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**GIBMA Engineering Services**  
Design - Construction - Project Management - Surveys  
99 Kailashan Street, Karanganyan Village Phase 2A, Dala Paz, Pasig City, 16111  
Tel. No. 652 7174 Fax. No. 652 3467  
URL: www.gibma.com Email: gibma2003@yahoo.com

ARCHITECT OF RECORD:		PROJECT TITLE:		OWNER:			
LEAMEL SANTOS, UVP		PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)			
REG. NO.: 0038223	PRTS. NO.: 0036444	ISSUED ON: 01-04-2019		ADDRESS:			
WFOA No.: 39702 238641 060516	ISSUED AT: PASIG CITY	GRI, SANTOS AVE., BICITAN, TAGUIG CITY, METRO MANILA		GRI, SANTOS AVE., BICITAN, TAGUIG CITY, METRO MANILA			
TIN: 283-518-106	REVIEWED & CHECKED BY:		DESIGNED BY:		SHEET CONTENTS:		
APPROVED BY:		APPROVED BY:		DATE:		DATE:	
ROBERTO O. DIZAN		ROBERTO O. DIZAN		DATE:		DATE:	
AS SHOWN		AS SHOWN		DRAWING NO.:		DRAWING NO.:	
A-1		A-1		1/75		1/75	



**EXTERIOR VIEW 1**



**EXTERIOR VIEW 2**

**1**  
PERSPECTIVES  
SCALE: 1/2  
N.T.S.



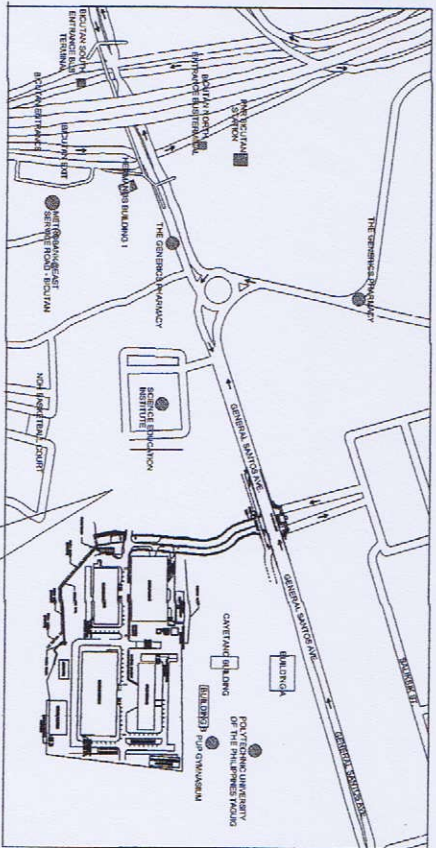
**INTERIOR VIEW 1**



**INTERIOR VIEW 2**



**INTERIOR VIEW 3**



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DWG NO. SHEET CONTENTS

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS  
AND HIGHWAYS  
OFFICE OF THE BUILDING  
OFFICIAL  
TAGUIG CITY

LAND USE AND ZONING

LINE AND GRADE

ARCHITECTURAL

STRUCTURAL

SANITARY

ELECTRICAL

MECHANICAL

DESIGNED BY: L.F.S.

DATE: L.F.S.

CHECKED BY: G.A.M.

APPROVED BY: DATE:

SHEET CONTENTS:

AS SHOWN

DRAWING NO.:

A-2

SHEET NO.:

2/75

**GIBMA Engineering Services**

Design - Construction - Project Management - Surveys  
83 Kalkasan Street, Kungayan Village Phase 2A, Dale Park, Pasig City 1611  
Tel. No.: 882 7114 Fax. No.: 882 8487 Callphone No.: 0202 8224441  
URL: www.gibma.com Email: gibma001@yahoo.com

ARCHITECT OF RECORD:

LEAUEL F. SANTOS, UAP

REG. NO.: 009628 PTR NO.: 808444

LUPA No.: 2012 28841 20018 ISSUED ON: 01-04-2018

TN: 283-18-100 ISSUED AT: PASIG CITY

PROJECT TITLE:

PROPOSED 2-STORY ADVANCED  
MANUFACTURING CENTER

LOCATION:

GEN. SANTOS AVE., BICUTAN, TAGUIG CITY, METRO MANILA

OWNER:

METALS INDUSTRY RESEARCH AND  
DEVELOPMENT CENTER (MIRDC)

ADDRESS:

GEN. SANTOS AVE., BICUTAN, TAGUIG CITY, METRO MANILA

REVIEWED & CHECKED BY:

ROBERTO O. DIZON

RECOMMENDED BY:

ROBERTO O. DIZON

APPROVED BY:

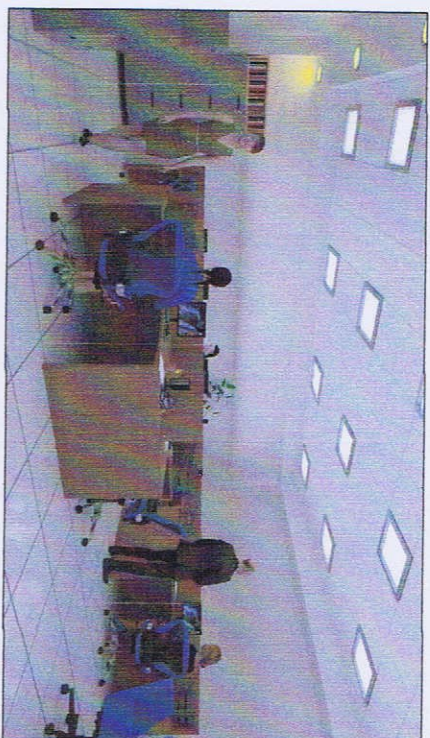
ROBERTO O. DIZON



**BOARD ROOM VIEW 1**



**CONFERENCE ROOM VIEW 1**



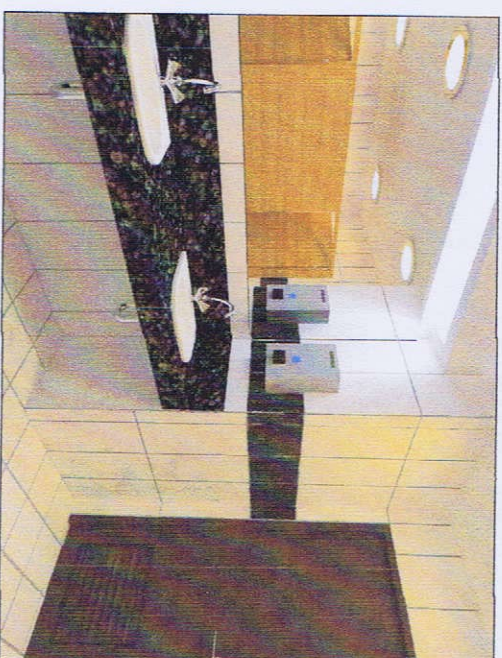
**STAFF ROOM**



**BOARD ROOM VIEW 2**




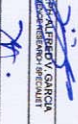
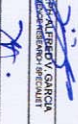


**CONFERENCE ROOM VIEW 2**



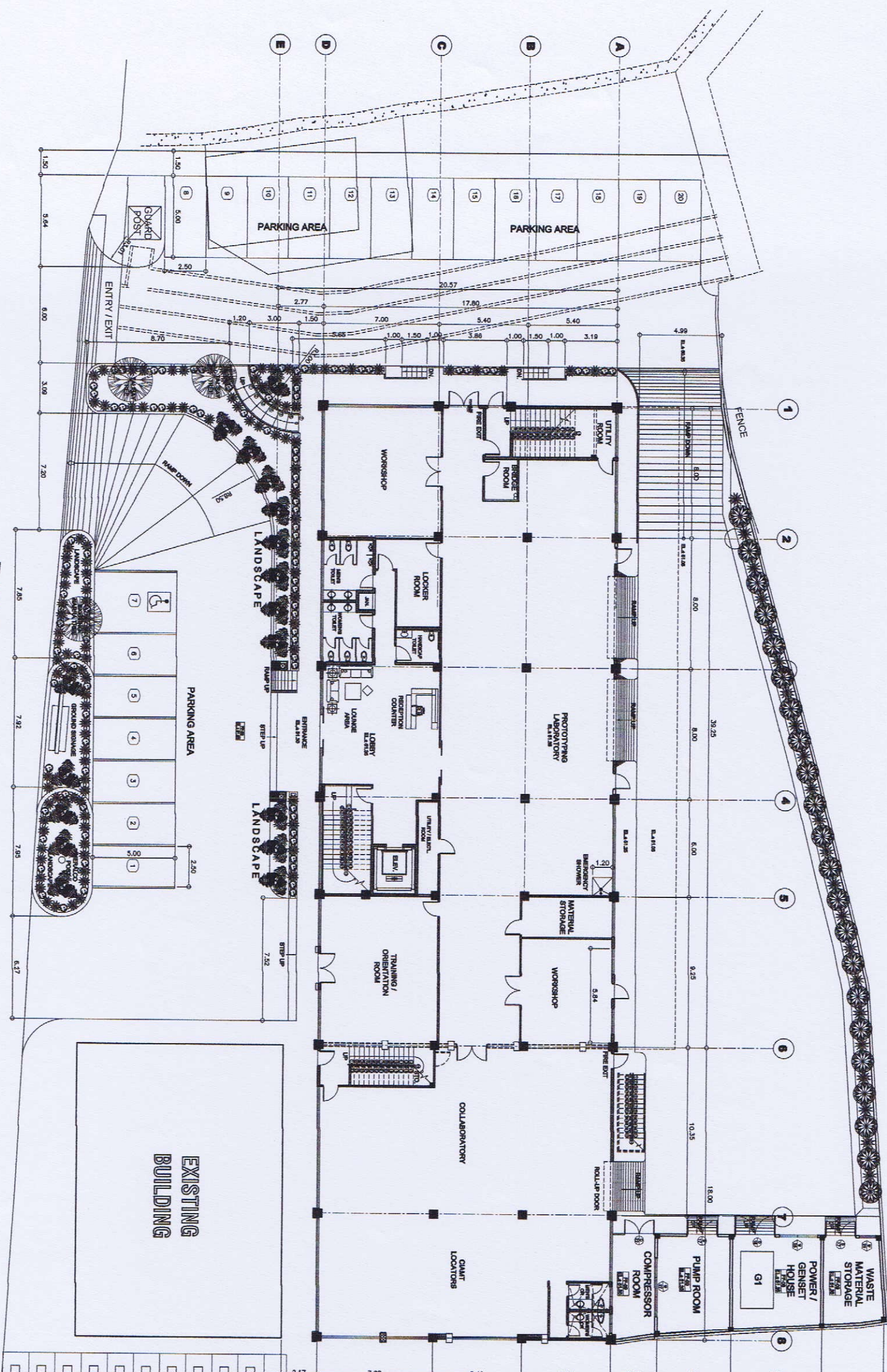
**TOILET**

**1**  
**INTERIOR PERSPECTIVES**  
SCALE: **A / 2A**  
N.T.S.

 <b>GIBMA Engineering Services</b> Design · Construction · Project Management · Services 93 Kalikasan Street (Kampanan Village Phase 2A, Dana Paz, Pinarag City 1611) Tel. No. 882 7114 Fax. No. 882 8887 Cellphone No. 0929 9228441 URL: www.gibma.com Email: gibma2003@yahoo.com		ARCHITECT OF RECORD:  <b>LEMUEL SANTOS LUP</b> REG. NO. 065932 PTR NO. 803844 IAPCOM No.: 35792 23841 002318 ISSUED ON: 07-04-2019 TIN: 203519-102 ISSUED AT: PASIG CITY		PROJECT TITLE: <b>PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER</b> LOCATION: <b>GEN. SANTOS AVE., BICOTAN, TAGUIG CITY, METRO MANILA</b>		OWNER: <b>METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)</b> ADDRESS: <b>GEN. SANTOS AVE., BICOTAN, TAGUIG CITY, METRO MANILA</b>		REVIEWED & CHECKED BY:  <b>JOSEPH S. GARCIA</b> REGISTERED ARCHITECT RECOMMENDED BY:  <b>FREDERICKA</b> REGISTERED ARCHITECT APPROVED BY:  <b>ROBERTO REON</b> ARCHITECTURE DIRECTOR		DESIGNED BY: L.F.S. CAD'D BY: L.F.S. DATE: AS SHOWN CHECKED BY: G.B.M. APPROVED BY: DATE:		SHEET CONTENTS: <b>A - 2A</b> SHEET NO.: <b>2A / 75</b>		DRAWING NO.	
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**GIBMA Engineering Services**  
 Design · Construction · Project Management · Services  
 93 Kalkasan Street, Karanganyar, Village Phase 2A, Duta Pura, Paing, Cile, 60111  
 Telp. No. : 0271 714 Fax. No. : 0271 887  
 URL: www.gibma.com Email: gibma2003@yahoo.com



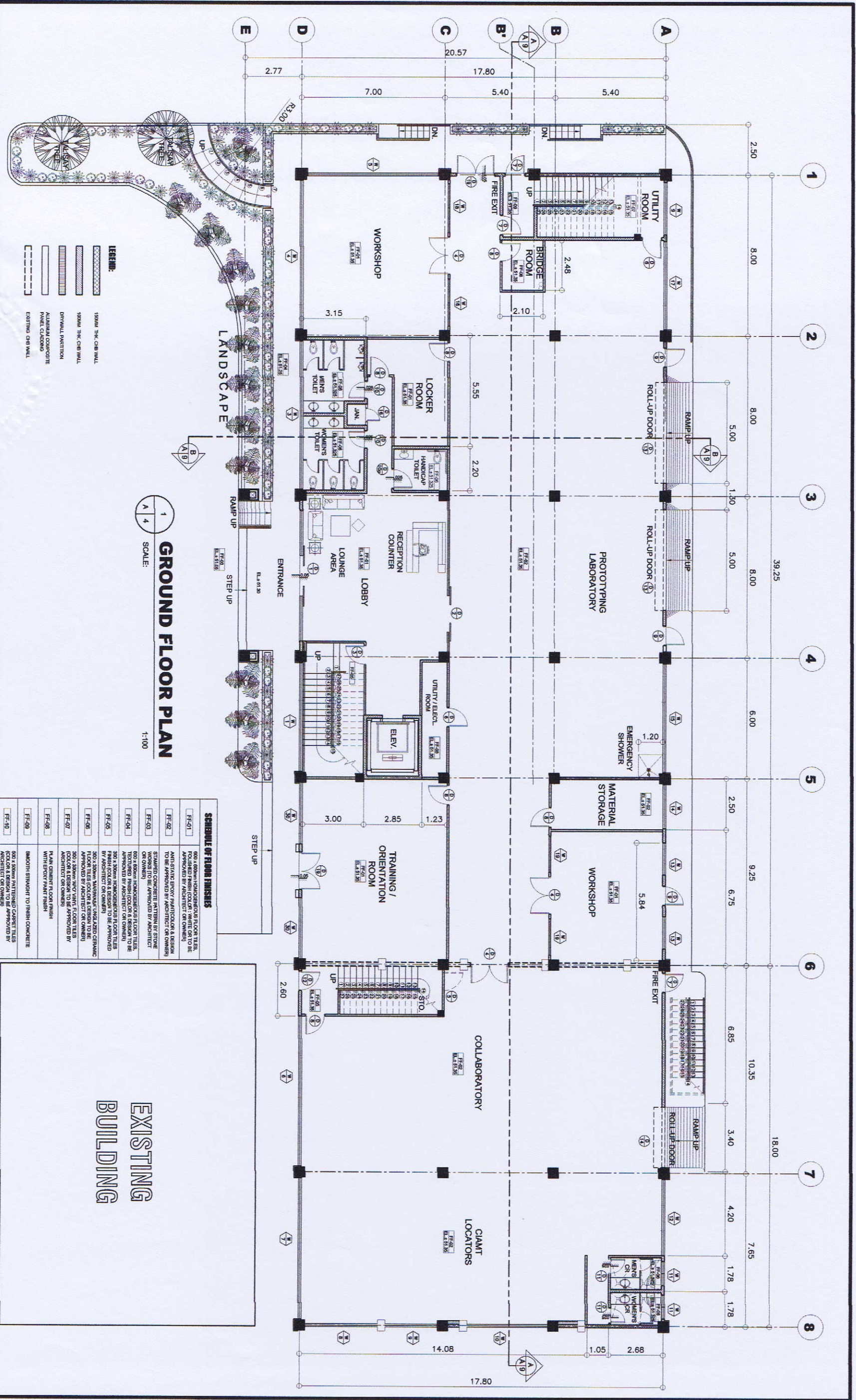
**SITE DEVELOPMENT PLAN**  
 SCALE: 1:150

ARCHITECT OF RECORD: <b>LEWIE SANTOS, LP</b>	PROJECT TITLE: <b>PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER</b>	OWNER: <b>METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRC)</b>	DESIGNED BY: L.S.	SHEET CONTENTS: <b>AS SHOWN</b>	DRAWING NO.: <b>A-3</b>
REG. NO.: 025232	ISSUED ON: 01.04.2019	ADDRESSES: GEN. SANTOS AVE., BUCITAN, TAJUDIN CTRY., METRO MANILA	RECOMMENDED BY: G.S.M.	CHECKED BY: G.S.M.	SHEET NO.: <b>3 / 75</b>
ISSUED AT: PASIG CITY	ISSUED ON: 01.04.2019	APPROVED BY: <b>ROBERT O. DE VERA</b> MIRC DEVELOPMENT DIRECTOR	DATE:	APPROVED BY: DATE:	
TIN: 2053-10-105	ISSUED AT: PASIG CITY	GEN. SANTOS AVE., BUCITAN, TAJUDIN CTRY., METRO MANILA			

**SCHEDULE OF FLOOR FINISHES**

FF-01	800 x 800mm HOMOGENEOUS FLOOR TILES, POLISHED FINISH (COLOR: WHITE OR TO BE APPROVED BY ARCHITECT OR OWNER)
FF-02	ANTISTATIC EPOXY PAINT/COLORED & DESIGN TO BE APPROVED BY ARCHITECT OR OWNER
FF-03	FINISHED CONCRETE FINISH BY STONE WORKS (TO BE APPROVED BY ARCHITECT OR OWNER)
FF-04	800 x 800mm HOMOGENEOUS FLOOR TILES, TEXTURED FINISH (COLOR & DESIGN TO BE APPROVED BY ARCHITECT OR OWNER)
FF-05	300 x 300mm HOMOGENEOUS FLOOR TILES BY ARCHITECT OR OWNER
FF-06	300 x 300mm MARBLED/LAMINATED CERAMIC FLOOR TILES (COLOR & DESIGN TO BE APPROVED BY ARCHITECT OR OWNER)
FF-07	300 x 300mm ADV. VINYL FLOOR TILES (COLOR & DESIGN TO BE APPROVED BY ARCHITECT OR OWNER)
FF-08	PLAIN CEMENT FLOOR FINISH WITH EPOXY PAINT FINISH
FF-09	SMOOTH STAINMENT TO FINISH CONCRETE
FF-10	800 x 800mm MATTERED CARPET TILES (ARCHITECT OR OWNER)

- LEGEND:**
- 150MM THK. CONWALL
  - 150MM THK. CONWALL
  - DRYWALL PARTITION
  - ALUMINUM CORRUGATE PANEL CLADDING
  - EXISTING CONWALL



**GROUND FLOOR PLAN**  
SCALE: 1:100

- LEGEND:**
- 150MM THK. CURB WALL
  - 150MM THK. CURB WALL
  - DRYWALL PARTITION
  - ALUMINUM COMPOSITE PANEL CASING
  - EXISTING CURB WALL

**SCHEDULE OF FLOOR FINISHES**

FF-01	600 x 600mm HOMOGENEOUS FLOOR TILES, APPROVED BY ARCHITECT OR OWNER
FF-02	ANTI-STATIC CONCRETE FLOOR FINISH, APPROVED BY ARCHITECT OR OWNER
FF-03	STANDARD CONCRETE FLOOR FINISH, APPROVED BY ARCHITECT OR OWNER
FF-04	600 x 600mm HOMOGENEOUS FLOOR TILES, APPROVED BY ARCHITECT OR OWNER
FF-05	300 x 300mm WAINWATER/LINOLEUM CERAMIC FLOOR TILES (COLOR & DESIGN TO BE APPROVED BY ARCHITECT OR OWNER)
FF-06	300 x 300mm WAINWATER/LINOLEUM CERAMIC FLOOR TILES (COLOR & DESIGN TO BE APPROVED BY ARCHITECT OR OWNER)
FF-07	300 x 300mm WAINWATER/LINOLEUM CERAMIC FLOOR TILES (COLOR & DESIGN TO BE APPROVED BY ARCHITECT OR OWNER)
FF-08	PLAIN GRABIT FLOOR FINISH WITH EPOXY PAINT FINISH
FF-09	SMOOTH STIMANT TO FINISH CONCRETE
FF-10	600 x 600mm HOMOGENEOUS FLOOR TILES, APPROVED BY ARCHITECT OR OWNER

**EXISTING BUILDING**

REVIEWED & CHECKED BY: *[Signature]*

DESIGNED BY: L.F.S.

DATE: \_\_\_\_\_

CHECKED BY: G.B.M.

DATE: \_\_\_\_\_

APPROVED BY: *[Signature]*

DATE: \_\_\_\_\_

SHEET CONTENTS: AS SHOWN

DRAWING NO.: **A-4**

SHEET NO.: **4 / 75**

**GIBMA Engineering Services**

Design - Construction - Project Management - Surveys

93 Kellerman Street Karangany Village Phase 2A, Dale Puri, Pangkajene 1611  
Tel. No.: 882 7114 Fax. No.: 882 8487 Callphone No.: 0820 8224441  
URL: www.gibma.com E-mail: gibma2000@yahoo.com

ARCHITECT OF RECORD: *[Signature]*

REG. NO.: 002822 PIR NO.: 0028444

WAPON No.: 28702 23841 020516 ISSUED ON: 01-04-2016

TIN: 283-519-103 ISSUED AT: PANGKAJENE

PROJECT TITLE: **PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER**

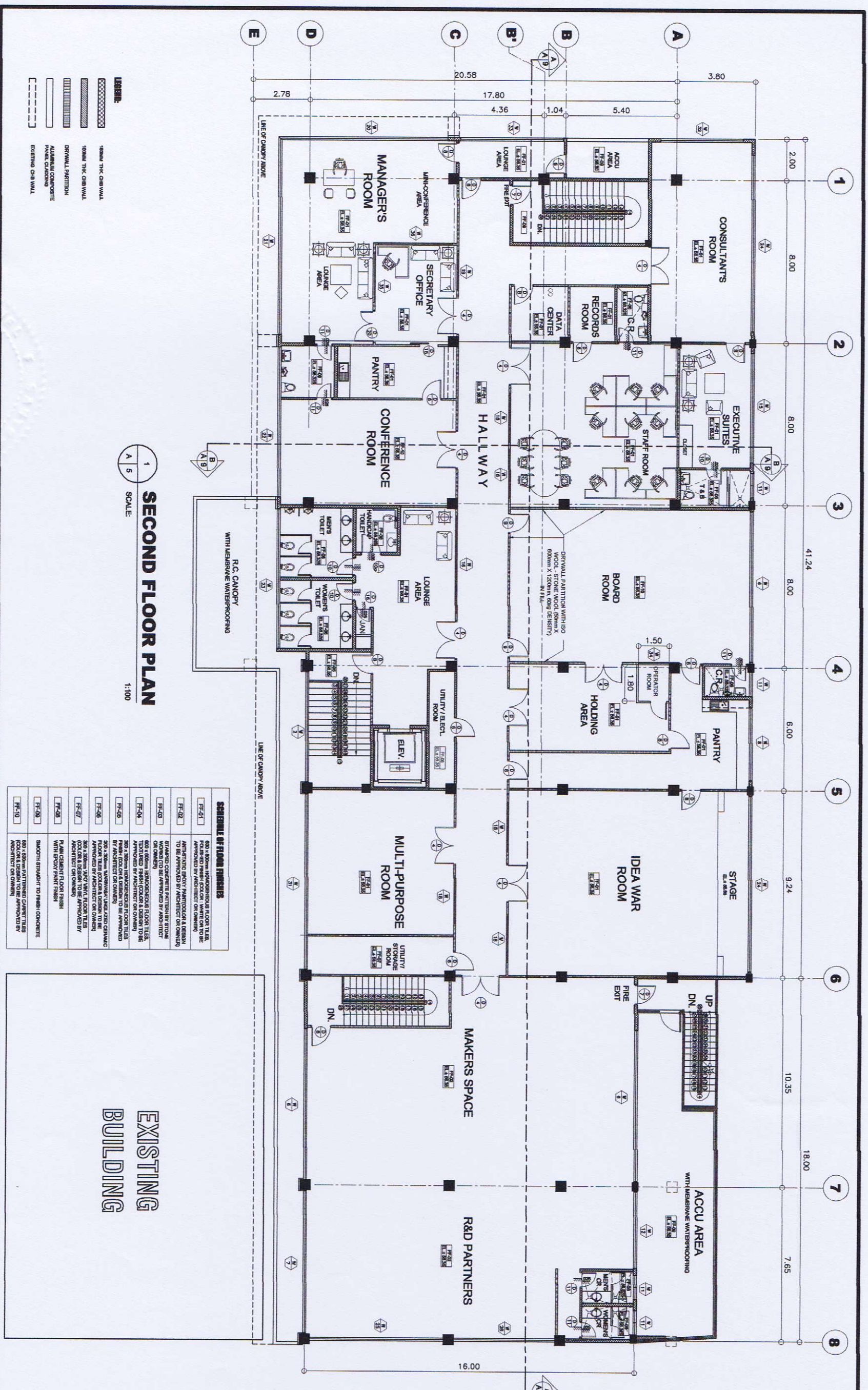
LOCATION: GEN. SANTOS AVE., BICOTAN, TAGUIG CITY, METRO MANILA

OWNER: **METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

ADDRESS: GEN. SANTOS AVE., BICOTAN, TAGUIG CITY, METRO MANILA

APPROVED BY: *[Signature]*

DATE: \_\_\_\_\_



**SECOND FLOOR PLAN**  
SCALE: 1:100

- LEGEND:**
- 30MM THK CONCRETE WALL
  - 100MM THK CONCRETE WALL
  - DRYWALL PARTITION
  - ALUMINUM COMPONENTS FRAME GLASSING
  - EXISTING CHS WALL

**SCHEDULE OF FINISHES**

FF-01	300 x 300mm POLISHED BROWN BROWN TILES
FF-02	POLISHED BROWN BROWN TILES
FF-03	ANTHRACITE GRAY POLISHED BROWN BROWN TILES
FF-04	ANTHRACITE GRAY POLISHED BROWN BROWN TILES
FF-05	ANTHRACITE GRAY POLISHED BROWN BROWN TILES
FF-06	ANTHRACITE GRAY POLISHED BROWN BROWN TILES
FF-07	ANTHRACITE GRAY POLISHED BROWN BROWN TILES
FF-08	ANTHRACITE GRAY POLISHED BROWN BROWN TILES
FF-09	ANTHRACITE GRAY POLISHED BROWN BROWN TILES
FF-10	ANTHRACITE GRAY POLISHED BROWN BROWN TILES

**EXISTING BUILDING**

**GIBMA Engineering Services**  
Design - Construction - Project Management - Survey

83 Kallian Street, Kallian Village Phase 2A, Dale Pagar, Palembang City 1811  
Telp. No.: 682 7114 Fax. No.: 682 8487  
URL: www.gibma.com E-mail: gibma@com.gibma.com

ARCHITECT OF RECORD: **LEMBELI SANTOS U.P.**

DESIGNER: **LEMBELI SANTOS U.P.**

ISSUED BY: **LEMBELI SANTOS U.P.**

ISSUED DATE: **2023-01-10**

PROJECT TITLE: **PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER**

OWNER: **METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MINDC)**

ADDRESS: **GEN. SANTOS AVE., BICTRA, TAJURUQ CITY, METRO MANILA**

REVIEWED & CHECKED BY: **JOSEPH ALBERTO GARCIA**

DATE: **2023-01-10**

DESIGNED BY: **L.F.B.**

DATE: **2023-01-10**

CHECKED BY: **G.M.M.**

DATE: **2023-01-10**

SHEET NO.: **A-5**

DRAWING NO.: **5/175**

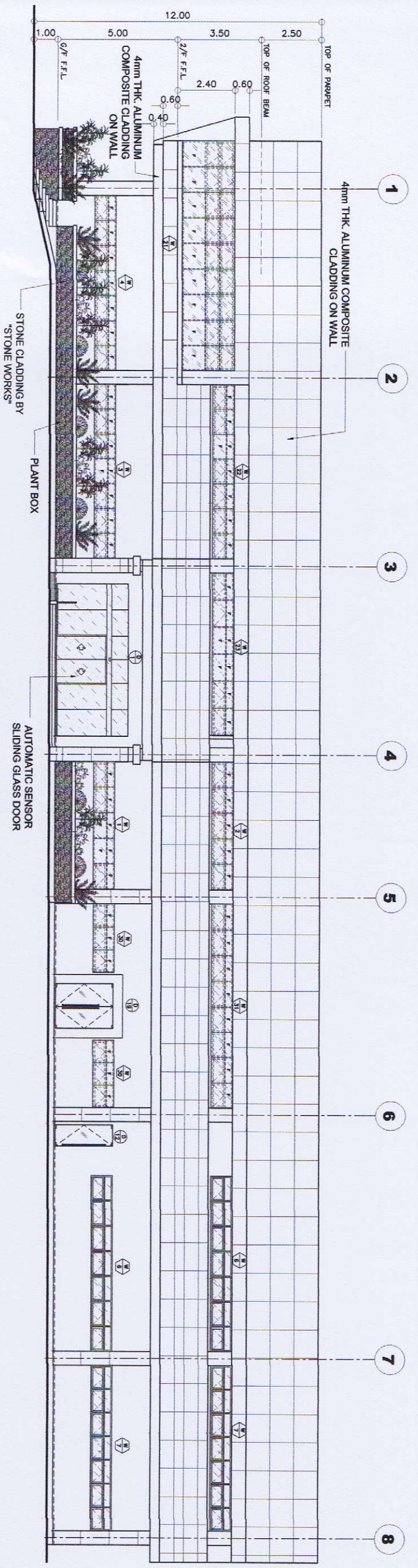


GA # 24 PRE-PAINTED LONG  
SPAN METAL ROOFING WITH  
ROOF INSULATION  
NOTE : ALL BENDED ROOF  
ACCESSORIES SHALL BE  
GA. #24 THICK

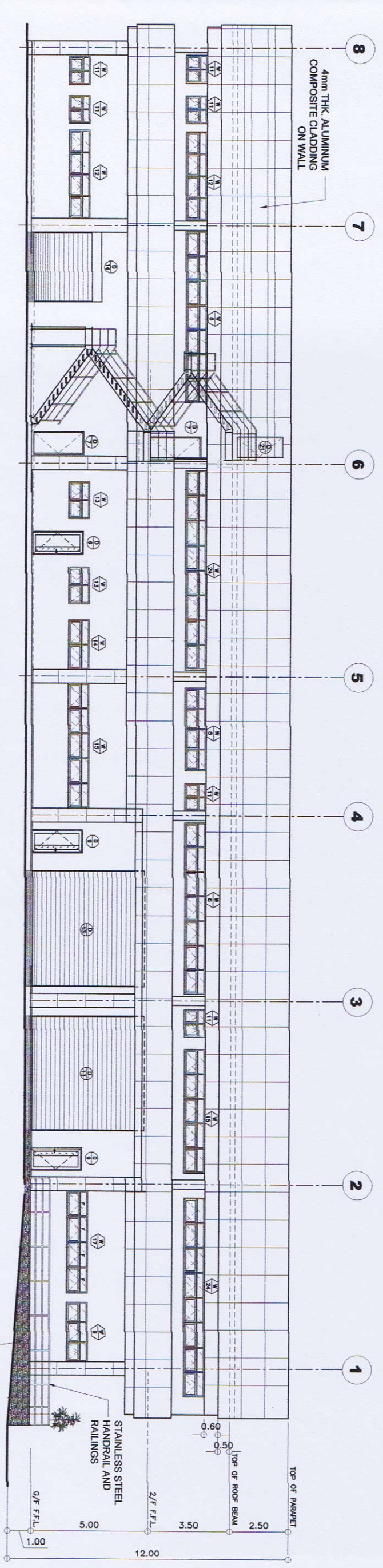
**1**  
A 6  
SCALE: 1:100  
**ROOF PLAN**

**EXISTING  
BUILDING**


<p><b>GIBMA Engineering Services</b> Design - Construction - Project Management - Surveys 80 Kallian Street (Kallian), Village Phase 2A, Duta Puar, Pulau City, 10114 Tel No.: 682 7114 Fax No.: 682 9487 Cellphone No.: 020 8228444 URL: www.gibma.com Email: gibma2003@yahoo.com</p>	
<p>ARCHITECT OF RECORD: LEAHUE, F. ADYTON, UWP REG. NO.: 025628 PTR. NO.: 828844 LIC. NO.: 2072 20841 20218 ISSUED ON: 04-04-2019 TIN: 203-418-195 ISSUED AT: PASIG CITY</p>	<p>PRODUCT TITLE: <b>PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER</b></p>
<p>OWNER: <b>METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)</b> ADDRESS: GEN. SANTOS AVE., BOSTON, TAYLOR CITY, METRO MANILA</p>	<p>REVIEWED &amp; CHECKED BY: ROBERTO G. GONZALEZ ARCHITECT RECOMMENDED BY: FRED A. LIZA ARCHITECT</p>
<p>DESIGNED BY: L.F.S. DATE: G.S.M.</p>	<p>SHEET CONTENTS: AS SHOWN</p>
<p>DRAWING NO.: <b>A - 6</b></p>	<p>SHEET NO.: <b>6 / 75</b></p>



**FRONT ELEVATION**  
SCALE: 1:100



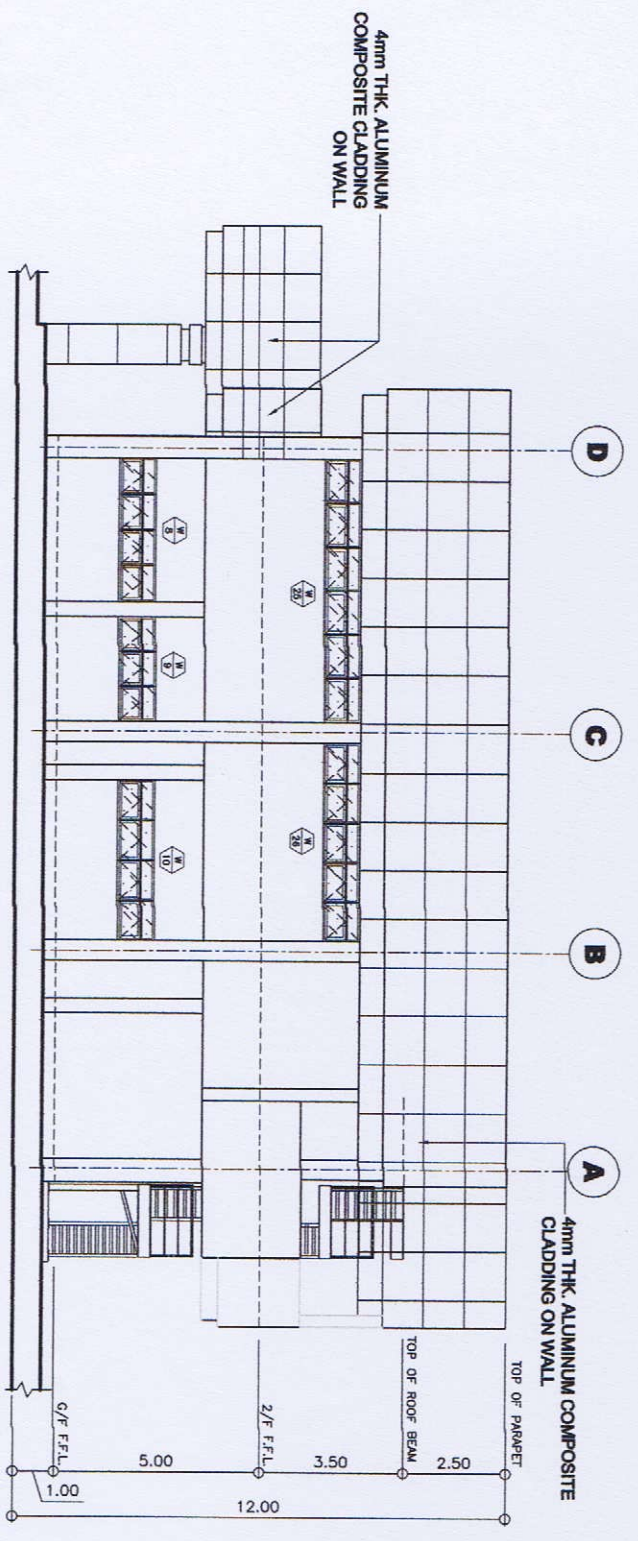
**REAR ELEVATION**  
SCALE: 1:100

 <b>GIBMA Engineering Services</b> Design · Construction · Project Management · Surveys 83 Kallianan Street, Kenangan Village Phase 2A, Dana Paga, Pinar City, 1611 Tel. No.: 882 7114 Fax. No.: 882 8487 Cellphone No.: 0980 8228441 URL: www.gibma.com E-mail: gibma2003@yahoo.com						
<b>ARCHITECT OF RECORD:</b> LEMUEL F. SANTOS, UAP REG. NO.: 0060222 PTR. NO.: 5938444 LUPON No.: 3078 23641 00918 ISSUED ON: 01-04-2019 TIN: 283-518-106 ISSUED AT: PABLO CITY	<b>PROJECT TITLE:</b> PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER	<b>OWNER:</b> METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	<b>REVIEWED &amp; CHECKED BY:</b> ROBERT O. BACON ROBERT O. BACON ROBERT O. BACON	<b>DESIGNED BY:</b> L.F.S. <b>DATE:</b> <b>CHECKED BY:</b> D.B.M. <b>DATE:</b>	<b>SHEET CONTENTS:</b> AS SHOWN	<b>DRAWING NO.:</b> <b>A-7</b>
<b>ADDRESS:</b> GEN. SANTOS AVE., BOUTAN, TAGUIG CITY, METRO MANILA		<b>APPROVED BY:</b> ROBERT O. BACON ROBERT O. BACON	<b>DATE:</b>	<b>SHEET NO.:</b> <b>7 / 75</b>		

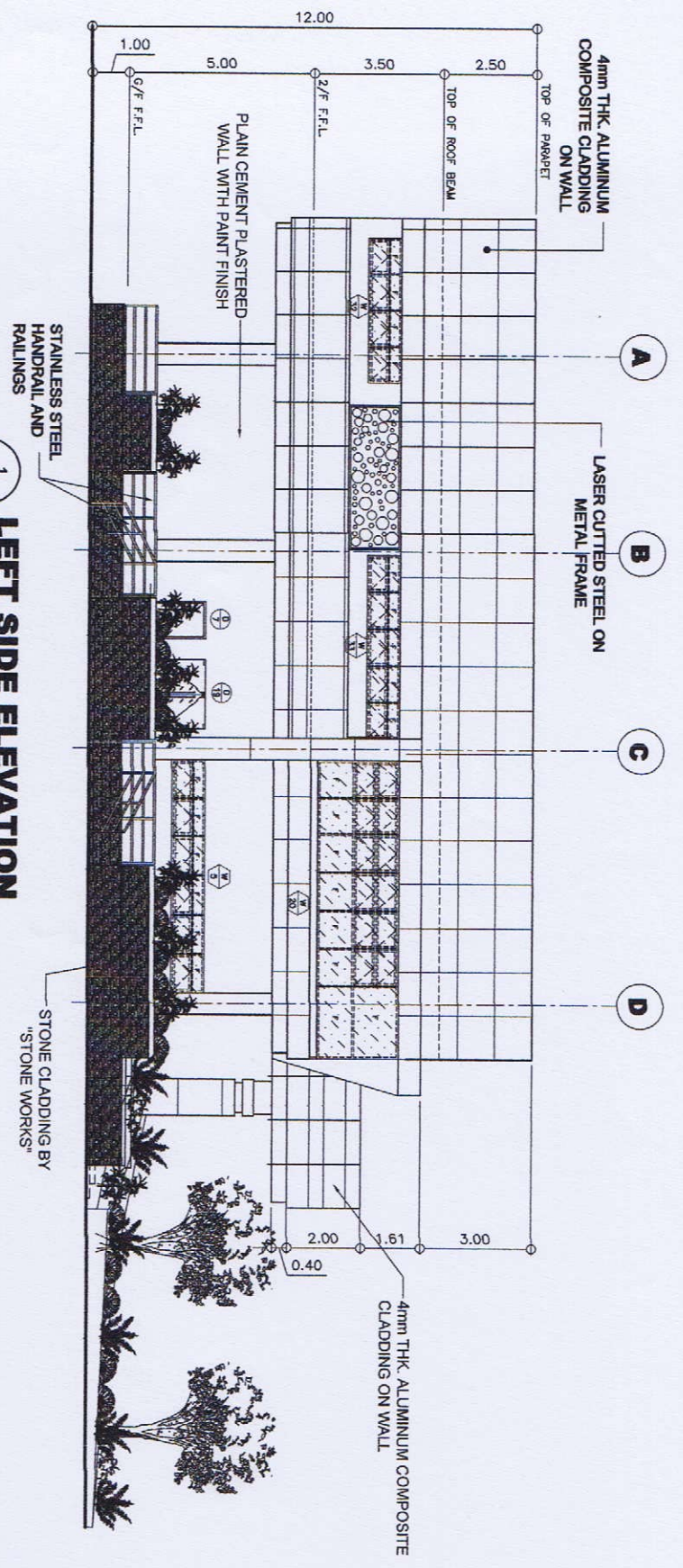


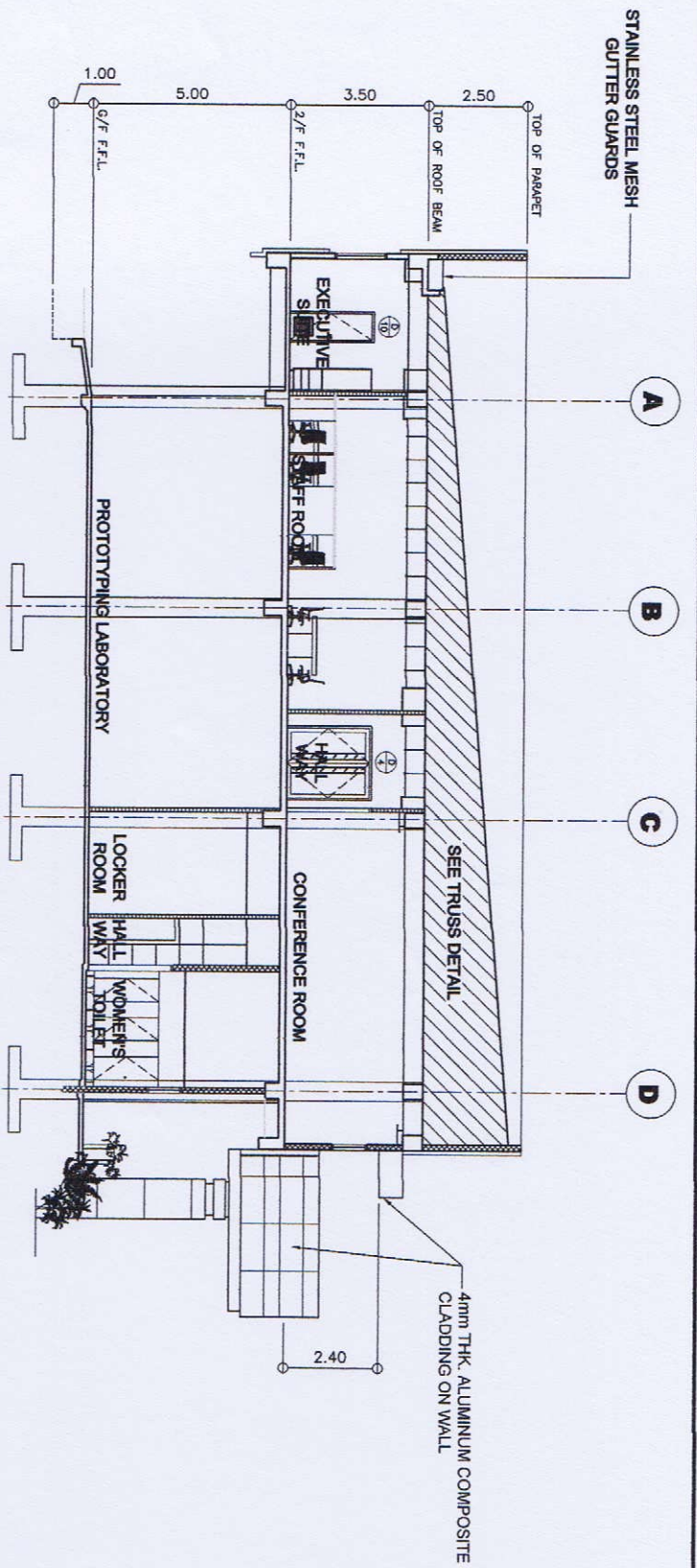
ARCHITECT OF RECORD:		PROJECT TITLE:		OWNER:		REVIEWED & CHECKED BY:		DESIGNED BY:		SHEET CONTENTS:		DRAWING NO.:	
LEBIER, F. SANTOS, URP		PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)		RECOMMENDED BY: APPROVED BY:		L.F.S.		AS SHOWN		A - 8	
REG. NO.: 020828		PTN NO.: 803044		ADDRESS:		RECOMMENDED BY: APPROVED BY:		DATE:				8 / 75	
IRPDA No.: 28702 29841 00218		ISSUED ON: 01-04-2019		GEN. SANTOS AVE., BUCITRAK, TANGKAS CITY, METRO JAWA		RECOMMENDED BY: APPROVED BY:		DATE:					
T.N.: 283-19-105		ISSUED AT: PABO CITY		GEN. SANTOS AVE., BUCITRAK, TANGKAS CITY, METRO JAWA		RECOMMENDED BY: APPROVED BY:		DATE:					

**RIGHT SIDE ELEVATION**  
 SCALE: 1:100

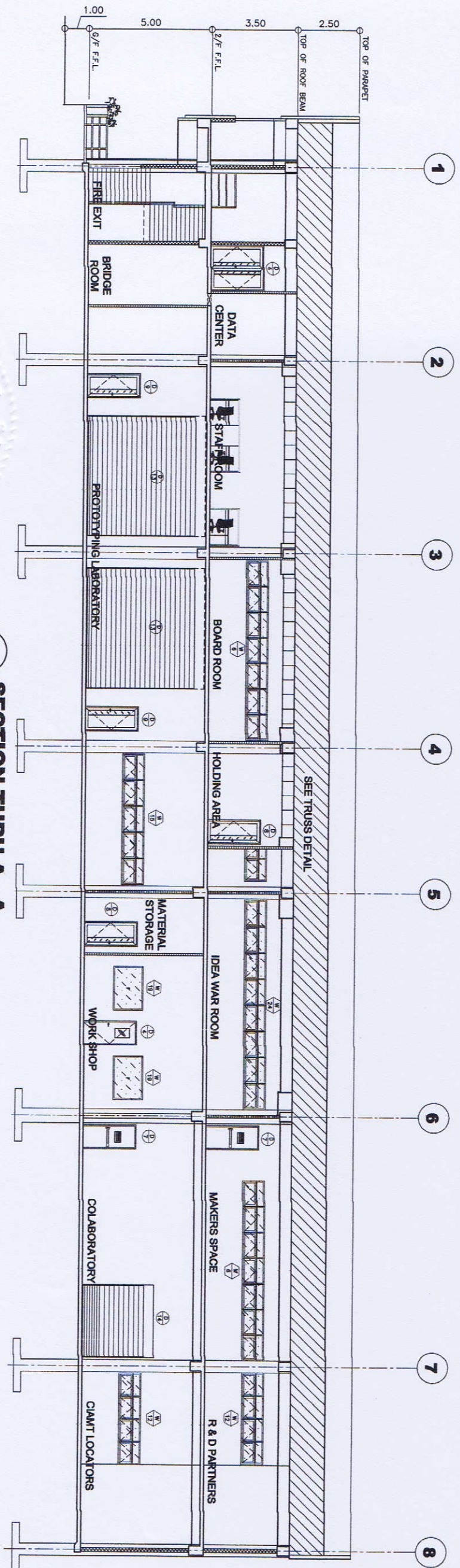


**LEFT SIDE ELEVATION**  
 SCALE: 1:100





**SECTION THRU B - B**  
SCALE: 1:100



**SECTION THRU A - A**  
SCALE: 1:100



**GIBMA Engineering Services**  
Design - Construction - Project Management - Survey  
83 Kulkarni Street, Kembangan Village Phase 2A, Dula Park, Pinarjaya City, 10114  
Tel. No.: 822 7114 Fax. No.: 822 8467  
URL: www.gibma.com Email: gibma@0303@yahoo.com

ARCHITECT OF RECORD:		PROJECT TITLE:		OWNER:		REVIEWED & CHECKED BY:		DESIGNED BY:		SHEET CONTENTS:		DRAWING NO.:	
LEARNY SANTOS, UAP		PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)		APPROVED BY:		L.F.S.		AS SHOWN		A - 9	
ISSUED ON: 01-04-2019		LOCATION:		ADDRESS:		RECOMMENDED BY:		DATE:		CHECKED BY:		SHEET NO.:	
ISSUED AT: PASIG CITY		GEN. SANTOS AVE., BICOTAN, TAGUIG CITY, METRO MANILA		GEN. SANTOS AVE., BICOTAN, TAGUIG CITY, METRO MANILA		APPROVED BY:		DATE:		CHECKED BY:		9 / 75	
ISSUED ON: 01-04-2019		GEN. SANTOS AVE., BICOTAN, TAGUIG CITY, METRO MANILA		GEN. SANTOS AVE., BICOTAN, TAGUIG CITY, METRO MANILA		APPROVED BY:		DATE:		CHECKED BY:		9 / 75	

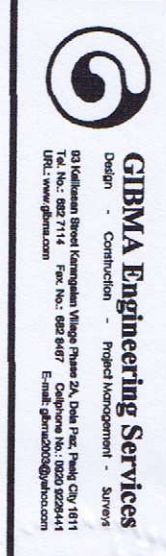


**GROUND FLOOR REFLECTED CEILING PLAN**  
 SCALE: 1:100

LEGEND	
	400mm x 60mm LED SLAB PANEL WITH 4.5W
	300mm x 300mm SURFACE MOUNTED LUMINAIRE / DUST PROOF LED LUMINAIRE (2.25W)
	300mm x 1200mm RECESSED MOISTURE / DUST PROOF LED LUMINAIRE (2.25W)
	150mm ROUND RECESSED HORIZONTAL, FULL FROSTED GLASS PENDANT (1.50W)
	150mm ROUND SURFACE MOUNTED PENDANT (1.50W)
	150mm ROUND RECESSED HORIZONTAL, FULL FROSTED GLASS PENDANT (1.50W)
	DECORATIVE DROP LUMINAIRES (1.50W)
	DECORATIVE CIRCULAR CEILING LUMINAIRES (1.50W)
	METAL SURFACE CEILING FINISH (ON APPROVED ARCHITECT'S DESIGN)
	CEILING MOUNTED ENDVENT FAN (1.50W)

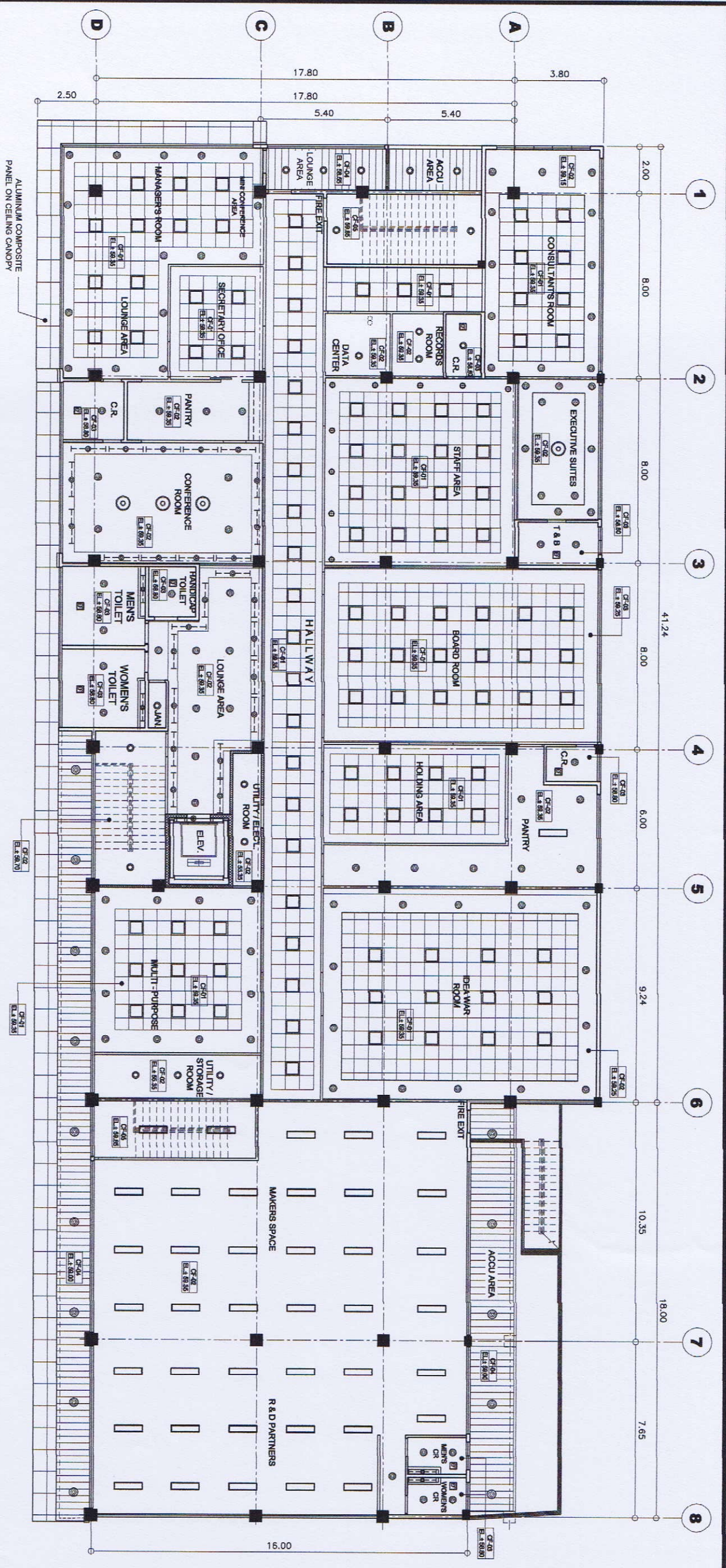
NOTE: ALL LIGHTS SHALL BE LED

SCHEDULE OF CEILING FINISHES	
CF-01	600mm x 600mm x 15mm TYP. ACUSTIC BOARD NECESSARILY ACCESSIBLE
CF-02	600mm TYP. GYPSUM BOARD ON STEELING METAL FINISH WITH LATEX PAINT FINISH
CF-03	600mm TYP. GYPSUM BOARD ON STEELING METAL FINISH WITH LATEX PAINT FINISH
CF-04	600mm TYP. GYPSUM BOARD ON STEELING METAL FINISH WITH LATEX PAINT FINISH
CF-05	UNDERLAY AS SMOOTH RIBBED CONCRETE WITH LATEX PAINT FINISH



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 83 Kuduayan Street Karangayam Village Phase 2A, Duta Pagar, Padang City 18111  
 Telp. No.: 082 7114 Fax. No.: 082 8447 Callphone No.: 0820 9228444  
 URL: www.gibma.com E-mail: gibma2003@yahoo.com

REVISION OF RECORD:	PROJECT TITLE:	OWNER:	DESIGNED BY:	SHEET CONTENTS:	DRAWING NO.:
ISSUE NO.: 000002	PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	R.H.V.	AS SHOWN	A - 10
ISSUE NO.: 000044			G.S.M.		10 / 75
ISSUE NO.: 2024/11-100					



**1**  
SCALE: 1:11  
**SECOND FLOOR REFLECTED CEILING PLAN**  
1:100

LEGEND	
	800mm x 800mm LED GRID PANEL WITH 2x2W
	300mm x 300mm RECESSED HORIZONTAL CENTER DUST PROOF LED LUMINAIRE (2 x 2W)
	300mm x 1200mm RECESSED MOISTURE/DUST PROOF LED LUMINAIRE (2 x 2W)
	1200mm x 1200mm RECESSED HORIZONTAL FULL FROSTED GLASS PANEL LIGHT (1200W)
	100mm ROUND RECESSED HORIZONTAL CENTER FROSTED GLASS PANEL LIGHT (120W)
	100mm ROUND SURFACE MOUNTED PANEL LIGHT (120W)
	150mm ROUND RECESSED HORIZONTAL CENTER FROSTED GLASS PANEL LIGHT (120W)
	150mm ROUND RECESSED HORIZONTAL CENTER FROSTED GLASS PANEL LIGHT (120W)
	DECORATIVE CIRCULAR CEILING LAMPS (120W)
	WEATHERPROOF WALL MOUNTED LAMP (120W)
	CEILING MOUNTED EXHAUST FAN (1 X 20W)

SCHEDULE OF CEILING FINISHES	
CF-01	800mm x 800mm x 15mm THE COATING BOARD ON ALUMINUM T-SHAPED CEILING WITH NECESSARY ACCESSORIES
CF-02	800mm x 800mm ROUND RECESSED METAL FINISH WITH LATEX PAINT FINISH
CF-03	800mm x 800mm ROUND RECESSED METAL FINISH WITH LATEX PAINT FINISH
CF-04	800mm x 800mm ROUND RECESSED METAL FINISH WITH LATEX PAINT FINISH
CF-05	800mm x 800mm ROUND RECESSED METAL FINISH WITH LATEX PAINT FINISH

NOTE: ALL LIGHTS SHALL BE LED

**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 95 Kollontay Street, Kollontay Village Phase 2A, Dala Park, Pasig City 1611  
 TEL No.: 882 7114 Fax No.: 882 8487  
 E-mail: gibmadesign@ibma.com

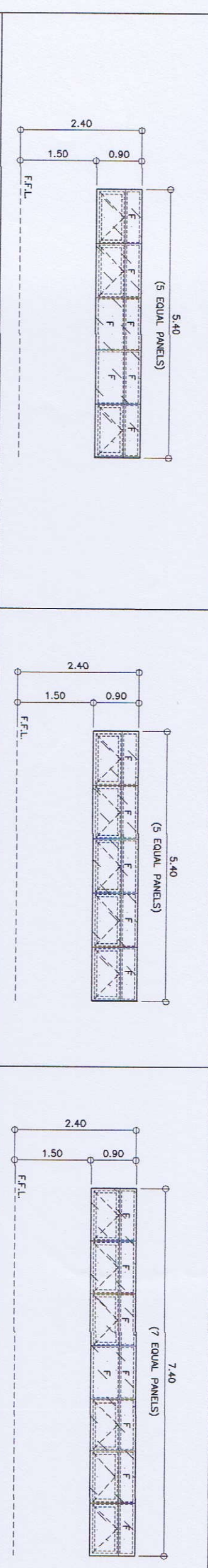
PROJECT TITLE: PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER

OWNER: METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)

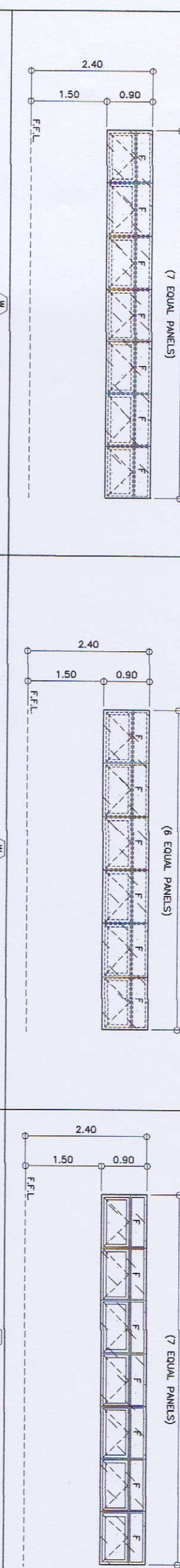
ADDRESS: GEN. SANTOS AVE., BICTRA, TAJUJO CITY, METRO MANILA

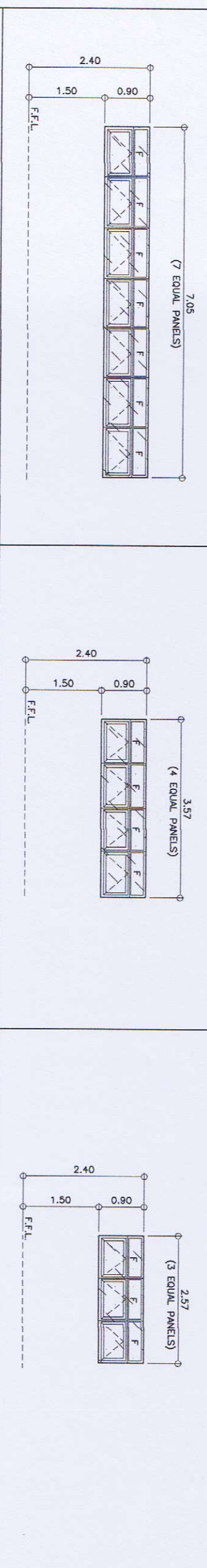
ARCHITECT OF RECORD:	DESIGNED BY: L.F.S.	SHEET CONTENTS:	DRAWING NO.:
REG. NO.: 000832	DATE: MAY	AS SHOWN	<b>A - 11</b>
ISSUED ON: 2018 22841 022818	CHECKED BY: GJM		<b>11 / 75</b>
ISSUED BY: 285-018-106	DATE:		



DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.
LOCATION	STAR CASE	LOCATION	STAR CASE	LOCATION	G/F TOILETS	LOCATION	G/F TOILETS
QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	1 SET



DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.
LOCATION	WORKSHOP	LOCATION	WORKSHOP	LOCATION	WORKSHOP	LOCATION	COLLABORATOR, MANAGERS SPACE & BOARD ROOM
QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	4 SETS



DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.
LOCATION	WORKSHOP	LOCATION	WORKSHOP	LOCATION	WORKSHOP	LOCATION	CAJUT LOCATIONS, UTILITY ROOM
QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	2 SETS

**SCHEDULE OF WINDOWS**  
SCALE: 1:50

**GIBMA Engineering Services**  
Design - Construction - Project Management - Services  
83 Kuduwan Street Karanganyar Village Phase 2A, Dual Pkz, Paing, Cik. 16111  
Telp. No. : 029 7714 Fax. No. : 029 8467 Celpone No. : 029 8294141  
URL: www.gibma.com E-mail: gpm2003@gibma.com

INDICATED OF RECORD:

PROJECT TITLE: **PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER**

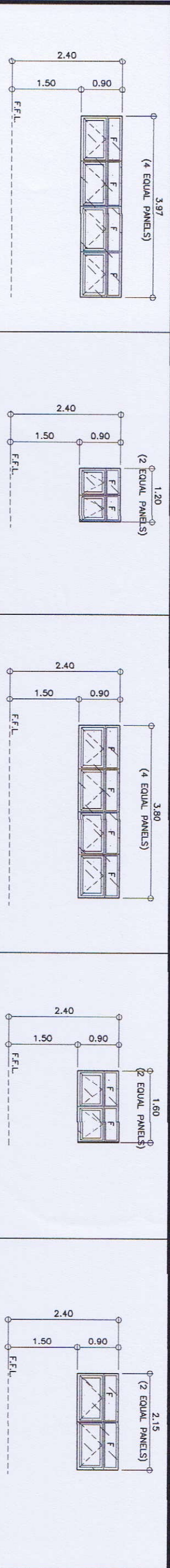
OWNER: **METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

ADDRESS: **GEN. SANTOS AVE., BICOTAN, TAGUIG CITY, METRO MANILA**

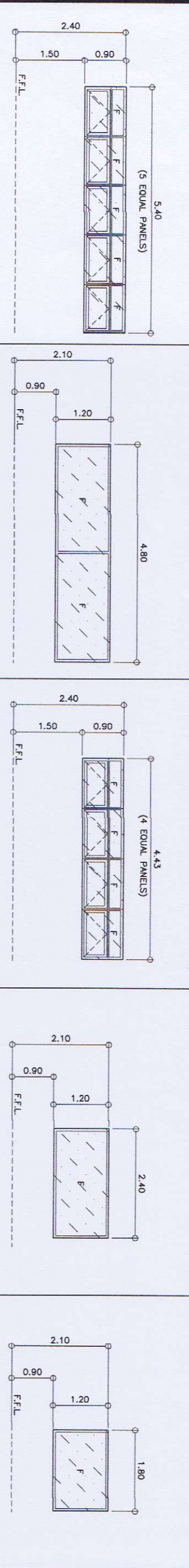
DESIGNED BY: L.F.S.  
CHECKED BY: Q.B.M.  
DATE:

APPROVED BY: ROBERT O. TORON  
DATE:

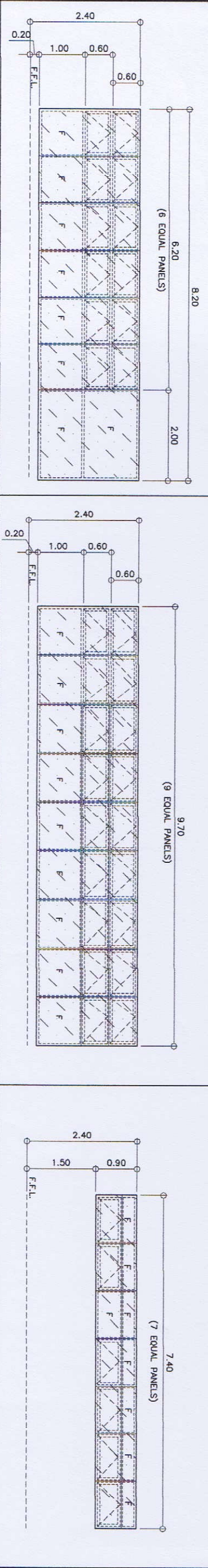
DRAWING NO.: **A - 12**  
SHEET NO.: **12 / 75**



DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 6mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 6mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 6mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 6mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 6mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.
LOCATION	CHAIR LOCATIONS	LOCATION	WORKING/ MEN'S TOILET	LOCATION	CHAIR LOCATIONS, ROAD PARTNERS	LOCATION	WORKSHOP	LOCATION	MANAGERIAL STORAGE
QUANTITY	1 SET	QUANTITY	6 SETS	QUANTITY	2 SETS	QUANTITY	2 SETS	QUANTITY	1 SET



DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 6mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 6mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 6mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 6mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 6mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.
LOCATION	PROPORTIONING LABORATORY, EXECUTIVE SUITES	LOCATION	LOUNGE AREA	LOCATION	PROPORTIONING LABORATORY	LOCATION	WORKSHOP, STAFF ROOM, IDEA WORK ROOM, MULTI-PURPOSE ROOM	LOCATION	WORKSHOP, SECRETARY OFFICE
QUANTITY	2 SETS	QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	7 SETS	QUANTITY	3 SETS



DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	ANNING/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.
LOCATION	MANAGER'S ROOM	LOCATION	MANAGER'S ROOM	LOCATION	CONFERENCE ROOM
QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	1 SET

**SCHEDULE OF WINDOWS**  
SCALE: 1:50

**GIBMA Engineering Services**  
Design - Construction - Project Management - Survey

03 Kerdikus Street (Kerangkulam Village Phase 2A, Doka Park, Pangs City 1011)  
Tel. No.: 882 7114 Fax. No.: 882 8407 E-mail: gsmadoc@gibma.com  
URL: www.gibma.com

APPROVED BY:

PROJECT TITLE: **PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER**

OWNER: **METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MINDC)**

RECOMMENDED BY:

DESIGNED BY: L.F.A.

DATE: 02.11.2011

CHECKED BY: O.J.M.

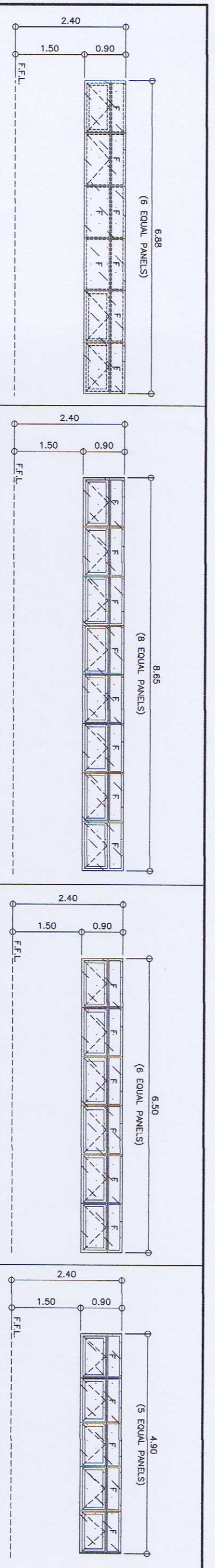
APPROVED BY:

DATE: 02.11.2011

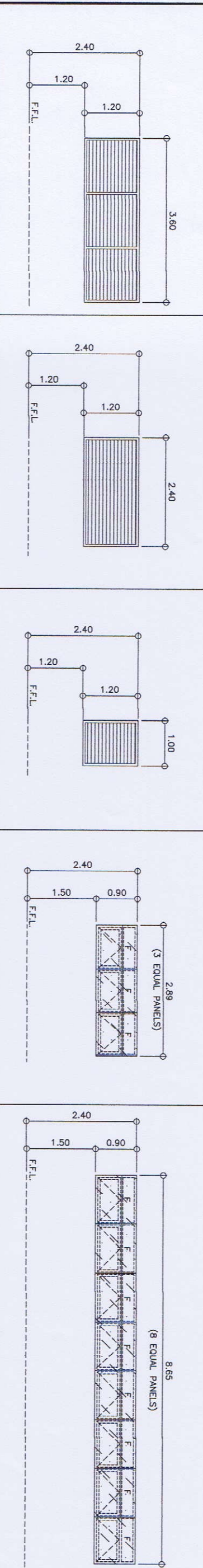
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DRAWING NO.: **A - 13**

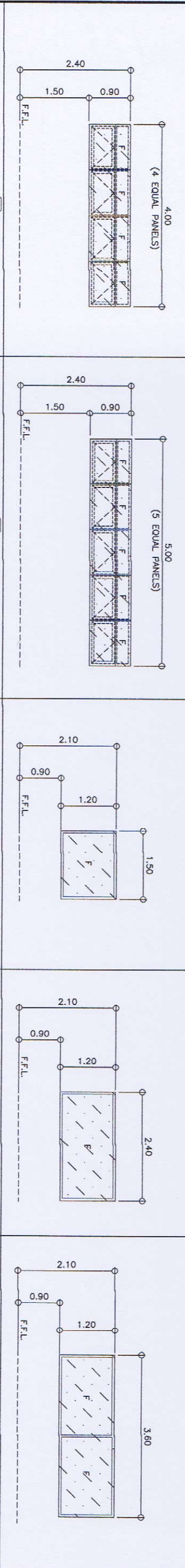
BRETT NO.: **13 / 75**



DESCRIPTION	AMINO/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINO/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINO/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINO/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.
LOCATION	2/F TOILETS	LOCATION	CONSULTANT'S ROOM	LOCATION	WAREHOUSE	LOCATION	WAREHOUSE
QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	1 SET



DESCRIPTION	GA #18 METAL LOWER WINDOW, COMPLETE W/ NECESSARY HARDWARE AND ACCESSORIES, AUTOMOTIVE LACQUER PAINT FINISHED.	DESCRIPTION	GA #18 METAL LOWER WINDOW, COMPLETE W/ NECESSARY HARDWARE AND ACCESSORIES, AUTOMOTIVE LACQUER PAINT FINISHED.	DESCRIPTION	GA #18 METAL LOWER WINDOW, COMPLETE W/ NECESSARY HARDWARE AND ACCESSORIES, AUTOMOTIVE LACQUER PAINT FINISHED.	DESCRIPTION	GA #18 METAL LOWER WINDOW, COMPLETE W/ NECESSARY HARDWARE AND ACCESSORIES, AUTOMOTIVE LACQUER PAINT FINISHED.
LOCATION	PUMP ROOM	LOCATION	POWER / GENSET HOUSE	LOCATION	WASTE MATERIAL STORAGE	LOCATION	WAREHOUSE
QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	2 SETS



DESCRIPTION	AMINO/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	AMINO/FIXED GLASS WINDOW WITH 10mm THK. REFLECTIVE GLASS (BLUE) ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	8mm THK. ONE WAY MIRROR GLASS ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.	DESCRIPTION	8mm THK. ONE WAY MIRROR GLASS ON ALUMINIUM POWDER COATED (WHITE) COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.
LOCATION	CONSULTANT'S ROOM	LOCATION	LOBBY AREA	LOCATION	OPERATOR ROOM	LOCATION	MANAGER'S ROOM
QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	1 SET	QUANTITY	1 SET

**1**  
A 14  
SCALE: 1:50  
**SCHEDULE OF WINDOWS**

**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 83 Kaldaman Street Karanganyan Village Phase 2A, Dale Puri, Puri City, 1011  
 Tel. No.: 882 7114 Fax. No.: 882 8007 Call Center No.: 0800 822441  
 URL: www.gibma.com E-mail: gibma@0800822441.com

ARCHITECT OF RECORD:  
**LEWIS F. SANTOS, OUP**  
 REG. NO.: 606228 PTR. NO.: 809444  
 LUPCA No.: 3070223041 200318 ISSUED ON: 01-04-2018  
 JMN: 288-09-018 ISSUED AT: PASIG CITY

PROJECT TITLE:  
**PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER**

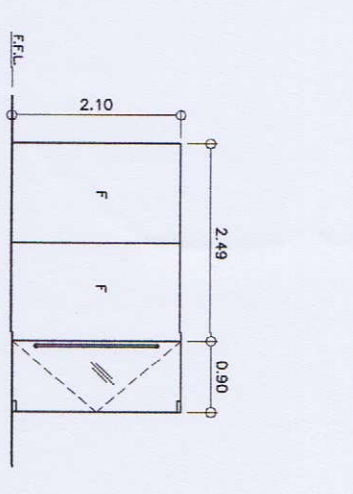
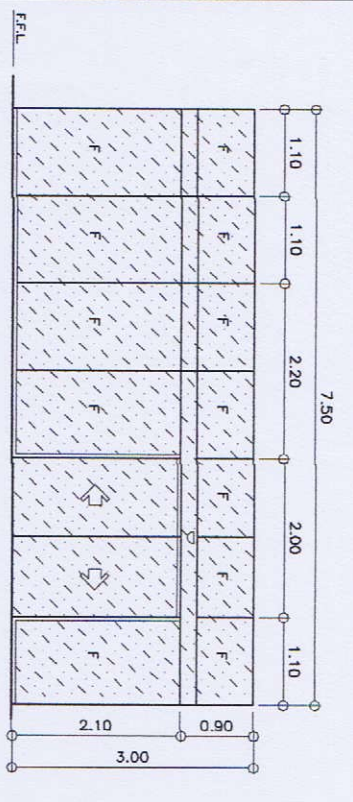
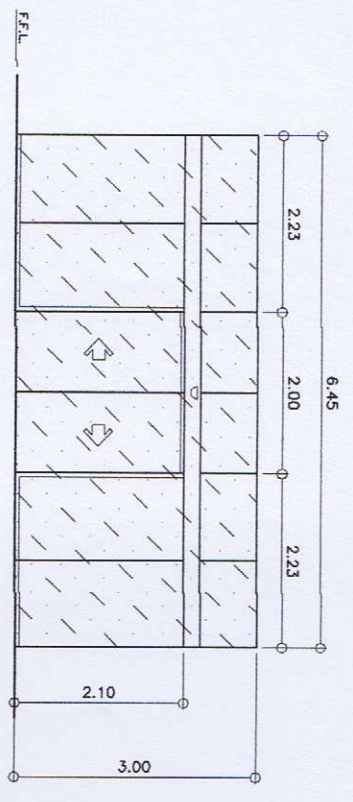
OWNER:  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

REVISIONS AND CHECKED BY:  
 RECOMMENDED BY:  
 APPROVED BY:

DESIGNED BY:  
 DATE:  
 CHECKED BY:  
 DATE:

L.P.A.  
 AS SHOWN

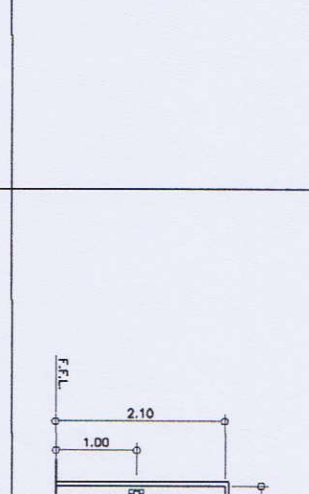
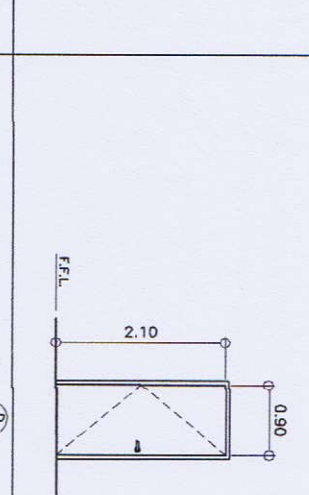
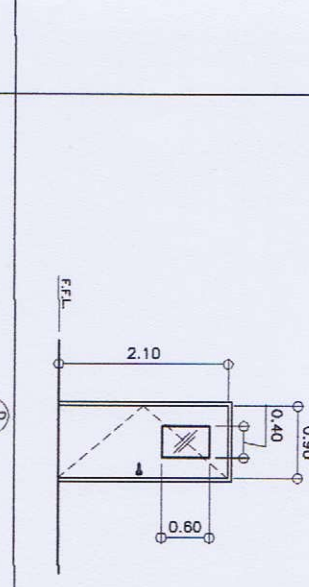
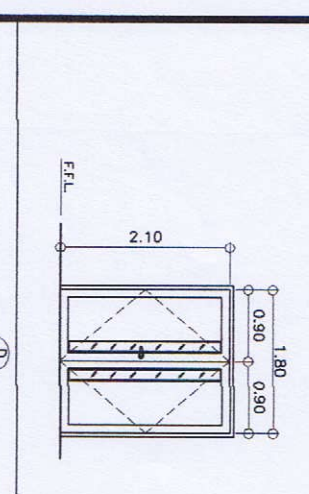
SHEET NO.:  
**14 / 75**



DESCRIPTION	AUTOMATIC/FIXED 12mm THK. CLEAR LOW-E TINTED GLASS COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.
LOCATION	LOBBY
QUANTITY	1 SET

DESCRIPTION	AUTOMATIC/FIXED 12mm THK. CLEAR TINTED GLASS COMPLETE WITH NECESSARY HARDWARE & ACCESSORIES.
LOCATION	LOBBY
QUANTITY	1 SET

DESCRIPTION	12mm THK. CLEAR TINTED GLASS DOOR & FIXED PANEL COMPLETE WITH HARDWARE & ACCESSORIES.
LOCATION	Q/F LOBBY
QUANTITY	1 SET



DESCRIPTION	44mm THK. DOUBLE LEAF SOLID PANEL DOOR ON K.O. WOOD JAMB WITH WOOD STAIN FINISH, WITH 6MM THK. CLEAR GLASS COMPLETE WITH DOOR CLOSER, DOOR STOPPER, LOCKSETS AND NECESSARY HARDWARE AND ACCESSORIES.
LOCATION	HALLWAY & HOLDING AREA
QUANTITY	14 SETS

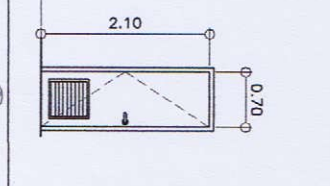
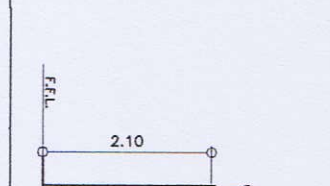
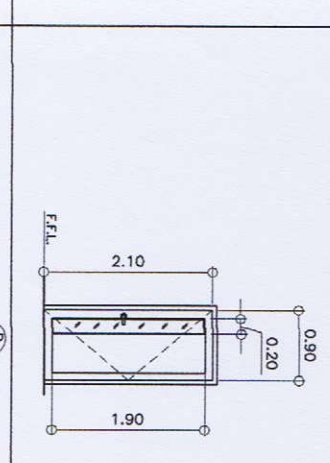
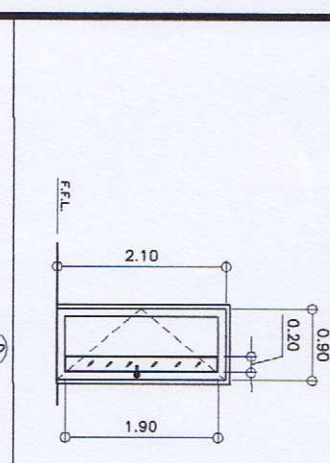
DESCRIPTION	44mm THK. SINGLE LEAF SOLID PANEL DOOR ON K.O. WOOD JAMB WITH WOOD STAIN FINISH, WITH 6MM THK. CLEAR GLASS COMPLETE WITH DOOR CLOSER, DOOR STOPPER, LOCKSETS AND NECESSARY HARDWARE AND ACCESSORIES.
LOCATION	STORAGE AREA
QUANTITY	1 SET

DESCRIPTION	6A. #18 PRE-FINISHED SWING TYPE METAL DOOR IN ANTI-CORROSION PAINT BAKED FINISH WITH IN PLACE INSULATION ON 6A. #18 METAL DOOR JAMB COMPLETE WITH DOOR CLOSER, DOOR STOPPER, LOCKSETS AND NECESSARY HARDWARE & ACCESSORIES.
LOCATION	ACCU. UTILITY/ ELECTRICAL ROOM
QUANTITY	4 SETS

DESCRIPTION	6A. #18 PRE-FINISHED SWING TYPE METAL DOOR IN ANTI-CORROSION PAINT BAKED FINISH WITH IN PLACE INSULATION ON 6A. #18 METAL DOOR JAMB COMPLETE WITH DOOR CLOSER, DOOR STOPPER, LOCKSETS AND NECESSARY HARDWARE & ACCESSORIES.
LOCATION	ACCU. UTILITY/ ELECTRICAL ROOM
QUANTITY	4 SETS

DESCRIPTION	6A. #18 PRE-FINISHED SWING TYPE METAL DOOR (FIRE RATED) IN ANTI-CORROSION PAINT BAKED FINISH WITH IN-PLACE INSULATION ON 6A. #18 METAL DOOR JAMB INCLUDING ACCESSORIES WITH FIRE EXIT PANEL DOOR CLOSER & NECESSARY HARDWARE.
LOCATION	FIRE EXIT
QUANTITY	5 SETS

DESCRIPTION	12mm THK. CLEAR TINTED GLASS DOOR COMPLETE WITH HARDWARE & ACCESSORIES.
LOCATION	STAR
QUANTITY	1 SET



DESCRIPTION	44mm THK. SINGLE LEAF SOLID PANEL DOOR ON K.O. WOOD JAMB WITH WOOD STAIN FINISH, WITH 6MM THK. CLEAR GLASS COMPLETE WITH DOOR CLOSER, DOOR STOPPER, LOCKSETS AND NECESSARY HARDWARE AND ACCESSORIES.
LOCATION	LOCKER RM., TRAINING RM., COLLABORATORY, MANAGER'S RM., HALLWAY, PAINTY, RECORDS RM., LOUNGE AREA, SECRETARY OFFICE, HOLDING AREA, BRIDGE RM., MATERIAL STG., DATA CENTER, EXECUTIVE OFFICE & STAR
QUANTITY	18 SETS

DESCRIPTION	44mm THK. SINGLE LEAF SOLID PANEL DOOR ON K.O. WOOD JAMB WITH WOOD STAIN FINISH, WITH 6MM THK. CLEAR GLASS WITH FROSTED STICKER COMPLETE WITH DOOR CLOSER, DOOR STOPPER, LOCKSETS AND NECESSARY HARDWARE AND ACCESSORIES.
LOCATION	PROTOTYPING LABORATORY, BOARD ROOM & WORKSHOP
QUANTITY	5 SETS

DESCRIPTION	SOLID WOOD PANEL DOOR WITH LOCKER & WOODEN DOOR JAMB COMPLETE WITH DOOR CLOSER, DOOR STOPPER, LOCKSETS AND NECESSARY HARDWARE & ACCESSORIES.
LOCATION	TOILETS
QUANTITY	5 SETS

DESCRIPTION	SOLID WOOD PANEL DOOR WITH LOCKER & WOODEN DOOR JAMB COMPLETE WITH DOOR CLOSER, DOOR STOPPER, LOCKSETS AND NECESSARY HARDWARE & ACCESSORIES.
LOCATION	HANDICAP TOILET
QUANTITY	2 SETS

DESCRIPTION	SOLID WOOD PANEL DOOR WITH LOCKER & WOODEN DOOR JAMB COMPLETE WITH DOOR CLOSER, DOOR STOPPER, LOCKSETS AND NECESSARY HARDWARE & ACCESSORIES.
LOCATION	TOILETS/ OR
QUANTITY	8 SETS

DESCRIPTION	12mm THK. CLEAR TINTED GLASS DOOR COMPLETE WITH HARDWARE & ACCESSORIES.
LOCATION	STAR
QUANTITY	1 SET

**SCHEDULE OF DOORS**  
SCALE: 1/15

**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 03 Indulekha Street Karanganyar Village Phase 2A, Duta Pura, Padang City/1811  
 Telp. No.: 0822 7114 Fax. No.: 0822 8487 Call Center No.: 0820 0239441  
 URL: www.gibma.com E-mail: gibma@indogibma.com

PROJECT OF RECORD: **PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER**  
 OWNER: **METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

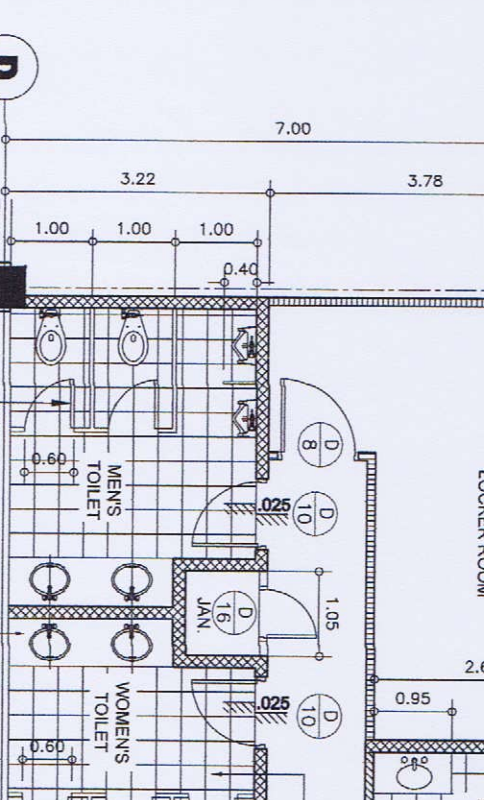
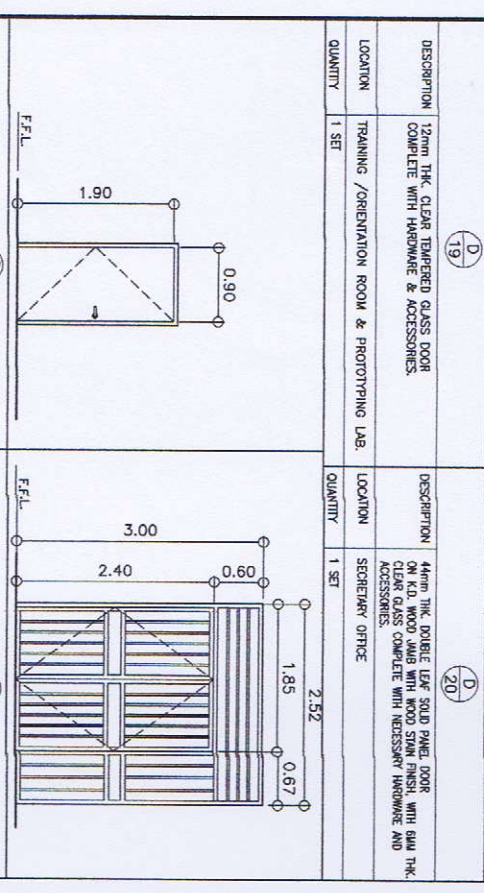
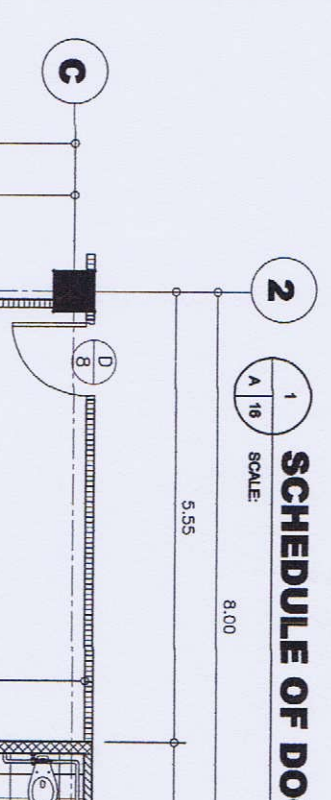
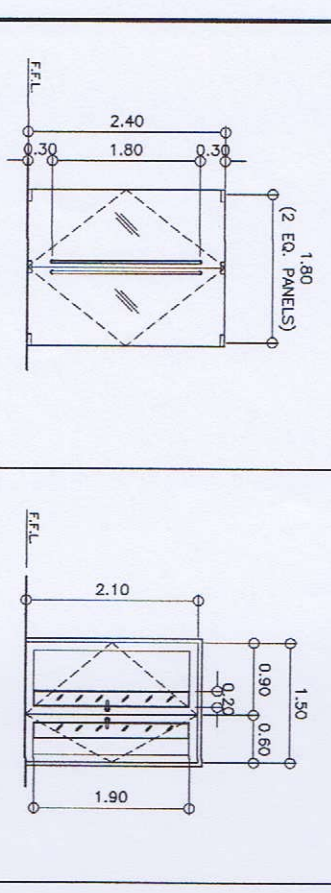
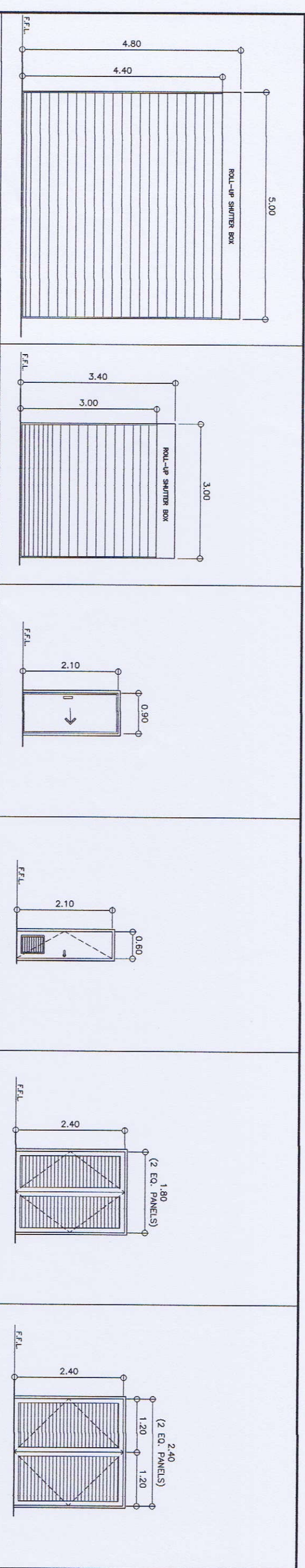
RECOMMENDED BY: **ROBERTO O. VIZCAYA**  
 APPROVED BY: **ROBERTO O. VIZCAYA**

DESIGNED BY: **L.F.B.** SHEET CONTENTS: **AS SHOWN**  
 CHECKED BY: **L.F.B.**  
 DATE: **03/01/2015**  
 APPROVED BY: **03/01/2015**  
 DATE: **03/01/2015**

DRAWING NO.: **A - 15**  
 SHEET NO.: **15 / 75**

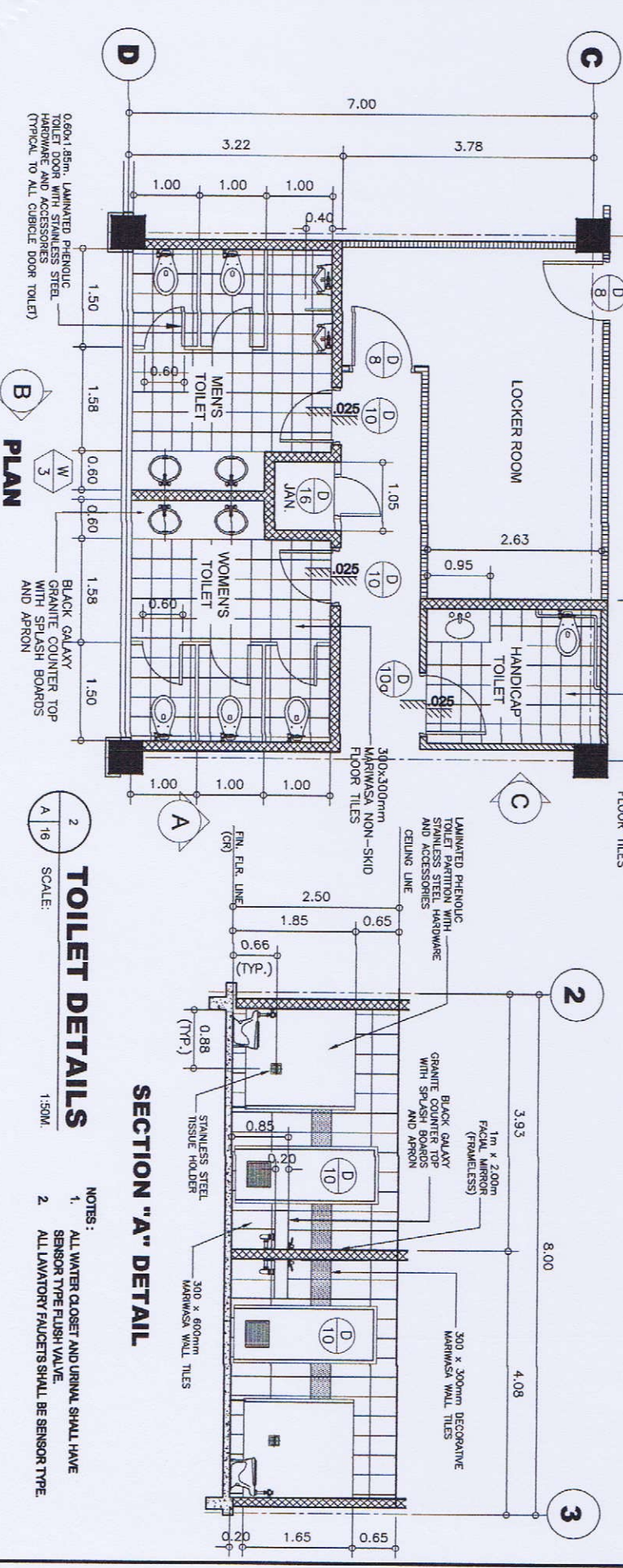


DESCRIPTION	LOCATION	QUANTITY	DESCRIPTION	LOCATION	QUANTITY	DESCRIPTION	LOCATION	QUANTITY	DESCRIPTION	LOCATION	QUANTITY	DESCRIPTION	LOCATION	QUANTITY			
WATERED ROLL-UP DOOR COMPLETE W/ NECESSARY HARDWARE & ACCESSORIES	PROTOTYPING LABORATORY	2 SETS	WATERED ROLL-UP DOOR COMPLETE W/ NECESSARY HARDWARE & ACCESSORIES	COLLABORATORY	1 SET	44mm THK. SINGLE GLASS SOLID PANEL DOOR COMPLETE WITH NECESSARY HARDWARE AND ACCESSORIES	PAINTRY	1 SET	SOLID WOOD PANEL DOOR WITH LOCKER & WOODEN DOOR LOCKSETS AND NECESSARY HARDWARE & ACCESSORIES	JAN.	2 SETS	CA. #18 METAL LOWER DOOR, COMPLETE W/ NECESSARY HARDWARE AND ACCESSORIES, AUTOMATIC LAQUER PAINT FINISH	PUMP ROOM, WASTE MATERIAL STORAGE	2 SETS	CA. #18 METAL LOWER DOOR, COMPLETE W/ NECESSARY HARDWARE AND ACCESSORIES, AUTOMATIC LAQUER PAINT FINISH	POWER / GENSET HOUSE	1 SET

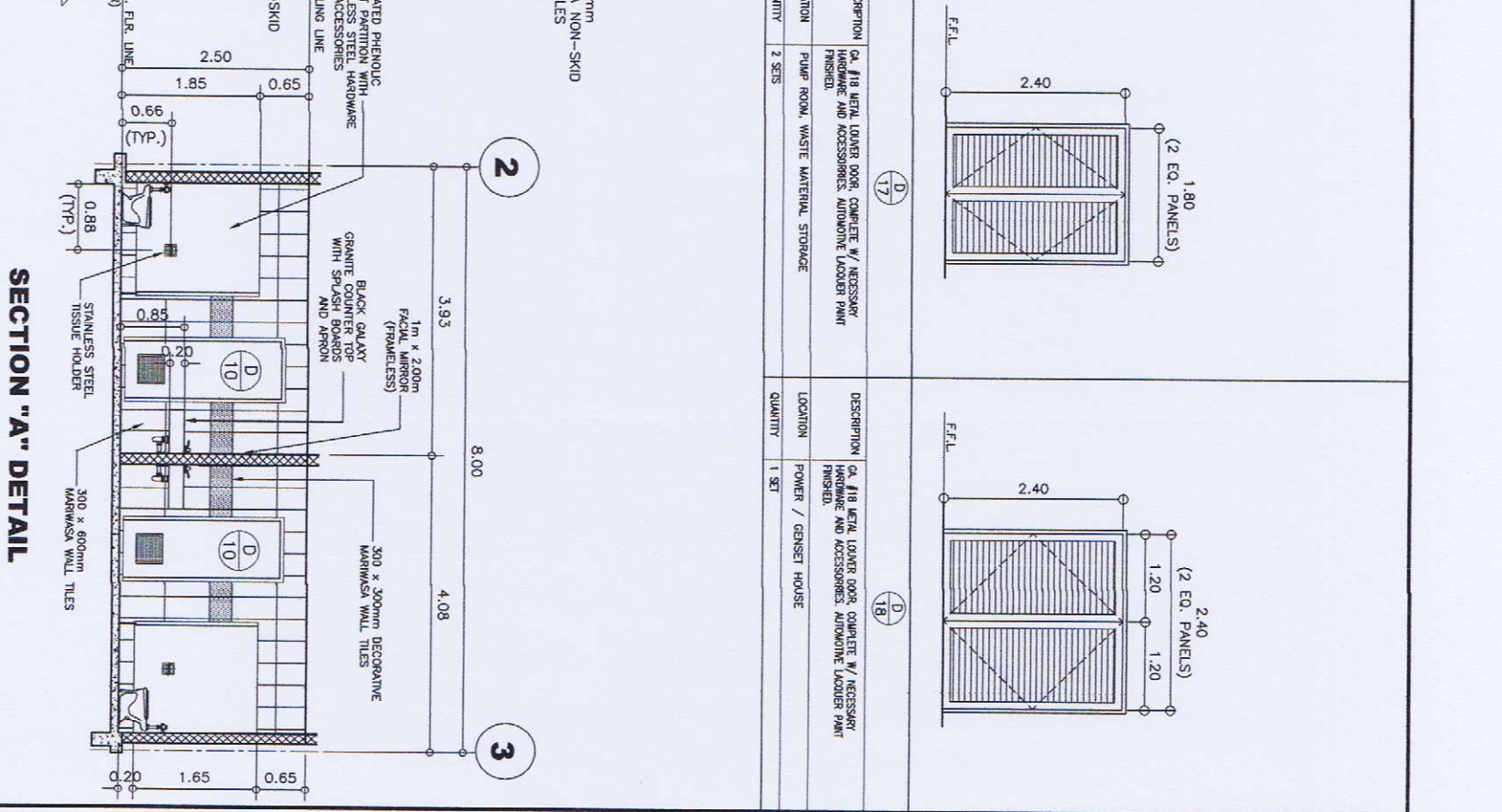


## SCHEDULE OF DOORS

SCALE: 1:50



## SECTION "A" DETAIL



**NOTES:**

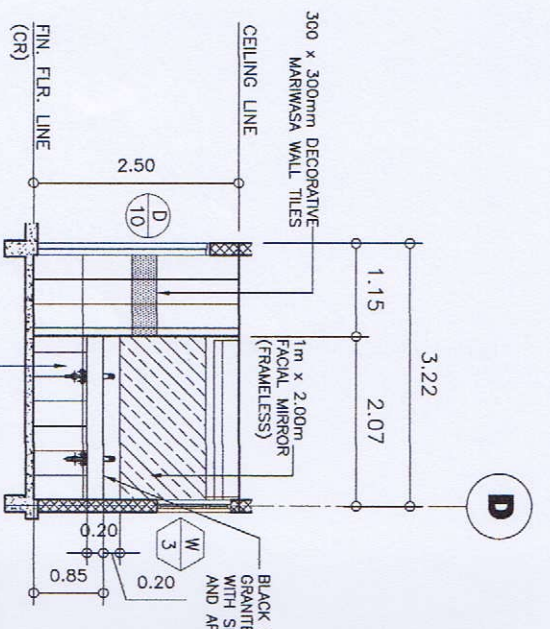
- ALL WATER CLOSET AND URINAL SHALL HAVE SENSOR TYPE FLUSH VALVE.
- ALL LAVATORY FAUCETS SHALL BE SENSOR TYPE.

**GIBMA Engineering Services**

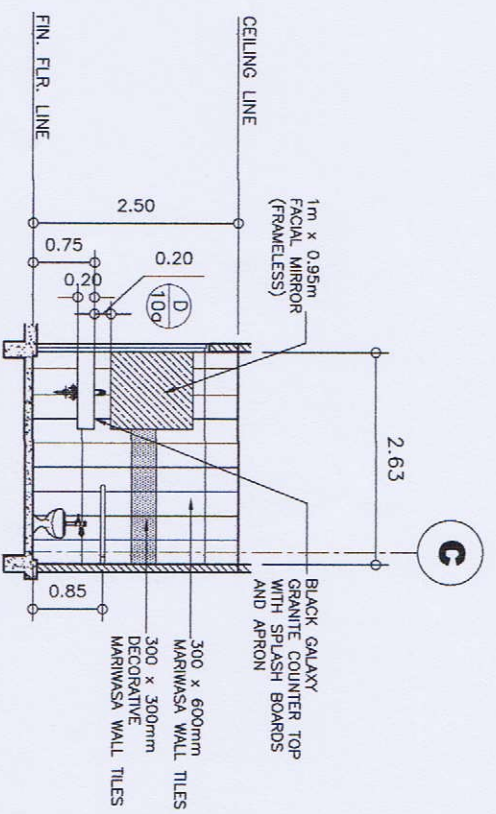
Design - Construction - Project Management - Surveys

59 Kembangan Street, Kembangan Village Phase 2A, Doha, Qatar. P.O. Box 1014  
 Tel: No. 974 4611 9111  
 Fax: No. 974 4611 9111  
 E-mail: gibma@qibma.com

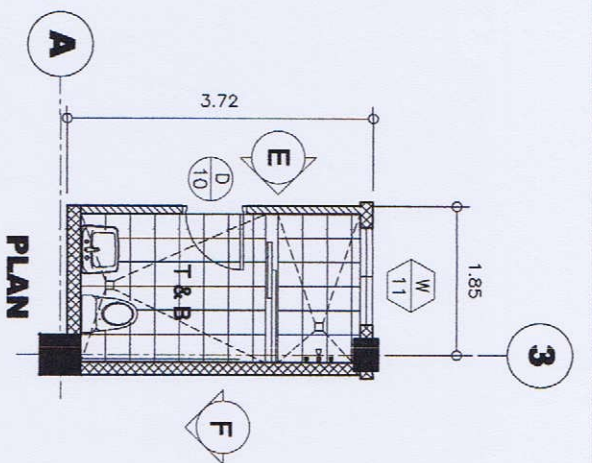
ARCHITECT OF RECORD:		PROJECT TITLE:		OWNER:	
LEWIS J. SANTOS, JAP		PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	
REG. NO.: 056068	PR. NO.: 888644	REVISIONS:	APPROVED BY:	REVISIONS:	APPROVED BY:
APCA No.: 20102 238841 002518	ISSUED ON: 01-04-2019	REVISIONS:	APPROVED BY:	REVISIONS:	APPROVED BY:
TIN: 283-818-028	ISSUED AT: PABO CITY	REVISIONS:	APPROVED BY:	REVISIONS:	APPROVED BY:
LOCATION: GEN. SANTOS AVE., BICOTAN, TAGBILARAN CITY, MIMARO		LOCATION: GEN. SANTOS AVE., BICOTAN, TAGBILARAN CITY, MIMARO		LOCATION: GEN. SANTOS AVE., BICOTAN, TAGBILARAN CITY, MIMARO	
DRAWING NO.: <b>A-16</b>		SHEET CONTENTS: AS SHOWN		DRAWING NO.: <b>16 / 75</b>	



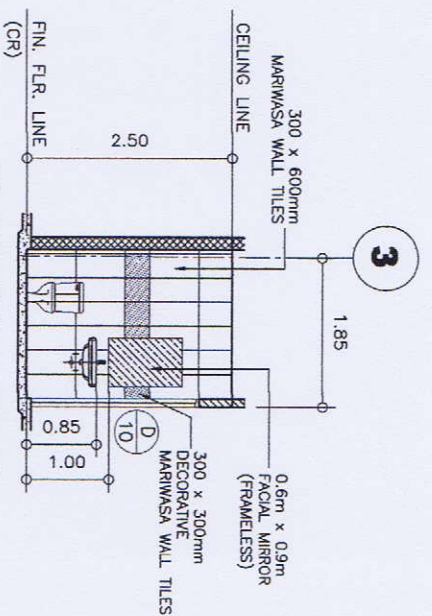
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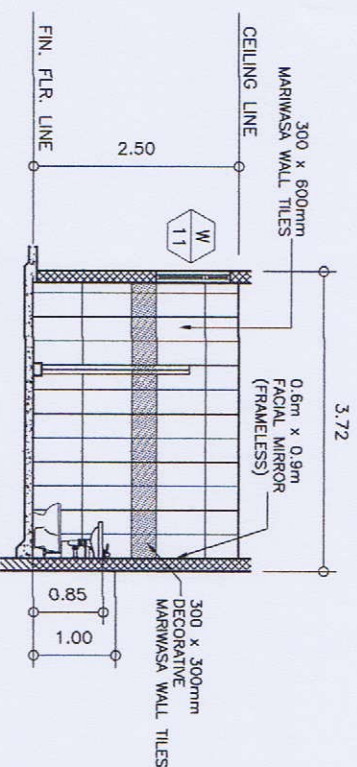
**SECTION "C" DETAIL**



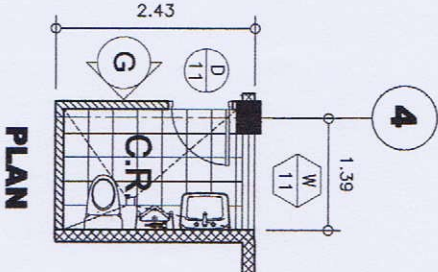
**PLAN**



**SECTION "F" DETAIL**

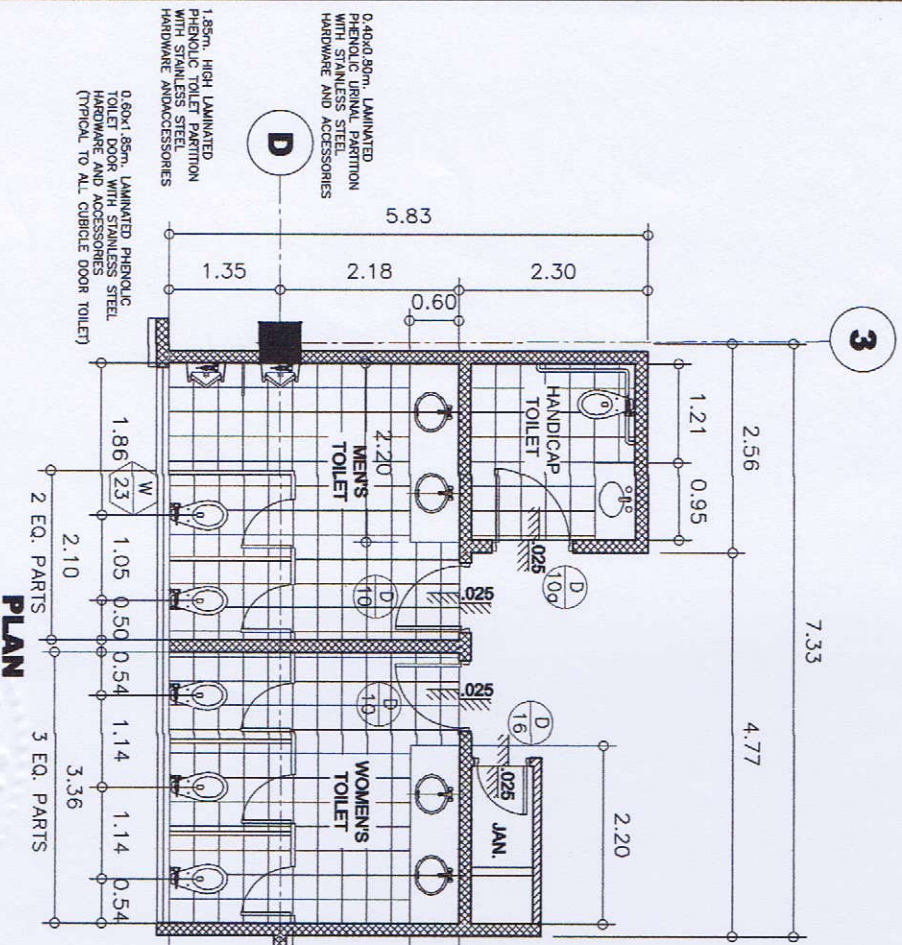


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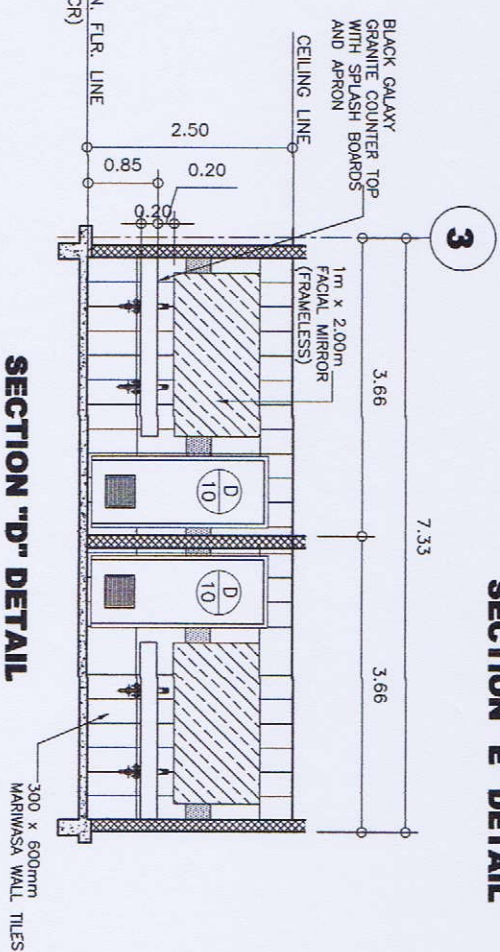


**PLAN**

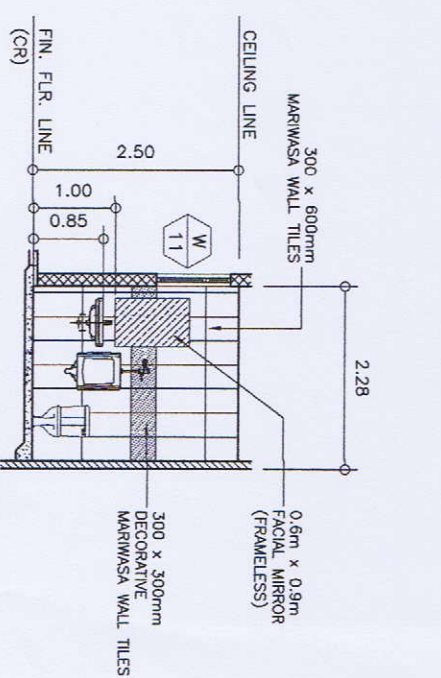
- NOTES:
1. ALL WATER CLOSET AND URINAL SHALL HAVE SENSOR TYPE FLUSH VALVE.
  2. ALL LAVATORY FAUCETS SHALL BE SENSOR TYPE.
  3. ALL GROUND AND SECOND FLOOR TOILETS SHALL HAVE AUTOMATIC HAND DRYER (NEAR TO LAVATORY COUNTER)



**PLAN**



**SECTION "D" DETAIL**



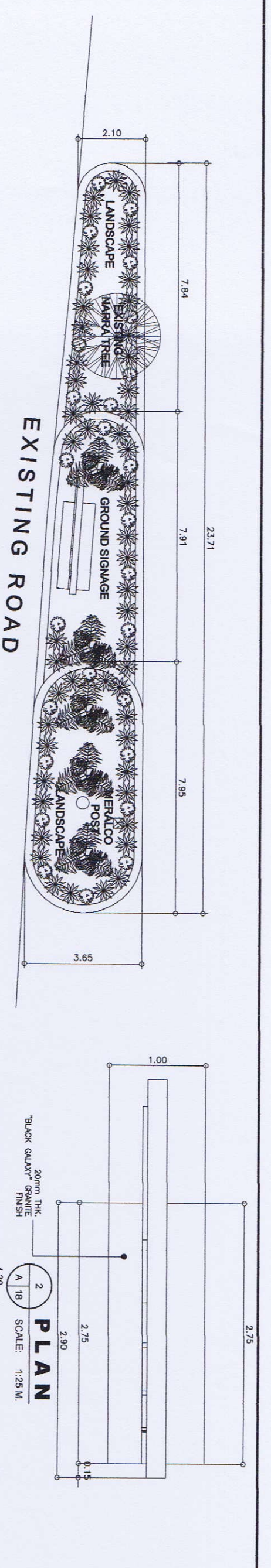
**SECTION "G" DETAIL**

**TOILET DETAILS**  
SCALE: 1:50M



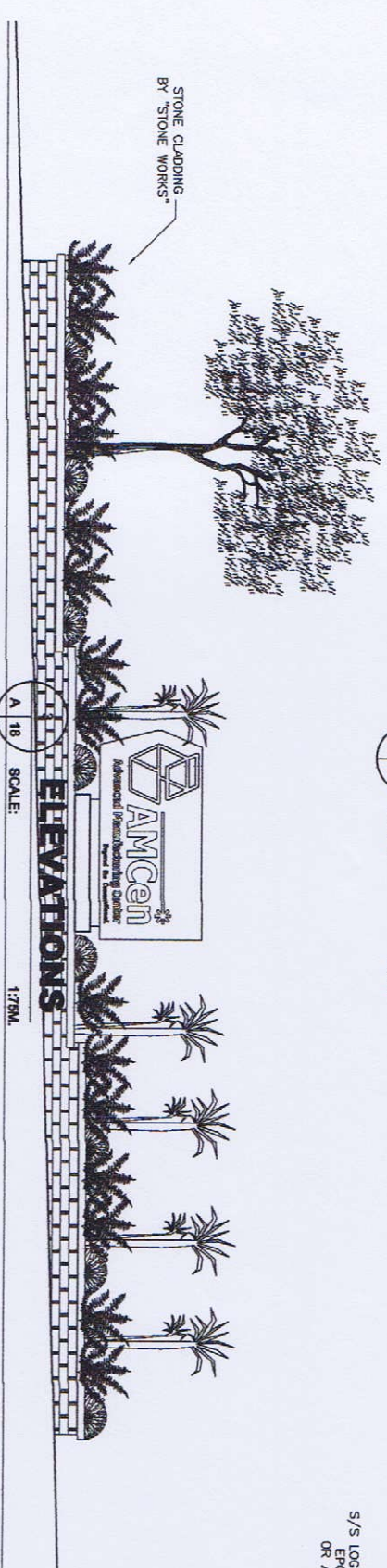
**GIBMA Engineering Services**  
Design - Construction - Project Management - Surveys  
83 Kaldemari Street, Kembangan Village Phase 2A, Desa Padi, Pading City 1811  
Tel. No.: 082 27114 Fax. No.: 082 24877  
E-mail: gpm2008@yahoo.com

ARCHITECT OF RECORD:	PROJECT TITLE:	OWNER:	REVISIONS & CHECKED BY:	DESIGNED BY:	SHEET CONTENTS:	DRAWING NO.:
LEMBEY S. SANTOS, LAM	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDG)	RECOMMENDED BY:	CAED BY:	AS SHOWN	A-17
ISSUED AT: PANG CITY	ADDRESS:	GRI. SANTOS AVE., SECTION, TAGUIG CITY, METRO MANILA	APPROVED BY:	CHECKED BY:		17 / 75
ISSUED ON: 04-04-2018	LOCATION:	GRI. SANTOS AVE., SECTION, TAGUIG CITY, METRO MANILA	APPROVED BY:	DATE:		
ISSUED AT: PANG CITY	ADDRESS:	GRI. SANTOS AVE., SECTION, TAGUIG CITY, METRO MANILA	APPROVED BY:	DATE:		

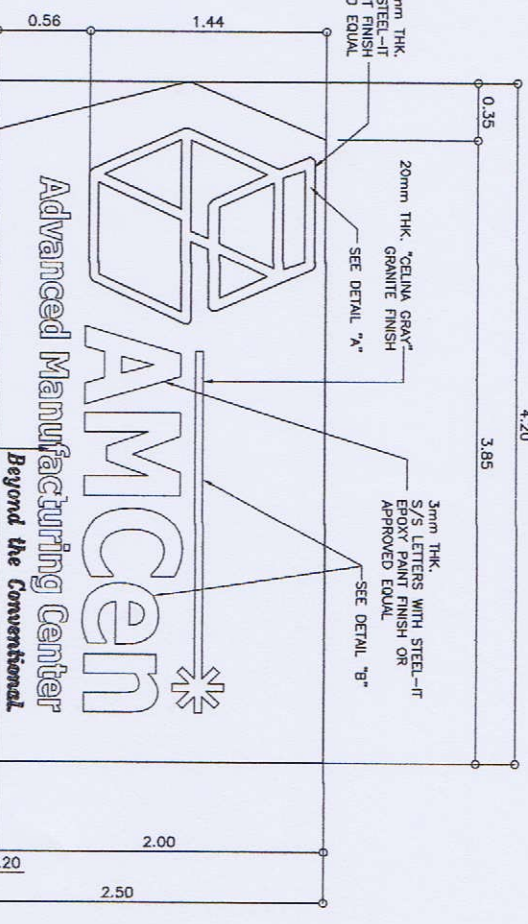


**1 PLAN**  
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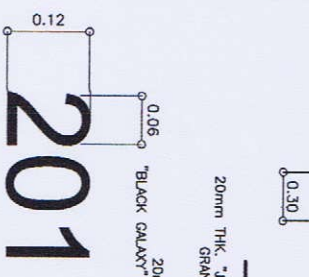
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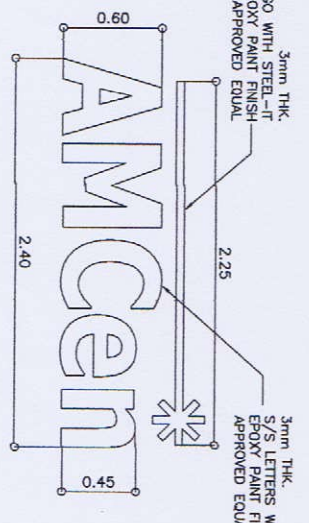
**ELEVATIONS**  
SCALE: 1:75M



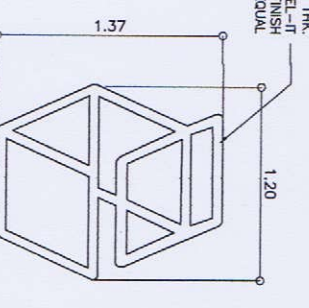
**9 FRONT ELEVATION**  
SCALE: 1:25 M.



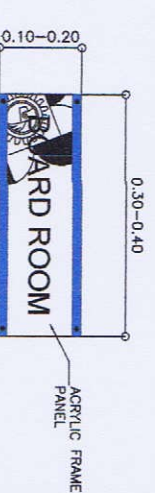
**8 ROOM NUMBER**  
SCALE: N.T.S.



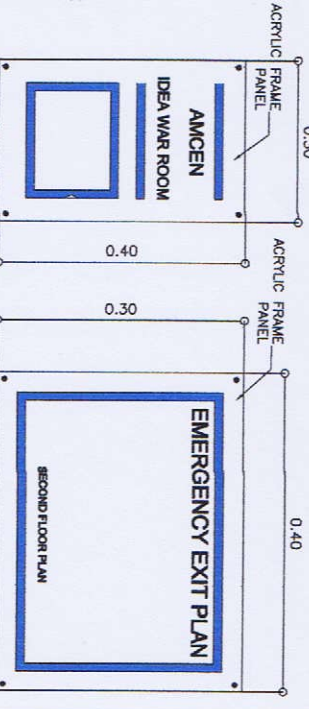
**7 DETAIL - "/>**



**5 DETAIL - "/>**

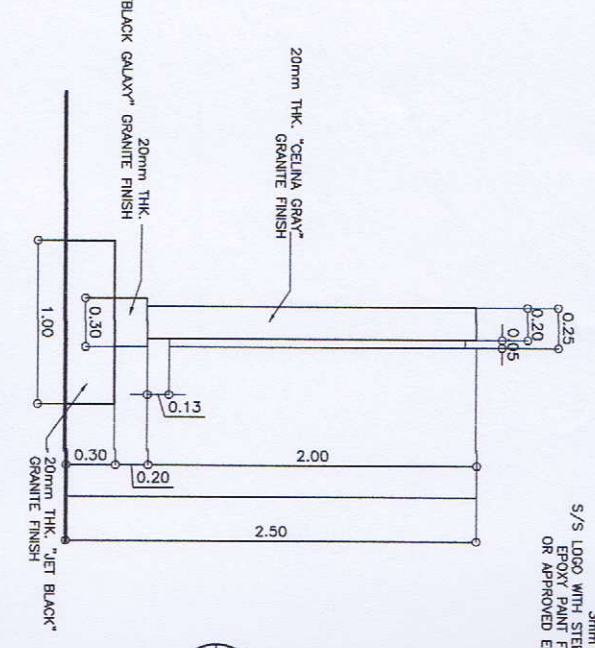


**10 ROOM SIGNAGE**  
SCALE: N.T.S.



**11 TYPICAL TO ALL ROOMS ROOM & EMERGENCY EXIT PLAN**  
SCALE: N.T.S.

**4 LEFT SIDE ELEVATION**  
SCALE: 1:25 M.



**GIBMA Engineering Services**  
Design - Construction - Project Management - Surveys  
83 Cakrawala Street Kemangpangan Village Phase 2A, Duta Park, Pondok City 16114  
Tel. No.: 022 7114 Fax. No.: 022 8407  
UIC: Gibma.com.id E-mail: Gibma@Gibma.com

ARCHITECT OF RECORD:		PROJECT TITLE:		OWNER:	
REG. NO.:	LEBEL, SANTOS, UY	PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER	RECOMMENDED BY:	REVEREND & CHECKED BY:	GENERAL MANAGER
APCA No.:	5070 28841 902618	MANUFACTURING CENTER (MIRRO)	APPROVED BY:	APPROVED BY:	ROBERTO LOZON
TEL:	263-18-18	LOCATION:	ADDRESS:	DATE:	DATE:
		GEN. SANTOS AVE., BUCITAN, TABUKA CITY, METRO MANILA	GEN. SANTOS AVE., BUCITAN, TABUKA CITY, METRO MANILA		
SHEET CONTENTS:			DRAWING NO.:		
PLANS, ELEVATIONS & DETAILS OF (GROUND SIGNAGE) ROOM SIGNAGE ROOM NUMBER ROOM & EMERGENCY EXIT PLAN			<b>A - 18</b>		
			<b>18 / 75</b>		



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey

03 Indusiana Street Karanganyar, Village Pajuaran 2A, Dukuh Paksi, Karanganyar City 50111  
 Tel. No: 0271 7114 Fax. No: 0271 5416  
 Email: gsm@gibma.com

ARCHITECT OF RECORD:  
 REG. NO.: 060232  
 PIR NO.: 005944  
 ISSUED ON: 01-04-2019  
 ISSUED AT: PADANG CITY

PROJECT TITLE:  
**PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

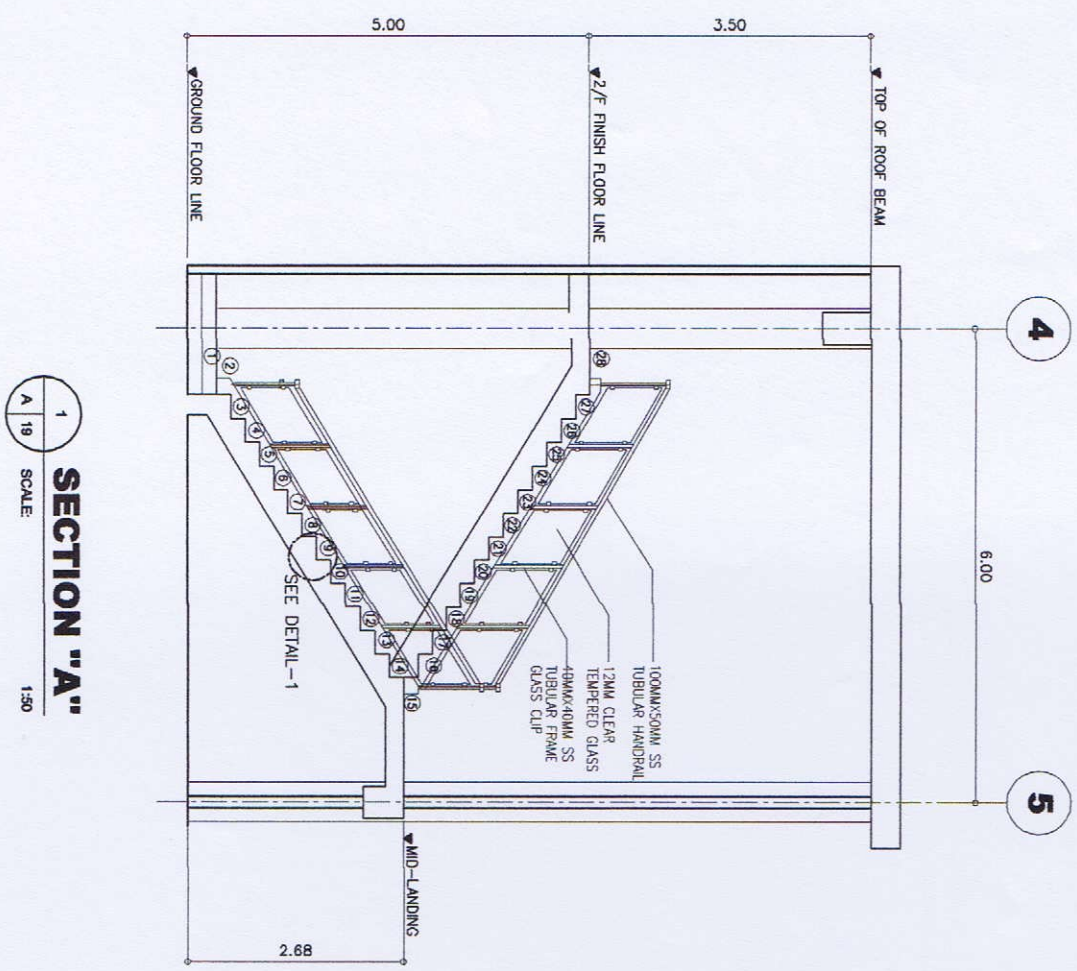
REVIEWED & CHECKED BY:  
 RECOMMENDED BY:  
 APPROVED BY:

DESIGNED BY:  
 CAD BY:  
 DATE:  
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 DATE:

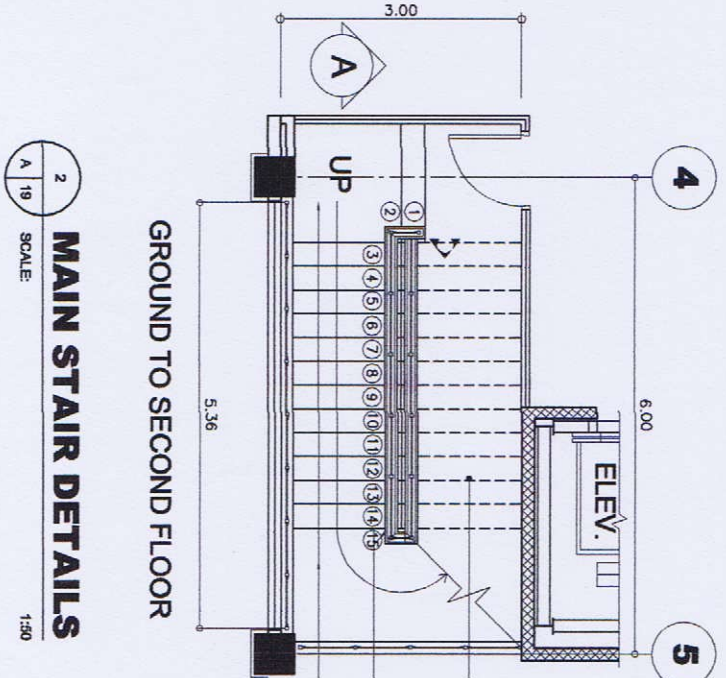
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**AS SHOWN**

DRAWING NO.:  
**A - 19**

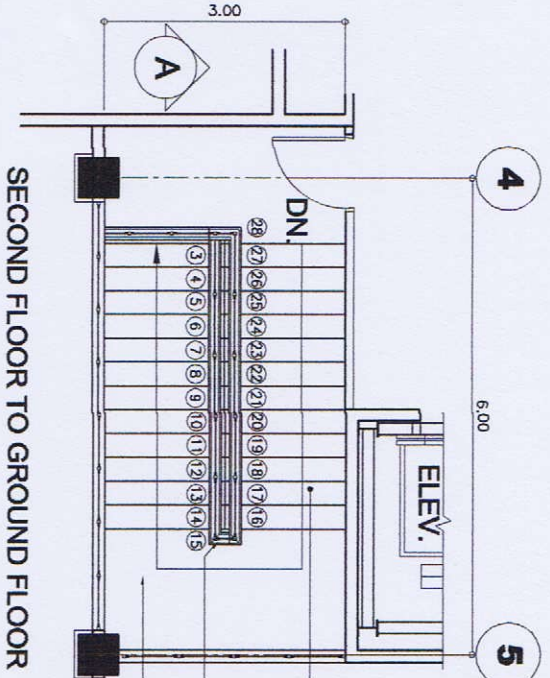
SHEET NO.:  
**19 / 75**



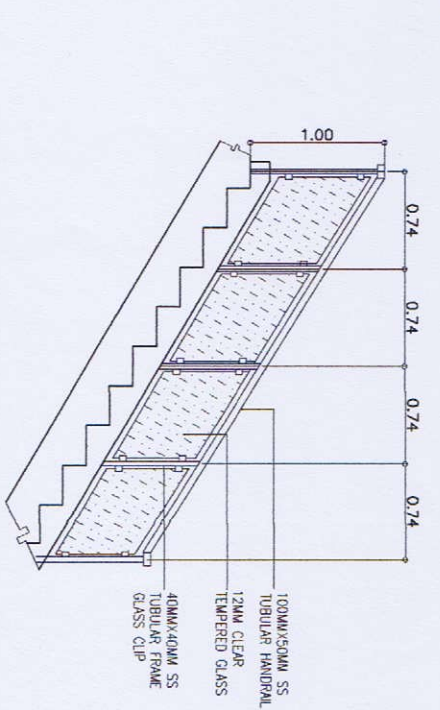
**SECTION "A"**  
 SCALE: 1:30



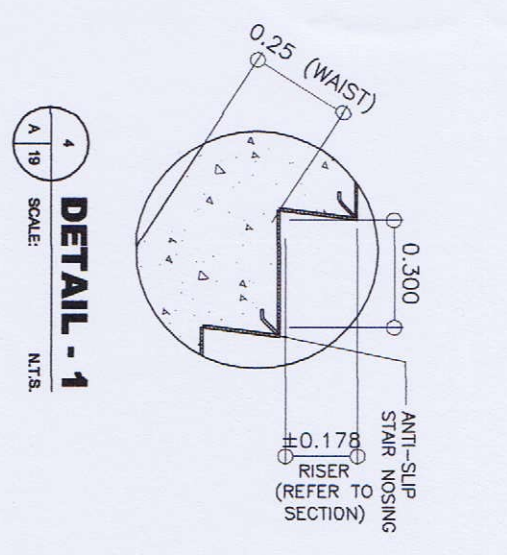
**MAIN STAIR DETAILS**  
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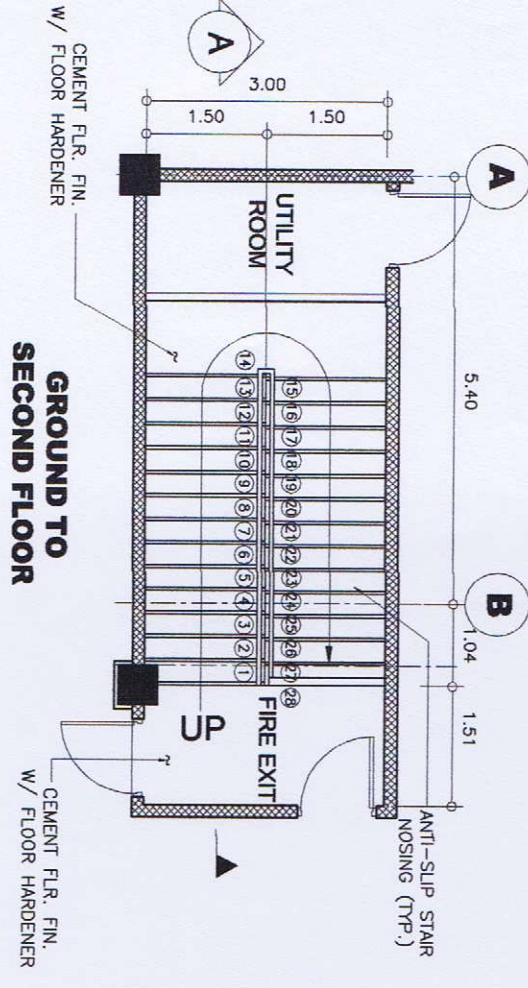
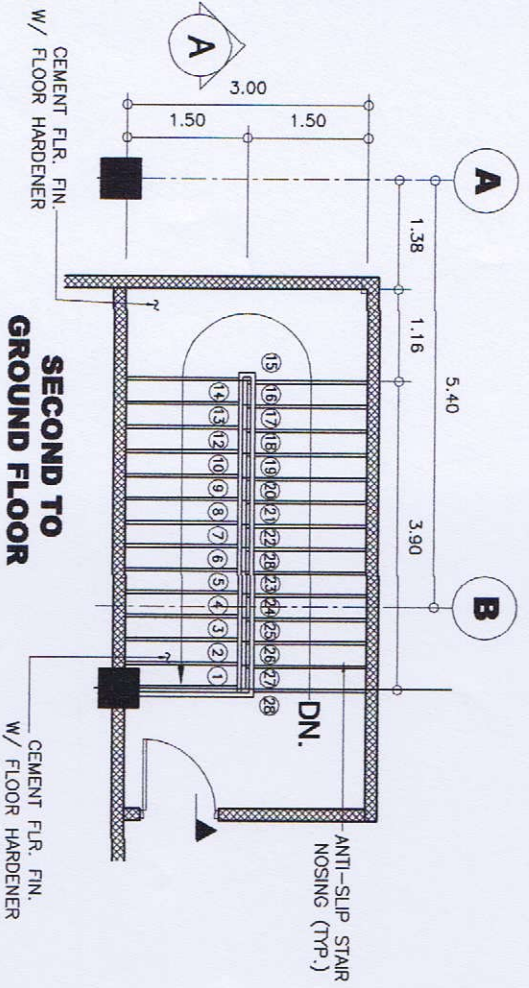
**SECOND FLOOR TO GROUND FLOOR**



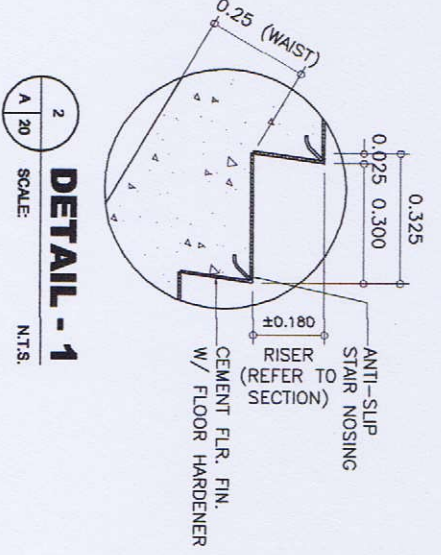
**DETAILS OF MAIN STAIRS RAILINGS**  
 SCALE: 1:30



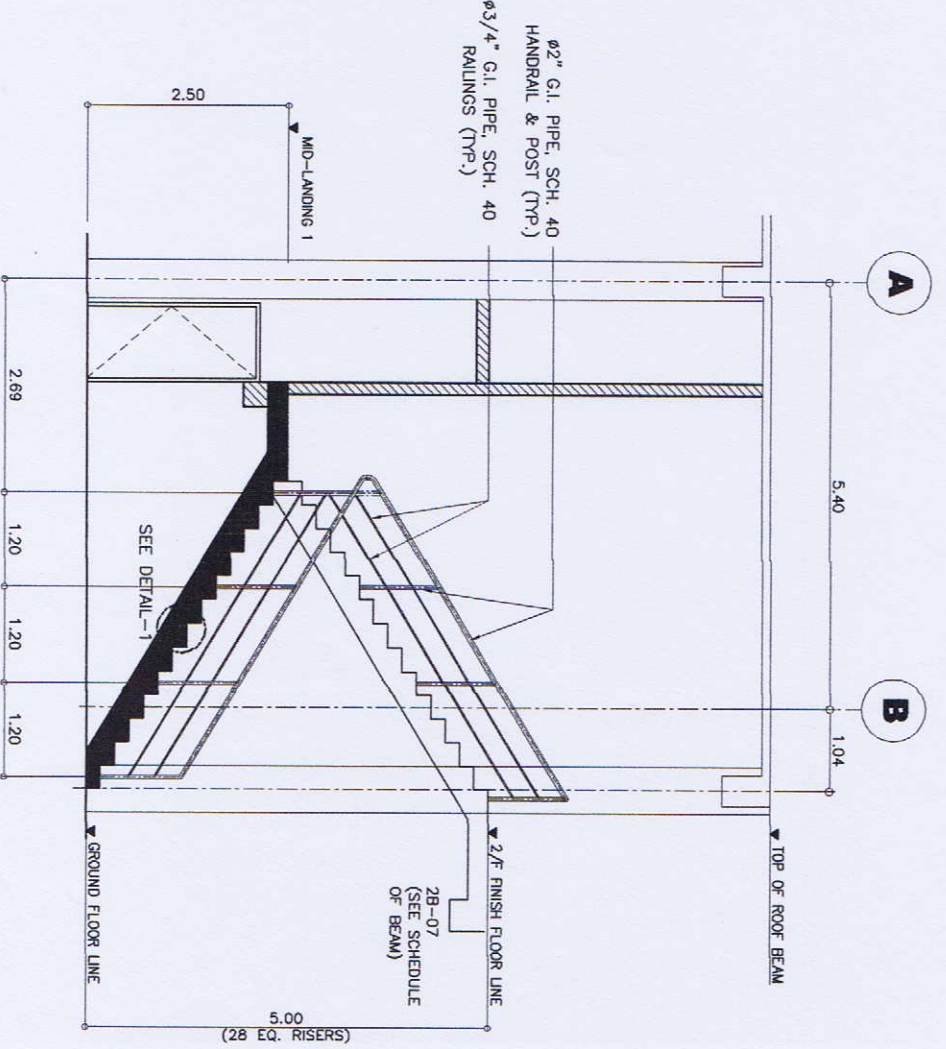
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**1**  
SCALE: 1:30M



**2**  
SCALE: N.T.S.



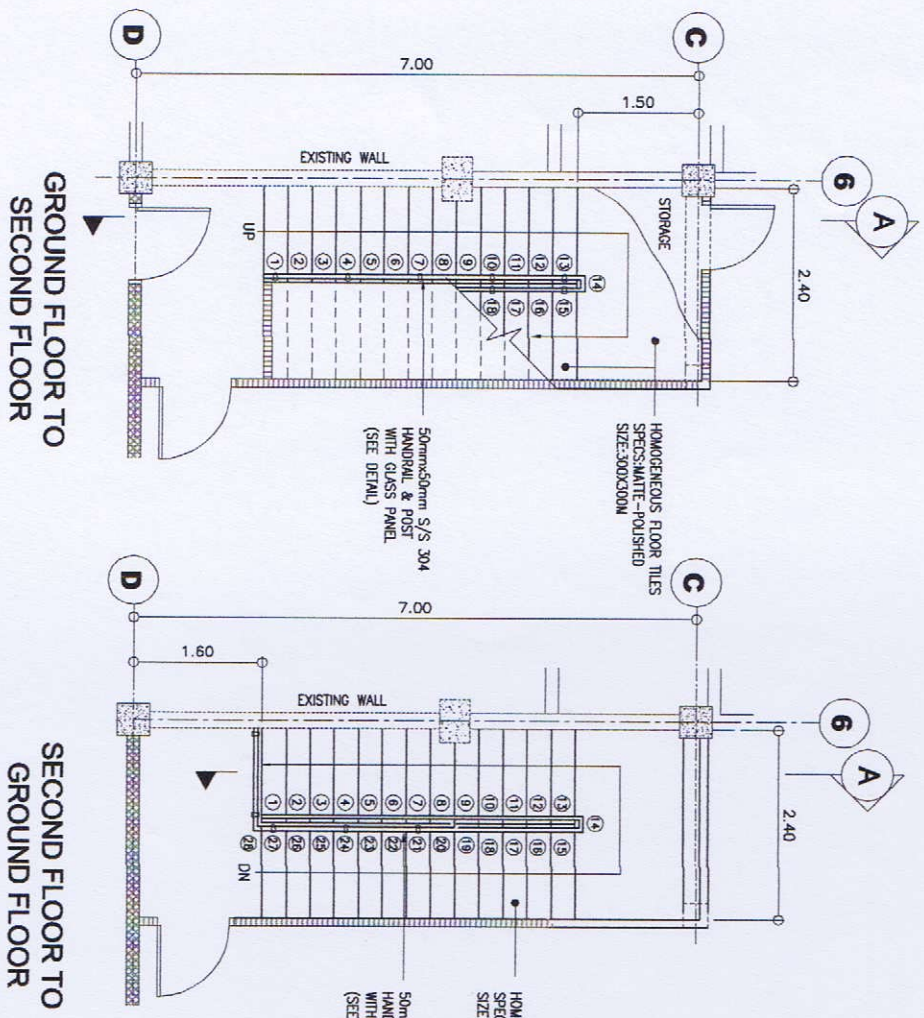
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SCALE: 1:30



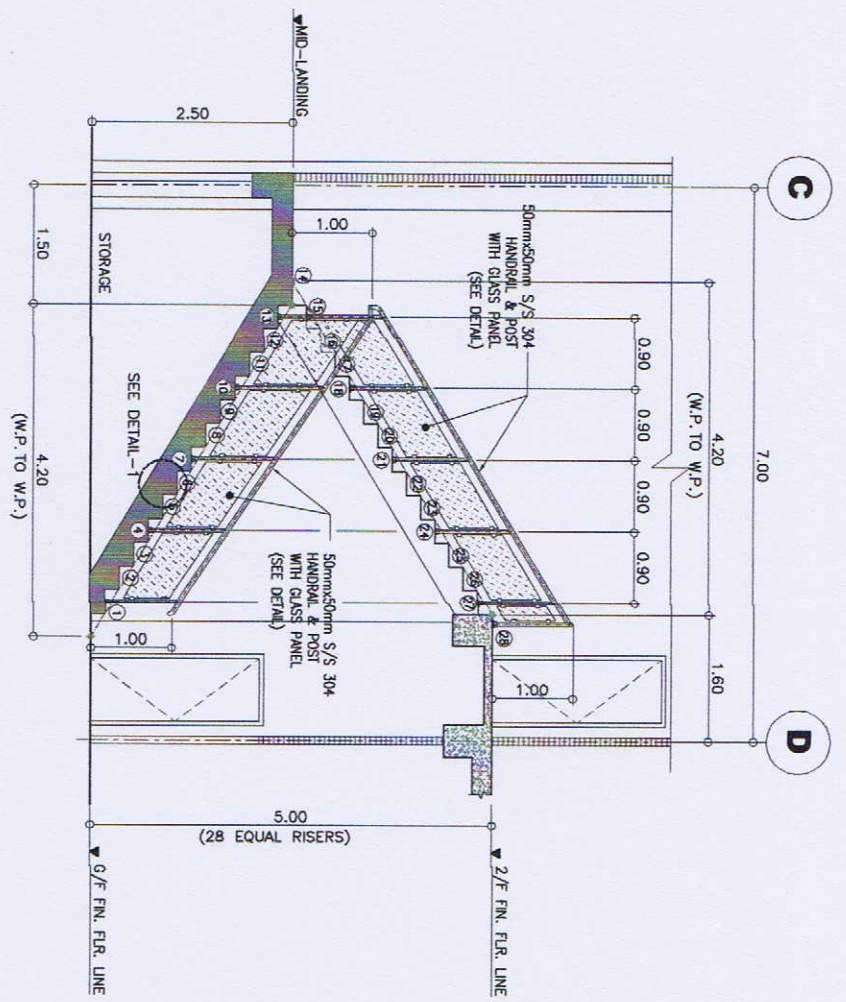
**GIBMA Engineering Services**  
 Design - Construction - Project Management - Surveys  
 93 Kaldian Street Kenangan Village Phase 2A, Dala Park, Puchong, Selangor, Malaysia  
 Tel: No. 03-8877114 Fax: No. 03-8877115  
 E-mail: gsm@gibma.com.my

PROJECT OF RECORD:	PROJECT TITLE:	OWNER:	REVIEWED & CHECKED BY:	DESIGNED BY:	SHEET CONTENTS:	DRAWING NO.:
LEADER: F. SANTOS, IUY	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MINDC)	APPROVED BY:	L.F.S.	AS SHOWN	A - 20
REQ. NO.: 000002	LOCATION:	ADDRESS:	RECOMMENDED BY:	DATE:		
ISSUED ON: 01-04-2018	GEN. SANTOS AVE., BICTINA, TAGUIG CITY, METRO MANILA	GEN. SANTOS AVE., BICTINA, TAGUIG CITY, METRO MANILA	APPROVED BY:	DATE:		
ISSUED AT: PASAD CITY						
TIN: 28545-106						

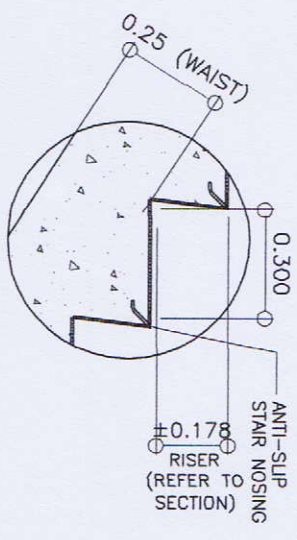
**20 / 75**



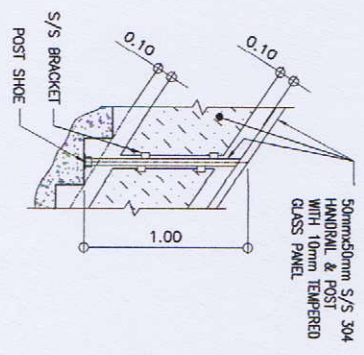
**1 PLAN OF STAIR AT COLLABORATORY AREA**  
SCALE: 1:50



**2 SECTION "A"**  
SCALE: 1:50



**3 DETAIL - 1**  
SCALE: N.T.S.



**4 STAIRS RAILING DETAILS**  
SCALE: 1:25

**NOTES:**  
1. ALL DIMENSIONS SHOWN HEREIN ARE IN METERS UNLESS OTHERWISE NOTED.  
2. ALL DIMENSIONS, TO BE CHECKED ON SITE PRIOR TO MANUFACTURE.

**GIBMA Engineering Services**  
Design - Construction - Project Management - Survey  
03 Kaldians Street Karanganyan Village Phase 2A, Dala Puar, Pangkajene 91114  
Toll No: 082 7114 Fax No: 082 8487 Call Center No: 0200 029444  
URL: www.gibma.com E-mail: gibma@com.gibma.com

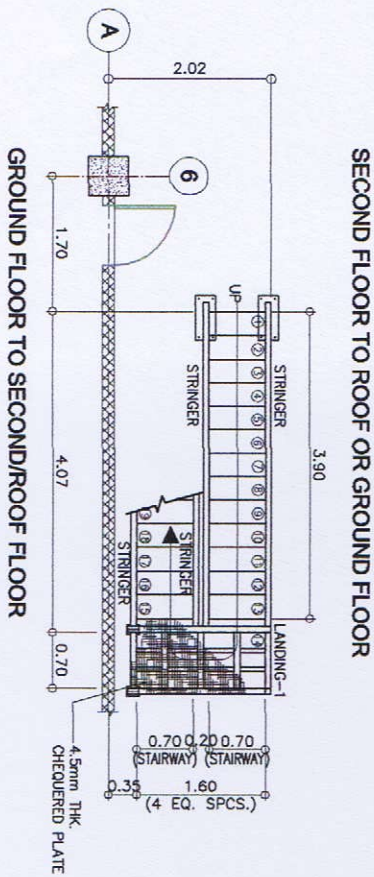
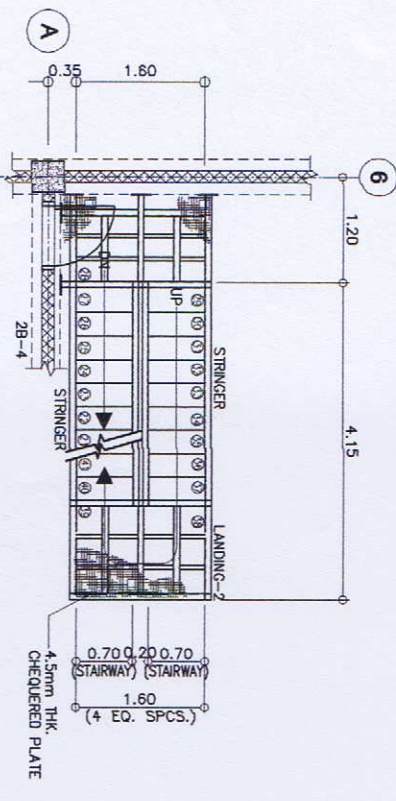
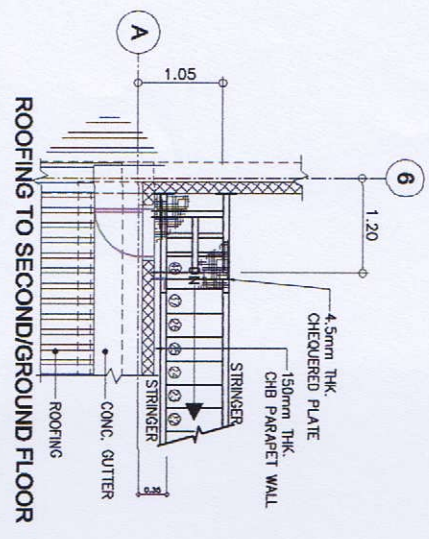
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**OWNER:** METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)  
**CLIENT:** GEN. SANTOS AVE., INDUSTRIAL TOWN, TAYBAG CITY, METRO MANILA

**DESIGNED BY:** L.F.A.  
**CHECKED BY:** QJM  
**DATE:**

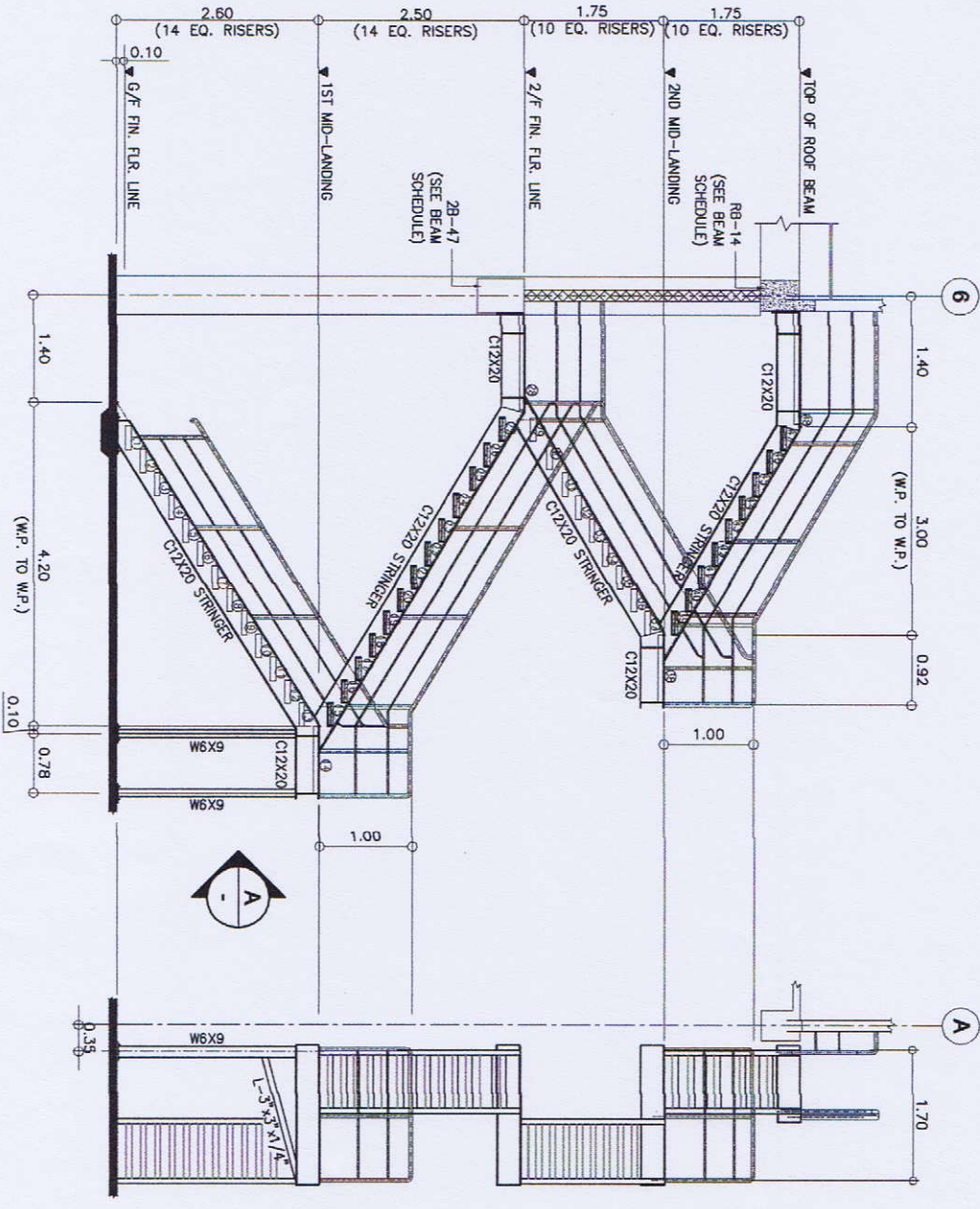
**RECOMMENDED BY:** FERRER, L.A.  
**APPROVED BY:** ROBERT O. TORRES

**REVIEWED & CHECKED BY:** ROBERT O. TORRES  
**DATE:**

**DRAWING NO.:** A-21  
**SHEET NO.:** 21 / 75



1 PLAN OF STEEL STAIR  
SCALE: 1:50



2 ELEVATION OF STEEL STAIR  
SCALE: 1:50M

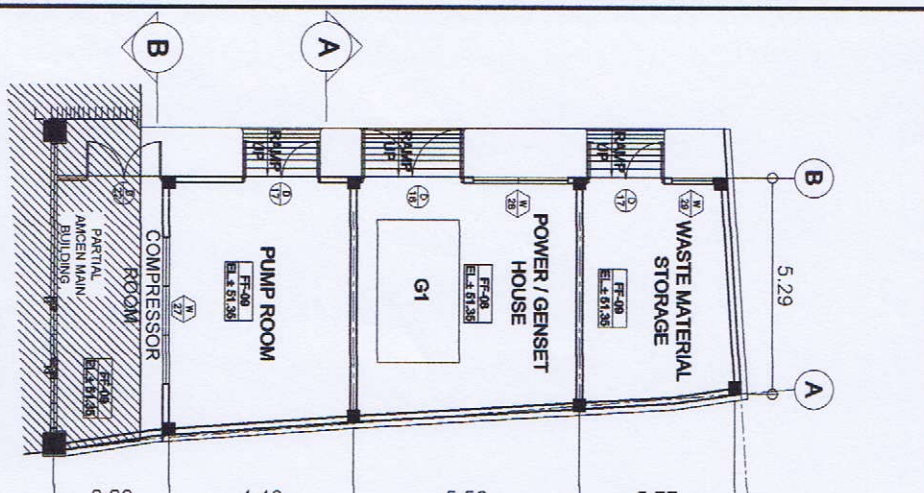
3 ELEVATION 'A'  
SCALE: 1:50M



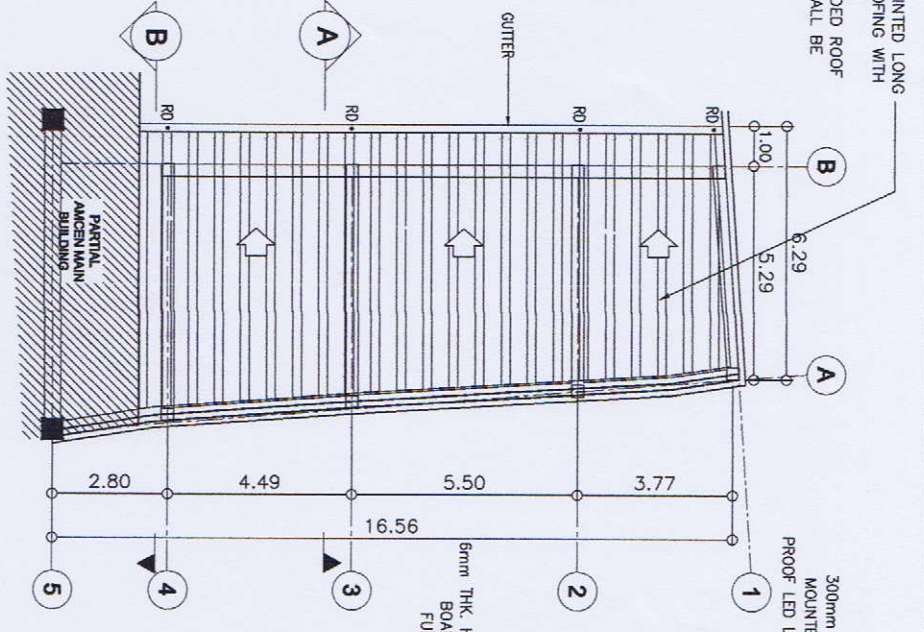
**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 93 Kullasean Street Karangduren Village Phase 2A, Desa Pak, Pangs. Cik/1811  
 Telp. No. 082 7114 Fax. No. 082 8487 Ceprenan No. 0820 629441  
 URL: www.gibma.com E-mail: gibma2003@yahoo.com

REPORT OF RECORD:	PROJECT TITLE:	OWNER:	REVIEWED & CHECKED BY:	DESIGNED BY:	SHEET CONTENTS:	DRAWING NO.:
LEASER: F. SANTOS, U.P.	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	J. H. ALYAN, G. G. G. G.	L.F.B.	AS SHOWN	A - 22
REG. NO.: 082823	ISSUED ON: 07-04-2018	ADDRESS:	RECOMMENDED BY:	DATE:	CHECKED BY:	SHEET NO.:
ISSUED AT: PADANG CITY	DESI, BANTOS AVE., BOUTAN, TAGUIG CITY, METROMARKA	GEN. BANTOS AVE., BOUTAN, TAGUIG CITY, METROMARKA	ENG. P. L. L. L.	DATE:	APPROVED BY:	22 / 75
ISSUED AT: PADANG CITY	DESI, BANTOS AVE., BOUTAN, TAGUIG CITY, METROMARKA	GEN. BANTOS AVE., BOUTAN, TAGUIG CITY, METROMARKA	REVISIONS:	DATE:	DATE:	

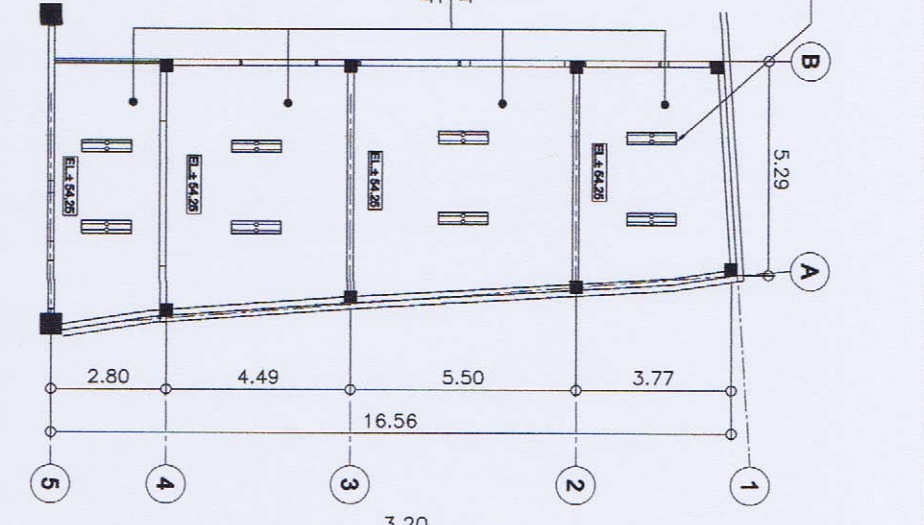
GA # 24 PRE-PAINTED LONG SPAN METAL ROOFING WITH ROOF INSULATION  
 NOTE : ALL BENDED ROOF ACCESSORIES SHALL BE GA #24 THICK.



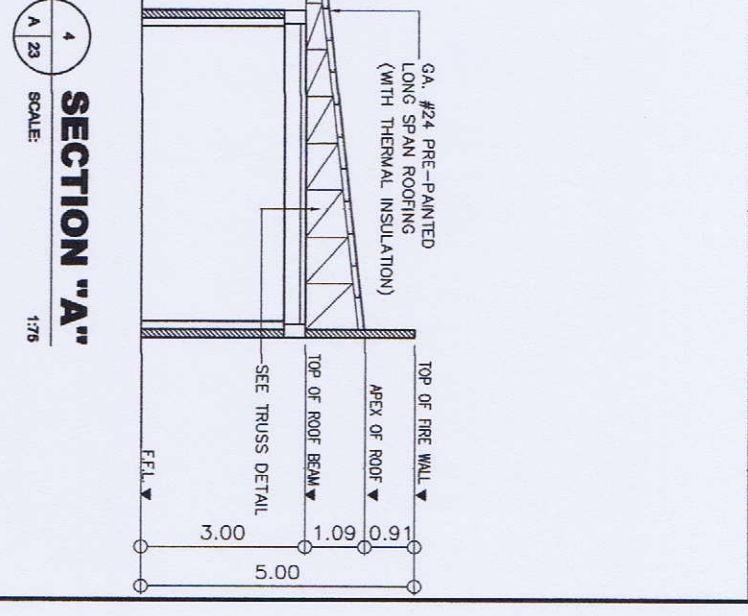
**1 FLOOR PLAN**  
 SCALE: 1:100



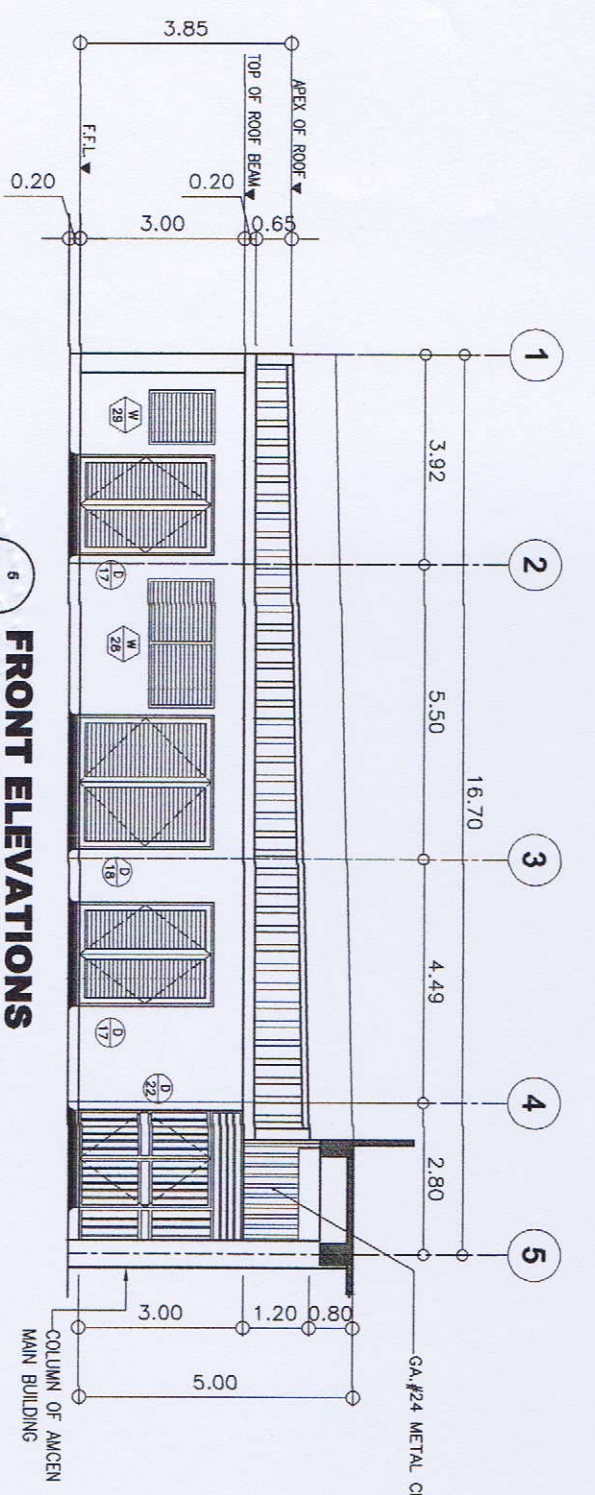
**2 ROOF PLAN**  
 SCALE: 1:100



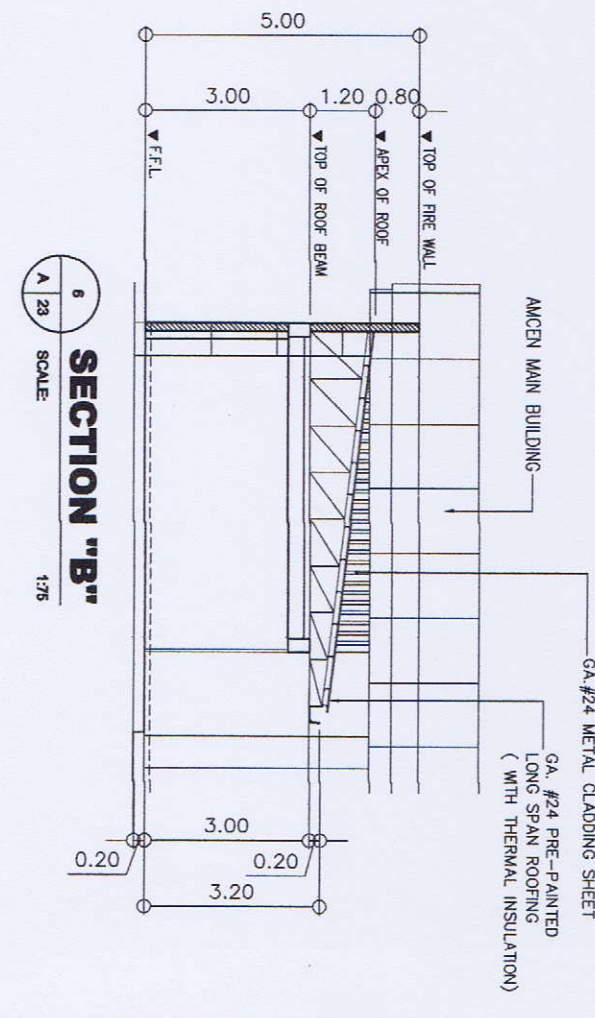
**3 REFLECTED CEILING PLAN**  
 SCALE: 1:100



**4 SECTION 'A'**  
 SCALE: 1:75



**6 FRONT ELEVATIONS**  
 SCALE: 1:75



**6 SECTION 'B'**  
 SCALE: 1:75



**GIBMA Engineering Services**  
 Design · Construction · Project Management · Survey  
 91 Kalkasan Street Karanganyar Village Phase 2A, Duta Puri, Karanganyar 60111  
 Tel. No. : 082 7114 Fax. No. 082 8907 E-mail: gpmh303@yahooinc.com  
 URL: www.gibma.com

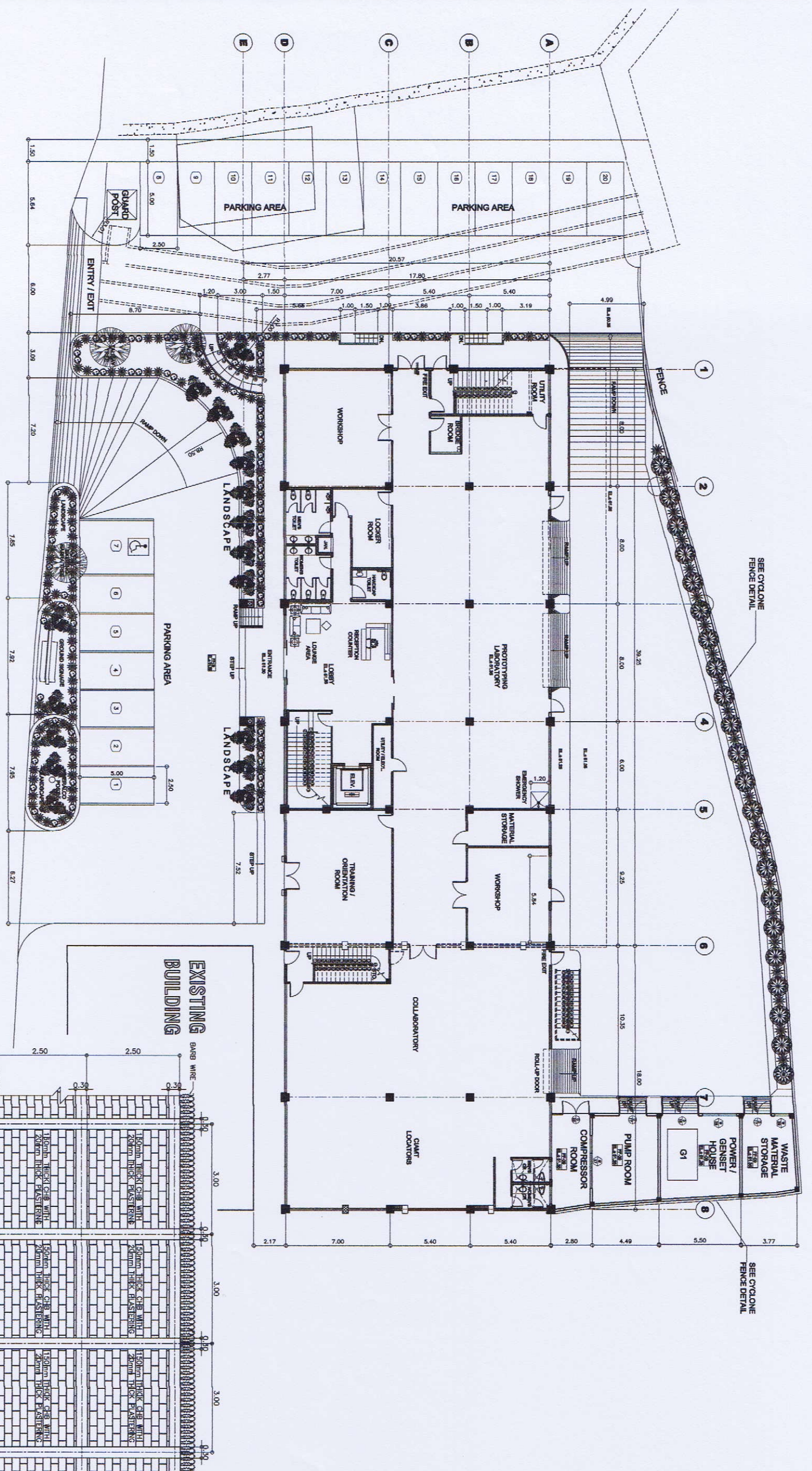
ARCHITECT OF RECORD:	PROJECT TITLE:	OWNER:	REVIEWED & CHECKED BY:	DESIGNED BY:	SHEET CONTENTS:	DRAWING NO.
LEWIS SANTOS, MAP	PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	RECOMMENDED BY:	L.F.S	FLOOR PLAN ROOF PLAN FRONT ELEVATION REFLECTED CEILING PLAN SECTION 'A' SECTION 'B'	<b>A - 23</b>
ISSUED ON: 01-04-2019	LOCATION:	ADDRESS:	APPROVED BY:	G.R.M		<b>23 / 75</b>
ISSUED AT: PASIG CITY	GEN. SANTOS AVE., BUCITRAL, TAGBORA CITY, MIMRO WAWA	GEN. SANTOS AVE., BUCITRAL, TAGBORA CITY, MIMRO WAWA				





**GIBMA Engineering Services**

Design - Construction - Project Management - Surveys  
83 Kallian Street Karangtengah Village Phase 2A, Daki, Pasir Pangkajene, 18111  
Tel. No.: 682 7714 Fax No. 682 5467 Cirebon No. 0820 822844  
URL: www.gibma.com E-mail: gribma2003@yahoo.com



**1 SITE DEVELOPMENT PLAN**  
SCALE: 1:150

**2 MASONRY WALL DETAIL**  
SCALE: N.T.S.

ARCHITECT OF RECORD:

PROJECT TITLE:

OWNER:

REVIEWED & CHECKED BY:

DESIGNED BY:

SHEET CONTENTS:

DRAWING NO:

REG. NO.: 068232

PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER

METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)

RECOMMENDED BY:

DATE:

AS SHOWN

A - 24

LEAD: SANTOS JAP

ISSUED ON: 01-04-2019

ADDRESS:

APPROVED BY:

CHECKED BY:

DATE:

24 / 75

ISSUED AT: PASIR CITY

GEN. SANTOS AVE., BONGJAL, TANGKUP CITY, METRO MANILA

GEN. SANTOS AVE., BONGJAL, TANGKUP CITY, METRO MANILA

ROBERTO O. BOKO, MARCH ARCHITECTURE

DATE:

DATE:

DATE:

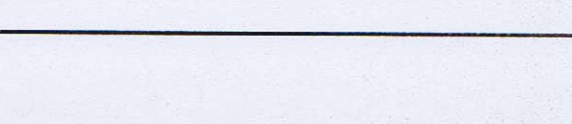
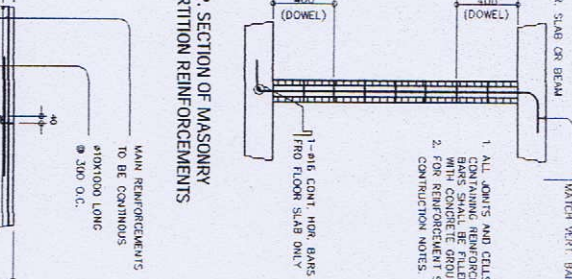
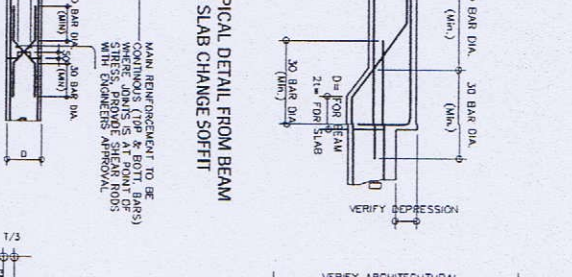
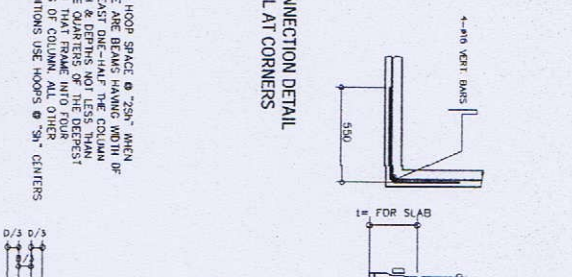
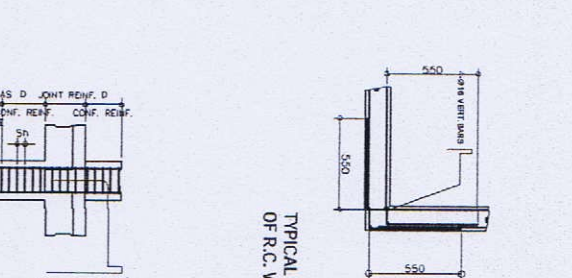
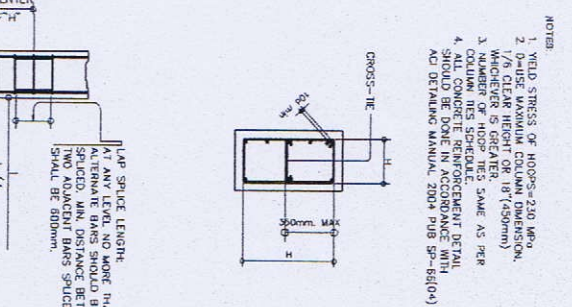
**GENERAL NOTES**

1. GENERAL
11. SETTING OUT  
ALL NECESSARY BOUNDARY LINES, BUILDING LINES AND CORNER PEGS SHALL BE SURVEYED AND APPROVED BY A REGISTERED GEOMETRIC ENGINEER.  
ALL DIMENSIONS MEASURED ON SITE SHALL BE CHECKED AND COMPARED WITH RELEVANT ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS. ALL DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OF THE RELEVANT WORKS.
12. LEVELS  
ALL NECESSARY REDUCED LEVELS OF THE EXISTING SITE AND WITH REFERENCE TO APPROVED BENCH MARKS. ALL LEVELS SHOWN ARE IN METRIC MEASUREMENT.  
ANY DISCREPANCIES IN THE MEASURED LEVELS AND THE LEVELS STATED IN THE RELEVANT ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT ENGINEER.
13. DRAWINGS  
ALL STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ANY OTHER DRAWINGS PERTAINING TO THE PROJECT PRIOR TO THE ATTENTION OF THE ARCHITECT ENGINEER.  
ANY DISCREPANCIES BETWEEN DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT ENGINEER.  
THE LATEST REVISIONS IN THE DRAWINGS SHALL BE INCORPORATED IN THE CONSTRUCTION WORK.
14. INCORPORATION OF ME REQUIREMENTS IN STRUCTURE  
THE CONTRACTOR SHALL INCORPORATE ALL MECHANICAL, SANITARY AND ELECTRICAL WORKS TO BE EMBEDDED IN THE CONCRETE OR OTHER MATERIALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PROVISION OF ADEQUATE BRACKETS, CHANGERS AND DRUMS TO SUPPORT ME EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF ADEQUATE BRACKETS, CHANGERS AND DRUMS TO SUPPORT ME EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF ADEQUATE BRACKETS, CHANGERS AND DRUMS TO SUPPORT ME EQUIPMENT.

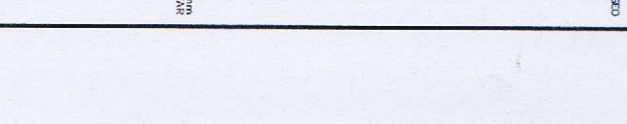
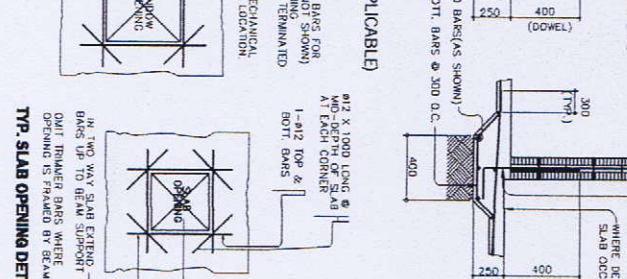
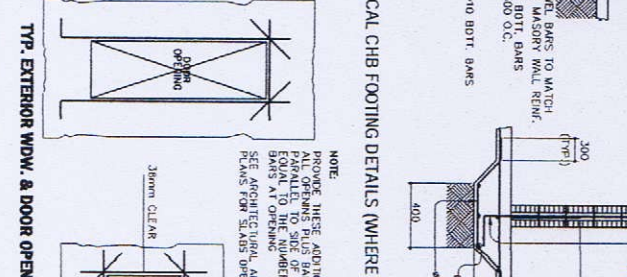
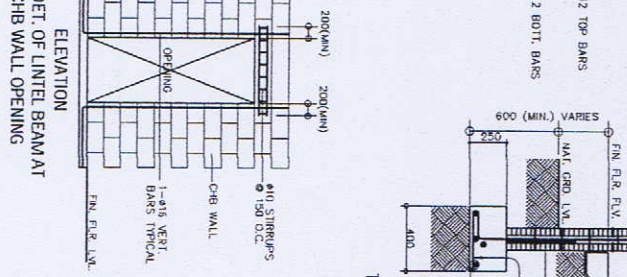
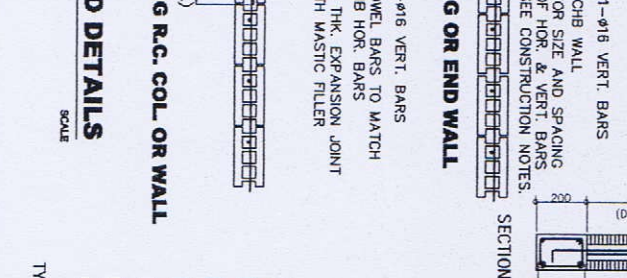
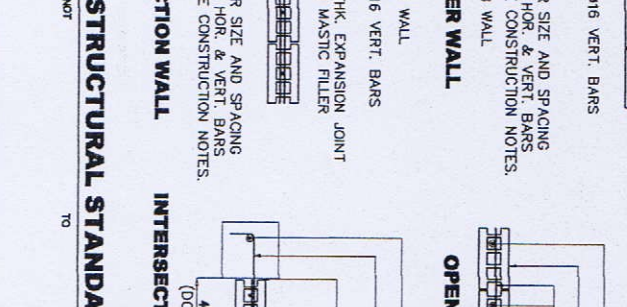
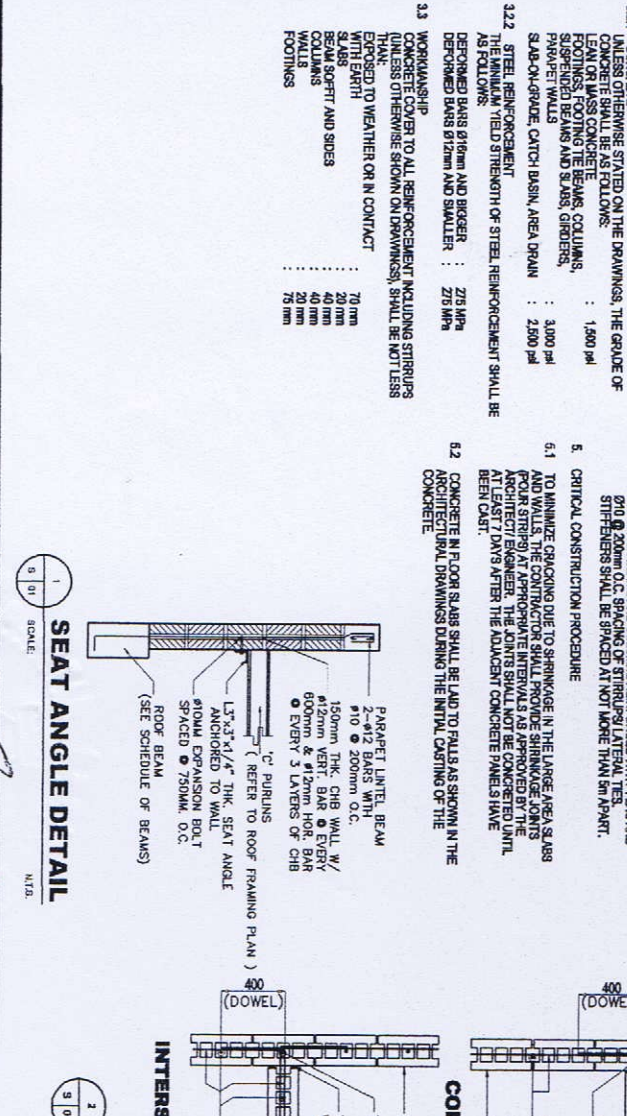
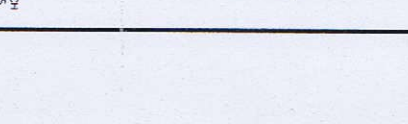
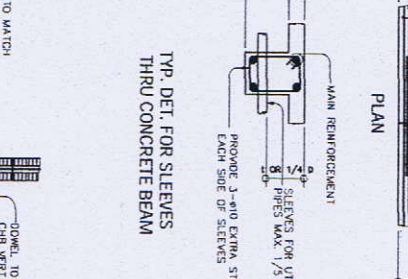
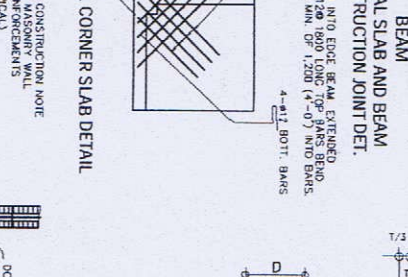
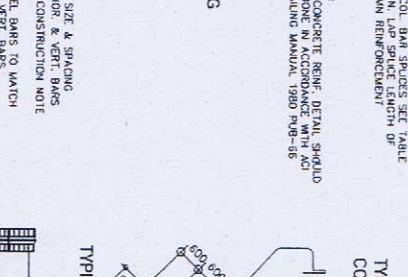
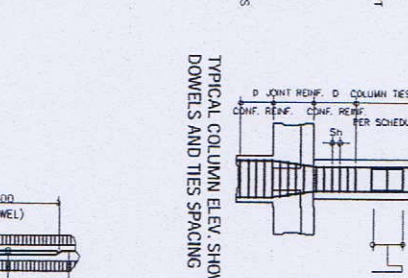
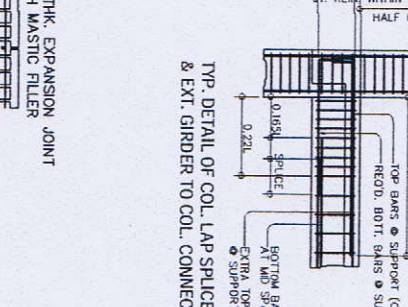
3.4 LAPS AND SPICES (UNLESS OTHERWISE SPECIFIED)

BAR SIZE (mm)	MINIMUM LAP (mm)	MINIMUM SPICE (mm)	MINIMUM LAP (mm)	MINIMUM SPICE (mm)
10	100	100	100	100
12	120	120	120	120
16	160	160	160	160
20	200	200	200	200
25	250	250	250	250

NOTES:  
1. FOR COILING AT ANY LEVEL, NO MORE THAN 10% OF THE BARS SHOULD BE SPACED, NOT MORE THAN 15% OF THE BARS SHOULD BE SPACED WITHIN THE REQUIRED DEVELOPMENT LENGTH BETWEEN TWO ADJACENT SPICES SHALL BE 100mm.  
2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 300mm DEPTH OF CONCRETE CAST BELOW REINFORCEMENT.  
3. ANY BARS WHICH ARE CLASSIFIED AS TENSION BARS SHALL BE SPACED AT LEAST 100mm.  
4. TOP BARS SHALL BE SPACED AT LEAST 100mm.



2. SUBSTRUCTURE WORKS
21. FOUNDATIONS  
FOUNDATIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF STRUCTURAL AND ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.  
FOR ALL EXCAVATIONS INCLUDING BUT NOT LIMITED TO FOOTINGS, PITS AND TRENCHES BELOW GROUND LEVEL, COVERTS AND DRAIN DRAINS SHALL BE PROVIDED TO PROTECT THE EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PROVISION OF ADEQUATE BRACKETS, CHANGERS AND DRUMS TO SUPPORT ME EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF ADEQUATE BRACKETS, CHANGERS AND DRUMS TO SUPPORT ME EQUIPMENT.
22. LEAN CONCRETE  
UNLESS OTHERWISE STATED, A MINIMUM OF 20mm THICK LEAN CONCRETE SHALL BE PROVIDED ON ALL SOIL SURFACES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF ADEQUATE BRACKETS, CHANGERS AND DRUMS TO SUPPORT ME EQUIPMENT.
23. MATERIALS AND WORKMANSHIP  
WHERE APPLICABLE, ALL MATERIALS AND WORKMANSHIP SHALL COMPLY TO THE LATEST EDITION OF THE RELEVANT CODES:  
A. NSCP 2015  
B. NSCP 2015  
C. NSCP 2015  
D. NSCP 2015
32. MATERIALS AND WORKMANSHIP  
UNLESS OTHERWISE STATED ON THE DRAWINGS, THE GRADE OF LEAN OR MASS CONCRETE SHALL BE AS FOLLOWS:  
CONCRETE FOR BEAMS, COLUMNS, FOOTINGS, TRENCHES AND SOBS, GRABERS, PARAPET WALLS : 2500 psi  
SLAB-ON-GRADE, CATCH BASIN, AREA DRAIN : 2500 psi
- 32.2. STEEL REINFORCEMENT  
REINFORCEMENT TIED TO STEEL REINFORCEMENT SHALL BE AS FOLLOWS:  
DEFORMED BARS 8mm AND BIGGER : Z11MPS  
DEFORMED BARS 6mm AND SMALLER : Z11MPS
33. WORKMANSHIP  
CONCRETE COVER TO ALL REINFORCEMENT INCLUDING STRUCTURES EXPOSED TO WEATHER OR IN CONTACT WITH EARTH SHALL BE AS FOLLOWS:  
SLABS : 20mm  
BEAMS : 20mm  
COLUMNS : 20mm  
WALLS : 20mm  
FOOTINGS : 75mm
41. STARTER BARS FOR WALLS AND COLUMNS  
STARTER BARS FROM THE STRUCTURAL SYSTEM FOR R.C. WALLS AND COLUMNS SHALL BE PROVIDED IN NUMBER AND SIZE TO THE REINFORCEMENT IN THE WALL OR COLUMN AND THEY ARE TO BE AT LEAST 100mm FROM THE FACE OF THE WALL OR COLUMN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF ADEQUATE BRACKETS, CHANGERS AND DRUMS TO SUPPORT ME EQUIPMENT.
42. CONSTRUCTION JOINTS  
THE LOCATION OF CONSTRUCTION JOINTS AND THE CONCRETE CASTING PLAN SHALL BE SUBMITTED TO THE APPROVAL OF THE ARCHITECT ENGINEER.
43. R.C. STEPPERS FOR CONCRETE MASONRY WALLS AND STARTER BARS  
R.C. STEPPERS FOR CONCRETE MASONRY WALLS AND STARTER BARS SHALL BE PROVIDED AS PER ARCHITECTURAL DRAWINGS, UNLESS OTHERWISE STATED.  
A. FOR MASONRY WALLS 300mm HIGH, USE 10mm x 30mm STEPPERS.  
B. FOR MASONRY WALLS 300mm HIGH, USE 10mm x 30mm STEPPERS.  
C. FOR MASONRY WALLS 300mm HIGH, USE 10mm x 30mm STEPPERS.  
D. FOR MASONRY WALLS 300mm HIGH, USE 10mm x 30mm STEPPERS.
5. CRITICAL CONSTRUCTION PROCEDURE  
5.1. TO MINIMIZE SPACING DUE TO SPRINGING IN THE LARGE AREA SLAB AND WALLS, THE CONTRACTOR SHALL PROVIDE SHIMMED JOINTS (POUR STRIPS) AT APPROPRIATE INTERVALS AS APPROVED BY THE ARCHITECT ENGINEER. THE JOINTS SHALL NOT BE CONCRETE UNTIL AT LEAST 7 DAYS AFTER THE ADJACENT CONCRETE PANELS HAVE BEEN CAST.
- 5.2. CONCRETE IN FLOOR SLABS SHALL BE LAID TO FALL AS SHOWN IN THE ARCHITECTURAL DRAWINGS DURING THE INITIAL CASTING OF THE CONCRETE.



**GIBMA Engineering Services**  
 Division - Construction - Project Management - Survey  
 13 Williams Street, Katangayan Village Phase 2A, Quezon City, 1011  
 Tel. No.: 892 7114 Fax. No.: 892 8147 Email: gibma@comcast.net  
 URL: www.gibma.com

DATE: AUG 1, 2024  
 DESIGNED BY: JUAN P. DELA CRUZ  
 CHECKED BY: JUAN P. DELA CRUZ  
 APPROVED BY: JUAN P. DELA CRUZ

PROJECT TITLE: PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER  
 ADDRESS: GERRI SANTOS AVE., BUCAYAN, TAGUIG CITY, METRO MANILA

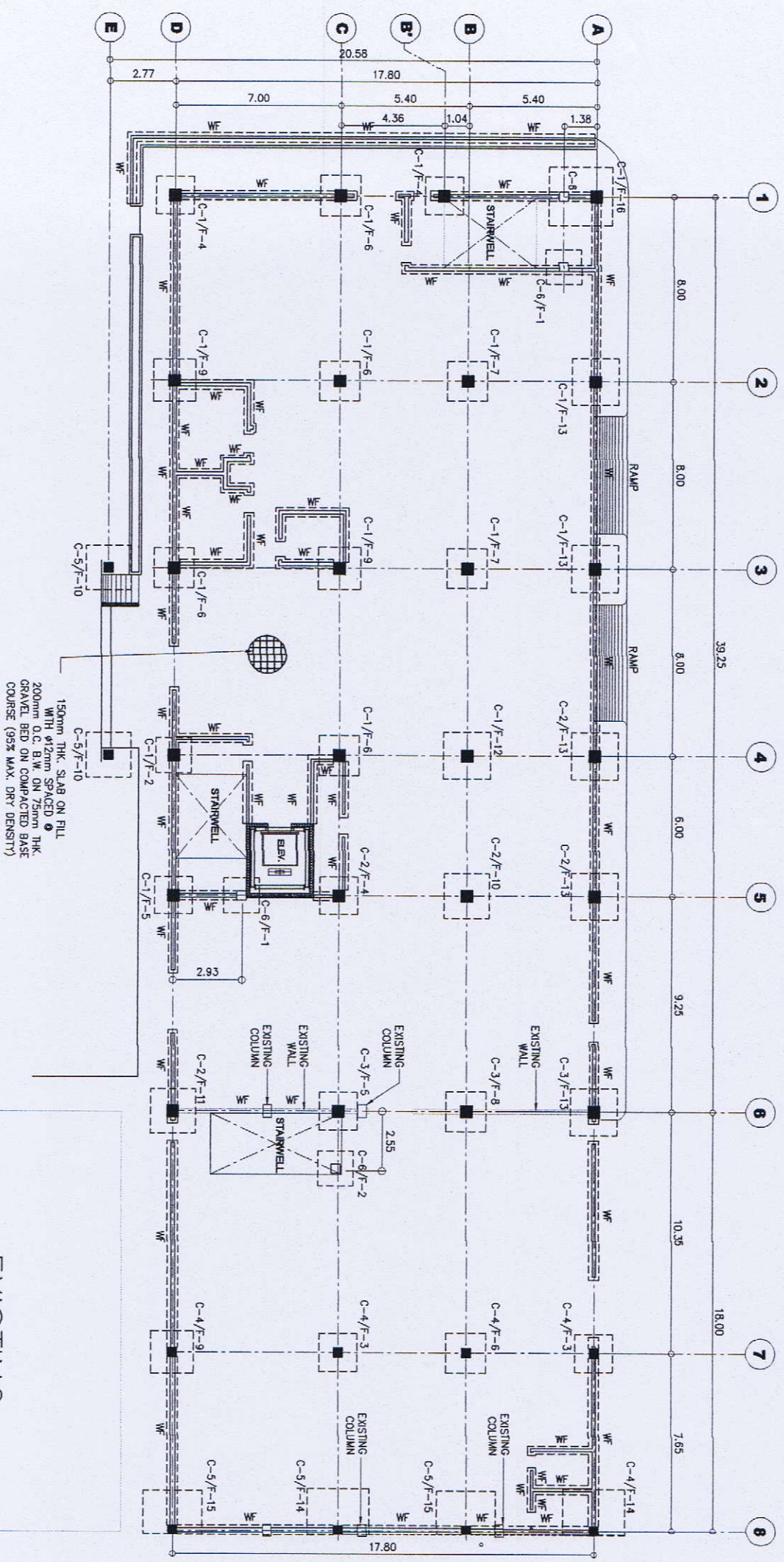
OWNER: METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)  
 ADDRESS: GERRI SANTOS AVE., BUCAYAN, TAGUIG CITY, METRO MANILA

RECOMMENDED BY: JUAN P. DELA CRUZ  
 CHECKED BY: JUAN P. DELA CRUZ  
 APPROVED BY: JUAN P. DELA CRUZ

DESIGNED BY: JUAN P. DELA CRUZ  
 DATE: AUG 1, 2024  
 CHECKED BY: JUAN P. DELA CRUZ  
 APPROVED BY: JUAN P. DELA CRUZ

SHEET NO.: S-1  
 SHEETS: 25 / 75

- NOTES:**
1. ALL DIMENSIONS SHOWN HEREIN ARE IN METERS UNLESS OTHERWISE NOTED.
  2. ALL DIMENSIONS, COORDINATES AND ACTUAL SITE CONDITIONS SHALL BE CHECKED AND VERIFIED AT SITE PRIOR TO COMMENCEMENT OF WORK.
  3. FOR GENERAL NOTE, REFER TO DRAWING NO. S-1.
  4. FOR COLUMN, BEAM & SLAB SCHEDULE, REFER TO DRAWING NO. S-6.



**FOUNDATION PLAN**  
SCALE: 1:125M

EXISTING BUILDING

CHIEF ARCHITECTURAL ENGINEER

**GIBMA Engineering Services**

Design - Construction - Project Management - Survey  
 03 Kaldesi Street Karangahape Road, Auckland City, 1011  
 New Zealand  
 Tel: +64 9 300 0000  
 Email: gibma@comcast.co.nz

PROJECT TITLE:

PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER

OWNER:

METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)

REVIEWED & CHECKED BY:

DESIGNED BY:

DATE:

CHECKED BY:

SCALE:

DATE:

APPROVED BY:

DATE:

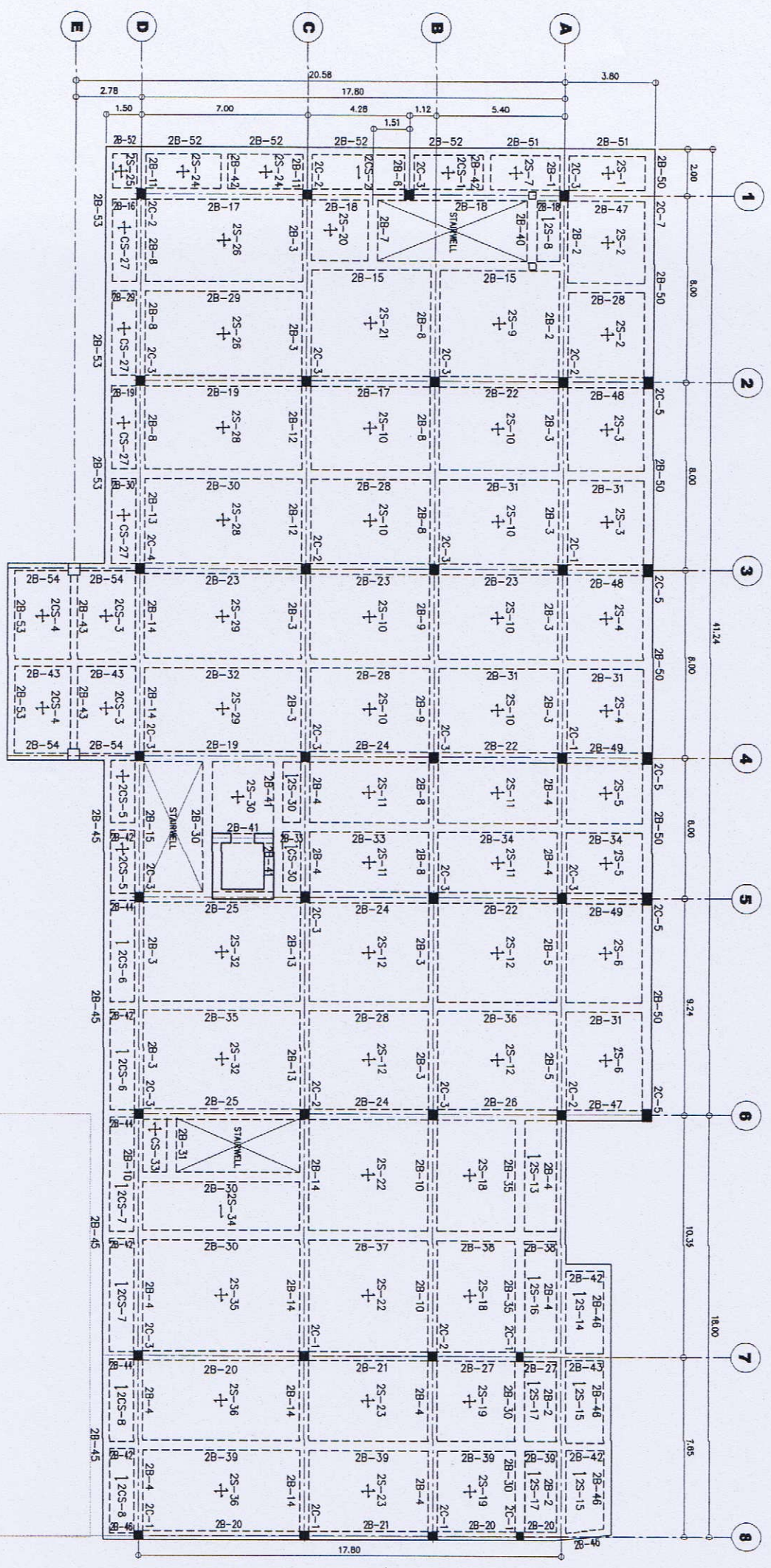
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**S - 2**

SHEET NO.:

**26 / 75**

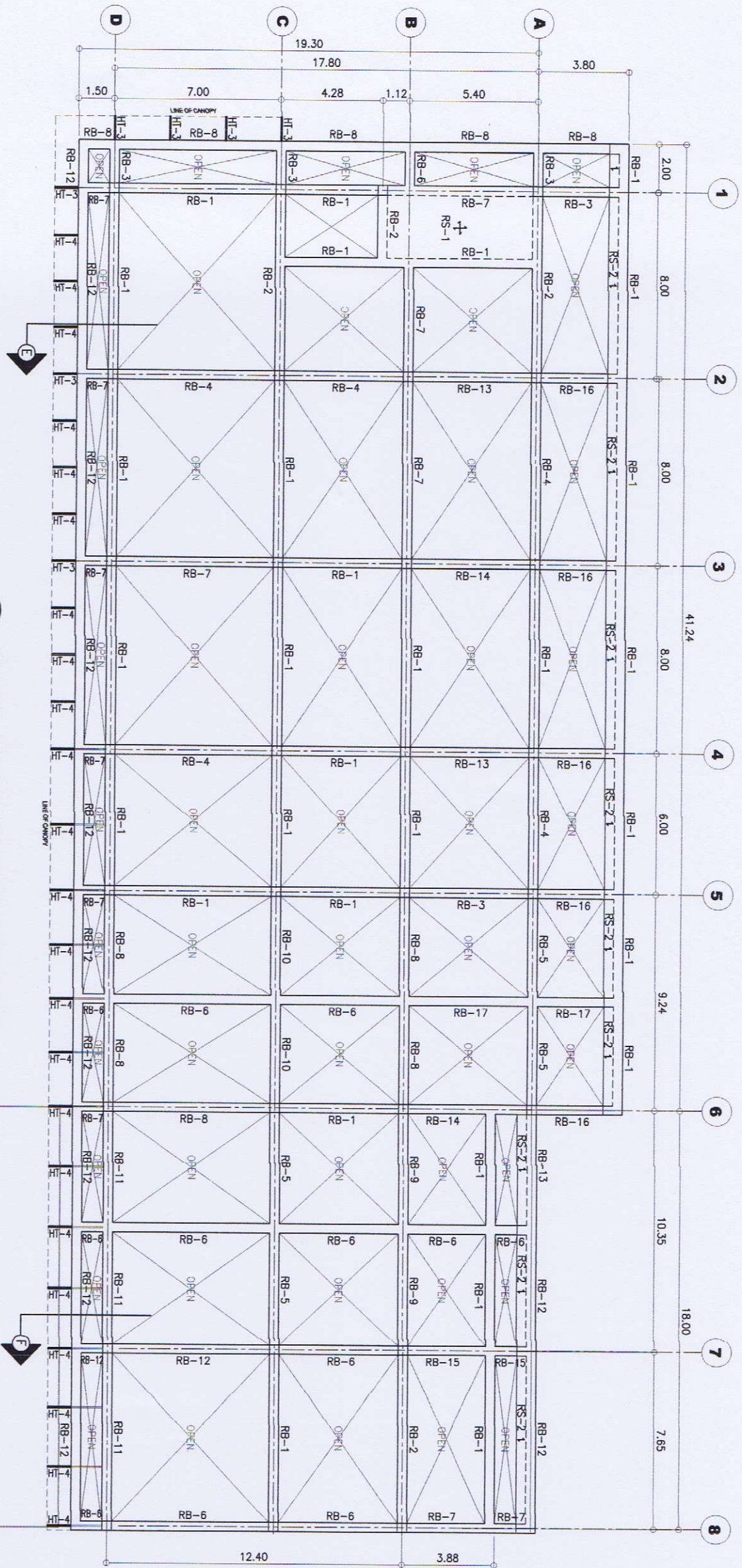
- NOTES:**
1. ALL DIMENSIONS SHOWN HEREIN ARE IN METERS UNLESS OTHERWISE NOTED.
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  3. FOR GENERAL NOTE, REFER TO DRAWING NO. S-1.
  4. FOR COLUMN, BEAM & SLAB SCHEDULE, REFER TO DRAWING NO. S-6.



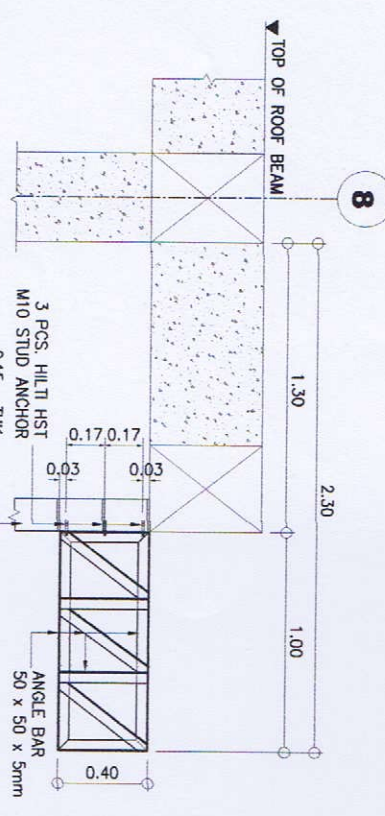
**SECOND FLOOR FRAMING PLAN**  
SCALE: 1:125M

**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 93 Kallian Street Karangtengah Village Phase 2A, Dole Park, Pangkajene, 1811  
 Telp. No. 0824 7114 Fax. No. 0824 8471 Celeron No. 0824 822841  
 URL: www.gibma.com E-mail: gibma@ibn.com

CHAL./STRUCTURAL ENGINEER  ALBERT R. MARDIANI, F.A.S.P. 503343 DATE: AUG. 1, 1989 TIME: 10:00 AM ISSUED AT: PANGKAJENE GEN. SANTOS AVE., BEJUAN, TANGKUP, METROJAMBA	PROJECT TITLE: <b>PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER</b>	OWNER: <b>METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)</b> GEN. SANTOS AVE., BEJUAN, TANGKUP, METROJAMBA	RECOMMENDED & CHECKED BY:  RECOMMENDED BY:  APPROVED BY: 	DESIGNED BY: <b>RAM</b> DATE: <b>2008</b> CHECKED BY: <b>RAM</b> DATE: <b>2008</b>	SHEET CONTENTS: <b>SECOND FLOOR FRAMING PLAN</b>	DRAWING NO.: <b>S - 3</b> SHEET NO.: <b>27 / 75</b>
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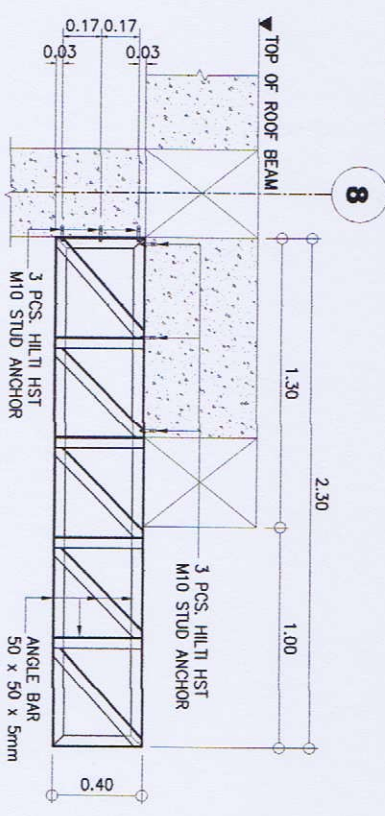


**ROOF BEAM FRAMING PLAN**  
SCALE: 1:125M.



**SECTION - E**  
(HT-3)

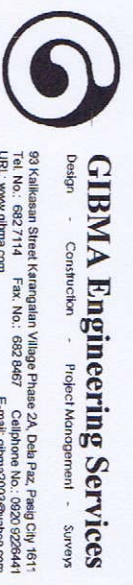
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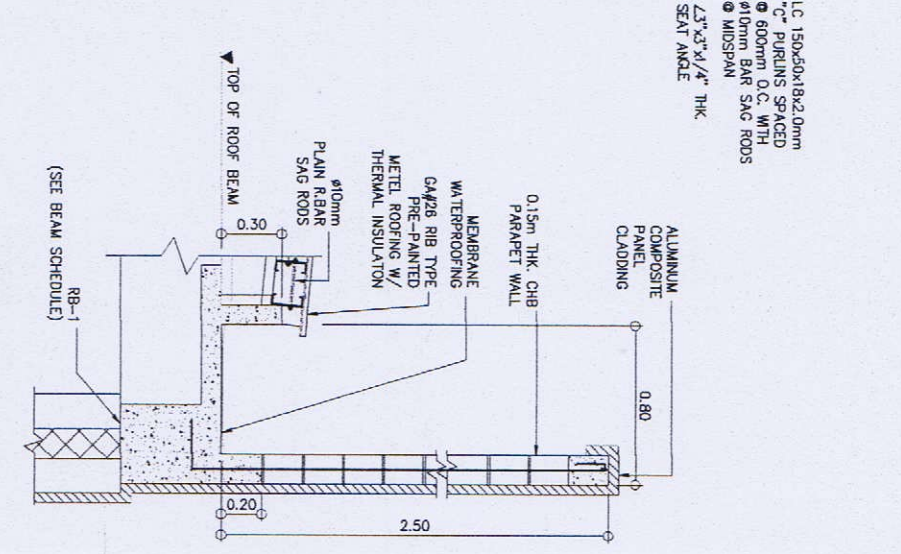
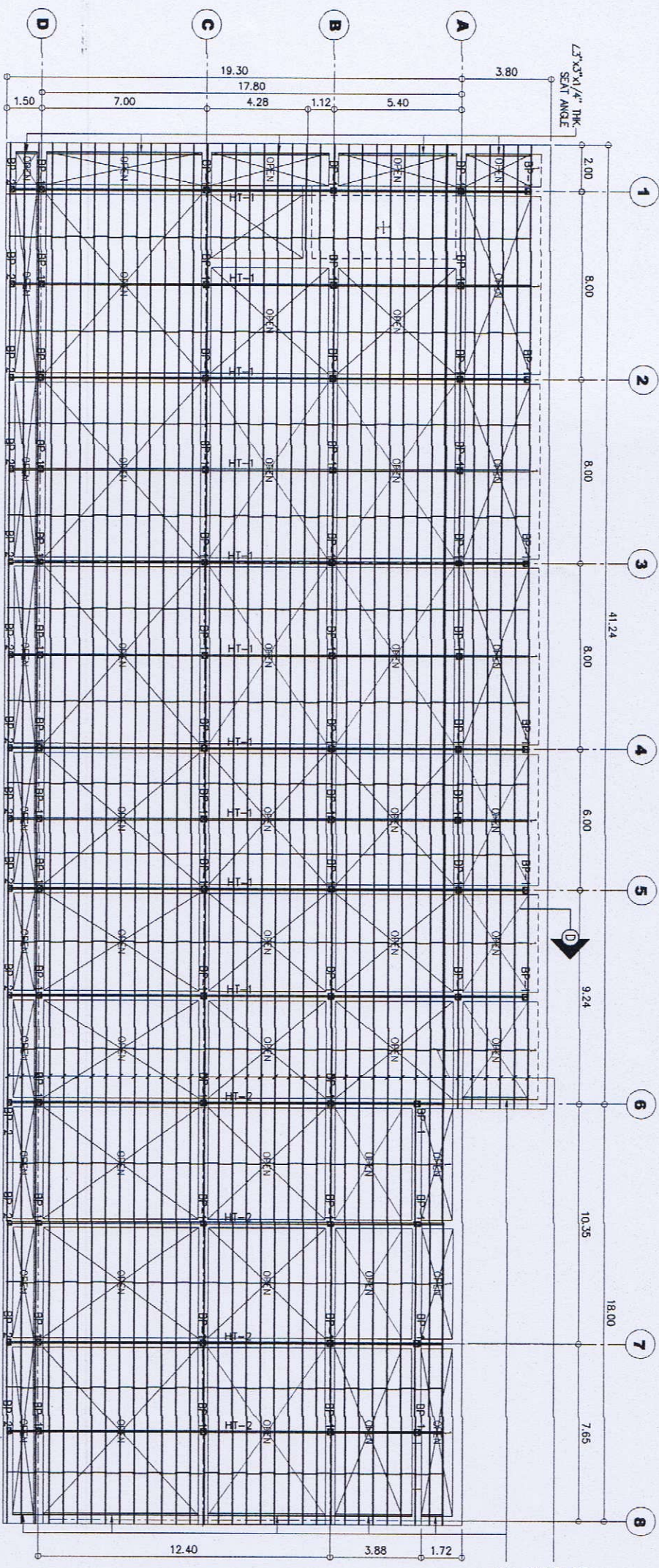
**SECTION - F**  
(HT-4)

SCALE: 1:20M.

- NOTES:**
1. ALL DIMENSIONS SHOWN HEREIN ARE IN METERS UNLESS OTHERWISE NOTED.
  2. ALL DIMENSIONS, COORDINATES AND ACTUAL SITE CONDITIONS TO BE CHECKED AND VERIFIED AT SITE PRIOR TO COMMENCING OF WORK.
  3. FOR GENERAL NOTE, REFER TO DRAWING NO. S-1.
  4. FOR COLUMN, BEAM & SLAB SCHEDULE, REFER TO DRAWING NO. S-6.

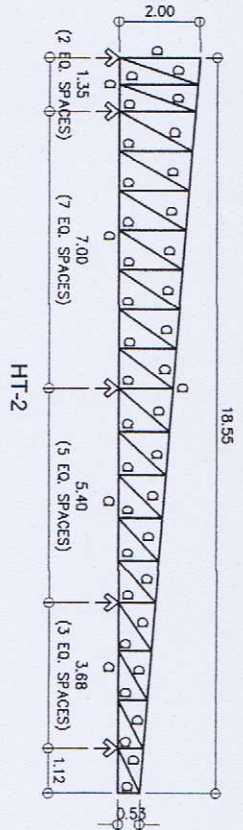
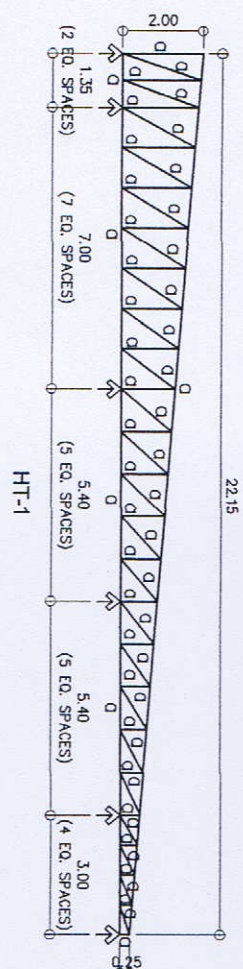


<b>CIVIL / STRUCTURAL ENGINEER</b> PROJECT TITLE: <b>PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER</b>		<b>OWNER:</b> METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	
REG. NO. 052501 DATE: AUG 1988 TIN: 106-499-911		RECOMMENDED BY: <b>JOSEPH ALBERTO GARCIA</b> APPROVED BY: <b>ROBERT O. DIXON</b>	
PROJECT TITLE: <b>PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER</b>		RECOMMENDED BY: <b>JOSEPH ALBERTO GARCIA</b> APPROVED BY: <b>ROBERT O. DIXON</b>	
LOCATION: <b>GEN. SANTOS AVE., BICITIAN, TAGUIG CITY, METRO MANILA</b>		ADDRESS: <b>GEN. SANTOS AVE., BICITIAN, TAGUIG CITY, METRO MANILA</b>	
ISSUED ON: <b>JAN. 3, 2018</b>		DESIGNED BY: <b>SAMD</b>	
ISSUED AT: <b>PARIG CITY</b>		CHECKED BY: <b>GAM</b>	
SCALE: <b>1:20M.</b>		SHEET CONTENTS: <b>ROOF BEAM FRAMING PLAN SECTION - E SECTION - F</b>	
SCALE: <b>1:20M.</b>		DRAWING NO.: <b>S - 4</b>	
SCALE: <b>1:20M.</b>		SHEET NO.: <b>28 / 75</b>	



**1** ROOF FRAMING PLAN  
SCALE: 1:125M

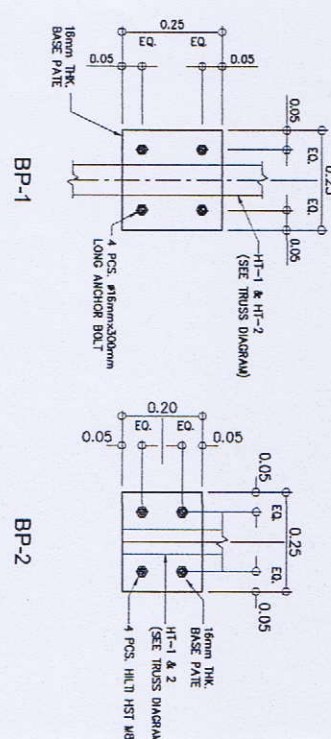
**4** SECTION - D  
SCALE: 1:20M



**2** TRUSS DIAGRAMS  
SCALE: 1:100M

**SCHEDULE OF TRUSS MEMBERS**

0	4.63 x 63 x 6 mm
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**3** BASE PLATE DETAIL  
SCALE: 1:10M

- NOTES:**
1. ALL DIMENSIONS SHOWN HEREIN ARE IN METERS UNLESS OTHERWISE NOTED.
  2. ALL DIMENSIONS, COORDINATES AND ACTUAL SITE CONDITIONS TO BE CHECKED AND VERIFIED AT SITE PRIOR TO COMMENCEMENT OF WORK.
  3. FOR GENERAL NOTE, REFER TO DRAWING NO. S-1.
  4. FOR COLUMN, BEAM & SLAB SCHEDULE, REFER TO DRAWING NO. S-6.



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 03 Kallianan Street, Kallianan Village Phase 2A, Davao Pinar, Pinar City 8101  
 Tel. No.: 092 7714 Fax. No.: 092 8487 Call Center No.: 0920 029444  
 URL: www.gibma.com Email: gibma@comcast.net

<b>CLIENT / ARCHITECTURAL ENGINEER</b>	<b>PROJECT TITLE:</b>	<b>OWNER:</b>	<b>REVIEWED &amp; CHECKED BY:</b>	<b>DRAWN BY:</b>	<b>DRAWING NO.:</b>
QUINCY T. MARGAYAN, P. Engr. REG. NO. 000801 DATE: AUG 1, 1998 ISSUED ON: JAN 3, 2019 ISSUED AT: PANDI CITY	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	APPROVED BY:	DAAC	<b>S - 5</b>
GEN. SANTOS AVE., BEUTIAN, TANDAG CITY, METRO DAVAO	ADDRESS:	GEN. SANTOS AVE., BEUTIAN, TANDAG CITY, METRO DAVAO	APPROVED BY:	GRM	<b>29 / 75</b>
<b>SHEET CONTENTS:</b>			<b>ROOF FRAMING PLAN TRUSS DIAGRAMS BASE PLATE DETAIL SECTION - D</b>		

SCHEDULE OF BEAMS

Table with columns: MARKING, SECTION (B x H), BEAM TYPE, LEFT END REBARS (TOP, BOTTOM), MIDSPAN REBARS (TOP, BOTTOM), RIGHT END REBARS (TOP, BOTTOM), SIDE BARS, SPACING OF Ø10 STIRRUPS TO CENTER. Rows include RB-1 through RB-34.

SCHEDULE OF FOOTINGS

Table with columns: FOOTING DESIGNATION, X (mm), Y (mm), DEPTH (mm), THICKNESS (mm), ALONG X-DIRECTION (TOP, BOTTOM), ALONG Y-DIRECTION (TOP, BOTTOM). Rows include F-1 through F-16.

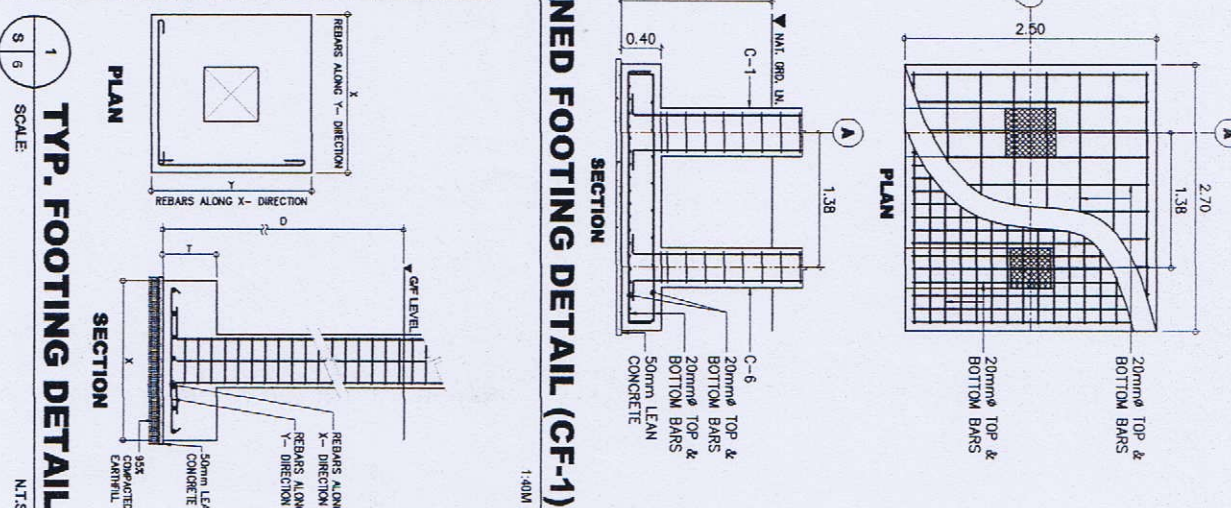
SCHEDULE OF COLUMNS

Table with columns: COLUMN MARK, LEVEL, SECTION (B x H), MAIN VERT. REBARS, Ø10 LATERAL TIES. Rows include G-1 through G-6 and C-1 through C-5.

SCHEDULE OF SLABS

Table with columns: LOCATION, DIMENSION, TYPE, THICKNESS (mm), BRACING OF TOP REBARS (Ø10), BRACING OF BOTTOM REBARS (Ø10). Rows include 2F SLAB and ROOF SLAB.

COMBINED FOOTING DETAIL (CF-1)



TYP. FOOTING DETAIL SCHEDULE OF SLABS, FOOTINGS, COLUMNS & BEAMS

GIBMA Engineering Services

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33 Kertamas Street Karanganyar Village Phase 2A, Blok Pak, Pangkajene 91111

PROPOSED 2-STORY ADVANCED MANUFACTURED CENTER

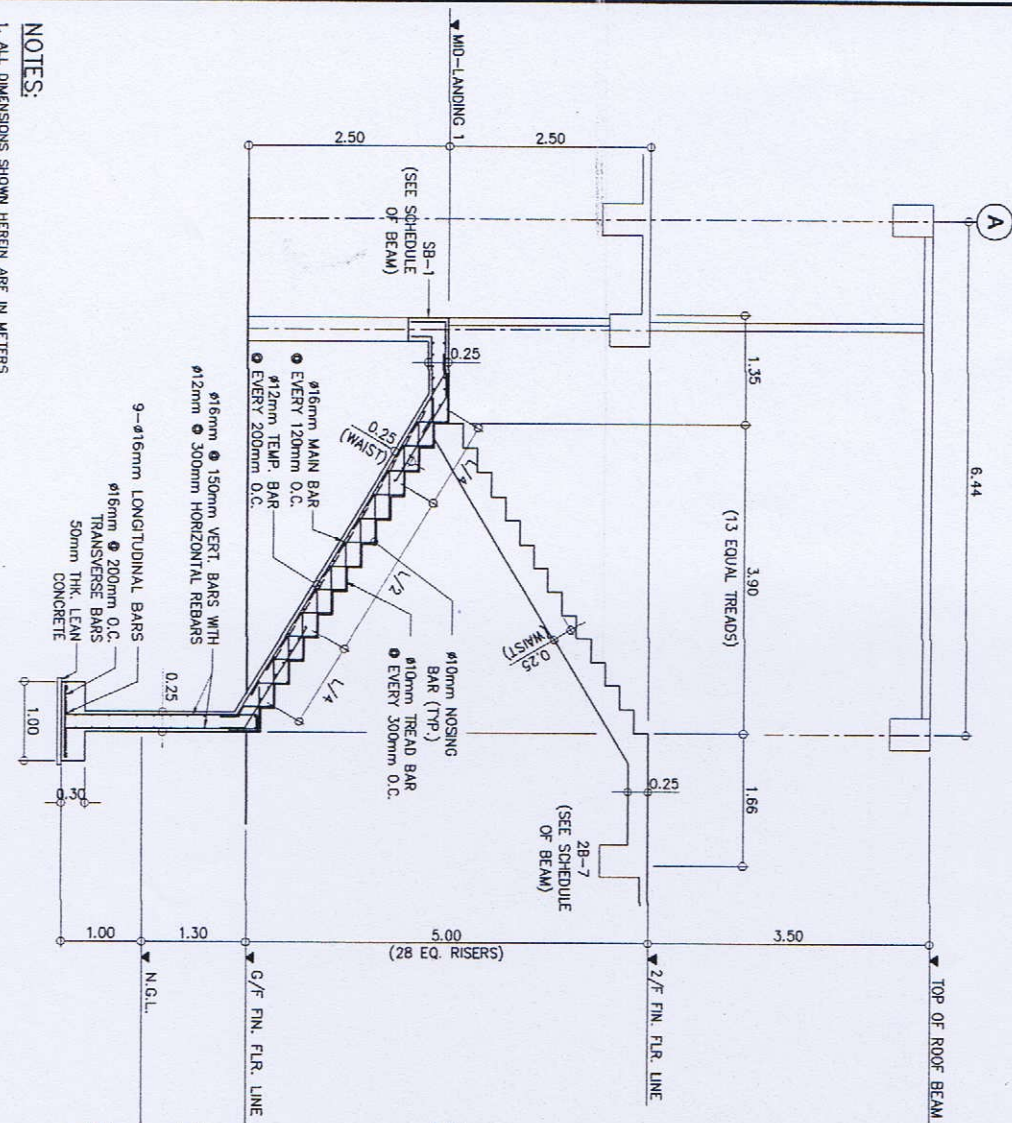
METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)

REVISIONS: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

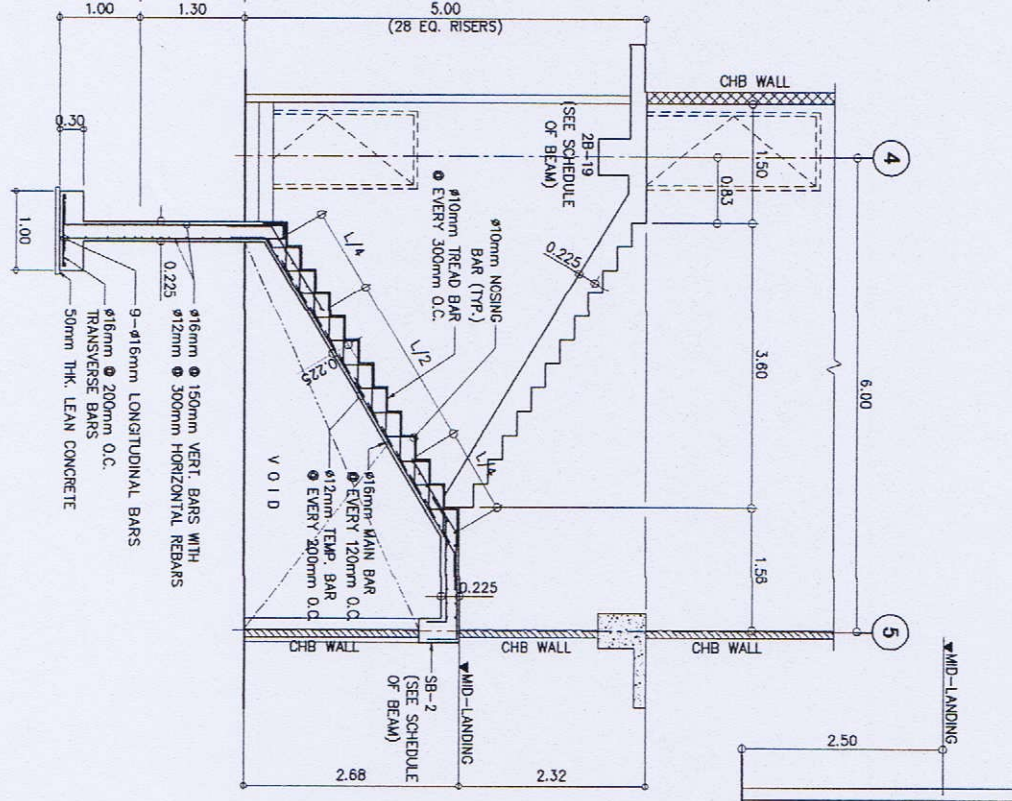
DRAWING NO.: S-6

SHEET NO.: 30 / 75

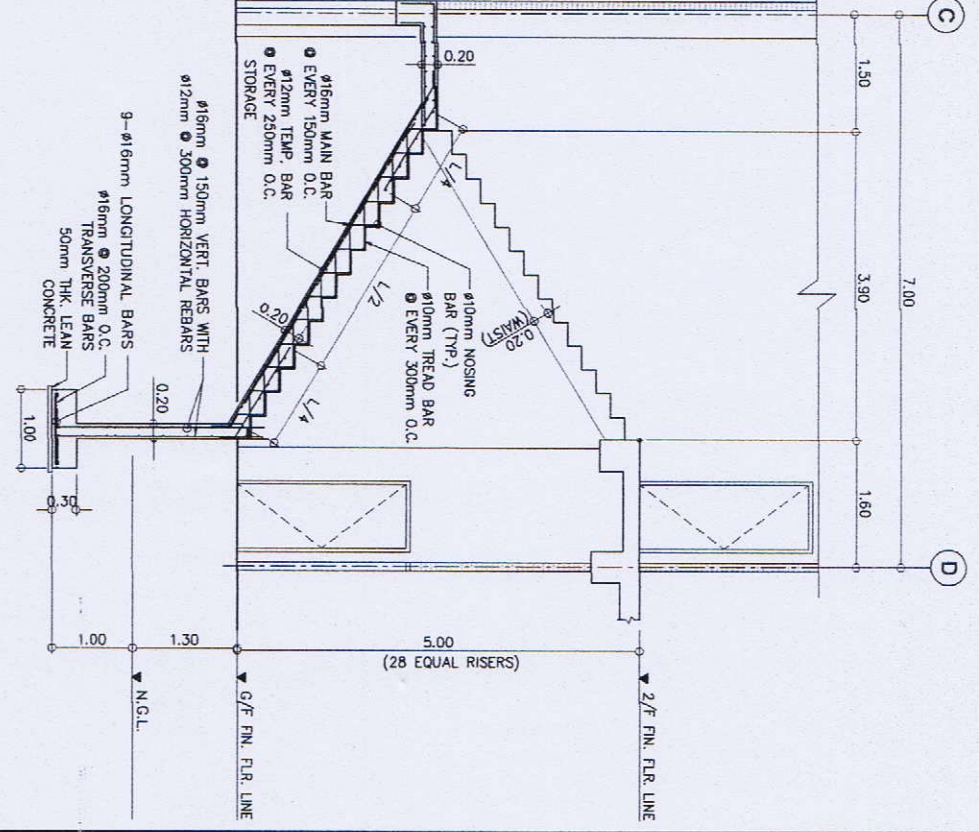
- NOTES:**
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  3. FOR GENERAL NOTE, REFER TO DRAWING NO. S-1.
  4. FOR COLUMN, BEAM & SLAB SCHEDULE, REFER TO DRAWING NO. S-8



**1 FIRE EXIT STAIR DETAIL**  
SCALE: 1/50 M.



**2 MAIN STAIR DETAIL**  
SCALE: 1/50 M.



**3 COLLABORATORY STAIR DETAIL**  
SCALE: 1/50 M.

**1 FIRE EXIT STAIR DETAIL**  
SCALE: 1/50 M.

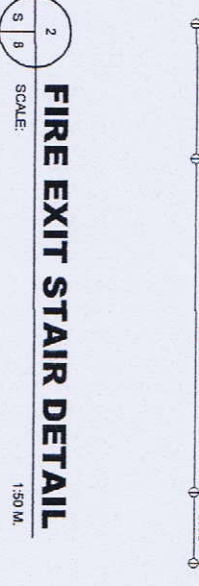
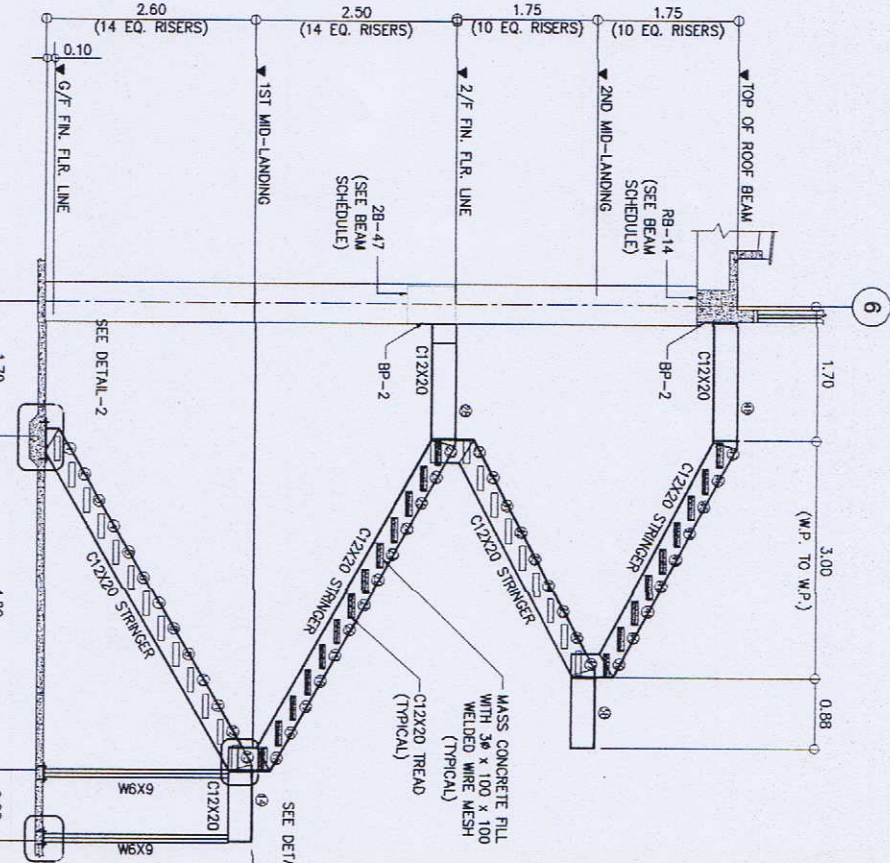
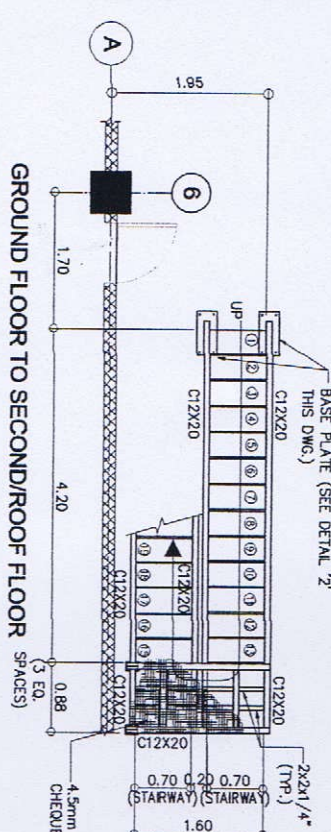
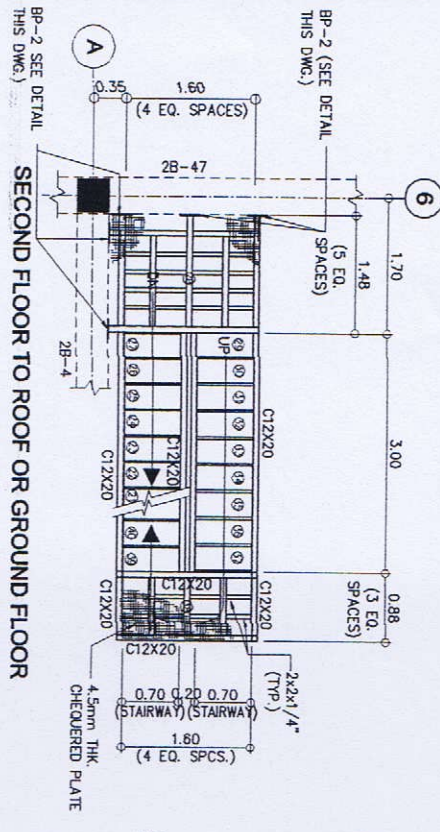
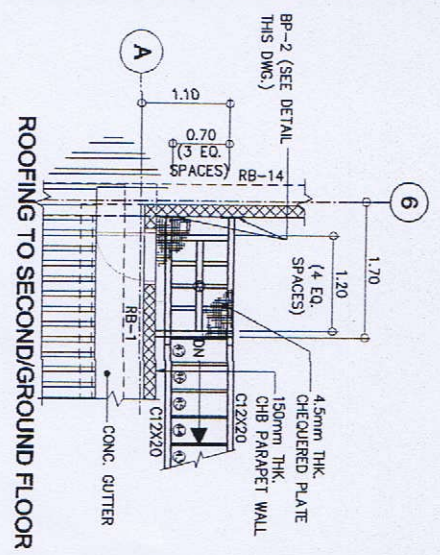
**2 MAIN STAIR DETAIL**  
SCALE: 1/50 M.

**3 COLLABORATORY STAIR DETAIL**  
SCALE: 1/50 M.

**GIBMA Engineering Services**  
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 82 Kallianasa Street Karanganyar Village Phase 2A, Dauh Pagar, Pango City 10111  
 Tel. No. 082 711 111 Fax. No. 082 828 828  
 Email: gibma@indonesiacom.com

<p>REG. NO. 000551          DATE: APR. 1, 2010          TIN: 100-004811</p>	<p>PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER          METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)</p>	<p>RECOMMENDED BY: [Signature]          APPROVED BY: [Signature]</p>	<p>DESIGNED BY: [Signature]          CHECKED BY: [Signature]</p>	<p>DATE: [Blank]          DATE: [Blank]</p>	<p>DATE: [Blank]          DATE: [Blank]</p>	<p>DATE: [Blank]          DATE: [Blank]</p>	<p>DATE: [Blank]          DATE: [Blank]</p>
<p>PROJECT TITLE:          PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER</p>	<p>OWNER:          METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)</p>	<p>REVISIONS &amp; CHECKED BY:</p>	<p>REVISIONS &amp; CHECKED BY:</p>	<p>REVISIONS &amp; CHECKED BY:</p>	<p>REVISIONS &amp; CHECKED BY:</p>	<p>REVISIONS &amp; CHECKED BY:</p>	<p>REVISIONS &amp; CHECKED BY:</p>
<p>LOCATION:          GEN. SANTOS AVE., BUCITAN, TAJOUB CITY, METRO MANILA</p>	<p>ADDRESS:          GEN. SANTOS AVE., BUCITAN, TAJOUB CITY, METRO MANILA</p>	<p>APPROVED BY: [Signature]</p>	<p>APPROVED BY: [Signature]</p>	<p>APPROVED BY: [Signature]</p>	<p>APPROVED BY: [Signature]</p>	<p>APPROVED BY: [Signature]</p>	<p>APPROVED BY: [Signature]</p>
<p>PROJECT NO.: 500020</p>	<p>PROJECT NO.: 500020</p>	<p>DATE: JUN. 3, 2010</p>	<p>DATE: JUN. 3, 2010</p>	<p>DATE: JUN. 3, 2010</p>	<p>DATE: JUN. 3, 2010</p>	<p>DATE: JUN. 3, 2010</p>	<p>DATE: JUN. 3, 2010</p>
<p>SCALE: 1/50 M.</p>	<p>SCALE: 1/50 M.</p>	<p>SCALE: 1/50 M.</p>	<p>SCALE: 1/50 M.</p>	<p>SCALE: 1/50 M.</p>	<p>SCALE: 1/50 M.</p>	<p>SCALE: 1/50 M.</p>	<p>SCALE: 1/50 M.</p>

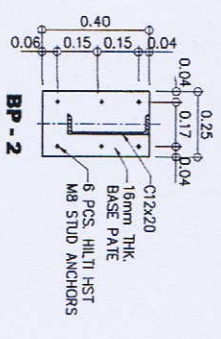




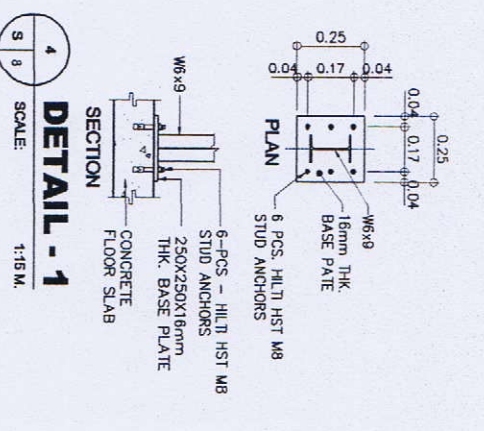
**1 FIRE EXIT (STEEL) STAIR FRAMING PLAN**  
SCALE: 1:50 M.  
(ALL TREADS SHALL BE C12X20)

**2 FIRE EXIT STAIR DETAIL**  
SCALE: 1:50 M.

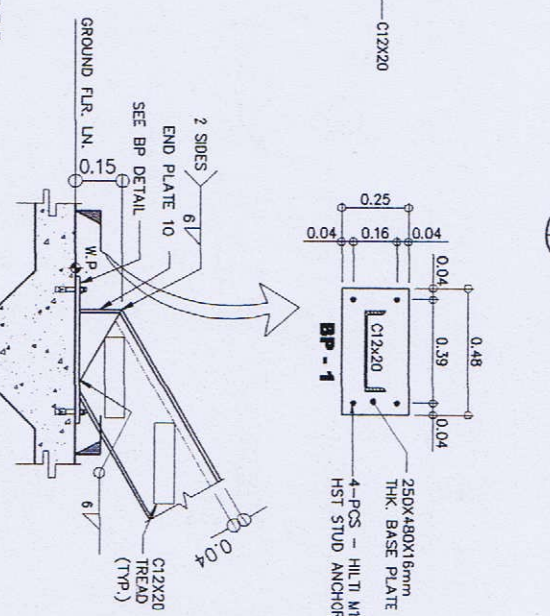
**3 ELEVATION 'A'**  
SCALE: 1:15 M.



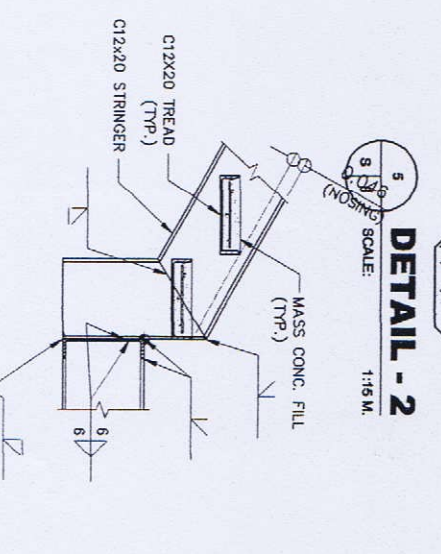
**7 BASE PLATE DETAIL**  
SCALE: 1:15 M.



**4 DETAIL - 1**  
SCALE: 1:15 M.



**5 DETAIL - 2**  
SCALE: 1:15 M.



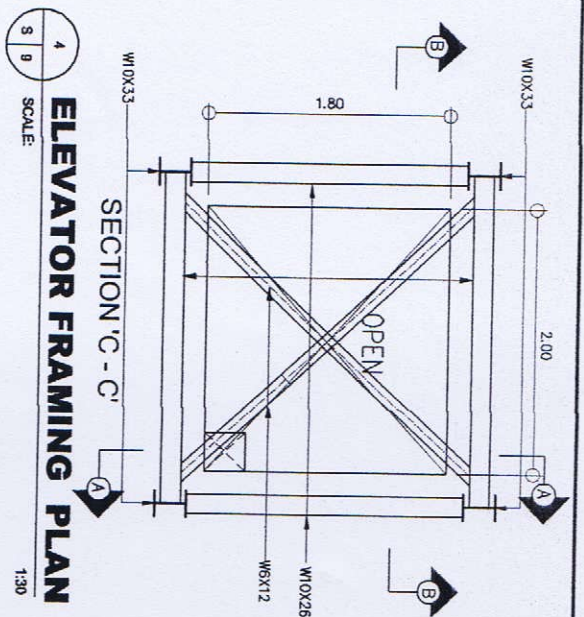
**6 DETAIL - 3**  
SCALE: 1:15 M.

- NOTES:**
1. ALL DIMENSIONS SHOWN HEREIN ARE IN METERS UNLESS OTHERWISE NOTED.
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  3. FOR GENERAL NOTE, REFER TO DRAWING NO. S-1.
  4. FOR COLUMN, BEAM & SLAB SCHEDULE, REFER TO DRAWING NO. S-8.

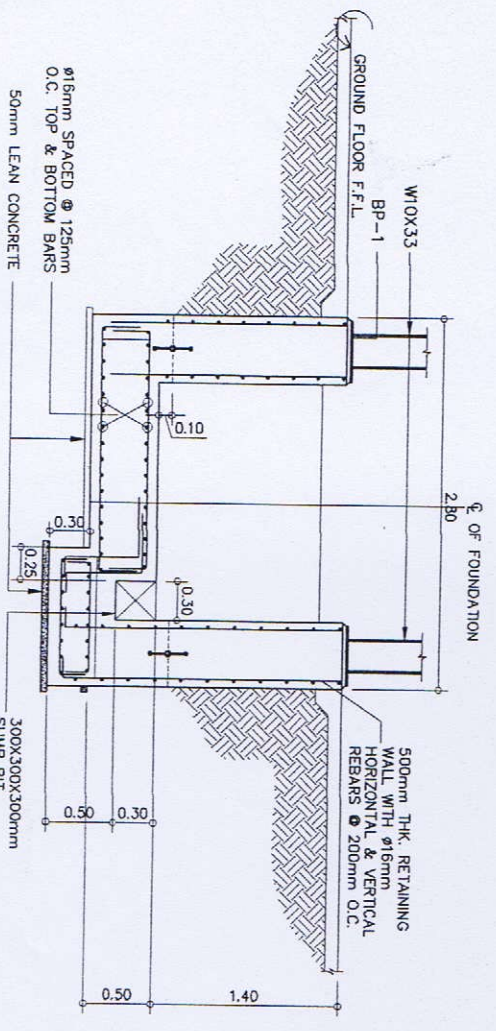


**GIBMA Engineering Services**  
Design - Construction - Project Management - Surveys  
03 Kalkasan Street, Karanganyar Village Phase 2A, Dale Pac, Palar, City 1811  
Tel. No.: 082 7114 Fax. No.: 082 8407 E-mail: giba@indosat.net.id  
URL: www.gibma.com

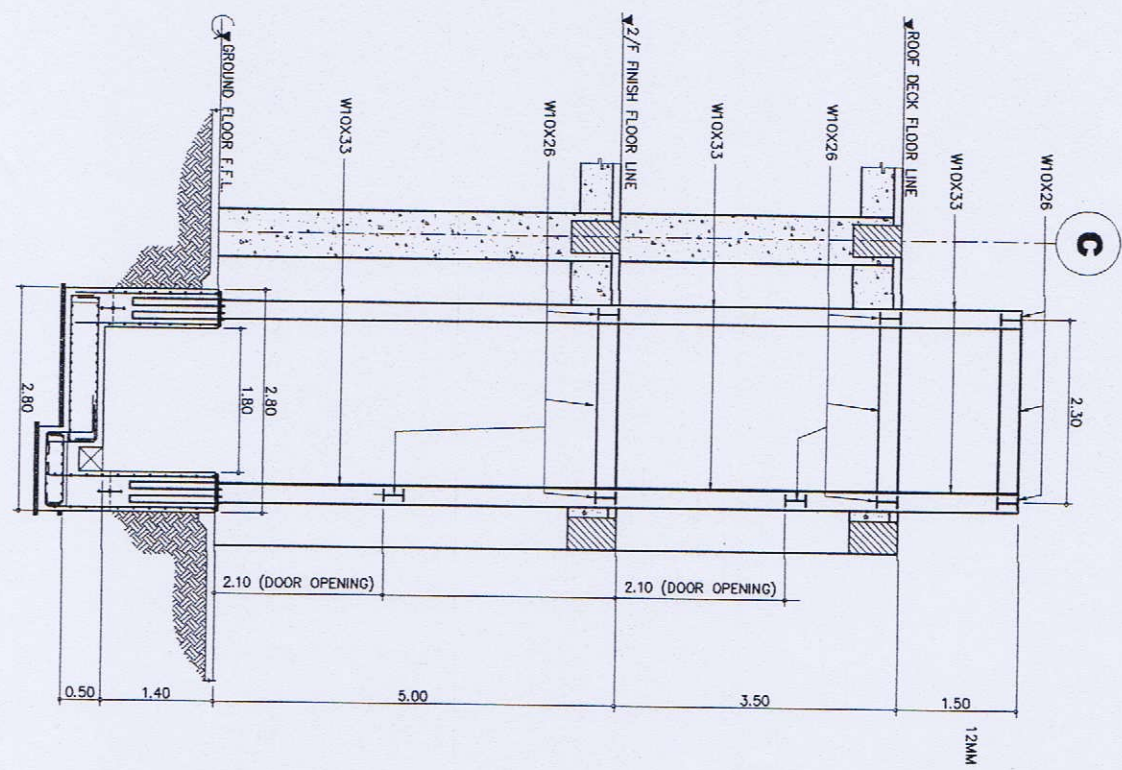
CIVIL/STRUCTURAL ENGINEER		PROJECT TITLE:		OWNER:		REVIEWED & CHECKED BY:		DRAWING NO.:	
[Signature]		PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)		[Signature]		S-8	
REG. NO. 5550423		DATE: JUN 3, 2018		ADDRESS: GLEN SANTOS AVE., METROVAL, TAGAYAN, TAGAYAN CITY, METRO MANILA		APPROVED BY:		SHEET NO.:	
[Signature]		[Signature]		[Signature]		[Signature]		32 / 75	
[Signature]		[Signature]		[Signature]		[Signature]		[Signature]	



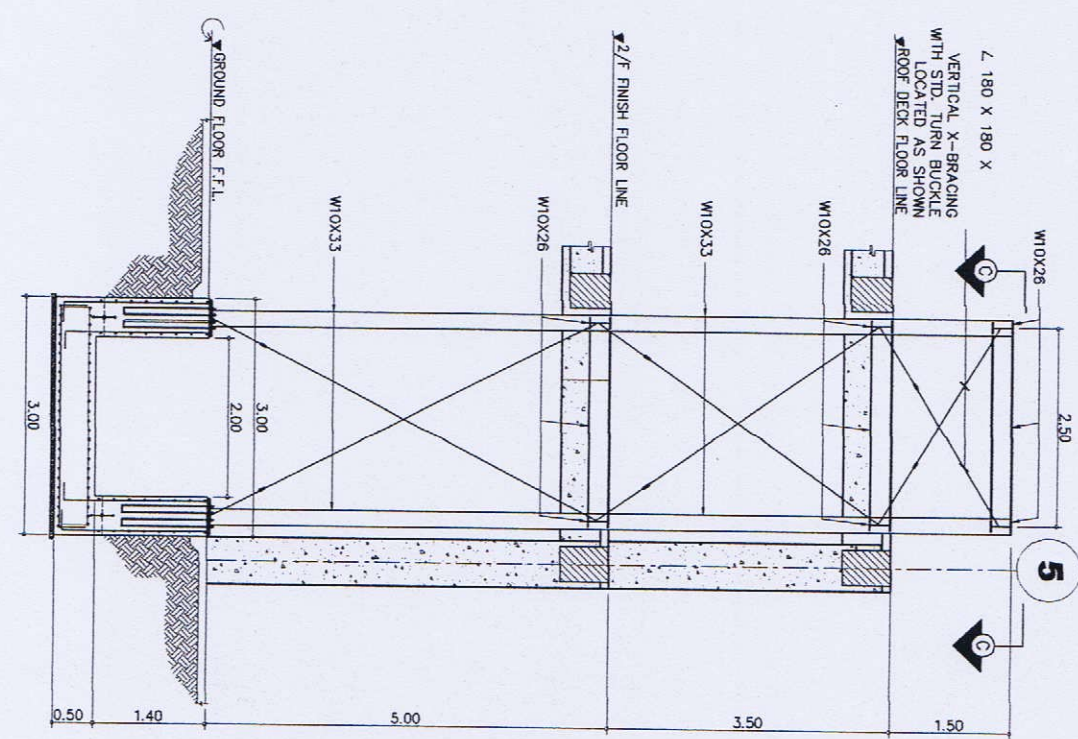
**4**  
SCALE: 1:30  
**ELEVATOR FRAMING PLAN**



**3**  
SCALE: 1:30  
**RETAINING WALL & MAT FOOTING DETAIL**



**1**  
SCALE: 1:50  
**SECTION 'A - A'**



**2**  
SCALE: 1:50  
**SECTION 'B - B'**



**GIBMA Engineering Services**  
Design - Construction - Project Management - Surveys  
03 Kellerman Street, Kereganville Village Phase 2A, Dale Park, Pangkajene, Sulawesi Tengah, Indonesia  
Tel. No.: 0822 7114 Fax. No.: 0822 8447  
E-mail: gibma@indonesian.com

PROJECT TITLE:		OWNER:	
PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	
DESIGNED BY:	APPROVED BY:	DESIGNED BY:	APPROVED BY:
ALBERT L. MAGNAN, F.A.S.P.	ROBERT O. DICK	ALBERT L. MAGNAN, F.A.S.P.	ROBERT O. DICK
DATE: AUG. 1, 2008	DATE:	DATE: JUN. 3, 2008	DATE:
REVISION CH:	REVISION AT:	REVISION CH:	REVISION AT:
500423	MANO CITY	500423	MANO CITY
LOCATION:		ADDRESS:	
DIR. SANTIOS AVE., INCITAN, TAGUIG CITY, METRO MANILA		DIR. SANTIOS AVE., INCITAN, TAGUIG CITY, METRO MANILA	

REVIEWED & CHECKED BY:	DESIGNED BY:	DATE:
ROBERT O. DICK	ALBERT L. MAGNAN, F.A.S.P.	AUG. 1, 2008
RECOMMENDED BY:	CHECKED BY:	APPROVED BY:
ALBERT L. MAGNAN, F.A.S.P.	ROBERT O. DICK	ROBERT O. DICK
DATE:	DATE:	DATE:

DESIGNED BY:	DATE:
ALBERT L. MAGNAN, F.A.S.P.	AUG. 1, 2008
CHECKED BY:	DATE:
ROBERT O. DICK	
APPROVED BY:	DATE:
ROBERT O. DICK	

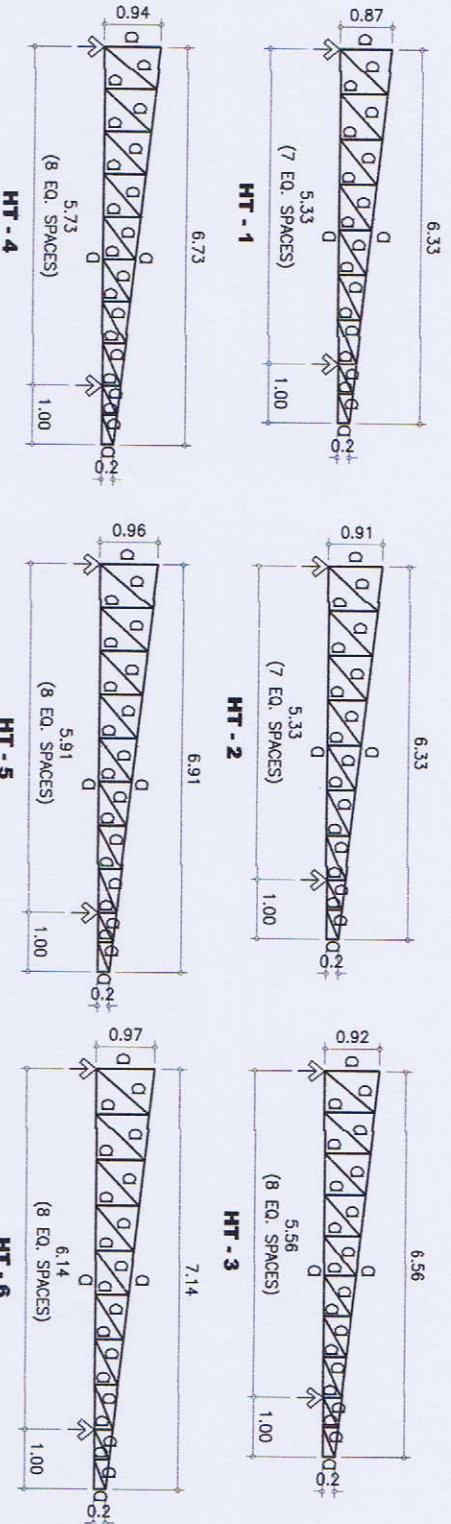
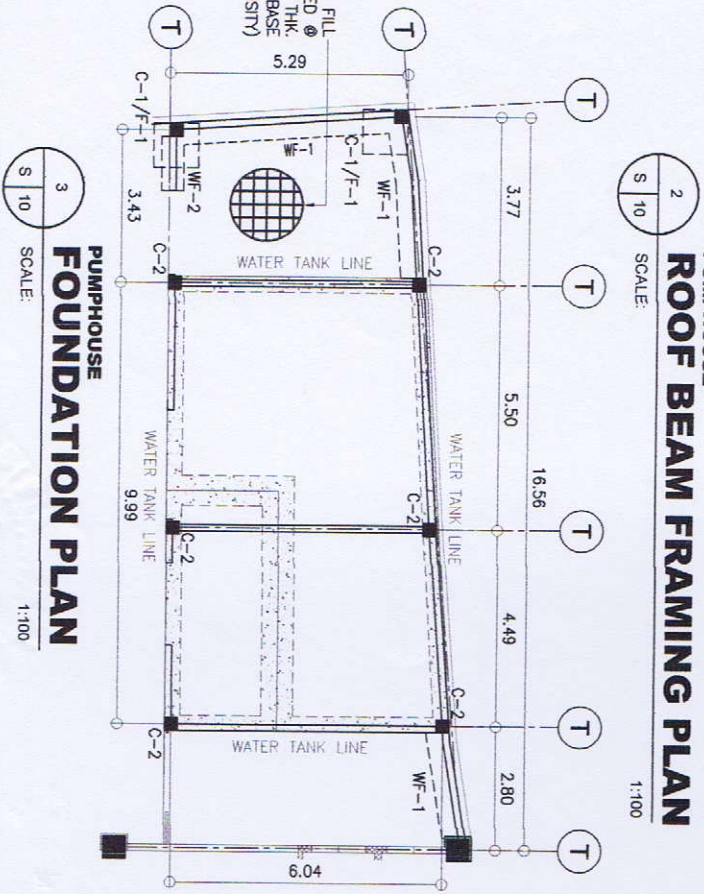
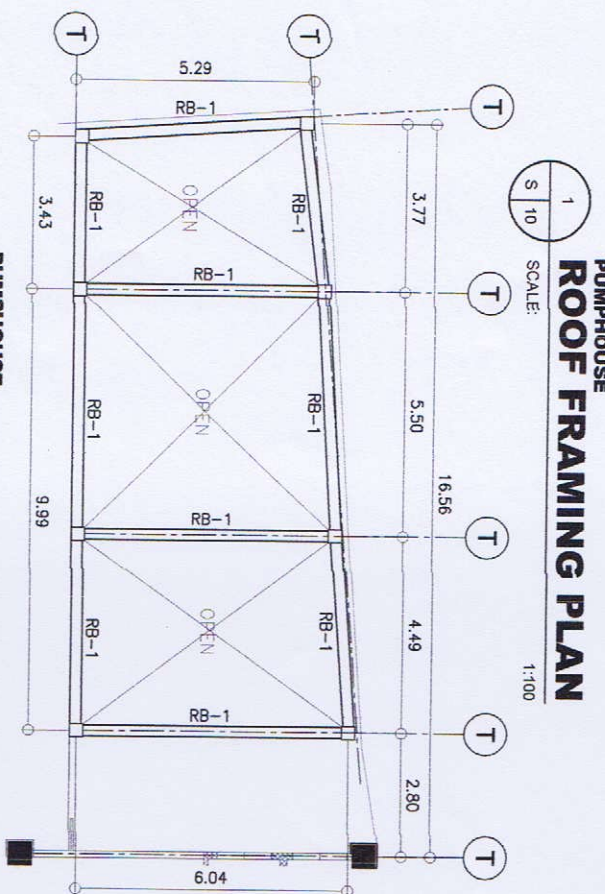
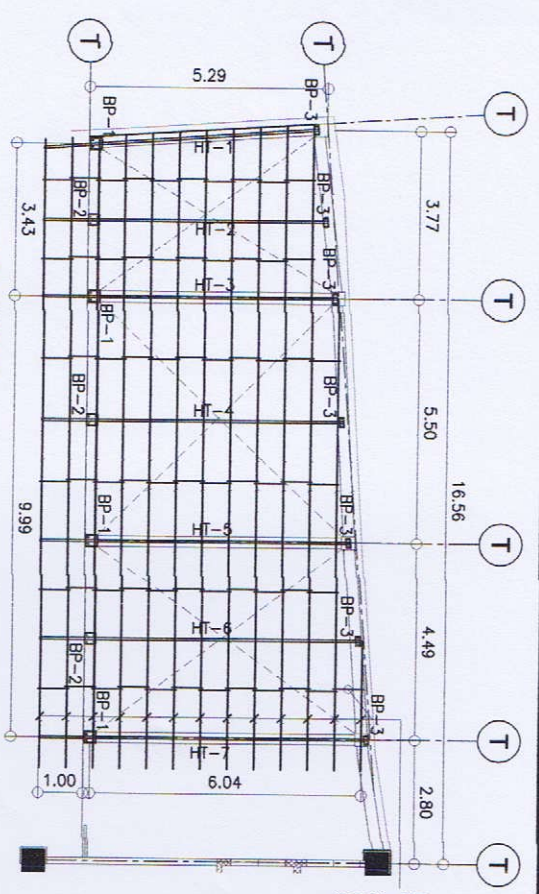
DESIGNED BY:	DATE:
ALBERT L. MAGNAN, F.A.S.P.	AUG. 1, 2008
CHECKED BY:	DATE:
ROBERT O. DICK	
APPROVED BY:	DATE:
ROBERT O. DICK	

SHEET CONTENTS:	DRAWING NO.:
SECTION 'A - A', SECTION 'B - B', RETAINING WALL & MAT FOOTING DETAIL, ELEVATOR FRAMING PLAN, BASE PLATE (BP-1) DETAIL	<b>S-9</b>
	<b>33 / 75</b>

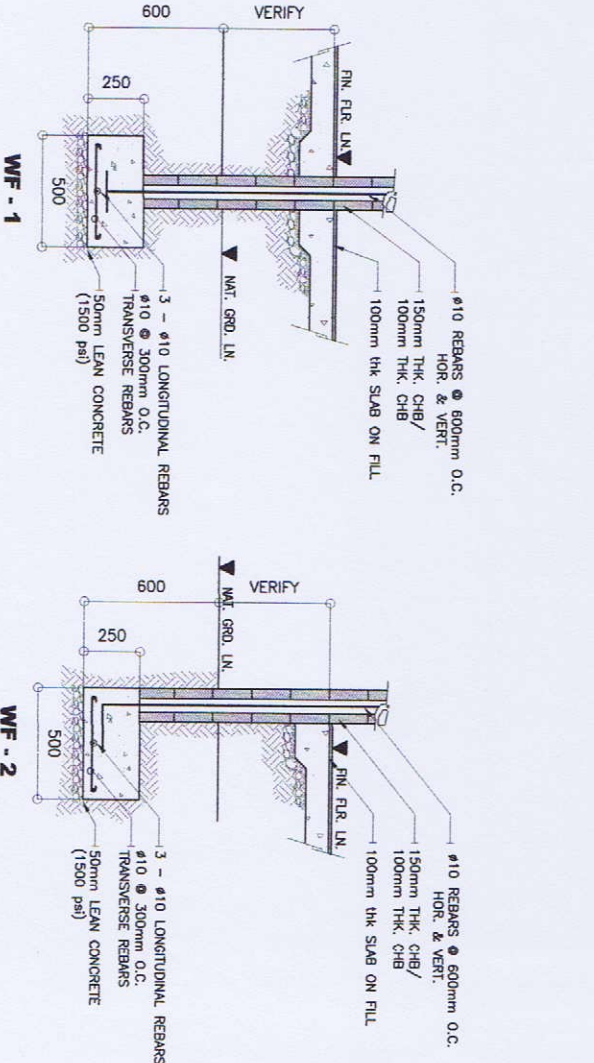
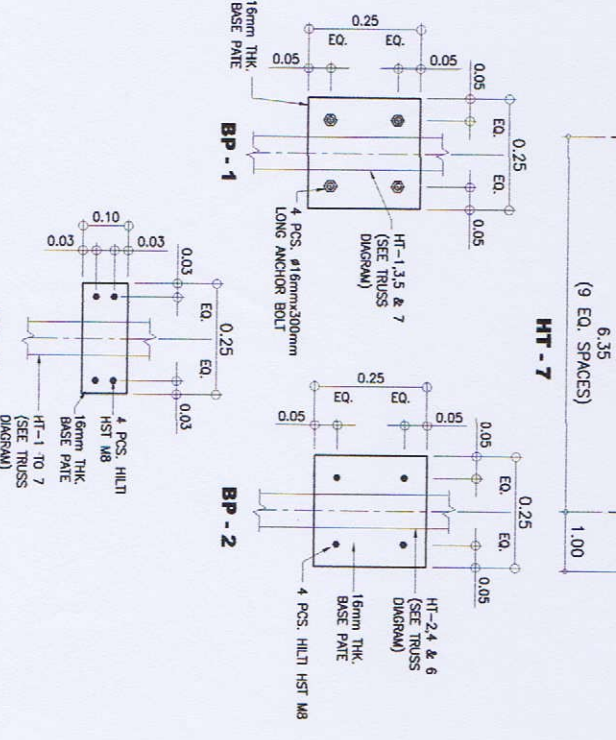
SCHEDULE OF BEAMS									
BEAM MARKING	SECTION (B x H)	BEAM TYPE	LEFT END REBARS	MIDSPAN REBARS	RIGHT END REBARS	SIDE BAR	SPACING OF Ø10 STIRRUPS TO CENTER		
RB-1	250 X 300	SINGLE	2-Ø16	2-Ø16	2-Ø16	TOP	1 @ 50, 3 @ 100, 6 @ 150 REST @ 200 O.C.		

SCHEDULE OF COLUMNS				
COLUMN MARKING	LEVEL	SECTION (B x H)	MAIN VERT. REBARS	Ø10 LATERAL TIES
C-1	FOOTING-ROOF BEAM	300 X 300	4 - Ø20	1SET @ 100, 3 @ 100 REST @ 150 O.C.
C-2	RC WALL - ROOF BEAM	300 X 300	4 - Ø20	1SET @ 100, 3 @ 100 REST @ 150 O.C.

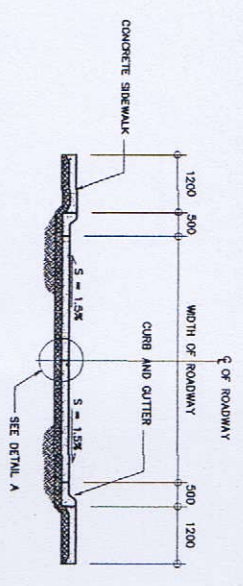
SCHEDULE OF FOOTINGS							
FOOTING DESIGNATION	X mm	Y mm	DEPTH mm	THICKNESS mm	ALONG X-DIRECTION	ALONG Y-DIRECTION	
F-1	1000	1000	1000	300	6-Ø16	6-Ø16	6-Ø16



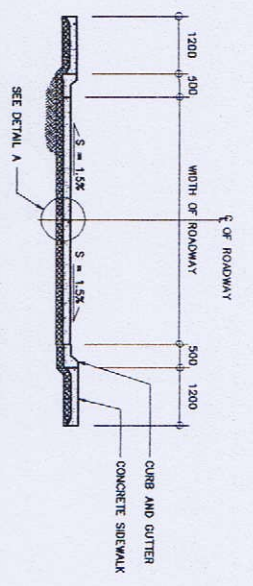
SCHEDULE OF TRUSS MEMBERS	
MEMBER	SECTION
HT-1 to HT-7	60 x 60 x 6 mm



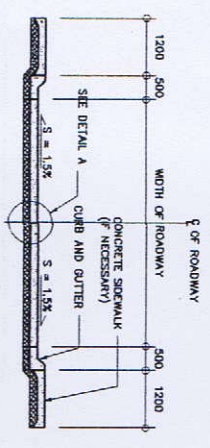
CIVIL / STRUCTURAL ENGINEER GILBERT B. MANGITAN / F. ASBP REG. NO. 08291 P.P. NO. 509423 DATE: AUG. 1, 2019 ISSUED ON: JUN. 3, 2019 TIN: 106-69-911	PROJECT TITLE: PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER	OWNER: METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	REVIEWED & CHECKED BY: JOSEPH ALBERTO GARCIA ENR. REGISTERED STRUCTURAL ENGINEER	DESIGNED BY: GABRIEL DATE: _____	DATE: _____	DATE: _____	DATE: _____	DATE: _____
ISSUED AT: PASIG CITY	LOCATION: GEN. SANTOS AVE., BUCITAN, TAGUIG CITY, METRO MANILA	ADDRESS: GEN. SANTOS AVE., BUCITAN, TAGUIG CITY, METRO MANILA	APPROVED BY: ROBERTO O. SORIANO ENR. REGISTERED STRUCTURAL ENGINEER	CADD BY: GABRIEL	CHECKED BY: GABRIEL	APPROVED BY: GABRIEL	DATE: _____	DATE: _____
PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER	MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	RECOMMENDED BY: GABRIEL	ROOF FRAMING PLAN ROOF BEAM FRAMING PLAN FOUNDATION PLAN, TRUSS DIAGRAMS BASE PLATE DETAIL, TRUSS DIAGRAMS SCHEDULE OF BEAMS, COLUMNS & FOOTINGS WALL FOOTING DETAIL	SHEET NO.: <b>S - 10</b>	DRAWING NO.: <b>34 / 75</b>		



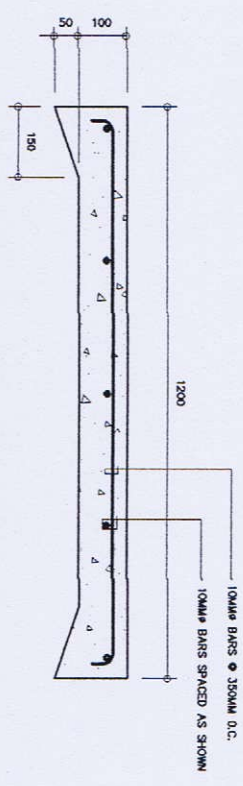
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**TYPICAL SECTION ON CUT**



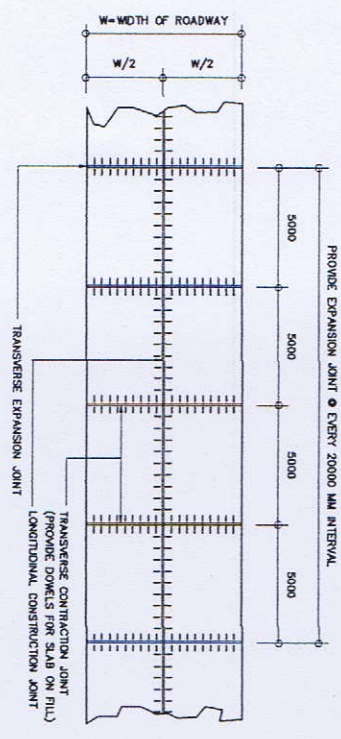
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**TYPICAL SECTION ON PARTLY CUT & PARTLY FILL**



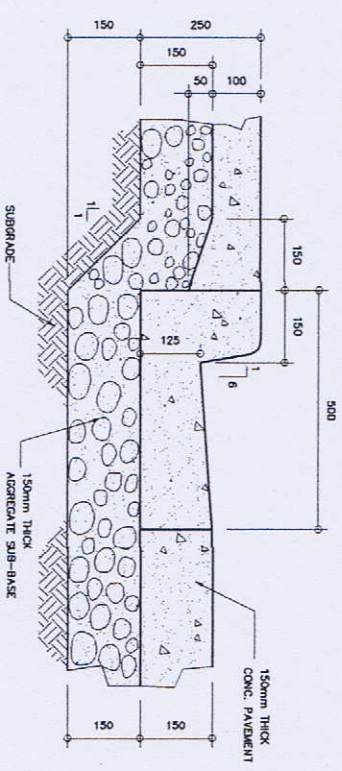
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**TYPICAL SECTION ON FILL**



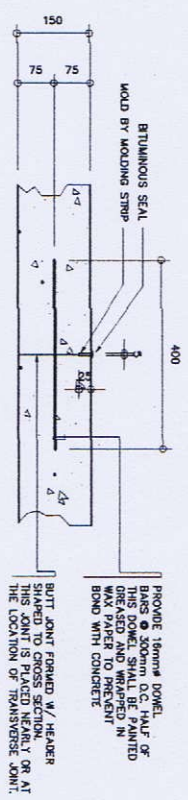
8  
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**DETAIL OF SIDEWALK**



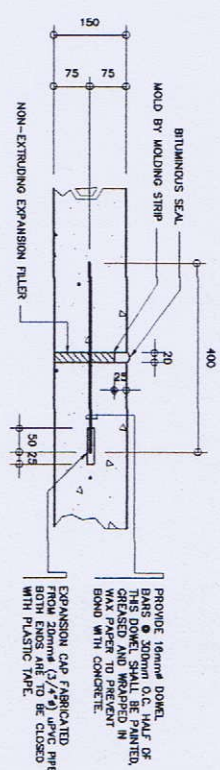
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**TYPICAL PLAN**



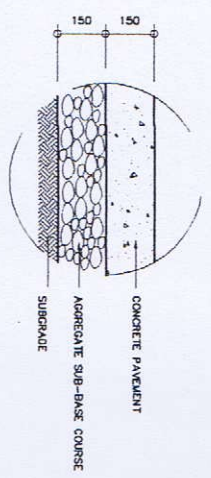
7  
S 11 SCALE: N.T.S.  
**DETAIL OF CURB & GUTTER**



8  
S 11 SCALE: N.T.S.  
**TRANSVERSE CONSTRUCTION JOINT**




9  
S 11 SCALE: N.T.S.  
**TRANSVERSE EXPANSION JOINT**



5  
S 11 SCALE: N.T.S.  
**DETAIL A**

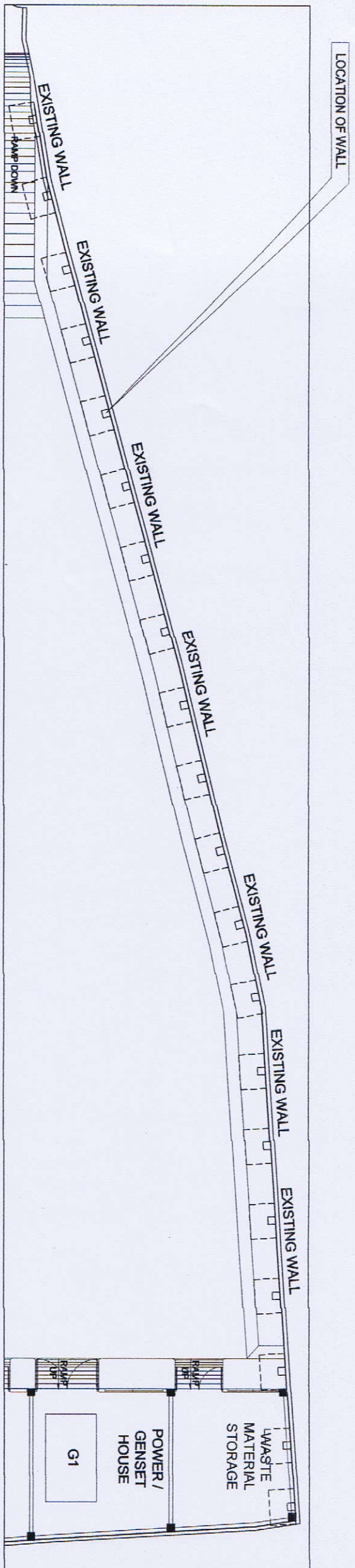
10  
S 11 SCALE: N.T.S.  
**LONGITUDINAL CONSTRUCTION JOINT**

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
  2. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE 28-DAYS PERIOD SHALL BE AS FOLLOWS:  
a.) 211 kg/cm<sup>2</sup> = ROADWAY - CONCRETE PAVEMENT  
b.) 176 kg/cm<sup>2</sup> = CONCRETE CURB, GUTTER & SIDEWALK
  3. ALL REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF PMS : 49 : 2002, DEFORMED STEEL BARS, GRADE 275.
  4. ALLOWABLE BEARING CAPACITY OF SOIL SHALL NOT BE LESS THAN 12,500kg/m<sup>2</sup>sq.m. AND SHALL BE VERIFIED IN THE FIELD.
  5. FOR CUT - H:V = 1:1 ;  
FOR FILL - H:V = 2:1

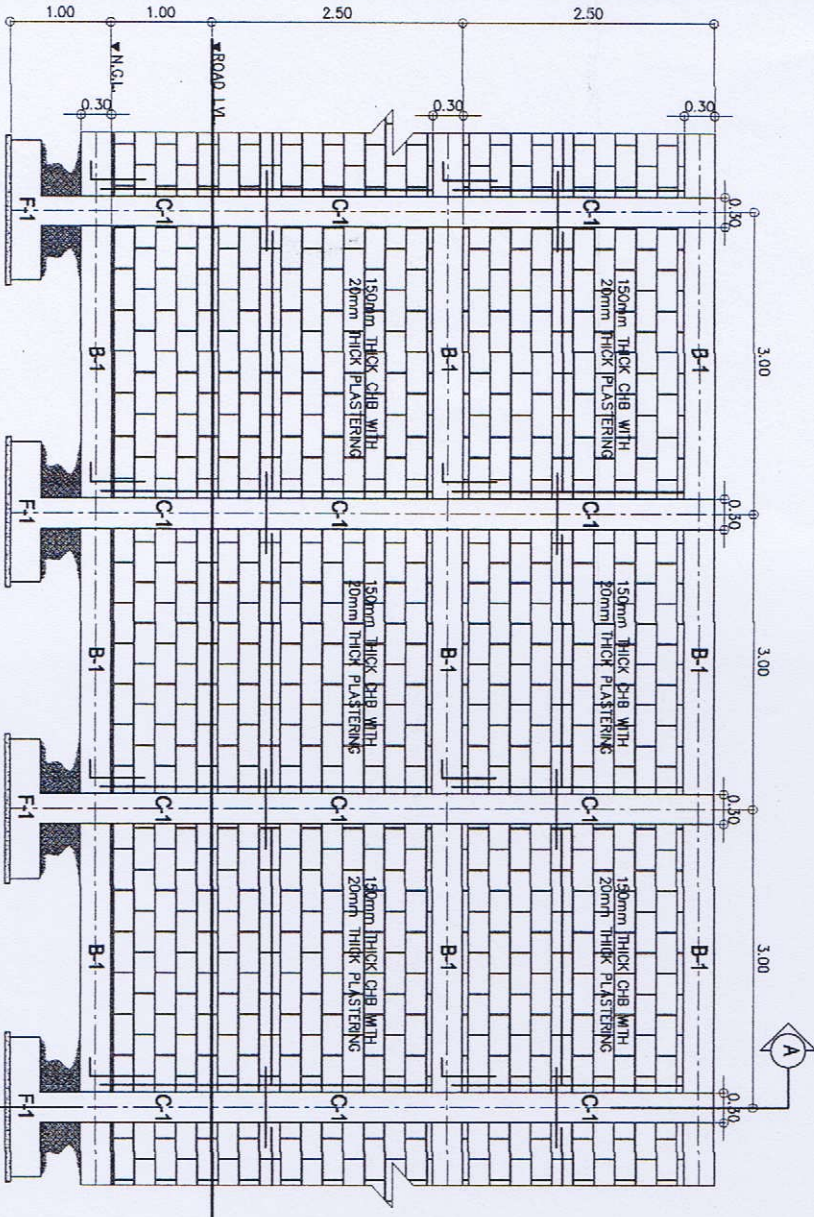


**GIBMA Engineering Services**  
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03 Jollison Street Katugayan Village Phase 2A, Davao Pinar, Davao City 8111  
Tel. No. 882 2114 Fax. No. 882 8487 Cellphone No. 0920 0228441  
URL: www.gibma.com Email: gibma2002@yahoo.com

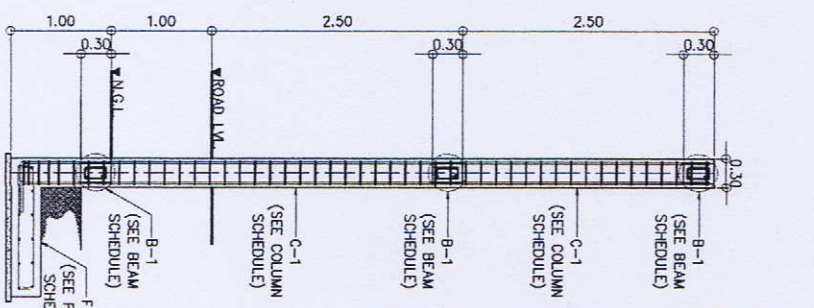
<p>CIVIL/STRUCTURAL ENGINEER</p> <p>DESIGNED BY: <i>[Signature]</i></p> <p>DATE: AUG. 1, 1998</p> <p>REVISIONS:</p>	<p>PROJECT TITLE:</p> <p>PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER</p> <p>LOCATION: GEN. SANTOS AVE., BUCTALAN, TAVARA CITY, METRO DAVAO</p>	<p>OWNER:</p> <p>METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)</p> <p>ADDRESS: GEN. SANTOS AVE., BUCTALAN, TAVARA CITY, METRO DAVAO</p>
<p>REVIEWED &amp; CHECKED BY: <i>[Signature]</i></p> <p>RECOMMENDED BY: <i>[Signature]</i></p> <p>APPROVED BY: <i>[Signature]</i></p>	<p>DESIGNED BY: <i>[Signature]</i></p> <p>DATE: _____</p> <p>CHECKED BY: <i>[Signature]</i></p> <p>DATE: _____</p> <p>APPROVED BY: <i>[Signature]</i></p> <p>DATE: _____</p>	<p>DRAWING NO.: <b>S - 11</b></p> <p>SHEET NO.: <b>35 / 75</b></p> <p>SHEET CONTAINS: CONCRETE ROADWAYS PLAN, SECTIONS &amp; DETAIL</p>



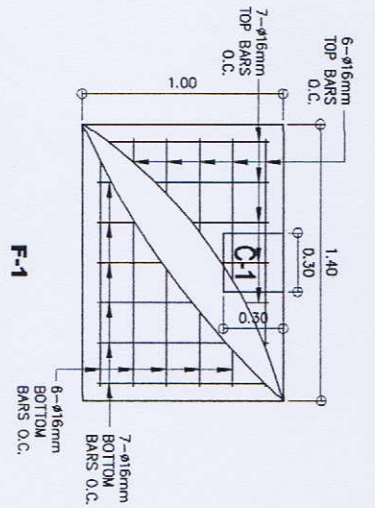
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2  
SCALE: 1:40M



3  
SCALE: 1:40M



4  
SCALE: 1:20M

**SCHEDULE OF BEAMS**

BEAM MARKING	SECTION (B x H)	BEAM TYPE	LEFT END REBARS	MIDSPAN REBARS	RIGHT END REBARS	SIDE BARS	SPACING OF Ø10 STIRRUPS TO CENTER
B-1	200 X 300	SINGLE	2-Ø16	2-Ø16	2-Ø16	2-Ø16	1 @ 50.3 @ 100.6 @ 150.9 REST @ 200 o.c.

**SCHEDULE OF FOOTINGS**

FOOTING DESIGNATION	X (mm)	Y (mm)	DEPTH (mm)	THICKNESS (mm)	ALONG X-DIRECTION	ALONG Y-DIRECTION
F-1	1400	1000	1000	300	TOP: 6-Ø16 BOTTOM: 6-Ø16	TOP: 7-Ø16 BOTTOM: 7-Ø16

**SCHEDULE OF COLUMNS**

COLUMN MARK	LEVEL	SECTION (B x H)	MAIN VERT. REBARS	Ø10 LATERAL TIES
C-1	FENCE / GROUND LEVEL	300 X 300	4-Ø20	1 set @ 100.6 @ 150.9 REST @ 150 o.c.

**GIBMA Engineering Services**  
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 93 Kallianan Street, Katangalan Village Phase 2A, Calatagan, Pangasinan City 1011  
 Tel. No.: 882 7114 Fax. No.: 882 9487 Cellphone No.: 0920 0238441  
 URL: www.gibma.com E-mail: gibmadocs@gibma.com

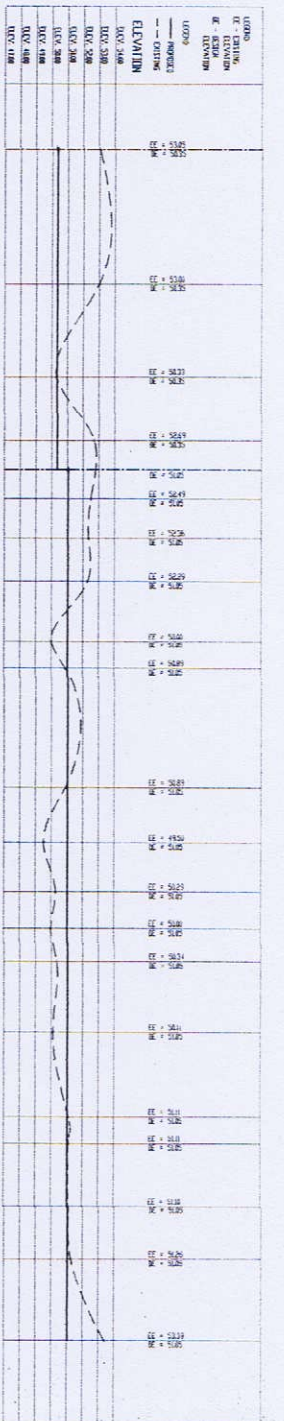
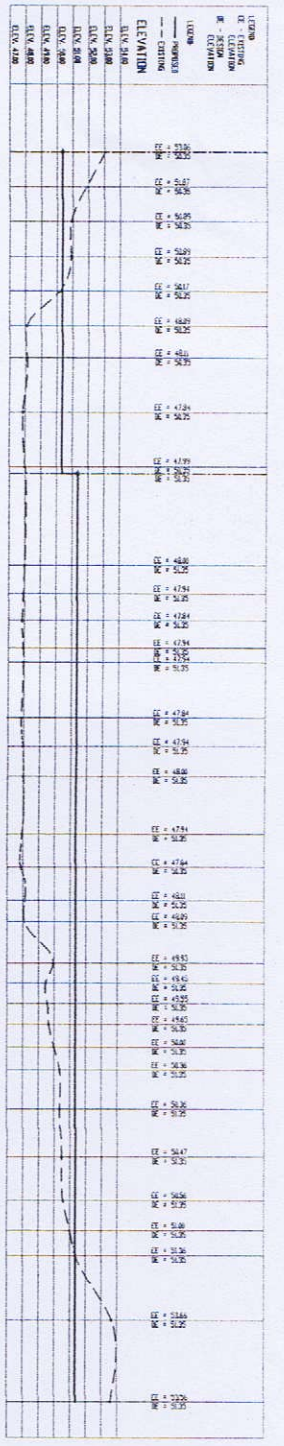
**PROJECT TITLE:** PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER  
**OWNER:** METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)  
**ADDRESS:** GEN. SANTOS AVE., BUCITAN, TAOUG CITY, METRO MANILA

**DESIGNED BY:** BANC  
**CHECKED BY:** GMB  
**DATE:**

**REVIEWED & CHECKED BY:**  
**APPROVED BY:**

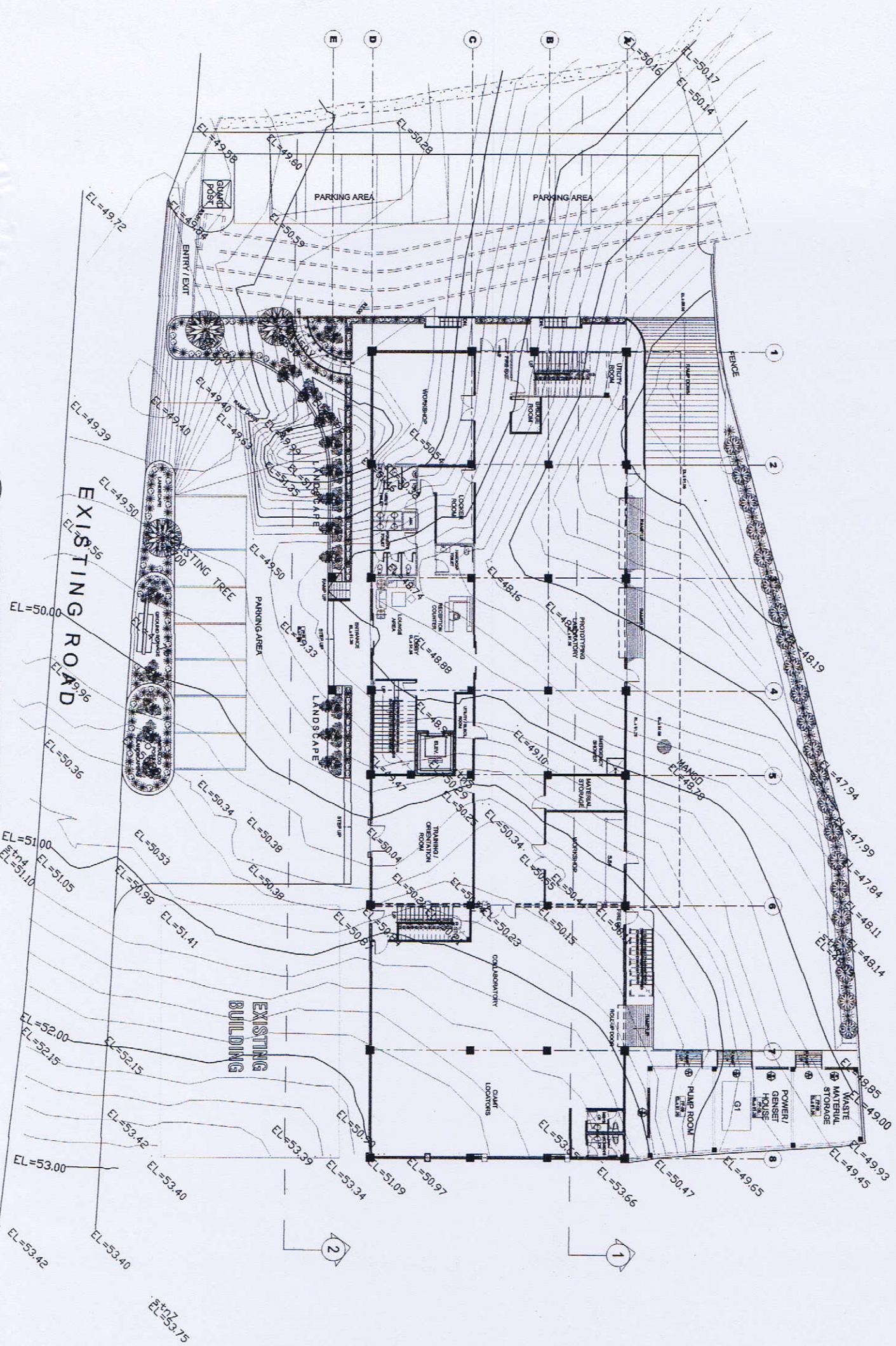
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**DRAWING NO.:** S-12  
**SHEET NO.:** 36 / 75



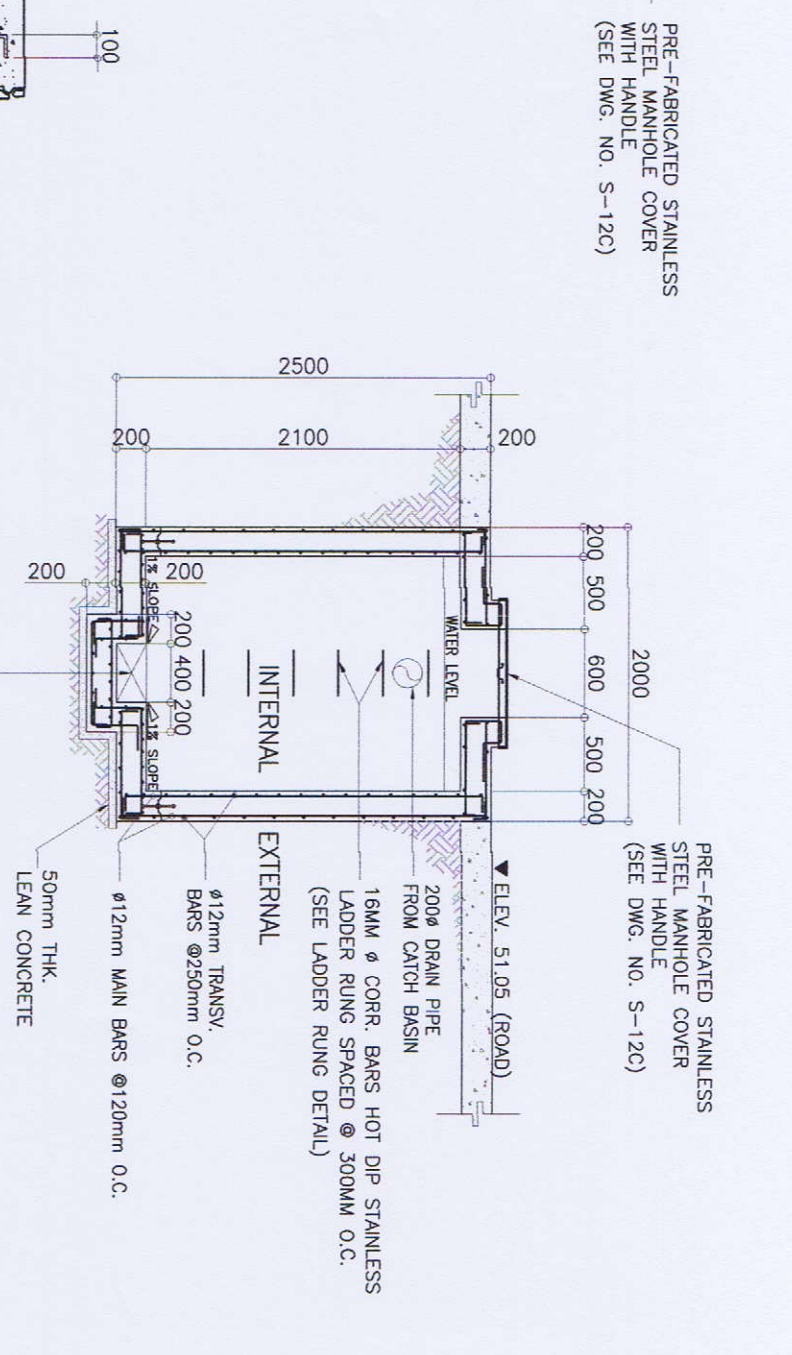
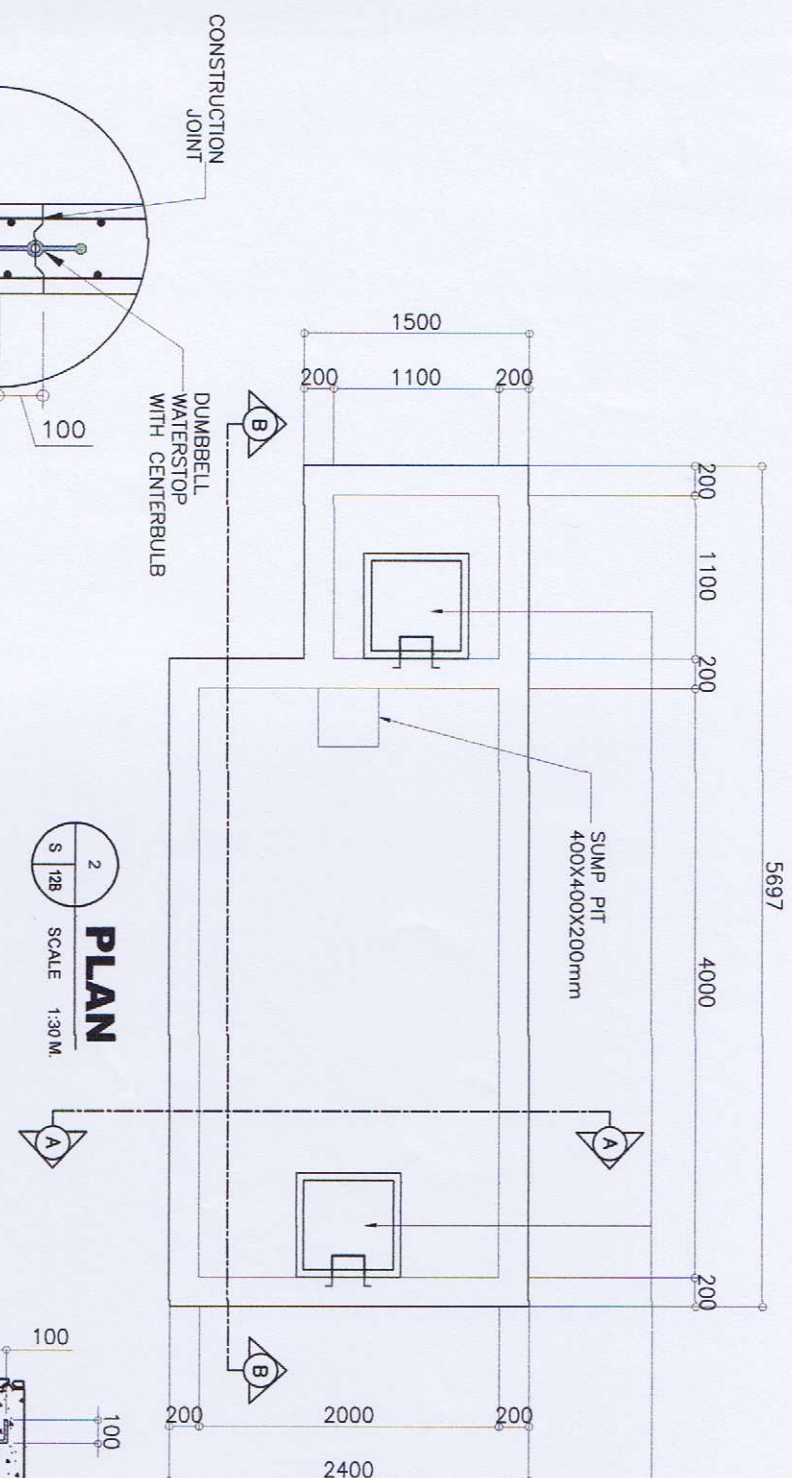
**KEYPLAN SECTION - 1**

**KEYPLAN SECTION - 2**



**TOPOGRAPHIC PLAN**  
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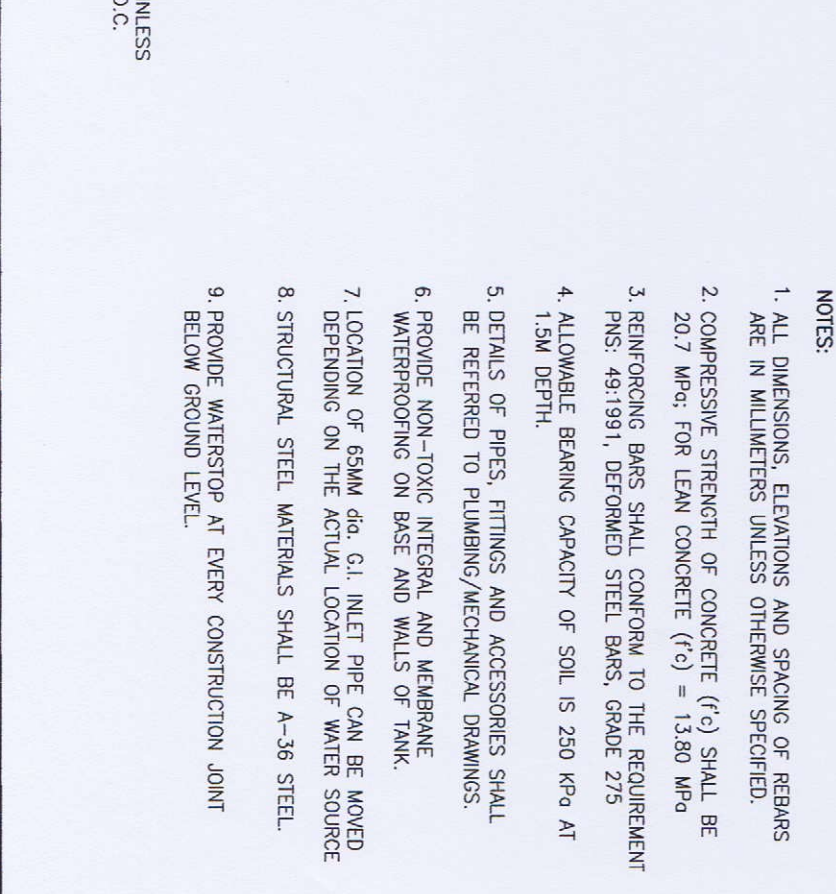
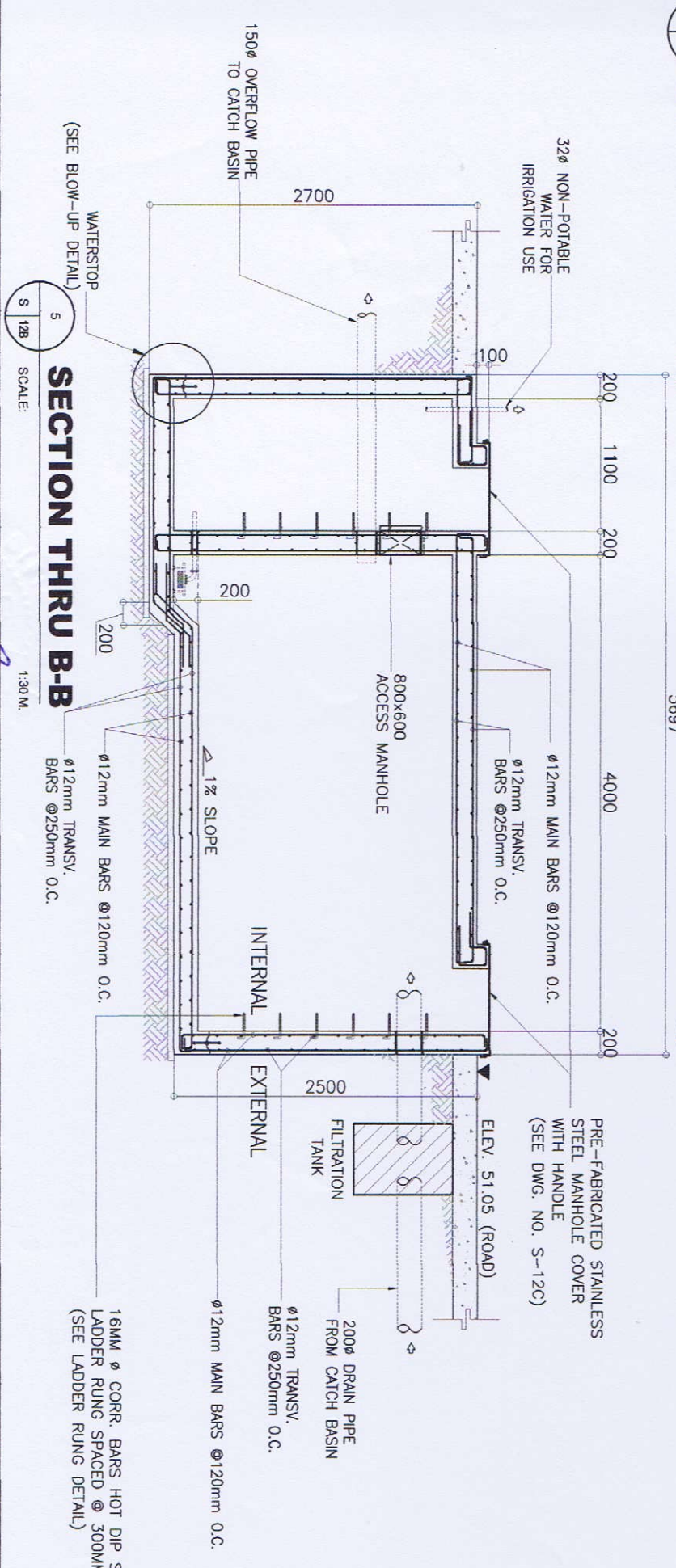
<p><b>GIBMA Engineering Services</b> Design - Construction - Project Management - Surveys 93 Kallianan Street, Karamogalan Village Phase 2A, Davao Pkg., Pook City 8111 Tel. No. 082 7114 Fax. No. 082 8867 Cellphone No. 0920 923441 URL: www.gibma.com E-mail: gibma2003@gibma.com</p>		<p><b>CIVIL / STRUCTURAL ENGINEER</b></p> <p>REGISTERED PROFESSIONAL ENGINEER</p> <p>NAME: GLEBERT B. MABUYUK, F. ASBP</p> <p>REG. NO.: 05251</p> <p>DATE: AUG. 1, 1999</p> <p>TIN: 108-691-911</p>		<p><b>PROJECT TITLE:</b></p> <p>PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER</p>		<p><b>OWNER:</b></p> <p>METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)</p>		<p><b>REVIEWED &amp; CHECKED BY:</b></p> <p>JOSEPH M. FREDY GARCIA REGISTERED PROFESSIONAL ENGINEER</p>		<p><b>DESIGNED BY:</b></p> <p>SMAD</p>		<p><b>SHEET CONTENTS:</b></p> <p>TOPOGRAPHIC PLAN</p>		<p><b>DRAWING NO.:</b></p> <p>S - 12A</p>			
<p><b>PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER</b></p>				<p><b>ADDRESS:</b></p> <p>GEN. SANTOS AVE., BICULTAN, TAGUIG CITY, METRO MANILA</p>				<p><b>RECOMMENDED BY:</b></p> <p>FREDY GARCIA</p>				<p><b>CHECKED BY:</b></p> <p>GEM</p>				<p><b>SHEET NO.:</b></p> <p>36 / 75</p>	
<p><b>LOCATION:</b></p> <p>GEN. SANTOS AVE., BICULTAN, TAGUIG CITY, METRO MANILA</p>				<p><b>ISSUED ON:</b></p> <p>JAN. 3, 2019</p>				<p><b>APPROVED BY:</b></p> <p>REGISTERED PROFESSIONAL ENGINEER</p>				<p><b>DATE:</b></p> <p></p>				<p><b>DATE:</b></p> <p></p>	



**1 BLOW-UP DETAIL**  
SCALE: 1:10 M

**3 LADDER RUNG DETAIL**  
SCALE: N.T.S.

**4 SECTION THRU A-A**  
SCALE: 1:30 M



**5 SECTION THRU B-B**  
SCALE: 1:30 M

NOTES:

1. ALL DIMENSIONS, ELEVATIONS AND SPACING OF REBARS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. COMPRESSIVE STRENGTH OF CONCRETE ( $f'c$ ) SHALL BE 20.7 MPa; FOR LEAN CONCRETE ( $f'c$ ) = 13.80 MPa
3. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENT PNS: 49:1991, DEFORMED STEEL BARS, GRADE 275
4. ALLOWABLE BEARING CAPACITY OF SOIL IS 250 KPa AT 1.5M DEPTH.
5. DETAILS OF PIPES, FITTINGS AND ACCESSORIES SHALL BE REFERRED TO PLUMBING/MECHANICAL DRAWINGS.
6. PROVIDE NON-TOXIC INTEGRAL AND MEMBRANE WATERPROOFING ON BASE AND WALLS OF TANK.
7. LOCATION OF 65MM dia. G.I. INLET PIPE CAN BE MOVED DEPENDING ON THE ACTUAL LOCATION OF WATER SOURCE
8. STRUCTURAL STEEL MATERIALS SHALL BE A-36 STEEL.
9. PROVIDE WATERSTOP AT EVERY CONSTRUCTION JOINT BELOW GROUND LEVEL.



**GIBMA Engineering Services**  
Design - Construction - Project Management - Surveys  
98 Kalkasan Street Karangtuban Village Phase 2A, Dala Paz, Pasig City, 16111  
Tel. No. 882 7114 Fax. No. 882 0487  
URL: www.gibma.com

CIVIL / STRUCTURAL ENGINEER	PROJECT TITLE:	OWNER:	DESIGNED BY:	SHEET CONTENTS:	DRAWING NO.:
ALBERT B. MAGSAYSAN, F. I. I. S. E. P.	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	LOGAN R. GARCIA REGISTERED PROFESSIONAL ENGINEER	10 COLUMN RAINWATER	<b>S - 12B</b>
REG. NO.: 055581	LOCATION:	ADDRESS:	RECOMMENDED BY:	DATE:	SHEET NO.:
0509423	GEN. SANTOS AVE., BICUTAN, TAGUIG CITY, METRO MANILA	GEN. SANTOS AVE., BICUTAN, TAGUIG CITY, METRO MANILA	FRED F. LIZA REGISTERED PROFESSIONAL ENGINEER	GIBMA	<b>36 / 75</b>
DATE: AUG 11, 2019	ISSUED ON: JAN 3, 2019	APPROVED BY:	ROBERTO DAZON REGISTERED PROFESSIONAL ENGINEER		
TIN: 105-459-911	ISSUED AT: PASIG CITY				



**GIBMA Engineering Services**  
 Design Construction Project Management SURVEYS  
 93 Kalkasan Street Karangah Village Phase 2A, Dana Paz, Pang CAY 1811  
 Tel. No.: 682 7114 Fax. No.: 682 9467 Callphone No.: 0920 9228441  
 URL: www.gibma.com E-mail: gibma2000@yahoo.com

CIVIL / STRUCTURAL ENGINEER  
 REG. NO.: 06292 PTR. NO.: 9035423  
 DATE: AUG. 1, 1989 ISSUED ON: JAN. 3, 2018  
 TIME: 19h-49m-01s ISSUED AT: PASIG CITY

PROJECT TITLE:  
**PROPOSED 2- STOREY ADVANCED MANUFACTURING CENTER**

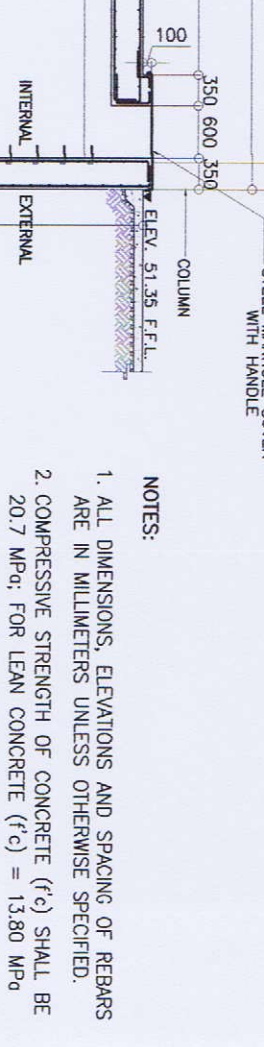
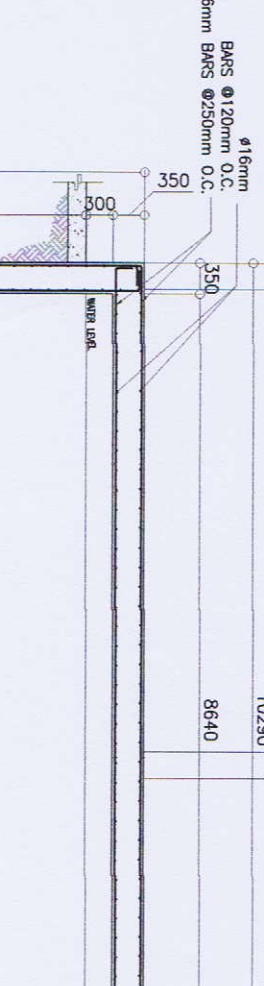
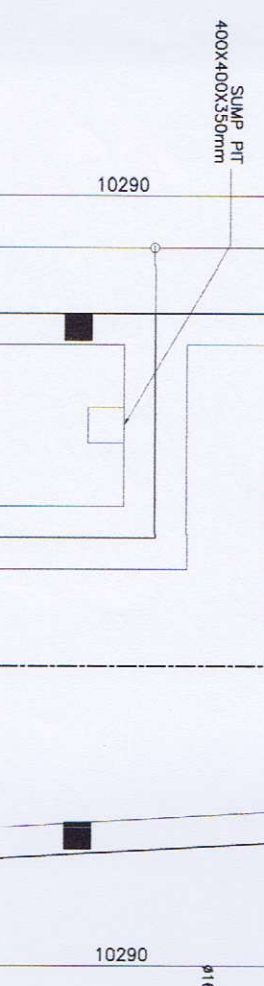
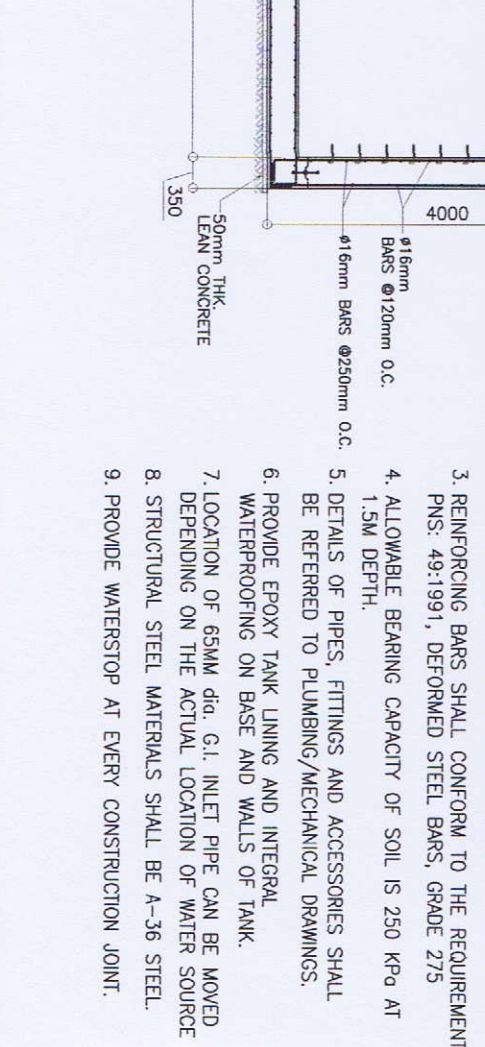
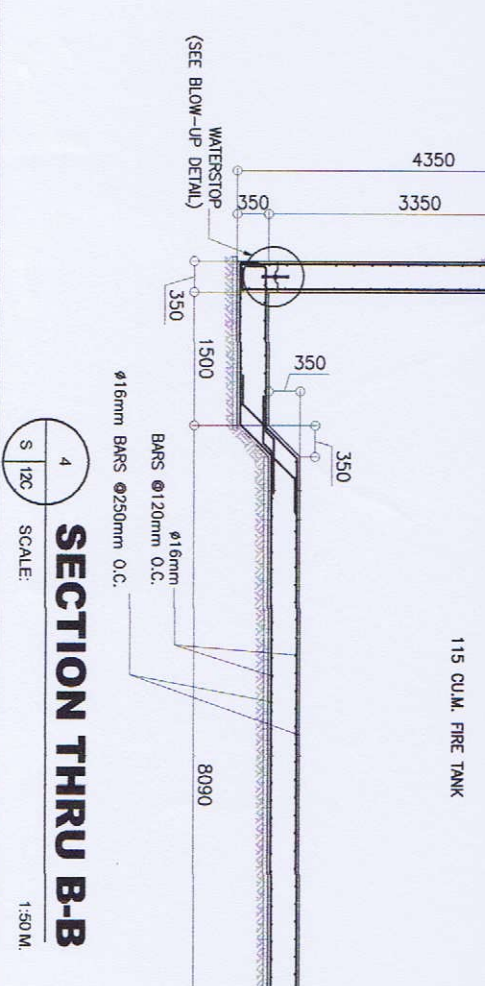
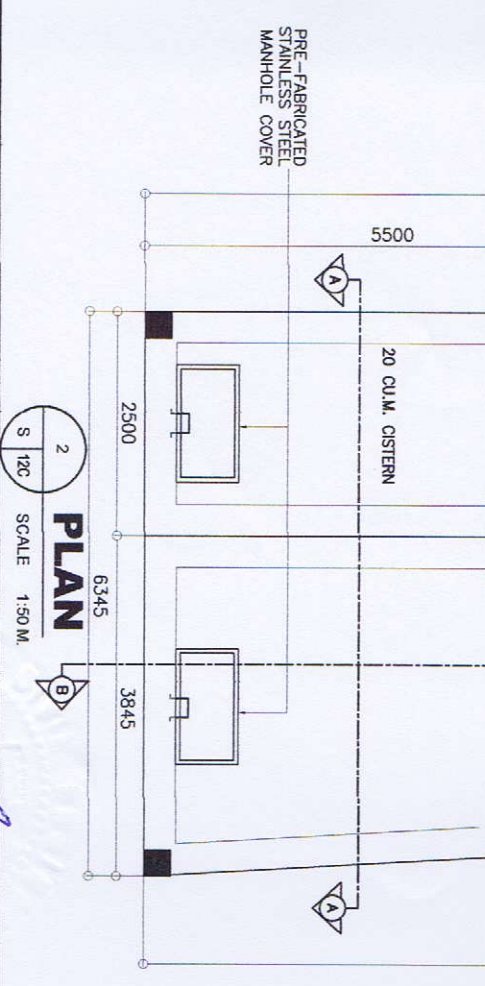
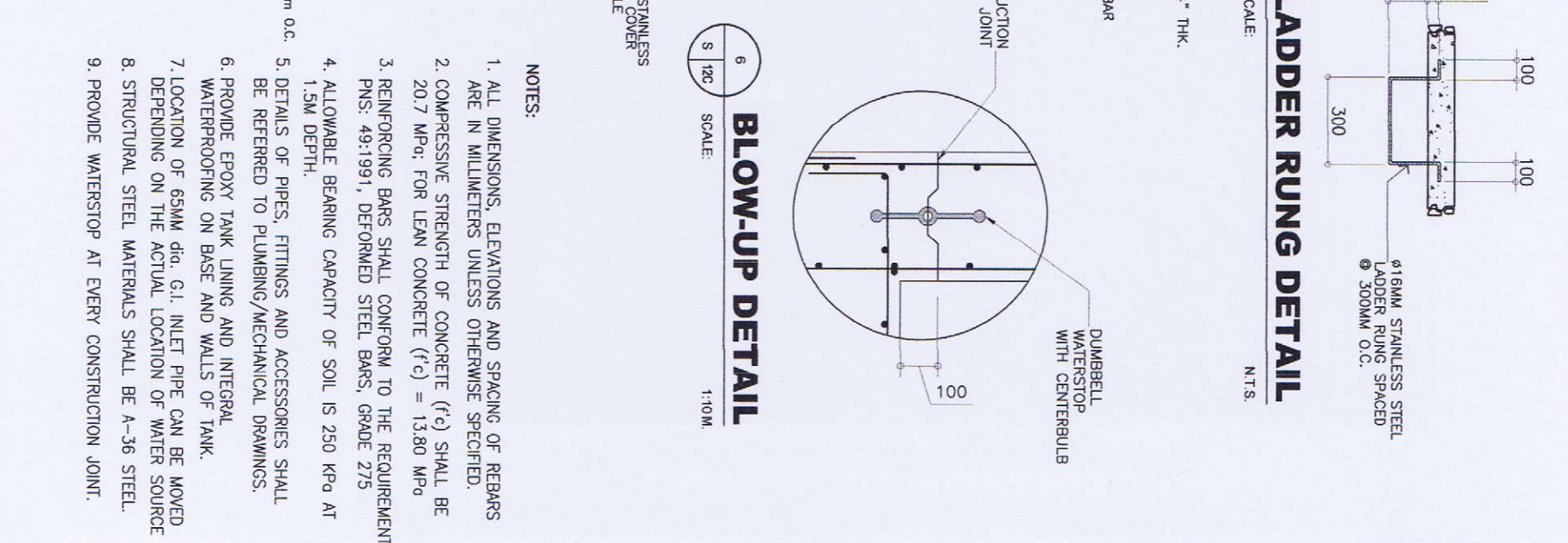
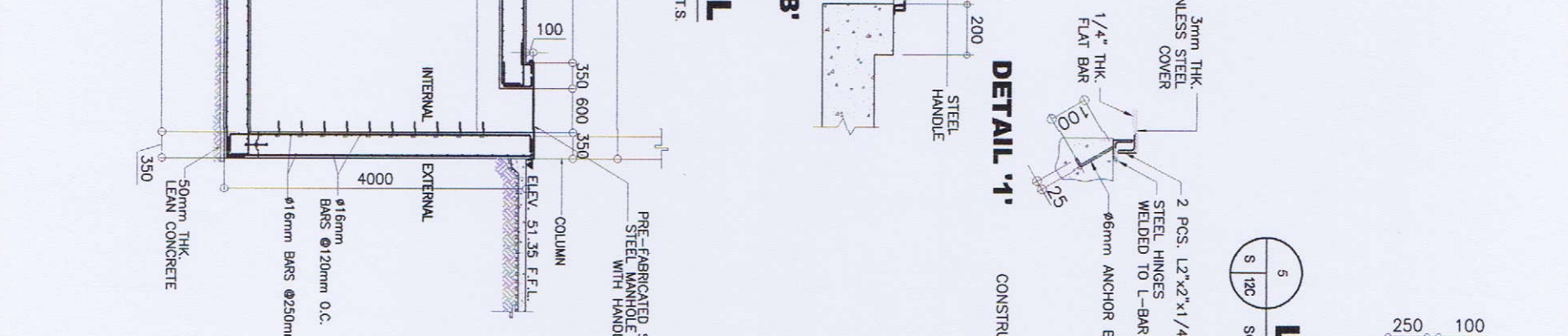
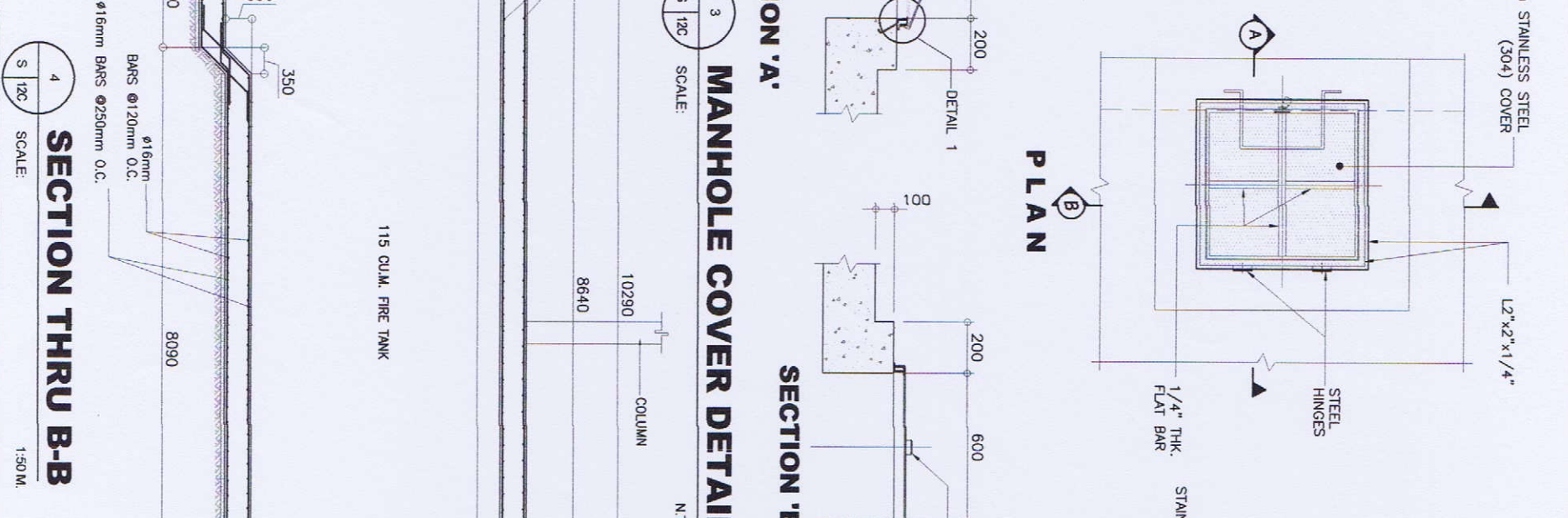
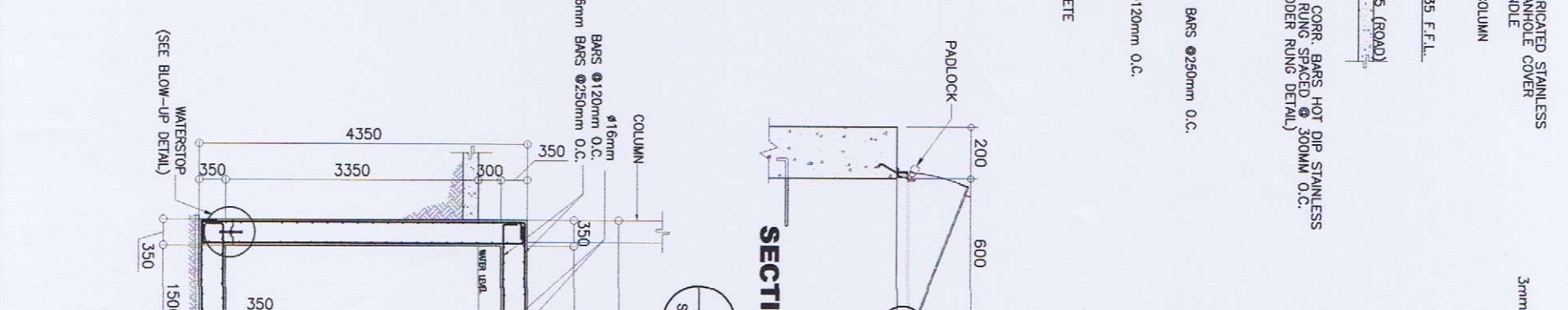
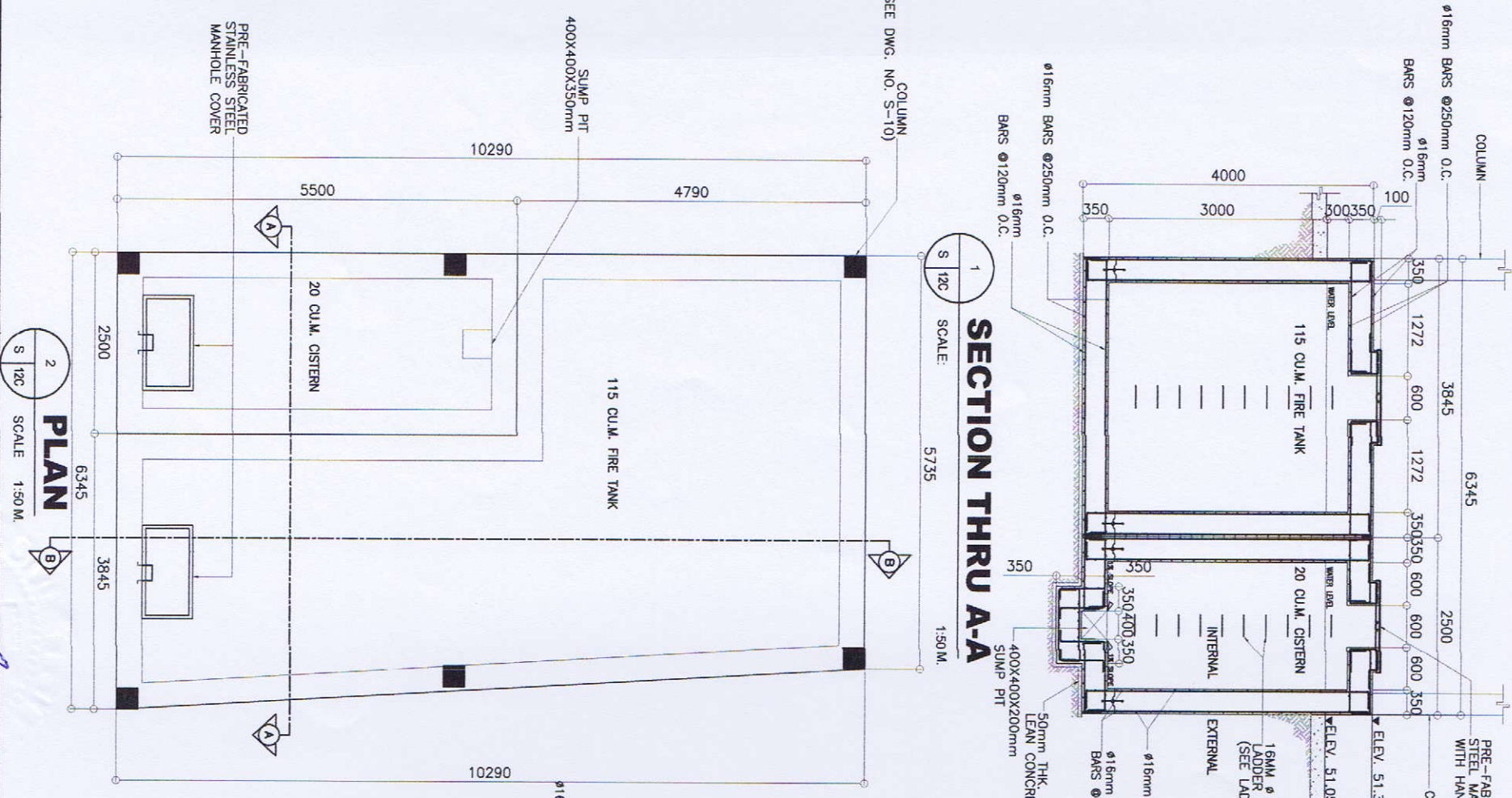
OWNER:  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

REVIEWED & CHECKED BY:  
 JOSEPH A. REYES-GARCIA  
 RECOMMENDED BY:  
 ERIC M. ALONSO

DESIGNED BY:  
 CADW BY:  
 DATE:  
 CHECKED BY:  
 APPROVED BY:  
 DATE:

SHEET CONTENTS:  
 20 CUM. CISTERNA & 115 CUM. FIRE TANK  
 PLAN  
 SECTION THRU A-A  
 SECTION THRU B-B  
 LADDER RUNG DETAIL  
 BLOW-UP DETAIL  
 MANHOLE COVER DETAIL

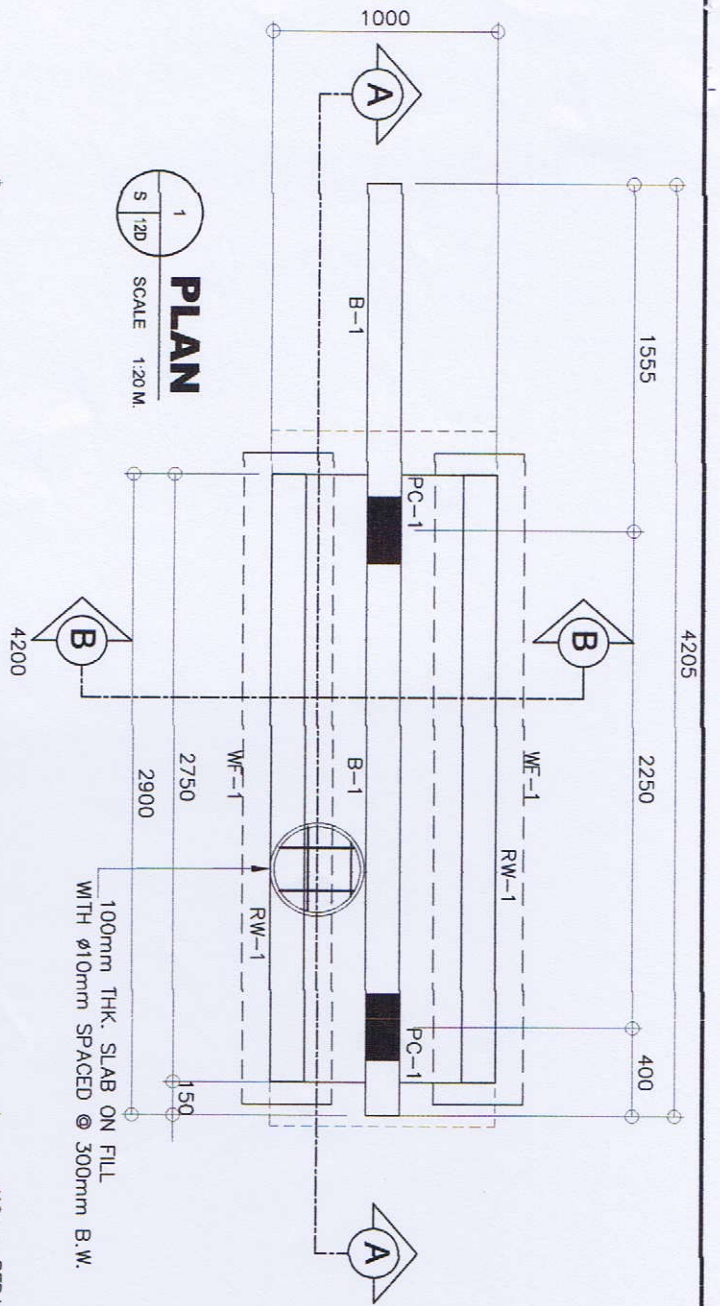
DRAWING NO.:  
**S - 12C**  
 SHEET NO.:  
**36 / 75**



**NOTES:**

1. ALL DIMENSIONS, ELEVATIONS AND SPACING OF REBARS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. COMPRESSIVE STRENGTH OF CONCRETE (f'c) SHALL BE 20.7 MPa; FOR LEAN CONCRETE (f'c) = 13.80 MPa
3. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENT PNS: 49:1991, DEFORMED STEEL BARS, GRADE 275
4. ALLOWABLE BEARING CAPACITY OF SOIL IS 250 KPa AT 1.5M DEPTH.
5. DETAILS OF PIPES, FITTINGS AND ACCESSORIES SHALL BE REFERRED TO PLUMBING/MECHANICAL DRAWINGS.
6. PROVIDE EPOXY TANK LINING AND INTEGRAL WATERPROOFING ON BASE AND WALLS OF TANK.
7. LOCATION OF 65MM dia. G.I. INLET PIPE CAN BE MOVED DEPENDING ON THE ACTUAL LOCATION OF WATER SOURCE
8. STRUCTURAL STEEL MATERIALS SHALL BE A-36 STEEL.
9. PROVIDE WATERSTOP AT EVERY CONSTRUCTION JOINT.





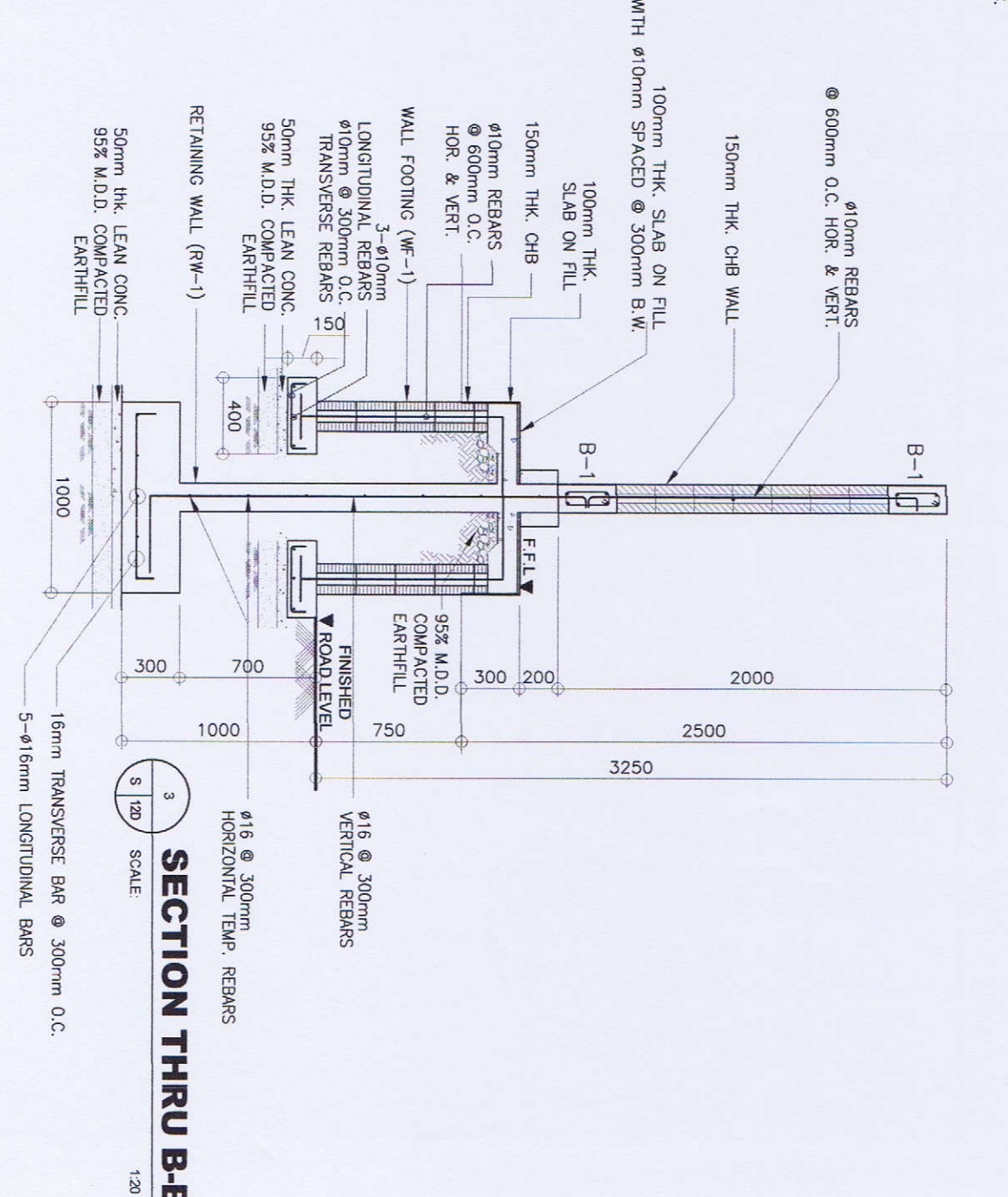
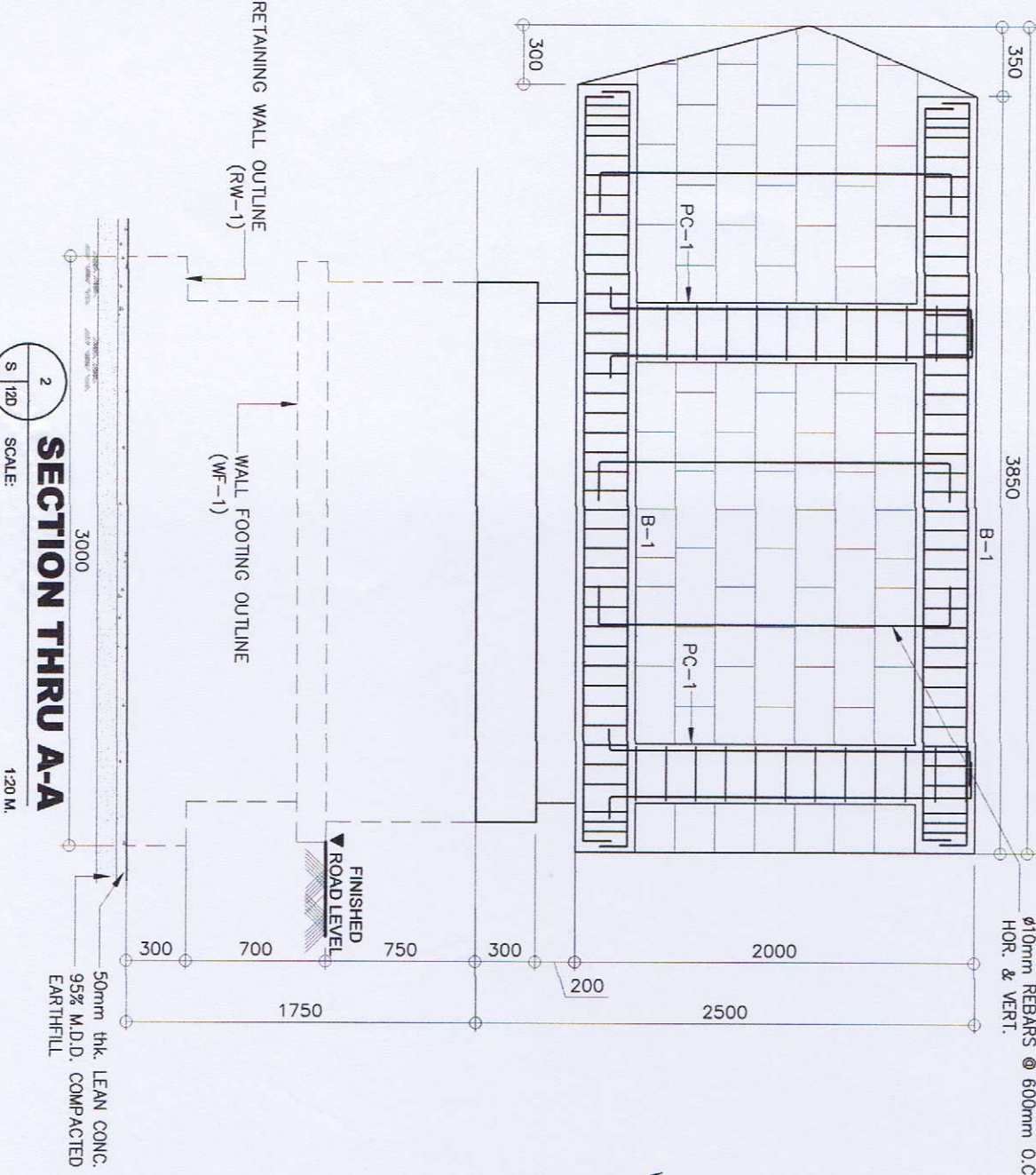
### SCHEDULE OF COLUMN

COLUMN MARKING	LEVEL	SECTION (B x H)	MAIN VERT. REBARS	Ø10 LATERAL TIES
PC-1	BEAM 1 TO BEAM 1	150 X 300	4 - Ø16	1 SET @ 1Ø 50, 3Ø 100 REST @ 150 O.C.

### SCHEDULE OF BEAM

BEAM MARKING	SECTION (B x H)	BEAM TYPE	LEFT END REBARS		MIDSPAN REBARS		RIGHT END REBARS		SPACING OF Ø10 STIRRUPS TO CENTER
			TOP	BOTTOM	TOP	BOTTOM	TOP	BOTTOM	
B-1	150 X 300	SINGLE	2-Ø16	2-Ø16	2-Ø16	2-Ø16	2-Ø16	2-Ø16	1 @ 50, 3 @ 100, REST @ 200 O.C.



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Surveys  
 93 Kalkasan Street Karangalan Village Phase 2A, Dana Paz, Paig City, 6611  
 Tel. No.: 682 7114 Fax. No.: 682 6467 Callphone No.: 0920 928641  
 URL: www.gibma.com Email: gibma2003@yahoo.com

CIVIL / STRUCTURAL ENGINEER  
 REG. NO.: 06551  
 DATE: 10-1-2008  
 TH: 106-49-911

PROJECT TITLE:  
**PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

REVIEWED & CHECKED BY:  
 JOSEPH R. LERIO, GARCIA  
 RECOMMENDED BY:  
 ROBERT C. DAZON

DESIGNED BY:  
 SMD  
 DATE:  
 CHECKED BY:  
 GBM

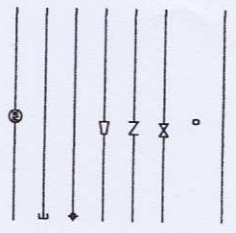
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 PLAN  
 SECTION THRU A-A  
 SECTION THRU B-B  
 SCHEDULE OF COLUMN & BEAM  
 DRAWING NO.:  
**S - 12D**  
 SHEET NO.:  
**36 / 75**

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES, REGULATIONS, AND DECREES.
2. ALL DIMENSIONS AND PERCENTAGES SHALL BE UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
4. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
5. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.

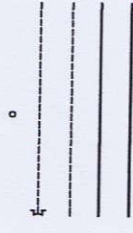
LEGEND, SYMBOLS & ABBREVIATIONS:

WATER SUPPLY AND DISTRIBUTION SYSTEMS:



SYMBOL	DESCRIPTION
	COLD WATER LINE
	HOT WATER LINE
	CHECK VALVE
	WATER METER
	WATER SUPPLY POINT CONNECTION

SOIL, WASTE AND VENT SYSTEMS:



SYMBOL	DESCRIPTION
	SOIL PIPE/WASTE PIPE (INTERIOR)
	VENT PIPE/WASTE PIPE (EXTERIOR)
	SEWER LINE
	STORM DRAINAGE LINE

MATERIALS SPECIFICATION:

1. ALL PIPE SIZES INDICATED ON PLANS MUST BE USED UNLESS OTHERWISE SPECIFIED.
2. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
4. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
5. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.

COLD WATER LINE

INSTALLATION OF COLD WATER LINE SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES, REGULATIONS, AND DECREES.

SOIL, WASTE AND VENT LINES

INSTALLATION OF SOIL, WASTE AND VENT LINES SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES, REGULATIONS, AND DECREES.

DOWNSPOUTS & DRAINAGE LINE (INSIDE OF BUILDING)

INSTALLATION OF DOWNSPOUTS & DRAINAGE LINE SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES, REGULATIONS, AND DECREES.

STORM DRAINAGE SYSTEM:



SYMBOL	DESCRIPTION
	STORM DRAINAGE LINE
	CATCH BASIN

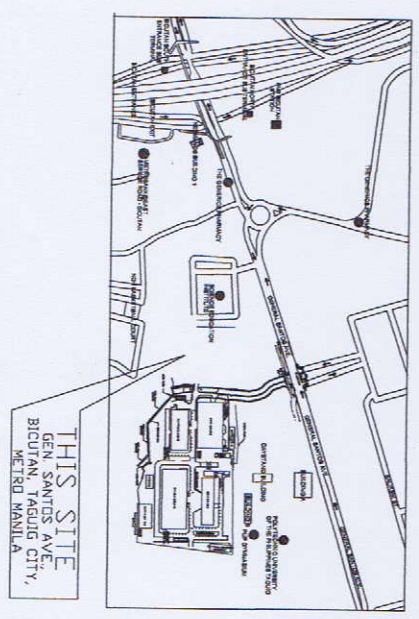
ABBREVIATIONS:

SYMBOL	DESCRIPTION
	AIR CONDITIONER
	BATHROOM
	BEDROOM
	LIVING ROOM
	KITCHEN
	OFFICE
	STORAGE ROOM
	BREAK ROOM
	WAITING AREA
	RECEPTION AREA
	ELEVATOR
	ESCALATOR
	STAIRCASE
	RAMP
	WALKWAY
	DRIVEWAY
	GARAGE
	POOL
	PATIO
	LANDSCAPE
	FENCE
	GATE
	ROAD
	HIGHWAY
	RAILROAD
	WATER BODY
	VEGETATION
	TOPOGRAPHY
	SPOT ELEVATION
	BENCHMARK
	ELEVATION
	ELEVATION RANGE
	ELEVATION CONTOUR
	ELEVATION SPOT HEIGHT
	ELEVATION SPOT HEIGHT RANGE
	ELEVATION SPOT HEIGHT CONTOUR
	ELEVATION SPOT HEIGHT CONTOUR RANGE

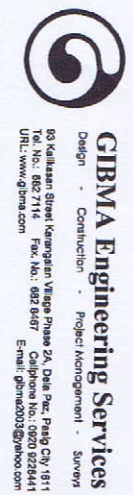
EQUIPMENT SCHEDULE:

PUMP NO.	SERVICE	TYPE	LOCATION	QTY	CAPACITY GPM	APPROX. HEAD FT.	BHP	ELECTRICAL CHARACTERISTICS VOLTS   PHASE   HERTZ	REMARKS
1	ROCKET PUMP (PROVIDED)	ROCKET PUMP	PLANT ROOM	2	40 (000)	110 (000)	3	230   1   60	VP CONTROLLED PUMP
2	ROCKET PUMP (PROVIDED)	ROCKET PUMP	PLANT ROOM	2	30 (000)	80 (000)	1.5	230   1   60	VP CONTROLLED PUMP
3	ELEVATION PUMP	ELEVATION PUMP	ELEVATOR	1	20	30	0.5	230   1   60	VP CONTROLLED PUMP

VICINITY MAP



THIS SITE  
GEN. SANTOS AVE.,  
BIDJUAN, TAGUIG CITY,  
METRO MANILA



**GIBMA Engineering Services**  
Design - Construction - Project Management - Survey  
83 Kalayaan Street, Katipunan, Viteco Phase 2A, Quezon City, Metro Manila  
Tel. No.: 862 7114 | Fax. No.: 862 6467  
URL: www.gibma.com | Email: gibma@ibma.com

PROJECT TITLE: PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER  
OWNER: METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)  
ADDRESS: GEN. SANTOS AVE., BIDJUAN, TAGUIG CITY, METRO MANILA

DESIGNED BY: A.M.M.  
CHECKED BY: G.B.M.  
DATE: \_\_\_\_\_

SHEET CONTENTS: AS SHOWN

DRAWING NO.: PL-1  
SHEET NO.: 37 / 75



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 03 Kelakasan Street Karangdahan Village Phase 2A, Duta Puri, Medan City, 10111  
 Telp. No: 061 7114 Fax No: 062 9487 Call Centre No: 0820 023441  
 URL: www.gibma.com E-mail: gibma0000@jaboo.com

PROJECT TITLE:  
**PROPOSED 2-STORY ADVANCED  
 MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND  
 DEVELOPMENT CENTER (MIRDC)**

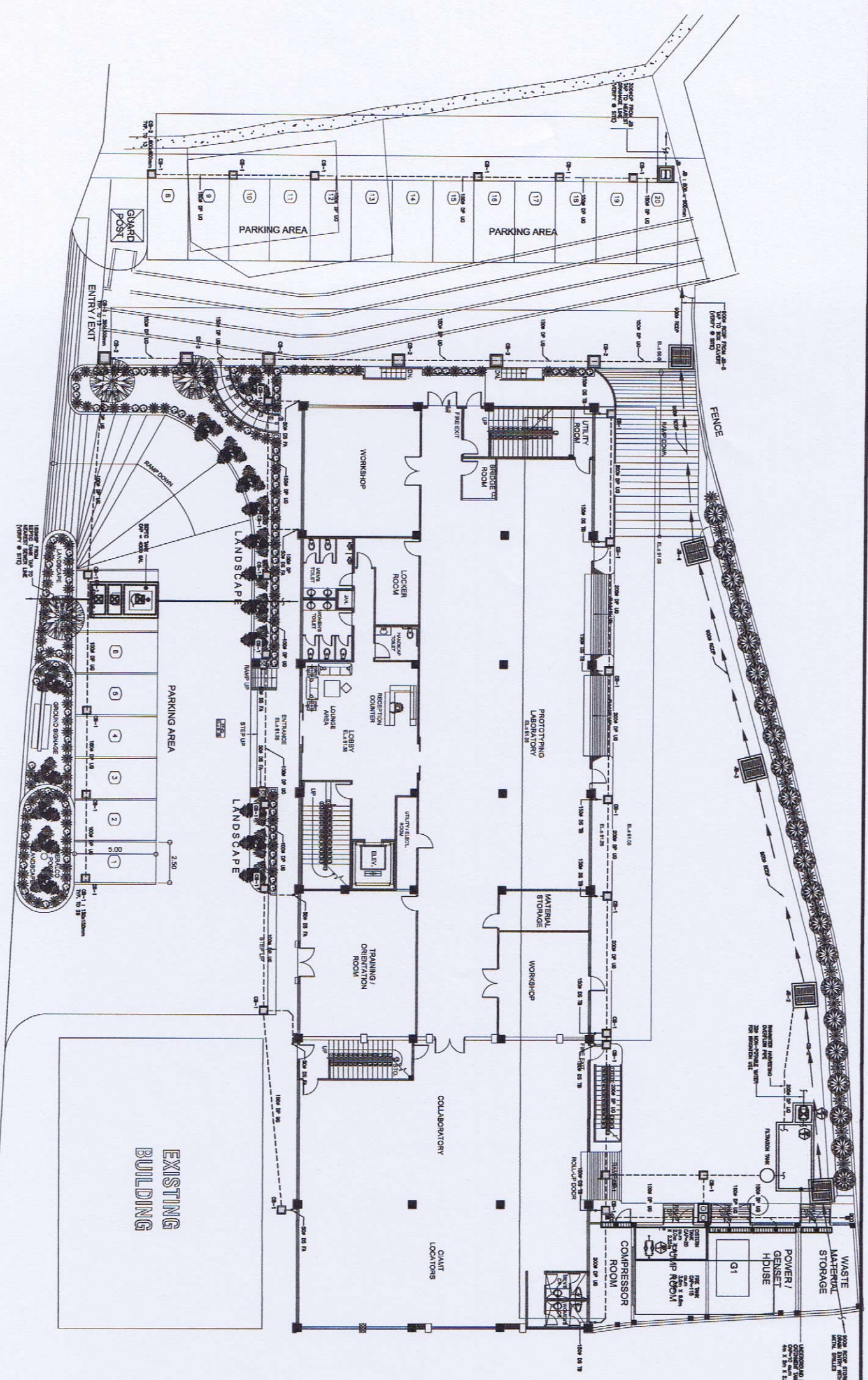
ADDRESS:  
 GBN BANTOR AVE., BICCIJAL, TANGSIQ CITY, MEDRO MANILA

DESIGNED BY:  
 A.Y.M.

DESIGNED BY:  
 A.Y.M.

AS SHOWN

DRAWING NO.:  
**PL - 2**  
 SHEET NO.:  
**38 / 75**



**EXISTING ROAD**  
**SITE DEVELOPMENT STORM DRAINAGE,  
 & SEWAGE SYSTEM LAYOUT**  
 SCALE: 1:1000

REVIEWED & CHECKED BY:  
 APPROVED BY:

DESIGNED BY:  
 DATE:

DESIGNED BY:  
 DATE:

DESIGNED BY:  
 DATE:

DESIGNED BY:  
 DATE:

AS SHOWN

DRAWING NO.:  
**PL - 2**  
 SHEET NO.:  
**38 / 75**



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 89 Kalarang Street, Karangas, Village Phase 2A, Duta, Pahl, Cak, 4411  
 Tel. No.: 883 2144 Fax. No.: 882 9467 Call Center No.: 8880 8444  
 URL: www.gibma.com E-mail: gibma2000@yahoo.com

SAHITRY SUPERVISOR: *[Signature]*  
 PROJECT TITLE: PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER  
 OWNER: METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)  
 ADDRESS: GELU SANTORA AVE., BEJUAN TAGBAY CITY, METRO MANILA

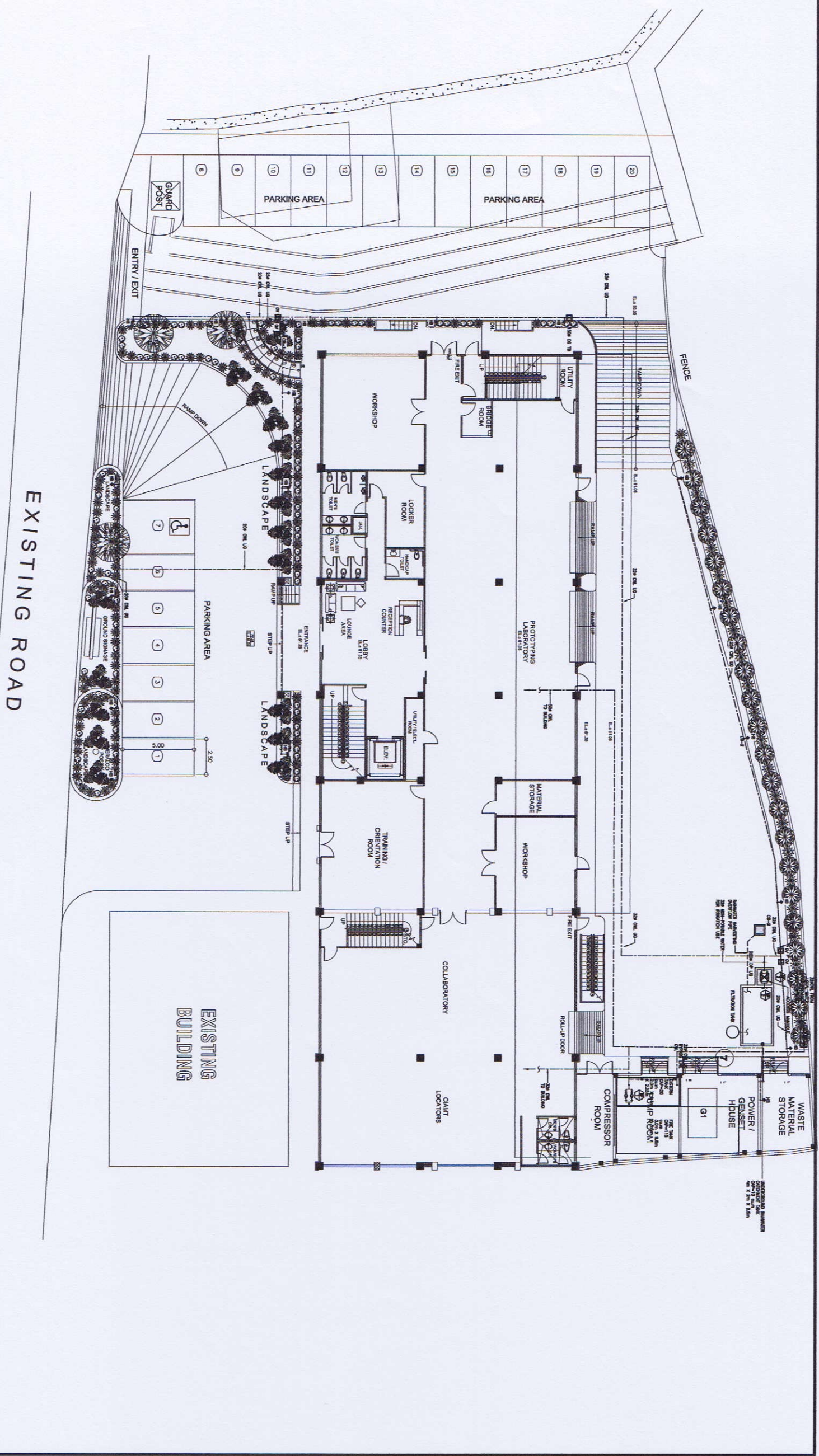
REVIEWED & CHECKED BY: *[Signature]*  
 RECOMMENDED BY: *[Signature]*  
 APPROVED BY: *[Signature]*

DESIGNED BY: *[Signature]*  
 CHECKED BY: *[Signature]*  
 APPROVED BY: *[Signature]*

DATE: *[Blank]*  
 DATE: *[Blank]*  
 DATE: *[Blank]*

AS SHOWN  
 SHEET NO.: **PL - 2A**  
 DRAWING NO.: **38 / 75**

**EXISTING ROAD**  
**SITE DEVELOPMENT**  
**IRRIGATION SYSTEM LAYOUT**  
 SCALE: 1:500





**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 83 Kelantan Street Karanggen Village Phase 2A, Duta Pk, Pangkajene, 1611  
 Tel. No: 082 27174 Fax. No: 082 8487 Callbox No: 0220 828441  
 URL: www.gibma.com E-mail: gibma2003@yahoo.com

**SANITARY ENGINEER**  
 APPROVED: *[Signature]*  
 NAME: AN KALIANI, SE  
 REG. NO.: 031110 P.T.N. NO.: 6010041  
 ISSUED ON: 04-03-2019  
 ISSUED AT: MANILA CITY

**PROJECT TITLE:**  
 PROPOSED 2-STOREY ADVANCED  
 MANUFACTURING CENTER

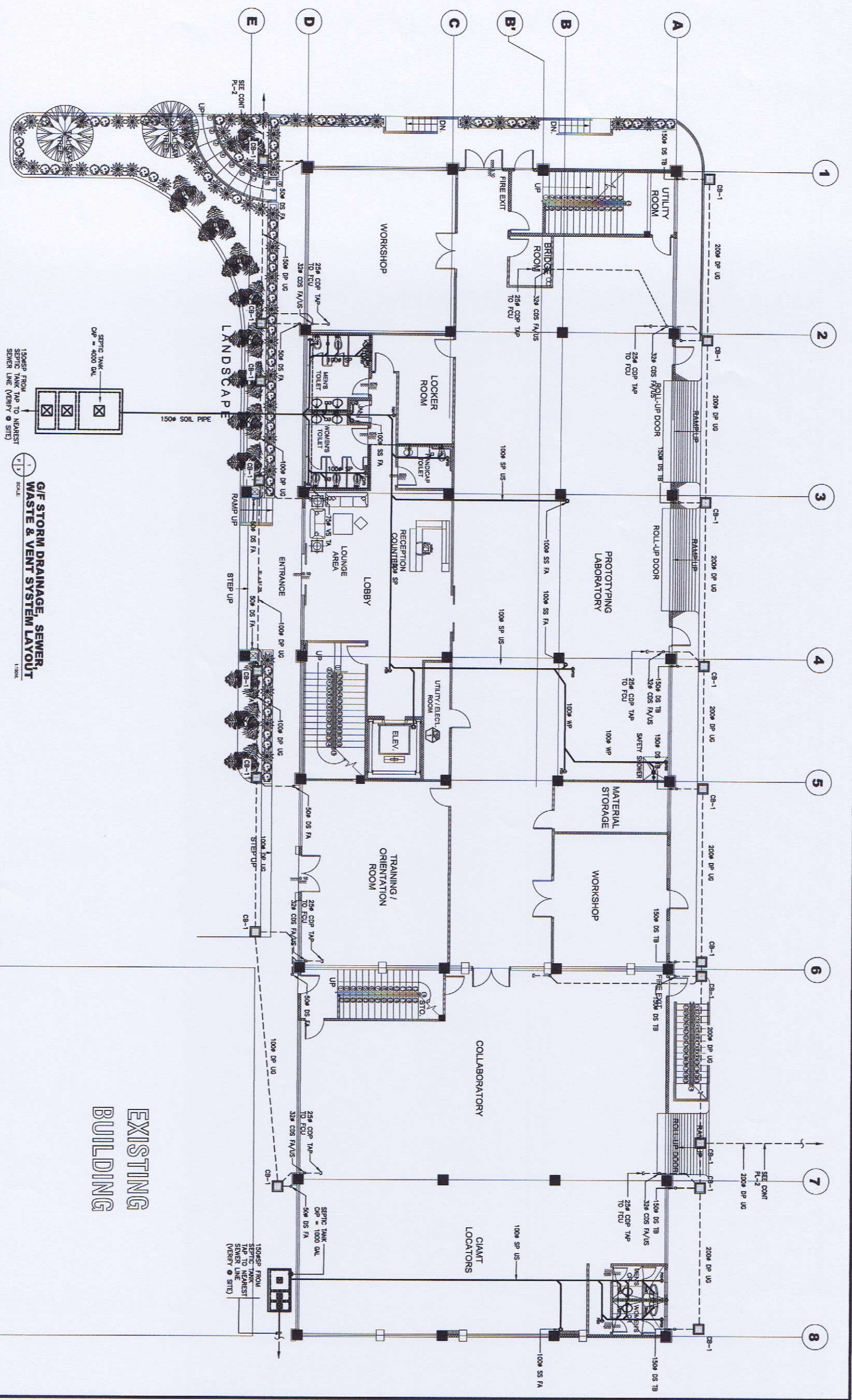
**OWNER:**  
 METALS INDUSTRY RESEARCH AND  
 DEVELOPMENT CENTER (MIRDC)

**REVIEWED & CHECKED BY:**  
 APPROVED BY: *[Signature]*  
 DATE: 04-03-2019

**DESIGNED BY:**  
 DATE: 04-03-2019

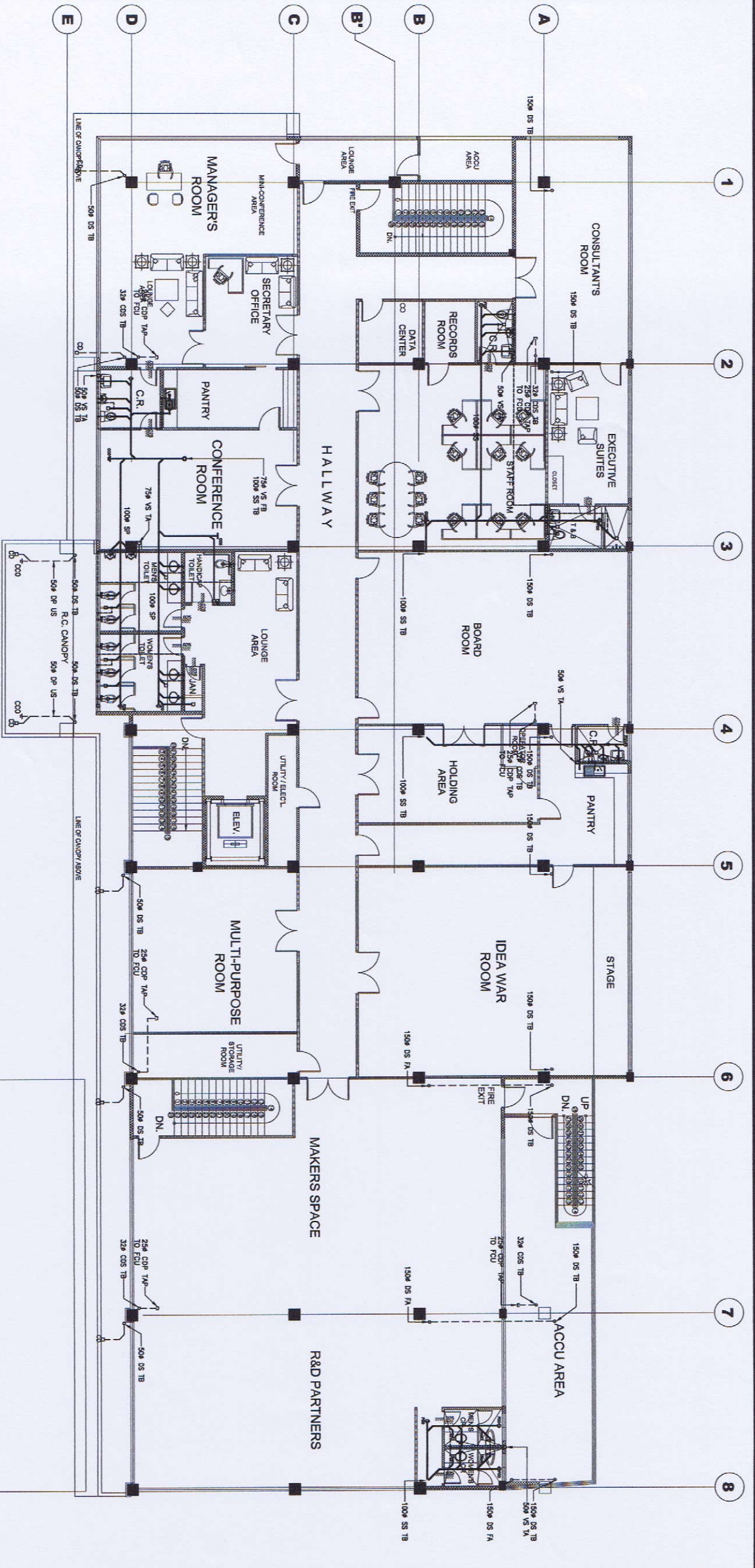
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 AS SHOWN

**DRAWING NO.:**  
**PL-3**  
**SHEET NO.:**  
**39 / 75**



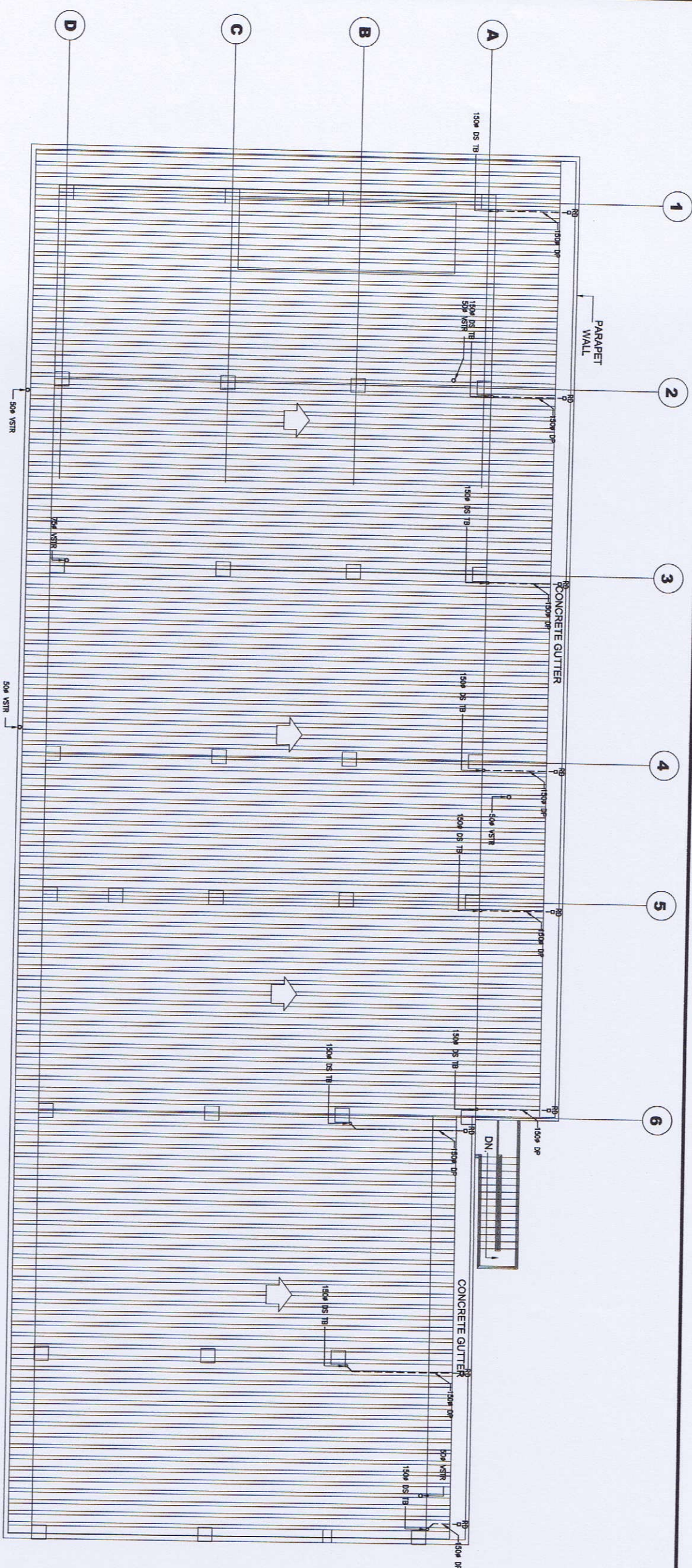
**G/F STORM DRAINAGE, SEWER,  
 WASTE & VENT SYSTEM LAYOUT**  
 SCALE: 1/100

**EXISTING  
 BUILDING**



2/F STORM DRAINAGE, SEWER, WASTE & VENT SYSTEM LAYOUT  
1:1000 SCALE

<p><b>GIBMA Engineering Services</b> Design - Construction - Project Management - Survey 53 Kelantan Street, Karanganyar Village Phase 2A, Dam Pauh, Pasing City, 1611 Tel. No.: 882 7114 Fax. No.: 882 8487 Utl. www.gibma.com Email: gibma@3333333333.com</p>		<p><b>SANITARY ENGINEER</b> APRILIA GIANI WILJANI, BE REG. NO.: 033119 PR. NO.: 80103W ISSUED ON: 01-23-2018 ISSUED AT: MANILA CITY</p>		<p><b>PROJECT TITLE:</b> PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER</p>		<p><b>OWNER:</b> METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)</p>		<p><b>REVIEWED &amp; CHECKED BY:</b> ROBERTO S. ZOU MARC ANTONIO S. SERRANO</p>		<p><b>DESIGNED BY:</b> MAMK <b>DATE:</b> <b>CHECKED BY:</b> G.B.M. <b>DATE:</b></p>		<p><b>SHEET CONTENTS:</b> AS SHOWN</p>		<p><b>DRAWING NO.:</b> PL - 4 <b>SHEET NO.:</b> 40 / 75</p>	
<p><b>PROPOSED TITLE:</b> PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER</p>		<p><b>LOCATION:</b> GEN. BANTONG AVE. SIGIPAN, TAGUIG CITY, METRO MANILA</p>		<p><b>APPROVED BY:</b> ROBERTO S. ZOU MARC ANTONIO S. SERRANO</p>		<p><b>ADDRESS:</b> GEN. BANTONG AVE. SIGIPAN, TAGUIG CITY, METRO MANILA</p>		<p><b>APPROVED BY:</b> ROBERTO S. ZOU MARC ANTONIO S. SERRANO</p>		<p><b>DATE:</b></p>		<p><b>DATE:</b></p>		<p><b>DATE:</b></p>	




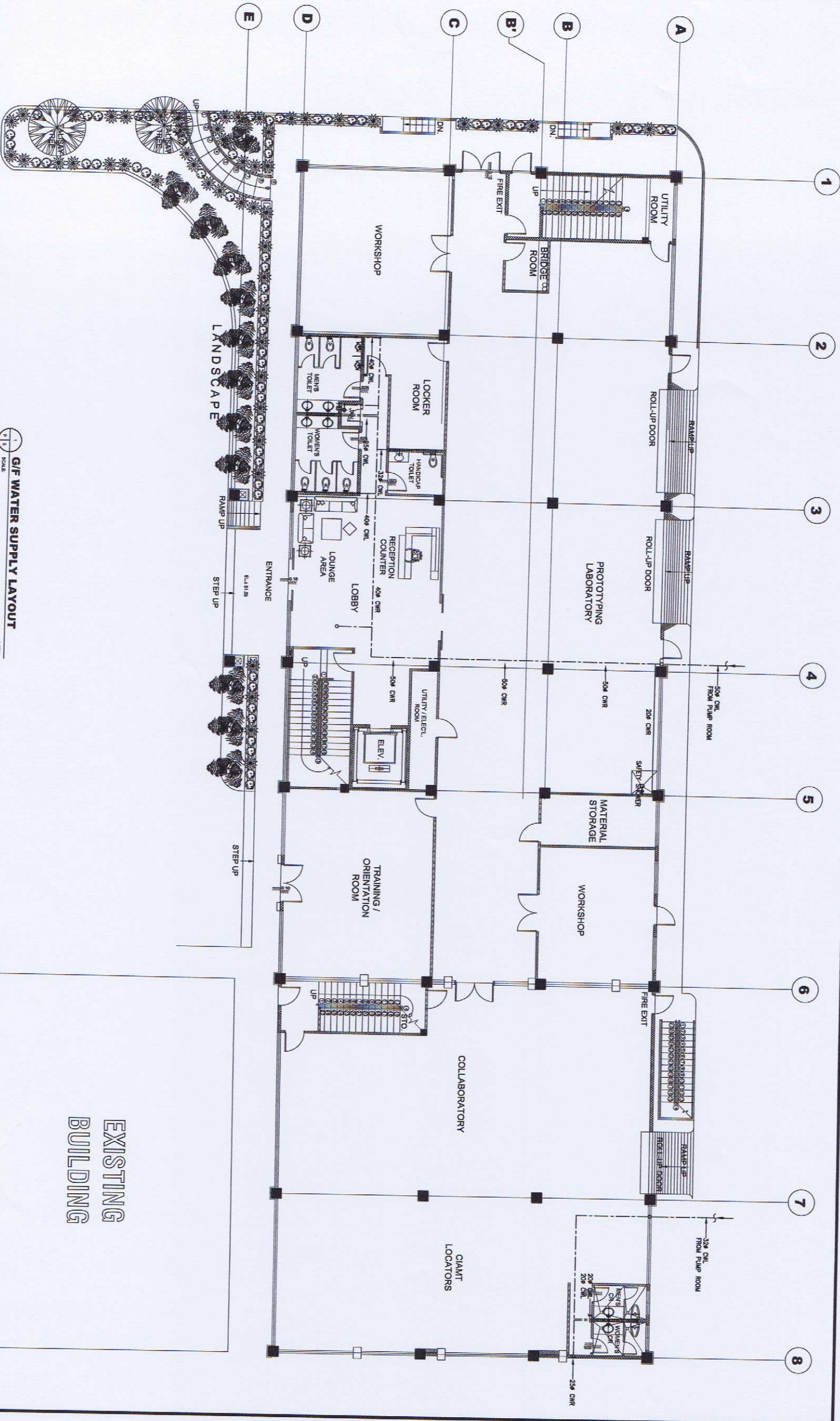
**R/D STORM DRAINAGE, SEWER,  
WASTE & VENT SYSTEM LAYOUT**  
SCALE: 1:100

**EXISTING  
BUILDING**



**GIBMA Engineering Services**  
Design - Construction - Project Management - Surveys  
33 Kerdasan Street Karangasem, Village Pihang 2A, Dale Pac, Pang City, 1911  
Telp. : 082 7114 Fax. No. : 082 8687 Callphone No. : 0820 823441  
Url : www.gibma.com E-mail : gibrad003@gibma.com


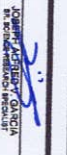
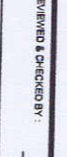
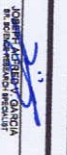
<b>REGISTERED ENGINEER</b>  <b>ABDEL MOU WILLYAN, SE</b>		<b>PROJECT TITLE</b> PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER		<b>OWNER</b> METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)		<b>REVIEWED &amp; CHECKED BY:</b> RECOMMENDED BY: APPROVED BY:		<b>DESIGNED BY:</b> A.M.M. <b>DATE:</b> <b>CHECKED BY:</b> Q.B.M. <b>DATE:</b> <b>APPROVED BY:</b> <b>DATE:</b>		<b>SHEET CONTENTS</b> AS SHOWN		<b>DRAWING NO.:</b> <b>PL - 5</b>	
<b>REG. NO.:</b> 023110 <b>PTN NO.:</b> 0610061 <b>ISSUED ON:</b> 01-03-2018 <b>ISSUED AT:</b> JAKARTA CITY		<b>LOCATION:</b> GEN. SANTOSA AVE., BUCITAN, TAGUIG CITY, METRO MANILA		<b>ADDRESS:</b> GEN. SANTOSA AVE., BUCITAN, TAGUIG CITY, METRO MANILA		<b>REVISIONS:</b> NO. 1 DATE: 01-03-2018 BY: A.M.M. DESCRIPTION:		<b>DATE:</b>		<b>SHEET NO.:</b> <b>41 / 75</b>		<b>DRAWING NO.:</b> <b>PL - 5</b>	



G/F WATER SUPPLY LAYOUT  
SCALE 1:1000



**GIBMA Engineering Services**  
 Design · Construction · Project Management · Services  
 83 Malabar Street, Singapore 058993  
 Tel: +65 6336 8887 Fax: +65 6336 8887  
 Email: gibma@gibma.com.sg  
 URL: www.gibma.com

SANITARY ENGINEER  APPROVED BY:		PROJECT TITLE: <b>PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER</b>		OWNER: <b>METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)</b>		REVIEWED & CHECKED BY:  DESIGNED BY:		SHEET CONTENTS: AS SHOWN		DRAWING NO.: <b>PL - 6</b>	
REG. NO.: 021110	PPR. NO.: 6010291	ISSUED ON: 01-03-2019	LOCATION: GIBU, SANTOS AVE., BUCITAN, TAGUIG CITY, METRO MANILA	ADDRESS: BEN. SANTOS AVE., BUCITAN, TAGUIG CITY, METRO MANILA	RECOMMENDED BY:  DATE:	CHECKED BY: G.M.	APPROVED BY:  DATE:			SHEET NO.: <b>42 / 75</b>	
TIN: 331-06-072	ISSUED AT: MANILA CITY										





**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 81 Kelana Jaya (Klang) Road, 1st Floor, P119, 47101, Kuala Lumpur  
 Tel. No.: 03-27171111 Fax. No.: 03-27171111  
 E-mail: gibma@ibma.com

PROJECT TITLE:  
**PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

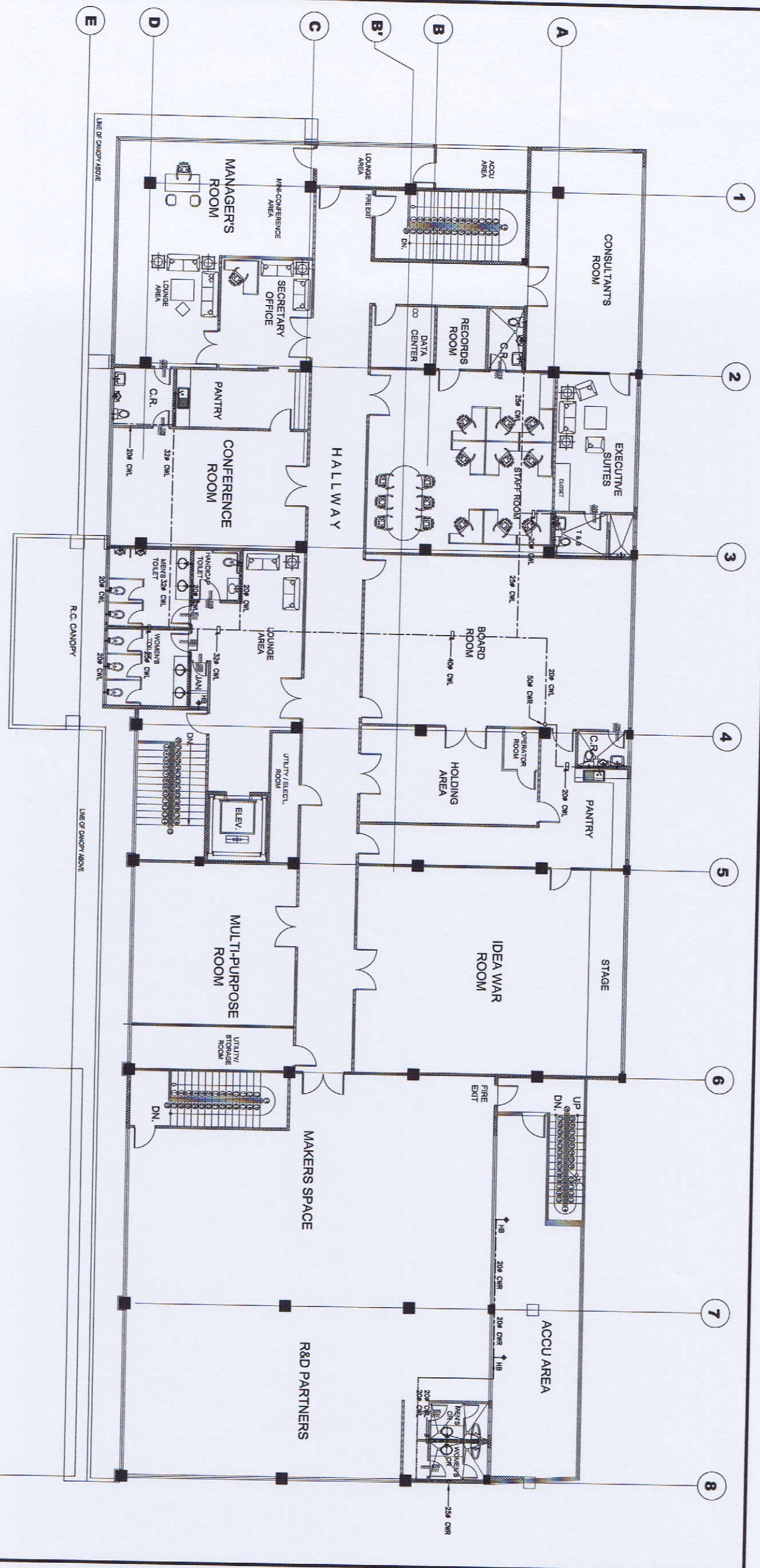
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DESIGNED BY:  
 [Signature]

CHECKED BY:  
 [Signature]

DATE:  
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SCALE: 1:100  
**2/F WATER SUPPLY LAYOUT**



**EXISTING BUILDING**

DRAWING NO.: **PL-7**  
 SHEET NO.: **43 / 75**



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Surveys  
 83 Kelantan Street (Kempayan Village Phase 2A, Dataran Pagar, Petaling Jaya, 46101)  
 Tel. No. 03-277115 Fax. No. 03-277114  
 URL: www.gibma.com E-mail: gibma@comcast.net

**DESIGNED BY:** *[Signature]*  
**PROJECT TITLE:** PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER  
**LOCATION:** GEN. SANGAS AVE., BUCURAN, TAGUIG CITY, METRO MANILA

**OWNER:** METAL & INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDCO)  
**ADDRESS:** GEN. SANGAS AVE., BUCURAN, TAGUIG CITY, METRO MANILA

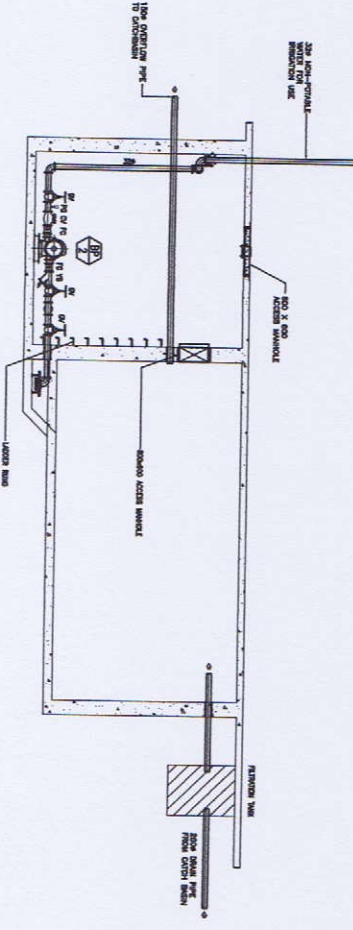
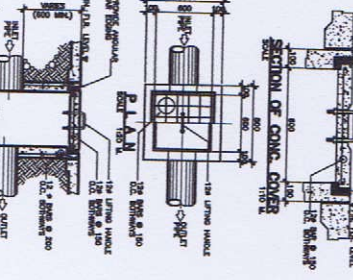
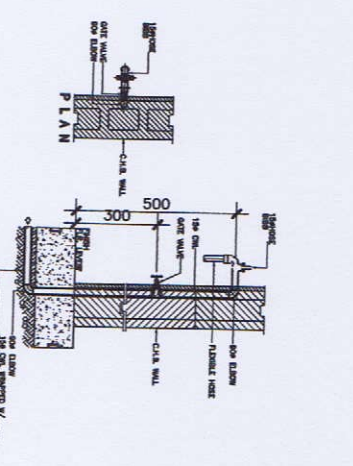
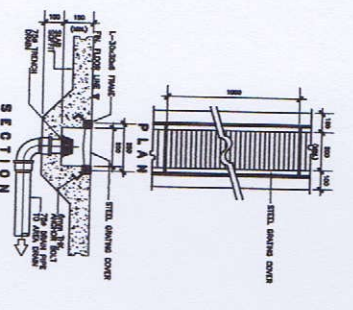
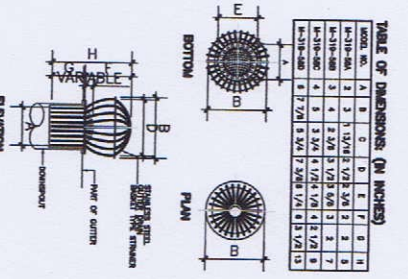
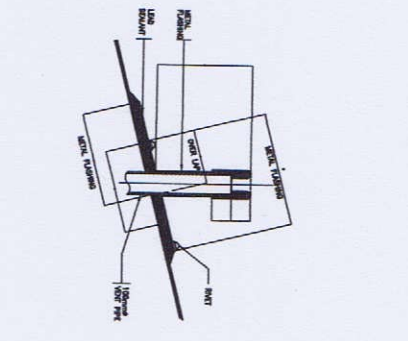
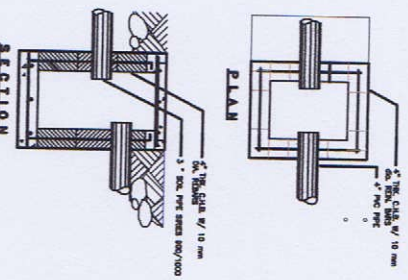
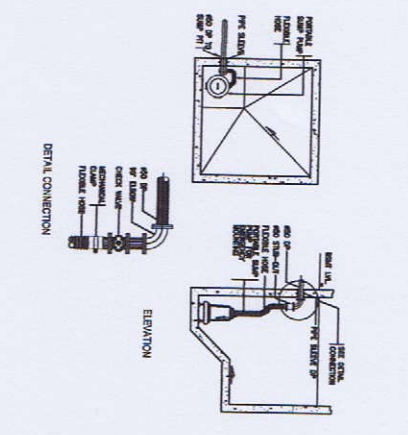
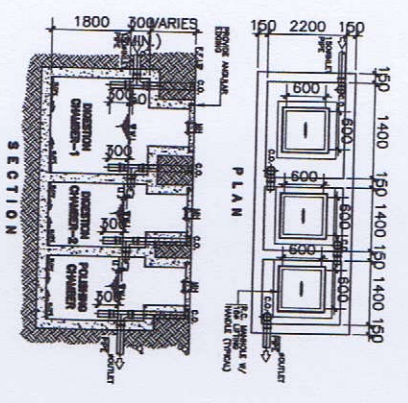
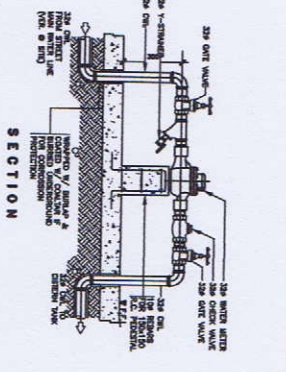
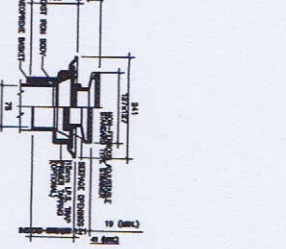
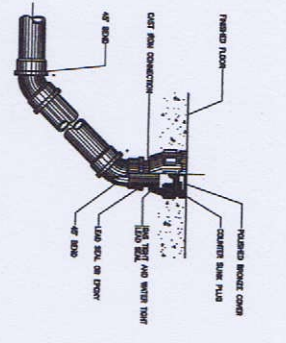
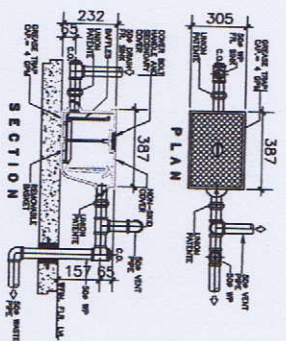
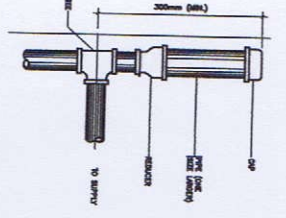
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**APPROVED BY:** *[Signature]*  
**DATE:** *[Blank]*

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**DATE:** *[Blank]*  
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**DATE:** *[Blank]*

**PROJECT TITLE:** PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER  
**LOCATION:** GEN. SANGAS AVE., BUCURAN, TAGUIG CITY, METRO MANILA  
**APPROVED BY:** *[Signature]*  
**DATE:** *[Blank]*

**DRAWING NO.:** PL - 8  
**SHEET NO.:** 44 / 75



**TABLE OF DIMENSIONS (IN INCHES)**

MODEL NO.	1	2	3	4	5	6	7	8	9	10
W-1218-001	12	18	24	30	36	42	48	54	60	66
W-1218-002	12	18	24	30	36	42	48	54	60	66
W-1218-003	12	18	24	30	36	42	48	54	60	66
W-1218-004	12	18	24	30	36	42	48	54	60	66
W-1218-005	12	18	24	30	36	42	48	54	60	66
W-1218-006	12	18	24	30	36	42	48	54	60	66
W-1218-007	12	18	24	30	36	42	48	54	60	66
W-1218-008	12	18	24	30	36	42	48	54	60	66
W-1218-009	12	18	24	30	36	42	48	54	60	66
W-1218-010	12	18	24	30	36	42	48	54	60	66



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 93 Kallianan Street, Kungahong, Village Phase 2A, Davao Park, Davao City, 8111  
 Tel. No.: 082 2714 Fax. No.: 082 5457  
 URL: www.gibma.com Email: gibma001@p3.com

**SANITARY ENGINEER**  
 REG. NO.: 00319  
 PPR NO.: 407001  
 ISSUED ON: 07-03-2018  
 ISSUED AT: MANILA CITY

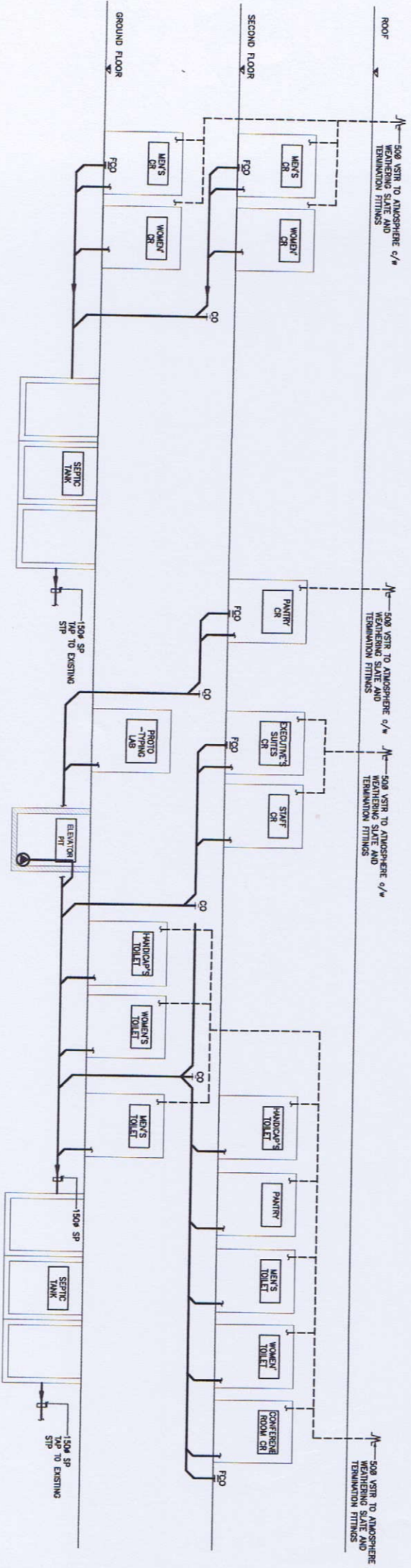
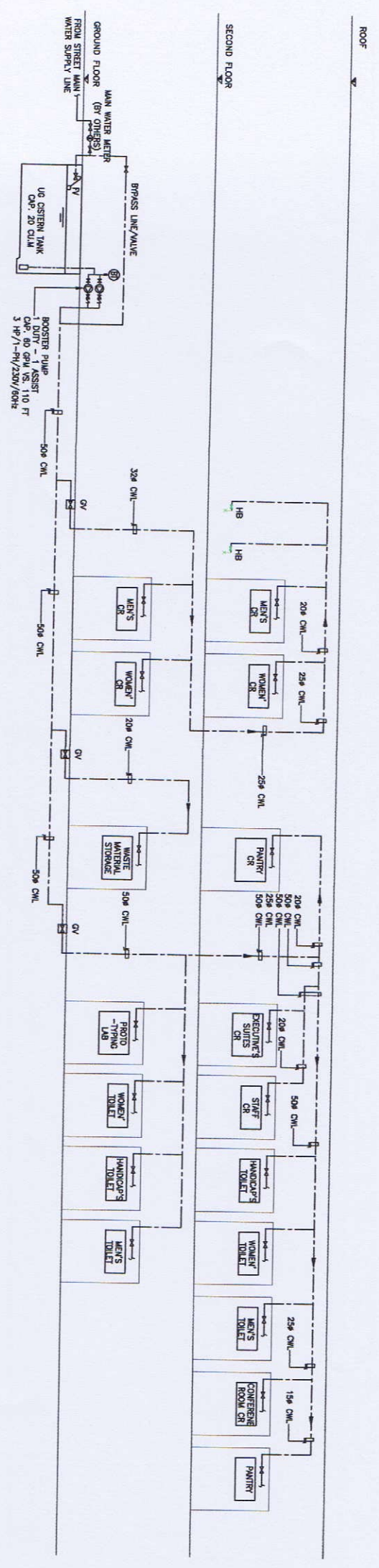
**PROJECT TITLE:**  
 PROPOSED 2-STOREY ADVANCED  
 MANUFACTURING CENTER

**OWNER:**  
 METALS INDUSTRY RESEARCH AND  
 DEVELOPMENT CENTER (MIRDC)

**REVISIONS & CHECKED BY:**  
 RECOMMENDED BY:  
 APPROVED BY:

**DESIGNED BY:** A.M.M.  
**DATE:**  
**CHECKED BY:** G.S.M.  
**DATE:**

**SHEET CONTENTS:**  
 AS SHOWN  
**DRAWING NO.:** PL - 8A  
**SHEET NO.:** 44 / 75





**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 89 Kallang Road (Kallang Road) Village Plaza 2A, Data Park, Pasir Ris, 11811  
 Tel: No. 882 5881, Fax: No. 882 5882, Cell: No. 882 5883, 882 5884  
 E-mail: gibma@com.net.sg, gibma@com.net.sg

- 1 GENERAL NOTES**  
 E-1 ALL ELECTRICAL WORKS INDICATED HEREIN ARE IN ACCORDANCE WITH THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE.  
 E-2 ELECTRIC SERVICE IS EXISTING 3Ø, 4-WIRE + 1-GROUND, 400V/230V S/N, 60HZ.  
 E-3 METHOD OF WIRING IS COMBINATION OF EMT AND PVC; UNLESS OTHERWISE SPECIFIED IN DRAWINGS.  
 E-4 A. MINIMUM SIZE OF WIRES IS 3.5mm<sup>2</sup> THHN-2/THHN FOR MAIN AND TW FOR GROUND UNLESS OTHERWISE SPECIFIED IN DRAWING.  
 E-5 B. MINIMUM SIZE OF CONDUIT IS 20MM NOMINAL DIAMETER.  
 E-6 C. METHOD OF WIRING SHALL BE AS FOLLOWS: UNLESS OTHERWISE SPECIFIED IN DRAWINGS:  
 E-7 3.1 EMBEDDED IN CONCRETE = USE PVC SCH. 40 CONDUIT.  
 E-8 3.2 NOT EMBEDDED IN CONCRETE = USE EMT WITH SIZE NOT LARGER THAN 20MM DIAMETER FOR BRANCH CIRCUIT.  
 E-9 = USE PVC WITH SIZE LARGER THAN 20MM DIAMETER FOR BRANCH CIRCUIT AND FEEDER.  
 E-10 WIRING SHALL BE COLOR CODED AS FOLLOWS: a=BLACK, b=RED, c=BLUE.  
 E-11 GROUND-GREEN & NEUTRAL-WHITE  
 E-12 IDENTIFY BRANCH CIRCUITS PHASE WIRES WITH WIRE MARKERS CORRESPONDING TO CIRCUIT BREAKER NO. SHOWN ON PANEL SCHEDULE AT EA. POINT WHERE THEY PASS THROUGH JUNCTION BOXES.  
 ALL NON-CURRENT CARRYING METALLIC PARTS OR FRAMES OF ELECTRICAL EQUIPMENT SHALL BE ELECTRICALLY CONNECTED TO FEEDER/CIRCUIT GROUND WIRE WITH SUITABLE TERMINAL LUGS. ALL PANELS SHALL BE PROVIDED WITH GROUND TERMINAL.  
 ALL CONDUIT SHALL BE CONCEALED UNLESS SPECIFICALLY SHOWN OR NOTED OTHERWISE. EXPOSED CONDUIT RUNS SHALL BE INSTALLED PARALLEL TO OR PERPENDICULAR WITH THE BUILDING LINE AND SUPPORTED BY CONDUIT CLAMPS EVERY 1.50 METERS.  
 LAYOUT DIMENSION SHOWN IN DRAWINGS ARE APPROXIMATE ONLY AND INTENDED TO SERVE AS AN INSTALLATION GUIDE. DIMENSION MAY BE ADJUSTED AS REQUIRED TO MEET FIELD CONDITION WHEN THE LAYOUT SCHEDULE OR EXISTENCES OF CONSTRUCTION AND REASON THEREOF SHALL BE SUBMITTED TO THE OWNER OR HIS DUTY AUTHORIZED REPRESENTATIVE AND NO DEPARTURE SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE AUTHORITIES CONCERNED.

**ELECTRICAL DRAWING INDEX**

- SHEET NO. SHEET CONTENTS**
- E-1 LEGEND, GENERAL NOTES, DRAWING INDEX
  - E-2 ONE-LINE DIAGRAM, LIGHTING CONTACTOR TIMER SWITCH WIRING DIAGRAM
  - E-3 DETAILS
  - E-4 DETAILS
  - E-5 FIRE ALARM SYSTEM RISER DIAGRAM; PUBLIC ADDRESS SYSTEM RISER DIAGRAM; COMMUNICATION & DATA SYSTEMS RISER DIAGRAM; CCTV SYSTEM RISER DIAGRAM
  - E-6 GF GROUNDING SYSTEM PLAN
  - E-7 SITE DEVELOPMENT ELECTRICAL PLAN
  - E-8 GF POWER DISTRIBUTION PLAN
  - E-9 GF LIGHTING SYSTEM PLAN
  - E-10 GF COMMUNICATION, DATA & CCTV SYSTEMS PLAN
  - E-11 GF PUBLIC ADDRESS SYSTEM PLAN
  - E-12 GF FIRE ALARM SYSTEM PLAN

**1 GENERAL NOTES**  
 E-1 SCALE NTS

SYMBOL	DESCRIPTION	MOUNTING (MM) (UNLESS OTHERWISE INDICATED)	OUTLET BOX
	JUNCTION BOX	AS REQUIRED	102mm OCTAGONAL BOX DEEP TYPE GA. 16
	DUPLEX RECEPTACLE 15A 240V PARALLEL BLADE GROUNDING	AS REQUIRED	102mm DEEP TYPE GA. 16
	SLOT IN GROUNDING PARALLEL BLADE GROUNDING	300 FROM CENTER TO FIN. FLOOR	102mm DEEP TYPE GA. 16
	FLUSH TYPE RECEPTACLE	FLOOR MOUNTED	102mm DEEP TYPE GA. 16
	LIGHT SWITCH, FLUSH TUMBLER	1370 FROM CENTER TO FIN. FLOOR	102mm DEEP TYPE GA. 16
	LETTER INDICATES FIXTURE OR DEVICE CONTROLLED BY SWITCH	OTHER LETTERS, SAME	
	20W T5 LED FLUORESCENT LIGHT BOX TYPE	CEILING SURFACE	102mm OCTAGONAL BOX DEEP TYPE GA. 16
	VOICE OUTLET 1-GANG/1-PORT R45 CONNECTOR ON END OF THE LINE; NUMBERS, FN - INDICATES POP UP THE FLOOR MOUNTED	300 FROM CENTER TO FIN. FLOOR	
	DATA OUTLET 2-GANG/2-PORT R45 CONNECTOR ON END OF THE LINE; NUMBERS, FN - INDICATES POP UP THE FLOOR MOUNTED	SEE ARCH. PLAN	
	4-PAIR G.A.24 CAT. 6 UTP CABLE IN 20mmØ CONDUIT	CEILING SURFACE	1800 FROM TOP TO FIN. FLOOR
	PANELBOARD	1800 FROM TOP TO FIN. FLOOR	1800 FROM TOP TO FIN. FLOOR
	RACEWAY CONCEALED BELOW, FIN. FLR. "DITTO"		
	ARROW HOMERUN TO PANEL		
	GROUND WIRE		
	4 PAIR G.A.24 CAT. 6 UTP CABLE IN 13mmØ CONDUIT		

**2 LEGEND**  
 E-1 SCALE NTS

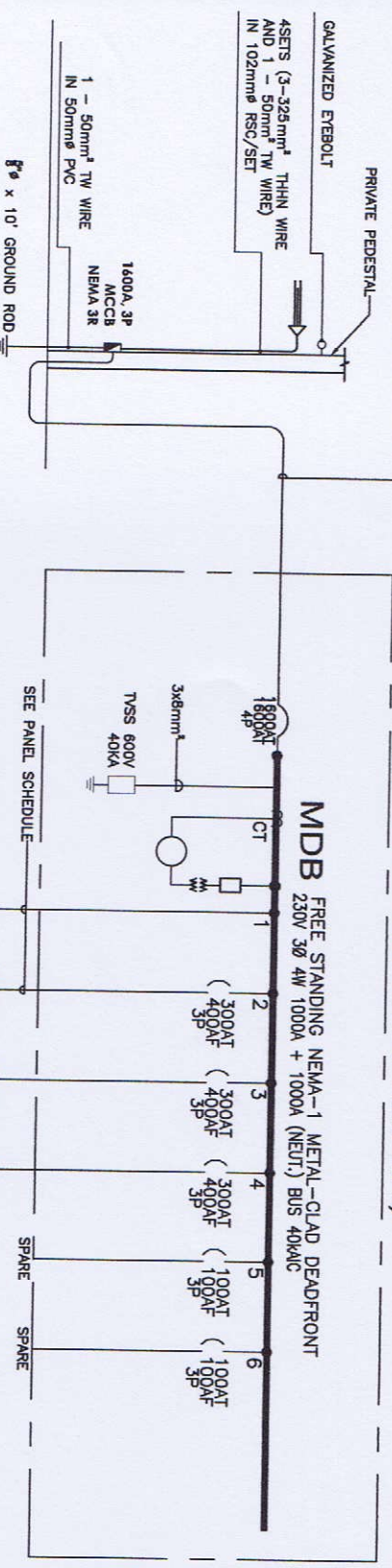
- 3 EQUIPMENT SCHEDULE**  
 E-1 N T
- A CIRCUIT BREAKER, 125kV/250A 250V 20kAIC 3PST INDUSTRIAL TYPE, IN NEMA-1 ENCLOSURE
  - B CIRCUIT BREAKER, 40kV/100A 250V 20kAIC 3PST INDUSTRIAL TYPE, IN NEMA-1 ENCLOSURE
  - C CIRCUIT BREAKER, 20kV/100A 250V 20kAIC 3PST INDUSTRIAL TYPE, IN NEMA-1 ENCLOSURE
  - D MANUAL DISCONNECT SW, 60AMPS 2PST 250V QUICK MAKE, QUICK-BREAK, HEAVY DUTY NON-FUSIBLE NEMA-1 ENCL.
  - E MANUAL DISCONNECT SW, 100AMPS 2PST 250V QUICK MAKE, QUICK-BREAK, HEAVY DUTY NON-FUSIBLE NEMA-3R ENCL.
  - F MANUAL DISCONNECT SW, 75AMPS 2PST 250V QUICK MAKE, QUICK-BREAK, HEAVY DUTY NON-FUSIBLE NEMA-3R ENCL.
  - G MANUAL DISCONNECT SW, 60AMPS 2PST 250V QUICK MAKE, QUICK-BREAK, HEAVY DUTY NON-FUSIBLE NEMA-3R ENCL.
  - H MANUAL DISCONNECT SW, 60AMPS 2PST 250V QUICK MAKE, QUICK-BREAK, HEAVY DUTY NON-FUSIBLE NEMA-3R ENCL.
  - I MANUAL DISCONNECT SW, 75AMPS 2PST 250V QUICK MAKE, QUICK-BREAK, HEAVY DUTY NON-FUSIBLE NEMA-3R ENCL.
  - J MANUAL DISCONNECT SW, 75AMPS 2PST 250V QUICK MAKE, QUICK-BREAK, HEAVY DUTY NON-FUSIBLE NEMA-3R ENCL.
  - K MANUAL DISCONNECT SW, 75AMPS 2PST 250V QUICK MAKE, QUICK-BREAK, HEAVY DUTY NON-FUSIBLE NEMA-3R ENCL.
  - L MANUAL DISCONNECT SW, 60AMPS 2PST 250V QUICK MAKE, QUICK-BREAK, HEAVY DUTY NON-FUSIBLE NEMA-3R ENCL.
  - M CIRCUIT BREAKER, 15kV 250V 6 kAIC 2PST COMMERCIAL TYPE
  - N MAGNETIC CONTACTOR, RATING AS PER PANEL SCHEDULE

ELECTRICAL ENGINEER		PROJECT TITLE:		OWNER:		REVIEWED & CHECKED BY:		SHEET CONTENTS:		DRAWING NO.:	
DESIGNED BY:		PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)				AS SHOWN		E-1	
CHECKED BY:		MANUFACTURING CENTER		DEVELOPMENT CENTER (MIRDC)				DATE: 04/08/2019		BR-ET NO.:	
DATE: 24/06/2019		DRAWING NO.: 445/75		ADDRESS: BUN. SANTOS AVE., BUNUAN TAGUIG CITY, METRO MANILA		APPROVED BY:		DATE: 04/08/2019		45 / 75	

TRANSFORMER RATING:  
500KVA

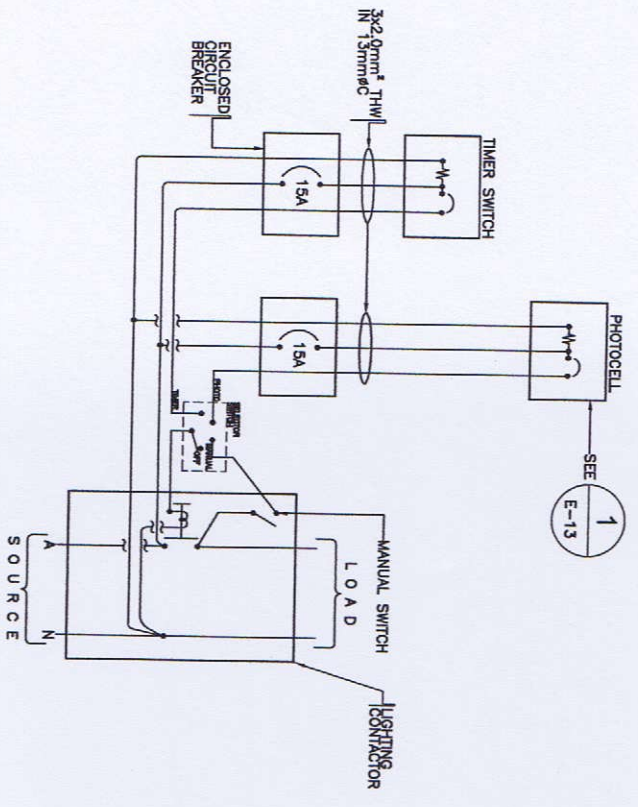
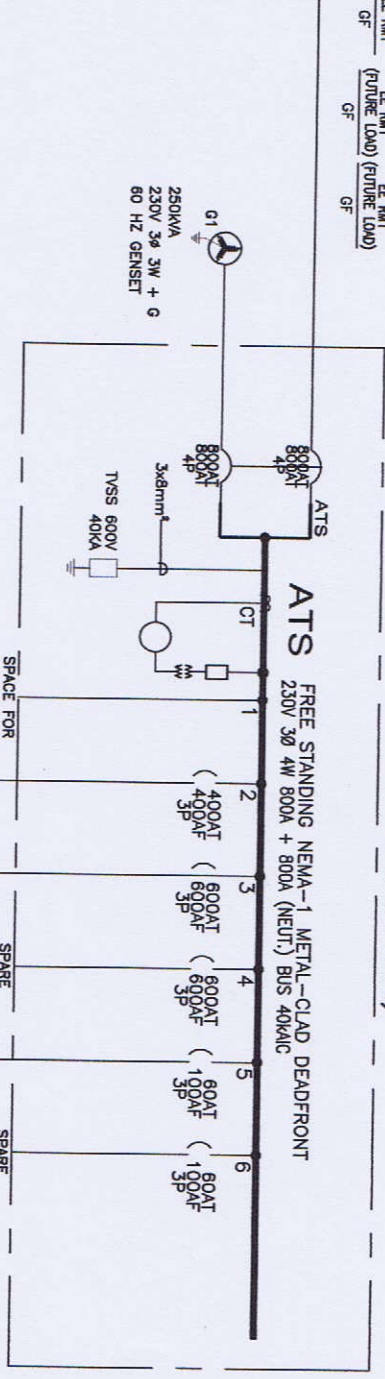
SEE PANEL SCHEDULE

(POWER HOUSE-GROUND FLOOR)

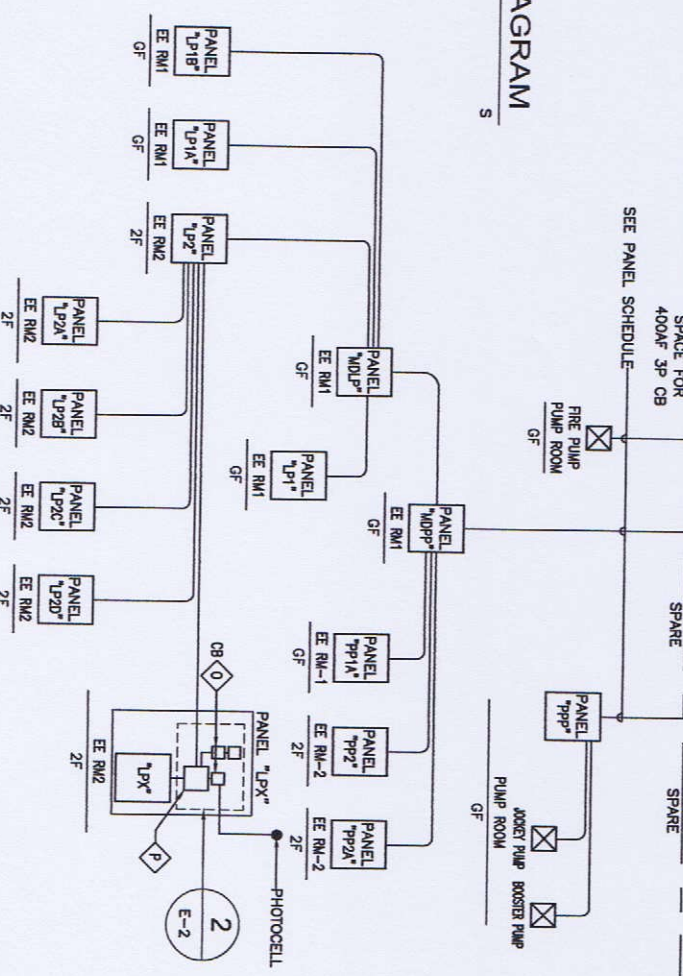


NOTE: VERIFY ACTUAL LOCATION OF PEDESTAL ON SITE

(POWER HOUSE-GROUND FLOOR)



(1) SINGLE LINE DIAGRAM



(2) WIRING DIAGRAM



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93 Kiliasan River, Kertandjati, Ujung Pasea 24, Pak. Pac. Pang. Ckr. 0111  
Tel. No.: 662 7114 Fax. No.: 662 8477  
URL: www.gibma.com E-mail: gibma@0303.gibma.com

ELECTRICAL ENGINEER  
DESIGNED BY: *[Signature]*  
CHECKED BY: *[Signature]*  
APPROVED BY: *[Signature]*

PROJECT TITLE:  
PROPOSED 2-STOREY ADVANCED  
MANUFACTURING CENTER

OWNER:  
METALS INDUSTRY RESEARCH AND  
DEVELOPMENT CENTER (MIRDC)

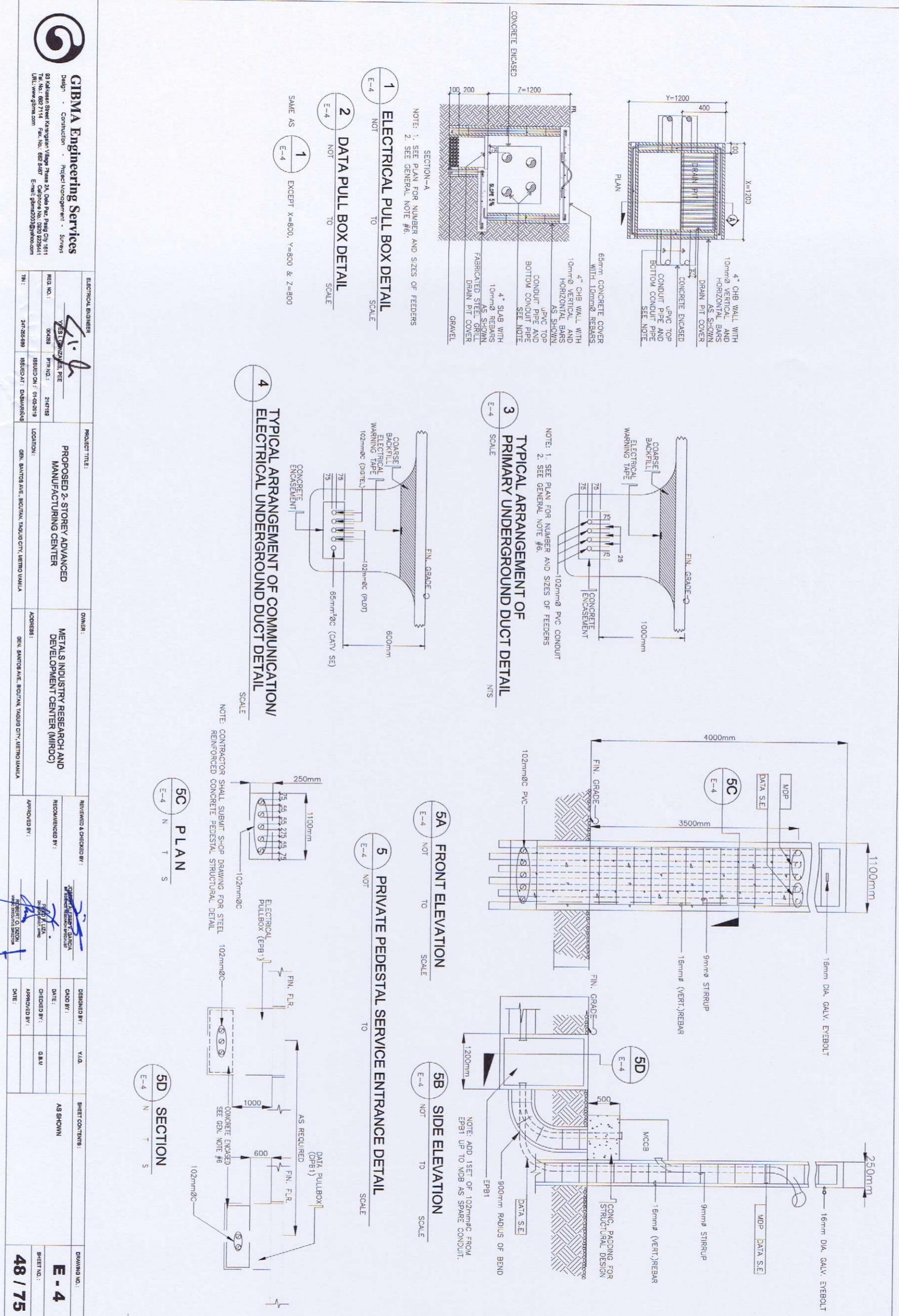
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RECOMMENDED BY:  
APPROVED BY:

DESIGNED BY:  
CHECKED BY:  
APPROVED BY:

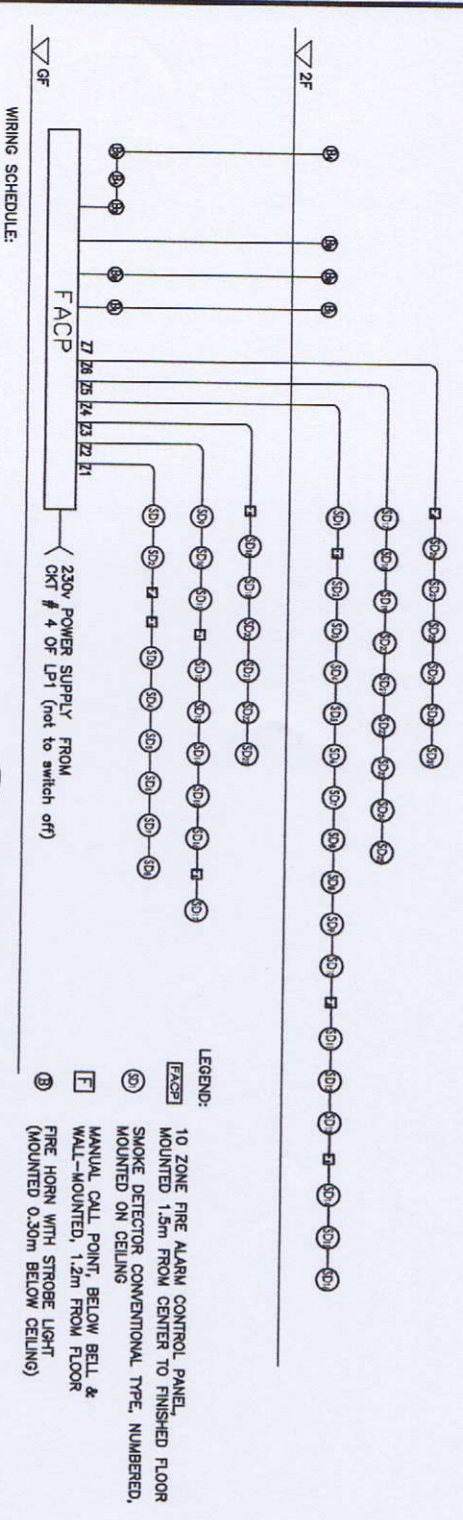
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AS SHOWN

DRAWING NO.:  
**E - 2**  
SHEET NO.:  
**46 / 75**

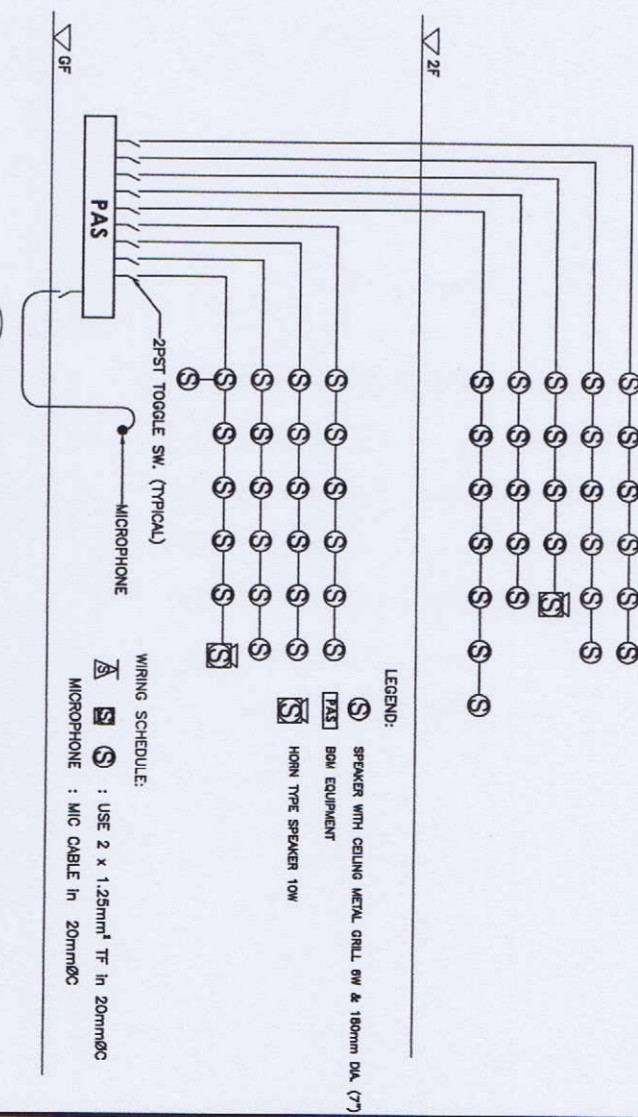




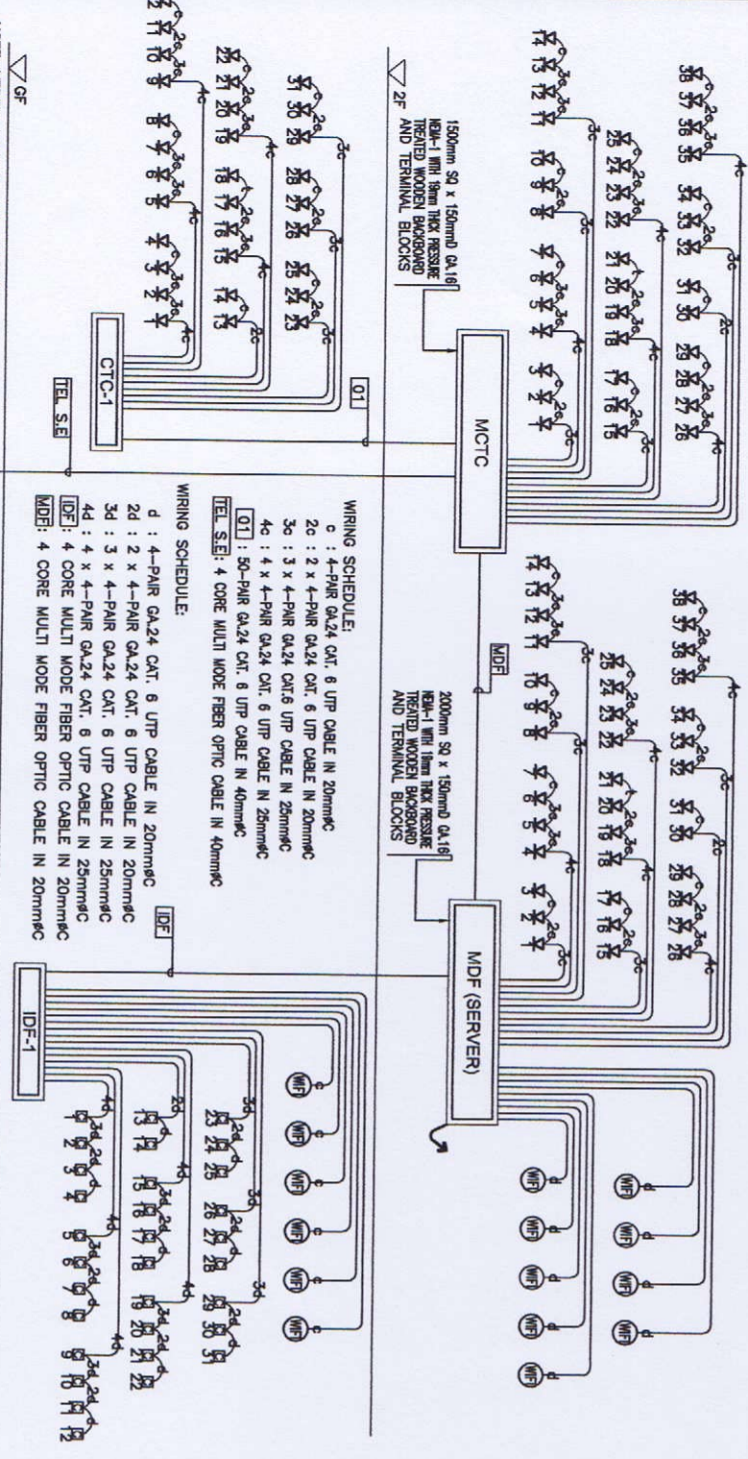
<b>GIBMA Engineering Services</b> Design - Construction - Project Management - Survey 93 Kalsaria Street Karanganyar Village Phase 2A, Duka Pak, Pabelan City 76111 Telp. No. 0827114 Fax. No. 08278487 Callpobox No. 0203 0228441 Url: www.gibma.com E-mail: gibma2020@gibma.com	
<b>ELECTRICAL ENGINEER</b> Y. S. P. S. YUSRIYANUS, P.E. REG. NO.: 004283 PIR. NO.: 249718 ISSUED ON: 01-03-2019 REVISION: 01-03-2019	<b>PROJECT TITLE:</b> PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER ADDRESS: GEN. SANTOS AVE., BOUTANI, TANGUD CITY, METRO UJUNA
<b>OWNER:</b> METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC) ADDRESS: GEN. SANTOS AVE., BOUTANI, TANGUD CITY, METRO UJUNA	<b>REVIEWED &amp; CHECKED BY:</b> Y. S. P. S. YUSRIYANUS, P.E. DATE: 01-03-2019 <b>DESIGNED BY:</b> Y. S. P. S. YUSRIYANUS, P.E. DATE: 01-03-2019 <b>APPROVED BY:</b> Y. S. P. S. YUSRIYANUS, P.E. DATE: 01-03-2019
<b>SHEET CONTENTS:</b> AS SHOWN	<b>DRAWING NO.:</b> <b>E - 4</b> <b>SHEET NO.:</b> <b>48 / 75</b>



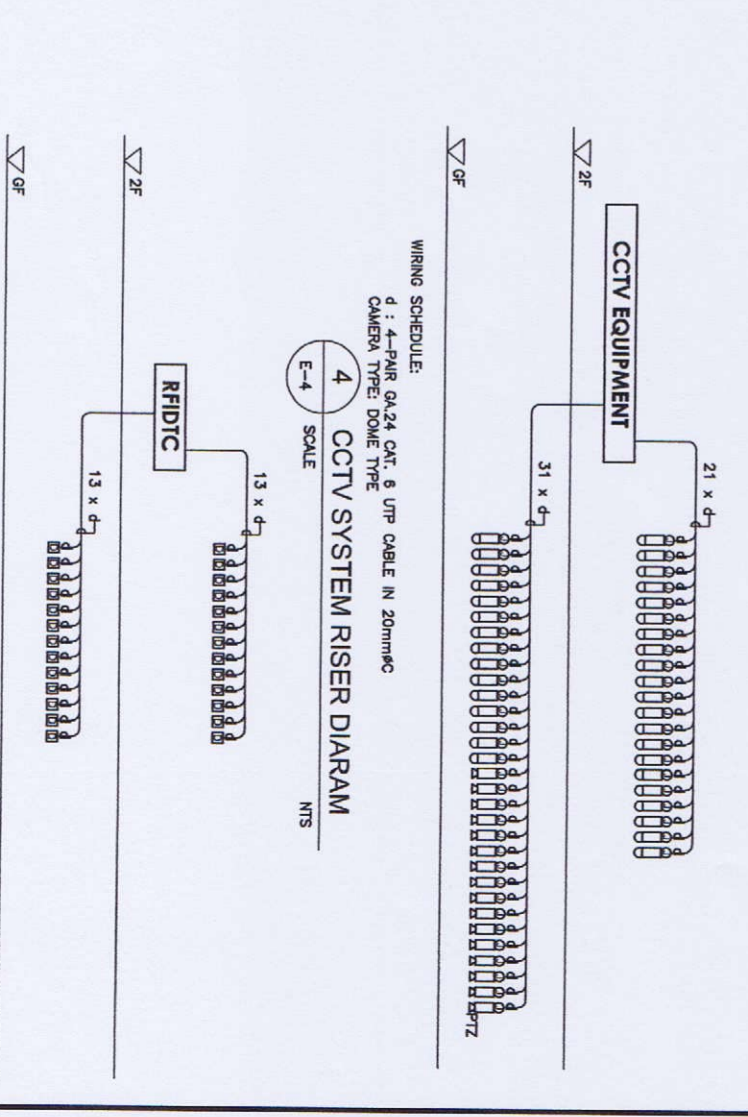
**1 FIRE ALARM SYSTEM RISER DIAGRAM**  
 SCALE: E-5  
 NTS



**2 PUBLIC ADDRESS SYSTEM RISER DIAGRAM**  
 SCALE: E-5  
 NTS



**3 COMMUNICATION & DATA SYSTEMS RISER DIAGRAM**  
 SCALE: E-5  
 NTS



**4 CCTV SYSTEM RISER DIAGRAM**  
 SCALE: E-4  
 NTS

NOTE: VERIFY EXISTING TEL. TAPPING FROM EXISTING POINT. ESTIMATED LENGTH IS 300m (CENTR. LENGTH)



ELECTRONIC ENGINEER		PROJECT TITLE:	
REG. NO.:	00000	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER	
ISSUED ON:	01-03-2018	OWNER: METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	
ISSUED BY:	RIYAN	ADDRESS: GDN. BANTOR AVE. BANTOR, TANGKUP CITY, METRO SUKSES	

REVISIONS & CHECKED BY:		DRAWING NO.:	
NO.	DESCRIPTION	AS SHOWN	
1	REVISION	E-5	
2	REVISION	49 / 75	





**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 03 Kalimantan Steel Kerangka Vihaga Phase 2A, Dada Park, Pangkajene, 91111  
 Telp: +62 812 771 1111 Fax: +62 812 682 6821  
 Email: gsm@gsibma.com

**ELECTRICAL ENGINEER**  
 V. F. G. S. S. P. E.  
 No. 241798  
 No. 241798  
 No. 241798  
 No. 241798

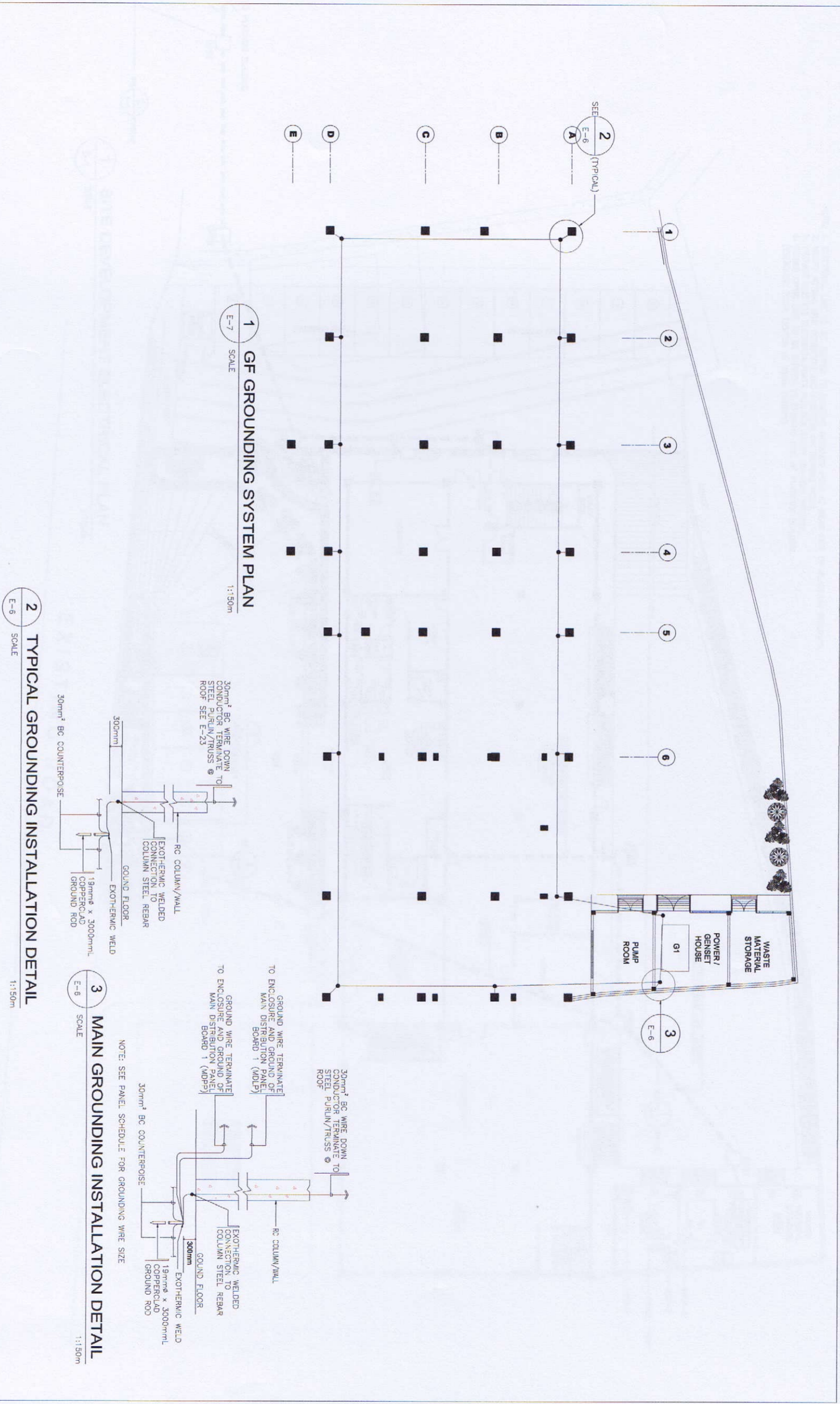
**PROJECT TITLE:**  
 PROPOSED 2-STORY ADVANCED  
 MANUFACTURING CENTER

**OWNER:**  
 METALS INDUSTRY RESEARCH AND  
 DEVELOPMENT CENTER (MIRDC)

**REVIEWED & CHECKED BY:**  
 [Signature]

**DESIGNED BY:**  
 Y.A.G.  
**DATE:**  
 [Blank]

**DRAWING NO.:**  
**E - 6**  
**SHEET NO.:**  
**50 / 75**





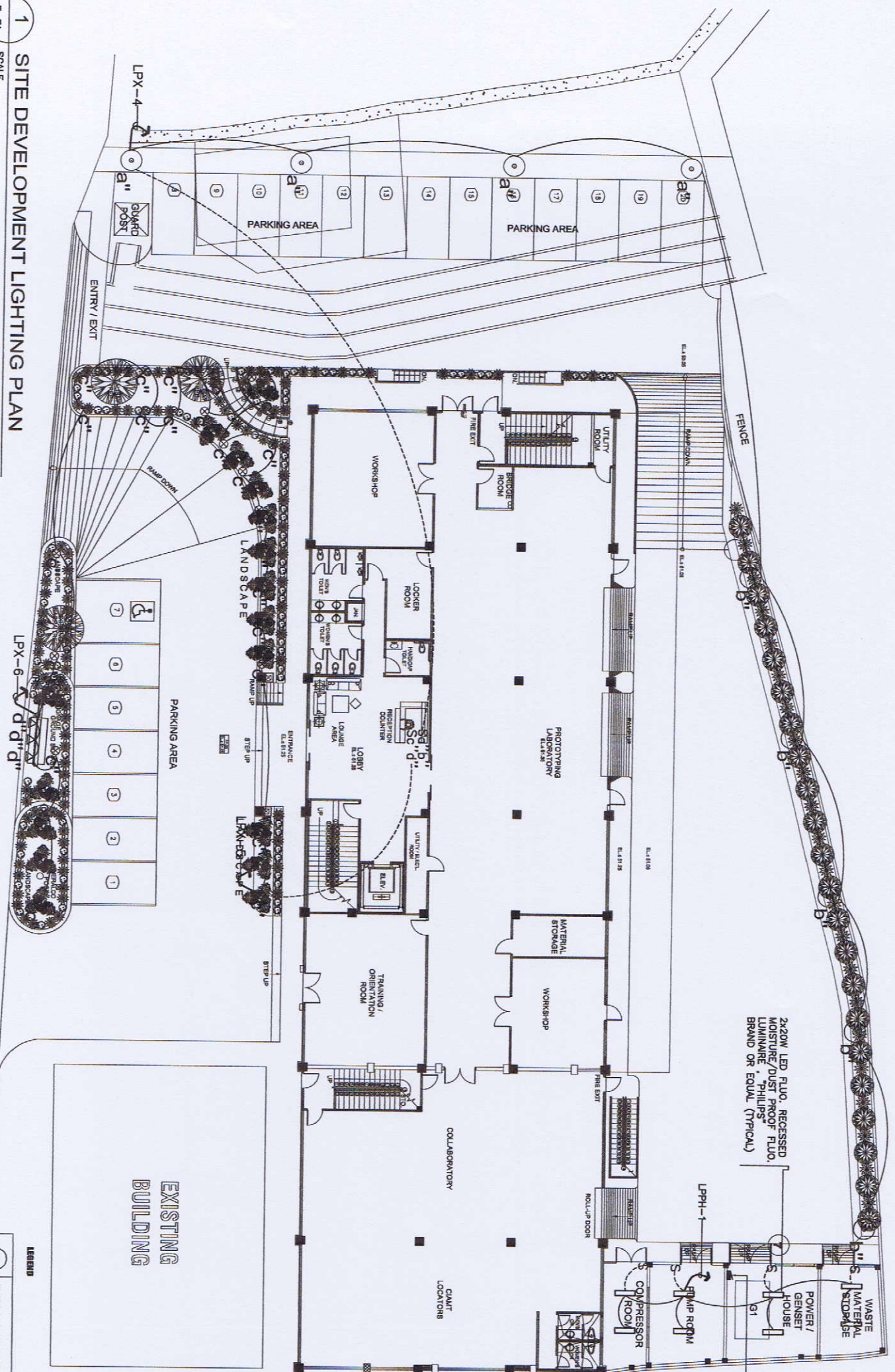
**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 83 Keldaan Street, Kembangan Village Phase 2A, Duta Park, Pangkajene, 9111  
 Telp: 0851 4444 4444 Fax: 0851 4444 4444  
 URL: www.gibma.com Email: gibma@ibma.com

1 SITE DEVELOPMENT LIGHTING PLAN  
 E-7A SCALE

1:150m

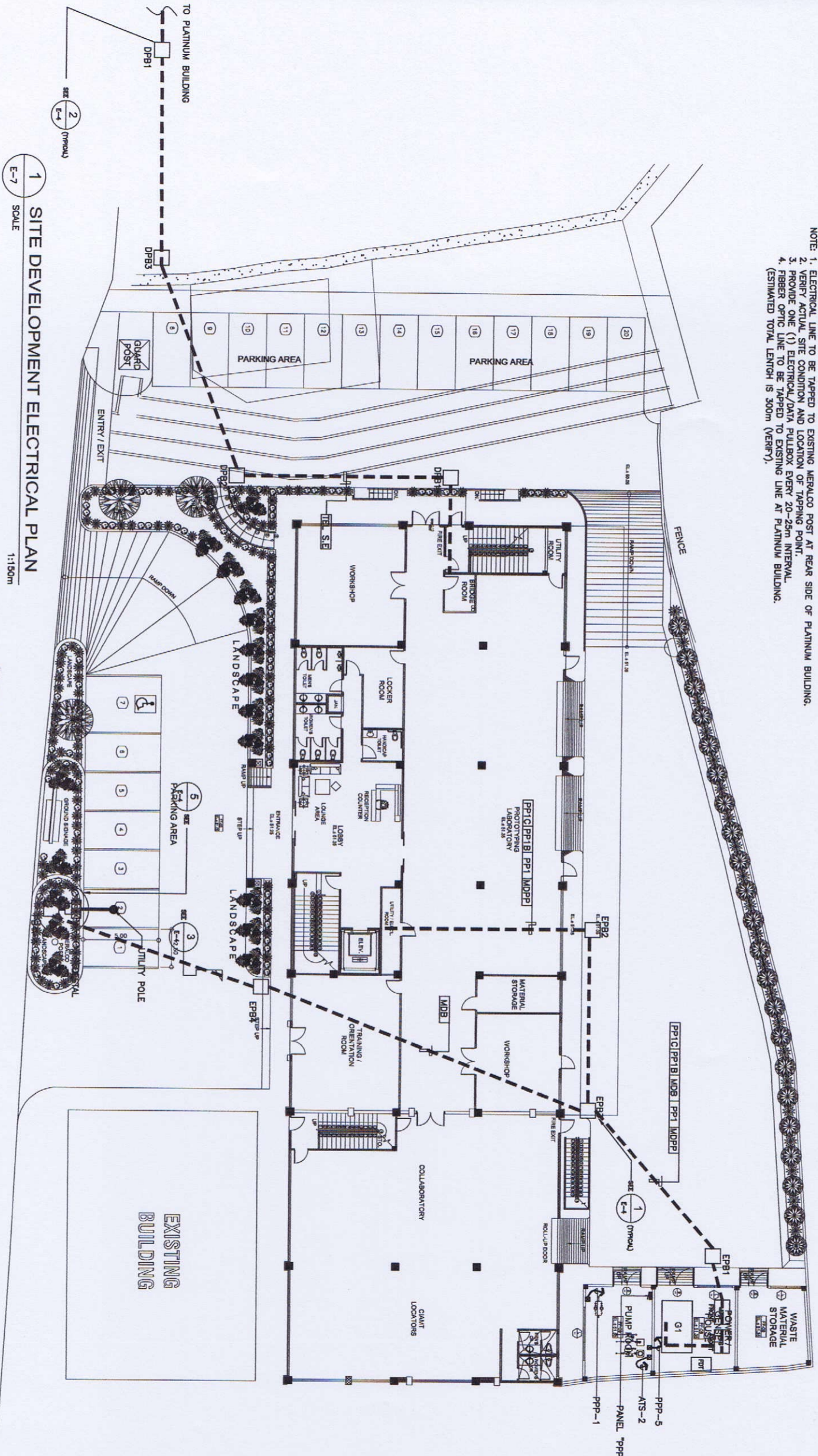
EXISTING ROAD

- LEGEND**
- 50W- LED POST LIGHT
  - ⊗ 30W GARDEN LIGHTS
  - △ 10W WALL LIGHTS
- NOTE: ALL LIGHTS SHALL BE LED



ELECTRICAL ENGINEER		PROJECT TITLE:		OWNER:		REVIEWED & CHECKED BY:		V.L.O.		DRAWING NO.:	
YVES L. DONALDES, P.E.		PROPOSED 2- STOREY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)		JOSEPH G. DELA ROSA MIRDC PROJECT MANAGER		AS SHOWN		E - 7A	
REG. NO.:	DATE:	ISSUED AT:	LOCATION:	ADDRESS:	APPROVED BY:	DATE:	CHECKED BY:	DATE:	APPROVED BY:	SHEET NO.:	52 / 75
247282488	24/7/19	DASMANRQA8	GEN. SANTOS AVE., BICURAN, TAGUB CITY, METRO MANILA	GEN. SANTOS AVE., BICURAN, TAGUB CITY, METRO MANILA	ROBERTO D. DZON	24/7/19	G.B.M.				

NOTE: 1. ELECTRICAL LINE TO BE TAPPED TO EXISTING MERALCO POST AT REAR SIDE OF PLATINUM BUILDING.  
 2. VERIFY ACTUAL SITE CONDITION AND LOCATION OF TAPPING POINT.  
 3. PROVIDE ONE (1) ELECTRICAL/DATA PULLBOX EVERY 20-25m INTERVAL.  
 4. FIBER OPTIC LINE TO BE TAPPED TO EXISTING LINE AT PLATINUM BUILDING.  
 (ESTIMATED TOTAL LENGTH IS 300m (VERIFY).



1 SITE DEVELOPMENT ELECTRICAL PLAN  
 SCALE 1:150m



**GIBMA Engineering Services**  
 Design · Construction · Project Management · Survey  
 93 Makasan Street Karangayaman Village Phase 2A, Dale Pae, Pang City, 1611  
 Tel. No.: 882 7114 Fax. No.: 882 8487 Callphone No.: 0927 028441  
 URL: www.gibma.com E-mail: gibma003@yahoocom

ELECTRICAL ENGINEER		PROJECT TITLE:		OWNER:		REVIEWED & CHECKED BY:		DESIGNED BY:		SHEET CONTENTS:		DRAWING NO.:	
YVES G. CALLES, REE		PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)		APPROVED BY:		V.L.G.		AS SHOWN		E-7	
REG. NO.: 00259	PR. NO.: 2147198	LOCATION:	ADDRESS:		RECOMMENDED BY:		DATE:		CHECKED BY:		DATE:		SHEET NO.: 51/75
TEL: 247-266-846	ISSUED ON: 01-09-2018	DEU. SANJOSE AVE., BOSTUAN, TAGBIC CITY, NEGRO ISLANDS	DEU. SANJOSE AVE., BOSTUAN, TAGBIC CITY, NEGRO ISLANDS		APPROVED BY:		DATE:		CHECKED BY:		DATE:		



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 63 Kelantan Street, Kelantan Village Phase 2A, Dam Pui, Pang City, 611  
 Tel: No. 602 7114 Fax: No. 602 5467 Call Centre No. 020 2234441  
 URL: www.gibma.com E-mail: gibma@comcast.com

PROJECT TITLE:  
**PROPOSED 2- STOREY ADVANCED  
 MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND  
 DEVELOPMENT CENTER (MIRDC)**

RECOMMENDED BY:  
**AS SHOWN**

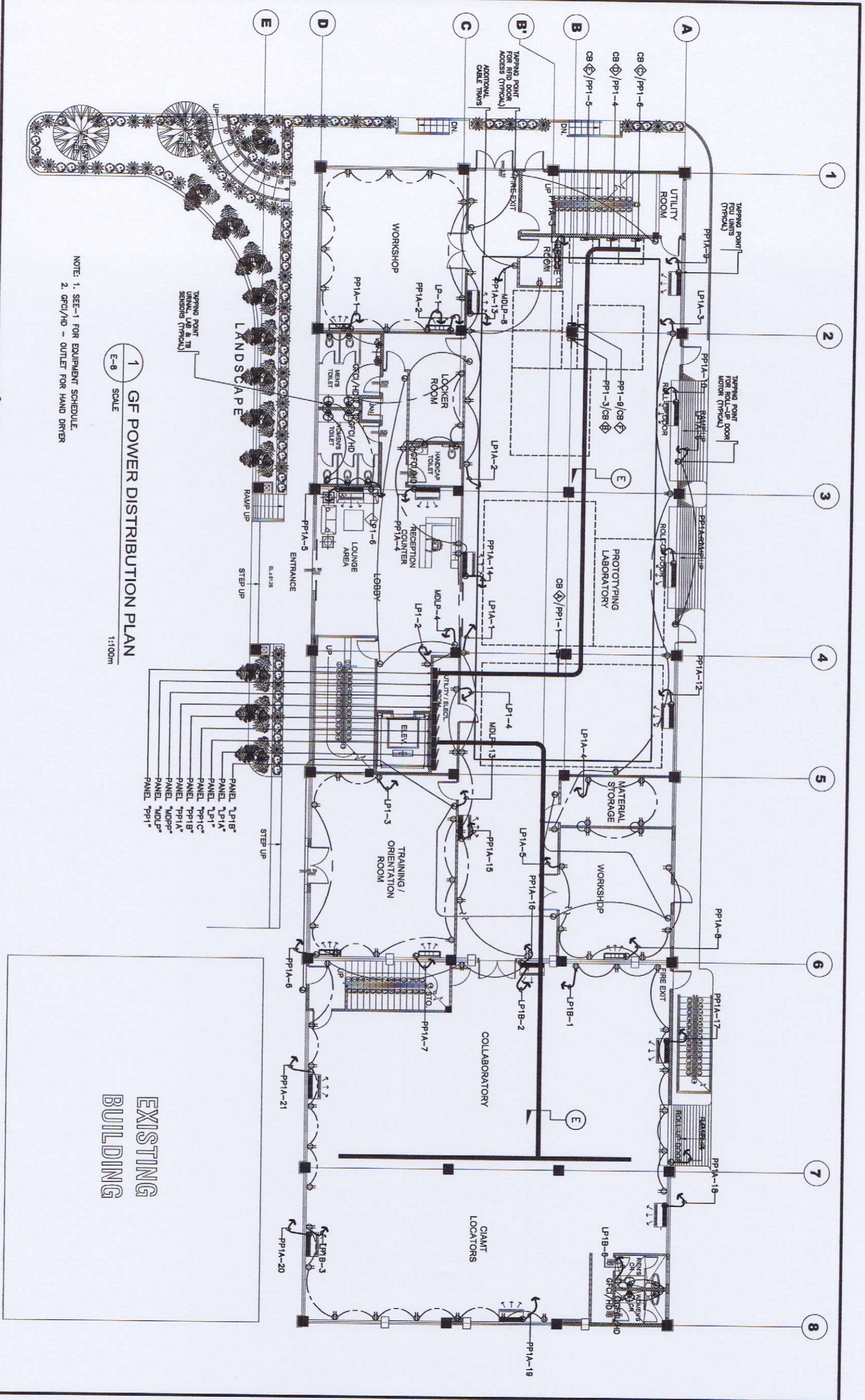
DESIGNED BY:  
**AS SHOWN**

CHECKED BY:  
**AS SHOWN**

APPROVED BY:  
**AS SHOWN**

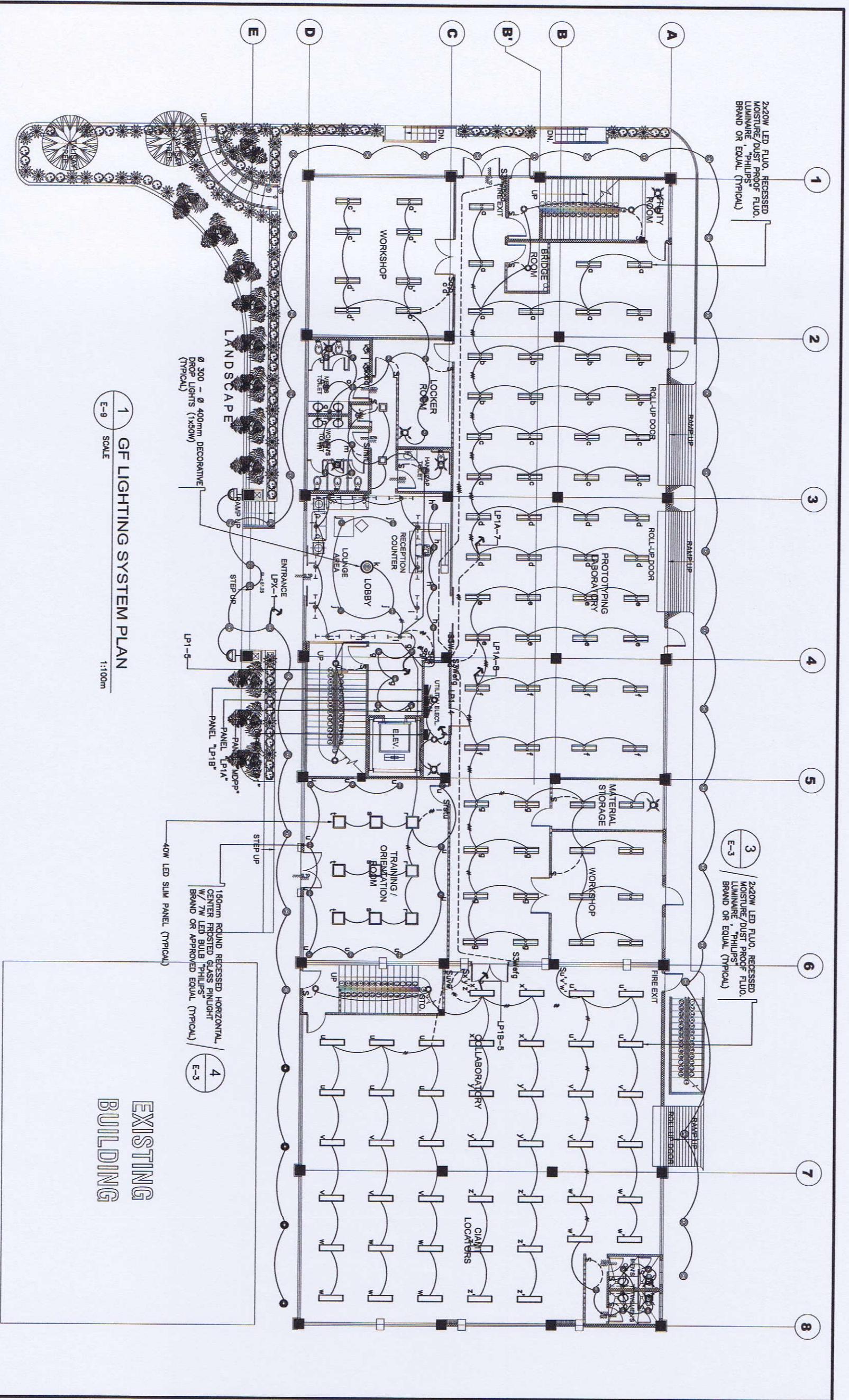
DRAWING NO.:  
**E - 8**

SHEET NO.:  
**53 / 75**



NOTE: 1. SEE-1 FOR EQUIPMENT SCHEDULE.  
 2. GFCI/HD - OUTLET FOR HAND DRYER.

**1**  
**E-8**  
**GF POWER DISTRIBUTION PLAN**  
 SCALE  
 1:100M

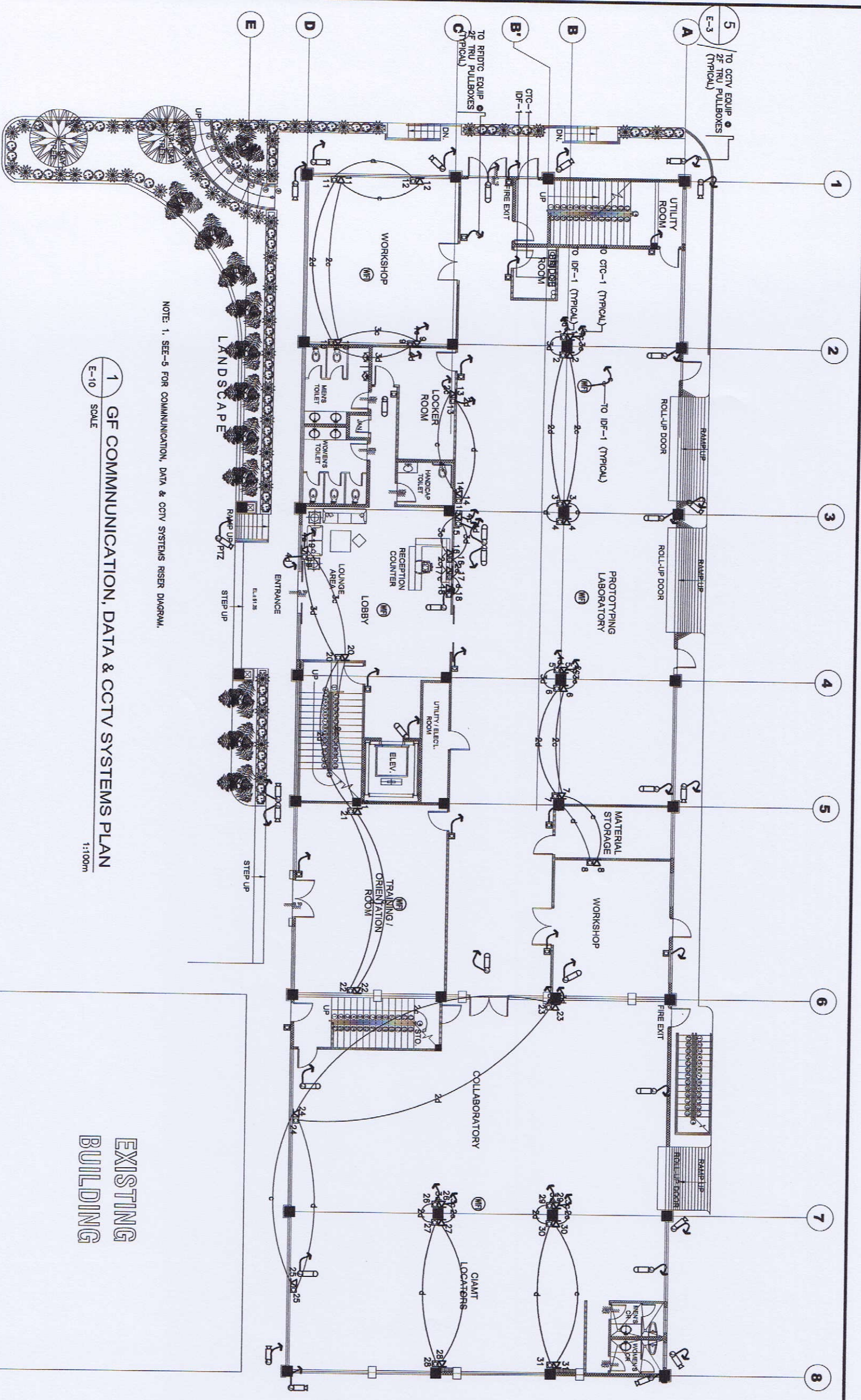


1 GF LIGHTING SYSTEM PLAN  
 E-9 SCALE  
 1:100m

EXISTING BUILDING

**GIBMA Engineering Services**  
 Design - Construction - Project Management - Services  
 93 Kelasan Street Karanggen Village Phase 2A, Dula Pac, Pangkajene, 91111  
 Telp. No: 842 7114 Fax. No: 862 8487  
 URL: www.gibma.com E-mail: gibma2003@yahoo.com

ESTIMATOR ENGINEER	PROJECT TITLE:	OWNER:	REVIEWED & CHECKED BY:	DESIGNED BY:	Y.L.O.	8-SHEET CONTENTS:	DRAWING NO.:
YVES COZARIE, P.E.E.	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	JOHANNES L. GIBMA	YVES COZARIE, P.E.E.		AS SHOWN	E-9
REG. NO.: 00226	PRJ. NO.: 214719	ADDRESS:	RECOMMENDED BY:	DATE:	DATE:		SHEET NO.:
ISSUED ON: 01-03-2018	LOCATION:	GEN. SANTOS AVE., BICITAN, TAGUIG CITY, METRO MANILA	YVES COZARIE, P.E.E.				54 / 75
ISSUED AT: DAVAOWAN	ADDRESS:	GEN. SANTOS AVE., BICITAN, TAGUIG CITY, METRO MANILA	APPROVED BY:	DATE:	DATE:		
TN: 247-266-666	GEN. SANTOS AVE., BICITAN, TAGUIG CITY, METRO MANILA		JOHANNES L. GIBMA				



NOTE: 1, SEE-5 FOR COMMUNICATION, DATA & CCTV SYSTEMS RISER DIAGRAM.

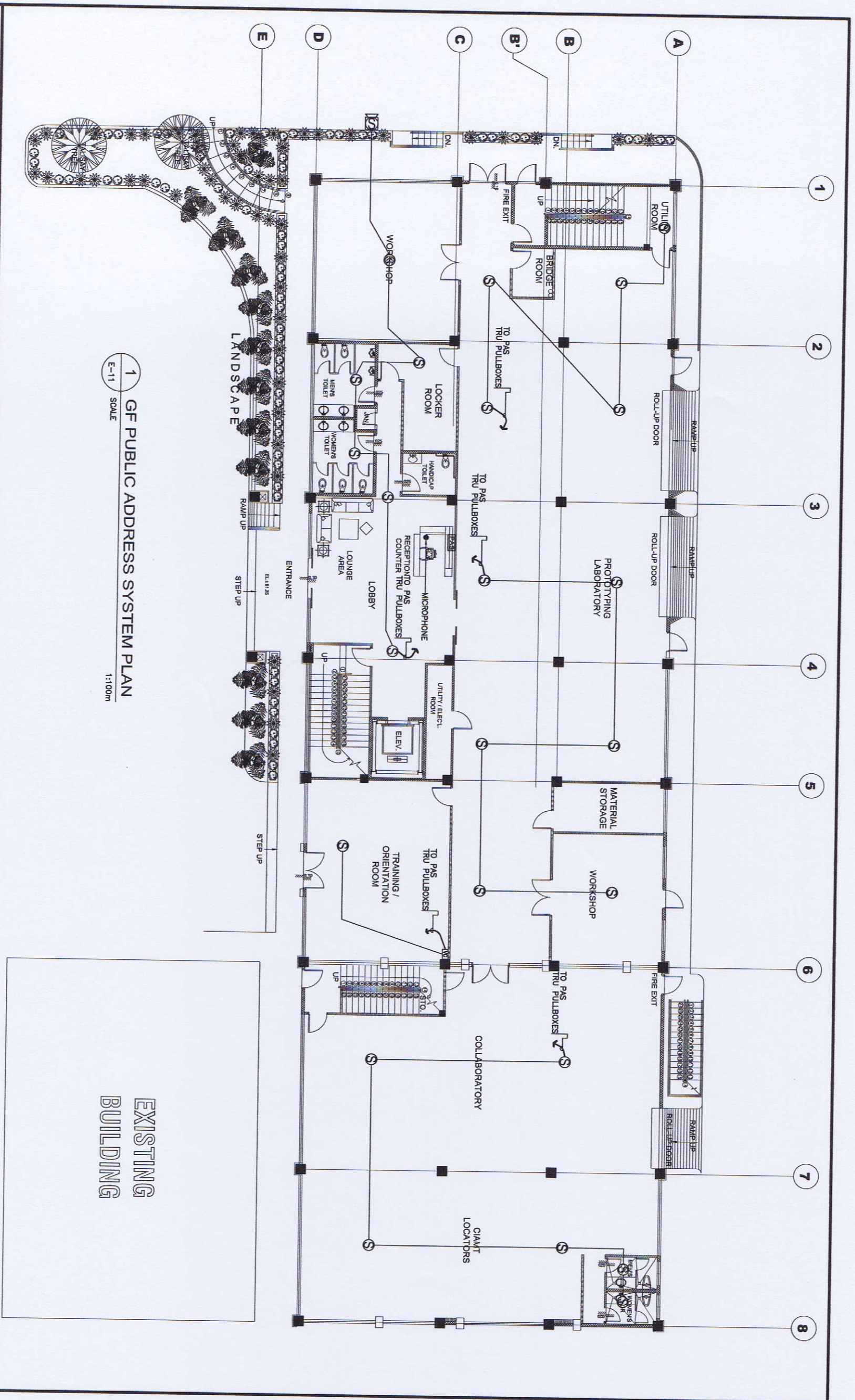
1 GF COMMUNICATION, DATA & CCTV SYSTEMS PLAN  
 E-10 SCALE  
 1:100m

EXISTING BUILDING



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 83 Kembangan Barat Korpri, Village Phase 24, Pak. Pulo, Pondok Cili, 1511  
 Tel. No. 882 7114 Fax. No. 882 8877 Email: gibma@0323.gibma.com  
 URL: www.gibma.com

ELECTRONICS ENGINEER		PROJECT TITLE:		OWNER:		REVIEWED & CHECKED BY:		DESIGNED BY:		SHEET CONTENTS:		DRAWING NO.:	
REG. NO. 51-6		PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)		JOSEPH A. RIZO, GANCA M. RIZO, ANDREW RIZO		G.A.O.		AS SHOWN		E - 10	
ISSUED ON: 01-03-2018		LOCATION: GDN, BANTING AVE., BUCURAN, TAGUIG CITY, METRO MANILA		ADDRESS: GDN, BANTING AVE., BUCURAN, TAGUIG CITY, METRO MANILA		DATE: 08/11/24		G.B.M.				SHEET NO.:	
ISSUED AT: MAKAY						APPROVED BY: [Signature]						55 / 75	

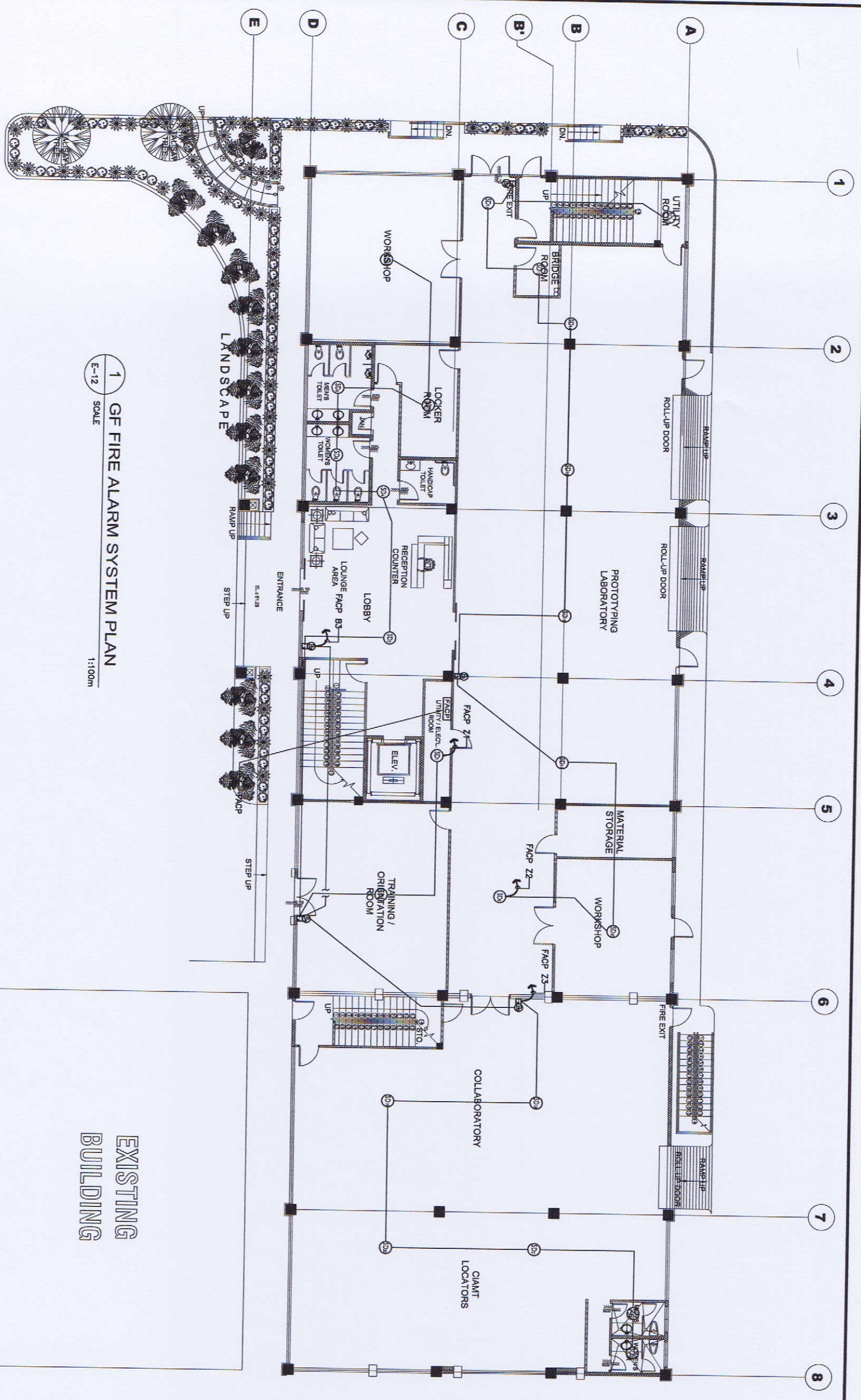


1 GF PUBLIC ADDRESS SYSTEM PLAN  
 E-11 SCALE  
 1:100m



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 93 Kelantan Street, Kajang, Selangor, Malaysia 43000  
 Tel. No: 03-892 7114 Fax. No: 03-892 9447  
 URL: www.gibma.com E-mail: gibma@3003.com

ELECTRICAL ENGINEER		PROJECT TITLE:		OWNER:		REVIEWED & CHECKED BY:		DESIGNED BY:		DRAWING NO.:	
GIBMA ENGINEERING SERVICES		PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER		METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)		ROBERTO S. OZON		Q.A.S		E-11	
NO. NO. 200-13-780		RESULT ON: 01-03-2019		ADDRESS: GILU, BANTONG AVE., BICUJAN, TAJUR CITY, METRO MANILA		RECOMMENDED BY:		DATE:		AS SHOWN	
RESULT AT: BAKARAN/BAKAR		LOCATION: GILU, BANTONG AVE., BICUJAN, TAJUR CITY, METRO MANILA		APPROVED BY:		CHECKED BY:		DATE:		56 / 75	



1 GF FIRE ALARM SYSTEM PLAN  
 E-12 SCALE  
 1:100m

EXISTING BUILDING



<b>GIBMA Engineering Services</b> Design - Construction - Project Management - Survey 99 Kelantan Street, Kelantan, Village Plaza 24, Doka Park, Petaling Jaya, 11611 Tel: +603-6200-1111 Fax: +603-6200-1111 URL: www.gibma.com Email: gibma@comcast.net	
<b>ELECTRONICS ENGINEER</b> REG. NO.: 668716 ISSUED ON: 01-03-2018 ISSUED AT: PAJAY	<b>PROJECT TITLE:</b> PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER LOCATION: GEN. SANTOS AVE., BICUJAN, TAGUIG CITY, METRO MANILA
<b>OWNER:</b> METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC) ADDRESS: GEN. SANTOS AVE., BICUJAN, TAGUIG CITY, METRO MANILA	<b>REVIEWED &amp; CHECKED BY:</b> ROBERT ANTON RECOMMENDED BY: ROBERT ANTON
<b>DESIGNED BY:</b> DATE: <b>CHECKED BY:</b> DATE: <b>APPROVED BY:</b> DATE:	<b>SHEET CONTENTS:</b> AS SHOWN <b>DRAWING NO.:</b> <b>E - 12</b> <b>SHEET NO.:</b> <b>57 / 75</b>





**GIBMA Engineering Services**  
 Design · Construction · Project Management · Survey  
 03 Kalsasan Street, Kenangan, Village Phase 2A, Dale Puz, Paly City, 1511  
 Tel. No. 602 7114 Fax. No. 622 6427 Cellphone No. 0820 822444  
 URL: www.gibma.com E-mail: gibma2003@yahoo.com

PROJECT TITLE	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER
OWNER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)
DESIGNED BY	Y. I. D.
CHECKED BY	Q. A. M.
DATE	
APPROVED BY	
DATE	

PROJECT TITLE	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER
OWNER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)
DESIGNED BY	Y. I. D.
CHECKED BY	Q. A. M.
DATE	
APPROVED BY	
DATE	

PROJECT TITLE	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER
OWNER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)
DESIGNED BY	Y. I. D.
CHECKED BY	Q. A. M.
DATE	
APPROVED BY	
DATE	

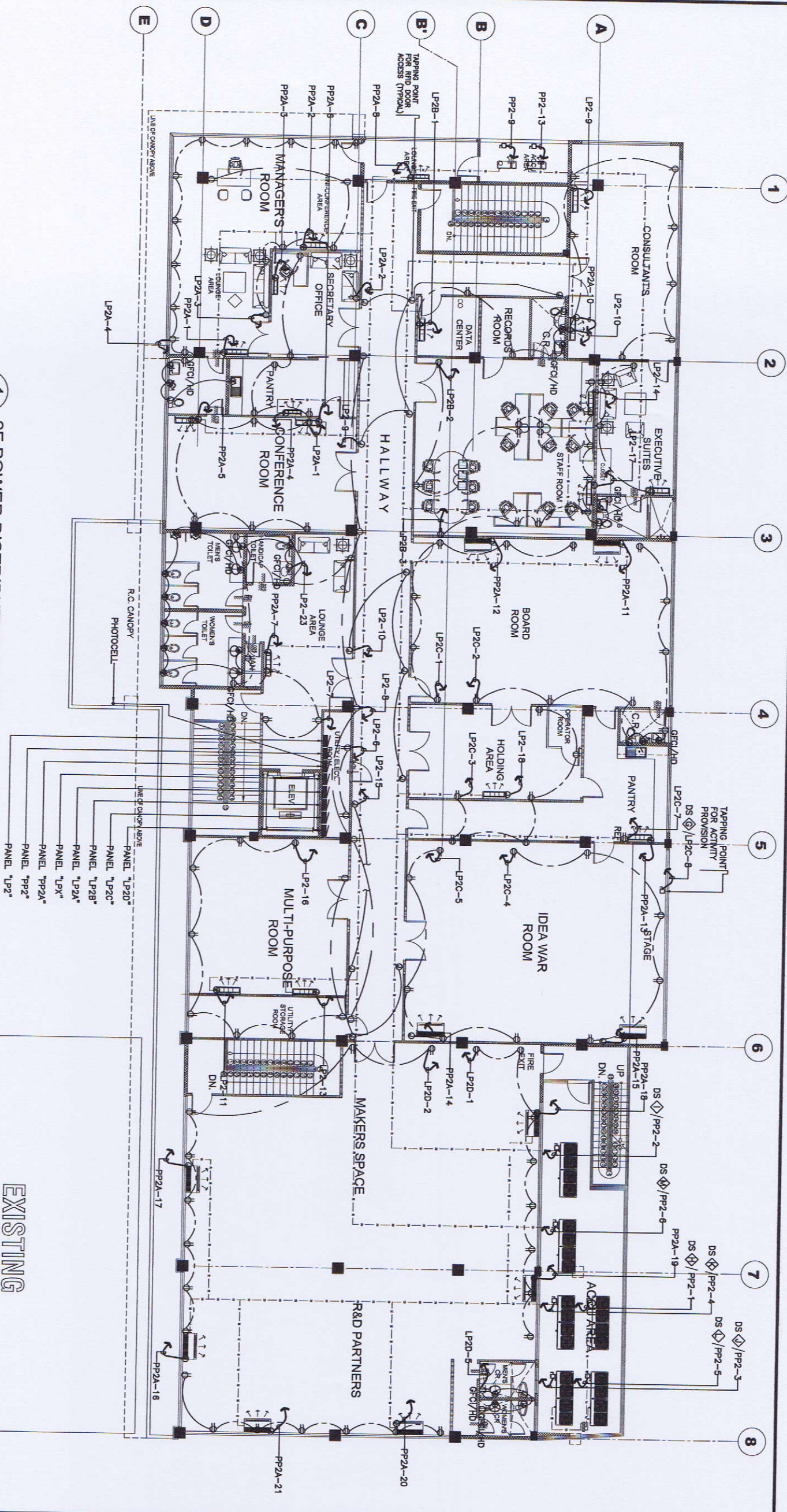
PROJECT TITLE	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER
OWNER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)
DESIGNED BY	Y. I. D.
CHECKED BY	Q. A. M.
DATE	
APPROVED BY	
DATE	

PROJECT TITLE	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER
OWNER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)
DESIGNED BY	Y. I. D.
CHECKED BY	Q. A. M.
DATE	
APPROVED BY	
DATE	

PROJECT TITLE	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER
OWNER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)
DESIGNED BY	Y. I. D.
CHECKED BY	Q. A. M.
DATE	
APPROVED BY	
DATE	

NOTE: 1. SEE-1 FOR EQUIPMENT SCHEDULE.  
 2. GFCI/HD - OUTLET FOR HAND DRIVER

**1 2F POWER DISTRIBUTION PLAN**  
 E-13 SCALE  
 1:100m



**EXISTING BUILDING**



**GIBMA Engineering Services**  
 Design · Construction · Project Management · Survey  
 93 Kelantan Street (Kangaroo), Village Point 2A, Dale Pte. Park, Singapore 118114  
 Tel. No.: 687 7114 Fax No.: 687 6487  
 URL: www.gibma.com E-mail: gibma@ibm.com

ELECTRICAL ENGINEER

DESIGNED BY: *[Signature]*

PROJECT TITLE: PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER

OWNER: METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)

REVIEWED & CHECKED BY: *[Signature]*

DESIGNED BY: *[Signature]*

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

REG. NO.: 02/259  
 P.T.N. NO.: 247/118  
 ISSUED ON: 07-03-2019  
 ISSUED AT: SINGAPORE

LOCATION: GEN. SANTOS AVE., BUCURAN, TAGUIG CITY, METRO MANILA

ADRESSES: GEN. SANTOS AVE., BUCURAN, TAGUIG CITY, METRO MANILA

APPROVED BY: *[Signature]*

APPROVED BY: *[Signature]*

APPROVED BY: *[Signature]*

APPROVED BY: *[Signature]*

APPROVED BY: *[Signature]*

APPROVED BY: *[Signature]*

APPROVED BY: *[Signature]*

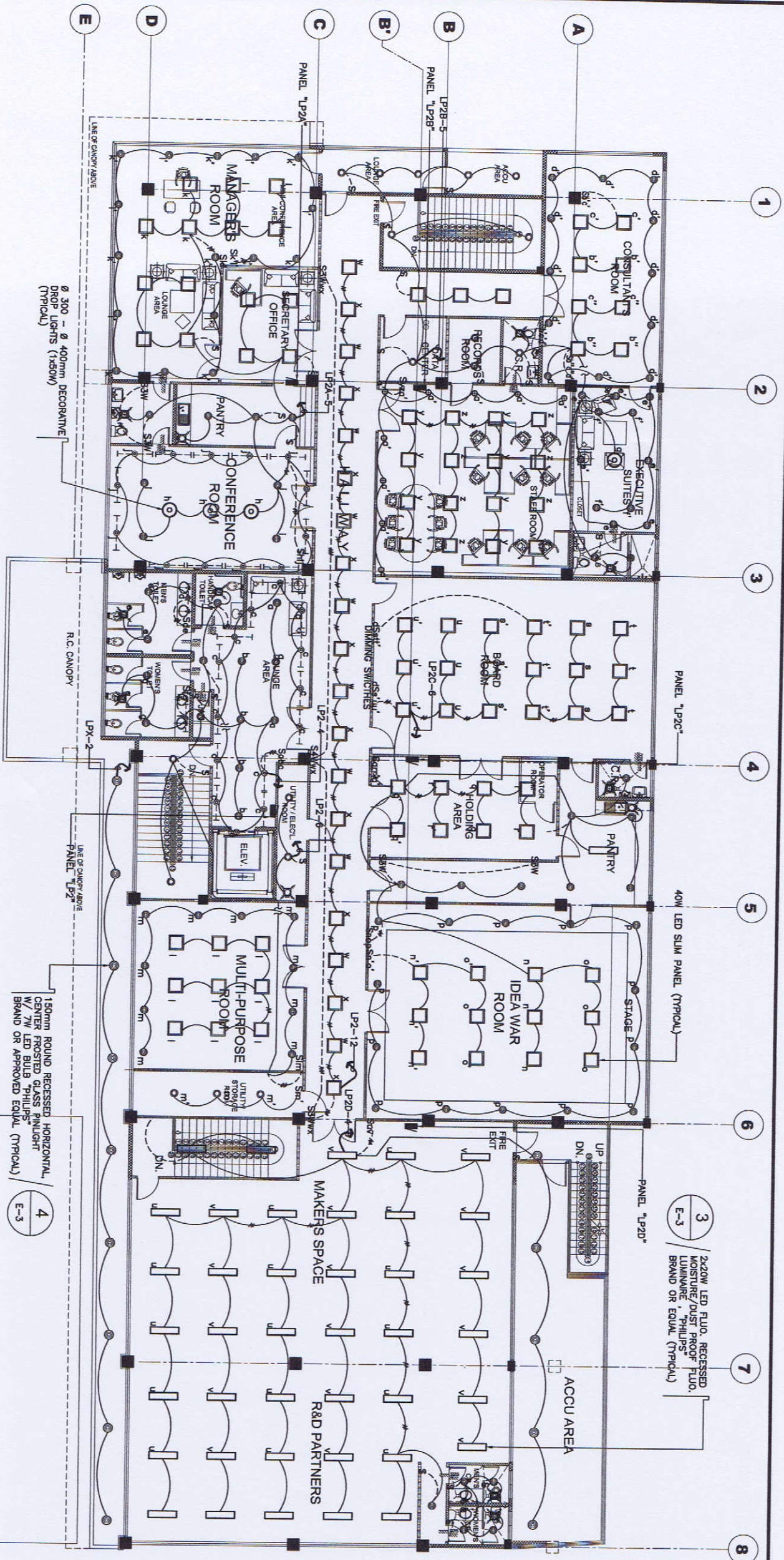
APPROVED BY: *[Signature]*

APPROVED BY: *[Signature]*

APPROVED BY: *[Signature]*

**1 2F LIGHTING SYSTEM PLAN**  
 E-14 SCALE 1:100M

**EXISTING BUILDING**



DRAWING NO.: **E - 14**  
 SHEET NO.: **59 / 75**



**GIRMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 93 Keldaan Street Karangraem, Village Plaza 2A, Dam, Pasig City 1611  
 Tel. No. 882 7714 Fax. No. 882 8487 Cellphone No. 0920 822441  
 URL: www.girma.com Email: girma0003@yahoo.com

PROJECT TITLE:	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER
OWNER:	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)
ADDRESS:	GEN. SANTOS AVE., BICTAN, TAGUIG CITY, METRO MANILA

REVISIONS & CHECKED BY:	APPROVED BY:
RECOMMENDED BY:	DATE:
DESIGNED BY:	DATE:
CHECKED BY:	DATE:
Q.A.M.	DATE:

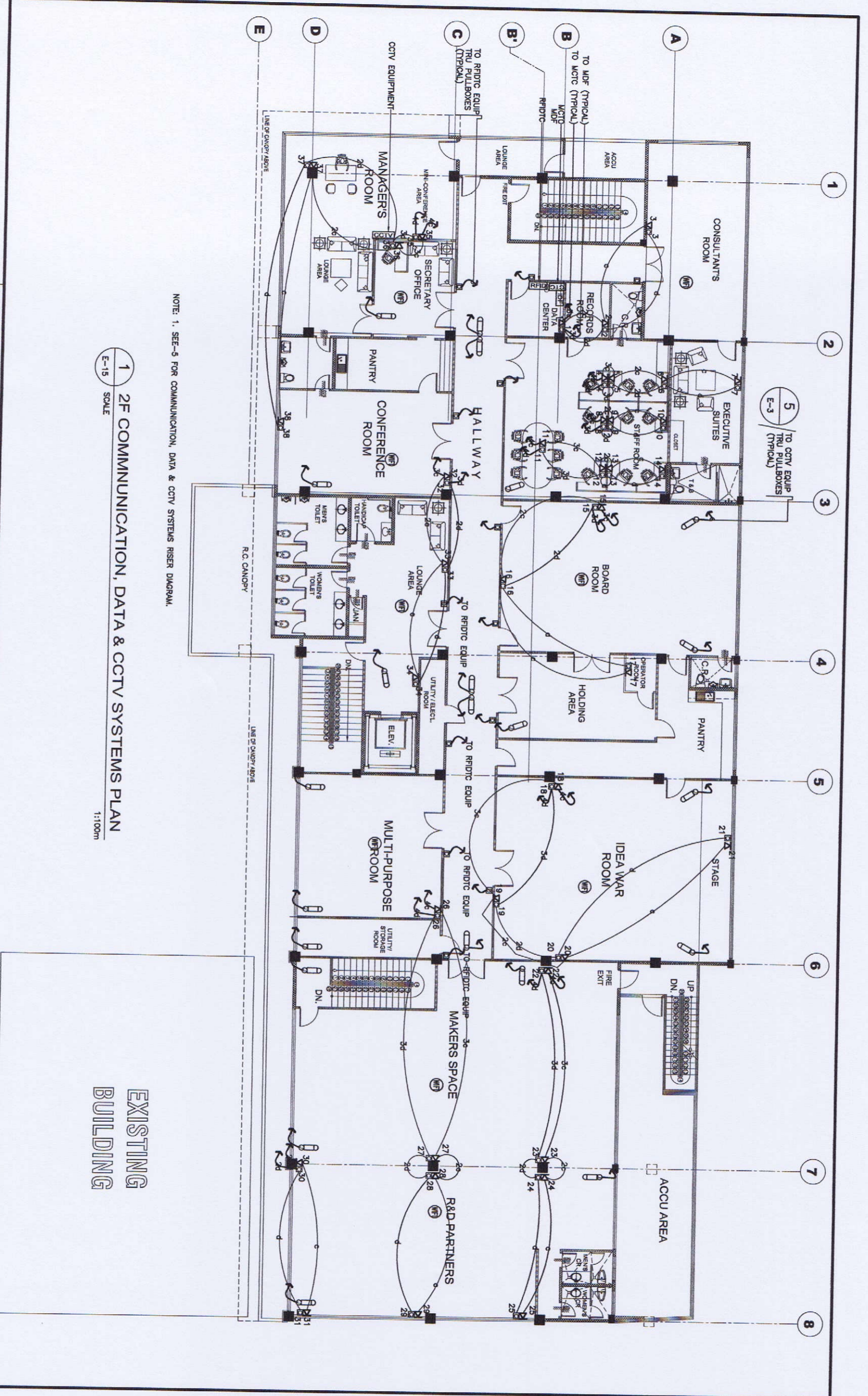
DESIGNED BY:	Q.A.M.
CHECKED BY:	DATE:
APPROVED BY:	DATE:

DESIGNED BY:	Q.A.M.
CHECKED BY:	DATE:
APPROVED BY:	DATE:

DESIGNED BY:	Q.A.M.
CHECKED BY:	DATE:
APPROVED BY:	DATE:

DESIGNED BY:	Q.A.M.
CHECKED BY:	DATE:
APPROVED BY:	DATE:

DESIGNED BY:	Q.A.M.
CHECKED BY:	DATE:
APPROVED BY:	DATE:



1  
E-15  
SCALE  
2F COMMUNICATION, DATA & CCTV SYSTEMS PLAN  
1:100m

EXISTING  
BUILDING



**GIBMA Engineering Services**  
Design - Construction - Project Management - Survey  
99 Kalkasan Street, Kembangan, Village Phase 2A, Duta Pkns, Petaling Jaya, 46100  
Tel. No: 603 7141 Fax. No: 603 8487 Cellphone No: 0920 828441  
URL: www.gibma.com E-mail: gibma003@yahood.com

**ELECTRICAL ENGINEER**  
PROJECT TITLE:  
**PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER**

**OWNER:**  
METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)

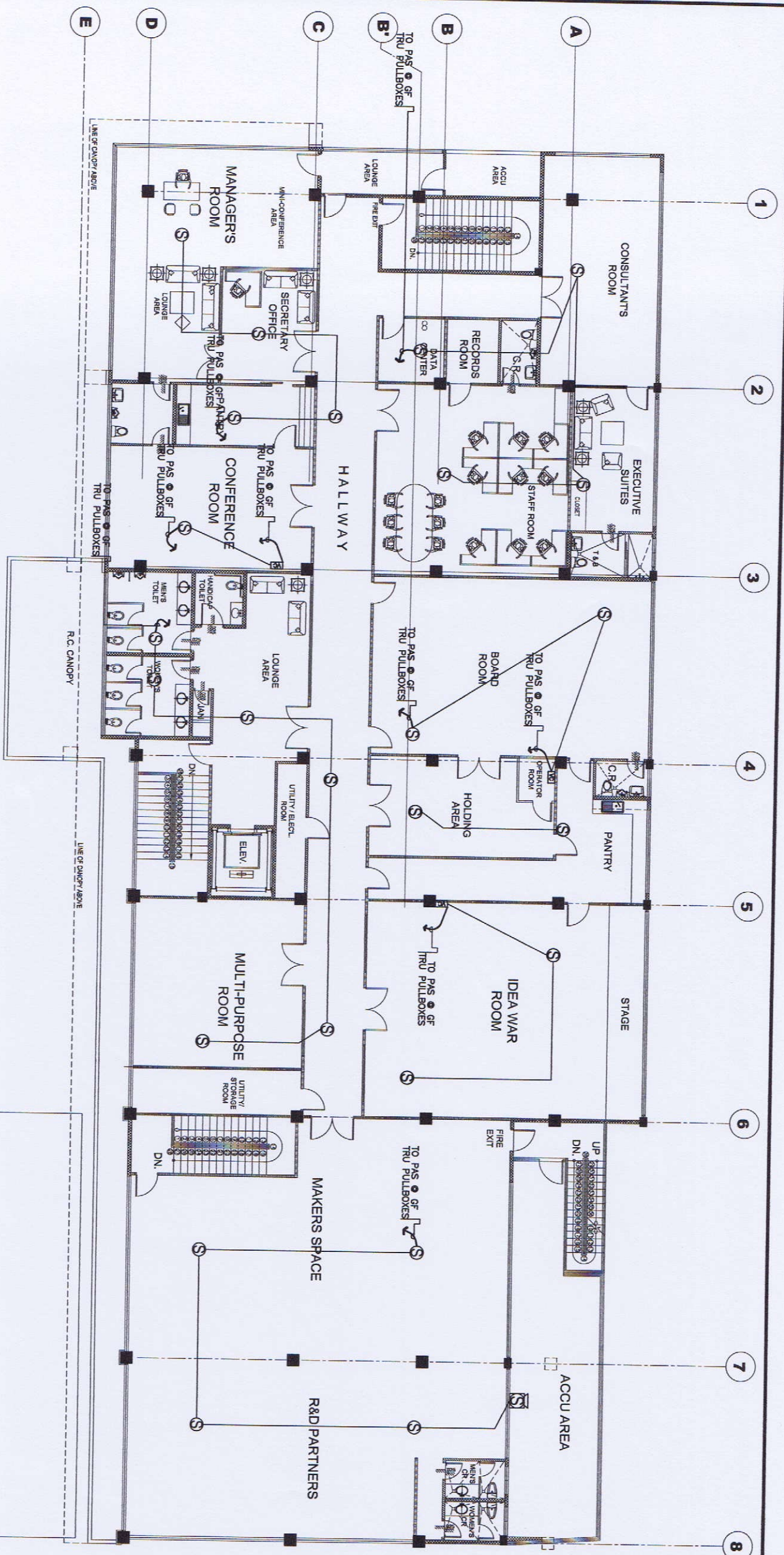
**REVIEWED & CHECKED BY:**  
RECOMMENDED BY:  
APPROVED BY:

**DESIGNED BY:**  
CHECKED BY:  
APPROVED BY:

**DATE:**  
**DATE:**  
**DATE:**

**QUALITY:**  
**AS SHOWN**

**DRAWING NO.:**  
**E - 16**  
**SHEET NO.:**  
**61 / 75**



**1 2F PUBLIC ADDRESS SYSTEM PLAN**  
E-16 SCALE  
1:100m

**EXISTING BUILDING**



**GIBMA Engineering Services**  
 Design · Construction · Project Management · Surveys  
 83 Kelantan Street, Kembangan, Village Prima 2A, Dda, Pda, Pda, Pda, Pda, Pda  
 Tel. No.: 883 7114 Fax No.: 883 8107  
 URL: www.gibma.com E-mail: gibma@com.gibma.com

ELECTRONICS ENGINEER

REG. NO.: 200-813-786  
 ISSUED ON: 04-08-2018  
 ISSUED AT: SINGAPORE

PROJECT TITLE:  
**PROPOSED 2-STORY ADVANCED  
 MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND  
 DEVELOPMENT CENTER (MIRDC)**

REVIEWED & CHECKED BY:  
 APPROVED BY:

DESIGNED BY: G.M.S.  
 CHECKED BY: G.M.S.  
 APPROVED BY:

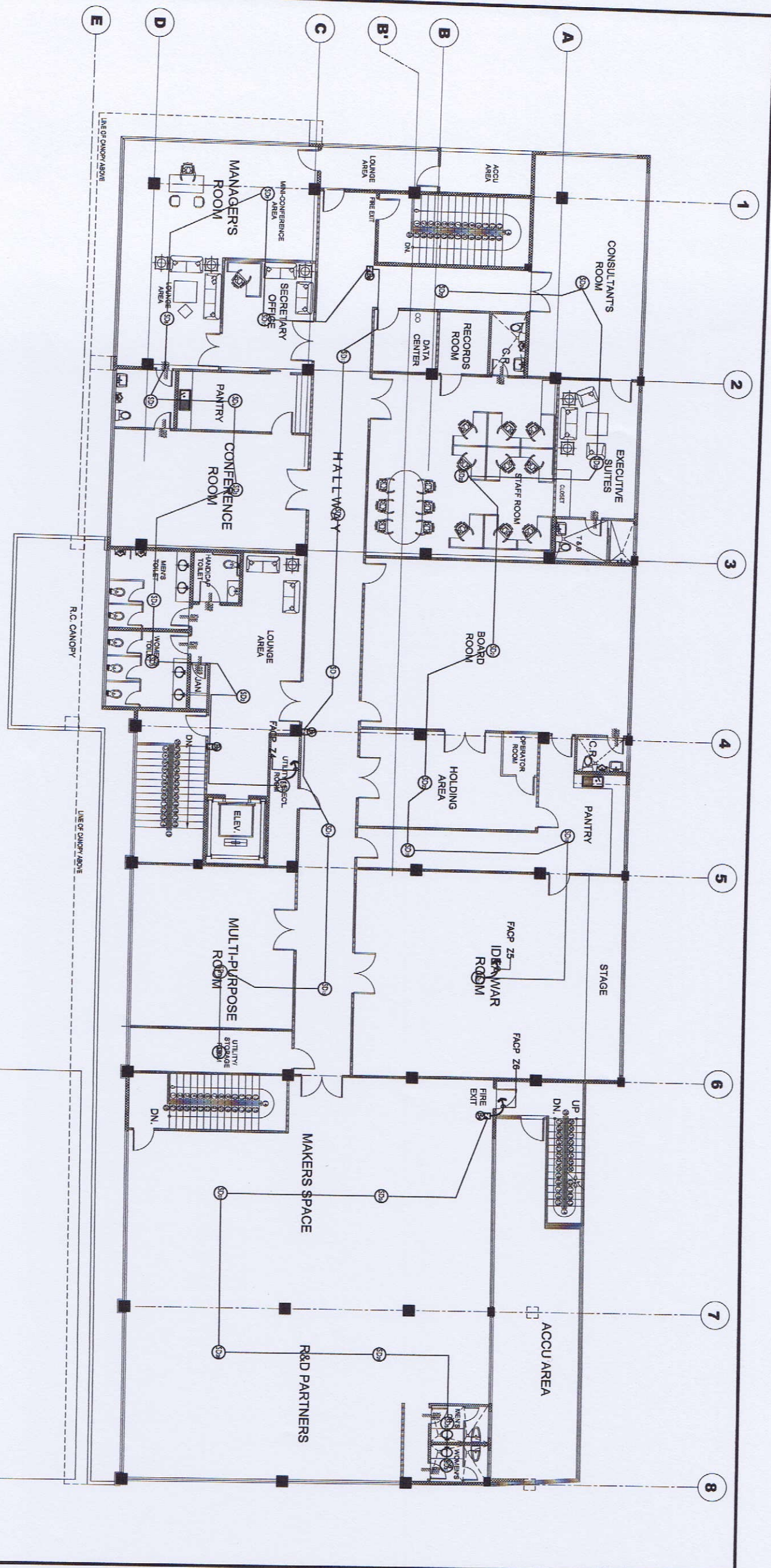
SHEET CONTENTS:  
 AS SHOWN

DRAWING NO.:  
**E - 17**

SHEET NO.:  
**62 / 75**

**1 2F FIRE ALARM SYSTEM PLAN**  
 E-17 SCALE  
 1:100m

**EXISTING  
 BUILDING**







CRT. NO.	LOAD DESCRIPTION	NO. OF OUTLETS	VA				MAIN	BREAKER RATING	WIRING IN mm² LINE CONDUIT (THINN-2) & G (TV)	P	V
			#AN	#BN	#CN	#DN					
1	2F-FCU-1	1	50				2	20	100	3	230
2	2F-FCU-2	1	50				2	20	100	3	230
3	2F-FCU-3	1	50				2	20	100	3	230
4	2F-FCU-4	1	50				2	20	100	3	230
5	2F-FCU-5	1	50				2	20	100	3	230
6	2F-FCU-6	1	50				2	20	100	3	230
7	2F-FCU-7	1	50				2	20	100	3	230
8	2F-FCU-8	1	50				2	20	100	3	230
9	2F-FCU-9	1	50				2	20	100	3	230
10	2F-FCU-10	1	50				2	20	100	3	230
11	2F-FCU-11	1	50				2	20	100	3	230
12	2F-FCU-12	1	50				2	20	100	3	230
13	2F-FCU-13	1	50				2	20	100	3	230
14	2F-FCU-14	1	50				2	20	100	3	230
15	2F-FCU-15	1	50				2	20	100	3	230
16	2F-FCU-16	1	50				2	20	100	3	230
17	2F-FCU-17	1	50				2	20	100	3	230
18	2F-FCU-18	1	50				2	20	100	3	230
19	2F-FCU-19	1	50				2	20	100	3	230
20	2F-FCU-20	1	50				2	20	100	3	230
21	2F-FCU-21	1	50				2	20	100	3	230
22	2F-FCU-22	1	50				2	20	100	3	230
23	SPARE	1					2	20	100	3	230
24	SPARE	1					2	20	100	3	230
TOTAL CONNECTED LOAD			976	723	862	3	30	100			25

PANEL ENCL: NEMA-1 LOCATION: ROOM-2  
 (DEMAND LOAD) =  $230 \times 1.732 = 6$   
 USE: 3x5.5mm² + 1x5.5mm² IN 25mm²φC  
 USE: 30A/100AF 3P MCCB  
 NOTE: MAIN CRT. & ALL BRANCH CRT. SHALL BE MCCB. PROVIDE GROUND BUS.

CRT. NO.	LOAD DESCRIPTION	NO. OF OUTLETS	VA				MAIN	BREAKER RATING	WIRING IN mm² LINE CONDUIT (THINN-2) & G (TV)	P	V
			#AN	#BN	#CN	#DN					
1	3HP DUPLEX BOOSTER PUMP	1	7649				3	40	100	3	230
2	SPARE	1					3	40	100	3	230
3	PANEL "PPH"	1					3	40	100	3	230
4	SPARE	1					3	40	100	3	230
5	JOCKEY PUMP	1					3	40	100	3	230
6	SPARE	1					3	40	100	3	230
7	1.5HP DUPLEX BOOSTER PUMP	1					3	40	100	3	230
8	5HP RTR 100AF IP 08	1					3	40	100	3	230
TOTAL CONNECTED LOAD			7649	1520	3910	4800	3	60	100		32

PANEL ENCL: NEMA-1 LOCATION: ROOM-1  
 (DEMAND LOAD) =  $230 \times 1.732 = 32$   
 USE: 3x14mm² + 1x5.5mm² IN 100mm²φC  
 USE: 60A/100AF 3P MCCB  
 NOTE: MAIN CRT. & ALL BRANCH CRT. SHALL BE MCCB. PROVIDE GROUND BUS.

CRT. NO.	LOAD DESCRIPTION	NO. OF OUTLETS	VA				MAIN	BREAKER RATING	WIRING IN mm² LINE CONDUIT (THINN-2) & G (TV)	P	V
			#AN	#BN	#CN	#DN					
1	PANEL "L2"	1	16400	14280	14000		3	150	250		230
2	SPARE	1					3	150	250		230
3	PANEL "L1"	1	7390				3	150	250		230
4	DOOR ACCESS	4	1200				2	20	100		230
5	PANEL "L1A"	1	9140				2	80	100		230
6	SPARE	1					2	80	100		230
7	PANEL "L1B"	1	7770				2	80	100		230
8	DOOR ACCESS	4	1200				2	20	100		230
9	0.5HP SUMP PUMP	1	900				2	20	100		230
10	SPARE	1					2	20	100		230
11	SPARE	1					2	20	100		230
12	SPARE	1					2	20	100		230
13	DOOR ACCESS	5	1500				2	20	100		230
14	SPARE	5					2	20	100		230
TOTAL CONNECTED LOAD			29980	23400	24470	3	--	--	--	--	100


PANEL ENCL: NEMA-1 LOCATION: ROOM-1  
 (DEMAND LOAD) =  $230 \times 1.732 = 184$   
 USE: 3x150mm² + 1x30mm² IN 100mm²φC  
 USE: 250 AMPS 3P LUGS ONLY  
 NOTE: MAIN CRT. & ALL BRANCH CRT. SHALL BE MCCB. PROVIDE GROUND BUS.

CRT. NO.	LOAD DESCRIPTION	NO. OF OUTLETS	VA				MAIN	BREAKER RATING	WIRING IN mm² LINE CONDUIT (THINN-2) & G (TV)	P	V
			#AN	#BN	#CN	#DN					
1	PANEL "ATS"	1	141089	29872	29257	32667	3	800	800	2 SETS [3-325 + 1-30]	100/SET
2	PANEL "PP1"	1	82011				3	400	400	SEE PANEL SCHEDULE	
3	PANEL "PP2"	1	87011				3	400	400	SEE PANEL SCHEDULE	
4	PANEL "PP3"	1	87011				3	400	400	SEE PANEL SCHEDULE	
5	2.5HP AIR COMPRESSOR MOTOR	1	27088				3	175	250	3-80 + 1-14	75
6	SPARE	1					3	175	250		
7	1.5HP AIR COMPRESSOR MOTOR	1	16731				3	100	100	3-30 + 1-8.0	40
8	SPARE	1					3	100	100		
TOTAL CONNECTED LOAD			450941	29352	29257	32667	3	1600	1600	4 SETS [3-325 + 1-30]	100/SET

PANEL ENCL: NEMA-1 LOCATION: ROOM-1  
 (DEMAND LOAD) =  $542737.0 \text{ B.D.F.} = 1090$   
 USE: 4SETS [3x325mm² + 1x30mm² IN 100mm²φC]  
 USE: 1500A/1800AF 3P MCCB  
 NOTE: MAIN CRT. & ALL BRANCH CRT. SHALL BE MCCB. PROVIDE GROUND BUS.


## 1 PANEL SCHEDULE

E-20 SCALE



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey

83 Kelantan Street, Kelantan Village Phase 2A, Duta Pkz, Petaling Jaya 46101  
 Tel. No: 603 7144 Fax: No: 603 6467  
 Email: gibma@jab.com.my Website: www.gibma.com.my

ELECTRICAL ENGINEER  NAME: YUSUFZUL HANIFFA ID NO: 123456789 REGISTERED NO: 01-05-2019	PROJECT TITLE: PROPOSED 2 STOREY ADVANCED MANUFACTURING CENTER	OWNER:	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)
		DESIGNED BY:	Y.L.D. AS SHOWN
REVIEWED & CHECKED BY:	APPROVED BY:	DATE:	DATE:





FAN COIL UNIT SCHEDULE

EQUIPMENT NO.	LOCATION	TYPE	QTY	COOLING CAPACITY (KW)	POWER INPUT (KW)	ELECTRICAL DATA				WEIGHT (KG)	MODEL	REMARKS
						V	PHASE	Hz				
FCU-1-2	GROUND FLOOR RECEPTION	WALL MOUNTED	2	7.1	0.050	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-3	GROUND FLOOR BRIDGE ROOM	WALL MOUNTED	1	3.6	0.030	220	1	60	11.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-4-5	GROUND FLOOR LOBBY	CEILING SUSPENDED	2	11.2	0.199	220	1	60	33.0	DAIKIN FPAQ100PME OR APPROVED EQUAL	(1)(2)(3)	
FCU-6-7	GROUND FLOOR TRAINING/ OPERATION ROOM	WALL MOUNTED	2	7.1	0.050	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-8	GROUND FLOOR WORKSHOP	WALL MOUNTED	1	7.1	0.050	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-9-10	GROUND FLOOR PROTOTYPING LABORATORY	CEILING SUSPENDED	7	11.2	0.199	220	1	60	33.0	DAIKIN FPAQ100PME OR APPROVED EQUAL	(1)(2)(3)	
FCU-11-12	GROUND FLOOR COLLABORATORY & CONF. LOCATIONS	CEILING SUSPENDED	6	11.2	0.199	220	1	60	33.0	DAIKIN FPAQ100PME OR APPROVED EQUAL	(1)(2)(3)	
FCU-13	SECOND FLOOR MANAGER'S ROOM	WALL MOUNTED	2	7.1	0.050	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-14	SECOND FLOOR SECRETARY OFFICE	WALL MOUNTED	1	3.2	0.030	220	1	60	11.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-15	SECOND FLOOR PANNY	WALL MOUNTED	1	3.2	0.030	220	1	60	11.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-16	SECOND FLOOR CONFERENCE ROOM	WALL MOUNTED	2	5.42	0.033	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-17	SECOND FLOOR LOUNGE AREA	WALL MOUNTED	1	7.1	0.050	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-18	SECOND FLOOR LOUNGE AREA	WALL MOUNTED	1	3.2	0.030	220	1	60	11.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-19	SECOND FLOOR MULTI FUNCTION ROOM	WALL MOUNTED	2	7.1	0.050	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-20	SECOND FLOOR CONSULTANT'S ROOM	WALL MOUNTED	2	5.42	0.033	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-21	SECOND FLOOR STAFF ROOM	WALL MOUNTED	2	7.1	0.050	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-22	SECOND FLOOR BOARD ROOM	CEILING SUSPENDED	2	11.2	0.199	220	1	60	33.0	DAIKIN FPAQ100PME OR APPROVED EQUAL	(1)(2)(3)	
FCU-23	SECOND FLOOR HOLDING AREA	WALL MOUNTED	1	7.1	0.050	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-24	SECOND FLOOR PAINTRY	WALL MOUNTED	1	7.1	0.050	220	1	60	14.0	DAIKIN FPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-25	SECOND FLOOR DEA WASH ROOM	CEILING SUSPENDED	2	11.2	0.199	220	1	60	33.0	DAIKIN FPAQ100PME OR APPROVED EQUAL	(1)(2)(3)	
FCU-26	SECOND FLOOR WALKWAY & RAMP PARTNERS	CEILING SUSPENDED	6	11.2	0.199	220	1	60	33.0	DAIKIN FPAQ100PME OR APPROVED EQUAL	(1)(2)(3)	
FCU-27	SECOND FLOOR DATA CENTER	WALL MOUNTED	1	7.1	-	-	-	-	13.0	DAIKIN RPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	
FCU-28	SECOND FLOOR EXECUTIVE SUITE	WALL MOUNTED	1	7.1	-	-	-	-	13.0	DAIKIN RPAQ25PFE OR APPROVED EQUAL	(1)(2)(3)	

- 1. PROVIDE CORRESPONDING ACCESSORIES INCLUDING REMOTE CONTROLLED/WALL MOUNTED THERMOSTATS.
- 2. INSTALL AS PER MANUFACTURER'S INSTRUCTION.
- 3. PROVIDE WITH VERY 8 FILTER.
- 4. INDOOR UNIT TO BE POWERED BY OUTDOOR UNIT.

AIR COOLED CONDENSING UNIT SCHEDULE

EQUIPMENT NO.	SERVICE	LOCATION	QTY	COOLING CAPACITY (KW)	POWER INPUT (KW)	ELECTRICAL DATA				WEIGHT (KG)	MODEL	REMARKS
						V	PHASE	Hz				
ACU-1	FCU-1-8	SECOND FLOOR	1	62.4	16.1	230	3	60	185+255	DAIKIN RPAQ25PFE OR APPROVED EQUAL	(1)(2)	
ACU-2	FCU-9-15	SECOND FLOOR	1	85.0	23.9	230	3	60	285+285	DAIKIN RPAQ25PFE OR APPROVED EQUAL	(1)(2)	
ACU-3	FCU-16-21	SECOND FLOOR	1	68.0	18.2	230	3	60	195+285	DAIKIN RPAQ25PFE OR APPROVED EQUAL	(1)(2)	
ACU-4	FCU-10	SECOND FLOOR	1	55.8	14.2	230	3	60	165+195	DAIKIN RPAQ25PFE OR APPROVED EQUAL	(1)(2)	
ACU-5	FCU-11-20	SECOND FLOOR	1	85.0	23.9	230	3	60	285+285	DAIKIN RPAQ25PFE OR APPROVED EQUAL	(1)(2)	
ACU-6	FCU-12	SECOND FLOOR	1	68.0	18.2	230	3	60	195+285	DAIKIN RPAQ25PFE OR APPROVED EQUAL	(1)(2)	
ACU-7	FCU-27	SECOND FLOOR	1	7.1	2.19	220	1	60	43.0	DAIKIN RPAQ25PFE OR APPROVED EQUAL	(1)(2)	
ACU-8	FCU-28	SECOND FLOOR	1	7.1	2.19	220	1	60	43.0	DAIKIN RPAQ25PFE OR APPROVED EQUAL	(1)(2)	

- 1. PROVIDE WITH CORRESPONDING ACCESSORIES.
- 2. INSTALL AS PER MANUFACTURER'S INSTRUCTION.



**GIBMA Engineering Services**  
 Design · Construction · Project Management · Survey  
 83 Kelantan Street, Kelantan Village Phase 2A, Duta Peta, Puchong, 47101  
 Tel. No: 03-7714 Fax. No: 03-7467  
 URL: www.gibma.com E-mail: gibmad03@pb.com

PROFESSIONAL/TECHNICAL ENGINEER  
 ENGR. P. JAYAKUMAR P. E. ASST. ENGR.  
 REG. NO.: 94881  
 ISSUED ON: 01-05-2019  
 ISSUED AT: SIKAM

PROJECT TITLE:  
**PROPOSED 2-STOREY ADVANCED  
 MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND  
 DEVELOPMENT CENTER (MIRDC)**

REVIEWED & CHECKED BY:  
 APPROVED BY:

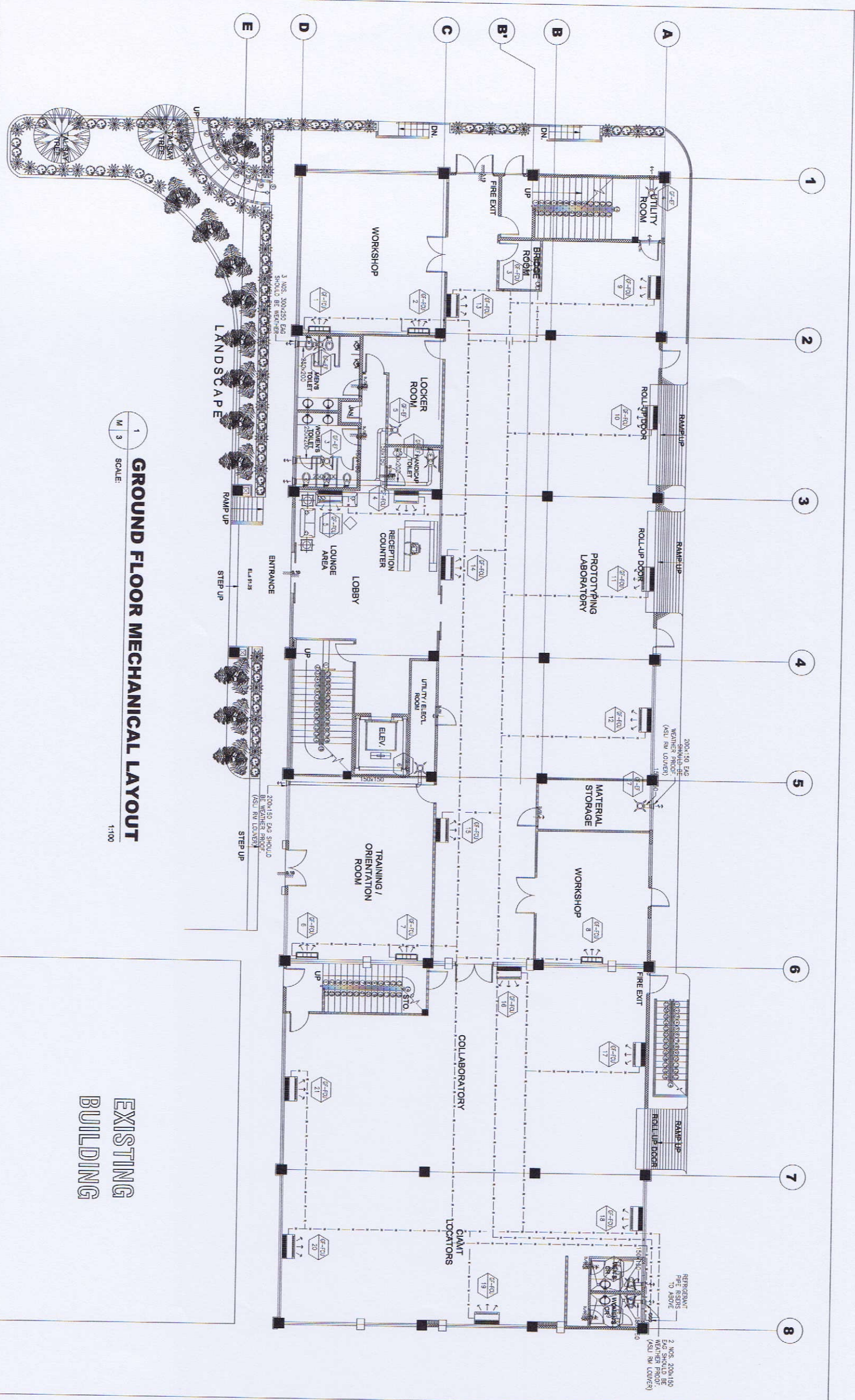
DESIGNED BY: L.S. JALILA  
 CHECKED BY: Q.S.M.  
 DATE:

SHEET CONTENTS:  
**AS SHOWN**  
 DRAWING NO.:  
**M - 2**  
 SHEET NO.:  
**67 / 75**



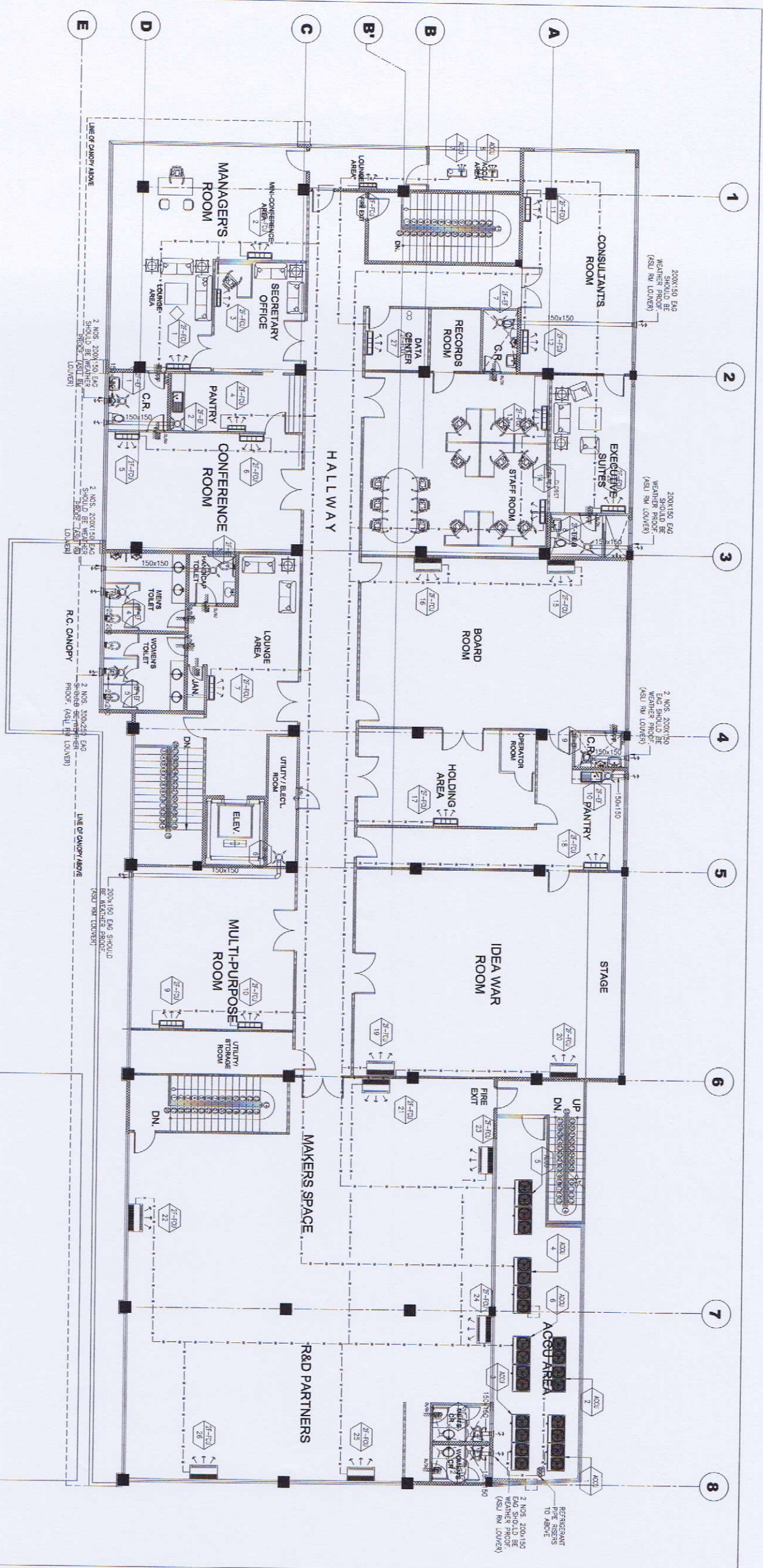
**GIBMA Engineering Services**  
 Design · Construction · Project Management · Survey  
 83 Kelantan Street Kemangari Village Phase 2A, Duta Puri, Peta 03, 4611  
 Tel. No: 603 7114 Fax. No: 602 8497  
 URL: www.gibma.com E-mail: gibmad03@msk.com

PROFESSIONAL/REGISTERED ENGINEER	PROJECT TITLE:	OWNER:	REVIEWED & CHECKED BY:	DESIGNED BY:	DATE:	SHEET CONTENTS:	DRAWING NO.:
	PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)		L.A. JULIA		AS SHOWN	<b>M - 3</b>
REG. NO.: 50187	ISSUED ON: 21-05-2018	ADDRESS: GRI. SANTIAS AVE. BOUTRA, TAJUR CITY, METRO JAMBUA	RECOMMENDED BY:	DATE:			SHEET NO.:
ISSUED BY: 50187	ISSUED BY: 50187						<b>68 / 75</b>
ISSUED ON: 21-05-2018	ISSUED ON: 21-05-2018		APPROVED BY:	DATE:			
ISSUED BY: 50187	ISSUED BY: 50187						
ISSUED ON: 21-05-2018	ISSUED ON: 21-05-2018						
ISSUED BY: 50187	ISSUED BY: 50187						



**GROUND FLOOR MECHANICAL LAYOUT**  
 SCALE: 1:100

**EXISTING BUILDING**



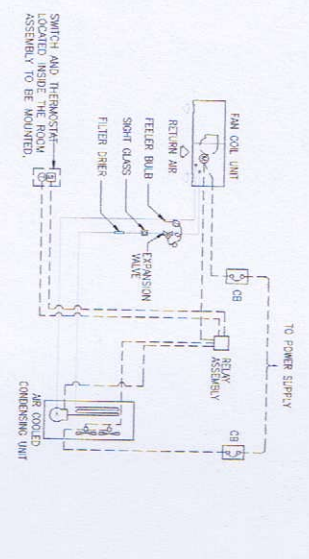
1  
M 4  
SCALE: 1:100  
**SECOND FLOOR MECHANICAL LAYOUT**

**EXISTING BUILDING**



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Services  
 83 Kelantan Street, Kelantan Village Phase 2A, Dula Pac, Petai, Ctr 1611  
 Tel. No.: 882 7114 Fax. No.: 882 8487  
 URL: www.gibma.com E-mail: gibma@comcast.com

PROFESSIONAL MECHANICAL ENGINEER	PROJECT TITLE:	OWNER:	REVIEWED & CHECKED BY:	DESIGNED BY:	DATE:	SHEET CONTENTS:	DRAWING NO.:
LENNEL P. JAYARAJA, M. Engg. (ASST. ENGR)	PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER	METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	JOHANNY ARIF, M. Engg. (ASST. ENGR)	L.P. JIJJA	M/A	AS SHOWN	M - 4
ISSUED ON: 01-05-2019	ISSUED BY: SAUJAN	ADDRESS: GBL SANTOS AVE. BICITAN, TANGU CITY, METRO MANILA	APPROVED BY:	CHECKED BY:	DATE:		69 / 75
TIN: 200-084310	LOCATION: GBL SANTOS AVE. BICITAN, TANGU CITY, METRO MANILA		APPROVED BY:	CHECKED BY:	DATE:		

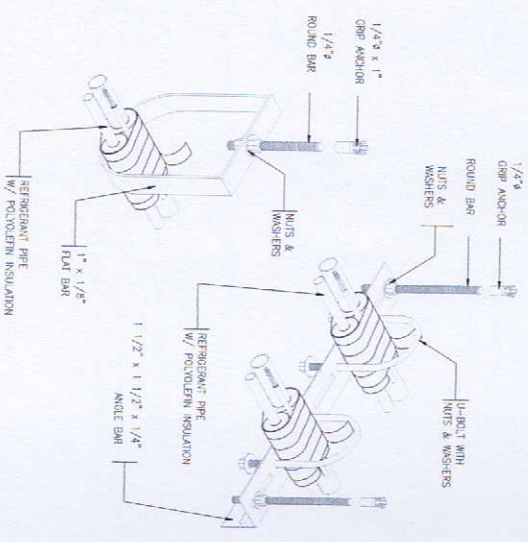


**OPERATING SEQUENCE**

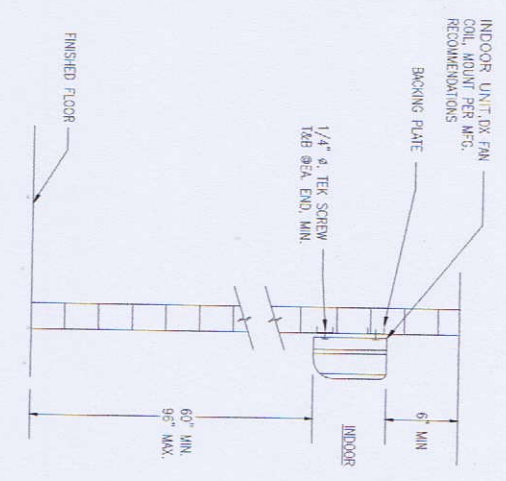
1. WHEN SWITCH IS IN "OFF" POSITION, RELAY ASSEMBLY AND ALL OTHER CONTROLS ARE IN OFF POSITION.
2. WHEN SWITCH IS PUT IN "ON" POSITION, CONTROL RELAY ASSEMBLY WILL BE ENERGIZED STARTING THE OPERATION OF THE FOLLOWING MOTOR IN SEQUENCE:
  - A. FAN COIL UNIT, EXHAUSTOR FAN.
  - B. AIR COOLED CONDENSING UNIT AFTER 3 TO 5 MINS. DELAY.
3. THERMOSTAT [ ] SHALL SENSE THE AVERAGE RETURN AIR TEMPERATURE AND SHALL OPERATE THE COMPRESSOR. THERMOSTAT SHALL BE SET AT 24°C.

**NOTE:**  
CIRCUIT BREAKER SIZE SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION OF THE ACQU MANUFACTURER.

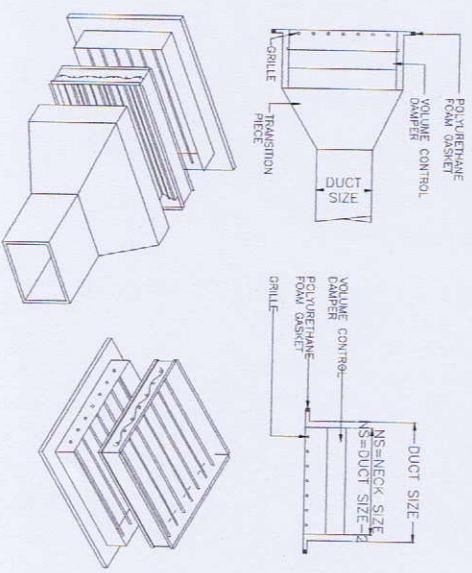
**1 SPLIT AC UNIT CONTROL DIAGRAM**  
M-5 SCALE NTS



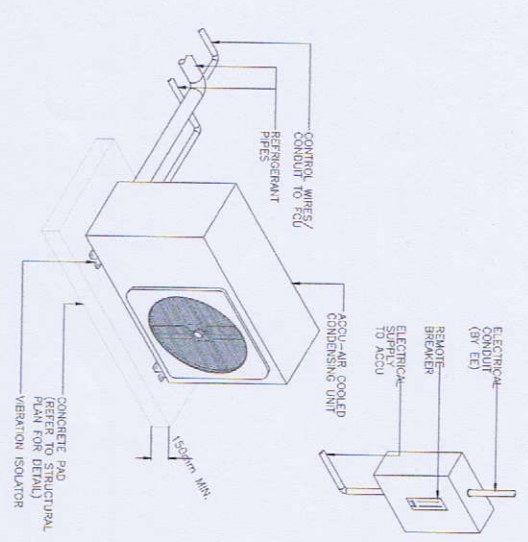
**5 SPLIT AC UNIT CONTROL DIAGRAM**  
M-5 SCALE NTS



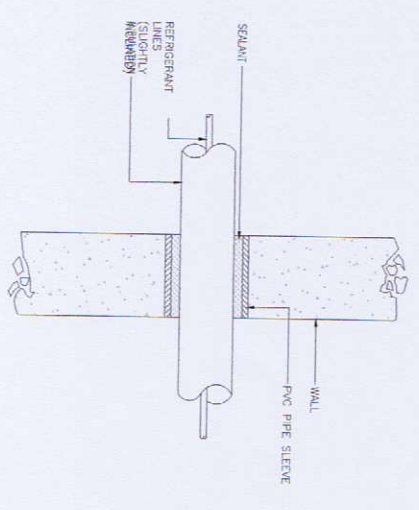
**2 WALL MOUNTED FCU MOUNTING DETAIL**  
M-5 SCALE NTS



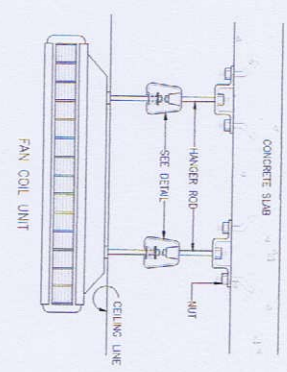
**6 EXHAUST AIR REGISTER DETAIL**  
M-5 SCALE NTS



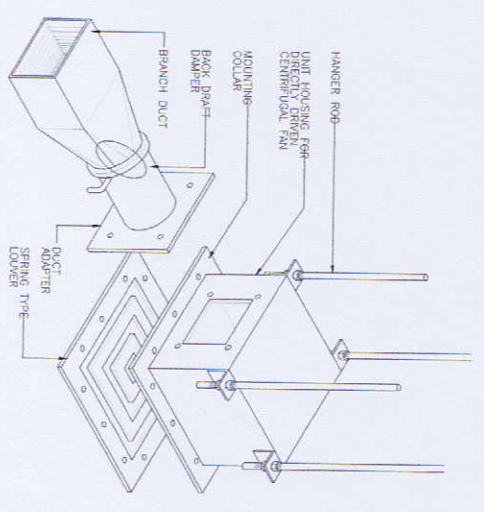
**3 ACQU MOUNTING DETAIL**  
M-5 SCALE NTS



**3 REFRIGERANT THRU WALL DETAIL**  
M-5 SCALE NTS



**4 CEILING SUSPENDED FCU MOUNTING DETAIL**  
M-5 SCALE NTS



**8 TOILET EXHAUST FAN DETAIL**  
M-5 SCALE NTS



**GIBMA Engineering Services**  
Design - Construction - Project Management - Supervision  
83 Kerkanan Street, Kemang, Jakarta Selatan, Indonesia  
Telp. No: 021 7114 Fax. No: 021 8487  
URL: www.gibma.com E-mail: gibma003@ibekas.com

**PROFESSIONAL ENGINEER**  
L. JALILA  
REG. NO.: 424881  
P.T.N. NO.: 01-652018  
BUILDING AT: SAKRA

**PROJECT TITLE:**  
PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER

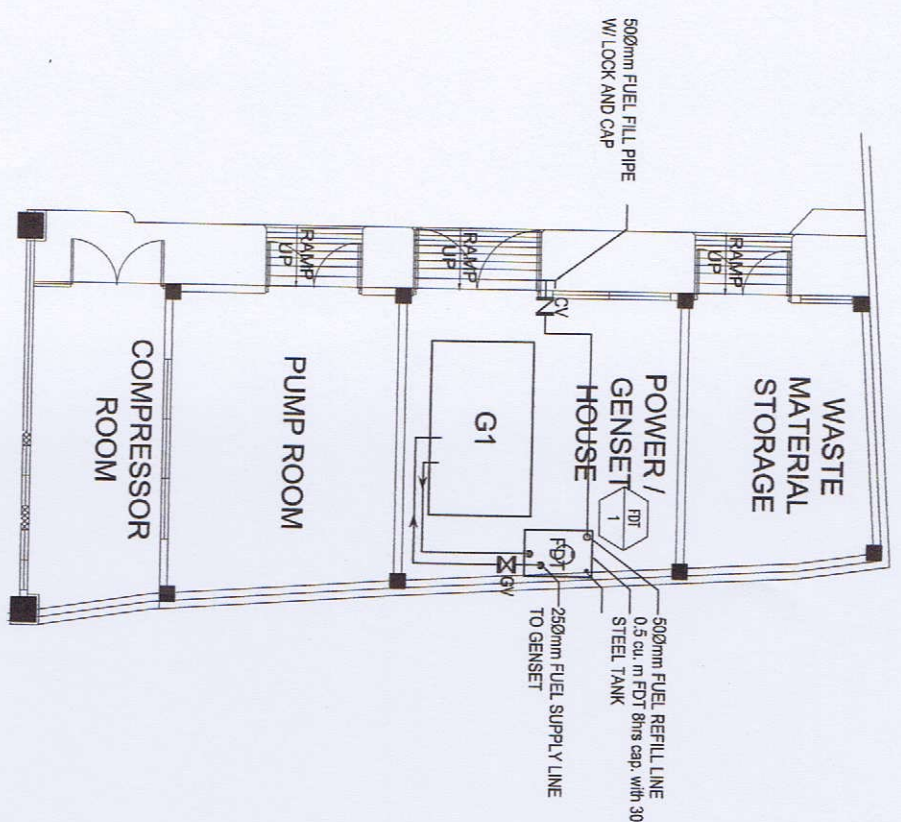
**OWNER:**  
METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)

**REVIEWED & CHECKED BY:**  
L. JALILA  
DATE: 12/12/2018

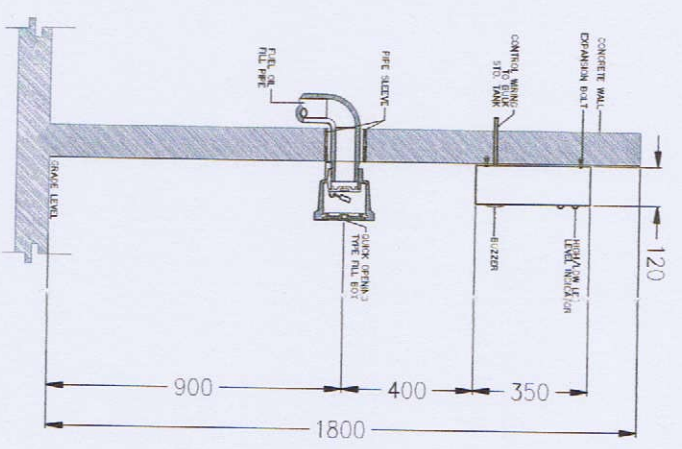
**DEVELOPED BY:**  
L. JALILA  
DATE: 12/12/2018

**DRIVING NO.:**  
**M-5**  
**SHEET NO.:**  
**70 / 75**

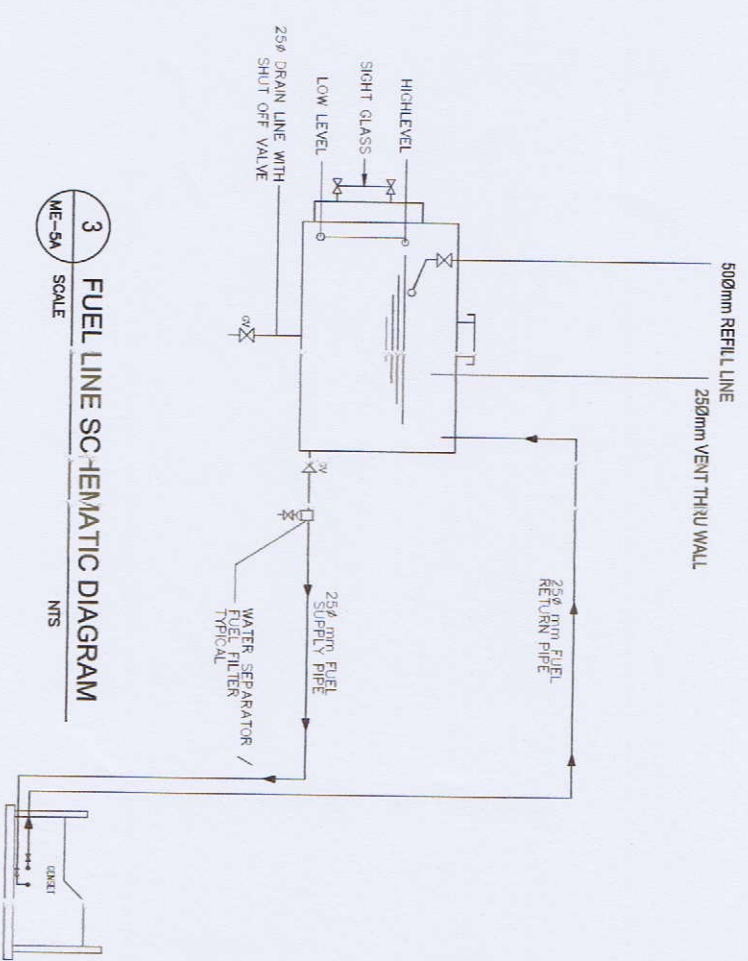
TANK SCHEDULE						
EQPT. NO.	LOCATION	TYPE	QTY	CAPACITY	MATERIAL	REMARKS
FDI 1	GROUND FLOOR GENSET AREA	CYLINDRICAL FLOOR MOUNTED	1	500 LITERS	BI GA. 12	



1 FUEL LINE PLAN AND LAYOUT  
ME-5A SCALE 1:75m



2 FUEL LINE MTG AND DETAILS  
ME-5A SCALE NTS



3 FUEL LINE SCHEMATIC DIAGRAM  
ME-5A SCALE NTS



**GIBMA Engineering Services**  
 Design - Construction - Project Management - 3rd Party  
 93 Kelasaari Street Kamangan Village Phase 2A, Dam Pao, Batu Caves, 16111  
 Tel. No: 603 7114 Fax. No: 603 687  
 URL: www.gibma.com Email: gibma0000@yahoo.com

PROJECT TITLE: PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER	OWNER: METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)	DESIGNED BY: L. P. MALLA	CHECKED BY: M. L. A.	DATE: 20/10/2019	DATE: 20/10/2019	SHEET CONTENTS: AS SHOWN	DRAWING NO.:
PROPOSER: GEN. SANTOS A. S. BUDJANA, TAGUB CITY, METRO MANILA	ADDRESS: GEN. SANTOS A. S. BUDJANA, TAGUB CITY, METRO MANILA	RECOMMENDED BY: L. P. MALLA	CHECKED BY: M. L. A.	DATE: 20/10/2019	DATE: 20/10/2019		ME - 5A
ISSUED ON: 07-12-2019	ISSUED ON: 07-12-2019	APPROVED BY: L. P. MALLA	CHECKED BY: M. L. A.	DATE: 20/10/2019	DATE: 20/10/2019		70 / 75



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 91 Kelangka Street Kemangan Village Phase 2A, Dana Puri, Petaling Jaya 46111  
 Tel. No.: 03-7542 5877 Fax. No.: 03-7542 5877  
 URL: www.gibma.com E-mail: gibma@comcast.com

PROFESSIONAL MECHANICAL ENGINEER  
 REG. NO.: 404881  
 P.M. / M.B.A. / ENGR.  
 ISSUED AT: SINGAPORE

PROJECT TITLE:  
**PROPOSED 2-STORY ADVANCED  
 MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND  
 DEVELOPMENT CENTER (MIRDC)**

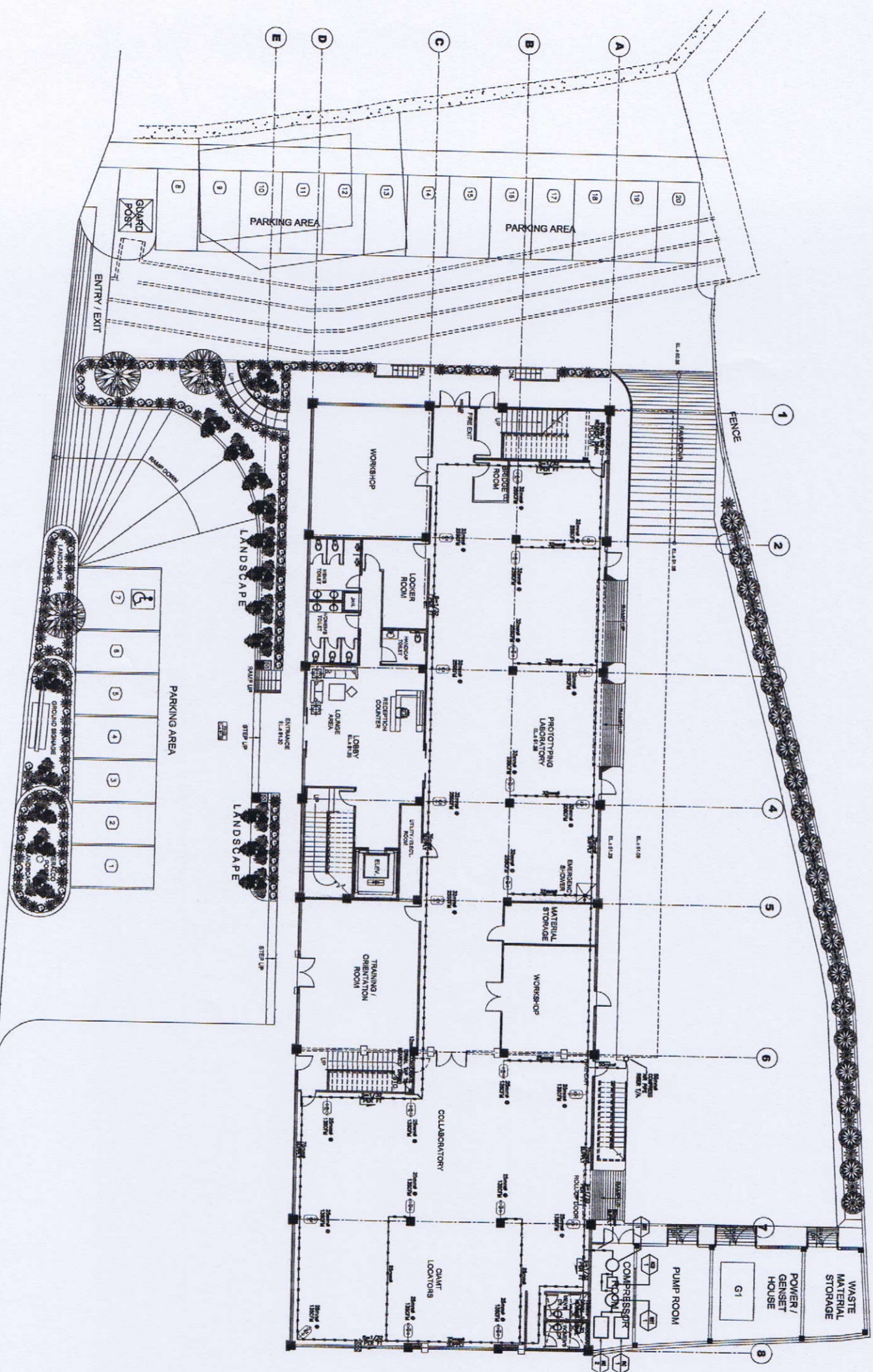
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 APPROVED BY:

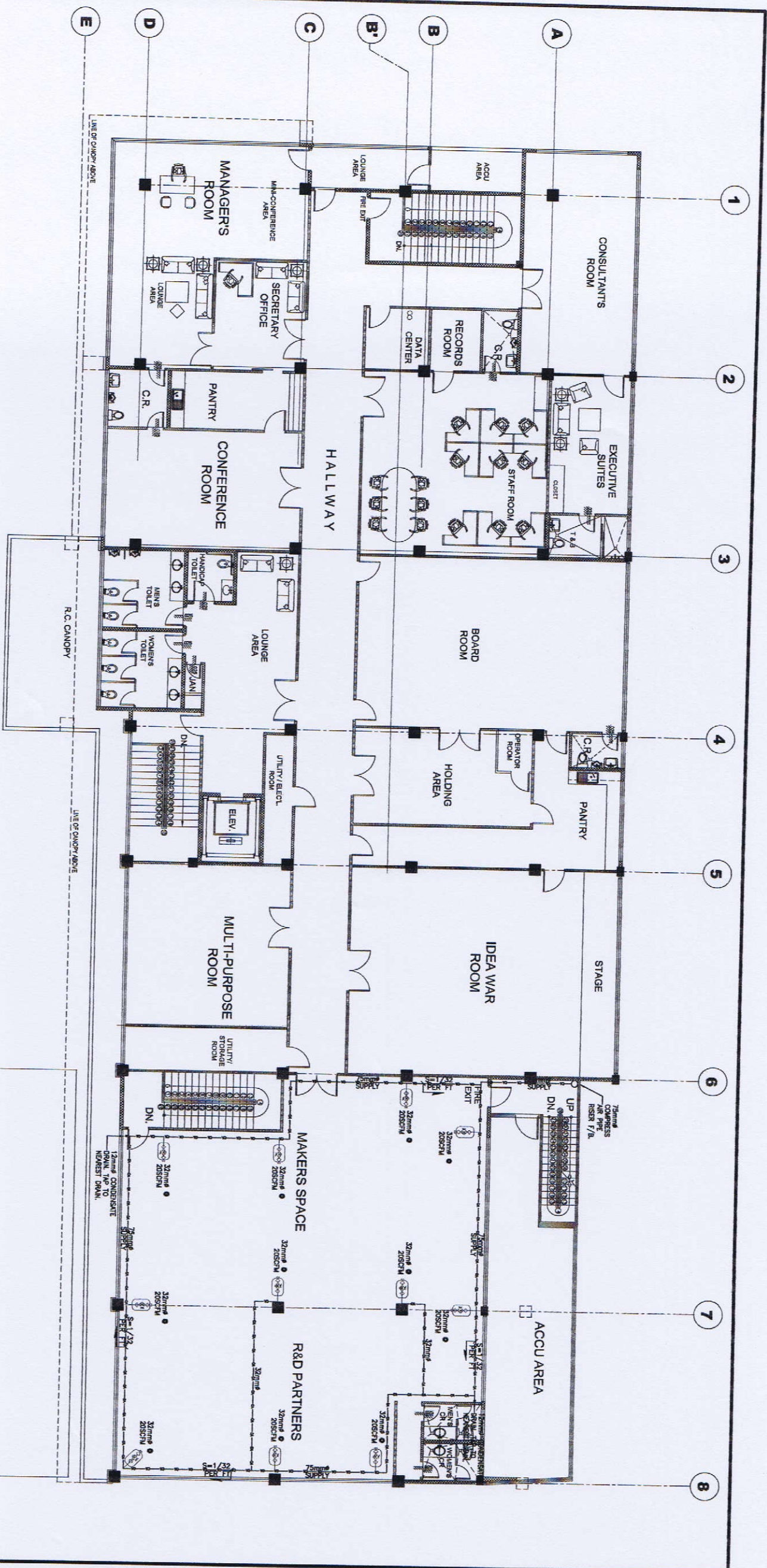
DESIGNED BY: L.P. MULLA  
 DATE: M.A.A.  
 CHECKED BY: G.S.M.  
 APPROVED BY:  
 DATE:

DRAWING NO.:  
**ME - 5B**  
 SHEET NO.:  
**70 / 75**

**1**  
 GROUND FLOOR COMPRESSED AIR LAYOUT  
 1:100 SCALE

EXISTING ROAD





**SECOND FLOOR COMPRESSED AIR LAYOUT**  
 SCALE: 1:100

**LEGEND:**  
 COMPRESSED AIR OUTLET  
 FILTER/RESOLVATION/LUBRICATION

**EXISTING BUILDING**



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 93 Kadalang Road, Kadalang, Village Phase 2A, Dasit Park, Pasig City, 1411  
 Tel. No.: 882 7174 Fax. No.: 882 8281  
 URL: www.gibma.com

PROFESSIONAL MECHANICAL ENGINEER:  
 ERNEST F. JARDOLLA, P.E., RABBIT ENR

REG. NO.: 50487 PIR NO.: 444881  
 ISSUED ON: 01-24-2018  
 REVISION: 200-04-18

PROJECT TITLE:  
**PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

REVIEWED & CHECKED BY:  
 APPROVED BY:

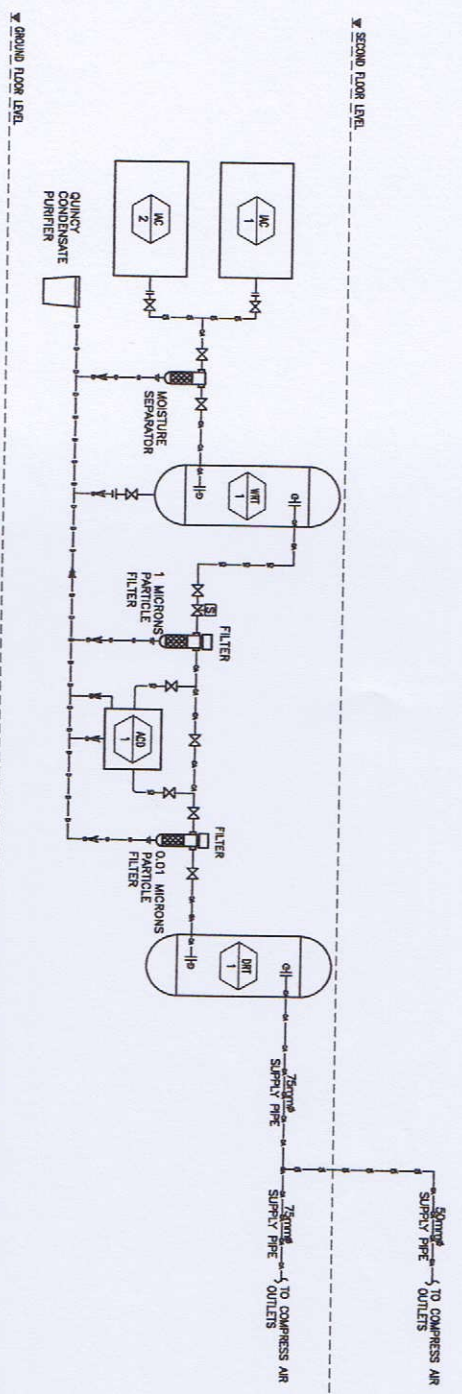
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 DATE:  
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 DATE:

DATE:  
 APPROVED BY:

SHEET CONTENTS:  
**AS SHOWN**

DRAWING NO.:  
**M - 5C**  
 SHEET NO.:  
**70 / 75**





**1**  
M 5D  
SCALE: N.T.S.

COMPRESSED AIR SYSTEM EQUIPMENT SCHEDULE							
TAG	DESCRIPTION	QTY	MANUFACTURER	MODEL	LOCATION	SPECIFICATIONS	REMARKS
MC 1	AIR COMPRESSOR	1	QUINCY	QOD-25	COMPRESSOR ROOM	1-DUTY, FIXED SPEED DRIVE, 100 AC/PH @ 1500RPM, ELEC DATA 25HP, (230V/3PH/60HZ), ROTARY SCREW COMPRESSOR TYPE, WEIGHT 1122LBS.	1.2,3,5
MC 2	AIR COMPRESSOR	1	QUINCY	QOD-15	COMPRESSOR ROOM	1-BACK-UP, FIXED SPEED DRIVE, 60 AC/PH @ 1500RPM, ELEC DATA 15HP, (230V/3PH/60HZ), ROTARY SCREW COMPRESSOR TYPE, WEIGHT 1071LBS.	1.2,3,5
AD 1	AIR DRYER	1	QUINCY	QPHC-150	COMPRESSOR ROOM	AIR DRYER, REFRIGERATED RPOA, WEIGHT 198 LBS.	1.2,3,5
WT 1	WET RECEIVER TANK	1	MANCHESTER	-	COMPRESSOR ROOM	200 GALLONS CAPACITY VERTICAL AIR RECEIVER, 30"DIA, TANK 72" HEIGHT, 80" TOTAL HEIGHT.	4,5
DR 1	DRY RECEIVER TANK	1	MANCHESTER	-	COMPRESSOR ROOM	400 GALLON CAPACITY VERTICAL AIR RECEIVER, 36"DIA, 95" TANK HEIGHT, 101" TOTAL HEIGHT.	4,5

NOTES:  
 1. INSTALL AS PER MANUFACTURER'S INSTRUCTION.  
 2. PROVIDE WET RECEIVER / MIST ELIMINATOR AND DRY RECEIVER, SIZE AS PER RECOMMENDATION BY THE MANUFACTURER.  
 3. PROVIDE MOISTURE SEPARATOR, STD 0.1 PPM COALESCE (1 MICRON), POLISHING 0.01 PPM COALESCE, & ACTIVATED CARBON FILTER.  
 4. COMBINED WET AND DRY RECEIVER CAPACITY IS SIZED BASED ON 5 GALLONS/AC/PH, 1/3 TOTAL CAPACITY FOR WET RECEIVER AND 2/3 FOR DRY RECEIVER.  
 5. EQUIPMENT MAY BE SUBSTITUTED TO APPROVED EQUIVALENTS WITH OWNERS AND ENGINEER'S APPROVAL. PROVIDED ALL THE REQUIREMENTS OF THE APPLICABLE CODE ARE MET.



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 83 Kelapa Senei Kembangan Village Phase 2A, Duta Park, Petao City 1811  
 Tel. No. 682 7114 Fax No. 682 8487  
 URL: www.gibma.com Email: gibmadocs@yahoo.com

PROFESSOR & MECHANICAL ENGINEER  
 ENGINEER P. JUSUANTO, PMP, ASSET ENGR  
 PPN NO.: 402881  
 ISSUED ON: 07-08-2018  
 REVISI AT: SAKAR

PROJECT TITLE:  
**PROPOSED 2- STOREY ADVANCED MANUFACTURING CENTER**  
 LOCATION:  
 GDE. BANTOS AVE., BUCURAN, TAGUIG CITY, METRO MANILA

OWNER:  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**  
 ADDRESS:  
 GDE. BANTOS AVE., BUCURAN, TAGUIG CITY, METRO MANILA

REVIEWED & CHECKED BY:  
 RECOMMENDED BY:  
 APPROVED BY:

DESIGNED BY:  
 CAD BY:  
 CHECKED BY:  
 APPROVED BY:

SHEET CONTENTS:  
 L.P.M.J.A.  
 M.A.  
 G.A.V.  
 AS SHOWN

DRAWING NO.:  
**M - 5D**  
 SHEET NO.:  
**70 / 75**

**GENERAL NOTES**

1. FIRE AUTHORITY REQUIREMENTS AND CURRENT EDITION OF THE FOLLOWING STANDARDS:
  - a) STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEM
  - b) STANDARD FOR THE INSTALLATION OF STAND PIPE AND HOSE SYSTEM
  - c) STANDARD FOR PORTABLE FIRE EXTINGUISHER
  - d) STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
  - e) STANDARD FOR WATER TANKS FOR PRINATE FIRE PROTECTION
  - f) STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES
2. HAZARD CLASSIFICATION:
  - A. LIGHT HAZARD: CHURCHES, EDUCATIONAL, HOSPITALS, INSTITUTIONAL, RESIDENTIAL, OFFICES, LIBRARIES AND MUSEUMS.
  - B. ORDINARY HAZARD GROUP 1: AUTOMOBILE PARKING AND SHOWROOMS, BARRIERS, RECREATION MANUFACTURING, CANNERIES AND DAIRY PRODUCT MANUFACTURING.
  - C. ORDINARY HAZARD GROUP 2: CEREAL MILLS, CHEMICAL PLANTS, CONFECTIONERY PRODUCTS, DISTILLERIES, DRY CLEANERS, FEED MILLS, MACHINE SHOPS AND METAL WORKING.
3. SPRINKLER DENSITY AND SPACING:
  - A. LIGHT HAZARD (1.82m<sup>2</sup>) @ DENSITY OF 4.1 LPM/m<sup>2</sup> AREA OF SPRINKLER OPERATION.
  - B. ORDINARY HAZARD (12.1m<sup>2</sup>) @ DENSITY OF 6.1 LPM/m<sup>2</sup> (GROUP 1) - 8.1 LPM/m<sup>2</sup> (GROUP 2) AREA OF SPRINKLER OPERATION.
  - C. FIRE WATER RESERVE SHALL HAVE A MINIMUM OF 60 MINUTES CAPACITY.
  - D. MINIMUM AND MAXIMUM SPRINKLER SPACING SHALL BE 2.40 AND 4.80m.
4. TYPE OF SPRINKLER AND TEMPERATURE RATING:
  - A. HALLOWMS, OFFICE SPACE, RESIDENTIAL, UNITS AND OTHERS WITH CEILING AREAS - PENDENT TYPE (STANDARD RESPONSE @ 165°F)
  - B. RESIDENTIAL UNIT AREAS WITHOUT CEILING - STANDARD OR EXTENDED SENSITIVE TYPE (STANDARD RESPONSE @ 165°F)
  - C. PARKING AREAS - UPRIGHT TYPE (STANDARD RESPONSE @ 165°F)
  - D. KITCHEN - PENDENT TYPE (ONS @ 217°F)
  - E. FIRE EXIT STAIRWELLS - EXTENDED SENSITIVE TYPE (ONS @ 165°F)
5. STANDPIPE SYSTEM AND PORTABLE FIRE EXTINGUISHER
  - A. FIRE HOSE CABINET - CLASS I WITH MAXIMUM OF 30.00m LENGTH OF FIRE HOSE AND 100m GPM CHEMICAL PFE.
  - B. FIRE STANDPIPE WITH MAXIMUM AREA COVERAGE OF 450m<sup>2</sup>/FLR.
  - C. FLOOR CONTROL VALVE (OS & Y DATE VALVE) - ONE PER WET STANDPIPE.
  - D. 15.00m MINIMUM MOMENTS OF TRAVEL DISTANCE TO FIRE EXTINGUISHER.
  - E. FE-38 TYPE FIRE EXTINGUISHER FOR ELECTRICAL ROOMS, GENSET ROOMS, TRANSPORTATION ROOMS AND TELCO ROOMS.
  - F. ABC TYPE FIRE EXTINGUISHER FOR COMMON AREAS
6. ALL EQUIPMENT AND FITTINGS ARE TO BE SUBMITTED FOR ENGINEER'S APPROVAL, BEFORE PURCHASE ORDER IS ISSUED.
7. PIPES AND PPE FITTINGS MATERIAL:
  - A. ASTM A53 GRADE 'B' EFW G.L. PIPS SCH 40 (EMBEDDED PIPES)
  - B. ASTM A53 GRADE 'B' EFW G.L. PIPS SCH 40 (ABOVE GROUND PIPES)
  - C. ASTM A-234 SCH 40 B.L. PPE FITTINGS.
8. ALL BARED, CHASED AND CONCEALED PIPEROCK AND FITTINGS SHALL BE TESTED PRIOR TO COCKING UP AND MARKING 0000.
9. ALL PIPEROCK SHALL BE SUITABLY SUPPORTED BY APPROVED SUPPORT BRACKETS.
10. ALL PIPEROCK SHALL BE PAINTED RED.
11. ANY DISCREPANCY BETWEEN THE STANDARD LISTED IN ITEM 1 AND CONTACT THE SUB-CONTRACTOR SHOULD ENSURE THAT A P.M.U. DOCUMENT MUST BE ISSUED IMMEDIATELY TO ENGINEER'S ATTENTION.
12. THE SUB-CONTRACTOR SHOULD ENSURE THAT A P.M.U. INSPECTION MUST BE MADE WITH THE ENGINEER.
13. BRIGADE PERSONNELS ARE INVITED TO INSPECT AND APPROVE THE SYSTEM.
14. ALL PIPES PASSING THROUGH FLOOR AND WALL SHALL HAVE STEEL PPE SLEEVES ONE DIAMETER LARGER THAN THE PPE.
15. THE SPACE BETWEEN THE SLEEVES AND PIPES SHALL BE CALKED WITH ROCKWOOL OR FIBERGLASS.
16. PROVIDE LOW LEVEL SPRINKLER PROTECTION AS AND WHERE REQUIRED DUE TO CONSTRUCTION OF OTHERS MAKE SERVICES, FOR EXAMPLE OTHER EXHAUST DUCT, A/C DUCTS, PIPES, ETC.
17. PUMP PANEL, CONTROL PANEL, SMALL CONTROL WITH NFPA STANDARDS.
18. FIRE BARRIERS AS SPECIFIED.
19. ALL PPE CONNECTORS SHALL BE VERTICAL OR APPROVED EQUAL.
20. PIPE JOINTS MAY BE DEFLECTED WITHIN THE LIMITS RECOMMENDED BY THE MANUFACTURER.

**LEGEND & SYMBOLS**

SYMBOLS	DESCRIPTIONS	SYMBOLS	DESCRIPTIONS
	ALARM CHECK VALVE		FIRE PUMP
	JOCKEY PUMP		FLOW SWITCH
	CHECK VALVE		GATE VALVE
	PRESSURE RELIEF VALVE		BUTTERFLY VALVE
	FLOOR CONTROL VALVE		ELBOW
	TEE		FIRE STRIKER
	FIRE REVERTMENT CONNECTION		TEST HEADER CONNECTION

**ABBREVIATIONS**

ABBREVIATIONS	DESCRIPTIONS	ABBREVIATIONS	DESCRIPTIONS
AW	AUTOMATIC AIR VENT	mm	MILLIMETER
ACV	ALARM CHECK VALVE	N/S	NOT TO SCALE
CM	CROSS MAIN	O.D.	OUTSIDE DIAMETER
DM / #	DIAMETER	P.S.G.	POUND SQUARE
DMC	DRAWING	T/A	TO ABOVE
FP	FIRE HOSE CABINET	T/B	TO BELOW
FS	FIRE PUMP	ZCV	ZONE CONTROL VALVE
F/A	FLOW SWITCH		
FV	FLOOR ABOVE		
FLV	FLOOR CONTROL VALVE		
GA	GALVANIZED IRON		
OL	OVERLAP		
ID	INTERNAL DIAMETER		
JP	JOCKEY PUMP		

**DRAWING INDEX**

SHEET NO.	SHEET CONTENTS
FP-1	GENERAL NOTES, LEGENDS & SYMBOLS, DRAWING INDEX, SCHEMATIC DIAGRAM AND EQUIPMENT SCHEDULE
FP-2	FIRE PROTECTION SITE DEVELOPMENT PLAN
FP-3	GROUND FLOOR FIRE PROTECTION LAYOUT
FP-4	SECOND FLOOR FIRE PROTECTION LAYOUT
FP-5	MEASUREMENTS DETAILS

**EQUIPMENT SCHEDULE**

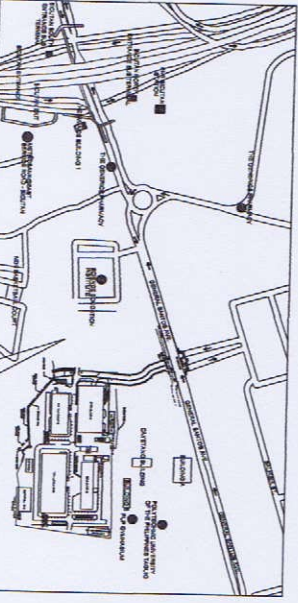
EQUIPMENT NO. OR IDENTIFICATION	DESCRIPTION	CAPACITY (GPM)	THP (HP)	MOTOR POWER (HP)	ELECTRICAL CODE	TEST PRESSURE	OUT-OF-PRESSURE CUT-OUT PRESSURE	LOCATION
FP-1	FIRE PUMP	500	70	40	230	3	80 PSI	REFER TO SHEET NO. FP-2
FP-2	JOCKEY PUMP	20	70	3	230	1	80 PSI	REFER TO SHEET NO. FP-2

**LIGHT HAZARD**

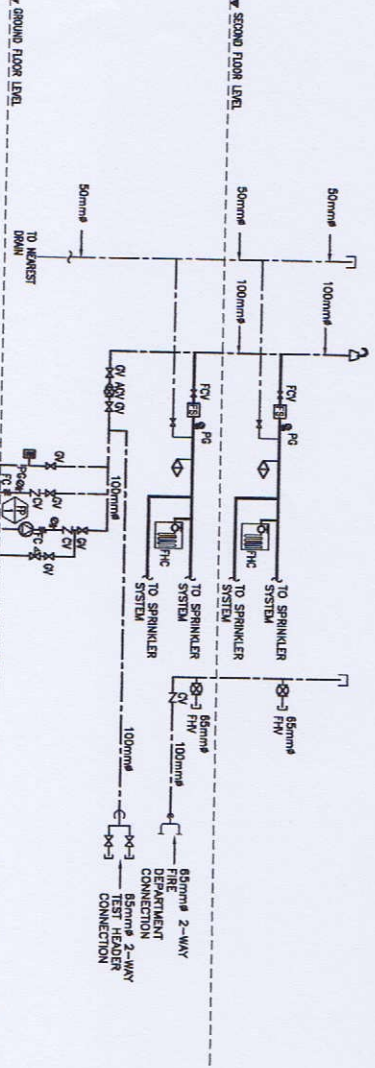
PIPE NOMINAL SIZE (mm)	MAX. NUMBER OF SPRINKLERS TO BE FED BY PIPE OF SIZE LISTED
25	2
32	3
40	5
50	10
65	20
75	40
100	100
125	160
150	275
200	SEE NFPA 13 SECTION 8.2

**ORDINARY HAZARD**

PIPE NOMINAL SIZE (mm)	MAX. NUMBER OF SPRINKLERS TO BE FED BY PIPE OF SIZE LISTED
25	2
32	3
40	4
50	10
65	20
75	40
100	100
125	160
150	275
200	SEE NFPA 13 SECTION 8.2



**VICINITY MAP**  
SCALE: N.T.S.



**SCHEMATIC DIAGRAM**  
SCALE: N.T.S.



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83 Kibigan Street, Kibigan Village Phase 2A, Dana Park, Pasig City 1811  
Tel No. 02-855-8888 Fax No. 02-855-8889  
URL: www.gibma.com

PROJECT TITLE: **PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER**  
OWNER: **METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**  
ADDRESS: **GEN. SANTOS AVE., BICUTAN TAGUIG CITY, METRO MANILA**

DESIGNED BY: **L.P.L.**  
CHECKED BY: **G.B.M.**  
DATE: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

RECOMMENDED BY: **ROBERTO G. TORON**  
DATE: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

REVISIONS & CHECKED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

SHEET CONTENTS:  
GENERAL NOTES  
LEGENDS & SYMBOLS  
ABBREVIATIONS  
DRAWING INDEX  
VICINITY MAP  
EQUIPMENT SCHEDULE

DRAWING NO.: **FP-1**  
SHEET NO.: **71 / 75**



**GIBMA Engineering Services**  
 Design - Construction - Project Management - Survey  
 93 Kelantan Street, Kelantan Village Phase 2A, Dam Pauh, Petaling Jaya, 47811  
 Tel. No.: 603 714 882 714 Fax. No.: 603 714 882 667  
 URL: www.gibma.com E-mail: gibma003@vsn.com

PROJECT TITLE:  
**PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

REVISIONS & CHECKED BY:  
 RECOMMENDED BY:  
 APPROVED BY:

DESIGNED BY:  
 DATE:  
 CHECKED BY:  
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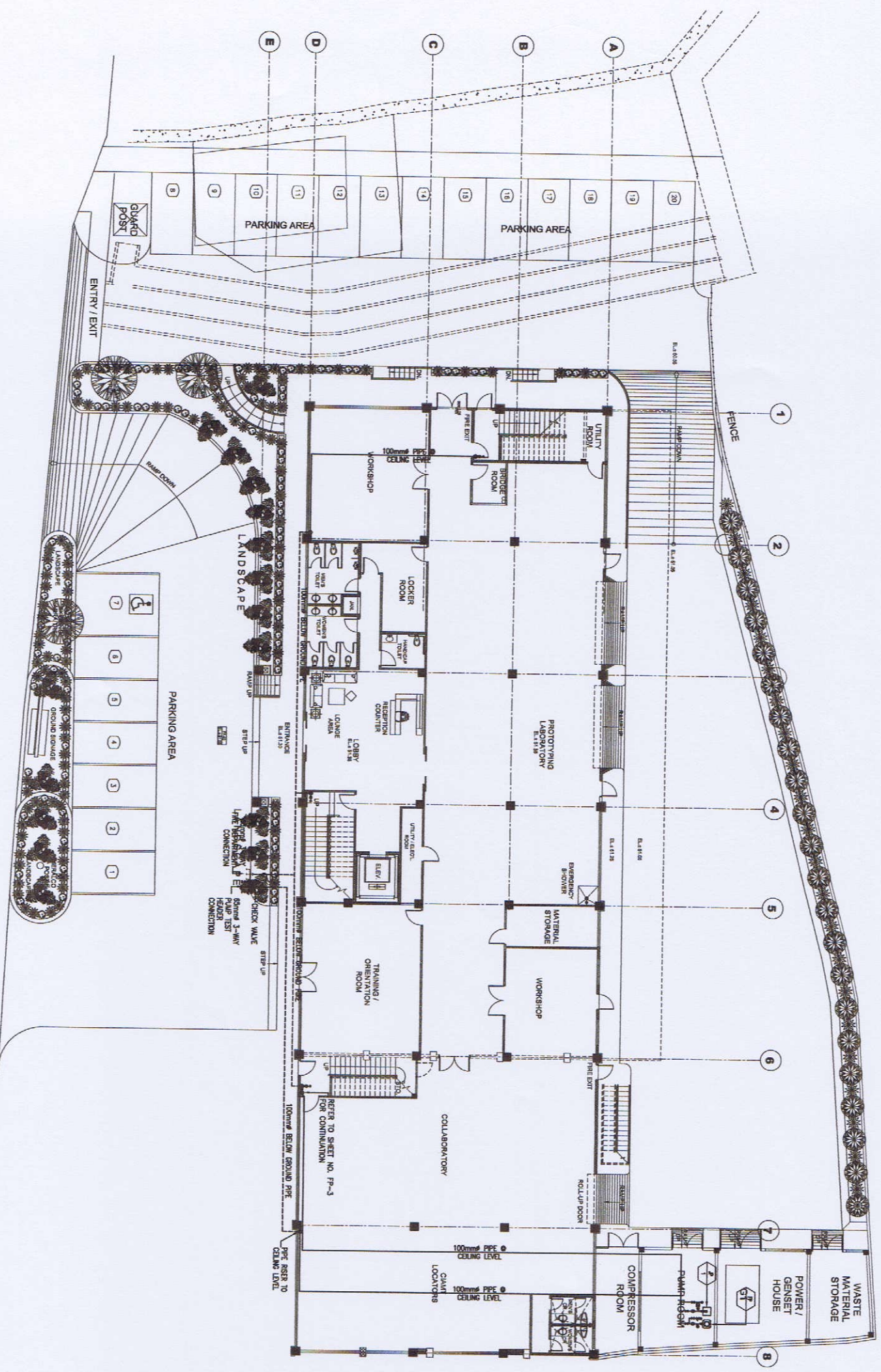
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**SITE DEVELOPMENT FIRE PROTECTION LAYOUT**

DRAWING NO.:  
**FP - 2**  
 SHEET NO.:  
**72 / 75**

**1**  
**SITE DEVELOPMENT FIRE PROTECTION LAYOUT**  
 SCALE: 1:150

**EXISTING ROAD**



PROJECT TITLE:  
**PROPOSED 2-STOREY ADVANCED MANUFACTURING CENTER**

OWNER:  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**

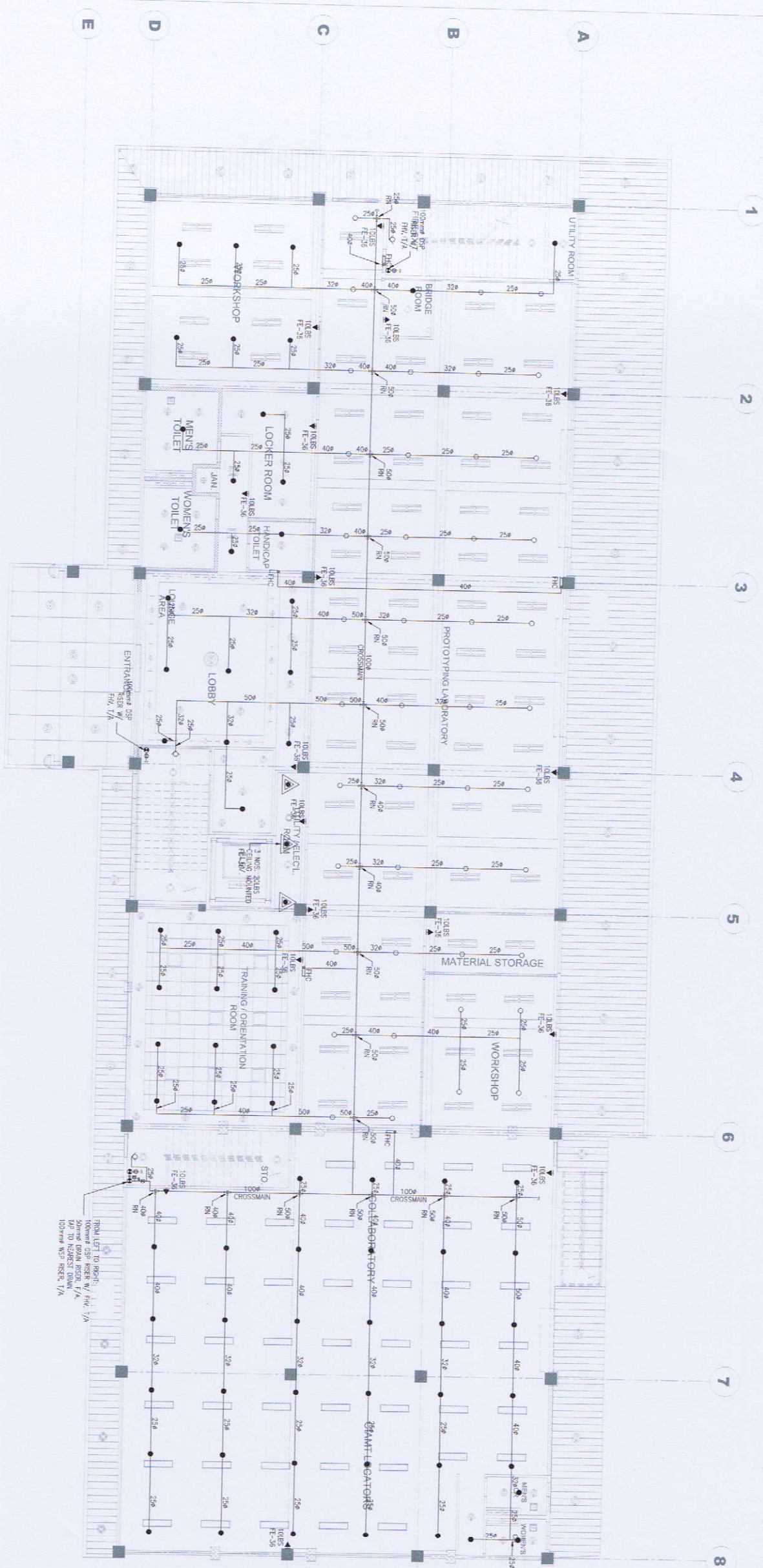
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DESIGNED BY:  
 DATE:  
 CHECKED BY:  
 DATE:

DATE:  
 DATE:

SHEET CONTENTS:  
**SITE DEVELOPMENT FIRE PROTECTION LAYOUT**

DRAWING NO.:  
**FP - 2**  
 SHEET NO.:  
**72 / 75**



1  
 FP 3  
 SCALE: 1:100  
**GROUND FLOOR FIRE PROTECTION LAYOUT**



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 Tel. No. 082 714 1000 Fax. No. 082 690 7000  
 URL: www.gibma.com Email: gibma@ibma.com

PROPOSED MECHANICAL ENGINEER  
 ENGINEER: P. JUPRILLAH, P. ARIAN, A. S. S. S. S.  
 REG. NO.: 06087 PIR NO.: 442881  
 IN: 20-10-2018 ISSUED BY: SAHARI

PROJECT TITLE:  
**PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER**  
 LOCATION:  
 GRU, SANTOS AVE. BUCURAN TAGUIG CITY, METRO MANILA

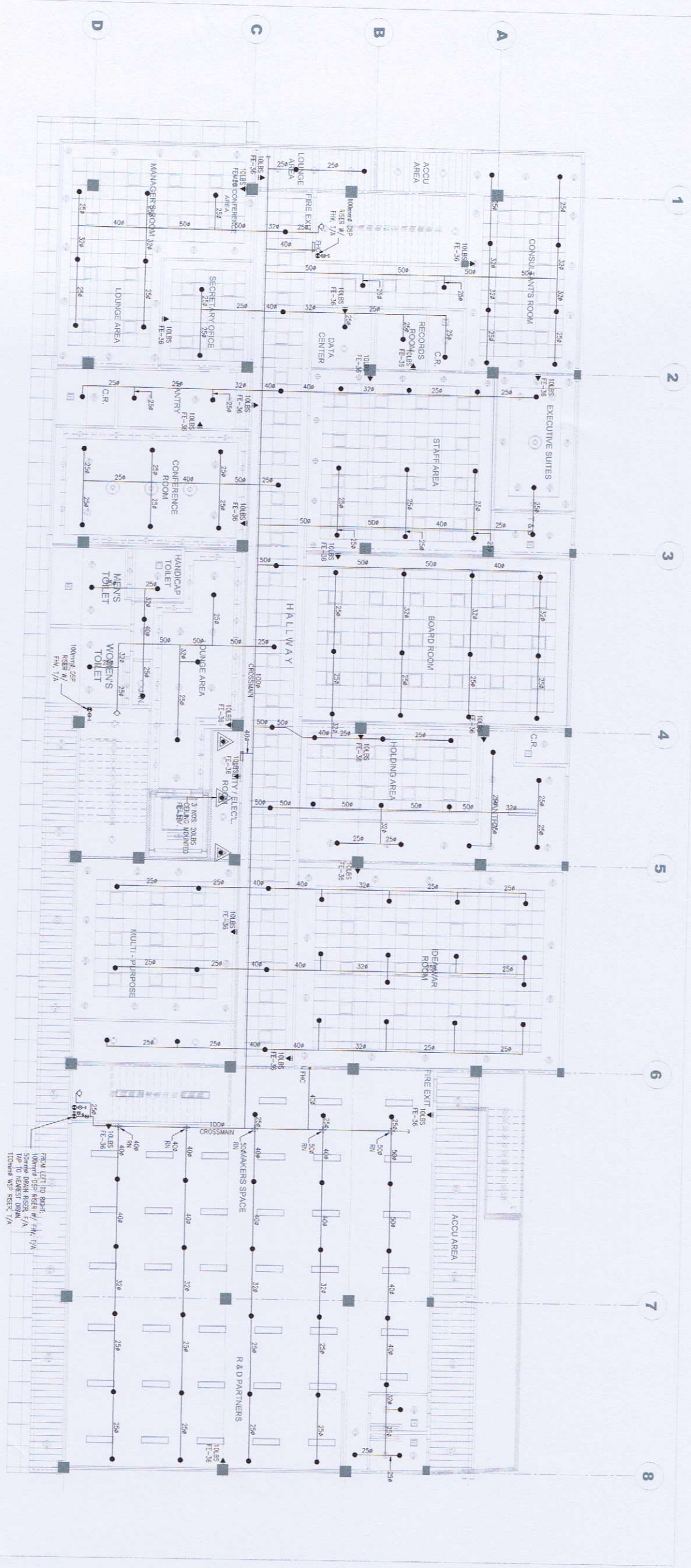
OWNER:  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**  
 ADDRESS:  
 GRU, SANTOS AVE. BUCURAN TAGUIG CITY, METRO MANILA

REVIEWED & CHECKED BY:  
 RECOMMENDED BY:  
 APPROVED BY:

DESIGNED BY:  
 DATE:  
 CHECKED BY:  
 DATE:

SHEET COMMENTS:  
**GROUND FLOOR FIRE PROTECTION LAYOUT**

DRAWING NO.:  
**FP - 3**  
 SHEET NO.:  
**73 / 75**



**1**  
**PP 4**  
**SCALE:**  
**SECOND FLOOR FIRE PROTECTION LAYOUT**  
**1:100**



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 83 Kiekayang Street, Kembangan Village Phase 2A, Duta North, Pang. Jaya, 1611  
 Tel. No.: 652 7114 Fax. No.: 652 8467 E-mail: gibs@ibma.com  
 URL: www.gibma.com

**PROFESSIONAL MECHANICAL ENGINEER**  
 LEANIE P. AGUIAR, L. ENG., ASBRI 597  
 REG. NO.: 60487 PIN NO.: 404381  
 ISSUED ON: 01-06-2019  
 TIN: 203-498-818 ISSUED AT: SINGAPORE

**PROJECT TITLE:**  
**PROPOSED 2-STORY ADVANCED MANUFACTURING CENTER**  
**LOCATION:**  
 GENI SANTOS AVE., BUCURAN, TAGUIG CITY, METRO MANILA

**OWNER:**  
**METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER (MIRDC)**  
**ADDRESS:**  
 GENI SANTOS AVE., BUCURAN, TAGUIG CITY, METRO MANILA

**REVIEWED & CHECKED BY:**  
 JOYCE M. DELA CRUZ  
 ARCHITECT  
**APPROVED BY:**  
 ROBERT Q. DOZON  
 MECHANICAL ENGINEER

**DESIGNED BY:** L.P.J.  
**DATE:**  
**CHECKED BY:** G.M.  
**APPROVED BY:**  
**DATE:**

**SHEET CONTENTS:**  
**SECOND FLOOR FIRE PROTECTION LAYOUT**

**DRAWING NO.:**  
**FP - 4**  
**SHEET NO.:**  
**74 / 75**

