4318   | Atterberg limit       | N.P                         |         |
| 5                                                 | ASTM D 2974   | Moisture content      | 7.7                         |         |
| 6                                                 | ASTM D 1557   | Modified proctor      | 2.222                       |         |
| 7                                                 | ASTM D 1883   | CBR                   | 50.4 %                      |         |
| Comments by:                                      |               |                       | Comments by:                |         |
|                                                   |               |                       |                             |         |

| APPROVAL STATUS          |                  |      |      |         |
|--------------------------|------------------|------|------|---------|
| Organisation             | Name             | Sign | Date | A-AWC-R |
| Contractor               | Eng/Shehab Hamdi |      |      |         |
| Contractor QA/QC *       | Hassan           |      |      |         |
| GARB**                   |                  |      |      |         |
| 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 Lab **Negida Central Lab**

**PARTICLE SIZE DISTRIBUTION OF SOIL**

Description of Materials **Embankment**

|              |                 |        |      |              |            |         |
|--------------|-----------------|--------|------|--------------|------------|---------|
| Testing Date | 19-10-23        | code   | Zone | From Station | TO Station |         |
| Location     | K.P 547+500     | YN3-66 |      | 546+000      |            | 549+000 |
| Company Name | Yousef Negida 3 |        |      |              |            |         |

1-visual inspection test :-

2-Gradient test :-

| A-gradation of bulk materials |       |       |        | SAMPLE WEIGHT [g] |         | 42695.00 | gm      | table classify |               |
|-------------------------------|-------|-------|--------|-------------------|---------|----------|---------|----------------|---------------|
| sieve size                    | 2     | 1.5   | 1      | 3/4               | 1/2     | 3/8      | # 4     | PASS           | soil classify |
| Mass retained (g)             | 0.0   | 266.0 | 4899.0 | 5867.0            | 4549.0  | 5440.0   | 8109.0  |                | A-1-a         |
| Cumulative Retained (g)       | 0.0   | 266.0 | 5165.0 | 11032.0           | 15581.0 | 21021.0  | 27130.0 | PRO            | 2.222         |
| Cumulative Retained %         | 0.0   | 0.6   | 12.1   | 25.8              | 36.5    | 49.2     | 63.5    | WC             | 7.7           |
| Cumulative Passing %          | 100.0 | 99.4  | 87.9   | 74.2              | 63.5    | 50.8     | 36.5    | CBR            | 50.4%         |

| B-soft material gradation |       |        |        | WT.OF sample |  | 500.00 | gm |
|---------------------------|-------|--------|--------|--------------|--|--------|----|
| sieve size                | 10    | 40     | 200    |              |  |        |    |
| Cumulative Retained (g)   | 38.00 | 201.00 | 353.00 |              |  |        |    |
| Cumulative Retained %     | 7.60  | 40.20  | 70.60  |              |  |        |    |
| Cumulative Passing %      | 92.40 | 59.80  | 29.40  |              |  |        |    |

| 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 | 12.5 | 9.5  | 4.75 | 2.00 | 0.425 | 0.075 |
| Cumulative Passing % | 100.0 | 99.4 | 87.9 | 74.2 | 63.5 | 50.8 | 36.5 | 33.7 | 21.8  | 10.7  |
|                      |       |      |      |      |      |      |      |      |       |       |
|                      |       |      |      |      |      |      |      |      |       |       |
|                      |       |      |      |      |      |      |      |      |       |       |

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

Contractor

شركة تخطيط وتصميم  
المطبخ  
شروع القطار السريع / فوكا - مطروح

Consultant

Hassan

21/10/2023

|                                                                                                                                                                     |                                                                                                                                                                                      |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|   | <b>Electric Express Train - HSR</b><br>From El An El Sokhna City To El Alamein - MATROUH<br><b>Section - 7 From FOKA TO MARSA MATROUH</b><br>From Station 504+000 To Station 588+177 |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|

### PROCTOR TEST

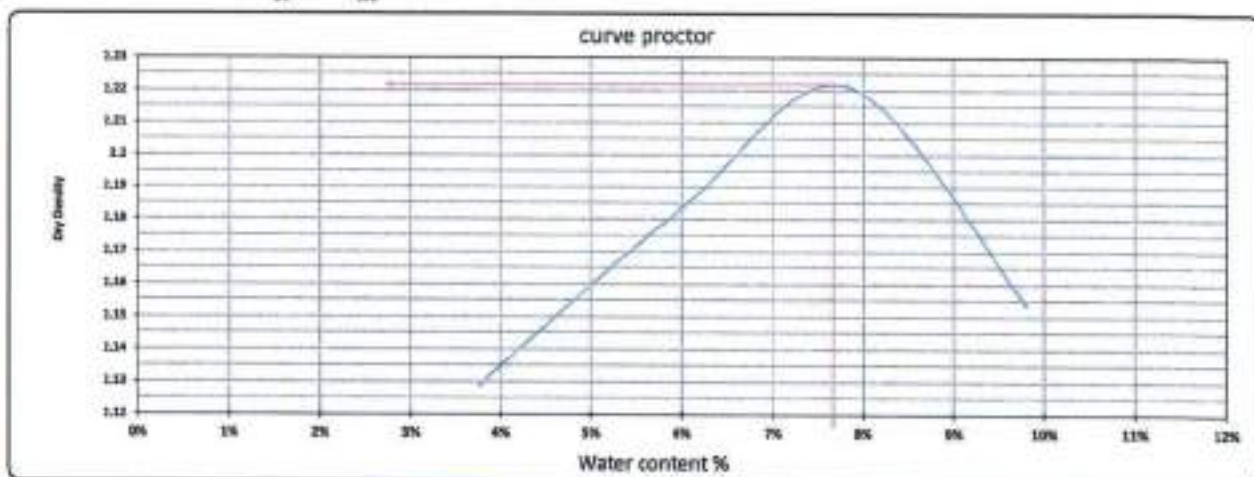
|                 |                 |        |      |              |            |
|-----------------|-----------------|--------|------|--------------|------------|
| Testing Date    | 21-10-23        | code   |      | From Station | To Station |
| Location        | K.P. 547+500    | YN3-66 | Zone | 546+000      | 549+000    |
| Yousef Negida 3 | Yousef Negida 3 |        |      |              |            |

|                      |        |                 |       |
|----------------------|--------|-----------------|-------|
| Weight of empty mold | 5747.0 | MAX Dry Density | 2.222 |
| Mold Volume          | 2115.0 | Water content % | 7.7   |

|                       |         |         |         |         |  |
|-----------------------|---------|---------|---------|---------|--|
| trial no :            | 1       | 2       | 3       | 4       |  |
| Wt. Of Mold+ wet soil | 10420.0 | 10643.0 | 10813.0 | 10749.0 |  |
| WT. WET SOIL          | 4673.0  | 4896.0  | 5066.0  | 5002.0  |  |
| Wt. Density           | 2.289   | 2.315   | 2.395   | 2.365   |  |

|                        |        |        |        |        |        |        |        |        |  |  |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Tare No.               | 8      | 6      | 7      | 4      | 5      | 6      | 7      | 8      |  |  |
| Tare wt.               | 36.26  | 38.82  | 35.99  | 36.28  | 35.35  | 38.8   | 35.99  | 36.26  |  |  |
| Wt. Of wet soil & tare | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  | 160.0  |  |  |
| Wt. Of dry soil & tare | 155.45 | 155.65 | 153.00 | 152.96 | 150.90 | 151.25 | 148.90 | 149.00 |  |  |
| Wt. Of water           | 4.6    | 4.3    | 7.0    | 7.0    | 9.1    | 8.8    | 11.1   | 11.0   |  |  |
| Wt. Of dry soil        | 119.2  | 116.8  | 117.0  | 116.7  | 115.6  | 112.5  | 112.9  | 112.7  |  |  |
| Water content %        | 3.82%  | 3.72%  | 5.98%  | 6.03%  | 7.88%  | 7.78%  | 9.83%  | 9.76%  |  |  |
| AV. Water content %    | 3.77%  | 3.81%  | 5.98%  | 6.03%  | 7.88%  | 7.78%  | 9.83%  | 9.76%  |  |  |
| Dry Density            | 2.229  | 2.194  | 2.221  | 2.221  | 2.221  | 2.221  | 2.221  | 2.221  |  |  |

62 100



Contractor

شركة هندسة الإسكندرية  
 المعمورة  
 شارع المطار الجديد - فوكا - مطروح

Consultant

Hassa  




# Electric Express Train - HSR



## California Bearing Ratio TEST

|              |                 |        |      |              |            |
|--------------|-----------------|--------|------|--------------|------------|
| Testing Date | 22-10-2023      | 0000   | Zone | From Station | To station |
| Location     | K.P. 547+500    | YN3-00 |      | 546+000      | 549+000    |
| Company Name | Yousef Negida 3 |        |      |              |            |

### Test Results:

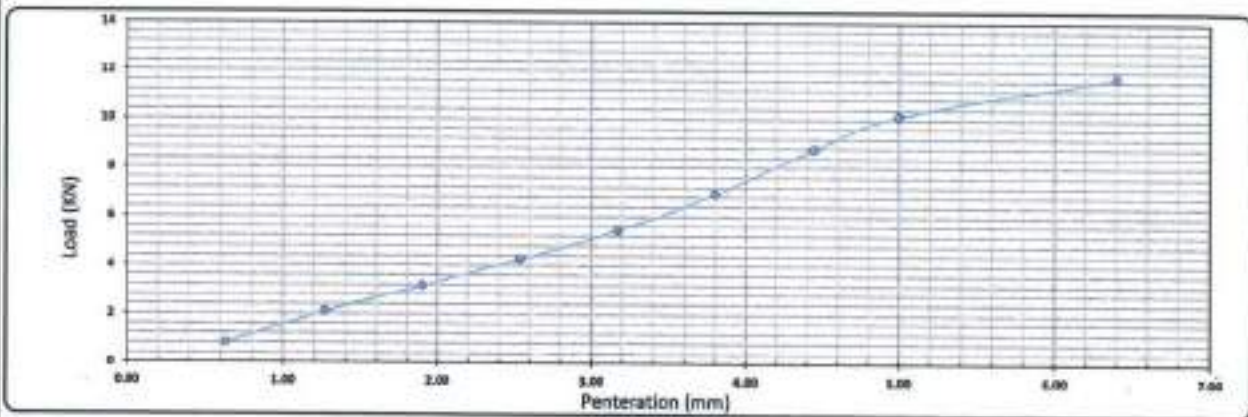
| Compaction % for Mold                |       |
|--------------------------------------|-------|
| Mold No.                             | 5     |
| Mold Vol. (cm <sup>3</sup> )         | 2080  |
| Mold WT. (gm)                        | 8068  |
| Mold WT. + Wet WT. (gm)              | 12970 |
| Wet WT. (gm)                         | 4902  |
| Wet Density (g/cm <sup>3</sup> )     | 2.357 |
| Dry Density (g/cm <sup>3</sup> )     | 2.187 |
| Proctor Density (g/cm <sup>3</sup> ) | 2.222 |
| Compaction %                         | 98    |

| Moisture Ratio After Compacted Mold |       |
|-------------------------------------|-------|
| Tare No.                            | 8     |
| Tare WT. (gm)                       | 36.26 |
| Tare WT. + Wet WT. (gm)             | 234.6 |
| Tare WT. + Dry WT. (gm)             | 220.3 |
| Water WT. (gm)                      | 14.3  |
| Dry WT. (gm)                        | 184.0 |
| Moisture Content %                  | 7.8   |

| Swelling            |            |
|---------------------|------------|
| Mold No.            | 5          |
| Date                | 22-10-2023 |
| Initial Height (mm) | 0.00       |
| Final Height (mm)   | 0.00       |
| Difference          | 0          |
| Sample Height (mm)  | 116.40     |
| Swelling Ratio %    | 0%         |

### Loading Reading :

|                   |      |      |      |      |      |      |      |       |       |
|-------------------|------|------|------|------|------|------|------|-------|-------|
| Penetration (mm)  | 0.64 | 1.27 | 1.91 | 2.54 | 3.18 | 3.80 | 4.45 | 5.00  | 6.40  |
| Load Reading (kg) | 8.4  | 21.5 | 32.5 | 43.5 | 55.1 | 70.7 | 86.4 | 101.5 | 117.8 |
| Load (KN)         | 0.8  | 2.1  | 3.2  | 4.3  | 5.4  | 6.9  | 8.6  | 10.1  | 11.7  |



### Calculations :-

| Penetration | Load  | Standard Load | CBR   | Mold - Compaction | Compaction | CBR   |
|-------------|-------|---------------|-------|-------------------|------------|-------|
| (mm)        | (Kn)  | (lb)          | ( % ) | ( % )             | ( % )      | % 98  |
| 2.50        | 4.26  | 13.4          | 31.9% | 98                | 98         | 31.8% |
| 5.00        | 10.14 | 20.0          | 50.7% |                   |            | 50.4% |

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

|                                            |                                                                                   |  |  |  |
|--------------------------------------------|-----------------------------------------------------------------------------------|--|--|--|
| <b>MATERIAL<br/>INSPECTION<br/>REQUEST</b> |  |  |  |  |
|                                            |                                                                                   |  |  |  |

|                      |                   |                                                                                   |            |                  |    |    |    |    |      |    |    |
|----------------------|-------------------|-----------------------------------------------------------------------------------|------------|------------------|----|----|----|----|------|----|----|
| Contractor Company   | Yousef Negida (3) |                                                                                   |            | Designer Company |    |    |    |    |      |    |    |
| Issued by Contractor | Name              | Sign                                                                              | Date       | Time             |    |    |    |    |      |    |    |
|                      | Eng/Shehab Hamdi  |  | 16-10-2023 |                  |    |    |    |    |      |    |    |
| Contractor Reference | YN3-65            |                                                                                   |            |                  |    |    |    |    |      |    |    |
| Received by ER       |                   |                                                                                   | MIR        | C1               | C2 | C3 | DO | MM | YY   | HH | MM |
|                      |                   |                                                                                   |            |                  |    |    | 16 | 10 | 2023 |    |    |

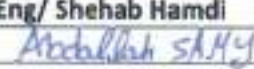
|          |                                |                             |                                                          |
|----------|--------------------------------|-----------------------------|----------------------------------------------------------|
| CODE 1   | S1 to S21<br>Station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

| Description of Materials | Fill Material Result |    |         |       |
|--------------------------|----------------------|----|---------|-------|
| Location to be Used      | 546+880              | TO | 546+940 | -4.50 |
|                          | 547+000              | TO | 547+060 | -4.50 |
|                          | 547+060              | TO | 547+140 | -4.50 |
|                          | 546+760              | TO | 546+820 | -4.50 |

|                  |                   |       |        |  |
|------------------|-------------------|-------|--------|--|
| MAR Approval No  | YN3-65            |       | Date   |  |
| Supplier Name    |                   |       |        |  |
| Test Requirement | Specification     |       | Clause |  |
| Reference Photos | Yes attached / No | Other |        |  |

| Item | Description         | Unit | Quantity | Arrival Date | Note |
|------|---------------------|------|----------|--------------|------|
| 1    | L.L & P.L & O.M.C % | m3   | 5000     | 14-10-2023   |      |
| 2    | Proctor             | m3   | 5000     | 15-10-2023   |      |
| 3    | Classification      | m3   | 5000     | 14-10-2023   |      |
| 4    | Sieve Analysis      | m3   | 5000     | 14-10-2023   |      |
| 5    | C.B.R               | m3   | 5000     | 16-10-2023   |      |

|              |              |
|--------------|--------------|
| Comments by: | Comments by: |
|              |              |

| APPROVAL STATUS          |                                                                                     |                                                                                      |      |         |
|--------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------|---------|
| Organisation             | Name                                                                                | Sign                                                                                 | Date | A-AWC-R |
| Contractor               | Eng/ Shehab Hamdi                                                                   |  |      |         |
| QA/QC *                  |  |   |      |         |
| GARB**                   |                                                                                     |                                                                                      |      |         |
| Employers Representative |                                                                                     |                                                                                      |      |         |

\* Designer

\*\* Alignment / Bridges: Culvert Only

# MATERIAL APPROVAL REQUEST

المجلس  
القانوني  
(MARB)



ENGINEERING CONSULTING OFFICE  
المكتب الاستشاري الهندسي  
ل.م. ذ.ك. القادري

الهيئة العامة للإعطاء  
SAGIA



|                        |                    |                    |                  |      |    |    |    |      |    |    |
|------------------------|--------------------|--------------------|------------------|------|----|----|----|------|----|----|
| Location Name          | Contractor Company |                    | Designer Company |      |    |    |    |      |    |    |
| Electric express train | Yousef Negida (3)  |                    | k.k              |      |    |    |    |      |    |    |
| Issued by Contractor   | Name               | Sign               | Date             | Time |    |    |    |      |    |    |
|                        | Eng/Shehab Hamdi   | <i>[Signature]</i> | 16-10-2023       |      |    |    |    |      |    |    |
| Contractor Reference   | YN3-65             |                    |                  |      |    |    |    |      |    |    |
| Received by ER         |                    | MAR                | C1               | C2   | C3 | DD | M  | YY   | HH | MM |
|                        |                    |                    |                  |      |    | 16 | 10 | 2023 |    |    |

The Following Test Result are Attached For Review

| Description of Materials | Soil ( A-1-a) |                       |                             |         |
|--------------------------|---------------|-----------------------|-----------------------------|---------|
| Location Of Stock        | 547+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 | 11.5 %                      |         |
| 4                        | ASTM D 4318   | Atterberg limit       | 3.6 %                       |         |
| 5                        | ASTM D 2974   | Moisture content      | 8.1 %                       |         |
| 6                        | ASTM D 1557   | Modified proctor      | 2.186                       |         |
| 7                        | ASTM D 1883   | CBR                   | 37.5 %                      |         |
| Comments by:             |               |                       | Comments by:                |         |
|                          |               |                       |                             |         |

## APPROVAL STATUS

| Organisation             | Name             | Sign               | Date | A-AWC-R |
|--------------------------|------------------|--------------------|------|---------|
| Contractor               | Eng/Shehab Hamdi | <i>[Signature]</i> |      |         |
| Contractor QA/QC *       | Abdullah SAMY    | <i>[Signature]</i> |      |         |
| GARB**                   |                  |                    |      |         |
| 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 Lab: **Negida Central Lab**

**PARTICLE SIZE DISTRIBUTION OF SOIL**

Description of Materials: **Embankment**

|              |                 |        |      |              |  |            |
|--------------|-----------------|--------|------|--------------|--|------------|
| Testing Date | 14-10-23        | code   | Zone | From Station |  | TO Station |
| Location     | K.P. 547+500    | YN3-65 |      | 546+000      |  | 549+000    |
| Company Name | Yousef Negida 3 |        |      |              |  |            |

1-visual inspection test :-

2-Gradient test :-

| A-gradation of bulk materials |       |       |        | SAMPLE WEIGHT (g) |         | 47124.00 | gm      | table classify<br>soil classify<br>A-1-a |
|-------------------------------|-------|-------|--------|-------------------|---------|----------|---------|------------------------------------------|
| sieve size                    | 2     | 1.5   | 1      | 3/4               | 1/2     | 3/8      | # 4     |                                          |
| Mass retained (g)             | 0.0   | 396.0 | 4488.0 | 5646.0            | 3742.0  | 5272.0   | 7608.0  |                                          |
| Cumulative Retained (g)       | 0.0   | 396.0 | 4862.0 | 10508.0           | 14250.0 | 19522.0  | 27130.0 |                                          |
| Cumulative Retained %         | 0.0   | 0.8   | 10.3   | 22.3              | 30.2    | 41.4     | 57.6    | PRO                                      |
| Cumulative Passing %          | 100.0 | 99.2  | 89.7   | 77.7              | 69.8    | 58.6     | 42.4    | WC                                       |
|                               |       |       |        |                   |         |          |         | CBR                                      |

| B-soft material gradation |       |        |        | WT.OF sample |  | 500.00 | gm |
|---------------------------|-------|--------|--------|--------------|--|--------|----|
| sieve size                | 10    | 40     | 200    |              |  |        |    |
| Cumulative Retained (g)   | 29.00 | 177.00 | 365.00 |              |  |        |    |
| Cumulative Retained %     | 5.80  | 35.40  | 73.00  |              |  |        |    |
| Cumulative Passing %      | 94.20 | 64.60  | 27.00  |              |  |        |    |

| 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 | 12.5 | 9.5  | 4.75 | 2.00 | 0.425 | 0.075 |
| Cumulative Passing % | 100.0 | 99.2 | 89.7 | 77.7 | 69.8 | 58.6 | 42.4 | 27.4 | 11.3  |       |
|                      |       |      |      |      |      |      |      |      |       |       |
|                      |       |      |      |      |      |      |      |      |       |       |

| ATTERBERG LIMITS | LIQUID LIMIT ( L.L.) | PLASTIC LIMIT (P.L.) | PLASTIC INDEX (P.I.) |
|------------------|----------------------|----------------------|----------------------|
|                  | 24.0%                | 20.3%                | 3.6%                 |

Contractor  
**شركة مصر للطرق والسكك الحديدية**  
**مصر**  
**مشروع القطار السريع - مطروح**

Consultant

*Abdelshameh*



## Electric Express Train - HSR

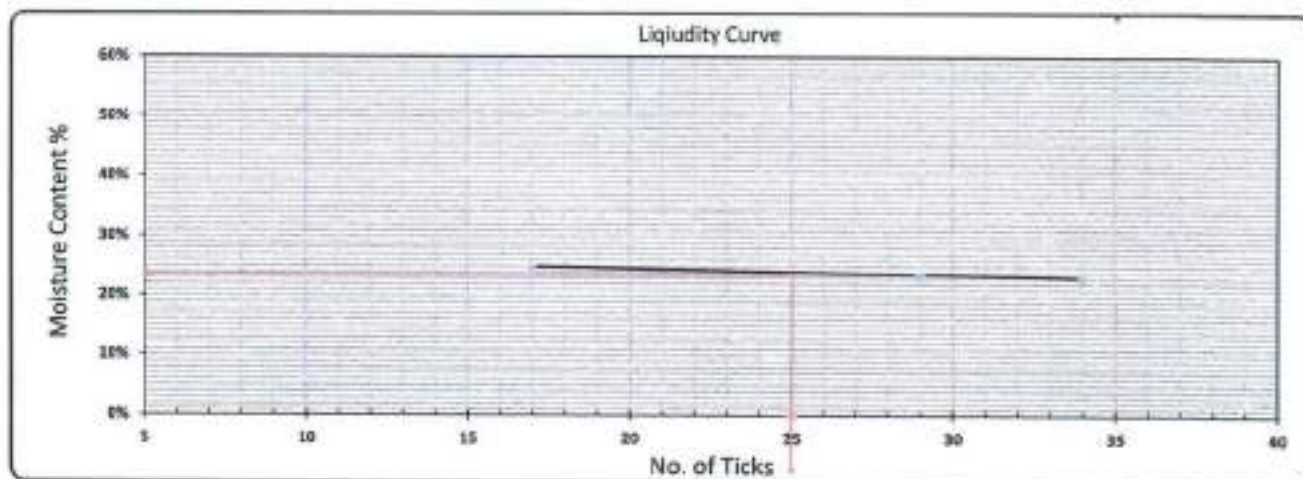


### Plasticity and Liquidity Test - Atterberg Limits

|              |                 |        |      |              |            |
|--------------|-----------------|--------|------|--------------|------------|
| Testing Date | 15-10-23        | Code   | Zone | From Station | To Station |
| Location     | K.P. 547+500    | YN3-65 |      | 546+000      | 549+000    |
| Company Name | Yousef Negida 3 |        |      |              |            |

#### Testing Results :-

| Test                    | Liquid Limit |       |       |  | Plastic Limit |       |
|-------------------------|--------------|-------|-------|--|---------------|-------|
| No. of Ticks            | 17           | 29    | 34    |  | -             | -     |
| Tare No.                | 2            | 8     | 6     |  | 3             | 4     |
| Tare WT. (gm)           | 36.63        | 37.08 | 38.11 |  | 36.17         | 35.01 |
| Tare WT. + Wet WT. (gm) | 55.13        | 54.70 | 51.36 |  | 44.27         | 43.65 |
| Tare WT. + Dry WT. (gm) | 51.45        | 51.34 | 48.88 |  | 42.81         | 42.29 |
| Water WT. (gm)          | 3.68         | 3.36  | 2.48  |  | 1.46          | 1.36  |
| Dry WT. (gm)            | 14.82        | 14.26 | 10.77 |  | 6.64          | 7.28  |
| Moisture Content %      | 24.8%        | 23.5% | 22.9% |  | 21.8%         | 18.7% |
| Average %               |              |       |       |  | 20.3%         |       |



| LL    | P.L   | P.I  |
|-------|-------|------|
| 24.0% | 20.3% | 3.6% |

|                 |               |                     |
|-----------------|---------------|---------------------|
| Lab. Specialist | Lab. Engineer | Consultant Engineer |
| Name :          | Name :        | Name :              |
| Sign :          | Sign :        | Sign :              |



Contractor  
شركة المقاولات العربيات  
2003/12/24  
مشروع انقطاع السرب / فوكة - مطروح

## California Bearing Ratio TEST

|              |                 |        |      |              |         |            |
|--------------|-----------------|--------|------|--------------|---------|------------|
| Testing Date | 16-10-2023      | code   | Zone | From Station | 546+000 | To station |
| Location     | K.P. 547+500    | YN3-65 |      | 549+000      |         |            |
| Company Name | Yousef Negida 3 |        |      |              |         |            |

## Test Results:

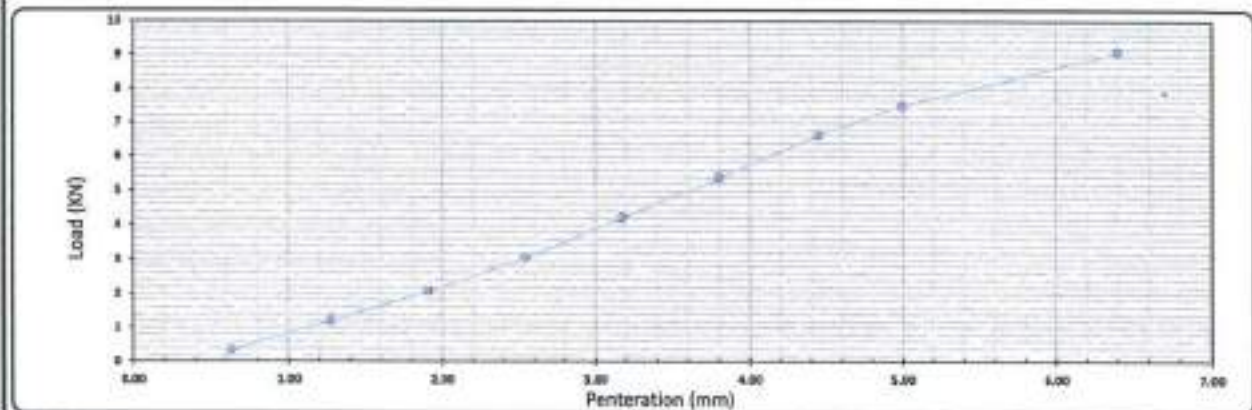
| Compaction % for Mold                |       |
|--------------------------------------|-------|
| Mold No.                             | 4     |
| Mold Vol. (cm <sup>3</sup> )         | 2088  |
| Mold WT. (gm)                        | 8060  |
| Mold WT. + Wet WT. (gm)              | 12870 |
| Wet WT. (gm)                         | 4810  |
| Wet Density (g/cm <sup>3</sup> )     | 2.304 |
| Dry Density (g/cm <sup>3</sup> )     | 2.133 |
| Proctor Density (g/cm <sup>3</sup> ) | 2.186 |
| Compaction %                         | 98    |

| Moisture Ratio After Compacted Mold |       |
|-------------------------------------|-------|
| Tare No.                            | 7     |
| Tare WT. (gm)                       | 15.99 |
| Tare WT. + Wet WT. (gm)             | 177.5 |
| Tare WT. + Dry WT. (gm)             | 159.6 |
| Water WT. (gm)                      | 17.9  |
| Dry WT. (gm)                        | 223.6 |
| Moisture Content %                  | 8.0   |

| Swelling            |            |
|---------------------|------------|
| Mold No.            | 4          |
| Date                | 16-10-2023 |
| Initial Height (mm) | 0.00       |
| Final Height (mm)   | 0.00       |
| Difference          | 0          |
| Sample Height (mm)  | 116.40     |
| Swelling Ratio %    | 0%         |

## Loading Reading :

|                   |      |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|------|
| Penetration (mm)  | 0.04 | 1.27 | 1.91 | 2.54 | 3.18 | 3.80 | 4.45 | 5.00 | 6.40 |
| Load Reading (kg) | 38   | 125  | 211  | 322  | 431  | 549  | 676  | 783  | 928  |
| Load (KN)         | 0.37 | 1.23 | 2.07 | 3.15 | 4.24 | 5.38 | 6.65 | 7.73 | 9.17 |



## Calculations :-

| Penetration | Load | Standard Load | CBR   | Mold - Compaction | Compaction | CBR   |
|-------------|------|---------------|-------|-------------------|------------|-------|
| (mm)        | (Ka) | (lb)          | ( % ) | ( % )             | ( % )      | % 98  |
| 2.50        | 3.06 | 13.4          | 22.9% | 98                | 98         | 23.0% |
| 5.00        | 7.48 | 20.0          | 37.3% |                   |            | 37.5% |

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

# MATERIAL INSPECTION REQUEST



|                      |                          |          |                                                                                                                                                                                                                                           |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
|----------------------|--------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----|----|----|----|----|----|--|--|--|----|----|------|--|--|--|
| Contractor Company   | Yousef Negida (3)        |          | Designer Company                                                                                                                                                                                                                          |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| Issued by Contractor | Name<br>Eng/Shohab Hamdi | Sign<br> | Date<br>10-10-2023                                                                                                                                                                                                                        | Time |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| Contractor Reference | YN3-64                   |          |                                                                                                                                                                                                                                           |      |      |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |
| 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>10</td> <td>10</td> <td>2023</td> <td></td> <td></td> </tr> </table> | C1   | C2   | C3 | DD | MM | YY | HH | MM |  |  |  | 10 | 10 | 2023 |  |  |  |
| C1                   | C2                       | C3       | DD                                                                                                                                                                                                                                        | MM   | YY   | HH | MM |    |    |    |    |  |  |  |    |    |      |  |  |  |
|                      |                          |          | 10                                                                                                                                                                                                                                        | 10   | 2023 |    |    |    |    |    |    |  |  |  |    |    |      |  |  |  |

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

| Description of Materials | Fill Material Result |         |       |
|--------------------------|----------------------|---------|-------|
| Location to be Used      | 546+900              | 546+940 | -5.50 |
|                          | 547+000              | 547+060 | -5.00 |
|                          | 547+060              | 547+140 | -5.00 |
|                          | 546+760              | 546+860 | -5.00 |
|                          | 546+860              | 546+940 | -5.00 |
|                          | 546+760              | 546+820 | -4.50 |
|                          | 546+820              | 546+880 | -4.50 |

|                  |                   |        |  |
|------------------|-------------------|--------|--|
| MAR Approval No  | YN3-64            | Date   |  |
| Supplier Name    |                   |        |  |
| Test Requirement | Specification     | Clause |  |
| Reference Photos | Yes attached / No | Other  |  |

| Item | Description         | Unit | Quantity | Arrival Date | Note |
|------|---------------------|------|----------|--------------|------|
| 1    | L.L & P.L & O.M.C % | m3   | 5000     | 08-10-2023   |      |
| 2    | Proctor             | m3   | 5000     | 09-10-2023   |      |
| 3    | Classification      | m3   | 5000     | 08-10-2023   |      |
| 4    | Sieve Analysis      | m3   | 5000     | 08-10-2023   |      |
| 5    | C.B.R               | m3   | 5000     | 10-10-2023   |      |

|              |              |
|--------------|--------------|
| Comments by: | Comments by: |
|              |              |

| APPROVAL STATUS          |                   |      |      |         |
|--------------------------|-------------------|------|------|---------|
| Organisation             | Name              | Sign | Date | A-AWC-R |
| Contractor               | Eng/ Shohab Hamdi |      |      |         |
| QA/QC *                  | Ahmed Abo Zaid    |      |      |         |
| GARB**                   |                   |      |      |         |
| Employers Representative |                   |      |      |         |

\* Designer

\*\* Alignment / Bridges: Culvert Only

# MATERIAL APPROVAL REQUEST

المجلس  
القانوني وال  
(GARBL)



ENGINEERING CONSULTING OFFICE  
المكتب الاستشاري الهندسي  
ل.د. خالد خليل

الهيئة القومية للإسكان



|                        |                    |      |                  |      |
|------------------------|--------------------|------|------------------|------|
| Location Name          | Contractor Company |      | Designer Company |      |
| Electric express train | Yousef Negida (3)  |      | k.k              |      |
| Issued by Contractor   | Name               | Sign | Date             | Time |
|                        | Eng/Shehab Hamdi   |      | 10-10-2023       |      |
| Contractor Reference   | YN3-64             |      |                  |      |
| Received by ER         |                    |      |                  |      |
|                        |                    | MAR  | 10               | 10   |

|                                                   |               |                       |                             |         |
|---------------------------------------------------|---------------|-----------------------|-----------------------------|---------|
| The Following Test Result are Attached For Review |               |                       |                             |         |
| Description of Materials                          | Soil ( A-1-a) |                       |                             |         |
| Location Of Stock                                 | 547+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 | 14.2 %                      |         |
| 4                                                 | ASTM D 4318   | Atterberg limit       | N.P                         |         |
| 5                                                 | ASTM D 2974   | Moisture content      | 8 %                         |         |
| 6                                                 | ASTM D 1557   | Modified proctor      | 2.203                       |         |
| 7                                                 | ASTM D 1883   | CBR                   | 63.63 %                     |         |
| Comments by:                                      |               |                       | Comments by:                |         |
|                                                   |               |                       |                             |         |

| APPROVAL STATUS          |                  |      |      |         |
|--------------------------|------------------|------|------|---------|
| Organisation             | Name             | Sign | Date | A-AWC-R |
| Contractor               | Eng/Shehab Hamdi |      |      |         |
| Contractor QA/QC *       | Alhmed Alkhatib  |      |      |         |
| GARB**                   |                  |      |      |         |
| 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 Lab: **Negida Central Lab**

**PARTICLE SIZE DISTRIBUTION OF SOIL**

Description of Materials: **Embankment**

| Testing Date | 08-10-23        | code   | Zone | From Station | TO Station |
|--------------|-----------------|--------|------|--------------|------------|
| Location     | 547+500         | YN3-64 |      | 546+000      | 549+000    |
| Company Name | Yousef Negida 3 |        |      |              |            |

1-visual inspection test :-

2-Gradient test :-

**A-gradation of bulk materials**

| SAMPLE WEIGHT [g]       |       |       |        |        |         |         |         | 44046.00 | gm  | table classify<br>soil classify<br>A-1-a<br>2.203<br>8<br>63.63% |
|-------------------------|-------|-------|--------|--------|---------|---------|---------|----------|-----|------------------------------------------------------------------|
| sieve size              | 2     | 1.5   | 1      | 3/4    | 1/2     | 3/8     | # 4     | PASS     |     |                                                                  |
| Mass retained (g)       | 0.0   | 281.0 | 1196.0 | 3463.0 | 6380.0  | 2894.0  | 10062.0 |          |     |                                                                  |
| Cumulative Retained (g) | 0.0   | 281.0 | 1477.0 | 4940.0 | 11320.0 | 14214.0 | 24276.0 |          | PRO |                                                                  |
| Cumulative Retained %   | 0.0   | 0.6   | 3.4    | 11.2   | 25.7    | 32.3    | 55.1    |          | WC  |                                                                  |
| Cumulative Passing %    | 100.0 | 99.4  | 96.6   | 88.8   | 74.3    | 67.7    | 44.9    |          | CBR |                                                                  |

**B-soft material gradation**

| WT.OF sample            |       |        |        | 500.00 | gm |
|-------------------------|-------|--------|--------|--------|----|
| sieve size              | 10    | 40     | 200    |        |    |
| Cumulative Retained (g) | 38.00 | 183.00 | 342.00 |        |    |
| Cumulative Retained %   | 7.60  | 36.60  | 68.40  |        |    |
| Cumulative Passing %    | 92.40 | 63.40  | 31.60  |        |    |

**C-General gradient**

| sieve size(n)        | 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 | 12.5 | 9.5  | 4.75 | 2.00 | 0.425 | 0.075 |
| Cumulative Passing % | 100.0 | 99.4 | 96.6 | 88.8 | 74.3 | 67.7 | 44.9 | 31.5 | 28.2  | 14.2  |
|                      |       |      |      |      |      |      |      |      |       |       |
|                      |       |      |      |      |      |      |      |      |       |       |

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

Contractor  
**م. محمد عبد الحليم**  
**م. محمد عبد الحليم**  
**مشروع القطار السريع / فوكة - مطروح**

Consultant  
**10/10/2023**



### PROCTOR TEST

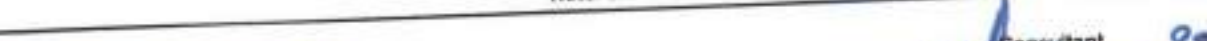


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|--|--|--|--|--|--|---|---|---|---|--|--|
|  |  |  |  |  |  | 6 | 4 | 3 | 8 |  |  |
|--|--|--|--|--|--|---|---|---|---|--|--|

|    |     |
|----|-----|
| 41 | 340 |
|----|-----|



## الحقوق

|    |    |
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| 10 | 10 |
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|  |                                                          |  |
|--|----------------------------------------------------------|--|
|  | <h2 style="margin: 0;">Electric Express Train - HSR</h2> |  |
|--|----------------------------------------------------------|--|

### California Bearing Ratio TEST

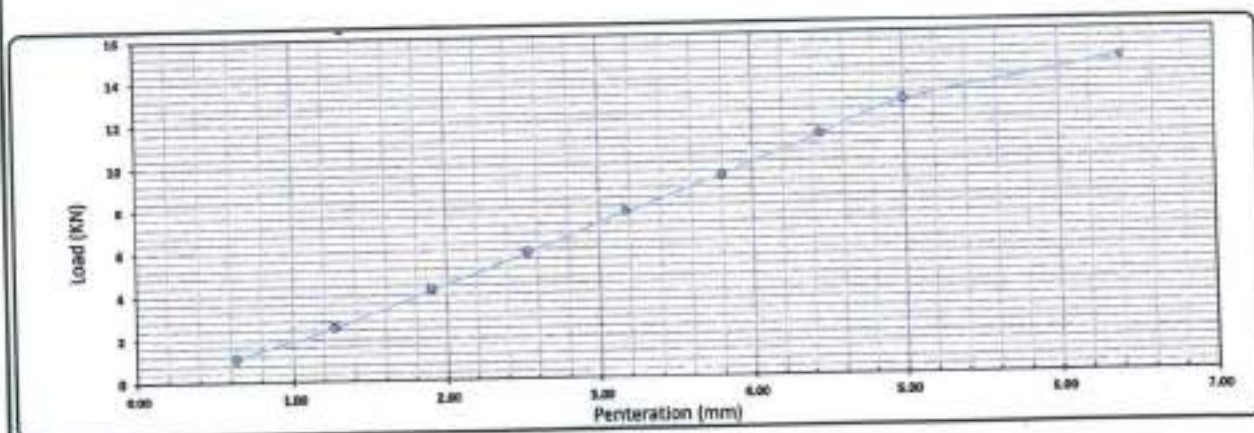
|              |                  |        |      |              |  |            |
|--------------|------------------|--------|------|--------------|--|------------|
| Testing Date | 18-10-2023       | code   |      | From Station |  | To station |
| Location     | 547+500          | YN3-64 | Zone | 546+000      |  | 549+000    |
| Company Name | Youssef Negida 3 |        |      |              |  |            |

#### Test Results:

| Compaction % for Mold                |       | Moisture Ratio After Compacted Mold |        | Swelling            |            |
|--------------------------------------|-------|-------------------------------------|--------|---------------------|------------|
| Mold No.                             | 1     | Tare No.                            | 4      | Mold No.            | 1          |
| Mold Vol. (cm <sup>3</sup> )         | 2133  | Tare WT. (gm)                       | 36.28  | Date                | 10-10-2023 |
| Mold WT. (gm)                        | 7724  | Tare WT. + Wet WT. (gm)             | 276.2  | Initial Height (mm) | 0.00       |
| Mold WT. + Wet WT. (gm)              | 12721 | Tare WT. + Dry WT. (gm)             | 258.55 | Final Height (mm)   | 0.00       |
| Wet WT. (gm)                         | 4997  | Water WT. (gm)                      | 17.7   | Difference          | 0          |
| Wet Density (g/cm <sup>3</sup> )     | 2.343 | Dry WT. (gm)                        | 222.3  | Sample Height (mm)  | 116.40     |
| Dry Density (g/cm <sup>3</sup> )     | 2.170 | Moisture Content %                  | 7.9    | Swelling Ratio %    | 0%         |
| Proctor Density (g/cm <sup>3</sup> ) | 2.203 |                                     |        |                     |            |
| Compaction %                         | 99    |                                     |        |                     |            |

#### 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) | 11.0 | 25.0 | 40.0 | 55.0 | 70.0 | 95.0 | 114.0 | 138.0 | 170.0 |
| Load (KN)         | 1.1  | 2.5  | 4.0  | 5.5  | 7.0  | 9.5  | 11.3  | 13.8  | 16.7  |



#### Calculations :-

| Penetration | Load  | Standard Load | CBR   | Mold - Compaction | Compaction | CBR       |
|-------------|-------|---------------|-------|-------------------|------------|-----------|
| (mm)        | (KN)  | (lb)          | (%)   | (%)               | (%)        | نسبة 98 % |
| 2.50        | 5.92  | 13.4          | 44.1% | 99                | 98         | 44.1%     |
| 5.00        | 12.81 | 20.0          | 64.0% |                   |            | 63.6%     |

|                                            |                                                                                  |                                                                                |
|--------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <b>Lab. Specialist</b><br>Name :<br>Sign : | <b>Lab. Engineer</b><br>Name : <u>Mohamed Hamel</u><br>Sign : <u>[Signature]</u> | <b>Consultant Engineer</b><br>Name : <u>10/10</u><br>Sign : <u>[Signature]</u> |
|--------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------|





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

\* Designer  
\*\* Alignment / Bridges: Culvert Only

# MATERIAL APPROVAL REQUEST



|                        |                          |                     |                                                                                                                                                                                                                                        |      |      |    |    |   |    |    |   |  |  |  |   |    |      |  |  |  |
|------------------------|--------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----|----|---|----|----|---|--|--|--|---|----|------|--|--|--|
| Location Name          | Contractor Company       |                     | Designer Company                                                                                                                                                                                                                       |      |      |    |    |   |    |    |   |  |  |  |   |    |      |  |  |  |
| Electric express train | Yousef Negida (3)        |                     | k.k                                                                                                                                                                                                                                    |      |      |    |    |   |    |    |   |  |  |  |   |    |      |  |  |  |
| Issued by Contractor   | Name<br>Eng/Shehab Hamdi | Sign<br><i>2023</i> | Date<br>1/10/2023                                                                                                                                                                                                                      | Time |      |    |    |   |    |    |   |  |  |  |   |    |      |  |  |  |
| Contractor Reference   | P.S.G YN3(P-4)           |                     |                                                                                                                                                                                                                                        |      |      |    |    |   |    |    |   |  |  |  |   |    |      |  |  |  |
| Received by ER         |                          | MAR                 | <table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>M</td> <td>YY</td> <td>HH</td> <td>M</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1</td> <td>10</td> <td>2023</td> <td></td> <td></td> </tr> </table> | C1   | C2   | C3 | DD | M | YY | HH | M |  |  |  | 1 | 10 | 2023 |  |  |  |
| C1                     | C2                       | C3                  | DD                                                                                                                                                                                                                                     | M    | YY   | HH | M  |   |    |    |   |  |  |  |   |    |      |  |  |  |
|                        |                          |                     | 1                                                                                                                                                                                                                                      | 10   | 2023 |    |    |   |    |    |   |  |  |  |   |    |      |  |  |  |

The Following Test Result are Attached For Review

| Description of Materials | P.S.G (A-1-a) |                       |                                                                                           |         |
|--------------------------|---------------|-----------------------|-------------------------------------------------------------------------------------------|---------|
| Location Of Stock        | 547+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 | 5.1 %                                                                                     |         |
| 4                        | ASTM D 4318   | Atterberg limit       | N.P                                                                                       |         |
| 5                        | ASTM D 2974   | Moisture content      | 8.1 %                                                                                     |         |
| 6                        | ASTM D 1557   | Modified proctor      | 2.205                                                                                     |         |
| 7                        | ASTM D 1883   | CBR                   | 93 %                                                                                      |         |
| 8                        | AASHTO-T96    | LA                    | 28.1 %                                                                                    |         |
| 9                        | AASHTO-T85    | Absorbition           | 3.31 %                                                                                    |         |
| 10                       | AASHTO-T85    | SP.Gravity            | 2.425                                                                                     |         |
| Comments by:             |               |                       | Comments by:<br><i>مراجعة المواد والاختبارات<br/>مطابقة كليا مع المواصفات<br/>No 5000</i> |         |

## APPROVAL STATUS

| Organisation             | Name             | Sign             | Date | A-AWC-R |
|--------------------------|------------------|------------------|------|---------|
| Contractor               | Eng/Shehab Hamdi | <i>2023</i>      |      |         |
| Contractor QA/QC *       | Ahmed Abozaid    | <i>1/10/2023</i> |      |         |
| GARB**                   |                  |                  |      |         |
| Employers Representative |                  |                  |      |         |

\* Designer

\*\* Alignment/Bridges: Culvert only



**Electric Express Train - HSR**  
 From El Ain El Soahna City To El Alamein - MATROUH  
 Section - 7 From FOKA To MARSA MATROUH  
 From Station 504+000 To Station 583+177



Operating Lab: NEGIDA CENTRAL LAB

### PARTICLE SIZE DISTRIBUTION OF Prepared Subgrade

|                          |                   |           |      |              |            |
|--------------------------|-------------------|-----------|------|--------------|------------|
| Description of Materials | Prepared Subgrade |           |      |              |            |
| TESTING DATE:            | 30-09-2023        | Code      | Zone | FROM STATION | TO STATION |
| LOCATION                 | K.P 547+500       | YNG (P-4) |      | 546+000      | 549+000    |
| COMPANY NAME             | YOUSSEF NEGIDA 3  |           |      |              |            |

Visual inspection test

Gradient test

| Gradation of bulk materials |       |       |        | SAMPLE WEIGHT [g] |         | 22772.00 |         | gm   | Table classify |       |
|-----------------------------|-------|-------|--------|-------------------|---------|----------|---------|------|----------------|-------|
| sieve size                  | 2     | 1.5   | 1      | 4/3               | 2/1     | 8/3      | # 4     | PASS | Soil Classify  | A-1-a |
| Mass retained (g)           | 0.0   | 546.0 | 3485.0 | 2689.0            | 6550.0  | 1799.0   | 2727.0  |      | PRO            | 2.205 |
| Cumulative Retained (g)     | 0.0   | 546.0 | 4011.0 | 6690.0            | 13230.0 | 15029.0  | 17756.0 |      | WC             | 8.10  |
| Cumulative Retained %       | 0.0   | 2.4   | 17.8   | 29.3              | 55.1    | 66.8     | 75.0    |      | CBR            | 93.0% |
| Cumulative Passing %        | 100.0 | 97.6  | 82.4   | 70.7              | 41.9    | 34.8     | 22.0    |      | Los Angeles    | 28.1  |
|                             |       |       |        |                   |         |          |         |      | SP. Gravity    | 2.425 |
|                             |       |       |        |                   |         |          |         |      | Absorption     | 3.31  |

| Sift material gradation |        |        |        | WT. OF sample |  | 500.00 |  | gm |
|-------------------------|--------|--------|--------|---------------|--|--------|--|----|
| sieve size              | 10     | 40     | 200    |               |  |        |  |    |
| Cumulative Retained (g) | 125.00 | 278.00 | 384.00 |               |  |        |  |    |
| Cumulative Retained %   | 25.00  | 55.60  | 76.80  |               |  |        |  |    |
| Cumulative Passing %    | 75.00  | 44.40  | 23.20  |               |  |        |  |    |

| 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    | 12.5 | 9.5     | 4.75 | 2.00   | 0.425 | 0.075  |
| Cumulative Passing % | 100.0 | 97.6 | 82.4 | 70.7    | 41.9 | 34.8    | 22.0 | 16.5   | 9.8   | 5.1    |
| SPECIFICATION        | —     | 97   | —    | 70 — 75 | —    | 15 — 60 | —    | 0 — 25 | —     | 0 — 12 |

| TERBERG LIMITS | LIQUID LIMIT (L.L.) | PLASTIC LIMIT (P.L.) | PLASTIC INDEX (P.I.) |
|----------------|---------------------|----------------------|----------------------|
|                | —                   | —                    | N.P                  |

Contractor  
**Youssef Negida**  
 شركة نجيدة للمقاولات  
 المهندس المعماري  
 مشروع القطار السريع / طوكية - مطا

شركة نجيدة للمقاولات  
 القطار السريع

Consultant  
 1/10/2023

|                                                                                                                                                                     |                                                                                                                                                                                |  |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|
|   | <b>Electric Express Train - HSR</b><br>From El Ain El Sokhna City To El Alamein - MATROUH<br>Section - 7 From FOKA TO MARSA MATROUH<br>From Station 504+000 To Station 508+171 |  |  |
|                                                                                                                                                                     |                                                                                                                                                                                |  |                                                                                     |
|                                                                                                                                                                     |                                                                                                                                                                                |  |                                                                                     |

## PROCTOR TEST (Prepared Subgrade)

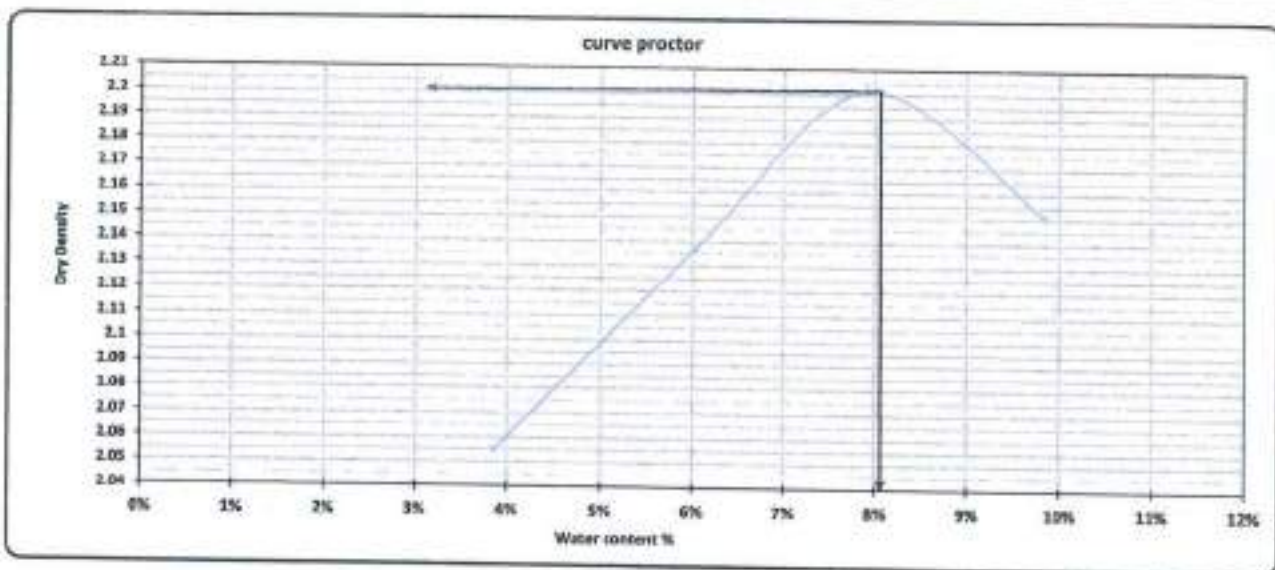
|               |                  |           |      |         |         |
|---------------|------------------|-----------|------|---------|---------|
| TESTING DATE: | 20-9-2023        | Cable     | zone | FROM    | TO      |
| LOCATION      | K.P 547+500      | YND (P-4) |      | 546+000 | 549+000 |
| NAME COMPANY  | YOUSSEF NEGIDA 3 |           |      |         |         |

|                        |        |
|------------------------|--------|
| Weight of empty mold : | 5652.0 |
| Mold Volume:           | 2125.0 |

|                 |       |
|-----------------|-------|
| MAX Dry Density | 2.205 |
| Water content % | 8.1   |

|                       |         |         |         |        |  |
|-----------------------|---------|---------|---------|--------|--|
| trial no :            | 1       | 2       | 3       | 4      |  |
| Wt. Of Mold+ wet soil | 18188.0 | 10466.0 | 10730.0 | 10673  |  |
| WT. WET SOIL          | 4536.0  | 4814.0  | 5048.0  | 5021.0 |  |
| Wt. Density           | 2.135   | 2.265   | 2.376   | 2.363  |  |

|                        |        |        |        |        |        |        |        |        |  |  |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Tare No.               | 7      | 19     | 15     | 17     | 15     | 40     | 31     | 32     |  |  |
| Tare wt.               | 42.2   | 44.1   | 53.6   | 53.2   | 30.9   | 46.2   | 80.7   | 82.7   |  |  |
| Wt. Of wet soil & tare | 159.8  | 156.0  | 156.0  | 159.0  | 150.8  | 150.8  | 150.6  | 150.0  |  |  |
| Wt. Of dry soil & tare | 145.29 | 145.20 | 142.65 | 142.53 | 140.33 | 140.20 | 137.80 | 138.00 |  |  |
| Wt. Of water           | 4.7    | 4.8    | 7.3    | 7.5    | 9.7    | 9.8    | 12.2   | 12.0   |  |  |
| Wt. Of dry soil        | 123.0  | 123.0  | 123.0  | 123.0  | 123.0  | 123.0  | 123.0  | 123.0  |  |  |
| Water content %        | 3.8%   | 3.9%   | 6.0%   | 6.1%   | 7.9%   | 8.0%   | 9.9%   | 9.8%   |  |  |
| AV. Water content %    | 3.9%   |        | 6.8%   |        | 7.9%   |        | 9.8%   |        |  |  |
| Dry Density            | 2.055  |        | 2.157  |        | 2.291  |        | 2.151  |        |  |  |



Contractor

Mohamed Hassan  
 شركة نجدة للمقاولات  
 2023  
 المقاول الرئيسي  
 مشروع: لقطار السريع / فوكا - مطروح

Consultant

شركة نجدة  
 القطار السريع

1/10/2023

|                                                                                                                    |                                                                                   |                                                    |
|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------|
| <br>ENGINEERING CONSULTING OFFICE |  | Electric Express Train - HSR                       |
|                                                                                                                    |                                                                                   | From El Aia El Solhna City To El Alawein - MATROUH |
|                                                                                                                    |                                                                                   | Section - 7 From FOKA To MARSA MATROUH             |

From Station 544+000 To Station 549+000

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

**Prepared Subgrade**

|               |                  |           |      |         |         |
|---------------|------------------|-----------|------|---------|---------|
| TESTING DATE: | 01-10-2023       | code      | zone | FROM    | TO      |
| LOCATION      | K.P 547+500      | TK3 (P-4) |      | 546+000 | 549+000 |
| NAME COMPANY  | YOUSSEF NEGIDA 3 |           |      |         |         |

**Absorbion & specific gravity AASHTO-T85**

|                                             |      |    |
|---------------------------------------------|------|----|
| Weight of sample                            | —    | gm |
| Weight of saturated -dry surface sample (B) | 3745 | gm |
| Weight of saturated sample in water (C)     | 2250 | gm |
| Weight of dry sample after heating (A)      | 3625 | gm |

**Results:-**

|                                         |       |  |
|-----------------------------------------|-------|--|
| Bulk specific gravity = $A / (B-C)$     | 2.425 |  |
| Apparent specific gravity = $A / (A-C)$ | 2.636 |  |
| Absorbion = $(B-A)/A$                   | 3.310 |  |

**Los Anglos abrasion AASHTO-T96**

**Results:-**

|                                   |                                  |                    |
|-----------------------------------|----------------------------------|--------------------|
| Weight of sample before test (gm) | Weight of sample after test (gm) | Abrasion ratio (%) |
| 5000                              | 3695                             | 26.1               |

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Mohamed Hamed  
 Sign :   
 شركة نهجيدة لمهندسة  
 القاهرة - مصر

Consultant Engineer

Name :   
 Sign :

شركة نهجيدة لمهندسة  
 القاهرة - مصر

|                                                                                                                                                                    |                                  |  |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--|-------------------------------------------------------------------------------------|
|   | Electric Express Train - HSR     |  |  |
|                                                                                                                                                                    | Sampling Lab: NEGIDA CENTRAL LAB |  |                                                                                     |

### California Bearing Ratio TEST

| Prepared Subgrade |                  | ZONE | FROM      | TO      |         |
|-------------------|------------------|------|-----------|---------|---------|
| Testing Date :    | 01-10-23         |      | Code      |         |         |
| Location :        | K.P 547+500      |      | YHS (P-4) | 546+000 | 549+000 |
| Company Name      | YOUSSEF NEGIDA 3 |      |           |         |         |

#### :- Test Results

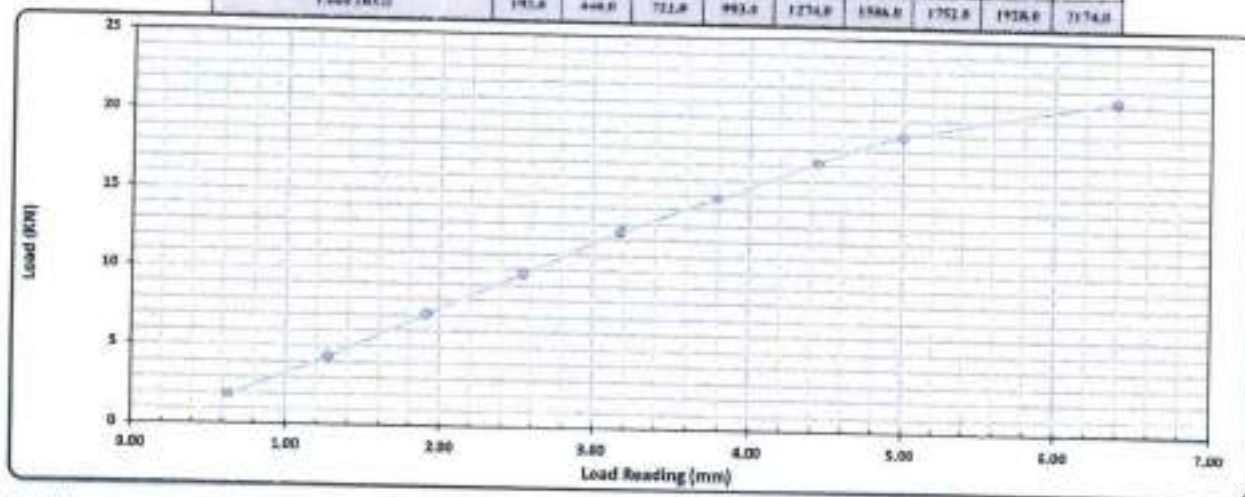
| Compaction % field           |       |
|------------------------------|-------|
| Mold No.                     | 4     |
| Mold Vol.                    | 2088  |
| Mold WT. (gm)                | 7700  |
| Mold WT. + Wet WT. (gm)      | 12645 |
| Wet WT. (gm)                 | 4945  |
| Wet Density ( $g/cm^3$ )     | 2.368 |
| Dry Density ( $g/cm^3$ )     | 2.192 |
| Proctor Density ( $g/cm^3$ ) | 2.205 |
| Compaction %                 | 99    |

| Moisture Ratio After Compacted Mold |        |
|-------------------------------------|--------|
| Tare No.                            | 41     |
| Tare WT. (gm)                       | 46.3   |
| Tare WT. + Wet WT. (gm)             | 195.63 |
| Tare WT. + Dry WT. (gm)             | 188.3  |
| Water WT. (gm)                      | 11.4   |
| Dry WT. (gm)                        | 142.0  |
| Moisture Content %                  | 8.0    |

| Swelling            |           |
|---------------------|-----------|
| Mold No.            | 4         |
| Date                | 1-10-2023 |
| Initial Height (mm) | 0.00      |
| Final Height (mm)   | 0.00      |
| Difference          | 0         |
| Sample Height (mm)  | 116.40    |
| Swelling Ratio %    | 0.0%      |

#### Loading Reading :

| Load Reading (mm) | 3.44  | 4.27  | 5.91  | 6.94  | 8.12   | 9.30   | 10.45  | 11.60  | 12.75  |
|-------------------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| Load (kN)         | 3.9   | 4.4   | 7.1   | 9.7   | 12.5   | 14.8   | 17.2   | 18.0   | 21.3   |
| Load (kg)         | 195.8 | 440.8 | 711.8 | 963.8 | 1234.8 | 1586.8 | 1752.8 | 1928.8 | 2174.8 |



#### Calculations :-

| Penetration | Load  | Standard Load | 1 mm  | Mold - Compaction | Compaction | CBR          |
|-------------|-------|---------------|-------|-------------------|------------|--------------|
| (mm)        | (kN)  | (lb)          | (%)   | (%)               | (%)        | % من نسبة 98 |
| 1.25        | 9.75  | 13.4          | 71.9% |                   |            | 71.9%        |
| 5.00        | 18.89 | 20.8          | 90.8% | 99                | 99         | 93.8%        |

|                 |
|-----------------|
| Lab. Specialist |
|-----------------|

Name :

Sign :

|               |
|---------------|
| Lab. Engineer |
|---------------|

Name :

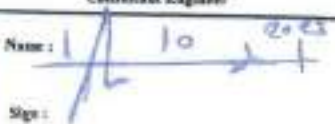
Sign :

  
 شركة نجيدة للمقاولات  
 المعمل للمركبات  
 مشروع القطار السريع / طوكية - مطروح

|                     |
|---------------------|
| Consultant Engineer |
|---------------------|

Name :

Sign :

  
 شركة نجيدة للمقاولات  
 القطار السريع



Contractor Consultancy

Contractor

Contractor

## Plate Load Test Results

Layer:  
Station:  
Date:

|                     |    |         |
|---------------------|----|---------|
| PREPARED SUBGRADE 2 |    | 0.50+   |
| 546+500             | TO | 546+600 |
| 16-10-23            |    |         |

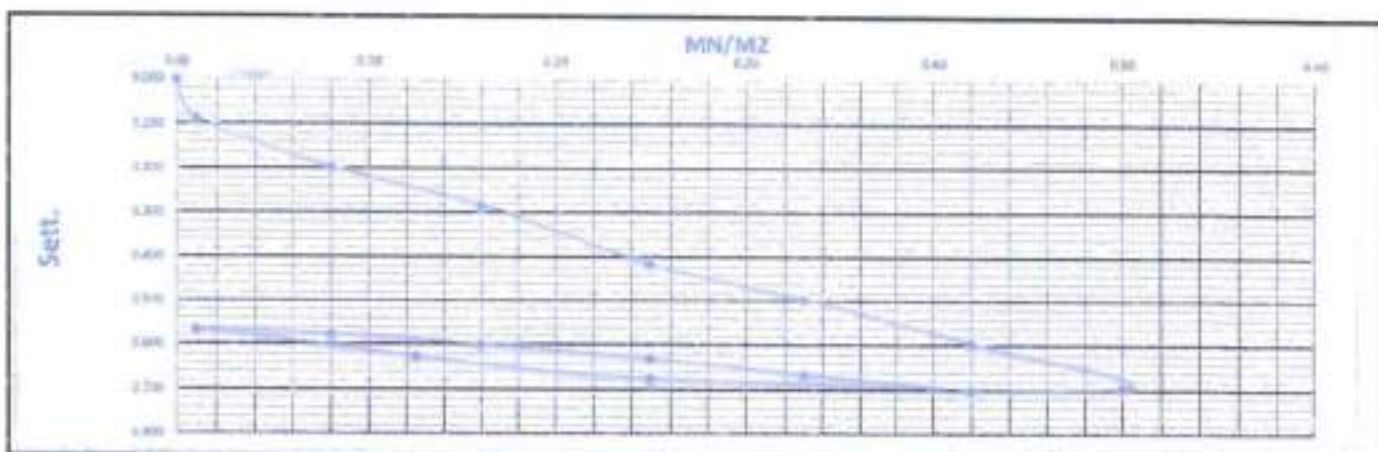
|          |                |
|----------|----------------|
| COMPANY  | YUSEF NEGIDA 1 |
| Location | 546+518        |

| Reading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 6.94   | 6.83   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 6.89   | 6.71   |        | 0.050   | 0.110   |         | 0.085      |
| 2.000     | 7.9  | 5.652  | 0.08   | 6.78   | 6.60   |        | 0.160   | 0.230   |         | 0.195      |
| 3.000     | 15.8 | 11.304 | 0.16   | 6.69   | 6.52   |        | 0.250   | 0.310   |         | 0.280      |
| 4.000     | 24.7 | 17.663 | 0.25   | 6.56   | 6.38   |        | 0.380   | 0.450   |         | 0.415      |
| 5.000     | 32.6 | 23.315 | 0.33   | 6.48   | 6.30   |        | 0.460   | 0.530   |         | 0.495      |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.37   | 6.21   |        | 0.570   | 0.620   |         | 0.595      |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.23   | 6.15   |        | 0.710   | 0.680   |         | 0.695      |
| 8.000     | 24.7 | 17.663 | 0.25   | 6.25   | 6.17   |        | 0.690   | 0.660   |         | 0.675      |
| 9.000     | 12.4 | 8.831  | 0.12   | 6.29   | 6.23   |        | 0.650   | 0.600   |         | 0.625      |
| 9.000     | 1.0  | 0.707  | 0.01   | 6.34   | 6.30   |        | 0.600   | 0.530   |         | 0.565      |
| 10.000    | 1.0  | 0.707  | 0.01   | 6.34   | 6.30   |        | 0.600   | 0.530   |         | 0.565      |
| 11.000    | 7.9  | 5.652  | 0.08   | 6.33   | 6.29   |        | 0.610   | 0.540   |         | 0.575      |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.31   | 6.26   |        | 0.630   | 0.570   |         | 0.600      |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.28   | 6.23   |        | 0.660   | 0.600   |         | 0.630      |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.25   | 6.19   |        | 0.690   | 0.640   |         | 0.665      |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.21   | 6.16   |        | 0.730   | 0.670   |         | 0.700      |

|                |         | $\sigma$ | $\Delta S$ | $S_r$ |
|----------------|---------|----------|------------|-------|
| 0.7 $\sigma_1$ | 0.35    | 0.5075   | 0.23813    | 0.2   |
| 0.3 $\sigma_1$ | 0.15    | 0.2694   |            |       |
| 0.7 $\sigma_2$ | 0.35    | 0.6728   | 0.08778    | 0.2   |
| 0.3 $\sigma_2$ | 0.15    | 0.585    |            |       |
| D (mm)         | 300     |          |            |       |
| $E_{v1}$       | 100.00  |          |            |       |
| $E_{v2}$       | 512.66  |          |            |       |
| Area (Sq.m)    | 0.07065 |          |            |       |

|                 |      |  |  |
|-----------------|------|--|--|
| $E_{v2}/E_{v1}$ | 5.12 |  |  |
|-----------------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name:  
Sign:

Lab. Engineer

Name: *[Signature]*  
Sign: *[Signature]*  
شركة المقاولات والبناء - مصر

Consultant Engineer

Name: *[Signature]*  
Sign: *[Signature]*



Contractor Consultant

Contractor

General Authority of Road and Urban Planning  
Kingdom of Saudi Arabia

## Plate Load Test Results

Layer:  
Station:  
Date:

|                     |         |
|---------------------|---------|
| PREPARED SUBGRADE 2 | 0.50+   |
| 546+500             | TO      |
| 16-10-23            | 546+600 |

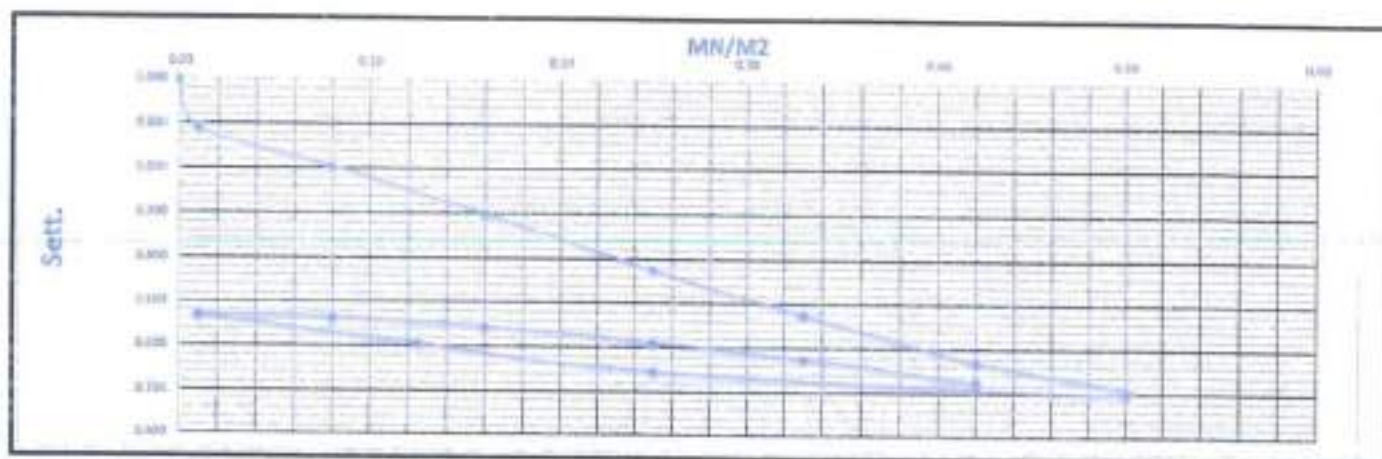
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA 1 |
| Location | 546+540          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 7.43   | 7.70   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 7.35   | 7.56   |        | 0.080   | 0.140   |         | 0.110      |
| 2.000     | 7.9  | 5.652  | 0.08   | 7.26   | 7.48   |        | 0.170   | 0.220   |         | 0.195      |
| 0.080     | 15.8 | 11.304 | 0.16   | 7.14   | 7.39   |        | 0.290   | 0.310   |         | 0.300      |
| 4.000     | 24.7 | 17.663 | 0.25   | 7.05   | 7.23   |        | 0.380   | 0.470   |         | 0.425      |
| 5.000     | 32.6 | 23.315 | 0.33   | 6.96   | 7.12   |        | 0.470   | 0.580   |         | 0.525      |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.84   | 7.03   |        | 0.590   | 0.670   |         | 0.630      |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.76   | 6.97   |        | 0.670   | 0.730   |         | 0.700      |
| 8.000     | 24.7 | 17.663 | 0.25   | 6.81   | 7.01   |        | 0.620   | 0.690   |         | 0.655      |
| 9.000     | 12.4 | 8.831  | 0.12   | 6.86   | 7.08   |        | 0.570   | 0.620   |         | 0.595      |
| 9.000     | 1.0  | 0.707  | 0.01   | 6.93   | 7.14   |        | 0.590   | 0.560   |         | 0.530      |
| 10.000    | 1.0  | 0.707  | 0.01   | 6.93   | 7.14   |        | 0.500   | 0.560   |         | 0.530      |
| 11.000    | 7.9  | 5.652  | 0.08   | 6.93   | 7.13   |        | 0.500   | 0.570   |         | 0.535      |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.91   | 7.11   |        | 0.520   | 0.590   |         | 0.555      |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.88   | 7.07   |        | 0.550   | 0.630   |         | 0.590      |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.85   | 7.03   |        | 0.580   | 0.670   |         | 0.625      |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.80   | 6.98   |        | 0.630   | 0.720   |         | 0.675      |

|                |         | $\sigma$ | AS      | AS  |
|----------------|---------|----------|---------|-----|
| 0.7 $\sigma_1$ | 0.35    | 0.5088   | 0.28187 | 0.2 |
| 0.3 $\sigma_1$ | 0.15    | 0.2869   |         |     |
| 0.7 $\sigma_2$ | 0.35    | 0.6361   | 0.09611 | 0.2 |
| 0.3 $\sigma_2$ | 0.15    | 0.54     |         |     |
| D (mm)         | 300     |          |         |     |
| $E_{v1}$       | 199.65  |          |         |     |
| $E_{v2}$       | 408.21  |          |         |     |
| Area (Sq.cm)   | 0.07068 |          |         |     |

|                 |      |  |  |
|-----------------|------|--|--|
| $E_{v1}/E_{v2}$ | 2.93 |  |  |
|-----------------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : *Mahmoud Hamed*  
 Sign : *Mahmoud Hamed*  
 ش.م.م. المهندس م. هادي - مطروح

Consultant Engineer

Name :

Sign : *Abdullah*



Corporation Corporation

Contractor



## Plate Load Test Results

Layer:  
Station:  
Date:

|                     |       |
|---------------------|-------|
| PREPARED SUBGRADE 2 | 0.50+ |
| 546+500             | TO    |
| 546+600             |       |

16-10-23

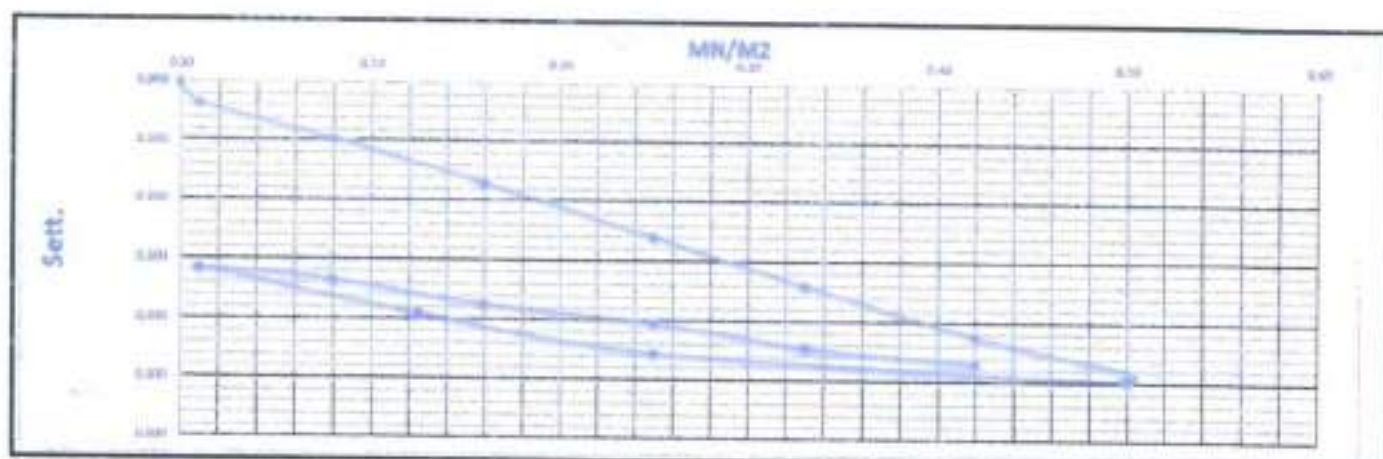
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA 1 |
| Location | 546+560          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Ave. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM/MT  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 7.48   | 6.92   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 7.43   | 6.90   |        | 0.050   | 0.020   |         | 0.035      |
| 2.000     | 7.9  | 5.652  | 0.08   | 7.35   | 6.86   |        | 0.130   | 0.060   |         | 0.095      |
| 0.080     | 15.8 | 11.304 | 0.16   | 7.24   | 6.82   |        | 0.240   | 0.100   |         | 0.170      |
| 4.000     | 24.7 | 17.663 | 0.25   | 7.12   | 6.76   |        | 0.360   | 0.160   |         | 0.260      |
| 5.000     | 32.6 | 23.315 | 0.33   | 7.03   | 6.69   |        | 0.450   | 0.230   |         | 0.340      |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.93   | 6.62   |        | 0.550   | 0.300   |         | 0.425      |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.83   | 6.58   |        | 0.650   | 0.340   |         | 0.495      |
| 8.000     | 24.7 | 17.663 | 0.25   | 6.87   | 6.62   |        | 0.610   | 0.300   |         | 0.455      |
| 9.000     | 12.4 | 8.831  | 0.12   | 6.94   | 6.68   |        | 0.540   | 0.240   |         | 0.390      |
| 9.000     | 1.0  | 0.707  | 0.01   | 7.03   | 6.74   |        | 0.450   | 0.180   |         | 0.315      |
| 10.000    | 1.0  | 0.707  | 0.01   | 7.03   | 6.74   |        | 0.450   | 0.180   |         | 0.315      |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.00   | 6.73   |        | 0.480   | 0.190   |         | 0.335      |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.96   | 6.69   |        | 0.520   | 0.230   |         | 0.375      |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.92   | 6.67   |        | 0.560   | 0.250   |         | 0.405      |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.87   | 6.64   |        | 0.610   | 0.280   |         | 0.445      |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.84   | 6.62   |        | 0.640   | 0.300   |         | 0.470      |

|                |         | I      | IS      | IS  |
|----------------|---------|--------|---------|-----|
| 0.7 $\sigma_1$ | 0.35    | 0.3638 | 0.20313 | 0.2 |
| 0.3 $\sigma_1$ | 0.15    | 0.1606 |         |     |
| 0.7 $\sigma_2$ | 0.35    | 0.4506 | 0.09555 | 0.2 |
| 0.3 $\sigma_2$ | 0.15    | 0.355  |         |     |
| D (mm)         | 300     |        |         |     |
| $E_v$          | 221.34  |        |         |     |
| $E_p$          | 701.94  |        |         |     |
| Area (Sq.m)    | 0.07065 |        |         |     |

|            |      |  |  |
|------------|------|--|--|
| $E_v/E_v1$ | 2.13 |  |  |
|------------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :



Contractor Consultant

Contractor



## Plate Load Test Results

Layer:  
Station:  
Date:

|                     |            |
|---------------------|------------|
| PREPARED SUBGRADE 2 | 0.50+      |
| 546+500             | TO 546+600 |
| 16-10-23            |            |

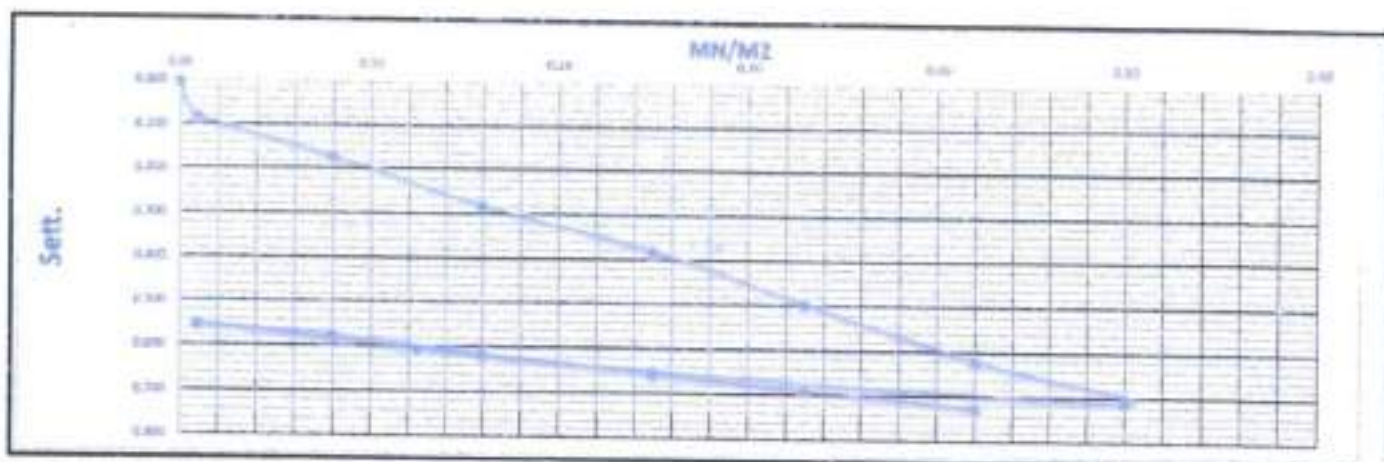
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA I |
| Location | 546+500          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|-----------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm        |
| 0.000     | 0.0  | 0.000  | 0.00   | 7.34   | 6.85   |        | 0.000   | 0.000   |         | 0.000     |
| 1.000     | 1.0  | 0.707  | 0.01   | 7.26   | 6.77   |        | 0.080   | 0.080   |         | 0.080     |
| 2.000     | 7.9  | 5.652  | 0.08   | 7.18   | 6.67   |        | 0.160   | 0.180   |         | 0.170     |
| 0.080     | 15.8 | 11.304 | 0.16   | 7.07   | 6.56   |        | 0.270   | 0.290   |         | 0.280     |
| 4.000     | 24.7 | 17.663 | 0.25   | 6.98   | 6.45   |        | 0.360   | 0.400   |         | 0.380     |
| 5.000     | 32.6 | 23.315 | 0.33   | 6.86   | 6.34   |        | 0.480   | 0.510   |         | 0.495     |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.73   | 6.22   |        | 0.610   | 0.630   |         | 0.620     |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.64   | 6.13   |        | 0.700   | 0.720   |         | 0.710     |
| 8.000     | 24.7 | 17.663 | 0.25   | 6.70   | 6.19   |        | 0.640   | 0.660   |         | 0.650     |
| 9.000     | 12.4 | 8.831  | 0.12   | 6.75   | 6.23   |        | 0.590   | 0.620   |         | 0.605     |
| 9.000     | 1.0  | 0.707  | 0.01   | 6.79   | 6.30   |        | 0.550   | 0.550   |         | 0.550     |
| 10.000    | 1.0  | 0.707  | 0.01   | 6.79   | 6.30   |        | 0.550   | 0.550   |         | 0.550     |
| 11.000    | 7.9  | 5.652  | 0.08   | 6.78   | 6.26   |        | 0.560   | 0.590   |         | 0.575     |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.74   | 6.22   |        | 0.600   | 0.630   |         | 0.615     |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.70   | 6.18   |        | 0.640   | 0.670   |         | 0.655     |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.67   | 6.14   |        | 0.670   | 0.710   |         | 0.690     |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.63   | 6.11   |        | 0.710   | 0.740   |         | 0.725     |

|                |         | S      | AS      | 3m  |
|----------------|---------|--------|---------|-----|
| 0.7 $\sigma_1$ | 0.35    | 0.5412 | 0.275   | 0.2 |
| 0.3 $\sigma_1$ | 0.15    | 0.2663 |         |     |
| 0.7 $\sigma_2$ | 0.35    | 0.6978 | 0.09778 | 0.2 |
| 0.3 $\sigma_2$ | 0.15    | 0.6    |         |     |
| D (mm)         | 300     |        |         |     |
| $E_{v1}$       | 163.64  |        |         |     |
| $E_{v2}$       | 460.24  |        |         |     |
| Area ( Sq. m)  | 0.07065 |        |         |     |

|                 |      |  |  |
|-----------------|------|--|--|
| $E_{v1}/E_{v2}$ | 1.81 |  |  |
|-----------------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :



Contractor Consultant

Contractor



Ministry of Transport and Infrastructure



## Plate Load Test Results

Layer: Prepared Subgrade 2 0.50+  
 Station: 546+400 TO 546+500  
 Date: 16-10-23

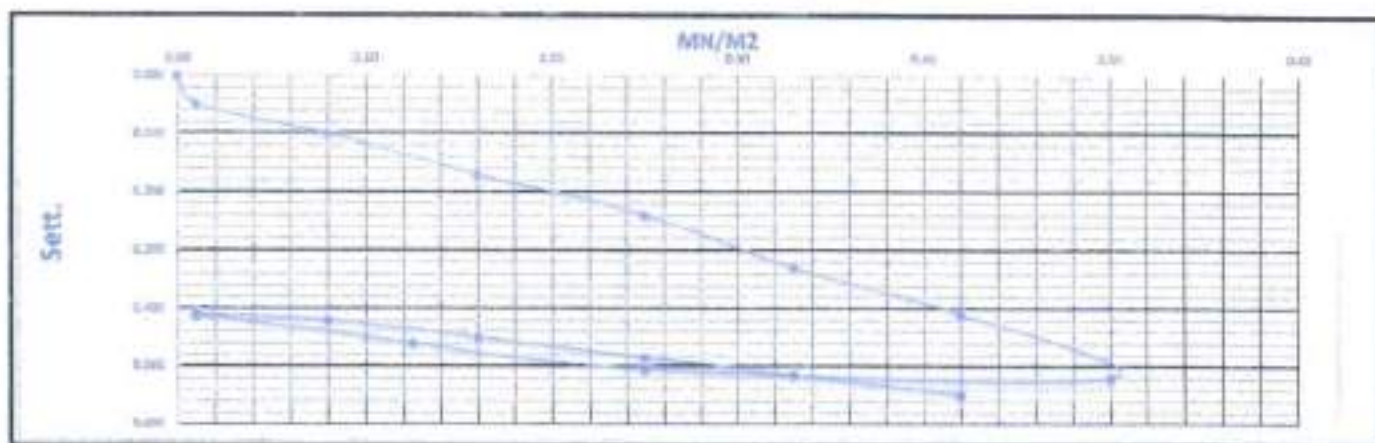
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA 3 |
| Location | 546+410          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg Sett |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|----------|
| Stage No. | Bar  | KN     | MPa    | mm     | mm     | mm     | mm      | mm      | mm      | mm       |
| 0.000     | 0.0  | 0.000  | 0.00   | 8.46   | 7.97   |        | 0.000   | 0.000   |         | 0.000    |
| 1.000     | 1.0  | 0.707  | 0.01   | 8.43   | 7.90   |        | 0.030   | 0.070   |         | 0.050    |
| 2.000     | 7.9  | 5.652  | 0.08   | 8.37   | 7.86   |        | 0.090   | 0.110   |         | 0.100    |
| 0.080     | 15.8 | 11.304 | 0.16   | 8.29   | 7.80   |        | 0.170   | 0.170   |         | 0.170    |
| 4.000     | 24.7 | 17.663 | 0.25   | 8.21   | 7.74   |        | 0.250   | 0.230   |         | 0.240    |
| 5.000     | 32.6 | 23.315 | 0.33   | 8.16   | 7.67   |        | 0.360   | 0.300   |         | 0.330    |
| 6.000     | 41.5 | 29.673 | 0.42   | 8.01   | 7.60   |        | 0.450   | 0.370   |         | 0.410    |
| 7.000     | 49.4 | 35.325 | 0.50   | 7.90   | 7.49   |        | 0.560   | 0.480   |         | 0.520    |
| 8.000     | 24.7 | 17.663 | 0.25   | 7.91   | 7.51   |        | 0.550   | 0.460   |         | 0.505    |
| 9.000     | 12.4 | 8.831  | 0.12   | 7.95   | 7.56   |        | 0.510   | 0.410   |         | 0.460    |
| 9.000     | 1.0  | 0.707  | 0.01   | 8.01   | 7.60   |        | 0.450   | 0.370   |         | 0.410    |
| 10.000    | 1.0  | 0.707  | 0.01   | 8.01   | 7.60   |        | 0.450   | 0.370   |         | 0.410    |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.99   | 7.60   |        | 0.470   | 0.370   |         | 0.420    |
| 12.000    | 15.8 | 11.304 | 0.16   | 7.94   | 7.57   |        | 0.500   | 0.400   |         | 0.450    |
| 13.000    | 24.7 | 17.663 | 0.25   | 7.93   | 7.53   |        | 0.530   | 0.440   |         | 0.485    |
| 14.000    | 32.6 | 23.315 | 0.33   | 7.96   | 7.50   |        | 0.560   | 0.470   |         | 0.515    |
| 15.000    | 41.5 | 29.673 | 0.42   | 7.86   | 7.47   |        | 0.600   | 0.500   |         | 0.550    |

|                |         | $\mu$   | AS      | $\mu$ |
|----------------|---------|---------|---------|-------|
| 0.7 $\sigma_1$ | 0.35    | 0.31375 | 0.1525  | 0.1   |
| 0.3 $\sigma_2$ | 0.15    | 0.16125 |         |       |
| 0.7 $\sigma_1$ | 0.35    | 0.52278 | 0.09278 | 0.2   |
| 0.3 $\sigma_2$ | 0.15    | 0.43    |         |       |
| D (mm)         | 300     |         |         |       |
| $E_{v1}$       | 295.06  |         |         |       |
| $E_{v2}$       | 485.94  |         |         |       |
| Area (Sq.m)    | 0.07065 |         |         |       |

|                 |      |  |  |
|-----------------|------|--|--|
| $E_{v2}/E_{v1}$ | 1.64 |  |  |
|-----------------|------|--|--|

LOAD  
 UN LOAD  
 RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :



Contractor Consultant

Contractor

Youssef Negida 3  
Contractor

## Plate Load Test Results

Layer:  
Station:  
Date:

Prepared Subgrade 2 0.50+

|          |    |         |
|----------|----|---------|
| 546+400  | TO | 546+500 |
| 16-10-23 |    |         |

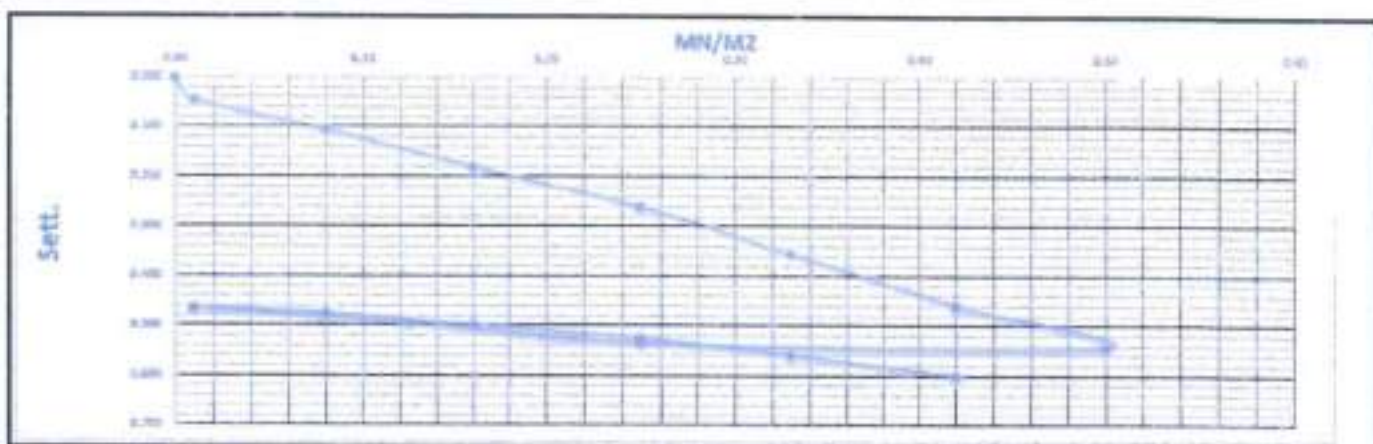
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA 3 |
| Location | 546+440          |

| Loading   | Load | Load   | Recess | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM     | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 7.01   | 7.48   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 6.96   | 7.44   |        | 0.050   | 0.040   |         | 0.045      |
| 2.000     | 7.9  | 5.652  | 0.08   | 6.90   | 7.38   |        | 0.110   | 0.100   |         | 0.105      |
| 0.080     | 15.8 | 11.304 | 0.16   | 6.83   | 7.30   |        | 0.180   | 0.180   |         | 0.180      |
| 4.000     | 34.7 | 17.663 | 0.25   | 6.73   | 7.24   |        | 0.280   | 0.240   |         | 0.260      |
| 5.000     | 32.6 | 23.315 | 0.33   | 6.62   | 7.16   |        | 0.390   | 0.320   |         | 0.355      |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.50   | 7.07   |        | 0.510   | 0.410   |         | 0.460      |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.41   | 6.99   |        | 0.600   | 0.490   |         | 0.545      |
| 8.000     | 34.7 | 17.663 | 0.25   | 6.42   | 7.00   |        | 0.590   | 0.480   |         | 0.535      |
| 9.000     | 12.4 | 8.831  | 0.12   | 6.47   | 7.03   |        | 0.540   | 0.450   |         | 0.495      |
| 9.000     | 1.0  | 0.707  | 0.01   | 6.49   | 7.07   |        | 0.520   | 0.410   |         | 0.465      |
| 10.000    | 1.0  | 0.707  | 0.01   | 6.49   | 7.07   |        | 0.520   | 0.410   |         | 0.465      |
| 11.000    | 7.9  | 5.652  | 0.08   | 6.48   | 7.06   |        | 0.530   | 0.420   |         | 0.475      |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.46   | 7.03   |        | 0.550   | 0.450   |         | 0.500      |
| 13.000    | 34.7 | 17.663 | 0.25   | 6.44   | 7.00   |        | 0.570   | 0.480   |         | 0.525      |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.40   | 6.97   |        | 0.610   | 0.510   |         | 0.560      |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.36   | 6.93   |        | 0.650   | 0.550   |         | 0.600      |

|                 |         | s       | SS      | So  |
|-----------------|---------|---------|---------|-----|
| 0.7 $\sigma_1$  | 0.35    | 0.38563 | 0.315   | 0.2 |
| 0.3 $\sigma_1$  | 0.15    | 0.17063 |         |     |
| 0.7 $\sigma_2$  | 0.35    | 0.56889 | 0.08389 | 0.2 |
| 0.3 $\sigma_2$  | 0.15    | 0.485   |         |     |
| D (mm)          | 300     |         |         |     |
| E <sub>v1</sub> | 209.30  |         |         |     |
| E <sub>v2</sub> | 536.43  |         |         |     |
| Area (Sq.m)     | 0.07065 |         |         |     |

|                                  |      |  |  |
|----------------------------------|------|--|--|
| E <sub>v2</sub> /E <sub>v1</sub> | 2.56 |  |  |
|----------------------------------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name :  
Sign :

Lab. Engineer

Name : *محمد عبد الحليم*  
Sign : *محمد عبد الحليم*  
مشروع القطار السريع / فوك - مصر

Consultant Engineer

Name : *محمد عبد الحليم*  
Sign : *محمد عبد الحليم*



Contractor



Client



## Plate Load Test Results

Layer:  
Station:  
Date:

Prepared Subgrade 2 0.50+

|          |    |         |
|----------|----|---------|
| 546+400  | TO | 546+500 |
| 16-10-23 |    |         |

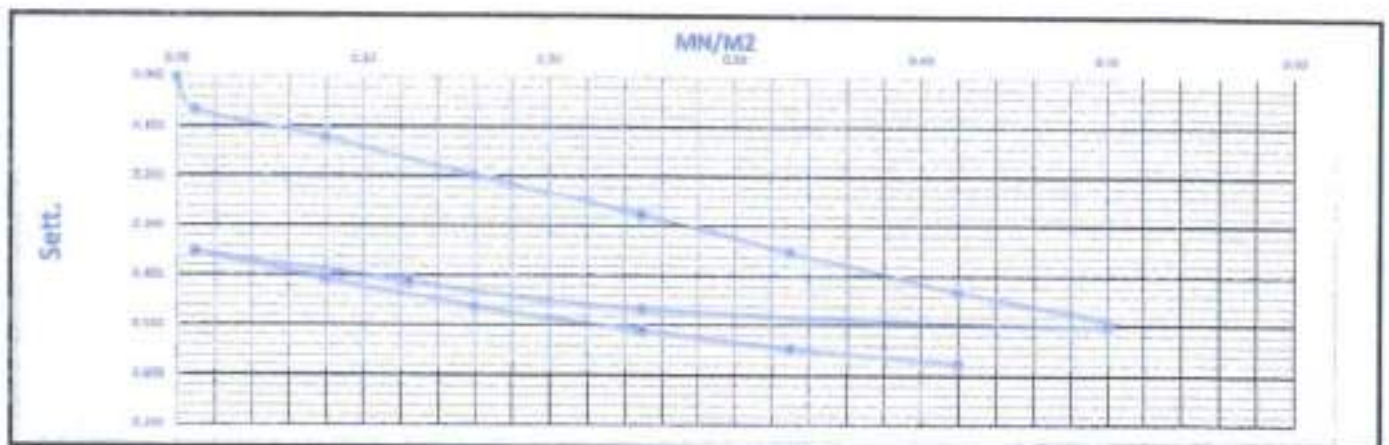
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA 3 |
| Location | 546+460          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | NN/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 8.32   | 7.66   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 8.27   | 7.58   |        | 0.050   | 0.000   |         | 0.065      |
| 2.000     | 7.9  | 5.652  | 0.08   | 8.22   | 7.52   |        | 0.100   | 0.140   |         | 0.120      |
| 3.000     | 15.8 | 11.304 | 0.16   | 8.15   | 7.44   |        | 0.170   | 0.220   |         | 0.195      |
| 4.000     | 24.7 | 17.663 | 0.25   | 8.07   | 7.36   |        | 0.250   | 0.300   |         | 0.275      |
| 5.000     | 32.6 | 23.315 | 0.33   | 8.02   | 7.26   |        | 0.300   | 0.400   |         | 0.350      |
| 6.000     | 41.5 | 29.673 | 0.42   | 7.95   | 7.17   |        | 0.370   | 0.490   |         | 0.430      |
| 7.000     | 49.4 | 35.325 | 0.50   | 7.88   | 7.10   |        | 0.440   | 0.560   |         | 0.500      |
| 8.000     | 24.7 | 17.663 | 0.25   | 7.91   | 7.14   |        | 0.410   | 0.520   |         | 0.465      |
| 9.000     | 12.4 | 8.831  | 0.12   | 7.96   | 7.20   |        | 0.360   | 0.460   |         | 0.410      |
| 9.000     | 1.0  | 0.707  | 0.01   | 8.04   | 7.24   |        | 0.280   | 0.420   |         | 0.350      |
| 10.000    | 1.0  | 0.707  | 0.01   | 8.04   | 7.24   |        | 0.280   | 0.420   |         | 0.350      |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.96   | 7.21   |        | 0.360   | 0.450   |         | 0.405      |
| 12.000    | 15.8 | 11.304 | 0.16   | 7.90   | 7.16   |        | 0.420   | 0.500   |         | 0.460      |
| 13.000    | 24.7 | 17.663 | 0.25   | 7.86   | 7.10   |        | 0.460   | 0.560   |         | 0.510      |
| 14.000    | 32.6 | 23.315 | 0.33   | 7.82   | 7.07   |        | 0.500   | 0.590   |         | 0.545      |
| 15.000    | 41.5 | 29.673 | 0.42   | 7.78   | 7.05   |        | 0.540   | 0.610   |         | 0.575      |

|                |         | S       | A.S     | Av  |
|----------------|---------|---------|---------|-----|
| 0.7 $\sigma_1$ | 0.35    | 0.36875 | 0.18313 | 0.2 |
| 0.3 $\sigma_1$ | 0.15    | 0.18563 |         |     |
| 0.7 $\sigma_2$ | 0.35    | 0.55167 | 0.09166 | 0.2 |
| 0.3 $\sigma_2$ | 0.15    | 0.46001 |         |     |
| D (mm)         | 100     |         |         |     |
| $E_{v1}$       | 345.73  |         |         |     |
| $E_{v2}$       | 490.94  |         |         |     |
| Area (Sq.m)    | 0.07065 |         |         |     |

|         |      |  |  |
|---------|------|--|--|
| Ev2/Ev1 | 1.40 |  |  |
|---------|------|--|--|

LOAD  
UNLOAD  
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :



Contractor



Contractor



## Plate Load Test Results

Layer:  
Station:  
Date:

Prepared Subgrade 2 0.50+

|          |    |         |
|----------|----|---------|
| 546+400  | TO | 546+500 |
| 16-10-23 |    |         |

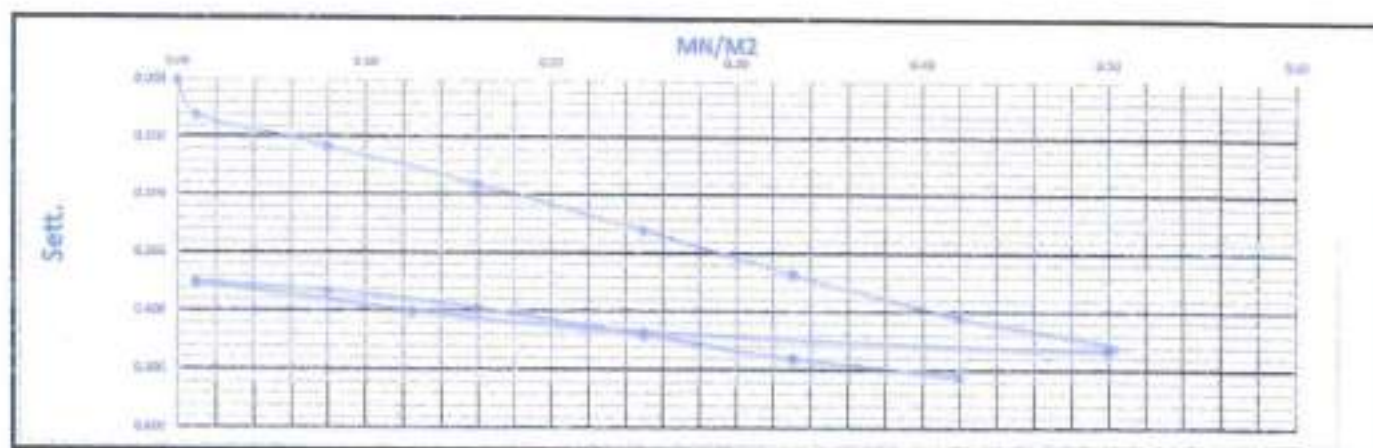
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA 3 |
| Location | 546+400          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Ave Sett |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|----------|
| Stage No. | Bar  | kN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm       |
| 0.000     | 0.0  | 0.000  | 0.00   | 8.82   | 8.97   |        | 0.000   | 0.000   |         | 0.000    |
| 1.000     | 1.0  | 9.707  | 0.01   | 8.76   | 8.91   |        | 0.060   | 0.060   |         | 0.060    |
| 2.000     | 7.9  | 5.652  | 0.08   | 8.72   | 8.84   |        | 0.100   | 0.130   |         | 0.115    |
| 0.080     | 15.8 | 11.304 | 0.16   | 8.66   | 8.77   |        | 0.160   | 0.200   |         | 0.180    |
| 4.000     | 24.7 | 17.663 | 0.25   | 8.60   | 8.67   |        | 0.220   | 0.300   |         | 0.260    |
| 5.000     | 32.6 | 23.315 | 0.33   | 8.52   | 8.60   |        | 0.300   | 0.370   |         | 0.335    |
| 6.000     | 41.5 | 29.673 | 0.42   | 8.46   | 8.51   |        | 0.360   | 0.460   |         | 0.410    |
| 7.000     | 49.4 | 35.325 | 0.50   | 8.41   | 8.45   |        | 0.410   | 0.520   |         | 0.465    |
| 8.000     | 24.7 | 17.663 | 0.25   | 8.45   | 8.47   |        | 0.370   | 0.500   |         | 0.435    |
| 9.000     | 12.4 | 8.831  | 0.12   | 8.40   | 8.51   |        | 0.340   | 0.460   |         | 0.400    |
| 9.000     | 1.0  | 0.707  | 0.01   | 8.55   | 8.54   |        | 0.270   | 0.430   |         | 0.350    |
| 10.000    | 1.0  | 0.707  | 0.01   | 8.55   | 8.54   |        | 0.270   | 0.430   |         | 0.350    |
| 11.000    | 7.9  | 5.652  | 0.08   | 8.54   | 8.52   |        | 0.280   | 0.450   |         | 0.365    |
| 12.000    | 15.8 | 11.304 | 0.16   | 8.51   | 8.49   |        | 0.310   | 0.480   |         | 0.395    |
| 13.000    | 24.7 | 17.663 | 0.25   | 8.46   | 8.45   |        | 0.340   | 0.520   |         | 0.440    |
| 14.000    | 32.6 | 23.315 | 0.33   | 8.42   | 8.41   |        | 0.400   | 0.560   |         | 0.480    |
| 15.000    | 41.5 | 29.673 | 0.42   | 8.39   | 8.38   |        | 0.430   | 0.590   |         | 0.510    |

|                | $\sigma_1$ | $\sigma_2$ | $\sigma_3$ | $\sigma_4$ | $\sigma_5$ |
|----------------|------------|------------|------------|------------|------------|
| 0.7 $\sigma_1$ | 0.35       | 0.36188    |            |            |            |
| 0.3 $\sigma_1$ | 0.15       | 0.17188    |            |            |            |
| 0.7 $\sigma_2$ | 0.35       | 0.48667    |            |            |            |
| 0.3 $\sigma_2$ | 0.15       | 0.38       |            |            |            |
| D (mm)         | 390        |            |            |            |            |
| $E_{v1}$       | 236.84     |            |            |            |            |
| $E_{v2}$       | 421.80     |            |            |            |            |
| Area (Sq.m)    | 0.07055    |            |            |            |            |

|                 |      |  |  |
|-----------------|------|--|--|
| $E_{v2}/E_{v1}$ | 1.78 |  |  |
|-----------------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :



Contractor: Consultant:

Contractor:

Contractor:

Contractor:

## Plate Load Test Results

Layer:  
Station:  
Date:

Prepared Subgrade 2 0.50+

|         |    |         |
|---------|----|---------|
| 546+300 | TO | 546+400 |
|---------|----|---------|

16-10-23

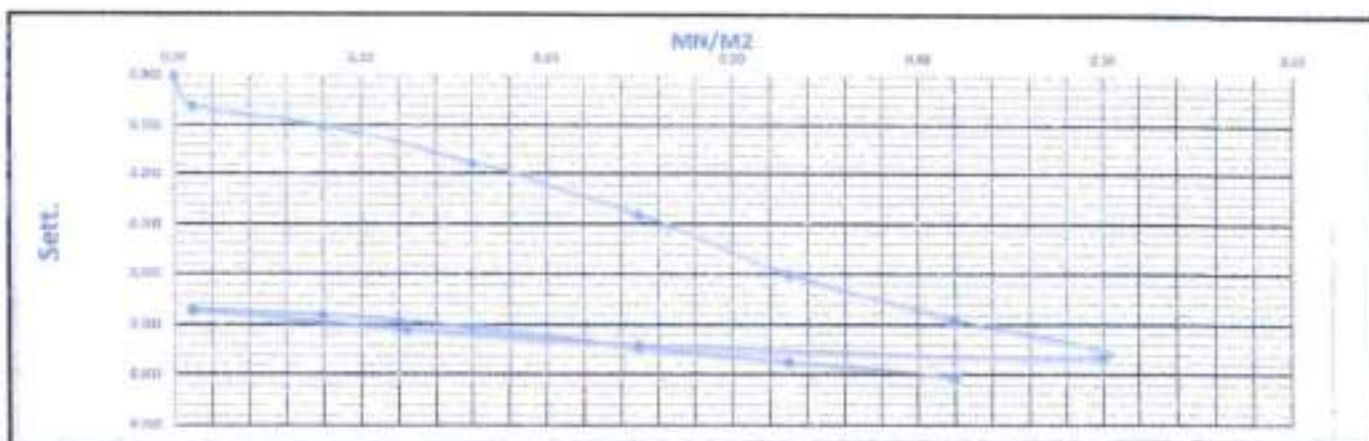
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA 3 |
| Location | 546+310          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | KN/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 8.24   | 8.66   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 8.19   | 8.59   |        | 0.050   | 0.070   |         | 0.060      |
| 2.000     | 7.9  | 5.652  | 0.08   | 8.15   | 8.55   |        | 0.090   | 0.110   |         | 0.100      |
| 0.080     | 15.8 | 11.304 | 0.16   | 8.09   | 8.46   |        | 0.150   | 0.200   |         | 0.175      |
| 4.000     | 24.7 | 17.663 | 0.25   | 7.99   | 8.35   |        | 0.250   | 0.310   |         | 0.280      |
| 5.000     | 32.6 | 23.315 | 0.33   | 7.88   | 8.22   |        | 0.360   | 0.440   |         | 0.400      |
| 6.000     | 41.5 | 29.673 | 0.42   | 7.79   | 8.13   |        | 0.450   | 0.530   |         | 0.490      |
| 7.000     | 49.4 | 35.325 | 0.50   | 7.71   | 8.06   |        | 0.530   | 0.600   |         | 0.565      |
| 8.000     | 24.7 | 17.663 | 0.25   | 7.73   | 8.09   |        | 0.510   | 0.570   |         | 0.540      |
| 9.000     | 12.4 | 8.831  | 0.12   | 7.75   | 8.12   |        | 0.480   | 0.540   |         | 0.510      |
| 9.000     | 1.0  | 0.707  | 0.01   | 7.80   | 8.16   |        | 0.440   | 0.500   |         | 0.470      |
| 10.000    | 1.0  | 0.707  | 0.01   | 7.80   | 8.16   |        | 0.440   | 0.500   |         | 0.470      |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.79   | 8.15   |        | 0.450   | 0.510   |         | 0.480      |
| 12.000    | 15.8 | 11.304 | 0.16   | 7.76   | 8.13   |        | 0.480   | 0.530   |         | 0.505      |
| 13.000    | 24.7 | 17.663 | 0.25   | 7.71   | 8.10   |        | 0.530   | 0.560   |         | 0.545      |
| 14.000    | 32.6 | 23.315 | 0.33   | 7.69   | 8.06   |        | 0.580   | 0.600   |         | 0.575      |
| 15.000    | 41.5 | 29.673 | 0.42   | 7.66   | 8.03   |        | 0.580   | 0.630   |         | 0.605      |

|                |         | $\mu$   | $\Delta S$ | $A_0$ |
|----------------|---------|---------|------------|-------|
| 0.7 $\sigma_1$ | 0.35    | 0.42438 | 0.38875    | 0.2   |
| 0.3 $\sigma_1$ | 0.15    | 0.16563 |            |       |
| 0.7 $\sigma_2$ | 0.35    | 0.58167 | 0.49167    | 0.2   |
| 0.3 $\sigma_2$ | 0.15    | 0.49    |            |       |
| D (mm)         | 300     |         |            |       |
| $E_{v1}$       | 173.91  |         |            |       |
| $E_{v2}$       | 490.91  |         |            |       |
| Area (Sq.m)    | 0.07069 |         |            |       |

|        |      |  |  |
|--------|------|--|--|
| Ex2Dx1 | 1.82 |  |  |
|--------|------|--|--|

LOAD  
UNLOAD  
RELOAD



Lab. Specialist

Name:  
Sign:

Lab. Engineer

Name: *محمد عبد الله النجار*  
Sign: *محمد عبد الله النجار*  
شركة المقاولات والبناء - غزة

Consultant Engineer

Name: *Abdullah*  
Sign: *Abdullah*



Contractor Consultant

Contractor



Chief Engineer



## Plate Load Test Results

Layer:  
Station:  
Date:

Prepared Subgrade 2 0.50+

|          |    |         |
|----------|----|---------|
| 546+300  | TO | 546+400 |
| 16-10-23 |    |         |

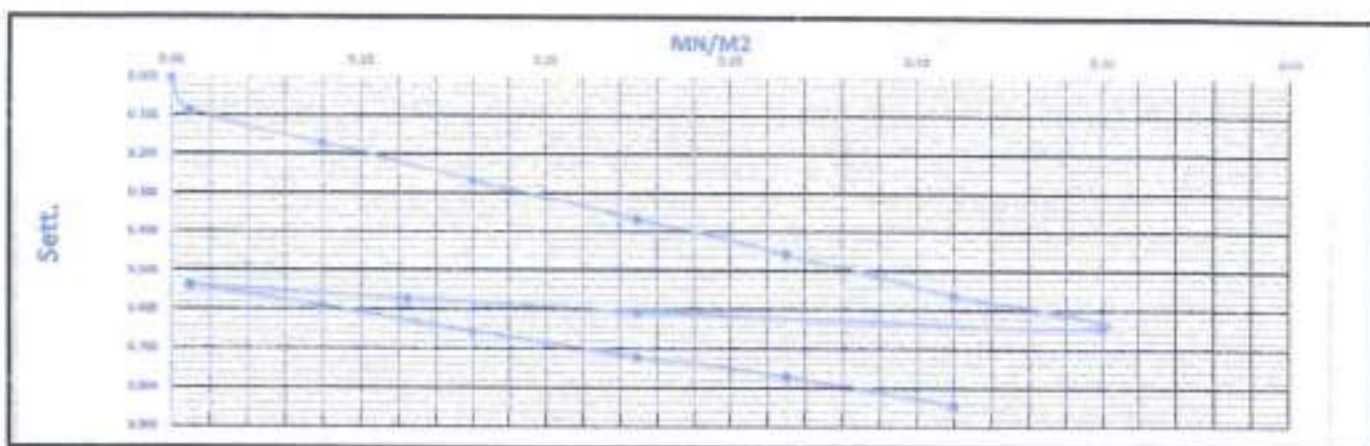
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA 3 |
| Location | 546+340          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM/CM  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 7.58   | 7.22   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 7.51   | 7.12   |        | 0.070   | 0.100   |         | 0.085      |
| 2.000     | 7.9  | 5.652  | 0.08   | 7.43   | 7.03   |        | 0.150   | 0.190   |         | 0.170      |
| 3.000     | 15.8 | 11.304 | 0.16   | 7.31   | 6.96   |        | 0.270   | 0.260   |         | 0.265      |
| 4.000     | 24.7 | 17.663 | 0.25   | 7.23   | 6.84   |        | 0.350   | 0.380   |         | 0.365      |
| 5.000     | 32.6 | 23.315 | 0.33   | 7.14   | 6.75   |        | 0.440   | 0.470   |         | 0.455      |
| 6.000     | 41.5 | 29.673 | 0.42   | 7.05   | 6.63   |        | 0.530   | 0.590   |         | 0.560      |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.95   | 6.56   |        | 0.630   | 0.660   |         | 0.645      |
| 8.000     | 24.7 | 17.663 | 0.25   | 7.00   | 6.59   |        | 0.580   | 0.630   |         | 0.605      |
| 9.000     | 12.4 | 8.831  | 0.12   | 7.04   | 6.62   |        | 0.540   | 0.600   |         | 0.570      |
| 9.000     | 1.0  | 0.707  | 0.01   | 7.08   | 6.65   |        | 0.500   | 0.570   |         | 0.535      |
| 10.000    | 1.0  | 0.707  | 0.01   | 7.08   | 6.65   |        | 0.500   | 0.570   |         | 0.535      |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.01   | 6.61   |        | 0.570   | 0.610   |         | 0.590      |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.95   | 6.54   |        | 0.630   | 0.680   |         | 0.655      |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.92   | 6.44   |        | 0.660   | 0.780   |         | 0.720      |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.84   | 6.42   |        | 0.740   | 0.800   |         | 0.770      |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.80   | 6.31   |        | 0.780   | 0.910   |         | 0.845      |

|                |         |         | AS      | in  |
|----------------|---------|---------|---------|-----|
| 0.7 $\sigma_1$ | 0.35    | 0.48563 | 0.2325  | 0.2 |
| 0.3 $\sigma_1$ | 0.15    | 0.25313 |         |     |
| 0.7 $\sigma_2$ | 0.35    | 0.78667 | 0.14166 | 0.2 |
| 0.3 $\sigma_2$ | 0.15    | 0.64501 |         |     |
| D (mm)         | 380     |         |         |     |
| $E_{v1}$       | 193.35  |         |         |     |
| $E_{v2}$       | 317.66  |         |         |     |
| Area (Sq.cm)   | 0.01665 |         |         |     |

|                 |      |  |  |
|-----------------|------|--|--|
| $E_{v2}/E_{v1}$ | 1.64 |  |  |
|-----------------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name :  
Sign :

Lab. Engineer

Name : *المهندس محمد بن عبد الله*  
Sign : *محمد بن عبد الله*  
مشروع القطار السريع / المرحلة - مطروح

Consultant Engineer

Name : *Abdelhak*  
Sign :



Contractor/Consultant

Contractor

State of Palestine

Contract

Contract

## Plate Load Test Results

Layer:

Prepared Subgrade 2 0.50+

Station:

546+300 TO 546+400

Date:

16-10-23

COMPANY

YOUSSEF NEGIDA S

Location

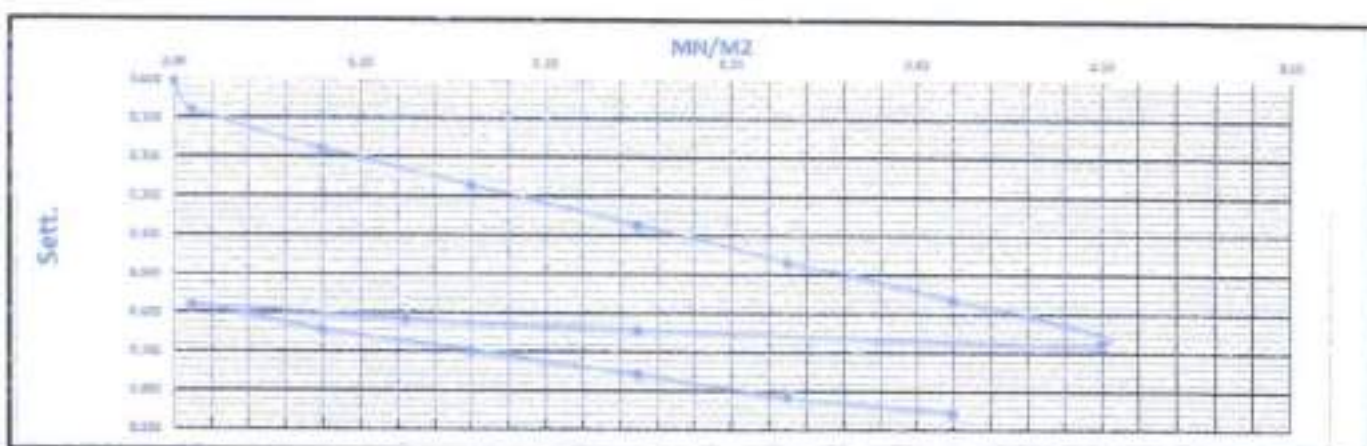
546+360

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 8.45   | 7.90   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 8.38   | 7.82   |        | 0.070   | 0.080   |         | 0.075      |
| 2.000     | 7.9  | 5.652  | 0.08   | 8.29   | 7.71   |        | 0.160   | 0.190   |         | 0.175      |
| 3.000     | 15.8 | 11.304 | 0.16   | 8.17   | 7.64   |        | 0.280   | 0.260   |         | 0.270      |
| 4.000     | 24.7 | 17.463 | 0.25   | 8.05   | 7.56   |        | 0.400   | 0.340   |         | 0.370      |
| 5.000     | 32.6 | 23.315 | 0.33   | 7.94   | 7.48   |        | 0.510   | 0.420   |         | 0.465      |
| 6.000     | 41.5 | 29.673 | 0.42   | 7.86   | 7.37   |        | 0.590   | 0.530   |         | 0.560      |
| 7.000     | 49.4 | 35.325 | 0.50   | 7.73   | 7.27   |        | 0.720   | 0.630   |         | 0.675      |
| 8.000     | 34.7 | 17.463 | 0.25   | 7.77   | 7.30   |        | 0.680   | 0.600   |         | 0.640      |
| 9.000     | 12.4 | 8.831  | 0.12   | 7.80   | 7.32   |        | 0.650   | 0.580   |         | 0.615      |
| 9.000     | 1.0  | 0.707  | 0.01   | 7.84   | 7.36   |        | 0.610   | 0.540   |         | 0.575      |
| 10.000    | 1.0  | 0.707  | 0.01   | 7.84   | 7.36   |        | 0.610   | 0.540   |         | 0.575      |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.77   | 7.30   |        | 0.680   | 0.600   |         | 0.640      |
| 12.000    | 15.8 | 11.304 | 0.16   | 7.71   | 7.25   |        | 0.740   | 0.650   |         | 0.695      |
| 13.000    | 24.7 | 17.463 | 0.25   | 7.63   | 7.21   |        | 0.820   | 0.690   |         | 0.755      |
| 14.000    | 32.6 | 23.315 | 0.33   | 7.59   | 7.13   |        | 0.860   | 0.770   |         | 0.815      |
| 15.000    | 41.5 | 29.673 | 0.42   | 7.53   | 7.11   |        | 0.920   | 0.790   |         | 0.855      |

|                |         | s       | ΔS      | Δe  |
|----------------|---------|---------|---------|-----|
| 0.7 $\sigma_1$ | 0.35    | 0.45537 | 0.20125 | 0.2 |
| 0.3 $\sigma_1$ | 0.15    | 0.25813 |         |     |
| 0.7 $\sigma_2$ | 0.35    | 0.82389 | 0.11888 | 0.2 |
| 0.3 $\sigma_2$ | 0.15    | 0.70501 |         |     |
| D (mm)         | 300     |         |         |     |
| $E_{v1}$       | 223.60  |         |         |     |
| $E_{v2}$       | 378.83  |         |         |     |
| Area (Sq.m)    | 0.07065 |         |         |     |

|                                  |      |  |  |
|----------------------------------|------|--|--|
| E <sub>v1</sub> /E <sub>v2</sub> | 1.69 |  |  |
|----------------------------------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

أشرف محمد العبدالله  
مهندس  
شركة المقاولات العربية - م.م.م.م.

Consultant Engineer

Name :

Sign :



Contractor



## Plate Load Test Results

Layer:  
Station:  
Date:

Prepared Subgrade 2 0.50+

|          |    |         |
|----------|----|---------|
| 546+300  | TO | 546+400 |
| 16-10-23 |    |         |

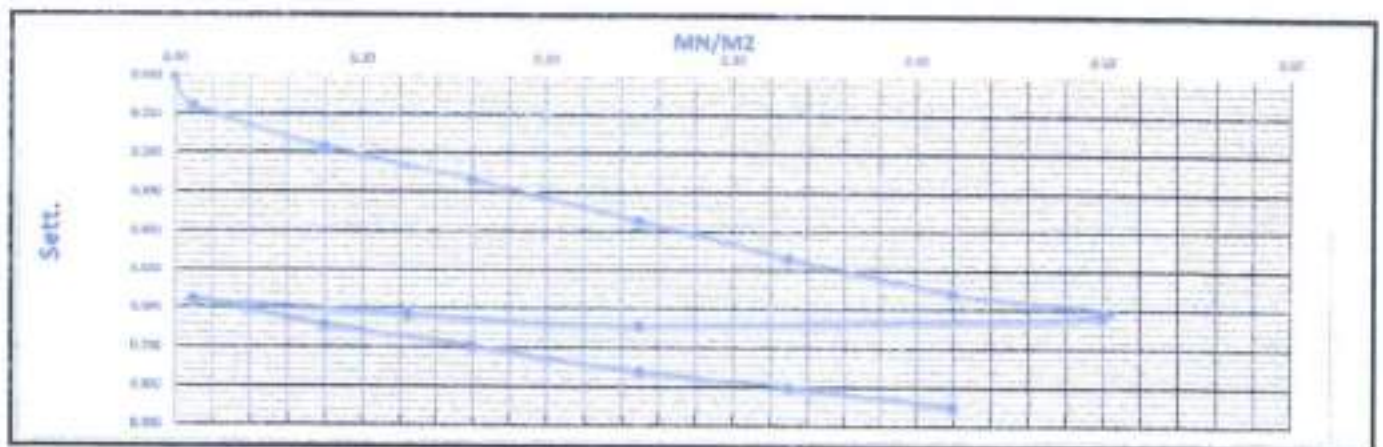
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA 3 |
| Location | 546+380          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | KN/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 9.40   | 8.85   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 9.33   | 8.77   |        | 0.070   | 0.080   |         | 0.075      |
| 2.000     | 7.9  | 5.652  | 0.08   | 9.24   | 8.65   |        | 0.160   | 0.200   |         | 0.180      |
| 3.000     | 15.8 | 11.304 | 0.16   | 9.13   | 8.59   |        | 0.270   | 0.260   |         | 0.265      |
| 4.000     | 24.7 | 17.663 | 0.25   | 9.00   | 8.51   |        | 0.400   | 0.340   |         | 0.370      |
| 5.000     | 32.6 | 23.315 | 0.33   | 8.89   | 8.43   |        | 0.510   | 0.420   |         | 0.465      |
| 6.000     | 41.5 | 29.673 | 0.42   | 8.82   | 8.32   |        | 0.580   | 0.520   |         | 0.555      |
| 7.000     | 49.4 | 35.328 | 0.50   | 8.80   | 8.22   |        | 0.600   | 0.630   |         | 0.615      |
| 8.000     | 24.7 | 17.663 | 0.25   | 8.72   | 8.25   |        | 0.600   | 0.600   |         | 0.600      |
| 9.000     | 12.4 | 8.831  | 0.12   | 8.75   | 8.27   |        | 0.650   | 0.580   |         | 0.615      |
| 9.000     | 1.0  | 0.707  | 0.01   | 8.79   | 8.31   |        | 0.610   | 0.540   |         | 0.575      |
| 10.000    | 1.0  | 0.707  | 0.01   | 8.79   | 8.31   |        | 0.610   | 0.540   |         | 0.575      |
| 11.000    | 7.9  | 5.652  | 0.08   | 8.72   | 8.25   |        | 0.680   | 0.600   |         | 0.640      |
| 12.000    | 15.8 | 11.304 | 0.16   | 8.66   | 8.20   |        | 0.740   | 0.650   |         | 0.695      |
| 13.000    | 24.7 | 17.663 | 0.25   | 8.59   | 8.14   |        | 0.810   | 0.710   |         | 0.760      |
| 14.000    | 32.6 | 23.315 | 0.33   | 8.55   | 8.10   |        | 0.850   | 0.750   |         | 0.800      |
| 15.000    | 41.5 | 29.673 | 0.42   | 8.50   | 8.05   |        | 0.900   | 0.800   |         | 0.850      |

|                |         | t       | AS      | At  |
|----------------|---------|---------|---------|-----|
| 0.7 $\sigma_1$ | 0.35    | 0.5825  | 0.24813 | 0.2 |
| 0.3 $\sigma_1$ | 0.15    | 0.25438 |         |     |
| 0.7 $\sigma_2$ | 0.35    | 0.81111 | 0.1061  | 0.2 |
| 0.3 $\sigma_2$ | 0.15    | 0.70501 |         |     |
| D (mm)         | 300     |         |         |     |
| $E_{s1}$       | 101.34  |         |         |     |
| $E_{s2}$       | 424.11  |         |         |     |
| Area (Sq.m)    | 0.07065 |         |         |     |

|        |      |  |  |
|--------|------|--|--|
| EV/EV1 | 1.34 |  |  |
|--------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name:  
Sign:

Lab. Engineer

Name: *Youssef Negida 3*  
Sign: *Youssef Negida 3*  
مشروع القطار السريع / فوكة - مصر

Consultant Engineer

Name: *Abdelhakim*  
Sign: *Abdelhakim*



Contractor



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+  
 Station: 548+880 TO 548+980  
 Date: 13-11-23

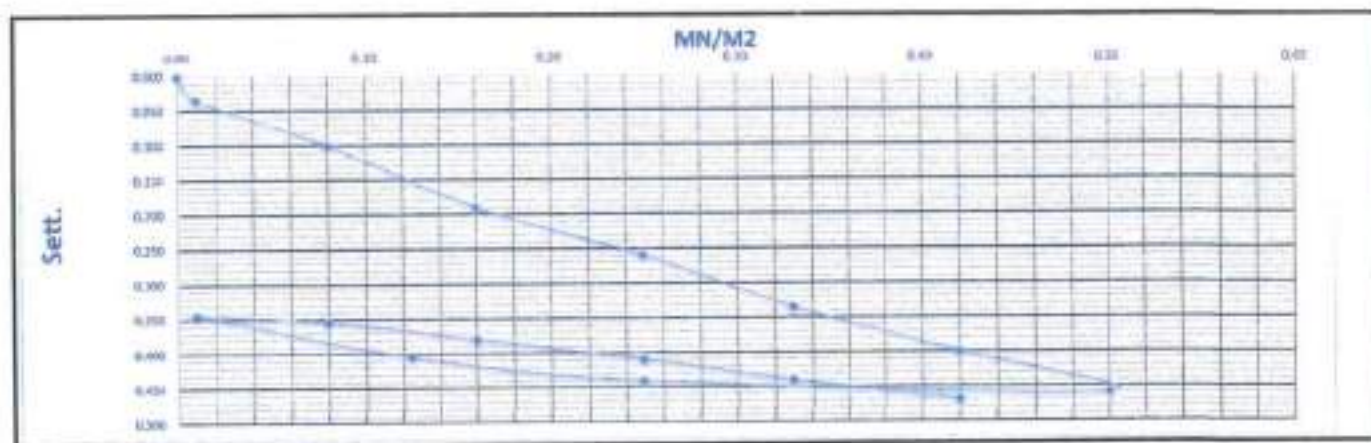
COMPANY: YOUSSEF NEGIDA 3  
 Location: 548+900

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|-----------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm        |
| 0.000     | 0.0  | 0.000  | 0.00   | 6.99   | 7.50   |        | 0.000   | 0.000   |         | 0.000     |
| 1.000     | 1.0  | 0.707  | 0.01   | 6.93   | 7.49   |        | 0.060   | 0.010   |         | 0.035     |
| 2.000     | 7.9  | 5.652  | 0.08   | 6.87   | 7.42   |        | 0.120   | 0.080   |         | 0.100     |
| 0.080     | 15.8 | 11.304 | 0.16   | 6.79   | 7.32   |        | 0.200   | 0.180   |         | 0.190     |
| 4.000     | 24.7 | 17.663 | 0.25   | 6.73   | 7.24   |        | 0.260   | 0.260   |         | 0.260     |
| 5.000     | 32.6 | 23.315 | 0.33   | 6.66   | 7.16   |        | 0.330   | 0.340   |         | 0.335     |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.60   | 7.09   |        | 0.390   | 0.410   |         | 0.400     |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.55   | 7.02   |        | 0.440   | 0.480   |         | 0.460     |
| 8.000     | 24.7 | 17.663 | 0.25   | 6.57   | 7.04   |        | 0.420   | 0.460   |         | 0.440     |
| 9.000     | 12.4 | 8.831  | 0.12   | 6.61   | 7.07   |        | 0.380   | 0.430   |         | 0.405     |
| 9.000     | 1.0  | 0.707  | 0.01   | 6.67   | 7.13   |        | 0.320   | 0.370   |         | 0.345     |
| 10.000    | 1.0  | 0.707  | 0.01   | 6.67   | 7.13   |        | 0.320   | 0.370   |         | 0.345     |
| 11.000    | 7.9  | 5.652  | 0.08   | 6.66   | 7.12   |        | 0.330   | 0.380   |         | 0.355     |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.64   | 7.09   |        | 0.350   | 0.410   |         | 0.380     |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.61   | 7.06   |        | 0.380   | 0.440   |         | 0.410     |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.58   | 7.03   |        | 0.410   | 0.470   |         | 0.440     |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.55   | 7.00   |        | 0.440   | 0.500   |         | 0.470     |

|                |         | $\sigma$ | SS      | So  |
|----------------|---------|----------|---------|-----|
| 0.7 $\sigma_c$ | 0.35    | 0.3475   | 0.16875 | 0.3 |
| 0.3 $\sigma_c$ | 0.15    | 0.17875  |         |     |
| 0.7 $\sigma_c$ | 0.35    | 0.44667  | 0.48167 | 0.2 |
| 0.3 $\sigma_c$ | 0.15    | 0.365    |         |     |
| D (mm)         | 390     |          |         |     |
| $E_{v1}$       | 286.67  |          |         |     |
| $E_{v2}$       | 551.03  |          |         |     |
| Area (Sq.m)    | 0.07065 |          |         |     |

|                 |      |  |  |
|-----------------|------|--|--|
| $E_{v2}/E_{v1}$ | 2.87 |  |  |
|-----------------|------|--|--|

LOAD  
 UN LOAD  
 RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :



Contractor Consultant

Contractor



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+  
 Station: 548+880 TO 548+980  
 Date: 13-11-23

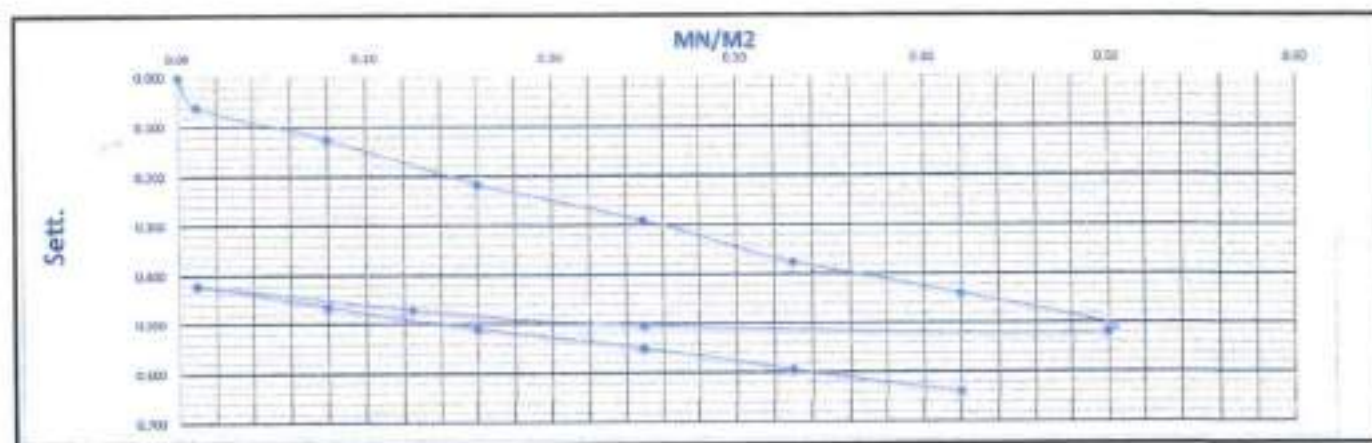
COMPANY: YOUSSEF NEGIDA S  
 Location: 548+920

| 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   | 7.90   | 6.82   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 7.84   | 6.76   |        | 0.060   | 0.060   |         | 0.060      |
| 2.000     | 7.9  | 5.652  | 0.08   | 7.78   | 6.69   |        | 0.120   | 0.130   |         | 0.125      |
| 0.000     | 15.8 | 11.304 | 0.16   | 7.71   | 6.58   |        | 0.190   | 0.240   |         | 0.215      |
| 4.000     | 24.7 | 17.663 | 0.25   | 7.64   | 6.50   |        | 0.260   | 0.320   |         | 0.290      |
| 5.000     | 32.6 | 23.315 | 0.33   | 7.56   | 6.41   |        | 0.340   | 0.410   |         | 0.375      |
| 6.000     | 41.5 | 29.673 | 0.42   | 7.50   | 6.34   |        | 0.400   | 0.480   |         | 0.440      |
| 7.000     | 49.4 | 35.325 | 0.50   | 7.43   | 6.25   |        | 0.470   | 0.570   |         | 0.520      |
| 8.000     | 24.7 | 17.663 | 0.25   | 7.45   | 6.26   |        | 0.450   | 0.560   |         | 0.505      |
| 9.000     | 12.4 | 8.831  | 0.12   | 7.49   | 6.29   |        | 0.410   | 0.530   |         | 0.470      |
| 9.000     | 1.0  | 0.707  | 0.01   | 7.55   | 6.33   |        | 0.350   | 0.490   |         | 0.420      |
| 10.000    | 1.0  | 0.707  | 0.01   | 7.55   | 6.33   |        | 0.350   | 0.490   |         | 0.420      |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.50   | 6.29   |        | 0.400   | 0.530   |         | 0.465      |
| 12.000    | 15.8 | 11.304 | 0.16   | 7.45   | 6.25   |        | 0.450   | 0.570   |         | 0.510      |
| 13.000    | 24.7 | 17.663 | 0.25   | 7.41   | 6.21   |        | 0.490   | 0.610   |         | 0.550      |
| 14.000    | 32.6 | 23.315 | 0.33   | 7.36   | 6.17   |        | 0.540   | 0.650   |         | 0.595      |
| 15.000    | 41.5 | 29.673 | 0.42   | 7.31   | 6.13   |        | 0.590   | 0.690   |         | 0.640      |

|                |         | $\sigma$ | $\Delta S$ | $\Delta \sigma$ |
|----------------|---------|----------|------------|-----------------|
| 0.7 $\sigma_1$ | 0.35    | 0.37     | 0.16625    | 0.2             |
| 0.3 $\sigma_1$ | 0.15    | 0.20375  |            |                 |
| 0.7 $\sigma_2$ | 0.35    | 0.605    | 0.095      | 0.2             |
| 0.3 $\sigma_2$ | 0.15    | 0.51     |            |                 |
| D (mm)         | 300     |          |            |                 |
| $E_{v1}$       | 370.68  |          |            |                 |
| $E_{v2}$       | 473.71  |          |            |                 |
| Area ( Sq.m)   | 0.97065 |          |            |                 |

|                 |      |  |  |
|-----------------|------|--|--|
| $E_{v2}/E_{v1}$ | 1.28 |  |  |
|-----------------|------|--|--|

LOAD  
 UN LOAD  
 RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : SHEHAB HANCOY

Sign :

Consultant Engineer

Name :

Sign :



Contractor



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+

Station: 548+880 TO 548+980

Date: 13-11-23

COMPANY YOUSSEF NEGIDA &amp; PARTNERS

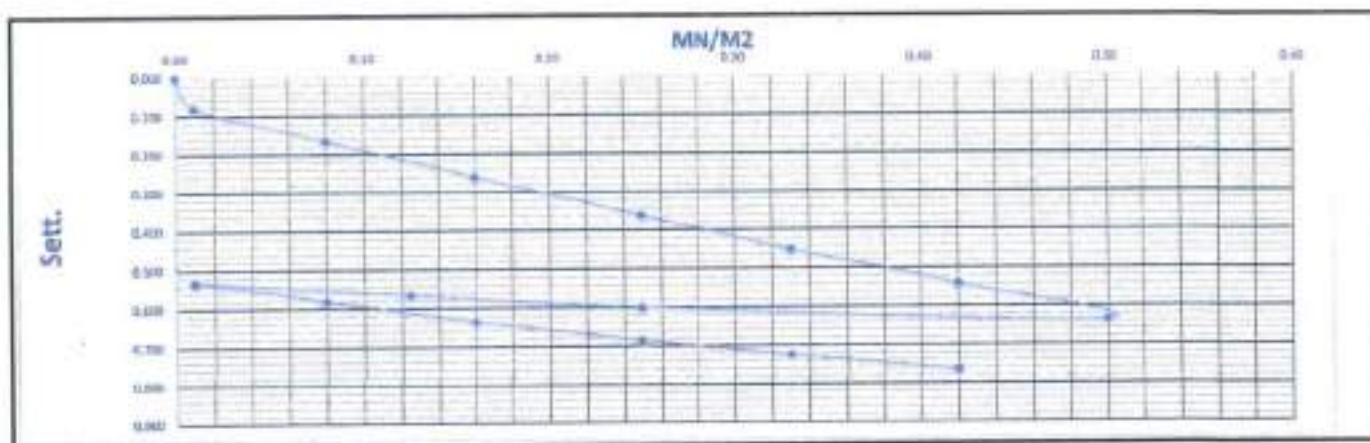
Location 548+950

| Leading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 7.58   | 7.21   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 7.51   | 7.12   |        | 0.070   | 0.090   |         | 0.080      |
| 2.000     | 7.9  | 5.652  | 0.08   | 7.43   | 7.03   |        | 0.150   | 0.180   |         | 0.165      |
| 0.080     | 15.8 | 11.304 | 0.16   | 7.31   | 6.96   |        | 0.270   | 0.250   |         | 0.260      |
| 4.000     | 24.7 | 17.663 | 0.25   | 7.23   | 6.84   |        | 0.350   | 0.370   |         | 0.360      |
| 5.000     | 32.6 | 23.315 | 0.33   | 7.14   | 6.75   |        | 0.440   | 0.460   |         | 0.450      |
| 6.000     | 41.5 | 29.673 | 0.42   | 7.06   | 6.65   |        | 0.520   | 0.560   |         | 0.540      |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.96   | 6.56   |        | 0.620   | 0.650   |         | 0.635      |
| 8.000     | 24.7 | 17.663 | 0.25   | 7.00   | 6.59   |        | 0.580   | 0.620   |         | 0.600      |
| 9.000     | 12.4 | 8.831  | 0.12   | 7.04   | 6.62   |        | 0.540   | 0.590   |         | 0.565      |
| 9.000     | 1.0  | 0.707  | 0.01   | 7.08   | 6.65   |        | 0.540   | 0.560   |         | 0.530      |
| 10.000    | 1.0  | 0.707  | 0.01   | 7.08   | 6.65   |        | 0.540   | 0.560   |         | 0.530      |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.03   | 6.60   |        | 0.550   | 0.610   |         | 0.580      |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.97   | 6.55   |        | 0.610   | 0.660   |         | 0.635      |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.93   | 6.49   |        | 0.650   | 0.720   |         | 0.685      |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.89   | 6.45   |        | 0.690   | 0.760   |         | 0.725      |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.85   | 6.41   |        | 0.730   | 0.800   |         | 0.765      |

|                 |         | $\sigma$ | AS      | A <sub>v</sub> |
|-----------------|---------|----------|---------|----------------|
| 0.7 $\sigma_1$  | 0.35    | 0.45688  | 0.20078 | 0.2            |
| 0.3 $\sigma_1$  | 0.15    | 0.24813  |         |                |
| 0.7 $\sigma_2$  | 0.35    | 0.73389  | 0.10188 | 0.2            |
| 0.3 $\sigma_2$  | 0.15    | 0.63001  |         |                |
| D (mm)          | 300     |          |         |                |
| E <sub>v1</sub> | 218.87  |          |         |                |
| E <sub>v2</sub> | 433.18  |          |         |                |
| Area (Sq. cm)   | 9.07905 |          |         |                |

|                                  |      |  |  |
|----------------------------------|------|--|--|
| E <sub>v2</sub> /E <sub>v1</sub> | 2.41 |  |  |
|----------------------------------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : *Abdelhakim El-Morshedy*  
 Sign : *Abdelhakim El-Morshedy*  
 مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name :

Sign : *Abdelhakim El-Morshedy*



Contractor



Owner



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+  
 Station: 548+880 TO 548+980  
 Date: 13-11-23

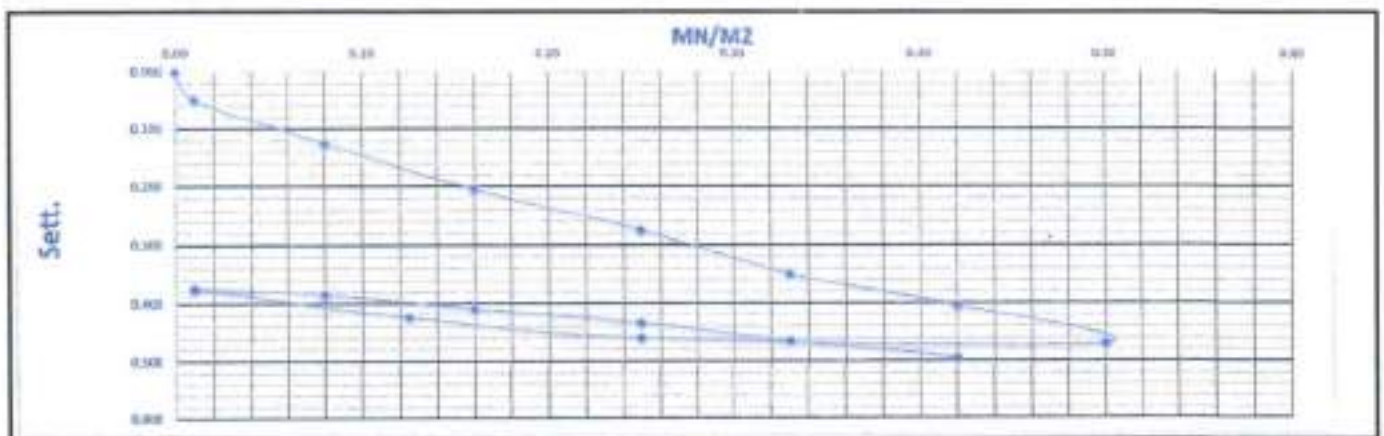
COMPANY YOUSSEF NEGIDA 3  
 Location 548+970

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 5.13   | 6.50   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 5.07   | 6.46   |        | 0.060   | 0.040   |         | 0.050      |
| 2.000     | 7.9  | 5.652  | 0.08   | 5.00   | 6.38   |        | 0.130   | 0.120   |         | 0.125      |
| 0.090     | 15.8 | 11.304 | 0.16   | 4.93   | 6.29   |        | 0.200   | 0.210   |         | 0.205      |
| 4.000     | 24.7 | 17.663 | 0.25   | 4.87   | 6.21   |        | 0.260   | 0.290   |         | 0.275      |
| 5.000     | 32.6 | 23.315 | 0.33   | 4.80   | 6.13   |        | 0.330   | 0.370   |         | 0.350      |
| 6.000     | 41.5 | 29.673 | 0.42   | 4.75   | 6.07   |        | 0.380   | 0.430   |         | 0.405      |
| 7.000     | 49.4 | 35.325 | 0.50   | 4.69   | 6.00   |        | 0.440   | 0.500   |         | 0.470      |
| 8.000     | 24.7 | 17.663 | 0.25   | 4.70   | 6.01   |        | 0.430   | 0.490   |         | 0.460      |
| 9.000     | 12.4 | 8.831  | 0.12   | 4.74   | 6.04   |        | 0.390   | 0.460   |         | 0.425      |
| 9.000     | 1.0  | 0.707  | 0.01   | 4.79   | 6.09   |        | 0.340   | 0.410   |         | 0.375      |
| 10.000    | 1.0  | 0.707  | 0.01   | 4.79   | 6.09   |        | 0.340   | 0.410   |         | 0.375      |
| 11.000    | 7.9  | 5.652  | 0.08   | 4.78   | 6.08   |        | 0.350   | 0.420   |         | 0.385      |
| 12.000    | 15.8 | 11.304 | 0.16   | 4.76   | 6.05   |        | 0.370   | 0.450   |         | 0.410      |
| 13.000    | 24.7 | 17.663 | 0.25   | 4.74   | 6.02   |        | 0.390   | 0.480   |         | 0.435      |
| 14.000    | 32.6 | 23.315 | 0.33   | 4.71   | 5.99   |        | 0.420   | 0.510   |         | 0.465      |
| 15.000    | 41.5 | 29.673 | 0.42   | 4.68   | 5.96   |        | 0.450   | 0.540   |         | 0.495      |

| $0.7 \sigma_1$ | 0.35    | 0.34813 | AS      | AS  |
|----------------|---------|---------|---------|-----|
| 0.3 $\sigma_1$ | 0.15    | 0.195   | 0.15313 | 0.2 |
| 0.7 $\sigma_2$ | 0.35    | 0.47167 | 0.07567 | 0.2 |
| 0.3 $\sigma_2$ | 0.15    | 0.395   |         |     |
| D (mm)         | 300     |         |         |     |
| $E_{v1}$       | 293.88  |         |         |     |
| $E_{v2}$       | 586.96  |         |         |     |
| Area (Sq.m)    | 0.07065 |         |         |     |

|           |      |  |  |
|-----------|------|--|--|
| $E_2/E_1$ | 2.00 |  |  |
|-----------|------|--|--|

LOAD  
 UN LOAD  
 RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+  
 Station: 548+780 TO 548+880  
 Date: 13-11-23

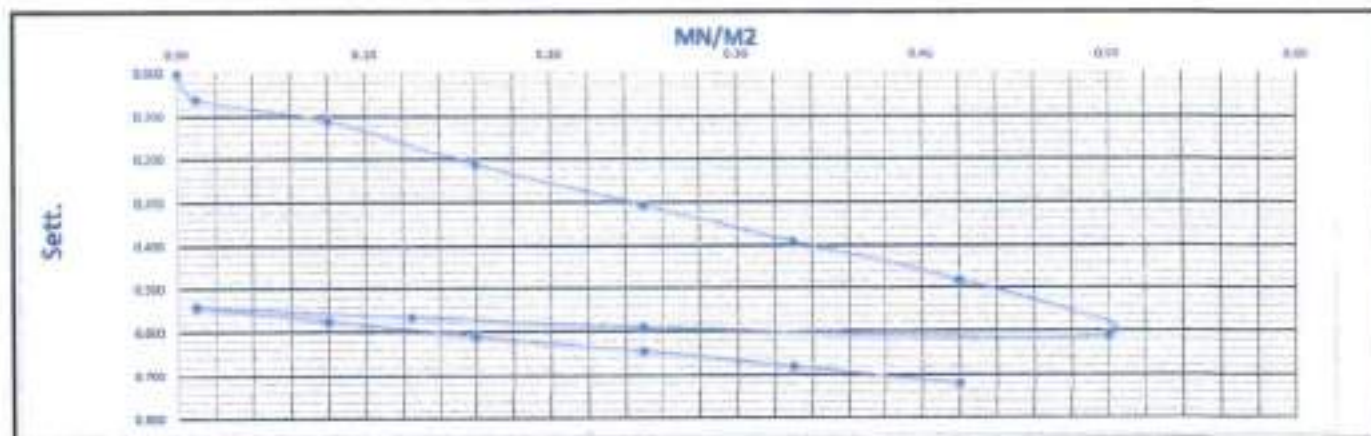
COMPANY YOUSSEF NEGIDA J  
 Location 548+800

| Landing   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|-----------|
| Stage No. | Bar  | KN     | MPa    | mm     | mm     | mm     | mm      | mm      | mm      | mm        |
| 0.000     | 0.0  | 0.000  | 0.00   | 5.80   | 6.66   |        | 0.000   | 0.000   |         | 0.000     |
| 1.000     | 1.0  | 0.707  | 0.01   | 5.73   | 6.61   |        | 0.070   | 0.050   |         | 0.060     |
| 2.000     | 7.9  | 5.652  | 0.08   | 5.66   | 6.58   |        | 0.140   | 0.080   |         | 0.110     |
| 0.080     | 15.8 | 11.304 | 0.16   | 5.58   | 6.46   |        | 0.220   | 0.200   |         | 0.210     |
| 4.000     | 24.7 | 17.663 | 0.25   | 5.46   | 6.39   |        | 0.340   | 0.270   |         | 0.305     |
| 5.000     | 32.6 | 23.315 | 0.33   | 5.38   | 6.30   |        | 0.420   | 0.360   |         | 0.390     |
| 6.000     | 41.5 | 29.673 | 0.42   | 5.29   | 6.21   |        | 0.510   | 0.450   |         | 0.480     |
| 7.000     | 49.4 | 35.325 | 0.50   | 5.14   | 6.10   |        | 0.660   | 0.560   |         | 0.610     |
| 8.000     | 24.7 | 17.663 | 0.25   | 5.16   | 6.12   |        | 0.640   | 0.540   |         | 0.590     |
| 9.000     | 12.4 | 8.831  | 0.12   | 5.18   | 6.15   |        | 0.620   | 0.510   |         | 0.565     |
| 9.000     | 1.0  | 0.707  | 0.01   | 5.20   | 6.18   |        | 0.600   | 0.480   |         | 0.540     |
| 10.000    | 1.0  | 0.707  | 0.01   | 5.20   | 6.18   |        | 0.600   | 0.480   |         | 0.540     |
| 11.000    | 7.9  | 5.652  | 0.08   | 5.16   | 6.15   |        | 0.640   | 0.510   |         | 0.575     |
| 12.000    | 15.8 | 11.304 | 0.16   | 5.12   | 6.12   |        | 0.680   | 0.540   |         | 0.610     |
| 13.000    | 24.7 | 17.663 | 0.25   | 5.08   | 6.09   |        | 0.720   | 0.570   |         | 0.645     |
| 14.000    | 32.6 | 23.315 | 0.33   | 5.04   | 6.06   |        | 0.760   | 0.600   |         | 0.680     |
| 15.000    | 41.5 | 29.673 | 0.42   | 5.00   | 6.02   |        | 0.800   | 0.640   |         | 0.720     |

| $\sigma_1$  | $\sigma_2$ | $\sigma_3$ | $\sigma_4$ | $\sigma_5$ |
|-------------|------------|------------|------------|------------|
| 0.7         | 0.35       | 0.16615    | 0.16875    | 0.2        |
| 0.3         | 0.15       | 0.1975     | 0.16875    | 0.2        |
| 0.7         | 0.35       | 0.68889    | 0.16875    | 0.2        |
| 0.3         | 0.15       | 0.61       | 0.16875    | 0.2        |
| D (mm)      | 300        |            |            |            |
| $E_{v1}$    | 266.57     |            |            |            |
| $E_{v2}$    | 570.45     |            |            |            |
| Area (Sq.m) | 0.07065    |            |            |            |

$E_{v1}/E_{v2}$  2.14

LOAD  
 UNLOAD  
 RELOAD



Lab. Specialist

Name :  
 Sign :

Lab. Engineer

Name : SHEHAB HANNY  
 Sign :  
 مشروع القطار السريع / فوكتة - مطروح

Consultant Engineer

Name :  
 Sign :



Contractor Consultant

Contractor



المشرف العام

Director



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+  
Station: 548+780 TO 548+880  
Date: 13-11-23

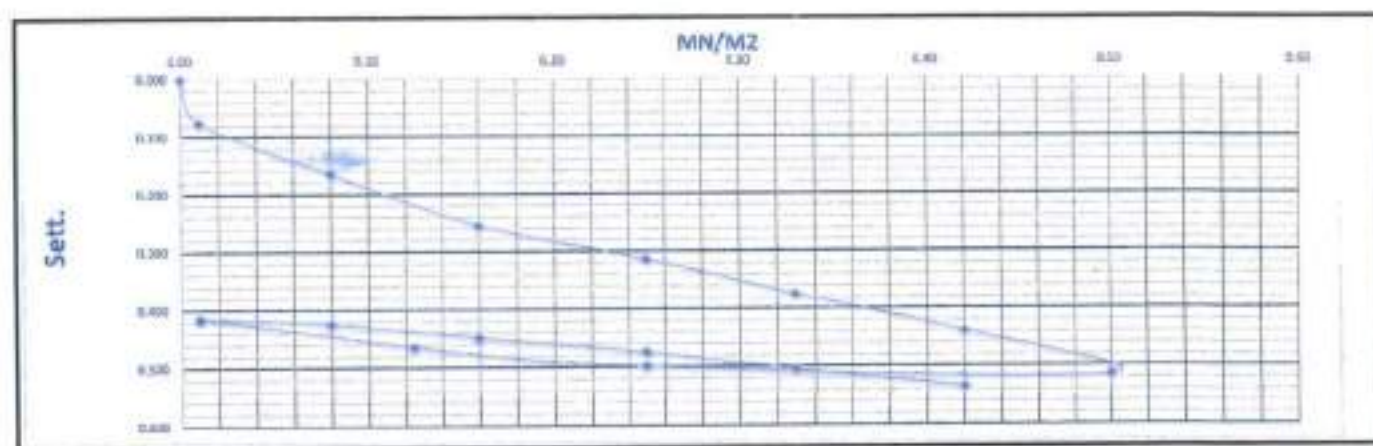
|          |                  |
|----------|------------------|
| COMPANY  | YOUSSEF NEGIDA 3 |
| Location | 548+820          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|-----------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm        |
| 0.000     | 0.0  | 0.000  | 0.00   | 7.16   | 7.77   |        | 0.000   | 0.000   |         | 0.000     |
| 1.000     | 1.0  | 0.707  | 0.01   | 7.08   | 7.70   |        | 0.080   | 0.070   |         | 0.075     |
| 2.000     | 7.9  | 5.652  | 0.08   | 6.99   | 7.61   |        | 0.170   | 0.160   |         | 0.165     |
| 0.080     | 15.8 | 11.304 | 0.16   | 6.91   | 7.51   |        | 0.250   | 0.260   |         | 0.255     |
| 4.000     | 24.7 | 17.663 | 0.25   | 6.85   | 7.45   |        | 0.310   | 0.320   |         | 0.315     |
| 5.000     | 32.6 | 23.315 | 0.33   | 6.80   | 7.38   |        | 0.360   | 0.390   |         | 0.375     |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.74   | 7.31   |        | 0.420   | 0.460   |         | 0.440     |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.67   | 7.23   |        | 0.490   | 0.540   |         | 0.515     |
| 8.000     | 24.7 | 17.663 | 0.25   | 6.69   | 7.24   |        | 0.470   | 0.530   |         | 0.500     |
| 9.000     | 12.4 | 8.831  | 0.12   | 6.73   | 7.27   |        | 0.430   | 0.500   |         | 0.465     |
| 9.000     | 1.0  | 0.707  | 0.01   | 6.78   | 7.32   |        | 0.380   | 0.450   |         | 0.415     |
| 10.000    | 1.0  | 0.707  | 0.01   | 6.78   | 7.32   |        | 0.380   | 0.450   |         | 0.415     |
| 11.000    | 7.9  | 5.652  | 0.08   | 6.77   | 7.31   |        | 0.390   | 0.460   |         | 0.425     |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.75   | 7.28   |        | 0.410   | 0.490   |         | 0.450     |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.73   | 7.25   |        | 0.430   | 0.520   |         | 0.475     |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.70   | 7.22   |        | 0.460   | 0.550   |         | 0.505     |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.67   | 7.19   |        | 0.490   | 0.580   |         | 0.535     |

|                |         | $\sigma$ | $\Delta S$ | $\Delta \sigma$ |
|----------------|---------|----------|------------|-----------------|
| 0.7 $\sigma_1$ | 0.35    | 0.37438  | 0.13063    | 0.2             |
| 0.3 $\sigma_1$ | 0.15    | 0.24375  |            |                 |
| 0.7 $\sigma_2$ | 0.35    | 0.51167  | 0.07667    | 0.2             |
| 0.3 $\sigma_2$ | 0.15    | 0.435    |            |                 |
| D (mm)         | 300     |          |            |                 |
| $E_{v1}$       | 344.50  |          |            |                 |
| $E_{v2}$       | 586.96  |          |            |                 |
| Area (Sq.m)    | 0.07065 |          |            |                 |

|         |     |  |  |
|---------|-----|--|--|
| E=2/E=1 | L70 |  |  |
|---------|-----|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : SHEHAB HAMDY

Sign :

Consultant Engineer

Name :

Sign :



Contractor



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+  
 Station: 548+780 TO 548+880  
 Date: 13-11-23

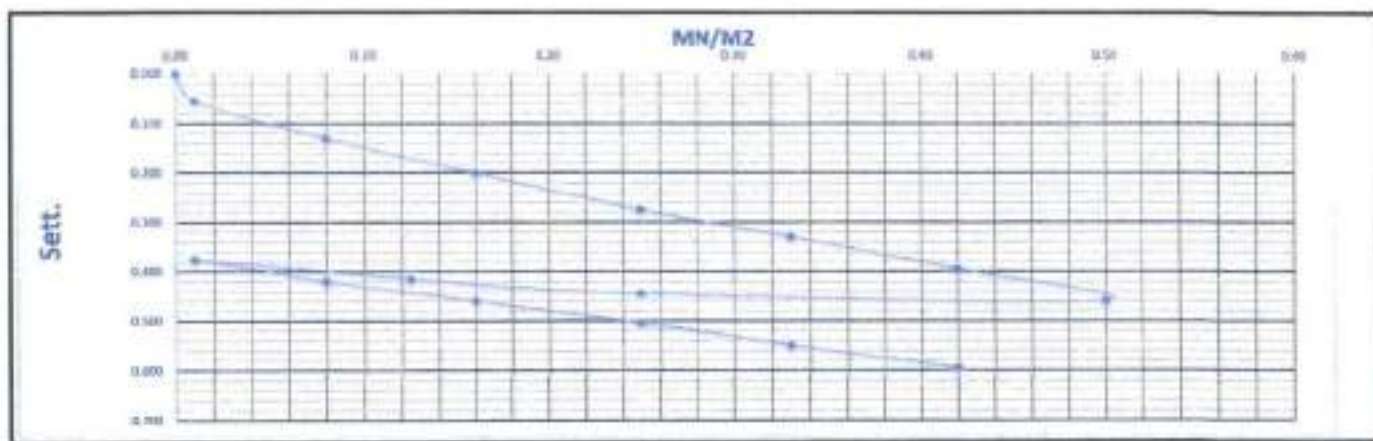
COMPANY YOUSSEF NEGIDA 3  
 Location 548+850

| 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   | 9.33   | 7.99   |        | 0.000   | 0.000   |         | 0.000     |
| 1.000     | 1.0  | 0.707  | 0.01   | 9.27   | 7.94   |        | 0.060   | 0.050   |         | 0.055     |
| 2.000     | 7.9  | 5.652  | 0.08   | 9.20   | 7.86   |        | 0.130   | 0.130   |         | 0.130     |
| 0.080     | 15.8 | 11.304 | 0.16   | 9.14   | 7.78   |        | 0.190   | 0.210   |         | 0.200     |
| 4.000     | 24.7 | 17.663 | 0.25   | 9.07   | 7.70   |        | 0.260   | 0.290   |         | 0.275     |
| 5.000     | 32.6 | 23.315 | 0.33   | 9.01   | 7.65   |        | 0.310   | 0.340   |         | 0.330     |
| 6.000     | 41.5 | 29.673 | 0.42   | 8.95   | 7.58   |        | 0.380   | 0.410   |         | 0.395     |
| 7.000     | 49.4 | 35.325 | 0.50   | 8.89   | 7.51   |        | 0.440   | 0.480   |         | 0.460     |
| 8.000     | 24.7 | 17.663 | 0.25   | 8.91   | 7.52   |        | 0.420   | 0.470   |         | 0.445     |
| 9.000     | 12.4 | 8.831  | 0.12   | 8.94   | 7.55   |        | 0.390   | 0.440   |         | 0.415     |
| 9.000     | 1.0  | 0.707  | 0.01   | 8.98   | 7.59   |        | 0.350   | 0.400   |         | 0.375     |
| 10.000    | 1.0  | 0.707  | 0.01   | 8.98   | 7.59   |        | 0.350   | 0.400   |         | 0.375     |
| 11.000    | 7.9  | 5.652  | 0.08   | 8.95   | 7.53   |        | 0.380   | 0.460   |         | 0.420     |
| 12.000    | 15.8 | 11.304 | 0.16   | 8.91   | 7.49   |        | 0.420   | 0.500   |         | 0.460     |
| 13.000    | 24.7 | 17.663 | 0.25   | 8.87   | 7.44   |        | 0.460   | 0.550   |         | 0.505     |
| 14.000    | 32.6 | 23.315 | 0.33   | 8.83   | 7.39   |        | 0.500   | 0.600   |         | 0.550     |
| 15.000    | 41.5 | 29.673 | 0.42   | 8.78   | 7.35   |        | 0.550   | 0.640   |         | 0.595     |

|                |         | s       | AS      | so  |
|----------------|---------|---------|---------|-----|
| 0.7 $\sigma_1$ | 0.35    | 0.33813 | 0.14688 | 0.1 |
| 0.3 $\sigma_1$ | 0.15    | 0.19125 |         |     |
| 0.7 $\sigma_2$ | 0.35    | 0.56    | 0.095   | 0.1 |
| 0.3 $\sigma_2$ | 0.15    | 0.465   |         |     |
| D (mm)         | 300     |         |         |     |
| $E_{v1}$       | 306.38  |         |         |     |
| $E_{v2}$       | 473.71  |         |         |     |
| Area ( Sq.m)   | 0.07065 |         |         |     |

|              |      |  |  |
|--------------|------|--|--|
| $E_v/E_{v1}$ | 1.35 |  |  |
|--------------|------|--|--|

LOAD  
 UN LOAD  
 RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : SHEHAB HAMDI

Sign :

Consultant Engineer

Name :

Sign :



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+  
 Station: 548+780 TO 548+880  
 Date: 13-11-23

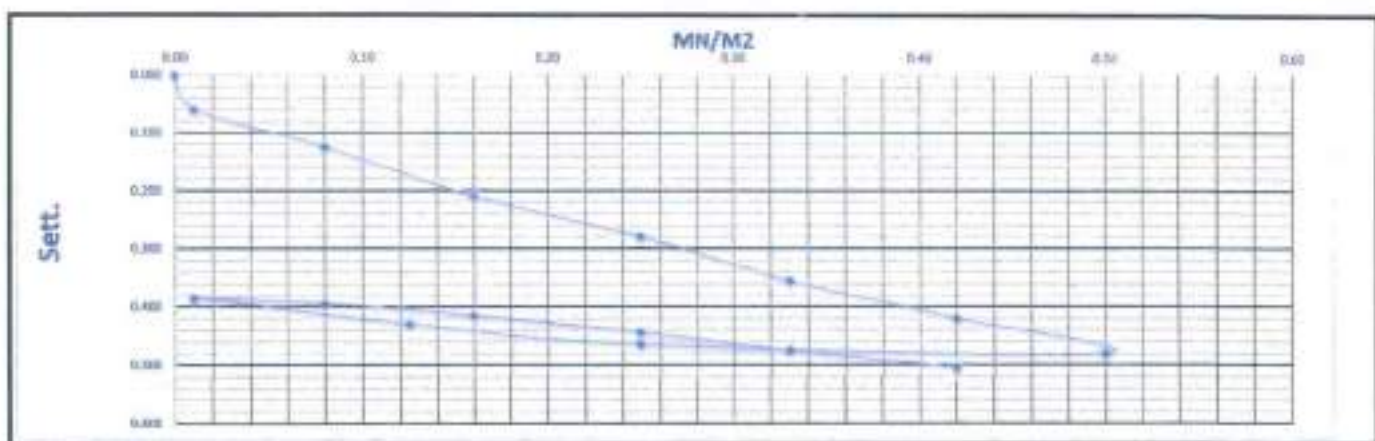
COMPANY: YOUSSEF NEGIDA 3  
 Location: 548+870

| Loading  | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No | Bar  | kN     | kN/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000    | 0.0  | 0.000  | 0.00   | 8.75   | 8.56   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000    | 1.0  | 0.707  | 0.01   | 8.69   | 8.50   |        | 0.060   | 0.060   |         | 0.060      |
| 2.000    | 7.9  | 5.652  | 0.08   | 8.62   | 8.44   |        | 0.130   | 0.120   |         | 0.125      |
| 0.080    | 15.8 | 11.304 | 0.16   | 8.55   | 8.34   |        | 0.200   | 0.220   |         | 0.210      |
| 4.000    | 24.7 | 17.663 | 0.25   | 8.47   | 8.28   |        | 0.280   | 0.280   |         | 0.280      |
| 5.000    | 32.6 | 23.315 | 0.33   | 8.40   | 8.20   |        | 0.350   | 0.360   |         | 0.355      |
| 6.000    | 41.5 | 29.673 | 0.42   | 8.34   | 8.13   |        | 0.410   | 0.430   |         | 0.420      |
| 7.000    | 49.4 | 35.325 | 0.50   | 8.27   | 8.08   |        | 0.480   | 0.480   |         | 0.480      |
| 8.000    | 24.7 | 17.663 | 0.25   | 8.29   | 8.09   |        | 0.460   | 0.470   |         | 0.465      |
| 9.000    | 12.4 | 8.831  | 0.12   | 8.33   | 8.12   |        | 0.420   | 0.440   |         | 0.430      |
| 9.000    | 1.0  | 0.707  | 0.01   | 8.38   | 8.16   |        | 0.370   | 0.400   |         | 0.385      |
| 10.000   | 1.0  | 0.707  | 0.01   | 8.38   | 8.16   |        | 0.370   | 0.400   |         | 0.385      |
| 11.000   | 7.9  | 5.652  | 0.08   | 8.37   | 8.15   |        | 0.380   | 0.410   |         | 0.395      |
| 12.000   | 15.8 | 11.304 | 0.16   | 8.35   | 8.13   |        | 0.400   | 0.430   |         | 0.415      |
| 13.000   | 24.7 | 17.663 | 0.25   | 8.32   | 8.10   |        | 0.430   | 0.460   |         | 0.445      |
| 14.000   | 32.6 | 23.315 | 0.33   | 8.29   | 8.07   |        | 0.460   | 0.490   |         | 0.475      |
| 15.000   | 41.5 | 29.673 | 0.42   | 8.26   | 8.04   |        | 0.490   | 0.520   |         | 0.505      |

|                |         | $\sigma$ | $\Delta S$ | $\Delta \sigma$ |
|----------------|---------|----------|------------|-----------------|
| 0.7 $\sigma_1$ | 0.35    | 0.3675   | 0.14812    | 0.2             |
| 0.3 $\sigma_1$ | 0.15    | 0.19938  |            |                 |
| 0.7 $\sigma_2$ | 0.35    | 0.48167  | 0.07507    | 0.2             |
| 0.3 $\sigma_2$ | 0.15    | 0.405    |            |                 |
| D (mm)         | 300     |          |            |                 |
| $E_{v1}$       | 267.66  |          |            |                 |
| $E_{v2}$       | 286.96  |          |            |                 |
| Area ( Sq.m)   | 0.07065 |          |            |                 |

|           |     |  |  |
|-----------|-----|--|--|
| $E_v/E_v$ | 2:1 |  |  |
|-----------|-----|--|--|

LOAD  
 UN LOAD  
 RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : SHEHAB HAMDI

Sign :

Consultant Engineer

Name :

Sign :



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+  
 Station: 546+500 TO 546+600  
 Date: 16-11-23

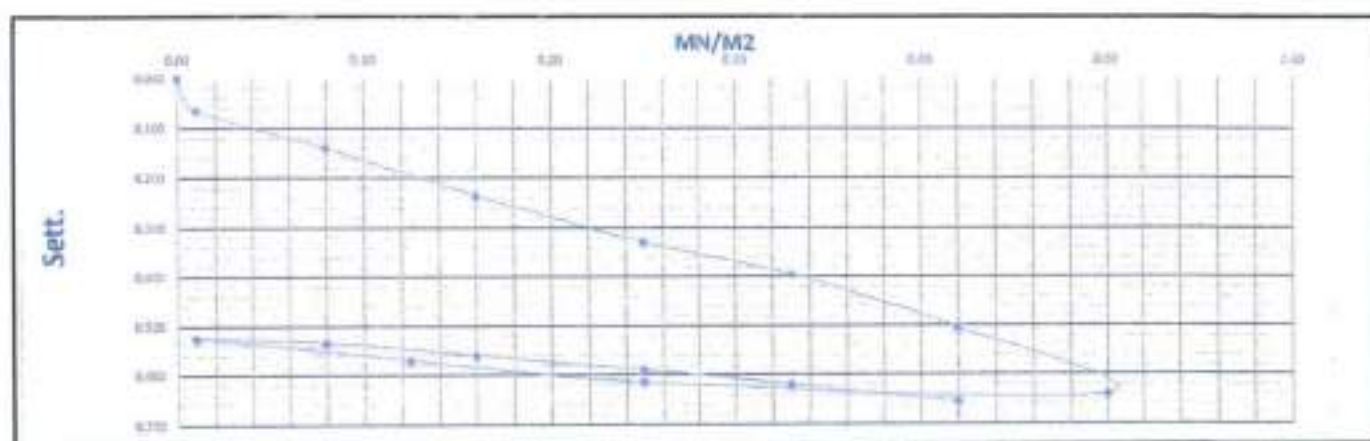
COMPANY: YOUSSEF NEGIDA J  
 Location: 546+520

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Ave. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | KN/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 7.43   | 6.99   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 7.37   | 6.92   |        | 0.060   | 0.070   |         | 0.065      |
| 2.000     | 7.9  | 5.652  | 0.08   | 7.30   | 6.84   |        | 0.130   | 0.150   |         | 0.140      |
| 0.080     | 15.8 | 11.394 | 0.16   | 7.19   | 6.76   |        | 0.240   | 0.230   |         | 0.235      |
| 4.000     | 24.7 | 17.663 | 0.25   | 7.08   | 6.68   |        | 0.350   | 0.310   |         | 0.330      |
| 5.000     | 32.6 | 23.315 | 0.33   | 7.01   | 6.62   |        | 0.420   | 0.370   |         | 0.395      |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.89   | 6.52   |        | 0.540   | 0.470   |         | 0.505      |
| 7.000     | 49.4 | 35.328 | 0.50   | 6.74   | 6.40   |        | 0.690   | 0.590   |         | 0.640      |
| 8.000     | 24.7 | 17.663 | 0.25   | 6.76   | 6.43   |        | 0.670   | 0.560   |         | 0.615      |
| 9.000     | 12.4 | 8.831  | 0.12   | 6.81   | 6.47   |        | 0.620   | 0.520   |         | 0.570      |
| 9.000     | 1.0  | 0.707  | 0.01   | 6.86   | 6.51   |        | 0.570   | 0.480   |         | 0.525      |
| 10.000    | 1.0  | 0.707  | 0.01   | 6.86   | 6.51   |        | 0.570   | 0.480   |         | 0.525      |
| 11.000    | 7.9  | 5.652  | 0.08   | 6.85   | 6.50   |        | 0.580   | 0.490   |         | 0.535      |
| 12.000    | 15.8 | 11.394 | 0.16   | 6.82   | 6.48   |        | 0.610   | 0.510   |         | 0.560      |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.79   | 6.45   |        | 0.640   | 0.540   |         | 0.590      |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.76   | 6.42   |        | 0.670   | 0.570   |         | 0.620      |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.72   | 6.39   |        | 0.710   | 0.600   |         | 0.655      |

|                 |         | $\nu$   | AS      | Av  |
|-----------------|---------|---------|---------|-----|
| 0.7 $\sigma_1$  | 0.35    | 0.38688 | 0.18375 | 0.2 |
| 0.3 $\sigma_1$  | 0.15    | 0.22313 |         |     |
| 0.7 $\sigma_1$  | 0.35    | 0.62778 | 0.08279 | 0.2 |
| 0.3 $\sigma_1$  | 0.15    | 1.545   |         |     |
| D (mm)          | 300     |         |         |     |
| Ev <sub>1</sub> | 274.81  |         |         |     |
| Ev <sub>2</sub> | 543.63  |         |         |     |
| Area (Sq.m)     | 0.07065 |         |         |     |

|         |      |  |  |
|---------|------|--|--|
| E-2/E-4 | 1.98 |  |  |
|---------|------|--|--|

LOAD  
 UNLOAD  
 RELOAD

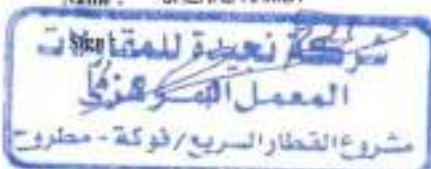


Lab. Specialist

Name:  
 Sign:

Lab. Engineer

Name: SHEHAS HAMDY



Consultant Engineer

Name: [Signature]  
 Sign:



Contractor



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+  
 Station: 546+500 TO 546+600  
 Date: 16-11-23

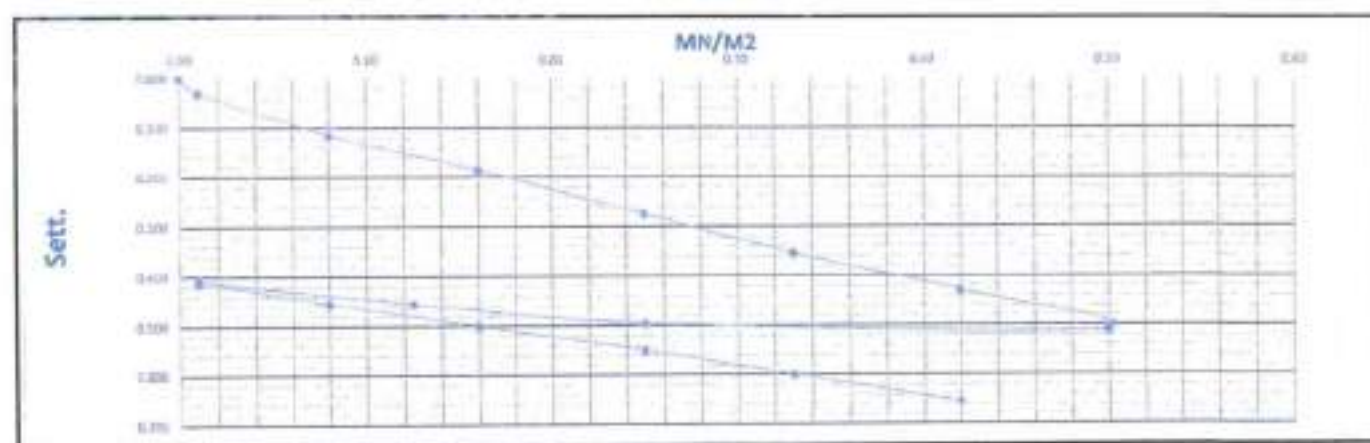
|          |                  |
|----------|------------------|
| COMPANY  | VOUSSEF NEGIDA 3 |
| Location | 546+540          |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|-----------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm        |
| 0.000     | 0.0  | 0.000  | 0.00   | 6.62   | 7.14   |        | 0.000   | 0.000   |         | 0.000     |
| 1.000     | 1.0  | 0.707  | 0.01   | 6.57   | 7.13   |        | 0.050   | 0.010   |         | 0.030     |
| 2.000     | 7.9  | 5.652  | 0.08   | 6.51   | 7.02   |        | 0.110   | 0.120   |         | 0.115     |
| 0.080     | 15.8 | 11.304 | 0.16   | 6.43   | 6.96   |        | 0.190   | 0.180   |         | 0.185     |
| 4.000     | 24.7 | 17.663 | 0.25   | 6.34   | 6.87   |        | 0.280   | 0.270   |         | 0.275     |
| 5.000     | 32.6 | 23.315 | 0.33   | 6.25   | 6.80   |        | 0.370   | 0.340   |         | 0.355     |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.17   | 6.73   |        | 0.450   | 0.410   |         | 0.430     |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.09   | 6.65   |        | 0.530   | 0.490   |         | 0.510     |
| 8.000     | 24.7 | 17.663 | 0.25   | 6.10   | 6.67   |        | 0.520   | 0.470   |         | 0.495     |
| 9.000     | 12.4 | 8.831  | 0.12   | 6.14   | 6.71   |        | 0.480   | 0.430   |         | 0.455     |
| 9.000     | 1.0  | 0.707  | 0.01   | 6.18   | 6.76   |        | 0.440   | 0.380   |         | 0.410     |
| 10.000    | 1.0  | 0.707  | 0.01   | 6.18   | 6.76   |        | 0.440   | 0.380   |         | 0.410     |
| 11.000    | 7.9  | 5.652  | 0.08   | 6.13   | 6.72   |        | 0.490   | 0.420   |         | 0.455     |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.08   | 6.68   |        | 0.540   | 0.460   |         | 0.500     |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.03   | 6.63   |        | 0.590   | 0.510   |         | 0.550     |
| 14.000    | 32.6 | 23.315 | 0.33   | 5.98   | 6.58   |        | 0.640   | 0.560   |         | 0.600     |
| 15.000    | 41.5 | 29.673 | 0.42   | 5.93   | 6.52   |        | 0.690   | 0.620   |         | 0.655     |

|                |         | $\sigma$ | $\Delta S$ | $\Delta \sigma$ |
|----------------|---------|----------|------------|-----------------|
| 0.7 $\sigma_1$ | 0.35    | 0.36     | 0.18375    | 0.2             |
| 0.3 $\sigma_1$ | 0.15    | 0.17625  |            |                 |
| 0.7 $\sigma_2$ | 0.35    | 0.61222  | 0.11222    | 0.2             |
| 0.3 $\sigma_2$ | 0.15    | 0.5      |            |                 |
| D (mm)         | 300     |          |            |                 |
| $E_{v1}$       | 244.90  |          |            |                 |
| $E_{v2}$       | 401.01  |          |            |                 |
| Area (Sq. cm)  | 8.67085 |          |            |                 |

|                 |      |  |  |
|-----------------|------|--|--|
| $E_{v1}/E_{v2}$ | 1.64 |  |  |
|-----------------|------|--|--|

LOAD  
 UN LOAD  
 RE LOAD



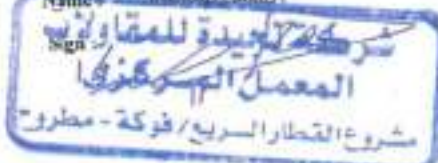
Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : SHEKAR HAMDY



Consultant Engineer

Name :

Sign :



Contractor Consultant

Contractor



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+

Station: 546+500 TO 546+600

Date: 16-11-23

COMPANY YOUSSEF NEGIDA 3

Location 546+570

| Loading   | Load | Load   | Strain | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 6.44   | 7.97   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 6.38   | 7.90   |        | 0.060   | 0.070   |         | 0.065      |
| 2.000     | 7.9  | 5.652  | 0.08   | 6.30   | 7.82   |        | 0.140   | 0.150   |         | 0.145      |
| 0.080     | 15.8 | 11.304 | 0.16   | 6.22   | 7.76   |        | 0.220   | 0.210   |         | 0.215      |
| 4.000     | 24.7 | 17.663 | 0.25   | 6.14   | 7.65   |        | 0.300   | 0.320   |         | 0.310      |
| 5.000     | 32.6 | 23.315 | 0.33   | 6.08   | 7.58   |        | 0.360   | 0.390   |         | 0.375      |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.01   | 7.47   |        | 0.430   | 0.500   |         | 0.465      |
| 7.000     | 49.4 | 35.325 | 0.50   | 5.89   | 7.35   |        | 0.550   | 0.620   |         | 0.585      |
| 8.000     | 24.7 | 17.663 | 0.25   | 5.92   | 7.37   |        | 0.520   | 0.600   |         | 0.560      |
| 9.000     | 12.4 | 8.831  | 0.12   | 5.96   | 7.41   |        | 0.480   | 0.560   |         | 0.520      |
| 9.000     | 1.0  | 0.707  | 0.01   | 6.01   | 7.46   |        | 0.430   | 0.510   |         | 0.470      |
| 10.000    | 1.0  | 0.707  | 0.01   | 6.01   | 7.46   |        | 0.430   | 0.510   |         | 0.470      |
| 11.000    | 7.9  | 5.652  | 0.08   | 6.00   | 7.44   |        | 0.440   | 0.530   |         | 0.485      |
| 12.000    | 15.8 | 11.304 | 0.16   | 5.98   | 7.42   |        | 0.460   | 0.550   |         | 0.505      |
| 13.000    | 24.7 | 17.663 | 0.25   | 5.95   | 7.39   |        | 0.490   | 0.580   |         | 0.535      |
| 14.000    | 32.6 | 23.315 | 0.33   | 5.92   | 7.36   |        | 0.520   | 0.610   |         | 0.565      |
| 15.000    | 41.5 | 29.673 | 0.42   | 5.89   | 7.33   |        | 0.550   | 0.640   |         | 0.595      |

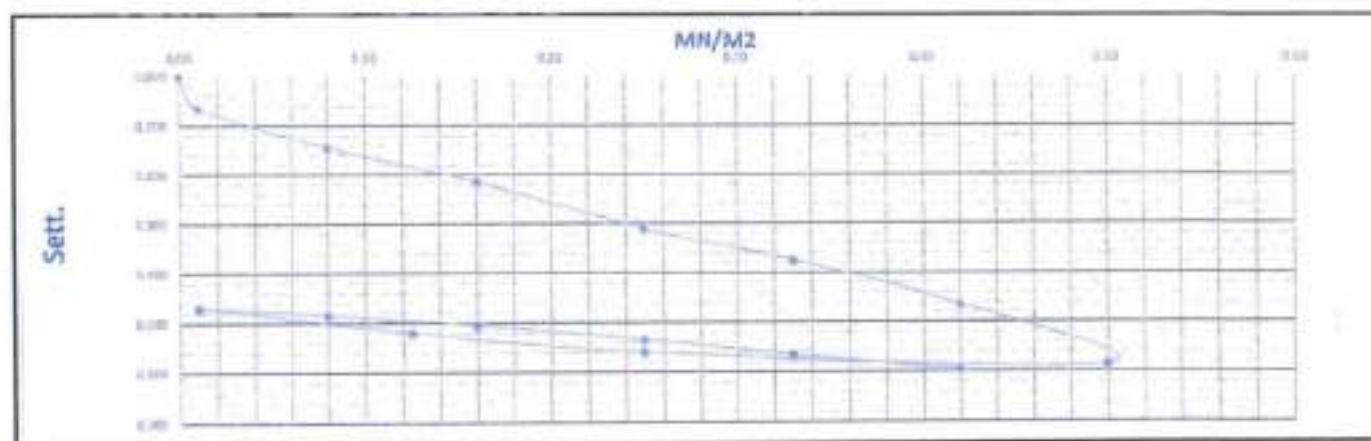
|                |         | $\sigma$ | $\Delta S$ | $S_p$ |
|----------------|---------|----------|------------|-------|
| 0.7 $\sigma_1$ | 0.35    | 0.36     | 0.15375    | 0.2   |
| 0.3 $\sigma_1$ | 0.15    | 0.20625  |            |       |
| 0.7 $\sigma_2$ | 0.35    | 0.57167  | 0.07167    | 0.2   |
| 0.3 $\sigma_2$ | 0.15    | 0.5      |            |       |
| D (mm)         | 380     |          |            |       |
| $E_{v1}$       | 292.68  |          |            |       |
| $E_{v2}$       | 627.92  |          |            |       |
| Area (Sq.m)    | 1.07005 |          |            |       |

|                                              |      |  |  |
|----------------------------------------------|------|--|--|
| K <sub>0</sub> D <sub>0</sub> K <sub>1</sub> | 2.15 |  |  |
|----------------------------------------------|------|--|--|

LOAD

UN LOAD

RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name: RHEHAB HAMDY



Consultant Engineer

Name :

Sign :



Contractor



## Plate Load Test Results

Layer: SUB-BALLAST 0.90+  
 Station: 546+500 TO 546+600  
 Date: 16-11-23

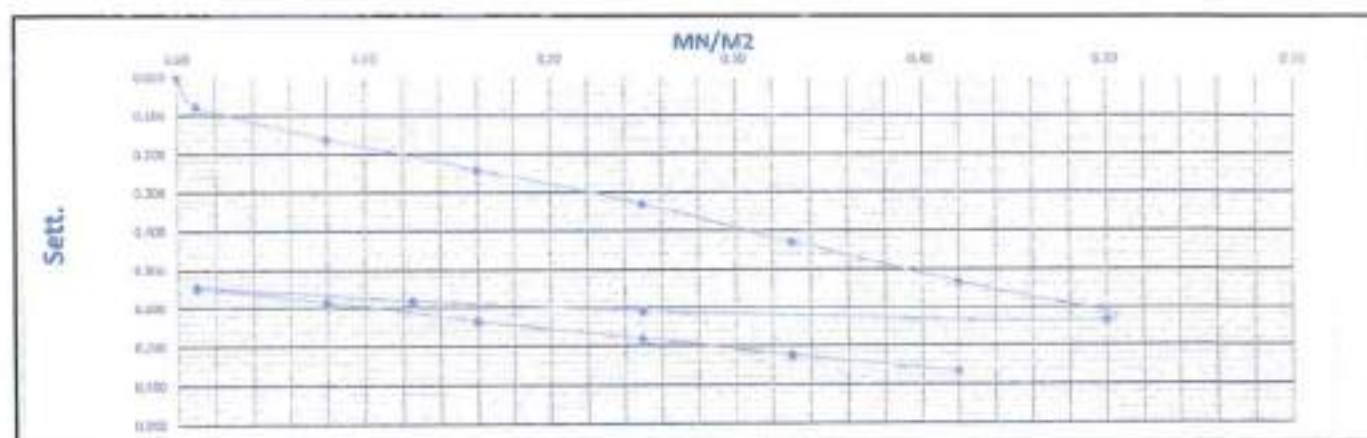
|          |                           |
|----------|---------------------------|
| COMPANY  | YOUSSEF NEGIDA & PARTNERS |
| Location | 546+500                   |

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | kN     | MPa    | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 8.37   | 9.58   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 8.30   | 9.50   |        | 0.070   | 0.080   |         | 0.075      |
| 2.000     | 7.9  | 5.652  | 0.08   | 8.23   | 9.40   |        | 0.140   | 0.180   |         | 0.160      |
| 0.080     | 15.8 | 11.304 | 0.16   | 8.16   | 9.31   |        | 0.210   | 0.270   |         | 0.240      |
| 4.000     | 24.7 | 17.663 | 0.25   | 8.07   | 9.22   |        | 0.300   | 0.360   |         | 0.330      |
| 5.000     | 32.6 | 23.315 | 0.33   | 8.00   | 9.09   |        | 0.370   | 0.490   |         | 0.430      |
| 6.000     | 41.5 | 29.673 | 0.42   | 7.92   | 8.96   |        | 0.450   | 0.620   |         | 0.535      |
| 7.000     | 49.4 | 35.325 | 0.50   | 7.83   | 8.85   |        | 0.540   | 0.730   |         | 0.635      |
| 8.000     | 24.7 | 17.663 | 0.25   | 7.86   | 8.87   |        | 0.510   | 0.710   |         | 0.610      |
| 9.000     | 12.4 | 8.831  | 0.12   | 7.89   | 8.90   |        | 0.480   | 0.680   |         | 0.580      |
| 9.000     | 1.0  | 0.707  | 0.01   | 7.92   | 8.94   |        | 0.450   | 0.640   |         | 0.545      |
| 10.000    | 1.0  | 0.707  | 0.01   | 7.92   | 8.94   |        | 0.450   | 0.640   |         | 0.545      |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.88   | 8.90   |        | 0.490   | 0.680   |         | 0.585      |
| 12.000    | 15.8 | 11.304 | 0.16   | 7.83   | 8.85   |        | 0.540   | 0.730   |         | 0.635      |
| 13.000    | 24.7 | 17.663 | 0.25   | 7.79   | 8.80   |        | 0.580   | 0.780   |         | 0.680      |
| 14.000    | 32.6 | 23.315 | 0.33   | 7.74   | 8.76   |        | 0.630   | 0.820   |         | 0.725      |
| 15.000    | 41.5 | 29.673 | 0.42   | 7.70   | 8.72   |        | 0.670   | 0.860   |         | 0.765      |

|                |         | $\sigma$ | $\Delta S$ | $\Delta \sigma$ |
|----------------|---------|----------|------------|-----------------|
| 0.7 $\sigma_1$ | 0.35    | 0.4475   | 0.2175     | 0.2             |
| 0.3 $\sigma_1$ | 0.15    | 0.23     |            |                 |
| 0.7 $\sigma_2$ | 0.35    | 0.73389  | 0.10888    | 0.1             |
| 0.3 $\sigma_2$ | 0.15    | 0.625    |            |                 |
| D (mm)         | 300     |          |            |                 |
| $E_{v1}$       | 206.90  |          |            |                 |
| $E_{v2}$       | 413.28  |          |            |                 |
| Area (Sqmm)    | 0.07065 |          |            |                 |

|                 |      |  |  |
|-----------------|------|--|--|
| $E_{v2}/E_{v1}$ | 2.00 |  |  |
|-----------------|------|--|--|

LOAD  
 UN LOAD  
 RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : SHEHAB HAMDY

شركة توريد للمقاولات  
 المعمل الخرسانة  
 مشروع القطار السريع / فوكة - مطروح

Consultant Engineer

Name :

Sign :



Contractor/Consultant

Contractor

## Plate Load Test Results

Layer:  
Station:  
Date:

FERMA

0.00

546+500

TO

546+620

03-10-23

COMPANY

YOUSSEF NEGIDA S

Location

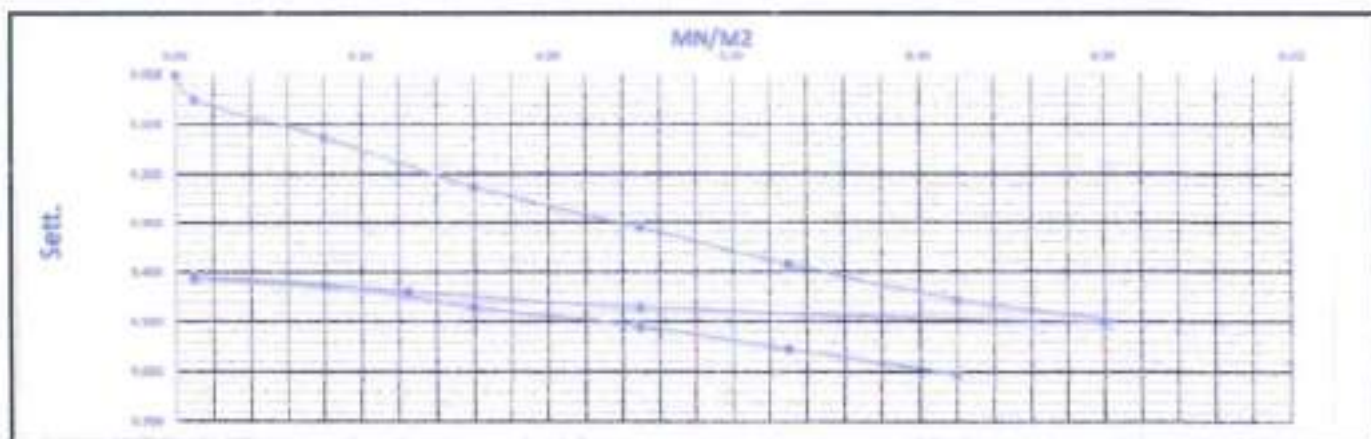
546+530

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 7.60   | 5.87   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 7.54   | 5.83   |        | 0.060   | 0.040   |         | 0.050      |
| 2.000     | 7.9  | 5.651  | 0.08   | 7.48   | 5.74   |        | 0.120   | 0.130   |         | 0.125      |
| 0.080     | 15.8 | 11.304 | 0.16   | 7.38   | 5.64   |        | 0.220   | 0.230   |         | 0.225      |
| 4.000     | 24.7 | 17.663 | 0.25   | 7.27   | 5.58   |        | 0.330   | 0.290   |         | 0.310      |
| 5.000     | 32.6 | 23.315 | 0.33   | 7.21   | 5.49   |        | 0.390   | 0.380   |         | 0.385      |
| 6.000     | 41.5 | 29.673 | 0.42   | 7.14   | 5.42   |        | 0.460   | 0.450   |         | 0.455      |
| 7.000     | 49.4 | 35.325 | 0.50   | 7.09   | 5.38   |        | 0.510   | 0.490   |         | 0.500      |
| 8.000     | 24.7 | 17.663 | 0.25   | 7.11   | 5.42   |        | 0.490   | 0.450   |         | 0.470      |
| 9.000     | 12.4 | 8.831  | 0.12   | 7.14   | 5.45   |        | 0.460   | 0.420   |         | 0.440      |
| 9.000     | 1.0  | 0.707  | 0.01   | 7.17   | 5.48   |        | 0.430   | 0.390   |         | 0.410      |
| 10.000    | 1.0  | 0.707  | 0.01   | 7.17   | 5.48   |        | 0.430   | 0.390   |         | 0.410      |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.15   | 5.47   |        | 0.450   | 0.400   |         | 0.425      |
| 12.000    | 15.8 | 11.304 | 0.16   | 7.09   | 5.44   |        | 0.510   | 0.430   |         | 0.470      |
| 13.000    | 24.7 | 17.663 | 0.25   | 7.04   | 5.41   |        | 0.560   | 0.460   |         | 0.510      |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.99   | 5.37   |        | 0.610   | 0.500   |         | 0.555      |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.94   | 5.32   |        | 0.660   | 0.550   |         | 0.605      |

|                |         | s       | AS      | SR  |
|----------------|---------|---------|---------|-----|
| 0.7 $\sigma_c$ | 0.35    | 0.41563 | 0.28313 | 0.3 |
| 0.3 $\sigma_c$ | 0.15    | 0.1125  |         |     |
| 0.7 $\sigma_c$ | 0.35    | 0.55611 |         |     |
| 0.3 $\sigma_c$ | 0.15    | 0.44    | 0.12611 | 0.3 |
| D (mm)         | 300     |         |         |     |
| $E_{v1}$       | 311.54  |         |         |     |
| $E_{v2}$       | 306.83  |         |         |     |
| Area (Sq.m)    | 0.07065 |         |         |     |

|           |      |  |  |
|-----------|------|--|--|
| $E_v/E_v$ | 1.01 |  |  |
|-----------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

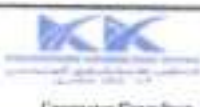
Name :

Sign :

Consultant Engineer

Name :

Sign :



Contractor Consultant

Contractor



## Plate Load Test Results

Layer:  
Station:  
Date:

|          |      |         |
|----------|------|---------|
| FERMA    | 0.00 |         |
| 546+500  | TO   | 546+620 |
| 03-10-23 |      |         |

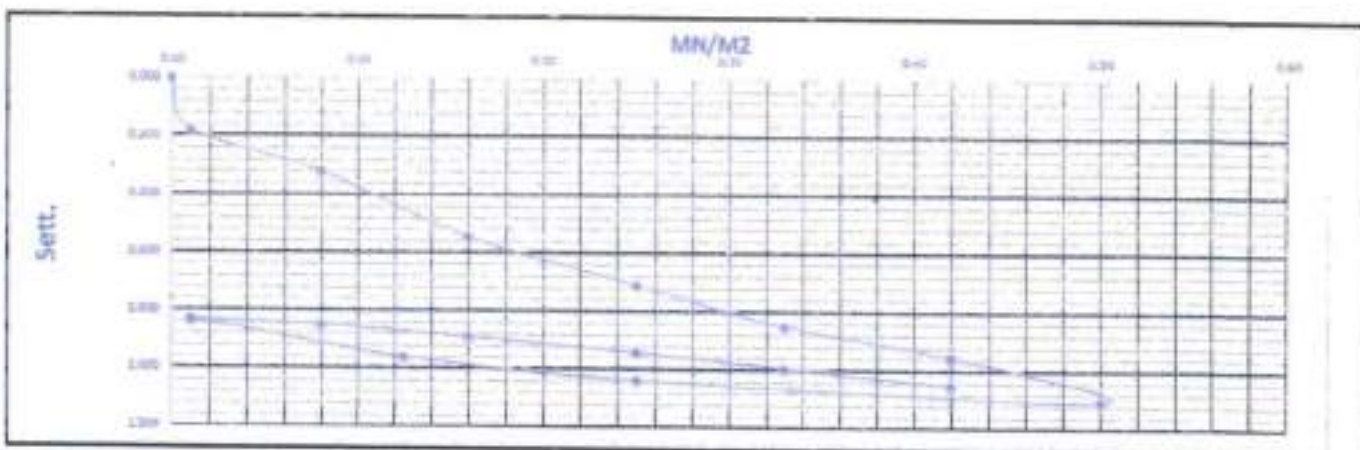
|          |                 |
|----------|-----------------|
| COMPANY  | YOUSEF NEGIDA 3 |
| Location | 546+580         |

| Leading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg. Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| Stage No. | Bar  | KN     | MM/M2  | mm     | mm     | mm     | mm      | mm      | mm      | mm         |
| 0.000     | 0.0  | 0.000  | 0.00   | 7.43   | 8.10   |        | 0.000   | 0.000   |         | 0.000      |
| 1.000     | 1.0  | 0.707  | 0.01   | 7.19   | 7.98   |        | 0.240   | 0.120   |         | 0.180      |
| 2.000     | 7.9  | 5.652  | 0.08   | 7.04   | 7.85   |        | 0.390   | 0.150   |         | 0.320      |
| 0.080     | 15.8 | 11.304 | 0.16   | 6.76   | 7.68   |        | 0.670   | 0.420   |         | 0.545      |
| 4.000     | 24.7 | 17.663 | 0.25   | 6.58   | 7.53   |        | 0.850   | 0.570   |         | 0.710      |
| 5.000     | 32.6 | 23.315 | 0.33   | 6.42   | 7.41   |        | 1.010   | 0.690   |         | 0.850      |
| 6.000     | 41.5 | 29.673 | 0.42   | 6.30   | 7.32   |        | 1.130   | 0.780   |         | 0.955      |
| 7.000     | 49.4 | 35.325 | 0.50   | 6.15   | 7.17   |        | 1.200   | 0.930   |         | 1.105      |
| 8.000     | 24.7 | 17.663 | 0.25   | 6.21   | 7.25   |        | 1.220   | 0.850   |         | 1.035      |
| 9.000     | 12.4 | 8.831  | 0.12   | 6.28   | 7.33   |        | 1.150   | 0.770   |         | 0.960      |
| 9.000     | 1.0  | 0.707  | 0.01   | 6.40   | 7.47   |        | 1.030   | 0.630   |         | 0.830      |
| 10.000    | 1.0  | 0.707  | 0.01   | 6.40   | 7.47   |        | 1.030   | 0.630   |         | 0.830      |
| 11.000    | 7.9  | 5.652  | 0.08   | 6.38   | 7.45   |        | 1.050   | 0.650   |         | 0.850      |
| 12.000    | 15.8 | 11.304 | 0.16   | 6.34   | 7.41   |        | 1.090   | 0.690   |         | 0.890      |
| 13.000    | 24.7 | 17.663 | 0.25   | 6.29   | 7.36   |        | 1.140   | 0.740   |         | 0.940      |
| 14.000    | 32.6 | 23.315 | 0.33   | 6.24   | 7.30   |        | 1.190   | 0.800   |         | 0.995      |
| 15.000    | 41.5 | 29.673 | 0.42   | 6.19   | 7.24   |        | 1.240   | 0.860   |         | 1.050      |

|                |         | s       | AS      | Am  |
|----------------|---------|---------|---------|-----|
| 0.7 $\sigma_1$ | 0.35    | 0.82375 | 0.34688 | 0.2 |
| 0.3 $\sigma_2$ | 0.15    | 0.51688 |         |     |
| 0.7 $\sigma_1$ | 0.35    | 1.00722 | 0.13722 | 0.2 |
| 0.3 $\sigma_2$ | 0.15    | 0.87    |         |     |
| D (mm)         | 300     |         |         |     |
| $E \cdot v_1$  | 148.64  |         |         |     |
| $E \cdot v_2$  | 327.94  |         |         |     |
| Area (sqm)     | 0.07065 |         |         |     |

|                                |      |  |  |
|--------------------------------|------|--|--|
| E <sub>1</sub> /E <sub>2</sub> | 1.24 |  |  |
|--------------------------------|------|--|--|

LOAD  
UN LOAD  
RE LOAD



Lab. Specialist

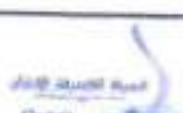
Name :  
Sign :

Lab. Engineer

Name : *Mohamed Hamed*  
Sign : *[Signature]*  
شركة القمار السرية - طوكيو - مصر

Consultant Engineer

Name : *[Signature]*  
Sign : *[Signature]*



## Plate Load Test Results

Layer:  
Station:  
Date:

FERMA

546+500

TO

546+620

03-10-23

COMPANY

YOUSEF NEGIDA 3

Location

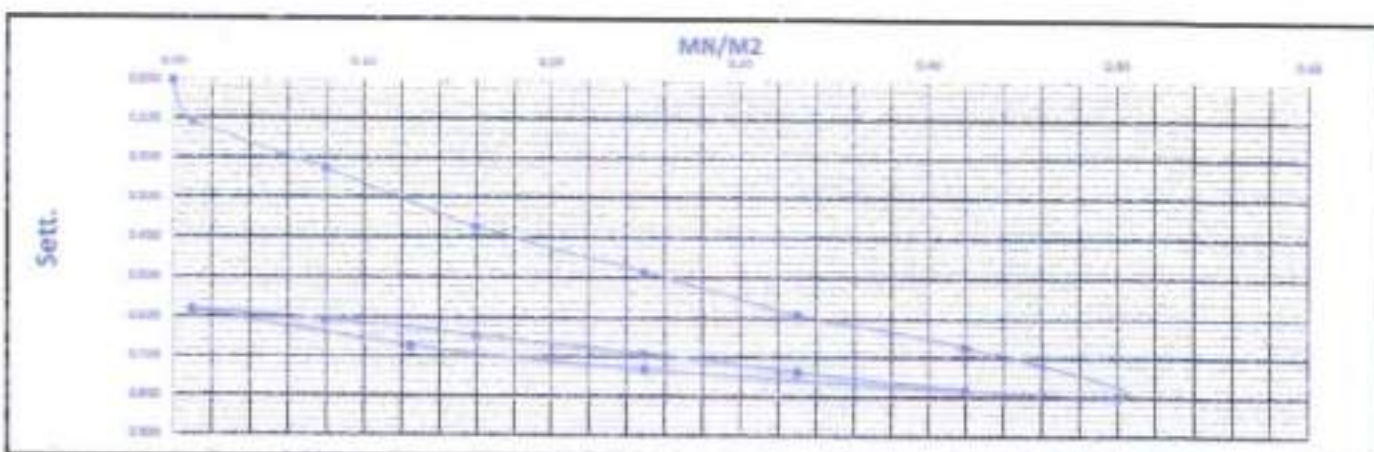
546+610

| Loading   | Load | Load   | Stress | Dial 1 | Dial 2 | Dial 3 | Sett. 1 | Sett. 2 | Sett. 3 | Avg Sett. |
|-----------|------|--------|--------|--------|--------|--------|---------|---------|---------|-----------|
| Stage No. | Bar  | KN     | MPa    | mm     | mm     | mm     | mm      | mm      | mm      | mm        |
| 0.000     | 0.0  | 0.000  | 0.00   | 8.33   | 8.18   |        | 0.090   | 0.090   |         | 0.090     |
| 1.000     | 1.0  | 0.707  | 0.01   | 8.26   | 8.04   |        | 0.070   | 0.140   |         | 0.105     |
| 2.000     | 7.9  | 5.652  | 0.08   | 8.14   | 7.92   |        | 0.190   | 0.260   |         | 0.225     |
| 0.080     | 15.8 | 11.304 | 0.16   | 8.01   | 7.76   |        | 0.320   | 0.420   |         | 0.370     |
| 4.000     | 24.7 | 17.663 | 0.25   | 7.89   | 7.65   |        | 0.440   | 0.530   |         | 0.485     |
| 5.000     | 32.6 | 23.315 | 0.33   | 7.77   | 7.56   |        | 0.560   | 0.620   |         | 0.590     |
| 6.000     | 41.5 | 29.673 | 0.42   | 7.70   | 7.47   |        | 0.630   | 0.710   |         | 0.670     |
| 7.000     | 49.4 | 35.325 | 0.50   | 7.52   | 7.40   |        | 0.810   | 0.780   |         | 0.795     |
| 8.000     | 24.7 | 17.663 | 0.25   | 7.58   | 7.47   |        | 0.750   | 0.710   |         | 0.730     |
| 9.000     | 12.4 | 8.831  | 0.12   | 7.63   | 7.54   |        | 0.700   | 0.640   |         | 0.670     |
| 9.000     | 1.0  | 0.707  | 0.01   | 7.72   | 7.63   |        | 0.610   | 0.550   |         | 0.580     |
| 10.000    | 1.0  | 0.707  | 0.01   | 7.72   | 7.63   |        | 0.610   | 0.550   |         | 0.580     |
| 11.000    | 7.9  | 5.652  | 0.08   | 7.69   | 7.61   |        | 0.640   | 0.570   |         | 0.605     |
| 12.000    | 15.8 | 11.304 | 0.16   | 7.64   | 7.58   |        | 0.690   | 0.600   |         | 0.645     |
| 13.000    | 24.7 | 17.663 | 0.25   | 7.58   | 7.55   |        | 0.750   | 0.630   |         | 0.690     |
| 14.000    | 32.6 | 23.315 | 0.33   | 7.53   | 7.51   |        | 0.800   | 0.670   |         | 0.735     |
| 15.000    | 41.5 | 29.673 | 0.42   | 7.49   | 7.46   |        | 0.840   | 0.720   |         | 0.780     |

|                    |         | S       | AS      | Δs  |
|--------------------|---------|---------|---------|-----|
| 0.7 e <sub>1</sub> | 0.35    | 0.56063 | 0.20875 | 0.2 |
| 0.3 e <sub>2</sub> | 0.15    | 0.35188 |         |     |
| 0.7 e <sub>2</sub> | 0.35    | 0.745   | 0.115   | 0.2 |
| 0.3 e <sub>3</sub> | 0.15    | 0.63    |         |     |
| D (mm)             | 300     |         |         |     |
| E <sub>v1</sub>    | 218.87  |         |         |     |
| E <sub>v2</sub>    | 391.31  |         |         |     |
| Area (Sq.m)        | 0.07065 |         |         |     |

|                                  |      |  |  |
|----------------------------------|------|--|--|
| E <sub>v2</sub> /E <sub>v1</sub> | 1.82 |  |  |
|----------------------------------|------|--|--|

LOAD  
UNLOAD  
RELOAD



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Mohamed Hamed  
Sign : [Signature]  
شركة القنطرة السريعة - مطروح

Consultant Engineer

Name :

Sign :



المنطقة الخامسة - ( غرب الدلتا )

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة.. وبعد،،

بالإحالة إلى مشروع القطار السريع (العين السخنه - العاصمة الإدارية - برج العرب  
مرسى مطروح )

نتشرف بأن نرفق لسيادتكم طيه المقاييسات المعدلة للقطاعات الآتية:

أولاً : القطاع السابع (فوكه / مطروح ) :

| م | المسافة |         | الطول<br>(كم) | الشركة                    | التكلفة<br>( مليون ) | الاتجاه   |
|---|---------|---------|---------------|---------------------------|----------------------|-----------|
|   | من      | إلى     |               |                           |                      |           |
| 1 | 546+000 | 549+000 | 3.0           | شركة يوسف نجيدة للمقاولات | 188.044              | الاتجاهين |

برجاء من سيادتكم التفضل بالاحاطه والتوجيه بالازم

وتفضلوا بقبول فائق الاحترام والتقدير،،

رئيس الإدارة المركزية

المنطقة الخامسة - غرب الدلتا

عبد مهندس /  
عبد مهندس /

"عبد مهندس /"

+

**مشروع القطر الكهربائي السريع**  
**المقايمة المعدلة لبيود الاعمال للقطاع السابع (فوكا - مطروح) - شركة يوسف نجيدة للمقاولات**  
**القطاع من المحطة ٥٤٦+٠٠٠ إلى المحطة ٥٤٩+٠٠٠ بالاتجاهين**

| رقم البند | بيان الأعمال                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | الوحدة         | الكمية     | القيمة | الاجملي         |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------|--------|-----------------|
| ١.٣       | أعمال الترميم<br>بالتمشيط المكشوف أصل توريد وتشغيل الآلية صالحة الترميم و مطابقة المواصفات والتشغيل باستخدام آلات الترميم<br>بمسك لا يزيد عن ٥٠ سم حتى مسكوب ٢٠ متر وبمسك لا يزيد عن ٢٥ سم لاستكمال المنسوب التصميمي للشكل<br>المسور والاكثاف (نسبة تمل كلفورنيا لا تقل عن ١٥%) ورشها بالمداد الاسفولتي للوصول الى نسبة الرطوبة<br>المطلوبة وذلك الجود بالهريسات الوصول الى الصبي كثافة جافة (95) % من الكثافة الجافة القصوى ويتم التأكد<br>مطابقا للمواصفات التصميمية والقطاعات العرضية والعمودية والرسومات التفصيلية المعتمدة والياد بجميع مشكلاته<br>طبقا لاصول الصلابة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.<br>على حالة طرأ جهاز الإشراف زيادة نسبة التمسك عن ٩٥ % بحسب زيادة ١ جنيه لكل ١ جنيه على زيادة نسبة التمسك لكل ١<br>%<br>- مسافة التقل ٢ كم ويتم احتساب علاوة ١,٤ جنيه لكل ١ كم بزيادة أو نقصان<br>- السعر يشمل قيمة المادة المحجوزة طبقا لإفادة المنطقة بهذا القطاع (٧) من الكم ٥٠٤ إلى ٥١٨                                                                                                                                                                                                | م <sup>٢</sup> | ٢٠٩,٧٢٩,٠٠ | ٨٥,٠٠  | ٢٦,٢٢٩,٩٦٥      |
|           | علاوة مسافة التقل ٢٢٠ كم                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | م <sup>٢</sup> | ٢٠٩,٧٢٩,٠٠ | ٤٤٢,٢- | ٩٤,٠٠٠,٨٩,٤٤٤   |
|           | علاوة تحميل رسوم الكفارة والموازن طبقا لكثافة الشركة الوطنية                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | م <sup>٢</sup> | ٢٠٩,٧٢٩,٠٠ | ١٢,٠٠  | ٤,٠٢٦,٤٧٧       |
| ١.٤       | طبقات الاسفلت<br>بالتمشيط المكشوف أصل توريد وفرش طبقة تأسس ( prepared Subgrade ) من الاحجار الصلبة المتدرجة نتائج<br>تكمير القامات والمطابقة للمواصفات والقسي حجم للمعدات ١٠٠ سم والا يزيد نسبة التماس من داخل ٢٠٠ عن<br>١٢ % والفرج الفرود بالاشترطات الخاصة بالمشروع لا تقل نسبة تمل كلفورنيا عن ٩٥ % والا يقل نسبة<br>الفرج بجهز ترس الجروس عن ٢٠ % والا يزيد التماس عن ١٥ % والا يقل معامل المرونة (E2) من<br>الدرجة لوح التتميل عن ٨٠ ميجاباسكال ويتم فردا على طبقين باستخدام آلات التسوية الحديثة على ان لا يزيد<br>بمسك الطبقة بعد تسم التماس عن ٢٥ سم ورشها بالمداد الاسفولتي للوصول الى نسبة الرطوبة المطلوبة وذلك الجود<br>للواسات الوصول الى الصبي كثافة جافة قصوى ( لا تقل عن ٩٥ % ) من الكثافة الجافة القصوى والياد لجميع مشكلاته<br>تجاربه العملية والنظية ويتم التأكد طبقا لاصول الصلابة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف<br>طبقا للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف<br>بمسافة التقل لا تقل عن ٢٠ كم<br>- يتم احتساب علاوة ١,٢ جنيه لكل ١ كم بزيادة أو نقصان<br>- السعر يشمل قيمة المادة المحجوزة طبقا لإفادة المنطقة بهذا القطاع (٧) من الكم ٥٠٤ إلى ٥١٨ | م <sup>٢</sup> | ٢٠٩,٧٢٩,٠٠ | ٢٢٨,٠٠ | ٥,٨٠٩,٤٤٤       |
|           | علاوة مسافة التقل ١٠٤ كم                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                | ٢٠٩,٧٢٩,٠٠ | ١٠٠,٨٠ | ٢,١٠٩,٢٢٢       |
|           | علاوة تحميل رسوم الكفارة والموازن طبقا لكثافة الشركة الوطنية                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                | ٢٠٩,٧٢٩,٠٠ | ٢٥,٠٠  | ٥,٢٢٦,٤٠٥       |
| ٢.٤       | بالتمشيط المكشوف أصل توريد وفرش طبقة تأسس من الاحجار الصلبة المتدرجة نتائج تكمير القامات والمطابقة<br>للمواصفات والقسي حجم للمعدات ما بين ٢١,٥ سم الى ١٠ سم والا يزيد نسبة التماس من داخل ٢٠٠ عن ٢٠ %<br>والفرج الفرود بالاشترطات الخاصة بالمشروع لا تقل نسبة تمل كلفورنيا عن ٨٠ % والا يقل معامل المرونة<br>(E2) من الدرجة لوح التتميل عن ١٢٠ ميجاباسكال والا يزيد نسبة الفرغ بجهز ترس الجروس عن ٢٠ % والا<br>يزيد التماس عن ١٥ % ويتم فردا على طبقين باستخدام آلات التسوية الحديثة على ان لا يزيد مسك الطبقة<br>بعد تسم التماس عن ٢٠ سم ورشها بالمداد الاسفولتي للوصول الى نسبة الرطوبة المطلوبة وذلك الجود بالهريسات<br>الوصول الى الصبي كثافة جافة قصوى ( لا تقل عن ١٠٠ %) من الكثافة الجافة القصوى والياد لجميع مشكلاته<br>تجاربه العملية والنظية ويتم التأكد طبقا لاصول الصلابة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف<br>طبقا للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف<br>بمسافة التقل لا تقل عن ٢٠ كم<br>- يتم احتساب علاوة ١,٢ جنيه لكل ١ كم بزيادة أو نقصان<br>- السعر يشمل قيمة المادة المحجوزة طبقا لإفادة المنطقة بهذا القطاع (٧) من الكم ٥٠٤ إلى ٥١٨                   | م <sup>٢</sup> | ١٥,٢٢٨,٦٠  | ٢٢٨,٠٠ | ٤,٥٢٦,٢٢٩       |
|           | علاوة مسافة التقل ٢٥٤ كم                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                | ١٥,٢٢٨,٦٠  | ٢٨٠,٨٠ | ٤,٢٢٨,٢٢٨       |
|           | علاوة تحميل رسوم الكفارة والموازن طبقا لكثافة الشركة الوطنية                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                | ١٥,٢٢٨,٦٠  | ٢٨,٠٠  | ٣٨٠,٦٤٠         |
|           | الاجملي                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |            |        | ١٨٨,٠٤٤,٠٠٠,٠٠٠ |

(ملاحظة: القيمة والمعدات مليون وأربعة وأربعون ألف جنيهًا مصريًا)

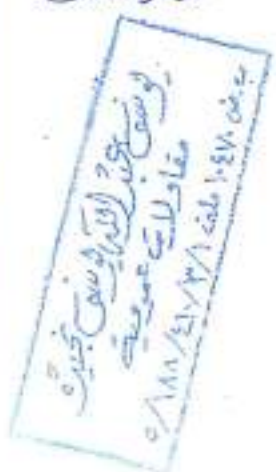
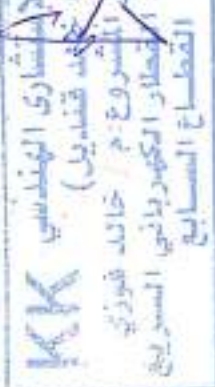
مدير عام المشروعات  
م / محمد حسني قناص

مدير المشروع  
م / إبراهيم فوزي

مدير المشروع الاستشاري  
م / خالد فوزي

مدير المشروع المقاول  
م / الطوفان علي

انطونيوس علي



يختص  
رئيس الإدارة المركزية  
مصلحة عرب القتا  
الاستشارية بحسب مشروع  
عدد جهات /  
على محمد منصور علي  
١٠/١١