

CLIENT:



MINISTRY OF PUBLIC WORKS



STATE OF KUWAIT

PROJECT:

STUDY, DESIGN AND CONSTRUCTION SUPERVISION FOR CONSTRUCTION AND MAINTENANCE OF  
REGIONAL ROAD SOUTH PART (SECTION -2) AGREEMENT NO. EF/R/193  
DESIGN OF NEW AIRPORT INTERCHANGES FOR THE KUWAIT INTERNATIONAL AIRPORT TERMINAL II  
VARIATION ORDER NO. (2) CONTRACT NO. RA/268

DISCIPLINE:

STRUCTURE DESIGN DRAWINGS BOOK 4 OF 5

DRAWINGS:

4- BRIDGE NO. 9 STRUCTURE DESIGN DRAWINGS

CONSULTANT:



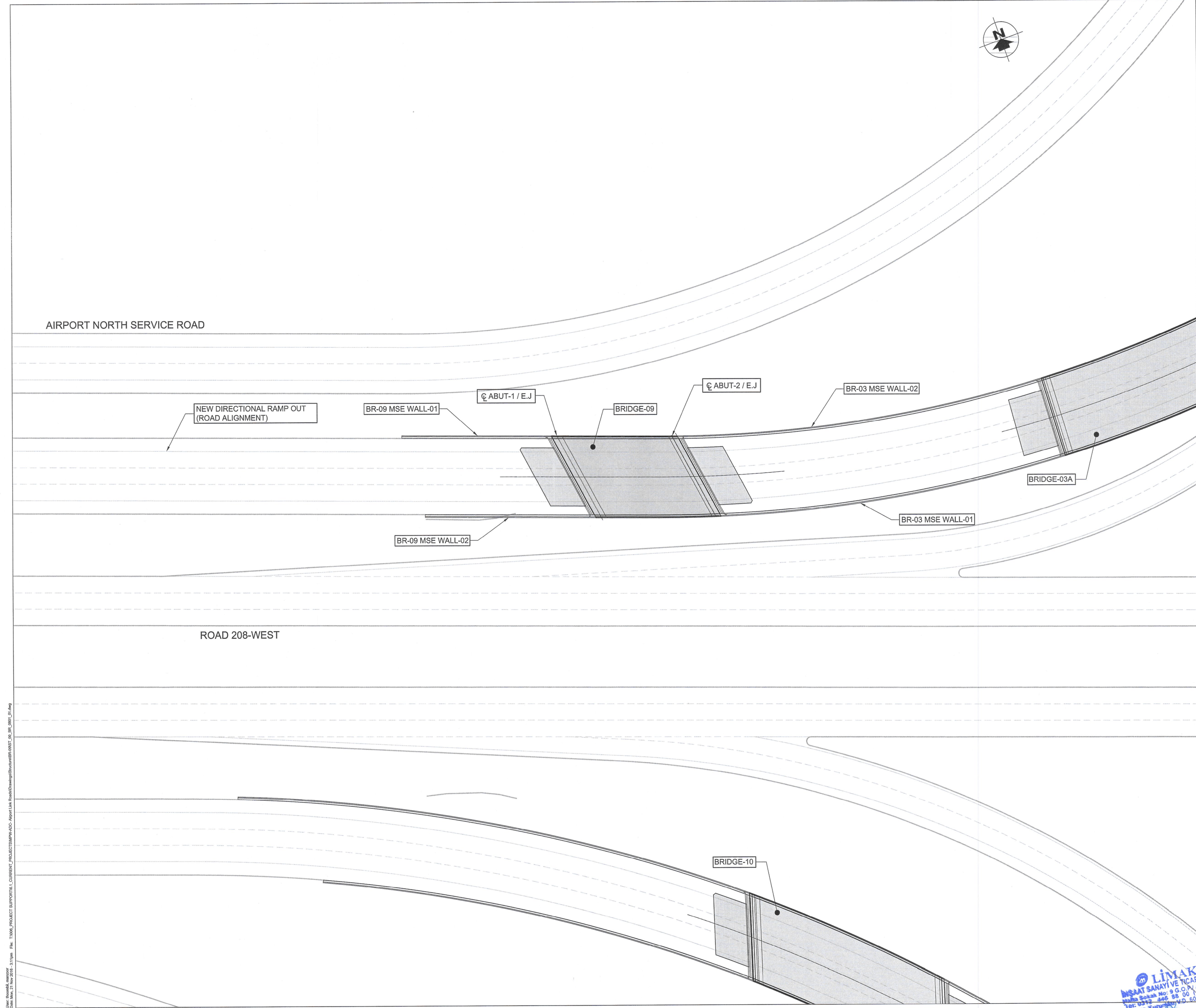
ORIENTAL CONSULTANTS GLOBAL  
Global Consulting for Sustainable Development




Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers











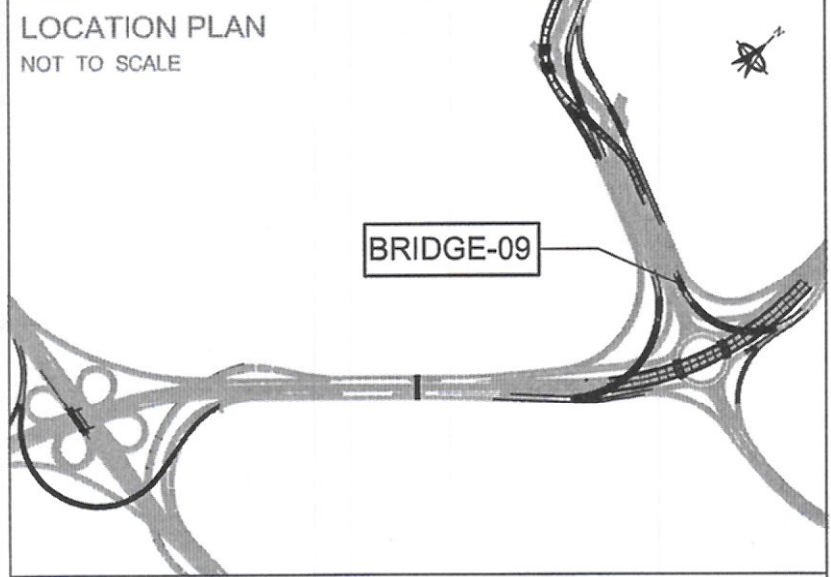
STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR


CLIENT:

PROJECT:  
Construction, Developing And Maintenance Of Roads And Interchanges For New Terminal Building In Kuwait International Airport At Magwa Road RA268/

CONSULTANT:  
 ORIENTAL CONSULTANTS COMPANY LIMITED

IN ASSOCIATION WITH:  
 Dar Al-Dowailah Engineering Consultants & Construction Managers

LOCATION PLAN  
NOT TO SCALE  





المؤسسة العامة للتخطيط والتطوير العمراني  
Public Authority for Roads and Urban Development

Rev. No.	Date	Description	By

DRAWING TITLE:  
BRIDGE - 09  
STRUCTURAL LOCATION PLAN

DRAWING NO: ST\_00\_BR\_0801\_01

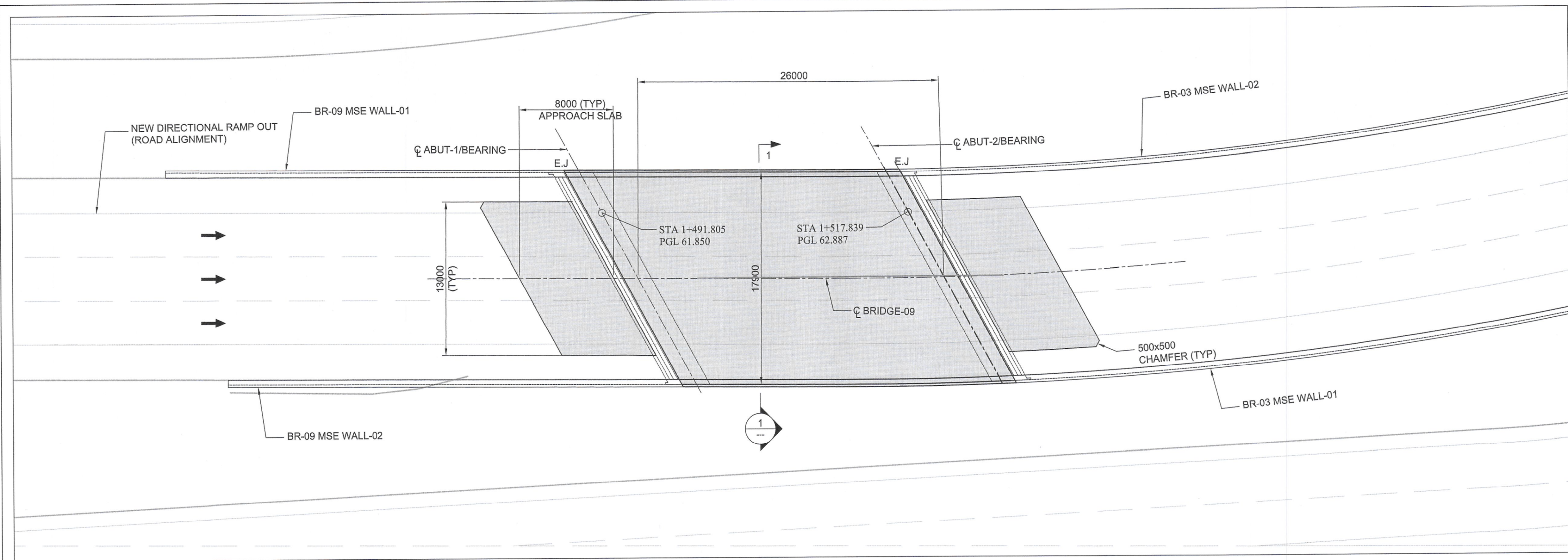
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DESIGNED BY:	MC	CHECKED BY:	MS
DRAWN BY:	MA	APPROVED BY:	AZ



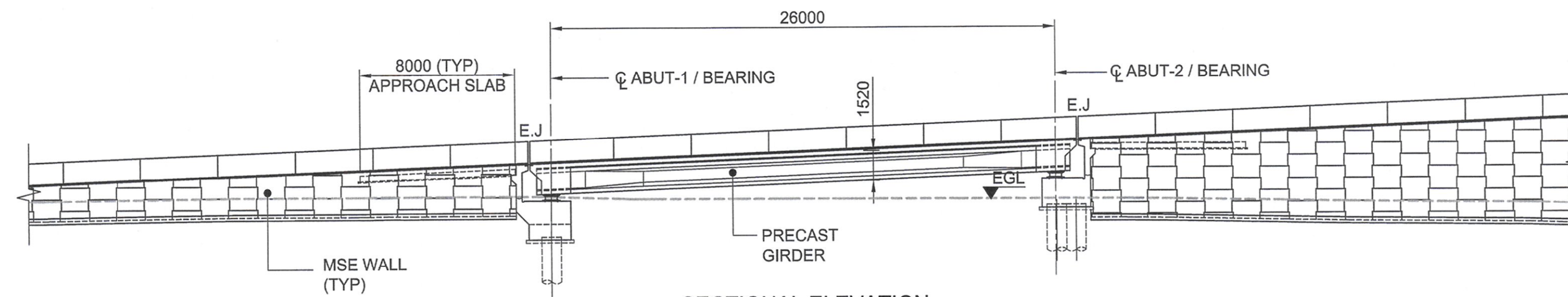
LIMAK  
MİMARLIK SANAYİ VE TİCARET A.Ş.  
Mimarlık Sanayi ve Ticaret A.Ş.  
Tic. Sic. No: 244588  
Ankara Kurumlar Sic. No: 268906

\\nasir\projects\080101\080101\_01.dwg  
Date: Nov 14, 2016 11:31:11 AM  
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User: nasir

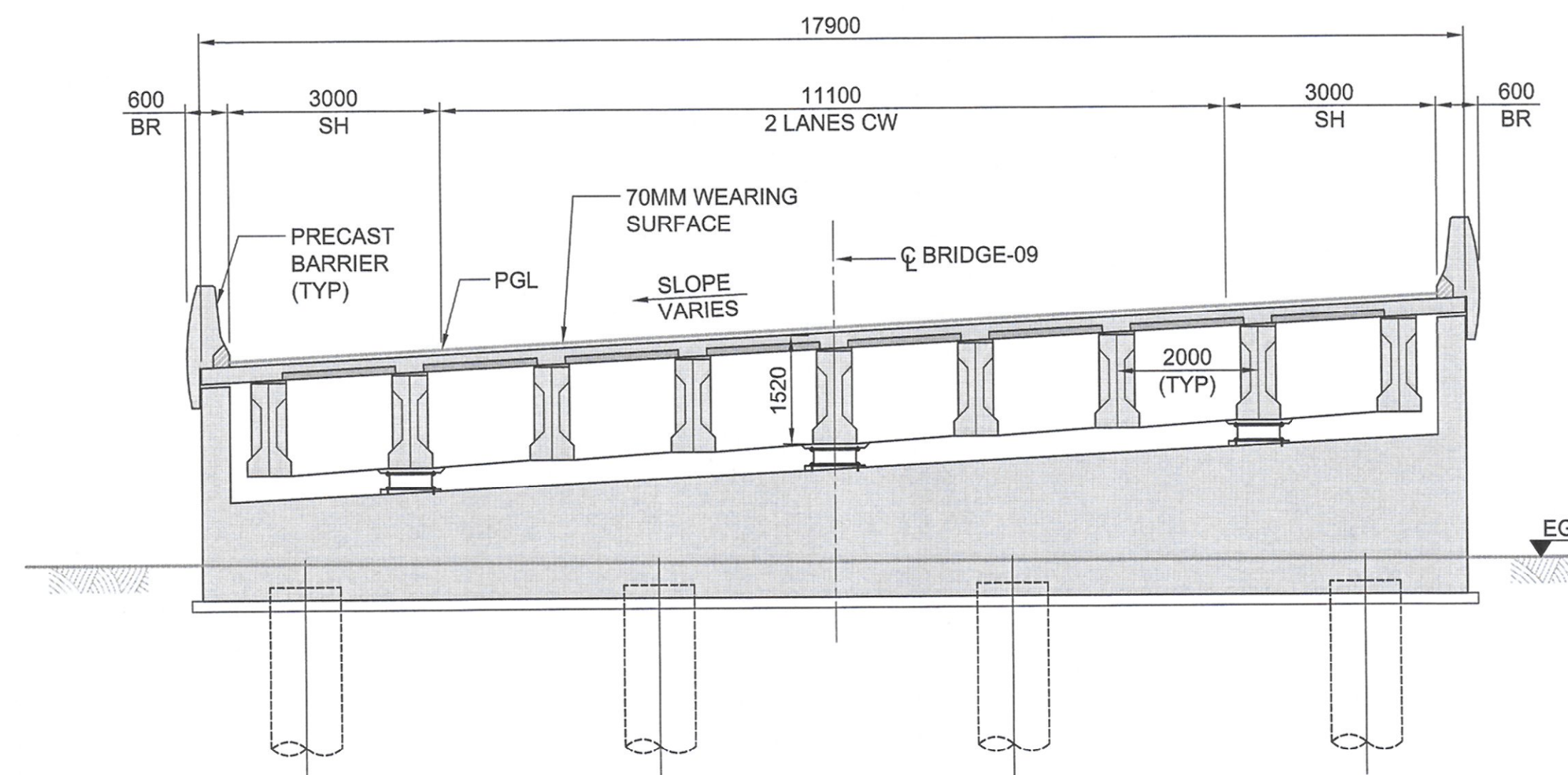




PLAN  
SCALE 1:200 (A1), 1:400 (A3)  
SPAN DIMENSIONS ARE MEASURED ALONG Q BRIDGE



SECTIONAL ELEVATION  
SCALE 1:200 (A1), 1:400 (A3)  
SPAN DIMENSIONS ARE MEASURED ALONG Q BRIDGE



1 SECTION  
SCALE 1:750 (A1), 1:150 (A3)  
DIMENSIONS ARE MEASURED PERPENDICULAR TO Q BRIDGE

CLIENT:



STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR

PROJECT:

Construction, Developing And  
Maintenance Of Roads And  
Interchanges For New Terminal Building  
In Kuwait International Airport At  
Magwa Road RA268/

CONSULTANT:



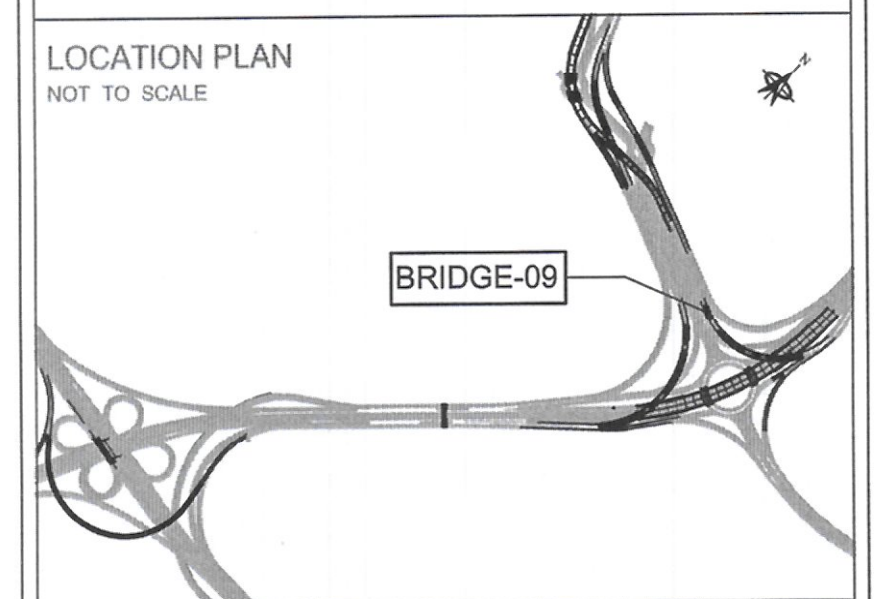
ORIENTAL CONSULTANTS  
COMPANY LIMITED

IN ASSOCIATION WITH:



Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers

LOCATION PLAN  
NOT TO SCALE



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED; COORDINATES, LEVELS AND CHAINAGES ARE IN METERS.
2. FRL'S AND DECK CROSS SLOPE SHALL BE VERIFIED WITH RELEVANT HIGHWAY DRAWINGS.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL NOTES, CONSTRUCTION SEQUENCE MISCELLANEOUS, HIGHWAY AND UTILITY DRAWINGS.
4. DECK CROSS SLOPE SHOWN IS INDICATIVE ONLY.
5. ALL SHOWN LEVELS SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AS PER EXISTING SITE CONDITIONS AND RELEVANT HIGHWAY DRAWINGS. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.



Rev. No.	Date	Description	By

DRAWING TITLE:

BRIDGE - 09  
GENERAL ARRANGEMENT AND DETAILS

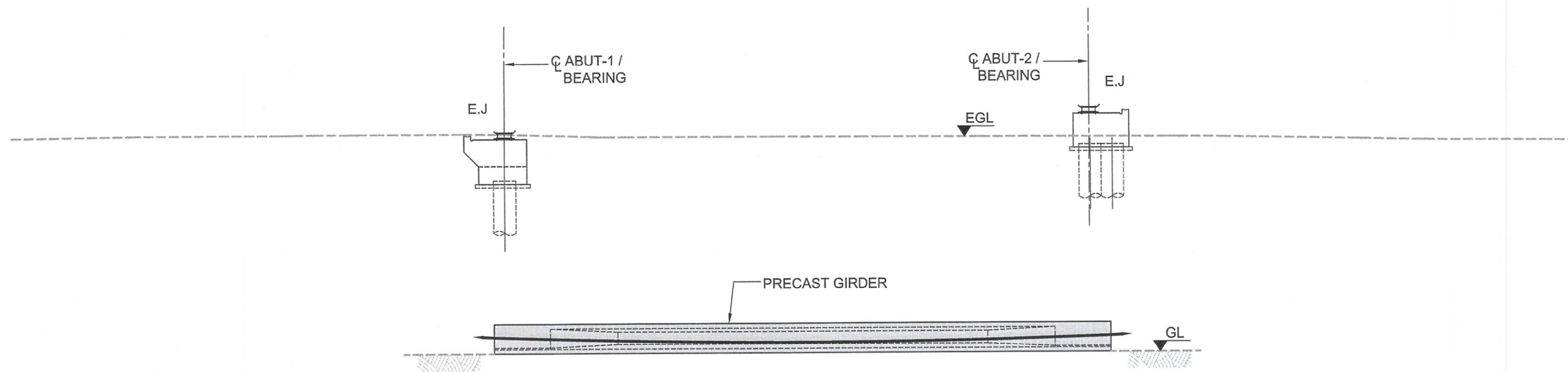
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DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	AS SHOWN	A1 SCALE:	AS SHOWN
DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ

INSAAAT SANAYİ VE TİCARET A.Ş.  
Mühür No: 9.0.0.0/ANKARA  
Tic. Sic. No: 27.000.000.0000  
Ankara Kurumlar M.D. 0808063482

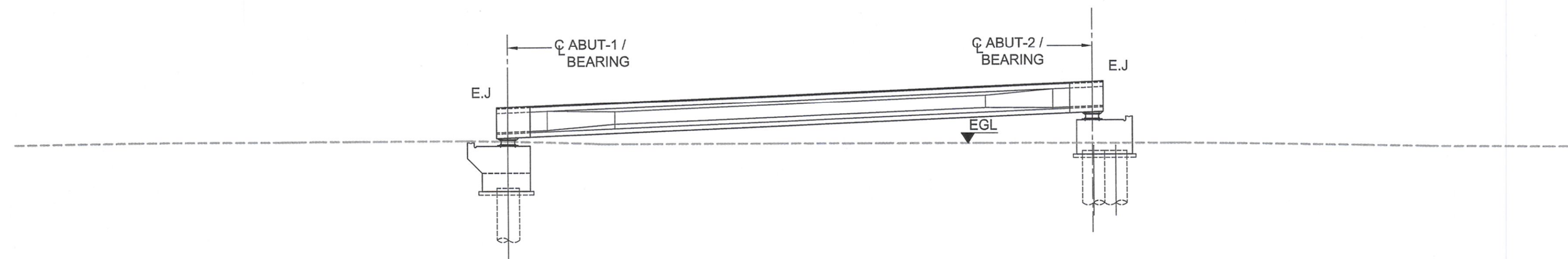


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Date: 14/11/2016 14:32:00  
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Project: ROAD DESIGN AND CONSTRUCTION OF BRIDGE-09 AT MAGWA ROAD RA268/



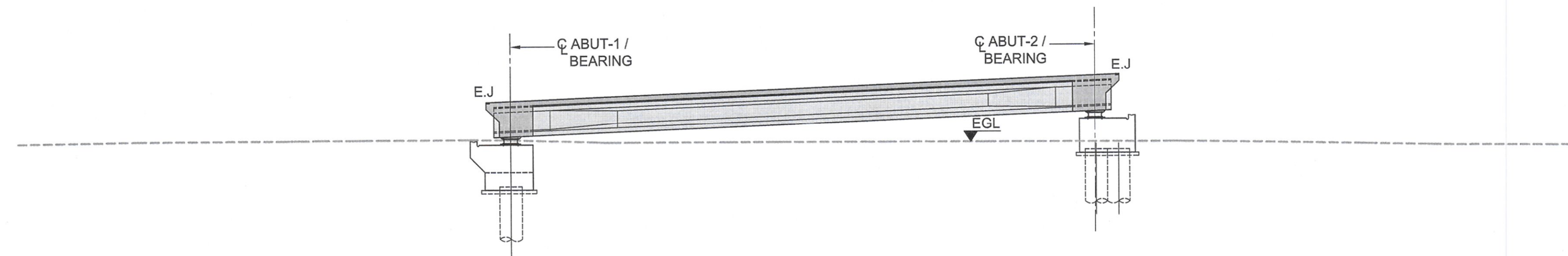
#### CONSTRUCTION STAGE - 1

1. CONSTRUCT ABUTMENTS AND TEMPORARY BEARINGS (UNGROUTED).
2. FORM THE PRECAST GIRDER AND AFTER THE CONCRETE GAINS THE REQUIRED STRENGTH, PRESTRESS IT.



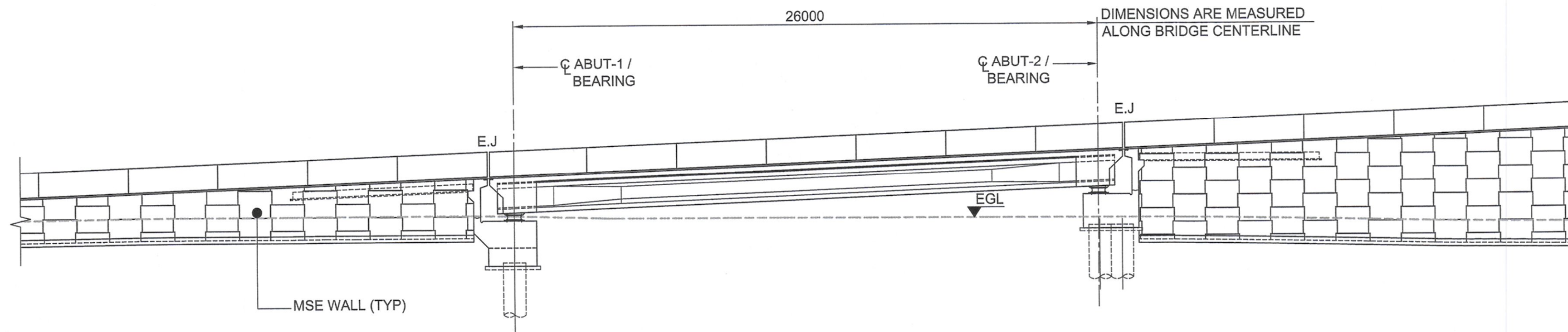
#### CONSTRUCTION STAGE - 2

1. PRECAST GIRDERS SHALL BE LAUNCHED AND PLACED ON TOP OF THE TEMPORARY BEARINGS AT ABUTMENT CAP.
2. PLACE PRECAST SLAB PANELS BETWEEN THE GIRDERS.



#### CONSTRUCTION STAGE - 3

1. FORM WORK SHALL BE FIXED FOR DECK SLAB, DIAPHRAGM AND WHEREVER NEEDED.
2. CAST THE DECK SLAB & DIAPHRAGM IN ONE GO.



#### CONSTRUCTION STAGE - 4

1. REMOVE THE TEMPORARY BEARING BELOW EACH GIRDER AND FIX THE PERMANENT BEARINGS AT THE DESIGNATED LOCATION.
2. CONSTRUCT BACK WALL AND APPROACH SLAB.
3. CONSTRUCT MSE WALLS AND FINISHING OF THE BRIDGE.

CLIENT:



STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR

PROJECT:

Construction, Developing And  
Maintenance Of Roads And  
Interchanges For New Terminal Building  
In Kuwait International Airport At  
Magwa Road RA268/

CONSULTANT:



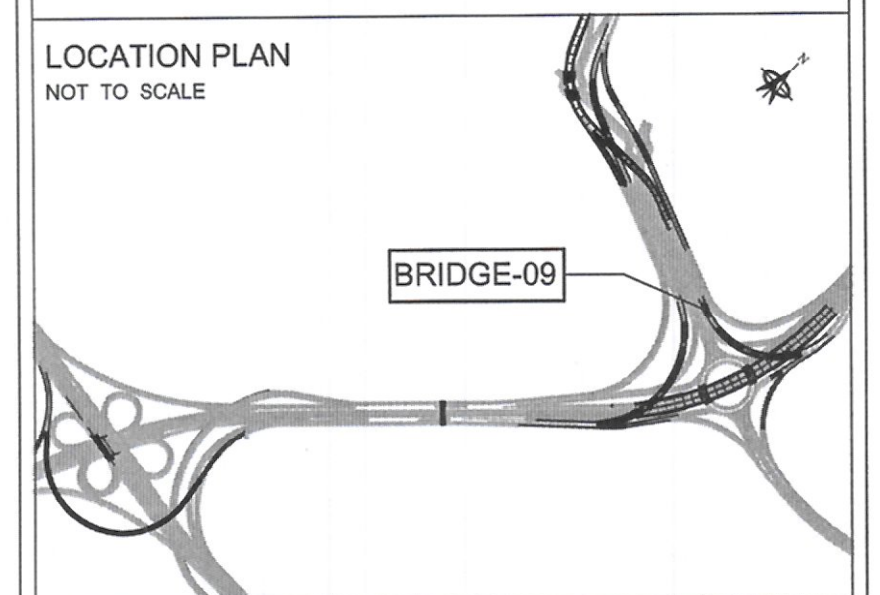
ORIENTAL CONSULTANTS  
COMPANY LIMITED

IN ASSOCIATION WITH:



Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers

LOCATION PLAN  
NOT TO SCALE



#### NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.



Rev. No.	Date	Description	By

DRAWING TITLE:

BRIDGE - 09  
CONSTRUCTION SEQUENCE

DRAWING NO: ST\_00\_BR\_0811\_02

DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	300	A1 SCALE:	150
DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ











Construction, Developing And  
Maintenance Of Roads And  
Interchanges For New Terminal Building  
In Kuwait International Airport At  
Magwa Road RA268/



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ORIENTAL CONSULTANTS  
COMPANY LIMITED

**Dar Al-Dowailah**  
Engineering Consultants  
& Construction Managers

**LOCATION PLAN**  
NOT TO SCALE

**BRIDGE-09**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED; COORDINATES, LEVELS AND CHAINAGES ARE IN METERS.
2. FRL'S AND DECK CROSS SLOPE SHALL BE VERIFIED WITH RELEVANT HIGHWAY DRAWINGS.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL NOTES, MISCELLANEOUS, HIGHWAY AND UTILITY DRAWINGS.
4. ALL SHOWN LEVELS SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AS PER EXISTING SITE CONDITIONS AND RELEVANT HIGHWAY DRAWINGS. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
5. SHOWN LEVELS SHOULD BE REVIEWED WITH LATEST REVISION OF HIGHWAY DRAWINGS AND IF ANY DISCREPANCY MORE THAN 50mm IT SHOULD BE REPORTED TO THE ENGINEER.

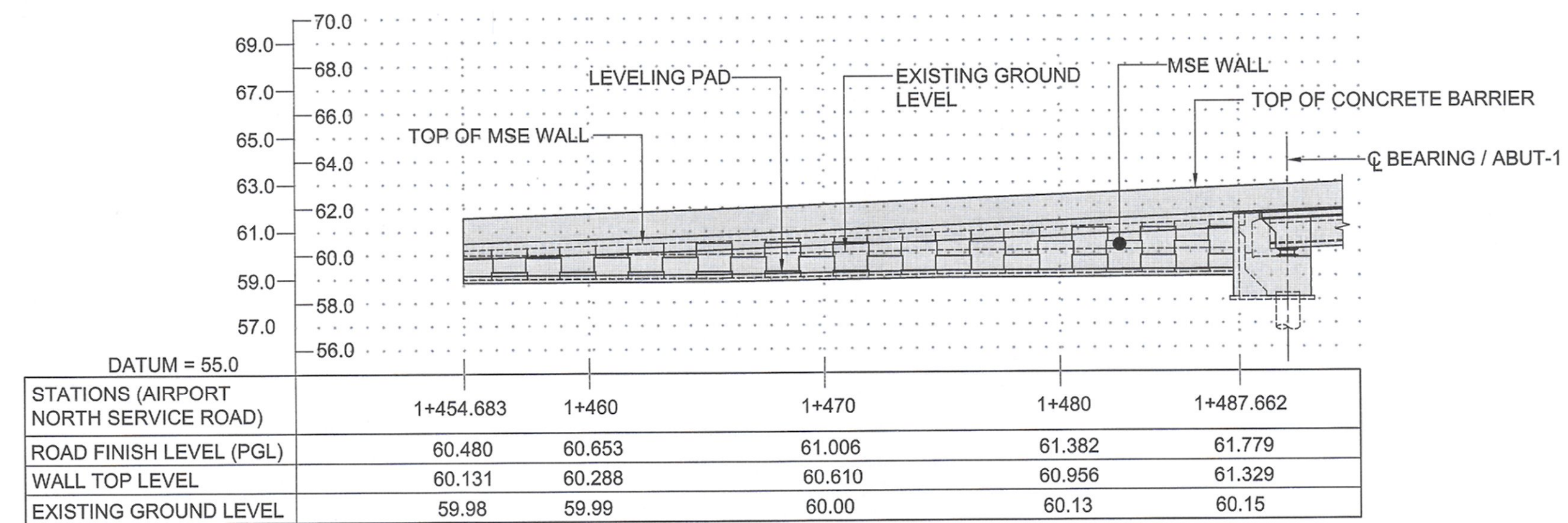


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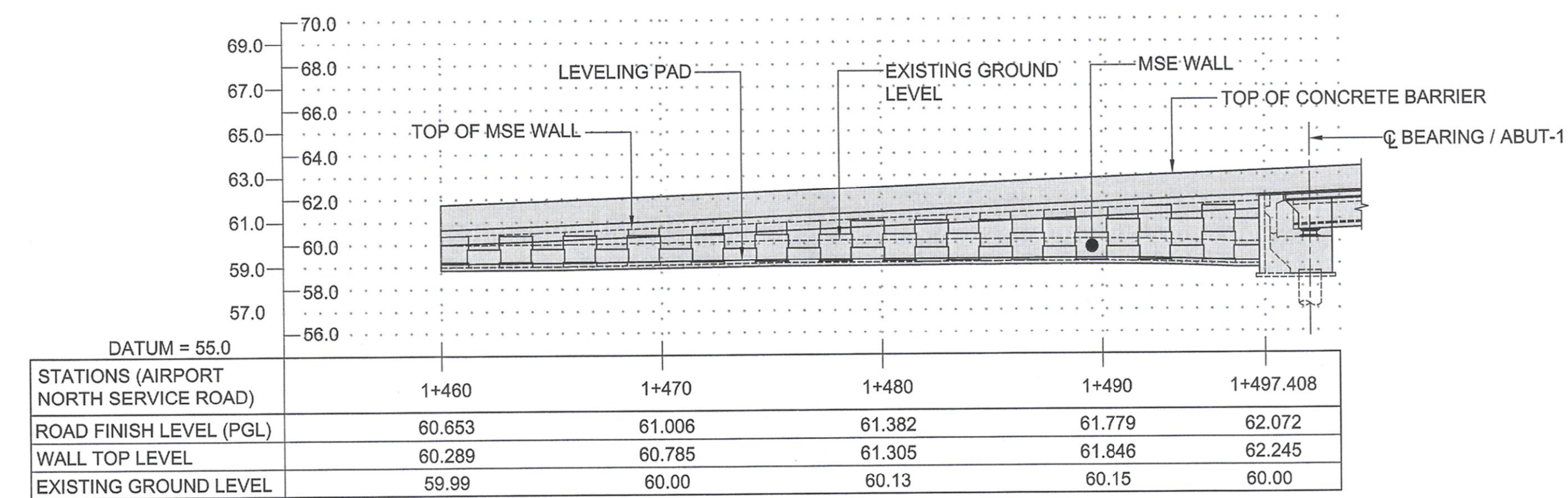
BRIDGE - 09  
MSE WALL AND ELEVATION

DRAWING NO: ST\_00\_BR\_0811\_04

DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	N.T.S	A1 SCALE:	N.T.S
DESIGNED BY:	MC	CHECKED BY:	MS
DRAWN BY:	SSB	APPROVED BY:	AZ

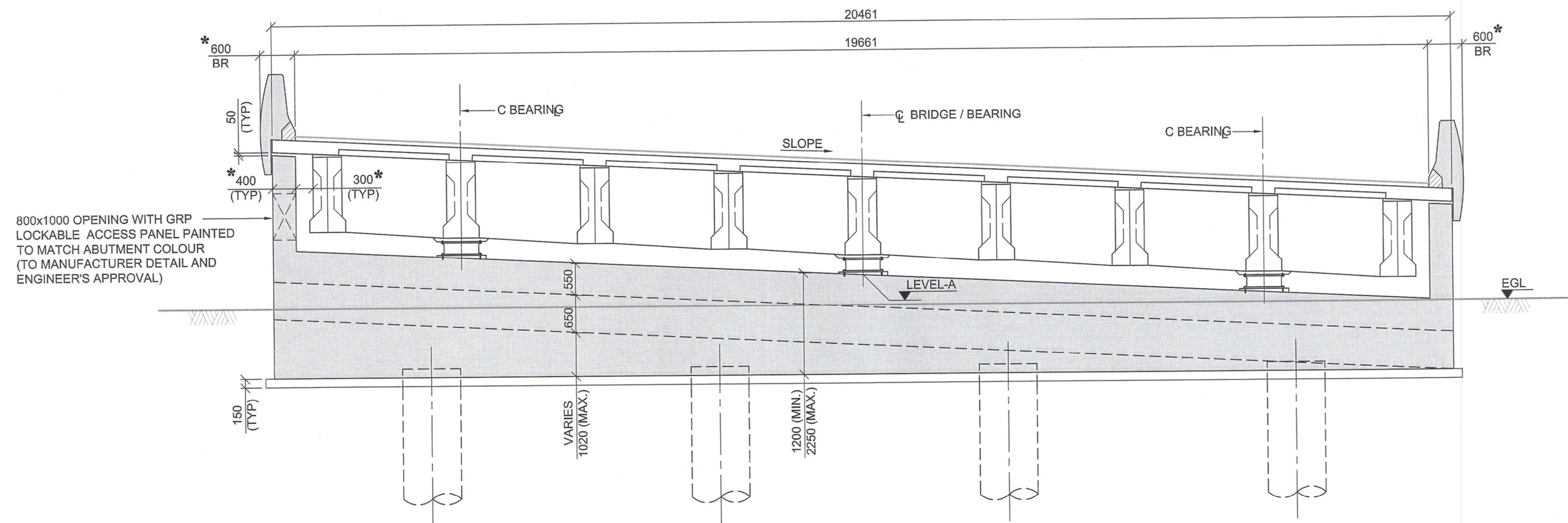


BR-09 MSE WALL-01 ELEVATION

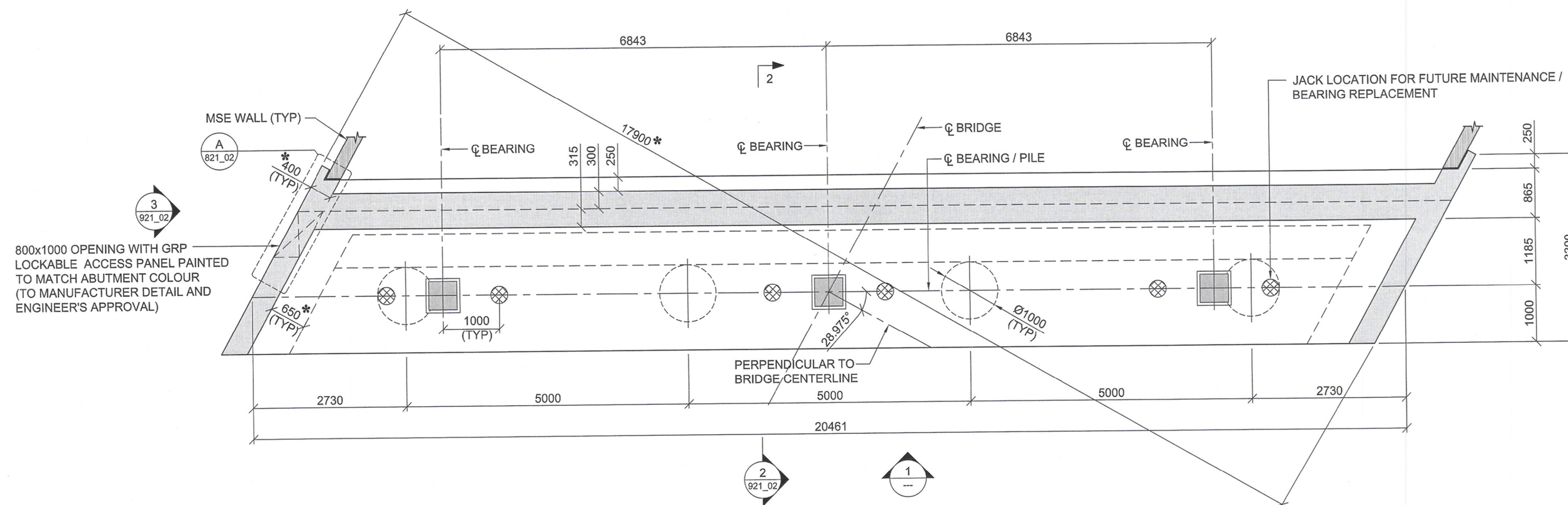


BR-09 MSE WALL-02 ELEVATION





1 ELEVATION  
SCALE 1:50 (A1) 1:100 (A3)



2 PLAN  
SCALE 1:50 (A1), 1:100 (A3)  
\* PERPENDICULAR TO THE BRIDGE CENTER LINE

ABUTMENT No.	LEVEL-A	EGL	NET SERVICE PILE CAPACITY (kN)
ABUT-1	60.195	60	3000

CLIENT:



STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR

PROJECT:

Construction, Developing And  
Maintenance Of Roads And  
Interchanges For New Terminal Building  
In Kuwait International Airport At  
Magwa Road RA268/

CONSULTANT:



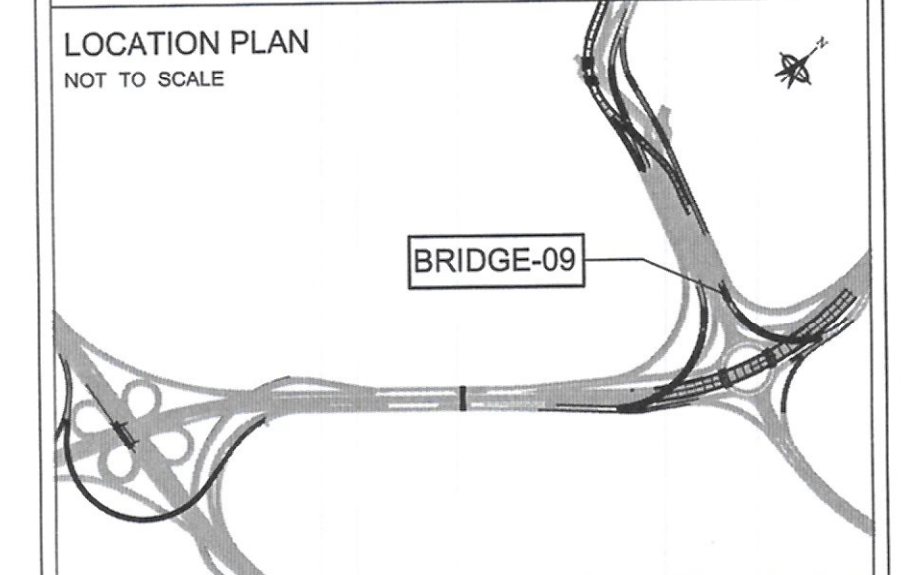
ORIENTAL CONSULTANTS  
COMPANY LIMITED

IN ASSOCIATION WITH:



Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers

LOCATION PLAN  
NOT TO SCALE



NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED; COORDINATES, LEVELS AND CHAINAGES ARE IN METERS.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL NOTES, MISCELLANEOUS, HIGHWAY AND UTILITY DRAWINGS.
- DECK CROSS SLOPE DIRECTION SHOWN IS INDICATIVE ONLY.
- FRL'S AND DECK CROSS SLOPE SHALL BE VERIFIED WITH RELEVANT HIGHWAY DRAWINGS.
- JACKING LOCATION SHALL BE PROPERLY ETCHED ON ABUTMENT BEAM.
- THE PROPOSED JACK LOCATIONS ARE INDICATIVE AND SHALL BE VERIFIED BY THE BEARING MANUFACTURER.
- TOP OF THE ABUTMENT LEVEL IS BASED ON A HEIGHT OF 350MM BETWEEN THE GIRDER AND TOP OF THE ABUTMENT.
- SHOWN LEVELS SHOULD BE REVIEWED WITH LATEST REVISION OF HIGHWAY DRAWINGS AND IF ANY DISCREPANCY MORE THAN 50mm IT SHOULD BE REPORTED TO THE ENGINEER.



Rev. No.	Date	Description	By

DRAWING TITLE:  
BRIDGE - 09  
ABUTMENT - 01 DIMENSIONAL DETAILS  
(SHEET - 01)

AS  
ARA  
(1)

DRAWING NO: ST_00_BR_0821_01			
DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	AS SHOWN	A1 SCALE:	AS SHOWN
DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ

129 LIMAK  
INSAAT SANAYI VE TICARET A.Ş.  
Halk SSK No: 9 G.O.P. ANKARA  
Tic. Sic. No: 448 99 00 (19 Hat)  
Tic. Sic. No: 448 99 00 (19 Hat)  
Tic. Sic. No: 448 99 00 (19 Hat)

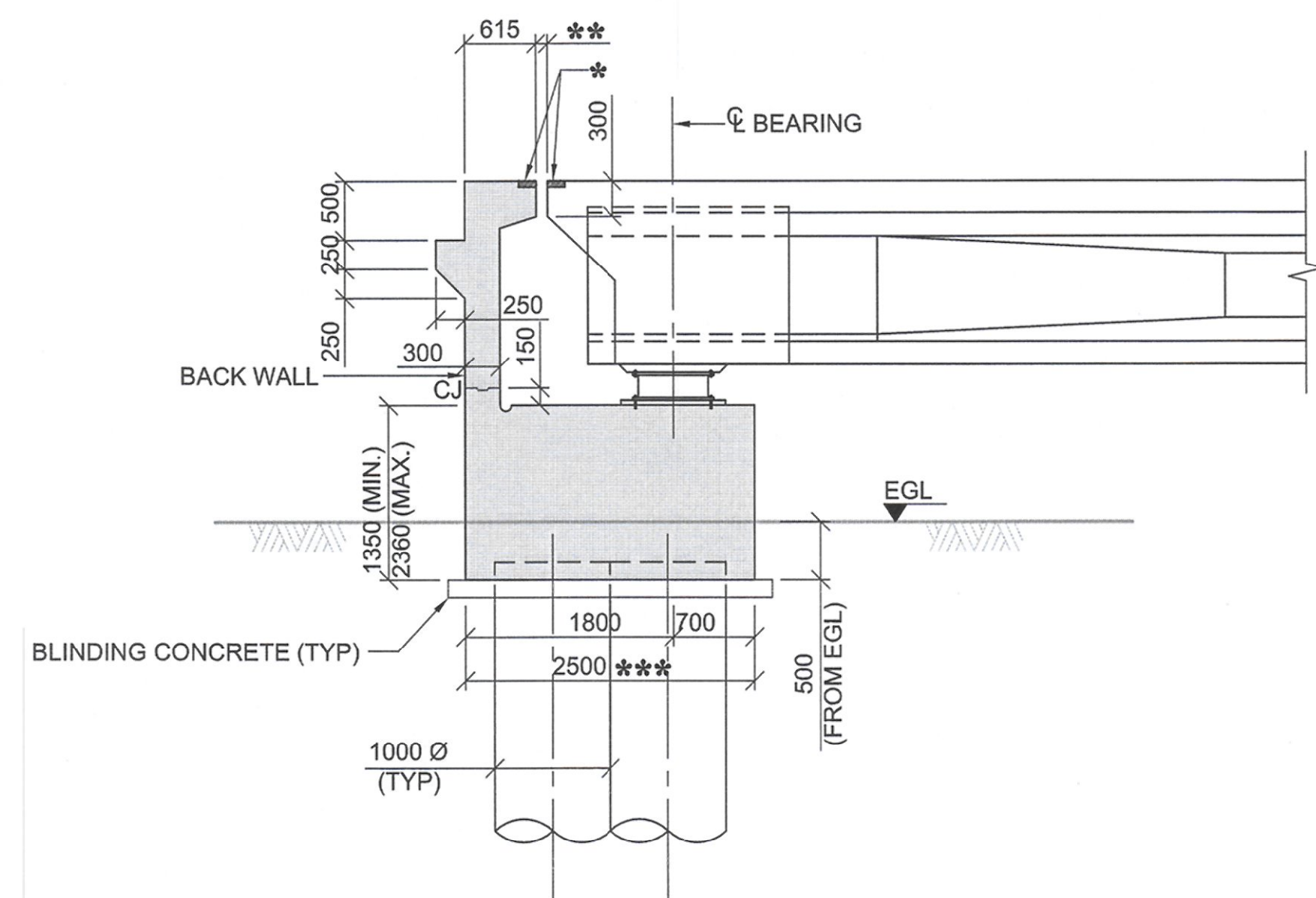






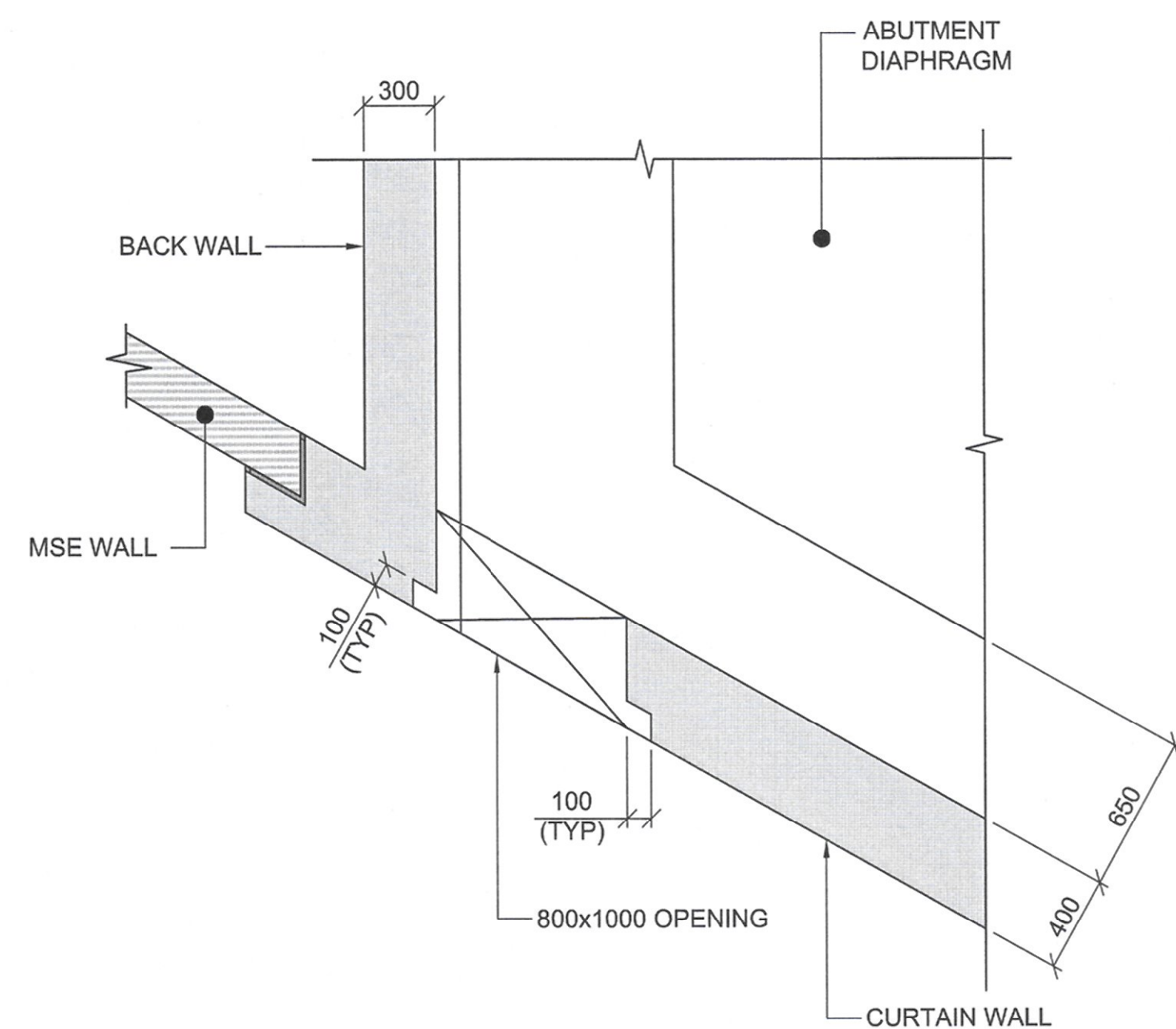




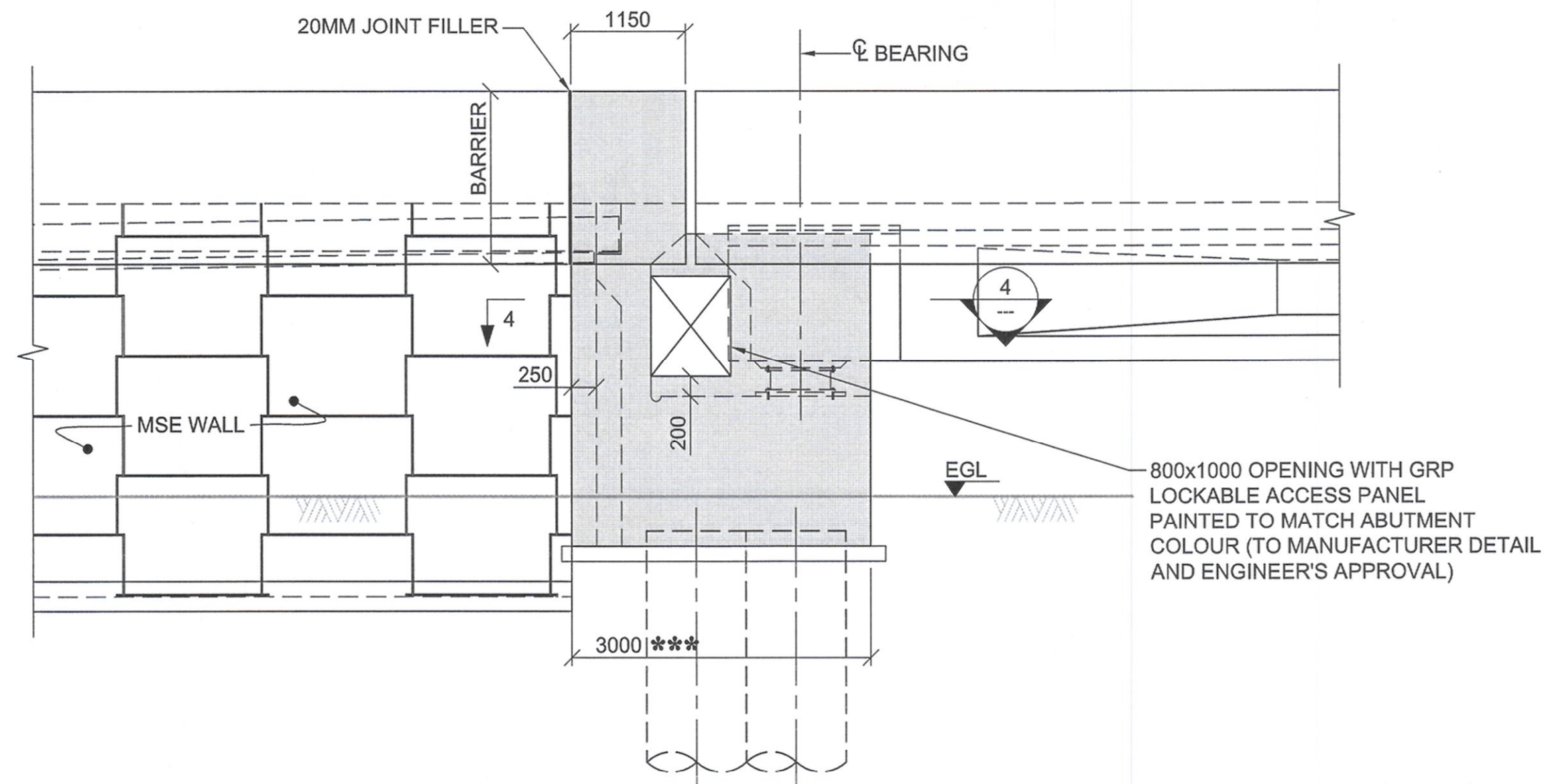


2 SECTION  
REF: 0921\_03  
SCALE 1:50 (A1) 1:100 (A3)

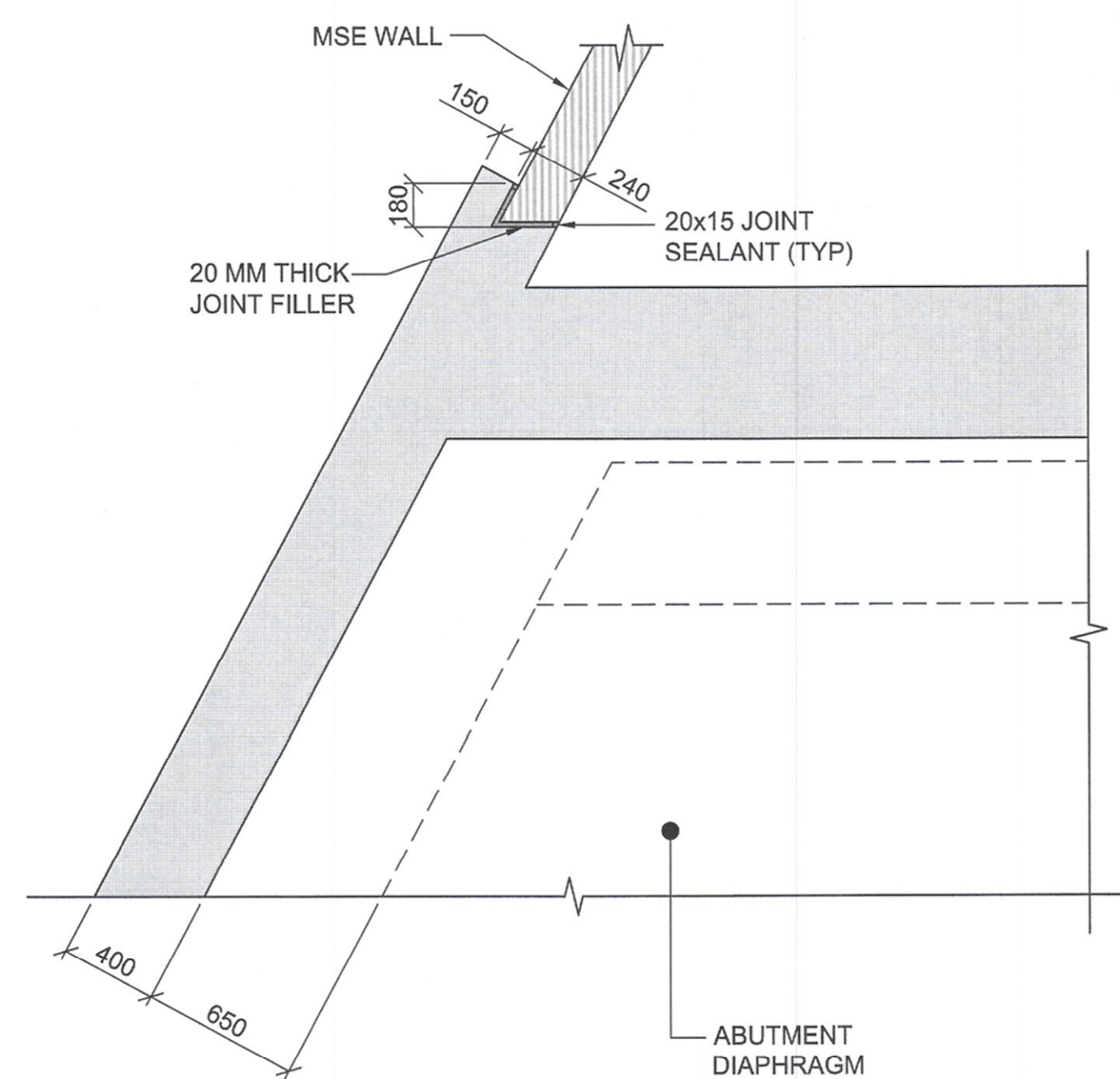
- \* BLOCKOUT DIMENSION TO BE PROPOSED BY CONTRACTOR BASED ON THE MANUFACTURER'S RECOMMENDATIONS.
- \*\* TO BE READ FROM BEARING DRAWING.
- \*\*\* THIS DIMENSION IS BASED ON THE ASSUMPTION OF 100MM GAP, TO BE MODIFIED ACCORDING TO REAL GAP DIMENSIONS AS SHOWN IN BEARING DRAWING.



4 SECTION  
SCALE 1:25 (A1) 1:50 (A3)



3 ELEVATION  
REF: 0921\_03  
SCALE 1:50 (A1) 1:100 (A3)



A DETAIL  
REF: 0921\_03  
SCALE 1:25 (A1) 1:50 (A3)

CLIENT:



STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR

PROJECT:

Construction, Developing And  
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Interchanges For New Terminal Building  
In Kuwait International Airport At  
Magwa Road RA268/

CONSULTANT:



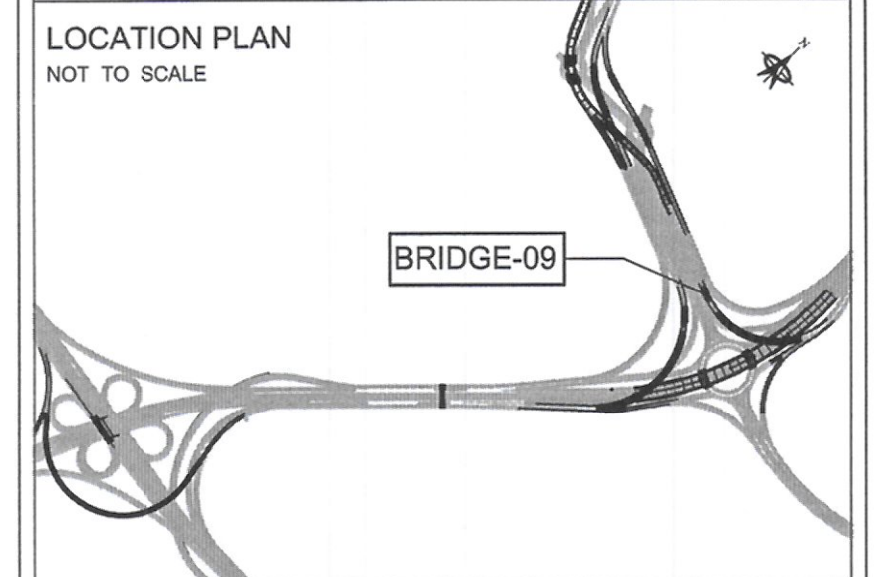
ORIENTAL CONSULTANTS  
COMPANY LIMITED

IN ASSOCIATION WITH:



Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers

LOCATION PLAN  
NOT TO SCALE



NOTES:

1. FOR NOTES REFER DRAWING No.0921\_03



Rev. No.	Date	Description	By
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DRAWING TITLE:

BRIDGE - 09  
ABUTMENT - 02 DIMENSIONAL DETAILS  
(SHEET - 02)

DRAWING NO: ST\_00\_BR\_0821\_04

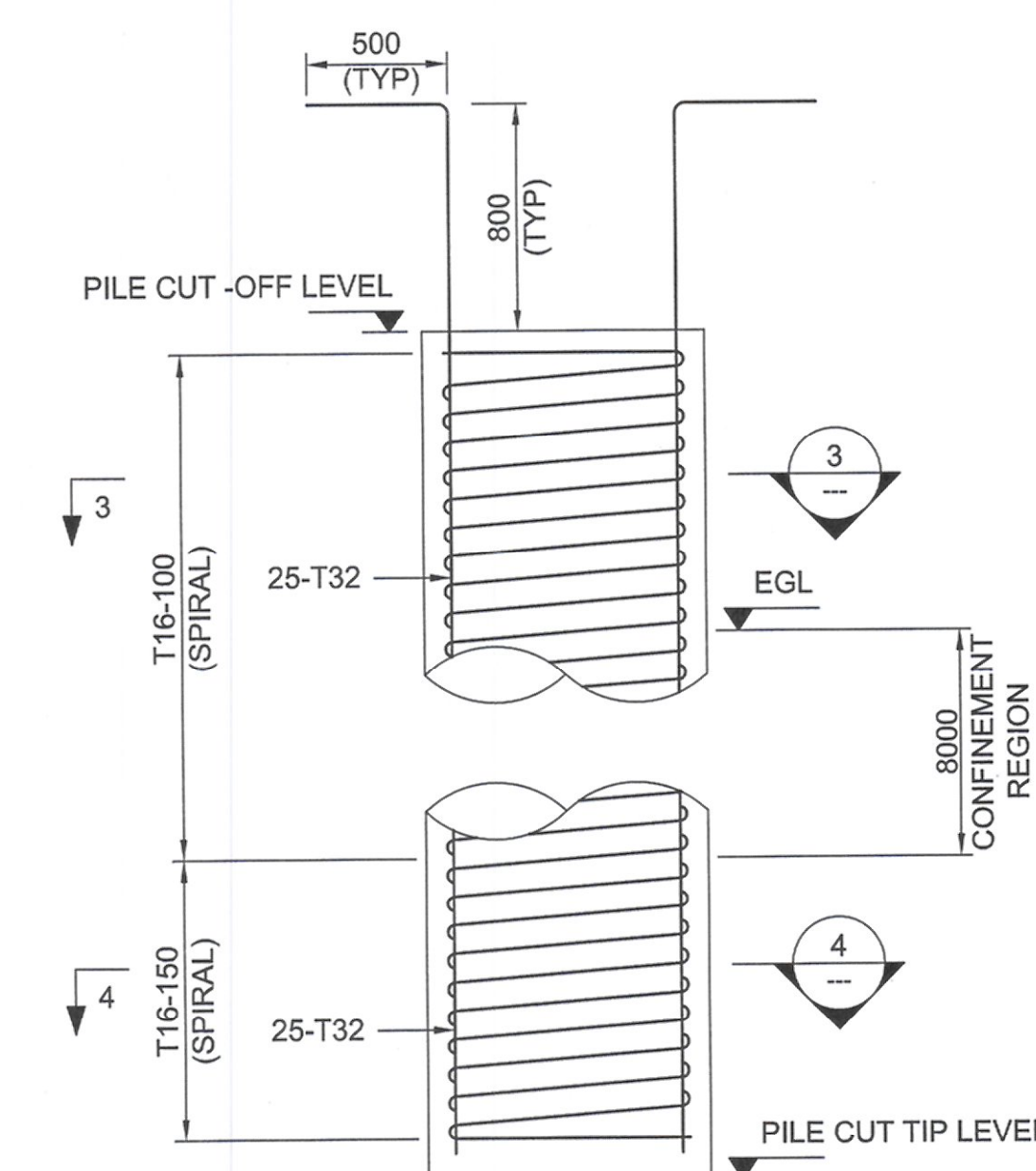
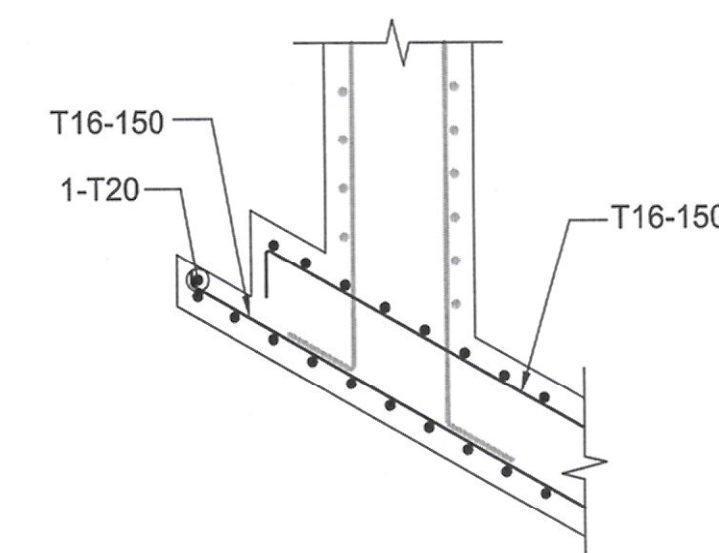
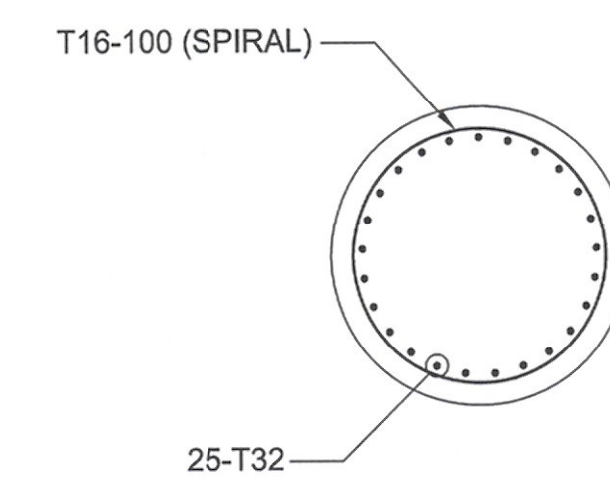
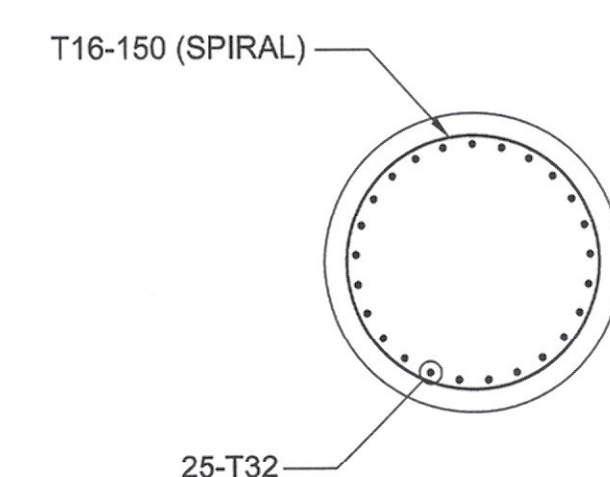
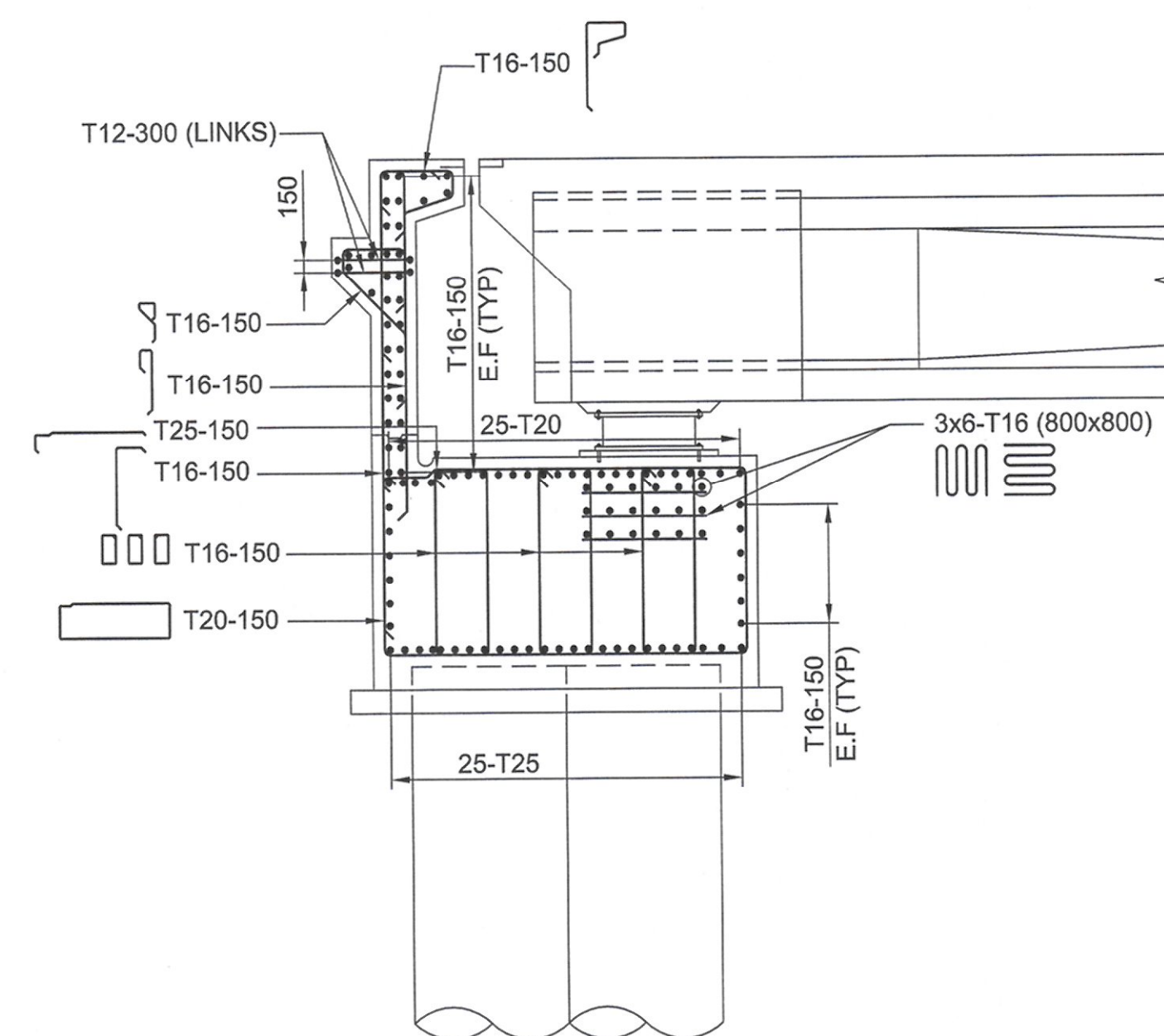
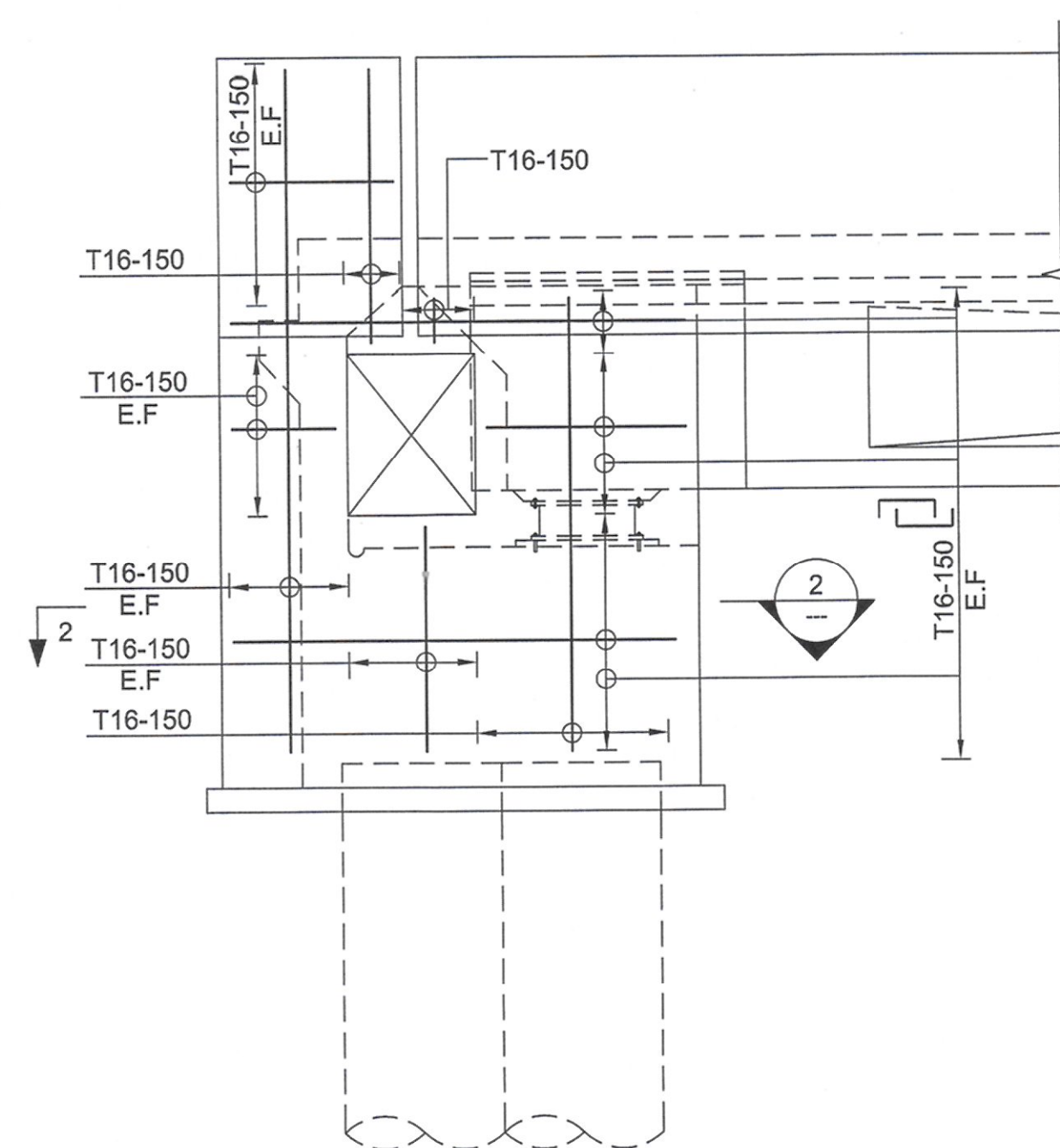
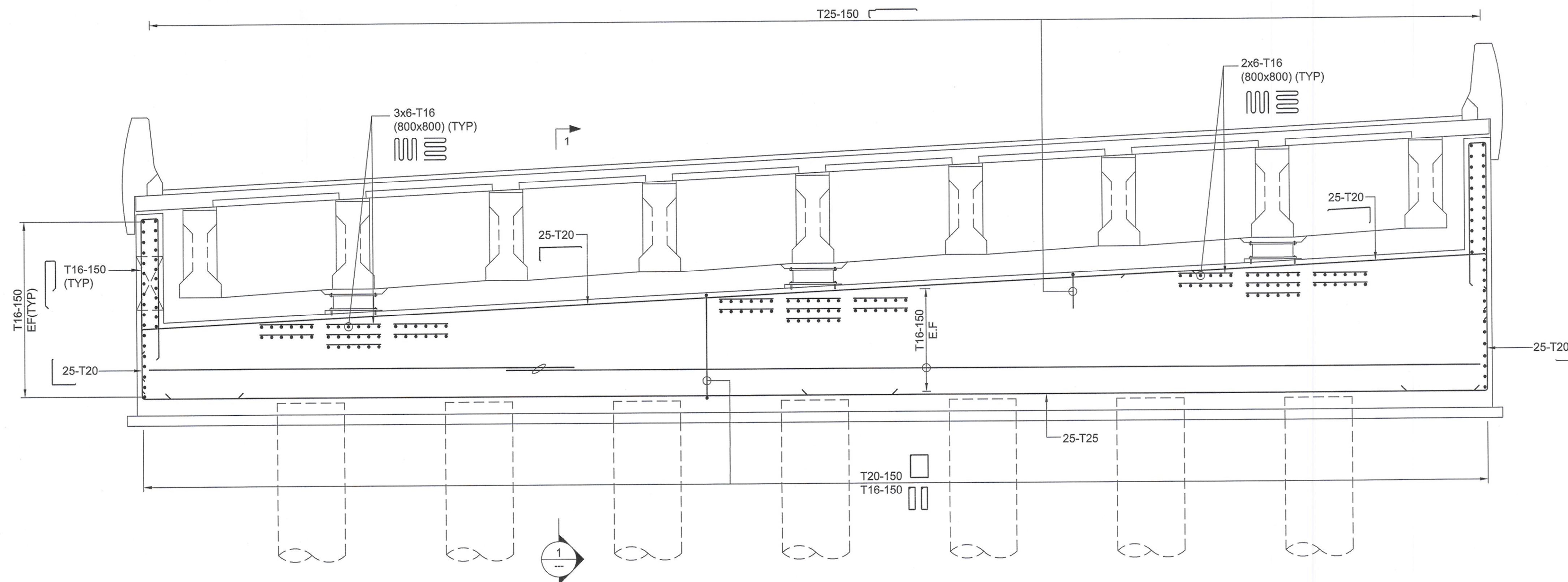
DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	AS SHOWN	A1 SCALE:	AS SHOWN
DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ

LIMAK  
İNŞAAT SANAYİ VE TİCARET A.Ş.  
HATTA: 0312 244 10 00 (10 HAT)  
Tel: 0312 244 10 00  
Ankara Kurumlar V.D. 6080063463










PROJECT:

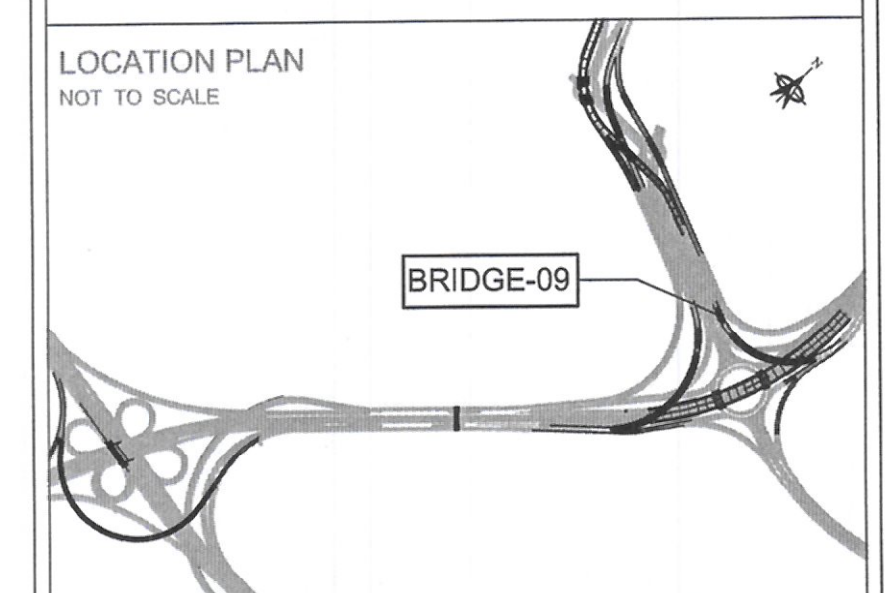
Construction, Developing And  
Maintenance Of Roads And  
Interchanges For New Terminal Building  
In Kuwait International Airport At  
Magwa Road RA268/

CONSULTANT:

 ORIENTAL CONSULTANTS  
ORICONSUL COMPANY LIMITED

IN ASSOCIATION WITH:

 **Dar Al-Dowailah**  
Engineering Consultants  
& Construction Managers



**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL LAPS SHALL BE STAGGERED UNLESS OTHERWISE NOTED.
3. LAPPING OF SPIRALS IN THE TRANSVERSE CONFINEMENT REGION SHALL NOT BE PERMITTED. CONNECTION OF SPIRALS IN THIS REGION MUST BE FULL STRENGTH LAP WELDS.
4. ALL LAPS SHALL BE STAGGERED UNLESS NOTED OTHERWISE.

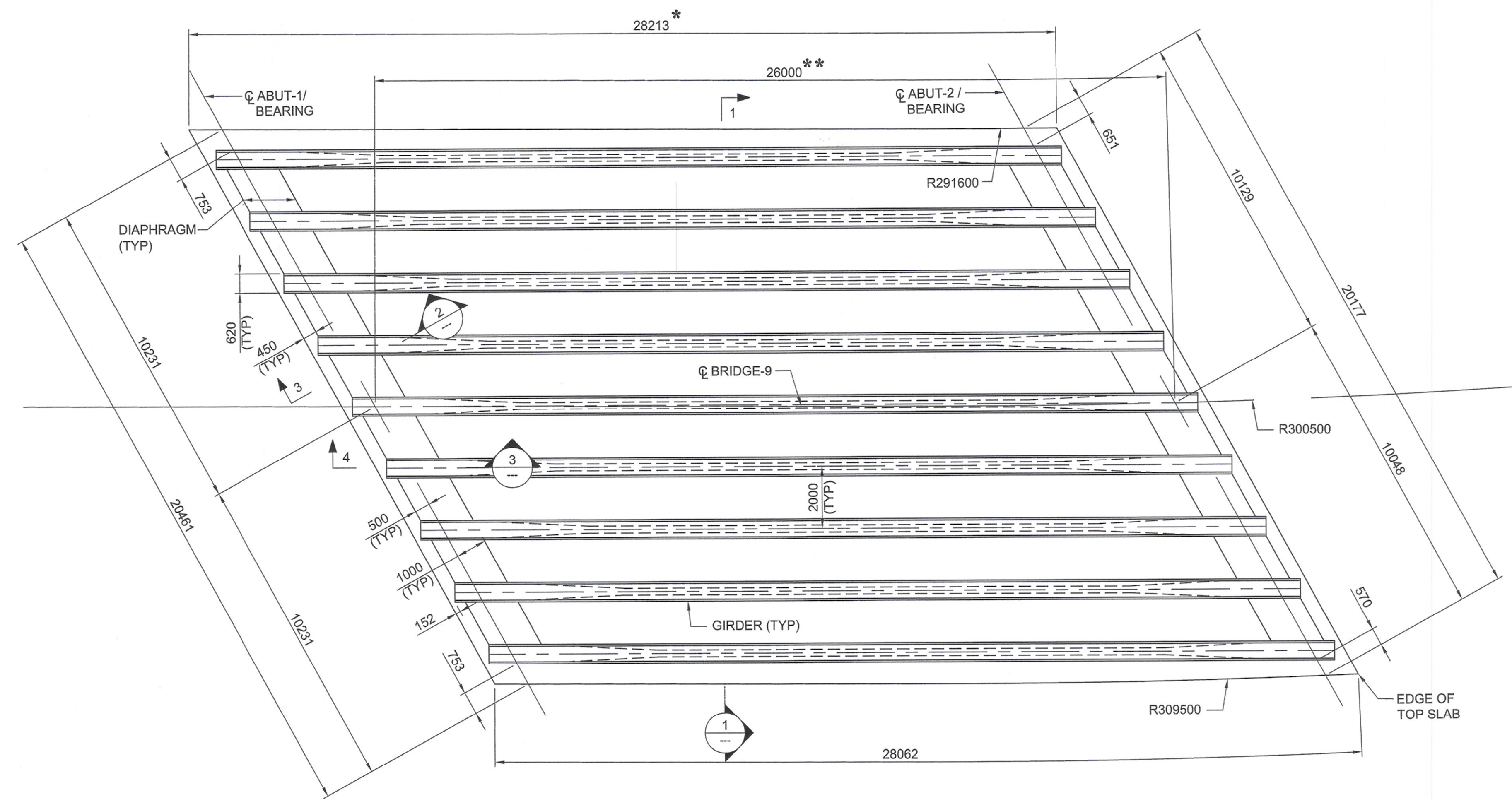


Rev. No.	Date	Description	By
DRAWING TITLE:			
BRIDGE - 09 ABUTMENT - 02 REINFORCEMENT DETAILS			
DRAWING NO: ST_00_BR_0821_06			
DATE:	NOV.14, 2016	STATUS:	FINAL
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DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ

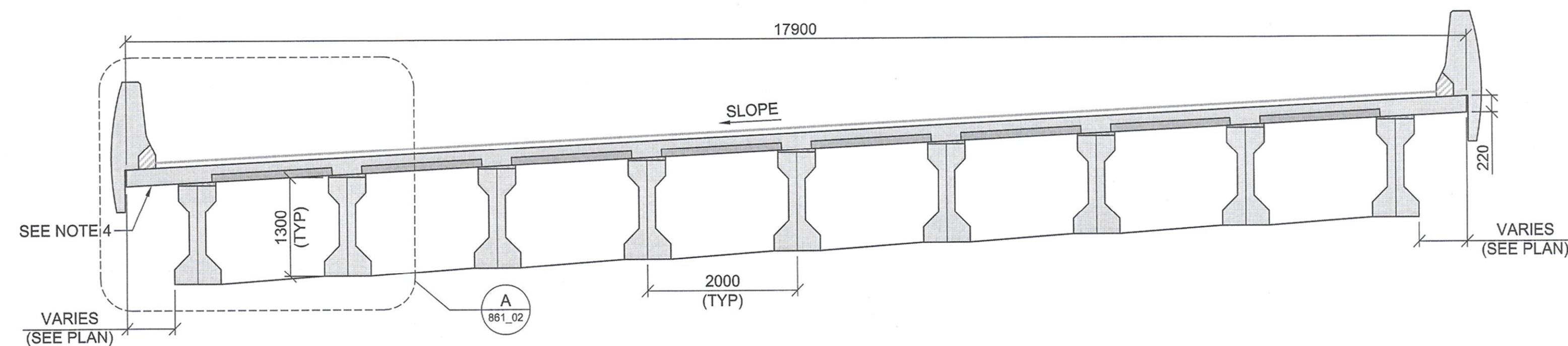




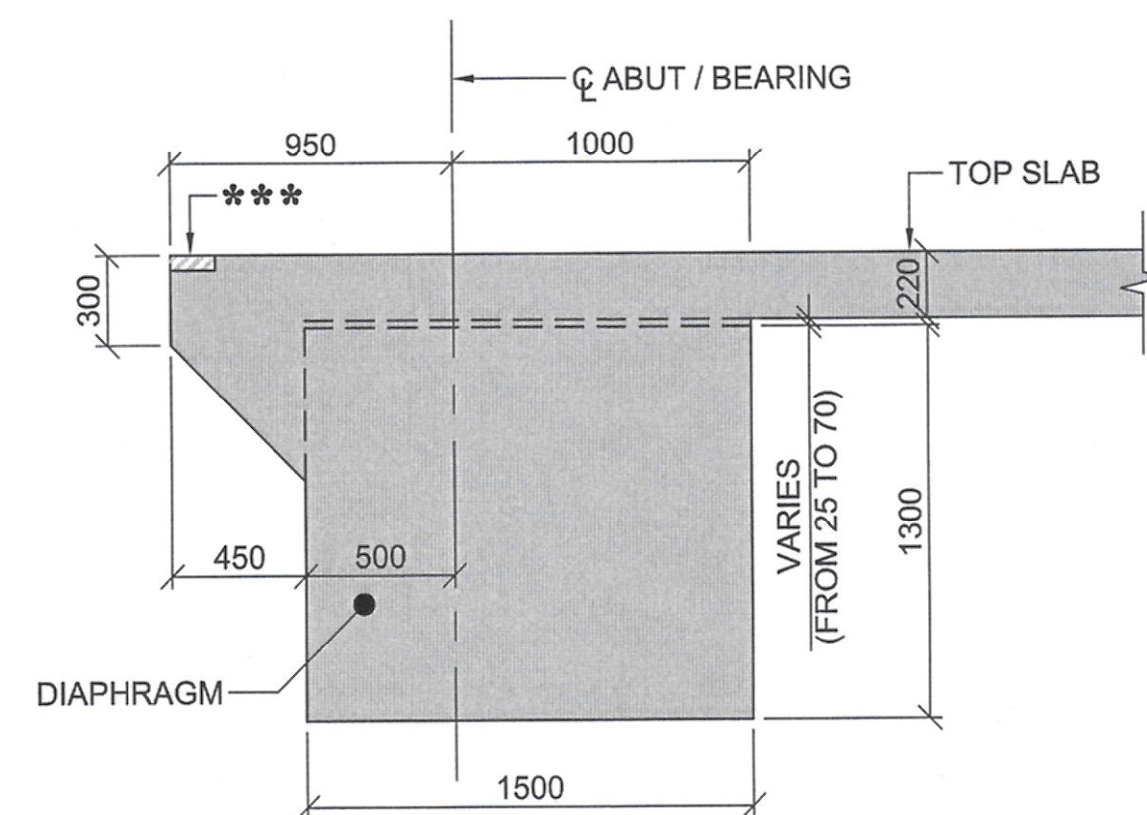




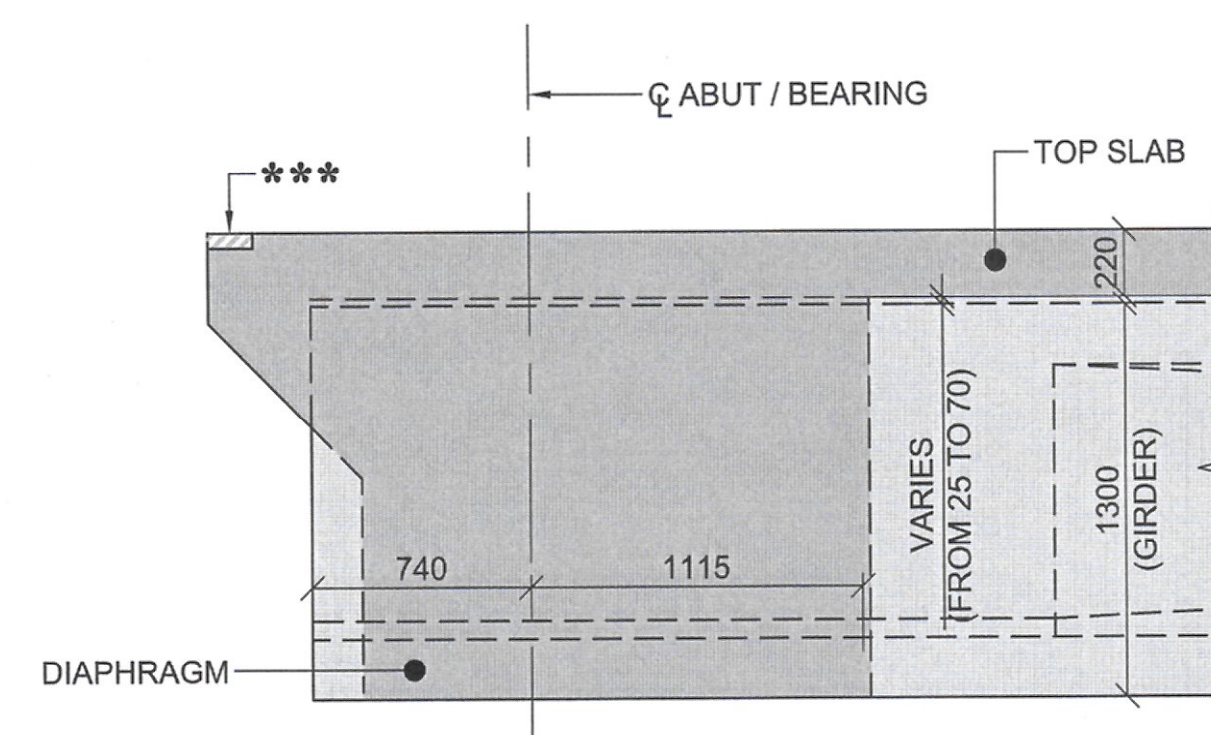
**TOP SLAB PLAN**  
SCALE 1:100 (A1), 1:200 (A3)  
\* SPAN DIMENSIONS ARE MEASURED ALONG BRIDGE CENTERLINE  
\*\* DIMENSIONS ARE MEASURED PERPENDICULAR TO BRIDGE CENTERLINE



**1 SECTION**  
SCALE 1:50 (A1), 1:100 (A3)



**2 SECTION**  
SCALE 1:25 (A1), 1:50 (A3)  
\*\*\* BLOCKOUT DIMENSION TO BE PROPOSED BY CONTRACTOR BASED ON THE MANUFACTURERS RECOMMENDATIONS.



**3 SECTION**  
SCALE 1:25 (A1), 1:50 (A3)

CLIENT:



STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR

PROJECT:

Construction, Developing And  
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In Kuwait International Airport At  
Magwa Road RA268/

CONSULTANT:



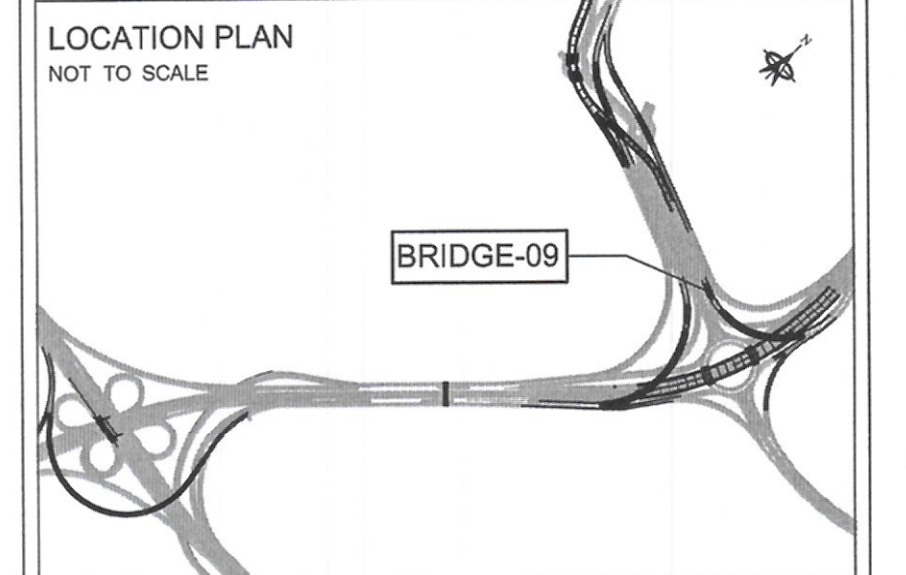
ORIENTAL CONSULTANTS  
COMPANY LIMITED

IN ASSOCIATION WITH:



Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers

LOCATION PLAN  
NOT TO SCALE



NOTES:

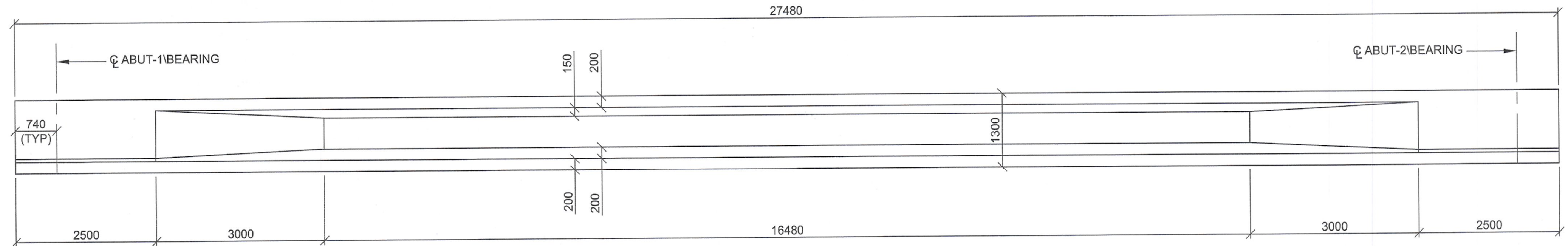
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL NOTES, MISCELLANEOUS, HIGHWAY AND UTILITY DRAWINGS.
3. DECK CROSS SLOPE SHOWN IS INDICATIVE ONLY.
4. FORMWORK OF DECK OVERHANG TO BE SUPPORTED BY EXTERIOR GIRDER.
5. DIMENSION IN SECTION-4 ARE AT CENTERLINE OF GIRDER.



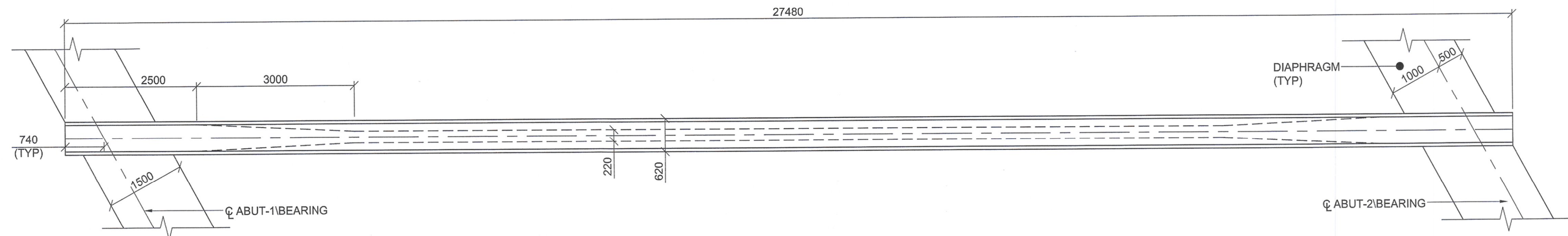
Rev. No.	Date	Description	By
DRAWING TITLE:			
BRIDGE - 09 SUPERSTRUCTURE DIMENSIONAL DETAILS (SHEET-01)			
DRAWING NO: ST_00_BR_0861_01			
DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	AS SHOWN	A1 SCALE:	AS SHOWN
DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ

INSAAAT SANAYI VE TICARET A.Ş.  
HATIR ÇELİKLER NO: 8 G. O. P. / ANKARA  
Teli: 0312 244 88 00 / 10 Hat  
Ankara Kurumlar V.D. 6480663463

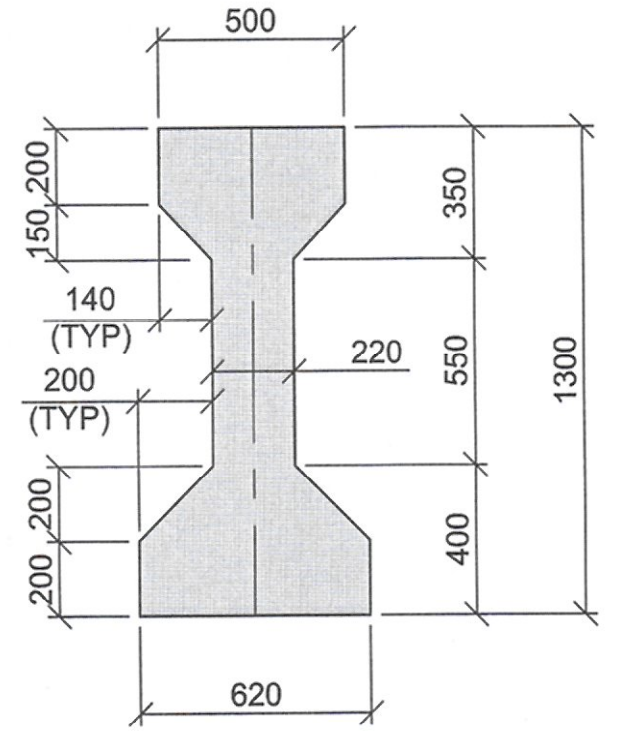




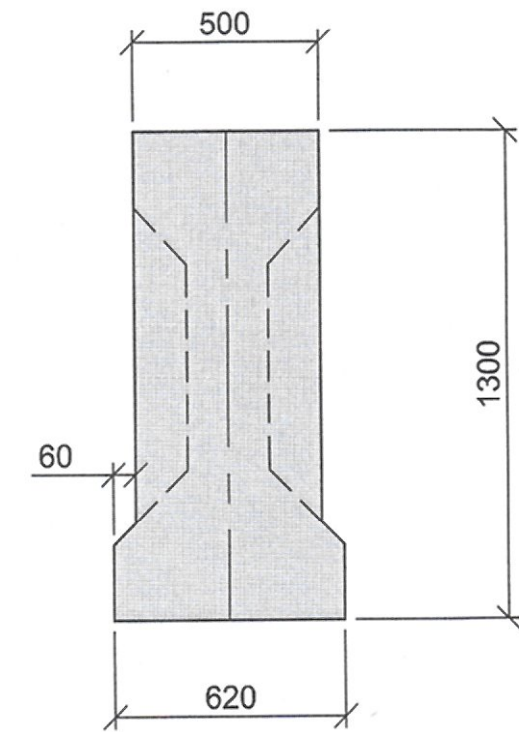
**GIRDER ELEVATION**  
SCALE 1:50 (A1), 1:100 (A3)



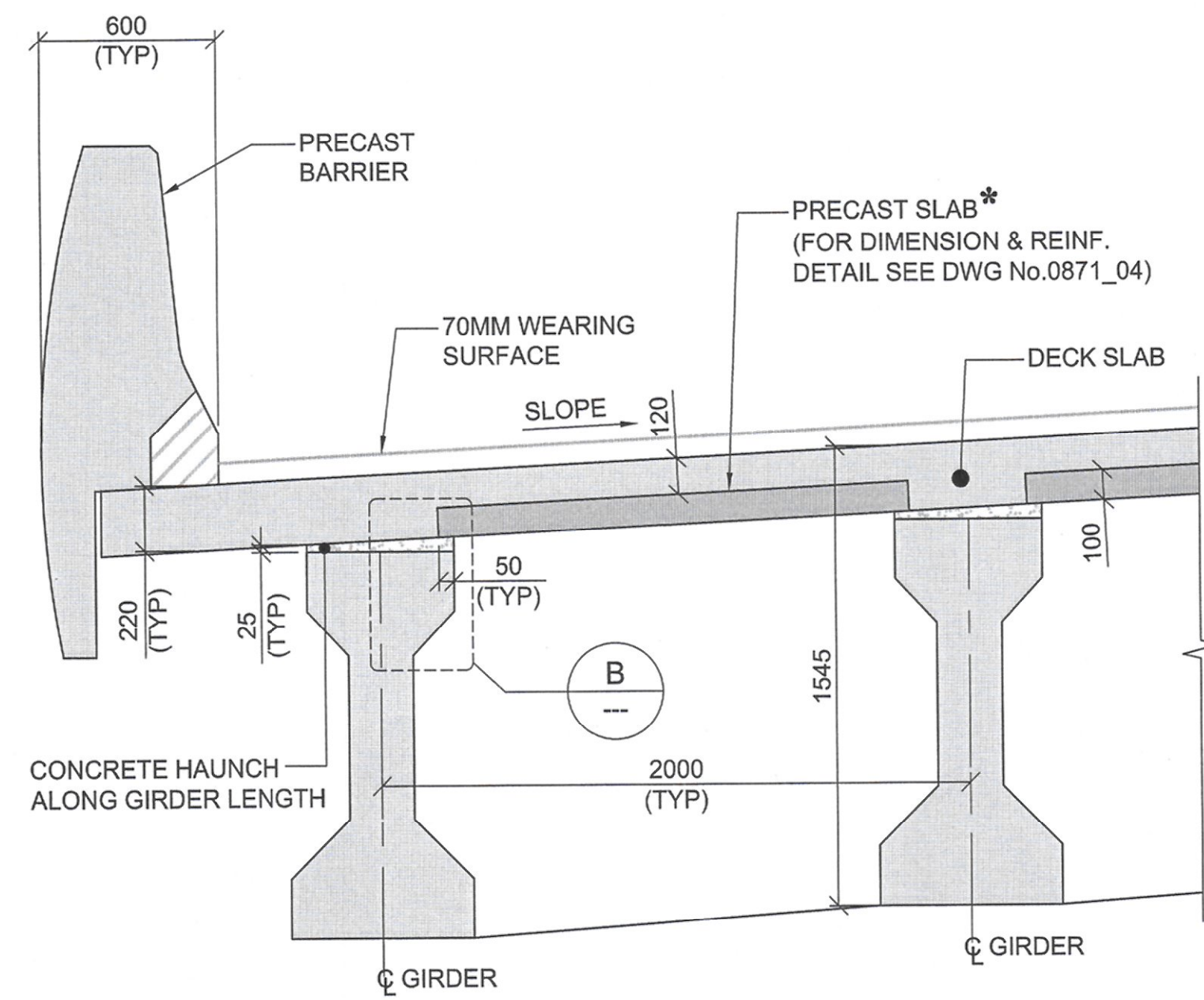
**GIRDER TOP PLAN**  
SCALE 1:50 (A1), 1:100 (A3)



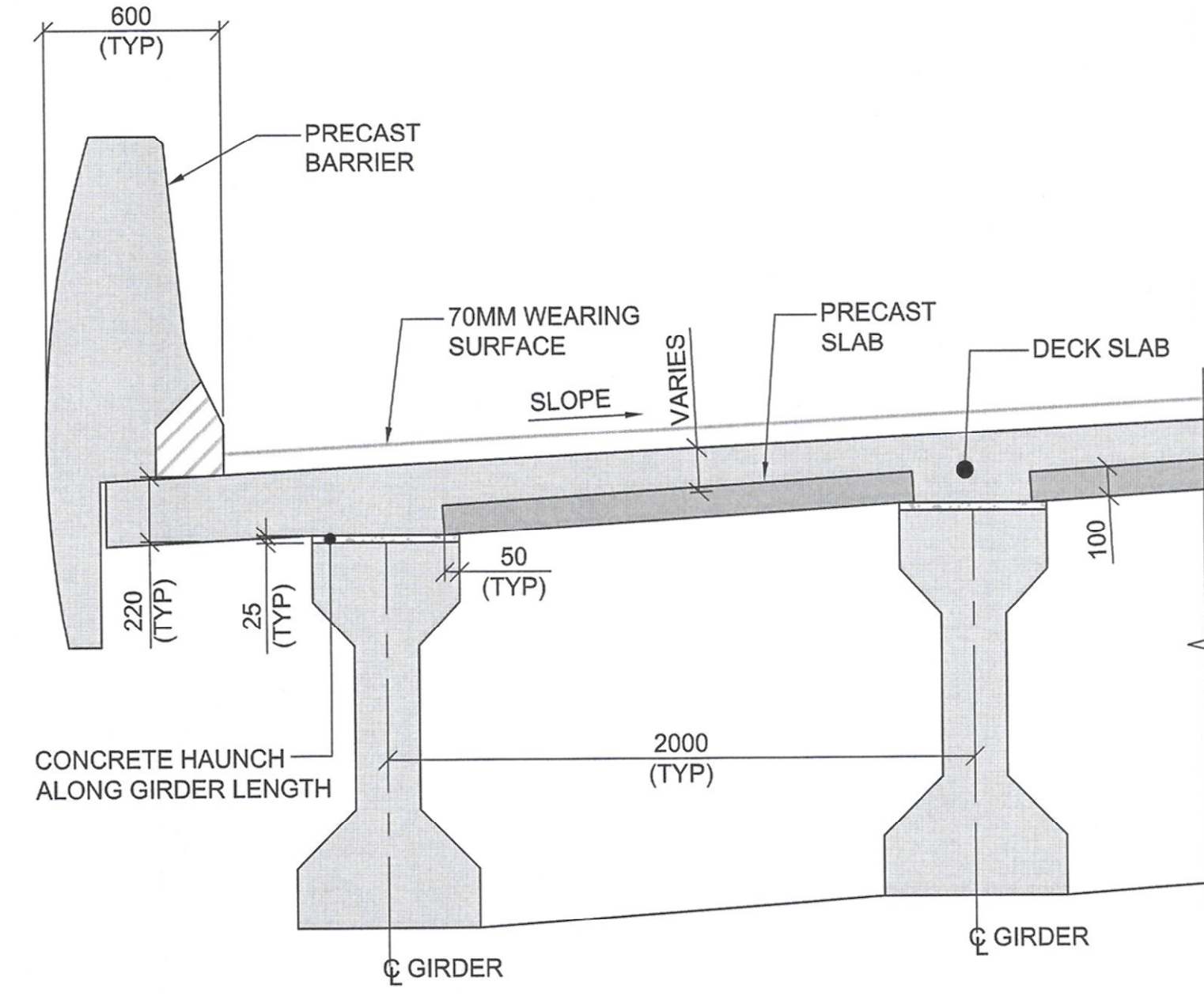
**PRECAST GIRDER AT MID**  
SCALE 1:20 (A1), 1:40 (A3)



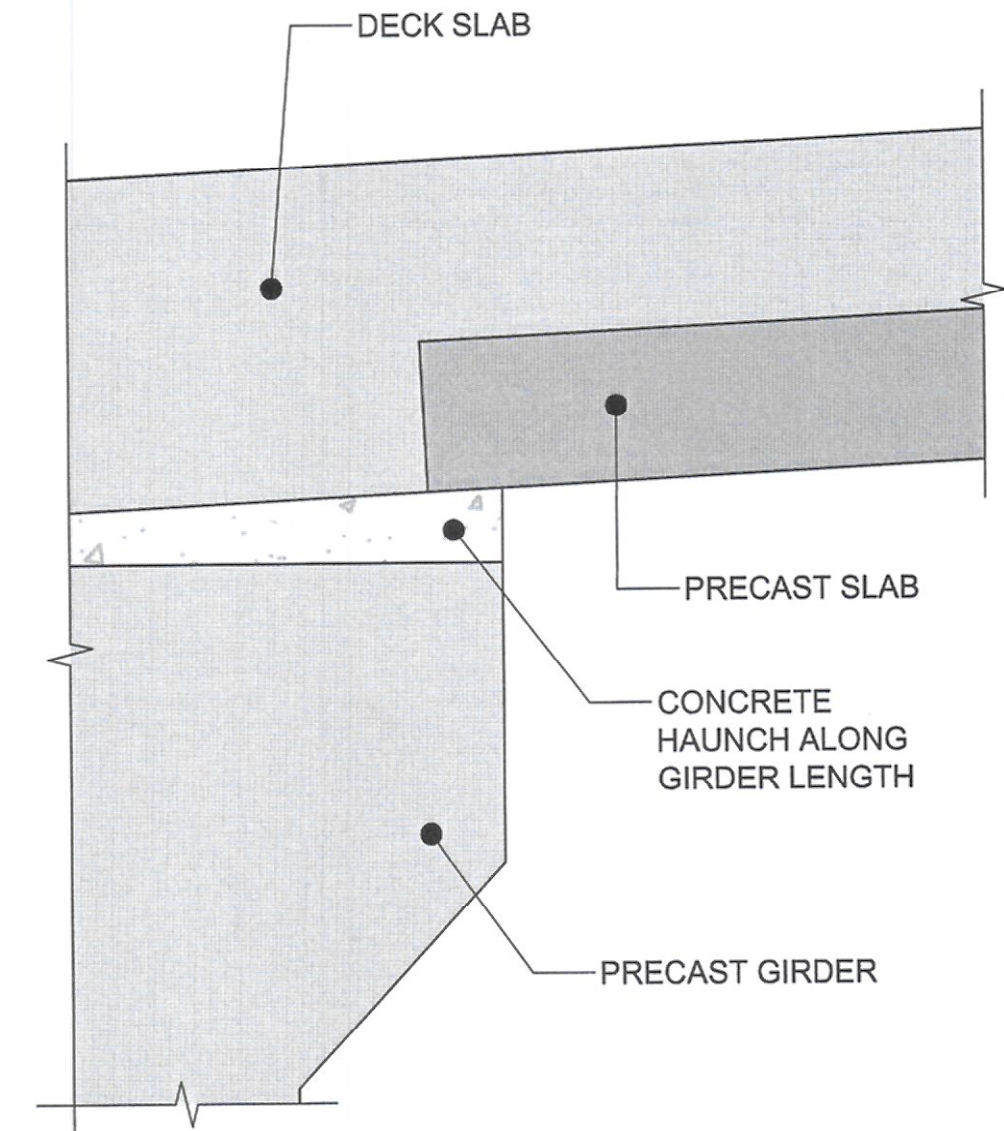
**PRECAST GIRDER AT SUPPORT**  
SCALE 1:20 (A1), 1:40 (A3)




**A DETAIL**  
REF. 0961\_01  
SCALE 1:20 (A1), 1:40 (A3)  
\* SURFACE OF PRECAST SLAB TO BE INTENTIONALLY ROUGHENED TO 6MM.



**A DETAIL (ALTERNATIVE OPTION)**  
REF. 0961\_01  
SCALE 1:20 (A1), 1:40 (A3)




**B DETAIL**  
SCALE 1:5 (A1), 1:10 (A3)




**STATE OF KUWAIT**  
**MINISTRY OF PUBLIC WORKS**  
**ROADS ENGINEERING SECTOR**

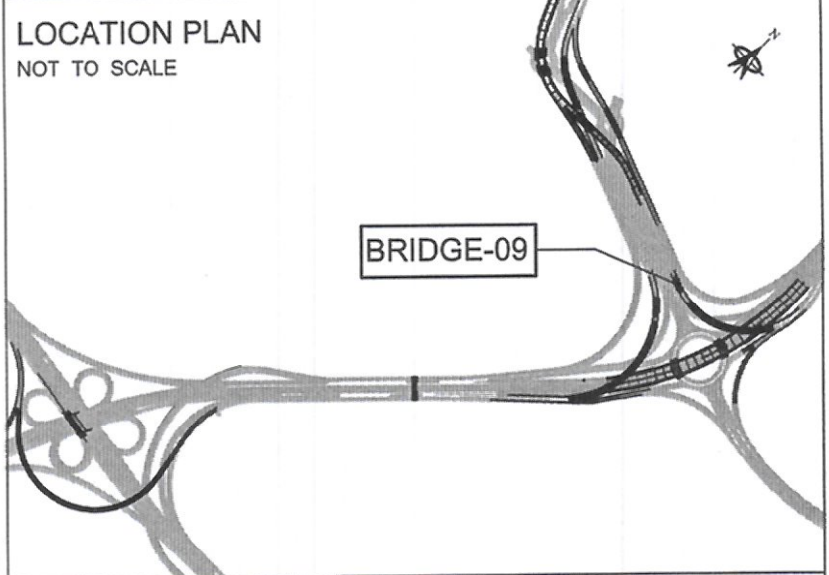
CLIENT:

PROJECT:  
Construction, Developing And Maintenance Of Roads And Interchanges For New Terminal Building In Kuwait International Airport At Magwa Road RA268/

CONSULTANT:  
 **ORIENTAL CONSULTANTS**  
COMPANY LIMITED


IN ASSOCIATION WITH:  
 **Dar Al-Dowailah**  
Engineering Consultants & Construction Managers

LOCATION PLAN  
NOT TO SCALE



**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL NOTES, MISCELLANEOUS, HIGHWAY AND UTILITY DRAWINGS.
3. DECK CROSS SLOPE SHOWN IS INDICATIVE ONLY.




**PARTA**  
Public Authority for Roads and Land Transport  
الهيئة العامة للطرق والنقل البري

Rev. No.	Date	Description	By

DRAWING TITLE:  
**BRIDGE - 09  
SUPERSTRUCTURE  
DIMENSIONAL DETAILS (SHEET-02)**

DRAWING NO: **ST\_00\_BR\_0861\_02**

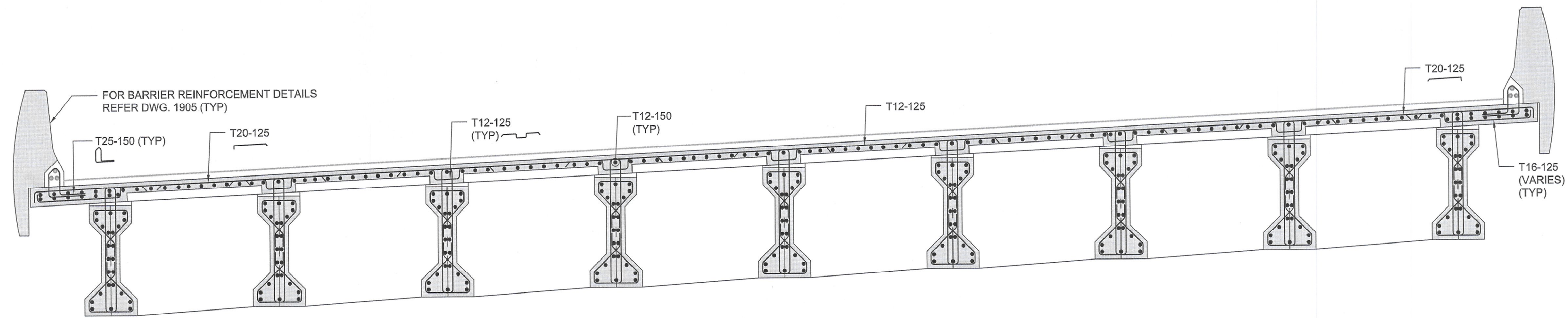
DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	AS SHOWN	A1 SCALE:	AS SHOWN
DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ



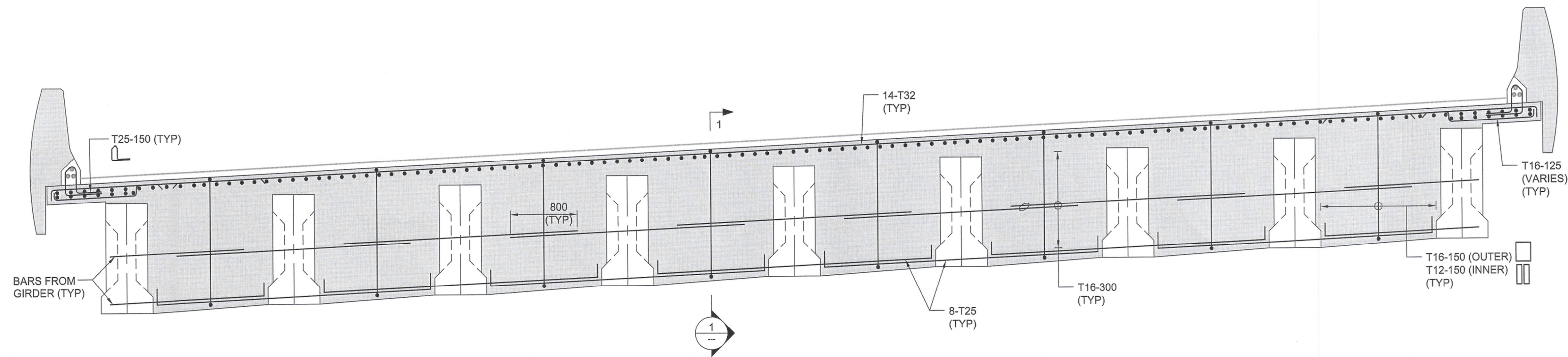
**LIMAK**  
İNŞAAT SANAYİ VE TİCARET A.Ş.  
Halkın Şirketi  
Tel: 0312 246 11 00 (10 Hat)  
E-posta: kurdulnar@limak.com.tr

Date Issued: 14/11/2016 File: T206\_PROJECT\_SUPPORT\1\_CURRENT\_PROJECTS\WAD- Airport Link Road\Drawings\Structure\0861\_02\_01\_0861\_02.dwg

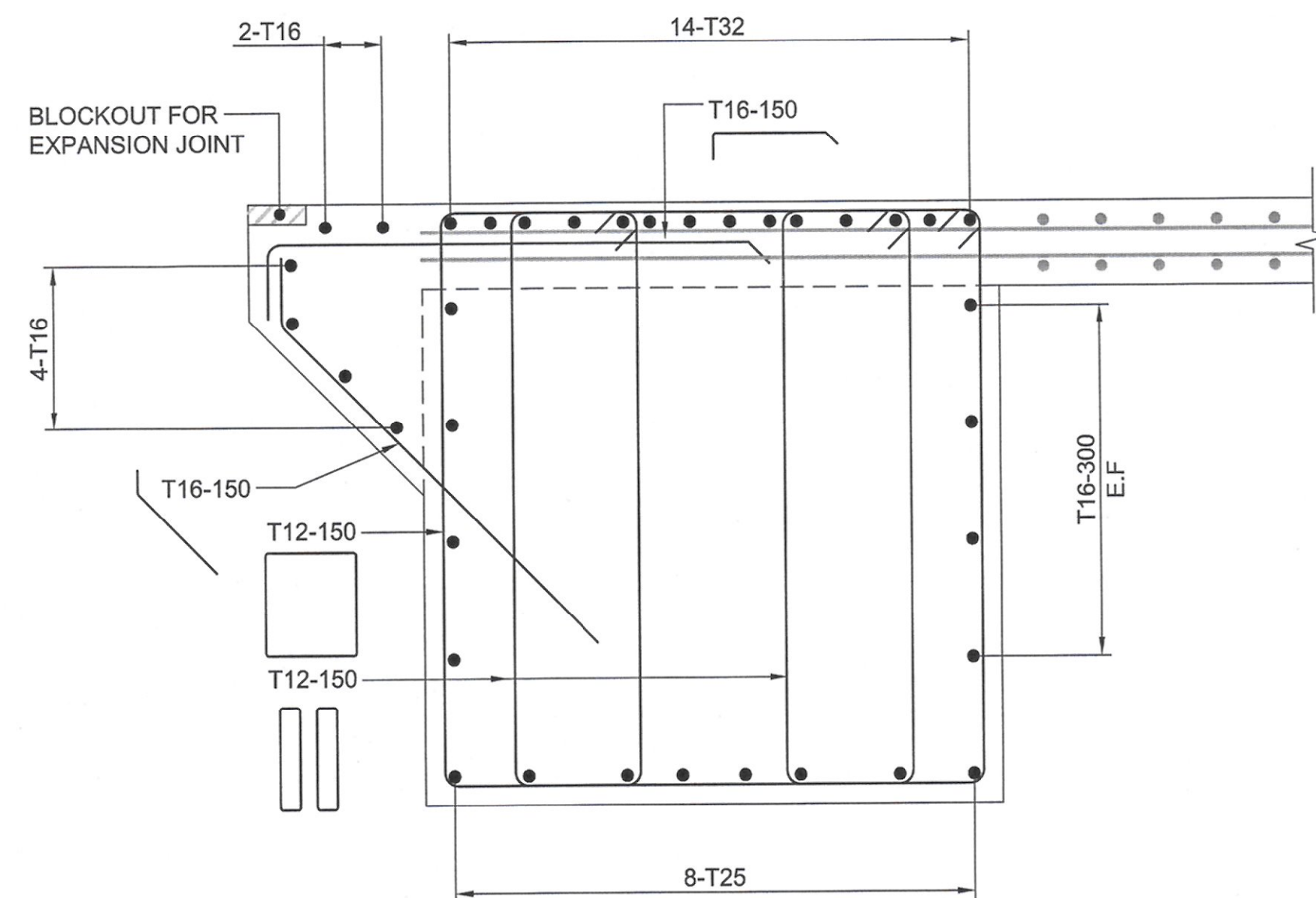




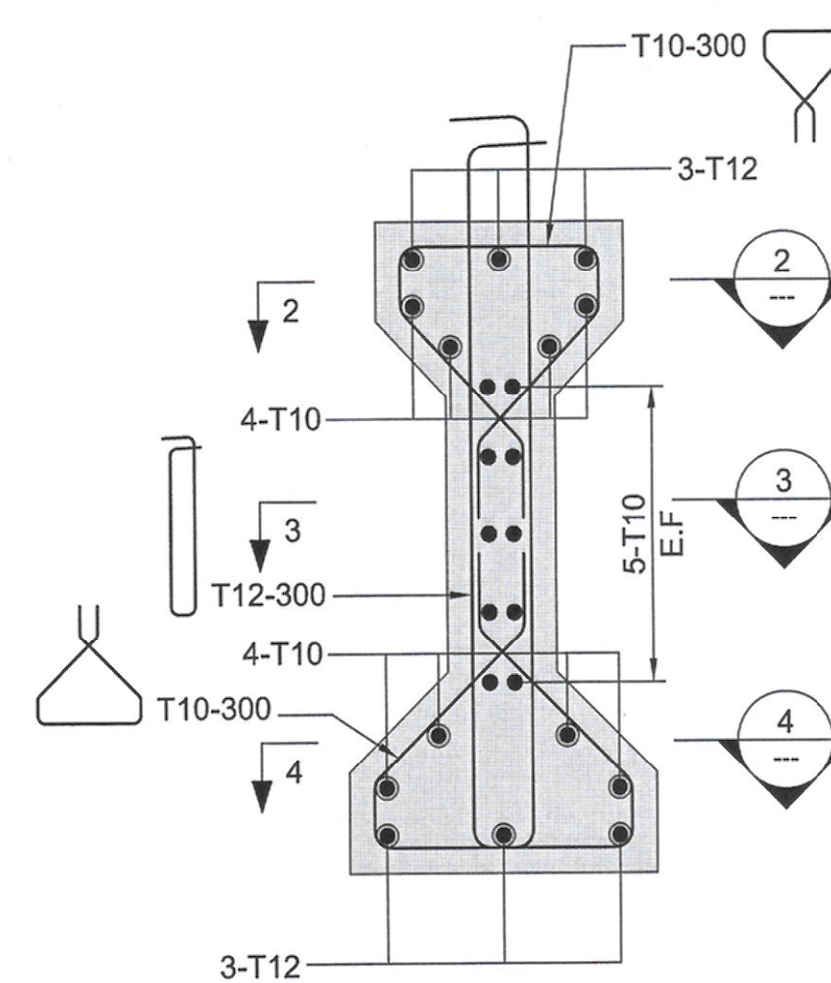
TYPICAL SECTION  
SCALE 1:30 (A1), 1:60 (A3)



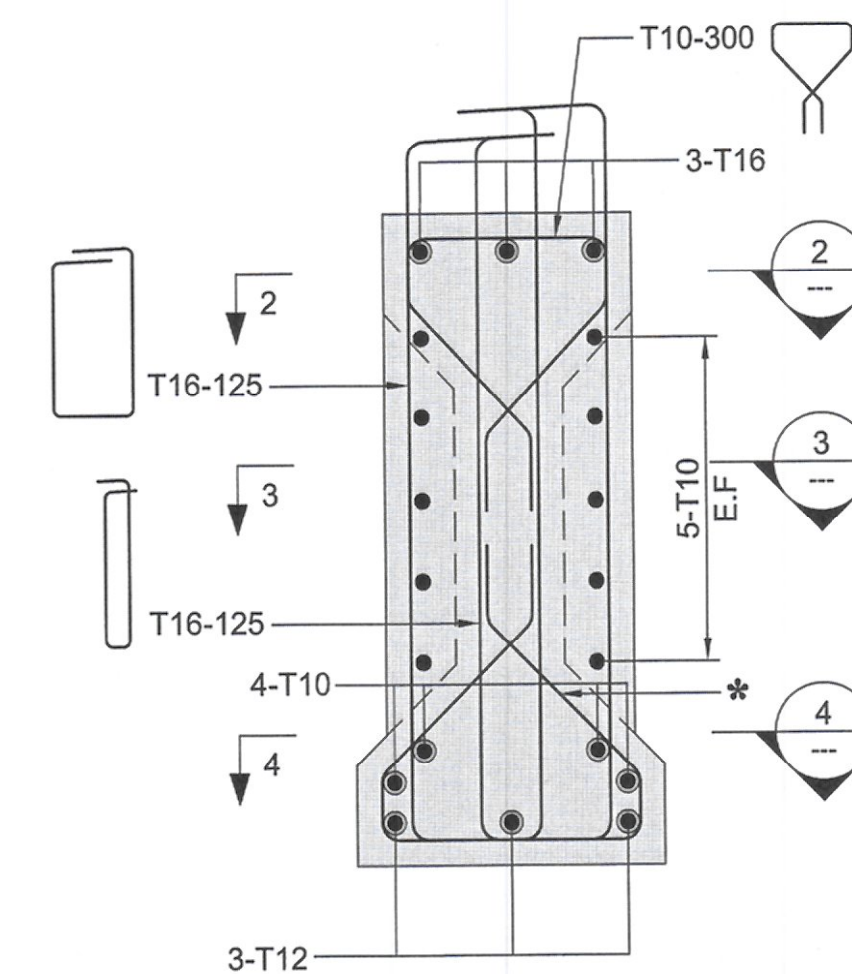
TYPICAL DIAPHRAGM SECTION  
SCALE 1:30 (A1), 1:60 (A3)



1 SECTION  
SCALE 1:15 (A1), 1:30 (A3)



PRECAST GIRDER AT MID SPAN  
SCALE 1:15 (A1), 1:30 (A3)



PRECAST GIRDER AT SUPPORT  
SCALE 1:15 (A1), 1:30 (A3)  
\* APPLICABLE AT ONLY TRANSITION AREA

CLIENT:



STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR

PROJECT:

Construction, Developing And  
Maintenance Of Roads And  
Interchanges For New Terminal Building  
In Kuwait International Airport At  
Magwa Road RA268/

CONSULTANT:



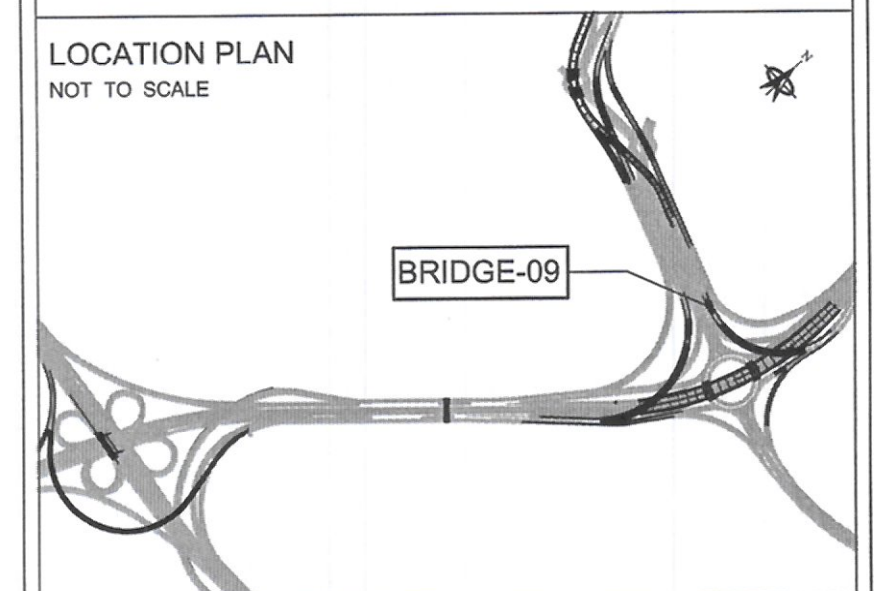
ORIENTAL CONSULTANTS  
COMPANY LIMITED

IN ASSOCIATION WITH:



Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers

LOCATION PLAN  
NOT TO SCALE



NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL NOTES, MISCELLANEOUS DRAWINGS.
- FOR LOCAL ZONE REINFORCEMENT CONTRACTOR MUST PROVIDE THE DETAILS OF REINFORCEMENT REQUIRED FOR THE APPROVED POST TENSIONING SYSTEM.
- JACK LOCATION SHALL BE PROPERLY ETCHED AT THE BOTTOM OF THE EACH DIAPHRAGM.
- ALL LAPS SHALL BE STAGGERED UNLESS NOTED OTHERWISE.



Rev. No.	Date	Description	By

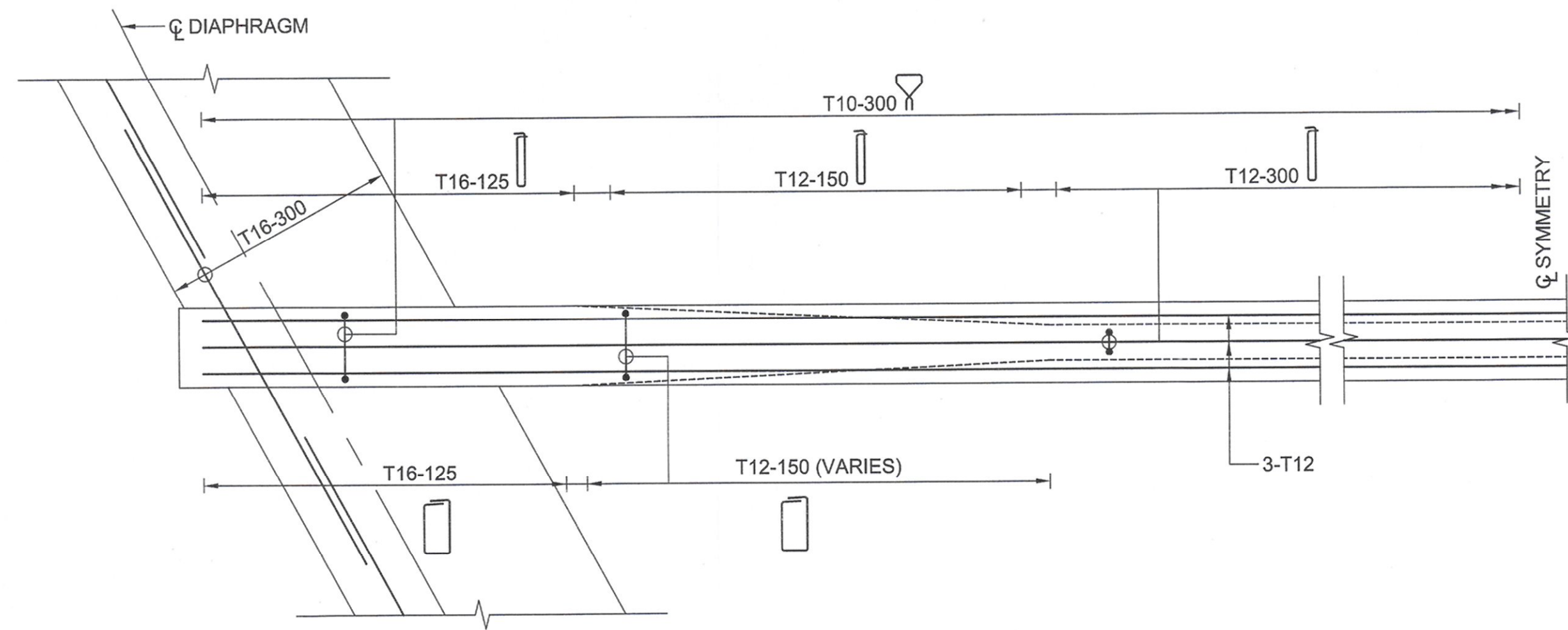
DRAWING TITLE:  
BRIDGE - 09  
SUPERSTRUCTURE  
REINFORCEMENT DETAILS (SHEET-01)

DRAWING NO: ST\_00\_BR\_0871\_01

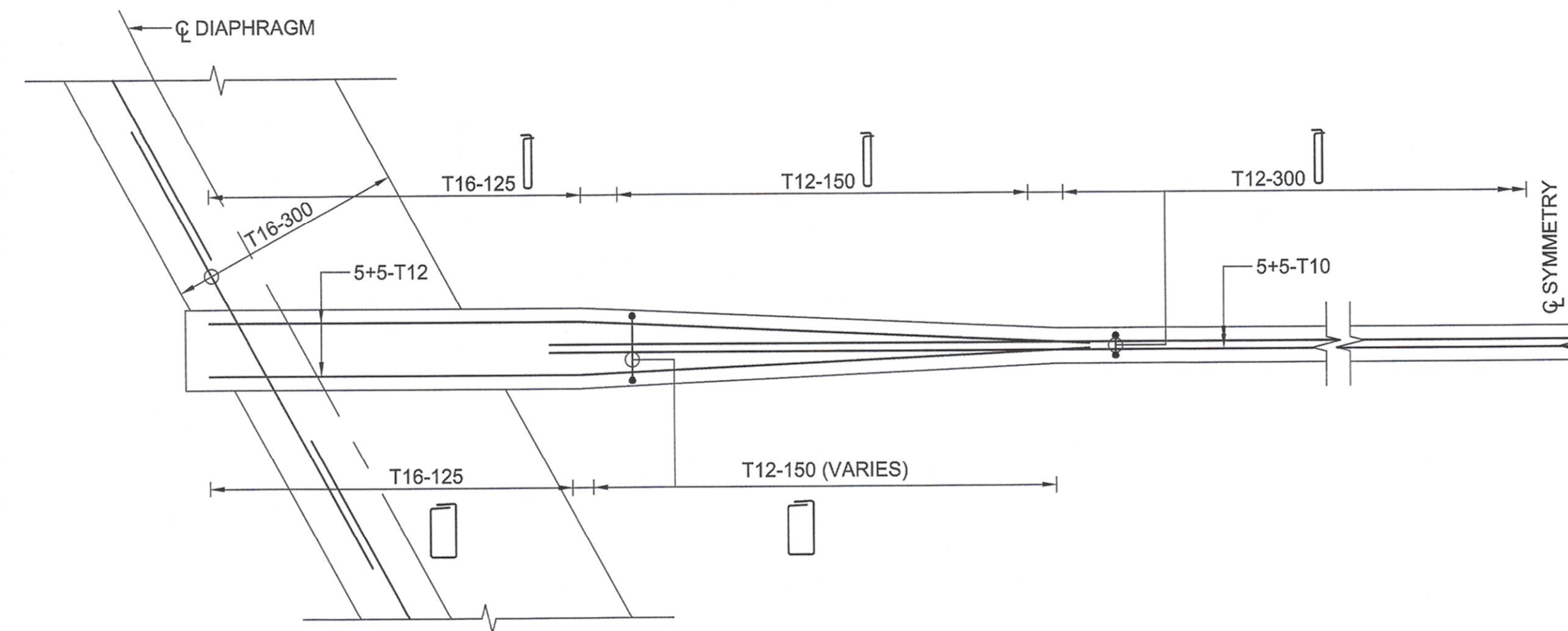
DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	AS SHOWN	A1 SCALE:	AS SHOWN
DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ

LIMAK  
İNŞAAT SANATİ VE TİCARET A.Ş.  
Halkın Şehri Halkın Halkı  
Tel: 0312 444 88 00 (10 hat)  
Ankara Kurumlar V.D. 608003463

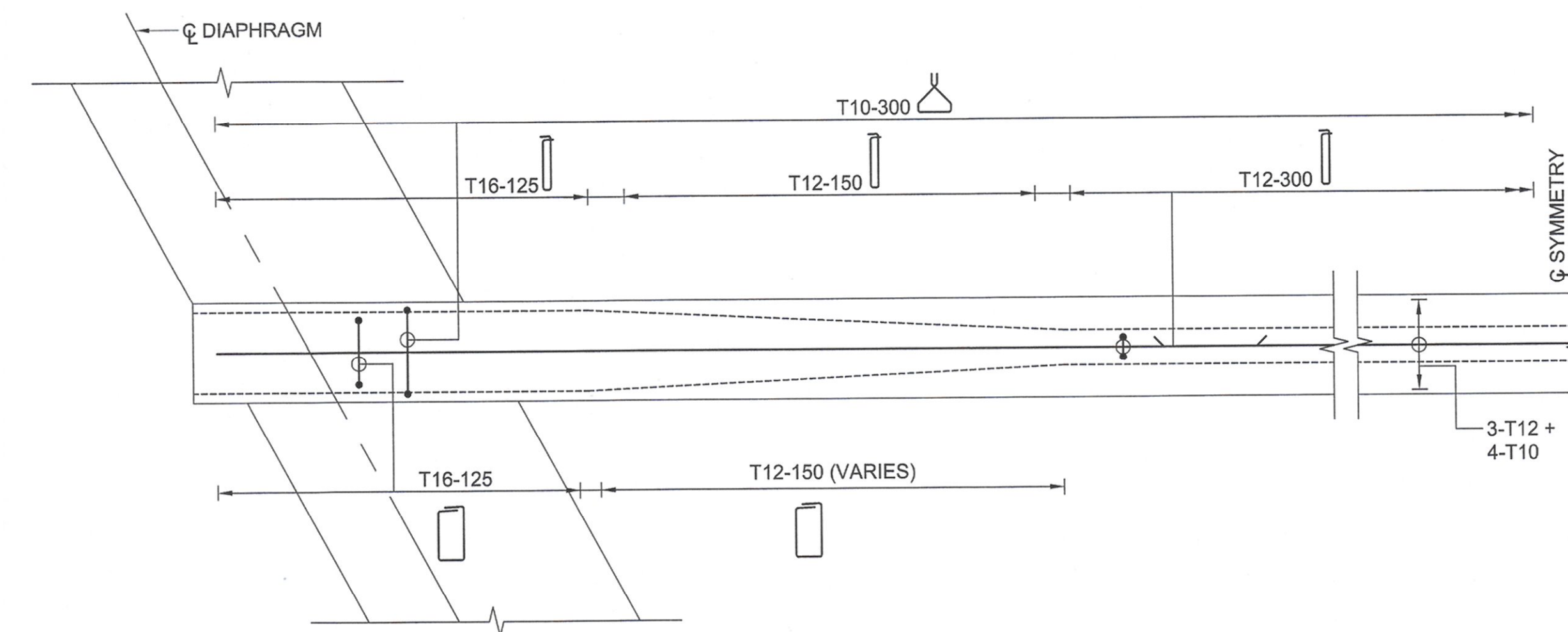




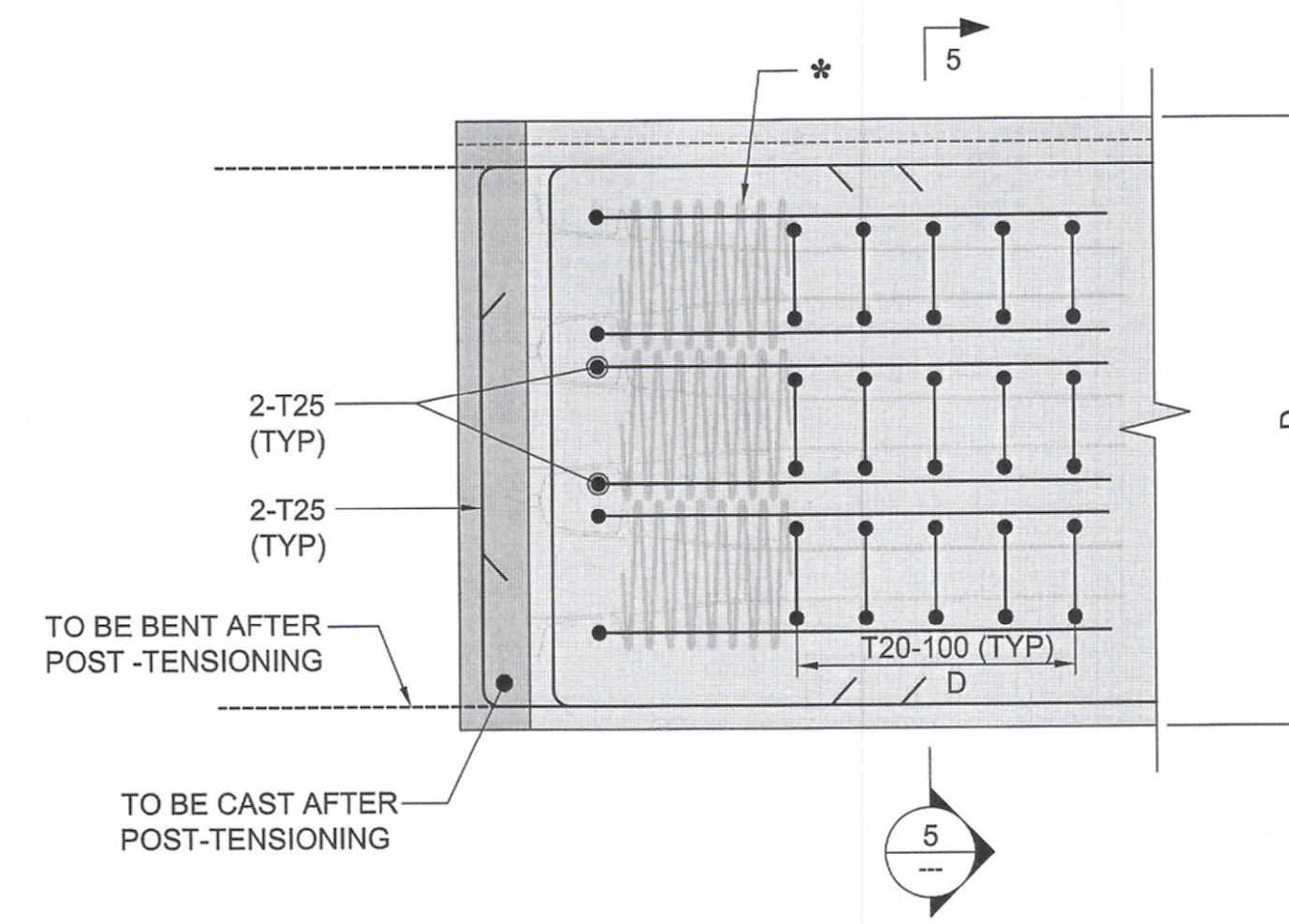
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REF. 0871\_01  
SCALE 1:30 (A1), 1:60 (A3)



3 SECTION  
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SCALE 1:30 (A1), 1:60 (A3)

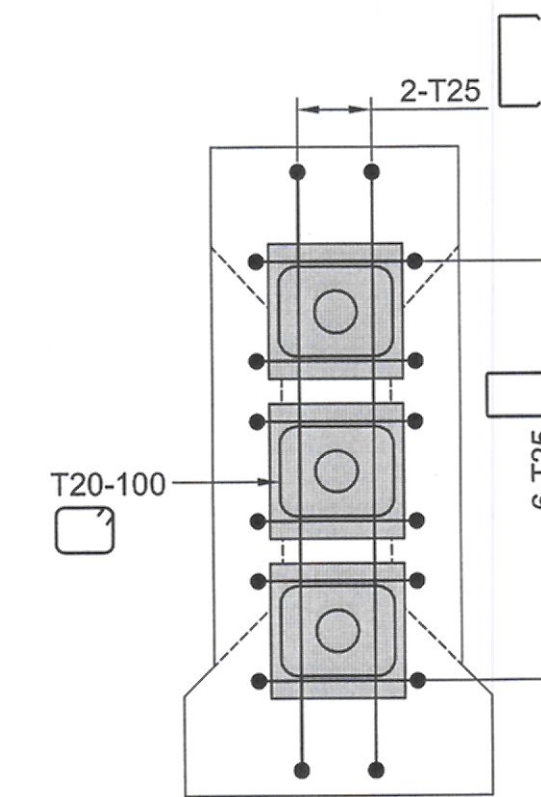


4 SECTION  
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SCALE 1:30 (A1), 1:60 (A3)

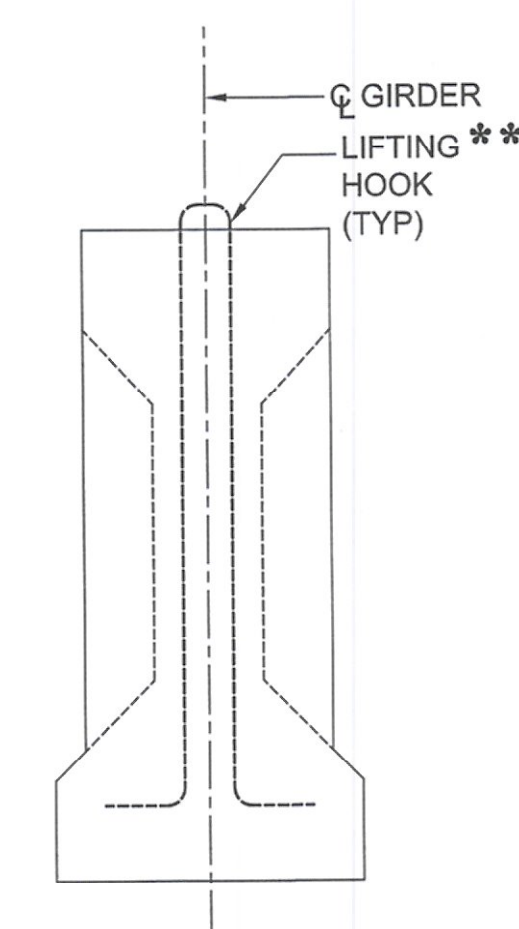


ANCHORAGE REINFORCEMENT DETAIL  
SCALE 1:15 (A1), 1:30 (A3)

\* FOR LOCAL ZONE REINFORCEMENT CONTRACTOR MUST PROVIDE THE DETAILS OF REINFORCEMENT REQUIRED FOR THE APPROVAL POST TENSIONING SYSTEM



5 SECTION  
SCALE 1:15 (A1), 1:30 (A3)



DETAILS OF LIFTING HOOK  
SCALE 1:15 (A1), 1:30 (A3)

\*\* TO BE DESIGNED AND DETAILED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL

CLIENT:



STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR

PROJECT:

Construction, Developing And Maintenance Of Roads And Interchanges For New Terminal Building In Kuwait International Airport At Magwa Road RA268/

CONSULTANT:



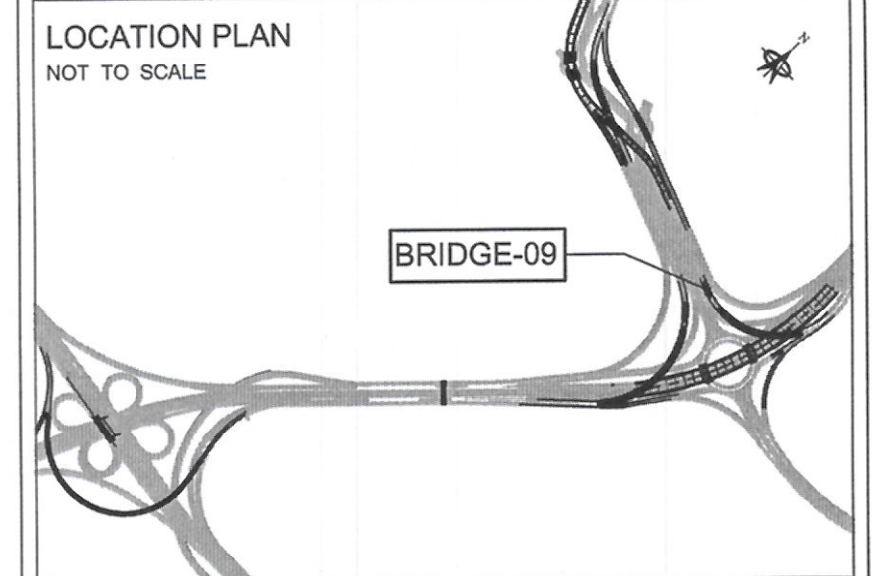
ORIENTAL CONSULTANTS  
COMPANY LIMITED

IN ASSOCIATION WITH:



Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers

LOCATION PLAN  
NOT TO SCALE



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL NOTES, MISCELLANEOUS DRAWINGS.
3. FOR LOCAL ZONE REINFORCEMENT CONTRACTOR MUST PROVIDE THE DETAILS OF REINFORCEMENT REQUIRED FOR THE APPROVED POST TENSIONING SYSTEM.
4. JACK LOCATION SHALL BE PROPERLY ETCHED AT THE BOTTOM OF THE EACH DIAPHRAGM.
5. ALL LAPS SHALL BE STAGGERED UNLESS NOTED OTHERWISE.



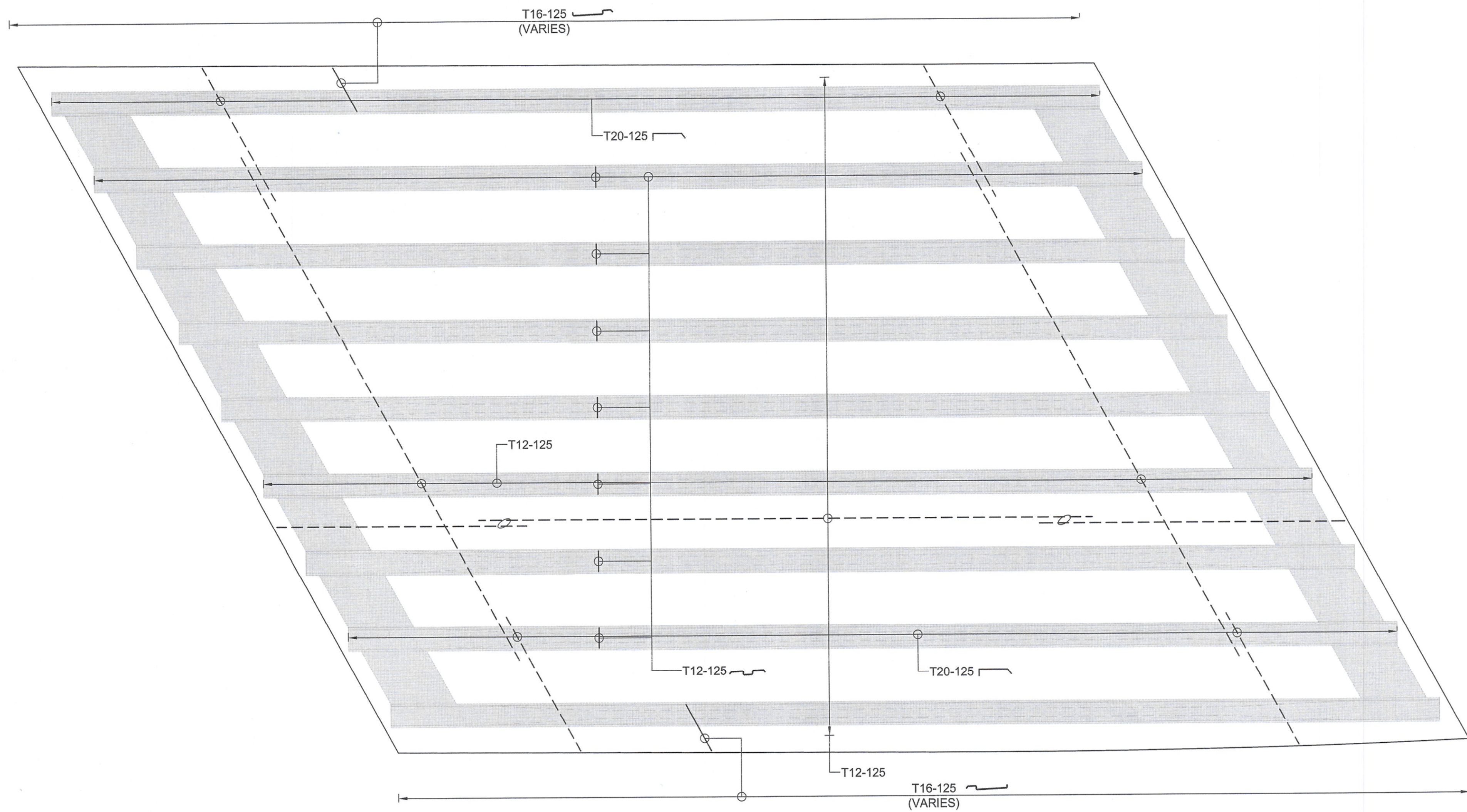

Rev. No.	Date	Description	By
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DRAWING TITLE:  
BRIDGE - 09  
SUPERSTRUCTURE  
REINFORCEMENT DETAILS (SHEET-02)

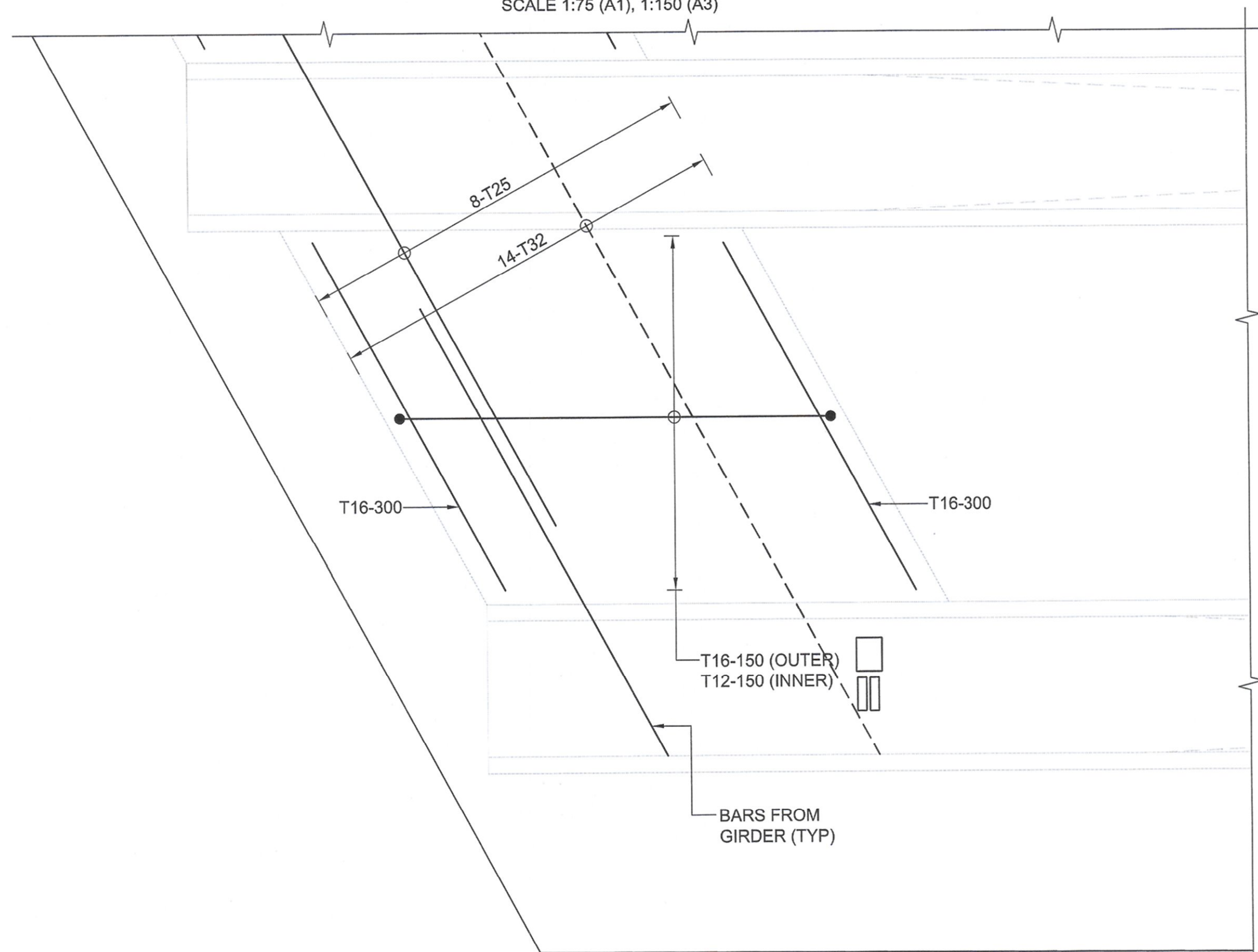
DRAWING NO: ST_00_BR_0871_02			
DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	AS SHOWN	A1 SCALE:	AS SHOWN
DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ

423 LİMAK  
İNŞAAT SANAYİ VE TİCARET A.Ş.  
Hatta Bulvarı No: 99 O.P. ANKARA  
Tel: 0312 222 88 00 / 10 Hat  
Ankara Kurumlar V.D. 080063463





TOP SLAB REINFORCEMENT PLAN  
SCALE 1:75 (A1), 1:150 (A3)



DIAPHRAGM REINFORCEMENT PLAN  
SCALE 1:15 (A1), 1:30 (A3)

CLIENT:



STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR

PROJECT:

Construction, Developing And  
Maintenance Of Roads And  
Interchanges For New Terminal Building  
In Kuwait International Airport At  
Magwa Road RA268/

CONSULTANT:



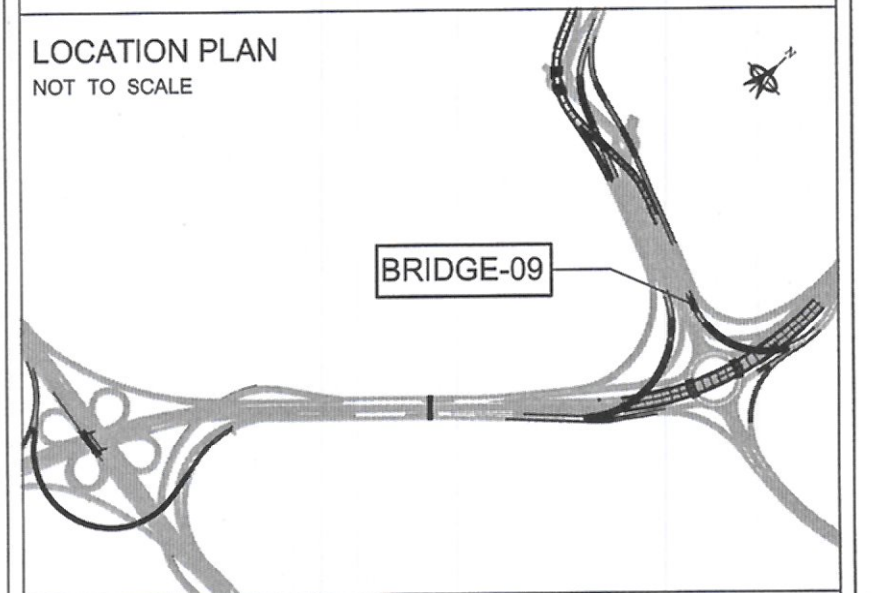
ORIENTAL CONSULTANTS  
COMPANY LIMITED

IN ASSOCIATION WITH:



Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers

LOCATION PLAN  
NOT TO SCALE



#### NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL NOTES, MISCELLANEOUS DRAWINGS.
3. FOR LOCAL ZONE REINFORCEMENT CONTRACTOR MUST PROVIDE THE DETAILS OF REINFORCEMENT REQUIRED FOR THE APPROVED POST TENSIONING SYSTEM.
4. JACK LOCATION SHALL BE PROPERLY ETCHED AT THE BOTTOM OF THE EACH DIAPHRAGM.
5. ALL LAPS SHALL BE STAGGERED UNLESS NOTED OTHERWISE.

#### LEGEND:

- TOP REINFORCEMENT  
——— BOTTOM REINFORCEMENT

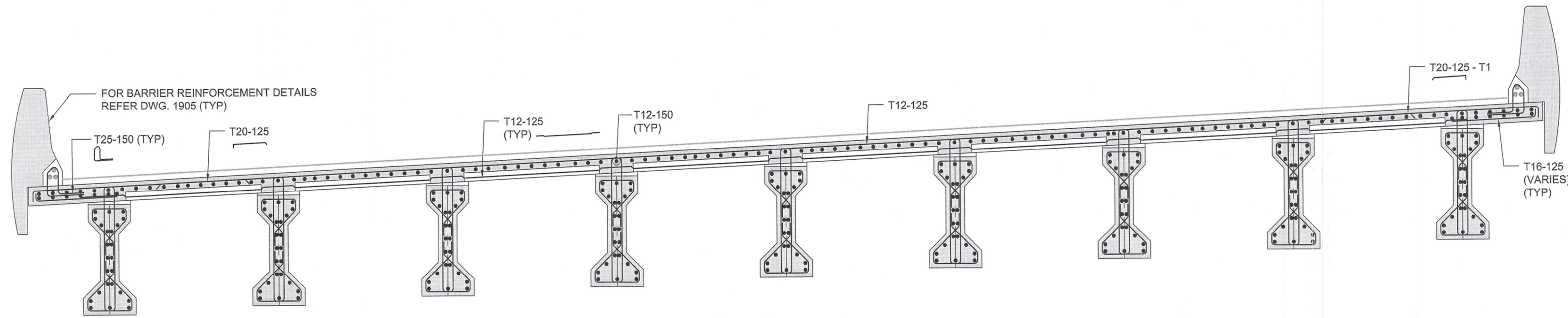



Rev. No.	Date	Description	By
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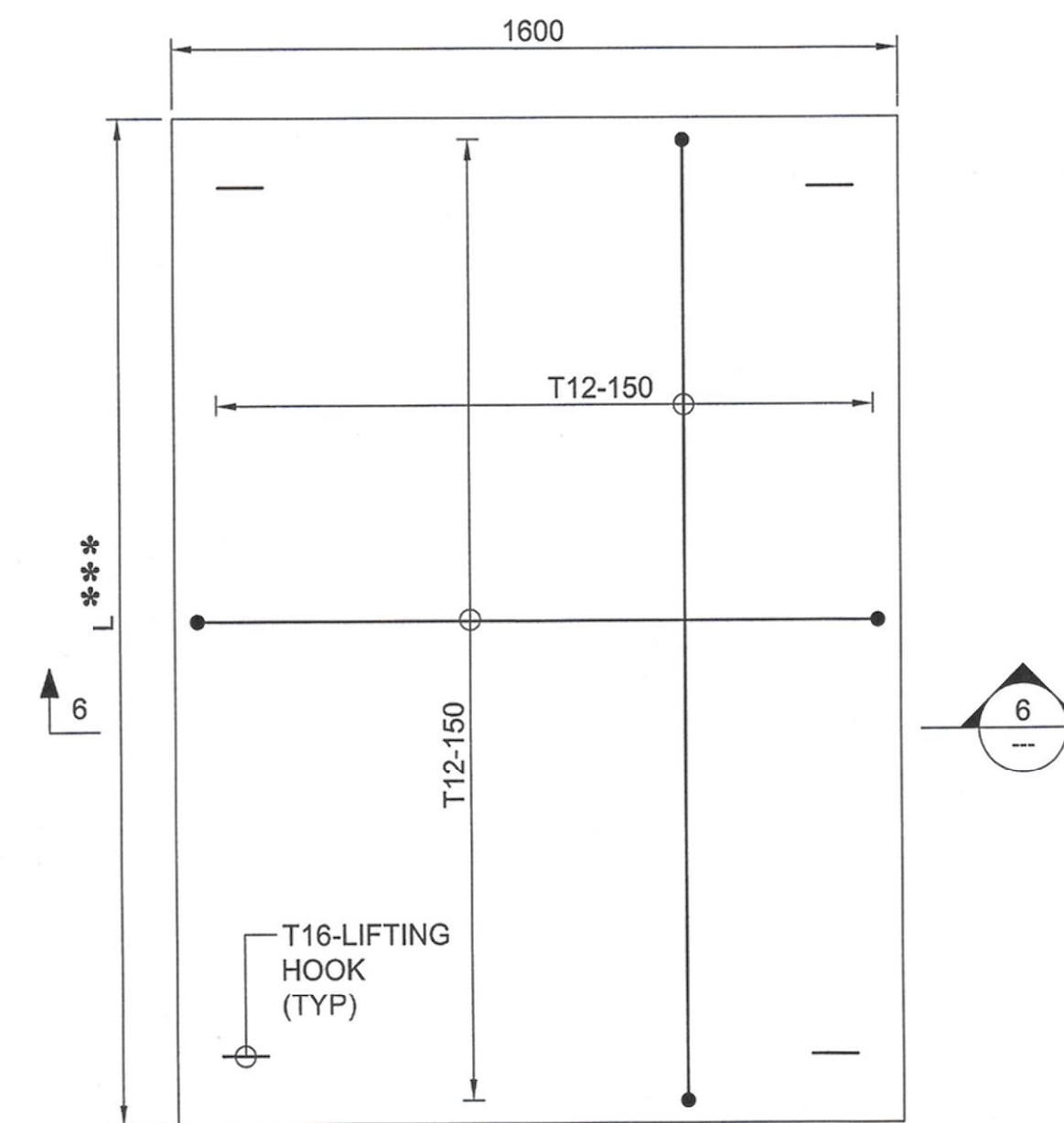
DRAWING TITLE:  
BRIDGE - 09  
SUPERSTRUCTURE  
REINFORCEMENT DETAILS (SHEET-03)

DRAWING NO: ST_00_BR_0871_03			
DATE:	NOV.14, 2016	STATUS:	FINAL
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DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ

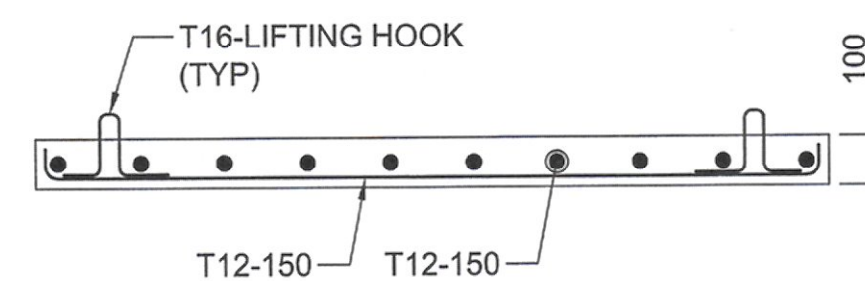




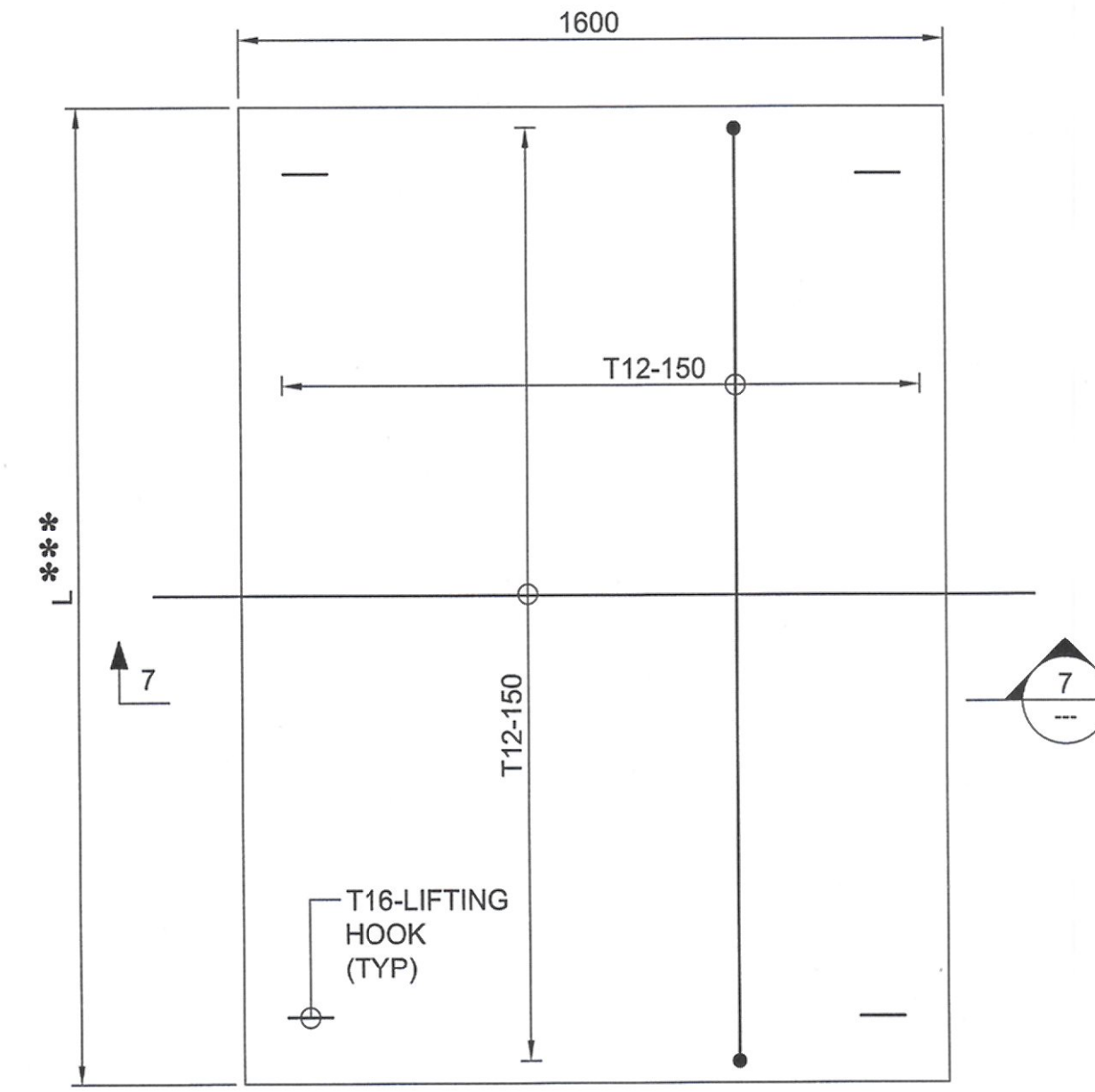
TYPICAL SECTION (ALTERNATIVE OPTION)  
SCALE 1:30 (A1), 1:60 (A3)



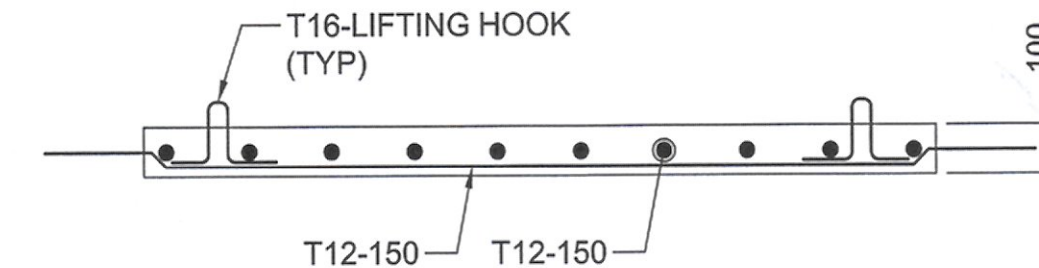
REINFORCEMENT DETAIL PRECAST SLAB  
SCALE 1:15 (A1), 1:30 (A3)  
\*\*\* LENGTH OF THE PRECAST SLAB PANEL  
SHALL BE AS PER THE SITE CONDITION



6 SECTION  
SCALE 1:15 (A1), 1:30 (A3)



REINFORCEMENT DETAIL PRECAST SLAB (ALTERNATIVE OPTION)  
SCALE 1:15 (A1), 1:30 (A3)  
\*\*\* LENGTH OF THE PRECAST SLAB PANEL  
SHALL BE AS PER THE SITE CONDITION



7 SECTION  
SCALE 1:15 (A1), 1:30 (A3)

CLIENT:



STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR

PROJECT:

Construction, Developing And  
Maintenance Of Roads And  
Interchanges For New Terminal Building  
In Kuwait International Airport At  
Magwa Road RA268/

CONSULTANT:



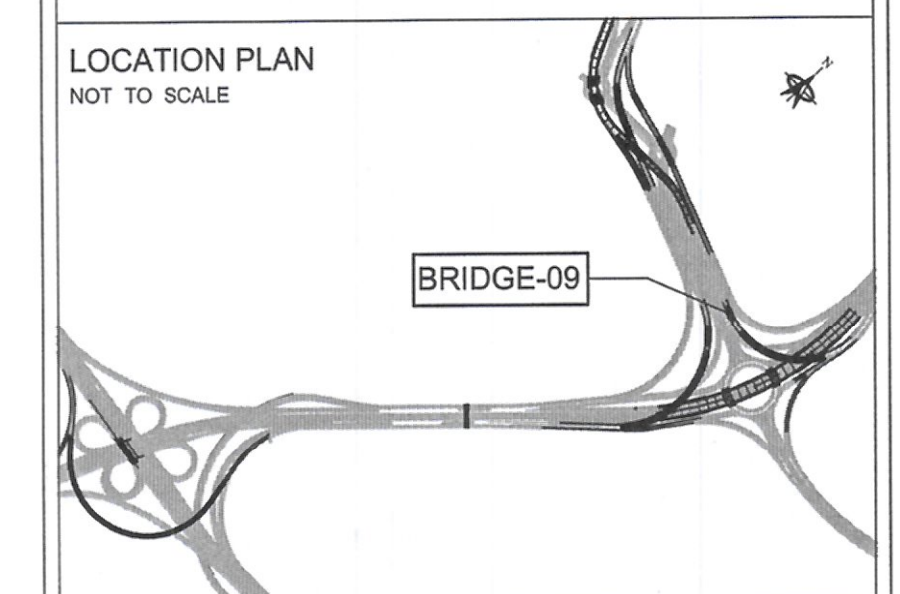
ORIENTAL CONSULTANTS  
COMPANY LIMITED

IN ASSOCIATION WITH:



Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers

LOCATION PLAN  
NOT TO SCALE



NOTES:

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- FOR LOCAL ZONE REINFORCEMENT CONTRACTOR MUST PROVIDE THE DETAILS OF REINFORCEMENT REQUIRED FOR THE APPROVED POST TENSIONING SYSTEM.
- JACK LOCATION SHALL BE PROPERLY ETCHED AT THE BOTTOM OF THE EACH DIAPHRAGM.
- ALL LAPS SHALL BE STAGGERED UNLESS NOTED OTHERWISE.
- SURFACE OF PRECAST SLAB TO BE INTENTIONALLY ROUGHENED TO 6MM.



Rev. No.	Date	Description	By

DRAWING TITLE:

BRIDGE - 09  
SUPERSTRUCTURE  
REINFORCEMENT DETAILS (SHEET-04)

DRAWING NO: ST\_00\_BR\_0871\_04

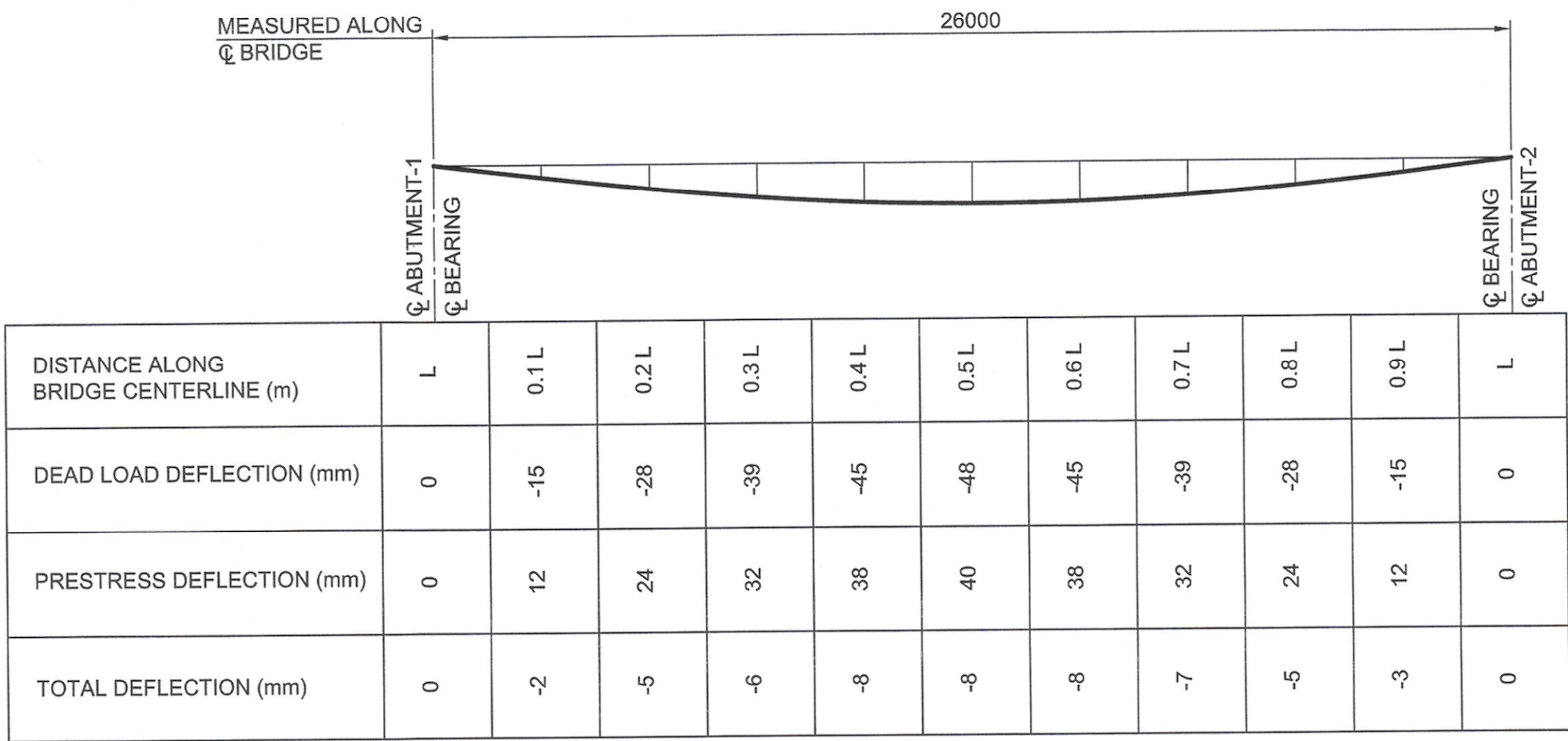
DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	AS SHOWN	A1 SCALE:	AS SHOWN
DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	SBB	APPROVED BY:	AZ

LIMAK  
İNŞAAT SANAYİ VE TİCARET A.Ş.  
Nispetiye Sokak No: 9 G.Ö. / ANKARA  
Tel: 0312 446 88 99 (10 Hat)  
Ankara Kurumlar Y.D. 6080082453

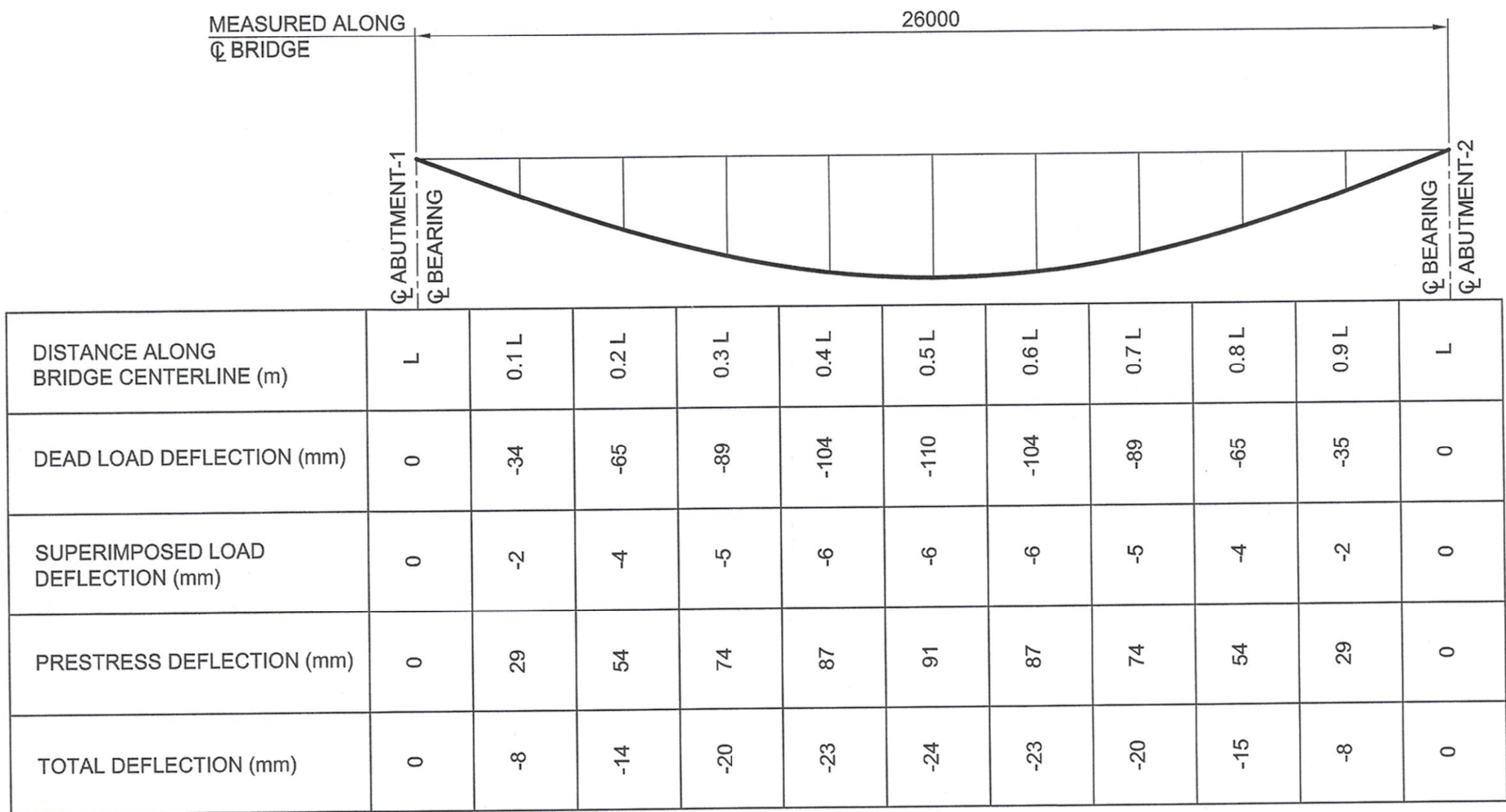




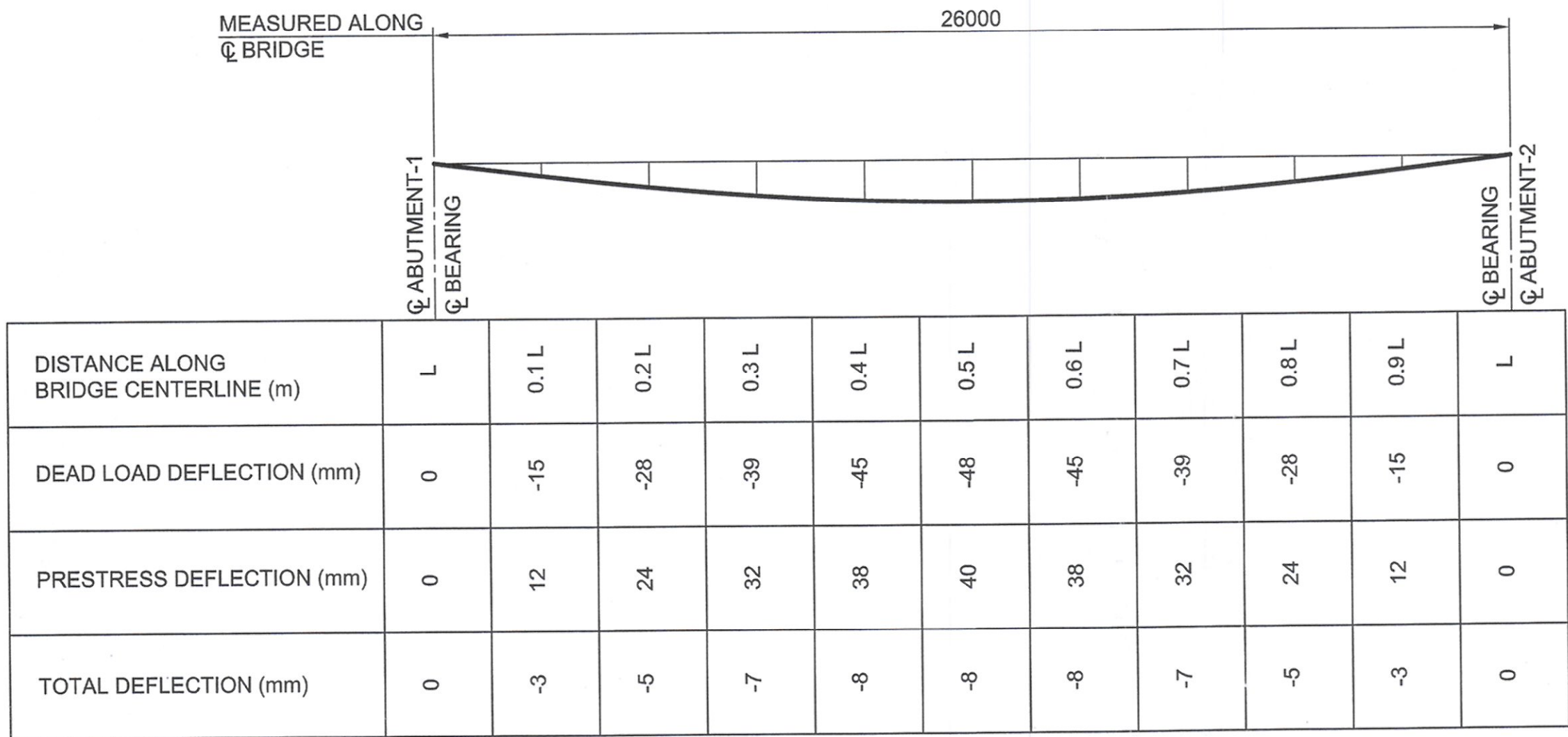




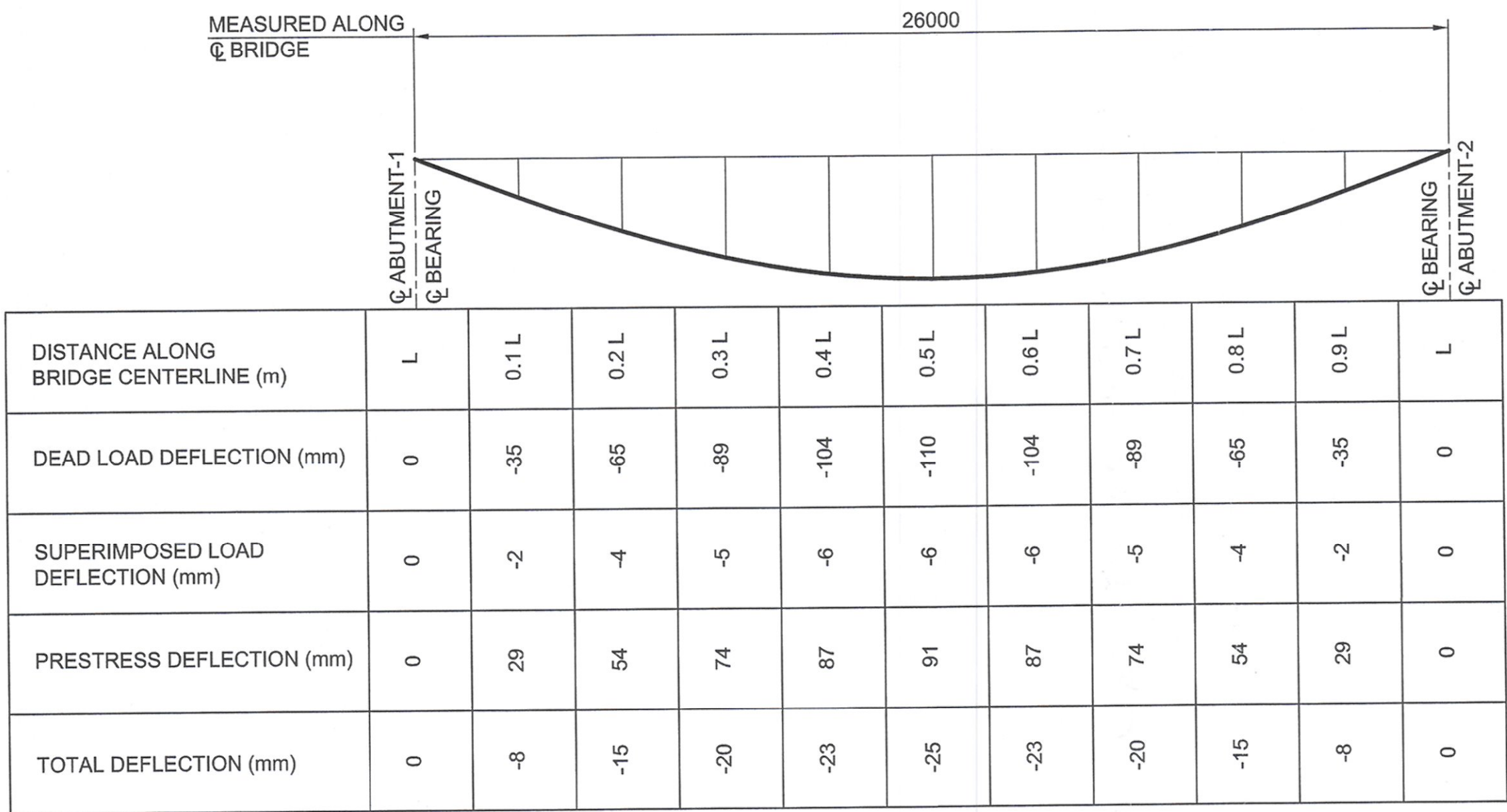
IMMEDIATE DEFLECTION (EXTERIOR GIRDER )



LONG TERM DEFLECTION (EXTERIOR GIRDER )



IMMEDIATE DEFLECTION (INTERIOR GIRDER )



LONG TERM DEFLECTION (INTERIOR GIRDER )

CLIENT:



STATE OF KUWAIT  
MINISTRY OF PUBLIC WORKS  
ROADS ENGINEERING SECTOR

PROJECT:

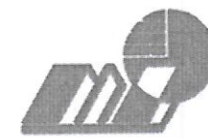
Construction, Developing And  
Maintenance Of Roads And  
Interchanges For New Terminal Building  
In Kuwait International Airport At  
Magwa Road RA268/

CONSULTANT:



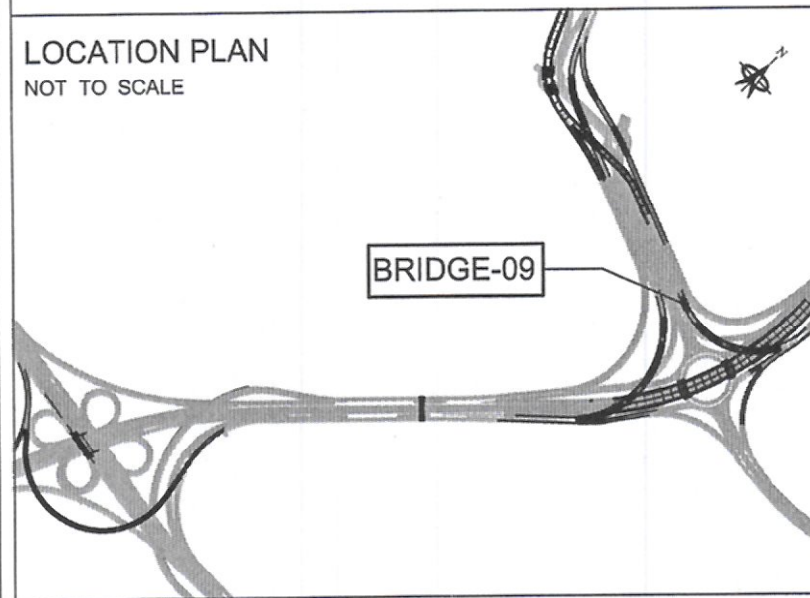
ORIENTAL CONSULTANTS  
COMPANY LIMITED

IN ASSOCIATION WITH:



Dar Al-Dowailah  
Engineering Consultants  
& Construction Managers

LOCATION PLAN  
NOT TO SCALE



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL NOTES AND MISCELLANEOUS DRAWINGS.
3. DEAD LOAD DEFLECTION INCLUDES DEFLECTION DUE TO OWN WEIGHT OF SUPERSTRUCTURE BOX GIRDER.
4. SUPERIMPOSED DEAD LOAD DEFLECTION INCLUDES DEFLECTION FROM WEARING COURSE, CONCRETE BARRIERS AND FUTURE UTILITIES.
5. CAMBER SHALL ALLOW FOR LONG TERM DEFLECTIONS DUE TO SUPERSTRUCTURE DEAD LOAD AND SUPERIMPOSED DEAD LOAD, AS WELL AS PRESTRESS DEFLECTION AND FORMWORK DEFORMATIONS IF ANY.
6. DOWNWARD DEFLECTION IS NEGATIVE.

LEGEND:

L = CORRESPONDING SPAN LENGTH



Rev. No.	Date	Description	By
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DRAWING TITLE:

BRIDGE - 09  
DEFLECTION DIAGRAM

DRAWING NO: ST\_00\_BR\_0891\_01

DATE:	NOV.14, 2016	STATUS:	FINAL
A3 SCALE:	AS SHOWN	A1 SCALE:	AS SHOWN
DESIGNED BY:	MS	CHECKED BY:	MC
DRAWN BY:	MA	APPROVED BY:	AZ

İNŞAAT SANAYİ VE TİCARET A.Ş.  
Hafsa Sokak No: 9 G.Ö.P. ANKARA  
Tel: 0312 446 88 88 ( 10 HAT )  
Ankara Kurumlar V.D. 6060063463