

FORMWORK HOIST

Model: 2T-275-197-A

AUSTRALIAN CONSTRUCTION SYSTEMS OPERATIONS PTY. LTD.

37 Colbert Road, Campbellfield,

Victoria, Australia.

Tel.: +61 3 9357 9686

Jan. 2016
Version 1.2

INDEX

1.0 INTRODUCTION, 2
2.0 ASSEMBLY DETAILS, 4
3.0 COMPONENT DETAILS, 10
4.0 SITE ASSEMBLING & ERECTION DETAILS, 19
5.0 CERTIFICATION, 22
6.0 RISK ASSESSMENT, 23
7.0 APPENDIX, 31

1.0 INTRODUCTION

The purpose of this hoist is to raise formwork material & equipment from the floor being stripped to the next level being formed. A maximum of two tonnes can be raised with this formwork hoist.

Penetrations in the slab need to be provided to allow the frame to sit at the level being stripped (Refer to general arrangement drawing).

This hoist should not be used to shift personnel to different levels.

The hoist to be used in this frame is to be a 2.0t dual speed 415V-50Hz with inverter (Kito hoist CODE: ER2-020IL or similar).

No unauthorized modifications are permitted. The hoist should only be used for its intended purpose.

1.1 Design Criteria:

- Crane classification: C3, S3
- Design Life: 10 years
- Lifting:
 - o Spectrum: $k_p=0.25$ $k_p=.5$
 - o Number of operation cycles: 1.25×10^5 6.3×10^4
- Geometry: refer to the general arrangement drawings in this manual.
- Loads – vertical:
 - o Self-weight: 3.5 T
 - o Rated capacity: 2.0 T
- Hoist:
 - o Qty supplied: 1
 - o Lifting speed 4.3m / min (MAX).
 - o Acceleration: 0.4m/s^2 (MAX).
- Design wind speed (permissible):
 - o In service 20 m/s (MAX).
 - o Out of service (no load on hook) 36.7m/s MAX (including multipliers wind direction, terrain, height, shielding topography).
- Design Loads: For design loads imposed on building, refer to Figure S1.

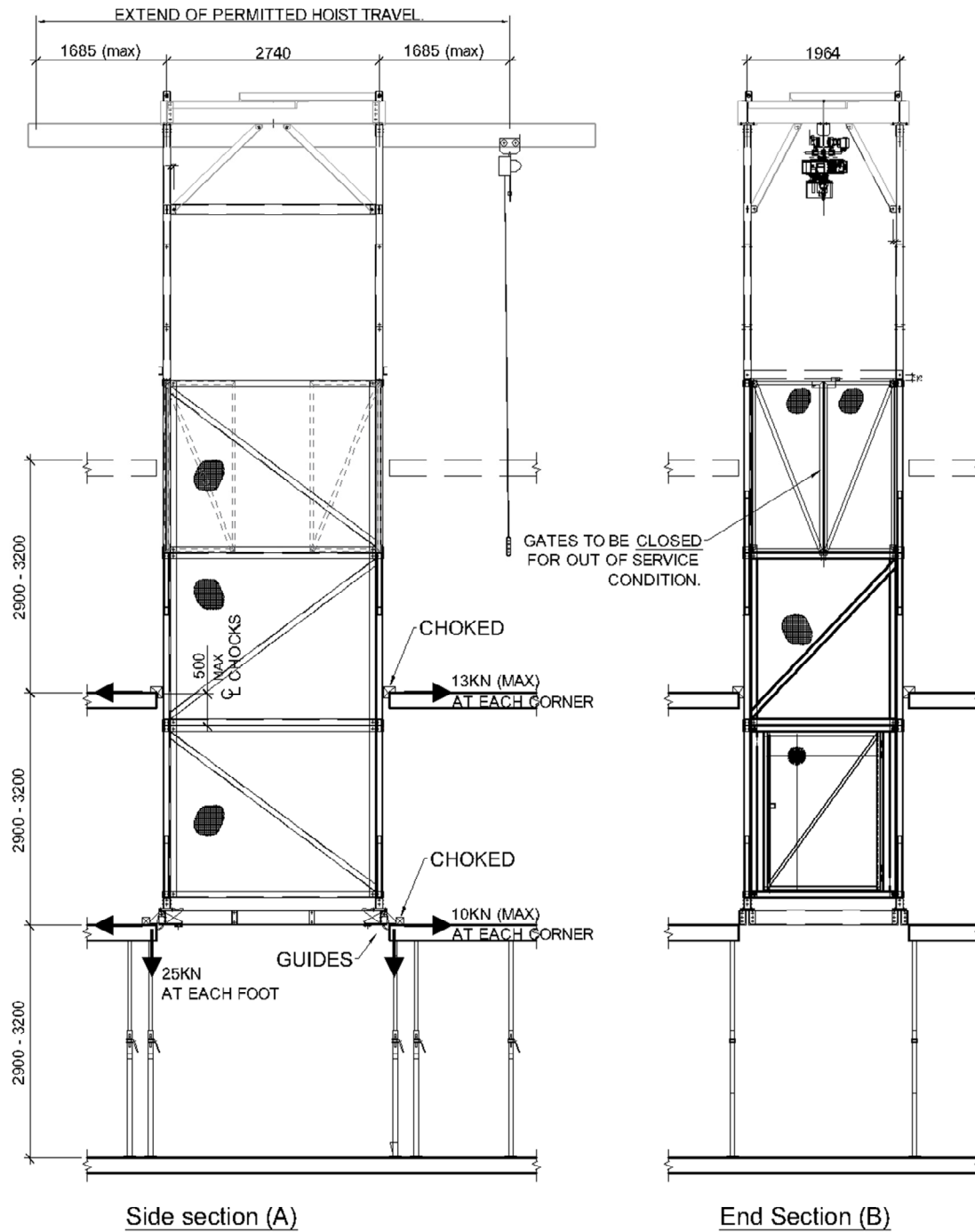
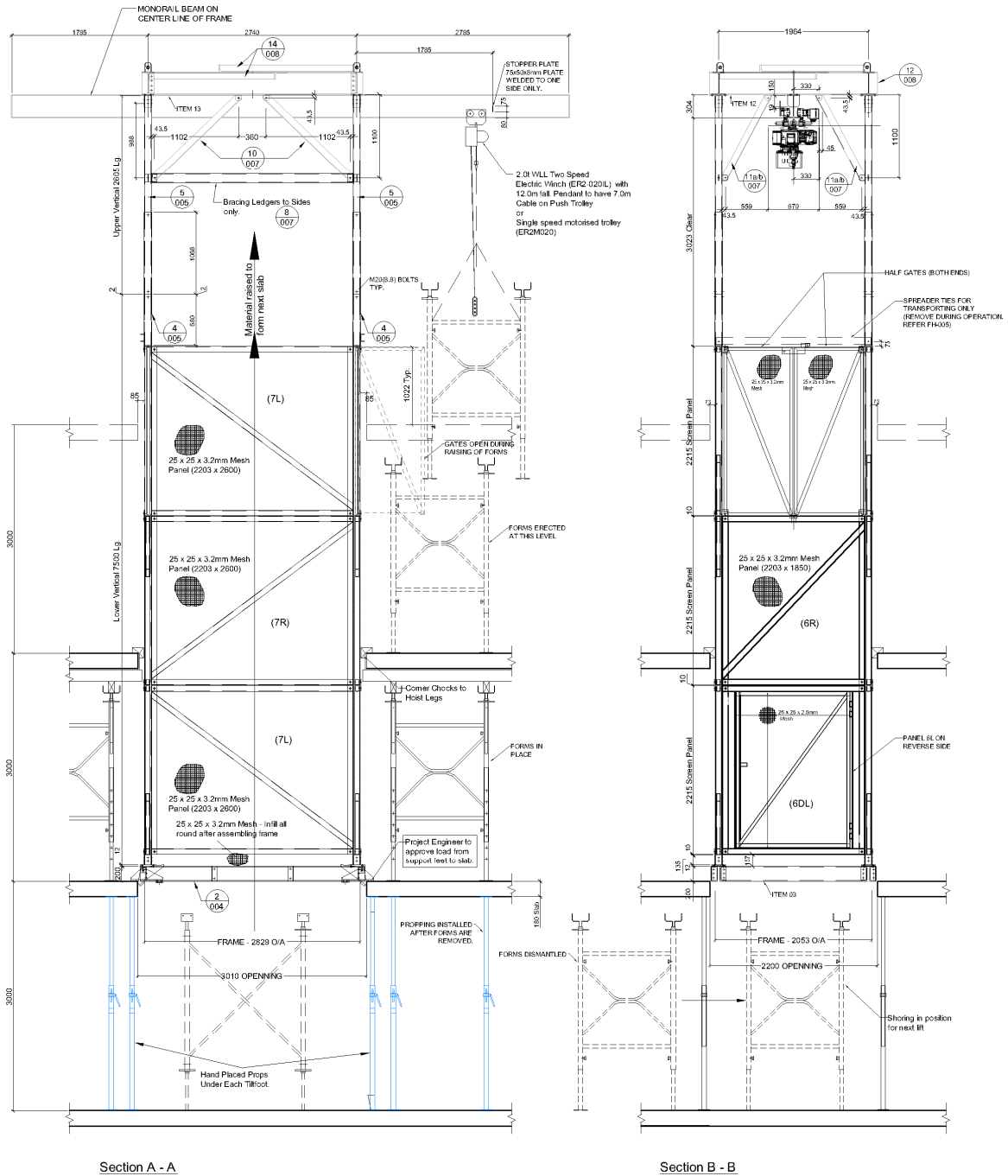


Figure S1: FRAME LOADS

2.0 ASSEMBLY DETAILS



GENERAL ARRANGEMENT SECTIONS

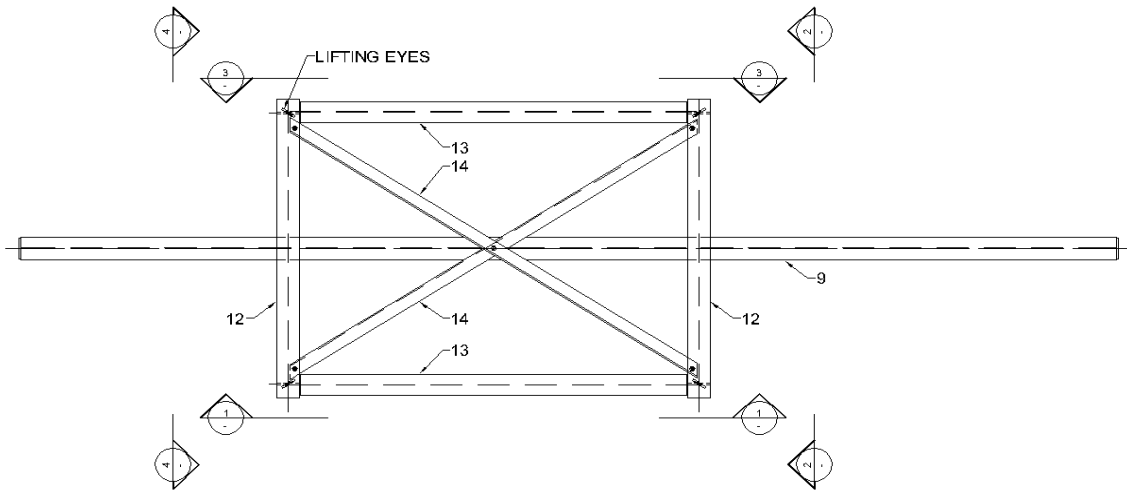
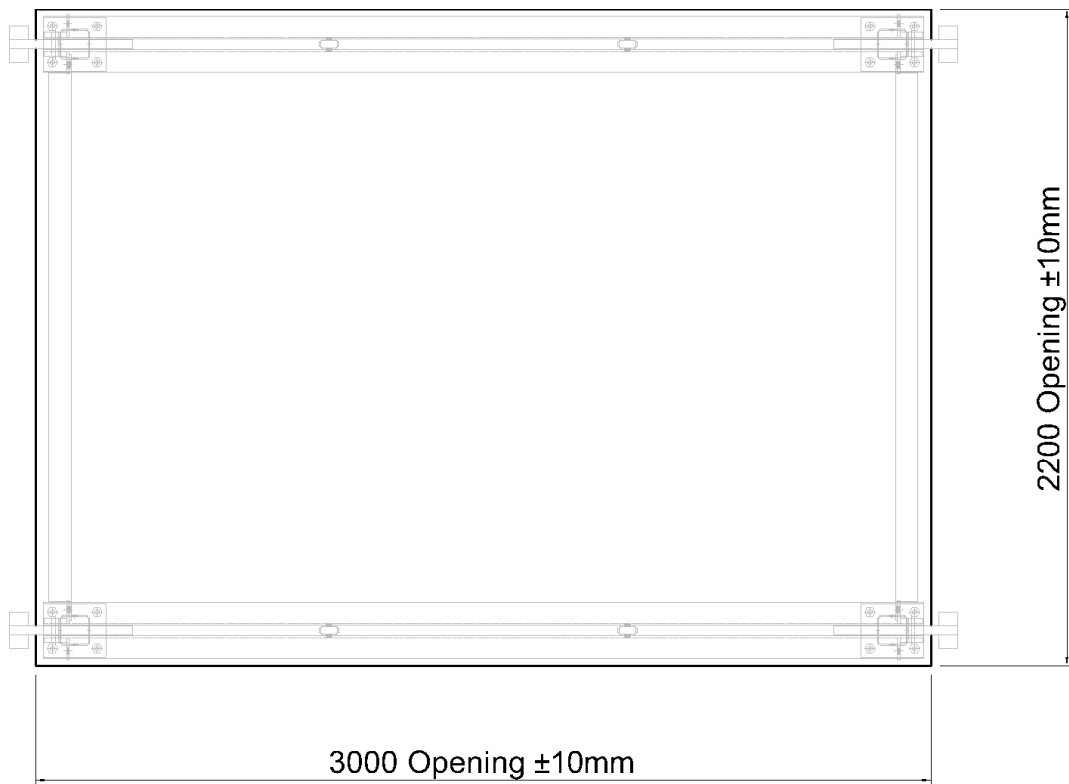


Figure A
PLAN OF HEAD FRAME AND MONORAIL.



Concrete opening
Requirements:

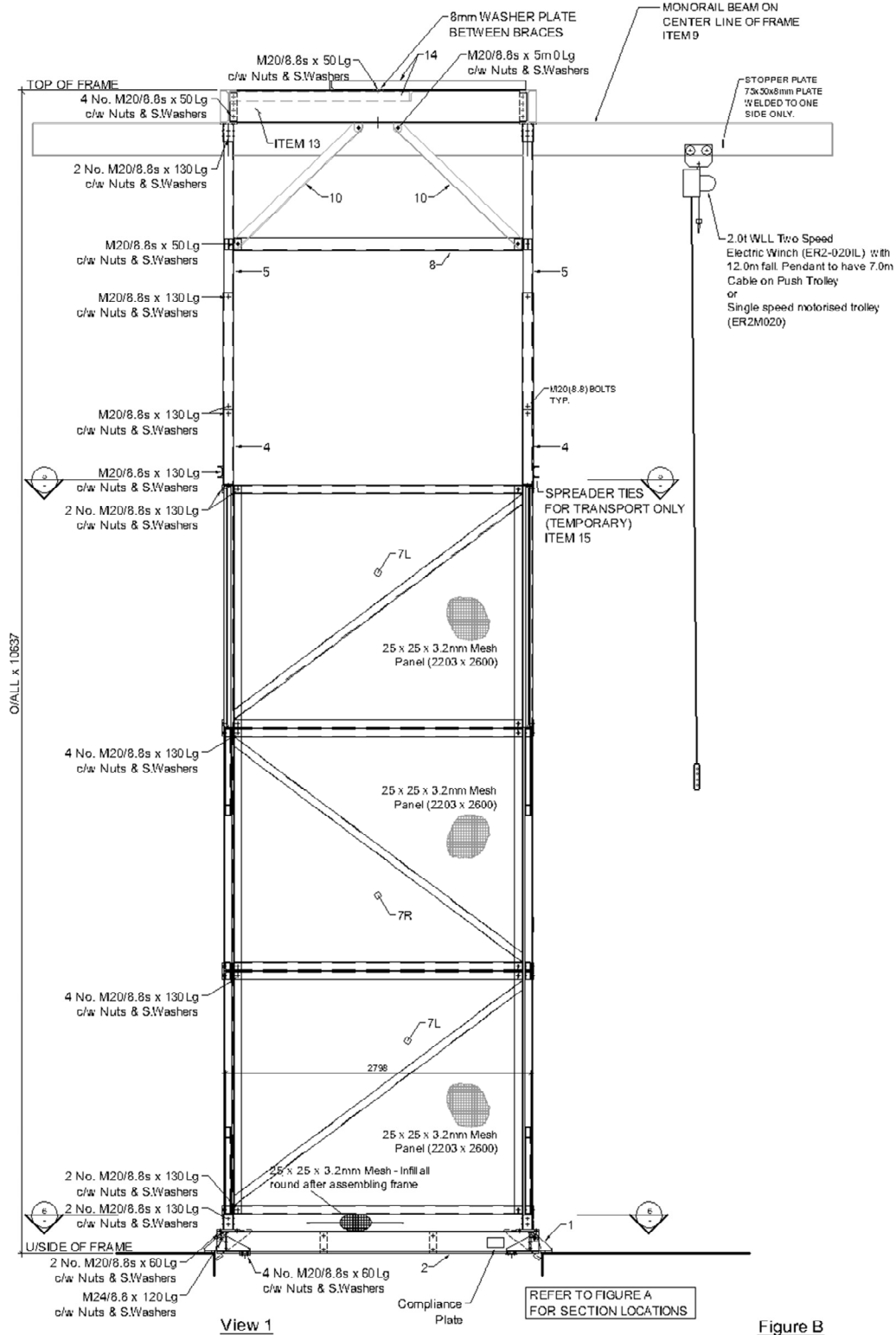


Figure B
VIEW 1

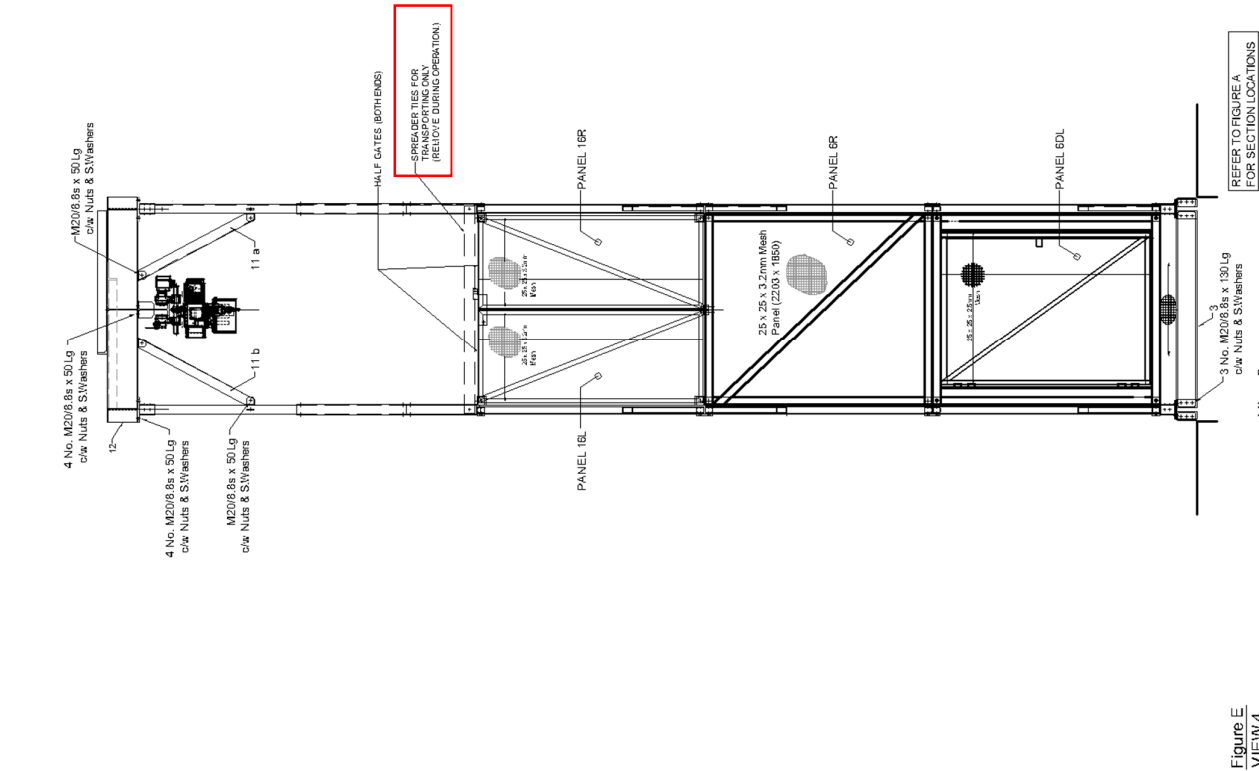


Figure C
VIEW 2

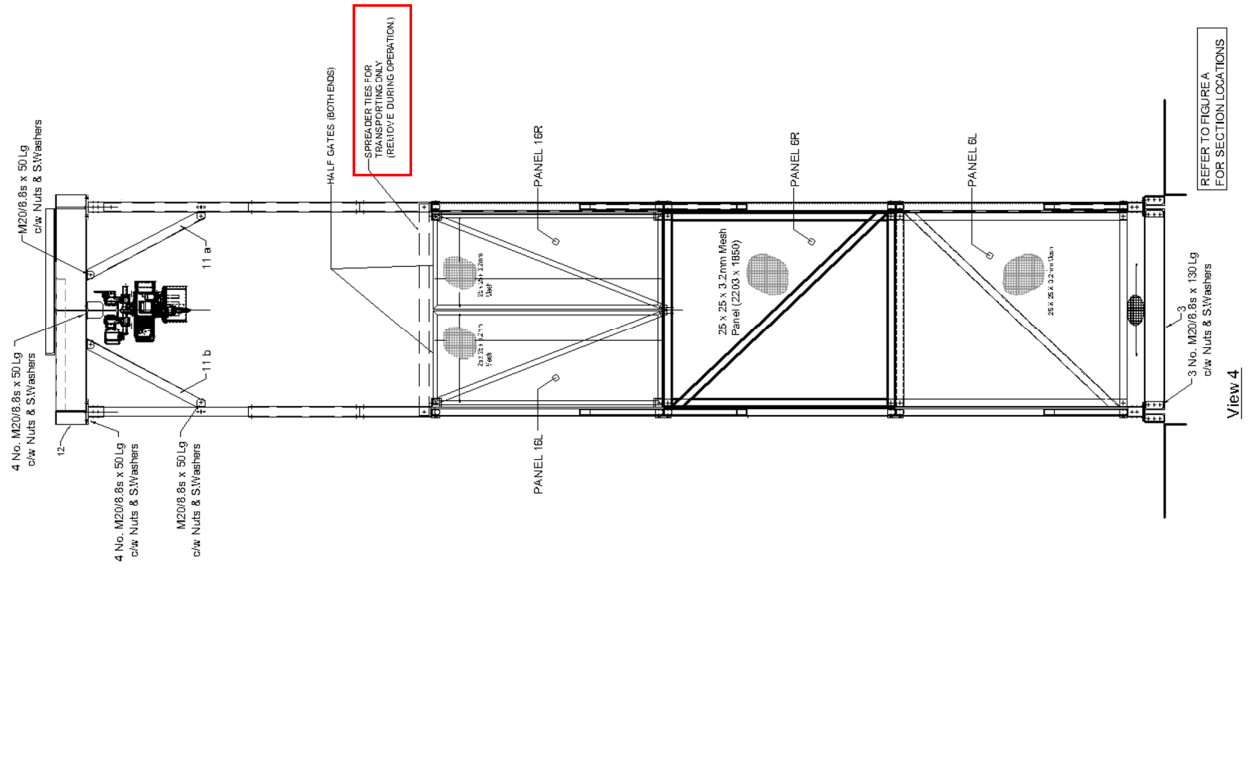
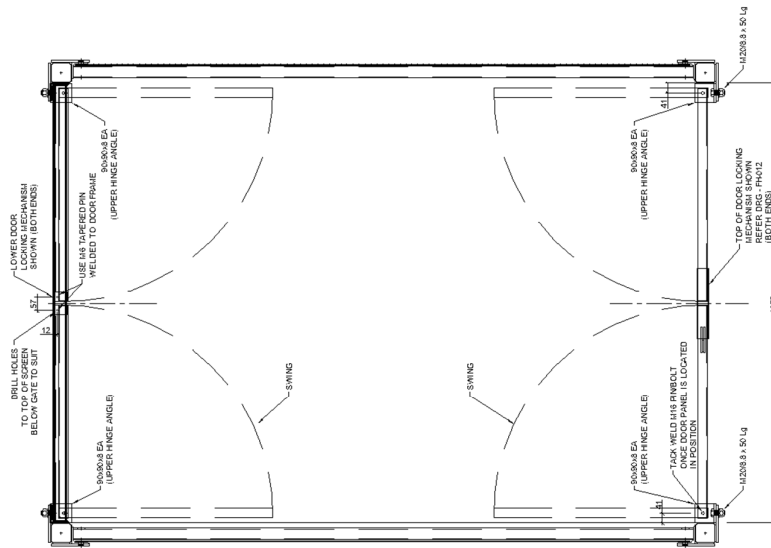
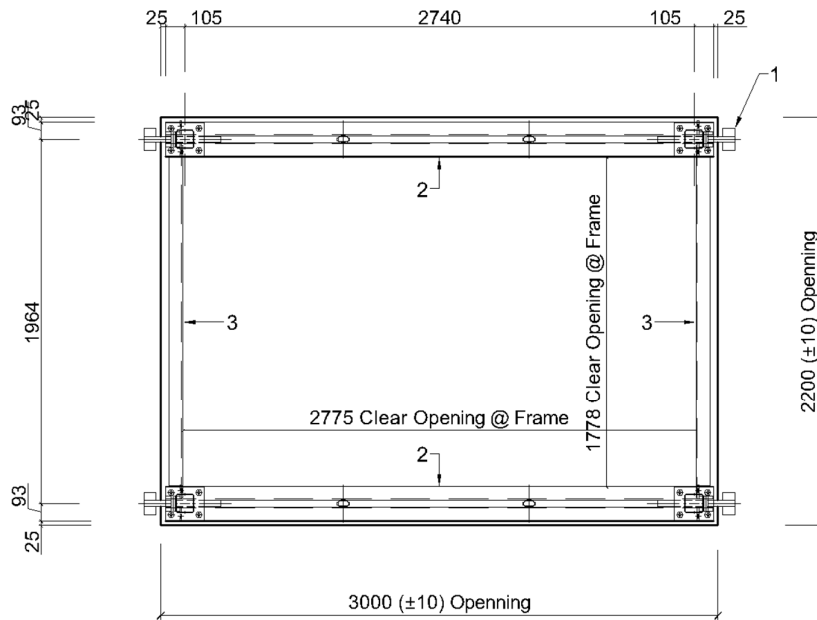


Figure E
VIEW 4



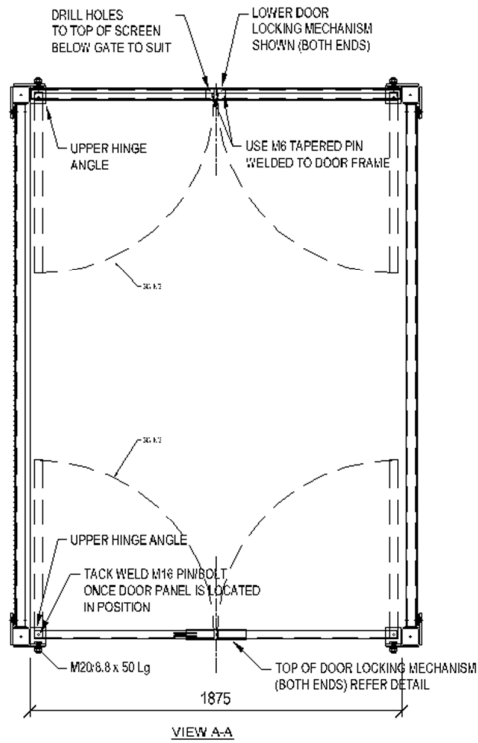
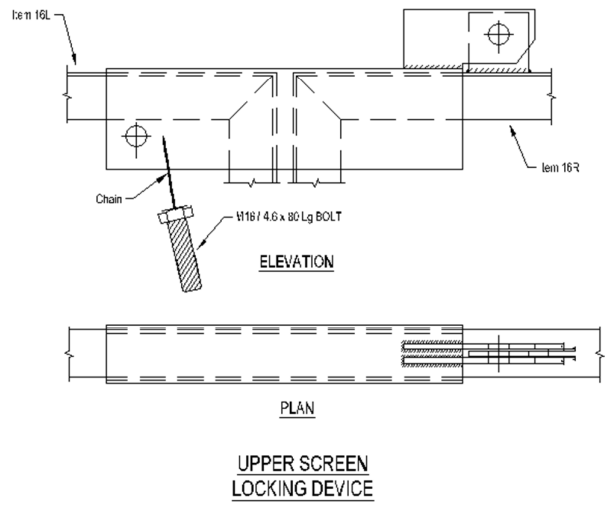
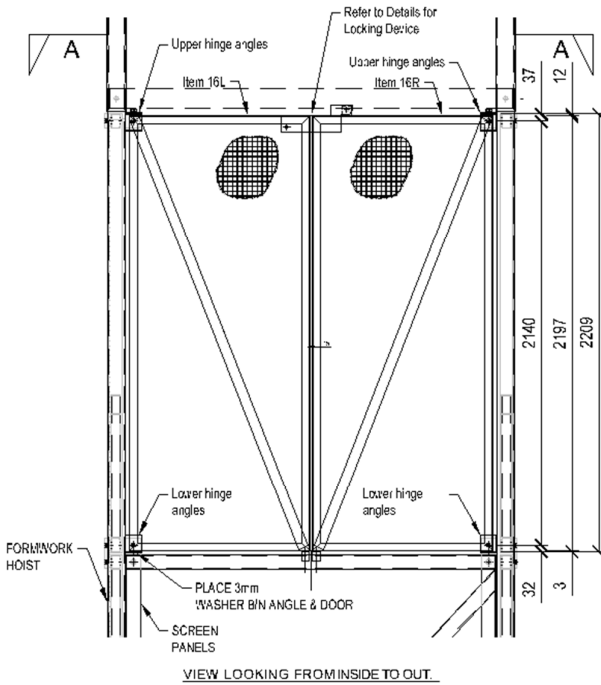
View 5

Figure F
VIEW 5



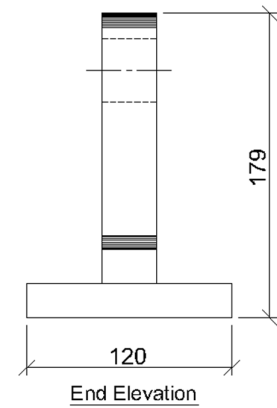
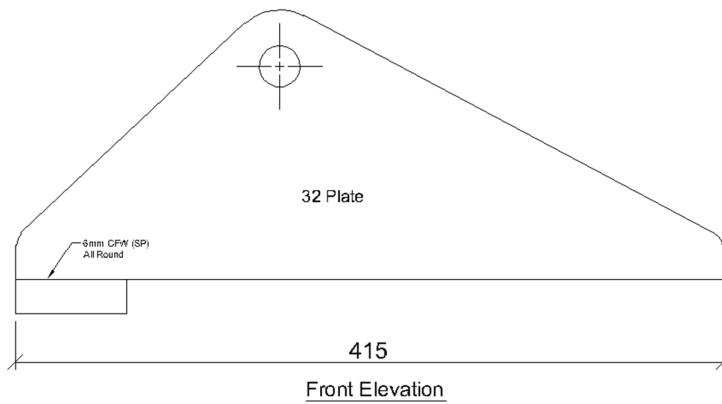
View 6

Figure G
VIEW 6



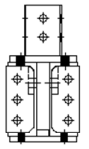
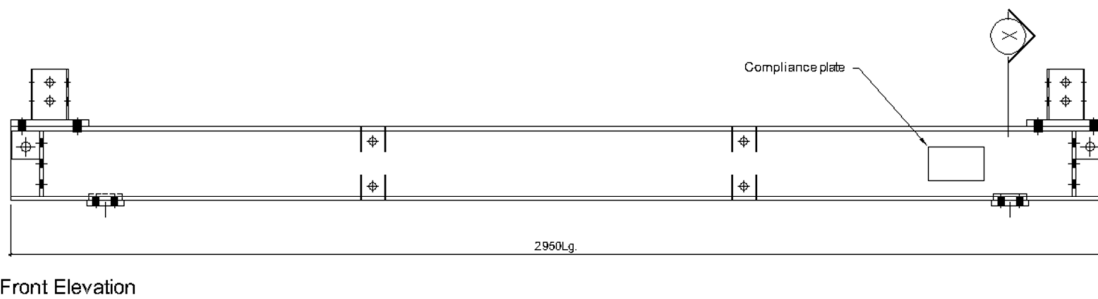
MESH PANELS Item 16L/R SET-UP DETAILS

3.0 COMPONENT DETAILS

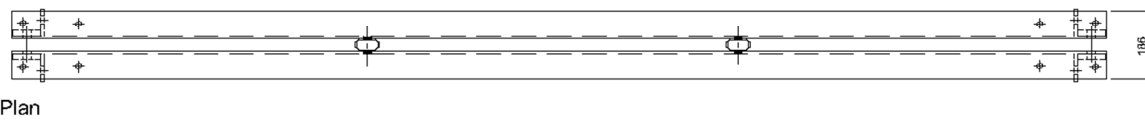


Item 1: Tiltfeet

Qty = 4 off

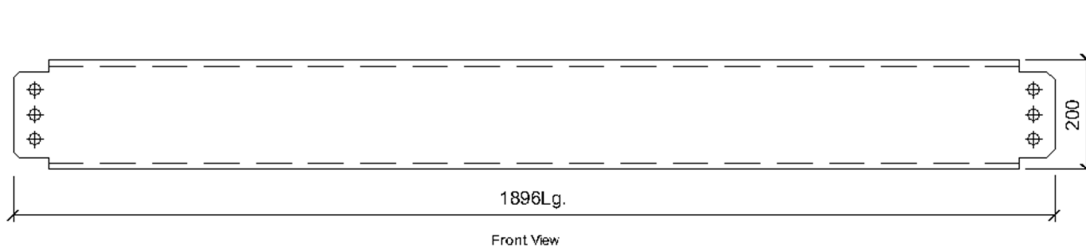


View - X



Item 2 : Support Beam

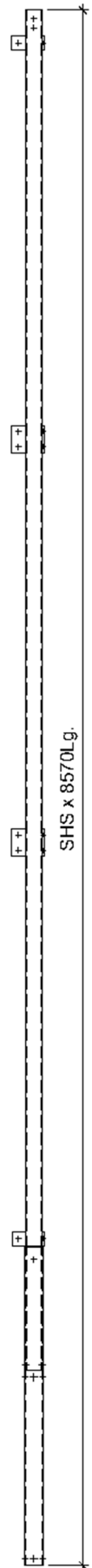
Qty. = 2 Assemblies



End View

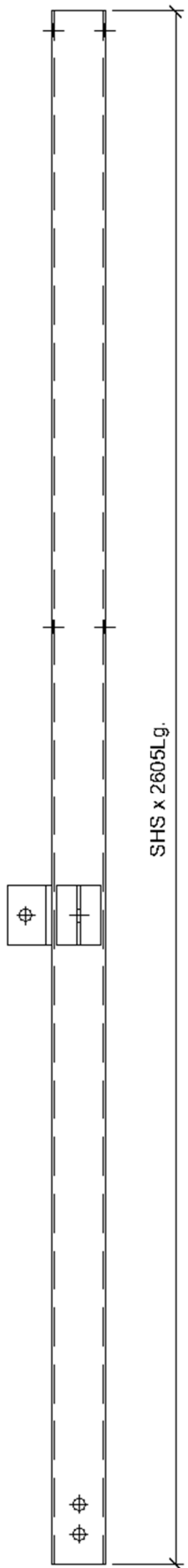
Item 3: Support Beam

QTY = 2 OFF



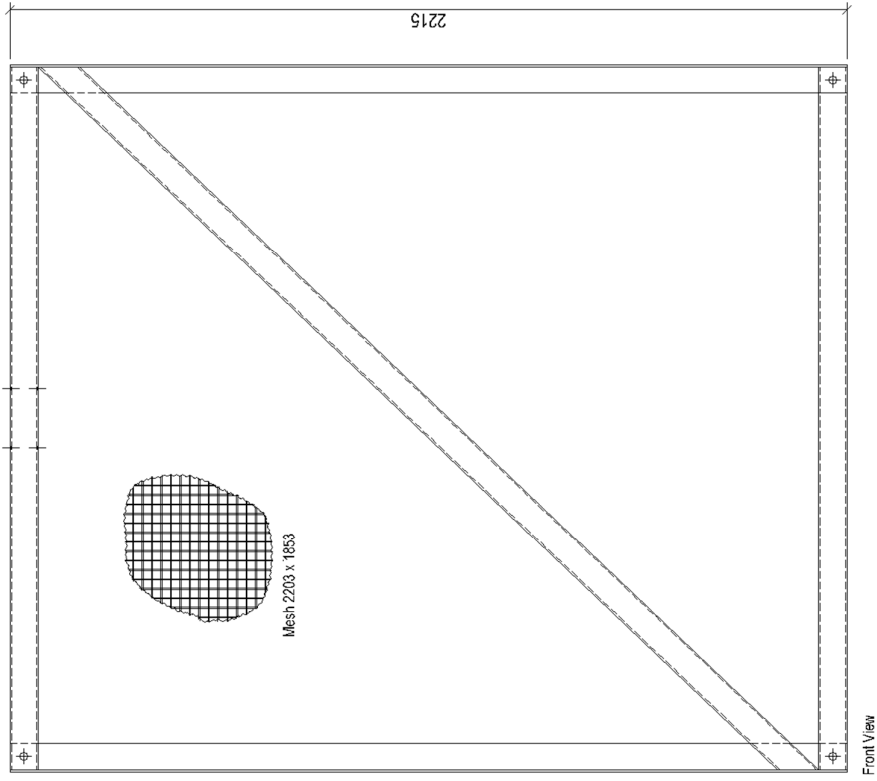
SHS x 8570Lg.

Item 4: Post
QTY = 4 OFF



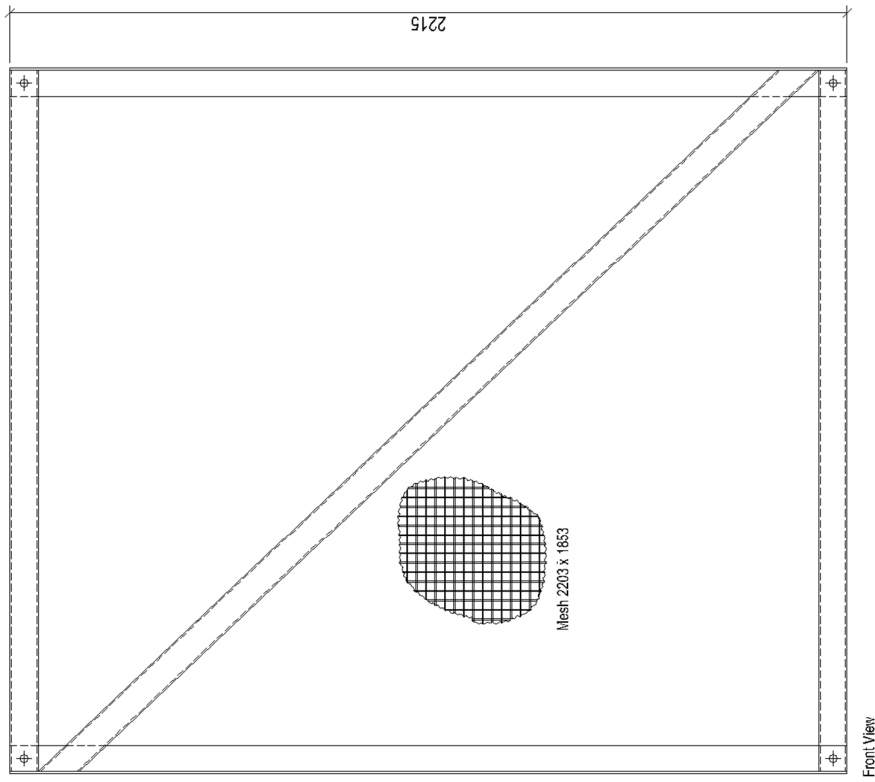
SHS x 2605Lg.

Item 5: Post
QTY = 4 OFF



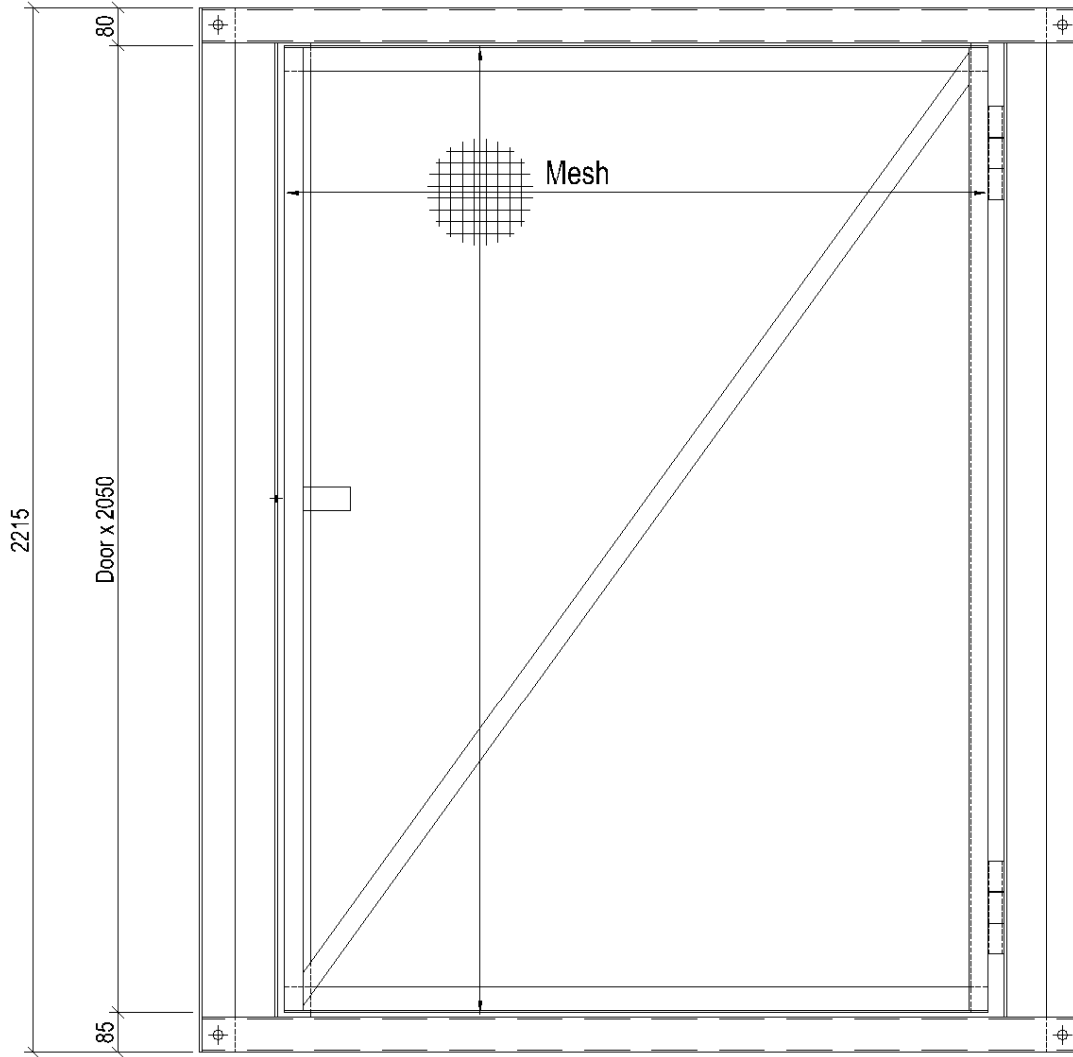
Item 6R: Mesh Panel

QTY = 2 off

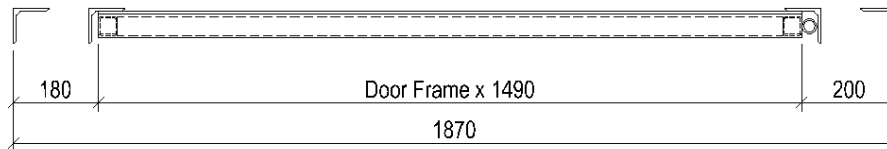


Item 6L: Mesh Panel

QTY = 1 off



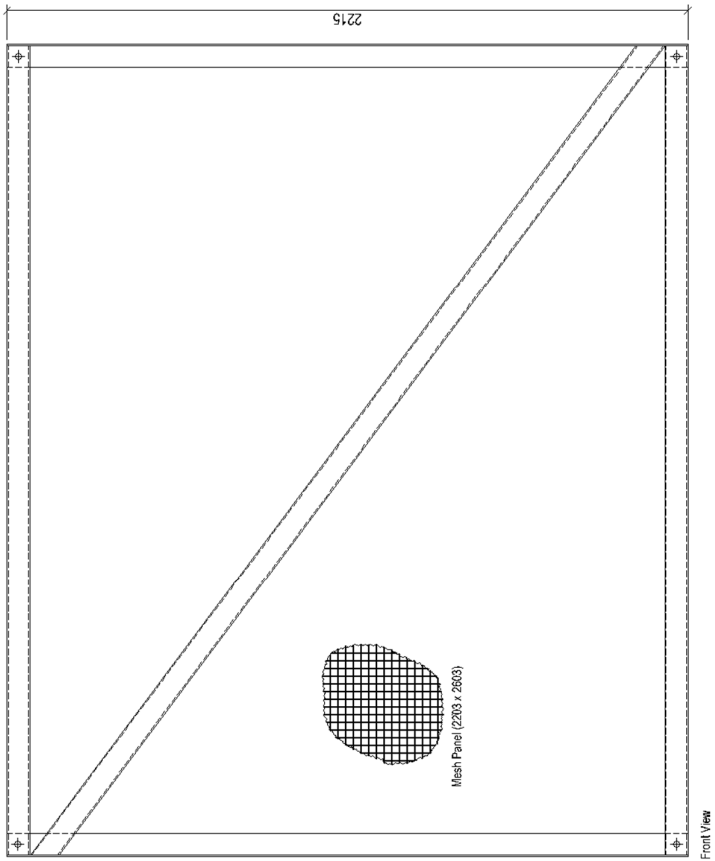
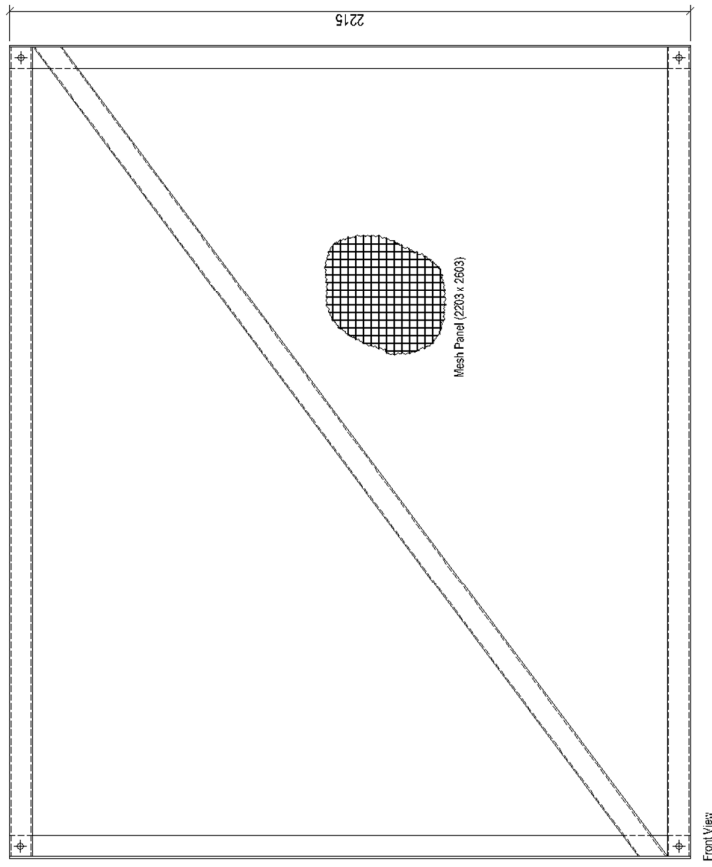
Front View

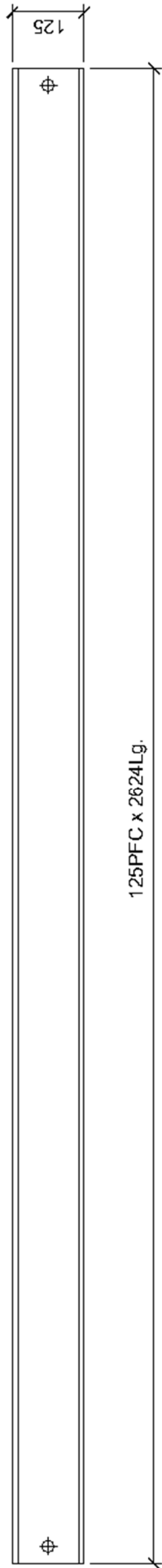


Plan

Item 6LD: Door Panel

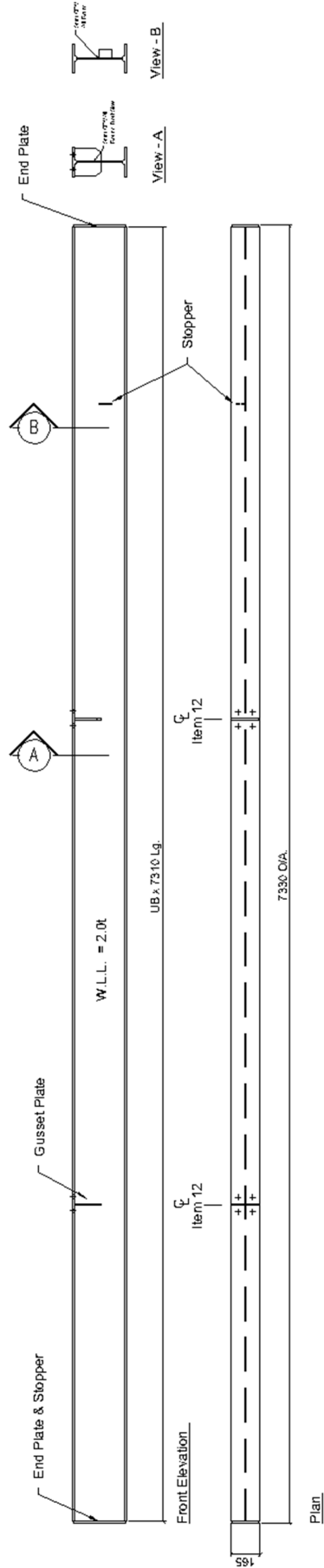
QTY = 1 of





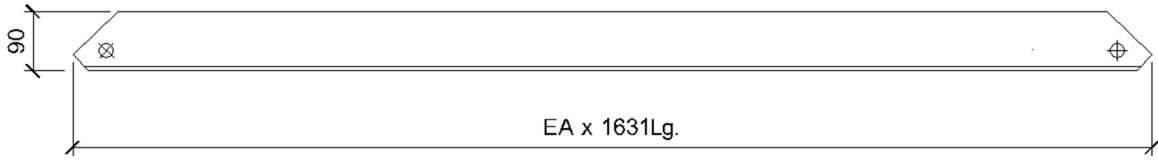
Item 8: Spreader Channel

Qty = 2 off.

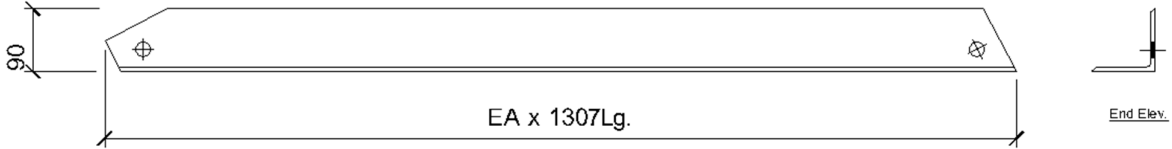


Item 9: Monorail Beam

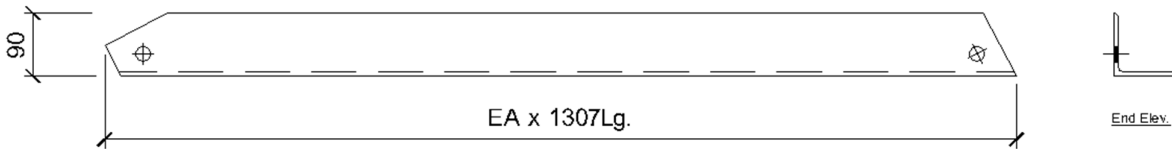
Qty = 1 off.



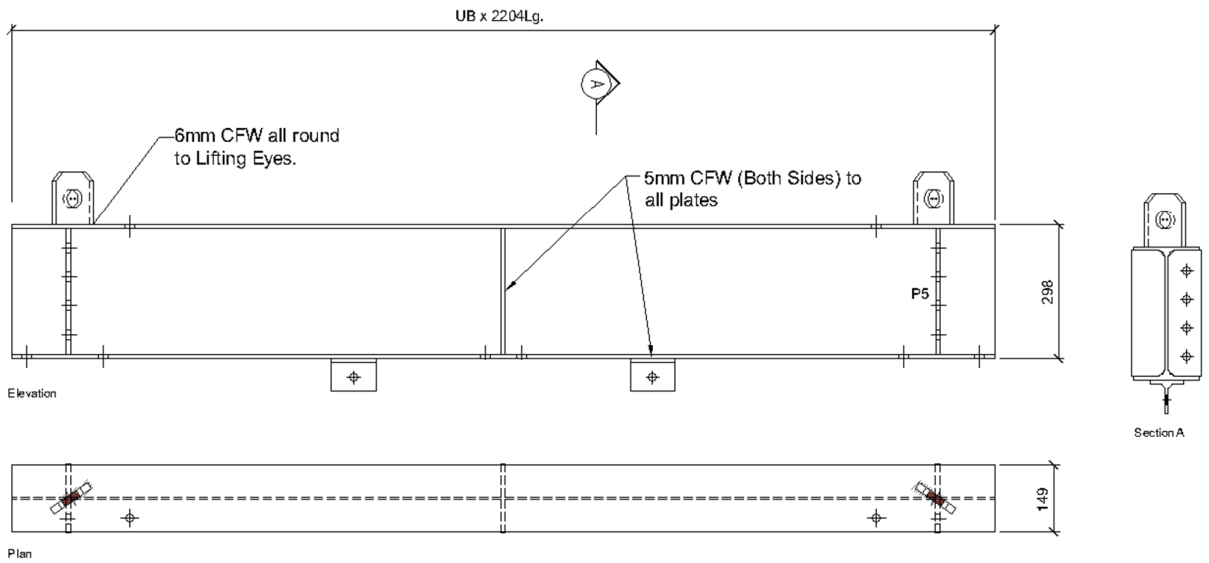
Item 10: Bracing
Qty = 4 off.



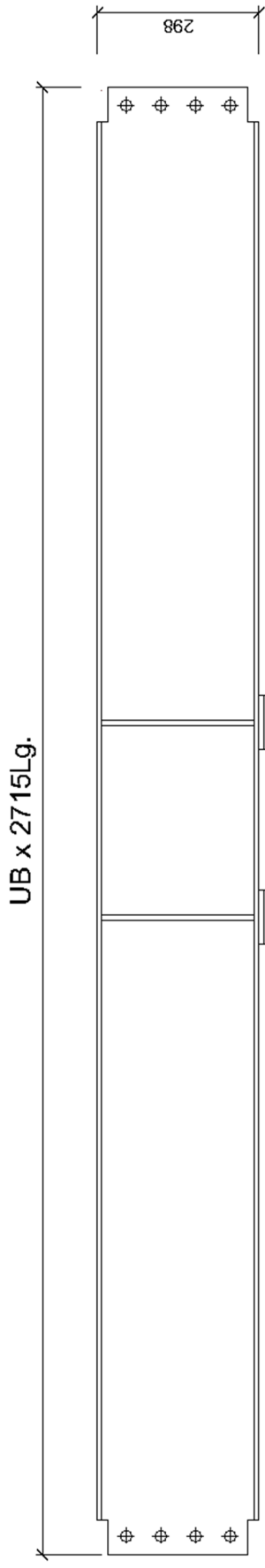
Item 11a: Bracing
Qty = 2 off.



Item 11b: Bracing
Qty = 2 off.



Item 12: Head Frame Beam
QTY = 2 off.



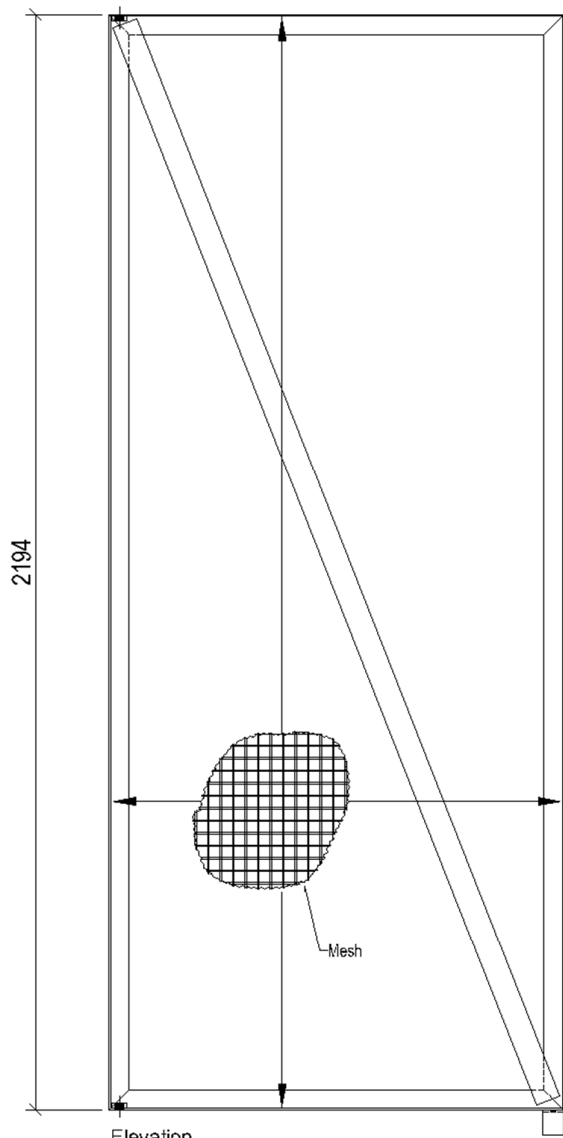
Item 13: Head Frame Beam
QTY = 2 off.



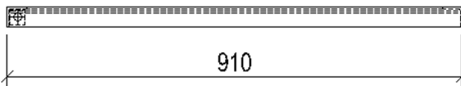
Item 14: Plan Brace
QTY = 2 off.



Item 15: Spreader Ties
QTY = 2 OFF



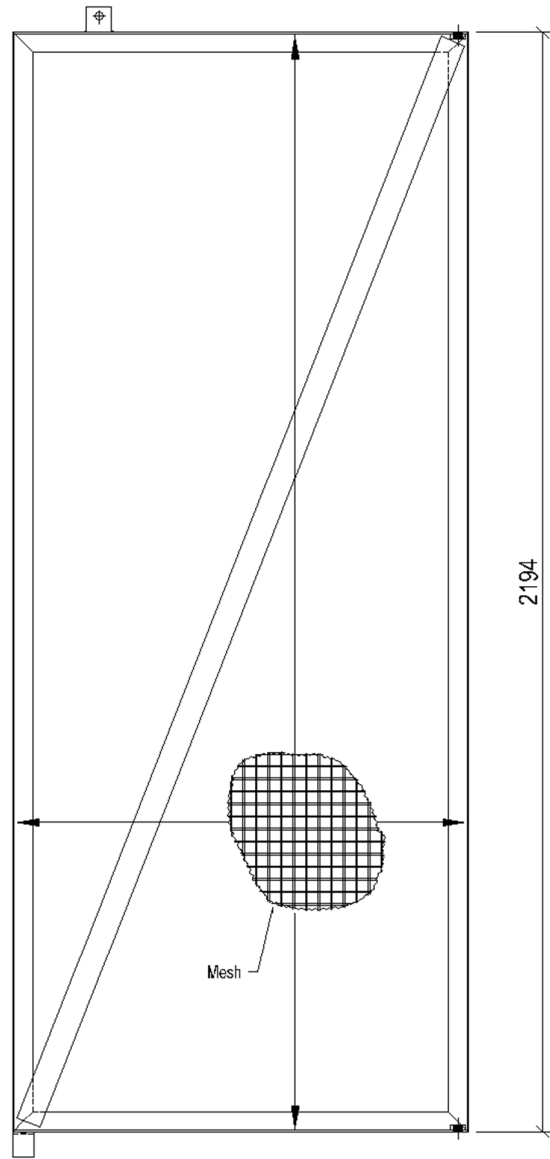
Elevation



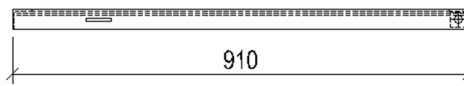
Plan

Item 16L: Mesh Panel

QTY = 2



Elevation



Plan

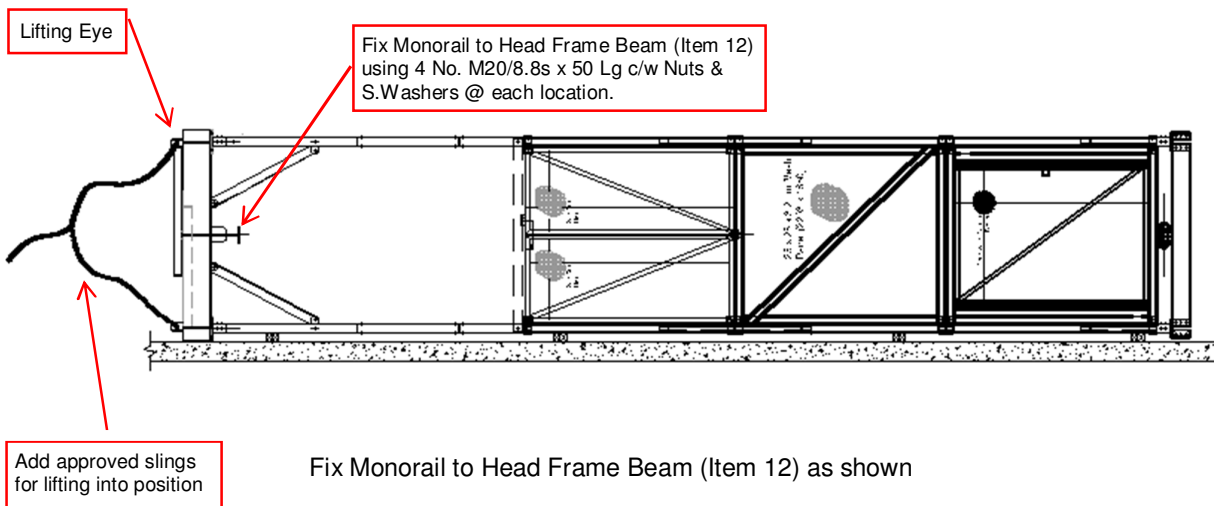
Item 16R: Mesh Panel

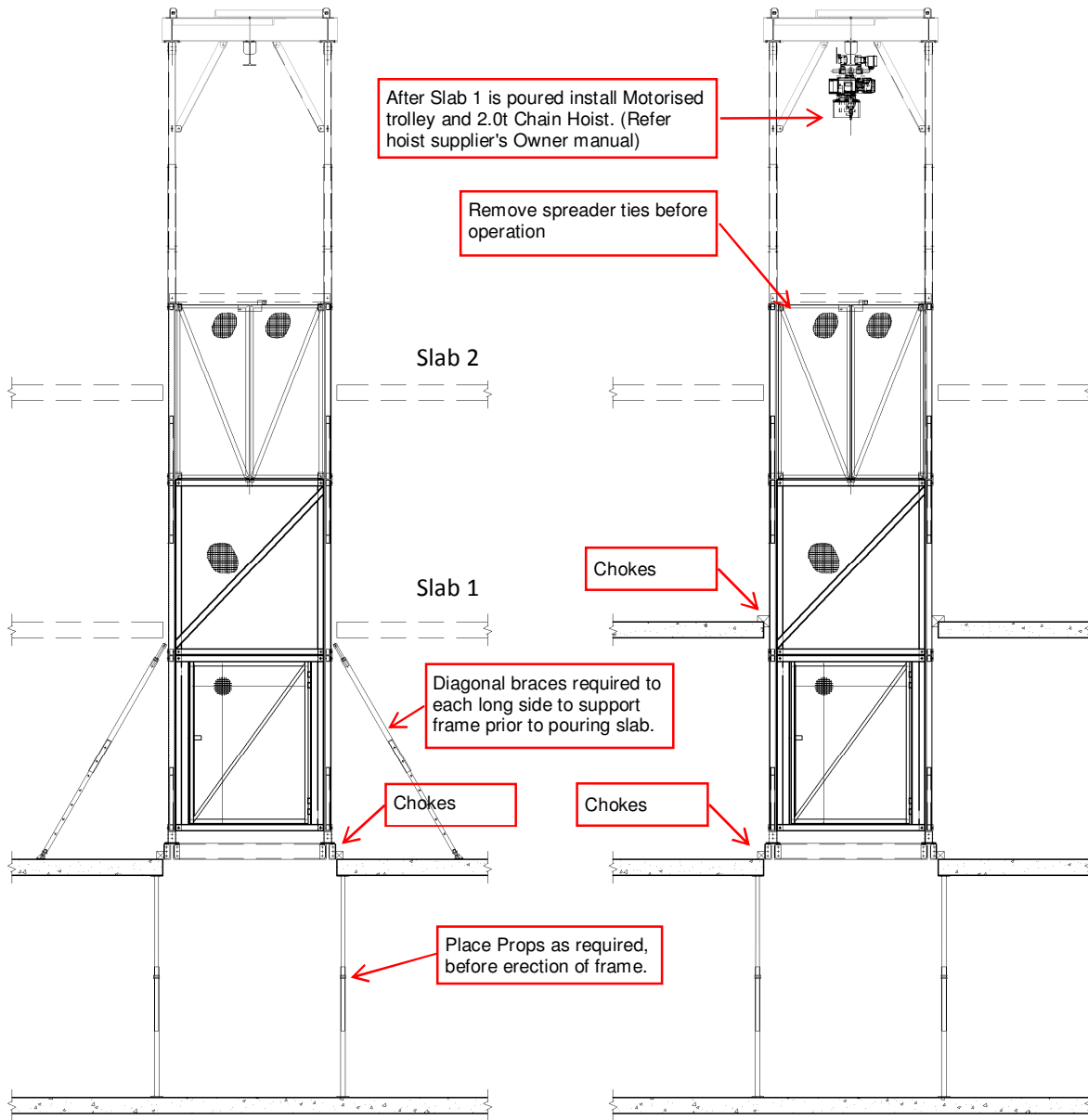
QTY = 2

4.0 SITE ASSEMBLING & ERECTION DETAILS



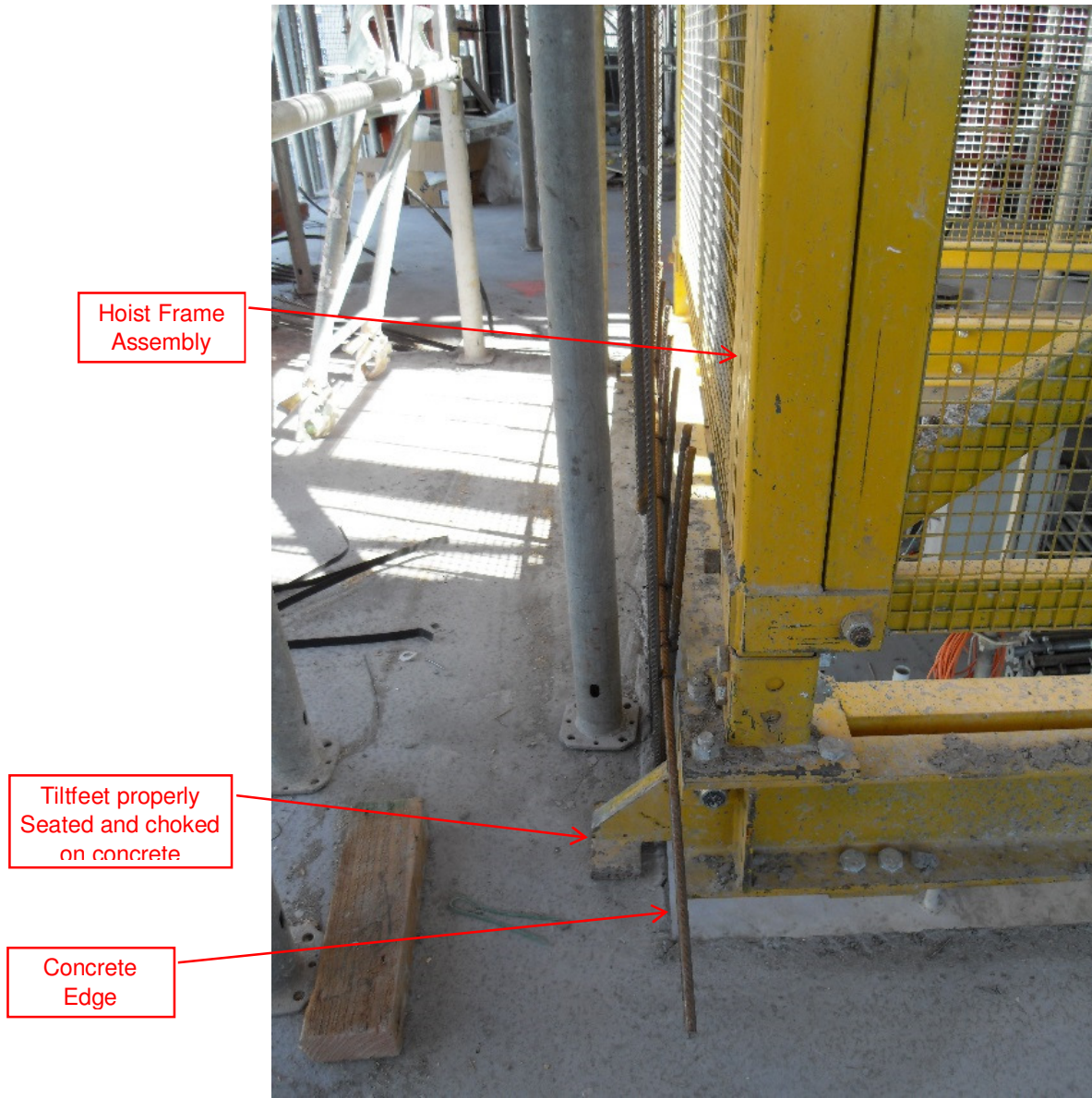
Hoist Frame delivered as Pre-Assembled.
Monorail and Hoist to be assembled on site.





Erect Props

**Fix
Motorised
trolley &
2.0t Chain**



Ensure Tiltfeet properly seated on concrete

5.0 CERTIFICATION



Australian Construction Systems Operations Pty Ltd
37 Colbert Road,
Campbellfield VIC 3061

18th January 2016

Attn: Peter Tsirigotis
C.C.: Graham Shaw

PROOF ENGINEERING CERTIFICATE OF COMPLIANCE **2.0 T FORMWORK HOIST FRAME (MODEL NO. 2T-275-197-A)**

The above mentioned frame as depicted on,

Drawing Nos. GA-01 Rev.3 and
component drawings nos. FH-001(3) thru FH-014(3) inclusive

by Australian Construction Systems Operations Pty Ltd

subject to the published capacities of proprietary components, correct fabrication,
installation, operation and maintenance, complies with the following published technical
standards:

AS 1170.0	SA Structural Design Actions Code, General Principles
AS 1170.1	SA Structural Design Actions Code, Permanent, Imposed and Other Actions
AS 1170.2	SA Structural Design Actions Code, Wind Actions
AS 1418.1	SA Cranes Code, General Requirements
AS 1418.2	SA Cranes Code, Serial Hoists and Winches
AS 1418.18	SA Cranes Code, Crane runways and monorails
AS 3990	SA Mechanical Equipment - Steelwork Code

This certificate is based on design criteria and operational requirements specified in the
manual, 'Formwork Hoist Model: 2T-275-197-A' Version 1.2 dated Jan 2016.

It is owner's responsibility to maintain, inspect and repair the plant in accordance with the
above-mentioned manual, relevant part of AS 1418 and AS 2550 and any applicable local
regulations.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Ken Nagato', written over a dashed-line signature guide.

Ken Nagato
CONSTRUCTION ENGINEERING

S & T SERVICES PTY LTD T/A CONSTRUCTION ENGINEERING AEN 08 006 867 824 > SUITE 3.3 CLAY DRIVE DONCASTER VIC 3108 AUSTRALIA > P 61 3137946 6466 M 61 00408 867 268 E john@constructioneng.com.au

6.0 RISK ASSESSMENT



Plant Risk Assessment Form 431.F1

PLANT DESCRIPTION: 2T FORMWORK HOIST FRAME

ASSESSMENT COMPLETED BY: Australian Construction Systems Operations Pty Ltd

ASSESSMENT NUMBER: ACSO001

DATE OF ASSESSMENT: 13/11/2015

RISK ASSESSMENT SYSTEM

Choose the most appropriate level of Consequence using the examples provided.

Follow that level of Consequence along the matrix until you reach the most suitable Likelihood.

The number in the intersecting box is the Risk Level.

Review that number in the Assessment of Risk Level box below and implement the action directed.

When applying Risk Controls the order of implementation should be Elimination through to Personal Protective Equipment (PPE).

CONSEQUENCES	SEVERE ▪ FATALITY ▪ FAILURE OF PROJECT ▪ MAJOR ENV IMPACT, ESCAPED FROM SITE	5	5 MEDIUM	10 HIGH	15 HIGH	20 SEVERE	25 SEVERE
	MAJOR ▪ LTI &/OR MULTIPLE MT/ ADI ▪ DAMAGE >\$100,000 ▪ MAJOR ENV IMPACT, CONTAINED TO SITE	4	4 MEDIUM	8 MEDIUM	12 HIGH	16 HIGH	20 SEVERE
	MODERATE ▪ MT/ ADI ▪ DAMAGE >\$10,000 ▪ MINOR ENV IMPACT, ESCAPED FROM SITE	3	3 MEDIUM	6 MEDIUM	9 MEDIUM	12 HIGH	15 HIGH
	MINOR ▪ FTI ▪ DAMAGE >\$1000 ▪ MINOR ENV IMPACT, CONTAINED TO SITE	2	2 LOW	4 MEDIUM	6 MEDIUM	8 MEDIUM	10 HIGH
	REPORT ONLY ▪ NO INJURY ▪ NO DAMAGE ▪ NO ENV IMPACT	1	1 LOW	2 LOW	3 MEDIUM	4 MEDIUM	5 MEDIUM

ASSESSMENT OF THE IDENTIFIED RISK LEVEL

SEVERE	25 - 20	A Severe Risk Activity is not to be undertaken
HIGH	16 - 10	A High Risk Activity requires Risk Controls to be implemented prior to commencing the task/ where the Risk is not reduced below High a Senior Manager must sign off on the activity before it is commenced.
MEDIUM	9 - 3	A Medium Risk Activity can be undertaken once all practical controls have been implemented.
LOW	2 - 1	A Low Risk Activity can be undertaken with no further action.

	1	2	3	4	5
LIKELIHOOD	RARE	UNLIKELY	POSSIBLE	LIKELY	ALMOST CERTAIN

REDUCING THE ASSESSED RISK USING THE HIERACHY OF CONTROL

			RISK REDUCTION	MINIMUM RISK LEVEL
	Elimination	Eliminate the hazard <ul style="list-style-type: none"> Safety - remove hazardous electrical plant from the workplace Business - no longer perform operation or supply that product &/ or service Environmental - cease in-house operations of hazardous work. 	25	0
	Substitution	Substitute the hazard with a lesser risk <ul style="list-style-type: none"> Safety - substitute movable electrical plant for fixed. Business - alter a time consuming process, for a faster/ more cost effective process. Environmental - exchange chemicals for environmentally friendly products. 	16	1
	Isolation/ Engineering	Isolate the hazard <ul style="list-style-type: none"> Safety - place hazardous electrical plant in enclosures with restricted access Business - joint venture business proposals to have own ACN to protect existing company. Environmental - conduct loud works away from others or behind a sound barrier. Use engineering controls <ul style="list-style-type: none"> Safety - handrails/ physical barriers to protect live edges. Business - place a barrier between your company and the hazard, e.g. external review process &/ or insurance. Environmental - install drip trays under hazchem storage & decanting areas, to catch spills. 	9	1
	Administrative	Use administrative controls <ul style="list-style-type: none"> Safety - implement safe work practices, instruction and training. Business - implement standard processes/ quality assurance documentation. Environmental - recycling/ re-use policies. 	4	1
	Personnel Protective Equipment (PPE)	Use personal protective equipment <ul style="list-style-type: none"> Safety - use rubber mats, insulated gloves, eye protection, boots, and head gear (also to be used in conjunction with above measures). 	1	1

When calculating Risk Reduction a control level type can only be applied once to the level of risk, so multiple applications of an administration control will still only provide a -4 to the overall risk level.



Plant Risk Assessment Form 431.F1

PLANT DESCRIPTION 2T FORMWORK HOIST FRAME

ASSESSMENT NUMBER ACSO001

ITEM	DESCRIPTION	IS THERE A RISK?		CONSEQUENCE	LIKELIHOOD	RISK	CONTROL MEASURES	RISK REDUCTION	SUBSIDIARY RISK	PERSON RESPONSIBLE	IMPLEMENTATION REQUIRED BY
		YES	NO								
1.0	ENTANGLEMENT Can anyone become entangled due to;										
1.1	Their hair, clothing, gloves, neck-tie, jewellery, cleaning brushes, rages or other materials become entangled with the moving parts of the plant or materials in motion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	2	8	<ul style="list-style-type: none"> All persons operating the hoist are to be trained via toolbox training prior to use of the hoist. Ensure that all persons are clear of the hoist or its load prior to lifting/ lowering. 	4	4	Supervisor & Persons performing task	Prior to the use of the plant
2.0	CRUSHING Can anyone be crushed due to;										
2.1	Material falling off the plant?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	3	15	<ul style="list-style-type: none"> Materials lifted by the hoist are to be suitable restrained e.g. strapped together, lifted in stillage, etc. All persons operating the hoist are to be trained via toolbox training prior to use of the hoist. Persons are not to stand under a load supported by the hoist & persons attaching loads to act as spotters to prevent other personnel from entering lift area. 	9 4	2	Supervisor & Persons performing task	Prior to the use of the plant
2.2	Uncontrolled or unexpected movement of the plant or its load?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	2	10	<ul style="list-style-type: none"> 2T Formwork Hoist Frame is braced to the slab preventing of the Hoist Frame from moving. Materials lifted by the hoist are to be suitable restrained e.g. strapped together, lifted in stillage, etc. All persons operating the hoist are to be trained via toolbox training prior to use of the hoist. Persons are not to stand under a load supported by the hoist & persons attaching loads to act as spotters to prevent other personnel from entering lift area. 	9 4	1	Supervisor & Persons performing task	Prior to the use of the plant
2.3	Lack of capacity for the plant to be slowed stopped or immobilised?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	2	8	<ul style="list-style-type: none"> All persons operating the hoist are to be trained via toolbox training prior to use of the hoist. Persons are not to stand under a load supported by the hoist & persons attaching loads to act as spotters to prevent other personnel from entering lift area. Ensure that all persons are clear of the hoist or its load prior to lifting/ lowering. 	4	4	Supervisor & Persons performing task	Prior to the use of the plant
2.4	The plant tipping or rolling over?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
2.5	Parts of the plant collapsing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	1	5	<ul style="list-style-type: none"> The 2T hoist is to be operated as per the manufacturer's instructions. WWL of the plant is 2T; all lift accessories to rated at a minimum of 2T. 	4	1	Supervisor, Persons performing task & Certifying Engineer	Prior to the use of the plant &



Plant Risk Assessment Form 431.F1

PLANT DESCRIPTION 2T FORMWORK HOIST FRAME

ASSESSMENT NUMBER ACSO001

ITEM	DESCRIPTION	IS THERE A RISK?		CONSEQUENCE	LIKELIHOOD	RISK	CONTROL MEASURES	RISK REDUCTION	SUBSIDIARY RISK	PERSON RESPONSIBLE	IMPLEMENTATION REQUIRED BY
		YES	NO								
							<ul style="list-style-type: none"> All persons operating the hoist are to be trained via toolbox training prior to use of the hoist. The plant has been certified by an independent engineer. 				Prior to the manufacture of the plant
2.6	Coming in contact with moving parts of the plant during testing, inspection, operation, maintenance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	2	8	<ul style="list-style-type: none"> All persons operating the hoist are to be trained via toolbox training prior to use of the hoist. Ensure that all persons are clear of the hoist or its load prior to lifting/ lowering. 	4	4	Supervisor & Persons performing task	Prior to the use of the plant
2.7	Being thrown off or under the plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
2.8	Being trapped between the plant and materials or fixed structures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	2	8	<ul style="list-style-type: none"> All persons operating the hoist are to be trained via toolbox training prior to use of the hoist. Materials to be raised are to be placed under the centre of the hoist to prevent swinging when materials are raised. Ensure that all persons are clear of the hoist or its load prior to lifting/ lowering. 	4	4	Supervisor & Persons performing task	Prior to the use of the plant
2.9	Other factors not mentioned?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
2.9.1		<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3.0	CUTTING, STABBING AND PUNCTURING Can anyone be cut, stabbed or punctured due to;										
3.1	Coming in contact with sharp or flying objects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	THIS IS A WORKPLACE SPECIFIC RISK							
3.2	Coming in contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair of the plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3.3	The plant, parts of the plant or work pieces disintegrating?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3.4	Work pieces being ejected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3.5	The mobility of the plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3.6	Uncontrolled or unexpected movement of the plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3.7	Other factors not mentioned?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3.7.1		<input type="checkbox"/>	<input checked="" type="checkbox"/>								
4.0	SHEARING										



Plant Risk Assessment Form 431.F1

PLANT DESCRIPTION 2T FORMWORK HOIST FRAME

ASSESSMENT NUMBER ACSO001

ITEM	DESCRIPTION	IS THERE A RISK?		CONSEQUENCE	LIKELIHOOD	RISK	CONTROL MEASURES	RISK REDUCTION	SUBSIDIARY RISK	PERSON RESPONSIBLE	IMPLEMENTATION REQUIRED BY
		YES	NO								
	Can anyone's body parts be sheared between;										
4.1	Two parts of the plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
4.2	A part of the plant and a work piece or structure?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	2	8	<ul style="list-style-type: none"> All persons operating the hoist are to be trained via toolbox training prior to use of the hoist. Materials to be raised are to be placed under the centre of the hoist to prevent swinging when materials are raised. Ensure that all persons are clear of the hoist or its load prior to lifting/ lowering. 	4	4	Supervisor & Persons performing task	Prior to the use of the plant
5.0	FRICTION Can anyone be burnt due to contact with;										
5.1	Moving parts or surfaces of the plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
5.2	Materials handled by the plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
6.0	STRIKING Can anyone be struck by moving objects due to;										
6.1	Uncontrolled or unexpected movement of the plant or materials handled by the plant?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	2	8	<ul style="list-style-type: none"> All persons operating the hoist are to be trained via toolbox training prior to use of the hoist. Materials to be raised are to be placed under the centre of the hoist to prevent swinging when materials are raised. Ensure that all persons are clear of the hoist or its load prior to lifting/ lowering. Persons are not to stand under a load supported by the hoist & persons attaching loads to act as spotters to prevent other personnel from entering lift area. 	4	4	Supervisor & Persons performing task	Prior to the use of the plant
6.2	The plant, parts of the plant or work pieces disintegrating?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
6.3	Work pieces being ejected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
6.4	Mobility of the plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
6.5	Other factors not mentioned?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
6.5.1		<input type="checkbox"/>	<input checked="" type="checkbox"/>								
7.0	HIGH PRESSURE FLUID										



Plant Risk Assessment Form 431.F1

PLANT DESCRIPTION 2T FORMWORK HOIST FRAME

ASSESSMENT NUMBER ACSO001

ITEM	DESCRIPTION	IS THERE A RISK?		CONSEQUENCE	LIKELIHOOD	RISK	CONTROL MEASURES	RISK REDUCTION	SUBSIDIARY RISK	PERSON RESPONSIBLE	IMPLEMENTATION REQUIRED BY
		YES	NO								
	Can anyone come into contact with fluids under high pressure due to;										
7.1	Plant failure or misuse of the plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
8.0	ELECTRICAL Can anyone be injured by electric shock or burns due to;										
8.1	The plant contacting live electrical conductors?	<input type="checkbox"/>	<input type="checkbox"/>	THIS IS A WORKPLACE SPECIFIC RISK							
8.2	The plant working in close proximity to electrical conductors?	<input type="checkbox"/>	<input type="checkbox"/>	THIS IS A WORKPLACE SPECIFIC RISK							
8.3	Overload of electrical circuits?	<input type="checkbox"/>	<input type="checkbox"/>	THIS IS A WORKPLACE SPECIFIC RISK							
8.4	Damaged or poorly maintained electrical leads and cables?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	3	15	<ul style="list-style-type: none"> All electrical equipment to be RCD protected. Tested and tagged as per relevant standard. Visual check on electrical leads and equipment prior to energising each day. 	9 4	2	Supervisor & Persons performing task	Prior to the use of the plant
8.5	Damaged electrical switches?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	2	10	<ul style="list-style-type: none"> Tested and tagged as per relevant standard. Visual check on electrical leads and equipment prior to energising each day. 	4	6	Supervisor & Persons performing task	Prior to the use of the plant
8.6	Water near electrical equipment?	<input type="checkbox"/>	<input type="checkbox"/>	THIS IS A WORKPLACE SPECIFIC RISK							
8.7	Lack of isolation/ "out of service" procedures?	<input type="checkbox"/>	<input type="checkbox"/>	THIS IS A WORKPLACE SPECIFIC RISK							
8.8	Other factors not mentioned?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
8.8.1		<input type="checkbox"/>	<input checked="" type="checkbox"/>								
9.0	EXPLOSION Can anyone be injured due to;										
9.1	Explosion of gases, vapours, liquids, dust or other substances, triggered by the operation of the plant or by materials handled by the plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
10.0	SLIPPING, TRIPPING AND FALLING Can anyone using the plant or in the vicinity of the plant, slip trip or fall due to;										
10.1	Uneven or slippery work surfaces?	<input type="checkbox"/>	<input type="checkbox"/>	THIS IS A WORKPLACE SPECIFIC RISK							



Plant Risk Assessment Form 431.F1

PLANT DESCRIPTION 2T FORMWORK HOIST FRAME

ASSESSMENT NUMBER ACSO001

ITEM	DESCRIPTION	IS THERE A RISK?		CONSEQUENCE	LIKELIHOOD	RISK	CONTROL MEASURES	RISK REDUCTION	SUSIDIARY RISK	PERSON RESPONSIBLE	IMPLEMENTATION REQUIRED BY
		YES	NO								
10.2	Poor housekeeping, e.g. swarf in the vicinity of the plant, spillage not cleaned up?	<input type="checkbox"/>	<input type="checkbox"/>				THIS IS A WORKPLACE SPECIFIC RISK				
10.3	Obstacles being placed in the vicinity of the plant?	<input type="checkbox"/>	<input type="checkbox"/>				THIS IS A WORKPLACE SPECIFIC RISK				
10.4	Other factors not mentioned?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
10.4.1		<input type="checkbox"/>	<input checked="" type="checkbox"/>								
11.0	FALLS FROM HEIGHT Can anyone fall from height due to;										
11.1	Lack of a proper work platform?	<input type="checkbox"/>	<input type="checkbox"/>				THIS IS A WORKPLACE SPECIFIC RISK				
11.2	Lack of proper stairs or ladders?	<input type="checkbox"/>	<input type="checkbox"/>				THIS IS A WORKPLACE SPECIFIC RISK				
11.3	Lack of guardrails or other suitable edge protection?	<input type="checkbox"/>	<input type="checkbox"/>				THIS IS A WORKPLACE SPECIFIC RISK				
11.4	Unprotected holes, penetrations or gaps?	<input type="checkbox"/>	<input type="checkbox"/>				THIS IS A WORKPLACE SPECIFIC RISK				
11.5	Poor floor or walking surfaces such as a lack of a slip-resistant surface?	<input type="checkbox"/>	<input type="checkbox"/>				THIS IS A WORKPLACE SPECIFIC RISK				
11.6	Steep walking surfaces?	<input type="checkbox"/>	<input type="checkbox"/>				THIS IS A WORKPLACE SPECIFIC RISK				
11.7	Collapse of the supporting structure?	<input type="checkbox"/>	<input type="checkbox"/>	5	1	5	<ul style="list-style-type: none"> The Formwork Hoist Frame and the supporting structure have been certified by an independent engineer. 	4	1	Supplier of Plant & Independent Engineer	Prior to manufacture of the Plant
11.8	Other factors not mentioned?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
11.8.1		<input type="checkbox"/>	<input checked="" type="checkbox"/>								
12.0	ERGONOMIC Can anyone be injured due to;										
12.1	Poorly designed seating?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
12.2	Repetitive body movement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	2	8	<ul style="list-style-type: none"> The plant is fitted with a monorail to assist with movement of loads. Correct number of personnel to be allocated when relocating loads. 	9 4	1	Supervisor & Persons performing task	During use of the plant
12.3	Constrained body posture or the need for excessive effort?	<input type="checkbox"/>	<input type="checkbox"/>	4	3	12	<ul style="list-style-type: none"> The plant is fitted with a monorail to assist with movement of loads. Correct number of personnel to be allocated when relocating loads, especially heavy loads. 	9 4	1	Supervisor & Persons performing task	During use of the plant
12.4	Design deficiency causing mental or psychological stress?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								



Plant Risk Assessment Form 431.F1

PLANT DESCRIPTION 2T FORMWORK HOIST FRAME

ASSESSMENT NUMBER ACSO001

ITEM	DESCRIPTION	IS THERE A RISK?		CONSEQUENCE	LIKELIHOOD	RISK	CONTROL MEASURES	RISK REDUCTION	SUBSIDIARY RISK	PERSON RESPONSIBLE	IMPLEMENTATION REQUIRED BY
		YES	NO								
12.5	Inadequate or poorly placed lighting?	<input type="checkbox"/>	<input type="checkbox"/>	THIS IS A WORKPLACE SPECIFIC RISK							
12.6	Lack of consideration given to human error or human behaviour?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
12.7	Mismatch of the plant with human traits and natural limitations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
12.8	Other factors not mentioned?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
12.8.1		<input type="checkbox"/>	<input checked="" type="checkbox"/>								
13.0	SUFFOCATION Can anyone be suffocated due to;										
13.1	A lack of oxygen, or atmospheric contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
14.0	HIGH TEMPERATURE Can anyone be burnt due to;										
14.1	Contact with objects at high temperature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
14.2	Contact with fire?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
15.0	TEMPERATURE (THERMAL COMFORT) Can anyone suffer ill-health due to;										
15.1	Exposure to high or low temperatures?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
16.0	OTHER HAZARDS Can anyone be injured or suffer illness from exposure to;										
16.1	Chemicals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
16.2	Toxic gases or vapours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
16.3	Fumes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
16.4	Dust?	<input type="checkbox"/>	<input type="checkbox"/>	THIS IS A WORKPLACE SPECIFIC RISK							
16.5	Noise?	<input type="checkbox"/>	<input type="checkbox"/>	THIS IS A WORKPLACE SPECIFIC RISK							
16.6	Vibration?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
16.7	Radiation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
16.8	Other factors not mentioned?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

7.0 APPENDIX

INSPECTION SHEETS (attached below)

WHEN TO CARRY OUT INSPECTIONS:

- Prior to deliver to a new project
- After deliver to site
- After 1st installation
- After lifting to each floor location
- After adverse weather condition
- Other inspections not listed above, but complying with AS2550.1

Note: Electric hoist and trolley are to be installed, operated and inspected as per the manufacturer's "Owner's Manual" supplied with hoist.

FORMWORK HOIST INSPECTION – 1ST INSTALLATION

Hoist No.:	Capacity	Site Location	Floor Level	Installation Date

Check Result: ○ – Good, Δ – To be replaced by next lift, X – Bad, needs replacement.

Category	Check Item	Check Method	Criteria	Result	Remarks
Delivery	Delivery of required components	Visual	To have all components as per delivery records.		
	Deformation/damage to any component	Visual	To have no apparent deformation / damage / corrosion		
	Name plate / label	Visual	To have not peeled off To be eligible clearly		
	Bolts & nuts	Visual	To have all bolting completed and snug tighten		
Assembling / Erection on Site	Monorail beam	Visual	To have bolting completed and snug tighten @ each location		
	Lifting gear	Visual	To have appropriate lifting gear and they are current		
	Back propping	Visual	To have back propping, if required		
	Diagonal braces	Visual	To have diagonal braces with proper anchoring		
	Tiltfeet	Visual	To have tiltfeet properly seated on concrete		
	Hoist / Trolley	Visual / operation	To be installed and inspected as per the manufacturer's "Owner's manual"		
	Spreader ties	Visual	To ensure spreader ties removed (refer pg.4&17)		
Operation / performance	Electric chain hoist	operation	To be operated and inspected as per the manufacturer's "Owner's Manual"		
	Trolley	operation	To be operated and inspected as per the manufacturer's "Owner's Manual"		

Inspected by:

.....
Name & Designation

.....
Signature & Date:

Executed by:

.....
Name & Designation

.....
Signature & Date:

FORMWORK HOIST INSPECTION – Each Floor Location

Hoist No.:	Capacity	Site Location	Floor Level	Installation Date

Check Result: ○ – Good, Δ – To be replaced by next lift, X – Bad, needs replacement.

Category	Check Item	Check Method	Criteria	Result	Remarks
Lifting / Placing	Lifting gear	Visual	To have appropriate lifting gear and they are current		
	Back propping	Visual	To have back propping, if required		
	Diagonal braces	Visual	To have diagonal braces with proper anchoring		
	Tiltfeet	Visual	To have tiltfeet properly seated on concrete		
Operation / performance	Electric chain hoist	operation	To be operated and inspected as per the manufacturer's "Owner's Manual"		
	Trolley	operation	To be operated and inspected as per the manufacturer's "Owner's Manual"		

Inspected by:

.....
Name & Designation

.....
Signature & Date:

Executed by:

.....
Name & Designation

.....
Signature & Date:

FORMWORK HOIST INSPECTION – Prior to Deliver to New Project

Hoist No.:	Capacity	Site Location	Floor Level	Delivery Date

Check Result: ○ – Good, Δ – To be replaced by next lift, X – Bad, needs replacement.

Category	Check Item	Check Method	Criteria	Result	Remarks
Steel Frame	Lifting Lugs	Crack test	To have satisfactory results		
	Tiltfeet pins / axles	Visual	To have no excessive wear (apply grease to axle)		
	Deformation/damage to any component	Visual	To have no apparent deformation / damage / corrosion		
	Name plate / label	Visual	To have not peeled off To be eligible clearly		
	Bolts & nuts	Visual	To have all bolting completed and snug tighten		
Hoist / Trolley	Each Component	Visual / operation	To be inspected as per the manufacturer's "Owner's Manual"		
	Operation / Performance	operation	To be operated and inspected as per the manufacturer's "Owner's Manual"		

Inspected by:

.....
Name & Designation

.....
Signature & Date:

Executed by:

.....
Name & Designation

.....
Signature & Date: