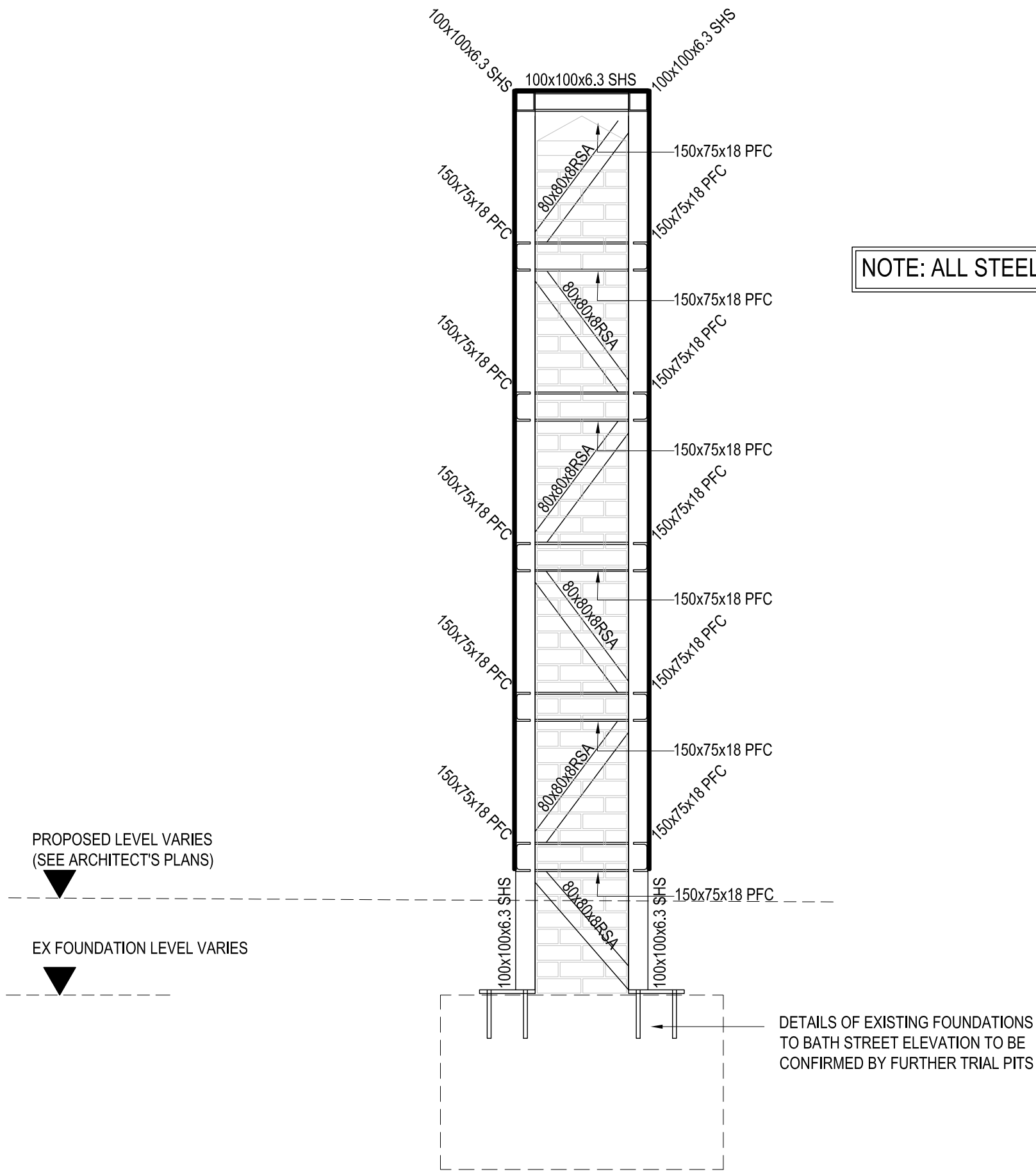
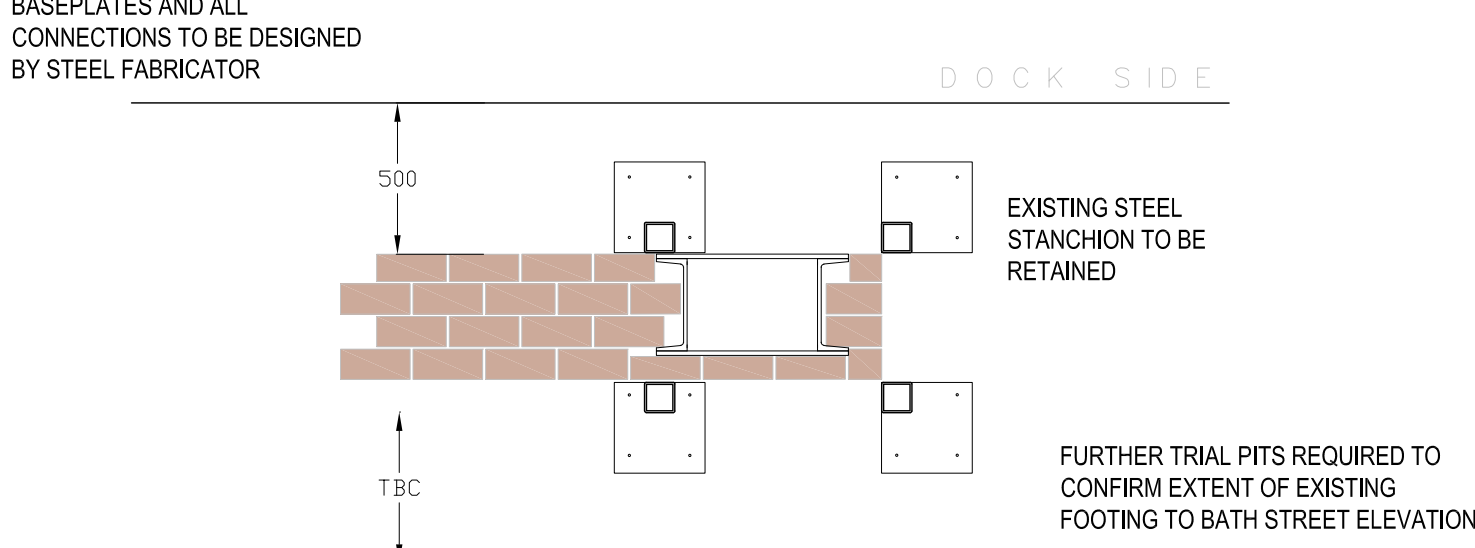
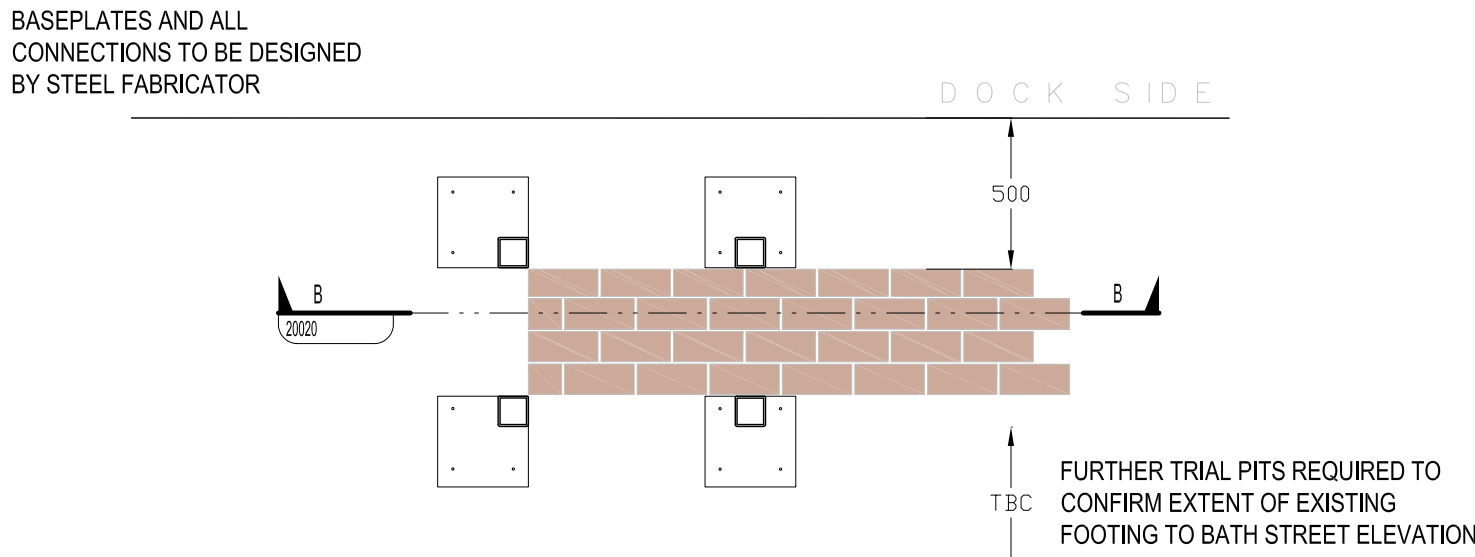


RESIDUAL HAZARD REGISTER		
(RELATES TO STRUCTURAL MATTERS ONLY - MUST BE READ IN CONJUNCTION WITH CURTINS RESIDUAL HAZARD REGISTER DOCUMENT)		
HAZARD REF. No.	FEATURE / ELEMENT / PROCESS OR ACTIVITY	SIGNIFICANT HAZARDS IDENTIFIED
1	EXCAVATIONS AND PILING BELOW EXISTING GROUND LEVEL.	A NUMBER OF BURIED LIVE STATUTORY SERVICES ARE KNOWN TO BE PRESENT ON BOTH SIDES OF THE WALL, PARTICULARLY UNDER THE FOOTPATH ON THE BATH ST SIDE. THE CONTRACTOR IS TO REVIEW ALL STATUTORY SERVICES PLANS, AND UNDERTAKE CAT SCANNING AND CAREFUL PRE-HAND DIGGING FOR ANY EXCAVATIONS AND PILING WORKS.
2	EXCAVATIONS AND PILING BELOW EXISTING GROUND LEVEL.	CONTRACTOR TO REFER TO CC GEOTECHNICAL GROUND INVESTIGATION REPORT FOR ANY DETAILS OF HAZARDOUS CONTAMINATION IN THE GROUND
3	DISMANTLING OF EXISTING FREE-STANDING DOCK WALL ABOVE GROUND.	DUE TO THE PROXIMITY OF THE WALL TO THE PUBLIC HIGHWAY, AND TO THE PRINCES DOCK MSCP BUILDING, CAUTION IS TO BE TAKEN WHEN DISMANTLING THE EXISTING WALL AND ITS COPINGS DOWN TO GROUND LEVEL. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY SCAFFOLDING AND TEMPORARY SHORING TO MAINTAIN THE TEMPORARY STABILITY OF THE WALL DURING DISMANTLING.
4	DISMANTLING OF EXISTING FREE-STANDING DOCK WALL BELOW GROUND.	THE DOCK WALL IS A RETAINING STRUCTURE, RETAINING THE BACK OF THE FOOTPATH ON THE PUBLIC HIGHWAY ON ONE SIDE (BATH ST). CAUTION IS TO BE TAKEN TO ENSURE THAT THE FOOTPATH AND THE VARIOUS STATUTORY SERVICES BURIED BENEATH IT ARE NOT COMPROMISED OR DAMAGED DURING DISMANTLING OF THE BELOW GROUND (RETAINING) SECTION OF THE WALL. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY TEMPORARY SHORING TO MAINTAIN THE TEMPORARY STABILITY OF THE HIGHWAY ON THE RETAINED SIDE DURING DISMANTLING.



TYPICAL PROPOSED SECTION A-A
SCALE 1:50

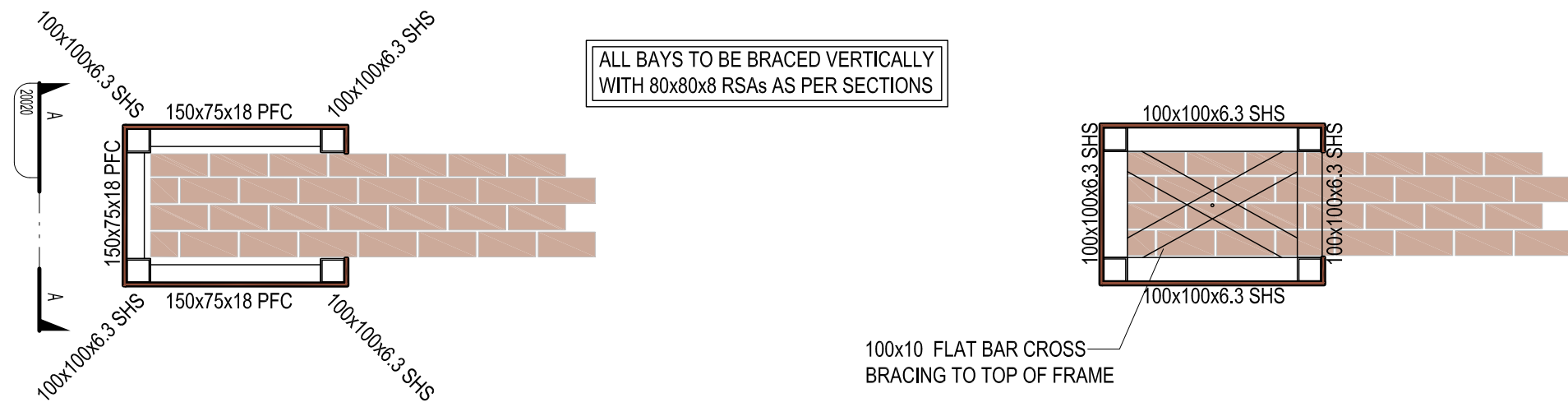
COSTING ALLOWANCE NOTES

STEELWORK HOT ROLLED
ALLOW FOR 20% ADDITIONAL STEEL TONNAGE FOR DESIGN DEVELOPMENT FOLLOWING TRIAL PIT FINDINGS
FABRICATOR TO DESIGN ALL CONNECTIONS WHICH ARE TO BE ASSESSED OVER AND ABOVE BY THE CONTRACTOR.

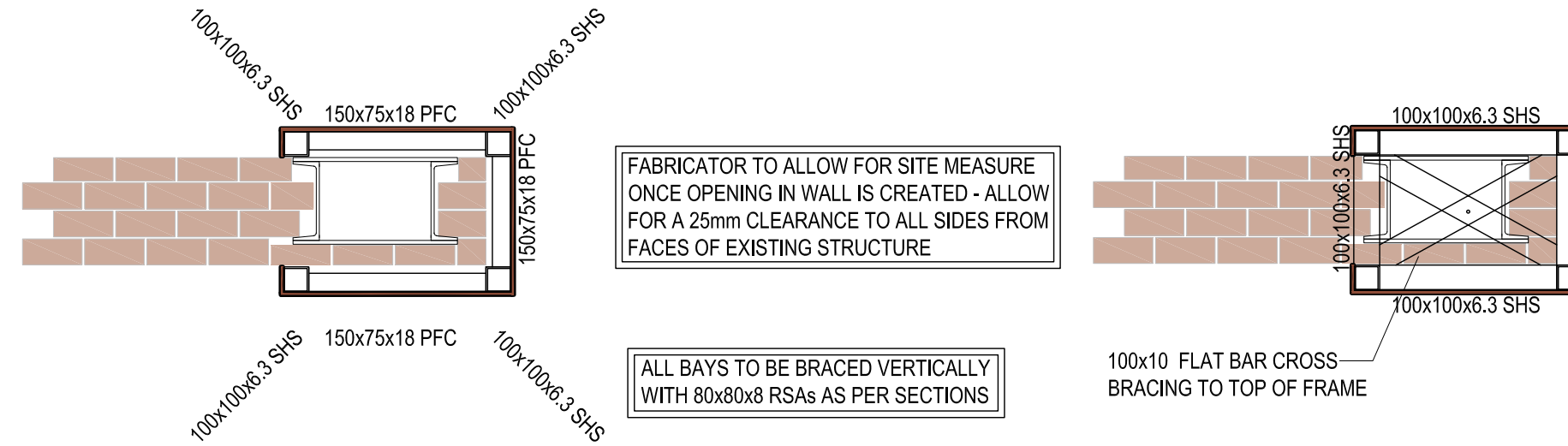
REINFORCED CONCRETE
LAPS ALLOW 30% MINIMUM ADDITIONAL ALLOWANCE BASED ON TOTAL REINFORCEMENT TONNAGE.

MASONRY PANELS
ALLOW FOR CAREFULLY DISMANTLING, STORING, CLEANING AND REBUILDING OF WALL LOCALLY TO SUIT NEW PIERS

NOTE: ALL STEELWORK TO BE GALVANISED



PIER A TYPICAL PLAN ON NEW PIER AT ABOVE GROUND LEVEL
SCALE 1:25



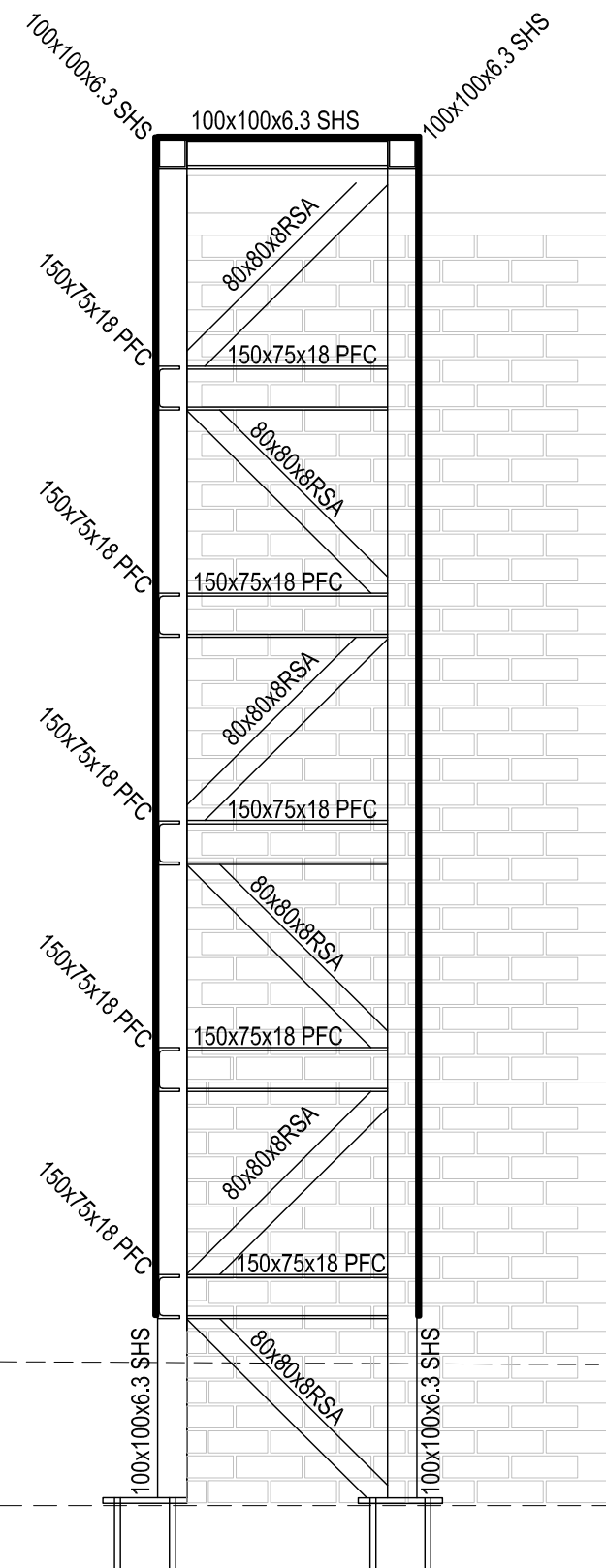
PIER B TYPICAL PLAN ON NEW PIER AT ABOVE GROUND LEVEL
SCALE 1:25

ALL BAYS TO BE BRACED VERTICALLY WITH 80x80x8 RSAs AS PER SECTIONS

FABRICATOR TO ALLOW FOR SITE MEASURE ONCE OPENING IN WALL IS CREATED - ALLOW FOR A 25mm CLEARANCE TO ALL SIDES FROM FACES OF EXISTING STRUCTURE

ALL BAYS TO BE BRACED VERTICALLY WITH 80x80x8 RSAs AS PER SECTIONS

PIER B TYPICAL PLAN ON NEW PIER AT ABOVE GROUND LEVEL
SCALE 1:25



TYPICAL PROPOSED SECTION B-B
SCALE 1:50

STRUCTURAL COMMENTS ON THE PROPOSED MODIFICATIONS TO THE BOUNDARY WALL

THE PROPOSED STRUCTURE REQUIRES A LARGE TEMPORARY OPENING TO BE FORMED IN THE BOUNDARY WALL ALONGSIDE BATH STREET SO THAT A NEW TEMPORARY ROAD JUNCTION CAN BE FORMED.

BURIED WITHIN THE WALL ARE STEEL STANCHIONS MADE FROM PLATED STEEL AND I OR CHANNEL SECTIONS. CREATING THE OPENING REQUIRES THE REMOVAL OF ONE OF THE EXISTING STEEL STANCHIONS AND A SECTION OF THE WALL. THIS WILL REDUCE THE DEAD WEIGHT ON THE EXISTING FOUNDATION FROM THE BRICKWORK.

TRIAL PITS UNDERTAKEN ON THE DOCK SIDE OF THE WALL HAVE SHOWN THE WALL TO SIT ON TO DEEP CONCRETE SPREAD FOOTINGS, WITH A PROJECTION BEYOND THE FACE OF THE WALL, OF BETWEEN 500-600mm. NO TRIAL PITS HAVE BEEN UNDERTAKEN ON THE BATH STREET SIDE OF THE WALL DUE TO THE PRESENCE OF NUMEROUS SHALLOW BURIED SERVICES IN THE PAVEMENT AGAINST THE WALL. IT IS ASSUMED THAT A SIMILAR 500-600mm PROJECTION OF THE SPREAD FOUNDATION IS ALSO PRESENT ON THIS OPPOSITE SIDE OF THE WALL. HOWEVER THIS WILL REQUIRE VERIFYING DURING THE DISMANTLING WORKS.

THE NEW OPENINGS WILL REQUIRE THE FOLLOWING:

PRIOR TO AND DURING DISMANTLING WORKS

- PHOTOGRAPH ALL WALL / FOUNDATIONS AS EXPOSED.
- CAREFULLY REMOVE, CLEAN AND STORE THE COPING STONES AND ANY OTHER HERITAGE FEATURES FOR FUTURE RE-USE.
- CAREFULLY DISMANTLE THE WALL BRICKWORK ALL THE WAY DOWN TO THE TOP OF EXISTING FOUNDATION LEVEL (SEE RESIDUAL HAZARD REGISTER ADJACENT). ALL BRICKWORK IS TO BE CLEANED AND STORED FOR FUTURE RE-USE.
- CAREFULLY REMOVE THE AFFECTED STEEL STANCHION AND STORE FOR FUTURE RE-USE.

NEW PIERS

ONE OF THE NEW PIERS IS CONSTRUCTED ON THE LINE OF THE EXISTING WALL, BUT AT A LOCATION WHERE THERE IS NO HISTORIC BURIED STEEL STANCHION (PIER B). THE OTHER PIER IS CONSTRUCTED AT THE POSITION OF A HISTORIC BURIED STEEL STANCHION WHICH IS BEING RETAINED (PIER A). BOTH NEW PIERS COMPRISE ARCHITECTURAL WEATHERED STEEL SHEET RAINSCREEN CLADDING, SUPPORTED BY A STRUCTURAL GALVANISED MILD STEEL CANTILEVER TRUSS FRAME HIDDEN BEHIND, FORMED FROM 4NO. COLUMNS JOINED BY CROSS MEMBERS AND DIAGONAL BRACING.

- INSTALL NEW GALVANISED STEEL PIER FRAMES BOLTED DOWN TO TOP OF EXISTING WALL FOUNDATION USING RESIN ANCHORS.
- CONSTRUCT NEW WEATHERED STEEL SHEET RAINSCREEN CLADDING, FIXED BACK TO THE NEW STEELWORK.

GENERAL NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
- DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- FOR GENERAL NOTES REFER TO DRAWING.

Steelwork Notes

S.6 All steelwork shall comply with 'The National Structural Steelwork Specification for Building Construction' 4th edition, published by BCSA/SCL, as modified by the project steel specification.

S.7 All columns to be grade S355 JR, designed to BS 5950 and delivered in accordance with BS EN 10025 1993.

S.8 All beams and braces to be grade S355 JR, designed to BS 5950 and delivered in accordance with BS EN 10025 1993.

S.9 Connections are to be designed by the contractor for the forces shown on the drawings & schedules.

S.10 Forces are given as ultimate. Where connections are detailed on the drawings the contractor is to confirm his acceptance of these details in writing prior to start of fabrication. Loads given relate only to the permanent works. All loading conditions resulting from temporary works or the construction sequence shall be determined by and designed for by the contractor. Connections of members will be located centrally about the respective axis of the members unless specifically noted otherwise.

S.11 All structural connections are to have a minimum of 4 No. M16 grade 8.8 bolts.

S.12 All structural welds are to be a minimum of 6mm fillet weld. The contractor shall make allowances for depth of penetration in accordance with CI 6.6.8.2 BS 5950 - part 1.

S.13 All contractor designed work is to be submitted for acceptance by Curtins at least two weeks prior to commencement of fabrication. The contractor shall provide a Tekla (or equal approved) 3d model to the Architect/Engineer of the fabrication package for use with viewing software to enable all steelwork interfaces and connection details to be viewed as part of the overall process.

S.14 Grade 8.8 bolts shall be to BS EN 24014, BS EN 24017 BS 3692.

S.15 Foundation bolts shall be in accordance with BS 7419. Where grouted sleeves are used no reliance should be placed on the grout to resist horizontal shear. The contractors design should ensure such horizontal forces can be transmitted by either base friction or directly by setting the baseplate into a shallow pocket, or in the case of high shear forces by the provision of a shear key fixed to the underside of the baseplate.

S.16 Grout around foundation bolts and under base plates is to be non-shrink and have a minimum characteristic strength at 28 days of 40N/mm², to BS 5328.

S.21 No cutting or removal of placed steelwork or concrete is permitted without prior acceptance by Curtins.

S.22 All Steelwork is to be galvanised. Refer to the Curtins specification for the extent and nature of corrosion protection.

S.23 The contractor is to allow for coordination with other contractors whose work interfaces with the steel frame. This coordination may include the design, fabrication, and erection of steel elements, brackets, and fixings specified by other contractors. Work to be specified by other contractors is not shown on Curtins drawings.

S.24 The contractor is responsible for all temporary works which include but are not limited to the items noted in the drawings.

S.28 All steelwork below ground to be encased in grade 35 concrete with minimum 100mm cover.

Reinforced Concrete Foundations

RC.1. Reinforcement denoted B to be high yield grade 500 to BS4449. All mesh to be high yield steel to BS4483.

RC.2. Minimum cover to reinforcement to be 50mm in pile caps.

RC.3. All mesh to be ordered and cut to suit on site by contractor. Lap lengths to mesh reinforcement to be 450mm. No more than 3 no. layers to lap at any juncture.

RC.4. All works to be carried out in strict accordance with the engineers specification for reinforced concrete.

RC.5. All concrete to be grade C32/40 with a minimum compressive strength of 40N/mm² at 28 days, to suit DC-1 class to BRE special digest 1

- minimum cement content is to be 360kg/m³
- max water / cement ratio 0.50
- maximum aggregate size is to be 20mm nominal

Hardcore/ Sub-base

H.1. All hardcore shall be clean and free of deleterious material such as timber, steel and plaster. It shall be graded from 75mm down to dust in accordance with DoT Type 1.

H.2. All hardcore shall be laid in maximum 150mm layers.

TEMPORARY WORKS

1. The Contractor is to maintain the stability of all existing buildings and structures, within and adjacent to the works.

2. The Contractor shall design, install and maintain all necessary temporary works and shall advise the CA, before commencement of the works, on his proposals for the temporary supports and sequence of construction for the works. These proposals shall be supported by design calculations if requested.

P01	REVISED TO SUIT NEW SCHEME	30/04/18	SF	ARP
Rev:	Description:	Date:	By:	Chkd:

