Tech Dome Penang. Project Notes

Project Description:

This project is nearing completion, opening the beginning of June 2016. It is a project in which I contracted to Science Alive Exhibits ltd who in turn have contracted to Tech Dome Penang to build 101 exhibits here and provide exhibition design.

Completion date: mid 2016

Tim Stephenson Design's Involvement.

My role is as Exhibition Designer. In that role I have:

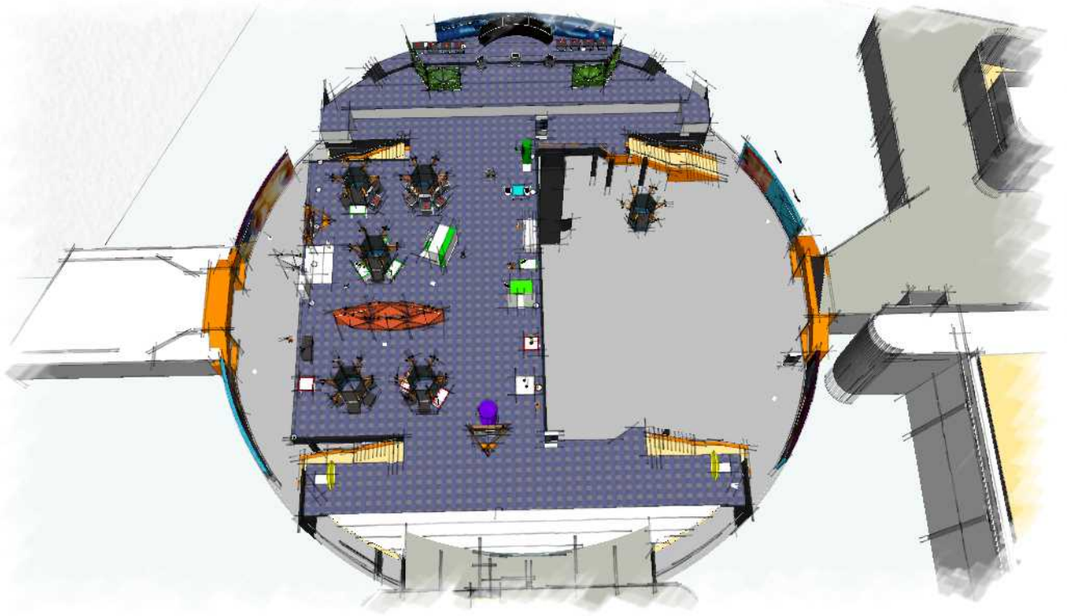
- Worked out the layout for a predetermined set of exhibits.
- Designed the visual look of the exhibition galleries and divided the space.
- Designed and documented the interior fitout for the exhibition space. That includes full working drawings, specifications and production ready CNC files for that to be built by contractors in Malaysia.
- Designed and documented the modular exhibit table to be used on most of the exhibits. This includes full working drawings,specifications and production ready CNC files for that to be built by contractors in Malaysia.
- Produced and delivered various presentations.
- Designed and produced print ready files for all the explanatory exhibit graphic panels from content supplied by Science Alive.
- Design for electronic orientation signage.
- Design storyboard / template for interactive boards.
- Designed a detailed lighting plan for implementation by contractors in Penang.
- Detailed a mechanical and electrical layout for implementation by contractors in Penang.
- Because I have traveled to site a several times I have become the main point of contact with the client and have therefore handled many other tasks outside of my original brief.

Video File

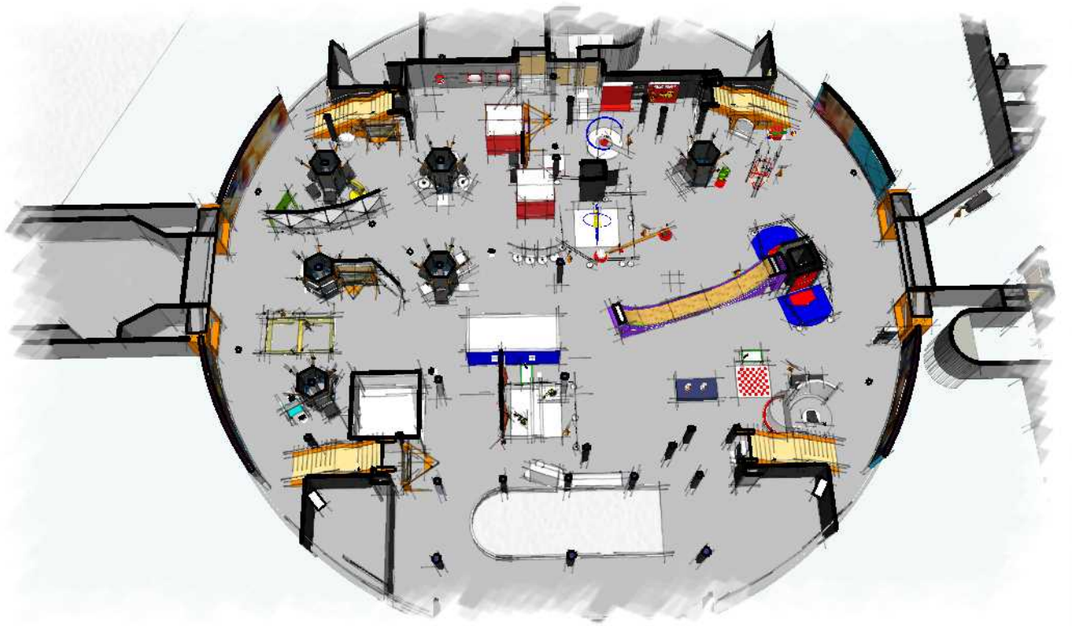
As space is limited I will attach a dropbox link to an overview presentation. Note this was done at very short notice so is a little rough around the edges in some places. But it does give a good feel for the project in a short time.

https://www.dropbox.com/s/96vxlcg8btcmukz/TD-CM-Presenation.mp4?dl=0

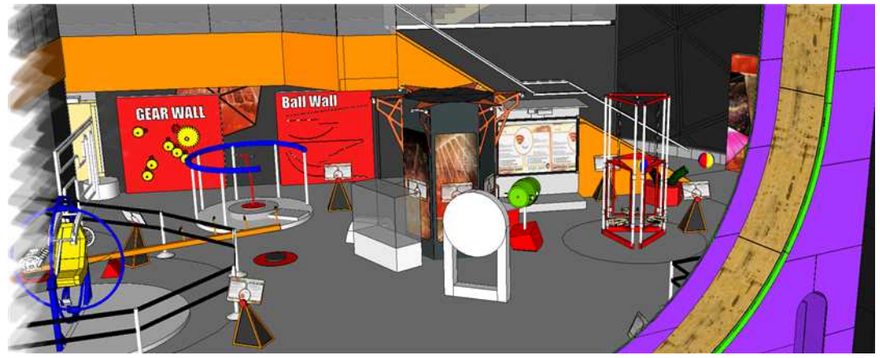
TIM STEPHENSON DESIGN - tim@timstephenson.co.nz - +64 275 532 784 - ph +64 3 3272246 - fax: +64 3 3272346

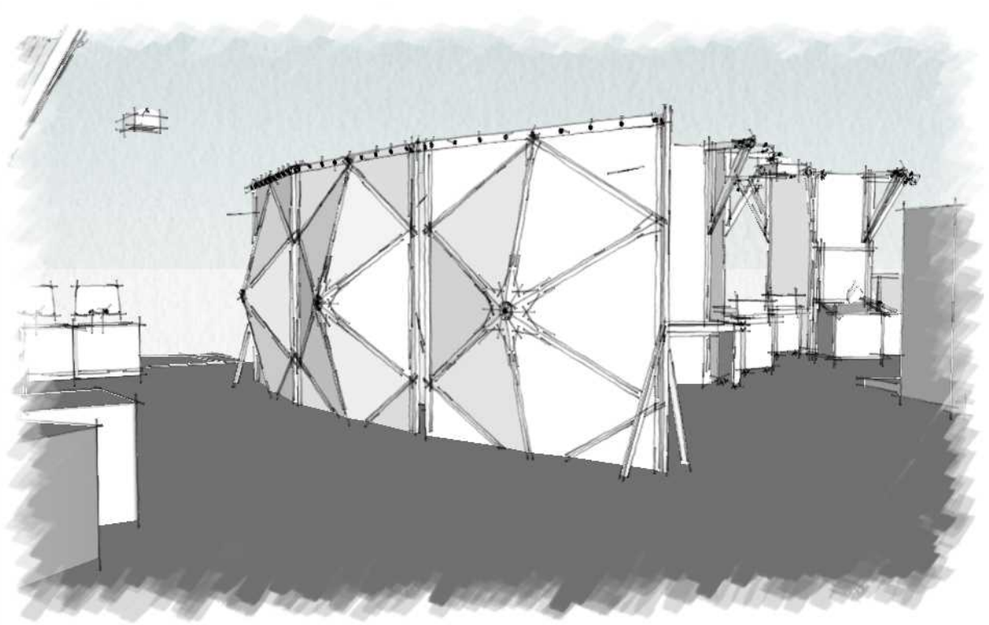


Mezzanine Floor



Main Floor





Concept - gallery dividers and towers

Tech Dome is built in a 44m diameter Dome with a mezzanine.
There is also a large annex for cafe, two temporary exhibit spaces, kids discover area, observatory classrooms and labs.

For the purposes of this I have confined it to the dome area.

WORK EXAMPLE	Tech Dome	Penang	Plot date March 28, 2016	Drawing: Concept Sketches -1	Layout Number: TD 02

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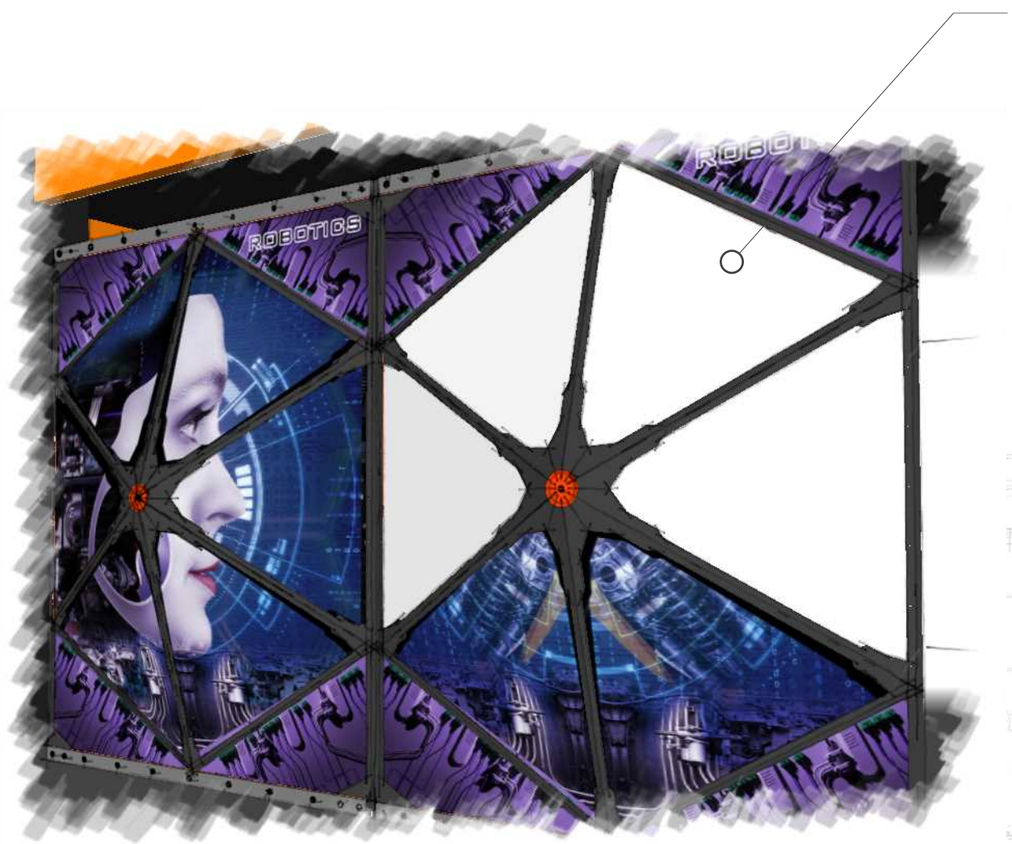
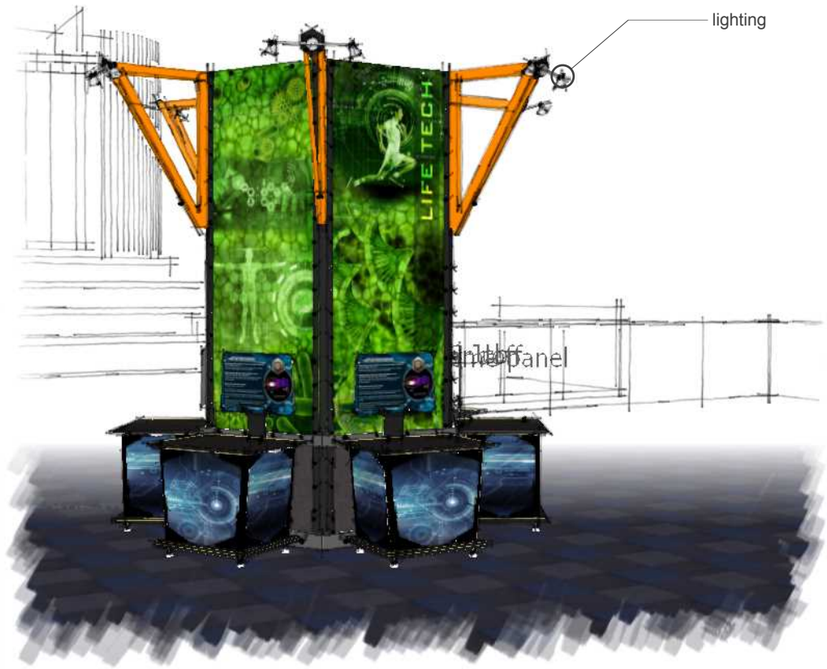


Hexagonal Screens

Divide gallery space
Provide Theming Graphics,
Can be relativly easily repositioned.
Projection for moving images.



Hexagonal Towers

Space efficient layout of exhibits.
Provides lighting (a challenge in this space)
Provide theming graphics,
Can be relatively easily repositioned.
Distribute power and data.
Easy to re-theme.
Mounting of some exhibits and graphic panels

WORK EXAMPLE	**Tech Dome**	Penang	**Plot date** March 28, 2016	Drawing **Concept Sketches - 2**	Layout Number **TD 03**

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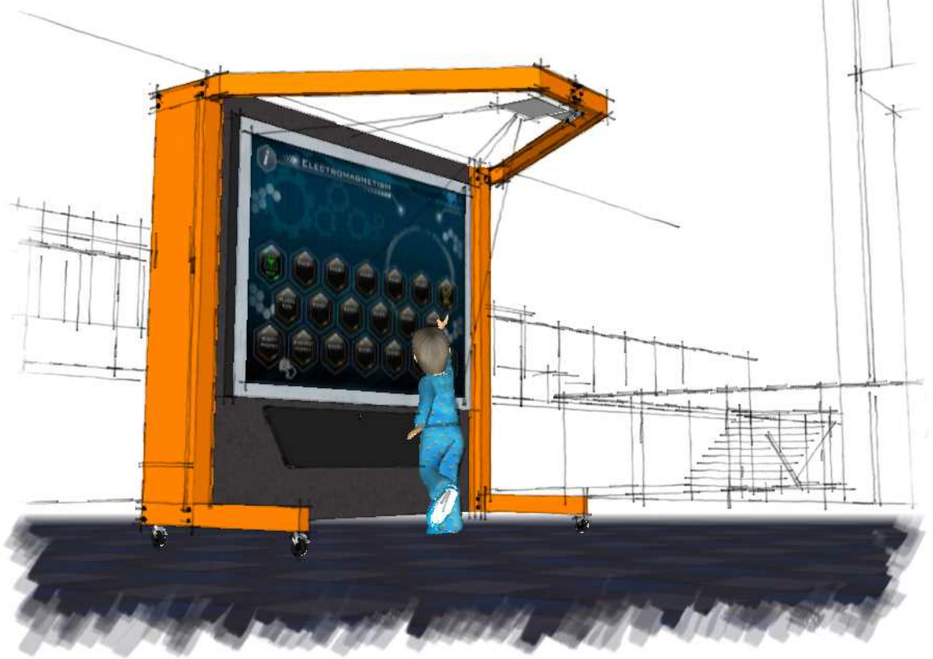
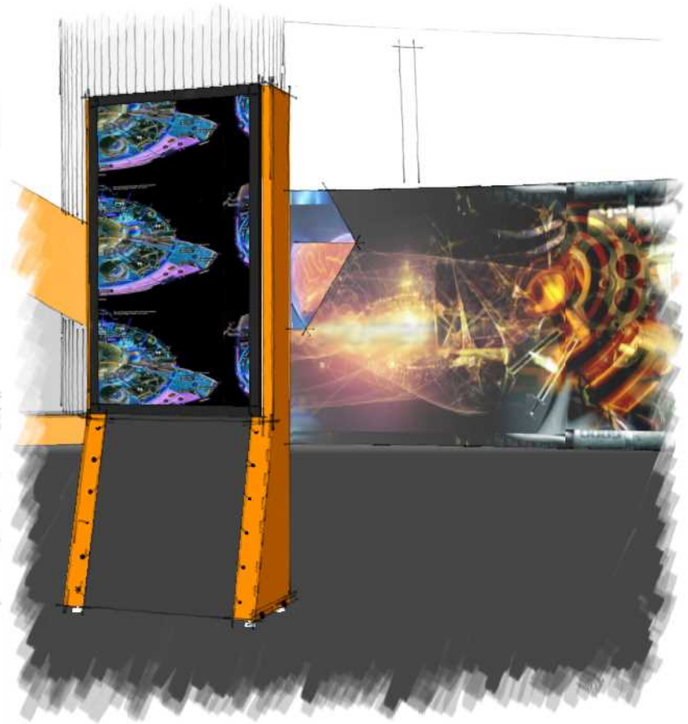


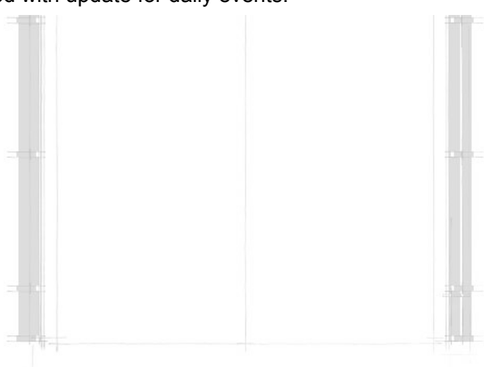
Interactive Board

Laser sensor interactive projection board.
Effiectivly a 90 inch multi touch screen.
Provides full translation.
Provides more in depth information.
Interactive map.
Teachers aid.



Electronic Orientaion Signage Board

65 in Monitor.
Networked with update for daily events.



WORK EXAMPLE | **Tech Dome** | Penang | Plot date March 28, 2016 | Drawing **Concept Sketches -3** | Layout Number **TD 04**

TIM STEPHENSON DESIGN - tim@timstephenson.co.nz - +64 275 532 784 - ph +64 3 3272246 - fax: +64 3 3272346

The following section is a selection of Spatial -layout drawings

only selectected drawings have been included

WORK EXAMPLE	**Tech Dome**	Penang	**Plot date** March 28, 2016	Drawing **Layout section**	Layout Number **TD 05**

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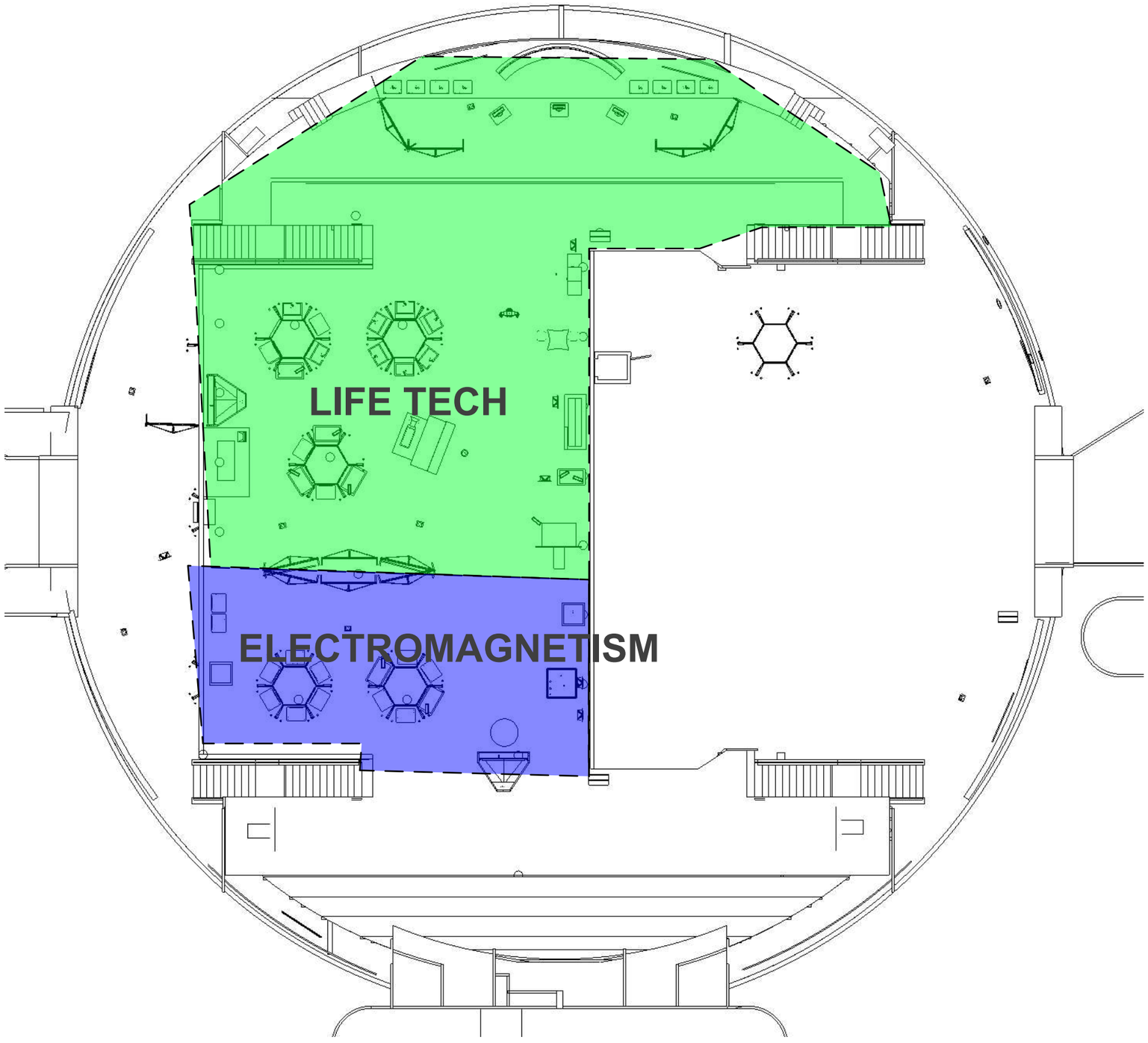
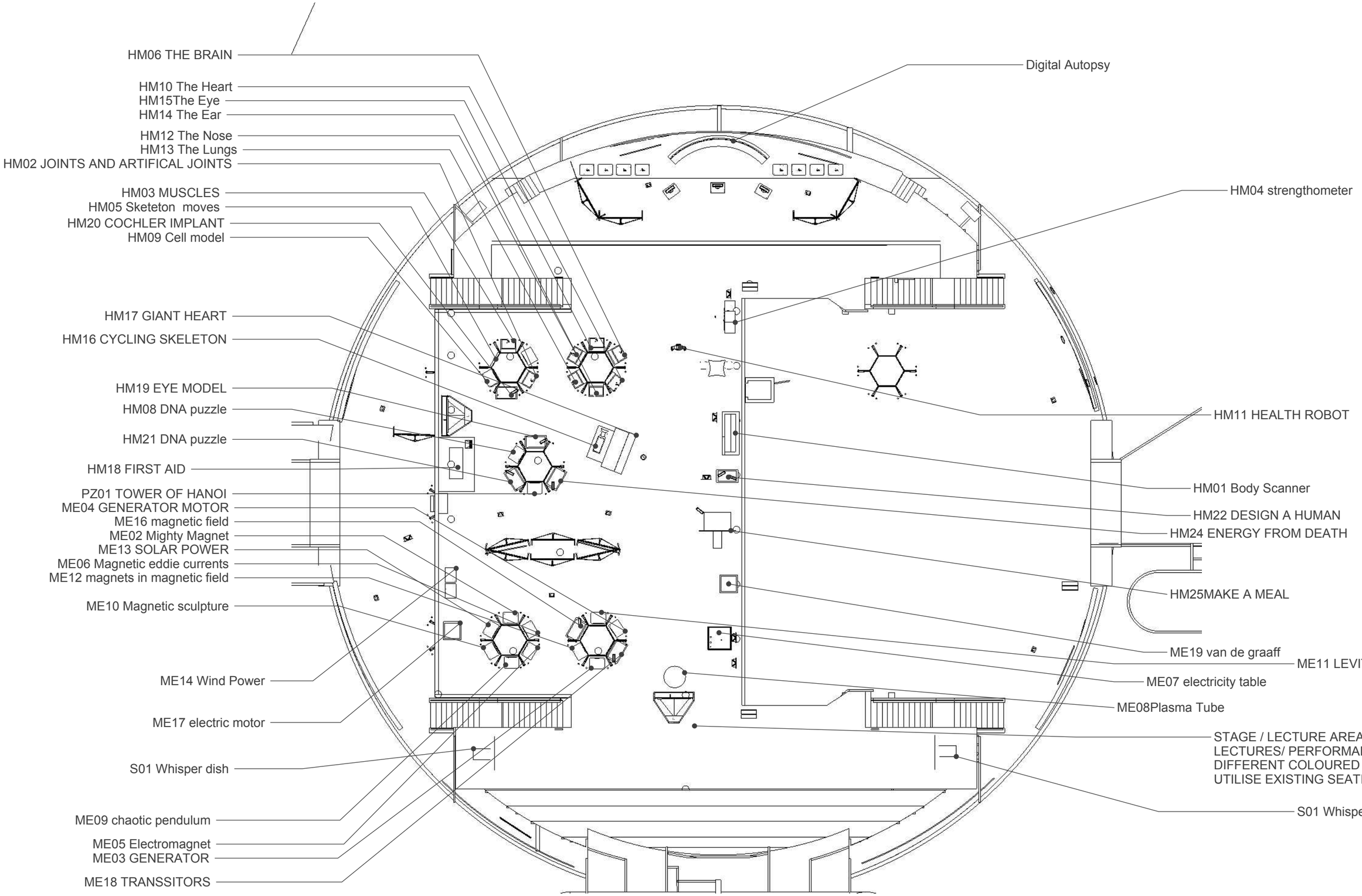


REVISION D 2/11/2015

Revision F 28/02/2016
Revision F 15/12/2015
Revision E 19/11/2015
Revision C 23/ 09/ 2015

Job Title	For	At		Drawing	Layout Number
TECH DOME LAYOUT	**Tech Dome**		Plot date February 28, 2016	**Galleries Mezzanine**	**C 02**

TIM STEPHENSON DESIGN - tim@timstephenson.co.nz - +64 275 532 784 - ph +64 3 3272246 - fax: +64 3 3272346



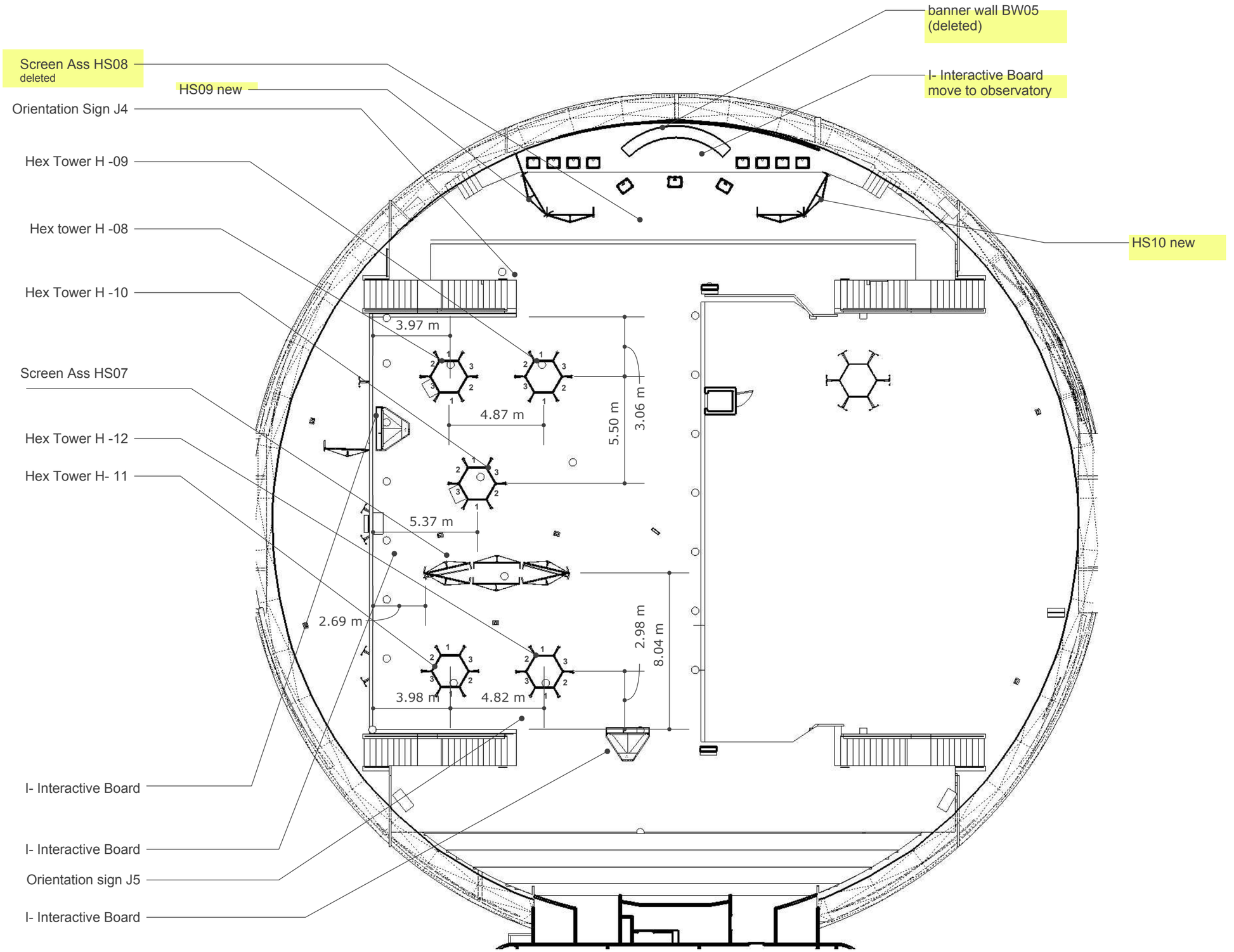
Revision F 28/02/2016
Revision F 15/12/2015
Revision E 19/11/2015
Revision C 23/ 09/ 2015

Job Title	For	At		Drawing	Layout Number
TECH DOME LAYOUT	**Tech Dome**		Plot date February 28, 2016	**MEZZANINE FLOOR EXHIBITS**	**C 04**

TIM STEPHENSON DESIGN - tim@timstephenson.co.nz - +64 275 532 784 - ph +64 3 3272246 - fax: +64 3 3272346

scale 1:200

For approx measurements use acrobat reader measuring tool- (instructions: https://www.youtube.com/watch?v=xm1iwzOjwI4)



Revision F 28/02/2016
Revision F 15/12/2015
Revision E 19/11/2015
Revision C 23/ 09/ 2015

Job Title	For	At		Drawing	Layout Number
TECH DOME LAYOUT	**Tech Dome**		Plot date February 28, 2016	**Exhibition design plan Mezzanine**	**C 07**

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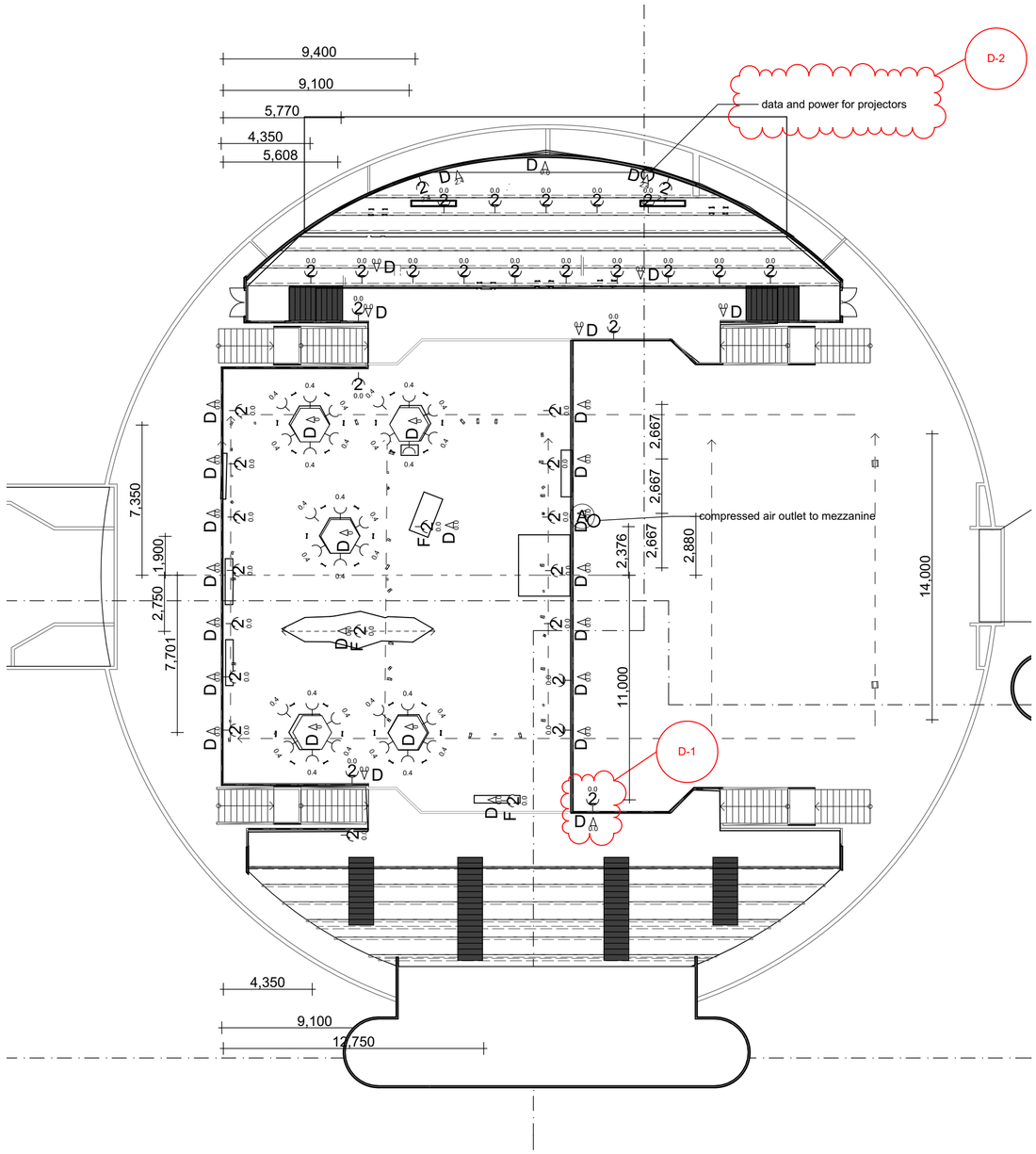
Scale 1:200

Symbol	Description	Quantity
		30
	d jack.	32
	Power point double	40
	Power point switched - single.	30

2 Electrical Components Legend MEZZANINE 1:1



1 MEZZANINE ELECTRICAL 1:200

Job Title	For	At		Drawing Title	Drawing Number	
TECH DOME	**Penang Tech Centre**	**#Site Address1** **#Site Address2**	Plot Date 7/03/2016	**MEZZANINE ELECTRICAL LAYOUT**	**A02**	D

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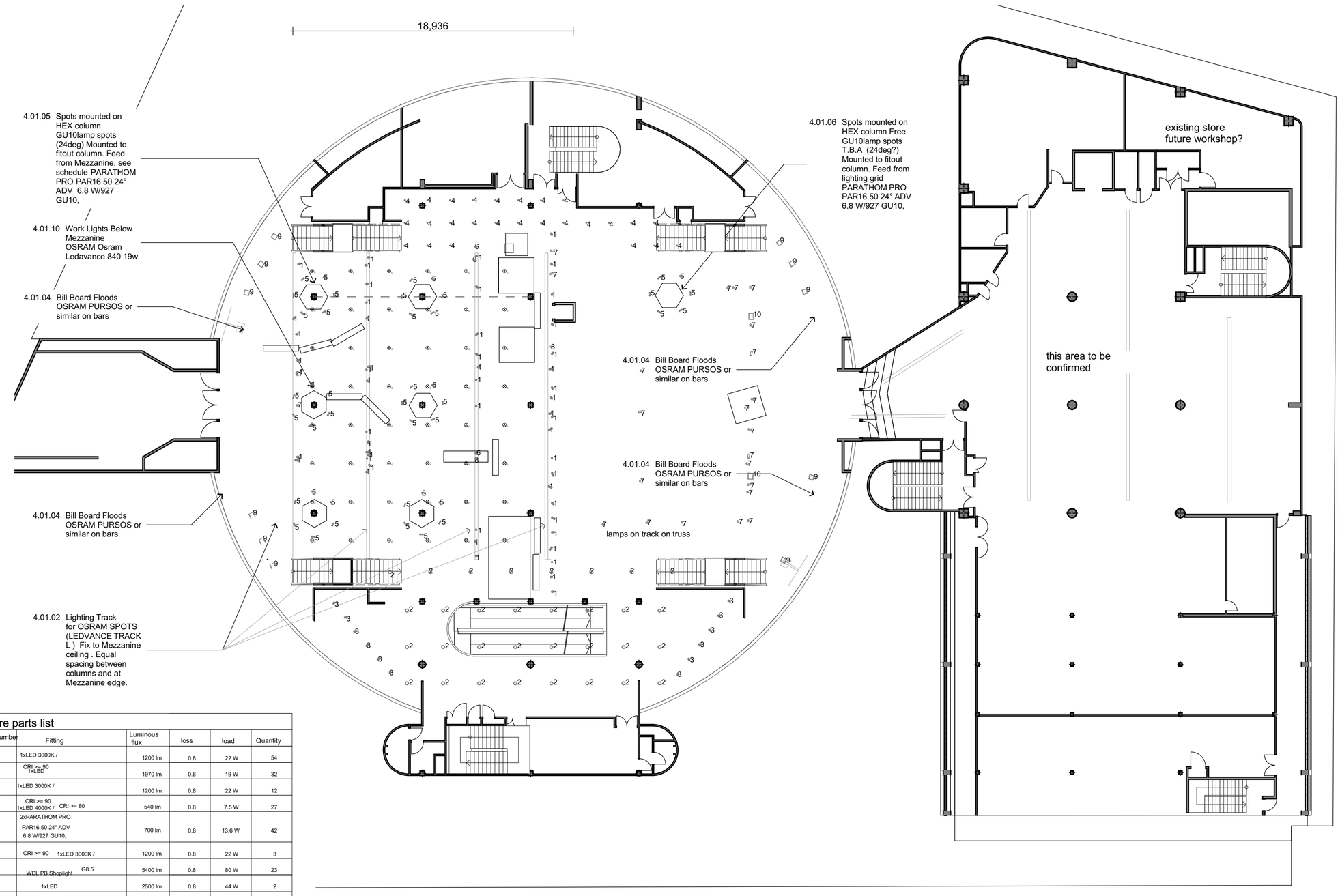
Drawn Tim Stephenson ALL DIMENSIONS TO BE VERIFIED ON SITE

Issue ID	ChID	Change Name	Date
C			05/10/2015
D	D-1	power data added	7/03/2016
	D-2	projectors deleted	



Luminaire parts list								
Index	Manufacturer	Luminaire type	Item number	Fitting	Luminous flux	loss	load	Quantity
1	OSRAM	LEDVANCE® TRACK L		1xLED 3000K /	1200 lm	0.8	22 W	54
2	OSRAM	LEDVANCE Downlight XL 840 19W		CRI >= 90 1xLED	1970 lm	0.8	19 W	32
3	OSRAM	LEDVANCE® TRACK L		1xLED 3000K /	1200 lm	0.8	22 W	12
4	OSRAM	PUNCTOLEDCOB		CRI >= 90 1xLED 4000K / CRI >= 80	540 lm	0.8	7.5 W	27
5		Two Spot Bar 2x GU10		2xPARATHOM PRO PAR16 50 24° ADV 6.8 W/927 GU10,	700 lm	0.8	13.6 W	42
6	OSRAM	LEDVANCE® TRACK L		CRI >= 90 1xLED 3000K /	1200 lm	0.8	22 W	3
7	OSRAM	70W 24° GR		G8.5 WDL PB Shoplight	5400 lm	0.8	80 W	23
8	OSRAM	LDV PWRSPOT XXL 840 L24 WT		1xLED	2500 lm	0.8	44 W	2
9	OSRAM	PURSOS 60W		1xLED	4700 lm	0.8	60 W	11
10	OSRAM	PURSOS 120W		1xLED	9400 lm	0.8	120 W	2

1 Main Floor lighting 1:200

Job Title **TECH DOME**

For **Penang Tech Centre**

At **#Site Address1 #Site Address2**

Plot Date 7/03/2016

Drawing Title **Main Floor Lighting - reflected ceiling (Mezz)**

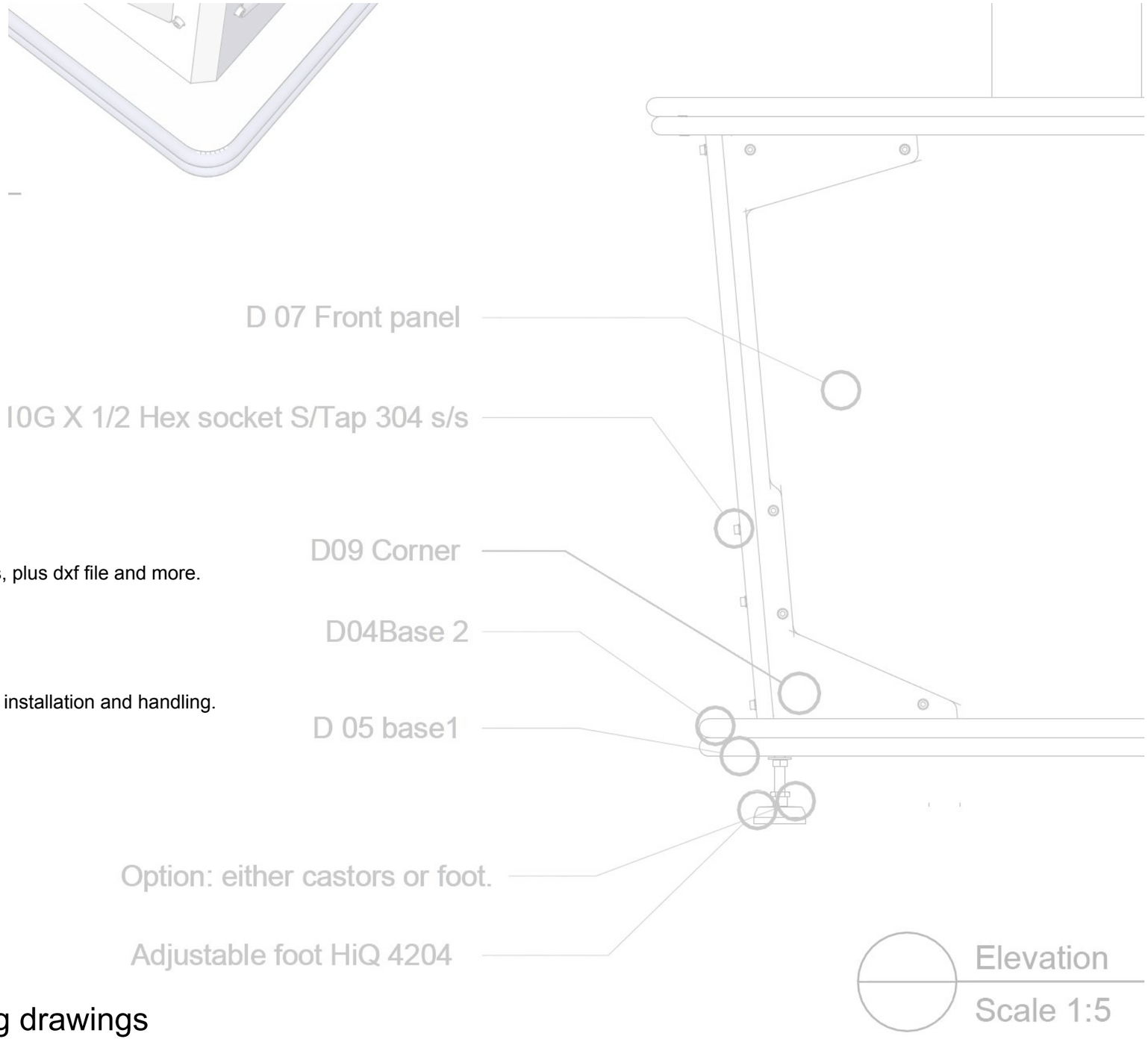
Drawing Number **A03** D

Drawn Tim Stephenson ALL DIMENSIONS TO BE VERIFIED ON SITE

Tim Stephenson Design 51 Featherstone Ave Kairaki Beach Kaiapoi 7630 New Zealand Cell: 0275 532 784 Phone: +64 3 327 2246 Fax: +64 3 3272346 email: tim@ timstephenson.co.nz

Issue ID	ChID	Change Name	Date
C			05/10/2015
D			7/03/2016

Revision C 05/10/20105



Working Drawings

The full set of construction drawings numbers over one hundred pages, plus dxf file and more.
Full Documentation includes:

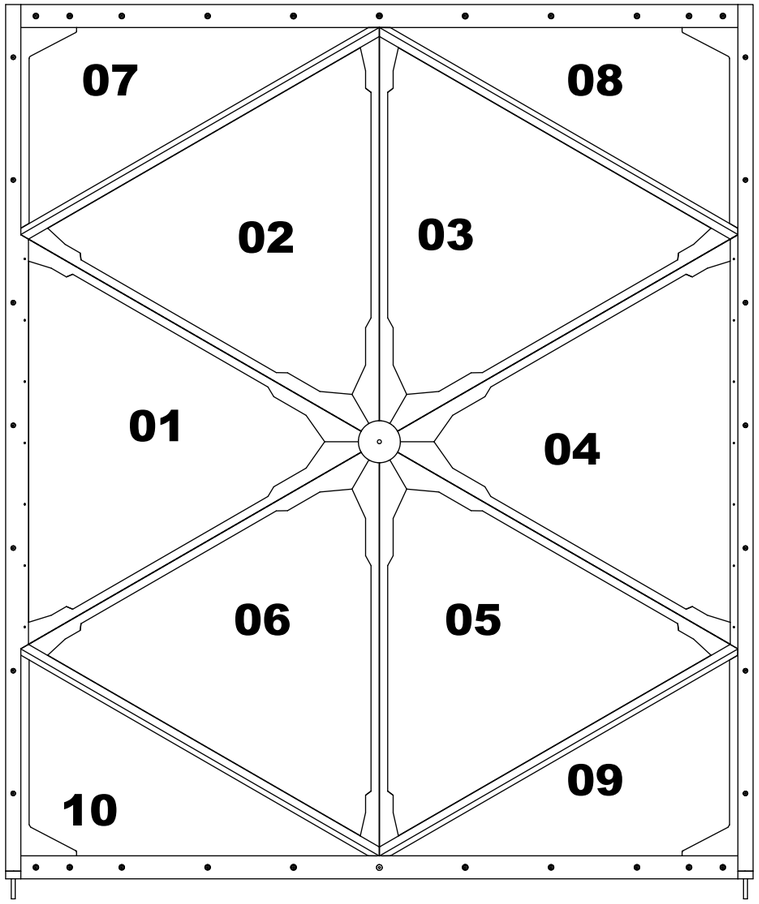
- Working drawings of all parts and assemblies.
- DXF files for CNC manufacture of all parts.
- A detailed Bill Of Materials for all parts including fasteners.
- A detailed Schedule of all Assemblies and Printing.
- A written specification covering all materials, parts, assemblies, installation and handling.

The following section is a sample of working drawings

only selected drawings have been included.

WORK EXAMPLE	**Tech Dome**	Penang	**Plot date** March 28, 2016	Drawing **Working Drawing**	Layout Number **TD 06**

TIM STEPHENSON DESIGN - tim@timstephenson.co.nz - +64 275 532 784 - ph +64 3 3272246 - fax: +64 3 3272346



Elevation
Scale 1:20

PANEL NOTATION FOR PRINT REFERENCE

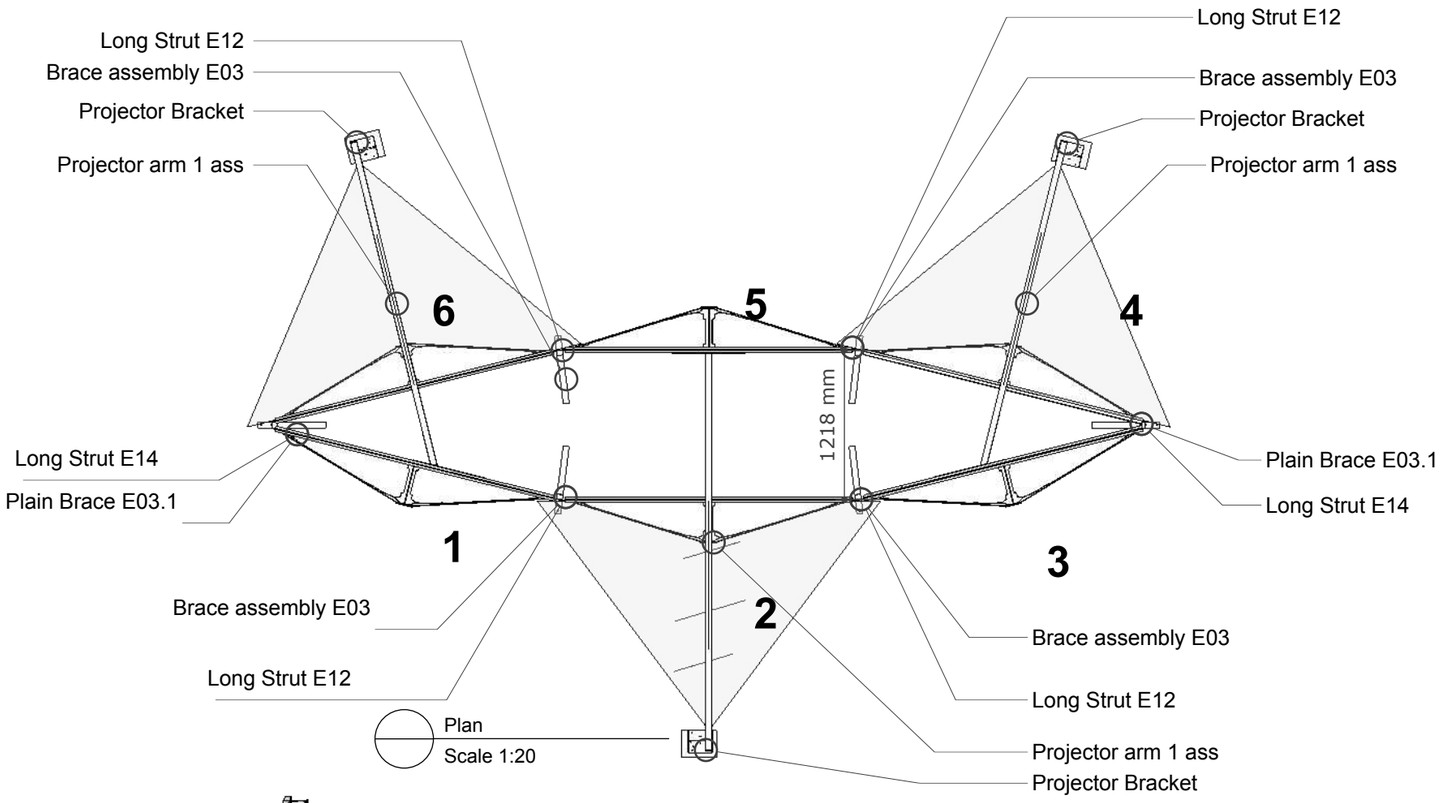
HW# - # - F # - R#
ASSEMBLY NO. - SCREEN No. - FRONT FACE FOR POSTION NO. - REAR FACE FOR POSTION NO

i.e. HW01-2 - F2 is the front face of position 02 on screen no. 2 on assembly HW01

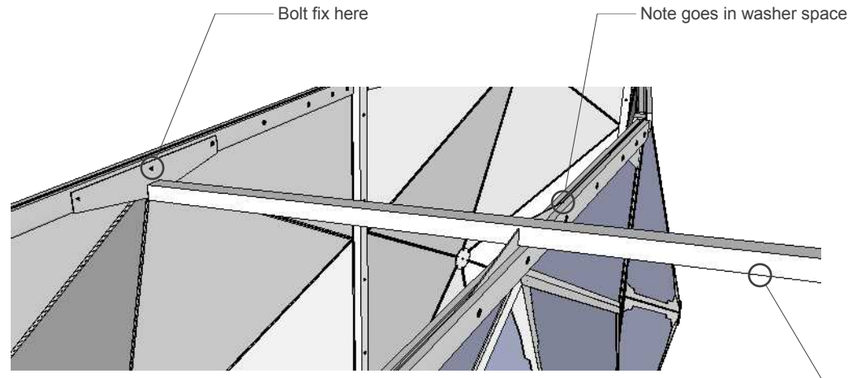
Revision G 27/02/2016

Job Title	For	At		Drawing	Layout Number
Hex Screen Assemblies	**Tech Dome**		Plot date March 17, 2016	**Panel Notation**	**HS**

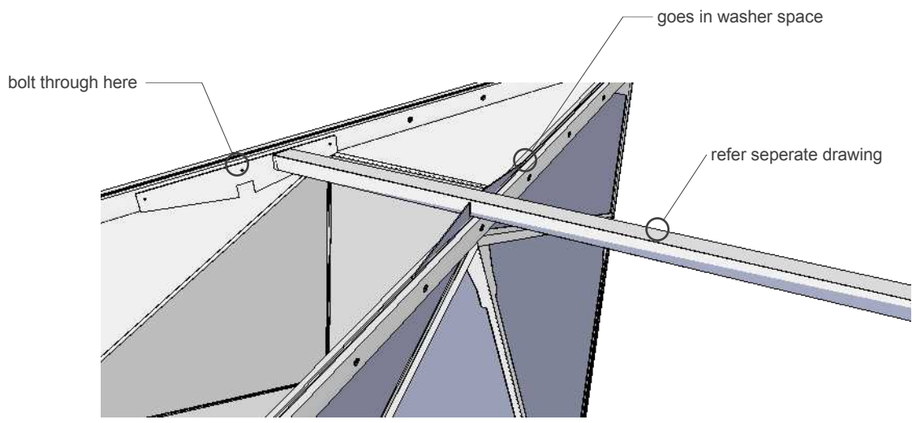
TIM STEPHENSON DESIGN - tim@timstephenson.co.nz - +64 275 532 784 - ph +64 3 3272246 - fax: +64 3 3272346



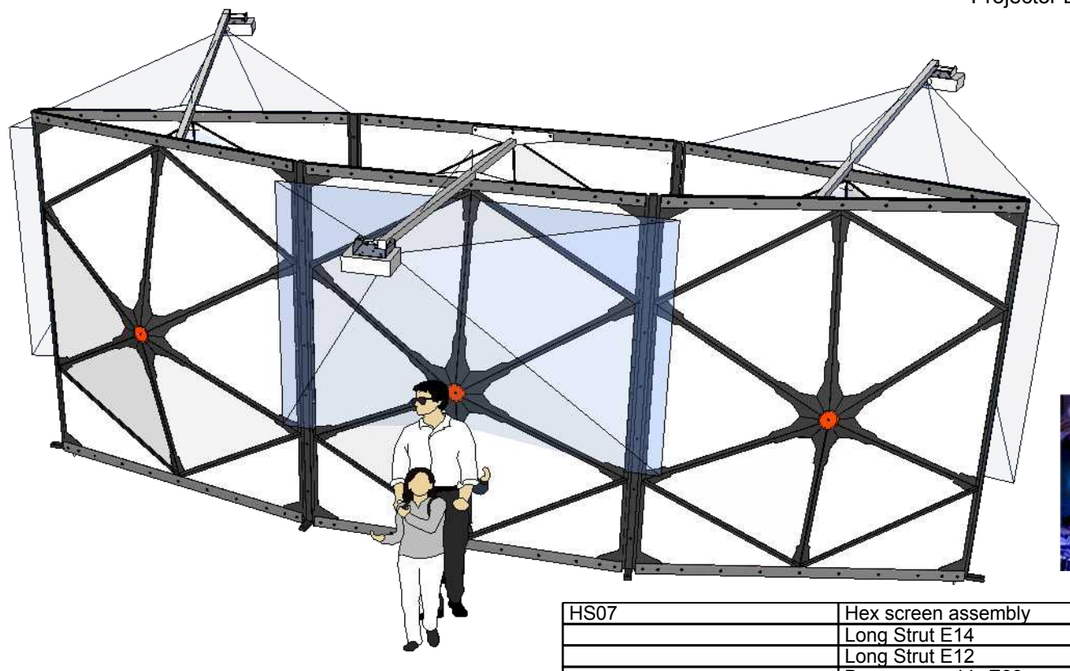
Plan
Scale 1:20

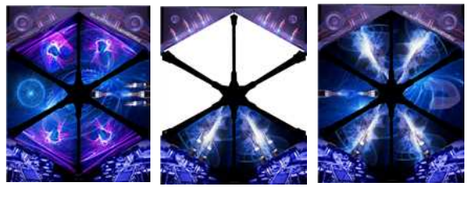


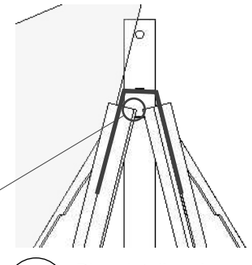
Projection arm centre mounting



Projection arm ends mounting







Plan detail end

HS07	Hex screen assembly	6	M12 x 120 sleeve anchor	12
	Long Strut E14	2	Bolt cover	12
	Long Strut E12	4	M6 x 75 JCB and barrel nut 304 s/s	42
	Brace assembly E03	4	longer M6 jcb and nut	18
	Projector arm 1 ass	1		
	Projector arm 2 ass Left and right	2		
	Projector Bracket	3		
	Plain Brace E03.1	2		

Revision G 27/02/2016

Job Title	For	At		Drawing	Layout Number
Hex Screen Assemblies	**Tech Dome**		Plot date March 17, 2016	**HW07**	**HS 07**

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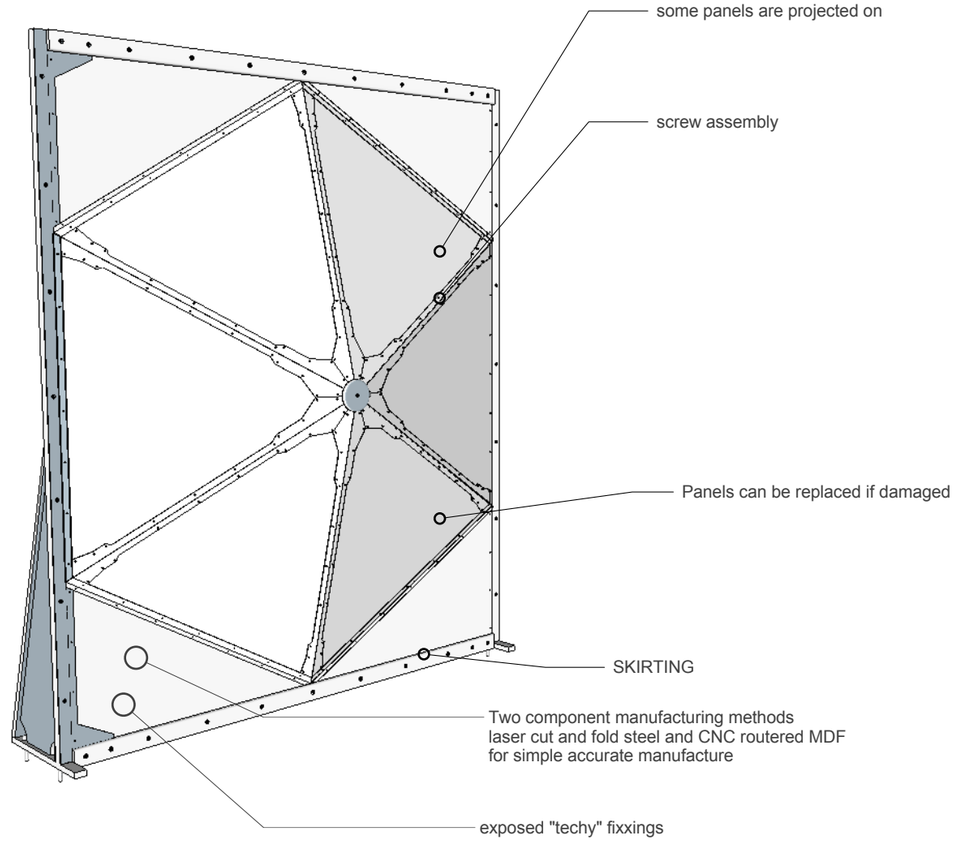
HEXSCREENS							
SHEET AND PART INDEX							
Sheet	Parts Info			Parts Material			
	Part Name	Quantity (per screen)	Part Notes	Core	Finish		
E01-E02	n/a	n/a	Assembly Drawing Only				
E03	Brace E03	Various depends on assembly		Welded hollow steel sections(50x 50 x 2 + 50 x 25 x 2mm)	Epoxy Powdercoat Satin Black		
	Plain Brace E03.1						
						M12 plastic cap	2
E04	Skirting	4		HDPE	Black	M6 x 75 JCB and barrel nut 304 s/s	22
E05	Strut 1	6		3 mm cold rolled steel	Epoxy Powdercoat Satin Black	10g x ½ hex socket cap s/tap 304 s/s	204
E06	Side Strut 1	4		3 mm cold rolled steel	Epoxy Powdercoat Satin Black	M5 x 10 x 1 flat washer	204
E07	Screen Panel	6		9 mm water resistant MDF	Melamine: White		
E08	Screen Panel Small	4		9 mm water resistant MDF	Melamine: White	13 mm tee edge	13 m
E09	Disk	3		HDPE	Black		
	Disk Spacer	1		HDPE	Black		
	washer	20		3 mm cold rolled steel	Epoxy Powdercoat Satin Black		
E10	Long Strut E10	Various depends on assembly		3 mm cold rolled steel	Epoxy Powdercoat Satin Black		
E11	Long Strut E11	Various depends on assembly		3 mm cold rolled steel	Epoxy Powdercoat Satin Black		
E12	Long Strut E12	Various depends on assembly		3 mm cold rolled steel	Epoxy Powdercoat Satin Black		
E13	Long Strut E13	Various depends on assembly		3 mm cold rolled steel	Epoxy Powdercoat Satin Black		
E14	Long Strut E14	Various depends on assembly		3 mm cold rolled steel	Epoxy Powdercoat Satin Black		

This is for one screen refer to assembly set for details of joiners and print finishes. See hex screen printing schedule for panel printing finshes



Job Title	For	At		Drawing	Layout Number
HEX SCREEN	Tech Dome		Plot date September 7, 2015	Cover Page	E 00

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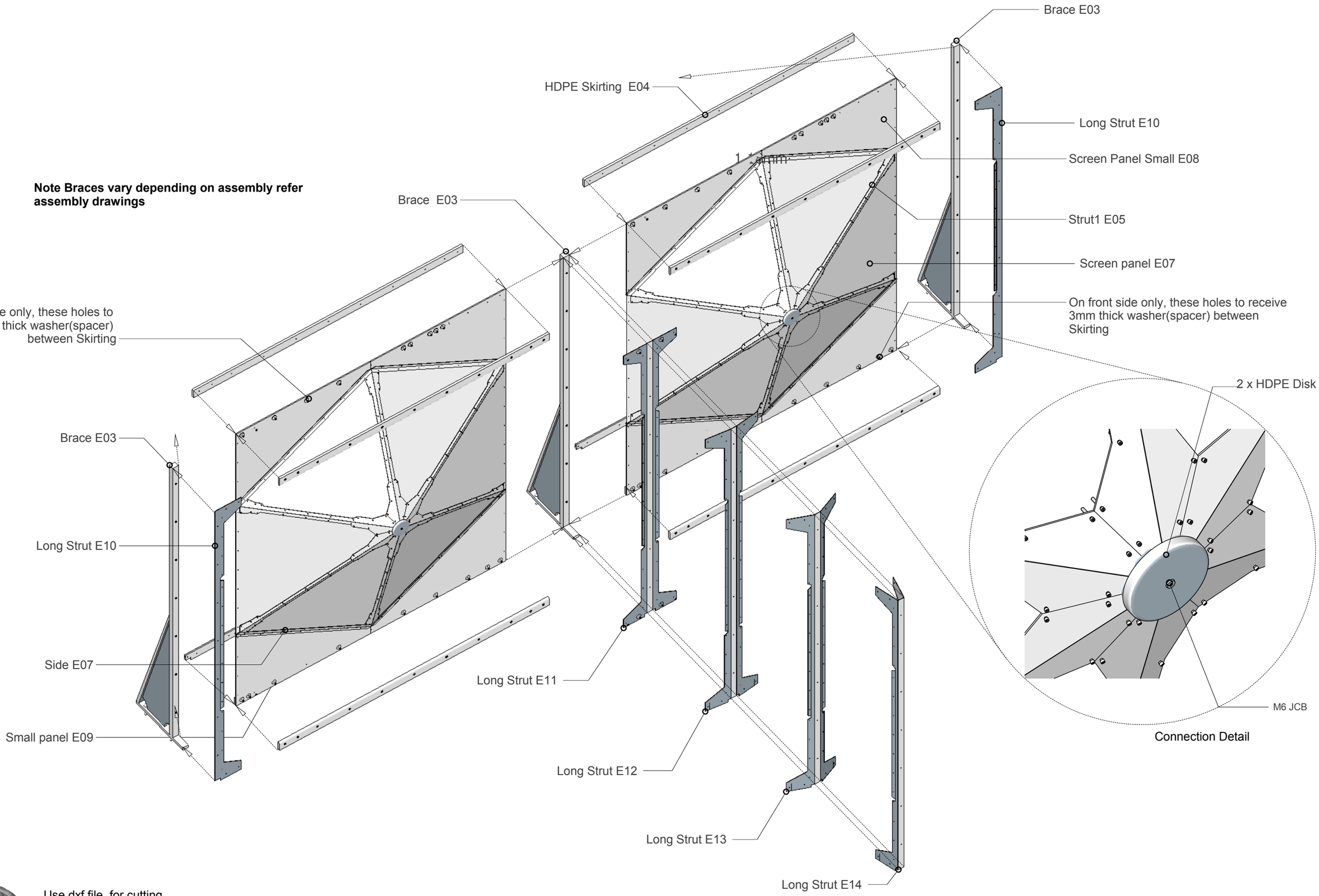
Note Braces vary depending on assembly refer assembly drawings



Connection Detail

Use dxf file for cutting

Job Title	For	At		Drawing	Layout Number
HEX SCREEN	**Tech Dome**		Plot date September 7, 2015	**Screen Assembly**	**E01**

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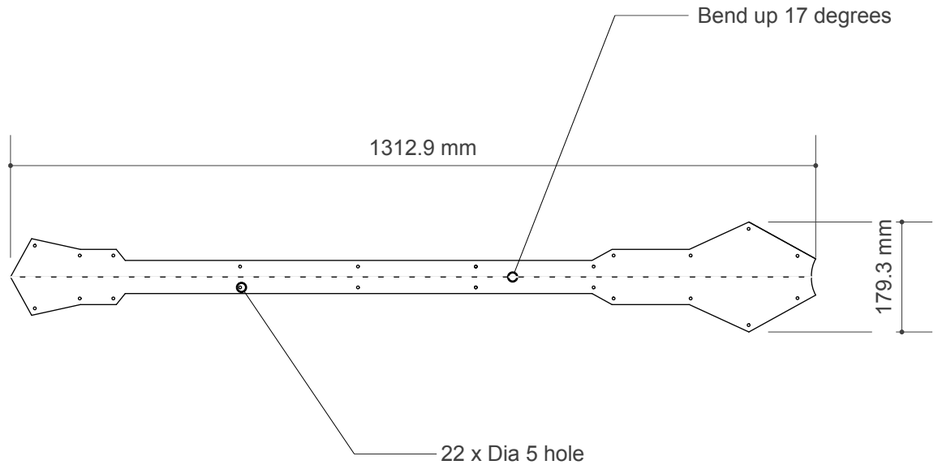
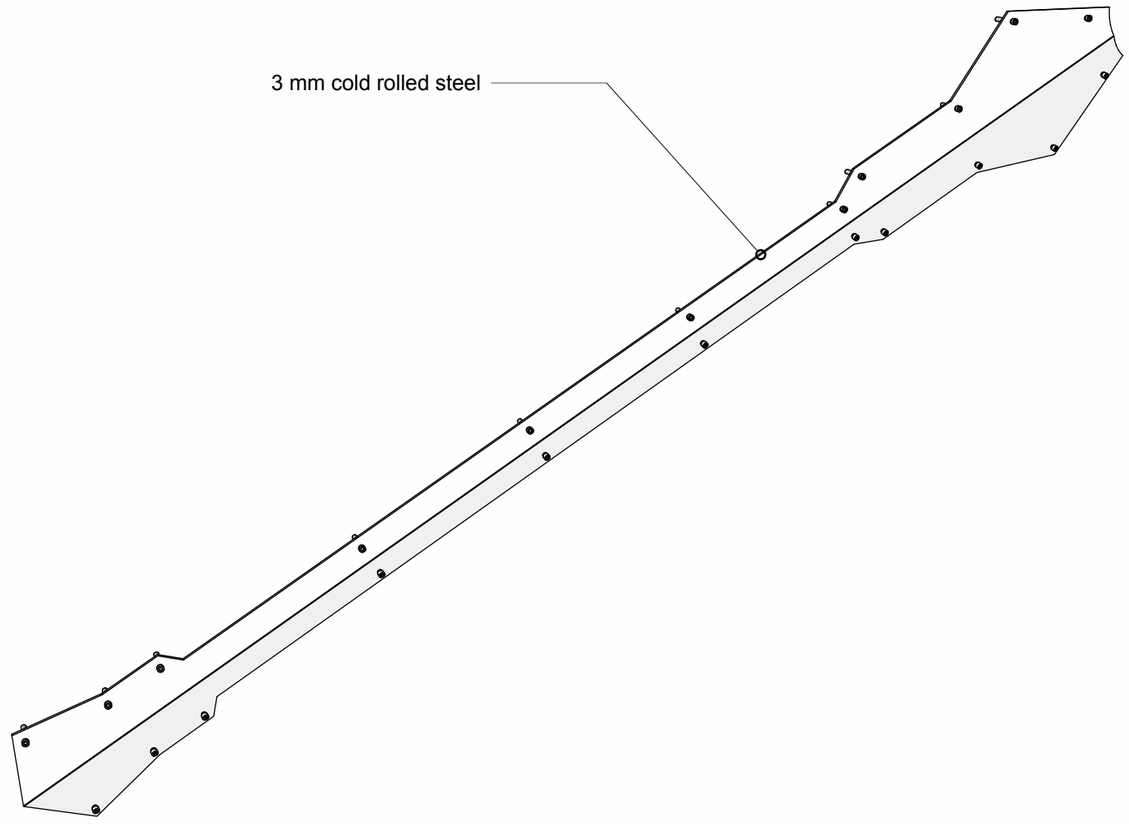


Plan
Scale 1:10



Perspective

material: 3 mm cold rolled steel
finish epoxy powdercoat satin black
debur all edges

Use dxf file for cutting

Job Title	For	At		Drawing	Layout Number
HEX SCREEN	**Tech Dome**		Plot date September 7, 2015	**Strut1**	**E05**

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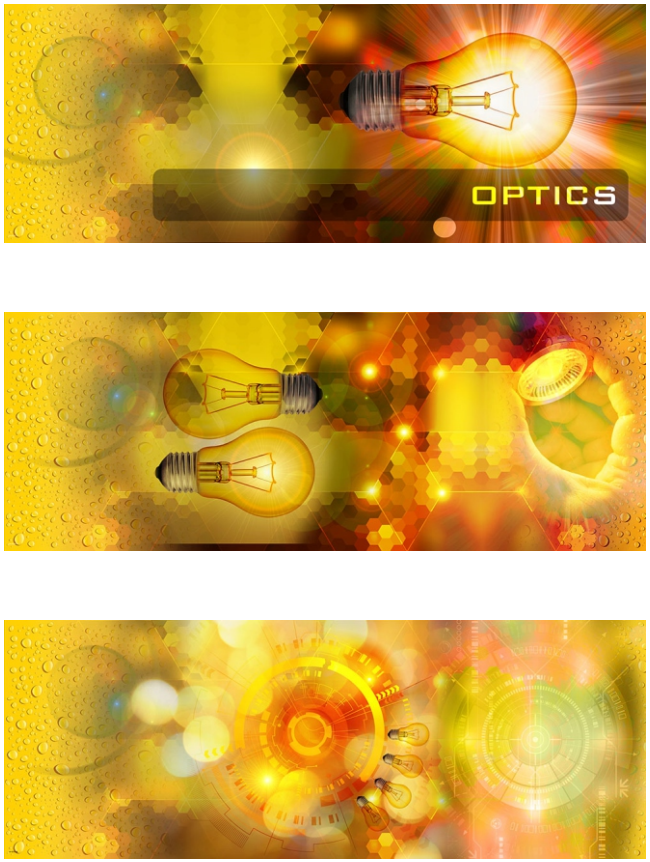
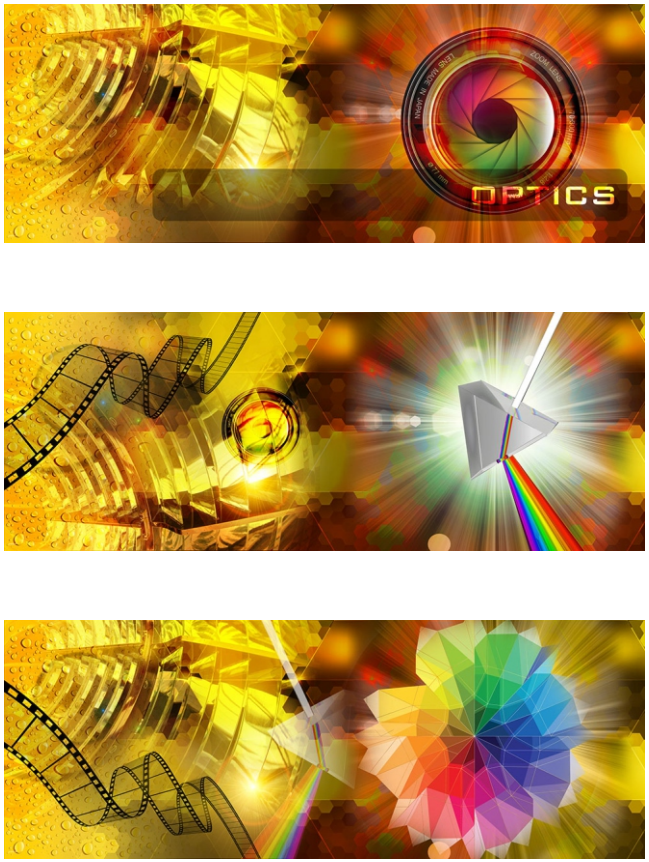
H03 H02 H01

1 2 3





894mm

2406 mm

Direct UV print to melamine board
see drawing H03
Penang ID to provide board

2 off each file

allow for 3 mm bleed top and bottom only
note sides are covered

ALL DIMENSIONS TO BE VERIFIED ON SITE

Job Title
TECH DOME

Penang Tech Centre

Drawing
Hex tower graphics

M01

Plot 7/11/2015

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email: tim@ timstephenson.co.nz

Draw Tim Stephenson

Translation
for instructions only.
Full translations availble on Interactive Board
available in each gallery.

Themed colour for different galleries

Illustration

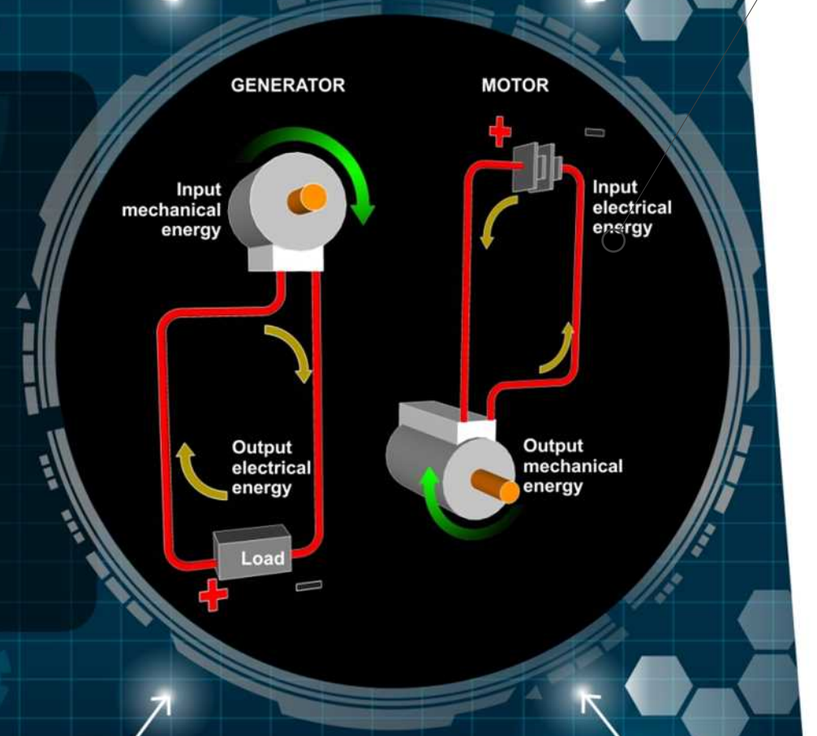
GENERATOR / MOTOR

Turn a wheel.
Putarkan salah satu roda.

What makes the other wheel turn?
Apakah yang menyebabkan roda yang lain berputar?

Turning the wheel of one device (the generator) produces an electrical current that flows through the wires. This current powers the movement of the wheel on the other device (the motor).

Generators convert mechanical energy (motion) into electrical energy, and motors convert electrical energy into mechanical energy. They are essentially the same device, but with different functions. An electric current flows in both, but in the opposite direction.



science alive!
The New Zealand Science Centre

Me 04

TECH DOME PENANG
INSPIRING THE FUTURE

WORK EXAMPLE	Tech Dome	Penang	Plot date March 28, 2016	Drawing Graphic Panels	Layout Number TD 07

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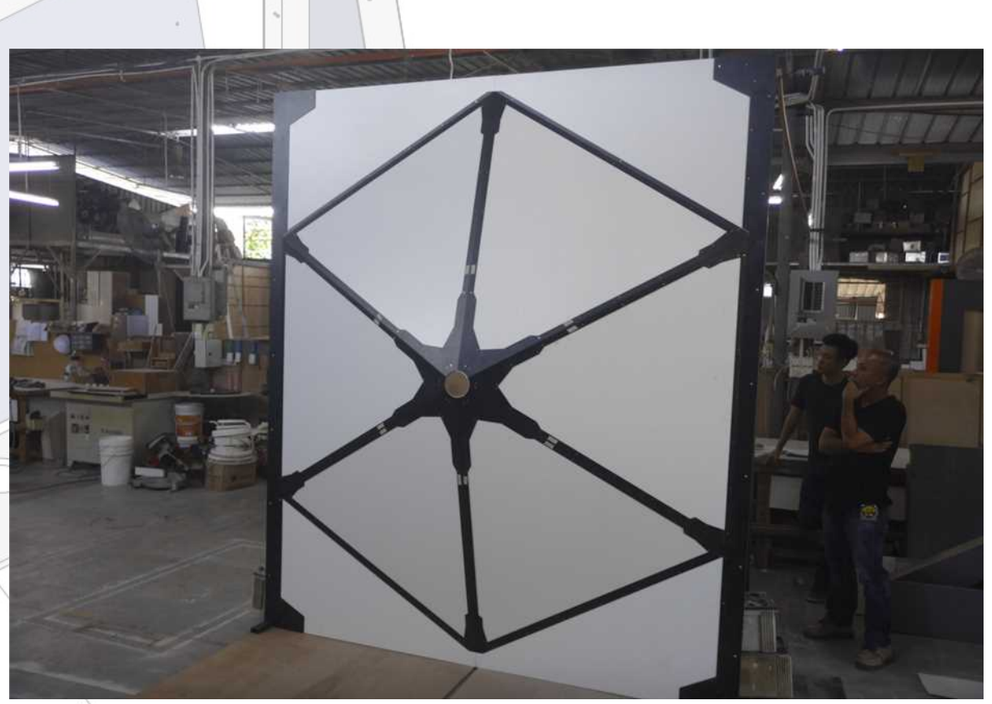
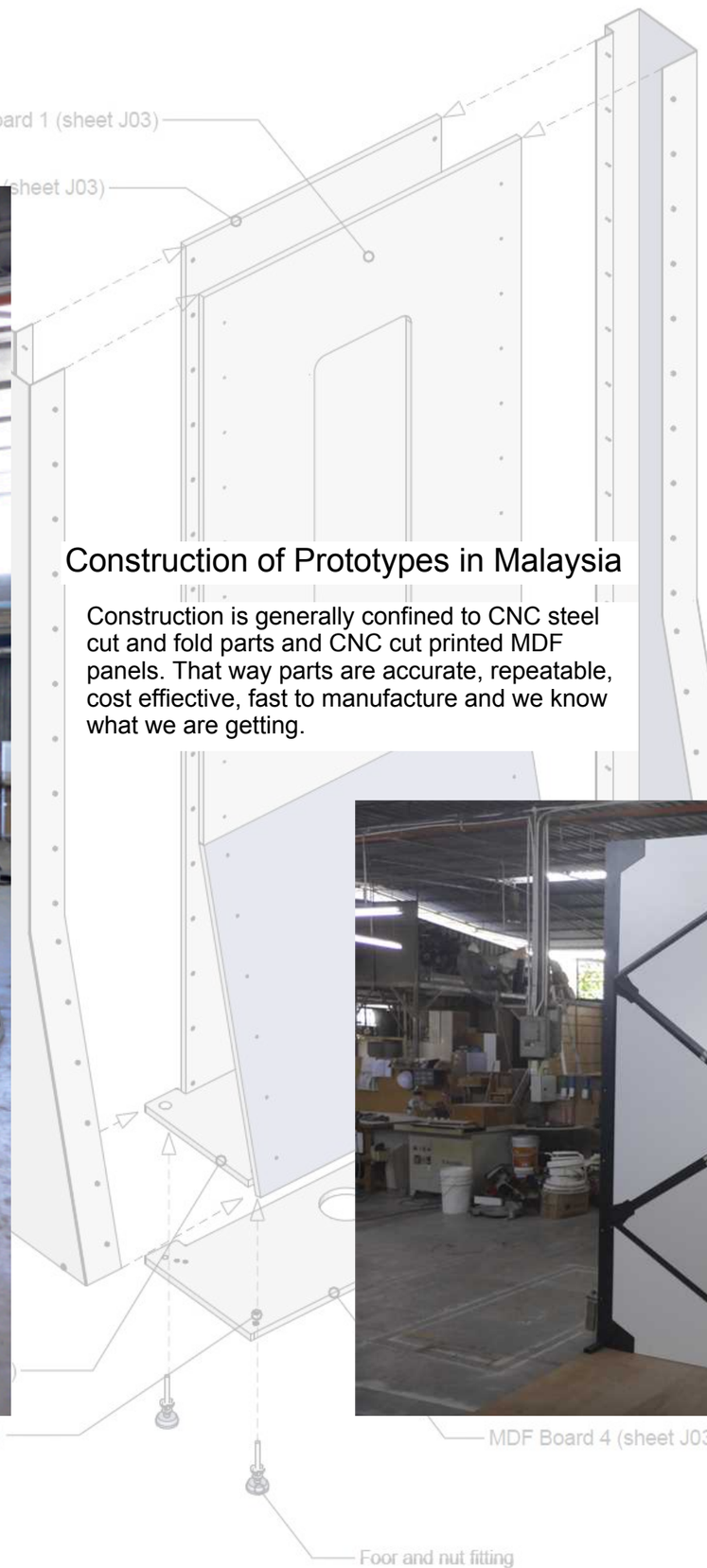
Construction of Prototypes in Malaysia

Construction is generally confined to CNC steel cut and fold parts and CNC cut printed MDF panels. That way parts are accurate, repeatable, cost effiective, fast to manufacture and we know what we are getting.





WORK EXAMPLE	**Tech Dome**	Penang	**Plot date** March 28, 2016	Drawing **Prototype Construction**	Layout Number **TD 08**

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