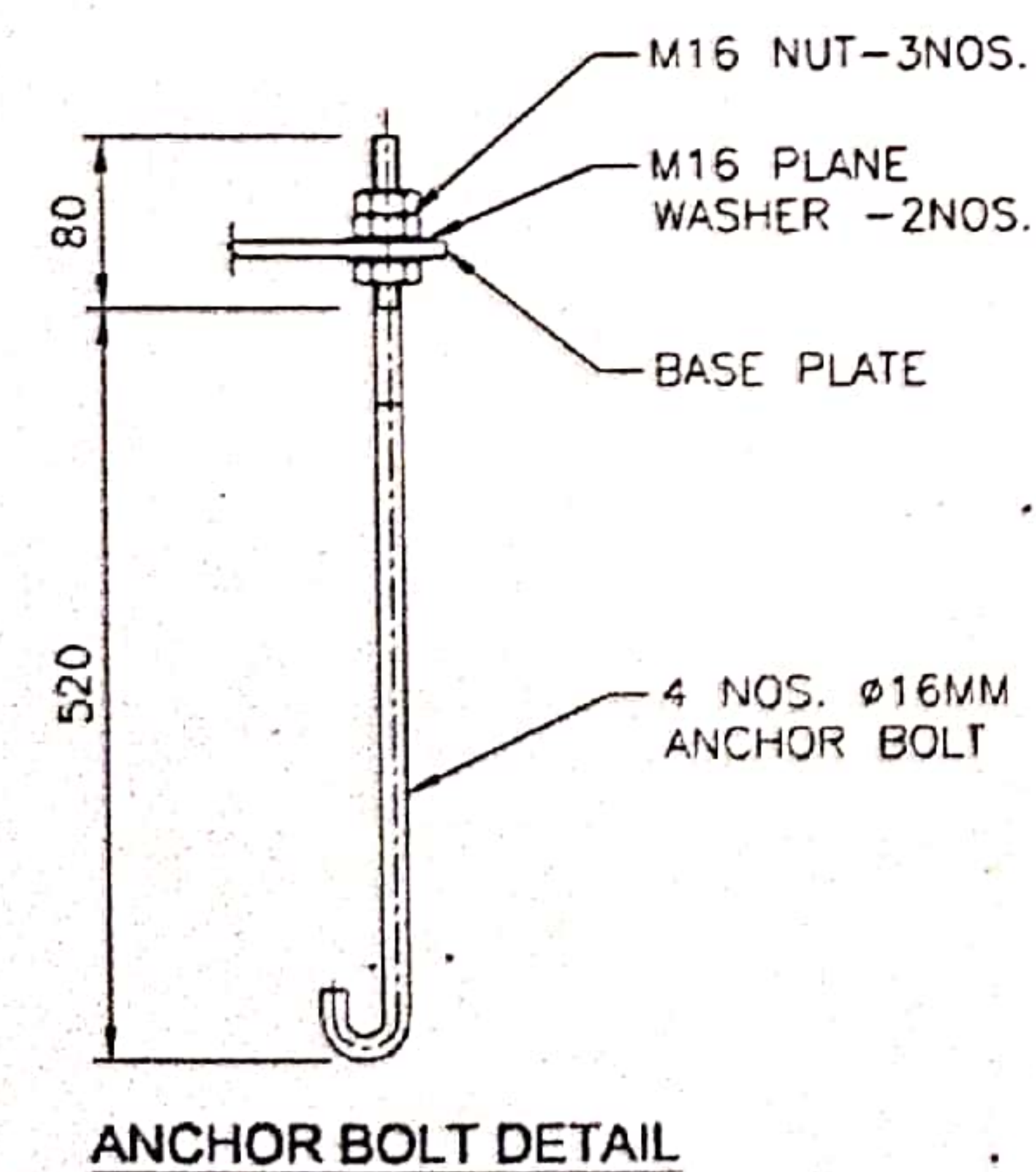
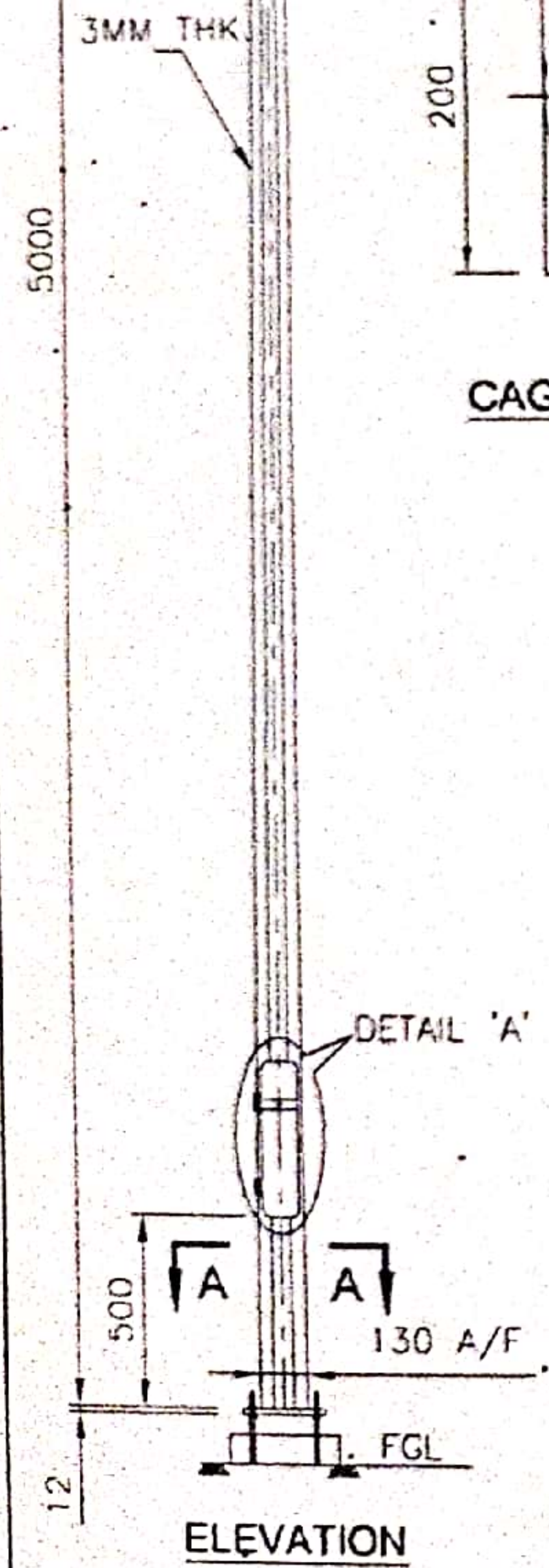


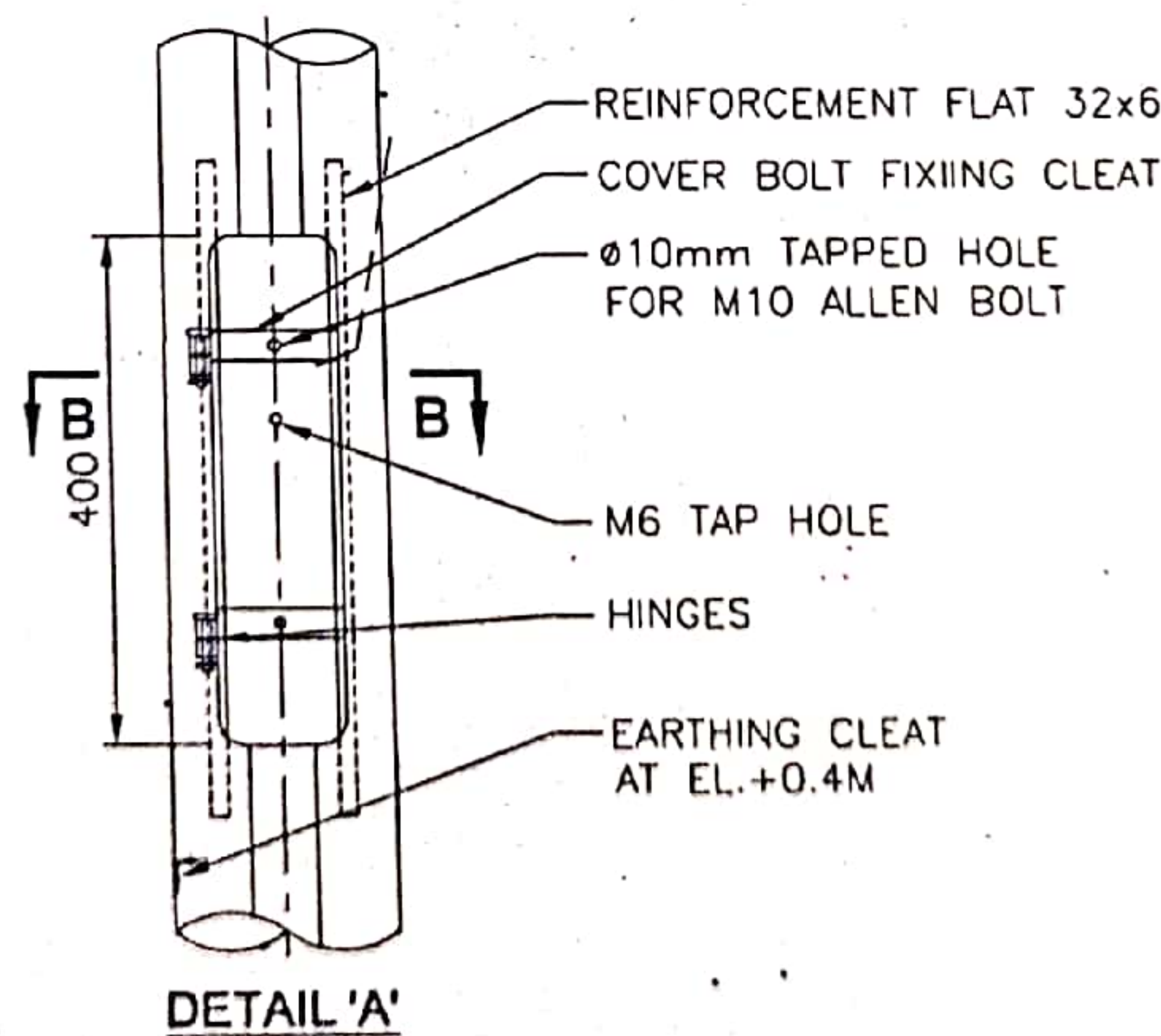
NOTE: SUITABLE CONCRETE PLINTH AS PER OEM'S RECOMMENDATION

- ALL THE DIMENSIONS ARE IN MM MILLIMETERS.
- DESIGN STANDARD BS5649
- DESIGN CRITERIA-
 - BASIC WIND SPEED 50 m/sec
 - DESIGN LIFE IS 25 YEARS
 - TOPOGRAPHY IS CONSIDERED AS FLAT
- LOADING DETAILS: POLE SUITABLE FOR,
 - 2 NOS. LUMINAIRES WITH EACH PROJECTED AREA 0.11 SQ.M & WEIGHT 12 KG.
 - 1.0 M DOUBLE ARM BRACKET.
- MATERIALS -
 - SHAFT: ASTM A572-50/S355 AS PER BSEN 10025/EQUIVALENT
 - BASE PLATE: A36/ ASTM A572-50/EQUIVALENT
 - ANCHOR BOLTS : EN8 GRADE (4#16x600lg)
- FINISHING : HOT DIP GALVANISED TO ASTM A123/BSEN ISO 1461/EQUIVALENT.
- MINIMUM ANCHOR BOLT CAGE TEMPLATES SHOULD BE SUPPLIED 10% OF THE QUANTITY OF POLES.

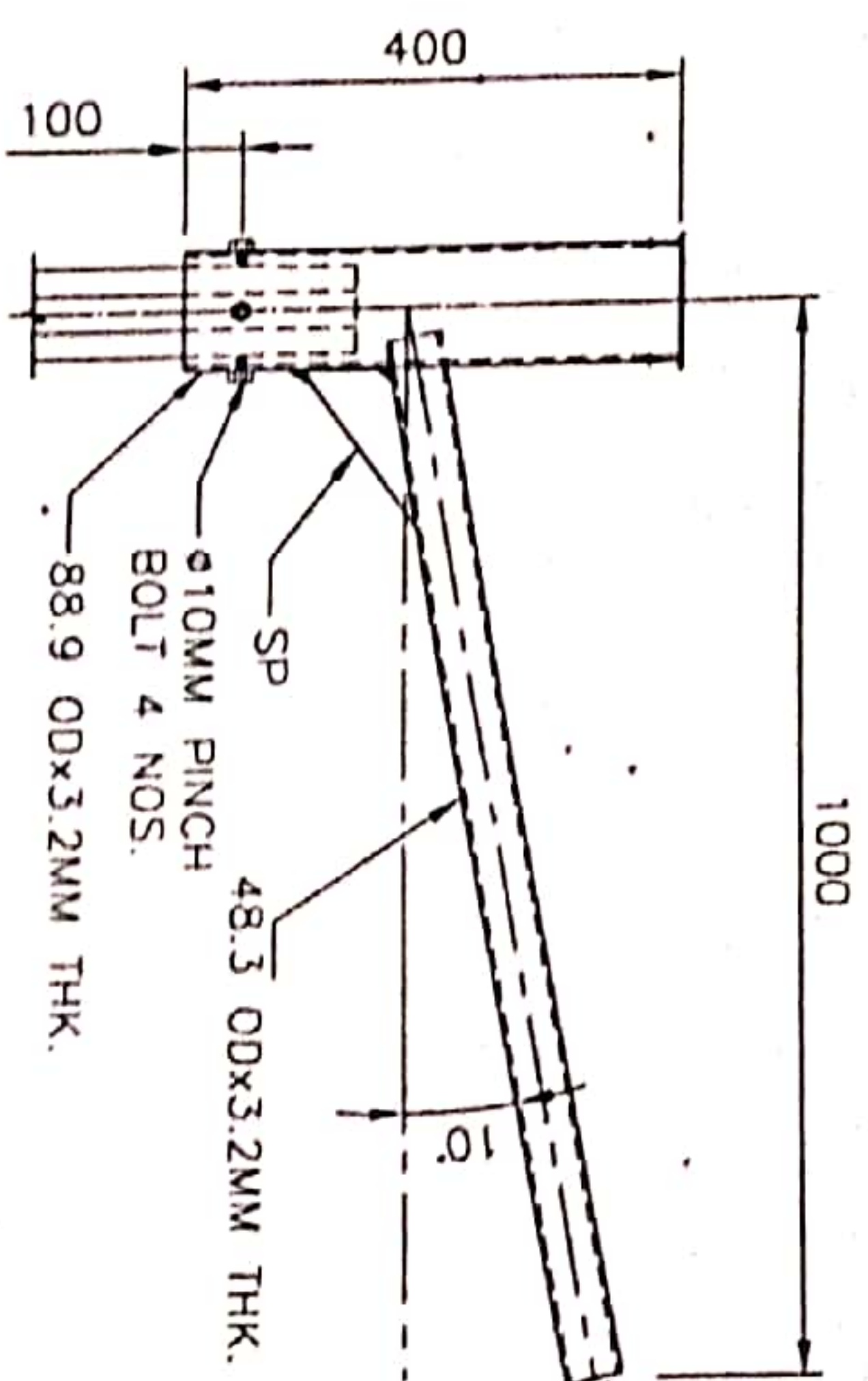
DRG.NO GNT/E/M/02/2019
GENERAL ARRANGEMENT FOR
5M OCTAGONAL STREET LIGHT POLE
WITH 1.0M DA CAP TYPE BRACKET



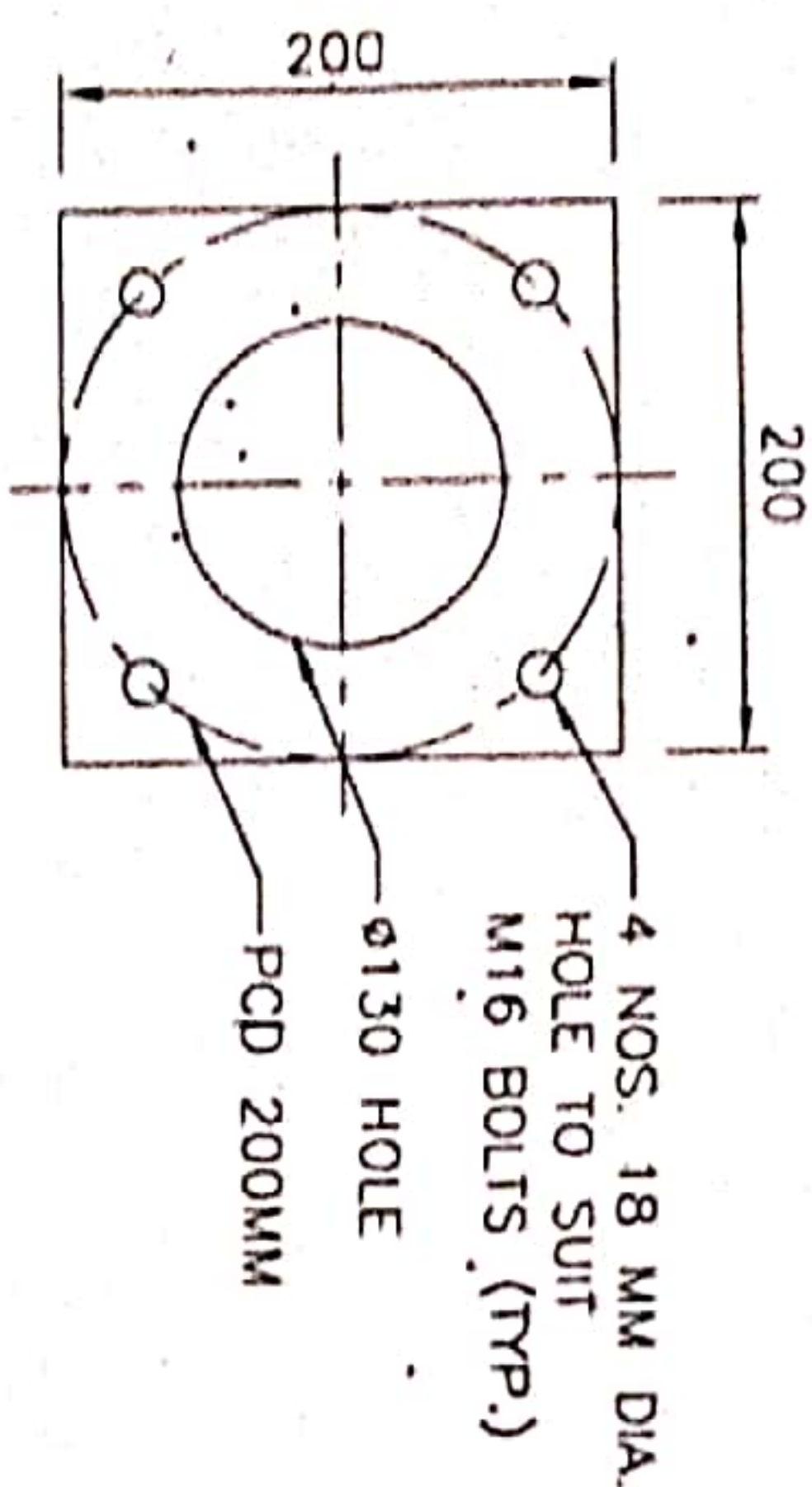
Note: Total Length of Bolt including 'J' - 600 MM



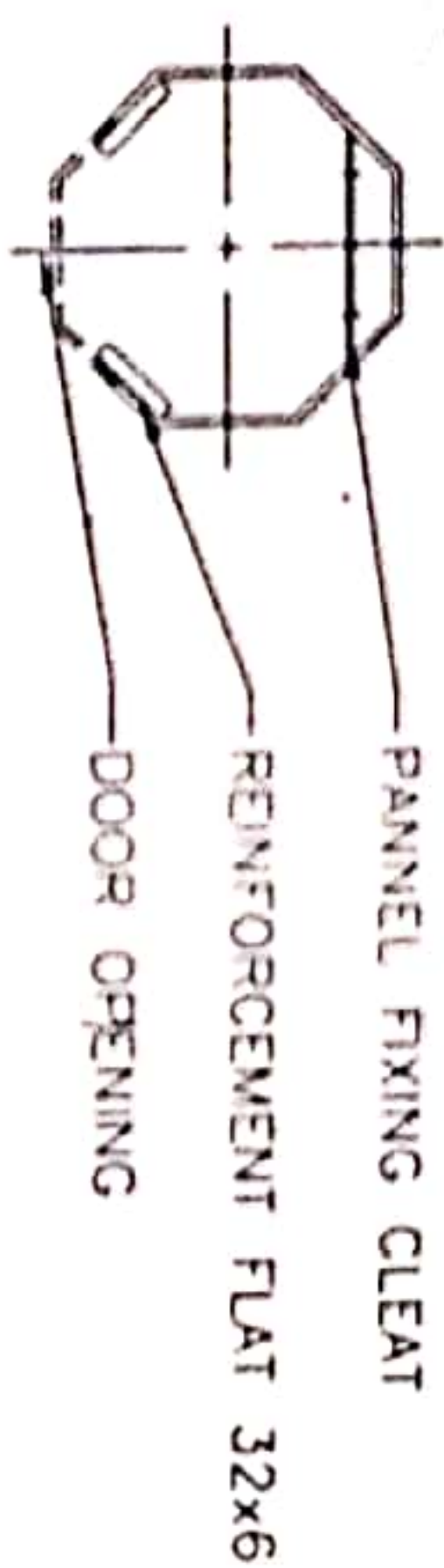
Sr.DEP/M/GNT	ADEE/M/GNT	SSE/DRG/GNT
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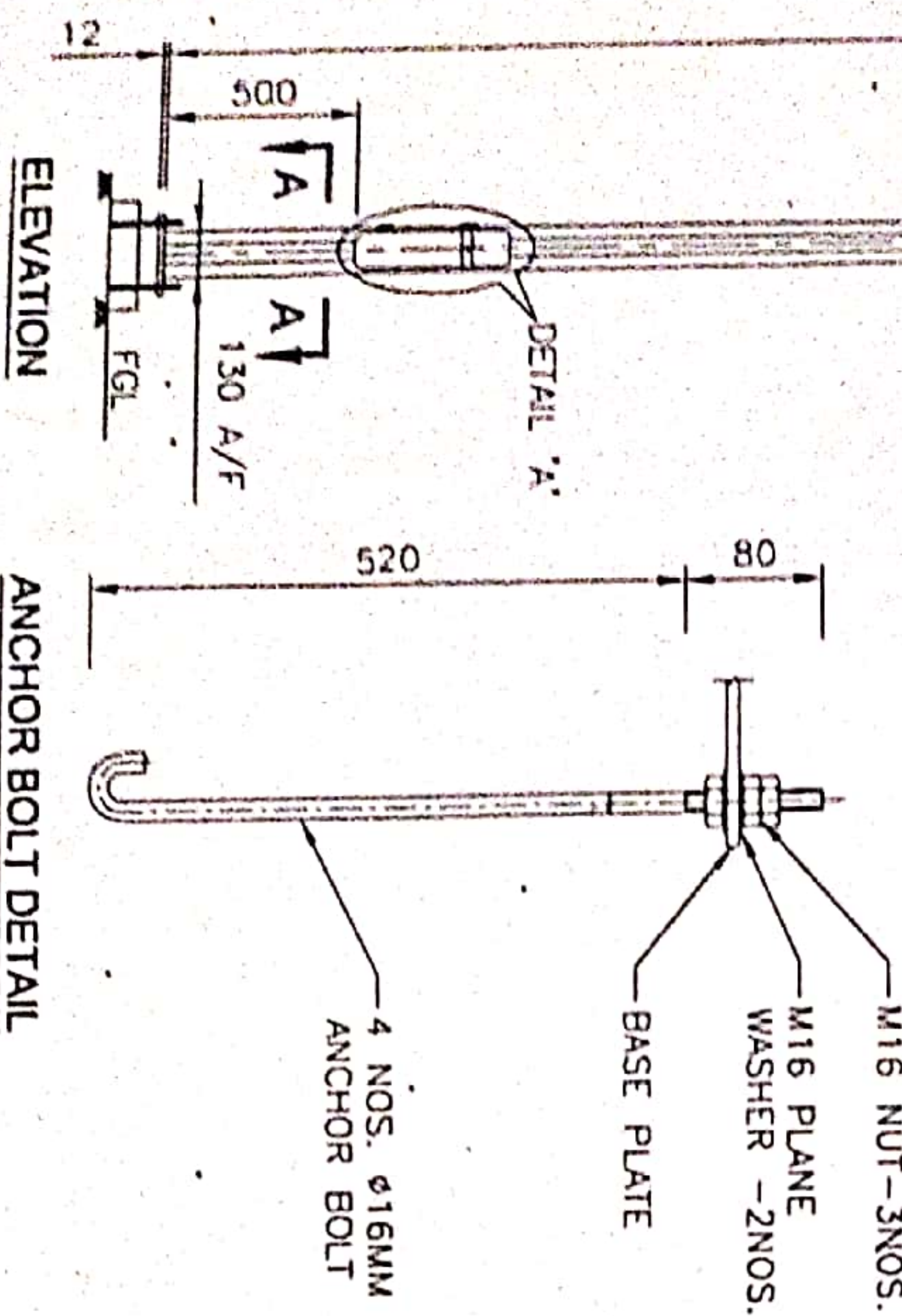
DETAIL OF SINGLE ARM BRACKET



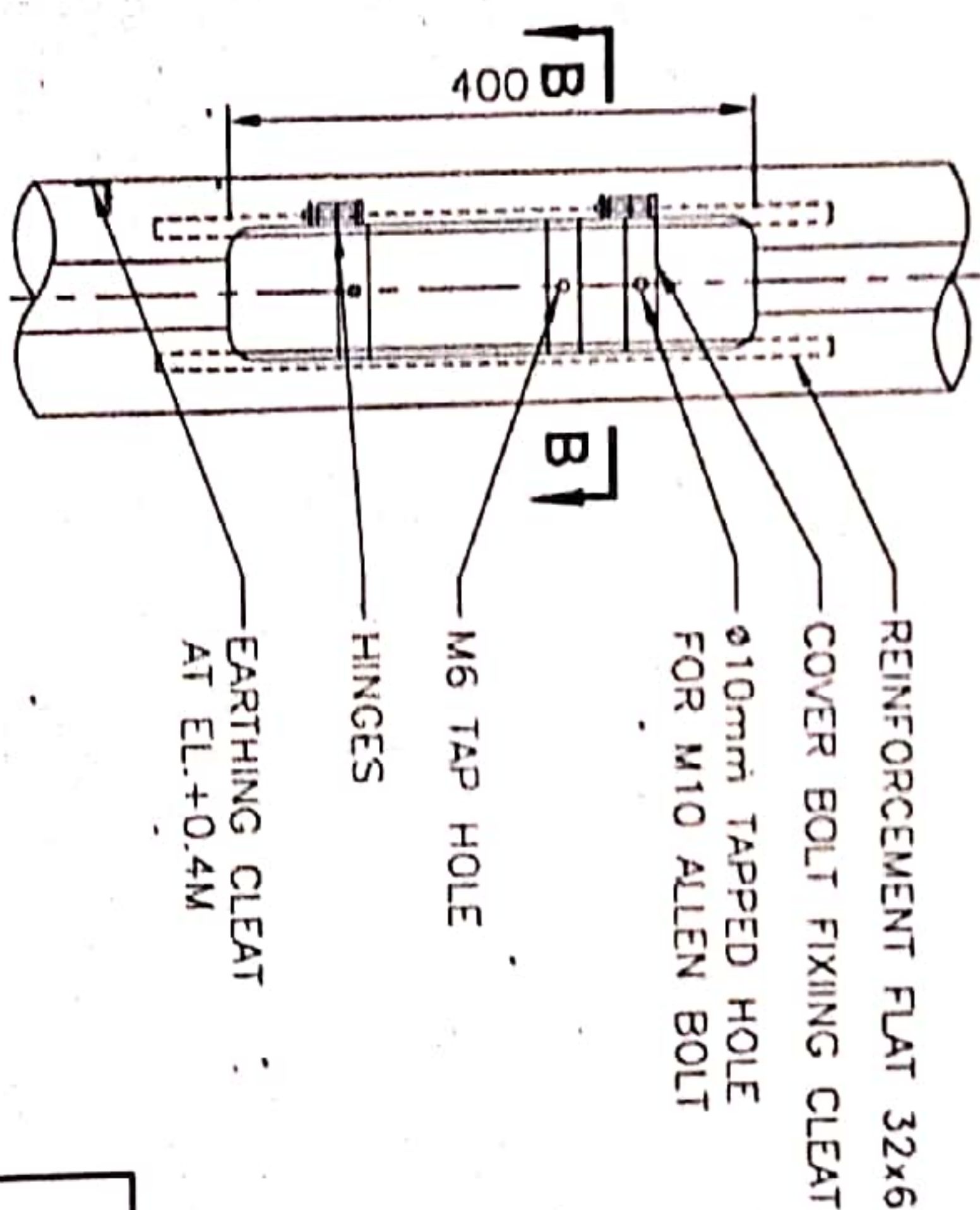
CAGE TEMPLATE DETAIL



SECTION B-B

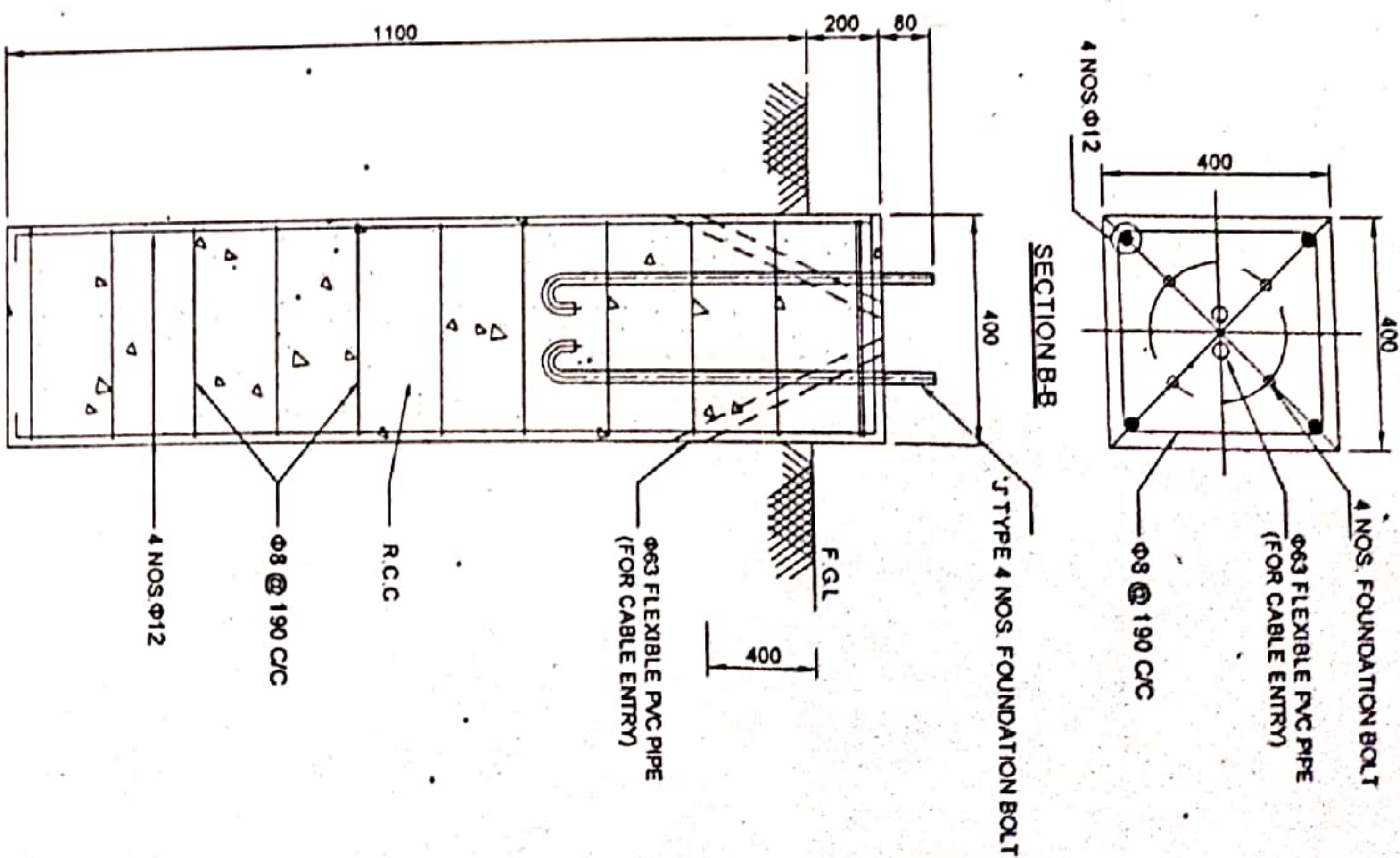
ELEVATION

ANCHOR BOLT DETAIL



DETAIL 'A'

Note: Total Length of Bolt including 'J' - 600 MM



DETAIL OF CIVIL FOUNDATION

NOTE: SUITABLE CONCRETE PLINTH AS PER OEM'S RECOMMENDATION

1. ALL THE DIMENSIONS ARE IN MM MILLIMETERS.
2. DESIGN STANDARD BS5649
3. DESIGN CRITERIA -
 - 3.1 BASIC WIND SPEED 50 m/sec
 - 3.2 DESIGN LIFE IS 25 YEARS
 - 3.3 TOPOGRAPHY IS CONSIDERED AS FLAT
4. LOADING DETAILS: POLE SUITABLE FOR,
 - 4.1 1 NO. LUMINAIRES WITH EACH PROJECTED AREA 0.11 SQ.M & WEIGHT 12 KG.
 - 4.2 1.0 M SINGLE ARM BRACKET.
5. MATERIALS -
 - 5.1 SHAFT: ASTM A572-50/S355 AS PER BSEN 10025/EQUIVALENT
 - 5.2 BASE PLATE: A36/ ASTM A572-50/EQUIVALENT
 - 5.3 ANCHOR BOLTS : EN8 GRADE (4#16x600Lg)
6. FINISHING : HOT DIP GALVANISED TO ASTM A123/BSEN ISO 1461/EQUIVALENT.
7. MINIMUM ANCHOR BOLT CASE TEMPLATES SHOULD BE SUPPLIED 10% OF THE QUANTITY OF POLES.

GENERAL ARRANGEMENT FOR
5M OCTAGONAL STREET LIGHT POLE
WITH 1.0M SA CAP TYPE BRACKET

DRG.NO GNT/E/M/01/2019

~~ST.DEN/M/GNT~~

ADEE/M/GNT

SSE/DRG/GNT

Technical specification of for the octagonal pole

Sl.No	description / parameters	Technical data for
		5m octagonal pole with single/double arm bracket
I	POLE SHAFT	
1	Material & Grade	a) Pole shaft - ASTM A572 -50/S355 as per BSEN 10025 b) Base plate - A572-50
2	Height (Mtr)	5
3	Pole Section (Single / Multiple)	Single
4	Top Dimension Of Pole (mm)	70
5	Bottom Dimension Of Pole (mm)	130
6	Sheet Thickness (mm)	3
7	Base Plate Size & Thickness (mm)	200 SQ. & 12 Thk.
8	Foundation Bolt Hole Diameter (mm)	16
9	Pitch Circle Diameter (mm)	200
10	Average Galvanization Thickness (Micron)	70
11	Hop Dip Galvanizing (Single Dip/ Double Dip)	Single dip
12	Utility Window	Vandal resistant & Weatherproof
13	Wind Speed	50m/s
II	BRACKET ARM	
1	Material & Grade	Mild steel (YS:240Mpa)
2	Bracket Arm (mm)	Single/ Double
3	Span Of Bracket Arm (mm)	1000
4	Diameter & Thk. Of Bracket Arm (mm)	48.3 or 38 mm dia as per site requirement with 3.2 thick.
5	Height Of Bracket Spigot (mm)	400
6	Diameter & Thk. Of Spigot (mm)	88.9 dia & 3.2 thk.
7	Average Galvanization Thickness (Micron)	70
III	FOUNDATION BOLT	
1	Type & Grade Of Bolts	J type & EN08
2	No. Of Bolts / Pole	4
3	Bolt Diameter (mm)	16
4	Total Length Of Bolt (mm) including 'J'	600
5	Threaded Length (Galvanised)	80
6	Grouting Length (Red Oxide Primer Coated) including 'J'	520
7	Nos. Of Nuts & Washers (Galvanised)	3 Nuts & 2 Washers
IV	FOUNDATION PLINTH	Suitable concrete plinth as per OEM's recommendation.

1- Scope of the tender:

Tenderers are invited to submit their offers for the supply of poles (7 m, 10 m, 12m and 15 m) octagonal galvanized steel, base plated poles for the street lighting of major traffic routes completed with anchor bolts and connection box with supporting plates through locked door.

2- General information:

The poles will be used for street lighting of minor and secondary roads of urban and rural areas intended for traffic and social safety purposes.

3- General requirements:

3-1 Ambient temperature:

Highest max. (In the shade)	55 deg.C ⁰ for about 6 hours a day
Lowest (min)	-10 deg. C ⁰
Max yearly average	+30 deg .C ⁰
Max daily average	+40 deg.C ⁰

3-2 Sun temp.

Black object under direct sun shine may attain a temp of +80 deg. C⁰

3-3 Air humidity:

max	92% at 40 deg.C ⁰
min	12%
yearly average	44%
max wind velocity	125 km/hr

3-4 Altitudes:

From sea level up to	1000m
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3- 5 Sand storms:

The poles are subjected to strong and frequent sand storms, adequate precaution must be taken to deal with, for suitable degree of protection.

3-6 Wind Velocity:

Max velocity (for design purpose) (140 KM/ HR).

3-7 Composition of Soil:

The soil consists mainly of hard clay containing deposit gravel.

4- Technical requirements :

4-1 System data:

a.11 KV System	
Nominal voltage	11000 volts
Highest system voltage	12000 volts
System	3-phase, 3wire neutral earthed through resistance of 21.1 Ohm limiting the earth fault current to 300A
Short circuit breaking current	25 KA R.M.S at 11000 volts

b. 0.4 kV system	
Nominal voltage	400 Volts
System	3phases, 4 wires with neutral solidly grounded.
Frequency	50 Hz

4-2 Standards:

All equipment and accessories shall be with the latest issue of the international electro - technical commission (I.E.C) specifications, where there specifications are incomplete or not yet published, then national standards of tenderers country shall be considered subject to our approval. EN10025 or NFEN 10/49 for steel grades (for high yield strength steels). NFP 22- 470, 22-471 and 22-473 for welding. ASTMA 123, BS729, NF A 91-121 for galvanization.

4-3 Deviations:

The tenderer shall particularly mention in his tender all deviations of his offer from the specification described in these tender documents.

4-4 Types of poles:

Four types of poles are required, 7, 10, 12 and 15 meter height.

5- General specifications:

The street lighting poles shall be manufactured from steel sheets and having the following features.

5-1 Shaft:

5-1-a 7, 10 meter height galvanized steel shaft octagonal cross section and tapered from bottom to top, and made of one piece.

5-2-b 12, 15 meter height galvanized steel shaft with octagonal cross section and tapered from bottom to top, and made from two pieces joined together by slip joint method, the slip joint overlap must be at least 1.5 times the largest inside diam. of the female section.

5-3-c For all types, the thickness of the shaft wall will be 4mm minimum.

5-4 Inspection door:

For all types, the shaft may be equipped with inspection door, it may have a triangle key that forces the door out when opening, the door may be at 500 mm above ground level and its dimensions do not exceed 400 mm.

5-5 Base plate :

All types may have a base plate welded to the lower part of the shaft from outside and inside to serve for fixing the shaft to concrete foundation by means of four bolts, thickness of the plate shall not be less than 25 mm, and its dimensions are 400x400 mm with a center distance 300x300 mm between holes, the shapes of holes are oval.

5-6 Anchor bolts :

For all types, 4 anchor bolts with j-shaped made of steel grade at least equivalent to the grade of the steel used for the shaft, each bolt provided with a washer and 3 nuts, for 10m pole dimension of the bolt may be 24 mm diam, 500mm length, and for 15m, 27mm diam, 700 mm length.

5-7 Mini brackets :

All types may be fitted by single or double bracket made of galvanized steel tube with arm outreach=800mm and angle of tilt =15°. The arm mounted on the top of the shaft and able to support single or doubled lanterns of 60mm side entry, the arm shall hold in its position by headless screws.

5-8 connection box:

All types may have a connection box made from fiber glass reinforced polyester used as connector for supply cable and fitted by 10 amp m.c.b, the main cable should be 4x (16-25)mm² copper.

5-9 Supporting plate :

All types may have supporting plate made from galvanized steel used for mounting inside the shaft and supporting cable connection box, details of fixing arrangement shall be given to the successful tenderer.

5-10 Earthing connection:

For all types an earthing connection point may be provided inside the shaft near the door opening without reducing the space of electrical gear.

5-11 Galvanization :

All components of street lighting poles may be hot-dip galvanized, all component must be well protected against corrosion, minimum thickness of zinc coatings is 85 µm and min density 500 gm/m² on both inside and outside surfaces.

6- Drawings and documents :

The tenderer may specify the following clearly:

6-1 Thickness of galvanization.

6-2 Operational sequence of the galvanization procedure.

6-3 Dimension of the foundation for the following soil bearing capacities:

- 0.5 kgm/ sqcm
- 1.0 kgm/ sqcm
- 1.5 kgm/ sqcm
- 2.0 kgm/ sqcm

6-4 Total area subjected to wind pressure and loading.

6-5 The poles may be used with lanterns weight appr.30kg. The manufacturer may give guarantee that poles can support such weight, all calculations must be submitted.

6- 6 Dimension of pole at top and bottom and dimensions of base plate.

6-7 Shaft wall thickness.

6-8 Max weight (kg)

6-9 Foundation volume (m³)

6-10 Max. Bending moment. (m.kg)

6-11 Max shear stress (kg)

6-12 Foundation plan and elevation.

6-13 Detail drawings for the poles.

6-14 The standard at which the poles are manufactured and welding and galvanization standards must be stated and shall be an internationally acceptable standards.

6-15 Dimensions, details and drawings of mini-brackets with arms.

7- Tests:

A- Type test:

Type test certificates to prove the general design of the poles must be submitted , the certificates are for test have been carried out on identical equipment and detailed in the relevant I.E.C which pertain to the equipment being tested .

B- Routine test:

The tests shall be carried out on our behalf by our inspector (international inspection bureau) witnessed by our engineers.

- Mechanical, impact and deformation tests.
- Visual inspection and dimensional checks.
- Any other tests given by the relevant I.E.C recommendation.

8- Spare Parts:

- Necessary and recommended spare parts.

9 - Samples:

The following items should be submitted with the offer (offers without sample will be rejected).

- A. Cable terminals M.C.BS box.
- B. Anchor bolt with nuts and washers.

Schedule of material

1- Complete pole include (shaft with hinged door, welded base plate.) for:

- A: 7 m pole
- B: 10 m pole
- C: 12 m pole (two-pieces).
- D: 15 m pole (two-pieces).
- E: others

2- Supporting plate with cable terminal M.C.BS box suitable for cable 4x (16-25) mm² copper.

3-Anchor bolts, complete set (4 anchor bolts with 12 nuts and 4 spring washers).

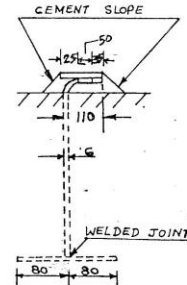
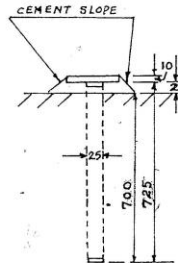
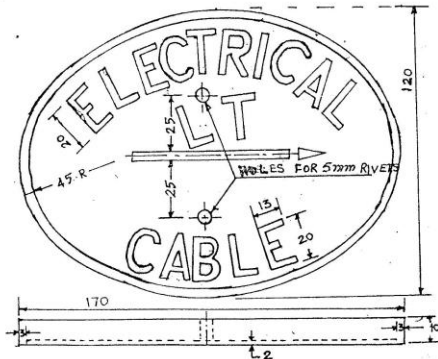
4- Mini – bracket with arm:

- A: For single lantern.
- B: For double lantern.

5- Accessories:

All necessary accessories:

- A: Arm supporting screws.
- B: Triangle keys.

DRAWING NO. DEE/CN/BZA/2001/23**DRAWING FOR CABLE ROUTE INDIACTORS****NOTE:**

1. CABLE MARKERS AND STEMS SHOULD BE DIPPED IN HOT TAR AND ALLOWED TO DRY.
2. TABLETS ON ELECTRICAL CABLE MARKERS TO BE PAINTED RED.
3. ALL DIMENSIONS ARE IN MM.
4. THIS DRAWING HOLDS GOOD FOR HT POWER CABLE ALSO THE LETTERING SHOULD BE SUITABALLY MODIFIED.

SOUTH CENTRAL RAILWAY	
ELECTRICAL CABLE MARKER	
DRG. NO. DEE/CN/BZA/2001/23	
SCALE	NTS
DATE	21-11-2001
DRAWN	B. P. L. G. G.
	DEE/CYB:

Technical Specification of the 4 feet 20W LED Batten Light		
S No	Parameters	Specification
1	LED Make	OSRAM / NICHIA / CREE / SAMSUNG / SEOUL / LUMILEDS / PHILIPS / SYSKA / LUMENMAX / EVERLIGHT / EDISON / BRIDGELUX / NATIONSTAR / REFOND/APT or any other LED with LM-80 certified by National/International Accredited Certifying Agencies
2	LED type	SMD LED Chip
3	Lamp/ System Efficacy	100 Lumens/Watt
4	LED Life	Minimum 50,000 Burning Hours
5	Lumen Maintenance	L ₇₀
6	Beam Angle	> / = 120°
7	Rated Voltage	220 to 240V, 50 Hz
8	Input Operating Voltage	100 to 300V, 50 Hz
9	Driver Type	In built Constant Current Driver with Short Circuit Protection
10	Surge Protection	Up to 2.5 KV
11	Insulation Class	CLASS-II
12	THD	≤ 15%
13	Efficiency Of Driver Electronic	> / = 85%
14	Correlated Colour temperature (CCT)	6500K
15	Color Rendering Index	>/=70
16	Power Factor	≥ 0.90
17	Lamp Cover	Polycarbonate diffusers
18	Length	1150+/- 5 mm
19	Construction of Housing	Aluminium Powder Coated
20	Ingress Protection	≥ IP 20
21	Warranty	5 YEAR

- Note:**
1. Firm shall submit BIS CRS compliance as per IS 10322 (Part 5 sec 1 2012: latest)
 2. Firm shall submit photo-biological safety certificate of LEDs as per IS:16108/2012/IEC:62471:2006
 3. Firm shall submit ISO Certification: ISO: 9001:2015
 4. Firm shall submit LM 79/ IS: 16106 test reports for luminaire from NABL accredited laboratory and LM-80/IS: 16105 test reports for LEDs should be from accredited National/International Certifying agencies. LM79 report with wattage variation up to ±5% of the specified rating is acceptable.
 5. Firm shall submit warranty (for free replacement) certificate for 5 years along with supply.

Technical Specification of the LED BULB		
S No	Parameters	Specifications
1	LED Make	OSRAM / NICHIA / CREE / SAMSUNG / SEOUL / LUMILEDS / PHILIPS / SYSKA / LUMENMAX / EVERLIGHT / EDISON / BRIDGELUX / NATIONSTAR/ REFOND/APT or any other LED with LM-80 certified by National/International Accredited Certifying Agencies
2	Type of LED	SMD chip
3	Lumen Output / Efficacy of the System	≥ 100 Lumens/W
4	LED Bulb Life	$\geq 25,000$ Burning Hours
5	Nominal Voltage	220-240V, 50 Hz
6	Input Operating Voltage	90-300V, 50 Hz
7	Cap Base	B22
8	Main Housing / Heat Sink Material	Aluminium Inserted Thermo Plastic
9	Bulb Cover	UV Stabilized Poly carbonate
10	Beam Angle	$>140^\circ$
11	Correlated Colour temperature (CCT)	6500 K
12	Color Rendering Index (CRI)	>75
13	Power Factor (PF)	≥ 0.90
14	Ingress Protection (IP)	IP 20
15	Surge Voltage/Protection	To Withstand 2.5 kV
16	Driver Efficiency	$\geq 85\%$
17	Total Harmonics Distortion	$\leq 15\%$
18	Lumen Maintenance	25000 hours @ L70
19	Warranty	3 year

- Note:**
1. Firm shall submit BIS CRS compliance as per IS 10322 (Part 5 sec 1 2012: latest)
 2. Firm shall submit LM-80/ IS: 16105 test reports for LEDs should be from accredited National/ International Certifying agencies.
 3. Firm shall submit LM-79/ IS: 16102 Part-I test reports for LEDs should be from accredited National/ International Certifying agencies.
 4. Firm shall submit warranty (for free replcement) certificate for 3 years along with supply.

Technical Specification of the LED Panel Lights		
S No	Parameters	Specification
1	LED Make	OSRAM / NICHIA / CREE / SAMSUNG / SEOUL /LUMILEDS / PHILIPS / SYSKA / LUMENMAX /EVERLIGHT / EDISON / BRIDGELUX / NATIONSTAR/ REFOND/APT or any other LED with LM-80 certified by National/International Accredited Certifying Agencies
2	Type LED	SMD on chip
3	System/ Lamp Efficacy	100 Lum/W
4	LED Life	>25000 Hrs
5	Lumen Maintenance	L ₇₀
6	Rated Voltage	220-240V, 50 Hz
7	Input Operating Voltage	90V-300V, 50 HZ
8	Driver Type	SELV Class-II driver with constant current output , short circuit protection with in built high & low voltage cutoff.
9	Surge Protection	Upto 2.5KV
10	Insulation Class	CLASS-II
11	THD	≤ 15%
12	Efficiency Of Driver Electronics	≥ 85%
13	Correlated Colour temperature (CCT)	6500 K(+/-500k)
14	Color Rendering Index	>80
15	Beam Angle	≥120°
16	Power Factor	≥ 0.90
17	Construction of Housing	CRCA powder coated white after phosphochromate treatement/ Pressure Die cast aluminium
18	Optics	High Transmittance opal diffuser /Polycarbonate Diffuser
19	Mounting	Surface/ Recessed
20	Ingress Protection	IP 20
21	Warranty	5 years

- Note:**
1. Availability of BIS CRS compliance as per IS 10322 (Part 5 sec 1 2012: latest)
 2. Photo biological safety of LEDs as per IS:16108/2012/IEC:62471:2006
 3. ISO Certification: ISO: 9001:2015
 4. Firm shall submit LM 79/ IS: 16106 test reports for luminaire from NABL accredited laboratory and LM- 80/IS: 16105 test reports for LEDs should be from accredited National/International Certifying agencies. LM79 report with wattage variation up to ±5% of the specified rating is acceptable.
 5. Firm shall submit warranty (for free replacement) certificate for 5 years along with supply.

Technical Specification of the 4 feet 40W LED Batten Light		
S No	Parameters	Specification
1	LED Make	OSRAM / NICHIA / CREE / SAMSUNG / SEOUL / LUMILEDS / PHILIPS / SYSKA / LUMENMAX / EVERLIGHT / EDISON / BRIDGELUX / NATIONSTAR/ REFOND/APT or any other LED with LM-80 certified by National/International Accredited Certifying Agencies
2	LED type	SMD LED Chip
3	Lamp Efficacy	100 Lumens/W
4	wattage	40 W
5	LED Life	50000 Hrs
6	Lumen Maintenance	L ₇₀
7	Beam Angle	> / = 120°
8	Rated Voltage	220-240V, 50 Hz
9	Input Operating Voltage	140 to 270V, 50 Hz
10	Driver Type	Constant Current Driver with Short Circuit Protection
11	Surge Protection	Up to 4 KV
12	Driver Components	Industrial Grade Only
13	Insulation Class	Class-II
14	THD	≤ 15%
15	Efficiency Of Driver Electronic	> / = 85
16	Correlated Colour temperature (CCT)	5700K-6500K
17	Color Rendering Index	80
18	Power Factor	≥ 0.90
19	Lamp Cover	UV stabilized Polycarbonate
20	Length	1150+/- 5mm
21	Construction of Housing	Aluminium Powder Coated
22	Ingress Protection	≥ IP 20
23	Warranty	5 YEARS

- Note:**
1. Firm shall submit BIS CRS compliance as per IS 10322 (Part 5 sec 1 2012: latest)
 2. Firm shall submit Photo biological safety of LEDs as per IS:16108/2012/IEC:62471:2006
 3. Firm shall submit ISO Certification: ISO: 9001:2015
 4. Firm shall submit LM 79/ IS: 16106 test reports for luminaire from NABL accredited laboratory and LM- 80/IS: 16105 test reports for LEDs should be from accredited National/International Certifying agencies. LM79 report with wattage variation up to ±5% of the specified rating is acceptable.
 5. Firm shall submit warranty (for free replacement) certificate for 5 years along with supply.

Technical Specification of the High Bay Light		
S No	Parameters	GTL SPEC
1	LED Make	OSRAM / NICHIA / CREE / SAMSUNG / SEOUL / LUMILEDS / PHILIPS / SYSKA / LUMENMAX / EVERLIGHT / EDISON / BRIDGELUX / NATIONSTAR/ REFOND/APT or any other LED with LM-80 certified by National/International Accredited Certifying Agencies
2	LED type	SMD LED Chip
3	Lamp Efficacy	120 Lumens/W
4	LED Life	Minimum 50,000 Burning Hours
5	Lumen Maintenance	L ₇₀
6	Beam Angle	> / = 120°
7	Rated Voltage	220 to 240V, 50 Hz
8	Input Operating Voltage	140 to 270 V, 50 Hz
9	Higher Cut off Voltage	300V, 50 Hz
10	Driver Type	Constant current
11	Surge Protection internal	Up to 5 KV
12	Surge Protection external	Up to 10 KV
12	Other protections	Output Short Circuit Protection, Output Overload Protection, Input Over Voltage Protection, Input and Output Reverse Polarity and as per IS10322/Part 5/Section 3
13	Insulation resistance between earth and current carrying part - Minimum (in	100 Mega Ohm
13	THD	≤ 10%
14	Efficiency Of Driver Electronic	> / = 85%
15	Correlated Colour temperature (CCT)	5500K-6500K
16	Color Rendering Index	> / = 70
17	Power Factor	≥ 0.95 at full load
18	Driver components	Industrial grade.
19	Optical Lens material	Poly carbonate Lense (UV stabilized)
20	Housing of Luminaire	Epoxy powder coated Pressure die casted aluminium alloy with higher thermal conductivity, Material of the fasteners: Stainless steel (Grade - 304),
21	Heat Sink	Heat sink: The heat sink provided with die-cast aluminium along with sufficient heat sink fins to dissipate heat effectively,
22	Lamp (Luminaire) cover:	Heat Resistant Toughened UV Glass/Clear Polycarbonate
23	PCB:	MCPCB provided with FR4 grade minimum 0.8 to 1.0 mm thick or more
24	Shape of Luminaire	Round
25	Provision of luminaire connecting wire along with the supply of material	25 cm (ISI marked)
26	Marking	As per IS 10322 (Part I) - 1982 or latest amendments
27	Ingress Protection	IP 65
28	Impact Resistnace	IK 07
29	Warranty	5 year

- Note:**
1. Firm shall submit Availability of BIS CRS compliance as per IS 10322 (Part 5 2012: latest)
 2. Firm shall submit ISO Certification: ISO: 9001:2015
 3. Firm shall submit LM 79/ IS: 16106 test reports for luminaire from NABL accredited laboratory and LM- 80/IS: 16105 test reports for LEDs should be from accredited National/International Certifying agencies. LM79 report with wattage variation up to ±5% of the specified rating is acceptable.
 4. Firm shall submit warranty (for free replacement) certificate for 5 years along with supply.

Technical Specification of the Flood Light.		
S No	Parameters	Specifications
1	LED Make	OSRAM / NICHIA / CREE / SAMSUNG / SEOUL / LUMILEDS / PHILIPS / SYSKA / LUMENMAX / EVERLIGHT / EDISON / BRIDGELUX / NATIONSTAR/ REFOND/APT or any other LED with LM-80 certified by National/International Accredited Certifying Agencies
2	LED type	SMD LED Chip
3	Lamp/ System Efficacy	100
4	LED Life	Minimum 50,000 Burning Hours
5	Lumen Maintenance	L ₇₀
6	Type of LED Luminaire as per the IS 16107(Part 2/Section 1	Type B
7	Types of LED Modules [as per the IS 16103 (Part 2)]	Type 3
8	Beam Angle	> / = 120°
9	Rated Voltage	220 to 240V
10	Input Operating Voltage	140 to 270 volt
11	Higher Cut off Voltage	300V
12	Driver standard	IS 15885 (Part 2/Section 13)
13	Surge Protection internal	Up to 5 KV
14	Surge Protection external	Up to 10 KV
15	Other protections	Output Short Circuit Protection, Output OverloadProtection, Input Over Voltage Protection, Inputand Output Reverse Polarity and as per IS10322/Part 5/Section 3
16	High Voltage Test	To be Passed for 1.5 KV for one minute between supply terminals and body of the unit
17	Insulation resistance between earth and currentcarrying part - Minimum	100 Mega Ohm
18	THD	≤ 10%
19	Efficiency Of Driver Electronic	> / = 85%
20	Correlated Colour temparature (CCT)	5500K-6500K
21	Color Rendering Index	>/=70
22	Power Factor	≥ 0.95
23	Driver components	Industrial grade,
24	Optical Lens material	Poly carbonate Lense(UV stabilized)
25	Housing of Luminaire	Corrosion resistant powder coated Pressure die casted aluminium alloy with higher thermal conductivity, Material of the fasteners:Stainless steel (Grade - 304),
26	Heat Sink	Heat sink:The heat sink provided with die-cast aluminiumalong with sufficient heat sink fins to dissipateheat effectively,
27	Lamp (Luminaire) cover:	Heat Resistant Toughened UV Glass/Clear Polycarbonate
28	PCB:	MCPCB provided with FR4 grade minimum 0.8 to 1.0 mm thick or more
29	Construction of Luminaire Body	Moulded / Extruded silicon loop gasket providedin the luminaire body to ensure a weatherproofseal between the UV Glass cover and the metalhousing to exclude the entry of dust, water,insects, etc., and the
30	Provision of luminaire connecting wire along withthe supply of material	50 cm (ISI marked)
31	Marking	As per IS 10322 (Part I) - 1982 or latest amendments
32	Ingress Protection	IP 66
33	Warranty	5 year

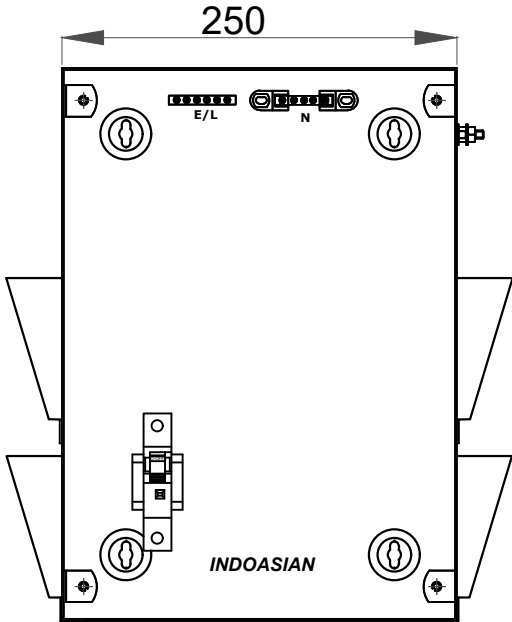
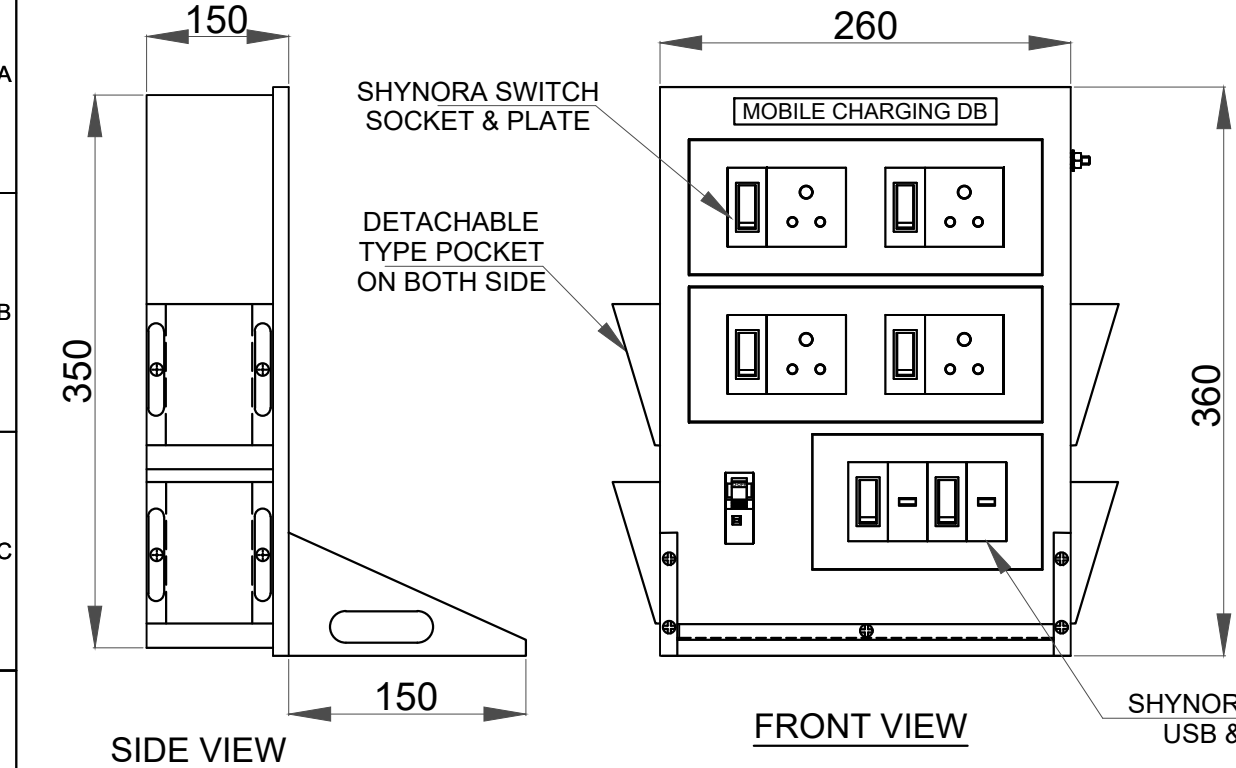
- Note:**
1. Firm shall submit BIS CRS compliance as per IS 10322 (Part 5 sec 5 2012: latest)
 2. Firm shall submit ISO Certification: ISO: 9001:2015
 3. Firm shall submit LM 79/ IS: 16106 test reports for luminaire from NABL accredited laboratory and LM-
 4. Firm shall submit warranty (for free replacement) certificate for 5 years along with supply.

Technical Specification of the Street Light		
S No	Parameters	Specification
1	LED Make	OSRAM / NICHIA / CREE / SAMSUNG / SEOUL / LUMILEDS / PHILIPS / SYSKA / LUMENMAX / EVERLIGHT / EDISON / BRIDGELUX / NATIONSTAR / REFOND/APT or any other LED with LM-80 certified by National/International Accredited Certifying Agencies
2	LED type	SMD LED Chip
3	Lamp/ System Efficacy	120
4	LED Life	Minimum 50,000 Burning Hours
5	Lumen Maintenance	L ₇₀
6	Beam Angle	> / = 120°
7	Rated Voltage	220 to 240V
8	Input Operating Voltage	90 to 300 Volts
9	Higher Cut off Voltage	300V
10	Driver Type	Industrial Grade
11	Surge Protection internal	Up to 4 KV
12	Surge Protection external	Up to 10 KV
13	Other protections	Output Short Circuit Protection, Output Overload Protection, Input Over Voltage Protection, Input and Output Reverse Polarity and as per IS10322/Part 5/Section 3
14	Insulation Class	Class-I
15	THD	≤ 20%
16	Efficiency Of Driver Electronic	> / = 85
17	Correlated Colour temperature (CCT)	5700K-6500k
18	Color Rendering Index	> / = 70
19	Power Factor	≥ 0.90
20	Driver components	Industrial grade,
21	Optical Lens material	Poly carbonate lens / PMMA
22	Housing of Luminaire	Corrosion resistant powder coated Pressure die casted aluminium alloy with higher thermal conductivity, Material of the fasteners: Stainless steel (Grade - 304),
23	Heat Sink	The heat sink provided with die-cast aluminium along with sufficient heat sink fins to dissipate heat effectively,
24	Lamp (Luminaire) cover:	Heat Resistant Toughened UV Glass/Clear Polycarbonate
25	PCB:	MCPCB provided with FR4 grade minimum 0.8 to 1.0 mm thick or more
26	Construction of Luminaire Body	Moulded / Extruded silicon loop gasket provided in the luminaire body to ensure a weatherproof seal between the UV Glass cover and the metal housing to exclude the entry of dust, water, insects, etc., and the
27	Provision of luminaire connecting wire along with the supply of material	40 cm (ISI marked)
28	Marking	As per IS 10322 (Part I) - 1982 or latest amendments
29	Ingress Protection	IP 66
30	Warranty	5 year

- Note:**
1. Firm shall submit BIS CRS compliance as per IS 10322 (Part 5 sec 3 2012: latest)
 2. Firm shall submit ISO Certification: ISO: 9001:2015
 3. Firm shall submit LM 79/ IS: 16106 test reports for luminaire from NABL accredited laboratory and
 4. Firm shall submit warranty (for free replacement) certificate for 5 years along with supply.

Technical Specification of the BLDC 1200MM Ceiling Fan		
S No	Parameters	Specification
1	Motor	Brushless DC (BLDC)
2	Sweep Size	1200 mm
3	Min. Air Delivery	220 Cu.m/ min
4	BEE Star Rating	5 Star
5	Power Consumption & Power Factor	28 Watts & 0.9
6	Speed	Variable Speed
7	Total Harmonic Distortion	$\leq 10\%$
8	Speed Control	IR Remote operated
9	Service value of Fan m ³ /min/W	≥ 6.0
10	Voltage Range	140V to 240V
11	Class of Insulation	Class B
12	Standard Color	White/Cream/Ivory
13	Blade Thickness and No. of Blades	1.1 mm and 3
14	Blade material	Aluminium
15	Double Ball Bearing	Yes
16	Down Rod Size (Without Shackle)	300 mm
17	Shank Thickness (Min.)	2 mm
18	Shackle Thickness (Min.)	2 mm
19	Canopy	2 No's
20	Marking of Each Ceiling fan	As per clause 8.1 of IS 374
21	Testing	Type Testing reports to be submitted, Issued any NABL accredited certifying agency
22	Warranty	5 Years
23	Governing BIS Specifications	IS: 374/2019 or latest amendment - Specification for Electric Ceiling Fan that covers Performance and safety requirements of BLDC fans

ACTUAL LAYOUT MAY BE DIFFERENT IN PRODUCTION THIS IS ONLY FOR REFERENCE



- LEGENDS: -
- 1. INCOMER : OPTIPRO SP MCB 6A C TYPE - 01 No. (MAKE:INDOASIAN).
 - 2. BRASS NEUTRAL LINK 9X6 MM & ALUMINIUM EARTH LINK SIZE 8X6 MM.
 - 3. SOCKET WIRING IN 1.5Sqmm FRLS PVC CABLE.
 - 4. 6A 3PIN SHYNORA SOCKET (Cat. 810620)-04Nos..
 - 5. 6A 1WAY SHYNORA SWITCH (Cat. 810600)-06Nos.
 - 6. 6A 1Module SHYNORA Double USB Charger 3000mA,15W Type A+C (Cat. 810669)-01No.



- NOTES: -
- A. MATERIAL : - C.R.C.A 1.2 mm
 - B. POWDER COATING : - ERA WHITE.
 - C. GENERAL TOLERANCE : - ± 5.0 mm
 - D. ALL DIMENSIONS ARE IN MM.
 - E. DEGREE OF PROTECTION IS IP-20.

CLASS	DIMENSIONS IN mm					Shorter side length X				Tolerances for threads (no indication) :	
	0.5 - 3	3 - 6	6 - 30	30 - 120	> 120	0 - 10	10 - 50	50 - 120	120 - 400	Screw	Nut
FINE	± 0.05	± 0.05	± 0.1	± 0.15	± 0.2	$\pm 1^*$	$\pm 30^*$	$\pm 20^*$	$\pm 10^*$	Fine	6g 6H
MEDIUM	± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	$\pm 1^*$	$\pm 30^*$	$\pm 20^*$	$\pm 10^*$		
COARSE	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	$\pm 1^*30^*$	$\pm 1^*$	$\pm 30^*$	$\pm 30^*$	Coarse	6e 6G
VERY COARSE	---	± 0.5	± 1	± 1.5	± 2.5	$\pm 3^*$	$\pm 2^*$	$\pm 1^*$	$\pm 30^*$		
Material SEE NOTES		Surface Treat. SEE NOTES		Thermal Treat. ---		Surface area Total (cm ²) ---		Qty. 2000		Weight (g)	
A4		Supersedes		Scale N.T.S.		Date 25.09.2024		DGND. B.K.		APPD. S.K.	
TITLE :-		MOBILE CHARGING SINGLE DOOR DB		Drawing No.		91009203		Revision		02	
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