

GENERAL NOTES

1. REFER TO DRG M-BAR-000DS0-CB00-EDR-990004 TO 990006 FOR GENERAL STRUCTURAL NOTES.
2. REFER TO DRG M-BAR-000DS0-CB00-EDR-990007 FOR ABBREVIATIONS.
3. REFER TO THE STRUCTURAL CALCULATION PLAN FOR GENERAL STRUCTURAL DESIGN PRINCIPLES.
4. FACADE STRUCTURE DRAWINGS TO BE READ WITH ALL OTHER CONTRACT DRAWINGS.
5. REFER TO DRGS M-BAR-1F4TS0-CB00-EDR-204005 TO 204039 FOR KEY PLANS OF FACADE STEELWORK CONNECTIONS TO PRIMARY CONCRETE STRUCTURE.
6. REFER TO DRGS M-BAR-1F4TS0-CB00-EDR-204100 TO 20103 FOR KEY ELEVATIONS OF FRAMING AND MEMBER SCHEDULES FOR FACADE STEELWORK.
7. REFER TO DRGS M-BAR-1F4TS0-CB00-EDR-204150 TO 20153 FOR KEY ELEVATIONS CONNECTIONS AND CONNECTION SCHEDULES FOR FACADE STEELWORK.
8. REFER TO DRGS M-BAR-1F4TS0-CB00-EDR-204352 FOR DESIGN CONSIDERATIONS FOR CONSTRUCTION OF FACADE STEELWORK.
9. REFER TO DRGS M-BAR-1F4TS0-CB00-EDR-204300 & 204301 FOR SUMMARY OF KEY MOVEMENTS AND TOLERANCES OF FACADE STEELWORK FRAMING.
10. REFER TO DRG M-BAR-1F4TS0-CB00-EDR-204351 FOR ASSUMED ERECTION SEQUENCE. OF FACADE STEELWORK FRAMING.
11. REFER TO M-BAR-1F4TS0-CB00-EDR-31XXXX, 32XXXX, 34XXXX, 35XXXX, 39XXXX, 40XXXX SERIES FOR CONCRETE DRAWINGS.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ALL TEMPORARY WORKS, INCLUDING TEMPORARY STABILITY, AS NECESSARY FOR THE ERECTION OF THE FACADE STEELWORK STRUCTURE.

CONNECTIONS

1. THE STEEL CONTRACTOR IS TO DESIGN ALL FACADE STEELWORK CONNECTIONS, INCLUDING SLIDING BEARINGS, BASED ON THE MEMBER FORCES GIVEN IN THESE DRAWINGS AND CALCULATIONS M-BAR-1F4TS0-ECA-000009.
2. THE STEEL CONTRACTOR IS TO EVALUATE, AND INCLUDE FOR, ANY ADDITIONAL CONNECTION FORCES ARISING AS A RESULT OF BEING LOCKED IN BY DIFFERENTIAL THERMAL EFFECTS OR SEQUENCE OF CONSTRUCTION DURING ERECTION.
3. CONNECTION DESIGN BY THE CONTRACTOR IS TO INCLUDE COORDINATION OF ALL SECONDARY STEELWORK AND FIXINGS AT THE INTERFACES WITH ARCHITECTURAL FACADE ELEMENTS.
4. THE FACADE STRUCTURE DESIGN IS BASED ON MOMENT CONNECTIONS UNO.
5. ALL MOMENT AND TRUSS CONNECTIONS ARE TO BE NON-SLIP, REQUIRING CORROSION PROTECTION APPLICATION PROCEDURES AS NOTED FOR THE PARENT MEMBERS. STIFFNESS OF SPLICES MUST MATCH THAT OF PARENT MEMBER.
6. ALL CAST-IN PLATES, BRACKETS AND BASE PLATES TO BE Z GRADE Z35 TO BS EN 10164:2004.
7. ALL STEELWORK TO HAVE SUFFICIENT CHARPY ENERGY ABSORPTION SUB GRADE FOR TEMPERATURE RANGE GIVEN ON DRAWING 204351.
8. ANY SPLICE LOCATIONS SHOWN ON THESE DRAWINGS ARE INDICATIVE ONLY. THE CONTRACTOR IS TO DETERMINE THE SPLICE LOCATIONS TO SUIT MEANS AND METHODS.
9. STEELWORK AND CLADDING MUST NOT IMPEDE ON ZONE OF BME OPERATION.

CORROSION PROTECTION

- ALL FACADE STEELWORK IS TO BE CORROSION PROTECTED BY GALVANISING WITH A MINIMUM THICKNESS OF 85 MICRON METERS.
2. 100% OF FACADE STEELWORK TO BE SUBJECTED TO A POST GALVANIZED VISUAL INSPECTION FOR LIQUID METAL ASSISTED CRACKING. THE RESULTS OF POST-GALVANIZING INSPECTION SHALL BE RECORDED. THESE RECORDS SHALL BE MADE AVAILABLE TO THE ENGINEER ON REQUEST. IF EVIDENCE OF CRACKING IS IDENTIFIED, THEN THE COMPONENT AND ALL SIMILARLY SHAPED COMPONENTS FABRICATED WITH SIMILAR MATERIALS AND WELD DETAILS SHALL BE IDENTIFIED AND QUARANTINED AS NON-CONFORMING PRODUCTS. A PHOTOGRAPHIC RECORD OF THE CRACKING SHALL BE MADE AND MAGNETIC PARTICLE TESTING SUFFICIENT TO ESTABLISH THE SCOPE AND ORIGIN OF THE PROBLEM SHALL BE UNDERTAKEN. THE RESULTS SHALL BE SUBMITTED TO THE ENGINEER. QUARANTINED COMPONENTS MAY ONLY BE REPAIRED FOR USE IN THE WORKS WITH THE AGREEMENT OF THE ENGINEER.
3. THE STEELWORK CONTRACTOR SHALL PROVIDE VENT AND DRAINAGE HOLES IN HOLLOW COMPONENTS AS LAID DOWN IN BS EN ISO 14713, AND SHALL ALLOW FOR SUBSEQUENT SEALING.
4. THE TOTAL OF THE INITIAL IMPERFECTIONS FOR EACH MEMBER INCLUDING ANY DISTORTIONS GENERATED BY THE GALVANIZING PROCESS ARE NOT TO EXCEED L/430, WHERE L IS THE LENGTH OF THE MEMBER.
5. NON-SLIP BOLTED SPLICES ARE TO BE PROTECTED USING THERMAL ALUMINIUM SPRAY WITH:
 - SURFACE PREPARATION: SSPC SPS WHITE METAL BLAST CLEANING.
 - ALUMINIUM THICKNESS: 5-7mil.
6. WHERE EXTERNAL PAINTING IS REQUIRED THE PAINT SYSTEM SHALL BE SUPPLIED TO MEET 10 YEAR PERFORMANCE TO FIRST MAINTENANCE. FOR COLOUR OF FINISH COATS IN EXPOSED AREAS REFER TO ARCHITECT'S SCHEDULES.

CONSTRUCTION

1. THE CONTRACTOR IS TO ASSESS ANY PRE-SET AND TEMPERATURE MITIGATION STRATEGY REQUIRED.
2. THE CONTRACTOR IS TO MITIGATE AGAINST THE EFFECTS OF LONG-TERM BASE SLAB DEFLECTIONS BY INSTALLING JACKS UNDER BASE PLATES AS SHOWN DURING CONSTRUCTION OF THE FAÇADE. EXPECTED MOVEMENTS AND DESIGN FORCES ARE PROVIDED ON THE DRAWINGS BASED ON THE CONSTRUCTION PROGRAMME RECEIVED ON 22 JULY 2016. THE CONTRACTOR IS TO MONITOR ACTUAL MOVEMENTS ON SITE AND ASSESS THE DESIGN MOVEMENTS AND FORCES AGAINST THE MONITORED MOVEMENTS, THE CONSTRUCTION PROGRAMME AND THE CONTRACTOR'S METHODOLOGY.

[illegible]

PROJECT

قطار الرياض
riyadh metro

CLIENT

الهئية العامة
لتطوير مدينة الرياض

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BACS APPROVAL

This drawing has been Approved and Certified as acceptable on behalf of the BACS Consortium.

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| | NAME |
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| | SCALE | PAPER SIZE A1 |
| DRAWING STATUS | | |
| ISSUED FOR CONSTRUCTION | | |
| CONSULTANT / SUB-CONTRACTOR | | |
| ARUP | | |
| DRAWN BY | CHECKED BY | APPROVED BY |
| NAME J. WILLSHIRE | NAME E. ALLSOP | NAME J. BATCHELOR |
| DATE 23.03.2018 | DATE 23.03.2018 | DATE 23.03.2018 |

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| DRAWING TITLE | |
| DEEP UNDERGROUND STATION LINE 1 - TRANSFER STATION 1F4 STRUCTURE FACADE SUPPORT STEELWORK GENERAL NOTES | |
| DRAWING NUMBER | REVISION |
| M-BAR-1F4TS0-CB00-EDR-204002 | 000 |