



BURY INTERCHANGE
APPROVAL IN PRINCIPLE
IRS-SC-004 - FOOTBRIDGE

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0 INTRODUCTION

0.1 Report Context

The contents of this report provide the relevant details and information for the technical approval (TA) of the footbridge.

The report captures those aspects of the Bury Interchange development requiring TA. The sections presented herein are formatted in line with the informative reference examples within Highways Structures and Bridges General Information Publication: - *CG300 Technical Approval of Highway Structure (formerly BD 2/12 Version 0.1.0)*.

0.2 Project Description

Bury Interchange is located on the periphery of the Town Centre on the site of the former bus station. Located to the south of the town centre the project encompasses several components as part of the new integrated transport interchange.

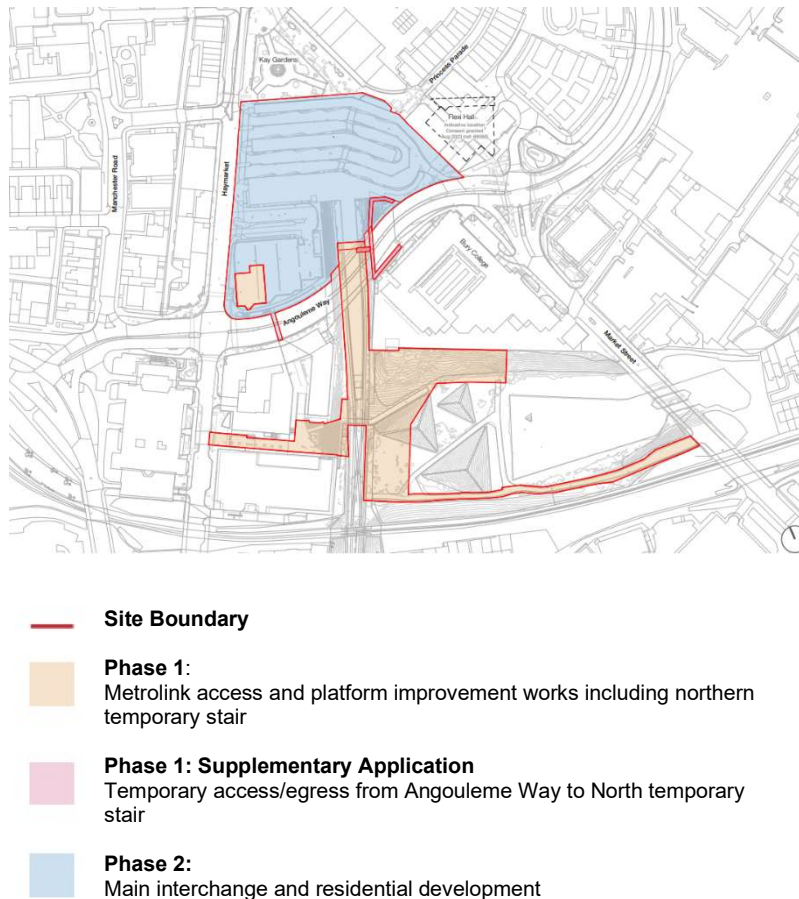


Figure 0.2.1 - Bury Interchange Overview



Figure 0.2.2 – Phase 1 Bury Footbridge
(Visual by Hawkins Brown Architects)

The new interchange will provide modern bus and coach facilities, and improved connectivity with the Metrolink tram provision which already existing. The tram platform facilities will be improved for both staff and passengers with refurbished canopy and platforms and a new passenger access and egress to the south of the station via a passenger bridge, accessed via a new staircase and lift and providing connectivity to Pyramid Park to the East and Union Square to the West.

The scheme comprises of several distinct components with the aspiration to provide an integrated public transport response providing passengers with an enhanced travel experience on tram, bus, coach and bicycle.

The development has been split into two phases with specific features in each:

- **Phase 1**
 - Metrolink Underpass Infill
 - Temporary Staircase from platform to A58
 - Footbridge
 - Pedestrian Access to Pyramid Park
 - New drainage network
- **Phase 2**
 - New Bus & Coach Interchange
 - Vertical Transport Connection from Metrolink Platform to Interchange
 - New Bus and coach apron
 - Improved offsite access and egress for buses and coaches from apron.
 - New drainage network

In addition to the interchange itself, a new residential building will occupy the north-eastern corner of the development.

0.3 TA Structures List & Location

The following structures are deemed to require TA (Covered by this report in **bold**): -

- AiP1 IRS-SC-001 Metrolink Underpass Infill
(Metrolink Approval)
 - Asset Reference = BRYXXX
 - Renaissance Report Number: - 16012-REN-BRY-XX-RP-S-30001
 - Location = See Figure 0.3.1
- AiP2 IRS-SC-002 Pedestrian Vertical Transportation
(Metrolink & Highways Authority Approval)
 - Asset Reference = BRYYYY
 - Renaissance Report Number: - 16012-REN-BRY-XX-RP-S-30002
 - Location = See Figure 0.3.1
- AiP3 IRS-SC-003 Temporary Staircase to Metrolink Platform
(Metrolink & Highways Authority Approval)
 - Asset Reference = BRYZZZ
 - Renaissance Report Number: - 16012-REN-BRY-XX-RP-S-30003
 - Location = See Figure 0.3.1
- **AiP4 IRS-SC-004 Footbridge**
(Metrolink Approval)
 - **Asset Reference = BRYAAA**
 - **Renaissance Report Number: - 16012-REN-BRY-XX-RP-S-30004**
 - **Location = See Figure 0.3.1**
- ~~• AiP5 IRS-SC-005 Trackside Retaining Walls
(Metrolink & Highways Authority Approval)~~
 - ~~○ Asset Reference = BRYBBB~~
 - ~~○ Renaissance Report Number: - 16012-REN-BRY-XX-RP-S-30005~~
 - ~~○ Location = See Figure 0.3.1~~ (Not required at this time)
- AiP6 IRS-SC-006 Premier Inn Subway Infill & Demolition of parapets on Angouleme Way
(Metrolink & Highways Authority Approval)
 - Asset Reference = BRYCCC
 - Renaissance Report Number: - 16012-REN-BRY-XX-RP-S-30006
 - Location = See Figure 0.3.1
- AiP7 IRS-SC-007 Platform Canopy Remedials
(Metrolink & Highways Authority Approval)
 - Asset Reference = BRYDDD
 - Renaissance Report Number: - 16012-REN-BRY-XX-RP-S-30007
 - Location = See Figure 0.3.1

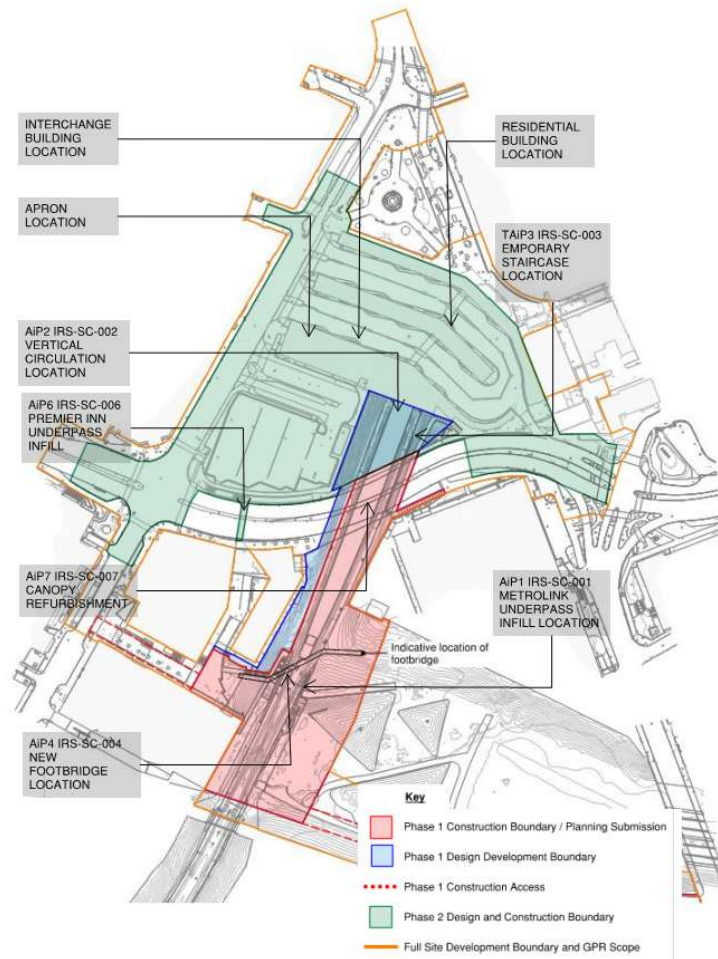


Figure 0.3.1 – Extent of Development Area & AIP Location Plan

1 HIGHWAY DETAILS

1.1 Type of Highway

Two Metrolink tram lines providing access and egress into Bury Metrolink Station. Tram lines are electrified with overhead line equipment (OLE).

The Footbridge supports pedestrian loadings not exceeding the design imposed loadings presented in 3.16.

1.2 Design Traffic Speed / Impact Loads

Not applicable.

1.3 Existing Restrictions:

The following restrictions exist as constraints to the setting out of the bridge:

- Underside of bridge to be a minimum of 600mm above OLE located at 91.447m AOD.
- UIC 772-R Zones have been identified, and new structures are located to sit outside these zones.
Zone 1 = 3.0m from outer rail track
Zone 2 = 2.0m from edge of Zone 1
- New Structures associated with the footbridge have also been located outside the Zone identified for the future proposed third tram line.
- The sides of the bridge are to be provided as solid to a height of 1.5m above the bridge deck surface with varying perforations above this level.
- Installation works to take place from site compounds to the East and West of the actual main bridge span.
- Substructure and superstructure works for new access staircase and lift to foot bridge to be undertaken / installed during downtime of the electrified lines in agreement with Metrolink.

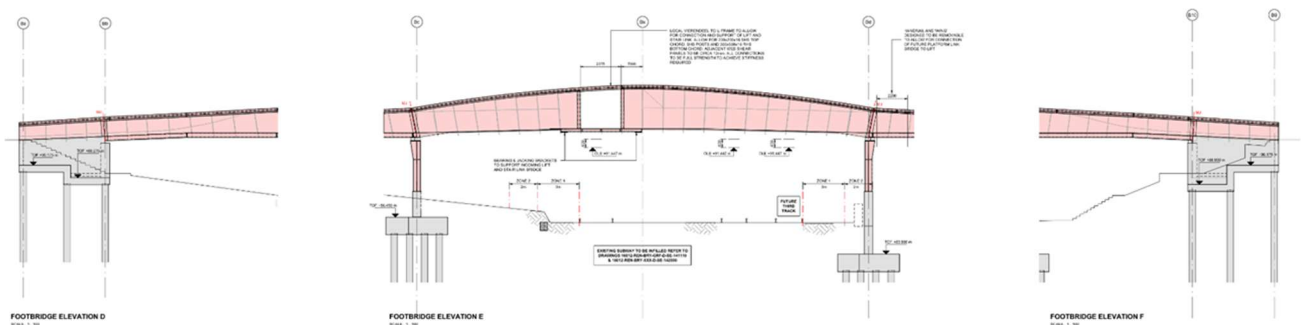


Figure 1.3.1 – Bridge Cross Section indicating OLE Zone & UIC 772-R Zones

Land Ownership

The site area in the location of the proposed footbridge is part owned and part leased by Bury Metropolitan Borough Council, and Metrolink.

Relevant Land Transfers

Not Applicable

2 SITE DETAILS

2.1 Obstacles Crossed

- Refer to Section 1.3.

3 PROPOSED STRUCTURE

3.1 Description of Structure & Design Working Life

The Bury Interchange development site is located in the centre of Bury, on the site of the existing TfGM bus and coach station and Metrolink tram stop. A General location plan and scheme layout for the footbridge is provided in Figures 1.1 & Figure 1.2.

- Post Code BL9 0AY / BL9 0BL
- OS Reference 380432, 410511
- National Grid Reference SD804105

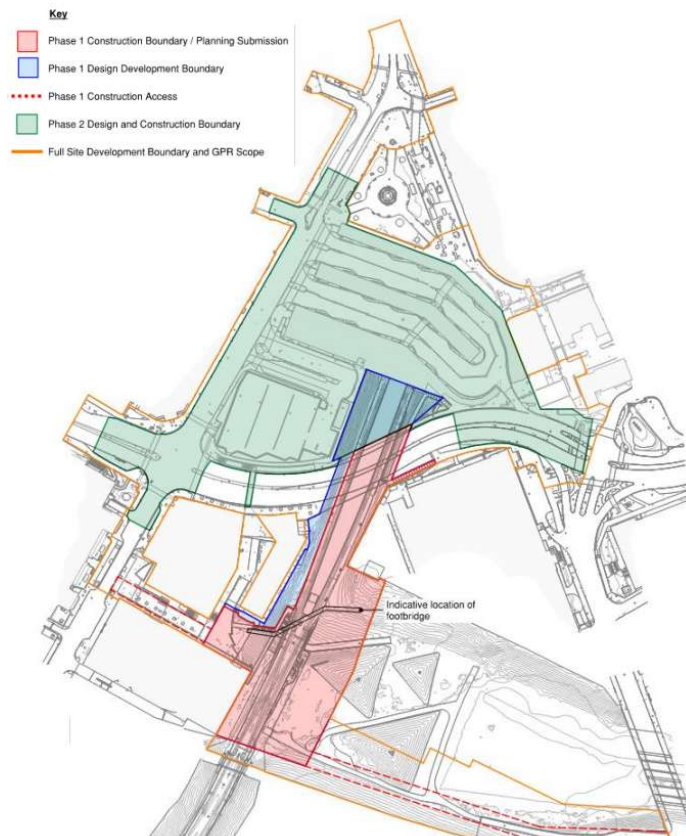


Figure 3.1.1 – Sitewide Location Plan

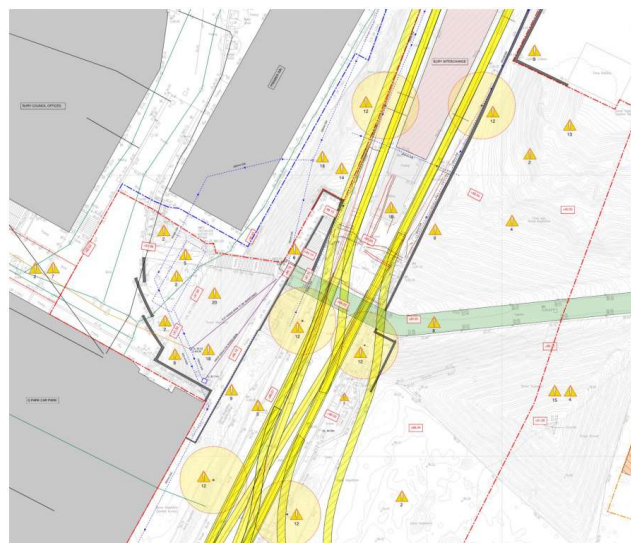


Figure 3.1.2 – Footbridge Site Constraints Plan



The footbridge structure does not directly interface with the Metrolink assets in any way. Via connecting ramps and staircase/lift, the structure provides accessible platform access/egress to the south from and to Union Square to the West and Pyramid Park to the East. Whist the footbridge is elevated above the platform and OLE, the access to Union Square is at grade with the general ground level in this location. The access onto Pyramid Park is elevated above the general ground level and a series of ramps and staircase manage the existing levels local to the proposed access/egress where the land falls away steeply.

The bridge will be supported at either end by reinforced concrete abutments with piled foundations. Intermediate column supports, fabricated using steel plates and located on a reinforced concrete plinth with a pile cap and piled foundations, support the ends of the approach spans and the central span of the bridge.

Bearings will be provided at the either end of the central bridge span and also on the approach spans. The bearings are to be designed by a sperate specialist bearing supplier to the loading and movement requirements set out by the specialist bridge manufacturer.

The reinforced concrete elements of the design (abutments with any associated pile caps and column plinths and associated pile caps) are to be designed by renaissance to accommodate the vertical and horizontal loads as advised by the specialist bridge fabricator.

- The structural elements (abutment structures, columns, beams, slabs, pile caps, fabricated steelwork bridge spans, associated bearings) will be design working life category 5 (>120years)

- Replaceable elements such as waterproofing systems, Safety bollards, pedestrian parapets and cladding will be design working category 2 (50 years).

Retaining Structure

Not Applicable

Temporary Works

Not Applicable – designed by others including but not limited to the Main Contractor and specialist bridge designer on the completion of RIBA Stage 4.

This information will be added to the buildings Health and Safety file.

3.2 Structural Type

Pile Foundation

- Reinforced Concrete Piles located directly beneath the footbridge RC columns and abutments.

Foundations

- Reinforced concrete pile caps supporting piers. All RC40/50.
- Reinforced concrete abutments on pile foundations.

Footbridge

- Weathering steel fabricated sections to the top chord and side span deck supports.

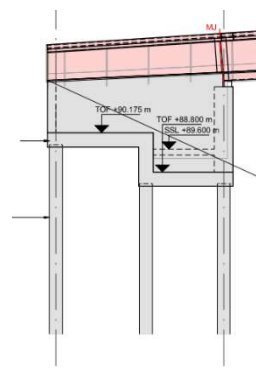
Columns

- Fabricated steel columns located on in-situ reinforced concrete piers.

3.3 Foundation Type

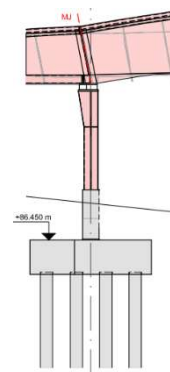
Beneath the Side Span End Supports

Abutment with 500mm base, 300mm retaining walls, 650mm lead bearing wall to side bridge spans with 250mm capping slab.



Beneath the Main Footbridge Column Supports

600mm wide pier supported by 1000mm deep base.



3.4 Span Arrangements

Permanent Case

Deck – to be 10mm thick plate acting with “wing walls” to form “U” frame. Deck to be stiffened generally with 10x80 plates across the bridge width.

Side Plates – 12mm thick solid plate generally to a height of 1.5m above the bridge deck for the main span.

Zone above 1.5m to be perforated plate for central span. Side plates to approach spans to be perforated full height.

Tapering 35mm thick cross frames to stabilise top chord and provide handrail restraint, fan from central point.

Top Chord – 250 x 250 x 16 SHS Steeple Top Chord.

Columns – the column supports to the central bridge span and end of approach spans are to be fabricated from 30-35mm plate.

3.5 Articulation Arrangements

Central span of footbridge and approach spans to be located on bridge bearings and jacking points, between deck and support, at pier and abutment locations.

3.6 Proposed Classes and Levels

The proposed classes and levels shall be in accordance with BS EN 1990 Annex B3:

3.6.1 Consequence Class

Consequence Class is CC2 (B3.1(1))

3.6.2 Reliability Class

Reliability Class is RC2 (B3.2(2))

3.6.3 Inspection Level

Inspection Level is IL2 (B5(1))

3.7 Road Restraint Systems Requirements

Pedestrian guardrails / parapets will be provided to the footbridge in the natural form of design proposals via the side plates.

Design loads for the pedestrian parapet will be derived based on the design loading class and based on Table 2 & Table 3 of BS 7818;1995.

Removable bollards are proposed at the Union Square and Pyramid Park entrances. These are required in order to restrict general vehicle / cycle movement along a pedestrian route. Requirements for maintenance access TBC by Metrolink and TfGM.

The removable sockets are founded within the hard landscape area at the ends of the bridge and not required to be HVM / PAS rated bollards. The distance between bollards within the footway is 1200mm to allow movement of pedestrians through and deter cyclists. A highways sign requesting cyclists to dismount will also be located here.

It is recommended that the bollards are Stainless Steel cylindrical shape, 254mm diameter with an angled top and yellow contrasting band for visibility.

3.8 Proposals For Water Management

Atop of the Footbridge Deck – Combined anti-slip and waterproofing system atop of the footbridge deck. Crossfalls pass surface water to the inner and lower edges of the footbridge where it is collected into a drainage channel. The deck is also ramped to encourage SW drainage of the deck.

Existing Union Square – The area at Union Square beyond the land boundary will remain unchanged. Surface water to this area drains to gullies and slot drains. The bridge will be actively drained and attenuated within the bridge abutment, prior to discharging into the existing onsite network at a discharge rate agreed with the LLFA.

Pyramid Park – The new landscaped area within Pyramid Park and including the Easterly bridge span will be actively drained and attenuated prior to connection into a United Utilities asset at a discharge rate agreed with the LLFA.

3.9 Proposed Arrangements for Future Maintenance and Inspection

3.9.1 Metrolink Tram Management

Inspection

Yearly visual inspections from platform level are recommended.

Metrolink tram management measures are considered necessary for 'touching distance' inspection of the footbridge super-structure and bearings.

Maintenance

The footbridge has been designed to limit maintenance with weathering steel not requiring maintenance of corrosion protection system.

3.9.2 Arrangements for future maintenance and inspection of structure, Access arrangement to structure.

Inspection

The footbridge superstructure is low maintenance. However, consideration of temporarily requiring access close to trackside for periodic inspection of the bearings is required. In the most part, maintenance and inspection is expected to be possible away from the OLE and track. Localised scaffold towers or cherry-pickers may be required for bearing access where the bearing heights are excessive.

The underside of the footbridge deck and columns is also low maintenance, requiring a general inspection every 2-years and a Principle inspection (tactile) every 6-years.

It is recommended that the structure be inspected annually and after any major climatic or seismic event. It is also recommended to keep a photo record, showing the application from similar viewpoints for year-to-year comparisons. Annual inspection reports should ideally include Structural and Aesthetic components, along with any additional criteria recommended by the Bridge Specialist Engineer or Designer.

An inspection checklist should be compiled and developed over the maintenance period. Structural Inspections should include (but not limited to): -

- **Reinforcement Corrosion** – Check for staining of the concrete which may suggest rusting is occurring. Investigate, neutralise and arrest any reinforcement rusting to ensure longevity.
- **Cracks** – Surface cracks are expected and the design limits cracks to a maximum of 0.3-0.4mm. Any cracks greater than 0.3-0.4mm should be reviewed/recorded.
- **Spalling** – Any observed spalling of the concrete face or exposed reinforcement should be reviewed and remediated as soon as is practical to ensure longevity of the structure. A concrete repair specialist should be consulted in this instance.
- **Impact** – Structural damage from impacts or collisions.
- **Distress** – Record any signs of structural distress.
- **Previous Repairs** – Any previous repairs and the condition.

The engineer of record should be notified of any significant irregularities, so they may evaluate the cause and record any remedial action.

Maintenance

On the footbridge deck which has an approximate width of 3.0m maximum at the centre of the span, any scaffold towers (if required) should be sized (including a suitable additional public safety exclusion) to maintain a minimum lane width for public passing. Scaffold towers, if required should be removed from site in the evenings to prevent anti-social misuse.

3.10 Environment and Sustainability

The proposed design addresses the environment and sustainability as follows: -

- Use of prefabricated sheet steel to minimise fabrication and construction waste.
- Standardised design sections minimise the risk of on-site errors and speeds up the installation.
- Where possible adopting cement replacements for use in concrete mixes. For example, GGBS re-uses a waste by-product from iron blast furnaces. GGBS also improves the durability of concrete by reducing its permeability and increasing its resistance to chloride ingress and chemical attack.
- Deleterious materials not used.
- The footbridge steel sheets and concrete could be recycled in the future.
- The appointed concrete contractor will be certified under the BES 6001 Responsible Sourcing Scheme of an equivalent Environmental Management System (EMS) Certification Scheme. This ensures the supply chain are responsibly sourcing their raw materials and products.
- Standard prescribed concrete mixes will be specified to simplify the concrete mix and make them more reliable. This in turn speeds up the concrete procurement.

All materials will be approved by the Lead Planning Authority and Statutory Consultees.

Planning status

The footbridge area of Phase 1 obtained planning permission.

Proposed planning changes

- Not Applicable.

LPA engagement

- Not Applicable.

Minor-material amendment

- Not Applicable at this time.

3.11 Durability - Materials and Finishes

Concrete Mixes

All concrete mixes shall be to the relevant clauses of BS 8500-1 and to conform to BS EN 206-1 and BS 8500-2

Component	Strength Class	Exposure Class
Column	RC40/50XF	XC3-4 XD3 XF3
Pile Caps	RC40/50XF	XC3-4 XD3 XF3
Blinding or Mass Fill	FND2	

Table 3.11.1 - Concrete mixes

The cover to reinforcement will be selected to comply with the requirements of BS8500-1;2019 and the UK national Annex to BS EN 1992-1-1;2014 clause 4.4.1.3 (1) P where: -

- $\Delta C_{dev} = 10\text{mm}$
- Concrete Working Life = at least 100 Years

The above exposure classes account for the potential for de-icing salts from overspray and where the concrete is exposed, frost resistance. Where multiple uses are present for a single element which could justify the use of different exposure classes, the most onerous class is used.

Design Sulphate Classification

The Phase 2 site investigation notes that a Design Sulphate Class of DS-1 is appropriate for buried concrete at the site.

Surface Finish

All finishes are in accordance with the National Structural Concrete Specification for Building Construction 4th Edition: -

- Concealed / Buried concrete = Plain Finish
- Exposed / Visible concrete = Ordinary Finish but subject to agreement with the client.

25x25 Chamfers will be provided to the top edges of any reinforced concrete elements.

Reinforcement

All reinforcement will be high tensile deformed bars Grade 500B or 500C conforming to BS 4449: 2005. The characteristic yield strength of the reinforcement will be $f_{yk} = 500\text{N/mm}^2$.

Bending and scheduling of reinforcement will be in accordance with BS8666 and BS EN 1992-1-1;2004 – Steel for Reinforced Concrete.

Reinforcement shall be obtained from CARES (or equivalent scheme) accredited suppliers.

Backfill Generally

Backfill to be engineered fill Class 6N/6P/6F2/MOT Type 1.

Backfilled surfaces of concrete to be waterproofed with two coats of bitumen paint in accordance with the Specification for Highways Works Series 2000, Clause 2004.

Water Management

Refer to section 3.8.

Brickwork

Not applicable.

3.12 Risks And Hazards Considered for Design, Execution, Maintenance and Demolition. Consultation With And/or Agreement from CDM Co-Ordinator

The significant residual hazards are depicted on the General Arrangement drawings in Appendix B. Refer to Renaissance and DYSE design risk registers for further details.

3.13 Estimated Cost of The Proposed Structure Together with Other Structural Forms Considered, Including Where Appropriate Proprietary Manufactured Structures, And the Reasons for Their Rejection Including Comparative Life Cycle Costs

TBC by Main Contractor

3.14 Proposed Arrangements for Construction

3.14.1 Construction Of Structure

The construction sequence will follow the indicative sequence below:

- Establish site boundary/compound and install traffic management on site. Also install pedestrian diversions as appropriate.
- Prepare/install abutment foundations, column foundations and platform works associated with access lift and staircase.
- In areas of piling, undertake CBR testing to the piling mat to confirm the design parameters are achieved. Piling plant can now track the area.

Bored Piles

- Prepare/install/compact piling mat to the low level.
- Undertake CBR testing to the piling mat to confirm the design parameters are achieved. Piling plant can now track the area.
- Position mini piling rig.
- Install the bored piles commencing from East to West
- Follow on with pile caps, plinths and abutment superstructure.

Footbridge

- Erect steelwork columns on top of RC piers.
- Locate bearings.
- Install fabricated steel approach spans of bridges, continually line and levelling as works progress.
- Once in place, install fabricated steel central span.
- Install Pyramid Park new pathway and stairs, with associated surface water drainage.
- Install/make good the footway and surface finishes at the footbridge / Union Square interface.

3.14.2 Traffic Management

Some localised traffic management may be required during the installation of Union Square approach bridge span.

Where any temporary diversion works affect Public Highways, the Main Contractor is responsible for obtaining all necessary Statutory Authority approvals.

Temporary diversion ways will be installed, in advance of any interference and wherever the works interfere with existing public or private roads or where there is a public or private right of way.

3.14.3 Service Diversions

Existing service runs are indicated on renaissance site constraints drawing, BURY-REN-01-ZZ-SK-S-00001, an extract is located below: -



Figure 3.14.2.1 – Footbridge Constrains Plan in Footbridge Location

Any service diversions are to be completed prior to the works being undertaken. Clear markers are to be placed to provide a visible marker to the post diverted location of the gas pipe.

MEP Consultant to advise of any specific requirements for diversion are required.

No other diversions are anticipated.

3.14.4 Interface with Existing Structures

The proposed footbridge is adjacent to an existing piled wall at the base of the slope from Union Square. Proposals have been developed to avoid the permanent structure affecting the piled wall. The position of the existing below ground surface water attenuation tank in Union Square is still to be confirmed.

3.15 Resilience And Security

The super and sub-structure proposals are inherently robust and resilient to damage.

Little/no maintenance is envisaged.

3.16 Actions

Footbridge Deck

- Permanent actions arising from: - self weight of the structure, self-weight of integrated pedestrian parapet, self-weight of the external hard standing supported by the abutments *and a nominal service load allowance*.
- Variable actions arising from: - Pedestrian Imposed loadings, *Occasional maintenance vehicle-imposed loadings*, wind and snow loadings.

CFA Piles

- Permanent actions arising from: - the footbridge deck superstructure but limited to the vertical loading presented on the renaissance drawings included in Appendix B.
- Variable actions arising from: - the footbridge deck superstructure but limited to the vertical loading presented on the renaissance drawings included in Appendix B.
- Variable horizontal actions may also be required to be resisted by the piles, arising from the dynamics the footbridge deck structure and then passed to the piles.

3.16.1 Permanent Actions

Permanent actions will be determined in accordance with Annex A of BS EN 1990 & 1991 and the associated UK National Annex, and the geotechnical investigation.

Material Weights:

The following material weights shall be used:

Un-reinforced concrete	24 kN/m ³
Reinforced concrete	25 kN/m ³
Structural steel	78.5 kN/m ³
Made ground	18 kN/m ³
Granular superficial soils	20 kN/m ³
Residual soils (weathered bedrock)	20 kN/m ³

3.16.2 Snow, Wind and Thermal Actions

Snow actions are generally ignored on bridges in the UK as per Clause NA.4.1.1 of the National Annex to BS EN 1991-1-3;2015.

Wind actions are derived in accordance with BS EN 1991-1-4;2010 and the UK National Annex.

Thermal actions are derived in accordance with BS EN 1991-1;2003 and the UK National Annex

The pedestrian parapet will be designed for a transverse load in accordance with Table 2 of BS7118;1995 for Design loading Class 3 and Infill Class C. The transverse loading will be 1.4kN/m; this load will be combined with other forces in line with BS 7118 Table 2b.

3.16.3 Actions Relating to Normal Traffic Under AW Regulations And C&U Regulations

Footbridge Deck

In accordance with BS EN 1991-2;2003 clause 5.6.3 there are permanent bollard provisions preventing vehicles from being driven onto the footbridge deck. Therefore, accidental presence of vehicles on the bridge deck need not be considered.

3.16.4 Loading Relating to General Order Traffic Under STGO Regulations

Not applicable.

3.16.5 Footway or Footbridge Variable Actions

In accordance with Section 4.3.5 of BS EN 1991-2;2003, a characteristic LM4 footway crowd loading would be applicable for the footbridge deck. Loading from service vehicles has also been considered as per Clause NA.2.38 from the UK National Annex to BS EN 1991-2.

3.16.6 Actions Relating to Special Order Traffic, Provision for Exceptional Abnormal Indivisible Loads Including Location of Vehicle Track on Deck Cross-Section

No SOV actions are considered applicable.

3.16.7 Accidental Actions:

Accidental actions will be in accordance with BS EN 1991-1-7;2014 and the UK National Annex.

3.16.8 Actions During Construction

Actions during execution shall be in accordance with BS EN 1991-1-6;2005 and the associated UK National Annex. Actions during execution include for temporary conditions and loading scenarios.

Variable surcharge loadings from construction plant and machinery or crane outrigger loads will be assessed on a case-by-case basis once specific positions are confirmed.

3.16.9 Any Special Action Not Covered Above

Footbridge dynamic effects will be assessed/analysed in accordance with PD 6688-2 Annex A.

3.17 Heavy Or High Load Route Requirements and Arrangements Being Made to Preserve the Route, Including Any Provision for Future Heavier Loads or Future Widening

Not Applicable

3.18 Minimum Headroom Provided

Not Applicable.

3.19 Set Out Measures that Will Be Incorporated into Design to Minimise Maintenance

The concrete structure was selected over a steel option to minimise the future inspection and maintenance regime.

Containment upstands have been added to the perimeter of the footbridge to help with litter collection.

The corner of the footbridge has been sniped to remove a potential litter point.

3.20 Authorities Consulted and any Special Conditions Required

- ~~Transport for Greater Manchester – Diversions~~
- ~~Historic England~~
- Places Matter
- Metrolink
- ~~Network Rail~~

Note that the list is not exhaustive. Stats were carried out separately. There were no special requirements found during consultations.

Utility plans have been incorporated into the constraints drawings.

3.21 Standards and Documents Listed in the Technical Approval Schedule (TAS)

See Appendix A

3.22 Proposed Departures from Standard Given in 4.6

None

3.23 Proposed Departures from Standards Concerning Methods for Dealing with Aspects Not Covered by Standards Listed in 4.6

None

3.24 Proposed Safety Critical Fixings

Safety critical fixings will be designed in accordance with the Eurocodes, associated National Annexes and BS8539;2012. In accordance With BS8539;2012 and the definition for 'Safety-Critical Applications':-

- Result in collapse or partial collapse of the structure and/or
 - None
- Cause risk to human life; and/or
 - All fixings into the structure from pedestrian parapets (i.e. at the base of the handrail posts).
- Lead to significant economic loss
 - None

4 STRUCTURAL ANALYSIS

4.1 Methods for Analysis Proposed for Superstructure, Substructure & Foundations

Piles

The piles will be designed by specialists based on the performance specifications provided by the specialist bridge fabricator and renaissance.

Lateral shears arising from the footbridge design will be provided by the specialist designer and renaissance and will include calculations of the lateral displacement which will be limited to 5mm.

Footbridge Frame

The footbridge frame is formed from plated weathering steel sections and will be designed in accordance with BS EN 1992-1-1 to the loadings defined within BS EN 1991-1-1, the associated National Annex and any specific Footbridge related loading as defined earlier in this TA report.

A full analysis model has been built in the FEA software “Autodesk Robot”, including the modelling of the columns and abutments supports. For the analysis of the superstructure frame, static supports have been inputted. The design has been undertaken using a combination of Autodesk Robot and hand calculations. The method adopted depends upon the element being designed and the capabilities of the design software.

The design analysis and design methodology for each of the footbridge elements has been summarised below: -

- **Piles** – See earlier in this section.
- **Pile Caps** – Analysed using Tekla Structural Designer in accordance with BS EN 1992-1-1.
- **RC Columns** – Analysed using Tekla Structural Designer in accordance with BS EN 1992-1-1.
- **Bridge Deck** - Analysed using Autodesk Robot in accordance with BS EN 1993-1-1.

5 GEOTECHNICAL CONDITIONS

5.1 Acceptance of Recommendation of the Geotechnical Investigation Report to be used in the Design and Reasons for Any Proposed Changes

Foundations have been designed in line with recommendations of the Geotechnical Investigation Report.

5.2 Summary of Design for Highway Structure in the Ground Investigation Report

Not applicable.

5.3 Differential Settlement to be allowed for in the Design of the Structure

Maximum differential vertical settlement between piles to be 1/1000 of the horizontal distance or 8mm, whichever is the lesser.

5.4 If Geotechnical Report is not yet Available, State When the Results are Expected and list the Sources of information Used to Justify the Preliminary Choice of Foundations

Not applicable.

6 CHECKING

6.1 Proposed Category of Checking and Design Supervision Level

The footbridge and associated foundation structure is a category 3 structure. The design will be independently checked by a team from a separate organisation proposed by the designer or assessor and agreed with the TAA in line with CG300 clause 2.67. Details of the independent checkers is presented in section 7.2.

Design Supervision Level to be DSL3, as specified in Table B4 of BS EN 1990 and IAN 124/11. Table A.2.

6.2 If Category 3, Name of Proposed Independent Checkers

Steel Superstructure Independent Checkers (steel bridge spans and column supports.):

- **Company** – Atkins (*TBC with Willmott Dixon and TfGM / Metrolink*)
- **Company Address** - Nova North, 11 Bressenden Place, London SW1E 5BY
- **Checker** - Peter Oates C Eng MICE
- **Checker Position** - Regional Director, Building Structures, London UK & Europe Engineering, Design and Project Management
- **Checker Email** - Peter.Oates@atkinsglobal.com
- **Checker Contact Number** – 020 7121 3035

Concrete Substructure Independent Checkers (Concrete Piers, Foundations & Pile Loadings & Baseplate Anchorage Details.):

- **Company** – Atkins (*TBC with Willmott Dixon and TfGM / Metrolink*)
- **Company Address** - Nova North, 11 Bressenden Place, London SW1E 5BY
- **Checker** - Peter Oates C Eng MICE
- **Checker Position** - Regional Director, Building Structures, London UK & Europe Engineering, Design and Project Management
- **Checker Email** - Peter.Oates@atkinsglobal.com
- **Checker Contact Number** – 020 7121 3035

6.3 Erection Proposals or Temporary Works for Which an Independent Check Will Be Required Listing Those Parts of The Structures Affected with Reasons for Recommending an Independent Check

The substructure and superstructure construction works will be carried out within a secured construction site which will be remote from any existing highway and inaccessible to the public. In accordance with CG300 section 4.0 Temporary Works, the category of temporary works is to be **Type N**.

Type P (Public) temporary works technical approvals are not considered to be required to be required.

Type S (Structure) temporary works technical approvals are not considered as required as there are no temporary works envisaged which would affect the permanent works.

7 DRAWINGS AND DOCUMENTS

7.1 List of Drawings and Documents Accompanying This Submission

Drawing No. / Report Reference	Drawing Title / Report	Organisation
16012-REN-BRY-XXX-D-SE-131090	UNION SQUARE FOOTBRIDGE FOUNDATION GA	renaissance
16012-HAR-BRY-XXX-D-BE-000002	UNION SQUARE FOOTBRIDGE DECK LEVEL GA	DYSE
16012-HAR-BRY-XXX-D-BE-000003	UNION SQUARE FOOTBRIDGE ELEVATIONS	DYSE
16012-REN-BRY-XXX-D-CE-131101	BELOW GROUND DRAINAGE PLAN SHEET 2	renaissance
16012-REN-BRY-XXX-D-CE-132200	EXTERNAL WORKS SECTIONS AND DETAILS SHEET 1	renaissance
16012-HBA-BRY-CNP-D-AR-080000	LOCATION PLAN	HBA
16012-HBA-BRY-CNP-D-AR-080002	EXISTING SITE PLAN	HBA
16012-HBA-BRY-CNP-D-AR-080107	PROPOSED BRIDGE GA PLAN	HBA
16012-HBA-BRY-CNP-D-AR-080502	PROPOSED BRIDGE BAY STUDY	HBA
16012-HBA-BRY-CNP-D-AR-080503	PROPOSED BRIDGE BAY STUDY 2	HBA
16012-HBA-BRY-CNP-D-AR-080504	PROPOSED LIFT AND STAIR STUDY	HBA
16012-OOB-ZZZ-ZZZ-D-LA-000002	SITELAND MASTERPLAN	oobe
16012-OOB-ZZZ-ZZZ-D-LA-000003	EXTERNAL WORKS PLAN	oobe
16012-OOB-ZZZ-ZZZ-D-LA-000005	DEMOLITION PLAN	oobe
16012-OOB-ZZZ-ZZZ-D-LA-000020	BOUNDARY TREATMENT STRATEGY	oobe
16012-OOB-ZZZ-ZZZ-D-LA-000030	CIRCULATION STRATEGY	oobe
16012-OOB-ZZZ-ZZZ-D-LA-000040	PLANTING STRATEGY	oobe
16012-OOB-ZZZ-ZZZ-D-LA-000050	PROPOSED SITESECTIONS	oobe
16012-OOB-ZZZ-ZZZ-D-LA-000055	LIGHTING & SIGNAGE AND WAYFINDING STRATEGY	oobe
16012-OOB-ZZZ-ZZZ-D-LA-000080	TYPICAL SOFT DETAILS	oobe
16012-OOB-ZZZ-ZZZ-D-LA-000090	TYPICAL HARD DETAILS	oobe
16012-OOB-ZZZ-ZZZ-D-LA-000095	TYPICAL STEP DETAILS	oobe

8 THE ABOVE IS SUBMITTED FOR INTERIM ACCEPTANCE

Signed:

Name: Helen Gribbon

Director

Engineering Qualifications: Beng, MScArch, CEng, MIStructE

Name of Organisation: renaissance

Date: 27 April 2026

**9 THE ABOVE IS REJECTED/AGREED* SUBJECT TO THE AMENDMENTS AND
CONDITIONS SHOWN BELOW**

Signed:

Name: TBC

Position Held: TBC

Engineering Qualifications: TBC

TAA: Bury MBC / Metrolink

Date:

Conditions:

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10 APPENDICES

10.1 Appendix A Technical Approval Schedule (TAS)

The below standards will be used in the design of the highway structure. For each standard the most recent revision is used, including the latest amendments and corrigenda. For each Eurocode, the relevant UK National Annex will also be applicable

Eurocodes and associated UK National Annexes

The following Eurocodes have been used along with the associated National Annexes

Eurocode Part	Title	Applicable
Eurocode 0	Basis of structural design	
BS EN 1990:2002 +A1:2005	Eurocode 0: Basis of structural design	✓
Eurocode 1	Actions on structures	
BS EN 1991-1-1:2002 +A1:2005	Eurocode 1: Actions on structures. General Actions – Densities, self-weight, imposed load for buildings	✓
BS EN 1991-1-2:2002	Eurocode 1: Actions on structures. General Actions – Actions on structures exposed to fire	✓
BS EN 1991-1-3:2003 +A1:2005	Eurocode 1: Actions on structures. General Actions – Snow loads	✓
BS EN 1991-1-4:2005 +A1:2010	Eurocode 1: Actions on structures. General Actions – Wind actions	✓
BS EN 1991-1-5:2003	Eurocode 1: Actions on structures. General Actions – Thermal actions	✓
BS EN 1991-1-6:2005	Eurocode 1: Actions on structures. General Actions – Actions during execution	✓
BS EN 1991-1-7:2006 +A1:2014	Eurocode 1: Actions on structures. General Actions – Accidental actions	✓
BS EN 1991-1-2:2003	Eurocode 1: Actions on structures. Traffic loads on bridges	
Eurocode 2	Design of concrete structures	
BS EN 1992-1-1:2004 +A1:2014	Eurocode 2: Design of concrete structures – Part 1-1: General rules and rules for buildings	✓
BS EN 1992-1-2:2004	Eurocode 2: Design of concrete structures – Part 1-2: General rules – Structural fire design	✓
BS EN 1992-2:2005	Eurocode 2: Design of concrete structures – Part 2: Concrete bridges – Design and detailing rules	✓
BS EN 1992-3:2006	Eurocode 2: Design of concrete structures – Part 3: Liquid retaining and containment structures	✓
BS EN 1992-4:2018	Eurocode 2: Design of concrete structures – Part 4: Design of fastenings for use in concrete	
Eurocode 3	Design of steel structures	
BS EN 1993-1-1:2005 +A1:2014	Eurocode 3: Design of steel structures – Part 1-1: General rules and rules for buildings	✓
BS EN 1993-1-2:2005	Eurocode 3: Design of steel structures – Part 1-2: General rules – Structural fire design	✓

BS EN 1993-1-3:2006	Eurocode 3: Design of steel structures – Part 1-3: General rules – Supplementary rules for cold-formed members and sheeting	
BS EN 1993-1-4:2006	Eurocode 3: Design of steel structures – Part 1-4: General rules – Supplementary rules for stainless steels	
BS EN 1993-1-5:2006	Eurocode 3: Design of steel structures – Part 1-5: Plated structural elements	✓
BS EN 1993-1-6:2007 +A1:2017	Eurocode 3: Design of steel structures – Part 1-6: Strength and stability of shell structures	
BS EN 1993-1-7:2007	Eurocode 3: Design of steel structures – Part 1-7: Plated structures subject to out of plane loading	✓
BS EN 1993-1-8:2005	Eurocode 3: Design of steel structures – Part 1-8: Design of joints	
BS EN 1993-1-9:2005	Eurocode 3: Design of steel structures – Part 1-9: Fatigue	✓
BS EN 1993-1-10:2005	Eurocode 3: Design of steel structures – Part 1-10: Material toughness and through-thickness properties	
BS EN 1993-1-11:2006	Eurocode 3: Design of steel structures – Part 1-11: Design of structures with tension components	
BS EN 1993-1-12:2007	Eurocode 3: Design of steel structures – Part 1-12: Additional rules for the extension of EN 1993 up to steel grades S700	
BS EN 1993-5:2007	Eurocode 3: Design of steel structures – Part 5: Piling	✓
Eurocode 4	Design of composite steel and concrete structures	
BS EN 1994-1-1:2004	Eurocode 4: Design of composite steel and concrete structures – Part 1-1: General rules and rules for buildings	
BS EN 1994-1-2:2005	Eurocode 4: Design of composite steel and concrete structures – Part 1-2: General rules – Structural fire design	
BS EN 1994-2:2005	Eurocode 4: Design of composite steel and concrete structures – Part 2: General rules and rules for bridges	
Eurocode 5	Design of timber structures	
BS EN 1995-1-1:2004 +A2:2014	Eurocode 5: Design of timber structures – Part 1-1 General – Common rules and rules for buildings	
BS EN 1995-1-2:2004	Eurocode 5: Design of timber structures – Part 1-2 General – Structural fire design	
BS EN 1995-2:2004	Eurocode 5: Design of timber structures – Part 2 Bridges	
Eurocode 6	Actions on masonry structures	
BS EN 1996-1-1:2005 +A1:2012	Eurocode 6: Design of masonry structures – Part 1-1: General rules for reinforced and unreinforced masonry structures	
BS EN 1996-1-2:2005	Eurocode 6: Design of masonry structures – Part 1-2: General rules – Structural fire design	
BS EN 1996-2:2006	Eurocode 6: Design of masonry structures – Part 2: Design considerations, selection of materials and execution of masonry	
BS EN 1996-3:2006	Eurocode 6: Design of masonry structures – Part 3: Simplified calculation methods for unreinforced masonry structures	
Eurocode 7	Geotechnical design	

BS EN 1997-1:2004 +A1:2013	Eurocode 7: Geotechnical design – Part 1: General rules	✓
BS EN 1997-2:2007	Eurocode 7: Geotechnical design – Part 2: Ground investigation and testing	✓
Eurocode 8	Design of structures for earthquake resistance	
BS EN 1998-1:2004 +A1:2013	Eurocode 8: Design of structures for earthquake resistance – Part 1: General rules, seismic actions and rules for buildings	
BS EN 1998-2:2005 +A2:2011	Eurocode 8: Design of structures for earthquake resistance – Part 2: Bridges	
BS EN 1998-5:2004	Eurocode 8: Design of structures for earthquake resistance – Part 5: Foundations, retaining structures and geotechnical aspects	
Eurocode 9	Design of aluminium structures	
BS EN 1999-1-1:2007 +A2:2013	Eurocode 9: Design of aluminium structures – Part 1-1: General structural rules	
BS EN 1999-1-1:2007	Eurocode 9: Design of aluminium structures – Part 1-2: Structural fire design	
BS EN 1999-1-3:2007 +A1:2011	Eurocode 9: Design of aluminium structures – Part 1-3: Structures susceptible to fatigue	
BS EN 1999-1-4:2007 +A1:2011	Eurocode 9: Design of aluminium structures – Part 1-4: Cold formed structural sheeting	

BSI Published Documents

The following documents have been used for guidance only unless clauses are otherwise specified in BD 100/16 Annex B and relate to the above applicable Eurocodes and National Annexes and below Execution Standards referenced in British Standards or Eurocodes.

Published Document Reference	Title
PD 6688-1-1:2011	Recommendations for the design of structures to BS EN 1991-1-1
PD 6688-1-2:2007	Background paper to the UK National Annex to BS EN 1991-1-2
PD 6688-1-4:2015	Background paper to the UK National Annex to BS EN 1991-1-4
PD 6688-1-7:2009 +A1:2014	Recommendations for the design of structures to BS EN 1991-1-7
PD 6688-2:2011	Recommendations for the design of structures to BS EN 1991-2
PD 6687-1:2010	Background paper to the UK National Annexes to BS EN 1992-1 and BS EN 1992-3
PD 6687-2:2008	Recommendations for the design of structures to BS EN 1992-2:2005
PD 6695-1-9:2008	Recommendations for the design of structures to BS EN 1993-1-9
PD 6695-1-10:2009	Recommendations for the design of structures to BS EN 1993-1-10
PD 6695-2:2008 +A1:2012	Recommendations for the design of bridges to BS EN 1993
PD 6696-2:2007 +A1:2012	Background paper to BS EN 1994-2 and the UK National Annex to BS EN 1994-2
PD 6694-1:2011 +A1:2020	Recommendations for the design of structures subject to traffic loading to BS EN 1997-1
PD 6698:2009	Recommendations for the design of structures for earthquake resistance to BS EN 1998
PD 6703:2009	Structural bearings – Guidance on the use of structural bearings
PD 6705-2:2010 +A1:2013	Recommendations for the execution of steel bridges to BS EN 1090-2
PD 6705-3:2009	Recommendations on the execution of aluminium structures to BS EN 1090-3
PD 6702-1:2009 +A1:2019	Structural use of aluminium. Recommendations for the design of aluminium structures to BS EN 1999

Execution Standards referenced in British Standards or Eurocodes

Execution Standard Reference	Title	Applicable
BS EN 1090-1:2009 +A1:2011	Execution of steel structures and aluminium structures – Part 1: Requirements for conformity assessment of structural components	✓
BS EN 1090-2:2018	Execution of steel structures and aluminium structures – Part 2: Technical requirements for the execution of steel structures	✓
BS EN 1090-3:2019	Execution of steel structures and aluminium structures – Part 3: Technical requirements for aluminium structures	✓
BS EN 13670:2009	Execution of concrete structures	✓

Product Standards referenced in the British Standards or Eurocodes

Product Standard Reference	Title	Applicable
BS EN 206:2013	Concrete – Specification, performance, production and conformity	✓
BS EN 1317-1:2010	Road Restraint Systems – Part 1: Terminology and general criteria for test methods	
BS EN 1317-2:2010	Road Restraint Systems – Part 2: Performance classes, impact test acceptance criteria and test methods for safety barriers	
BS EN 1317-3:2010	Road Restraint Systems – Part 3: Performance classes, impact test acceptance criteria and test methods for safety cushions	
DD ENV 1317-4:2002	Road Restraint Systems – Part 4: Performance classes, impact test acceptance criteria and test methods for terminals and transitions of safety barriers	
BS EN 1317-5:2007 +A2:2012	Road Restraint Systems – Part 5: Product requirements and evaluation of conformity for vehicle restraint systems	
PD CEN/TR 17081:2018	Design of fastenings for use in concrete – Plastic design of fastenings with headed and post-installed fasteners	
BS EN 1337-1:2000	Structural bearings – Part 1: General Design Rules	✓
BS EN 1337-2:2004	Structural bearings – Part 2: Sliding elements	✓
BS EN 1337-3:2005	Structural bearings – Part 3: Elastomeric bearings	✓
BS EN 1337-4:2004	Structural bearings – Part 4: Roller bearings	✓
BS EN 1337-5:2005	Structural bearings – Part 5: Pot bearings	✓
BS EN 1337-6:2004	Structural bearings – Part 6: Rocker bearings	✓
BS EN 1337-7:2004	Structural bearings – Part 7: Spherical and cylindrical PTFE bearings	✓
BS EN 1337-8:2007	Structural bearings – Part 8: Guide bearings and restraint bearings	✓
BS EN 1337-9:1998	Structural bearings – Part 9: Protection	✓
BS EN 1337-10:2003	Structural bearings – Part 10: Inspection and maintenance	✓

BS EN 1337-11:1998	Structural bearings – Part 11: Transport, Storage and Installation	✓
BS EN 10025-1:2004	Hot rolled products of structural steels Part 1: General technical delivery conditions	✓
BS EN 10025-2:2019	Hot rolled products of structural steels Part 2: Technical delivery conditions for non-alloy structural steels	✓
BS EN 10025-3:2019	Hot rolled products of structural steels Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels	✓
BS EN 10025-4:2019	Hot rolled products of structural steels Part 4: Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels	✓
BS EN 10025-5:2019	Hot rolled products of structural steels Part 5: Technical delivery conditions for structural steels with improved atmospheric corrosion resistance	✓
BS EN 10025-6:2019	Hot rolled products of structural steels Part 6: Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition	✓
BS EN 10080:2005	Steel for the reinforcement of concrete – Weldable reinforcing steel – General	
BS EN 10210-1:2006	Hot finished structural hollow sections of non-alloy and fine grain steels – Part 1: Technical delivery conditions	✓
BS EN 10210-2:2019	Hot finished structural hollow sections of non-alloy and fine grain steels – Part 2: Tolerances, dimensions and sectional properties	✓
BS EN 10248-1:1996	Hot rolled sheet piling of non-alloy steels – Part 1: Technical delivery conditions	✓
BS EN 10248-2:1996	Hot rolled sheet piling of non-alloy steels – Part 2: Tolerances, dimensions and sectional properties	✓
BS EN 12063:1999	Execution of special geotechnical work – Sheet pile walls	✓
BS EN 14388:2005	Road traffic noise reducing devices	
BS EN 15050:2007 +A1:2012	Precast concrete products – Bridge elements	

British Standards

British Standard Reference	Title	Applicable
BS 4449:2005 +A3:2016	Steel for the reinforcement of concrete	✓
BS 5896:2012	Specification for high tensile steel wire and strand for the prestressing of concrete	
BS 7818:1995	Specification for pedestrian restraint systems in metal	✓
BS 8002:2015	Code of practice for earth retaining structures	✓
BS 8004:2015 +A1:2020	Code of practice for foundations	✓
BS 8006-1:2010 +A1:2016	Code of practice for strengthened/reinforced soils and other fills	
BS 8102:2009	Code of practice for protection of below ground structures against water from the ground	✓
BS 8500-1:2015 +A2:2019	Concrete – Complementary British Standard to BS EN 206: Method of specifying and guidance for the specifier	✓
BS 8500-2:2015 +A2:2019	Concrete – Complementary British Standard to BS EN 206: Specification for the constituent materials and concrete	✓
BS 8666:2005	Scheduling, dimensioning, bending and cutting of steel reinforcement for concrete	✓

The Manual Contract Document for Highway Works (MCHW)

MCHW Reference	Title	Applicable
MCHW Volume 1: April 2022	Specification for Highway Works	✓
MCHW Volume 2: November 2021	Notes for guidance on the Specification for Highway Works	✓
MCHW Volume 3: February 2017	Highway Construction Details	

The Design Manual for Roads and Bridges (DMRB)

DMRB Reference	Title	Applicable
GG 101	Introduction to the Design Manual for Roads and Bridges	✓
GG 102	Quality Management Systems for Highway Design	✓
GG 103	Introduction and general requirements for sustainable development and design	✓
GG 104	Requirements for Safety Risk Assessment	✓
CG 300	Technical approval of highway structures	✓
CG 302	As-built, operational and maintenance records for highway structures	✓
CG 303	Quality assurance scheme for paints and similar protective coatings	
CG 305	Identification marking of highway structures	
GG 184	Specification for the use of Computer Aided Design	
CD 127	Cross-sections and headrooms	
CD 350	The design of highway structures	✓
CD 351	The design and appearance of highway structures	
CD 352	Design of road tunnels	
CD 353	Design criteria for footbridges	
CD 354	Design of minor structures	
CD 355	Application of whole-life costs for design and maintenance of highway structures	✓
CD 356	Design of highway structures for hydraulic action	
CD 357	Bridge expansion joints	
CD 358	Waterproofing and surfacing of concrete bridge decks	✓
CD 359	Design requirements for permanent soffit formwork	✓
CD 361	Weathering steel for highway structures	
CD 362	Enclosure of bridges	
CD 363	Design rules for aerodynamic effects on bridges	
CD 364	Formation of continuity joints in bridge decks	
CD 365	Portal and cantilever signs/signals gantries	
CD 366	Design criteria for collision protection beams	
CD 368	Design of fibre reinforced polymer bridges and highway structures	
CD 369	Surface protection for concrete highway structures	
CD 372	Design of post-installed anchors and reinforcing bar connections in concrete	
CD 373	Impregnation of reinforced and prestressed concrete highway structures using hydrophobic pore-lining impregnants	
CD 374	The use of recycled aggregates in structural concrete	✓

CD 375	Design of corrugated steel buried structures	
CD 377	Requirements for road restraint systems	✓
CD 622	Managing geotechnical risk	✓
CS 461	Assessment and upgrading of in-service parapets	
CS 450	Inspection of highway structures	✓
GD 304	Designing health and safety into maintenance	✓
LD 119	Roadside environmental mitigation and enhancement	

Interim Advice Notes

IAN Reference	Title	Applicable
IAN 105/08	Implementation of construction (Design and management) 2007 and the withdrawal of SD 10 and SD 11	
UAN 161/15	Smart Motorways	

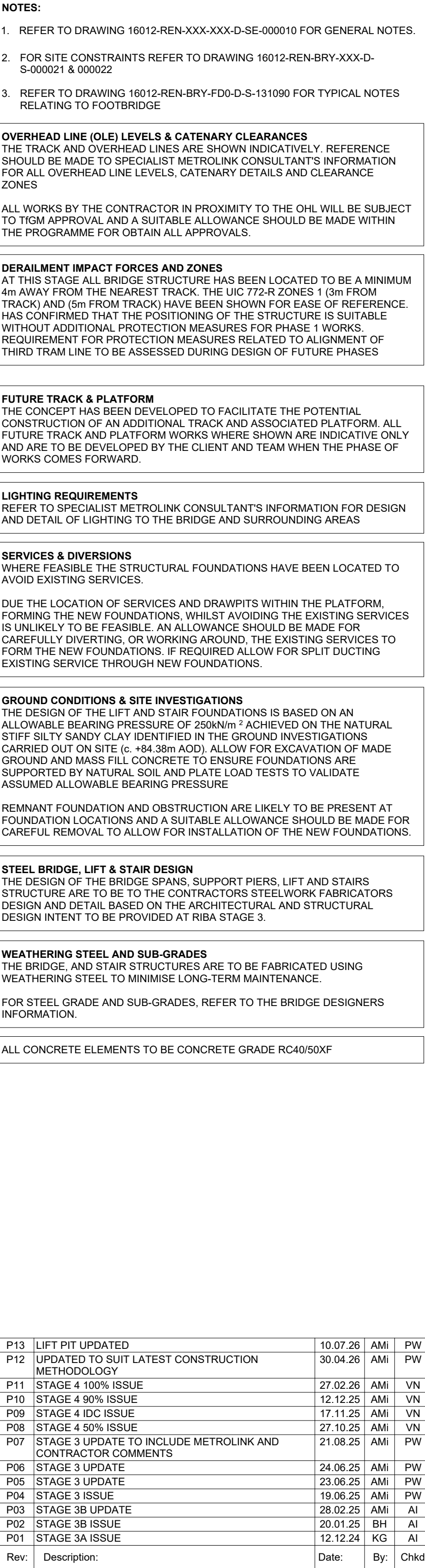
Miscellaneous

Standard Reference	Title	Applicable
CHE Memorandum 227/08	The impregnation of Reinforced and Prestressed Concrete Highway Structures using Hydrophobic Pore Lining Impregnates	
CIRIA C543	Bridge Detailing Guide	
CIRIA C766	Control of cracking caused by restrained deformation in concrete	✓
CIRIA C686	Safe Access for Maintenance and Repair	✓
CIRIA C760	Guidance on embedded retaining wall design	✓
CIRIA C753	The SuDS Manual	✓

Additional Standards

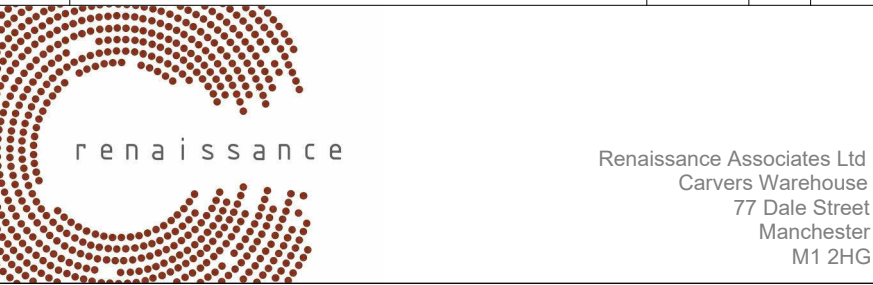
Standard Reference	Title	Applicable

10.2 Appendix B Drawings



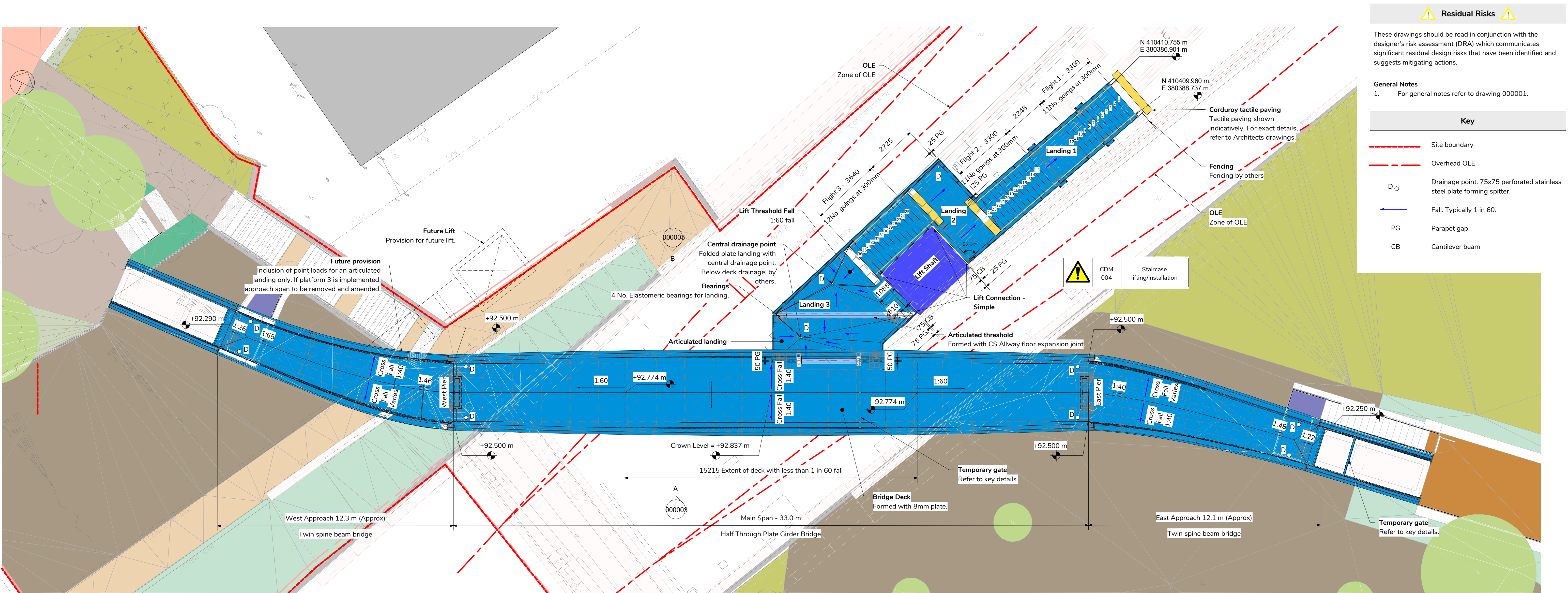
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P13	LIFT PIT UPDATED	10.07.26	AMI	PW
P12	UPDATED TO SUIT LATEST CONSTRUCTION METHODOLOGY	30.04.26	AMI	PW
P11	STAGE 4 100% ISSUE	27.02.26	AMI	VN
P10	STAGE 4 90% ISSUE	12.12.25	AMI	VN
P09	STAGE 4 IDC ISSUE	17.11.25	AMI	VN
P08	STAGE 4 50% ISSUE	27.10.25	AMI	VN
P07	STAGE 3 UPDATE TO INCLUDE METROLINK AND CONTRACTOR COMMENTS	21.08.25	AMI	PW
P06	STAGE 3 UPDATE	24.06.25	AMI	PW
P05	STAGE 3 UPDATE	23.06.25	AMI	PW
P04	STAGE 3 ISSUE	19.06.25	AMI	PW
P03	STAGE 3B UPDATE	28.02.25	AMI	AI
P02	STAGE 3B ISSUE	20.01.25	BH	AI
P01	STAGE 3A ISSUE	12.12.24	KG	AI
Rev:	Description:	Date:	By:	Chkd:



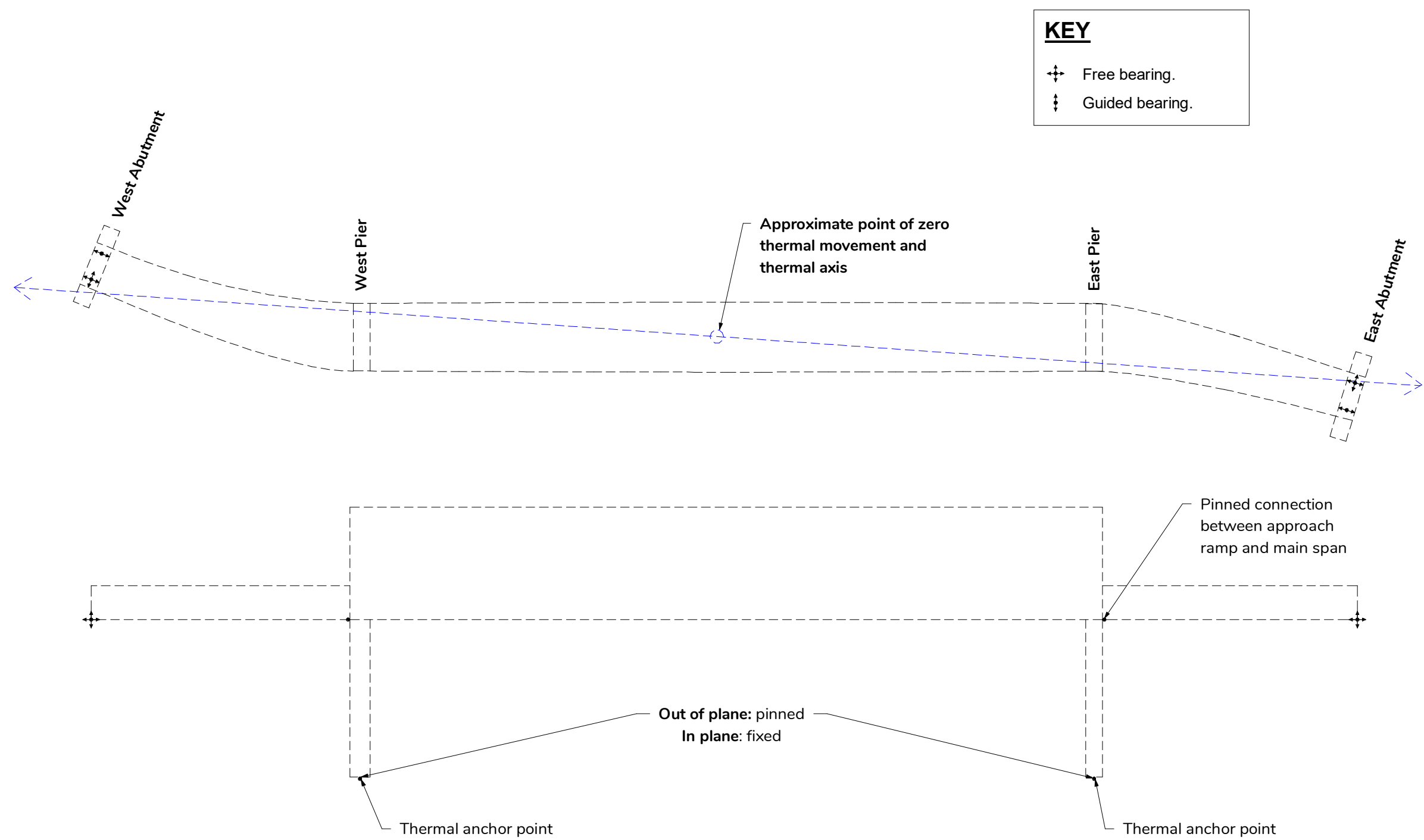
Size:	Date:	Drawn By:	Designed By:	Checked By:			
A1	DEC 24	KG	-	AI			
Scale:	1 : 100	Project No:	2401-09				
Project Code:	Originator:	Volume:	Level:	Type:	Role:	Number:	Rev:

16012-REN -BRY-FD0- D- SE-131090 - P13



Plan On Approach, Stairs And Main Span

1 : 100



Bearing Articulation

1 : 200

⚠ Residual Risks ⚠

These drawings should be read in conjunction with the designer's risk assessment (DRA) which communicates significant residual design risks that have been identified and suggests mitigating actions.

General Notes

1. For general notes refer to drawing 000001.

Key

Site boundary

Overhead OLE

D

○

Drainage point. 75x75 perforated stainless steel plate forming spitter.

→

Fall. Typically 1 in 60.

PG

Parapet gap

CB

Cantilever beam

P04	25.02.26	Workstage 4 100% Issue	ARH	DG	JDY	JDY
P03	12.12.25	Workstage 4 90% Issue	ARH	DG	JDY	JDY
P02	17.11.25	General updates in response to design team comments	ARH	DG	JDY	JDY
P01	10.11.25	First Issue	ARH	DG	JDY	JDY
Rev	Date	Description	Drw	Chk	Rev'd	App

Status: WORKSTAGE 4 Suitability Code: S4

Client: Willmott Dixon

Project: Bury Interchange

Drawing: Proposed General Arrangement Sheet 2 - Isolated Plan (Project North)

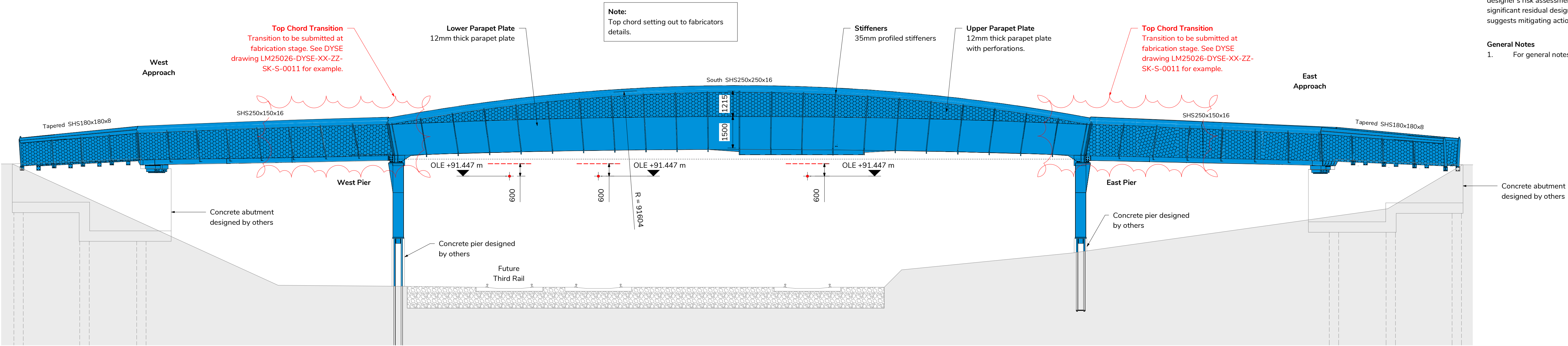
Drawing Number: 16012-HAR-BRY-XXX-D-BE-000002 Revision: P04

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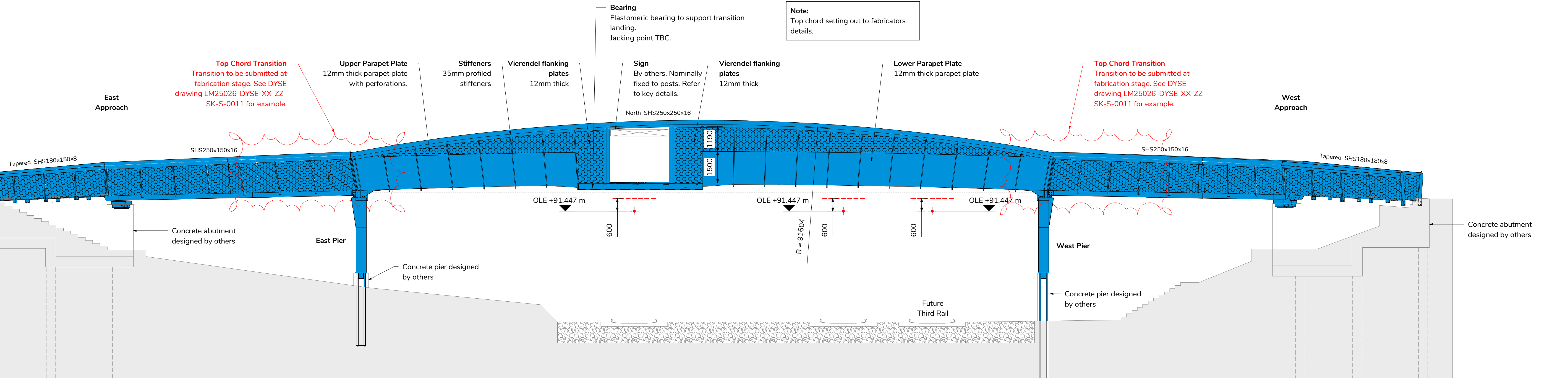
These drawings should be read in conjunction with the designer's risk assessment (DRA) which communicates significant residual design risks that have been identified and suggests mitigating actions.

General Notes
1. For general notes refer to drawing 000001.



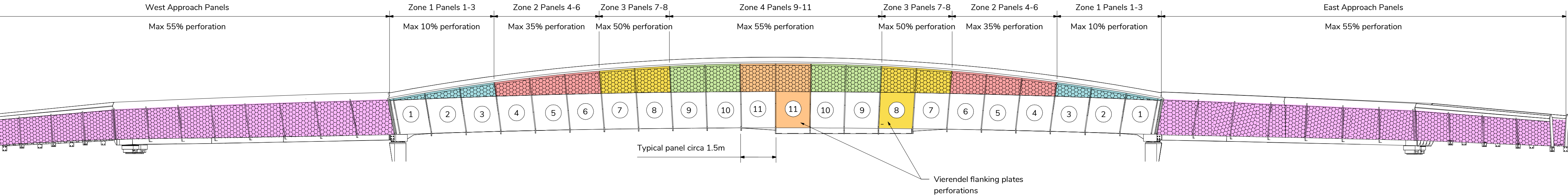
A Elevation Looking North

1 : 100



B Elevation Looking South

1 : 100



Perforation Constraints Diagram

1 : 100

P04	25.02.26	Workstage 4 100% Issue	ARH	DG	IDY	IDY
P03	12.12.25	Workstage 4 90% Issue	ARH	DG	IDY	IDY
P02	17.11.25	General updates in response to design team comments	ARH	DG	IDY	IDY
P01	10.11.25	First Issue	ARH	DG	IDY	IDY
Rev	Date	Description	Drw	Chk	Rev'd	App

Status: WORKSTAGE 4

Client: Willmott Dixon

Project: Bury Interchange

Drawing: Proposed General Arrangement Sheet 3 - Elevations Bridge

Drawing Number: 16012-HAR-BRY-XXX-D-BE-000003

Revision: P04