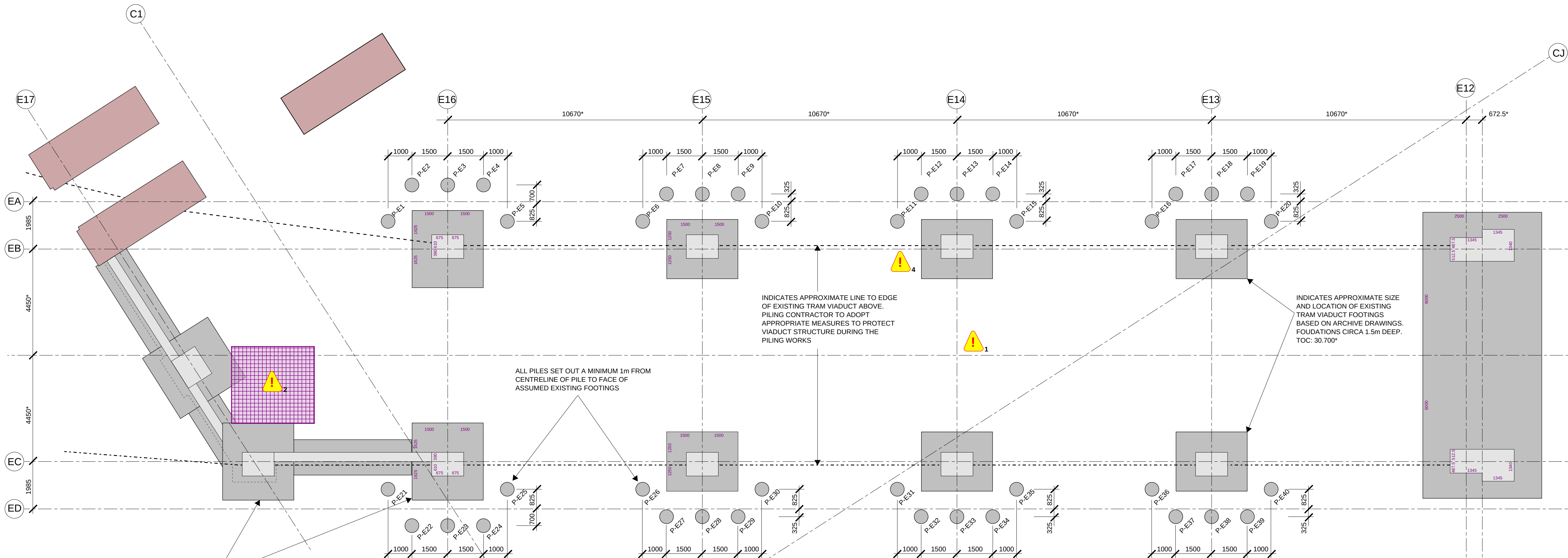
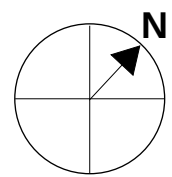




EXISTING FOUNDATION LOCATION AND SIZES ON GRIDLINE E16 & E17 AND FOOTING TO RC WALLS ARE INDICATIVE ONLY DUE TO LACK OF ARCHIVE INFORMATION. SIZES ARE TO BE CONFIRMED ON SITE

ALL PILES SET OUT A MINIMUM 1m FROM CENTRELINE OF PILE TO FACE OF ASSUMED EXISTING FOOTINGS

INDICATES APPROXIMATE LINE TO EDGE OF EXISTING TRAM VIADUCT ABOVE. PILING CONTRACTOR TO ADOPT APPROPRIATE MEASURES TO PROTECT VIADUCT STRUCTURE DURING THE PILING WORKS

INDICATES APPROXIMATE SIZE AND LOCATION OF EXISTING TRAM VIADUCT FOOTINGS BASED ON ARCHIVE DRAWINGS. FOUNDATIONS CIRCA 1.5m DEEP. TOC: 30.700*

HEALTH & SAFETY NOTES:

- EXISTING TRAM VIADUCT STRUCTURE, WITH OVERHEAD ELECTRIFIED LINES, IS TO REMAIN OPERATIONAL DURING THE PROPOSED WORKS. THE MAIN CONTRACTOR AND SPECIALIST CONTRACTORS ARE TO UNDERTAKE APPROPRIATE RISK ASSESSMENTS AND UNDERTAKE ALL WORKS IN ACCORDANCE WITH METHOD STATEMENTS APPROVED BY TGM
- EXISTING SUBSTATION TO REMAIN OPERATIONAL DURING THE PROPOSED WORKS UNLESS AGREED OTHERWISE WITH ENWL. THE MAIN CONTRACTOR AND SPECIALIST CONTRACTORS ARE TO UNDERTAKE APPROPRIATE RISK ASSESSMENTS AND UNDERTAKE ALL WORKS IN PROXIMITY TO THE SUBSTATION IN ACCORDANCE WITH METHOD STATEMENTS APPROVED BY ENWL
- VIBRATION AND MOVEMENT MONITORING IS REQUIRED DURING THE WORKS WITHIN THE ARCHES AND IN CLOSE PROXIMITY TO THE TRAM VIADUCT. SCOPE OF MONITORING TO EXISTING TRAM VIADUCT TO BE AGREED WITH TGM
- RISK OF STRIKING SERVICES AND OBSTRUCTIONS DURING PILING WORKS AND SUBSTRUCTURE WORKS. THE CONTRACTOR IS TO SCAN AND PROOF DIG ALL PILE LOCATIONS AND MAKE AN ALLOWANCE FOR CORING THROUGH OBSTRUCTIONS

GENERAL NOTES:

- REFER TO DRAWING V12-REN-00-XX-DR-S-00010 FOR GENERAL NOTES.
- PILE WORKS ARE TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ICE SPECIFICATION FOR PILING AND EMBEDDED RETAINING WALLS, AND THE RENAISSANCE PILING SPECIFICATION.
- ALL PILES TO BE DESIGNED AS 'PINNED' HEAD UNLESS AGREED OTHERWISE WITH THE ENGINEER.
- WHERE PILES ARE IN CLOSE PROXIMITY TO EXISTING FOUNDATIONS THE PILE CONTRACTOR IS TO ALLOW FOR THE EXISTING STRESSES WITHIN THE GROUND AND ADJUST THEIR PILE DESIGN AND ASSOCIATED PILE LENGTHS ACCORDINGLY.
- WHERE PILES ARE IN CLOSE PROXIMITY TO EXISTING FOUNDATIONS THE PILING CONTRACTOR IS TO ASSESS THE RISK OF THE PILE BORE UNDERMINING THE ADJACENT FOUNDATIONS. IF DEEMED NECESSARY TO MANAGE THE RISK THE PILING CONTRACTOR IS TO SLEEVE THE PILE TO MAINTAIN THE STABILITY OF THE GROUND DURING THE PILING WORKS.

KEY

- INDICATES 600mm DIAMETER PILE TO PILING CONTRACTORS DESIGN AND DETAIL. FOR STAGE 3 ALLOW FOR:
- AXIAL LOAD: 4,200kN (SWL)
 - HORIZONTAL LOAD: 100kN (SWL)
- ALSO ALLOW FOR ACCIDENTAL LOAD CASE OF:
- AXIAL LOAD: 4,200kN (SWL)
 - HORIZONTAL LOAD: 200kN (SWL)
- DETAILED LOADINGS TBC AT RIBA STAGE 4

PILE GROUP SETTLEMENT ANALYSIS & MAXIMUM SETTLEMENTS

THE PILING CONTRACTOR IS TO UNDERTAKE A PILE GROUP SETTLEMENT ANALYSIS FOR ALL PILE WITHIN THE VIADUX PHASE 2 DEVELOPMENT, TO DEMONSTRATE THAT SETTLEMENT OF THE EXISTING TRAM VIADUCT FOUNDATIONS AND EXISTING GRADE II LISTED VIADUCT ARE WITHIN ACCEPTABLE LIMITS. WHERE REQUIRED THE PILING CONTRACTOR IS TO ADJUST PILE LENGTHS TO ACHIEVE THE SETTLEMENT LIMITS AND/OR ADVISE ON ALTERATIONS TO THE PILING CONFIGURATION.

THE FOLLOWING MAXIMUM PERMITTED SETTLEMENTS OF THE EXISTING VIADUCTS ARE PROPOSED.

TRAM VIADUCT	TOTAL: 7.5mm MAX DIFFERENTIAL: 4.5mm (D = L/2000)
GRADE II VIADUCT	TOTAL: 9mm MAX DIFFERENTIAL: 9mm (Δ = L/1000)

FOUNDATIONS SETTLEMENT LIMITS FOR THE EXISTING TRAM VIADUCT ARE INDICATIVE AT THIS STAGE AND SUBJECT TO TGM APPROVAL

WORKS ADJACENT TO TGM TRAM VIADUCT

ALL WORKS ADJACENT TO THE TRAM VIADUCT ARE SUBJECT TO TGM APPROVAL. THE SPECIALISTS CONTRACTORS (PILING, RC FRAME, PRECAST CONCRETE FRAME, CLADDING CONTRACTOR, STEELWORK FABRICATOR, CLADDING CONTRACTOR ETC.) ARE TO ALLOW FOR DEVELOPING THE CONSTRUCTION METHODOLOGY IN COLLABORATION WITH THE MAIN CONTRACTOR AND TO PROVIDE THE MAIN CONTRACTOR WITH RISK ASSESSMENT, METHOD STATEMENTS AND OTHER MATERIAL THAT MAY BE REQUESTED TO FACILITATE OBTAINING TGM APPROVAL.

THE MAIN CONTRACTOR IS TO ALLOW FOR LEADING THE SPECIALIST CONTRACTORS. LIAISON WITH TGM AND ALLOWING SUFFICIENT TIME IN THE DEVELOPMENT AND CONSTRUCTION PROGRAMME FOR TGM APPROVAL PRIOR TO COMMENCEMENT OF WORKS.

SUBJECT TO TGM APPROVAL ELEMENTS OF WORK ADJACENT TO THE TRAM VIADUCT MAY HAVE TO BE UNDERTAKEN WITH RESTRICTIONS AND OUTSIDE NORMAL WORKING HOURS. WHEN DEVELOPING THE CONSTRUCTION METHODOLOGY THE SPECIALIST CONTRACTORS AND MAIN CONTRACTOR ARE TO INVESTIGATE AND IMPLEMENT WORKING METHODS OR DETAILING THAT MINIMISE THE EXTENT OF RESTRICTED WORKING WHERE PRACTICALLY FEASIBLE.

EXISTING TRAM VIADUCT FOUNDATIONS & INVESTIGATIONS

THE EXISTING TRAM VIADUCT STRUCTURE AND SETTING OUT INDICATED ON THE DRAWINGS IS INDICATIVE AND BASED ON LIMITED AVAILABLE ARCHIVE INFORMATION. ALL SETTING OUT AND CRITICAL DIMENSIONS ARE SUBJECT TO DETAILED SITE SURVEY AND SHOULD BE CHECKED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORKS AND FABRICATION. THE PILING CONTRACTOR IS TO ALLOW FOR PROBING OF PILE LOCATIONS TO VERIFY THE PROPOSED LOCATIONS ARE CLEAR OF EXISTING FOUNDATIONS.

IF OBSTRUCTIONS ARE ENCOUNTERED AT PILE LOCATIONS ADDITIONAL PROBING SHOULD BE UNDERTAKEN TO CONFIRM THE EXTENT OF OBSTRUCTIONS TO ALLOW ALTERNATIVE PILE LOCATIONS TO BE INVESTIGATED AND RESOLVED OR CORING TO BE UNDERTAKEN.

RIBA STAGE 3

ALL STRUCTURAL SIZES ARE INDICATIVE TO ALLOW FOR SPATIAL CO-ORDINATION (RIBA STAGE 3) AND OUTLINE COSTING BY THE PROJECT QUANTITY SURVEYOR AND CONTRACTOR. ALL STRUCTURAL SIZES AND REINFORCEMENT RATES ARE INDICATIVE AT THIS STAGE AND ARE SUBJECT TO CONFIRMATION AND ALTERATION AS THE STAGE 4 (TECHNICAL DESIGN) IS COMPLETED.

A DESIGN CONTINGENCY OF 10-15% IS RECOMMENDED TO ALLOW FOR DESIGN DEVELOPMENT DURING RIBA STAGE 4 (TECHNICAL DESIGN) AND INPUT CONTRACTOR DESIGNED PACKAGES.

P01	STAGE 3	01.11.21	PK	KG
Rev:	Description:	Date:	By:	Chkd:



Project:
**VIADUX PHASE II,
MANCHESTER**

Drawing Title:
**TRAM ENCAPSULATION
PILE PLAN**

Status:
RIBA STAGE 3

Size:	Date:	Drawn by:	Designed by:	Checked by:
A1	01.11.21	PK	PK	KG

Scale:	1:100	Project No:	2102-09
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Project:	Originator:	Volume:	Level:	Type:	Rate:	Category/Number:	Rev:
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V12-REN-EE-FN-DR-S-01080-P01