

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Ministry of Environment and Energy

Male', Republic of Maldives.

ދިވެހިސަރުކާރުގެ ގެޒެޓް ގައި ބަޔާންކުރި ގޮތުގައި
މިއަހަރުގެ ފެބްރުއަރީ 2017 ވަނަ އަހަރު.

އިދާރާތަކާ ގުޅިގެން: (IUL)438-WMPC/438/2017/124

މަޢުލޫމާތު ދިނުމުގެ ސަރުކާރުގެ ފަރާތުން ދިނުމުގެ ގޮތުގައި
މިއަހަރުގެ ފެބްރުއަރީ 2017 ވަނަ އަހަރު.

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މިއަހަރުގެ ފެބްރުއަރީ 2017 ވަނަ އަހަރު ގައި ބަޔާންކުރި ގޮތުގައި

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..... *שם*

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..... ١. ٥١١٢٢٣

[illegible]

..... 3.

4. $\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$

..... 5.

.....

..... ۲: د سرو نښو مټون

..... ۳: دسویں روز

[illegible][illegible]

27

جۛ قۛرۛقۛ 2 : دۛسۛرۛ لۛگۛرۛ دۛ لۛگۛرۛ دۛسۛرۛ

جَعَلَهُ قَرَقَرًا ۚ وَجَعَلَهَا نَافِثَاتٍ لَّيْلًا خَافُضَاتٍ صَفْوًا وَجَعَلَهَا كَلِمَاتٍ خَفِيفًا يُذَكِّرْنَ ۚ وَجَعَلَهَا لِقَاءَ رَبِّكَ يُخَبِّرُكَ بِمَا كُنتَ تَعْمَلُ ۚ

جُتْرُوو 4 : دَسَوِوِمُو لَمُسَرَجْ سَكِرَتَر اِسْتُرِيْمَتَر مَکَجَر

6 بُوخَرِیُّ صَدْرُ 4 بُوخَرِیُّ

- دَوسَرِ اَمُوں رُفُوں اِنُوں سِرِسِرِ اُسُرُ دِمَسِر دِیوَنو مَح مُکُمَلَاو.

3. رُبُّكَ ذُو الْجَلَالِ وَالْإِكْرَامِ

- [illegible]

4. $\frac{1}{2} \frac{d}{dt} \left(\frac{1}{2} m v^2 \right) = \frac{1}{2} m v \frac{dv}{dt} = \frac{1}{2} m v \frac{dv}{dt} = \frac{1}{2} m v \frac{dv}{dt}$

- ជំនួញលើកទី ៥ ដែលបានបញ្ចប់នៅថ្ងៃទី 06 ខែ មេសា ឆ្នាំ 2017 ត្រូវបានបញ្ចប់នៅ 11:30 ម៉ោង លើកទី ៥ ។
ជំនួញលើកទី ៦ នឹងត្រូវបានបញ្ចប់នៅថ្ងៃទី 11 ខែ មេសា ឆ្នាំ 2017 ។
- ជំនួញលើកទី ៧ នឹងត្រូវបានបញ្ចប់នៅថ្ងៃទី 12 ខែ មេសា ឆ្នាំ 2017 ត្រូវបានបញ្ចប់នៅ 11:30 ម៉ោង លើកទី ៦ ។
ជំនួញលើកទី ៨ នឹងត្រូវបានបញ្ចប់នៅថ្ងៃទី 13 ខែ មេសា ឆ្នាំ 2017 ត្រូវបានបញ្ចប់នៅ 11:30 ម៉ោង លើកទី ៧ ។

5. $\frac{1}{x^2} = x^{-2}$

- [illegible]

6. دسویں لاکھ ۶۰ روپے دس روپے

- دسویں لاکھ نامہ سرکار "ع" و دیارِ پاکستان میں ستر سو ستر سو سو.

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1: تاسو څه ځان ته ښه ښوونکي ګڼئ؟

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ځان ته ښه ښوونکي ګڼئ؟ (ځان ته ښه ښوونکي ګڼئ؟) ☐

(ځان ته ښه ښوونکي ګڼئ؟ ځان ته ښه ښوونکي ګڼئ؟ ☒ ځان ته ښه ښوونکي ګڼئ؟)

سورة: وَاسْمُكَ مَرْحُومٌ

	دستورالعملی در خصوص سرپرست و سرپرست در صورتی:
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سُرود ھجیر	قُر ھجیر	اَقر										دَقر (قُرو)	رَسر اَقر
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سَمْعٌ : مَوْخِزٌ ، وَثَقٌّ ، دَسَّاسٌ ، وَتَدْرِي ، دَسَّارٌ ، دَسَّارٌ ، دَسَّارٌ ، دَسَّارٌ .

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CONSTRUCTION OF WASTE MANAGEMENT CENTRE - GA. VILLINGILI
Bill of Quantities

No	Item	Unit	Quantity	Rate	Amount
1	Preliminaries				
1.1	Mobilization to site	LS	1		
1.2	Site management cost including set up of temporary services for contractor's services as maybe necessary	LS	1		
2	Site Clearance				
2.1	All site clean up work including removal of vegetation and relocation of existing waste to a temporary location identified by island council	LS	1		
3	Earth works				
	<i>Allow for all excavation work for foundations as follows</i>				
3.1	Collection bay isolated footings	m3	3.24		
3.2	Collection Bay wall footing	m3	16.11		
3.4	Flood light pole	m3	0.13		
3.5	Ground levelling works for ground slab works	m2	725.00		
3.6	Leachate collection tank	m3	6.00		
3.7	Setting up a ground water well in the location shown	LS	1		
4	Concrete works				
	<i>Collection Bay Area</i>				
4.1	Provide 100mm concrete floor screed for collection bay area according to the slope shown in drawing with a drain at the Sorting Area. Reinforcement for the slab shall be R6@150 BW single layer	m3	46.98		
4.2	Wall Footing of Collection Bay Area walls cast according to drawing. Reinforcement shall be as shown on drawing	m3	4.03		
4.3	Lintel for Collection Bay Area walls cast according to drawing. Reinforcement shall be as shown on drawing.	m3	1.34		
4.4	Columns for Collection Bay Area walls cast according to drawing. Reinforcement shall be as shown on drawing.	m3	20.66		

4.5	Isolated Columns for Collection Bay Area walls cast according to drawing. Reinforcement shall be as shown on drawing.	m3	2.295		
	<i>Compost Slab</i>				
4.6	Compost slab panels cast according to the slopes shown on drawing. Reinforcement shall be as shown on drawings.	m3	22.50		
4.7	B1 beams of compost slab cast according to drawing. Reinforcement shall be as shown on drawing.	m3	5.96		
4.8	B2 beams of compost slab cast according to drawing. Reinforcement shall be as shown on drawing.	m3	2.92		
4.9	B3 beams of compost slab with a mortar layer at an adequate slope, cast according to drawing. Reinforcement shall be as shown on drawing. Rate shall include reinforcement work, formwork, casting and mortar works.	m3	2.25		
4.10	Leachate collection tank with primary and secondary tanks as shown on drawing. Rate shall include all formwork, casting and placing of the tank	LS	1		
	<i>Other</i>				
4.11	Foundation for flood light pole	m3	0.29		
4.12	Ground water well casting work	LS	1		
5	Structural steel works				
	<i>Collection Bay Area</i>				
5.1	Provide 75mm G.I pipe as structural columns for collection bay area. Rate shall include all fixings at both ends of the pipe for necessary connections as shown on drawing	Nos	42		
	<i>Other</i>				
5.2	Provide 75mm G.I pipe as flood light fixing poles. Rate shall include installation charges as shown on drawing.	Nos	2		
6	Masonry works				
	<i>Collection Bay Area walls of thickness 150mm</i>				
6.1	Masonry works for Collection Bay Walls	m3	13.19		
7	Plastering works				
	<i>Collection Bay Area</i>				
7.1	25mm plastering Collection Bay Walls	m2	181.43		
8	Painting works				
	<i>Collection Bay Area Walls</i>				

8.1	Apply emulsion paint coating on Collection Bay walls	m2	181.43		
8.2	Apply emulsion paint coating on columns of Collection Bay	m2	105.84		
	<i>Steel Members</i>				
8.3	Apply emulsion paint coating on G.I columns of collection bay	LS	1		
8.4	Apply emulsion paint coating on the roof trusses, rafters and purlins	LS	1		
8.5	Apply paint coating on the metal sliding door of the Hazardous waste storage room	LS	1		
8.6	Apply paint coating on the two metal folding doors of the equipment room	LS	2		
8.7	Apply emulsion paint coating on G.I members and MS Sheets of gates	LS	1		
	<i>Other</i>				
8.8	Apply paint coating on flood light pole	LS	2		
8.9	Apply emulsion paint coating on the removable timber covers of the leachate collection tanks	LS	2		
9	Roofing works				
9.1	TR1 Truss as shown on the drawing at 3m c/c. Rate shall include all cuttings, weldings, applying of protective coating for welded joints, and setting up the truss	m	180.00		
9.2	TR2 Truss as shown on the drawing. Rate shall include all cuttings, weldings, applying of protective coating for welded joints, and setting up the truss	m	125.00		
9.3	Provide 38mm diameter G.I Pipe at 2m c/c over truss as rafters. Rate shall include all cuttings, weldings, applying of protective coating for welded joints, and setting up the rafters.	m	250.00		
9.4	Provide 25mm diameter G.I Pipe at 1m c/c over rafters as purlins. Rate shall include all cuttings, weldings, applying of protective coating for welded joints, and setting up the purlins.	m	500.00		
9.5	Lysaght roofing sheet for Collection Bay Area. Rate shall include all necessary laps, fastening, fixtures and sealing of joints	m2	555.44		
10	Electrical works				
	<i>Collection Bay Area</i>				

10.1	Provide 3 phase 13A power sockets in equipment room. Rate shall include connection to circuit breaker using 10 square mm wire and all necessary accessories	Nos	6		
10.2	Provide 100W ceiling mount energy saving light as shown in the drawing, provide the switches near circuit breaker inside the equipment room. Rate shall include connection to circuit breaker	Nos	9		
10.3	Provide and mount a Ceiling fan inside the Equipment Room as indicated. Rate shall include provision of switch near the circuit breaker inside the equipment room, connection to circuit breaker and all necessary accessories	Nos	1		
10.4	Supply and fix electric meter, 4 pole MCCB, Single Phase distribution board and 3 Phase distribution board as shown on drawing. Earth link and connection to earth rod with proper earth pit should be provided as well	LS	1		
10.5	Provide and mount a exhaust fan inside the Hazardous Waste Storage Room. Rate shall include provision of switch near the circuit breaker inside the equipment room, connection to circuit breaker and all necessary accessories	LS	1		
10.6	Provide 25 sqmm 4 core power supply cable from nearest existing distribution box to waste yard distribution board	m	150		
	<i>Other</i>				
10.7	Provide 13 A power socket for well water pump inside the Equipment Room, provide the switch for the pump near circuit breaker inside the equipment room. Rate shall include connection to circuit breaker.	Nos	1		
10.8	Provide 200 W flood light for illuminating the waste yard. Rate shall include connecting each light to a switch near circuit breaker inside the equipment room and providing power to the switch	Nos	2		
10.9	Provide well water pump. Rate shall include its fixing inside the Equipment Room	Nos	1		
11	Plumbing works				
11.1	Provide connection from pump to ground water well. Rate shall include all necessary pipes, bends, fittings and footvalve and others as maybe required.	LS	1		

11.2	Provide outlet pipes as shown on drawing. Rate shall include connection to pump, bends, fittings and others as maybe necessary.	LS	1		
11.3	Provide PVC taps at ends of outlet pipes.	Nos	3		
11.4	Supply 25mm diameter flexible hose	m	25.0		
12	Doors and windows				
	<i>Metal Doors</i>				
12.1	Provide lockable metal sliding gates for entrance to hazardous waste storage room. Rate shall include all cuts, welds, applying protective coating to welded joints, painting the door and proper fixing of the door. Rate shall include fabrication and fixing of guide rails and wheels as well.	Nos	1		
12.2	Provide lockable metal folding gates for entrance to Equipment room. Rate shall include all cuts, welds, applying protective coating to welded joints, painting the door and proper fixing of the door. Rate shall include fabrication and fixing of guide rails and wheels as well.	Nos	2		
12.3	Provide lockable metal gates for entrance to waste yard as specified in the drawing. Rate shall include all cuts, welds, applying protective coating to welded joints, painting the frame and properly fixing the door to the fence.	Nos	2		
	<i>Timber Doors</i>				
12.4	Provide a lockable timber door of dimensions 1000mm x 1000mm with double door frames and fixed timber louvers for the ground water pump room hut. Rates shall include all materials, hinges and fixings.	Nos	1		
13	Other Works				
	<i>Collection Bay Area</i>				
13.1	Provide a 5" vinyl roof gutter with 2" x 3" downspout. Rates shall include all materials and fastenings.	LS	1		
	<i>Compost Slab</i>				
13.2	Provide HDPE membrane below compost slab and collection bay floor slab	m2	725.00		
13.3	Provide expansion joint in slab and fill the joint with polyethylene joint filler form and silicone as shown on drawing	m	40.00		
13.4	Provide two timber removable covers for the leachate collection tank of size 1000x2000mm. Rates shall include all materials, fastenings and handles.	LS	2		

13.5	Connection of compost slab drain to primary tank of the leachate tank including ball valve	LS	1		
13.6	Covering the 1.5m gap between the roof and masonry walls around the walls indicated in the drawing using Lysaght Sheets	m	91.00		
14	Demobilisation Works				
14.1	Setup sign boards on site as specified	LS	1		
14.2	Clean up site upon completion of works	LS	1		
14.3	Demobilization	LS	1		

TOTAL

4: دسہ ہزار روپے کے اندر کی تعمیرات

CONSTRUCTION OF WASTEMANAGEMENT CENTRE - GA. VILLINGILI

Bill of Quantities

SUMMARY SHEET

Bill No	Item	Amount
1	Preliminaries	
2	Site clearance	
3	Earth works	
4	Concrete works	
5	Structural steel works	
6	Masonry works	
7	Plastering works	
8	Painting works	
9	Roofing works	
10	Electrical works	
11	Plumbing works	
12	Doors and windows	
13	Other Works	
14	Demobilisation	
Sub Total		
GST 6%		
GRAND TOTAL		

تَجَرُّوهُ 1 : نَسْرُؤُسِرْ تَجْرِي سَوَّجْ تَجْرِي سَوَّجْ تَجْرِي سَوَّجْ

مَجَرُورُ 2 : دَسَرُورِ مَجَرُورِ دِي مَجَرُورِ



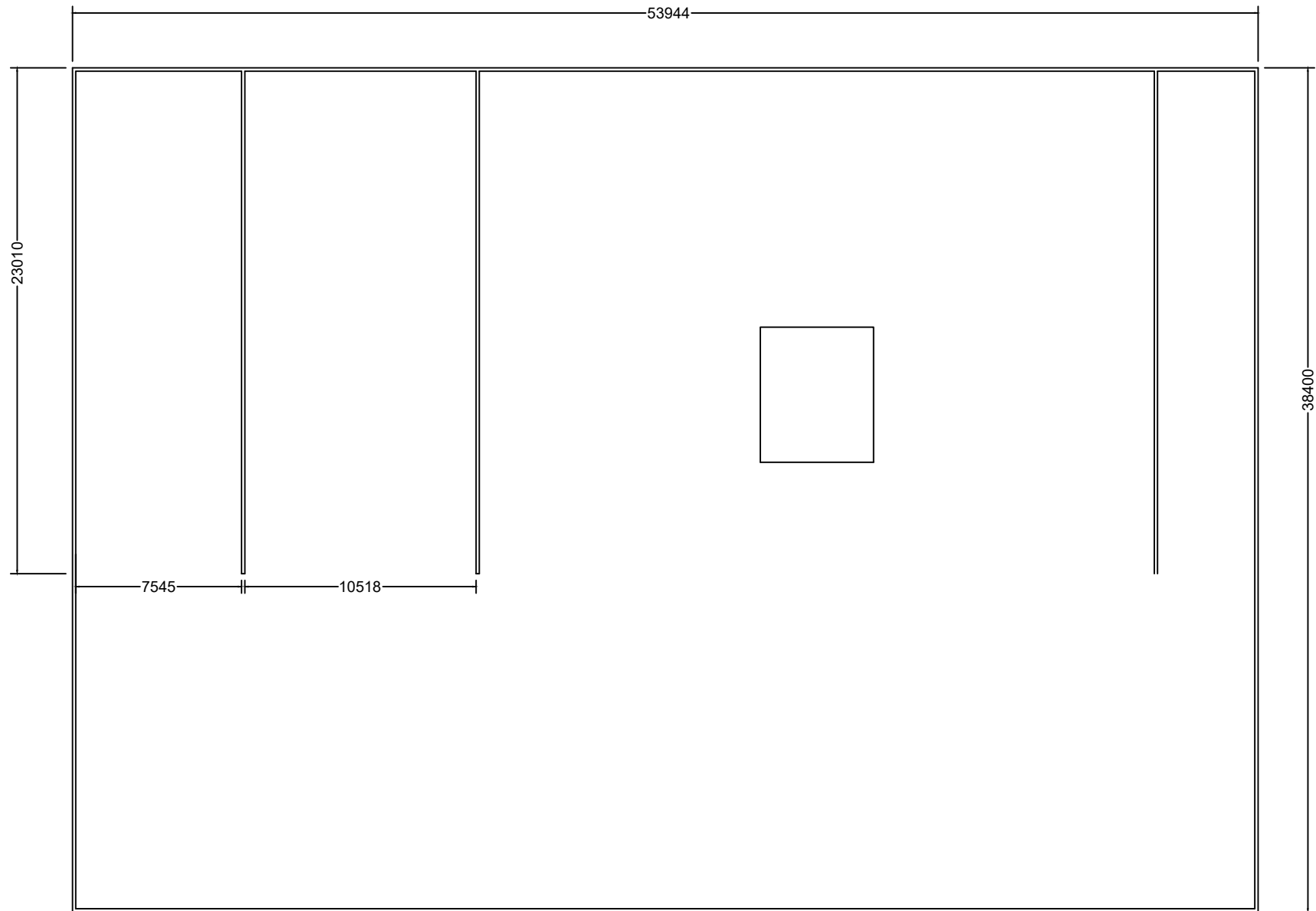
PROJECT:

**CONSTRUCTION OF
AN ISLAND WASTE MANAGEMENT CENTRE
GA. VILLINGILI**

PREPARED BY:

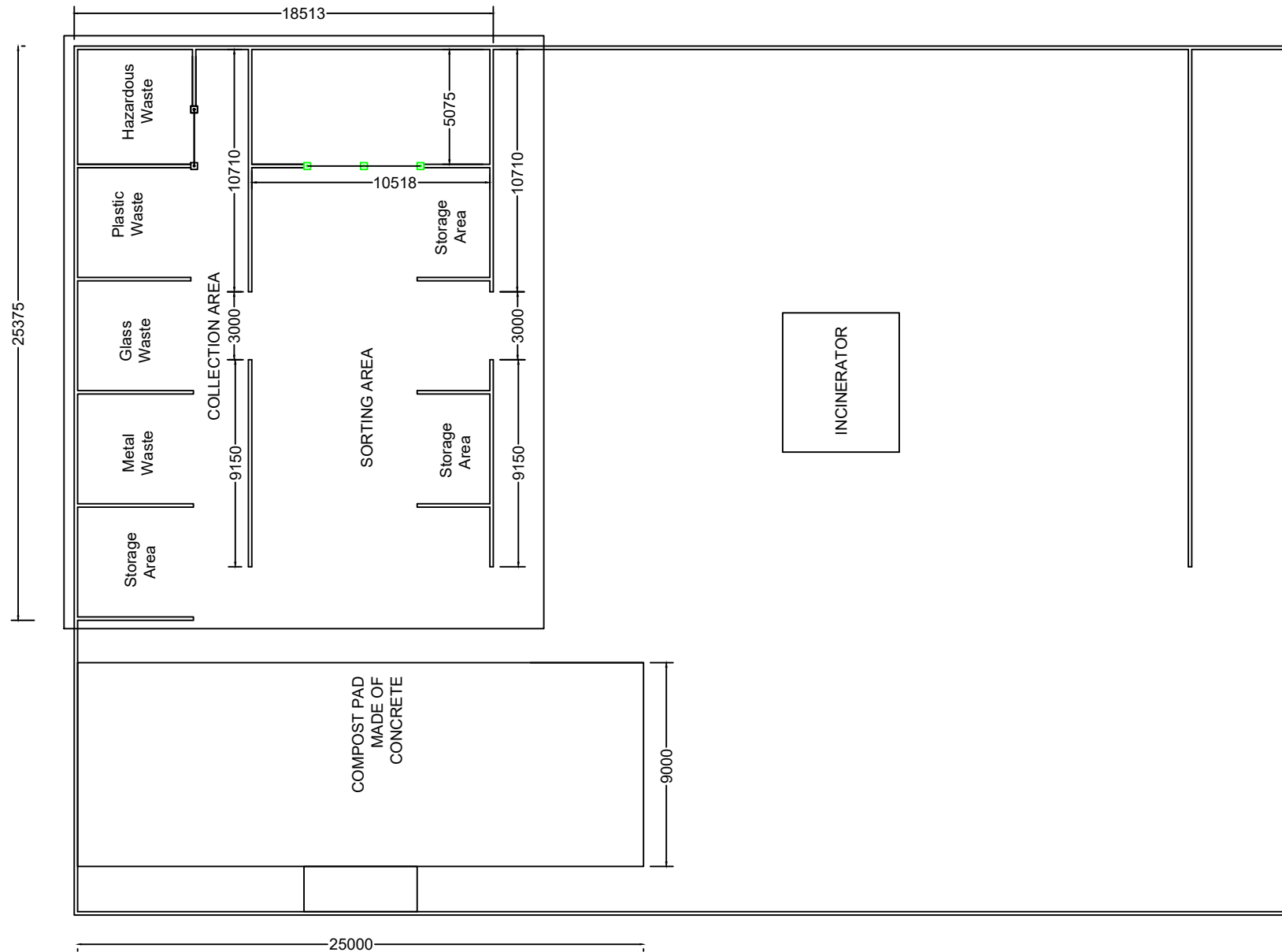
WASTE MANAGEMENT AND POLLUTION CONTROL DEPARTMENT
MINISTRY OF ENVIRONMENT AND ENERGY

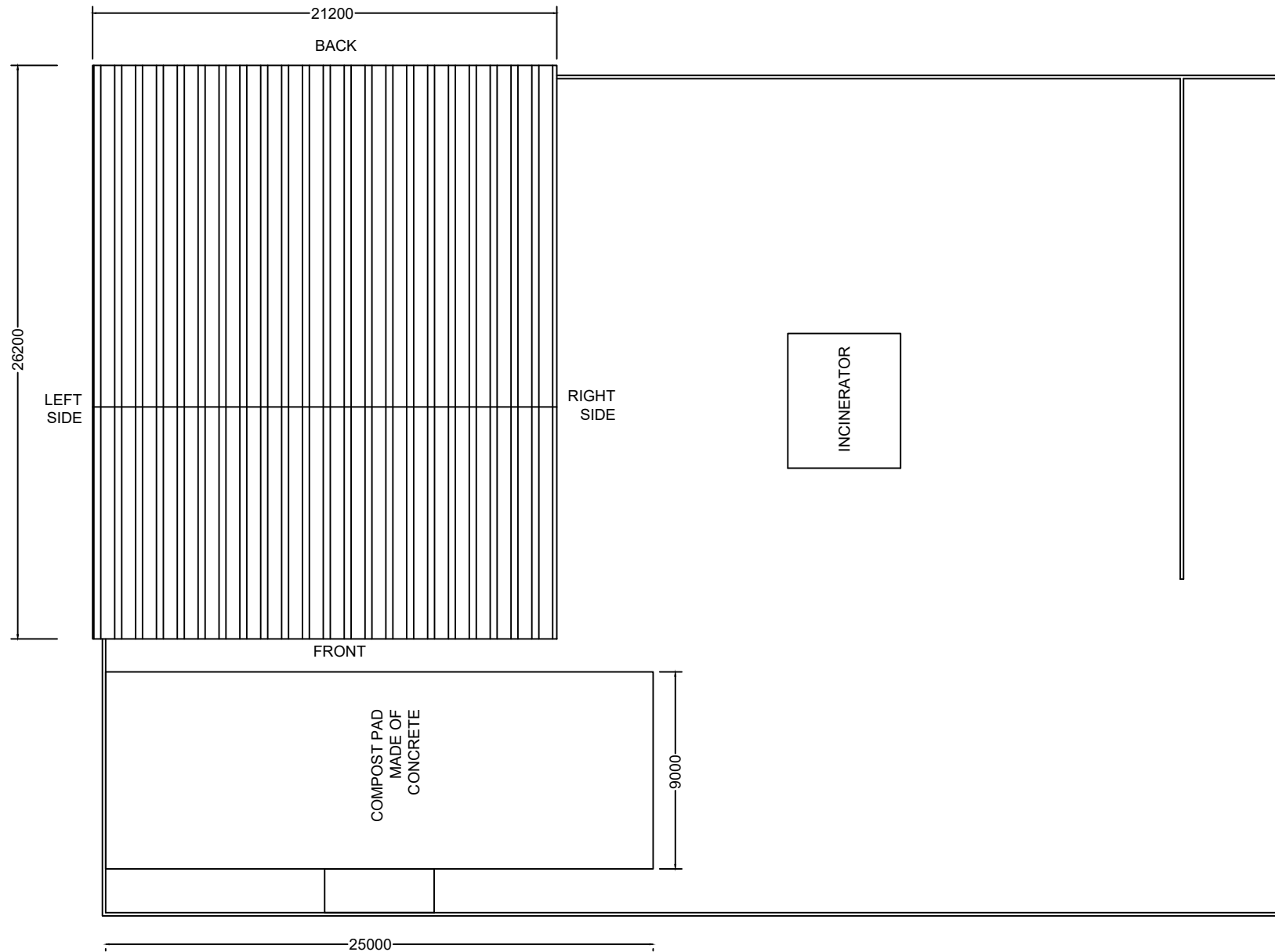
June 2017



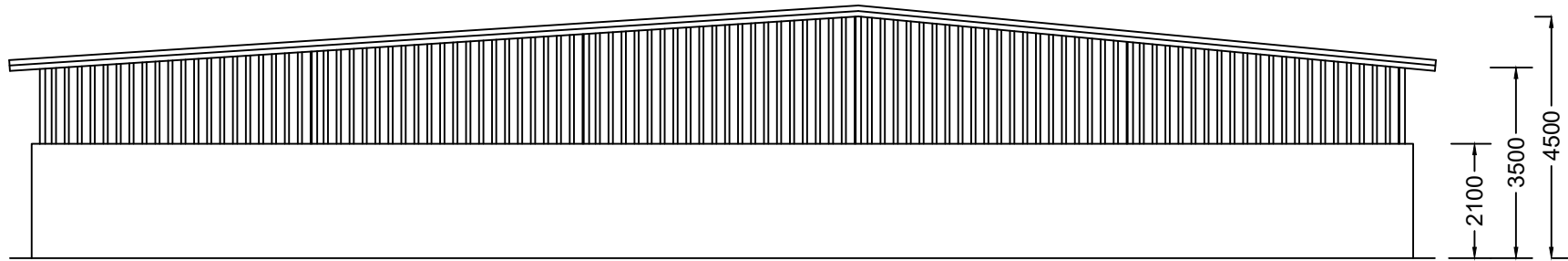
EXISTING SITE LAYOUT

PROPOSED SITE LAYOUT

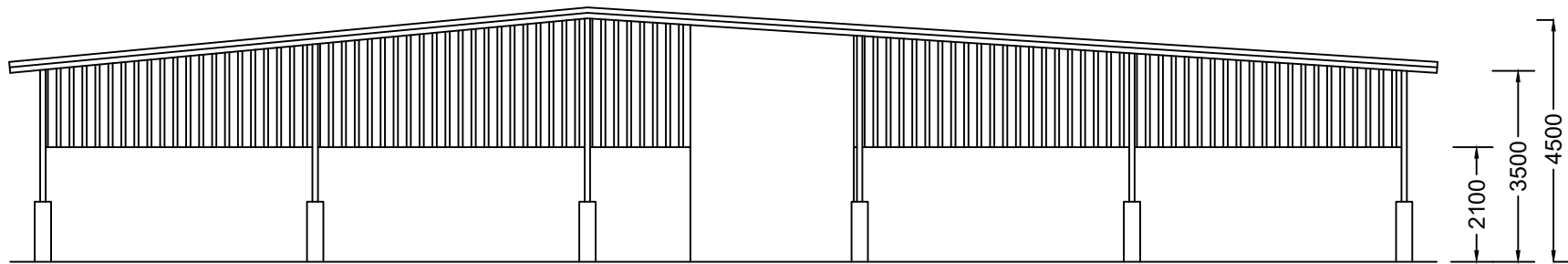




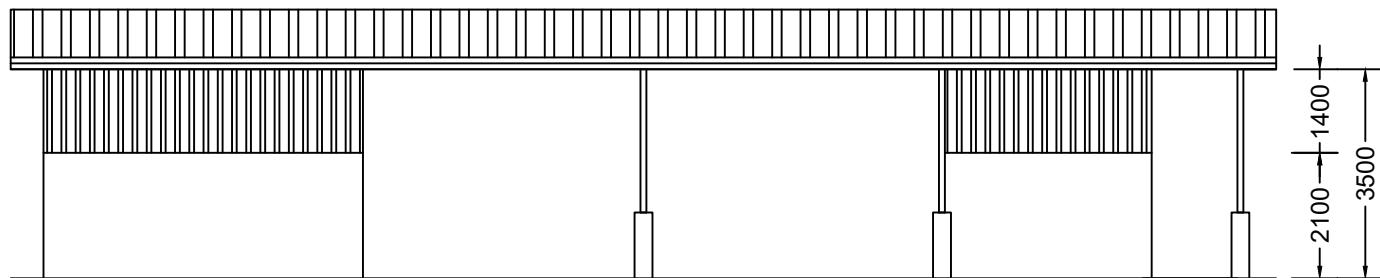
COLLECTION BAY - PLANS



LEFT SIDE ELEVATION



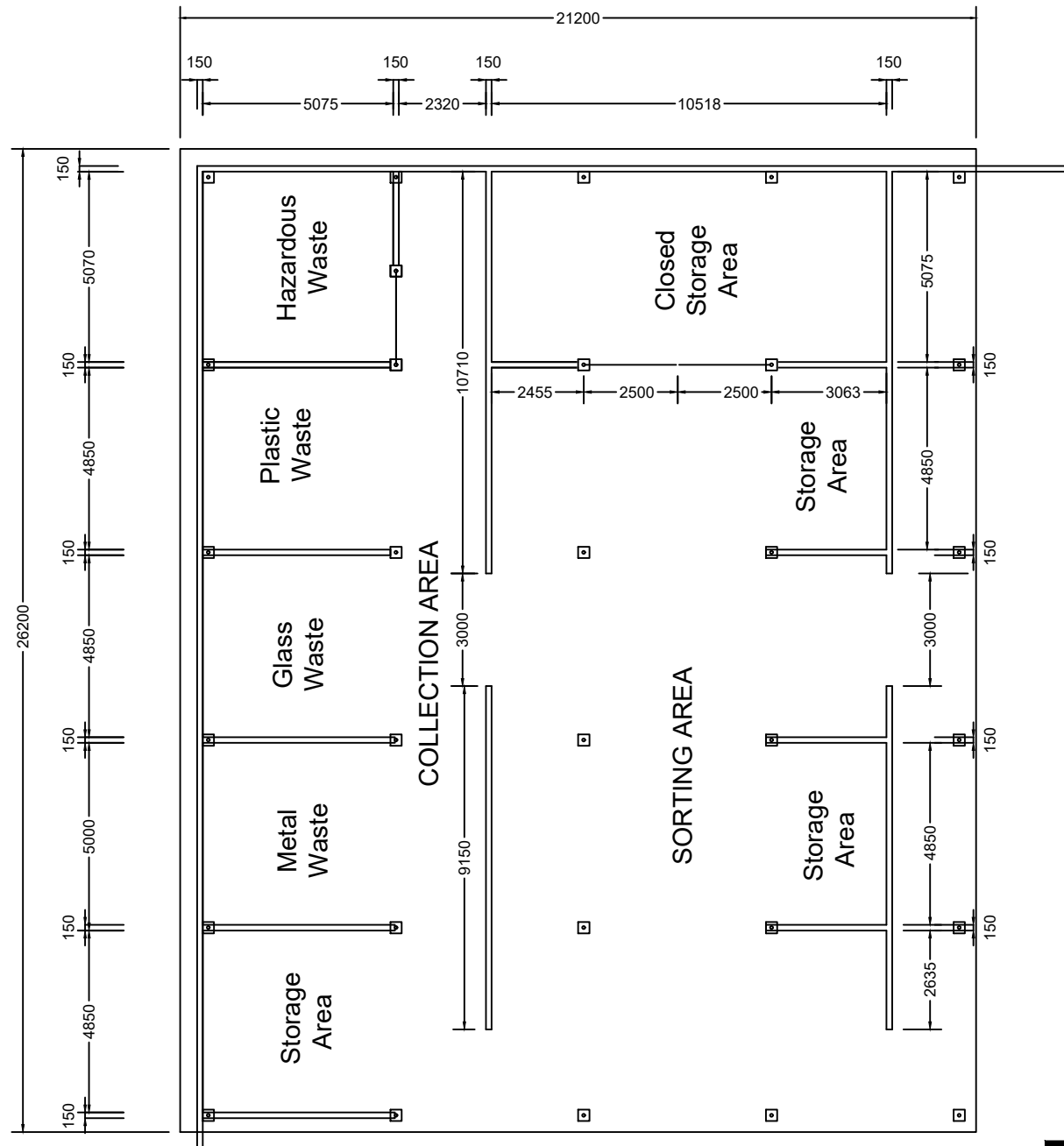
RIGHT SIDE ELEVATION

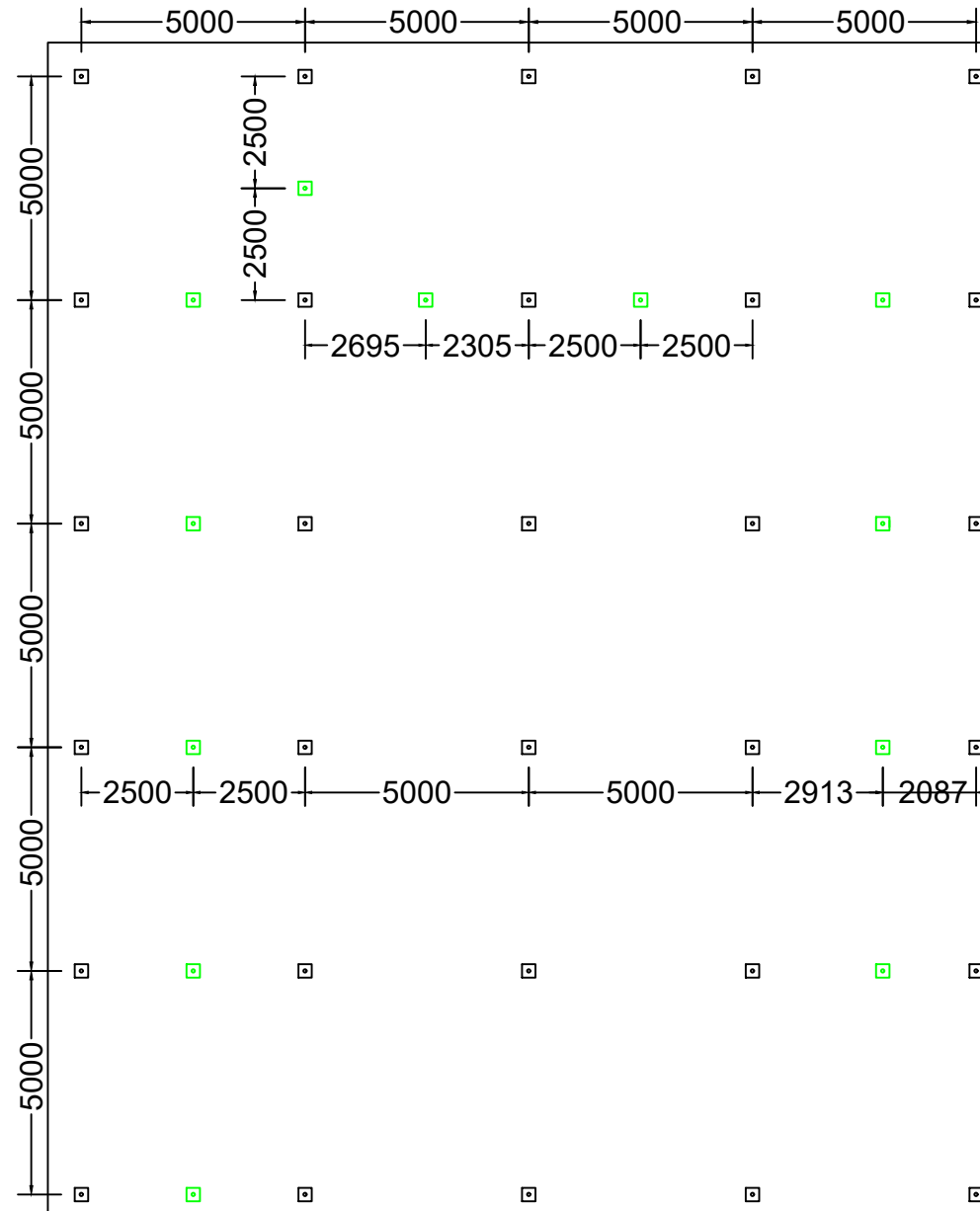


FRONT ELEVATION

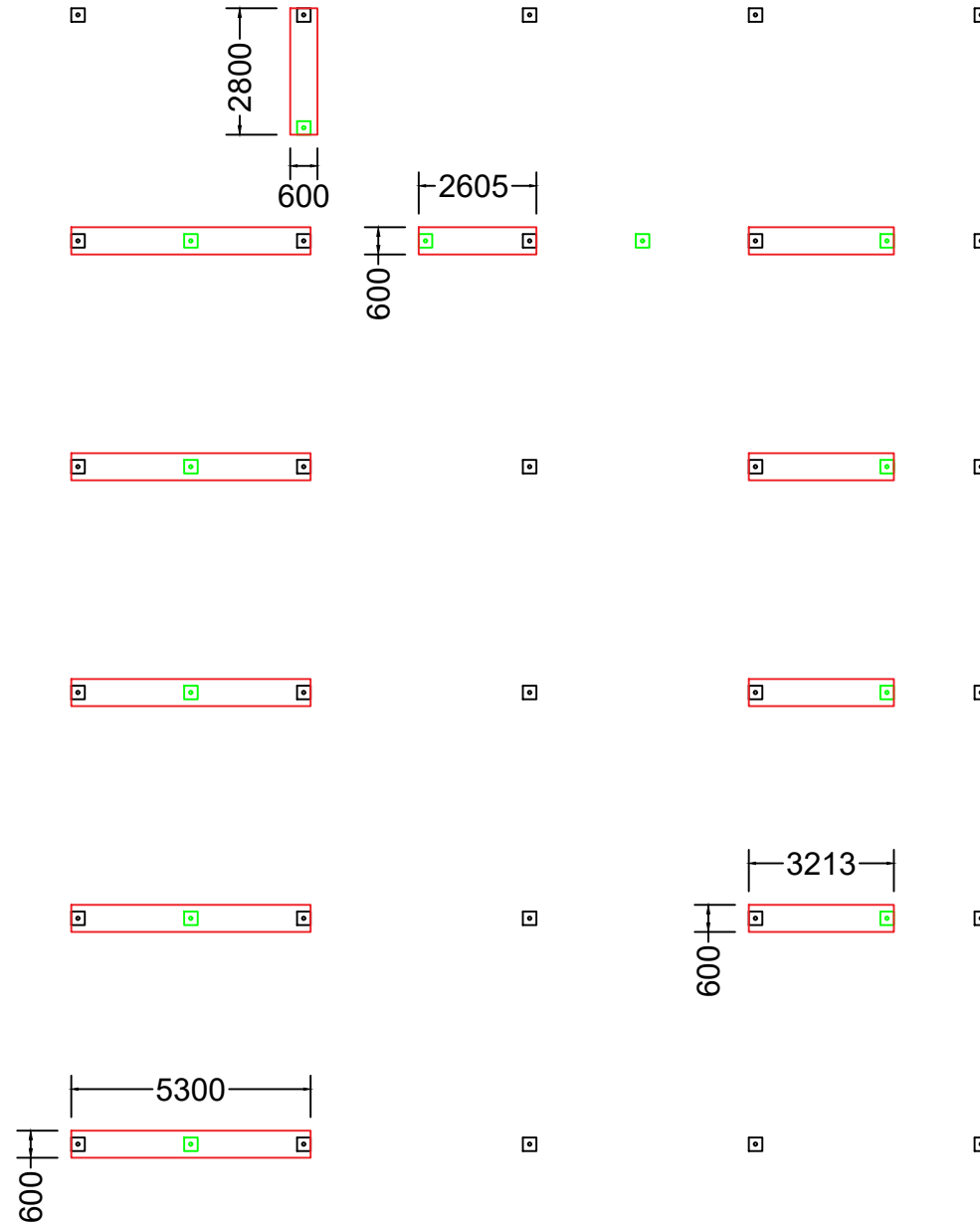
ELEVATIONS

FLOOR PLAN

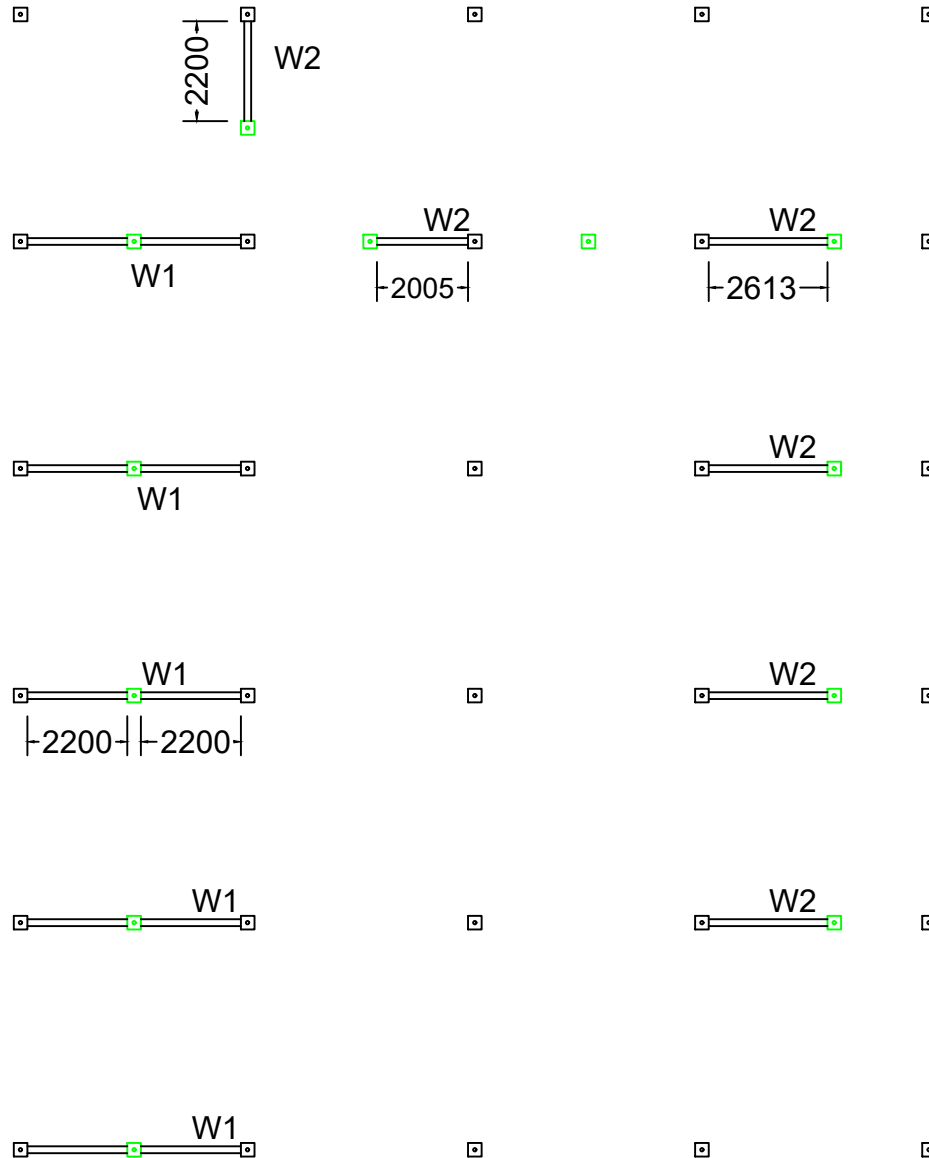




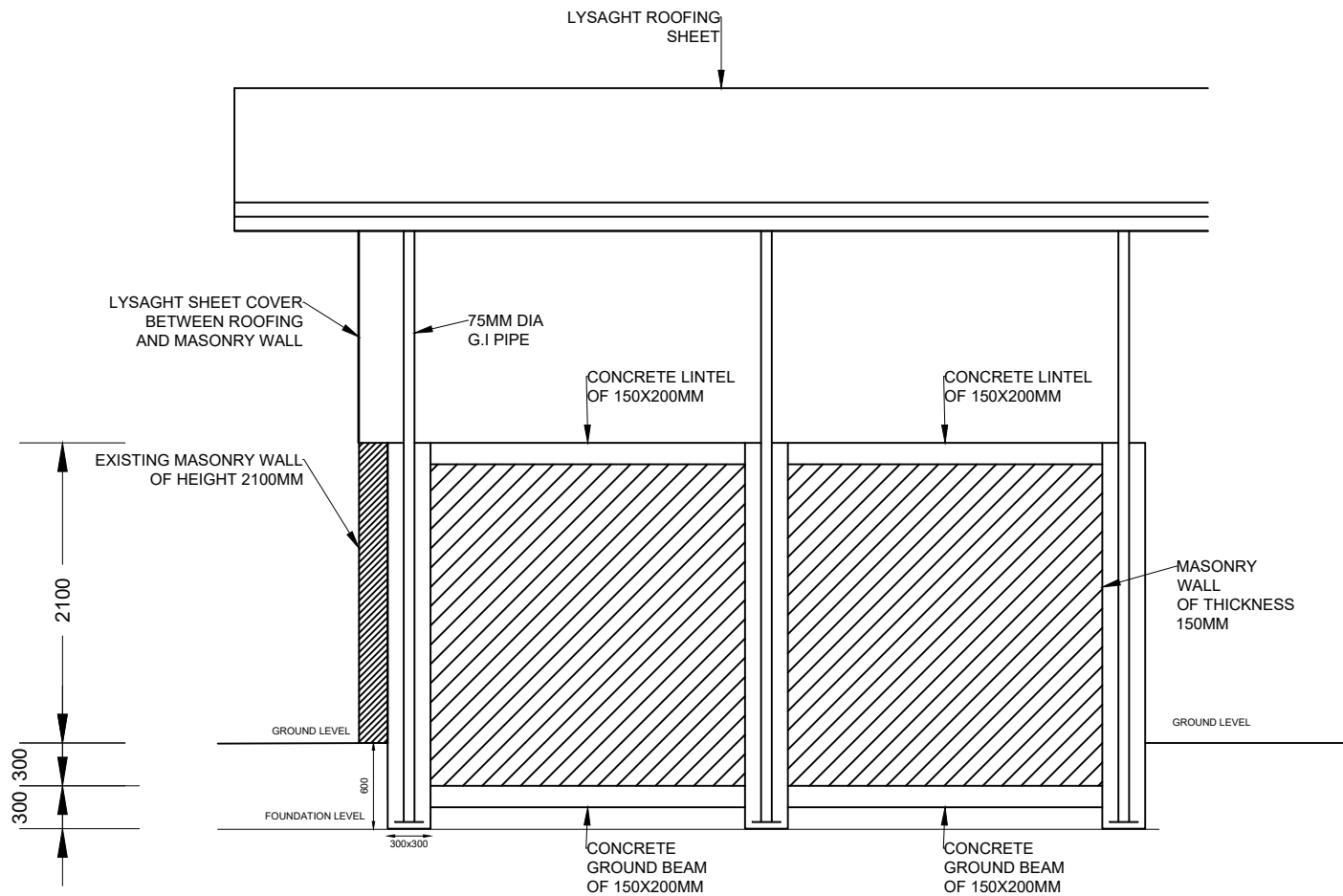
FOUNDATION PLAN - COLUMNS



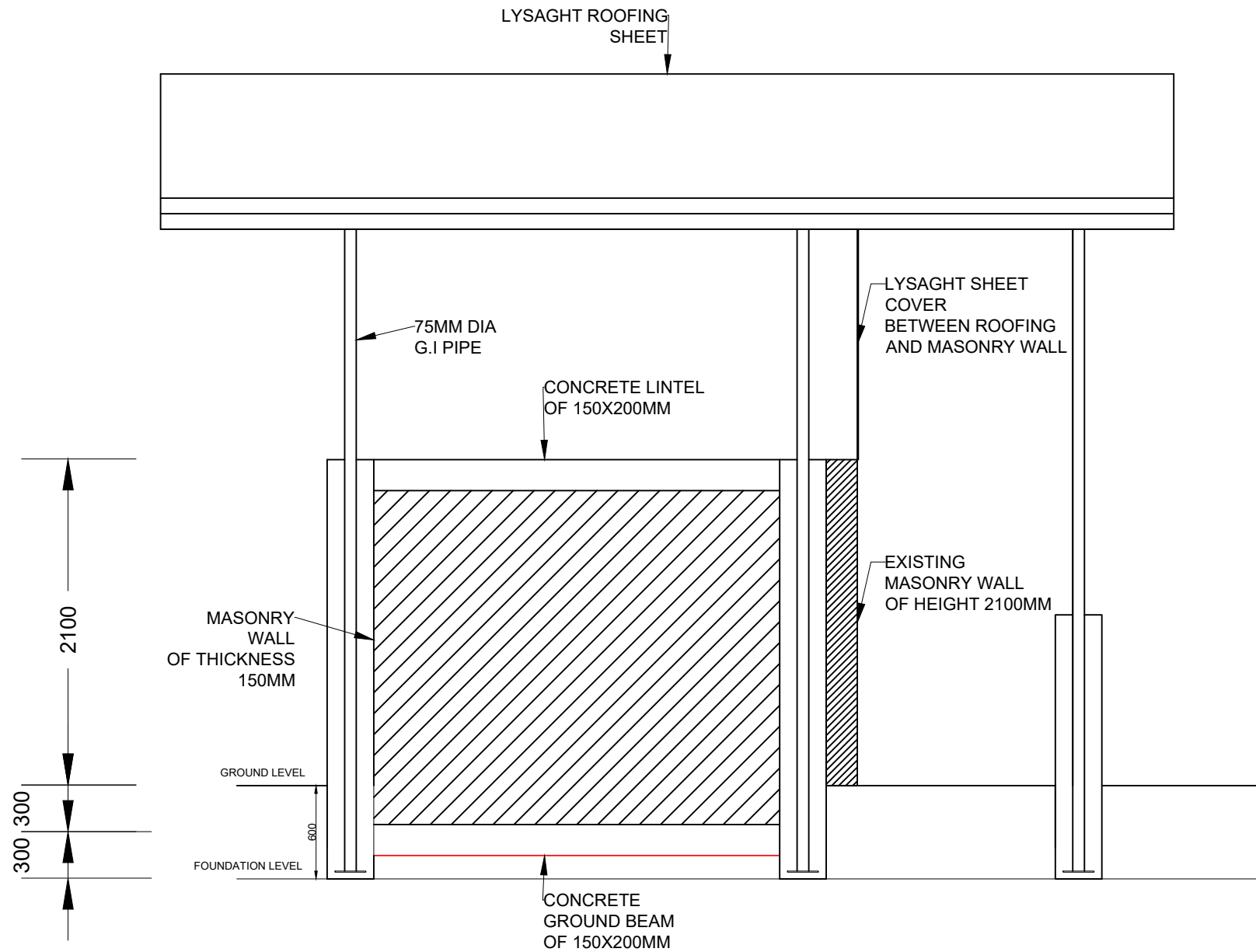
FOUNDATION PLAN - GROUND BEAMS



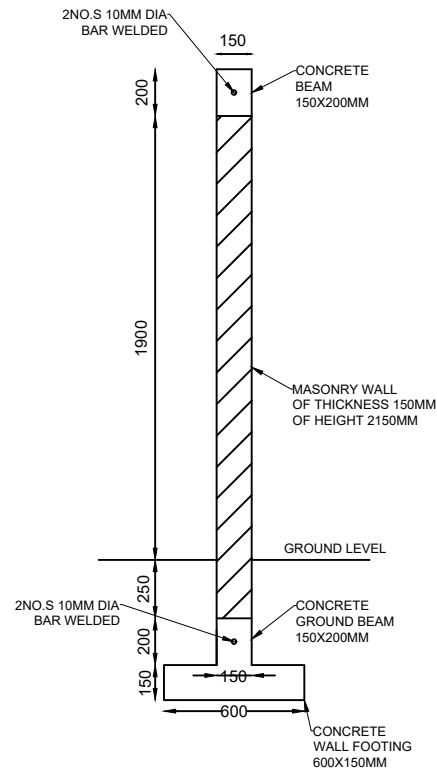
MASONRY WALL DETAILS



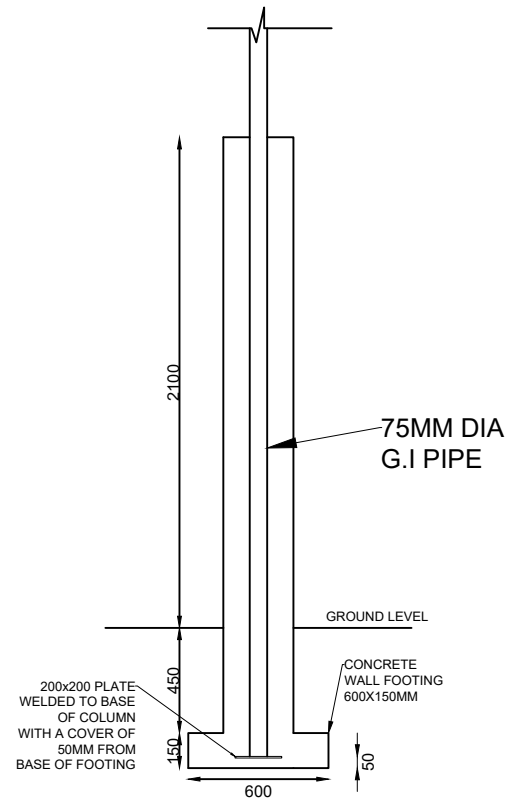
W1 DETAILS



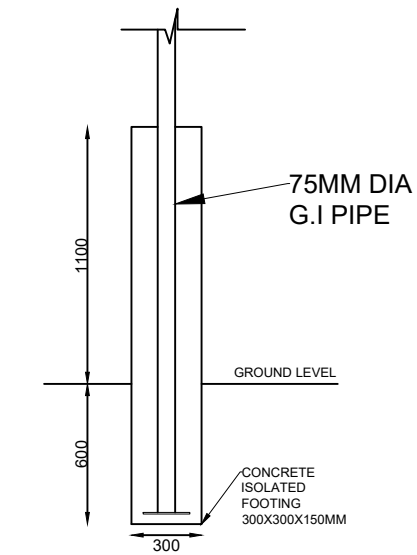
W2 DETAILS



BEAMS AND WALL FOOTING DETAILS

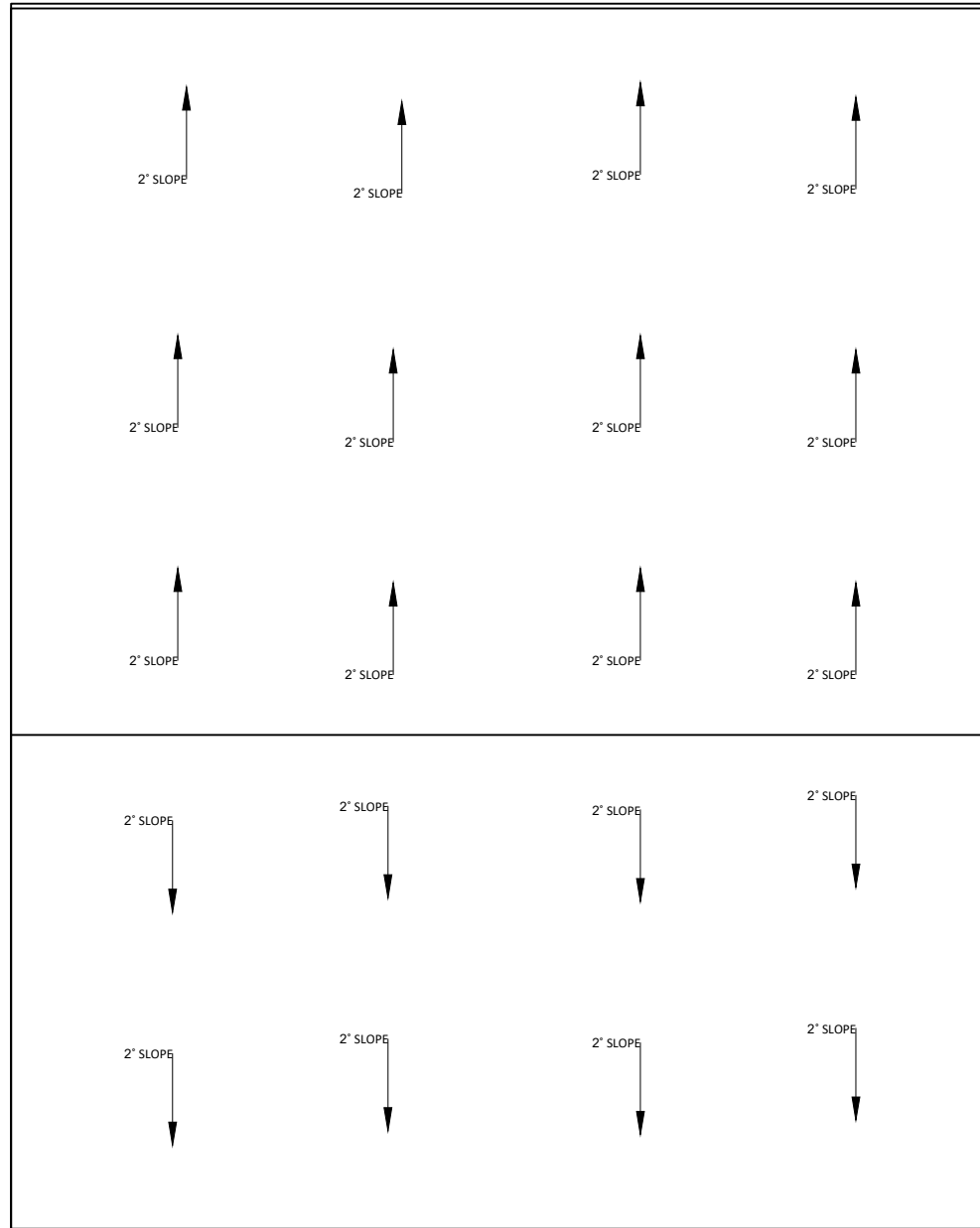


WALL COLUMN DETAILS

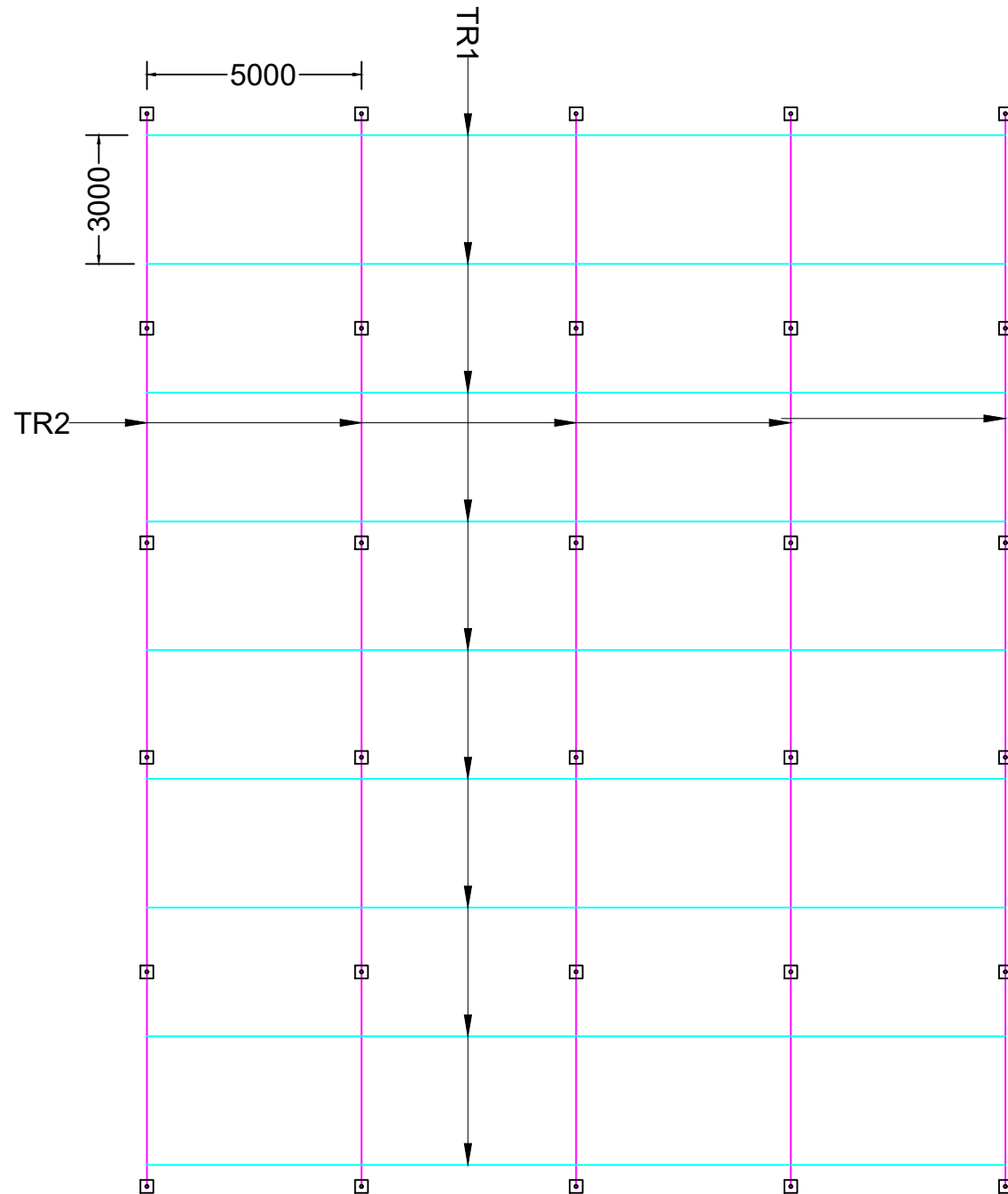


ISOLATED COLUMN DETAILS

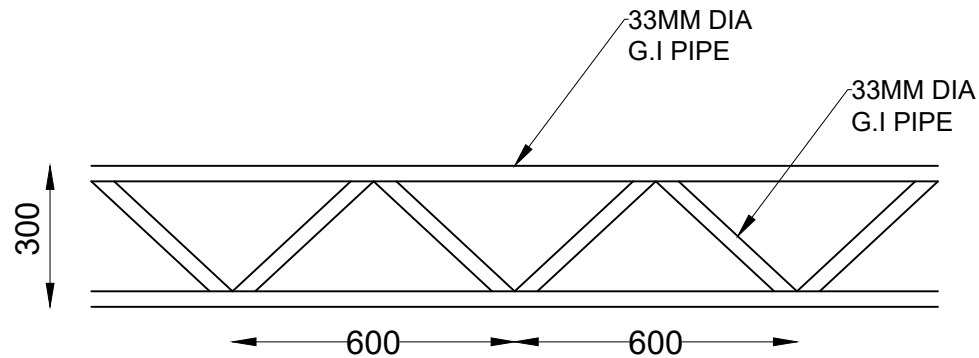
WALLS AND COLUMNS DETAILS



ROOF SLOPE



ROOF FRAMING PLAN

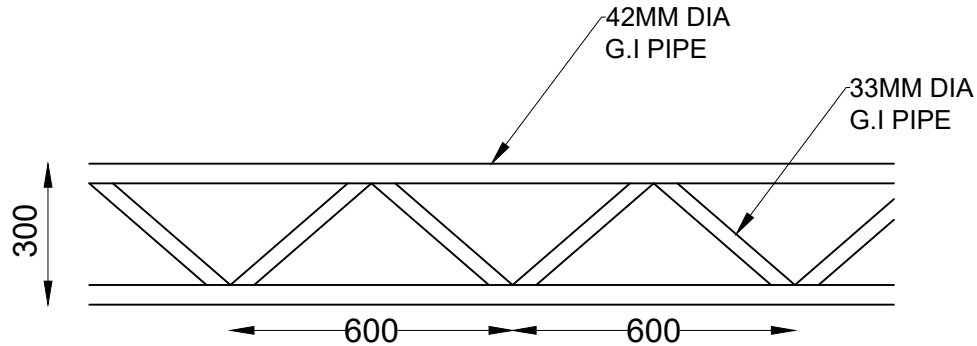


TR1 TRUSS

*Provide TR1 TRUSS @3m c/c

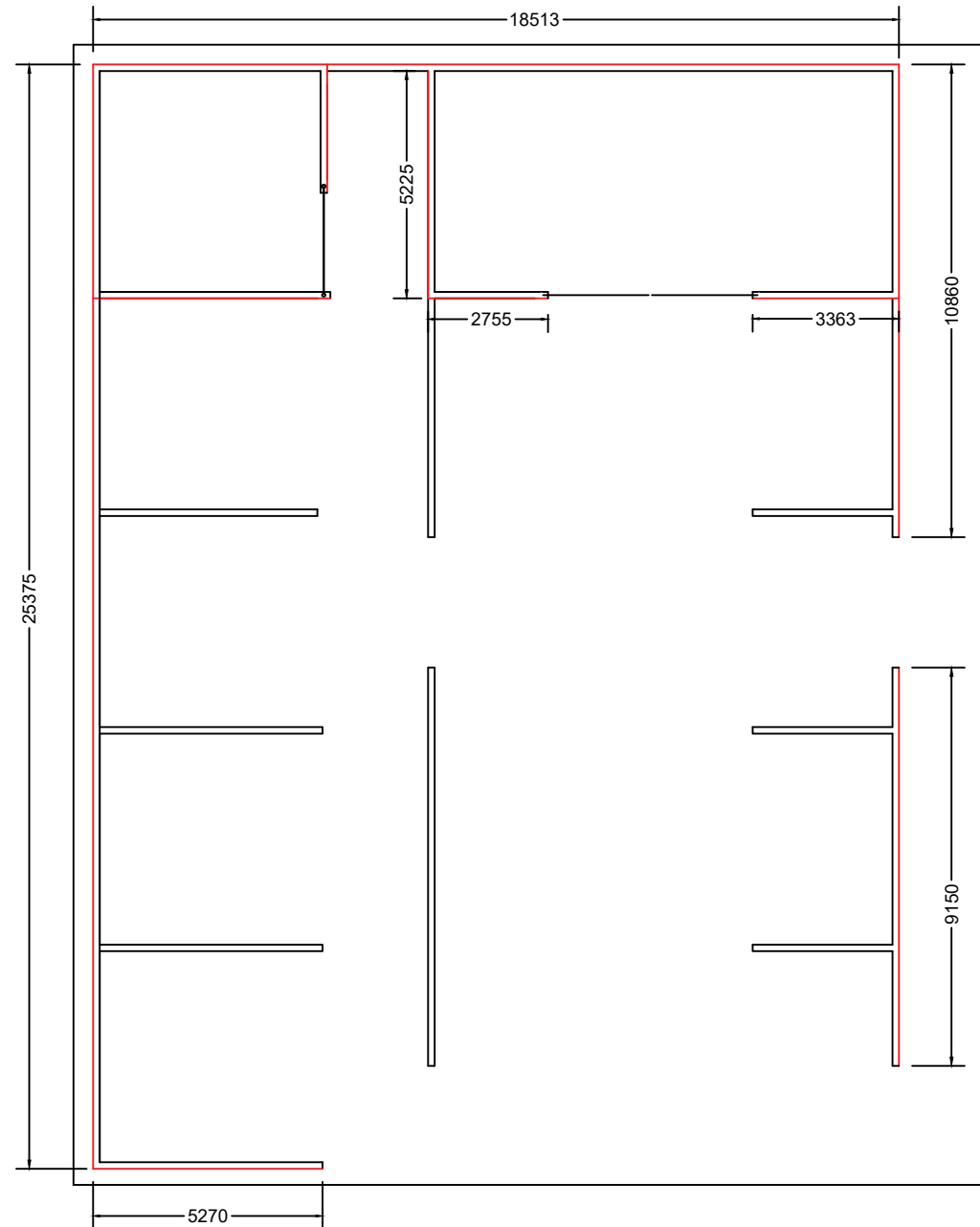
*Provide 38mm Dia G.I Pipe @ 2m c/c over truss as rafters

*Provide 25mm Dia G.I Pipe @ 1m c/c over rafters as purlins

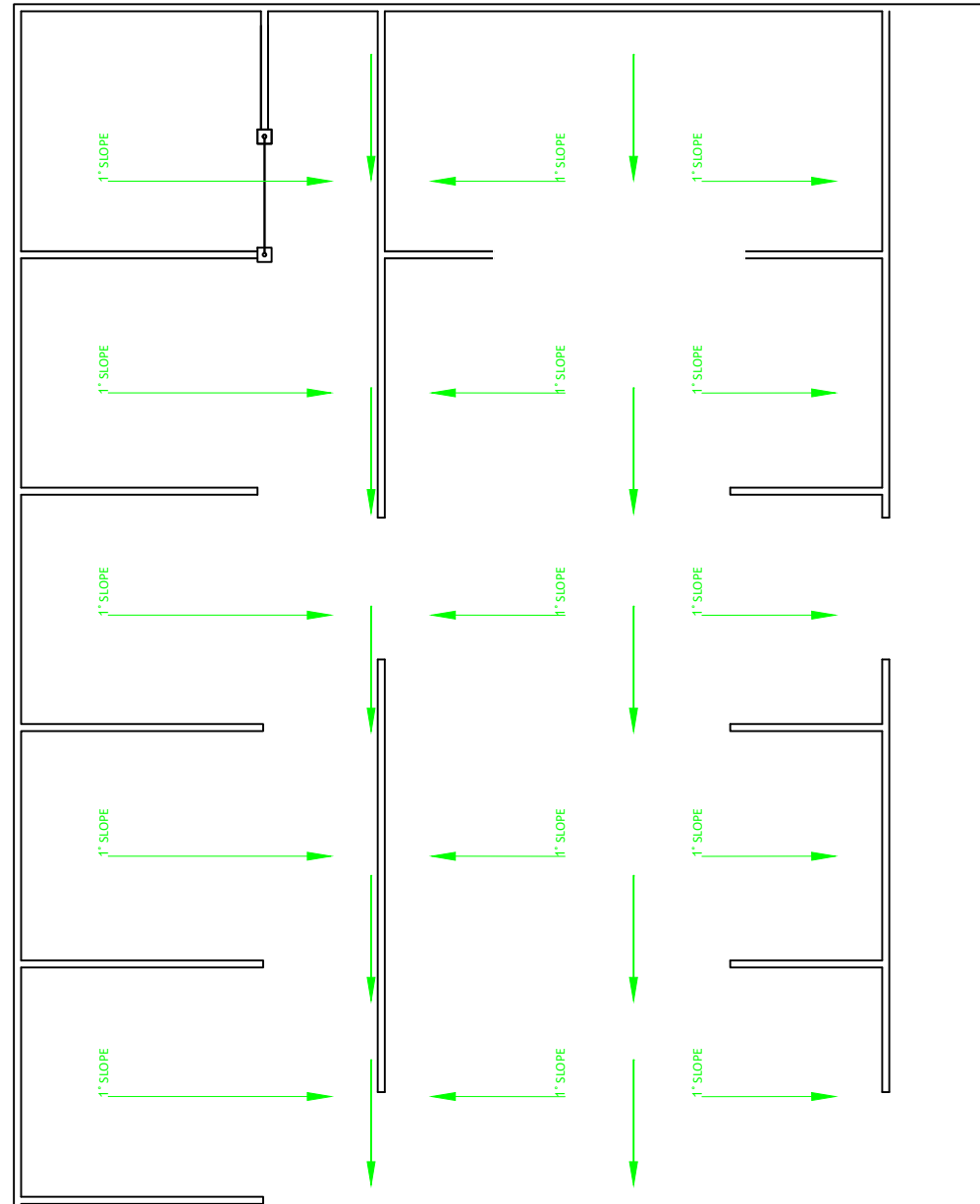


TR2 TRUSS

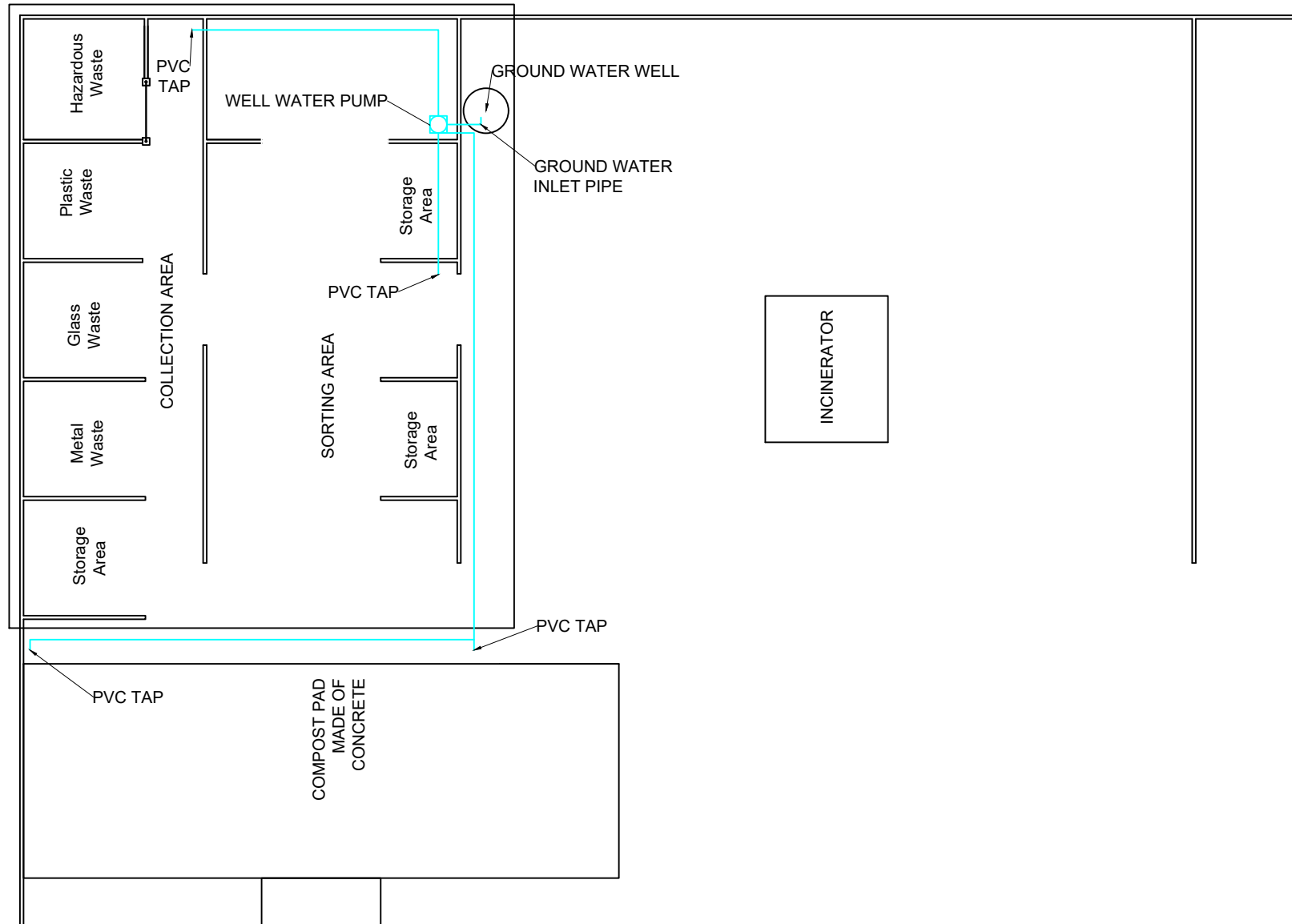
ROOF FRAMING PLAN



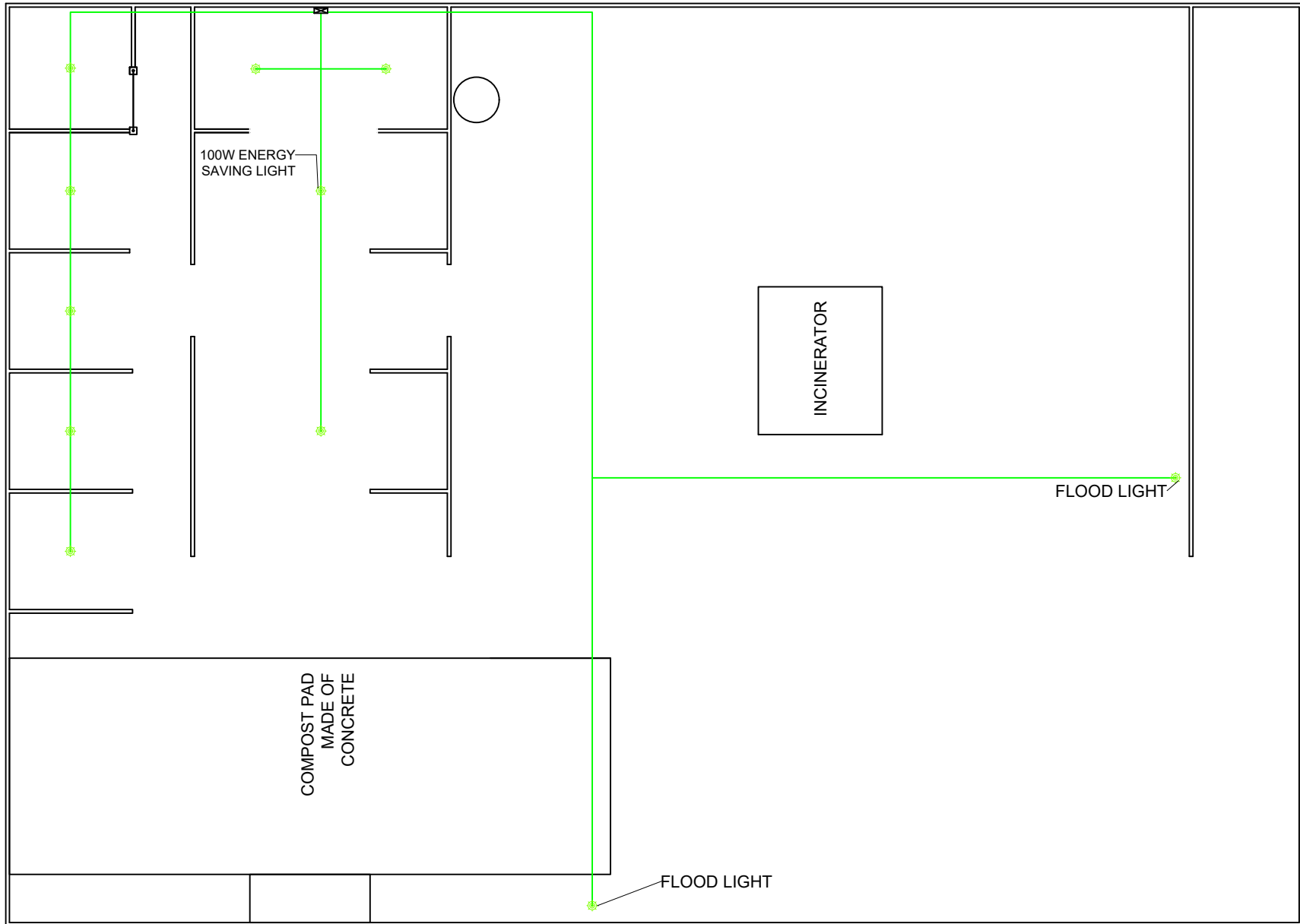
LYSAGHT COVER BETWEEN ROOF AND WALLS



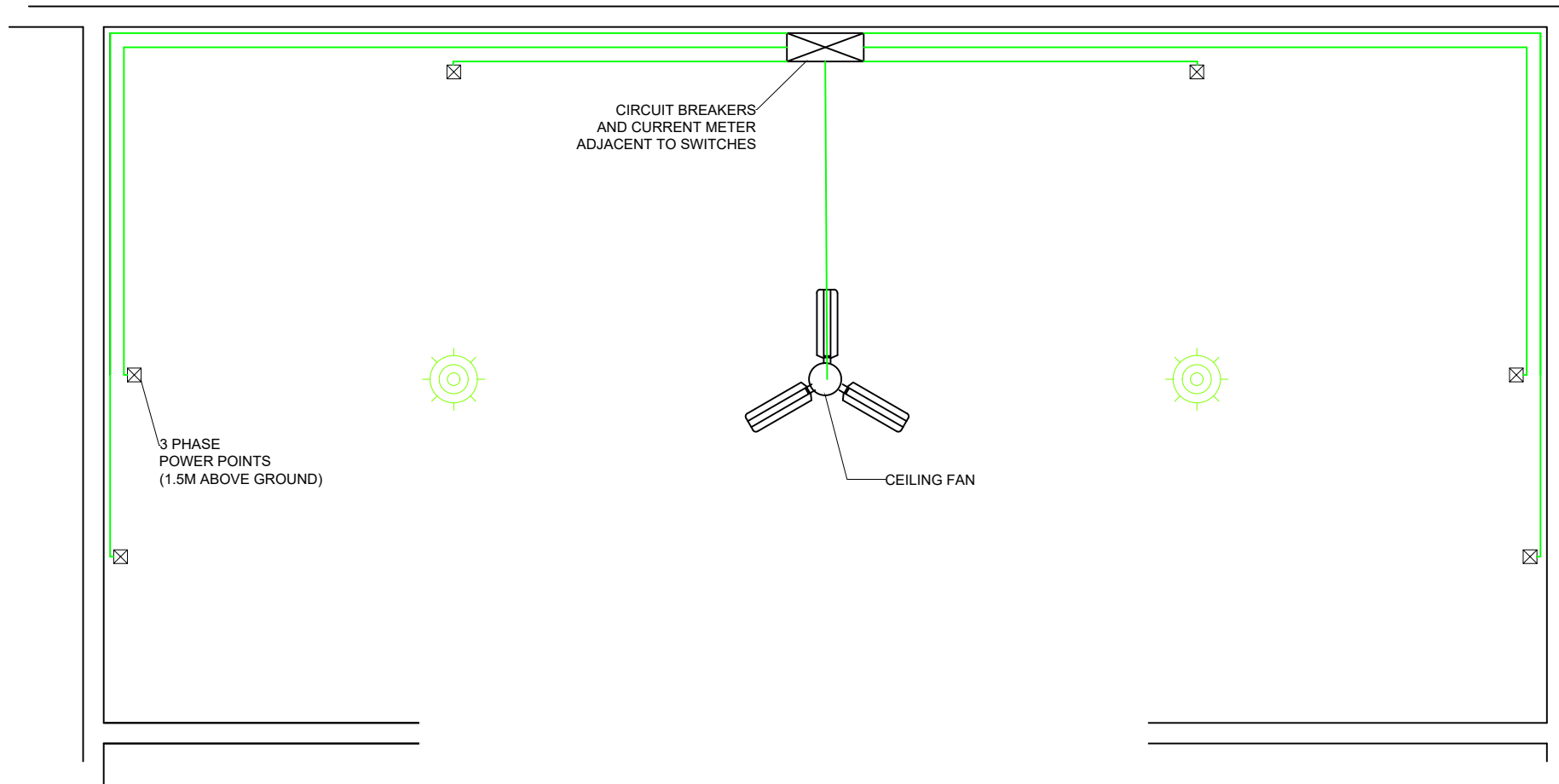
FLOOR AREA SLOPE AND EXPANSION JOINTS



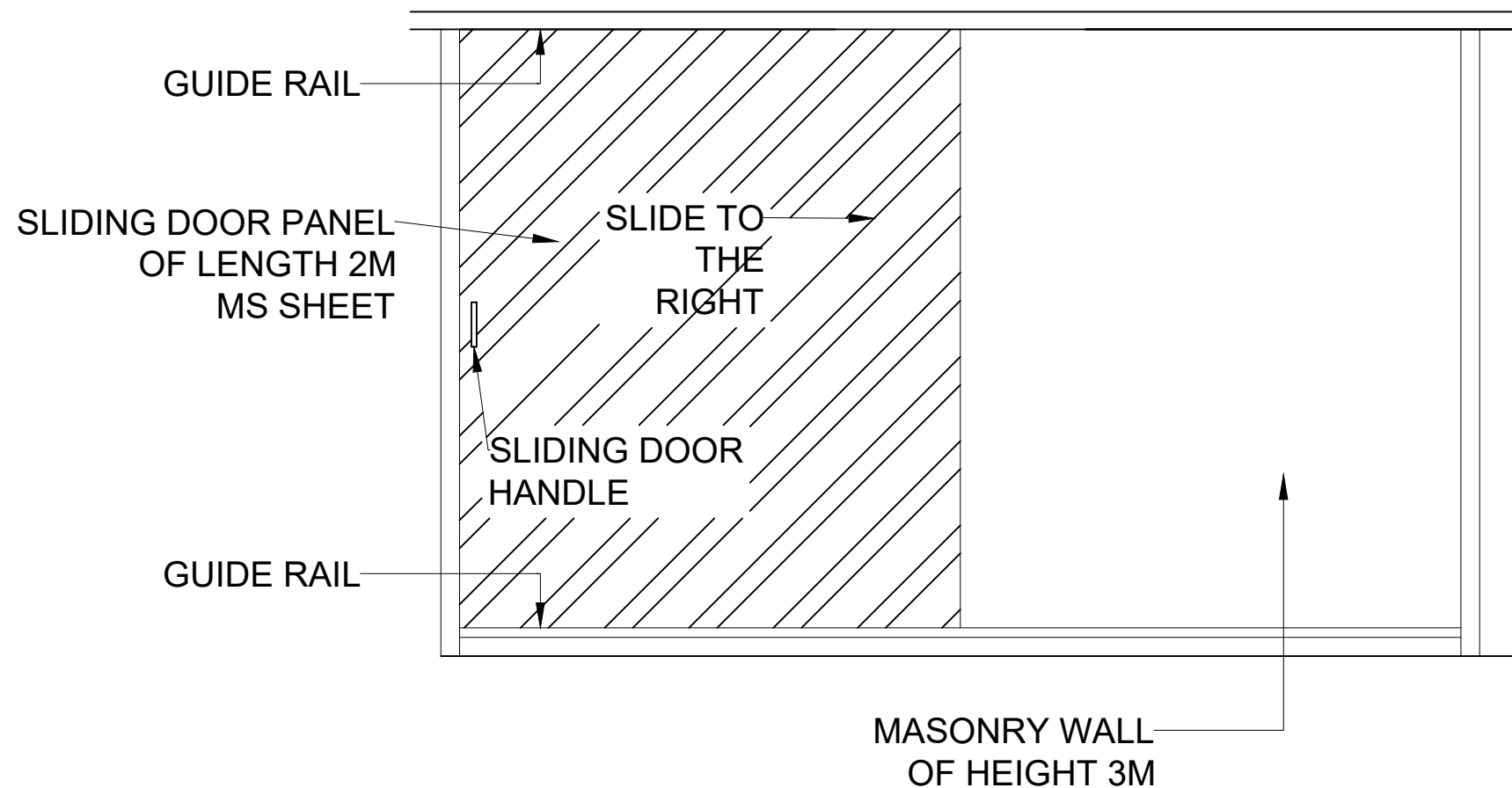
PLUMBING DETAILS



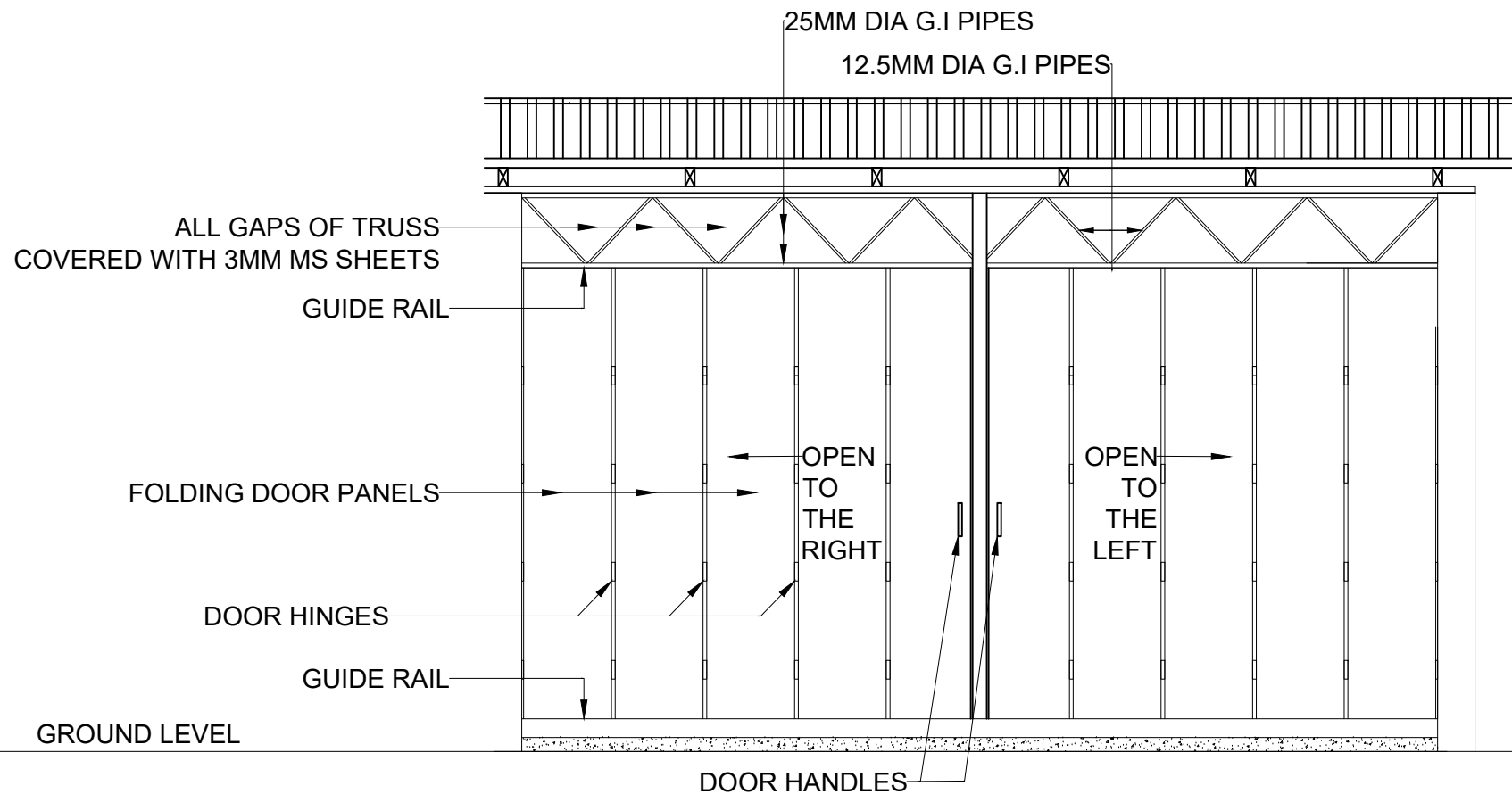
ELECTRICAL LAYOUT - LIGHTS



ELECTRICAL LAYOUT - EQUIPMENT ROOM

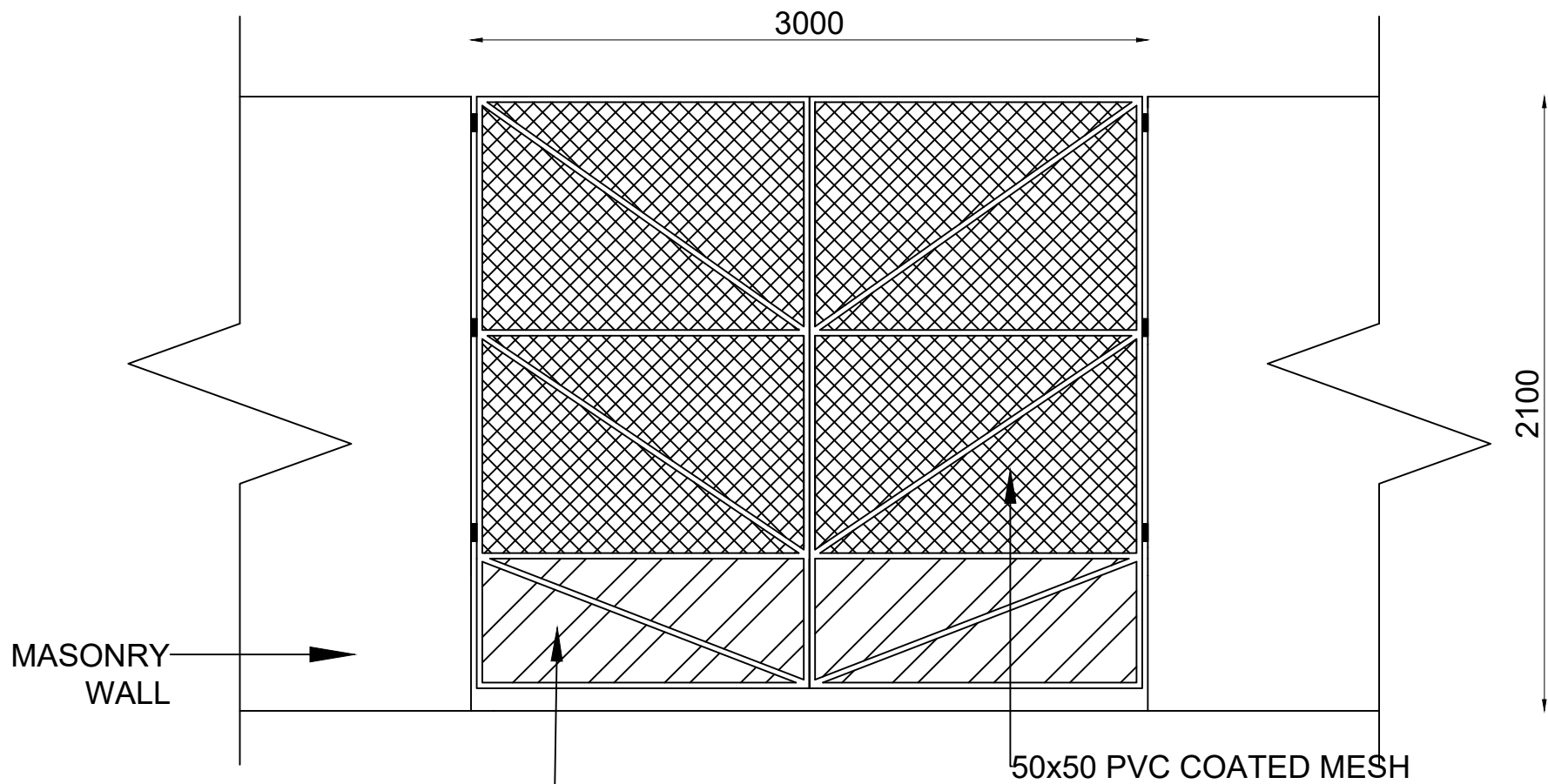


HAZARDOUS WASTE ROOM SLIDING DOOR DETAILS



NOTE: ALL WELDS FOR TRUSS MEMBERS
ARE 5MM FILLET WELDS

EQUIPMENT ROOM FOLDING DOOR DETAILS



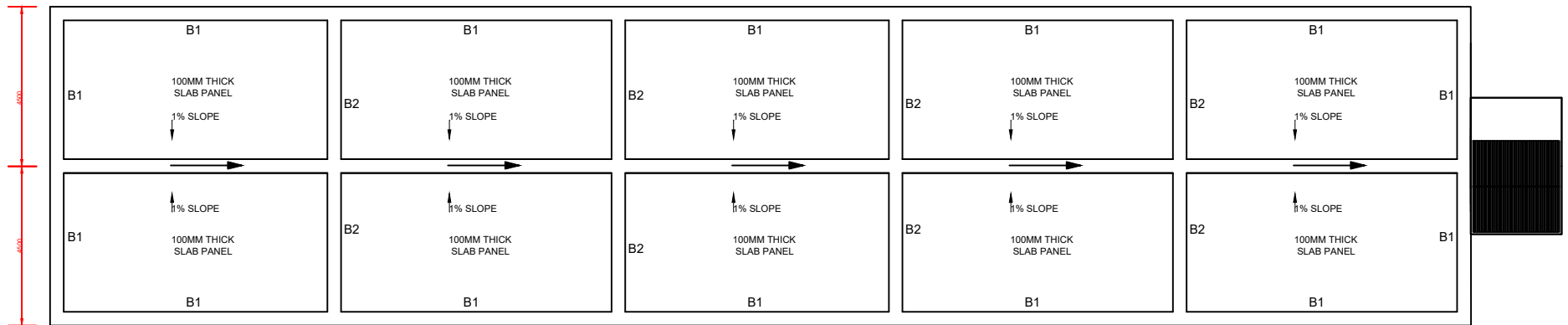
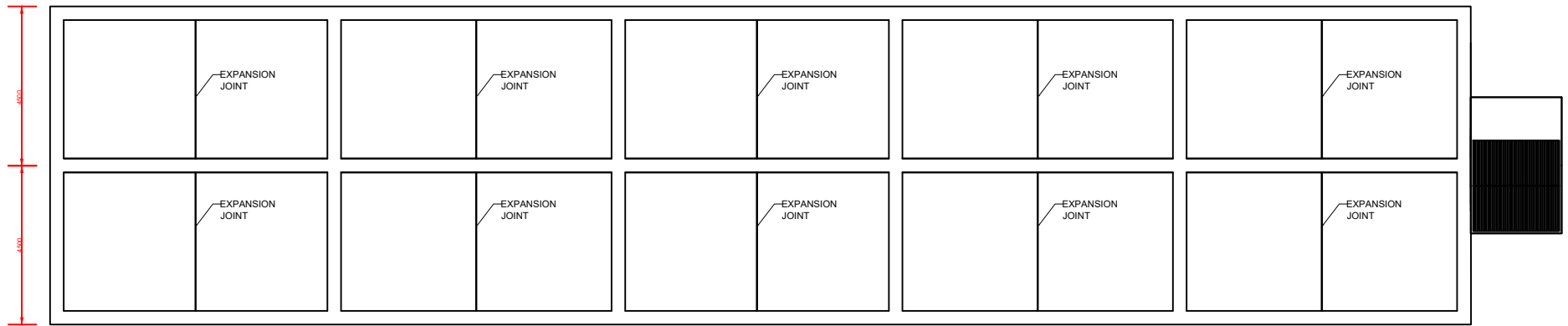
MASONRY
WALL

3MM MS SHEET
COATED WITH PAINT

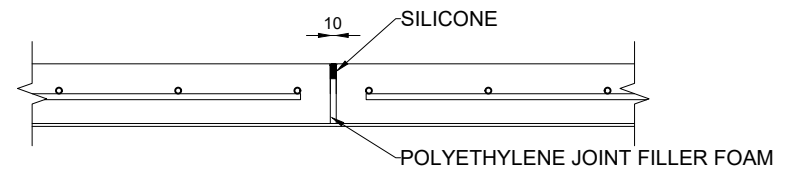
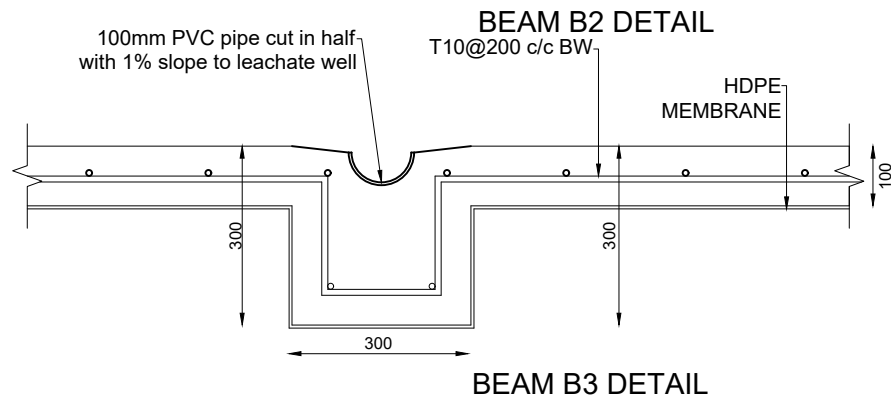
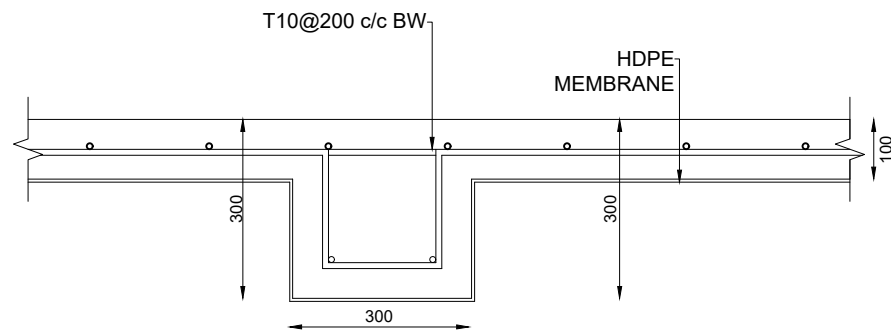
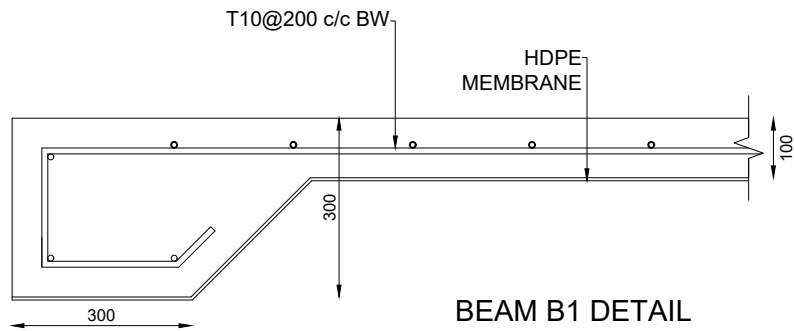
50x50 PVC COATED MESH

NOTE:
- DOOR IS MADE FROM 25MM DIA GI
PIPE
- ALL WELDS ARE 5MM FILLET WELDS
AROUND MEMBER

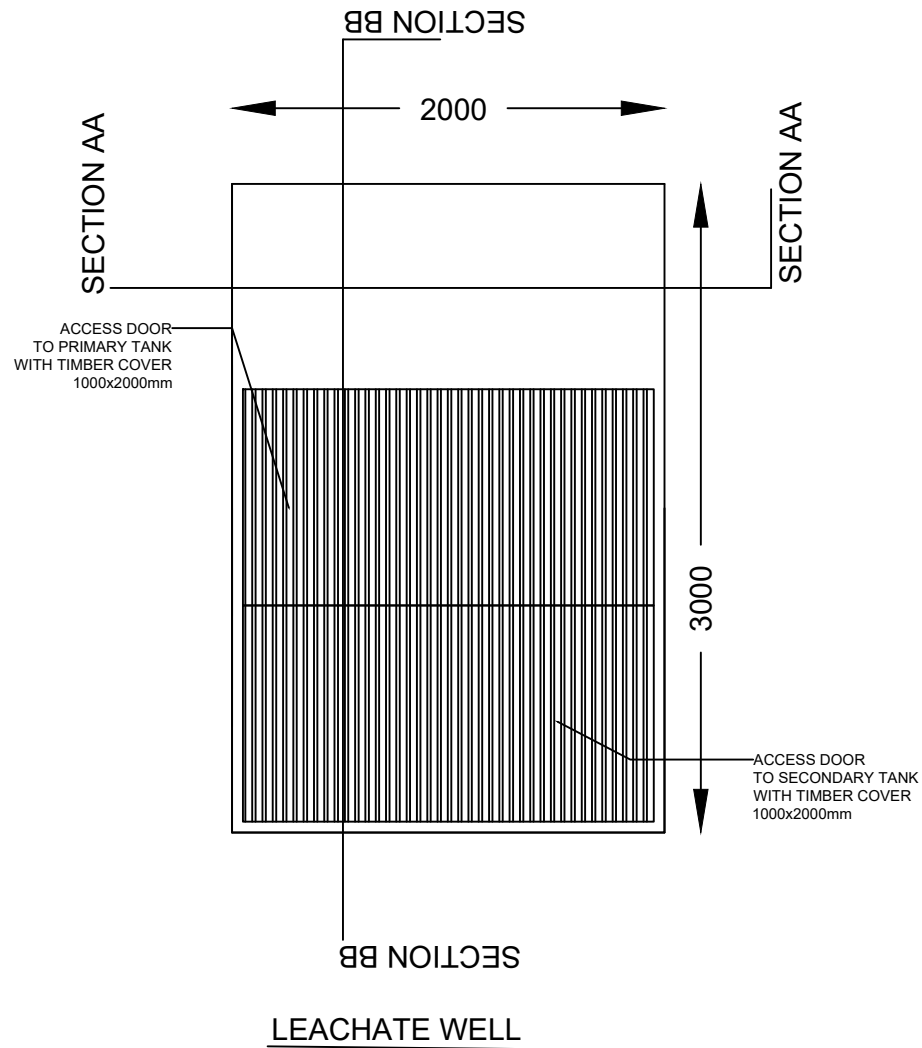
MAIN GATE



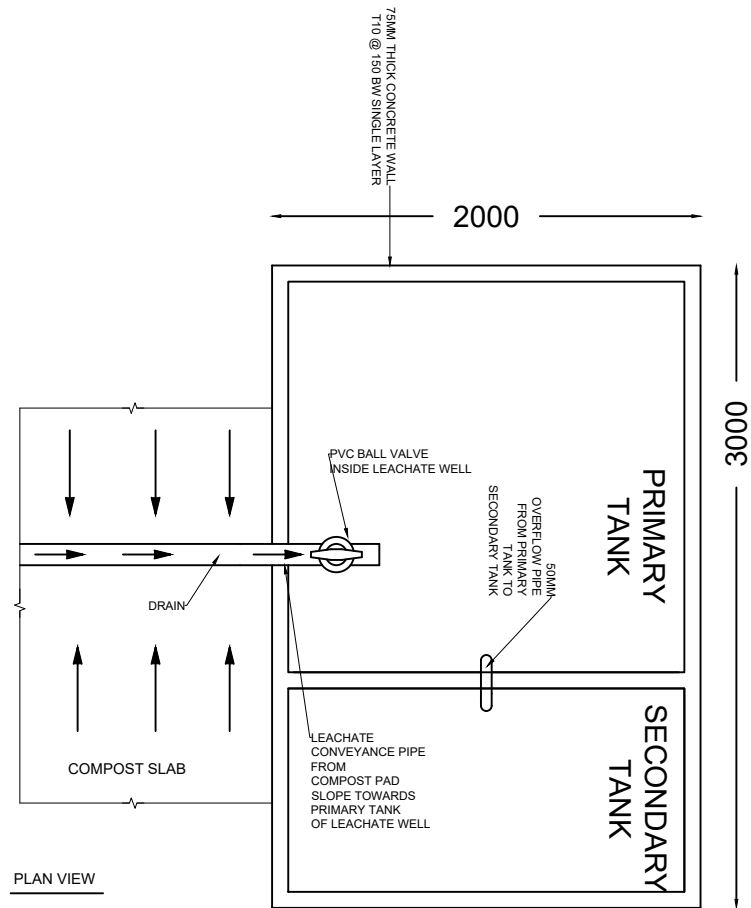
COMPOST SLAB - JOINTS AND SPACINGS



COMPOST SLAB BEAM DETAILS

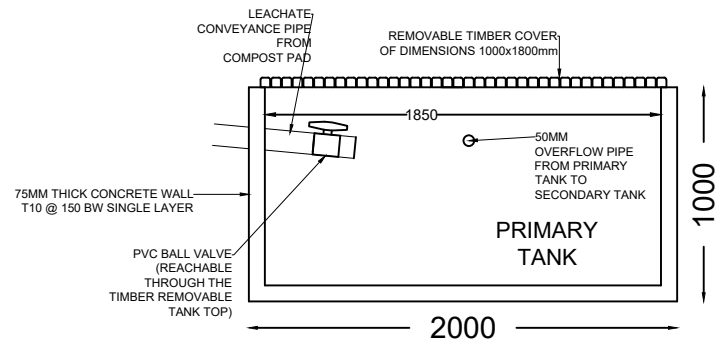


LEACHATE COLLECTION TANK

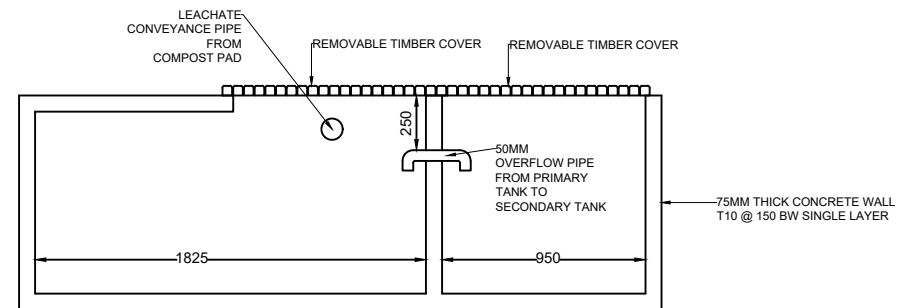


PLAN

LEACHATE WELL DETAILS



SECTION AA



SECTION BB

LEACHATE COLLECTION TANK - DETAILS

3 : دسیر لاجری کا سرخ "خبر" سیرس سیرس

Working Site

The site should be kept clean during the construction work period and should be thoroughly cleaned once the works are completed. Works should be carried out on site in a safe manner to all the workers on site and the people living in the vicinity of site. Disturbance to the neighborhood should be kept to a minimum. Electricity and water supply to the site, during construction period, should be provided by the contractor

Concrete

Cement conforming to BS12 standards should be used for all concrete, masonry and plastering works. The cement intended for use should be fresh and should not have any traces of hardened cement in the bag.

1. All concrete works should be done using one brand of cement
2. Sand and aggregate used for concrete works should be well graded.
3. Concrete should be mixed in the ratio 1:2:3 which are 1 part cement, 2 parts sand and 3 parts aggregate.
4. All foundations should be cast on a lean concrete layer. The lean concrete should be placed on well compacted ground.
5. Concrete should be mixed using a concrete mixer. Concrete should not be mixed by hand. When pouring concrete into the formwork, the mix should be compacted using a mechanical vibrator.
6. Aggregate used for concrete works should not be larger than 20mm.
7. Sand and aggregate used for concrete works should be clear from dust, mud and other debris.
8. All reinforcement bars used for the concrete works should be free from rust and grease that could weaken the bonding between the reinforcement bar and the concrete. Care should be taken to use continuous bars rather than short segments joined by laps.

Masonry Works

1. All masonry work should be done using Cement confirming to BS12 standards.
2. Masonry blocks should be made from imported sand or local white sand sourced from a permitted sand borrow area. The sand should be free from organic matter and other debris.
3. Masonry blocks should be made from mortar mixed at 1:5 ratio with 1 part cement to 5 part sand.
4. Average size of sand particles should not exceed 5mm.

Plastering Works

1. All plastering work should be done using Cement confirming to BS12 standards.
2. Plaster mix should be made from imported or local sand white sand sourced from a permitted borrow area. The sand should be free from organic matter and other debris.
3. Plaster mix should be made by mixing Cement and Sand at a ratio of 1:3 with 1 part Cement to 3 part Sand.
4. Average size of sand particles should not exceed 5mm.

Structural Steel work

1. All steel pipes obtained for the work should be new pipes and free from rust.
2. Thickness of pipes should not be less than 2.5mm

Electrical works

1. All materials used for electrical wiring should comply with MEA standards.

Roofing works

1. All materials used for roofing work should be newly purchased for the project.
2. All screws or bolts used for roof fixing should be G.I or Zinc finish screws.

4 : دسټرټوټو ټاڪسيشن سٽرٽرټر ڊسٽرٽر ٽيڪسٽر



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