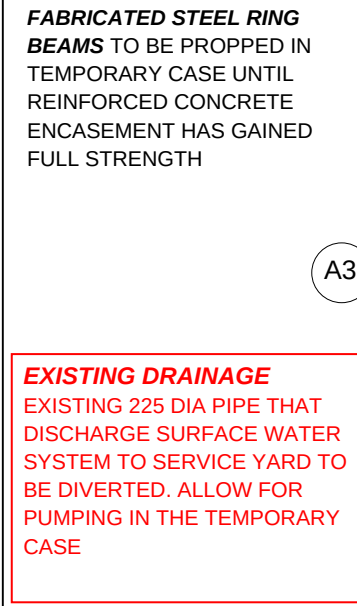




HIGH LEVEL PROPOSED PROPPING PLAN

1:200

SERVICE YARD LOADING RESTRICTIONS FOR TEMPORARY WORKS
THE CURRENT MAXIMUM LOAD CAPACITY OF THE SERVICE YARD ARCH
STRUCTURE HAS NOT BEEN DETERMINED. THIS ASSESSMENT HAS NOT BEEN
COMPLETED. AT THIS STAGE ASSUME THAT LOADING ON THE ARCH IS TO BE
LIMITED A MAXIMUM LOAD $\leq 100\text{ kN/m}^2$ AND THAT GROSS VEHICLE WEIGHTS
ARE LIMITED TO 20 TONNE, WITH A MAXIMUM AXLE LOAD OF 8 TONNE AND
WHEEL LOAD OF 5 TONNE. THE ALLOWABLE LOADINGS ARE TO BE
DETERMINED BY THE EMPLOYER USING DESIGN SOFTWARE ON A CASE BY CASE
BASIS AND ARE SUBJECT TO DETAILED ANALYSIS TO DEMONSTRATE THAT
THE ARCHES WILL NOT BE OVERSTRESSED.
ALL EXCAVATED MATERIAL IS TO BE REMOVED FROM THE SERVICE YARD
LEVEL IN THE TEMPORARY CASE AND STOCKPILING IS NOT PERMITTED.
THE CONTRACTOR IS TO BE RESPONSIBLE FOR UNDERTAKING THE DESIGN OF A
SUITABLE PLAN TO ENSURE THAT THE VADIAC STRUCTURE IS NOT
OVERLOADED.

INFORMATION TO BE CONFIRMED BY CONTRACTOR

IT IS RECOMMENDED THAT PRIOR TO UNDERTAKING THE TECHNICAL DESIGN OF THE TEMPORARY WORKS THE FOLLOWING INFORMATION IS CONFIRMED:

- PROFILE AND CONSTRUCTION TO THE TOP OF THE MASONRY ARCHES (REFER TO SECOND STAGE SITE INVESTIGATION TO SERVICE YARD THAT IS TO BE UNDERTAKEN)
- DETAILED CCTV DRAINAGE SURVEY OF SERVICE YARD DRAINAGE
- EXISTING ARCH MATERIAL PROPERTIES AND CONSTRUCTION

**HIGH LEVEL PROPPING BETWEEN POINTED ARCH
SKEWBACKS** TO PREVENT ARCHES LIFTING DURING
FILL REMOVAL AND VEHICLE LOADING ON ADJACENT
ARCHES. PROPPING AND WALING SYSTEM TO BE
DESIGNED BY TEMPORARY WORKS ENGINEER TO
ENSURE THE FOLLOWING APPROXIMATE AXIAL FORCES:
QC = 975 kNm PIER WIDTH
QK = 200 kNm/m PIER WIDTH
HYDRAULIC PROPS TO BE ADOPTED WITH LOAD AND
MOVEMENT MONITORING BY SPECIALIST SUPPLIER.
THIS IS TO ENSURE PROP LOADS AND MOVEMENT OF
ARCHES IS CAREFULLY CONTROLLED AS THE LOADS ON
THE ARCHES ARE LOCALLY REMOVED AND THEN
REDIRECTED TO ALLOW THE FORMATION OF OPENING.
LOADINGS GIVEN ARE APPROXIMATE AND TO BE
VERIFIED BY TEMPORARY WORKS DESIGNER
FOLLOWING INTRUSIVE INVESTIGATIONS TO CONFIRM
ARCH BACKING CONSTRUCTION

STAGE	ACTIVITY
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1. INSTALL MOVEMENT AND MONITORING EQUIPMENT WITHIN ARCHES TO SPECIALIST TEMPORARY WORKS DESIGNERS DETAILS.
2. DIVERT SERVICE YARD SURFACE WATER DRAINAGE SYSTEM TO AVOID NEW ARCH OPENING WORKS. DETAILS TBC FOLLOWING CCTV SURVEY OF SERVICE YARD AND ACCESS ROAD DRAINAGE
3. INSTALL PROPPING AND INSTALL TOWER CRANE OPENING, INCLUDING ASSOCIATED EDGE AND VEHICLE IMPACT PROTECTION MEASURES. NOTE PROPPING TO REMAIN IN PLACE UNTIL CRANE VOID IN ARCH HAS BEEN FULLY REINSTATED
4. INSTALL FIRST PHASE OF PROPPING, SADDLE BEAMS AND 'PYNFORD' STOOLS AND FORM NEW COLUMN OPENINGS. SEQUENCE TO BE HIT/MISS/HIT TO REDUCE RISK OF DAMAGE AND DESTABILISING OF GRADE II LISTED VIADUCT ARCHES
5. INSTALL SECOND PHASE OF PROPPING, SADDLE BEAMS AND 'PYNFORD' STOOLS AND FORM NEW COLUMN OPENINGS.
6. CONSTRUCT SOUTHERN HALF COLUMNS AND 2ND FLOOR TRANSFER LEVEL. REFER TO SEPARATE OUTLINE CONSTRUCTION METHODOLOGY



SERVICE YARD PART PLAN

1:200

- 7** INSTALL THIRD PHASE OF PROPPING, SADDLE BEAMS AND 'PYNFORD' STOOLS AND FORM NEW COLUMN OPENINGS. ALSO INSTALL PROPPING, NEEDLING AND STEEL RING BEAMS TO FORM CORE OPENING.
- 8** INSTALL FOURTH PHASE OF PROPPING, SADDLE BEAMS AND 'PYNFORD' STOOLS AND FORM NEW COLUMN OPENINGS.
- 9** INSTALL FINAL PHASE OF PROPPING, SADDLE BEAMS AND 'PYNFORD' STOOLS AND FORM NEW COLUMN OPENINGS.
- 10** CONSTRUCT CORE, NORTHERN HALF COLUMNS AND REMAINDER OF 2ND FLOOR TRANSFER LEVEL. REFER TO SEPARATE OUTLINE CONSTRUCTION METHODOLOGY

ALL PROPPING AND ASSOCIATED TEMPORARY WORKS IS TO BE TO THE TEMPORARY WORKS DESIGNERS DESIGN AND DETAIL AND TO BE AGREED WITH THE PRINCIPAL CONTRACTORS TEMPORARY WORKS CO-ORDINATOR

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE PRINCIPAL CONTRACTORS TEMPORARY WORKS BRIEF AND ASSOCIATED DOCUMENTATION.
2. THIS DRAWING PROVIDES AN OUTLINE CONSTRUCTION METHODOLOGY TO FORM THE PERMANENT ARCH OPENINGS. THE PRINCIPAL CONTRACTOR, RELEVANT SUB-CONTRACTORS AND ASSOCIATED TEMPORARY WORKS DESIGNERS, ARE TO REVIEW THE OUTLINE CONSTRUCTION METHODOLOGY AND SATISFY THEMSELVES THAT THE WORKS ARE BUILDABLE AND CAN BE UNDERTAKEN IN A SAFE MANNER, PRIOR TO COMMENCING THE WORK. THE SUB-CONTRACTORS AND TEMPORARY WORKS DESIGNER ARE TO NOTIFY THE PRINCIPAL CONTRACTORS TEMPORARY WORKS CO-ORDINATOR IF AMENDMENTS ARE REQUIRED TO SUIT SITE CONSTRAINTS OR INSTALLATION FOR APPROVAL AND PRIOR TO INCORPORATION INTO THEIR DESIGN AND INSTALLATION WORKS.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MONITORING OF THE TEMPORARY WORKS AND UNDERTAKING THEIR OWN INSPECTIONS. ALL WORKS ARE ALSO TO BE REVIEWED, MANAGED AND INSPECTED BY THE PRINCIPAL CONTRACTORS TEMPORARY WORKS CO-ORDINATOR. THE INSPECTION REGIME IS TO BE IN ACCORDANCE WITH THE PRINCIPAL CONTRACTORS TEMPORARY WORKS CO-ORDINATORS REQUIREMENTS.
4. THE PRINCIPAL CONTRACTORS TEMPORARY WORKS CO-ORDINATOR IS TO SATISFY THEMSELVES THAT CONTRACTORS UNDERTAKING THE WORKS AND TEMPORARY WORKS DESIGNERS ARE SUITABLY QUALIFIED AND EXPERIENCED IN UNDERTAKING WORKS OF THE NATURE SHOWN.
5. ALL TEMPORARY WORKS ARE TO BE IN ACCORDANCE WITH THE LATEST EDITION OF BS5975.
6. THE CATEGORY OF CHECKING FOR EACH TEMPORARY WORKS ITEM IS TO BE AGREED BETWEEN THE PRINCIPAL CONTRACTORS TEMPORARY WORKS CO-ORDINATOR AND TEMPORARY WORKS DESIGNER PRIOR TO UNDERTAKING THE DESIGN.
7. THE LOADS PROVIDED ON THE OUTLINE CONSTRUCTION METHODOLOGY DRAWING ARE APPROXIMATE ONLY AND FOR OUTLINE COSTING PURPOSES ONLY. DETAILED LOADINGS ARE TO BE DERIVED BY THE TEMPORARY WORKS DESIGNER AS PART OF THEIR TECHNICAL DESIGN FOR THE TEMPORARY WORKS ITEMS.

P01	PRELIMINARY FOR REVIEW	29.05.20	PC	KG
Rev:	Description:	Date:	By:	Chkd:



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MANCHESTER

Drawing Title:

**TOWER ARCH OPENING WORKS PLAN
OUTLINE CONSTRUCTION
METHODOLOGY**

RIBA STAGE 3

Size: A1	Date: 29.05.20	Drawn by: PC	Designed by: -	Checked by: KG
Scale: 1:200		Project No: 1910-12		

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