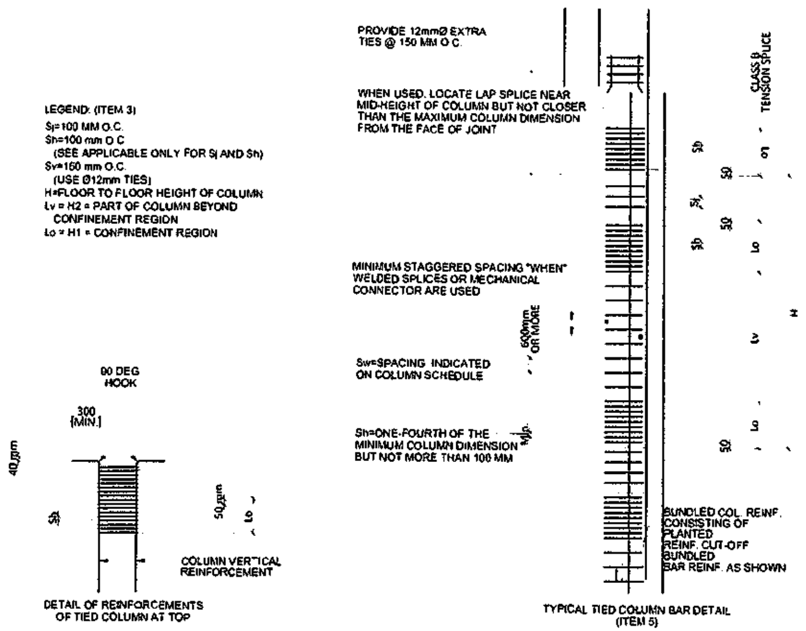
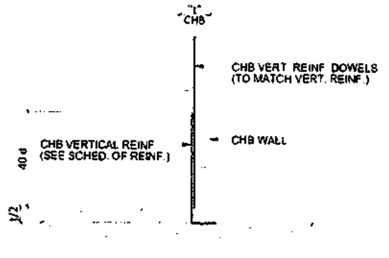
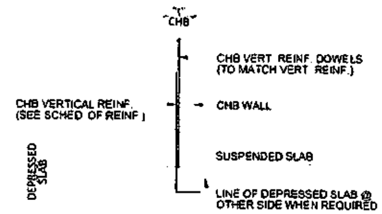
STRUCTURAL DESIGN NOTES, STANDARD DRAWINGS & SPECIFICATIONS



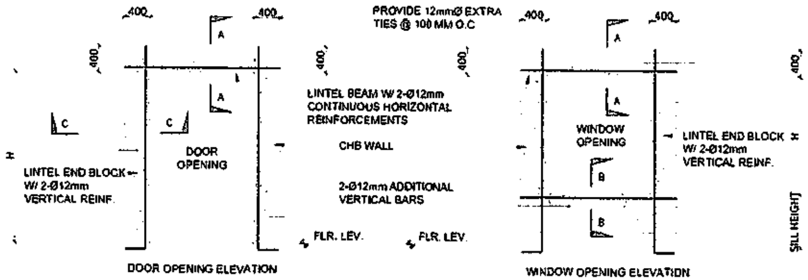
TYPICAL RECTANGULAR TIED COLUMN REINFORCEMENT DETAIL (FIGURE 10)



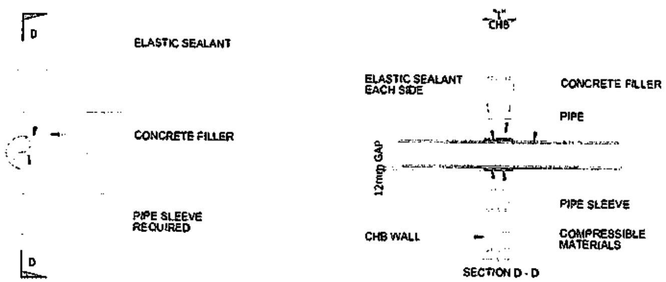
WALL BASE REINFORCING AT FLAT FLOOR



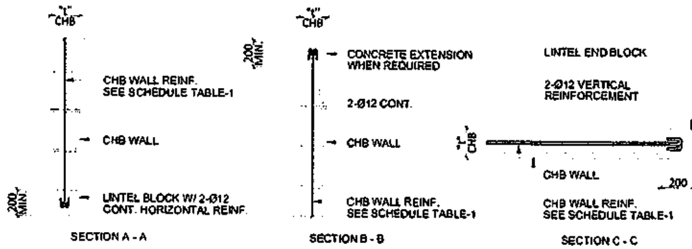
WALL BASE REINFORCING AT FLOOR W/ DEPRESSION



NOTE: OMIT EXTRA REINF. FOR OPENING LESS THAN 200MM VERT & 400MM HOR.



PIPE SLEEVE THRU WALL



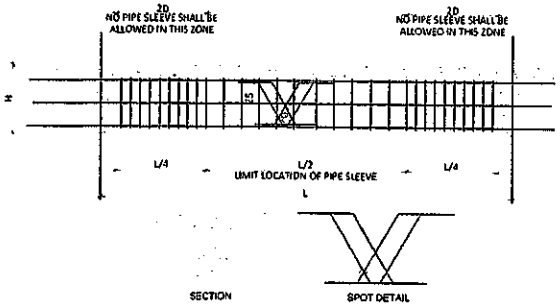
OTHER MASONRY DETAILS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY:	RECOMMENDING APPROVAL	APPROVED BY:	PROJECT TITLE:	PREPARED BY	REVIEWED AS TO PLAN:	SUBMITTED BY:	SHEET CONTENTS	SHEET NO.
	DIR. DANILO B. BUNGALLON, EXECUTIVE DIRECTOR, NITESD	DIR. JULIET G. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD, CSEE, DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. [illegible], CIVIL ENGINEER	ARCH. RUNIEL A. MENDOZA, ARCHITECT	ENGR. ROY LOUIE P. MINGARACAL, HEAD	GENERAL NOTES STANDARD DRAWING SPECIFICATIONS	S-3

STRUCTURAL DESIGN NOTES, STANDARD DRAWINGS & SPECIFICATIONS

K. NOTES ON BEAMS AND GIRDERS

1. UNLESS OTHERWISE NOTED IN PLANS OR SPECIFICATIONS CAMBER ALL BEAMS AT LEAST 6mm FOR EVERY 4500mm OF SPAN EXCEPT FOR CANTILEVERS FOR WHICH THE CAMBER SHALL BE AS NOTED IN THE PLANS OR AS ORDERED BY THE STRUCTURAL ENGINEERS BUT IN NO CASE LESS THAN 19mm FOR EVERY 3000mm OF FREE SPAN
2. IF THERE ARE TWO OR MORE LAYERS OF LONGITUDINAL REINFORCING BARS IN A BEAM OR GIRDER, USE SEPARATORS OF A SIZE NOT LESS THAN 25mm BARS SPACED ABOUT 900mm ON CENTER. IN NO CASE SHALL THERE BE LESS THAN TWO (2) SEPARATORS BETWEEN LAYERS OF BARS
3. LONGITUDINAL REINFORCING BARS SHALL BE PLACED SYMMETRICALLY ABOUT THE VERTICAL CENTER LINE OF THE BEAM OR GIRDER SECTION WHERE POSSIBLE WITH UPPER LAYER BARS PLACED DIRECTLY ABOVE THOSE IN THE BOTTOM LAYER.
4. BEAM REINFORCING BARS BOTH TOP AND BOTTOM, TERMINATING IN A WALL, SHALL EXTEND AT THE MOST 50mm FROM THE FAR FACE OF THE WALL AND SHALL TERMINATE IN A STANDARD 90° HOOK.
5. LONGITUDINAL REINFORCEMENT OF GIRDERS, BOTH TOP AND BOTTOM, TERMINATED IN A COLUMN SHALL BE EXTENDED TO THE FAR FACE OF THE CONFINED CONCRETE CORE OF THE COLUMN AND TERMINATED BY A STANDARD 90° HOOK
6. GENERALLY, NO LAP SPLICE SHALL BE PERMITTED ON BEAMS AND GIRDERS AT POINT WHERE CRITICAL BENDING STRESSES OCCUR. IN ADDITION, FOR GIRDERS, NO LAP SPLICE SHALL BE LOCATED WITHIN THE JOINTS OR WITHIN A DISTANCE EQUAL TO TWICE THE MEMBER DEPTH FROM THE FACE OF THE JOINT
7. PROVIDE LAP SPLICES IN GIRDERS WITH HOOP REINFORCEMENT OVER THE LENGTH OF THE LAPPED BARS SPACED NO FARTHER THAN ONE-FOURTH THE NOMINAL DEPTH, OR 100mm.
8. SEE MECHANICAL, PLUMBING, ELECTRICAL AND FIRE PROTECTION DRAWINGS FOR ALL SUSPENDED AND EMBEDDED PIPING, CONDUITS, DUCTWORKS, EQUIPMENTS, ETC.
9. PIPE AND DUCT SLEEVES SHALL BE LOCATED WITHIN THE REGION BOUNDED BY ONE-FOURTH OF CLEAR SPAN LENGTH FROM THE SUPPORTS (SEE FIGURE 11)

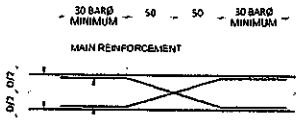


USE 20mmØ BARS FOR BEAM WIDTH OF 250mm OR THICKER AND 16mmØ BARS FOR BEAM WIDTH OF 200mm OR LESS (EACH FACE)

TYPICAL PIPE SLEEVE DETAILS (FIGURE 11)

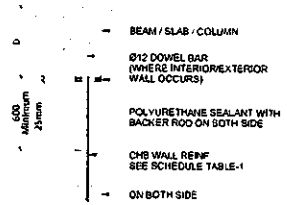
NOTES:

1. SEEK STRUCTL ENGINEER'S APPROVAL FOR PIPE SLEEVES W/ DIAMETERS BIGGER THAN THE MAXIMUM STIPULATED
2. PIPE SLEEVES SHALL BE LOCATED WITHIN TENSION ZONES OF BEAM.

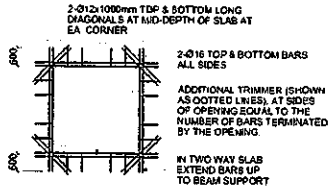


PROVIDE 2-Ø28 SHEAR BARS EACH SIDE IF BEAM CONSTRUCTION JOINT IS NOT WITHIN THE MIDDLE THIRD OF THE SPAN

BEAM CONSTRUCTION JOINT DETAIL



WALL SUPPORT AT BOTTOM OF BEAM/SLAB/COLUMN



SLAB OPENING DETAIL

NOTE:

1. PROVIDE THESE ADDITIONAL BARS FOR ALL OPENINGS PLUS BARS (SHOWN AS DOTTED LINES) PARALLEL TO SIDE OF OPENING EQUAL TO THE NUMBER OF INTERRUPTED BARS BY THE OPENING.
2. SEE ARCHITECTURAL & MECHANICAL PLANS FOR SLAB OPENING LOCATION.
3. ONLY TRIMMER BARS WHERE OPENING IS FRAMED

L. DESIGN CRITERIA

DESIGN LOADS

1. DEAD LOADS
   - a. CEILING 0.25 kPa
   - b. CONCRETE 0.023 kPa/mm
   - c. FINISHES 1.58 kPa
   - d. PARTITIONS 0.25 kPa
2. LIVE LOADS
   - a. CORRIDORS 4.80 kPa
   - b. REST ROOMS 1.92 kPa
   - c. LIGHT STORAGE 6.00 kPa
   - d. STAIRWAYS 4.80 kPa
   - e. ROOFING 1.90 kPa
   - f. ROOMS 1.90 kPa
3. SEISMIC LOADS

   SEISMIC PROBABILITY FOR ZONE IV
   V = ZIW/RT BASED ON 2010 NSCP
4. DESIGN STRESSES
   a. CONCRETE
      1. UNLESS OTHERWISE INDICATED IN PLANS OR NOTED IN THE SPECIFICATIONS, THE MINIMUM 28-DAYS CYLINDER COMPRESSIVE STRENGTH OF CONCRETE f'c, SHALL BE AS FOLLOWS:

1.1 FOR COLUMN/BEAMS	27.60 Mpa (4,000 psi)
1.2 FOR SUSPENDED SLAB	27.60 Mpa (4,000 psi)
1.3 FOR FOOTINGS	27.60 Mpa (4,000 psi)
1.4 FOR WALL FOOTINGS	20.70 Mpa (3,000 psi)
1.5 FOR SLAB-ON-GRADE/FILL, PARAPET WALLS, GUTTERS AND OTHER STRUCTURAL ELEMENTS	20.70 Mpa (3,000 psi)
1.6 f'm - MASONRY	5.18 MPa (750 psi)

   b. REINFORCING STEEL BARS
      1. ALL REINFORCING STEEL BARS SHALL BE NEW BILLET, HOT ROLLED, WELDABLE, DEFORMED BARS CONFORMING TO THE SPECIFICATIONS OF PNS 49 1995 (ASTM 615) WHOSE GRADE IS SHOWN ON TABLE 2.

TABLE-2 : REINFORCING STEEL BARS

GRADE	BAR DIAMETER
GRADE 413.82 (fy = 60 ksi)	16Ø mm & above MAIN STRL BARS
GRADE 275.88 (fy = 40 ksi)	12Ø mm & below TIES & HOOPS

      2. THE SUPPLEMENTARY REQUIREMENTS OF WELDABLE DEFORMED REINFORCING BARS SHALL BE AS FOLLOWS:
         2.1 THE MAXIMUM YIELD STRENGTH OF WELDABLE BARS = 540 MPa
         2.2 THE TENSILE STRENGTH SHALL NOT BE LESS THAN 1.25 TIMES THE ACTUAL YIELD STRENGTH

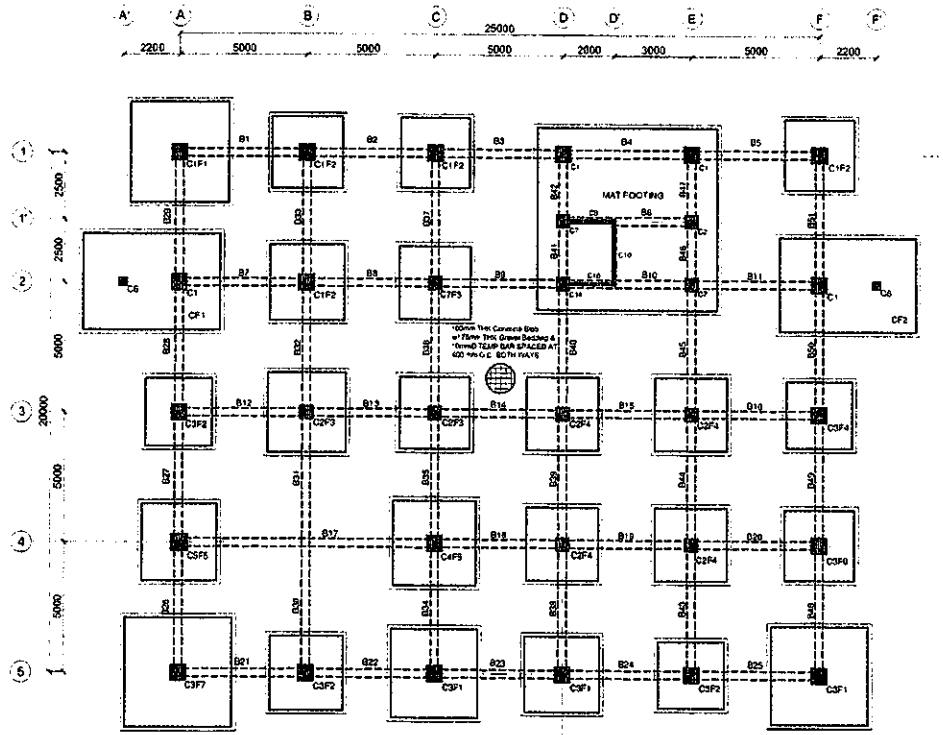
   c. STRUCTURAL STEEL
      1. UNLESS OTHERWISE NOTED, ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING ASTM SPECIFICATIONS.

MEMBER	ASTM	MIN. STRENGTH
STRUCTURAL TUBING	A 500 (GRADE B)	36 KSI
STEEL PIPE	A 53 (TYPE E, GR. B)	36 KSI
OTHER ROLED PLATES/SHAPES	A 36	36 KSI
CONNECTION BOLTS	A 325	105 KSI
ANCHOR BOLTS	A 325	105 KSI
THREADED RODS	A 36	36 KSI
NONSHRINK GROUT	C 1107	5000 PSI

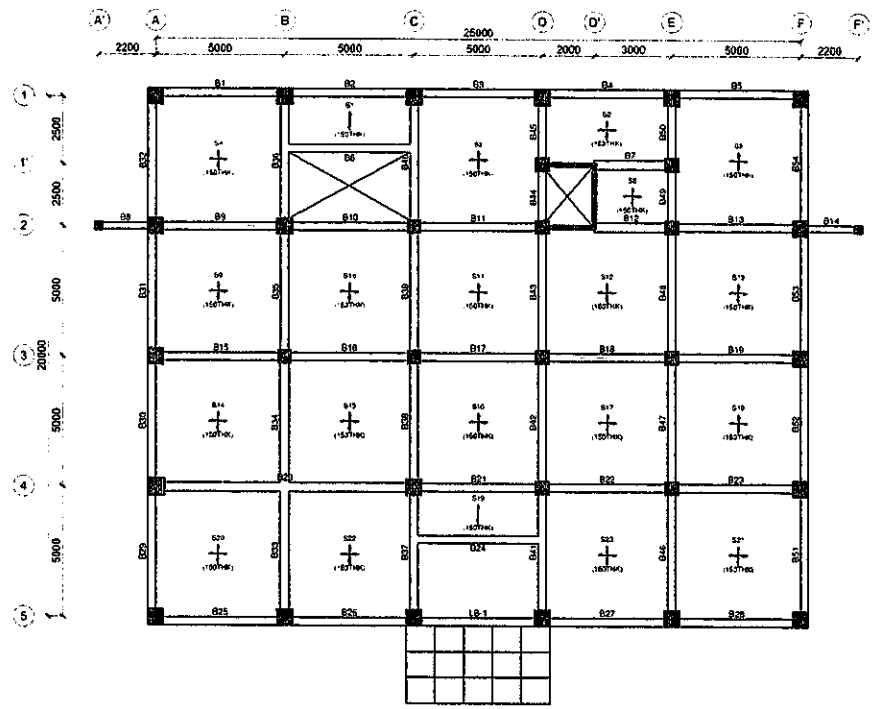
STRUCTURAL ELEMENT DESIGNATION

ALT.	ALTERNATE	CS	COLUMN STRIP
B.W.	BOTH WAYS	CU. M	CUBIC METER
ZB-1	BEAM MARK	d_b	BAR DIAMETER
BB / B	BOTTOM BAR	DIA. or Ø	DIAMETER
BM	BOTTOM MOST BAR	E.F.	EACH FACE
C-1	COLUMN MARK	E.W.	EACH WAY
CB-1	CANTILEVER BEAM/CORBEL	E.A	EACH
CHB	CONCRETE HOLLOW BLOCK	EQ.	EQUAL
C.O.C.	CENTER ON CENTER	ISO. JT.	ISOLATION JOINT
COL.	COLUMN	kN	KILONEWTON
CONC.	CONCRETE	kPA	KILOPASCAL
CONT.	CONTINOUS	Ksi	KIPS PER SQUARE INCH

	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY:	PROJECT TITLE:	PREPARED BY:	REVIEWED AS TO PLAN	SUBMITTED BY:	SHEET CONTENTS:	SHEET NO.
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	DIR. DAVID B. BUNGALLON, EXECUTIVE DIRECTOR, NTESD	DIR. JANET C. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. SUNSHINE P. ROSQUITA, CIVIL ENGINEER, PRC/PTR	ARCH. RUMEN A. MENDOZA, ARCHITECT, PRC/PTR	ENGR. ROY LOUIE P. MINGARACAL, HEAD, SPU/DDO	GENERAL NOTES STANDARD DRAWING SPECIFICATIONS	S-4



TESDA INNOVATION CENTER-NCR
FOUNDATION PLAN
SCALE: 1: 200 mm



TESDA INNOVATION CENTER-NCR
SECOND FLOOR FRAMING PLAN
SCALE: 1: 200 mm

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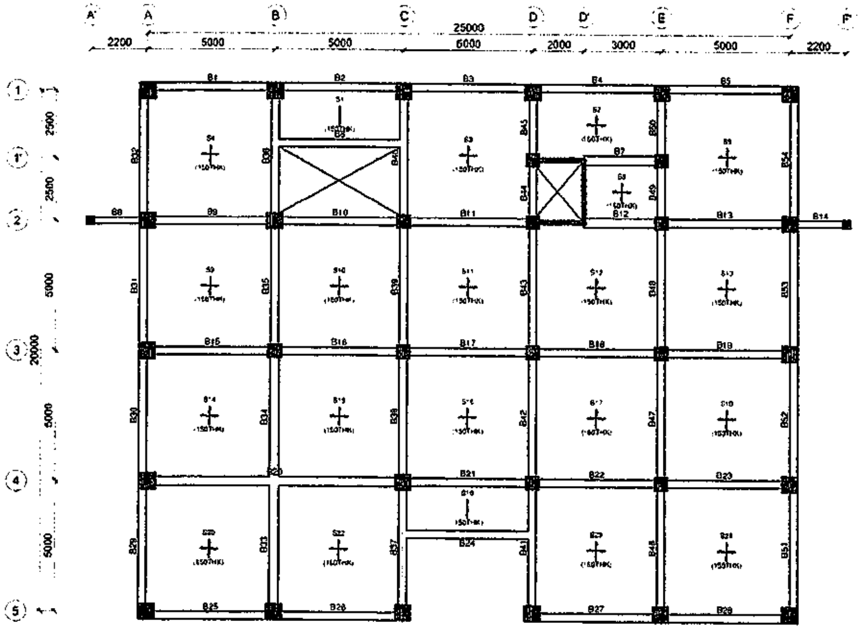
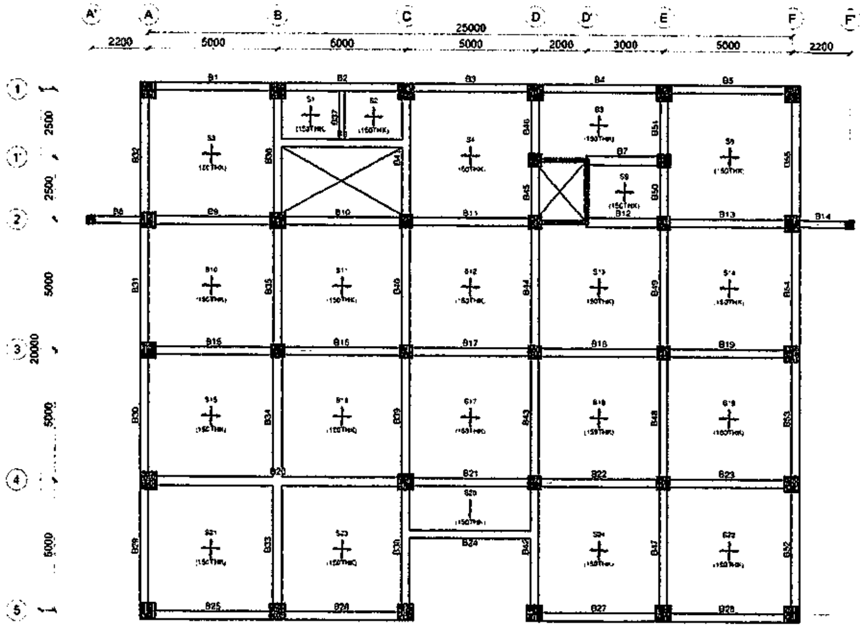


TESDA INNOVATION CENTER-NCR
THIRD FLOOR FRAMING PLAN
SCALE: 1: 200 mm



TESDA INNOVATION CENTER-NCR
ROOF DECK FRAMING PLAN
SCALE: 1: 200 mm

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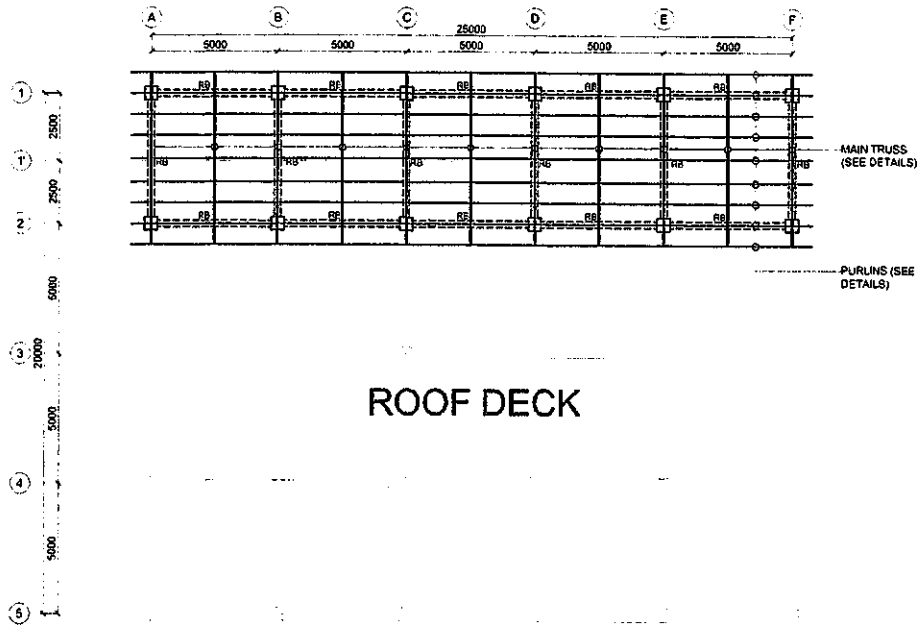
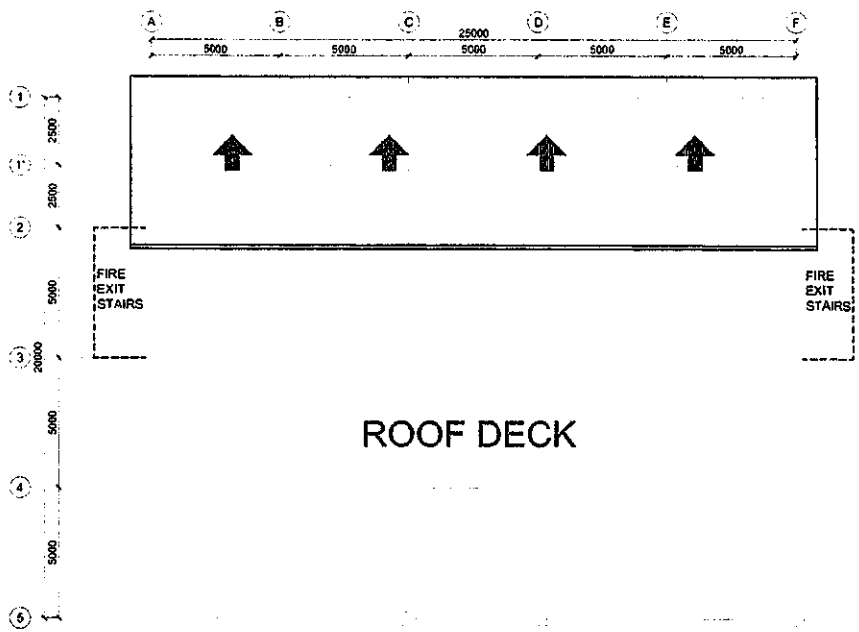


ROOF DECK

TESDA INNOVATION CENTER-NCR

ROOF BEAM PLAN

SCALE: 1: 200 mm



ROOF DECK

TESDA INNOVATION CENTER-NCR

ROOF PLAN

SCALE: 1: 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

CONCURRED BY

DIR. DAVID B. BUNGALLON
EXECUTIVE DIRECTOR, TVTESD

RECOMMENDING APPROVAL

DIR. JULIETO. CROZCO
CHIEF OF STAFF
OFFICE OF THE DIRECTOR GENERAL

APPROVED BY:

SEC. ISIDRO S. LAPEÑA, PHD., CSEE
DIRECTOR GENERAL

PROJECT TITLE:

PROPOSED TESDA
INNOVATION CENTER - NCR

PREPARED BY:

ENGR. SERGIO JR. P. ROSQUITA
CIVIL ENGINEER

REVIEWED AS TO PLAN

ARCH. ANNISA A. MENDOZA
ARCHITECT

SUBMITTED BY

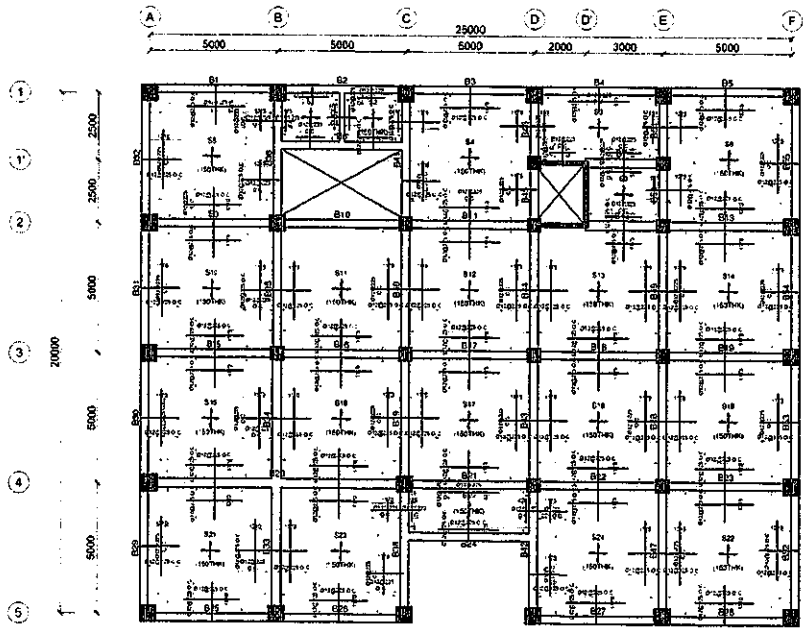
ENGR. ROLLOVER P. MINGARACAL
HEAD, BPMSDD

SHEET CONTENTS

ROOF BEAM PLAN
ROOF PLAN

SHEET NO.

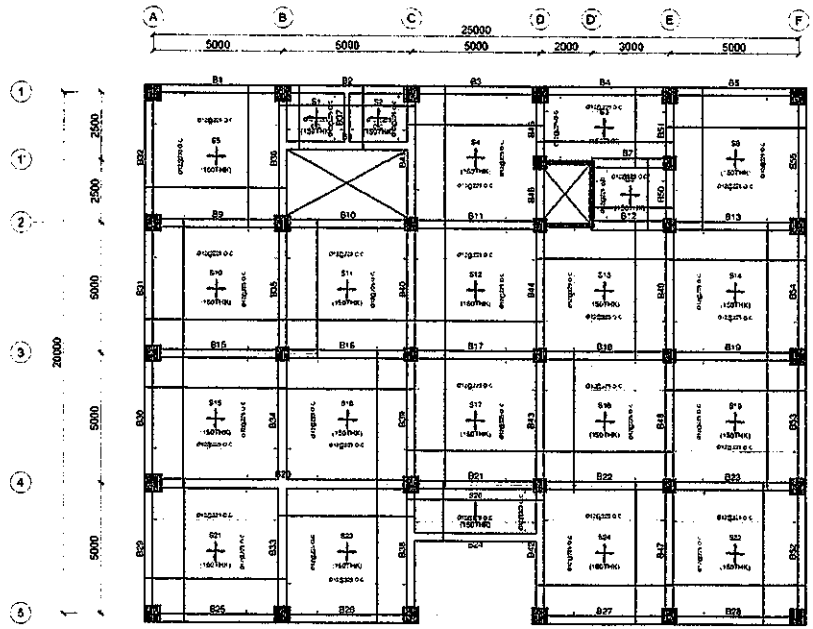
S-7



TESDA INNOVATION CENTER-NCR

TYPICAL SLAB TOP REINFORCEMENT PLAN

SCALE: 1: 200 mm



TESDA INNOVATION CENTER-NCR

TYPICAL SLAB BOTTOM REINFORCEMENT PLAN

SCALE: 1: 200 mm

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BEAM SCHEDULE (C20:Fy420) (LEVEL: ROOF BEAM)

BEAM NUMBERS	SIZE		BOTTOM REINFORCEMENT			TOP REINFORCEMENT			SHEAR STIRRUPS		
	B	D	LEFT	MID SPAN	RIGHT	LEFT	MID SPAN	RIGHT	LEFT	MID SPAN	RIGHT
RB	200	400	2-Ø16	2-Ø16	2-Ø16	2-Ø16	2-Ø16	2-Ø16	9-2L-Ø10@100 O.C	25-2L-Ø10@115 O.C	9-2L-Ø10@100 O.C.

BEAM SCHEDULE (C25:Fy420) (LEVEL: ROOF DECK)

BEAM NUMBERS	SIZE		BOTTOM REINFORCEMENT			TOP REINFORCEMENT			SHEAR STIRRUPS			SFR
	B	D	LEFT	MID SPAN	RIGHT	LEFT	MID SPAN	RIGHT	LEFT	MID SPAN	RIGHT	
B1,B2,B3,B4,B5,B25,B26,B27,B28,B42,B47,B52,B53,B54,B55	300	600	3-Ø10	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C	-
B6	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø16	3-Ø16	3-Ø16	10-2L-Ø10@190 O.C	8-2L-Ø10@190 O.C	10-2L-Ø10@190 O.C.	-
B7,B12	350	700	3-Ø16	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	15-2L-Ø10@100 O.C.	-	15-2L-Ø10@100 O.C.	-
B8	250	400	2-Ø16	2-Ø16	2-Ø16	2-Ø16	2-Ø16	2-Ø16	9-2L-Ø10@100 O.C	1-2L-Ø10@125 O.C.	9-2L-Ø10@100 O.C	1-Ø16EF
B9	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B10	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B11	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C	12-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C	-
B13,B19,B21,B23,B29,B30,B31,B32,B38,B39	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C.	-
B14	250	400	2-Ø16	2-Ø16	2-Ø16	2-Ø16	2-Ø16	2-Ø16	9-2L-Ø10@100 O.C.	1-2L-Ø10@125 O.C	9-2L-Ø10@100 O.C.	-
B15	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	2-Ø16EF
B16	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C.	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	2-Ø16EF
B17,B18,B22,B40	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C.	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B20	350	700	5-Ø20	5-Ø20	5-Ø20	10-Ø20	10-Ø20	10-Ø20	15-2L-Ø10@100 O.C	29-2L-Ø10@225 O.C.	15-2L-Ø10@100 O.C.	2-Ø16EF
B24	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø16	3-Ø16	3-Ø16	10-2L-Ø10@190 O.C	8-2L-Ø10@190 O.C.	10-2L-Ø10@190 O.C.	-
B33	300	600	4-Ø16	4-Ø16	4-Ø16	4-Ø25	4-Ø16	4-Ø16	8-2L-Ø10@225 O.C.	8-2L-Ø10@225 O.C.	8-2L-Ø10@225 O.C.	2-Ø16EF
B34	300	600	4-Ø16	4-Ø16	4-Ø16	4-Ø16	4-Ø16	4-Ø25	8-2L-Ø10@225 O.C.	8-2L-Ø10@225 O.C.	8-2L-Ø10@225 O.C.	-
B35	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B36	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	11-2L-Ø10@180 O.C.	13-2L-Ø10@100 O.C.	2-Ø16EF
B37	200	400	2-Ø16	2-Ø16	2-Ø16	2-Ø16	2-Ø16	2-Ø16	7-2L-Ø10@115 O.C.	6-2L-Ø10@115 O.C.	7-2L-Ø10@115 O.C.	-
B41	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø20	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	11-2L-Ø10@165 O.C.	13-2L-Ø10@180 O.C.	2-Ø16EF
B43,B44,B46,B49	300	600	3-Ø16	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	13-2L-Ø10@100 O.C	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B45	300	600	3-Ø16	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	13-2L-Ø10@100 O.C.	-	13-2L-Ø10@100 O.C.	2-Ø16EF
B48	300	600	3-Ø16	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	13-2L-Ø10@100 O.C.	-	13-2L-Ø10@100 O.C.	-
B50	300	600	3-Ø16	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	11-2L-Ø10@100 O.C.	-	11-2L-Ø10@100 O.C.	-
B51	300	600	3-Ø16	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	12-2L-Ø10@100 O.C.	-	12-2L-Ø10@100 O.C.	-

BEAM SCHEDULE (C25:Fy420) (LEVEL: 3F)

BEAM NUMBERS	SIZE		BOTTOM REINFORCEMENT			TOP REINFORCEMENT			SHEAR STIRRUPS			SFR
	B	D	LEFT	MID SPAN	RIGHT	LEFT	MID SPAN	RIGHT	LEFT	MID SPAN	RIGHT	
B1,B4,B10,B15,B40	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C.	-
B2,B51,B52,B53,B54	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C.	-
B3,B5,B13,B19	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B6	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø16	3-Ø16	3-Ø16	10-2L-Ø10@190 O.C.	8-2L-Ø10@190 O.C.	10-2L-Ø10@190 O.C.	-
B7	350	700	5-Ø16	5-Ø16	5-Ø16	5-Ø16	5-Ø16	5-Ø16	15-2L-Ø10@100 O.C.	-	15-2L-Ø10@100 O.C.	-
B8	250	400	2-Ø16	2-Ø16	2-Ø16	3-Ø16	3-Ø16	3-Ø16	9-2L-Ø10@100 O.C	1-2L-Ø10@125 O.C.	9-2L-Ø10@100 O.C	1-Ø16EF
B9,B21,B23,B25,B26,B27,B28,B38	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C.	-
B11	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	12-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C.	-
B12	350	700	4-Ø16	4-Ø16	4-Ø16	4-Ø16	4-Ø16	4-Ø16	15-2L-Ø10@100 O.C.	-	15-2L-Ø10@100 O.C.	-
B14	250	400	2-Ø16	2-Ø16	2-Ø16	3-Ø16	3-Ø16	3-Ø16	9-2L-Ø10@100 O.C.	1-2L-Ø10@125 O.C.	9-2L-Ø10@100 O.C.	-
B16,B43	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	11-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C.	-
B17,B22,B39	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B18,B42	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C.	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B20	350	700	5-Ø20 + 2-Ø20	5-Ø20	6-Ø20 + 2-Ø20	10-Ø20	10-Ø20	10-Ø20	15-2L-Ø10@100 O.C.	29-2L-Ø10@225 O.C	15-2L-Ø10@100 O.C.	2-Ø16EF
B24	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø16	3-Ø16	3-Ø16	10-2L-Ø10@100 O.C.	8-2L-Ø10@190 O.C.	10-2L-Ø10@190 O.C.	-
B29,B30,B31,B32,B35,B36,B37,B40,B41	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C	-
B33	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø32	3-Ø20	3-Ø16	8-2L-Ø10@225 O.C.	8-2L-Ø10@225 O.C.	8-2L-Ø10@225 O.C.	2-Ø16EF
B34	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø16	3-Ø20	3-Ø32	8-2L-Ø10@225 O.C.	8-2L-Ø10@225 O.C.	8-2L-Ø10@225 O.C.	2-Ø16EF
B44	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø20	3-Ø20	13-2L-Ø10@100 O.C.	-	13-2L-Ø10@100 O.C.	-
B45	300	600	4-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø20	3-Ø20	3-Ø20	13-2L-Ø10@100 O.C	-	13-2L-Ø10@100 O.C.	-
B47,B48	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B49	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø20	3-Ø20	11-2L-Ø10@100 O.C.	-	11-2L-Ø10@100 O.C.	-
B50	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø20	3-Ø20	3-Ø20	12-2L-Ø10@100 O.C.	-	12-2L-Ø10@100 O.C.	-

TESDA INNOVATION CENTER-NCR
BEAM SCHEDULE
SCALE: NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

CONCURRED BY: DIR. DAVID B. BUNGALLON, EXECUTIVE DIRECTOR, NITESD

RECOMMENDING APPROVAL: DIR. JULIET C. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL

APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL

PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR

PREPARED BY: ENGR. SUNSHINE P. ROSQUITA, CIVIL ENGINEER, SPU-ODG

REVIEWED AS TO PLAN: ARCH. RUNIEL A. MENDOZA, ARCHITECT, SPU-ODG

SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, HEAD, SPU-ODG

SHEET CONTENTS: BEAM SCHEDULE

SHEET NO.: S-9

BEAM SCHEDULE (C25:Fy415) (LEVEL: 2F)

BEAM NUMBERS	SIZE		BOTTOM REINFORCEMENT			TOP REINFORCEMENT			SHEAR STIRRUPS			SFR
	B	D	LEFT	MID SPAN	RIGHT	LEFT	MID SPAN	RIGHT	LEFT	MID SPAN	RIGHT	
B1,B2,B3,B4,B5,B52,B54,B55	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C	-
B6,B24	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø16	3-Ø16	3-Ø16	10-2L-Ø10@190 O.C	6-2L-Ø10@190 O.C.	10-2L-Ø10@190 O.C.	-
B7,B12	350	700	6-Ø16	6-Ø16	6-Ø16	4-Ø16	4-Ø16	4-Ø20	15-2L-Ø10@100 O.C	-	15-2L-Ø10@100 O.C	-
B8	250	400	2-Ø16	2-Ø16	3-Ø16	2-Ø16	2-Ø16	2-Ø20	9-2L-Ø10@100 O.C.	1-2L-Ø10@125 O.C.	9-2L-Ø10@100 O.C.	1-Ø16EF
B9,B10,B19,B21,B23,B26,B27,B47	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C	-
B11	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	12-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B13	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C	-
B14	250	400	3-Ø16	2-Ø16	2-Ø16	2-Ø20	2-Ø16	2-Ø16	9-2L-Ø10@100 O.C.	1-2L-Ø10@125 O.C.	9-2L-Ø10@100 O.C.	-
B15	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C.	2-Ø16EF
B16,B17,B18,B22,B40,B48	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C	-
B20	350	700	5-Ø20 + 2-Ø20	5-Ø20	5-Ø20 + 2-Ø20	10-Ø20	10-Ø20	10-Ø20	15-2L-Ø10@100 O.C	28-2L-Ø10@225 O.C.	15-2L-Ø10@100 O.C	2-Ø16EF
B25	300	600	4-Ø16 + 2-Ø16	4-Ø16	4-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
LB-1	300	600	4-Ø16 + 2-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B28	300	600	4-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C	-
B30,B38	300	600	4-Ø16 + 2-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø20 + 3-Ø20	3-Ø16	3-Ø20 + 3-Ø20	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C	-
B31	300	600	4-Ø16 + 2-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø20 + 3-Ø20	3-Ø16	3-Ø20 + 2-Ø20	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C	-
B32	300	600	4-Ø16 + 2-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø20 + 2-Ø20	3-Ø16	3-Ø20 + 2-Ø20	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C	-
B33	300	600	4-Ø16 + 2-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø20 + 2-Ø20	3-Ø16	3-Ø20 + 3-Ø20	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B34	300	600	4-Ø16	4-Ø16	4-Ø16	6-Ø20	3-Ø25	3-Ø16	6-2L-Ø10@225 O.C.	6-2L-Ø10@225 O.C.	6-2L-Ø10@225 O.C.	2-Ø16EF
B35	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø16	3-Ø20	3-Ø32	6-2L-Ø10@225 O.C.	6-2L-Ø10@225 O.C.	6-2L-Ø10@225 O.C.	2-Ø16EF
B36	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø25	3-Ø16	3-Ø20 + 3-Ø16	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B37	300	600	4-Ø16 + 2-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø20 + 3-Ø16	3-Ø16	3-Ø20 + 3-Ø20	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B39	300	600	4-Ø16 + 2-Ø16	4-Ø16	4-Ø16	3-Ø20 + 3-Ø20	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C	-
B41	300	600	4-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø25	3-Ø16	3-Ø20 + 3-Ø20	13-2L-Ø10@100 O.C	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C	-
B42	300	600	4-Ø16	4-Ø16	4-Ø16	4-Ø25	4-Ø16	4-Ø25	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B43	300	600	4-Ø16	4-Ø16	4-Ø16	4-Ø25	4-Ø16	4-Ø20	13-2L-Ø10@100 O.C.	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B44	300	600	3-Ø16	3-Ø16	3-Ø16	4-Ø20	4-Ø16	4-Ø20	13-2L-Ø10@100 O.C	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C	-
B45	300	600	4-Ø16	4-Ø16	4-Ø16	4-Ø20	2-Ø20	4-Ø20	13-2L-Ø10@100 O.C.	-	13-2L-Ø10@100 O.C.	2-Ø16EF
B46	300	600	4-Ø16 + 2-Ø16	4-Ø16	4-Ø16 + 4-Ø16	4-Ø20	3-Ø20	4-Ø25	13-2L-Ø12@100 O.C	-	13-2L-Ø12@100 O.C.	-
B49	200	600	3-Ø10	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C.	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B50	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø20	2-Ø20	3-Ø25	11-2L-Ø10@100 O.C.	-	11-2L-Ø10@100 O.C.	-
B51	300	600	4-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø25	2-Ø25	3-Ø25	12-2L-Ø10@100 O.C.	-	12-2L-Ø10@100 O.C.	-
B53	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	7-2L-Ø10@265 O.C.	13-2L-Ø10@100 O.C.	-

BEAM SCHEDULE (C25:Fy420) (TIE BEAM)

BEAM NUMBERS	SIZE		BOTTOM REINFORCEMENT			TOP REINFORCEMENT			SHEAR STIRRUPS			SFR
	B	D	LEFT	MID SPAN	RIGHT	LEFT	MID SPAN	RIGHT	LEFT	MID SPAN	RIGHT	
B1,B2,B3,B4,B5,B7,B8,B12,B16,B18,B20,B35,B37,B43,B46,B49,B50,B51	300	600	3-Ø16	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B6,B10	350	700	4-Ø10	4-Ø16	4-Ø16	4-Ø16	4-Ø16	4-Ø16	15-2L-Ø10@100 O.C.	-	15-2L-Ø10@100 O.C.	-
B9	300	600	3-Ø16	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	13-2L-Ø10@100 O.C	12-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B11	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø16	3-Ø16	3-Ø16	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B13,B14,B15,B19,B36,B44,B45	300	600	3-Ø16	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	13-2L-Ø10@100 O.C	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C	-
B17	350	700	3-Ø16	3-Ø16	3-Ø16	6-Ø16	6-Ø16	6-Ø16	15-2L-Ø10@100 O.C.	29-2L-Ø10@225 O.C.	15-2L-Ø10@100 O.C.	2-Ø16EF
B21,B25,B32,B33	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø20	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C	13-2L-Ø10@100 O.C.	-
B22,B23,B24	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø20	3-Ø10	3-Ø20	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C	-
B26,B27,B28,B29	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø25	3-Ø16	3-Ø25	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B30	300	600	4-Ø16	4-Ø10	4-Ø16	5-Ø16	5-Ø16	5-Ø16	6-2L-Ø10@225 O.C.	6-2L-Ø10@225 O.C.	6-2L-Ø10@225 O.C.	2-Ø16EF
B31	300	600	3-Ø16	3-Ø16	3-Ø16	5-Ø16	5-Ø16	5-Ø16	6-2L-Ø10@225 O.C.	6-2L-Ø10@225 O.C.	6-2L-Ø10@225 O.C.	2-Ø16EF
B34	300	600	4-Ø16	4-Ø16	4-Ø10	4-Ø16	4-Ø16	4-Ø16	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B38	300	600	3-Ø16	3-Ø10	3-Ø16	3-Ø20	3-Ø16	3-Ø16	13-2L-Ø10@100 O.C.	10-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B39	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø16	3-Ø16	3-Ø16	13-2L-Ø10@100 O.C.	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B40	300	600	3-Ø16	3-Ø16	3-Ø16	3-Ø16	3-Ø16	3-Ø20	13-2L-Ø10@100 O.C.	11-2L-Ø10@190 O.C.	13-2L-Ø10@100 O.C.	-
B41	300	600	4-Ø16	4-Ø16	4-Ø16	3-Ø20	3-Ø20	3-Ø20	13-2L-Ø10@100 O.C.	-	13-2L-Ø10@100 O.C.	-
B42	300	600	4-Ø16	4-Ø16	4-Ø16 + 2-Ø16	3-Ø20	3-Ø20	3-Ø20	13-2L-Ø10@100 O.C	-	13-2L-Ø10@100 O.C	-
B46	300	600	3-Ø16	3-Ø16	3-Ø16	4-Ø16	4-Ø16	4-Ø16	11-2L-Ø10@100 O.C.	-	11-2L-Ø10@100 O.C.	-
B47	300	600	4-Ø16	4-Ø10	4-Ø16	4-Ø16	4-Ø16	4-Ø16	12-2L-Ø10@100 O.C.	-	12-2L-Ø10@100 O.C.	-

TESDA INNOVATION CENTER-NCR

BEAM SCHEDULE

SCALE: NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

CONCURRED BY: DIR. [illegible] B. BU[illegible]GALLON, EXECUTIVE DIRECTOR, NITESD

RECOMMENDING APPROVAL: DIR. JU[illegible] O. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL

APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL

PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR

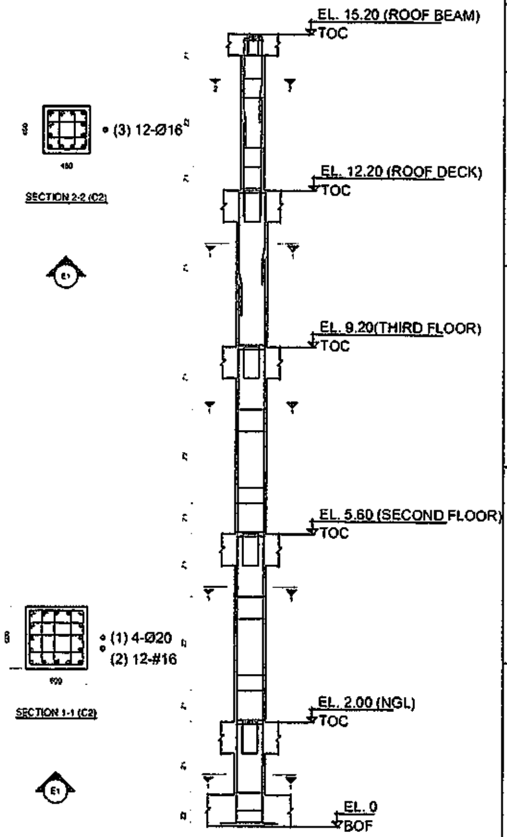
PREPARED BY: ENGR. [illegible] P. [illegible]OSQUITA, CIVIL ENGINEER, SPU-OOG

REVIEWED AS TO PLAN: ARCH. RUNIEL A. [illegible]DOZA, ARCHITECT, SPU-OOG

SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, HEAD, SPU-OOG

SHEET CONTENTS: BEAM SCHEDULE

SHEET NO. S-10



TESDA INNOVATION CENTER-NCR
TYPICAL COLUMN ELEVATION
SCALE: 1: 100 mm

LEVEL	C1	C2	C3	C4	C5	C6	C7
ROOF DECK TO ROOF BEAM LEVEL	C25 Fy420 COVER = 40MM CONFINING ZONE (Z1) = 450 MM 450 x 450 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 225mm TO MID HEIGHT 12-Ø16	----------	----------	----------	----------	----------	C25 Fy420 , COVER = 40MM CONFINING ZONE = 450 MM 450 x 450 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 225mm TO MID HEIGHT 12-Ø16
THIRD FLOOR TO ROOF DECK LEVEL	C25 Fy420 , COVER = 40MM CONFINING ZONE = 600 MM 600 x 600 ●Ø20 ●Ø16 4-Ø20 + 12-Ø10 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 500 MM 500 x 500 ●Ø25 ●Ø20 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø25 + 8-Ø20	C25 Fy420 , COVER = 40MM CONFINING ZONE = 600 MM 600 x 600 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 600 MM 600 x 600 ●Ø25 ●Ø20 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø25 + 12-Ø20	C25 Fy420 , COVER = 40MM CONFINING ZONE = 650 MM 650 x 650 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 12-Ø20 + 4-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 500 MM 300 x 300 ●Ø20 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 150mm TO MID HEIGHT 4-Ø20	C25 Fy420 , COVER = 40MM CONFINING ZONE = 500 MM 500 x 500 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 8-Ø16
SECOND FLOOR TO THIRD FLOOR LEVEL	C25 Fy420 , COVER = 40MM CONFINING ZONE (Z1) = 600 MM 600 x 600 ●Ø20 ●Ø16 4-Ø20 + 12-Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 500 MM 500 x 500 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 8-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 600 MM 600 x 600 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 600 MM 600 x 600 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 650 MM 650 x 650 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 12-Ø20 + 4-Ø10	C25 Fy420 COVER = 40MM CONFINING ZONE = 600 MM 300 x 300 ●Ø20 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 150mm TO MID HEIGHT 4-Ø20	C25 Fy420 , COVER = 40MM CONFINING ZONE = 500 MM 500 x 500 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 8-Ø16
GROUND FLOOR TO SECOND FLOOR LEVEL	C25 Fy420 , COVER = 40MM CONFINING ZONE (Z1) = 600 MM 600 x 600 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 500 MM 500 x 500 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 8-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 600 MM 600 x 600 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 600 MM 600 x 600 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 650 MM 650 x 650 ●Ø20 ●Ø16 Z1 = 10mm @ 76mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 12-Ø20 + 4-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 935 MM 300 x 300 ●Ø20 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 150mm TO MID HEIGHT 4-Ø20	C25 Fy420 , COVER = 40MM CONFINING ZONE = 500 MM 500 x 500 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 250mm TO MID HEIGHT 4-Ø20 + 8-Ø16
FOUNDATION TO GROUND FLOOR LEVEL	C25 Fy420 , COVER = 40MM CONFINING ZONE (Z1) = 600 MM 600 x 600 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 175mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 500 MM 500 x 500 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 160mm TO MID HEIGHT 4-Ø20 + 8-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 600 MM 600 x 600 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 175mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 600 MM 600 x 600 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 150mm TO MID HEIGHT 4-Ø20 + 12-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 650 MM 650 x 650 ●Ø20 ●Ø16 Z1 = 12mm @ 75mm C.O.C Z2 = REST @ 175mm TO MID HEIGHT 12-Ø20 + 4-Ø16	C25 Fy420 , COVER = 40MM CONFINING ZONE = 935 MM 300 x 300 ●Ø20 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 150mm TO MID HEIGHT 4-Ø20	C25 Fy420 , COVER = 40MM CONFINING ZONE = 500 MM 500 x 500 ●Ø20 ●Ø16 Z1 = 10mm @ 75mm C.O.C Z2 = REST @ 150mm TO MID HEIGHT 4-Ø20 + 8-Ø16
COLUMN MARKED	C1	C2	C3	C4	C5	C6	C7

NOTES:

1. BE = BOUNDARY ELEMENT AS PER ACI 318. PROVIDE CONFINING REINFORCEMENT ACROSS ENTIRE HEIGHT OF WALL IN THE BOUNDARY ELEMENT
2. Z1 = SPECIAL CONFINING ZONE AS PER ACI 318, Z2 = REMAINING ZONES AS PER ACI 318

TESDA INNOVATION CENTER-NCR
COLUMN SCHEDULE
SCALE: NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY:	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE:	PREPARED BY:	REVIEWED AS TO PLAN:	SUBMITTED BY:	SHEET CONTENTS:	SHEET NO.
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR, NITESD	DIR. [illegible] D. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. SUNSHINE [illegible] ROSQUITA CIVIL ENGINEER, SPU-OOG	ARCH. RUNIEL A. MENDOZA ARCHITECT, SPU-OOG	ENGR. ROY LOUIE P. MINGARACAL HEAD, SPU-OOG	TYPICAL COLUMN ELEVATION COLUMN SCHEDULE	S-12

SLAB SCHEDULE (C20 : FY250) (LEVEL : ROOF DECK)

SLAB MARKED	SLAB THICKNESS	BOTTOM REINFORCEMENT: ALONG SHORT SPAN FULL LENGTH	BOTTOM REINFORCEMENT: ALONG LONG SPAN FULL LENGTH	TOP REINFORCEMENT: OVER LONG SUPPORT CONTINUOUS SUPPORT	OVER LONG SUPPORT END SUPPORT	OVER SHORT SUPPORT CONTINUOUS SUPPORT	OVER SHORT SUPPORT END SUPPORT	DISTRIBUTION
S1, S2	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C
S3 S4 S6 S21 S22 S23 S24	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C
S5	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	-	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C
S9	125	Ø12 @ 175 O.C.	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C	–	Ø12 @ 175 O.C	Ø12 @ 175 O.C
S10 S11 S14 S15 S19	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C
S12 S13 S16 S17 S18	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C
S20	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C.	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C	Ø12 @ 175 O.C

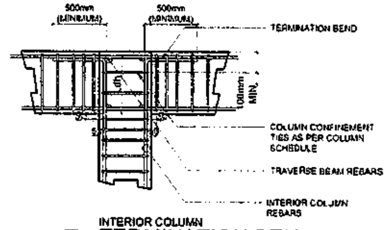
SLAB SCHEDULE (C20 : FY250) (LEVEL : 3F & 2F TYPICAL)

SLAB MARKED	SLAB THICKNESS	BOTTOM REINFORCEMENT: ALONG SHORT SPAN FULL LENGTH	BOTTOM REINFORCEMENT: ALONG LONG SPAN FULL LENGTH	TOP REINFORCEMENT: OVER LONG SUPPORT CONTINUOUS SUPPORT	OVER LONG SUPPORT END SUPPORT	OVER SHORT SUPPORT CONTINUOUS SUPPORT	OVER SHORT SUPPORT END SUPPORT	DISTRIBUTION
S1, S19	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C.	--	Ø12 @ 175 O.C	Ø12 @ 175 O.C.
S2, S3, S5, S20 S21, S22, S23	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C.	Ø12 @ 175 O.C.	Ø12 @ 175 O.C	Ø12 @ 175 O.C
S4	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C	Ø12 @ 175 O.C.	Ø12 @ 175 O.C	Ø12 @ 175 O.C
S8	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C	Ø12 @ 175 O.C
S9 S10 S13 S14, S18	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C	Ø12 @ 175 O.C.	Ø12 @ 175 O.C
S11 S12, S15 S16, S17	125	Ø12 @ 175 O.C	Ø12 @ 175 O.C	Ø12 @ 175 O.C	—	Ø12 @ 175 O.C	--	Ø12 @ 175 O.C

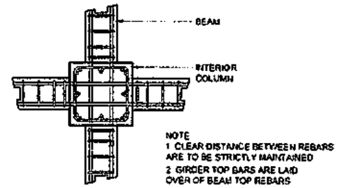
TESDA INNOVATION CENTER-NCR
SLAB SCHEDULE
SCALE: NTS

OPENING (L)	DIMENSION	REINFORCEMENT: TOP	REINFORCEMENT: BOTTOM	REINFORCEMENT: STIRRUPS
UP TO 1200 mm		2-10mm	2-10mm	6mmØ @ 150mm O.C
UP TO 1200 mm (115mm THK WALL)		2-10mm	2-10mm	6mmØ @ 150mm O.C
1300 mm TO 1650mm		2-10mm	3-10mm	6mmØ @ 150mm O.C
1800 mm TO 2100mm		2-10mm	3-12mm	8mmØ @ 150mm O.C
2250 mm TO 2700mm		2-10mm	2-16mm	8mmØ @ 200mm O.C
MAIN CANOPY LB-1	SEE LB-1 AT BEAM SCHEDULE (2F)			

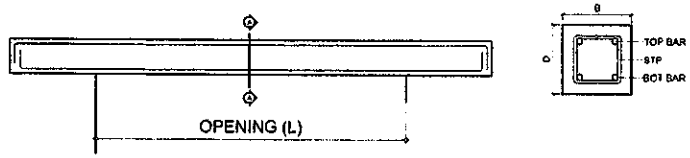
TESDA INNOVATION CENTER-NCR
LINTEL BEAM SCHEDULE
SCALE: NTS



INTERIOR COLUMN
TERMINATION BEND
SCALE: 1: 50 mm

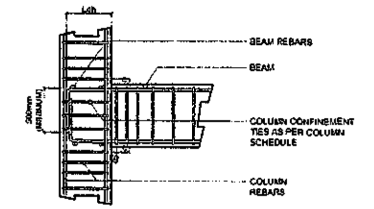


NOTE
1. CLEAR DISTANCE BETWEEN REBARS ARE TO BE STRICTLY MAINTAINED
2. GIRDER TOP BARS ARE LAID OVER OF BEAM TOP REBARS

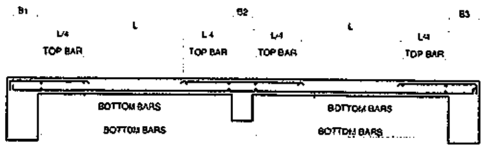


TYPICAL PLAN
BEAM-COLUMN JOINT
SCALE: 1: 50 mm

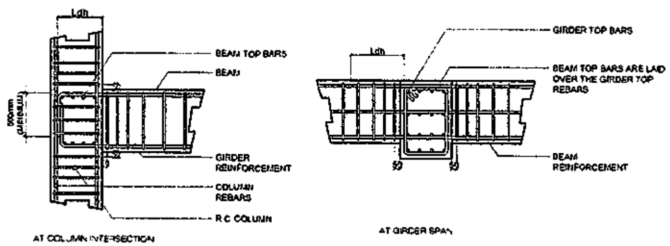
TESDA INNOVATION CENTER-NCR
LINTEL BEAM TYPICAL DETAIL
SCALE: 1:30 mm



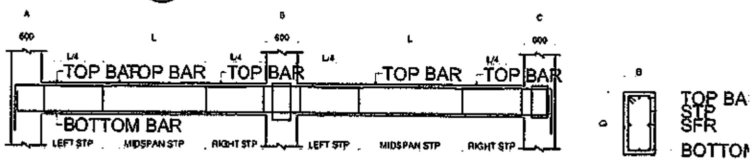
BEAM REBAR
TERMINATION BEND
SCALE: 1: 50 mm



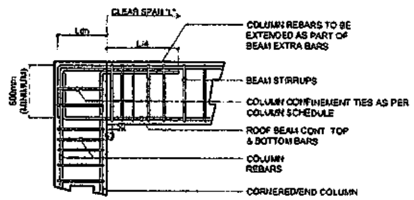
TESDA INNOVATION CENTER-NCR
TYPICAL SLAB SECTION DETAIL
SCALE: 1:100 mm



BEAM AND GIRDER
TYPICAL REBAR LAYOUT
SCALE: 1: 50 mm

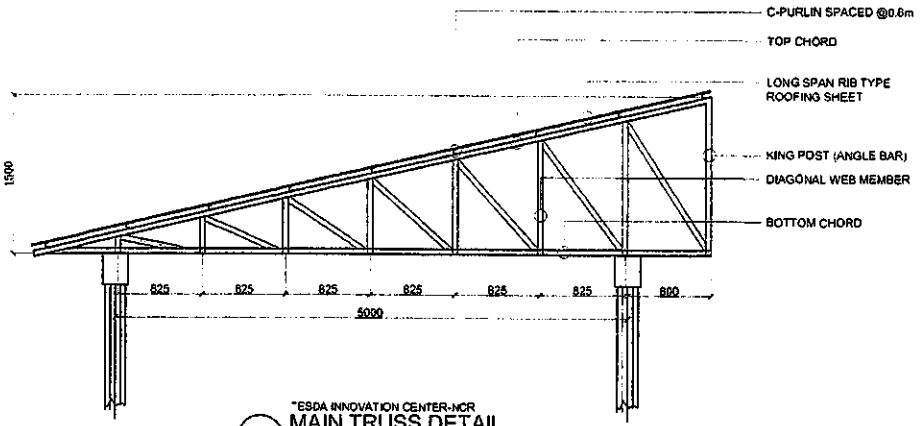


TESDA INNOVATION CENTER-NCR
TYPICAL BEAM SECTION DETAIL
SCALE: 1:100 mm

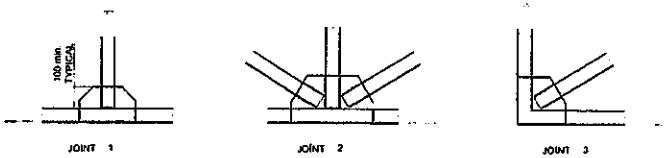


CORNER/EXTERIOR COLUMN
TERMINATION BEND
SCALE: 1: 50 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID B. BUNGALLON, EXECUTIVE DIRECTOR, TATESD	RECOMMENDING APPROVAL: DIR. JULIET O. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR	PREPARED BY: ENGR. SUNSHINE P. ROSQUITA, CIVIL ENGINEER	REVIEWED AS TO PLAN: ARCH. RUNIEL A. MENDOZA, ARCHITECT	SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, HEAD	SHEET CONTENTS: SLAB SCHEDULE, CONNECTION DETAILS	SHEET NO. S-13



TESDA INNOVATION CENTER-NCR
MAIN TRUSS DETAIL
SCALE: 1: 50 mm



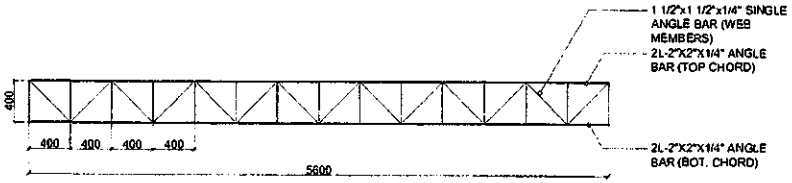
TESDA INNOVATION CENTER-NCR
TYPICAL TRUSS CONNECTION DETAILS
SCALE: 1: 30 mm

MARK	ITEM	SIZE/DESCRIPTION
1	TOP/BOTTOM CHORD	2-2"X2"X3mm THK. ANGLE BAR
2	VERTICAL CHORD	2-2"X2"X3mm THK. ANGLE BAR
3	DIAGONAL MEMBER	2"X2"X3mm THK. ANGLE BAR

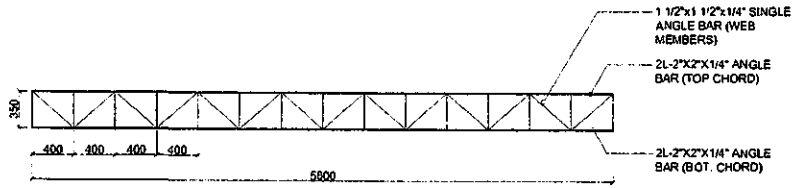
USE : GUSSET PLATE - 12mm THK. PURLINS 2"x4"x1.8mm THK. C PURLIN

ALL WELD . t= 6MM (FULLY E70x

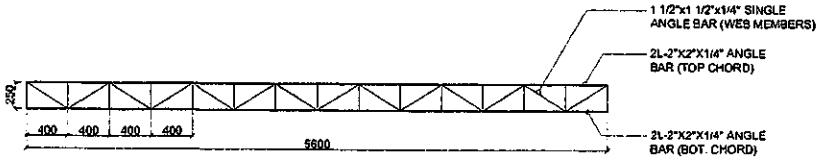
TESDA INNOVATION CENTER-NCR
SCHEDULE OF TRUSS
SCALE: NTS



STRUT-01

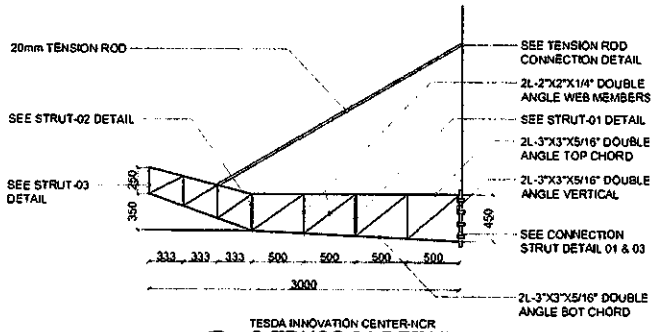


STRUT-02

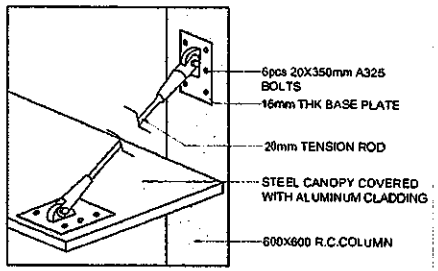


STRUT-03

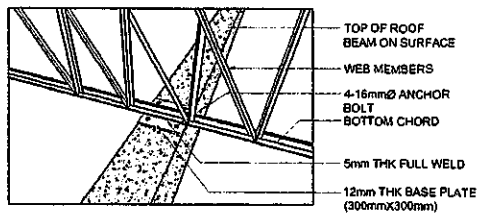
TESDA INNOVATION CENTER-NCR
STRUT DETAILS
SCALE: 1: 50 mm



TESDA INNOVATION CENTER-NCR
C-TRUSS 01 DETAIL
SCALE: 1: 50 mm



TESDA INNOVATION CENTER-NCR
TENSION ROD CONNECTION DETAIL
SCALE: NTS



TESDA INNOVATION CENTER-NCR
TRUSS-BEAM CONNECTION DETAIL
SCALE: NTS

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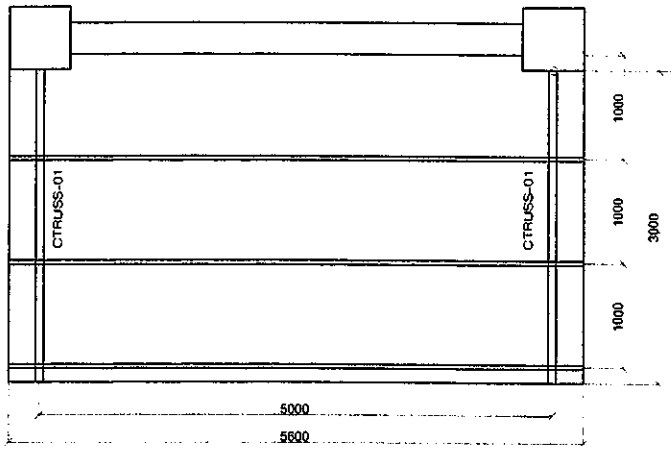
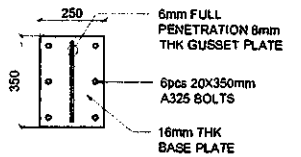
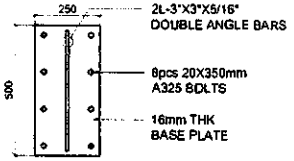


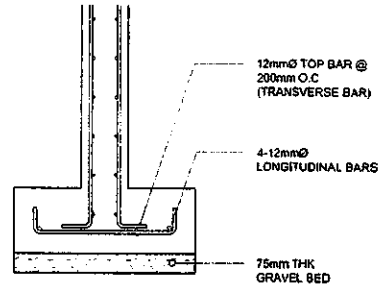
TESDA INNOVATION CENTER-NCR
TYPICAL CANOPY DETAIL
SCALE: 1: 50 mm



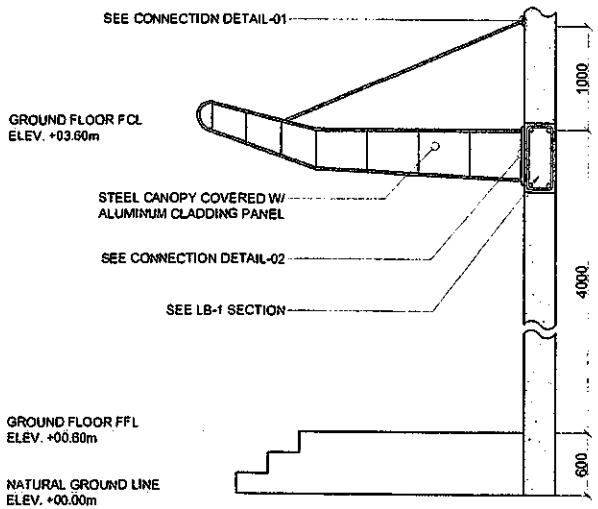
TESDA INNOVATION CENTER-NCR
CONNECTION DETAIL-01
SCALE: 1: 20 mm



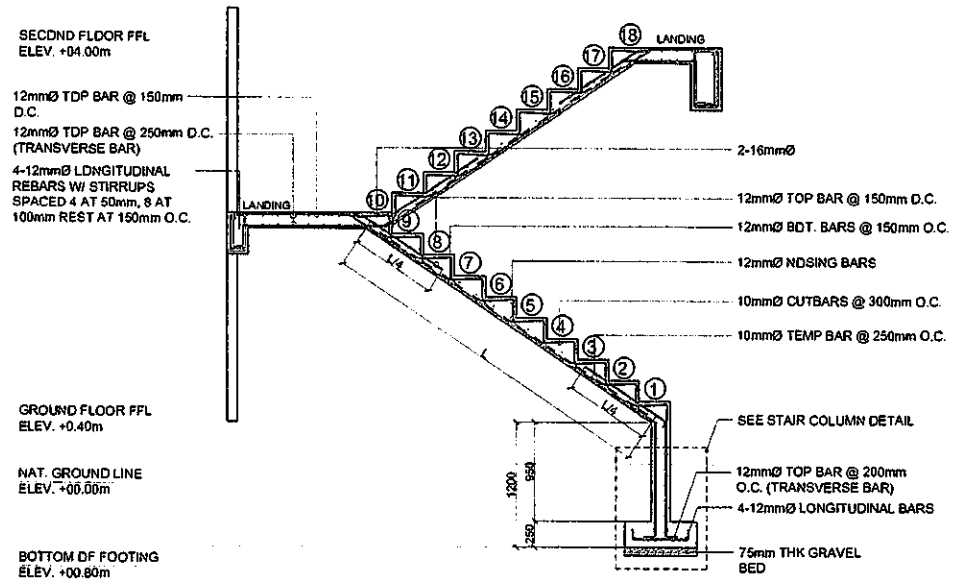
TESDA INNOVATION CENTER-NCR
CONNECTION DETAIL-02
SCALE: 1: 20 mm



TESDA INNOVATION CENTER-NCR
STAIR COLUMN DETAIL
SCALE: 1: 20 mm



TESDA INNOVATION CENTER-NCR
CANOPY SECTION DETAIL
SCALE: 1: 50 mm



TESDA INNOVATION CENTER-NCR
TYPICAL STAIR DETAIL
SCALE: 1: 50 mm

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GENERAL NOTES AND SPECIFICATIONS

1. ALL ELECTRICAL WORKS TO BE UNDERTAKEN HERE IN SHALL BE DONE IN ACCORDANCE WITH THE PROVISION OF THE LATEST APPROVED EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS, THE EXISTING ORDINANCES, RULES AND REGULATIONS OF CITY ENGINEER'S OFFICE, THE BUILDING ADMINISTRATION OFFICE AND INDUSTRIAL SAFETY AS WELL AS THE REQUIREMENTS OF THE UTILITY COMPANY
2. ALL MATERIALS AND REQUIREMENTS TO BE USED HEREIN SHALL BE NEW AND OF THE APPROVED TYPE FOR ITS LOCATION AND PURPOSE
3. NO OF BRANCH CIRCUIT WIRING IN LIGHTING AND POWER SHALL HAVE A LOAD MORE THAN 80% OF ITS RATING
4. LIGHT CONTROL SWITCHES SHALL BE RATED 16 AMPERES, 230 Vac
5. UNLESS OTHERWISE SPECIFIED PULLBOXES OR JUNCTION BOXES SHALL BE PROVIDED WHENEVER REQUIRED AND NECESSARY ALTHOUGH SUCH BOXES ARE NOT INDICATED ON PLANS
6. FOR EACH SPARE CIRCUIT IN PANELBOARD, PROVIDE AN EMPTY CONDUIT 20mm(¾") DIA TERMINATING TO A COVERED SQUARED BOX
7. ALL EQUIPMENT AND/NON CURRENT CARRYING METAL FRAME, SHALL BE PROVIDED WITH ADEQUATE AND EFFECTIVE GROUNDING SYSTEM
8. STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES, TERMINATION AND OTHER APPURTENANCES SHALL BE USED FOR THE ENTIRE ELECTRICAL INSTALLATION.
9. POWER SUPPLY SHALL BE 400 VOLTS, 3Ø, 4 WIRE PLUS GROUND, 60 HERTZ
10. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY LICENSED AND REGISTERED ELECTRICAL ENGINEER OR MASTER ELECTRICIAN
11. UNLESS OTHERWISE INDICATED, MOUNTING HEIGHTS SHALL BE AS FOLLOWS

A. PANELBOARDS	1.80m CENTER OF ENCLOSURE
B. CONVENIENCE OUTLET	0.3m CENTER OF THE BOX
C. SWITCH OUTLET	1.30m CENTER OF THE BOX
D. CATV OUTLET	0.30m CENTER OF THE BOX
E. GFCI COUNTERTOP	0.30m FROM TOP OF LAVATORY
F. COUNTERTOP OUTLET	0.30m FROM TOP OF KITCHEN SINK
G. TEL./DATA OUTLET	0.30m CENTER OF THE BOX

12. THE JOB SHALL BE EXECUTED IN THE MOST THROUGH PROMPT AND WORKMAN LIKE MANNER, EMPLOYING STANDARD TOOLS, EQUIPMENT, METHODS AND GOOD ENGINEERING PRACTICES. THE JOB SHALL BE DONE COMPLETE IN ALL ASPECTS AS REQUIRED IN PLANS AND SPECIFICATIONS AND READY FOR OPERATION.
13. ADDITIONAL MATERIALS SPECIFICATIONS:

A. CONDUIT	"PANASONIC","MC GAL","SMARTUBE" OR APPROVED EQUAL
B. WIRES AND CABELS	"PHELPS DODGE","PHILFLEX","DURAFLEX OR APPROVED EQUAL
C. CIRCUIT BREAKER BOARD	"ABB","GE","SCHNEIDER ELECTRIC" BOLT-ON TYPE OR APPROVED EQUAL
D. WIRING DEVICES	"PANASONIC","LEVITON","SCHNEIDER ELECTRIC" OR APPROVED EQUAL

14. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE PROPER IDENTIFICATION AND LABELING OF ALL CIRCUIT BREAKER. EACH PANEL WILL BE APPROVED WITH A TYPEWRITTEN CIRCUIT DIRECTORY.
15. WIRES SHALL BE COLOR CODED:

THREE PHASE
LINE 1.....RED
LINE 2.....YELLOW
LINE 3.....BLUE
NEUTRAL....WHITE
GROUND....GREEN

16. NO REVISION IN DESIGN SHALL BE DONE WITHOUT THE PRIOR KNOWLEDGE AND APPROVAL OF THE DESIGNER AND THE OWNER. ANY SUCH REVISION DONE WITHOUT THE APPROVAL SHALL CAUSE RESPONSIBILITY OF THE DESIGNER TO CEASED A WHOLE.
17. ALL WEATHER-EXPOSED INSTALLATIONS SHALL USE WEATHERPROOF TYPE MATERIALS, ESPECIALLY WEATHERPROOF CONVENIENCE OUTLET, CAST-BOXES, JUNCTION BOXES SUBMIT SAMPLE FOR APPROVAL

ABBREVIATIONS

CO	CONVENIENCE OUTLET
MM	MILLIMETER
EF	EXHAUST FAN
FCU	FAN COIL UNIT
ACCU	AIR-COOLED CONDENSING UNIT
ECB	ENCLOSED CIRCUIT BREAKER
MCB	MINIATURE CIRCUIT BREAKER
Tx	TRANSFORMER
ATS	AUTOMATIC TRANSFER SWITCH
A, AMP	AMPERE
AF	AMPERE FRAME
AT	AMPERE TRIP
IMC	INTERMEDIATE METALLIC CONDUIT
J	JUNCTION BOX
KAIC	KILOAMPERE INTERRUPTING CAPACITY
kVA	KILOVOLT-AMPERE
kWHR	KILOWATT-HOUR
kW	KILOWATT
kV	KILOVOLT
LA	LIGHTNING ARRESTER
LV	LOW VOLTAGE
3P	THREE POLE
UPVC	UNPLASTICIZED POLYVINYL CHLORIDE
V	VOLT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
C.L.	CONNECTED LOAD
Ø	DIAMETER
DIST	DISTRIBUTION
DF	DEMAND FACTOR
DL	DEMAND LOAD
DP	DOUBLE POLE
ENCL	ENCLOSURE, ENCLOSED
G, GND	GROUND
HZ	HERTZ
M	METER
MTD	MOUNTED
MTG	MOUNTING
MCB	MAIN CIRCUIT BREAKER
MCCB	MOLDED CASE CIRCUIT BREAKER
MSB	MAIN SWITCH BOARD
NO / #	NUMBER
P	POLE
PH	PHASE
PVC	POLYVINYL CHLORIDE
RMC	INTERMEDIATE METALLIC CONDUIT
THWN	MOISTURE & HEAT RESISTANT THERMOPLASTIC
TYP	TYPICAL
TW	MOISTURE RESISTANT THERMOPLASTIC
LVSG	LOW VOLTAGE SWITCH GEAR
SP	SYNCHRONIZING PANEL
EE	ELECTRICAL EQUIPMENT
PP	POWER PANEL
LP	LIGHTNING PANEL
DP	DISTRIBUTION PANEL
DS	DISCONNECT SWITCH
RD	RISER DOWN
RU	RISER UP
PFC	POWER FACTOR CONTROLLER
PFI	POWER FACTOR INDICATOR
AHU	AIR HANDLING UNIT

LIGHTING LEGENDS AND SYMBOLS

	RECESSED MOUNTED, 13W LED DOWNLIGHT
	WALL MOUNTED, 13W LED DOWNLIGHT
	SURFACE MOUNTED, 1200mm, 20W LED FLUORESCENT LIGHT
	2x20W, 300mmx1200mm, CEILING RECESSED FLUORESCENT LIGHTING FIXTURE
	5x13W TRACK LIGHTING FIXTURE
	WALL MOUNTED, ELEVATOR SHAFT LIGHTING FIXTURE
	SUSPENDED 200W HIGH BAY LUMINAIRE
EXIT	8W EXIT LIGHT WITH 2HRS BATTERY PACK
	CONCEALED LIGHTING
	15W SURFACE MOUNTED UPLIGHT
E	INDICATION FOR LUMINARES WITH 2HRS BATTERY PACK
S	1 GANG, SINGLE POLE/SINGLE THROW SWITCH, 15A, 230V
2S	2 GANG, SINGLE POLE/SINGLE THROW SWITCH, 15A, 230V
3S	3 GANG, SINGLE POLE/SINGLE THROW SWITCH 15A, 230V
e RU/RD	RISER UP/DOWN
	JUNCTION BOX (CONCEALED LIGHTING PROVISION/TAPPING POINT)

POWER LEGENDS AND SYMBOLS

	DUPLEX CONVENIENCE OUTLET
	FLOOR MOUNTED CONVENIENCE OUTLET
	SNIPLEX CONVENIENCE OUTLET
HD	HAND DRYER PROVISION
	SPECIAL PURPOSE OUTLET
	JUNCTION BOX
	DISCONNECT SWITCH
	ENCLOSED CIRCUIT BREAKER
	DISTRIBUTION PANEL
	PANELBOARD
	GROUND BAR
	GROUND ROD WITH TESTING PIT
	GROUND ROD
e RU/RD	RISER UP/DOWN
	EARLY STREAMER EMISSION LIGHTNING PROTECTION

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO.
DR. DAVID S. BUNGALLON EXECUTIVE DIRECTOR IV/TESD	DIR. JUNET C. ROZOZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOSHUA ADRIAN C. SANTOS ELECTRICAL ENGINEER 6PU-DOD	ARCH. RUNIEL A. MENDOZA ARCHITECT 6PU-DOD	ENGR. ROY LOUIS P. MINGARACAL HEAD 6PU-DOD	GENERAL NOTES LEGENDS AND SYMBOLS	E0-00

PANEL NAME	PP-2F	LOCATION: ELECTRICAL ROOM
FED FROM:	MDP-GF	MOUNTING: WALL MOUNTED
SYSTEM:	400VAC, 3ø, 4W+G, 60Hz	ENCLOSURE: NEMA 1

CKT NO	DESCRIPTION	CONN LOAD	DEMAND FACTOR	DEMAND LOAD	VOLT	AMP				CIRCUIT BREAKER					CABLE SIZE		CONDUIT	
						3Ø	AN	BN	CN	AT	AF	POLE	KAIC	TYPE	PHASE	GROUND	SIZE	TYPE
1	LIGHTING	156	0.90	140	230		0.68			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
2	LIGHTING	169	0.90	152	230		0.73			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
3	LIGHTING	1,587	0.90	1,428	230			6.90		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
4	MAIN STAIR LIGHTING	104	0.90	94	230			0.45		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
5	ELEVATOR LIGHTING	56	0.90	50	230				0.24	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
6	FIRE EXIT LIGHTING	144	0.90	130	230				0.63	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
7	FIRE EXIT LIGHTING	144	0.90	130	230		0.63			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
8	FACADE LIGHTING	1,600	0.90	1,440	230		6.95			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
9	FACADE LIGHTING	234	0.90	211	230			1.02		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
10	CONVENIENCE LAYOUT	720	0.60	432	230			3.13		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
11	CONVENIENCE LAYOUT	900	0.60	540	230				3.91	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
12	CONVENIENCE LAYOUT	900	0.60	540	230				3.91	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
13	CONVENIENCE LAYOUT	1,260	0.60	756	230		5.48			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
14	CONVENIENCE LAYOUT	900	0.60	540	230		3.91			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
15	FLUSH AND FAUCET SENSOR	420	0.80	336	230			1.83		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
16	HAND DRYER	500	0.70	350	230			2.17		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
17	HAND DRYER	500	0.70	350	230				2.17	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
18	HAND DRYER	500	0.70	350	230				2.17	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
19	LIGHTING	1,456	0.90	1,310	230			6.33		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
20	LIGHTING	169	0.90	152	230			0.73		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
21	LIGHTING	1,914	0.90	1,723	230				8.32	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
22	CONVENIENCE LAYOUT	1,440	0.60	864	230				6.26	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
23	CONVENIENCE LAYOUT	1,440	0.60	864	230		6.26			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
24	CONVENIENCE LAYOUT	1,620	0.60	972	230		7.04			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
25	CONVENIENCE LAYOUT	900	0.60	540	230			3.91		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
26	FLUSH AND FAUCET SENSOR	420	0.80	336	230			1.83		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
27	HAND DRYER	500	0.70	350	230				2.17	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
28	HAND DRYER	500	0.70	350	230				2.17	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
29	HAND DRYER	500	0.70	350	230		2.17			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
30	FACADE LIGHTING	500	0.70	350	230		2.17			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
31	SPARE									20	100	1	10	MCCB				
32	SPARE									20	100	1	10	MCCB				
33	SPARE									20	100	3	10	MCCB				
34	SPARE									20	100	3	10	MCCB				
35	SPARE									30	100	3	10	MCCB				
36	SPARE									30	100	3	10	MCCB				
										MAIN CIRCUIT BREAKER					MAIN FEEDER			
	TOTAL CONNECTED LOAD	17,959	0.90	16,130	230		36.04	28.33	31.97	50	100	3	18	MCCB	4 - 14mm2 THWN	1 - 8.0mm2 TW	25	IMC

DEMAND FACTOR: 0.90
DEMAND LOAD: 16130 VA
TOTAL CURRENT: 23.28 AMPS

50 AT 100 AF 3 POLE, 400V

PHASE: 4 - 14mm2 THWN
GROUND: 1 - 8.0mm2 TW
CONDUIT: 25 mm Ø IMC CONDUIT

PANEL NAME	PP-GF-ADMIN	LOCATION: ADMIN OFFICE
FED FROM:	MDP-GF	MOUNTING: WALL MOUNTED
SYSTEM:	400VAC, 3ø, 4W+G, 60Hz	ENCLOSURE: NEMA 1

CKT NO	DESCRIPTION	CONN LOAD	DEMAND FACTOR	DEMAND LOAD	VOLT	AMP				CIRCUIT BREAKER					CABLE SIZE		CONDUIT	
						3Ø	AN	BN	CN	AT	AF	POLE	KAIC	TYPE	PHASE	GROUND	SIZE	TYPE
1	LIGHTING	320	0.90	288	230		1.39			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
2	CONVENIENCE LAYOUT	720	0.60	432	230		3.13			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
3	MDF PROVISION	1,000	1.00	1,000	230			4.35		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
4	MFACP PROVISION	1,000	1.00	1,000	230			4.35		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
5	PA RACK PROVISION	1,000	1.00	1,000	230				4.35	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
6	CCTV CORE SWITH PROVISION	1,000	1.00	1,000	230				4.35	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
7	SPARE									20	100	1	10	MCCB				
8	SPARE									20	100	1	10	MCCB				
9	SPARE									20	100	3	10	MCCB				
10	SPARE									20	100	3	10	MCCB				
										MAIN CIRCUIT BREAKER					MAIN FEEDER			
	TOTAL CONNECTED LOAD	5,040	0.94	4,720	230		4.52	8.70	8.70	50	100	3	18	MCCB	4 - 14mm2 THWN	1 - 8.0mm2 TW	32	PVC

DEMAND FACTOR: 0.94
DEMAND LOAD: 4720 VA
TOTAL CURRENT: 6.81 AMPS

50 AT 100 AF 3 POLE, 400V

PHASE: 4 - 14mm2 THWN
GROUND: 1 8.0mm2 TW
CONDUIT: 32 mm Ø IMC CONDUIT

PANEL NAME	PP-TELCO	LOCATION: TELCO ROOM
FED FROM:	MDP-GF	MOUNTING: WALL MOUNTED
SYSTEM:	400VAC, 3ø, 4W+G, 60Hz	ENCLOSURE: NEMA 1

CKT NO.	DESCRIPTION	CONN. LOAD	DEMAND FACTOR	DEMAND LOAD	VOLT	AMP				CIRCUIT BREAKER					CABLE SIZE		CONDUIT	
						3Ø	AN	BN	CN	AT	AF	POLE	KAIC	TYPE	PHASE	GROUND	SIZE	TYPE
1	LIGHTING - CO	240	0.90	216	230		1.04			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
2	SPARE									20	100	1	10	MCCB				
3	IT EQUIPMENT	5,000	1.00	5,000	230			21.74		70	100	1	10	MCCB	2 - 5.5mm2 THWN	1 - 5.5mm2 TW	25	PVC
4	SPARE									70	100	1	10	MCCB				
5	ACCU-GF-01 (DUTY)	648	1.00	648	230				2.82	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
6	ACCU-GF-01 (STANDBY)	648	1.00	648	230				2.82	20	100	1	10	MCCB				
7	SPARE									20	100	1	10	MCCB				
8	SPARE									20	100	1	10	MCCB				
										MAIN CIRCUIT BREAKER					MAIN FEEDER			
	TOTAL CONNECTED LOAD	5,889	1.00	5,864	230		1.04	21.74	2.82	100	100	3	18	MCCB	4 - 30mm2 THWN	1 - 8.0mm2 TW	32	IMC

DEMAND FACTOR: 1.00
DEMAND LOAD: 5864 VA
TOTAL CURRENT: 25.49 AMPS

100 AT 100 AF 3 POLE, 400V

PHASE: 4 - 30mm2 THWN
GROUND: 1 - 8.0mm2 TW
CONDUIT: 32 mm Ø IMC CONDUIT

PANEL NAME	MDP-GF	LOCATION: ELECTRICAL ROOM
FED FROM:	UTILITY COMPANY	MOUNTING: WALL MOUNTED
SYSTEM:	400VAC 1ø, 4W+G, 60Hz	ENCLOSURE: NEMA 1

CKT NO	DESCRIPTION	CONN LOAD	DEMAND FACTOR	DEMAND LOAD	VOLT	AMP				CIRCUIT BREAKER					CABLE SIZE		CONDUIT	
						3Ø	AN	BN	CN	AT	AF	POLE	KAIC	TYPE	PHASE	GROUND	SIZE	TYPE
1	PP-2F	17,959	0.90	16,130	230	-	36.0	28.3	32.0	50	100	3	18	MCCB	4 - 14mm2 THWN	1 - 8.0mm2 TW	25	IMC
2	PP-GF-ADMIN	5,040	0.94	4,720	230	-	4.5	8.7	8.7	50	100	3	18	MCCB	4 - 14mm2 THWN	1 - 8.0mm2 TW	32	PVC
3	PP-TELCO	5,888	1.00	5,864	230	-	1.0	21.7	2.8	100	100	3	18	MCCB	4 - 30mm2 THWN	1 - 8.0mm2 TW	32	IMC
4	PP-GF-MECH	100,633	0.68	68,579	230	129	4.9	10.0	34.6	125	150	3	22	MCCB	4 - 50mm2 THWN	1 - 14mm2 TW	50	IMC
5	PP-3F	13,135	0.71	9,320	230	0	24.0	17.0	16.1	40	100	3	18	MCCB	4 - 8.0mm2 THWN	1 - 5.5mm2 TW	25	IMC
6	OP-RD-MECH	81,755	0.80	65,329	230	115	4.3	4.3	0.0	150	150	3	22	MCCB	4 - 60mm2 THWN	1 - 14mm2 TW	50	IMC
7	SPARE									50	100	3	18	MCCB				
8	SPARE									50	100	3	18	MCCB				
										MAIN CIRCUIT BREAKER					MAIN FEEDER			
	TOTAL CONNECTED LOAD	224,409	0.75	167,950	230	243.95	74.82	90.11	94.17	300	400	3	25	MCCB	4 - 200mm2 THWN	1 - 30mm2 TW	90	PVC

DEMAND FACTOR: 0.75
DEMAND LOAD: 167940 VA
TOTAL CURRENT: 242.41 AMPS

300 AT 400 AF 3 POLE, 400V

PHASE: 4 - 200mm2 THWN
GROUND: 1 - 30mm2 TW
CONDUIT: 90 mm Ø IMC CONDUIT

LOAD SCHEDULE

SCALE: NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO.
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR NITESD	DIR. ... OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN ADRIAN C. SANTOS ELECTRICAL ENGINEER GPMGOO	ARCH. RUNIEL A. MENDOZA ARCHITECT, GPMGOO	ENGR. ROY LOUIE P. MINGARACAL HEAD, GPMGOO	LOAD SCHEDULE	E0-01A

PANEL NAME: PP-3F
FED FROM: MDP-GF
SYSTEM: 400VAC, 3ø, 4W+G, 60Hz

LOCATION: ELECTRICAL ROOM
MOUNTING: WALL MOUNTED
ENCLOSURE: NEMA 1

CKT NO	DESCRIPTION	CONN. LOAD	DEMAND FACTOR	DEMAND LOAD	VOLT	AMP 3Ø	AMP AN	AMP BN	AMP CN	CB AT	CB AF	CB POLE	CB KAIC	CB TYPE	CABLE SIZE PHASE	CABLE SIZE GROUND	CONDUIT SIZE	CONDUIT TYPE
1	LIGHTING	566	0.90	599	230		2.60			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
2	LIGHTING	1,200	0.90	1,080	230		5.22			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
3	LIGHTING	1,381	0.90	1,243	230			6.00		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
4	CONVENIENCE LAYOUT	1,620	0.60	972	230			7.04		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
5	CONVENIENCE LAYOUT	1,080	0.60	648	230				4.70	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
6	CONVENIENCE LAYOUT	1,620	0.60	972	230				7.04	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
7	CONVENIENCE LAYOUT	1,620	0.60	972	230		7.04			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
8	CONVENIENCE LAYOUT	1,260	0.60	756	230		5.48			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
9	FLUSH AND FAUCET SENSOR	420	0.60	335	230			1.83		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
10	HAND DRYER	500	0.70	350	230			2.17		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
11	HAND DRYER	500	0.70	350	230				2.17	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
12	HAND DRYER	500	0.70	350	230				2.17	20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
13	LIGHTING	482	0.90	434	230		2.10			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
14	LIGHTING	286	0.90	257	230		1.24			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
15	SPARE									20	100	1	10	MCCB				
16	SPARE									20	100	1	10	MCCB				
17	SPARE									20	100	1	10	MCCB				
18	SPARE									20	100	1	10	MCCB				
19	SPARE									20	100	3	10	MCCB				
20	SPARE									20	100	3	10	MCCB				
										MAIN CIRCUIT BREAKER					MAIN FEEDER			
	TOTAL CONNECTED LOAD	13,135	0.71	9,320	230		23.97	17.05	16.09	40	100	3	18	MCCB	4 - 8.0mm2 THWN	1 - 5.5mm2 TW	25	IMC

DEMAND FACTOR: 0.71
DEMAND LOAD: 9320 VA
TOTAL CURRENT: 13.45 AMPS

40 AT 100 AF 3 POLE, 400V

PHASE: 4 - 8.0mm2 THWN
GROUND: 1 - 5.5mm2 TW
CONDUIT: 25 mm Ø IMC CONDUIT

PANEL NAME: PP-3F-LIFT
FED FROM: MDP-GF
SYSTEM: 400VAC, 3ø, 3W+N+G, 60Hz

LOCATION: ELECTRICAL ROOM
MOUNTING: WALL MOUNTED
ENCLOSURE: NEMA 1

CKT NO.	DESCRIPTION	CONN. LOAD	DEMAND FACTOR	DEMAND LOAD	VOLT	AMP 3Ø	AMP AN	AMP BN	AMP CN	CB AT	CB AF	CB POLE	CB KAIC	CB TYPE	CABLE SIZE PHASE	CABLE SIZE GROUND	CONDUIT SIZE	CONDUIT TYPE
1	PE-01	27,000	1.00	27,000	400	19				100	100	3	10	MCCB	4 - 14mm2 THWN	1 - 8.0mm2 TW	25	IMC
2	PE-01 CONTROLLER				400					100	100	3	18	MCCB				
3	SPARE				230					20	100	1	10	MCCB				
4	LIGHTING				230					20	100	1	20	MCCB				
5	SPARE				230					20	100	1	30	MCCB				
6	SPARE				230					20	100	1	10	MCCB				
										MAIN CIRCUIT BREAKER					MAIN FEEDER			
	TOTAL CONNECTED LOAD	27,000	1.00	27,000	220	68.97				125	150	3	18	MCCB	4 - 50mm2 THHN	1 - 14mm2 THHN	50	IMC

DEMAND FACTOR: 1.00
DEMAND LOAD: 27000 VA
TOTAL CURRENT: 33.97 AMPS

125 AT 150 AF 3 POLE, 400V

PHASE: 4 - 50mm2 THHN
GROUND: 1 - 14mm2 THHN
CONDUIT: 50 mm Ø IMC CONDUIT

PANEL NAME: PP-RD-MECH
FED FROM: MDP-GF
SYSTEM: 400VAC, 3ø, 3W-N+G, 60Hz

LOCATION: ELECTRICAL ROOM
MOUNTING: WALL MOUNTED
ENCLOSURE: NEMA 1

CKT NO.	DESCRIPTION	CONN. LOAD	DEMAND FACTOR	DEMAND LOAD	VOLT	AMP 3Ø	AMP AN	AMP BN	AMP CN	CB AT	CB AF	CB POLE	CB KAIC	CB TYPE	CABLE SIZE PHASE	CABLE SIZE GROUND	CONDUIT SIZE	CONDUIT TYPE
1	PP-RD-LIFT	27,000	1.00	27,000	230	29				125	150	3	18	MCCB	4 - 50mm2 THWN	1 - 14mm2 TW	50	IMC
2	SPARE									125	150	3	18	MCCB				
3	ACCU-RD-01	13,189	0.70	9,232	230	19				50	100	3	10	MCCB	4 - 5.5mm2 THWN	1 - 5.5mm2 THWN	20	PVC
4	ACCU-RD-01	13,189	0.70	9,232	230	19				50	100	3	10	MCCB	4 - 5.5mm2 THWN	1 - 5.5mm2 THWN	20	PVC
5	ACCU-RD-01	13,189	0.70	9,232	230	29				50	100	3	10	MCCB	4 - 5.5mm2 THWN	1 - 5.5mm2 THWN	20	PVC
6	ACCU-RD-01	13,189	0.70	9,232	230	19				50	100	3	10	MCCB	4 - 5.5mm2 THWN	1 - 5.5mm2 THWN	20	PVC
7	FCU PROVISION	625	0.70	439	230		2.72			20	100	1	30	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 THWN	20	PVC
8	FCU PROVISION	375	0.70	263	230		1.63			20	100	1	20	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 THWN	20	PVC
9	FCU PROVISION	375	0.70	263	230			1.63		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 THWN	20	PVC
10	FCU PROVISION	625	0.70	438	230			2.72		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 THWN	20	PVC
11	SPARE									20	100	1	10	MCCB				
12	SPARE									20	100	1	10	MCCB				
13	SPARE									20	100	3	10	MCCB				
14	SPARE									20	100	3	10	MCCB				
										MAIN CIRCUIT BREAKER					MAIN FEEDER			
	TOTAL CONNECTED LOAD	81,755	0.80	65,329	230	115.12	4.35	4.35	0.00	150	150	3	22	MCCB	4 - 60mm2 THWN	1 - 14mm2 TW	50	IMC

DEMAND FACTOR: 0.80
DEMAND LOAD: 65329 VA
TOTAL CURRENT: 94.30 AMPS

150 AT 150 AF 3POLE, 400V

PHASE: 4 - 60mm2 THWN
GROUND: 1 - 14mm2 TW
CONDUIT: 50 mm Ø IMC CONDUIT

PANEL NAME: PP-GF-MECH
FED FROM: MDP-GF
SYSTEM: 400VAC, 3ø, 3W+N+G, 60Hz

LOCATION: ELECTRICAL ROOM
MOUNTING: WALL MOUNTED
ENCLOSURE: NEMA 1

CKT NO	DESCRIPTION	CONN. LOAD	DEMAND FACTOR	DEMAND LOAD	VOLT	AMP 3Ø	AMP AN	AMP BN	AMP CN	CB AT	CB AF	CB POLE	CB KAIC	CB TYPE	CABLE SIZE PHASE	CABLE SIZE GROUND	CONDUIT SIZE	CONDUIT TYPE
1	ACCU-GF-03	22,314	0.70	15,620	400	32				100	100	3	18	MCCB	4 - 8.0mm2 THWN	1 - 5.5mm2 TW	32	PVC
2	ACCU-GF-03	22,314	0.70	15,620	400	32				100	100	3	18	MCCB	4 - 8.0mm2 THWN	1 - 5.5mm2 TW	32	PVC
3	ACCU-2F-03	22,314	0.70	15,620	400	32				100	100	3	18	MCCB	4 - 8.0mm2 THWN	1 - 5.5mm2 TW	32	PVC
4	ACCU-2F-03	22,314	0.70	15,620	400	32				100	100	3	18	MCCB	4 - 8.0mm2 THWN	1 - 5.5mm2 TW	32	PVC
5	ACCU-GF-01	648	0.70	453	230			2.82		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
6	ACCU-GF-01	648	0.70	453	230			2.82		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
7	ACCU-2F-02	2,438	0.70	1,706	230				10.60	30	100	1	10	MCCB	2 - 5.5mm2 THWN	1 - 5.5mm2 TW	20	PVC
8	SPARE									30	100	1	10	MCCB				
9	FCU PROVISION	625	0.70	438	230		2.72			20	100	1	10	MCCB	2 - 3.5mm2 THWN	2 - 3.5mm2 TW	20	PVC
10	FCU PROVISION	500	0.70	350	230		2.17			20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
11	FCU PROVISION	500	0.70	350	230			2.17		20	100	1	20	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
12	FCU PROVISION	500	0.70	350	230			2.17		20	100	1	10	MCCB	2 - 3.5mm2 THWN	1 - 3.5mm2 TW	20	PVC
13	TP-01	2,760	0.70	1,932	230				12.00	30	100	1	10	MCCB	2 - 5.5mm2 THWN	1 - 5.5mm2 TW	20	PVC
14	TP-02	2,760	0.70	1,932	230				12.00	30	100	1	10	MCCB	2 - 5.5mm2 THWN	1 - 5.5mm2 TW	20	PVC
15	SPARE									20	100	3	10	MCCB				
16	SPARE									20	100	3	10	MCCB				
										MAIN CIRCUIT BREAKER					MAIN FEEDER			
	TOTAL CONNECTED LOAD	101,633	0.66	66,579	230	128.83	4.89	9.93	34.60	125	150	3	22	MCCB	4 - 50mm2 THWN	1 - 14mm2 TW	50	IMC

DEMAND FACTOR: 0.66
DEMAND LOAD: 66579 VA
TOTAL CURRENT: 96.10 AMPS

125 AT 150 AF 3 POLE, 400V

PHASE: 4 - 50mm2 THWN
GROUND: 1 - 14mm2 TW
CONDUIT: 50 mm Ø IMC CONDUIT

LOAD SCHEDULE
SCALE: NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO
	DIR. DAVID B. BUNGALLON, EXECUTIVE DIRECTOR NITESD	DIR. JULIET O. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN ADRIAN C. SANTOS, ELECTRICAL ENGINEER, SPO-OOO	ARCH. RUNIEL A. MENDOZA, ARCHITECT, OFDOO	ENGR. ROY LOUIE R. MINGARACAL, HEAD, SPU-OOO	LOAD SCHEDULE	E0-01B

DESIGN LOAD ANALYSIS

	Volt-Ampere
1. Air-Condition Loads	
a. Four (4) - 518 VA Air Colled Conditioning Unit(ACCU)	2,072
b. One (1) - 1950 VA Air Colled Conditioning Unit(ACCU)	1,950
c. Four (4) - 17581 VA Air Colled Conditioning Unit(ACCU)	70,324
d. Four (4) - 10551 VA Air Colled Conditioning Unit(ACCU)	42,204

Provide: Four (4) 20-Ampere Circuit, 1Pole, 230V
Provide: One (1) 30-Ampere Circuit, 1Pole, 230V
Provide: Four (4) 100-Ampere Circuit, 3Pole, 400V
Provide: Four (4) 50-Ampere Circuit, 3Pole, 400V

116,550 VA

2. Lighting and Receptacle Loads

Lighting Based on Required No. of Fixtures and Rating of Fixtures		12,628 VA
Convenience Outlet Based on no. of Receptacles and 180 VA each:	(101 x 180VA = 18180 VA)	18,180 VA

Provide Twenty (20) 20-Ampere circuit for lighting each with and a minimum wire size of 3.5 mm^2 THHN
Provide Fifteen (15) 20-Ampere circuit for convenience receptacle each and with a minimum wire size of 3.5 mm^2 THHN

3. Other Loads

a. Two (2) - 2HP Booster Pump — 5,520
Provide Two (2) - 30-Ampere Circuit

b. One (1) - Passenger Elevator @ 27kW — 27,000
Provide One (1) - 100-Ampere Circuit

c. Fan Coil Unit @ 100W — 4,125
Provide Eight (8) 20-Ampere circuit

	Total Other Loads:	36,645 VA
Application of Demand Factor @40%		14,658.0 VA
	Total Net Computed Load:	162,016 VA

4. Circuit Requirement:

Main Feeder:

= (28747VA+ 25% of 17581) / 400V /1.732 — 240.20 A

Use 1 Set of 4 - 200mm2 THWN for Phase Conductor

Main Feeder Protection:

Use One (1) - 300 Ampere Trip, 400 Volt, 3 Pole Molded Case Circuit Breaker

ELECTRICAL DESIGN ANALYSIS
SCALE: NTS

SHORT CIRCUIT CALCULATION

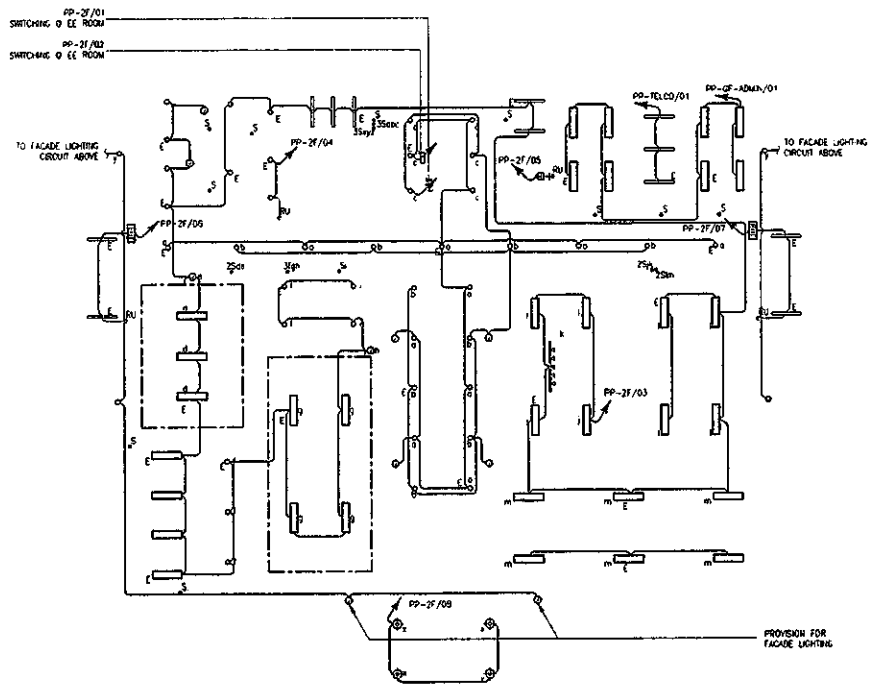
TRANSFORMER I s.c. sym RMS	36084.39			
Total Apparent Power	300	kVA	Amps Motor (Contribution)	259.82
VOLTAGE (Primary)	34.5	kV	I s.c Motor Contribution	1039.26
VOLTAGE (Secondary)	400	V	"f" Factor	0.6521
IFL	433.01		"M" MULTIPLIER	0.6053
TX %Z	1.20		I s.c. sym RMS	21841.88
M(100/%Z)	83.33			
"C" Value	20566			
# Sets of Conductors	1			
Length (ft)	85.83			
Total I s.c. sym RMS	22881.14			

FAULT POINTS FROM	TO	CABLE SIZE	Available I s.c. from upstream	NO. OF SETS OF CONDUCTORS	C VALUES	LENGTH (ft)	"f" FACTOR	"M" MULTIPLIER	ISC SYM	Total Current	MOTOR CURRENT CONTRIBUTION	TOTAL S.C. SYM RMS	Specified KAIC RATING
UTILITY COMPANY	MDP-GF	200	23,463	1	20,566	85.83	0.4240	0.7023	16,477	242	582	15,895.07	25
MDP-GF	PP-2F	14	16,477	1	97,100	13.00	0.0313	0.9696	15,976	23	-	15,976.31	18
MDP-GF	PP-GF-ADMIN	14	15,976	1	2,425	63.52	1.8120	0.3556	5,681	7	-	5,681.43	18
MDP-GF	PP-TELCO	30	16,078	1	4,774	63.40	0.9246	0.5196	8,354	25	102	8,456.29	18
MDP-GF	PP-GF-MECH	60	16,361	1	8,925	1.64	0.0427	0.9591	15,691	96	384	16,075.16	22
MDP-GF	PP-3F	8	16,477	1	1,557	28.35	4.2609	0.1902	3,132	13	-	3,131.95	18
MDP-GF	DP-RD-MECH	60	16,854	1	8,925	40.16	1.0771	0.4814	8,114	94	377	8,491.45	22
DP-RD-MECH	PP-RD-LIFT	50	16,570	1	7,293	1.64	0.0529	0.9497	15,738	30	94	15,831.06	18

SHORT CIRCUIT CALCULATION
SCALE: NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR NITESD	DIR. J[illegible] OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN [illegible] C. SANTOS ELECTRICAL ENGINEER GPJCCO	ARCH. RUNIEL [illegible] MENDOZA ARCHITECT GPJCCO	ENGR. ROY LOUIE P. UNGARACAL HEAD, GPJCCO	ELECTRICAL DESIGN ANALYSIS SHORT CIRCUIT ANALYSIS	E0-01C

LEGENDS AND SYMBOLS	
○	RECESSED MOUNTED, 13W LED DOWNLIGHT
⊽	WALL MOUNTED, 13W LED DOWNLIGHT
═══	SURFACE MOUNTED, 1200mm 20W LED FLUORESCENT LIGHT
▭	2x20W, 300mmx1200mm, CEILING RECESSED FLUORESCENT LIGHTING FIXTURE
▭▭▭▭	5x13W TRACK LIGHTING FIXTURE
⊽	WALL MOUNTED, ELEVATOR SHAFT LIGHTING FIXTURE
⊕	SUSPENDED 200W HIGH BAY LUMINAIRE
EXIT	6W EXIT LIGHT WITH 2HRS BATTERY PACK
▽	13W SURFACE MOUNTED UPLIGHT
——·——	CONCEALED LIGHTING
E	INDICATION FOR LUMINAIRES WITH 2HRS BATTERY PACK
S	1 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
2S	2 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
3S	3 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
○ RU/RD	RISER UP/DOWN
⊙	JUNCTION BOX (CONCEALED LIGHTING PROVISION/TAPPING POINT)



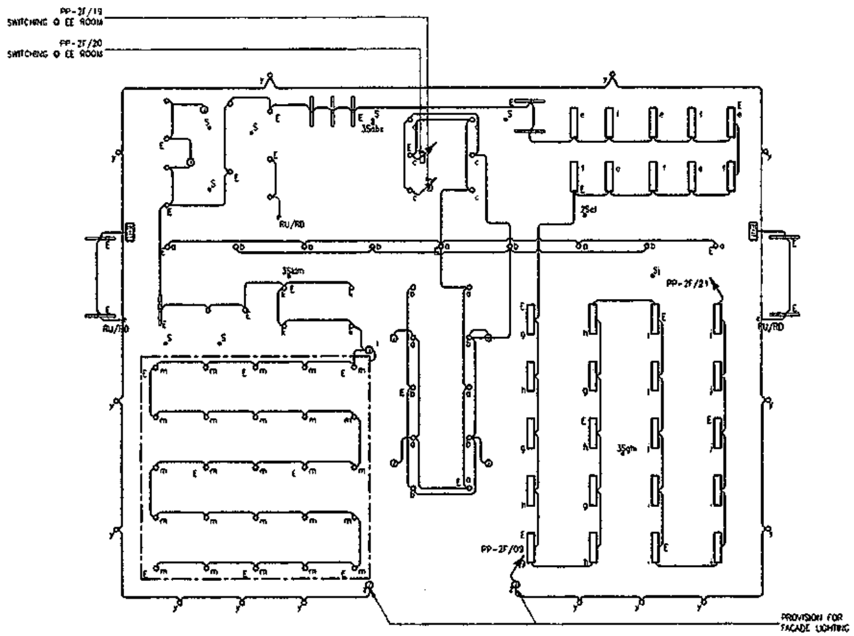
TESDA INNOVATION CENTER - NCR

GROUND FLOOR LIGHTING LAYOUT

SCALE: 1: 200 mm

	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE		PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO.
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR, NITESD	DIR. JULIET D. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CESE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR		ENGR. JOHN ARTHUR C. SANTOS ELECTRICAL ENGINEER, EPA-DOD	ARCH. HUNIEL A. MENDOZA ARCHITECT, DPWH-DOD	ENGR. ROWLOUIE P. MINDARACAL HEAD, EPA-DOD	GROUND FLOOR LIGHTING LAYOUT	E1-01

LEGENDS AND SYMBOLS	
○	RECESSED MOUNTED, 13W LED DOWNLIGHT
(symbol)	WALL MOUNTED, 13W LED DOWNLIGHT
(symbol)	SURFACE MOUNTED, 1200mm, 20W LED FLUORESCENT LIGHT
(symbol)	2x20W, 300mmx1200mm, CEILING RECESSED FLUORESCENT LIGHTING FIXTURE
(symbol)	5x13W TRACK LIGHTING FIXTURE
(symbol)	WALL MOUNTED, ELEVATOR SHAFT LIGHTING FIXTURE
⊕	SUSPENDED 200W HIGH BAY LUMINAIRE
EXIT	8W EXIT LIGHT WITH 2HRS BATTERY PACK
▽	13W SURFACE MOUNTED UPLIGHT
(symbol)	CONCEALED LIGHTING
E	INDICATION FOR LUMINAIRES WITH 2HRS BATTERY PACK
S	1 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
2S	2 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
3S	3 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
• RU/RD	RISER UP/DOWN
(symbol)	JUNCTION BOX (CONCEALED LIGHTING PROVISION/TAPPING POINT)



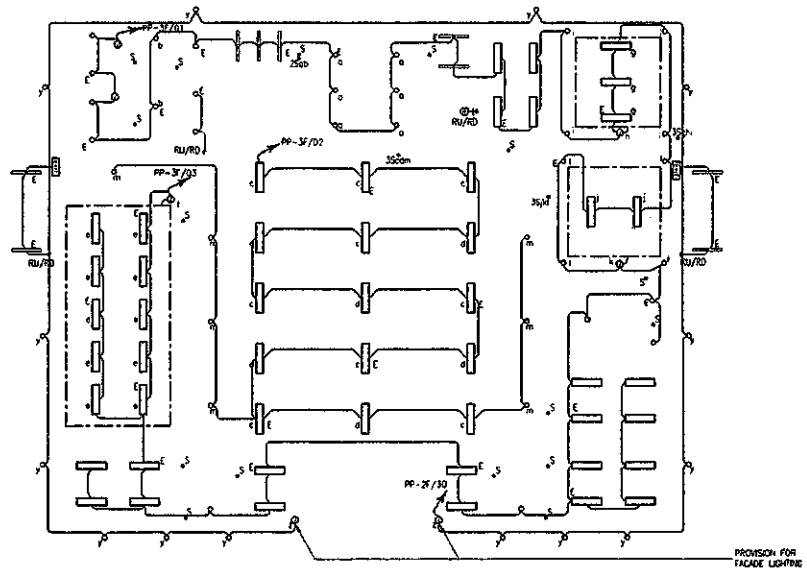
TESDA INNOVATION CENTER - NCR

SECOND FLOOR LIGHTING LAYOUT

SCALE: 1: 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID B. BUNGALLON, EXECUTIVE DIRECTOR, NITESD	RECOMMENDING APPROVAL: DIR. J... O. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOHN ADRIAN C. SANTOS, ELECTRICAL ENGINEER GPU-ODO	REVIEWED AS TO PLAN: ARCH. RUNIEL A. MENDOZA, ARCHITECT GPU-ODO	SUBMITTED BY: ENGR. ROY LOUIE F. MINGARACAL, HEAD, GPU-ODO	SHEET CONTENTS: SECOND FLOOR LIGHTING LAYOUT	SHEET NO: E1-01

LEGENDS AND SYMBOLS	
○	RECESSED MOUNTED, 15W LED DOWNLIGHT
⊤	WALL MOUNTED, 15W LED DOWNLIGHT
———	SURFACE MOUNTED, 1200mm, 20W LED FLUORESCENT LIGHT
▭	2x20W, 300mmx1200mm, CEILING RECESSED FLUORESCENT LIGHTING FIXTURE
▭▭▭	5x13W TRACK LIGHTING FIXTURE
⊙	WALL MOUNTED, ELEVATOR SHAFT LIGHTING FIXTURE
⊕	SUSPENDED 200W HIGH BAY LUMINAIRE
EXIT	8W EXIT LIGHT WITH 2HRS BATTERY PACK
▽	13W SURFACE MOUNTED UPLIGHT
- - - - -	CONCEALED LIGHTING
E	INDICATION FOR LUMINAIRES WITH 2HRS BATTERY PACK
S	1 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
2S	2 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
3S	3 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
RU/RD	RISER UP/DOWN
J	JUNCTION BOX (CONCEALED LIGHTING PROVISION/TAPPING POINT)



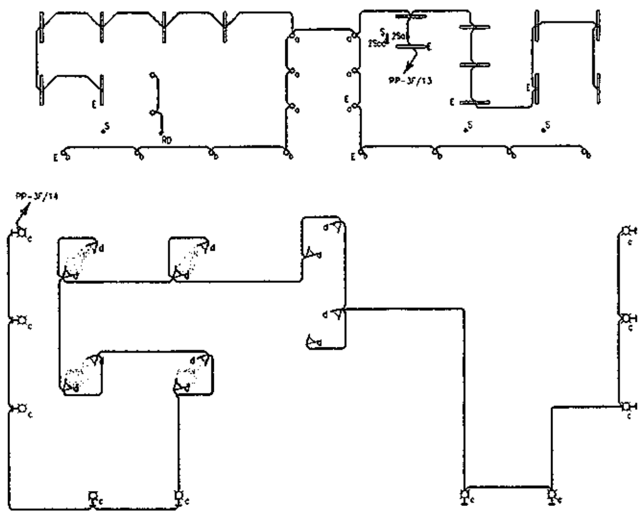
TESDA INNOVATION CENTER - NCR

THIRD FLOOR LIGHTING LAYOUT

SCALE: 1: 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR NTESD	DIR. JUAN O. PROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. CAPEÑA, PHD, CESE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN [illegible] SANTOS ELECTRICAL ENGINEER SPU-OOG	ARCH. RUNIEL A. MENDOZA ARCHITECT SPU-OOG	ENGR. ROY LOUIE T. MINGARACAL HEAD, SPU-OOG	THIRD FLOOR LIGHTING LAYOUT	E1-03

LEGENDS AND SYMBOLS	
	RECESSED MOUNTED, 13W LED DOWNLIGHT
	WALL MOUNTED, 13W LED DOWNLIGHT
	SURFACE MOUNTED, 1200mm, 20W LED FLUORESCENT LIGHT
	2x20W, 300mmx1200mm, CEILING RECESSED FLUORESCENT LIGHTING FIXTURE
	5x13W TRACK LIGHTING FIXTURE
	WALL MOUNTED, ELEVATOR SHAFT LIGHTING FIXTURE
	SUSPENDED 200W HIGH BAY LUMINAIRE
EXIT	8W EXIT LIGHT WITH 2HRS BATTERY PACK
	13W SURFACE MOUNTED UPLIGHT
	CONCEALED LIGHTING
E	INDICATION FOR LUMINAIRES WITH 2HRS BATTERY PACK
S	1 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
2S	2 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
3S	3 GANG, SINGLE POLE SINGLE THROW SWITCH, 15A, 230V
RU/RD	RISER UP/DOWN
	JUNCTION BOX (CONCEALED LIGHTING PROVISION/TAPPING POINT)



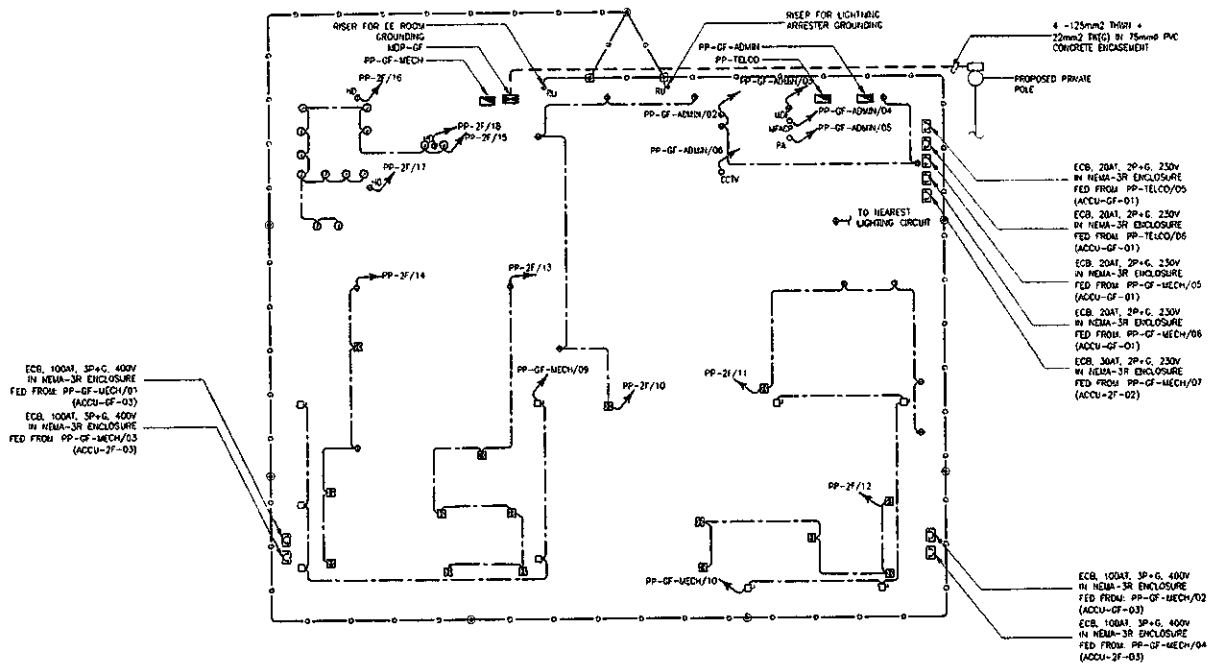
TESDA INNOVATION CENTER - NCR

ROOFDECK LIGHTING LAYOUT

SCALE: 1: 200 mm

	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO.
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	DIR. DAVID B. BURGALLON EXECUTIVE DIRECTOR NITESD	DIR. JULIET O. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN ... C. SANTOS ELECTRICAL ENGINEER GPU-ODO	ARCH. RUNEL A. MENDOZA ARCHITECT GPU-ODO	ENGR. ROY LOUIE P. MINGARACAL HEAD, GPU-ODO	ROOF DECK LIGHTING LAYOUT	E1-04

LEGENDS AND SYMBOLS	
⊕	DUPLEX CONVENIENCE OUTLET
⊞	FLOOR MOUNTED CONVENIENCE OUTLET
⊕	SIMPLEX CONVENIENCE OUTLET
⊕ HD	HAND DRYER PROVISION
⊙	SPECIAL PURPOSE OUTLET
ⓙ	JUNCTION BOX
▯	DISCONNECT SWITCH
▯	ENCLOSED CIRCUIT BREAKER
▬	DISTRIBUTION PANEL
▬	PANELBOARD
⊤	GROUND BAR
⊡	GROUND ROD WITH TESTING PIT
⊕	GROUND ROD
⊕ RU/RD	RISER UP/DOWN
⟷	EARLY STREAMER EMISSION LIGHTNING PROTECTION



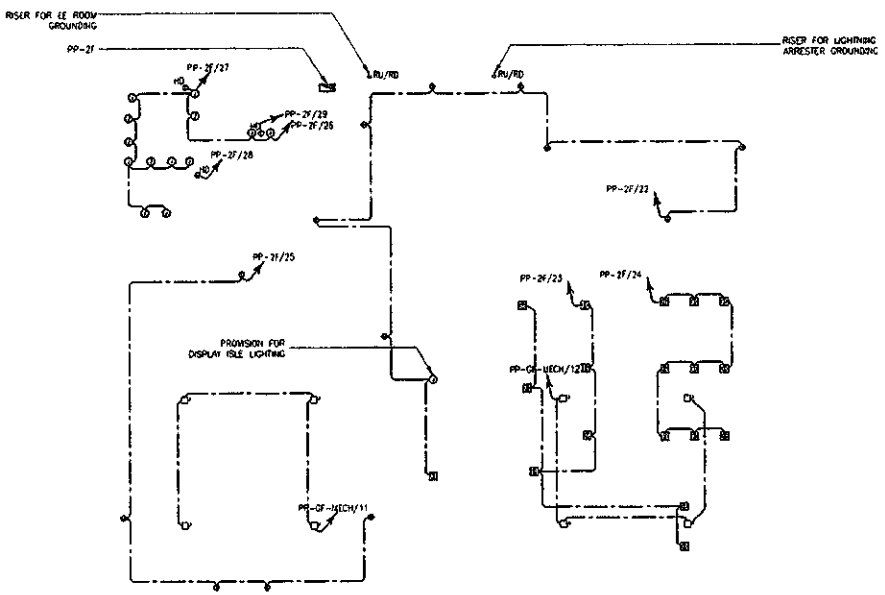
TESDA INNOVATION CENTER - NCR

GROUND FLOOR POWER LAYOUT

SCALE: 1: 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID B. BUNDALLON, EXECUTIVE DIRECTOR NITESD	RECOMMENDING APPROVAL: DIR. JUDITH O. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CESE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOHN ADRIAN C. SANTOS, ELECTRICAL ENGINEER, EPU-CDD	REVIEWED AS TO PLAN: ARCH. RUNIEL F. MENDOZA, ARCHITECT, EPU-CDD	SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, HEAD, EPU-CDD	SHEET CONTENTS: GROUND FLOOR POWER LAYOUT	SHEET NO: E2-01

LEGENDS AND SYMBOLS	
⊕	DUPLEX CONVENIENCE OUTLET
⊞	FLOOR MOUNTED CONVENIENCE OUTLET
⊕	SIMPLEX CONVENIENCE OUTLET
⊕HD	HAND DRYER PROVISION
○	SPECIAL PURPOSE OUTLET
◎	JUNCTION BOX
▯	DISCONNECT SWITCH
▯	ENCLOSED CIRCUIT BREAKER
▬	DISTRIBUTION PANEL
▬	PANELBOARD
⊤	GROUND BAR
⊡	GROUND ROD WITH TESTING PIT
◉	GROUND ROD
⊕ RU/RD	RISER UP/DOWN
←⊕→	EARLY STREAMER EMISSION LIGHTNING PROTECTION



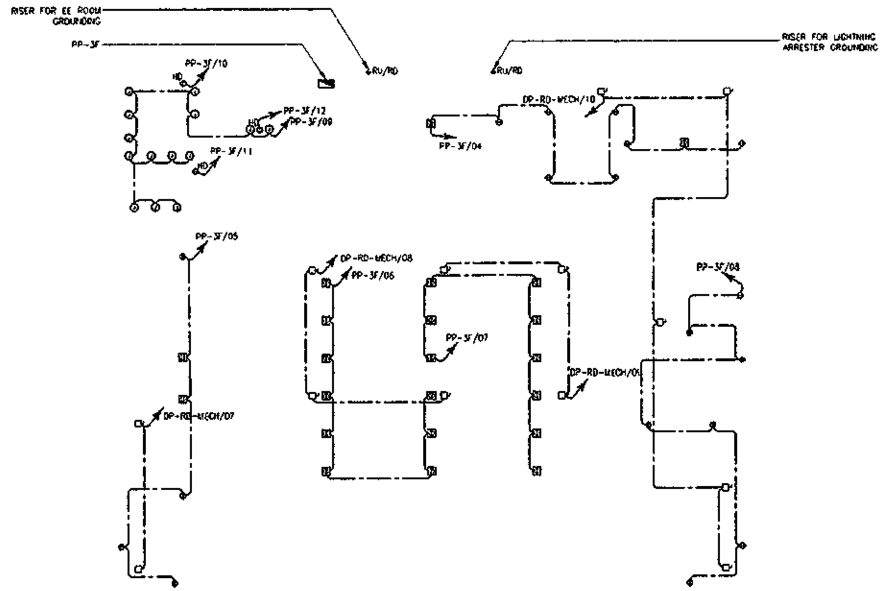
TESDA INNOVATION CENTER - NCR

SECOND FLOOR POWER LAYOUT

SCALE: 1: 200mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. JOANO B. BUNGALLON, EXECUTIVE DIRECTOR - TIFESO	RECOMMENDING APPROVAL: DIR. JANET O. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD, CESE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOHN ADRIAN A. SANTOS, ELECTRICAL ENGINEER - EPIMDD	REVIEWED AS TO PLAN: ARCH. RUNIEL A. MENDOZA, ARCHITECT - EPIMDD	SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, HEAD - EPIMDD	SHEET CONTENTS: SECOND FLOOR POWER LAYOUT	SHEET NO: E2-02

LEGENDS AND SYMBOLS	
	DUPLEX CONVENIENCE OUTLET
	FLOOR MOUNTED CONVENIENCE OUTLET
	SIMPLEX CONVENIENCE OUTLET
Φ HD	HAND DRYER PROVISION
	SPECIAL PURPOSE OUTLET
	JUNCTION BOX
	DISCONNECT SWITCH
	ENCLOSED CIRCUIT BREAKER
	DISTRIBUTION PANEL
	PANELBOARD
	GROUND BAR
	GROUND ROD WITH TESTING PIT
	GROUND ROD
• RU/RD	RISER UP/DOWN
	EARLY STREAMER EMISSION LIGHTNING PROTECTION



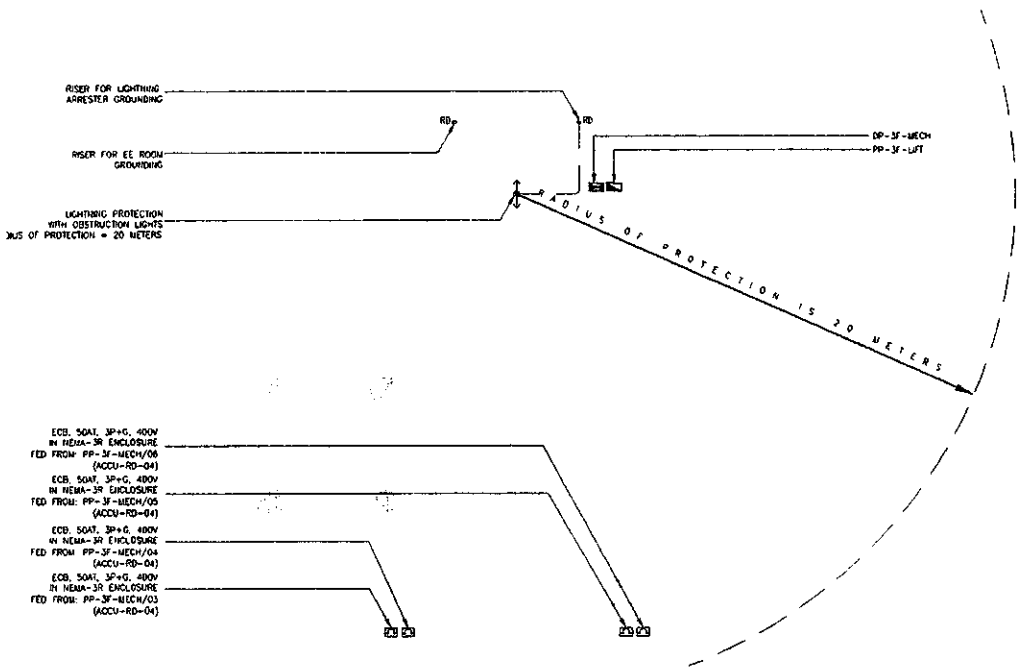
TESDA INNOVATION CENTER - NCR

THIRD FLOOR POWER LAYOUT

SCALE: 1: 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO.
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR, NITESD	DIR. JULIET D. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN ADRIAN C. SANTOS ELECTRICAL ENGINEER SPU-DOG	ARCH. EUNICE A. MENDOZA ARCHITECT SPU-DOG	ENGR. ROY LOUIE P. MINGARACAL HEAD, SPU-DOG	THIRD FLOOR POWER LAYOUT	E2-03

LEGENDS AND SYMBOLS	
⊕	DUPLEX CONVENIENCE OUTLET
⊞	FLOOR MOUNTED CONVENIENCE OUTLET
⊖	SIMPLEX CONVENIENCE OUTLET
⊖HD	HAND DRYER PROVISION
○	SPECIAL PURPOSE OUTLET
ⓙ	JUNCTION BOX
▯	DISCONNECT SWITCH
▭	ENCLOSED CIRCUIT BREAKER
▬	DISTRIBUTION PANEL
▬	PANELBOARD
⊤	GROUND BAR
⊡	GROUND ROD WITH TESTING PIT
◉	GROUND ROD
⊕RU/RD	RISER UP/DOWN
←⊕→	EARLY STREAMER EMISSION LIGHTNING PROTECTION

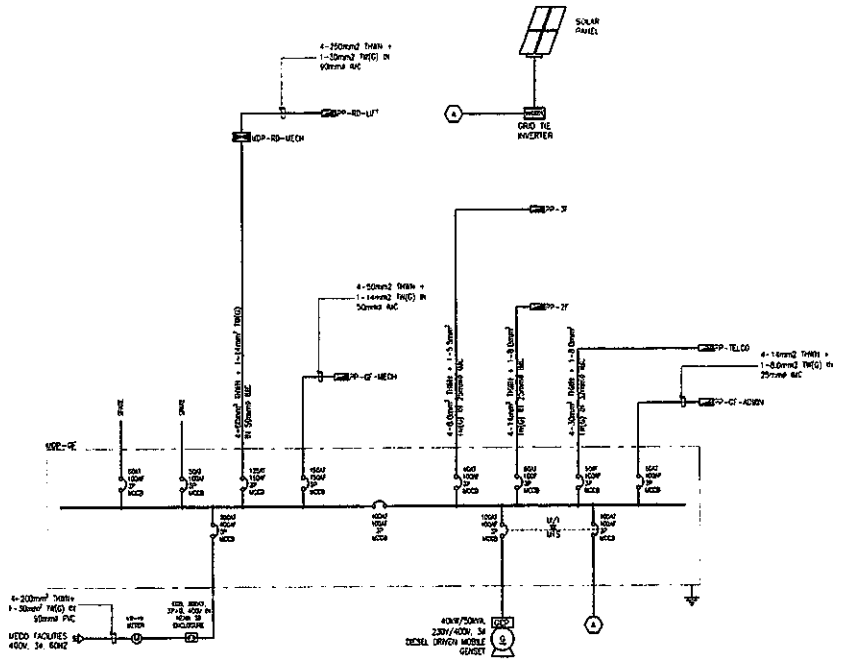


TESDA INNOVATION CENTER - NCR

ROOF DECK POWER LAYOUT

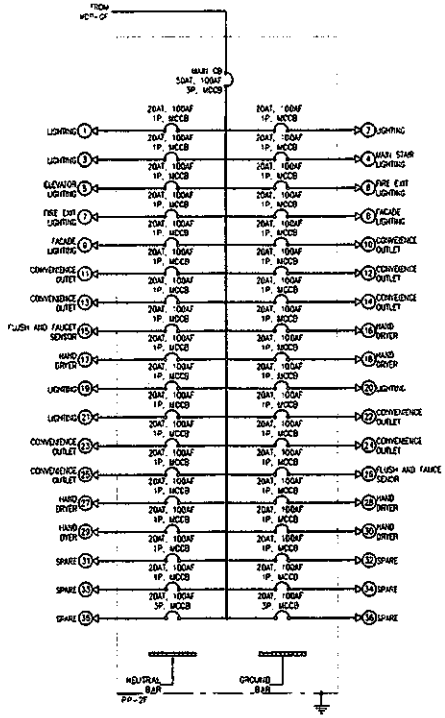
SCALE: 1: 200 mm

	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE		PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO.
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	DIR. DAVID S. GUINGUILLON EXECUTIVE DIRECTOR, NITESD	DIR. ALBERTO DROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR		ENGR. JOHNACHIM C. SANTOS ELECTRICAL DRAFTER SPECIALIST	ARCH. RUNEL A. MENDOZA ARCHITECT SPECIALIST	ENGR. ROY SQUIER MINGARACAL HEAD SPECIALIST	ROOF DECK POWER LAYOUT	E2-04



POWER SINGLE LINE DIAGRAM

SCALE: NTS

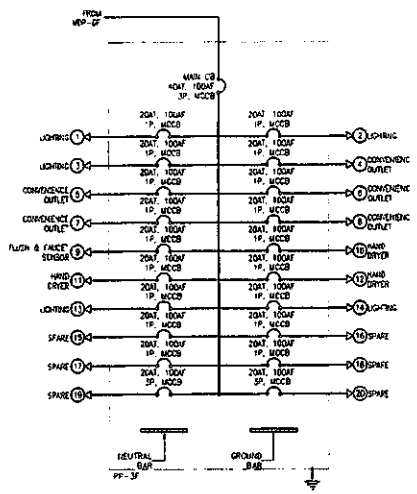


PANELBOARD DIAGRAM

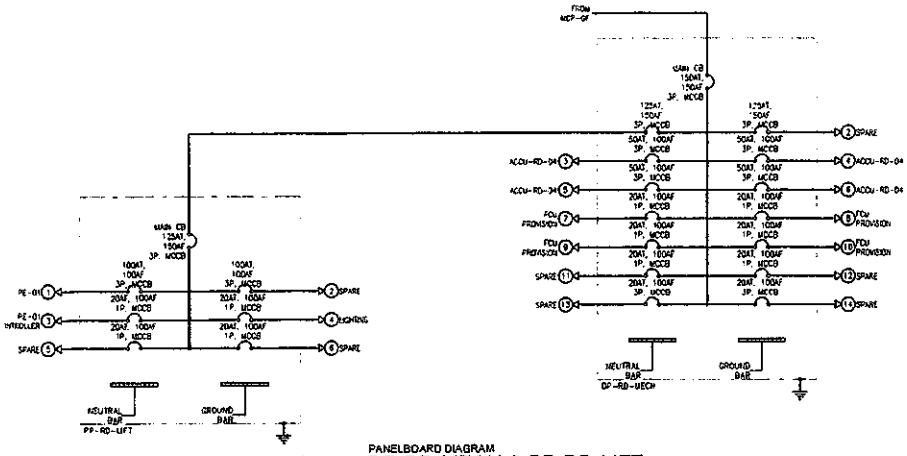
PP-2F

SCALE: NTS

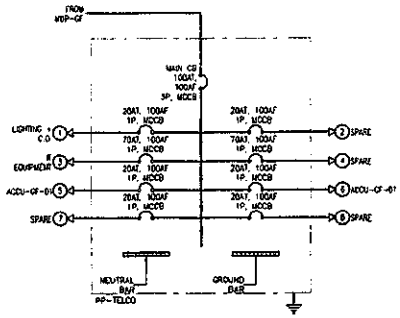
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID B. BUNGALLON, EXECUTIVE DIRECTOR, ATESD	RECOMMENDING APPROVAL: DIR. JUANITO OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOHN ADRIAN C. SANTOS, ELECTRICAL ENGINEER, EPU-ODG	REVIEWED AS TO PLAN: ARCH. RUNIEL A. MENDOZA, ARCHITECT, EPU-ODG	SUBMITTED BY: ENGR. ROY LOUIE P. MAGARAGAL, HEAD, EPU-ODG	SHEET CONTENTS: POWER SINGLE LINE DIAGRAM, PANELBOARD DIAGRAM	SHEET NO.: E3-01



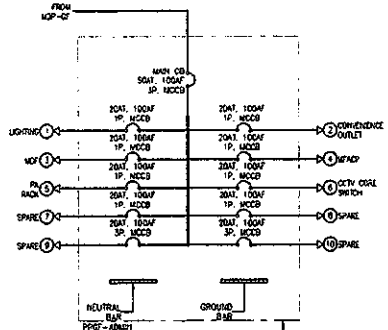
PANELBOARD DIAGRAM
PP-3F
SCALE: NTS



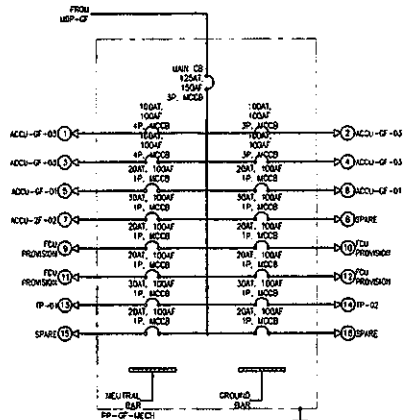
PANELBOARD DIAGRAM
DP-RD-MECH & PP-RD-LIFT
SCALE NTS



PANELBOARD DIAGRAM
PP-TELCO
SCALE: NTS

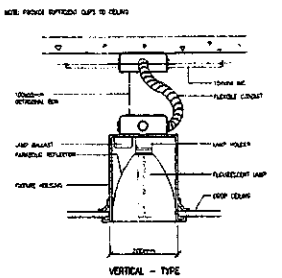


PANELBOARD DIAGRAM
PP-GF-ADMIN
SCALE: NTS



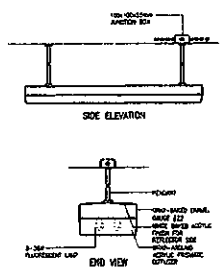
PANELBOARD DIAGRAM
PP-GF-MECH
SCALE: NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DANILO B. BUNGALLON, EXECUTIVE DIRECTOR, NTESD	RECOMMENDING APPROVAL: DIR. JOSEFINO OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOHN PATRICK C. SANTOS, ELECTRICAL ENGINEER SP.I-GCO	REVIEWED AS TO PLAN: ARCH. RUNIEL A. MENDOZA, ARCHITECT	SUBMITTED BY: ENGR. ROY LOUIE P. MAGARACAL, HEAD SP.I-GCO	SHEET CONTENTS: PANELBOARD DIAGRAM	SHEET NO: E3-02

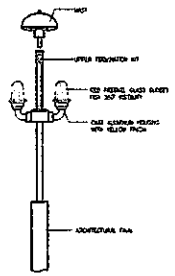


VERTICAL - TYPE

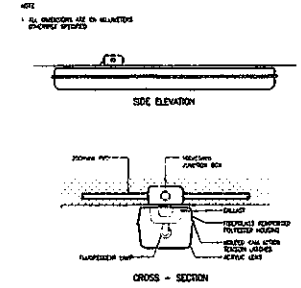
PINLIGHT MOUNTING DETAIL
SCALE 1:40mm



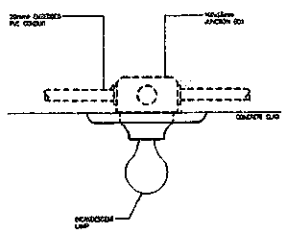
LIGHTING FIXTURE MOUNTING DETAIL (SUSPENDED)
SCALE 1:40mm



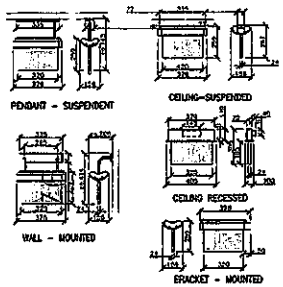
OBSTRUCTION LIGHTING DETAIL
SCALE 1:40mm



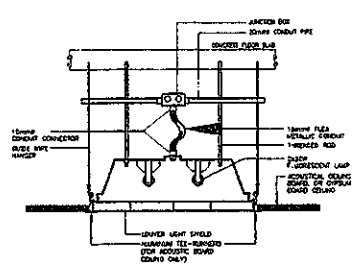
LIGHTING FIXTURE MOUNTING DETAIL (SURFACE MOUNTED)
SCALE 1:40mm



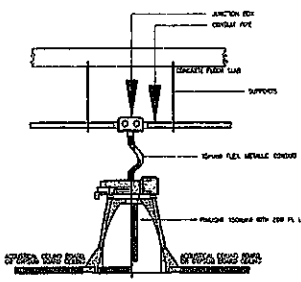
SURFACE MOUNTED INCANDESCENT LAMP DETAIL
SCALE 1:40mm



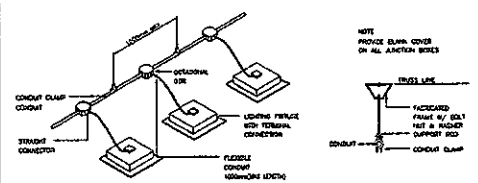
EXIT LIGHT MOUNTING DETAIL
SCALE 1:40mm



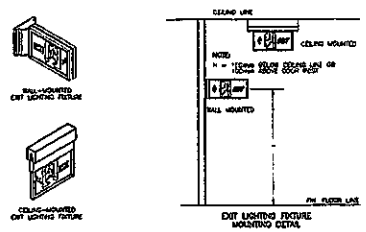
2x20W RECESSED FLUORESCENT LAMP MOUNTING DETAIL
SCALE 1:40mm



PINLIGHT MOUNTING DETAIL
SCALE 1:40mm

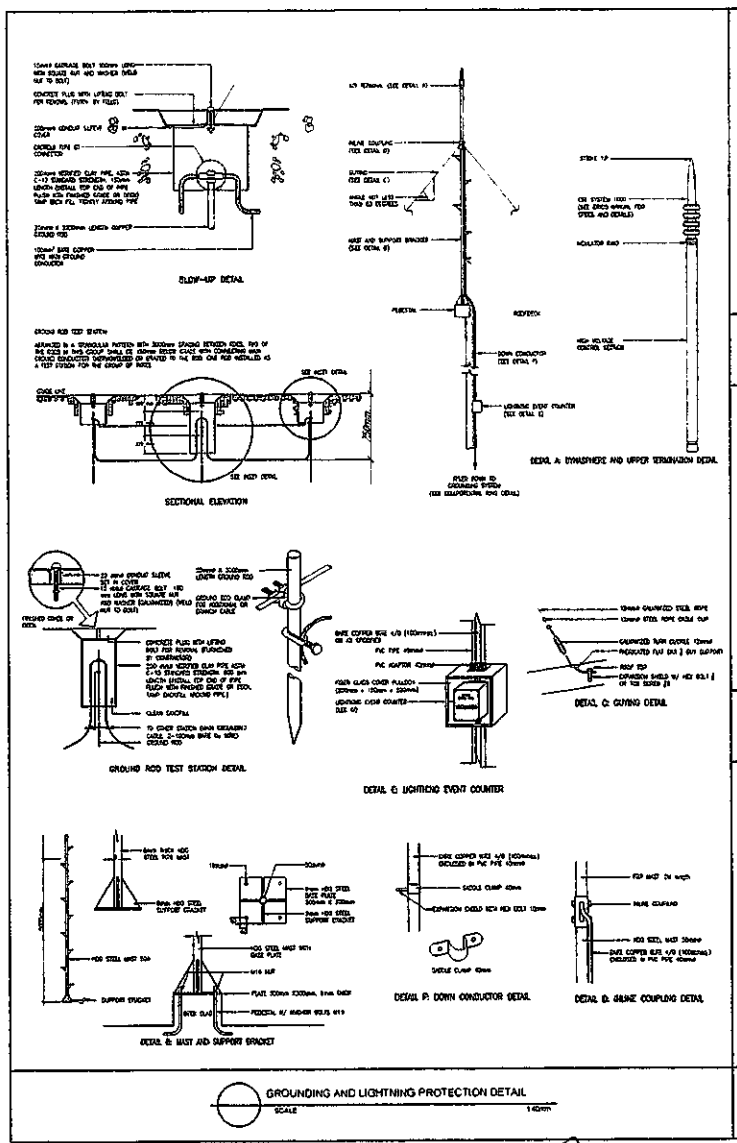


CONDUIT RUN FOR LIGHTING DISTRIBUTION IN ONE CIRCUIT (FOR EXPOSED OF DROP CEILING INSTALLATION)
SCALE 1:40mm

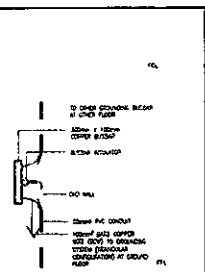


EXIT LIGHTING FIXTURE DETAIL
SCALE 1:40mm

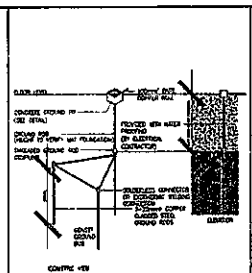
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DANILO S. BUNGALLON, EXECUTIVE DIRECTOR, NTESD	RECOMMENDING APPROVAL: DIR. JUNEY O. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA PHD, CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOHN ADRIAN C. SANTOS, ELECTRICAL ENGINEER, BPI-ODG	REVIEWED AS TO PLAN: ARCH. RUNEL A. MENDOZA, ARCHITECT, BPI-ODG	SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, HEAD, BPI-ODG	SHEET CONTENTS: MISCELLANEOUS DETAILS - TYPICAL LIGHTING DETAILS	SHEET NO.: E4-01



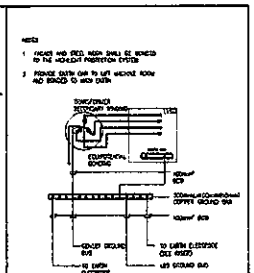
GROUNDING AND LIGHTNING PROTECTION DETAIL



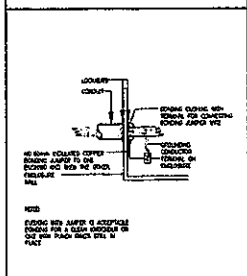
MOUNTING DETAIL OF GROUNDING BUSBAR



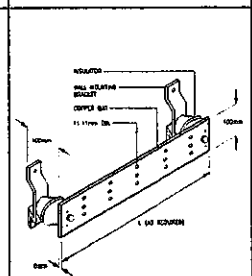
DETAILS OF EQUIPOTENTIAL RING



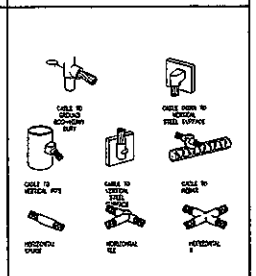
ELECTRICAL SYSTEM GROUND DETAILS



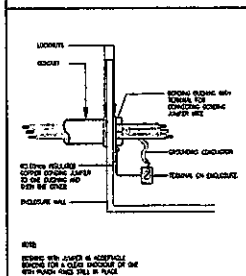
MOUNTING DETAIL OF GROUNDING BUSBAR



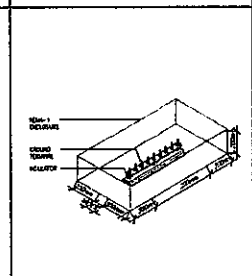
PRE-DRILLED COPPER BUSBAR



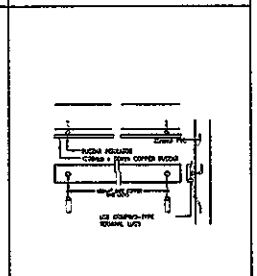
TYPICAL EXOTHERMIC CONNECTION DETAIL



SERVICE BONDING JUMPER & GROUNDING ENCLOSURE DETAIL



TYPICAL BUSBAR DETAIL



SERVICE BONDING JUMPER AND GROUNDING ENCLOSURE DETAIL

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID S. BUNGALLON, EXECUTIVE DIRECTOR, TESDA	RECOMMENDING APPROVAL: DIR. ALBERT O. DROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PhD, CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOHN JOSHUA C. SANTOS, ELECTRICAL ENGINEER, PRC-0000	REVIEWED AS TO PLAN: ARCH. RUNIBEL A. MENDOZA, ARCHITECT, PRC-0000	SUBMITTED BY: ENGR. ROY LOUIE P. MINDARACAL, HEAD, TTU-000	SHEET CONTENTS: MISCELLANEOUS DETAILS - TYPICAL GROUNDING AND LIGHTNING PROTECTION DETAILS	SHEET NO: E4-02

GENERAL NOTES AND SPECIFICATIONS

1. ALL WORKS HEREIN INCLUDED SHALL BE EXECUTED IN ACCORDANCE WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE RULES AND REGULATIONS OF THE LOCALITY AND THE REQUIREMENTS OF THE CLIENT/OWNER
2. ALL WORKS HEREIN INCLUDED SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL TIME LICENSED ELECTRONICS AND COMMUNICATIONS ENGINEER (ECE). ALL WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED
3. MATERIALS SHALL BE NEW AND SHALL CONFORM WITH THE STANDARD AMERICAN UNDERWRITER'S LABORATORIES, INC., IN EVERY CASE WERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL IN QUESTION ALL EQUIPMENT SHALL BE PURCHASED ACCORDING TO SPECIFICATIONS
4. ALL EXPOSED & CEILING CONCEALED CONDUITS SHALL BE OF INTERMEDIATE METALLIC CONDUIT ON HIGH STRENGTH AND GALVANIZED WITH AN ADDITIONAL INTERIOR PROTECTIVE COATING SHALL BE USED OR AS INDICATED IN THE PLANS ALL EMBEDDED CONDUITS SHALL BE OF POLYVINYL CHLORIDE. ALL EXPOSED AND NOT PRONE TO DAMAGE CONDUITS SHALL BE OF ELECTRICAL METALLIC TUBING
5. VOICE AND DATA WIRING SHALL BE SEPARATED FROM ANY OTHER BUILDING OR POWER WIRING, TO PREVENT HUMMING AND ELECTROMAGNETIC INTERFERENCE (EMI), TO MEET OR EXCEED THE EIA/TIA 568A CABLING STANDARD.
5. ALL CONDUITS AND WIRE WAYS SHALL BE PROTECTED AGAINST DAMAGES BY THE ENTRANCE OF WATER AND FOREIGN MATTER DURING CONSTRUCTION ALL ENDS OF CONDUITS SHALL BE PROPERLY PLUGGED TO EXCLUDE MOISTURE AND DUST IMMEDIATELY AFTER THE CONDUITS ARE PLACED.
7. ALL CONDUIT BENDS SHALL BE FIELD-MADE USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS SHALL BE IN ACCORDANCE WITH THE CODE
8. ALL PIPES AND FITTINGS ON EXPOSED WORK SHALL BE SUPPORTED AND SECURED BY MEANS OF C-CHANNELS AND CLAMPS
9. THE POSITION OF ALL ELECTRONICS EQUIPMENT AS SHOWN IN THE DRAWINGS ARE APPROXIMATE ONLY THE EXACT POSITIONS SHALL BE DETERMINED ON SITE
10. ALL MDF'S AND IDF'S SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF PHILIPPINE ELECTRICAL/ELECTRONICS, EIA AND BICSI CODE THEY SHALL BE PAINTED WITH A COAT OF ANTI-RUST PAINT AND TWO COATS OF SEMI-GLASS TEAK PAINT OF BEST QUALITY TO THE APPROVAL OF THE CONSULTANT.
11. ALL ELECTRONICS EQUIPMENT AND DEVICES LOCATIONS SHOWN ARE INDICATIVE ONLY AND THE ELECTRICAL CONTRACTOR MUST COORDINATE WITH THE ARCHITECT AND OR THE INTERIOR DESIGNER, AS WELL AS EQUIPMENT SUPPLIERS
12. ALL ELECTRONICS EQUIPMENT & ACCESSORIES THAT ARE EXPOSED OR LESS THAN 2.0m AWAY FROM WATER SOURCES SHALL BE OF WATERPROOF TYPE
13. COLOR FOR ALL TELECOMMUNICATION FACE PLATES SHALL BE AS PER ARCHITECT'S/INTERIOR DESIGNER'S SELECTION.
14. SIZING OF ALL PULLBOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOXES SHALL BE AS APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLANS
15. MOUNTING HEIGHTS OF DEVICES (RJ-45 JACKS) SHALL BE AS APPROVED BY THE ARCHITECT OR AS FOLLOWS

    TELECOM/DATA OUTLET .... 0.30m ABOVE FINISHED FLOOR TO CENTER OF DEVICE
    0.15m ABOVE WORKING COUNTER TO CENTER OF DEVICE
16. ALL ITEMS OF MATERIAL NOT FURNISHED BY REQUISITION AND REQUIRED TO COMPLETE THE INSTALLATION IN A GOOD, WORKMANLIKE MANNER SHALL BE PROVIDED BY THE IT CABLING CONTRACTOR
17. THE PLANS AS DRAWN ARE BASED UPON THE ARCHITECTURAL PLANS AND THE DETAILS AND SHOWN CONDITIONS AS ACCURATELY AS IT IS POSSIBLE TO INDICATE THEM IN SCALE. THE PLANS ARE DIAGRAMMATICAL AND DO NOT NECESSARILY SHOW ALL FITTINGS NECESSARY TO FIT TO THE BUILDING CONDITIONS. THE LOCATIONS OF OUTLETS, APPARATUS AND APPLIANCE SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THEIR PROPER LOCATION IN ORDER TO MAKE THEM FIT WITH THE ARCHITECTURAL DETAILS AND INSTRUCTIONS FROM THE ENGINEER'S REPRESENTATIVE AT THE SITE
18. UPON COMPLETION OF IT CABLING WORKS, THE FOLLOWING TESTS SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAILS AND IN FORMS APPROVED BY THE OWNERS REPRESENTATIVE;

    A. SIGNAL ATTENUATION TEST
    B. CONTINUITY TEST
    C. NEAR-END CROSSTALK TEST
    D. IMPEDANCE TEST
    E. RESISTANCE TEST
    F. WIRE MAP TEST

ABBREVIATIONS

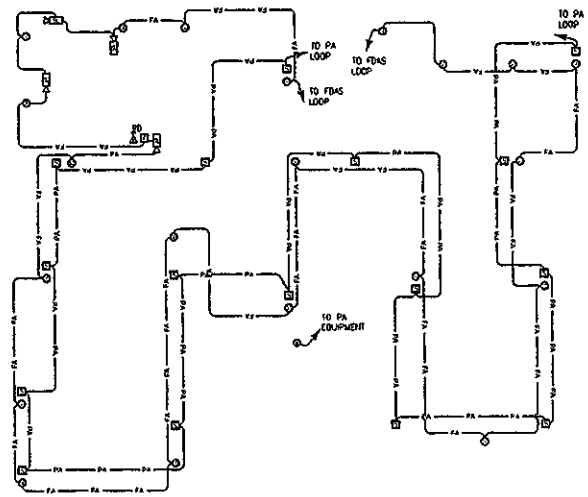
ACP	ACCESS CONTROL PANEL
ACS	ACCESS CONTROL SYSTEM
BGM	BACKGROUND MUSIC
C	CONDUIT
CAT	CATEGORY
CDP	COMMUNICATION DISTRIBUTION PANEL
CATV	COMMUNITY ANTENNA TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
DC	DOOR CONTACT
DOL	DIRECT ON LINE
EMT	ELECTROMETALLIC TUBING
ELV	EXTRA LOW VOLTAGE
EVAC	EMERGENCY VOICE ALARM COMMUNICATION
FA	FIRE ALARM
FR	FIRE RATED
NVR	NETWORK VIDEO RECORDER
PVC	POLYVINYL CHLORIDE
PATB	PUBLIC ADDRESS TERMINAL BOARD
TEL	TELEPHONE
TTC	TELEPHONE TERMINAL CABINET
THHN	THERMOPLASTIC HEAT RESISTANT (90C) WITH NYLON JACKET
FCC	FIRE COMMAND CENTER
FACP	FIRE ALARM CONTROL PANEL
FATB	FIRE ALARM TERMINAL BOARD
FDAS	FIRE ALARM AND DETECTION SYSTEM
IDF	INTERMEDIATE DISTRIBUTION FRAME
IMC	INTERMEDIATE METALLIC CONDUIT
NAP	NETWORK ACCESS POINT
ODF	OPTICAL DISTRIBUTION FRAME
PA	PUBLIC ADDRESS
RD	RISER DOWN
RU	RISER UP
RSC	RIGID STEEL CONDUIT
SMS	SECURITY MANAGEMENT SYSTEM
TX	TRANSFORMER
THW	THERMOPLASTIC HEAT AND MOISTURE RESISTANT
TYP	TYPICAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
WP	WEATHER PROOF
FDB	FIBER DISTRIBUTION BOARD

AUXILIARY SYSTEMS LEGEND AND SYMBOL

SYMBOLS	DESCRIPTION
	DOME-TYPE, IP-BASED CCTV CAMERA
	IP BASED CAMERA, FIXED TYPE, WEATHER PROOF
	VOICE/DATA OUTLET
	FLOOR MOUNTED VOICE/DATA OUTLET
	INPUT MODULE
	GROUND BAR
	SMOKE DETECTOR
	HEAT DETECTOR
	STROBE LIGHT WITH SOUNDER
	MANUAL PULL STATION
	FIREMAN'S TELEPHONE JACK
	HORN TYPE SPEAKER
	CEILING-MOUNTED SPEAKER
	INTERCOM UNIT
FACP	FIRE ALARM CONTROL PANEL
• RU/RD	RISER UP/DOWN
	PA MICROPHONE

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR NITESD	DIR. [illegible] C. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD, CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN ADRIAN C. SANTOS ELECTRICAL ENGINEER GPU-ODG	ARCH. RUNIEL A. MENDOZA ARCHITECT GPU-ODG	ENGR. ROY LOUIE P. MINGARACAL HEAD GPU-ODG	GENERAL NOTES LEGENDS AND SYMBOLS	EC0-00

LEGENDS AND SYMBOLS	
SD	SMOKE DETECTOR
F	MANUAL PULL STATION
S	STROBE LIGHT
FT	FIREMAN'S TELEPHONE JACK
IM	INPUT MODULE
OM	OUTPUT MODULE
S	CEILING MOUNTED SPEAKER
M	PA MICROPHONE
e RU/RD	RISER UP/DOWN



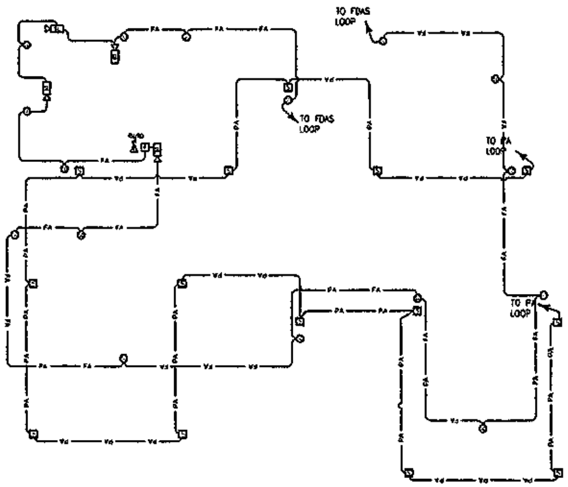
TESDA INNOVATION CENTER - NCR

GROUND FLOOR FDAS & PA LAYOUT

SCALE: 1: 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID G. BUNDALON, EXECUTIVE DIRECTOR, NTESD	RECOMMENDING APPROVAL: DIR. JANET O. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD, CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOHN ACHILLES C. SANTOS, ELECTRICAL ENGINEER, EPU-DDD	REVIEWED AS TO PLAN: ARCH. RUNIEL A. MENDOZA, ARCHITECT, EPU-DDD	SUBMITTED BY: ENGR. ROY LOUIE P. MINDARACAL, HEAD, EPU-DDD	SHEET CONTENTS: GROUND FLOOR FDAS & PA LAY OUT	SHEET NO: EC1-01

LEGENDS AND SYMBOLS	
SD	SMOKE DETECTOR
F	MANUAL PULL STATION
SL	STROBE LIGHT
▽	FIREMAN'S TELEPHONE JACK
IM	INPUT MODULE
OM	OUTPUT MODULE
S	CEILING MOUNTED SPEAKER
M	PA MICROPHONE
RU/RD	RISER UP/DOWN



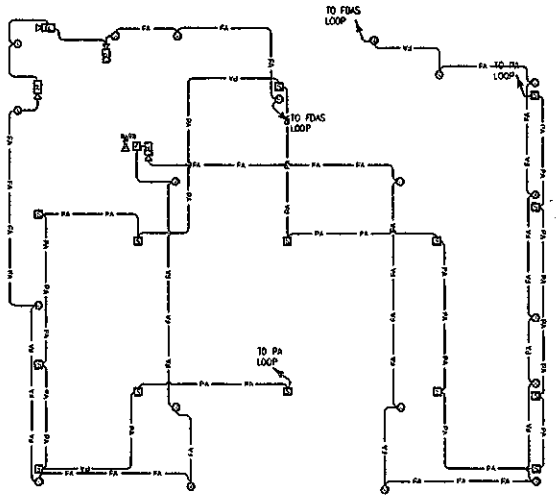
TESDA INNOVATION CENTER - NCR

SECOND FLOOR FDAS & PA LAYOUT

SCALE 1 : 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR, NITESD	DIR. JUSEL C. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD, CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN ADRIAN C. SANTOS ELECTRICAL ENGINEER, SPU-CDD	ARCH. RUNIEL A. MENDOZA ARCHITECT, SPU-CDD	ENGR. ROY LOUIE P. MINGARACAL HEAD, SPU-CDD	SECOND FLOOR FDAS & PA LAYOUT	EC1-02

LEGENDS AND SYMBOLS	
SD	SMOKE DETECTOR
MP	MANUAL PULL STATION
SL	STROBE LIGHT
FJ	FIREMAN'S TELEPHONE JACK
IM	INPUT MODULE
OM	OUTPUT MODULE
S	CEILING MOUNTED SPEAKER
M	PA MICROPHONE
c RU/RD	RISER UP/DOWN



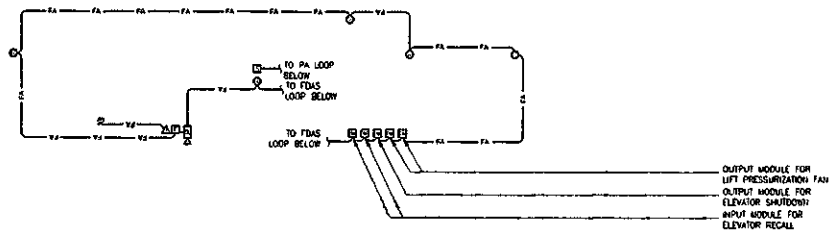
TESDA INNOVATION CENTER - NCR

THIRD FLOOR FDAS & PA LAYOUT

SCALE: 1: 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DANILO B. BUNDALLON, EXECUTIVE DIRECTOR, NITESD	RECOMMENDING APPROVAL: DIR. ALBERTO CROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JONATHAN C. SANTOS, ELECTRICAL ENGINEER, GPU-DOD	REVIEWED AS TO PLAN: ARCH. RUNIEL A. MENDOZA, ARCHITECT, GPU-DOD	SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, CHIEF, GPU-DOD	SHEET CONTENTS: THIRD FLOOR FDAS & PA LAYOUT	SHEET NO: EC1-03

LEGENDS AND SYMBOLS	
S	SMOKE DETECTOR
F	MANUAL PULL STATION
SL	STROBE LIGHT
T	FIREMAN'S TELEPHONE JACK
IM	INPUT MODULE
OM	OUTPUT MODULE
S	CEILING MOUNTED SPEAKER
M	PA MICROPHONE
eRU/RD	RISER UP/DOWN



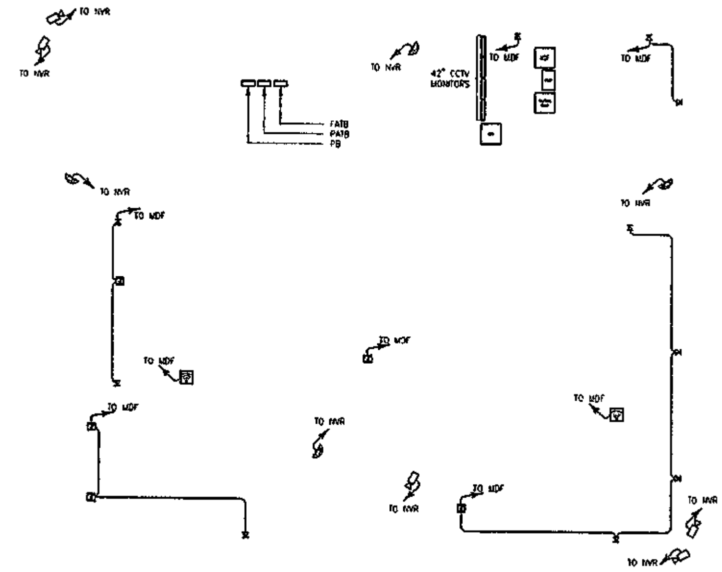
TESDA INNOVATION CENTER - NCR

ROOFDECK FDAS & PA LAYOUT

SCALE 1: 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DANTE B. BUNGALLON, EXECUTIVE DIRECTOR, NTESD	RECOMMENDING APPROVAL: DIR. JUNEL C. TROZO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOSH ADRIAN C. SANTOS, ELECTRICAL ENGINEER, DPWOD	REVIEWED AS TO PLAN: ARCH. RUNIEL A. MENDOZA, ARCHITECT, DPWOD	SUBMITTED BY: ENGR. ROYLOUIE P. MINGARACAL, HEAD, DPWOD	SHEET CONTENTS: ROOF DECK FDAS & PA LAYOUT	SHEET NO.: EC1-04

LEGENDS AND SYMBOLS	
	FIXED TYPE, IP-BASED CCTV CAMERA
	DOME TYPE, IP-BASED CCTV CAMERA
	WALL MOUNTED, VOICE/DATA OUTLET
	FLOOR MOUNTED VOICE/DATA OUTLET
	WIRELESS ACCESS POINT



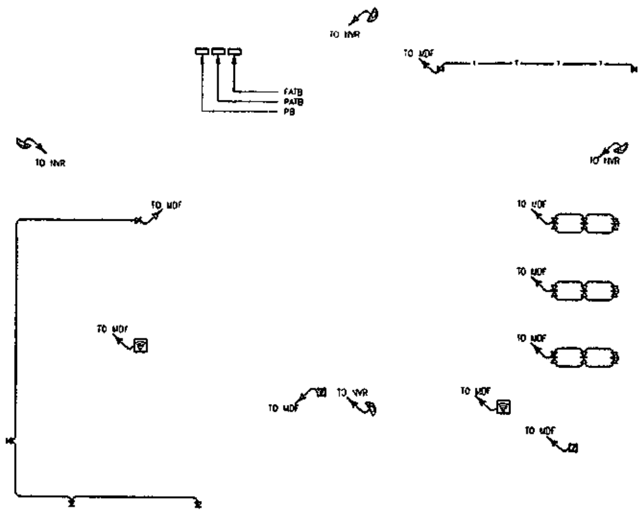
TESDA INNOVATION CENTER - NCR

GROUND FLOOR ELV LAYOUT

SCALE: 1: 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY DIR. DA[illegible] D. BUNG[illegible]ALLON EXECUTIVE DIRECTOR NITESD	RECOMMENDING APPROVAL DIR. JU[illegible] O. [illegible]ROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	APPROVED BY SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROJECT TITLE PROPOSED TESDA INNOVATION CENTER - NCR	[illegible]	PREPARED BY ENGR. JO[illegible]N [illegible] C. SANTOS ELECTRICAL ENGINEER SPU-ODG	REVIEWED AS TO PLAN ARCH. RUN[illegible] [illegible]ENDOZA ARCHITECT, SPU-ODG	SUBMITTED BY ENGR. [illegible]OY LOUIE P. MINGARACAL HEAD, SPU-ODG	SHEET CONTENTS GROUND FLOOR ELV LAYOUT	SHEET NO. EC2-01

LEGENDS AND SYMBOLS	
(symbol)	FIXED TYPE, IP-BASED CCTV CAMERA
(symbol)	DOME TYPE, IP-BASED CCTV CAMERA
(symbol)	WALL MOUNTED, VOICE/DATA OUTLET
(symbol)	FLOOR MOUNTED VOICE/DATA OUTLET
(symbol)	WIRELESS ACCESS POINT



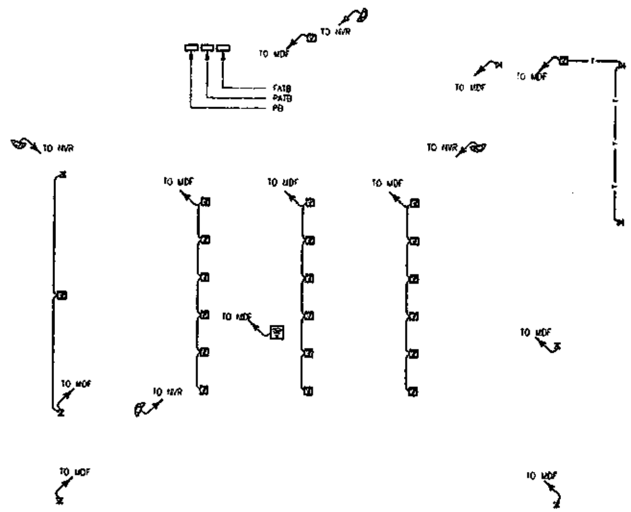
TESDA INNOVATION CENTER - NCR

SECOND FLOOR ELV LAYOUT

SCALE: 1: 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR NITESD	DIR. JULIET O. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPENA, PHD, CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN ADRIAN C. SANTOS ELECTRICAL ENGINEER EPU-ODG	ARCH. RUNIEL A. MENDOZA ARCHITECT EPU-ODG	ENGR. ROY LOUIE P. MINGARACAL HEAD EPU-ODG	SECOND FLOOR ELV LAYOUT	EC2-02

LEGENDS AND SYMBOLS	
(symbol)	FIXED TYPE, IP-BASED CCTV CAMERA
(symbol)	DOME TYPE, IP-BASED CCTV CAMERA
(symbol)	WALL MOUNTED, VOICE/DATA OUTLET
(symbol)	FLOOR MOUNTED VOICE/DATA OUTLET
(symbol)	WIRELESS ACCESS POINT



TESDA INNOVATION CENTER - NCR

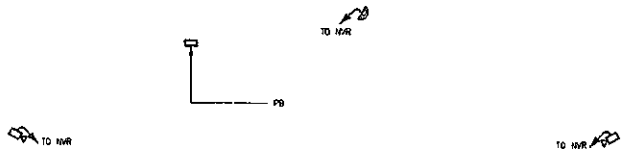
THIRD FLOOR ELV LAYOUT

SCALE: 1 200 mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

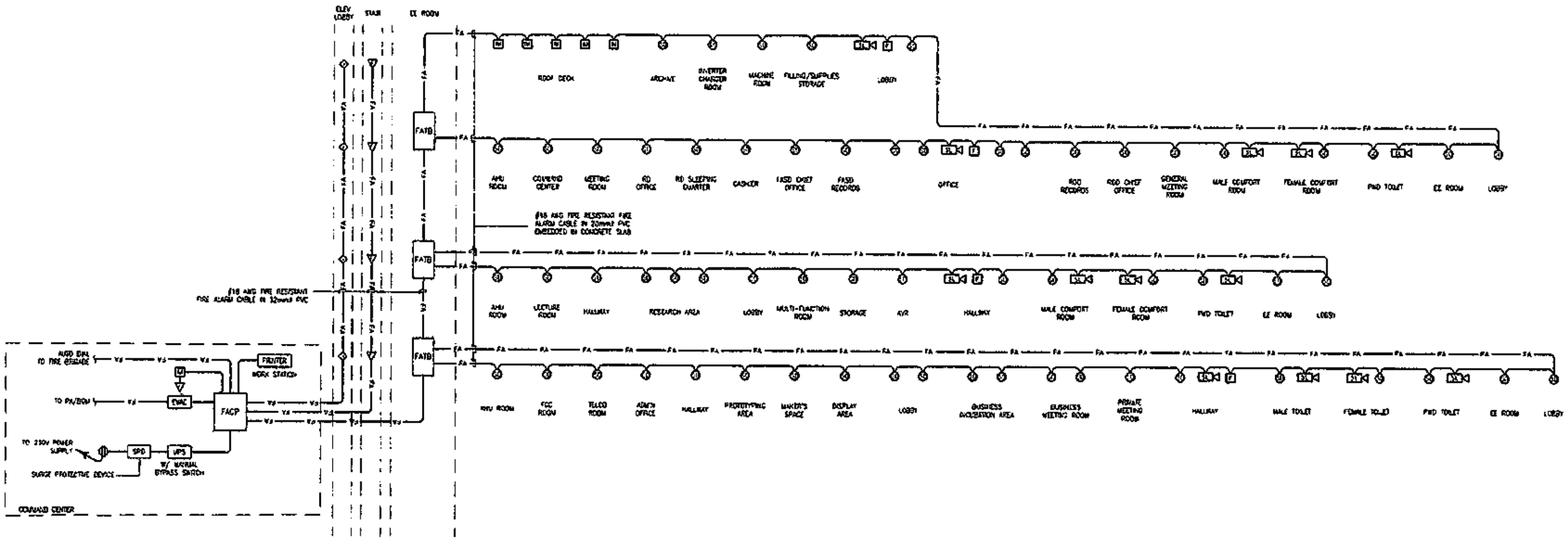
CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO
DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR NITESD	DIR. ANJET C. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD, CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN ADRIAN C. SANTOS ELECTRICAL ENGINEER GPU-ODO	ARCH. RUNIEL A. MENDOZA ARCHITECT GPU-ODO	ENGR. ROY LOUIE P. MINGARACAL HEAD GPU-ODO	THIRD FLOOR ELV LAYOUT	EC2-03

LEGENDS AND SYMBOLS	
	FIXED TYPE, IP-BASED CCTV CAMERA
	DOME TYPE, IP-BASED CCTV CAMERA
	WALL MOUNTED, VOICE/DATA OUTLET
	FLOOR MOUNTED VOICE/DATA OUTLET
	WIRELESS ACCESS POINT



TESDA INNOVATION CENTER - NCR
ROOFDECK ELV LAYOUT
SCALE: 1: 200 mm

	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE		PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO.
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	DIR. DAVIDS BUNSALLON EXECUTIVE DIRECTOR, INTESO	DIR. JUDET O. BROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR		ENGR. JOHN ASHLEY A. SANTOS ELECTRICAL ENGINEER, BPLODG	ARCH. RUNEL A. MENDOZA ARCHITECT, BPLODG	ENGR. ROYLOUIE P. MINGARACAL HEAD, BPLODG	ROOFDECK ELV LAYOUT	EC2-04

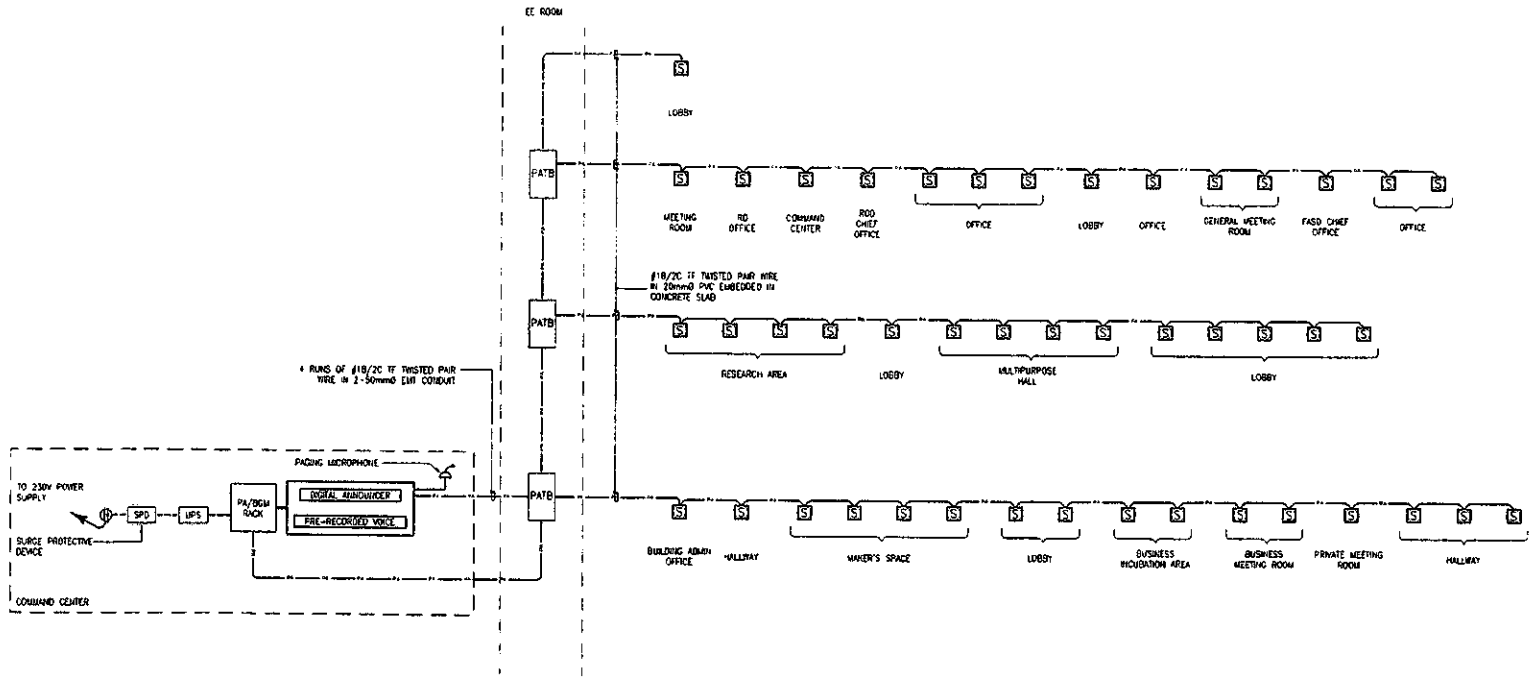


FIRE DETECTION AND ALARM SYSTEM SINGLE LINE DIAGRAM

SCALE: NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE
	DIR. D... BUNGA...ON EXEC...E DIRECTOR NITESD	DIR. J... O. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR

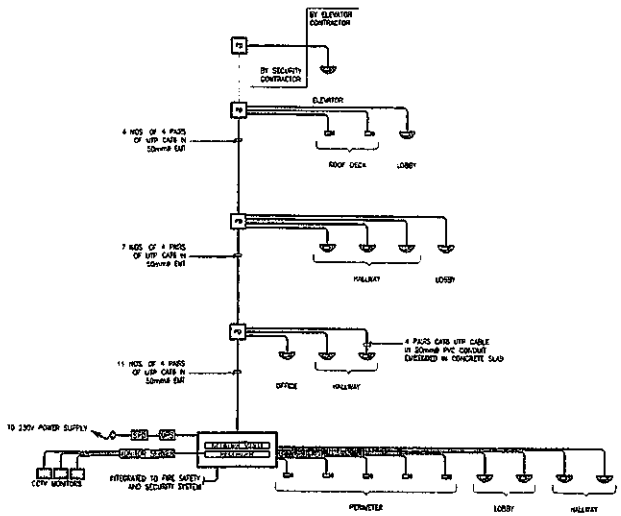
PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO
ENGR. JOR... C. SANTOS ELECTRICAL ENGINEER SPMOOD	ARCH. RUNIEL ... MENDOZA ARCHITECT SPMOOD	ENGR. ROY LOUIE P. MINGARACAL HEAD, SPMOOD	FDAS SINGLE LINE DIAGRAM	EC3-01A



PUBLIC ADDRESS SINGLE LINE DIAGRAM

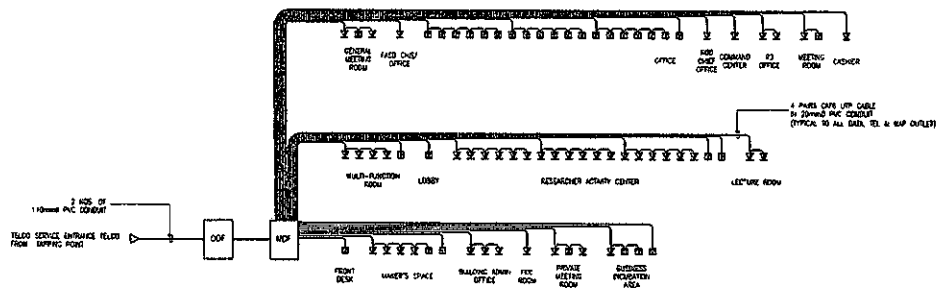
SCALE: NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DANTE B. BRANDALLON, EXECUTIVE DIRECTOR, NPESO	RECOMMENDING APPROVAL: DIR. JANET O. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD, CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOSHUA ADRIAN C. SANTOS, ELECTRICAL ENGINEER, EPU-DDO	REVIEWED AS TO PLAN: ARCH. RUMEL A. MENDOZA, ARCHITECT, EPU-DDO	SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, EPU, EPU-DDO	SHEET CONTENTS: PA SINGLE LINE DIAGRAM	SHEET NO.: EC3-01B



CLOSED CIRCUIT TELEVISION SINGLE LINE DIAGRAM

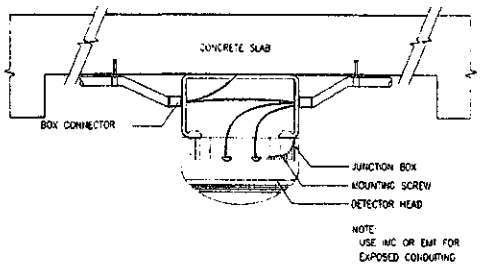
SCALE: NTS



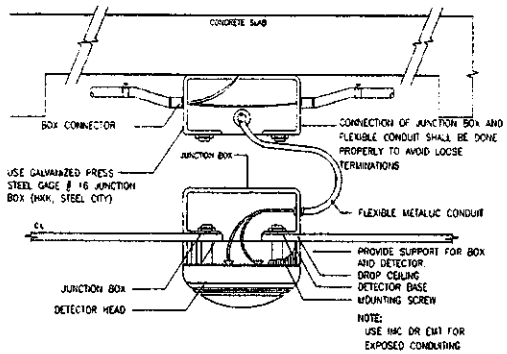
STRUCTURED CABLING SINGLE LINE DIAGRAM

SCALE: NTS

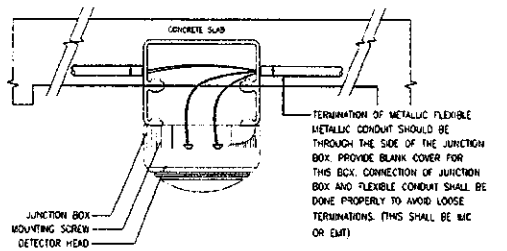
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID D. BUNCAYLON, EXECUTIVE DIRECTOR, ITESO	RECOMMENDING APPROVAL: DIR. JUANITO OROZCO, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PhD, CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ENGR. JOHN [illegible] SANTOS, ELECTRICAL ENGINEER, EPU-ODD	REVIEWED AS TO PLAN: ARCH. RUINELA A. MENDOZA, ARCHITECT, EPU-ODD	SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, HEAD, EPU-ODD	SHEET CONTENTS: STRUCTURED CABLING SINGLE LINE DIAGRAM; CCTV SINGLE LINE DIAGRAM	SHEET NO: EC3-01C



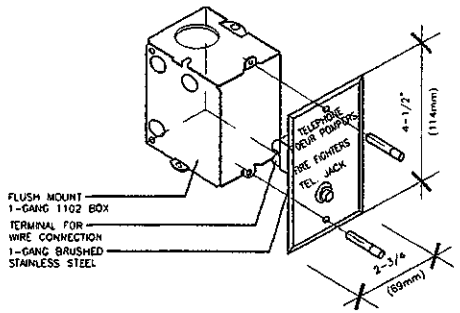
SMOKE DETECTOR MOUNTING DETAIL ON CONCRETE WITH EXPOSED CONDUITS
SCALE: NTS



SMOKE DETECTOR MOUNTING DETAIL ON DROP CEILING WITH EXPOSED CONDUITS
SCALE: NTS



SMOKE DETECTOR MOUNTING DETAIL ON CONCRETE WITH EMBEDDED CONDUITS
SCALE: NTS



FIREMAN'S TELEPHONE JACK MOUNTING DETAIL
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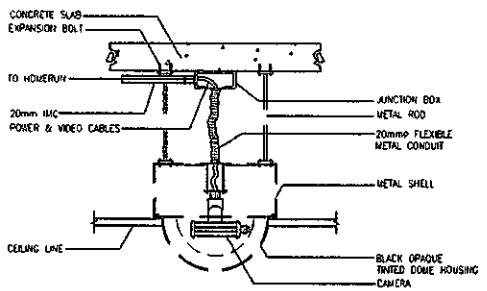
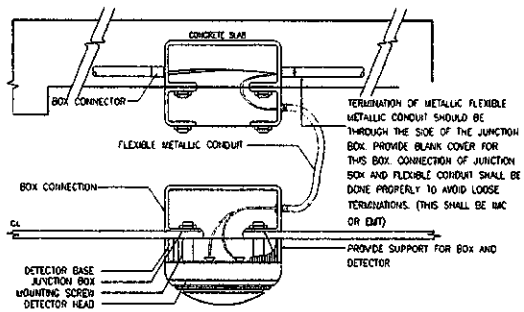
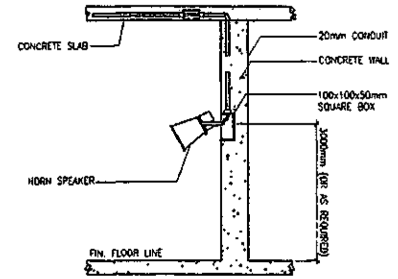


TYPICAL CAMERA MOUNTING DETAIL
SCALE: NTS

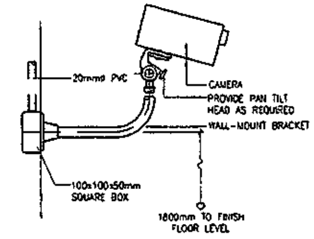


SMOKE DETECTOR MOUNTING DETAIL ON DROP CEILING WITH EMBEDDED CONDUITS
SCALE: NTS

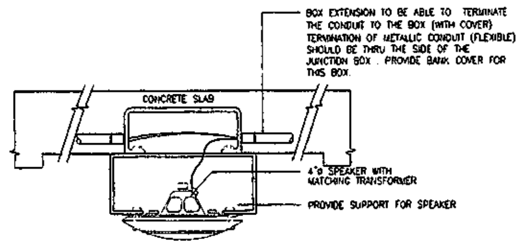
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO.
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR, NTESD	DIR. JANET O. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. CAPEÑA, PHD, CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOEL ADRIAN C. SANTOS ELECTRICAL ENGINEER EPI-000	ARCH. DANIELA A. MENDOZA ARCHITECT EPI-000	ENGR. ROY LOUIE P. MINGARACAL HEAD, PMO-003	MISCELLANEOUS DETAILS	EC4-01A



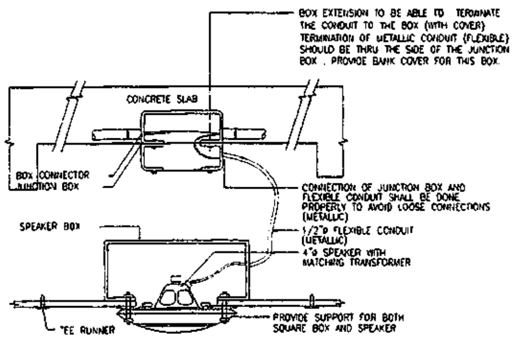
WALL MOUNTED HORN SPEAKER MOUNTING DETAIL
SCALE NTS



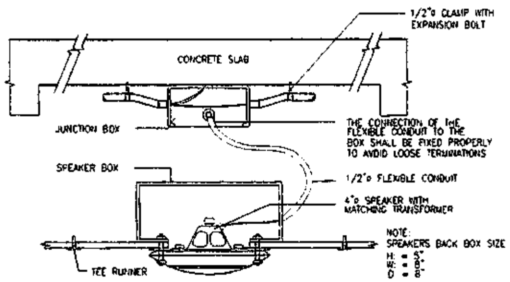
WALL MOUNTED CCTV MOUNTING DETAIL
SCALE: NTS



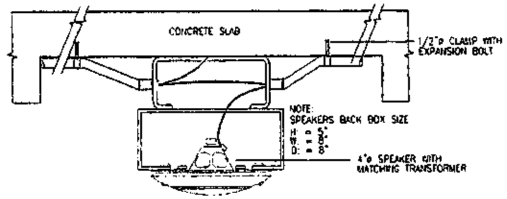
SPEAKER MOUNTING DETAIL ON CONCRETE WITH EMBEDDED CONDUITS
SCALE: NTS



SPEAKER MOUNTING DETAIL ON DROP CEILING WITH EMBEDDED CONDUITS
SCALE NTS

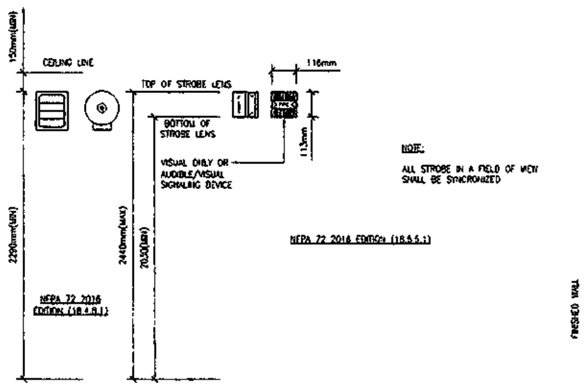


SPEAKER MOUNTING DETAIL ON DROP CEILING WITH EXPOSED CONDUITS
SCALE: NTS



SPEAKER MOUNTING DETAIL ON CONCRETE WITH EXPOSED CONDUITS
SCALE: NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR NITESD	DIR. JULIET O. OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN ADRIAN C. SANTOS ELECTRICAL ENGINEER, SPLICDD	ARCH. RUNIEL P. MENDOZA ARCHITECT SPLICDD	ENGR. ROY LOUIE P. MINGARACAL HEAD SPLICDD	MISCELLANEOUS DETAILS	EC4-01B



NFPA 72 2016 EDITION (18.4): AUDIBLE CHARACTERISTICS

NFPA 72 2016 EDITION (18.4.8): LOCATION OF AUDIBLE NOTIFICATION APPLIANCES FOR BUILDING OR STRUCTURES.

NFPA 72 2016 EDITION (18.4.8.1): IF CEILING HEIGHTS ALLOW, AND UNLESS OTHERWISE PERMITTED BY 18.4.8.2 THROUGH 18.4.8.5, WALL-MOUNTED APPLIANCES SHALL HAVE THEIR TOPS ABOVE THE FINISHED FLOORS AT HEIGHTS OF NOT LESS THAN 2290mm(90in.) AND BELOW THE FINISHED CEILING AT DISTANCES OF NOT LESS THAN 150mm(6in.)

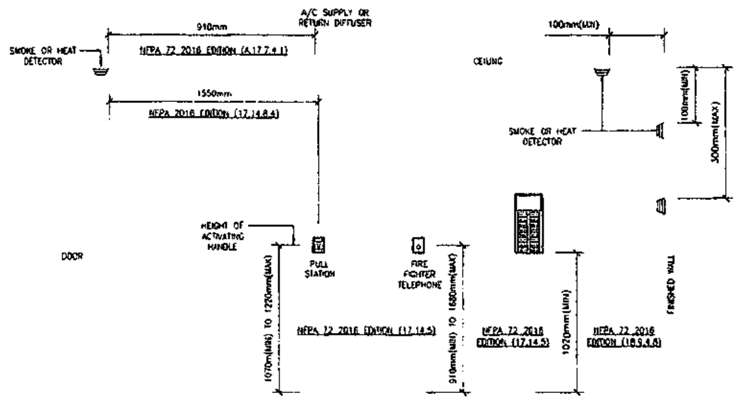
NFPA 72 2016 EDITION (18.4.8.3): IF COMBINATION AUDIBLE/VISIBLE APPLIANCES ARE INSTALLED, THE LOCATION OF THE APPLIANCE SHALL BE DETERMINED BY THE REQUIREMENTS OF 18.5.5

NFPA 72 2016 EDITION (18.5): VISIBLE CHARACTERISTICS PUBLIC MODE

NFPA 72 2016 EDITION (18.5.5): APPLIANCES LOCATION.

NFPA 72 2016 EDITION (18.5.5.1): WALL MOUNTED APPLIANCES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 2030mm (80in) AND NOT GREATER THAN 2440mm (96in). ABOVE THE FINISHED FLOOR OR AT THE MOUNTING HEIGHT SPECIFIED USING THE PERFORMANCE BASED ALTERNATIVE, AT NFPA 2016 EDITION (A7.5.4.5).

NFPA 72 2016 EDITION (18.5.5.5.5): VISIBLE NOTIFICATION APPLIANCES SHALL BE LOCATED NOT MORE THAN 4570mm(15ft) FROM THE END OF THE CORRIDOR WITH A SEPARATION NOT GREATER THAN 30500mm(100ft) BETWEEN APPLIANCES.



NFPA 72 2016 EDITION
17.6.3.1.3.1 HEAT - UNLESS OTHERWISE MODIFIED BY 17.6.3.2.2 OR 17.6.3.3.2 OR 17.6.3.7 SPOT-TYPE HEAT-SENSING FIRE DETECTORS SHALL BE LOCATED ON THE CEILING NOT LESS THAN 100mm (4in) FROM THE SIDEWALL OR ON THE SIDEWALLS BETWEEN 100mm AND 300mm (4in AND 12 in) FROM THE CEILING.

NFPA 72 2016 EDITION (A.17.7.4.1): DETECTORS SHOULD NOT BE LOCATED IN A DIRECT AIRFLOW OR CLOSER THAN 910mm(36in) FROM AN AIR SUPPLY DIFFUSOR OR RETURN AIR OPENING. SUPPLY OR RETURN SOURCES LARGER THAN THOSE COMMONLY FOUND IN RESIDENTIAL AND SMALL COMMERCIAL ESTABLISHMENT CAN BE REQUIRE GREATER CLEARANCE TO SMOKE DETECTORS

NFPA 72 2016 EDITION (17.14.8.4): MANUAL FIRE ALARM BOXES SHALL BE LOCATED WITHIN 1.5m (5ft) OF EACH EXIT DOORWAY ON EACH FLOOR.

NFPA 72 2016 EDITION (17.14.5): THE OPERABLE PART OF A MANUALLY ACTIVATED ALARM INITIATING DEVICE SHALL BE NOT LESS THAN 42in (1070mm) AND NOT MORE THAN 48in (1220mm) FROM THE FINISHED FLOOR.

NFPA 72 2016 EDITION (17.7.3.2.1): SPOT-TYPE SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING OR, IF ON A SIDEWALL, BETWEEN THE CEILING AND 12in. (300mm) DOWN FROM THE CEILING TO THE TOP OF DETECTOR

NFPA 72 2016 EDITION (24.8.17): WALL MOUNTED TELEPHONE APPLIANCES OR RELATED JACKS SHALL BE NOT LESS THAN 910mm(36in) AND NOT MORE THAN 1680mm(66in.) ABOVE FLOOR LEVEL WITH CLEAR ACCESS TO THE APPLIANCE THAT IS AT LEAST 760mm(30in.) WIDE.

NFPA 72 2016 EDITION (18.9.4.8*): ALL CHARACTERS AND GRAPHICAL VISIBLE NOTIFICATION APPLIANCES SHALL BE A MINIMUM OF 1020mm(40in) ABOVE THE GROUND OR FINISHED FLOOR.

NFPA 72 2016 EDITION (18.11): STANDARD EMERGENCY SERVICE INTERFACE. WHERE REQUIRED BY THE ENFORCING AUTHORITY; GOVERNING LAWS, CODES, OR STANDARDS; OR OTHER PARTS OF THIS CODE, ANNUNCIATORS, INFORMATION DISPLAY SYSTEMS, AND CONTROL FOR PORTIONS OF A SYSTEM PROVIDED FOR USE BY EMERGENCY SERVICE PERSONNEL SHALL BE DESIGNED, ARRANGED, AND LOCATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ORGANIZATIONS INTENDED TO USE THE EQUIPMENT

FIRE ALARM SYSTEM DEVICE MOUNTING HEIGHTS AND LIMITATIONS

SCALE NTS

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR NITESD	DIR. ... OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ENGR. JOHN ADRIAN ... SANTOS ELECTRICAL ENGINEER, SPMOD	ARCH. RUNIEL A. MENDOZA ARCHITECT, SPMOD	ENGR. ROY LOUIE P. MINGARACAL HEAD, SPMOD	FIRE ALARM SYSTEM DEVICE MOUNTING HEIGHTS AND LIMITATIONS	EC4-02

GENERAL PLUMBING NOTES:

1. GENERAL NOTES ARE APPLICABLE TO ALL PLUMBING WORKING DRAWINGS
2. THE WORK SHALL BE EXECUTED IN STRICT CONFORMITY WITH BASE BUILDING SPECIFICATION AND WITH THE LATEST EDITION OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND COVERING CODE OR ORDINANCE THE MORE STRINGENT STANDARD SHALL APPLY.
3. ALL PLUMBING WORK SHALL BE COORDINATED WITH ALL OTHER TRADES BEFORE PROCEEDING WITH INSTALLATION.
4. NO CHARGES ARE TO BE MADE IN PLUMBING LAYOUT WITHOUT WRITTEN PERMISSION BY THE ENGINEER OR RECORDS/MASTER PLUMBER.
5. NO PIPING SHALL RUN EXPOSED IN SALES OR FINISHED AREA.
6. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR PAYING RELATED FEES.
7. ROUGH-IN DIMENSIONS OF TOILET FIXTURES MUST BE COORDINATED WITH GENERAL CONTRACTOR AND FIELD SUPERVISOR.
8. INSTALL GATE VALVES/ BALL VALVES ON ALL BRANCH SUPPLY LINES.
9. PROVIDE ACCESS PANELS ON ALL INACCESSIBLE VALVES AND CLEANOUTS. ACCESS PANELS SHALL BE PROVIDED BY GENERAL CONTRACTOR. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR LOCATION.
10. ALL WORK SHALL BE PROPERLY TESTED, BALANCED AND CLEANED. PROVIDE ONE YEAR WARRANTY FROM DATE OF FINAL INSPECTION ON ALL PARTS AND LABOR.
11. ALL FIXTURES TO BE SUPPLIED & INSTALLED BY PLUMBING CONTRACTOR.
12. GENERAL CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND INSTALLATION WITH LOCAL AUTHORITIES AND CIVIL DRAWINGS.
13. TRAP SEAL PRIMERS ARE TO BE PROVIDED AT NO ADDITIONAL COST TO OWNER/ CLIENT , IF REQUIRED BY LOCAL BUILDING CODE OFFICIALS.
14. ALL VENT PIPE SHALL BE EXHAUST OVER THE CEILING OF ROOF OVERHANG. NO VENT SHALL EXTENDED THRU ROOF.
15. APPLY A BEAD OF SEALANT AROUND ALL FIXTURES WHERE THEY MEET FLOORS, WALLS, ETC. PROVIDE PIPE SLEEVES AT ANY WALL/ FLOOR PENETRATION.
16. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND REPRESENT ONLY THE GENERAL AND APPROXIMATE LOCATIONS OF FIXTURES, PIPING, ETC. REFER TO THE ARCHITECTURAL PLANS AND ACTUAL CONDITIONS FOR LOCATING FIXTURES, ETC.
17. THAT ALL WATER SUPPLIES TO FIXTURES ARE ANCHORED TO PREVENT ANY LATERAL MOVEMENT.
18. SUPPORT ALL PIPING EQUIPMENT , ETC AS PER CODE REQUIREMENTS.
19. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS OF PLUMBING.
20. FURNISH AS REQUIRED FOR ALL FIXTURES, INCLUDING ONES FURNISHED BY OTHERS, P-TRAPS, ANGLE STOPS, RISERS, ESCUTCHEONS, ETC.
21. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE PRIOR TO BIDDING IN ORDER TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DISCREPANCIES OR QUESTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BIDDING.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING RIGHT OR LEFT HAND OF FIXTURES
23. ALL PENETRATIONS OF CONCRETE FOUNDATIONS & FOOTINGS SHALL BE MINIMUM OF 50MM. DIAMETER.
24. ALL SANITARY SEWER PIPING UNDER CONCRETE SLAB SHALL BE MINIMUM OF 50MM DIAMETER.
25. REFER TO ARCHITECTURAL SPECIFICATIONS FOR SOIL COMPACTING, CONCRETE AND ASPHALT REPAIR.
26. SUBMIT SHOP DRAWINGS ON ALL PLUMBING FIXTURES, SEE ARCHITECTURAL FOR QUANTITY.
27. USE POLYPROPYLENE FOR ALL WATER SUPPLY LINES.
28. USE, POLYVINYL CHLORIDE (PVC) SERIES 1000 FOR ALL DRAINAGE LINE. OBSERVE SLOPE OF 1% FOR LONG RUNNING DRAINAGE LINE AND SLOPE OF 2% FOR SHORT RUN DRAINAGE LINE. VERIFY.

GENERAL PLUMBING NOTES:

1. ALL PLUMBING WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE REQUIREMENTS OF THE PHILIPPINE PLUMBING CODE AND RULES AND REGULATIONS OF THE GOVERNMENT.
2. COORDINATE DRAWINGS WITH OTHER RELATED DRAWINGS AND SPECIFICATIONS.
3. THE ENGINEER, SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND THEREIN.
4. PIPES SHALL BE INSTALLED AS INDICATED, ANY RELOCATION REQUIRED FOR PROPER EXECUTION OF OTHER TRADES SHALL BE PIPE STRUCTURE.
5. ALL HORIZONTAL BRANCHES SHALL MAINTAIN 1% AS MINIMUM UNLESS NOTED OTHERWISE.
6. ALL FIXTURES SHALL VENTED, UNLESS INDICATED.
7. ALL INDIVIDUAL BRANCHES TO FIXTURES OR GROUP OF FIXTURES OR EQUIPMENT SHALL BE PROVIDED WITH AIR CHAMBER.

MATERIAL SPECIFICATIONS:

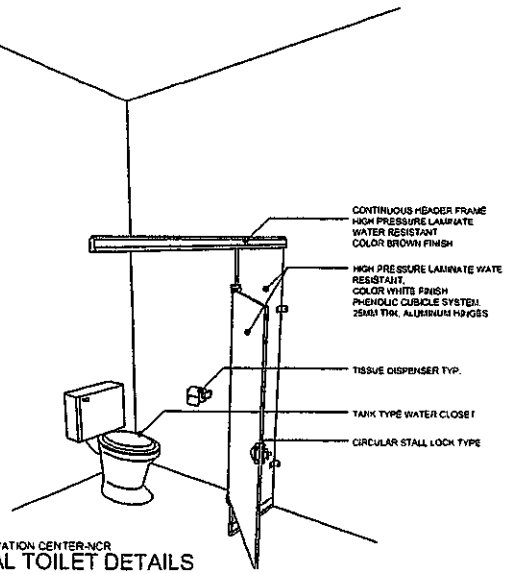
COLD WATER LINE (INTERIOR) - SHALL BE POLYPROPYLENE RANDOM (TYPE 3), HIGH RESISTANCE TO PRESSURE AND TEMPERATURE, CONFORMING TO EN ISO 15874, SIMILAR TO GEORGE FISCHER PP-R PIPE, UNITEC PP-R PIPE OR APPROVED EQUAL.

COLD WATER LINE (EXPOSED) - SHALL BE GALVANIZED STEEL PIPE, SCHEDULE 40, CONFORMING TO ASTM A 53 A 120. SIMILAR TO APO PIPE SCHEDULE 40 OR APPROVED EQUAL.

SOIL, WASTE AND VENT LINES- SHALL BE UNPLASTICIZED POLYVINYL CHLORIDE (UPVC) PIPE CONFIRMING TO ASTM D2729, SIMILAR TO NELTEX SERIES 100 UPVC PIPE OR APPROVED EQUAL.

DOWNSPOUTS- SHALL BE UNPLASTICIZED POLYVINYL CHLORIDE (UPVC) PIPE CONFORMING TO ASTM D2729 SIMILAR TO NELTEX/ EMERALD/ MOLDEX SERIES 100 UPVC PIPE OR APPROVED EQUAL.

DRAINAGE LINE - SHALL BE UNPLASTICIZED POLYVINYL CHLORIDE (UPVC) PIPE CONFORMING TO ASTM D2729, SIMILAR TO NELTEX/EMERALD/ MOLDEX SERIES 1000 UPVC PIPE OR APPROVED EQUAL.



TESDA INNOVATION CENTER-NCR
TYPICAL TOILET DETAILS
SCALE: 1:200mm

LEGEND		ABBREVIATION	
----------	SANITARY LINE	LAV	LAVATORY
— — — — — —	WATER LINE	KS	KITCHEN SINK
----------	DRAINAGE LINE	VAC	VENT ABOVE CEILING
----------	VENT PIPE	VP	VENT PIPE
— — —▷◁— — —	GATE VALVE	VTR/VTC	VENT THRU ROOF/VENT THRU CEILING
— — —⊿— — —	CHECK VALVE	AAV	AIR ADMITTANCE VALVE
— — —Ⓜ— — —	WATER METER	PVC	POLYVINYL CHLORIDE
CO — — — — —	FLOOR CLEANOUT	CWL	COLD WATER LINE
Ø	DIAMETER	FD	FLOOR DRAIN
ABBREVIATION		SH	SHOWER HEAD
		DD	DECK DRAIN
AC	AIR CHAMBER	BD	BALCONY DRAIN
WC	WATER CLOSET	m/m	MILLIMETER
		URI	URINAL

PLUMBING FIXTURES CONNECTION SIZE SCHEDULE

LEGEND	SYMBOL	MIN. PIPE CONNECTION SIZE MM DIAMETER				REMARKS
		WASTE/ SOIL	VENT	STORM	COLD WATER	
WC	WATER CLOSET	100	50	-	20	TANK TYPE
LAV	LAVATORY	50	50	-	20	-
KS	KITCHEN SINK	50	50	-	20	-
SHO/ SD	SHOWER/ SHOWER DRAIN	50	50	-	20	-
FD	FLOOR DRAIN	50	50	-	-	WITH P-TRAP
HB	HOSE BIBB	-	-	-	20	-

SPECIFICATION

ITEMS	MATERIAL	THICKNESS
WASTE/ SEWAGE LINE	POLYVINYL CHLORIDE (PVC)	SERIES 1000
VENT PIPES	POLYVINYL CHLORIDE (PVC)	SERIES 1000
STORM DRAINAGE LINE (DS)	POLYVINYL CHLORIDE (PVC)	SERIES 1000
RAINWATER COLLECTOR	POLYVINYL CHLORIDE (PVC)	SERIES 1000
WATERLINE (HOT/COLD)	PPR-C	PN 10

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

CONCURRED BY: DIR. DANILO S. BUNGALLON, EXECUTIVE DIRECTOR, NITESD

RECOMMENDING APPROVAL: DIR. JANET P. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL

APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL

PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR

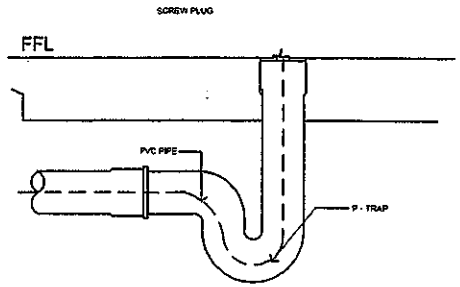
CADD BY: MS. GRACIE C. TEODORO, CAD OPERATOR, SPU-2000

REVIEWED AS TO PLAN: ARCH. RONIEL A. MENDOZA, ARCHITECT, SPU-2000

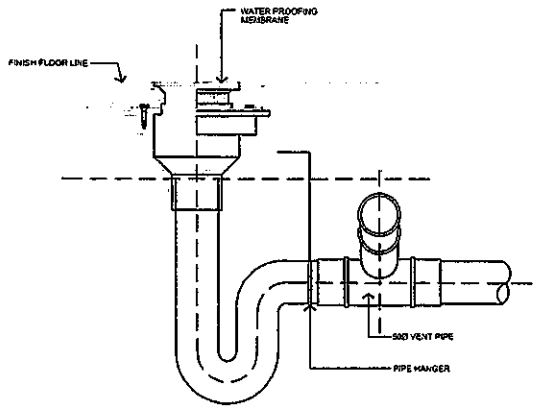
SUBMITTED BY: ENGR. RONALOUIE P. MINGARACAL, HEAD, SPU-2000

SHEET CONTENTS: GENERAL NOTES; LEGENDS & ABBREVIATION; TYPICAL TOILET DETAILS

SHEET NO: P-1



TESDA INNOVATION CENTER-NCR
DETAIL OF CLEANOUT
SCALE: 1:30mm



TESDA INNOVATION CENTER-NCR
DETAIL OF DRAIN LAYOUT
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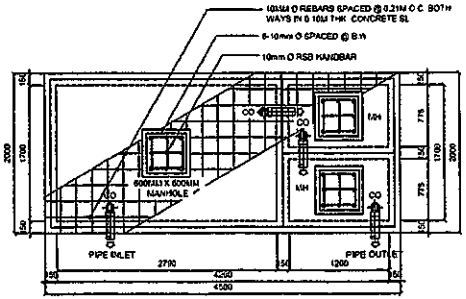
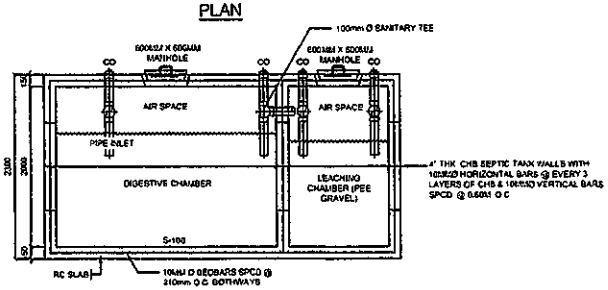
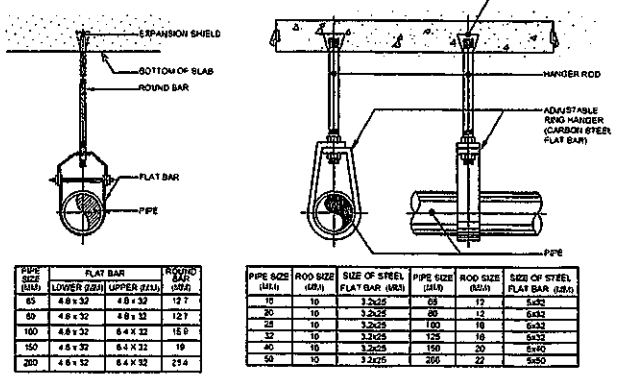


PLAN



SECTION

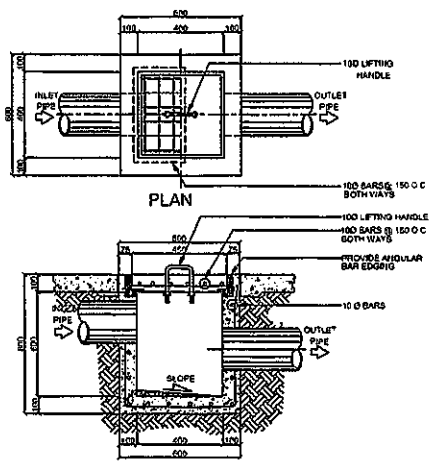
TESDA INNOVATION CENTER-NCR
SEPTIC TANK DETAILS
SCALE: 1:60mm



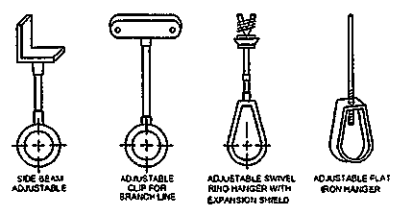
PIPE SIZE (MM)	FLAT BAR LOWER (MM)	FLAT BAR UPPER (MM)	ROUND BAR (MM)
65	4.8 x 32	4.8 x 32	12.7
80	4.8 x 32	4.8 x 32	12.7
100	4.8 x 32	6.4 X 32	15.9
150	4.8 x 32	6.4 X 32	19
200	4.8 x 32	6.4 X 32	25.4

PIPE SIZE (MM)	ROD SIZE (MM)	SIZE OF STEEL FLAT BAR (MM)	PIPE SIZE (MM)	ROD SIZE (MM)	SIZE OF STEEL FLAT BAR (MM)
15	10	3.2x25	65	12	6x32
20	10	3.2x25	80	12	6x32
25	10	3.2x25	100	16	6x32
32	10	3.2x25	125	16	6x32
40	10	3.2x25	150	20	6x40
50	10	3.2x25	200	22	6x50

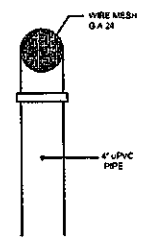
TESDA INNOVATION CENTER-NCR
DETAIL OF HANGERS
SCALE: 1:30mm



TESDA INNOVATION CENTER-NCR
CATCH BASIN DETAILS
SCALE: 1:30mm

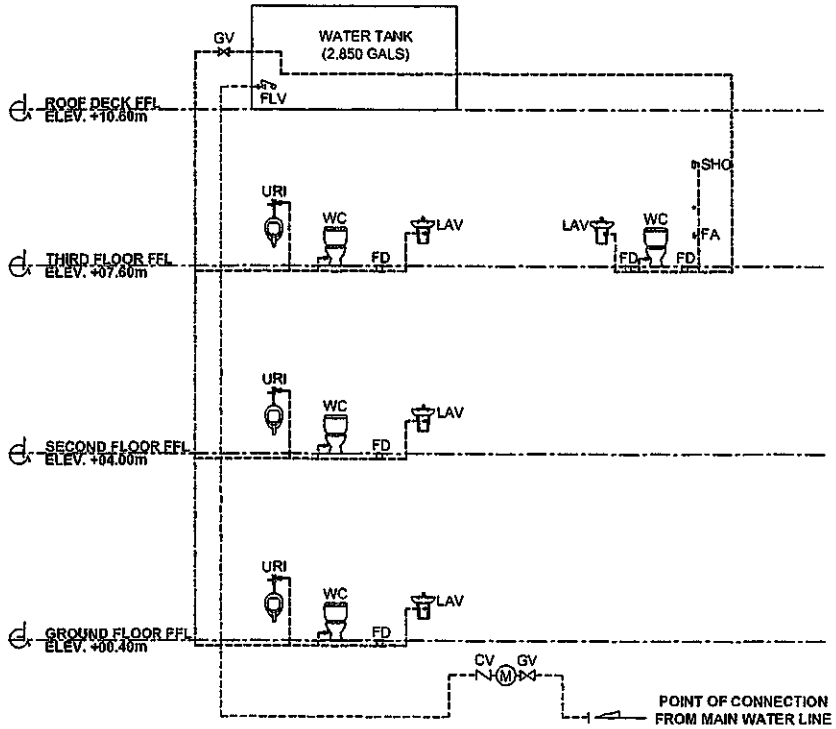


TESDA INNOVATION CENTER-NCR
ACCEPTABLE HANGERS
SCALE: 1:30mm

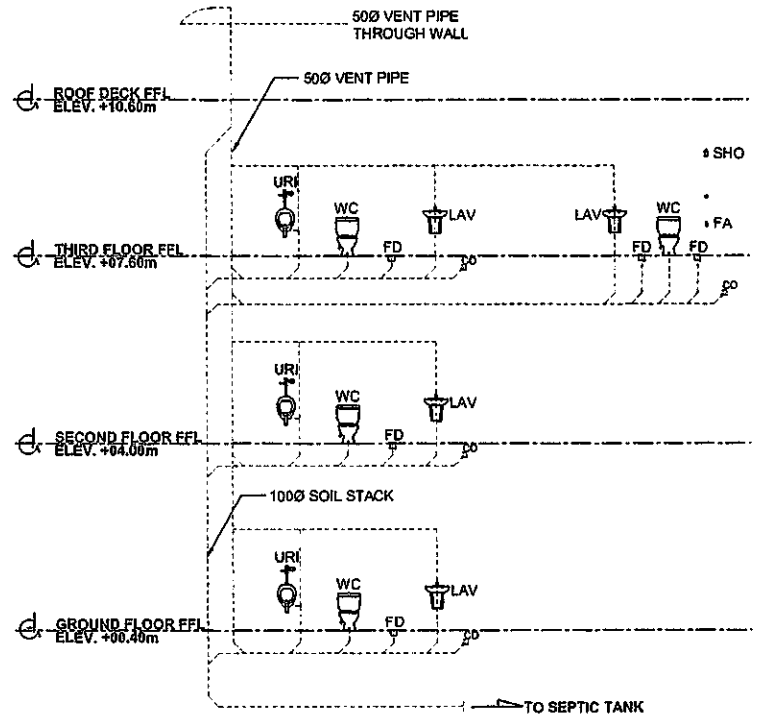


TESDA INNOVATION CENTER-NCR
VENT THRU ROOF DETAIL
SCALE: 1:30mm

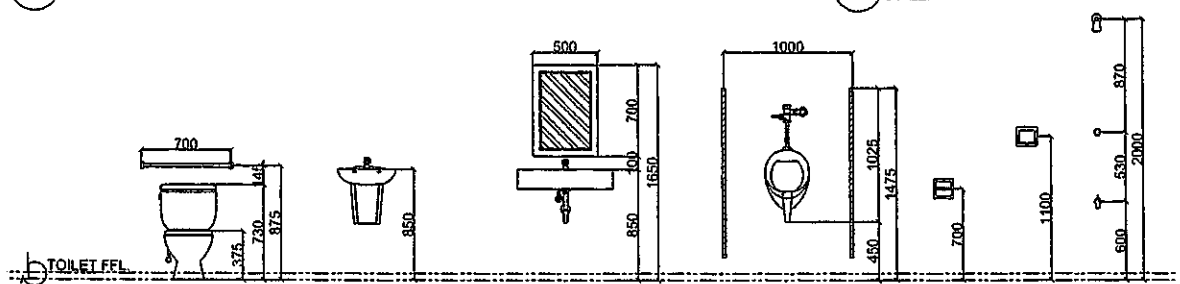
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DANILO L. BUNDALLON, EXECUTIVE DIRECTOR, TIRESD	RECOMMENDING APPROVAL: DIR. JUDEY C. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. CAPERA, PHD., CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR	CADD BY: MS. GRACIE C. TEODORO, CAD OPERATOR, SPU-CDD	REVIEWED AS TO PLAN: ARCH. HUMFE A. MENDOZA, ARCHITECT, SPU-CDD	SUBMITTED BY: ENGR. ROYLOUIS P. MINGARACAL, HEAD, SPU-CDD	SHEET CONTENTS: DETAIL OF CLEANOUT; DETAIL OF DRAIN; DETAIL OF HANGERS; ACCEPTABLE HANGERS; VENT THRU ROOF DETAIL; CATCH BASIN DETAILS; SEPTIC TANK DETAILS	SHEET NO: P-2



TESDA INNOVATION CENTER-NCR
WATERLINE RISER DIAGRAM
SCALE: 1:100mm



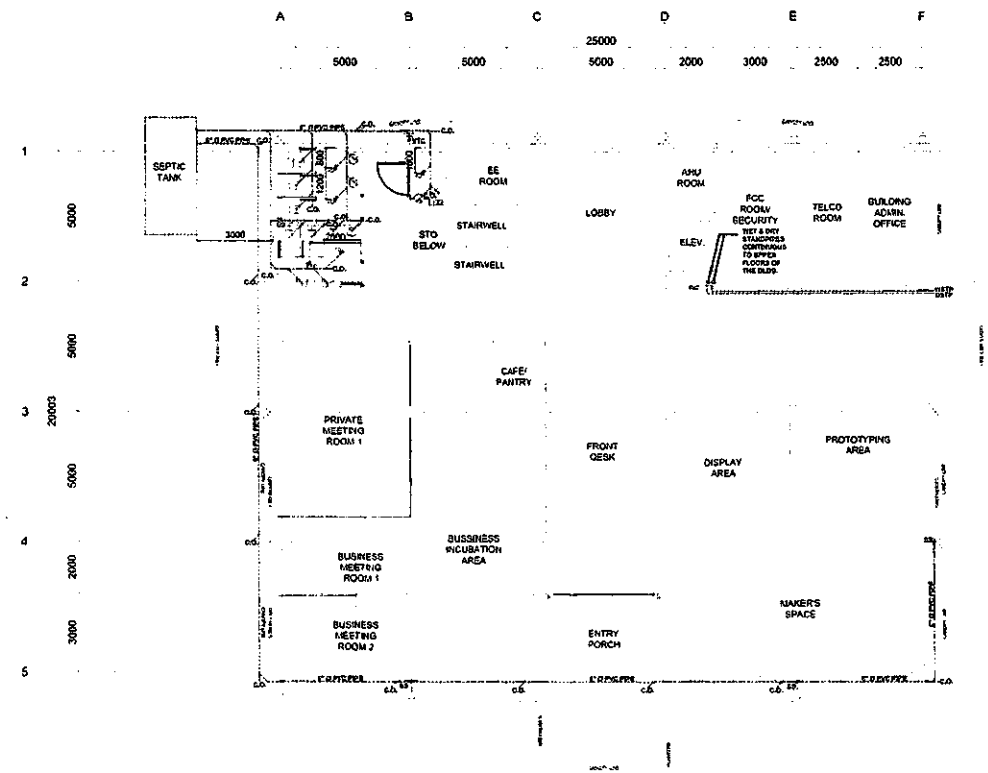
TESDA INNOVATION CENTER-NCR
SANITARY RISER DIAGRAM
SCALE: 1:100mm



TESDA INNOVATION CENTER-NCR
PLUMBING FIXTURES HEIGHT
SCALE 1:40mm

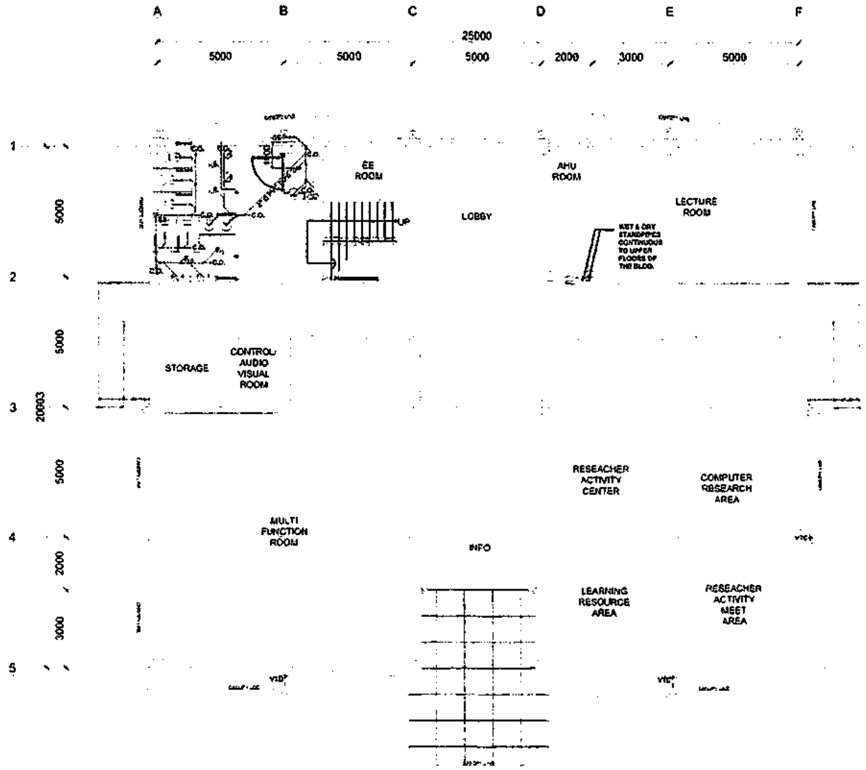
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DANIEL S. SUMGALLON, EXECUTIVE DIRECTOR, NTESD	RECOMMENDING APPROVAL: DIR. JUANITO I. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD, CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		CADD BY: MS. GRACIE C. TEODORO, CAD OPERATOR, EPU-CDD	REVIEWED AS TO PLAN: ARCH. RUNIBEL A. MENDOZA, ARCHITECT, EPU-CDD	SUBMITTED BY: ENGR. ROY LOUIS P. MINGARACAL, HEAD, EPU-CDD	SHEET CONTENTS: WATERLINE RISER DIAGRAM; SANITARY RISER DIAGRAM; PLUMBING FIXTURES HEIGHT	SHEET NO: P-3

NOTE: FOR WET AND DRY STAND PIPES,
SIZES OF PIPES ARE 2" BLACK IRON PIPE,
EMBED IN CHB WALL PLASTERED FINISH.



TESDA INNOVATION CENTER-NCR
GROUND FLOOR SANITARY LAYOUT
SCALE: 1:200mm

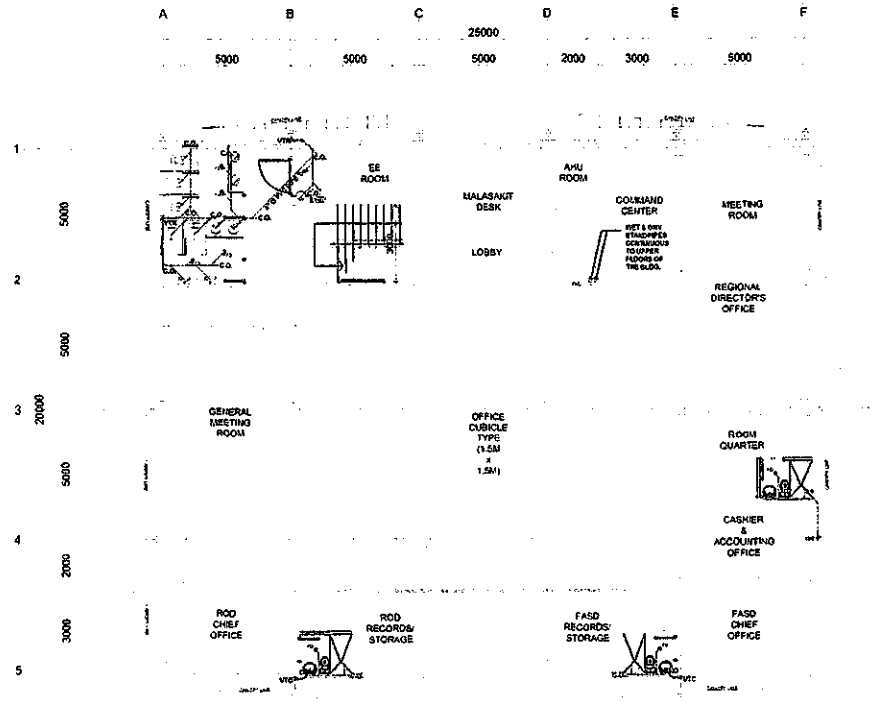
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID B. BUNGALLON, EXECUTIVE DIRECTOR, HTEED	RECOMMENDING APPROVAL: DIR. ALBERT O. DROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD, CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR	PREPARED BY: ARCH. RUNEL A. MENDOZA, ARCHITECT, SPLA000	CHECKED & SUBMITTED AS TO PLAN BY: ENGR. ROY LOUIS T. MINGARACAL, HEAD, BPS-000	SHEET CONTENTS: GROUND FLOOR SANITARY LAYOUT	SHEET NO.: P - 4



TESDA INNOVATION CENTER-NCR

SECOND FLOOR SANITARY LAYOUT

SCALE: 1:200mm

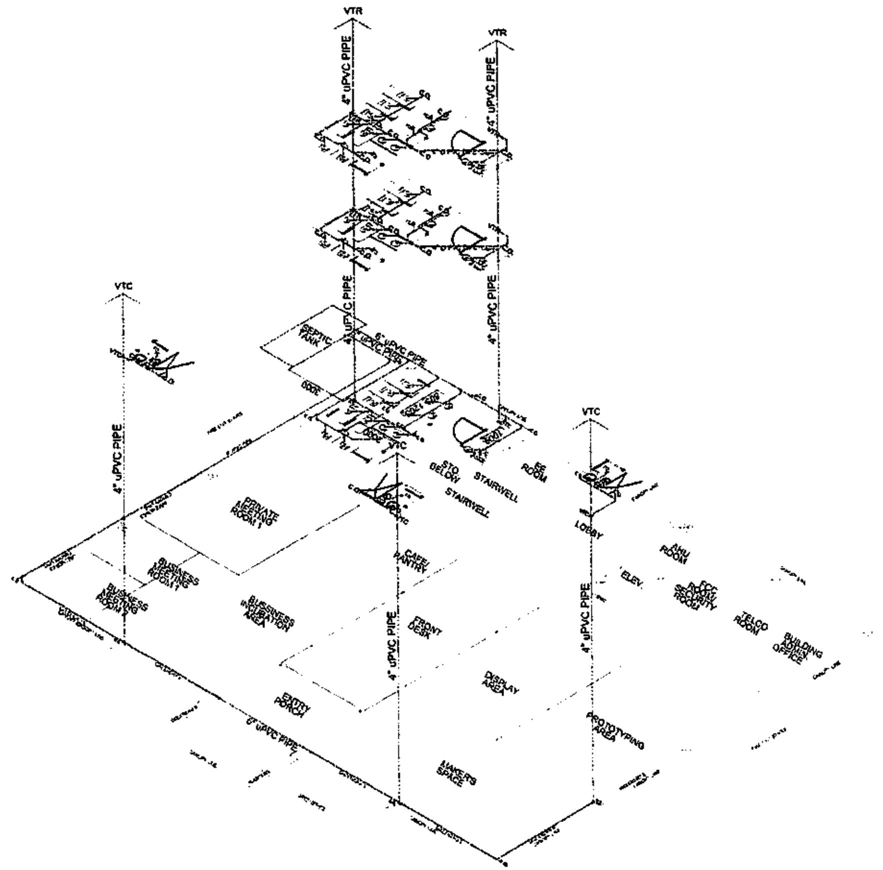


TESDA INNOVATION CENTER-NCR

THIRD FLOOR SANITARY LAYOUT

SCALE: 1:200mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID B. BUNGALLON, EXECUTIVE DIRECTOR, NITESD	RECOMMENDING APPROVAL: DIR. JULIET C. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR		PREPARED BY: ARCH. RUNEL A. MENDOZA, ARCHITECT, SPMGDD	CHECKED & SUBMITTED AS TO PLAN BY: ENGR. ROY LOUIE F. MINGARACAL, HEAD, SPMGDD	SHEET CONTENTS: SECOND FLOOR SANITARY LAYOUT	SHEET NO. P- 5

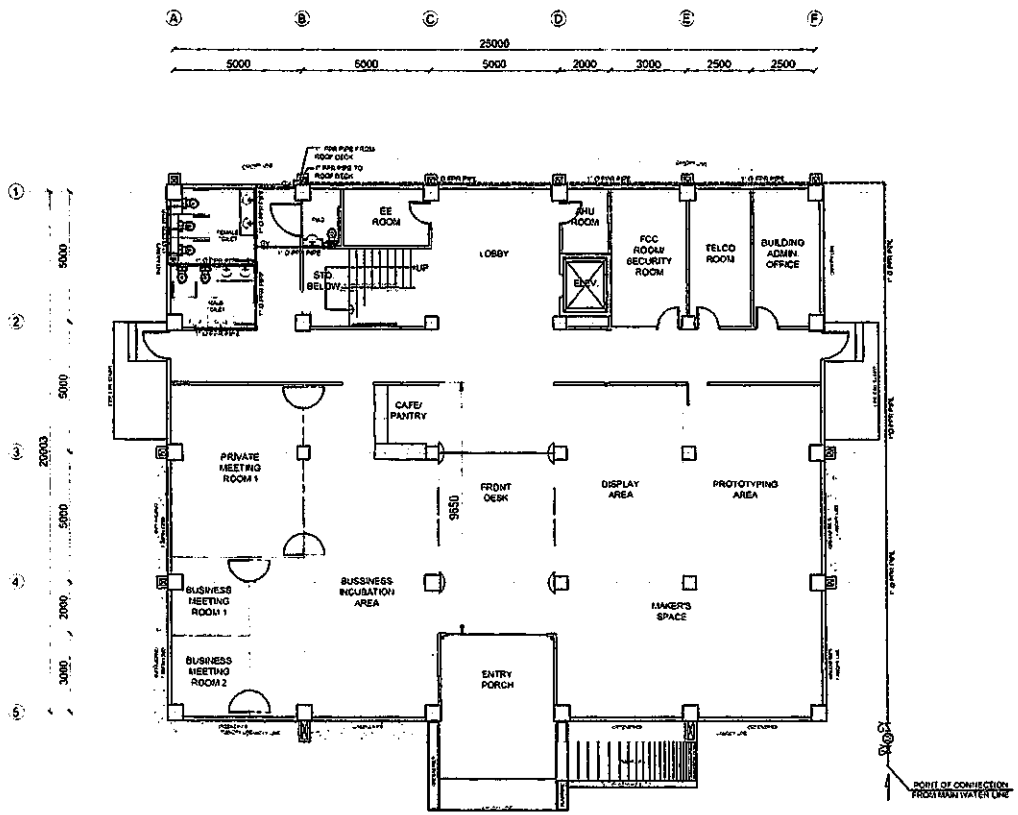


TESDA INNOVATION CENTER-NCR

SANITARY ISOMETRIC LAYOUT

SCALE: 1:200mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	PREPARED BY	CHECKED & SUBMITTED AS TO PLAN BY	SHEET CONTENTS	SHEET NO.
	DIR. DAVID B. BUNGALLON, EXECUTIVE DIRECTOR, NITESD	DIR. JULIET C. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	ARCH. RUNIEL A. MENDOZA, ARCHITECT, SPMODG	ENGR. ROY LOUIE P. MINGARACAL, HEAD, SPMODG	SANITARY ISOMETRIC LAYOUT	P- 6

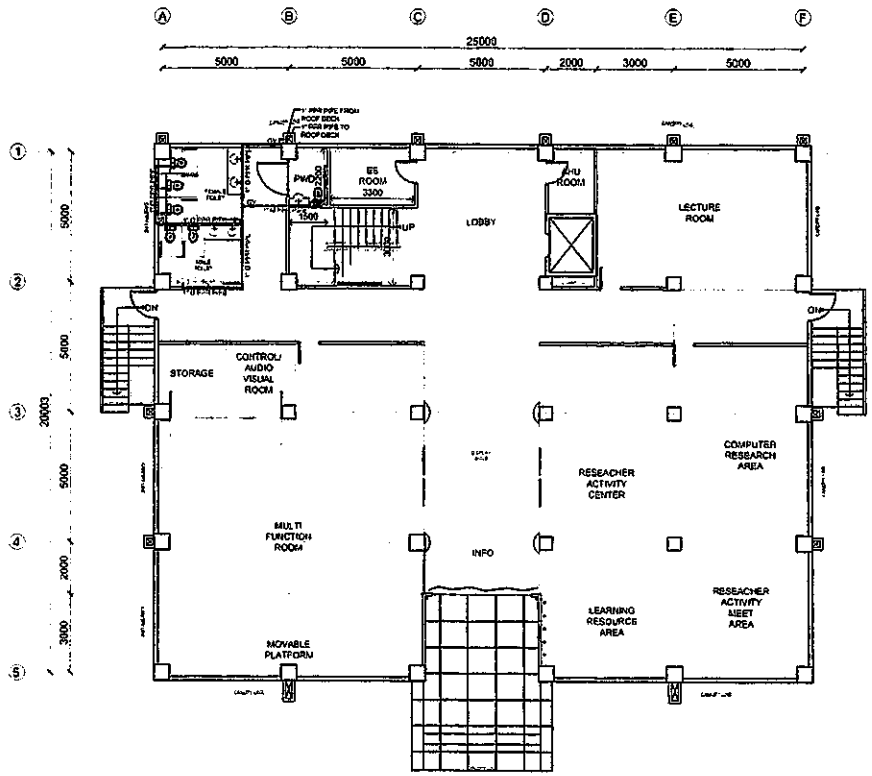


TESDA INNOVATION CENTER-NCR

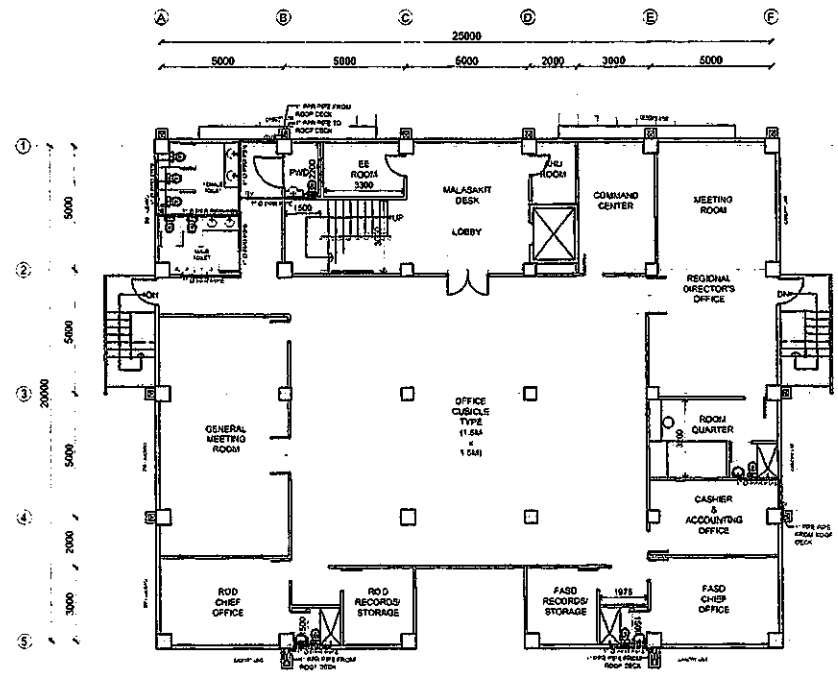
GROUND FLOOR WATERLINE LAYOUT

SCALE: 1:200mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID V. BUNGALLON, EXECUTIVE DIRECTOR, NTESD	RECOMMENDING APPROVAL: DIR. JUDEY O. OROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD, CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR	CADD BY: MS. GRACIE C. TEODORO, CAD OPERATOR, SPU-DOD	REVIEWED AS TO PLAN: ARCH. RUINELA. REDOZA, ARCHITECT, SPU-DOD	SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, HEAD, SPU-DOD	SHEET CONTENTS: GROUND FLOOR WATERLINE LAYOUT	SHEET NO: P-7



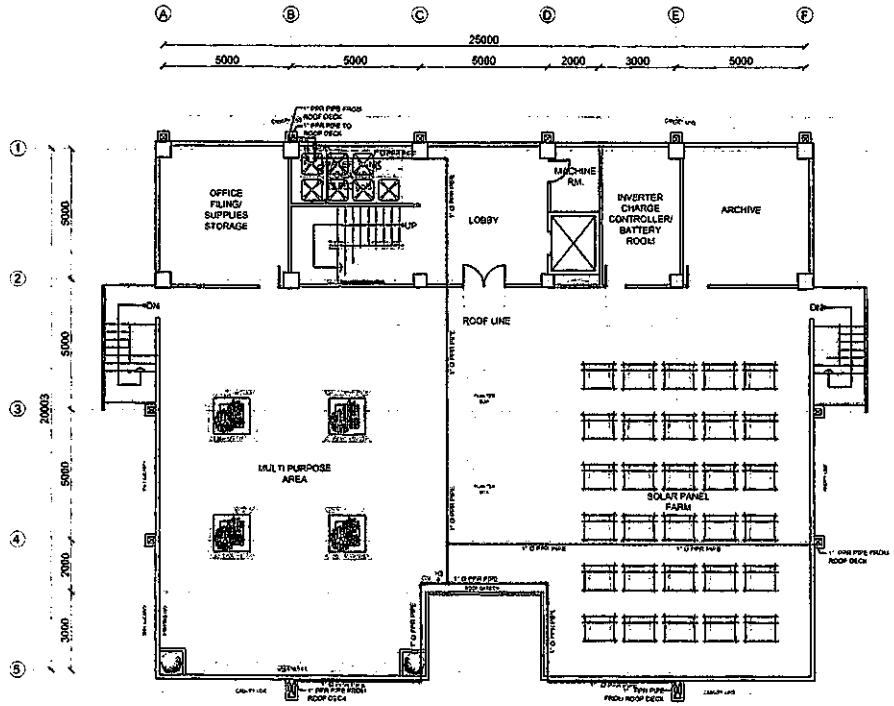
TESDA INNOVATION CENTER-NCR
SECOND FLOOR WATERLINE LAYOUT
SCALE: 1:200mm



TESDA INNOVATION CENTER-NCR
THIRD FLOOR WATERLINE LAYOUT
SCALE: 1:200mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	CADD BY	REVIEWED AS TC PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO.
DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR, ITESO	DIR. JUNETTE T. ORQZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD, CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	MS. GRACIE C. TEODORO CAD OPERATOR SPU-OOD	ARCH. RIKUEL A. MENDOZA ARCHITECT, SPU-OOD	ENGR. ROY LOUIE S. MINGARACAL HEAD, SPU-OOD	SECOND FLOOR WATERLINE LAYOUT THIRD FLOOR WATERLINE LAYOUT	P-8

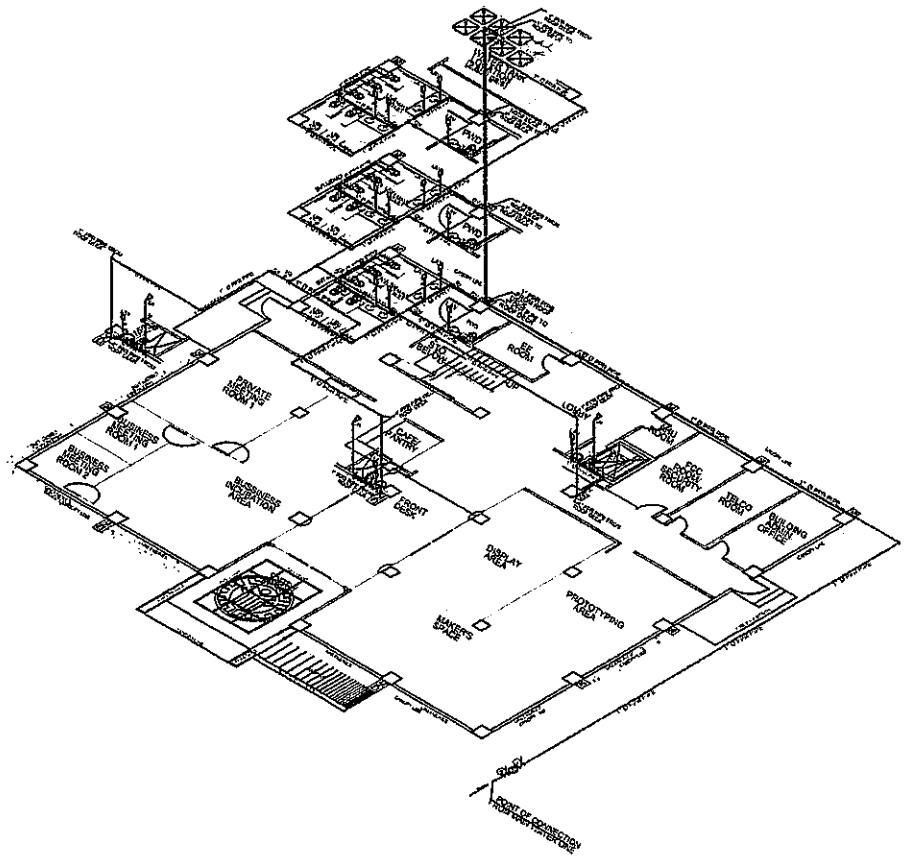


TESDA INNOVATION CENTER-NCR

ROOF DECK WATERLINE LAYOUT

SCALE: 1:200mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID B. BUNGALLON, EXECUTIVE DIRECTOR, NTESD	RECOMMENDING APPROVAL: DIR. JUANITO O. VEROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. LAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR	CADD BY: MS. GRACIE C. TEODORO, CAD OPERATOR SPU-CDD	REVIEWED AS TO PLAN: ARCH. RUNIEL A. MENDOZA, ARCHITECT SPU-CDD	SUBMITTED BY: ENGR. ROY LOUIE T. MINGARACAL, HEAD SPU-CDD	SHEET CONTENTS: ROOF DECK WATERLINE LAYOUT	SHEET NO.: P-9

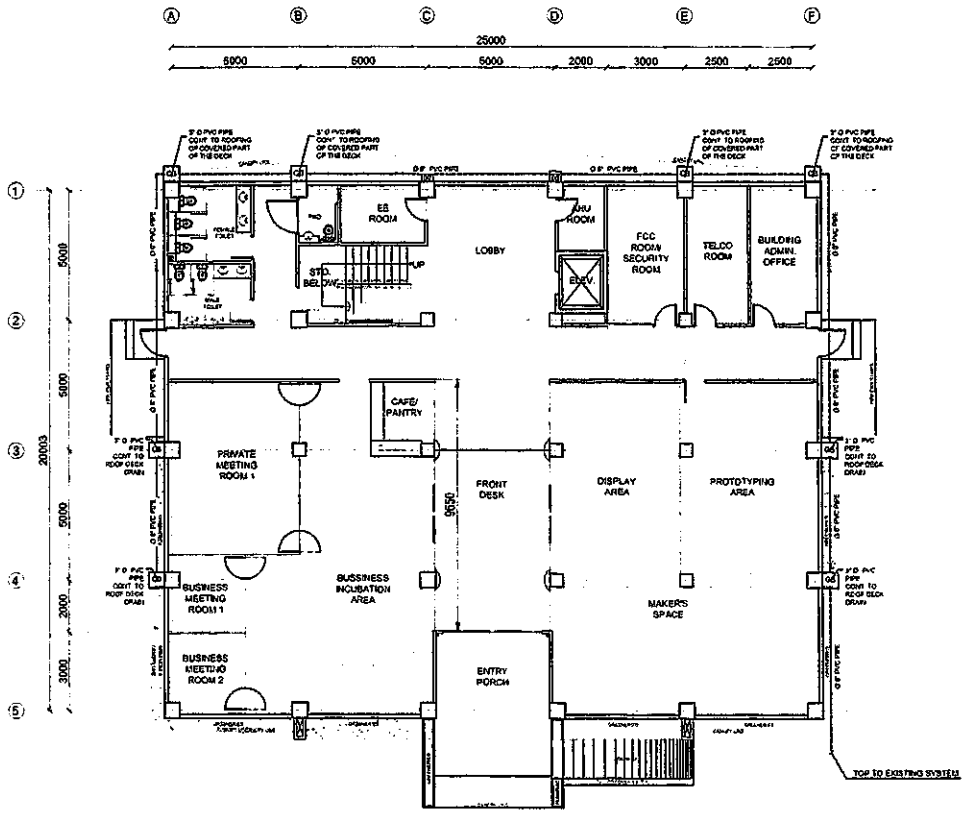


TESDA INNOVATION CENTER-NCR

WATERLINE ISOMETRIC LAYOUT

SCALE: 1:200mm

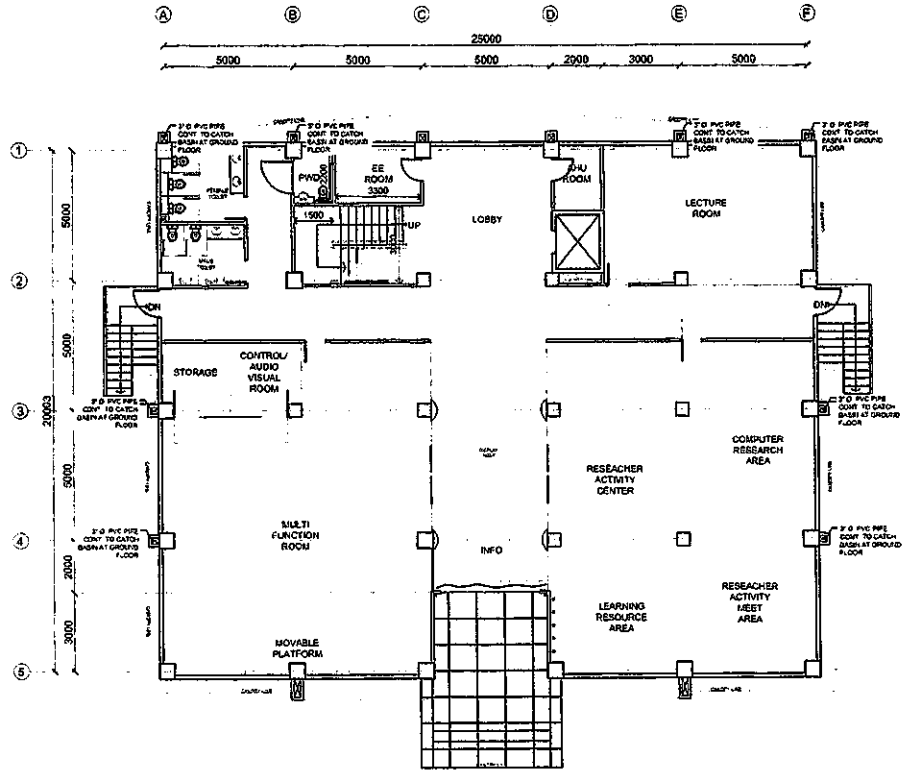
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE	CADD BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS / SHEET NO.
	DIR. OLIVIO B. SUINGALLON EXECUTIVE DIRECTOR, NTESD	DIR. JULIET PONTROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	MS. GRACIE C. TEODORO CAD OPERATOR, SPU-DDO	ARCH. RUNIEL A. MENDOZA ARCHITECT SPUDDO	ENGR. ROY LOUIE P. MINGARACAL HEAD SPUDDO	WATERLINE ISOMETRIC LAYOUT P- 10



TESDA INNOVATION CENTER-NCR

GROUND FLOOR STORM DRAINAGE LAYOUT

SCALE: 1:200mm

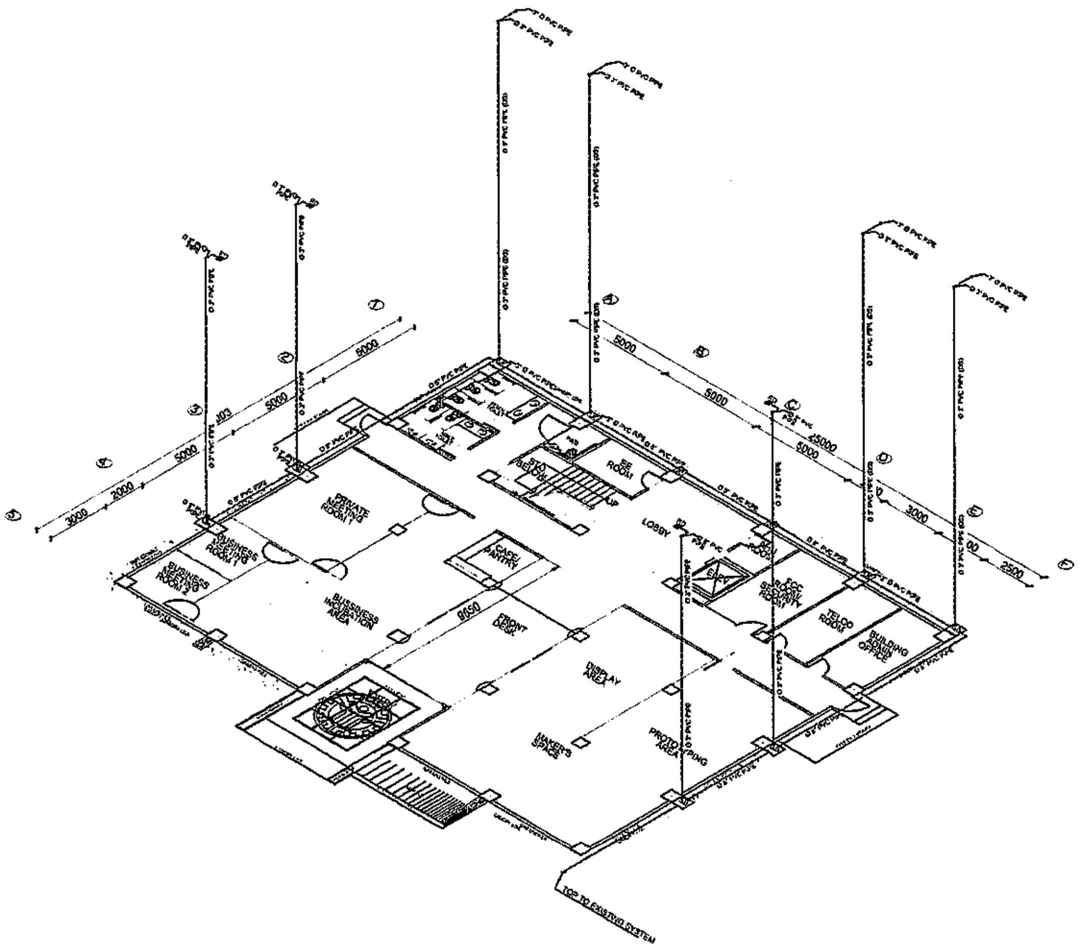


TESDA INNOVATION CENTER-NCR

ROOF DECK STORM DRAINAGE LAYOUT

SCALE: 1:200mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY: DIR. DAVID B. BURGALLON, EXECUTIVE DIRECTOR, NTESD	RECOMMENDING APPROVAL: DIR. JUDY D. AROZCO, CHIEF OF STAFF, OFFICE OF THE DIRECTOR GENERAL	APPROVED BY: SEC. ISIDRO S. PAPEÑA, PHD., CSEE, DIRECTOR GENERAL	PROJECT TITLE: PROPOSED TESDA INNOVATION CENTER - NCR	CADD BY: MS. GRACIE C. TEODORO, CAD OPERATOR, BPI-CDD	REVIEWED AS TO PLAN: ARCH. ROMEL A. MENDOZA, ARCHITECT, BPI-CDD	SUBMITTED BY: ENGR. ROY LOUIE P. MINGARACAL, HEAD, BPI-CDD	SHEET CONTENTS: GROUND FLOOR STORM DRAINAGE LAYOUT; SECOND FLOOR STORM DRAINAGE LAYOUT	SHEET NO. P- 11



TESDA INNOVATION CENTER-NCR

STORM DRAINAGE ISOMETRIC LAYOUT

SCALE: 1:200mm

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY	CONCURRED BY	RECOMMENDING APPROVAL	APPROVED BY	PROJECT TITLE		CADD BY	REVIEWED AS TO PLAN	SUBMITTED BY	SHEET CONTENTS	SHEET NO.
	DIR. DAVID B. BUNGALLON EXECUTIVE DIRECTOR, NITESD	DIR. JULIUS ... OROZCO CHIEF OF STAFF OFFICE OF THE DIRECTOR GENERAL	SEC. ISIDRO S. LAPEÑA, PHD., CSEE DIRECTOR GENERAL	PROPOSED TESDA INNOVATION CENTER - NCR	[illegible]	MS. GRACIE C. TEODORO CAD OPERATOR, SPU-OOO	ARCH. RUNIEL A. MENDOZA ARCHITECT, SPU-OOO	ENGR. ROY LOUIE P. MINGARACAL HEAD, SPFOOO	STORM DRAINAGE ISOMETRIC LAYOUT	P- 12

Section VIII. Bill of Quantities

Section VIII. Bill of Quantities

DETAILED ESTIMATES OF PROPOSED WORKS

NO.	DESCRIPTION	AMOUNT
A	GENERAL REQUIREMENTS	
B	DIRECT COST	
I	Earthworks	
II	Concreting Works	
III	Steel Works	
IV	Masonry Works	
V	Formworks	
VI	Roofing Works	
VII	Doors and Windows	
VIII	Aluminum Composite Panel and Façade	
IX	Finishing Works	
X	Electrical Works	
XI	Plumbing Works	
XII	Equipment Operational and Rental Cost	
C	INDIRECT COST	
I	Overhead Contingencies and Miscellaneous	
II	Contractor's Profit	
III	Value Added Tax	
D	TOTAL CONSTRUCTION COST (A+B+C)	
E	ENGINEERING AND ADMINISTRATIVE OVERHEAD COST	
TOTAL ESTIMATED COST		

BILL OF QUANTITIES

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	MATERIAL COST	LABOR COST	TOTAL COST
A	**GENERAL REQUIREMENTS**						
	Mobilization and Demobilization	1	lot				
	Demolition	221	sqm				
	Site Cleaning/ Clearing	1	lot				
	Occupational Safety and Health Program	1	lot				
	Permits and Clearances	1	lot				
	Project BillBoard	1	lot				
						Total, General Requirements	
B	**DIRECT COST**						
	I. Earthworks						
	Structure Excavation (common soil)	1,050	cum				
	Embankment (From Structure Excavation)	915	cum				
						Subtotal, Earthworks	
	II. Concreting Works						
	Beams	174.31	cum				
	Cement (40kg)	1,569	bag				
	Sand, Washed	87	cum				
	Gravel, 3/4"	175	cum				
	Columns and Shearwall	142.62	cum				
	Cement (40kg)	1,284	bag				
	Sand, Washed	72	cum				
	Gravel, 3/4"	143	cum				
	Slab	156.37	cum				
	Cement (40kg)	1,821	bag				
	Sand, Washed	106	cum				
	Gravel, 3/4"	249	cum				
	Stairs and Railings						
	Cement (40kg)	144	bag				
	Sand, Washed	9	cum				
	Gravel, 3/4"	17.4	cum				
	Footing	132.5	cum				
	Cement (40kg)	1,193	bag				
	Sand, Washed	67	cum				
	Gravel, 3/4"	133	cum				
	Consumables	1	lot				
						Subtotal, Concreting Works	
	III. Steel Works						
	Beams	27,819	kg				
	10mm ø x 6m RSB (Def)	2,346	pc				
	12mm ø x 6m RSB (Def)	8	pc				
	16mm ø x 6m RSB (Def)	1,166	pc				
	20mm ø x 6m RSB (Def)	288	pc				
	25mm ø x 6m RSB (Def)	169	pc				
	#16 G.I. Tie wire	90	kg				
	Columns and Shearwall	34,951	kg				
	10mm ø x 6m RSB (Def)	4,544	pc				

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	MATERIAL COST	LABOR COST	TOTAL COST
	12mm ø x 6m RSB (Def)	208	pc				
	16mm ø x 6m RSB (Def)	951	pc				
	20mm ø x 6m RSB (Def)	507	pc				
	25mm ø x 6m RSB (Def)	19	pc				
	#16 G.I. Tie wire	70	kg				
	Slab	28,090.94	kg				
	10mm ø x 6m RSB (Def)	509	pc				
	12mm ø x 6m RSB (Def)	5,261	pc				
	#16 G.I. Tie wire	600	kg				
	Stairs and Railings						
	10mm ø x 6m RSB (Def)	111	pc				
	12mm ø x 6m RSB (Def)	180	pc				
	#16 G.I. Tie wire	15	kg				
	Metal railings	50	m				
	Footing	4,075	kg				
	12mm ø x 6m RSB (Def)	574	pc				
	16mm ø x 6m RSB (Def)	389	pc				
	25mm ø x 6m RSB (Def)	120	pc				
	32mm ø x 6m RSB (Def)	80	pc				
	#16 G.I. Tie wire	190	kg				
	Consumables	1	lot				
						Subtotal, Steel Works	
	IV. Masonry Works						
	Cement (40kg)	1,509	bag				
	Sand, Screened	80.7	cum				
	Sand, Fine	43.3	cum				
	4"CHB	11,664	pc				
	6"CHB	5,867	pc				
	10mm ø x 6m RSB (Def)	957	pc				
	#16 G.I. Tie wire	62	kg				
	Masonry trowel	25	pc				
	Float trowel	30	pc				
						Subtotal, Masonry Works	
	V. Form Works						
	3/4" Phenolic Board	453	pc				
	2x3x10 Good lumber	2379	pc				
	2x4x10 Good lumber	723	pc				
	#2 1/2 CW Nails	62	kg				
	#1 Finishing Nail	26	kg				
						Subtotal, Form Works	
	VI. Roofing Works						
	2"x4"x1.8mm THK C PURLIN	42	pc				
	2"X2"X3mm THK ANGLE BAR	83	pc				
	300x300x12mm Steel Plate	22	pc				
	16ø A-325 bolt	90	pc				
	Concrete leveling grout	2	bag				
	Long Span Roofing sheet (4" width)	176	sqm				
	Roofing Accessory (Gutter)	27	m				
	#12 Self drilling screw	2	box				
	Welding rod 5kg/box	4	box				

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	MATERIAL COST	LABOR COST	TOTAL COST
	Consumables	1	lot				
						Subtotal, Roofing Works	
	VII. Doors and Windows (See schedule of Doors and Windows for specifications, All must be complete in Accessories)						
	D-1, Double Sliding Door	16.88	sqm				
	D-2, Single Swing Steel Door	21.60	sqm				
	D-3, Panel Door	21.42	sqm				
	D-4, Flush Door	27.54	sqm				
	D-5, PWD Flush Door	7.88	sqm				
	D-6, Two-leaf, Panel Door	6.30	sqm				
	D-7, Panel Door, Swing	28.35	sqm				
	D-8, Two-leaf, Glass Door, Swing	8.40	sqm				
	D-9, Single-leaf, Glass Door	3.78	sqm				
	D-10, Two-leaf, Sliding Glass Door	8.40	sqm				
	W-1, Awning type, Glass Window	23.76	sqm				
	W-2, Awning type, Glass Window	0.972	sqm				
	W-3, Awning type, Glass Window	2.16	sqm				
	W-4, Awning type, Glass Window	3.6	sqm				
	W-5, Awning type, Glass Window	1	sqm				
	W-6, Louvered Window	43.2	sqm				
	W-7, Awning type, Glass Window	17.28	sqm				
	W-8, Awning type, Glass Window	9.72	sqm				
						Subtotal, Doors and Windows	
	VIII. Aluminum Composite Panel and Façade						
	Aluminum Metal Cladding	15	sqm				
	Tempered Glass Walls/Barriers, 10mm	282.48	sqm				
	Tempered Glass Walls/Barriers, 6mm	113.129	sqm				
	Consumables	1	lot				
						Subtotal, Aluminum Composite Panel and Façade	
	IX. Finishing Works						
	3/4" Marine Plywood	564.24	pc				
	Good Lumber	7074.76	bdft.				
	Mirror	21	sq.ft.				
	Assorted Common Nails	58.368	kg				
	Assorted Concrete Nails	152	pc				
	Assorted Finishing Nails	182.4	bag				
	Metal Furrings, Ga. 24	708.4	pc				
	Threaded Rod, 3/8" x 8'	77	pc				
	Consumables	1	lot				
						Subtotal, Finishing Works	
	X. Electrical Works						
	Lighting and Small Power System						
	1200mmx300mm, 2x20W Ceiling Recessed Fluorescent Lighting Fixture	114	pc				
	1200mm, 20W Surface mounted LED Fluorescent Light	46	pc				

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	MATERIAL COST	LABOR COST	TOTAL COST
	13W, Recessed mounted LED Down light	189	pc				
	13W, Wall mounted LED Down light	10	pc				
	5x13W Track Lighting Fixture	1	pc				
	Wall mounted, Elevator Shaft lighting	2	pc				
	13W Surface mounted uplight	12	pc				
	8W Exit light with 2hrs Battery pack	6	pc				
	8W LED Strip @ 5m	28	pc				
	2hrs battery pack	98	pc				
	1 Gang switch, 15A, 230V	39	set				
	2 Gang switch, 15A, 230V	7	set				
	3 Gang switch, 15A, 230V	9	set				
	Convenience Outlet, Simplex, 15A, 220V	9	set				
	Convenience Outlet, Duplex, 15A, 220V	48	set				
	Special Purpose Outlet	3	set				
	Floor Mounted Convenience Outlet, Duplex, 15A, 220V	55	set				
	15A, 230V Disconnect Switch	8	set				
	20AT, 1Ø, 230V Enclosed Circuit Breaker	4	set				
	30AT, 1Ø, 230V Enclosed Circuit Breaker	3	set				
	50AT, 3Ø, 230V Enclosed Circuit Breaker	4	set				
	100AT, 3Ø, 230V Enclosed Circuit Breaker	5	set				
	Ground Rod	7	pc				
	Ground Test Pit	2	pc				
	Utility Box	138	pc				
	Junction Box	555	pc				
	Consumables	1	lot				
	Auxiliary System						
	Conventional Smoke Detector with standard detector base	63	pc				
	Addressable Sounder with Strobe light	13	pc				
	Addressable Manual Pull Station	4	pc				
	Fireman's Telephone Jack	4	pc				
	Addressable Module	5	pc				
	Fire Alarm Control Panel with Fire fighter's Telephone Control Unit	1	assy				
	Fire Alarm Terminal Box	4	assy				
	Voice/Data outlet	42	set				
	Floor Mounted, Voice/Data Outlet	28	set				
	Wireless Access Point	5	pc				
	Junction Box	148.2	pc				
	Pull boxes 300mmx300mm	3	pc				

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	MATERIAL COST	LABOR COST	TOTAL COST
	Utility Box	50	pc				
	Consumables	1	lot				
	Electrical Wires, Conduits and Fittings						
	3.5mm² THWN	5,107	lm				
	5.5mm² THWN	540	lm				
	8.0mm² THWN	812	lm				
	14mm² THWN	198	lm				
	30mm² THWN	78	lm				
	50mm² THWN	5	lm				
	60mm² THWN	173	lm				
	200mm² THWN	153	lm				
	3.5mm² TW	2,553	lm				
	5.5mm² TW	352	lm				
	8.0mm² TW	47	lm				
	14mm² TW	15	lm				
	30mm² TW	38	lm				
	100mm² BCW	160	lm				
	3m x 20mmØ PVC	851	lm				
	3m x 25mmØ PVC	50	lm				
	3m x 32mmØ PVC	91	lm				
	3m x 90mmØ PVC	13	lm				
	3m x 25mmØ IMC	3	lm				
	3m x 32mmØ IMC	7	lm				
	3m x 50mmØ IMC	6	lm				
	Consumables	1	lot				
	Auxiliary Wires, Conduits and Fittings						
	18 AWG Fire resistant Fire Alarm Cable	1,113	lm				
	CAT6 UTP Cable	678	lm				
	18 AWG TF Wire	896	lm				
	3m x 20mmØ PVC	524	lm				
	3m x 32mmØ PVC	18	lm				
	3m x 110mmØ PVC	16	lm				
	3m x 50mmØ EMT	34	lm				
	Consumables	1	lot				
	Distribution System						
	MDP-GF, MAIN: 300AT, 400AF, 3P, 400V, MCCB. BRANCHES: 1 - 40AT, 100AF, 3P,400V MCCB; 4 - 50AT, 100AF, 3P,400V MCCB; 1 - 100AT, 100AF, 3P,400V MCCB; 1 - 125AT, 150AF, 3P,400V MCCB; 1 - 150AT, 150AF, 3P,400V MCCB	1	assy				
	PP-2F, MAIN: 50AT, 100AF, 3P, 400V, MCCB. BRANCHES: 32 - 20AT, 100AF, 1P, 230V MCCB 2 - 20AT, 100AF, 3P,400V MCCB; 2 - 30AT, 100AF, 3P,400V MCCB;	1	assy				

	DESCRIPTION		QUANTITY	UNIT	UNIT COST	MATERIAL COST	LABOR COST	TOTAL COST
	PP-GF-ADMIN, MAIN: 50AT, 100AF, 3P, 400V, MCCB. BRANCHES: 8 - 20AT, 100AF, 1P, 230V MCCB 2 - 20AT, 100AF, 3P,400V MCCB		1	assy				
	PP-TELCO, MAIN: 100AT, 100AF, 3P, 400V, MCCB. BRANCHES: 6 - 20AT, 100AF, 1P, 230V MCCB 2 - 70AT, 100AF, 1P,230V MCCB		1	assy				
	PP-3F, MAIN: 40AT, 100AF, 3P, 400V, MCCB. BRANCHES: 18 - 20AT, 100AF, 1P, 230V MCCB 2 - 20AT, 100AF, 3P,400V MCCB		1	assy				
	PP-RD-LIFT, MAIN: 125AT, 150AF, 3P, 400V, MCCB. BRANCHES: 2 - 100AT, 100AF, 3P, 400V MCCB 4 - 20AT, 100AF, 1P,230V MCCB;		1	assy				
	DP-RD-LIFT, MAIN: 150AT, 150AF, 3P, 400V, MCCB. BRANCHES: 2 - 125AT, 150AF, 3P, 400V MCCB 4 - 50AT, 100AF, 3P, 400V MCCB; 6 - 20AT, 100AF, 1P, 230V MCCB; 2 - 20AT, 100AF, 3P, 400V MCCB;		1	assy				
	PP-GF-MECH, MAIN: 125AT, 150AF, 3P, 400V, MCCB, BRANCHES: 4 - 100AT, 100AF, 3P, 400V MCCB 6 - 20AT, 100AF, 1P,230V MCCB; 4 - 30AT, 100AF, 1P, 230V MCCB; 2 - 20AT, 100AF, 3P,400V MCCB		1	assy				
	Kilowatt-hour Meter							
	Miscellaneous Items							
	Minor Tools and equipment		1	lot				
	Hangers and supports		1	lot				
	Fittings							
	Labels							
	Flexible Metallic Conduit							
	Electrical Tape							
	Mica Tube							
						Subtotal, Electrical Works		
	XI. Plumbing Works							
	Sanitary Sewer, Waste & Vent (Cast Iron)							
	PVC Pipe	100mm Ø x 10 ft	57	pc				
	PVC Pipe	150mm Ø x 10 ft	29	pc				

	DESCRIPTION		QUANTITY	UNIT	UNIT COST	MATERIAL COST	LABOR COST	TOTAL COST
	PVC Wye Reducer	100 x 100 mm Ø	90	pc				
	PVC TEE Reducer	150 x 100 mm Ø	8	pc				
	PVC Clean Out	100 mm Ø	50	pc				
	PVC Elbow	150mm, 45 degrees	31	pc				
	PVC Elbow	150mm, 90 degrees	25	pc				
	Consumables (Hangers, Supports etc.)		1	lot				
	Water Distribution System							
	PPR PIPE	1" X 10'	78	pc				
	PPR Elbow	1",90 degrees	80	pc				
	PPR TEE	1"	57	pc				
	PPR Coupling	1"	42	pc				
	Ball Valve	1", PVC	15	pc				
	Gate Valve	1", PPR	1	pc				
	Check Valve	1"	3	pc				
	Consumables (Hangers, Supports etc.)		1	lot				
	Storm Water Drainage System							
	PVC Pipe	75 mm Ø X 10ft	55	pc				
	PVC Coupling	75 mm Ø	27	pc				
	Consumables (Hangers, Supports etc.)		1	lot				
	Plumbing Fixtures							
	Lavatory	Inc. fittings & Accessories, American STD or Equivalent, Slop Sink typ.	15	set				
	Lavatory	Inc. fittings & Accessories, American STD or Equivalent	3	set				
	Watercloset	Inc. fittings & Accessories, American STD or Equivalent	18	set				
	Faucet	Bronze or Equivalent	28	pc				

DESCRIPTION			QUANTITY	UNIT	UNIT COST	MATERIAL COST	LABOR COST	TOTAL COST
	Urinal	Inc. fittings & Accessories, American STD or Equivalent	6	set				
	Shower Head	set w/valve	3	set				
	Soap Holder	Plastic, PVC Type	6	pc				
	Floor Drain	4" x 4", Stainless	18	pc				
	Grab bar	Stainless, 1" L-type	3	set				
	Grab bar	Stainless, 1" x 24"	3	set				
	Mirror		63	sq.ft.				
	Water Tank	Cylindrical, 500 gal. cap.	1	set				
	Consumables		1	lot				
	Miscellaneous Items							
	Cementitous Water Proofing		10	gal				
	Water Proofing, with Fiber Glass, Epoxy Resin		360	sq.m.				
	Consumables		1	lot				
							Subtotal, Plumbing Works	

XII. Equipment Operational and Rental Cost

DESCRIPTION	DAILY WAGE	SSS/EC	PHILHEALTH	PAG-IBIG	MONTHLY RATE W/ BENEFITS (25 DAYS)	COST FOR TARGET WORKING DAYS (300)
Operational Cost						
Heavy Equipment Operator						
Highly Skilled Labor						
Driver						
Skilled Labor						
Unskilled Labor						

Equipment Rental

DESCRIPTION	CAPACITY	RENTAL RATE	NO. OF RENTAL HOURS	NO. OF RENTAL IN DAYS	RENTAL COST
Truck Mounted Crane, Scissors Lift, Terrain	40' hts x 46' range				
Backhoe w/ Breaker	0.80 cu.m./1.4 cu.yd				
One Bagger Mixer	4-6ft				
Dump Truck	12 yd				
Jack Hammer	-				
Water Pump, 100 mm Suction	-				

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	MATERIAL COST	LABOR COST	TOTAL COST
	Chainsaw	7' reach, 9" Std. Blade					
	Consumables (Minor Tools, Misc. Equipment, Fuel, Oil, Lubricants, Equipment Maintenance, Etc.)	1 lot					
	Subtotal, Equipment Operational and Rental Cost						
	Total, Direct Cost						

C	**INDIRECT COST**	
	I. Overhead Contingencies And Miscellaneous (10%)	
	II. Contractor's Profit (8%)	
	III. Value Added Tax (5%)	
	Total, Indirect Cost	
D	Total Construction Cost (A+B+C)	
E	Engineering, Administrative Overhead (1.5%)	
	Total Estimated Cost	

I hereby commit to comply with all the above Bill of Quantities.

Name of Company/Bidder	Signature over Printed Name of Authorized Representative	Date

Section IX. Checklist of Technical and Financial Documents

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);
or

☐ (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document;
and

☐ (c) Mayor's or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;
and

☐ (d) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

Technical Documents

☐ (e) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**

☐ (f) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules; **and**

(g) Owner's Certificate of Acceptance or Constructors Performance Evaluation System (CPES) Rating; **and**

☐ (h) Philippine Contractors Accreditation Board (PCAB) License;
or
Special PCAB License in case of Joint Ventures;
and registration for the type and cost of the contract to be bid; **and**

☐ (i) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;
or
Original copy of Notarized Bid Securing Declaration; **and**

(j) Project Requirements, which shall include the following:

☐ a. Organizational chart for the contract to be bid;

☐ b. List of contractor's key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data;

☐ c. List of contractor's major equipment units, which are owned,

leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be; **and**

☐ (k) Original duly signed Omnibus Sworn Statement (OSS); **and** if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

☐ (l) The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**

☐ (m) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

Class "B" Documents

☐ (n) If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence;
or
duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

II. FINANCIAL COMPONENT ENVELOPE

☐ (o) Original of duly signed and accomplished Financial Bid Form; **and**

Other documentary requirements under RA No. 9184

☐ (p) Original of duly signed Bid Prices in the Bill of Quantities; **and**

☐ (q) Duly accomplished Detailed Estimates Form, including a summary shee indicating the unit prices of construction materials, labor rates, anc equipment rentals used in coming up with the Bid; **and**

☐ (r) Cash Flow by Quarter.

Note:

1. In case of inconsistency between the Checklist of Technical and Financial Documents for bidders and the provisions in the Instructions to Bidders, Bid Data Sheet and Specifications, the Instructions to Bidders, Bid Data Sheet and Specifications shall prevail.

2. In order to facilitate efficiency in evaluating all the documents submitted by the prospective bidder/supplier, we encourage all prospective bidders to put tabs in all documents to be submitted with the same number as indicated in this Checklist of Technical and Financial Document

STATEMENT OF (i) ONGOING CONTRACTS (ii) AWARDED BUT NOT YET STARTED CONTRACTS

This is to certify that _____(company)____ has the following ongoing and awarded but not yet started contracts:

Name of Contract/ Project Cost	a. Owner's Name b. Address c. Telephone Nos.	Nature of Work	Bidder's Role		a. Date Awarded b. Date Started c. Date of Completion	% of Accomplishment		Value of Outstanding Works / Undelivered Portion
			Description	%		Planned	Actual	
Government								
Private								
							Total Cost	

_____
Name and Signature of
Authorized Representative

_____
Date

**Instructions:*
a) State all ongoing contracts including those awarded but not yet started (government and private contracts which may be similar or not similar to the project called for bidding) as of:
i. The day before the deadline of submission of bids.
b) If there is no ongoing contract including awarded but not yet started as of the aforementioned period, state none or equivalent term.
c) The total amount of the ongoing and awarded but not yet started contracts should be consistent with those used in the Net Financial Contracting Capacity (NFCC) in case an NFCC is submitted as an eligibility document.
d) "Name of Contract". Indicate here the Nature/ Scope of the Contract for easier tracking of the entries/ representations

STATEMENT OF SINGLE LARGEST COMPLETED CONTRACT SIMILAR TO THE CONTRACT TO BE BID

This is to certify that _____(company)_____ has the following completed contracts within five (5) years prior to the date of submission and receipt of bids, a contract similar to the Project

Name of Contract	a. Owner's Name b. Address c. Telephone Nos.	Nature of Work	Bidder's Role		a. Amount at Award b. Amount at Completion c. Duration	a. Date Awarded b. Date Started c. Date of Completion
			Description	%		

_____
Name and Signature of
Authorized Representative

_____
Date

** Instructions:*

a) Cut-off date as of:

(i) Up to the day before the deadline of submission of bids.

b) In the column under "Dates" indicate the dates of Delivery/ End-user's Acceptance and Official Receipt.

c) "Name of Contract". Indicate here the Nature/ Scope of the Contract for the Procuring Entity to determine the relevance of the entry with the Procurement at hand.

d) Copy of any of the following documents must be attached to this Statement:

1. Constructor's Certificate of Performance Evaluation System (CPES) Final Rating which must be Satisfactory; or

2. Certificate of Acceptance; or

3. Owner's Certificate of Completion

(Bidder's Client's Company Letterhead)

CERTIFICATE OF PERFORMANCE EVALUATION

This is to certify that _____*(NAME OF BIDDER)*_____ has contracted and performed with our company/ agency the _____**Name of Contract/Works**_____.

Based on our evaluation on quality of service delivered, time management, management and suitability of personnel, contract administration and management, and provision of regular progress reports, we give ____*(NAME OF BIDDER)*____ a rating of:

☐ **EXCELLENT**
☐ **VERY SATISFACTORY**
☐ **SATISFACTORY**
☐ **POOR**

This Certification shall form part of the Technical Documentary Requirements in line with _____*(NAME OF BIDDER)*_____ participation for **Construction of TESDA RTC-NCR.**

Issued this _____day of _____in _____, Philippines.

Name of Company (Bidder's Client)	Signature over Printed Name of Authorized Representative
Address	E-mail Address
Tel./Fax No.	

Bid Securing Declaration Form

[shall be submitted with the Bid if bidder opts to provide this form of bid security]

REPUBLIC OF THE PHILIPPINES)
CITY OF _____) S.S.

BID SECURING DECLARATION
Project Identification No.: *[Insert number]*

To: *[Insert name and address of the Procuring Entity]*

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.

2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f),of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.

3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:
   a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
   b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
   c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this ____ day of *[month] [year]* at *[place of execution]*.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]
Affiant

[Jurat]

[Format shall be based on the latest Rules on Notarial Practice]

Pursuant to GPPB Resolution No. 16-2020 dated 16 September 2020

QUALIFICATION OF KEY PERSONNEL PROPOSED TO BE ASSIGNED TO THE CONTRACT

Business Name : _____

Business Address : _____

		Project Manager	Civil Engineer	Architect
1	Name			
2	Address			
3	Date of Birth			
4	Employed since			
5	Experience			
6	Education			
7	PRC License (as applicable)			

Note: Kindly attach the individual resumé and PRC license of the (professional) personnel (as applicable)

Submitted by : (Printed Name and Signature)

Designation : _____

Date : _____

LIST OF EQUIPMENT, OWNED, OR LEASED AND/OR UNDER PURCHASE AGREEMENTS, PLEDGED TO THE PROPOSED CONTRACT

Business Name : _____

Business Address : _____

DESCRIPTION	MODEL/ YEAR	CAPACITY/ PERFORMANCE/ SIZE	PLATE NO.	MOTOR NO./ BODY NO.	LOCATION	CONDITION	PROOF OF OWNERSHIP/ LESSOR OR VENDOR
A. Owned							
i.							
ii.							
iii.							
B. Leased							
i.							
ii.							
iii.							
C. Under Purchase Agreements							
i.							
ii.							
iii.							

Submitted by : (Printed Name and Signature)

Designation : _____

Date : _____

BIO-DATA

PERSONAL DATA

Name : _____
Date of Birth : _____
Nationality : _____
Marital Status : _____
Permanent Address : _____

EDUCATIONAL QUALIFICATIONS

EDUCATION	SCHOOL/INSTITUTION	INCLUSIVE DATES
Primary		
Secondary		
Tertiary		
Post Grad.		

PROFESSIONAL QUALIFICATIONS

Membership in Professional Institutions:

NAME OF INSTITUTION	ADDRESS

Work Experiences (Listed in descending chronological order)

Present/Most Recent Assignment:

INCLUSIVE DATES	COMPANY	POSITION/ DESIGNATION	BRIEF DESCRIPTION OF DUTIES AND RESPONSIBILITIES

Note: For Licensed Engineers/Architects, please attach a certified true copy of valid and current copy of the PRC license.

CERTIFIED TRUE AND CORRECT:

_____
(NAME AND SIGNATURE)

OMNIBUS SWORN STATEMENT (REVISED)

[shall be submitted with the Bid]

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.

AFFIDAVIT

I, [Name of Affiant], of legal age, [Civil Status], [Nationality], and residing at [Address of Affiant], after having been duly sworn in accordance with law, do hereby depose and state that:

1. *[Select one, delete the other:]*
   [If a sole proprietorship:] I am the sole proprietor or authorized representative of [Name of Bidder] with office address at [address of Bidder];
   [If a partnership, corporation, cooperative, or joint venture:] I am the duly authorized and designated representative of [Name of Bidder] with office address at [address of Bidder];

2. *[Select one, delete the other:]*
   [If a sole proprietorship:] As the owner and sole proprietor, or authorized representative of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached duly notarized Special Power of Attorney;
   [If a partnership, corporation, cooperative, or joint venture:] I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable;)];

3. [Name of Bidder] is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board, **by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on Blacklisting;**

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. [Name of Bidder] is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. *[Select one, delete the rest:]*

   [If a sole proprietorship:] The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

   [If a partnership or cooperative:] None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

   [If a corporation or joint venture:] None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. *[Name of Bidder]* complies with existing labor laws and standards; and

8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:

   a. Carefully examining all of the Bidding Documents;
   b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
   c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
   d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.

9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**

IN WITNESS WHEREOF, I have hereunto set my hand this __ day of ___, 20__ at _____, Philippines.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]
Affiant

[Jurat]
[Format shall be based on the latest Rules on Notarial Practice]

**The identification card shall be at least one of the acceptable proofs of identity as identified under the provisions of the 2014 Rules on Notarial Practice*

> *"Sec. 12. Competent Evidence of Identity — The phrase "competent evidence of identity" refers to the identification of an individual based on:*
>
> > *At least one current identification document issued by an official agency bearing the photograph and signature of the individual such as but not limited to, passport, driver's license, Professional Regulations Commission ID, National Bureau of Investigation clearance, police clearance, postal ID, voter's ID, Barangay certification, Government Service and Insurance System (GSIS) e-card, Social Security System (SSS) card, Philhealth card, senior citizen card, Overseas Workers Welfare Administration (OWWA) ID, OFW ID, seaman's book, alien certificate of registration/immigrant certificate of registration, government office ID, certification from the National Council for the Welfare of Disabled Persons (NCWDP), Department of Social Welfare and Development (DSWD) certification;*

The Board Resolution or Secretary's Certificate referring to the said Board Resolution designating the bidder's authorized representative and signatory need not specifically indicate the particular project where such authority is given provided that the said authority covers activities by TESDA.

JOINT VENTURE AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This JOINT VENTURE AGREEMENT (hereinafter referred to as the "Agreement"), entered into this _____ day _____of 20__ at _____ City, Philippines by and among:

_____. a domestic corporation duly organized, registered and existing under and by virtue of the laws of the Republic of the Philippines, with office address at _____, represented by its _____, _____, hereinafter referred to as " _____";

- and -

_____. a domestic corporation duly organized, registered and existing under and by virtue of the laws of the Republic of the Philippines, with office address at _____, represented by its _____, _____, hereinafter referred to as " _____";

- and –

_____a foreign corporation organized and existing under and by virtue of the laws of _____, represented by its _____, _____, hereinafter referred to as " _____";

(Henceforth collectively referred to as the **"Parties")**

WITNESSETH: That

WHEREAS, the Technical Education and Skills Development Authority (TESDA) has recently published an Invitation to Apply for Eligibility and to Bid for the Supply and Delivery of _____ for the _____;

WHEREAS, the parties have agreed to pool their resources together to form the " _____ Joint Venture", hereinafter referred to as the Joint Venture, under the laws of the Philippines, for the purpose of participating in the abovementioned procurement of TESDA-CO;

NOW, THEREFORE, for and in consideration of the foregoing premises and the covenants hereto set forth, the Parties have agreed as follows:

ARTICLE I
ORGANIZATION OF THE JOINT VENTURE

SECTION 1. Formation — The Parties do hereby agree and bind themselves to establish, form and organize a Joint Venture pursuant to the laws of the Republic of the Philippines, in order for the JV to carry on the purposes and objectives for which it is created;

SECTION 2. Name — The name and style under which the JV shall be conducted is "_____";

SECTION 3. Principal Place of Business — The JV shall maintain its principal place of business at _____;

SECTION 4. Preparation and Documentation — The Parties shall secure and/or execute such certifications, documents, deeds and instruments as may be required by the laws of the Republic of the Philippines for the realization of the JV and in compliance with the Project. Further, they shall do all other acts and things requisite for the continuation of the JV pursuant to applicable laws;

SECTION 5. The Joint Venture shall be represented by the _____ in all biddings, related procurement transactions and other official dealings that it shall enter into with the TESDA-CO and third parties, such transactions to include, among others, the submission of eligibility documents, bids, registration documents obtaining bonds, performing the principal contract in the event that the contract is awarded in favor of the Joint Venture, receipt of payment for goods delivered, and similar and related activities.

SECTION 6. The period of the Joint Venture shall begin upon execution of this Agreement and shall continue until the complete performance of its contractual obligations to TESDA-CO, as described in Article II hereof, or upon its termination for material breach of any term or condition of this Agreement, by service of a written statement in English on the other Party, not less than 90 days prior to the intended date termination

ARTICLE II
PURPOSE

SECTION 1. The primary purpose of the Joint Venture is to participate in the public bidding to be conducted by the TESDA-CO Bids and Awards Committee for the supply and delivery of _____ for the _____.

SECTION 2. If the above-described contract/s is/are awarded to the Joint Venture, the Joint Venture shall undertake the performance thereof to TESDA-CO, and such other incidental activities necessary for the completion of its contractual obligations.

ARTICLE III
SOLIDARY LIABILITY OF THE PARTIES

SECTION 1. In the performance of the contract/s that may be awarded to the Joint Venture by the TESDA-CO, and all other related activities/obligations, as described in Article II hereof, - the Parties bind themselves jointly and solidarily, in the concept of solidarily debtors, subject to the right of reimbursement, as provided in the relevant provisions of the Civil Code of the Philippines.

ARTICLE IV
CONTRIBUTION AND OTHER ARRANGEMENTS

SECTION I. Contribution — The Parties shall contribute the amount of _____ (Php) to support the financial requirements of the Joint Venture, in the following proportion:

A.	-	P .00
B.	-	P .00
TOTAL		P .00

Additional contributions to the Joint Venture shall be made as may be required for contract implementation. In addition, shall contribute any labor and contract management requirements.

SECTION 2. Profit Sharing — The share of the Parties to the JV from any profit derived or obtained from the implementation and execution of the Project shall be distributed pro rata to each, in accordance with the contribution and resources each has provided to the JV;

SECTION 3. Liquidation and Distributions — Any sum remaining after deducting from the total of all moneys or benefits received for the performance of the contract, all costs incurred by the JV after award of the contract for the Project pursuant to the accounting practices established for the JV, shall be distributed in accordance with the relative balances in the accounts of each Party pursuant to Sec.1 of this Article upon completion, final accounting, termination and liquidation of the JV. In the event of liquidation and termination of JV, and after taking into account the shares of the Parties in all income, gain, deductions, expenses, and losses, should the account of a Party contain a negative balance, such Party shall contribute cash to the JV sufficient to restore the said balance to zero;

SECTION 4. Sharing of Burden of a Net Loss — In case a net loss is incurred, additional contributions shall be made by the Parties in accordance with their respective shares.

ARTICLE V
MISCELLANEOUS PROVISIONS

SECTION 1. The provisions of the Instructions to Bidders, Supplemental Bid Bulletin, and other bidding documents issued by the TESDA-CO in relation to the contract described in Article II hereof, shall be deemed incorporated in this Agreement and made an integral part thereof.

SECTION 2. This Agreement shall be binding upon and inure to the benefit of the Parties and their respective-successors and assigns.

SECTION 3. The Parties herein are duly represented by their authorized officers.

SECTION 4. Governing Law - This Agreement shall be governed by and construed according to the laws of the Republic of the Philippines. Venue of any court action arising from this Agreement shall be exclusively laid before the proper court of the Philippines.

IN WITNESS WHEREOF, the parties have set their hands and affixed their signatures on the date and place first above-stated.

_____ _____

_____ _____

_____

_____

Signed in the Presence of:

_____

_____

ACKNOWLEDGMENT

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.
PROVINCE OF (in the case of Municipality)

BEFORE ME, a Notary Public for and in the City/Municipality of ___(indicate also the Province in the case of Municipality__ , this _____ day of ____month & year)__personally appeared the following:

Name	ID Name, Number and Validity Date

Known to me and to me known to be the same persons who executed the foregoing instrument and they acknowledge to me that the same is their free and voluntary act and deed and that of the corporation(s) they represent.

This instrument refers to a Joint Venture Agreement consisting of _____ pages, including the page on which this Acknowledgement is written, and signed by the parties and their instrumental witnesses.

WITNESS MY HAND AND NOTARIAL SEAL on the place and on the date first above written.

NAME OF NOTARY PUBLIC
Serial No. of Commission _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. _____ [date issued], [place issued]
IBP No. ___, [date issued], [place issued]

Doc. No. _____
Page No. _____
Book No. _____
Series of _____.

Note:

"Sec. 12. Competent Evidence of Identity — The phrase "competent evidence of identity" refers to the identification of an individual based on:

At least one current identification document issued by an official agency bearing the photograph and signature of the individual such as but not limited to, passport, driver's license, Professional Regulations Commission ID, National Bureau of Investigation clearance, police clearance, postal ID, voter's ID, Barangay certification, Government Service and Insurance System (GSIS) e-card, Social Security System (SSS) card, Philhealth card, senior citizen card, Overseas Workers Welfare Administration (OWWA) ID, OFW ID, seaman's book, alien certificate of registration/immigrant certificate of registration, government office ID, certification from the National Council for the Welfare of Disabled Persons (NCWDP), Department of Social Welfare and Development

Performance Securing Declaration (Revised)

[if used as an alternative performance security but it is not required to be submitted with the Bid, as it shall be submitted within ten (10) days after receiving the Notice of Award]

REPUBLIC OF THE PHILIPPINES)
CITY OF _____) S.S.

PERFORMANCE SECURING DECLARATION

Invitation to Bid: [Insert Reference Number indicated in the Bidding Documents]
To: [Insert name and address of the Procuring Entity]

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, to guarantee the faithful performance by the supplier/distributor/manufacturer/contractor/consultant of its obligations under the Contract, I/we shall submit a Performance Securing Declaration within a maximum period of ten (10) calendar days from the receipt of the Notice of Award prior to the signing of the Contract.

2. I/We accept that: I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of one (1) year for the first offense, or two (2) years **for the second offense**, upon receipt of your Blacklisting Order if I/We have violated my/our obligations under the Contract;

3. I/We understand that this Performance Securing Declaration shall cease to be valid upon:

    a. issuance by the Procuring Entity of the Certificate of Final Acceptance, subject to the following conditions:
        i. Procuring Entity has no claims filed against the contract awardee;
        ii. It has no claims for labor and materials filed against the contractor; and
        iii. Other terms of the contract; or

    b. replacement by the winning bidder of the submitted PSD with a performance security in any of the prescribed forms under Section 39.2 of the 2016 revised IRR of RA No. 9184 as required by the end-user.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this ____ day of [month] [year] at [place of execution].

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]
Affiant

[Jurat]
[Format shall be based on the latest Rules on Notarial Practice]

Contract Agreement Form for the Procurement of Infrastructure Projects (Revised)

[not required to be submitted with the Bid, but it shall be submitted within ten (10) days after receiving the Notice of Award]

CONTRACT AGREEMENT

THIS AGREEMENT, made this *[insert date]* day of *[insert month], [insert year]* between *[name and address of PROCURING ENTITY]* (hereinafter called the "Entity") and *[name and address of Contractor]* (hereinafter called the "Contractor").

WHEREAS, the Entity is desirous that the Contractor execute *[name and identification number of contract]* (hereinafter called "the Works") and the Entity has accepted the Bid for *[contract price in words and figures in specified currency]* by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

2. The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as part of this Agreement, *viz.*:

   a. Philippine Bidding Documents (PBDs);
   - i. Drawings/Plans;
   - ii. Specifications;
   - iii. Bill of Quantities;
   - iv. General and Special Conditions of Contract;
   - v. Supplemental or Bid Bulletins, if any;

   b. Winning bidder's bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

   Bid form, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes, and all other documents submitted (*e.g.*, Bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;

   c. Performance Security;

   d. Notice of Award of Contract and the Bidder's conforme thereto; and

   e. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. **Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.**

3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.

4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

IN WITNESS whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

[Insert Name and Signature]
[Insert Signatory's Legal Capacity]

for:
[Insert Procuring Entity]

[Insert Name and Signature]
[Insert Signatory's Legal Capacity]
for:
[Insert Name of Supplier]

Acknowledgment

[Format shall be based on the latest Rules on Notarial Practice]

Bid Form for the Procurement of Infrastructure Projects
[shall be submitted with the Bid]

BID FORM

Date : _____

Project Identification No. : _____

To: [name and address of Procuring Entity]

Having examined the Philippine Bidding Documents (PBDs) including the Supplemental or Bid Bulletin Numbers *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, declare that:

a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract]*;

b. We offer to execute the Works for this Contract in accordance with the PBDs;

c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;

d. The discounts offered and the methodology for their application are: *[insert information]*;

e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized herein and reflected in the detailed estimates,

f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;

g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines[1] for this purpose;

h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;

i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

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[1] currently based on GPPB Resolution No. 09-2020

j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity*]*.

l. We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name: _____
Legal Capacity: _____
Signature: _____
Duly authorized to sign the Bid for and behalf of: _____
Date: _____


Republic of the Philippines
gppb
Government Procurement Policy Board