



NATIONAL POWER CORPORATION

SUPPLEMENTAL / BID BULLETIN NO. 5

**PR NO. HO-PIG25-002 / REF. NO. PB250408-AM00075
SUPPLY, DELIVERY, CONSTRUCTION, INSTALLATION, TESTING AND
COMMISSIONING OF 10MVA MASBATE (MALINTA) SUBSTATION**

06 MAY2025

All prospective bidders and authorized copyholders of the Bid Documents of the project mentioned above are hereby informed of the changes/clarifications as follows:

CLARIFICATIONS

- *Portable Type Fire Extinguisher (FEX) shall be Clean Agent (HFC Type), 7.1 kg. (15.5 lbs), wall-hung type and shall be in certified/ approved by the certifying body specified in MW-6.1.*
- *No preferred brand and supplier for the explosion proof exhaust fan. The requirement in the Bidding Documents for this shall be complied regardless of the brand and Supplier.*
- *Refer to the attached B.21.0: Voice and Data (Telephone and LAN), CCTV, and Two-Way Radio Communication Equipment and Reference Drawings for the 60 ft. Antenna Mast.*
- *Note: Completely filled and duly signed Technical Data Sheet shall be submitted during post qualification.*
- *The existing power transformer remote control panel to be transferred should be closely coordinated with SPUG personnel during implementation. In addition, the control, monitoring and protection system of Power Transformer should be incorporated in the proposed SCADA system. Do note that there is no AVR for the Power Transformer.*
- *The HV bushings of the Power Transformer are not subject to replacement as they have passed the conducted tests and are still functioning within acceptable parameters.*
- *Use the Detail of Concrete Sidewalk as Parking Detail. Please refer to Dwg. No. MSS-BDC-22-011.*



NATIONAL POWER CORPORATION

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Website: www.napocor.gov.ph



CLARIFICATIONS

- *The Contractor shall conduct geotechnical investigation during implementation.*
- *The Contractor shall submit the design calculation & drawings for all gantry and equipment foundations including power transformer and switchgear to be submitted during implementation.*

All other terms and conditions shall remain the same. Supplemental for clarifications shall only supersede the affected requirements.

For the information and guidance of all authorized copyholders of the Bid Documents and prospective bidders.

For the Bids and Awards Committee:


LARRY I. SABELLINA

Vice-President, Mindanao Generation
and Chairman, Bids and Awards Committee

B.21.0: VOICE AND DATA (TELEPHONE AND LAN), CCTV, AND TWO-WAY RADIO COMMUNICATION EQUIPMENT**B.22.1 Technical Characteristics and Requirements**

The Contractor shall indicate that their data corresponds to the NPC requirements for the Telephone System.

B.22.2 Telephone Cabinet and UPS

	NPC Requirement	Contractor's Data
a. Cubicle type	19" rack, sheet steel with powder-coated black finish	
b. Panel type	42(H) x 600mm(W) x 800mm(D)	
c. Perforated front and back doors, detachable side panels with lock & keys	Yes	
d. Accessories	3-fixed trays, 4-top mounted exhaust fans, adjustable square-hole rail with cage nut & bolts	
e. Cable manager & Power Distribution Unit (PDU)	Vertical mount cable manager, 15-outlet, 3-prong PDU with 3M cable length	
f. Cable entrance	Top & bottom	
g. 6KVA Uninterruptible Power Supply (UPS), online double conversion with power factor correction system, rack mounted complete with network communication card	To be provided	

Name of Bidder:

Name & Signature of Bidder's Representative:

Designation:

B.22.3 Telephone (IP-PBX)**General**

a. Main unit	IP-PBX (Hybrid) VoIP technology, multi-service platform	
b. Mounting	19"-horizontal rack-mounted	
c. Module slot	At least four (4) slots	
d. FXO module (trunk line)	≥ 3-FXO port (analog trunklines)	
e. FXO module (analog device)	≥ 8-FXO port (analog extensions)	
f. Ethernet port	≥ 3 x 10/100/1000 Mbps ports	
g. Supported G.729a compression channel	≥ 64-channel	
h. Operating temperature	≥ 40 °C	
i. Support dedicated media gateway	Yes	
j. Input voltage & frequency rating	100 ~ 240VAC, 60Hz	
k. Configuration Editor Software	To be provided as part of the supply of IP-PBX equipment	
l. 1U 24-port Cat6 (180°) patch panel With labelling holder, dual type	To be provided	

Name of Bidder:

Name & Signature of Bidder's Representative:

Designation:

- m. SIP trunk/channel proxy licenses,
DSP module/controller

To be provided

B.22.4 Operator IP-Phone Handset

- a. 1-unit, at least 3.5" color LCD, HD
audio, full-duplex, 2-gigabit POE
port, black color

To be provided

B.22.5 Telephone Analog Handset

- a. Analog phone (8 units), black color

At least eight (8)
programmable
keys, hands-free
speakerphone

B.22.6 Terminal Block and Cable Requirements

- a. Supply of interconnecting cables
between IP-PBX and the
telephone handsets and outlets
- b. Supply of interconnecting cables
from the IP-PBX to the Low Earth
Orbit (LEO) internet link
- c. 4 x 10-pair, type 110 punch-down
terminal block with back plate,
2-port faceplate Information Outlet
(I/O), RJ45 and RJ11 connectors,
Cat5e Foil Twisted Pair (FTP)
cable, and 1U cable management.

To be provided

To be provided

To be provided

B.22.7 Programming Requirements

The IP-PBX program configuration shall
follow the NPC dialing plan, including
application software and a data
retriever/programming device.

To be provided

B.22.8 Contractor's Field Service Representative

The contractor shall provide the services of a testing engineer at the job site.

Name of Bidder:

Name & Signature of Bidder's Representative:

Designation:

B.22.9 Data Retriever/Programming Device

	NPC Requirement	Contractor's Data
a. Type	<u>Laptop computer</u>	
b. Hardware		
1. Processor	<u>Intel Core i5 or better</u>	
2. Clock Frequency, GHz	<u>Fastest speed available</u>	
3. Memory	<u>≥16GB SSD</u>	
4. Storage	<u>≥1TB SSD</u>	
5. Video Card	<u>≥4GB</u>	
6. Display	<u>≥15" LED display</u>	
7. Built-in audio system	<u>Yes</u>	
8. Built-in camera with microphone	<u>Yes</u>	
9. Operating and application software	<u>Licensed Windows 11 Pro 64-bit and Microsoft Office 2022 Pro Plus</u>	
10. Power supply/battery backup	<u>To be included</u>	
11. Interface ports	<u>USB, HDMI, and card reader ports</u>	
12. Network	<u>Wi-Fi, Bluetooth external LAN adapter</u>	

Name of Bidder:

Name & Signature of Bidder's Representative:

Designation:

B.22.10 CCTV EQUIPMENT

	NPC Requirement	Contractor's Data
a. Network Video Recorder (NVR)	One (1) unit 8-channel, 2–1 x 8TB NAS HDD, VGA, HDMI, USB interface	_____
b. 5MP bullet type (outdoor) IP-camera POE with 4 x 4 WP box	Five (5) units	_____
c. 5MP dome type (indoor) IP-camera POE with 4 x 4 WP box	Three (3) units	_____
d. 8-port gigabit POE managed switch with 2-1x10Gbe transceiver uplink port	One (1) unit	_____
e. Cat6 STP (shielded twisted pair) cable	One (1) box	_____
f. LED monitor display, complete with wall mounting bracket	One (1) unit, VGA, HDMI interface ports, with 15-meter HDMI cable	_____

B.22.11 TWO-WAY RADIO COMMUNICATION

	NPC Requirement	Contractor's Data
a. Base station 136~174MHz, 45 watts' output, analog/digital sensitivity 0.3uV/ 0.22uV, ABME+ 2TM digital vocoder Provisions of OTA programming, dual capacity, IP-54, complete with external speaker, PTT mic, 30A switching power supply	One (1) unit, compliant to FCC & ICC standards	_____
b. Base antenna, Omni-directional fiberglass ≥ 3.8dB gain, 144~174MHz, 200 watts (max) complete with 50-ohm high-grade RG-8 coaxial cable, connectors and surge protector	One (1) set	_____

Name of Bidder: _____

Name & Signature of Bidder's Representative: _____

Designation: _____

- | | | |
|---|--|--|
| c. 60-foot antenna mast, painted as per CAA standard complete with climbing steps, accessories: concrete pedestal, anchor bolts, turn-buckle, guy wire, ground cable and lightning rod
(Refer to reference drawing) | One (1) set | |
| d. Mobile station 136~174MHz, 45 watts output, analog/digital sensitivity 0.3uV/ 0.22uV, ABME+ 21M digital vocoder Provisions of OTA programming, dual capacity, IP-54, complete with PTT mic and vehicle DC cable with fuse. | Two (2) units,
compliant to FCC
& ICC standards | |
| e. Mobile antenna, Omni-directional, 5/8 wave whip with PO/SO-239 magnetic base mount, 200 watts (max) at 50-ohms, complete with 50-ohm high-grade RG-58 coaxial cable and PL-259 connector | Two (2) sets | |
| f. Portable station, LKP display, 5 watts RF output, analog/digital sensitivity 0.16uV/0.14uV, AMBE+2TM, digital vocoder, IP-67, MIL-STD, complete with spare lithium-ION battery pack and battery charger | Four (4) sets,
compliant to
FCC & ICC
standards | |
| g. Programming (as per NPC licensed radio frequency), VWSR test, NTC licensing, and assistance fee for the two-way radio communication system | To perform | |

Name of Bidder:

Name & Signature of Bidder's Representative:

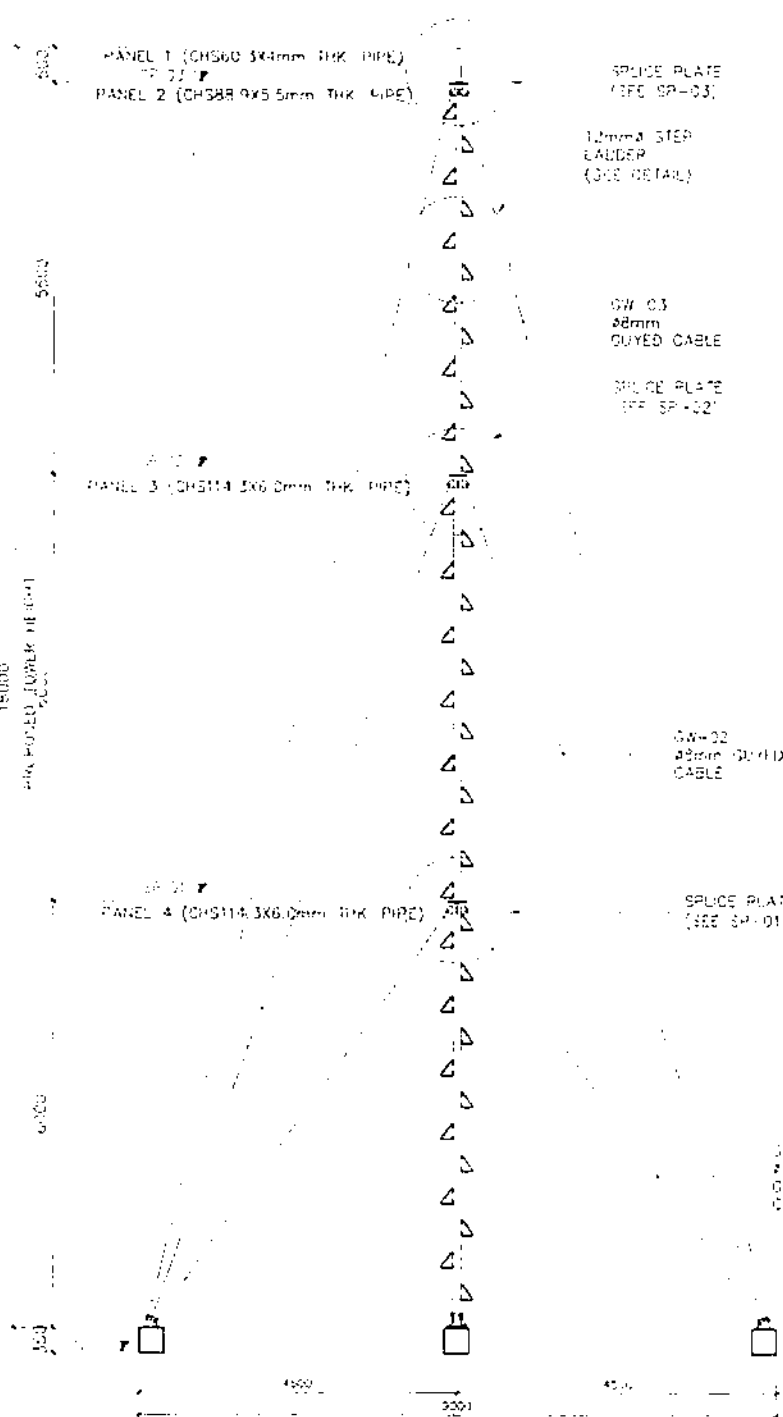
Designation:

FOR REFERENCE ONLY (SHEET 1 OF 2)

- NOTE:
1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE INDICATED.
 2. TOWER LEGS $\gamma = 241$ MPa (PIPE SECTION).
 3. STRUCTURAL STEEL PLATE $\gamma = 248$ MPa.
 4. WELDING ELECTRODES PER AWS.
 5. STEEL WELD SHOULD BE ZINCA PANT FINISHED.
 6. STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 (HOT-DIPPED BB MASON).
 7. ALL CONNECTIONS TO BE WELDED UNLESS OTHERWISE STATED.
 8. THICKNESS OF FILLET WELD SHALL BE EQUAL TO THE THICKNESS OF THE RESPECTIVE MEMBER TO BE WELDED UNLESS OTHERWISE STATED.

ANTENNA CONFIGURATION

ANTENNA TYPE	QTY	WEIGHT (kg)	LENGTH (m)	REMARKS
DIAMOND ANTENNA CP22E	1	2.4	1.8	PROPOSED



1 TOWER LINE DIAGRAM

ST-1020 SCALE

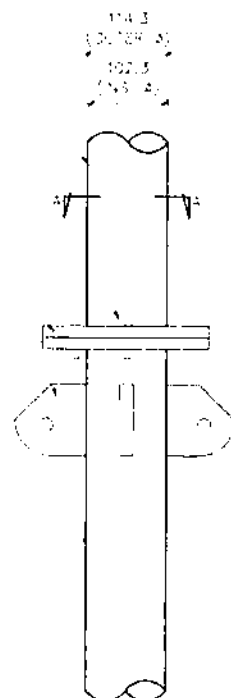
1:100

2-240mmx16mm THK
SPLICE PLATE
6-12mm BOLTS

100x100x20
GUY BRACKET

CHS114 3x6.0mm
THK PIPE

SECTION - A



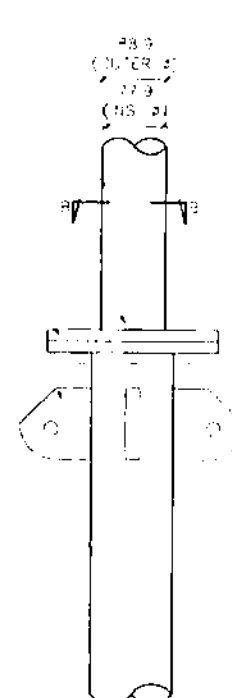
ELEVATION (SP-01)

2-240mmx16mm THK
SPLICE PLATE
6-12mm BOLTS

100x100x20
GUY BRACKET

CHS88 9x5.5mm
THK PIPE

SECTION - B



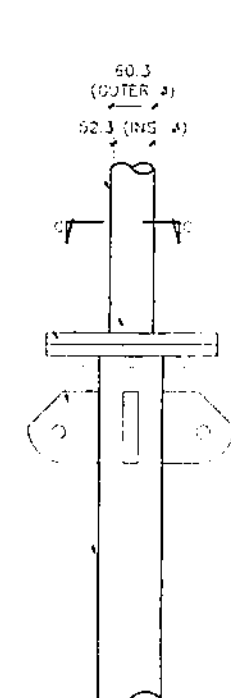
ELEVATION (SP-02)

2-240mmx16mm THK
SPLICE PLATE
6-12mm BOLTS

100x100x20
GUY BRACKET

CHS60 3x4mm
THK PIPE

SECTION - C



ELEVATION (SP-03)

REVISION NOTES

UPDATED SECTION NAME

UPDATED SPLICE SIZES

UPDATED DISTANCE OF PEDESTAL

GUY CABLE PROPERTIES

GUY WIRE NO	DIAMETER (mm)	BREAKING STRENGTH (lbs)	INITIAL TENSION (KN)	TURN BUCKLE SIZE	WEIGHT (kg/m)
GW-01	85	9,480	4.22	5/8x12	1.27
GW-02	85	9,480	4.22	5/8x12	1.27
GW-03	85	9,480	4.22	5/8x12	1.27

STEP LADDER DETAIL

INSTRUCTIONS:

1. SPACE WIRE CLIPS NOT MORE THAN 5 TIMES CABLE DIAMETER APART.
2. UNWIND ONE STRAND FROM DEAD CABLE, APPLY SERVING TOOL AND 8 TIMES AROUND.
3. UNWIND SECOND STRAND FROM DEAD CABLE, APPLY SERVING TOOL AND WRAP 8 TIMES AROUND, REPEAT WITH EACH STRAND AND MAKE SPAIN SPIN.
4. RETIGHTEN WIRE CLIPS AFTER INITIAL HAS BEEN APPLIED.

NOTES:

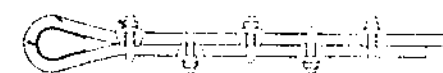
1. RETENSIONING OF GUY CABLES AND RETIGHTENING OF BOLTS SHALL BE DONE PERIODICALLY TO ENSURE STRUCTURAL STABILITY.
2. MAINTAIN INITIAL TENSION OF GUY CABLES BY 8-12% OF ITS BREAKING STRENGTH.

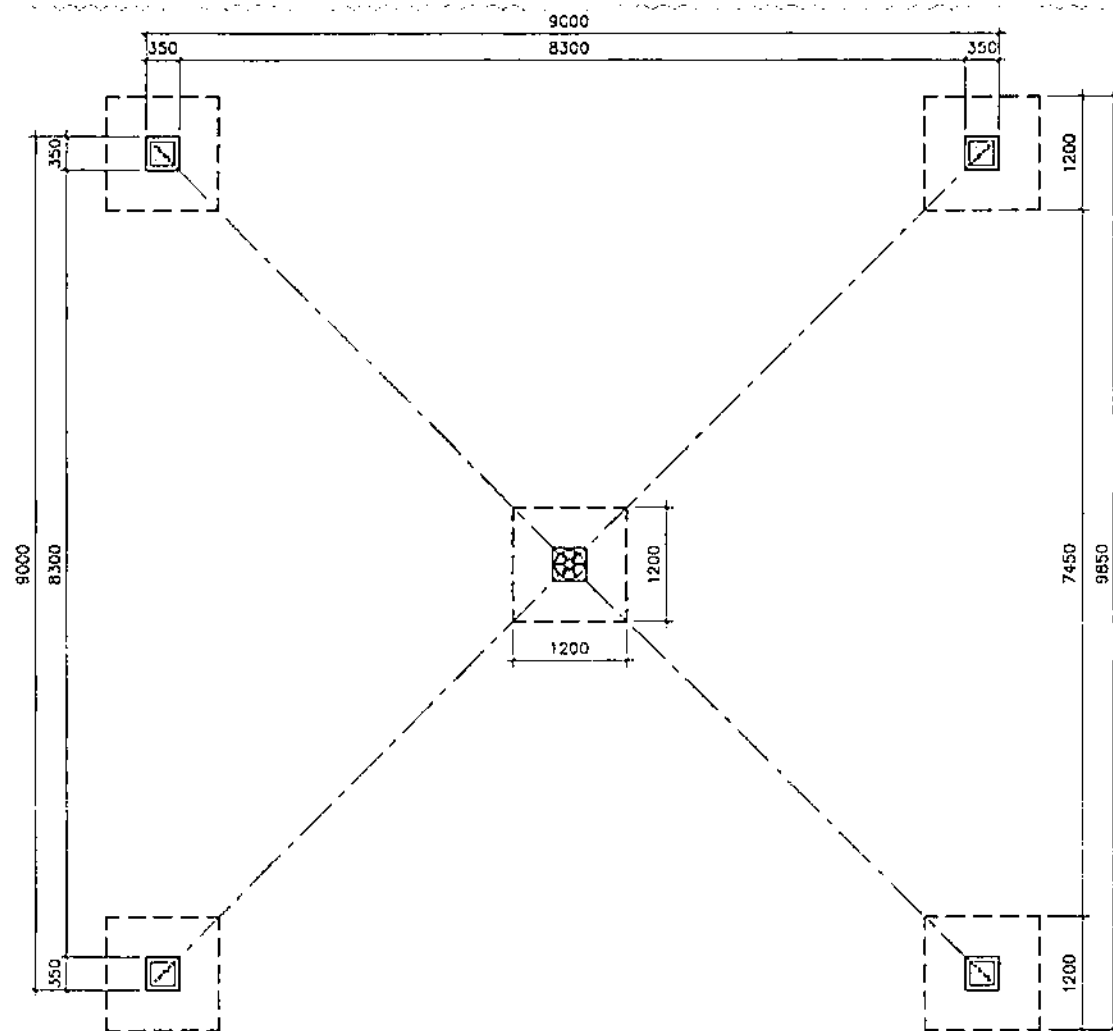
TURN BUCKLE



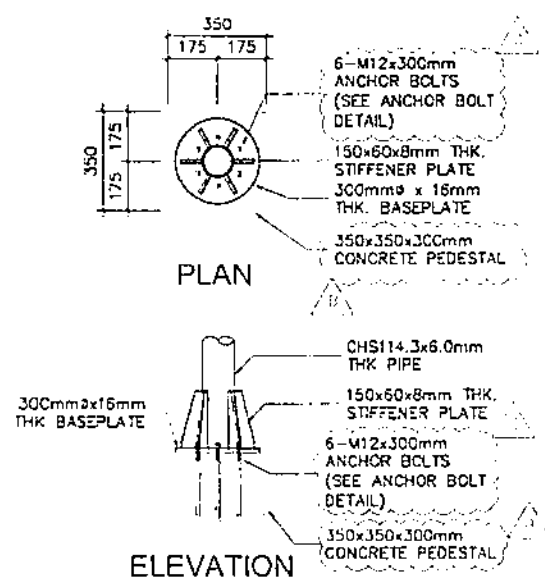
TURN BUCKLE DETAIL

1-1/4" GUY
CABLE CLIPS
GUY CABLE
THUMB
1-1/2" GUY
CABLE
THUMB

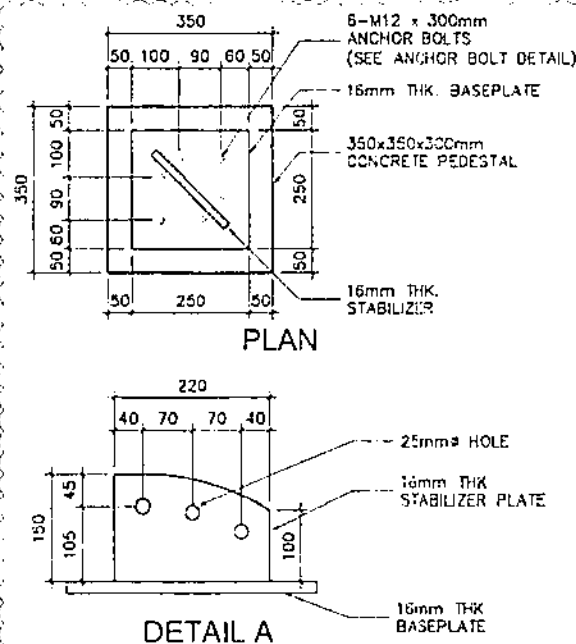
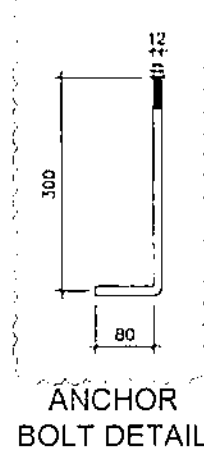




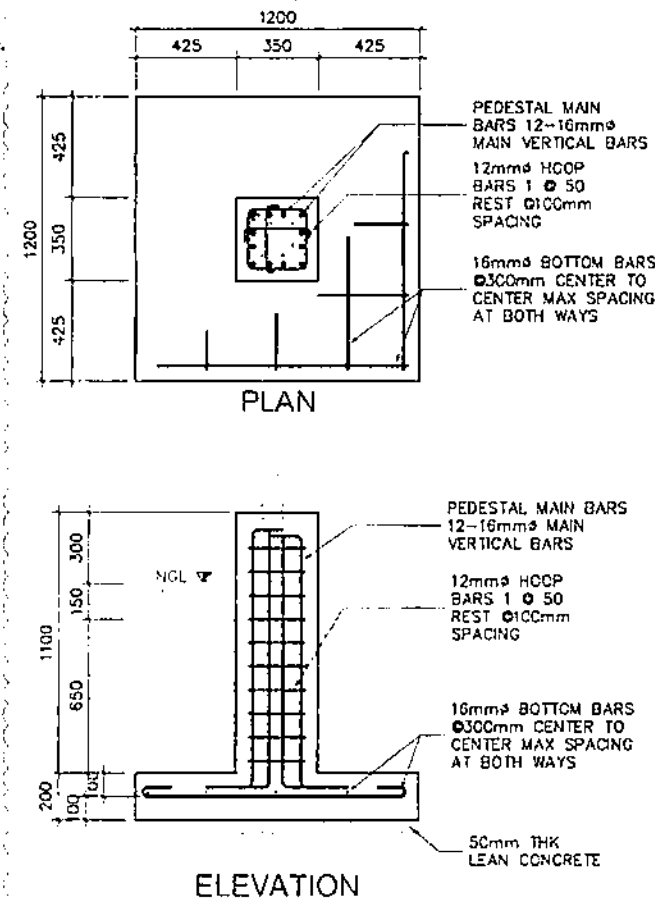
1 FOUNDATION LAYOUT
ST-1021 SCALE 1:75



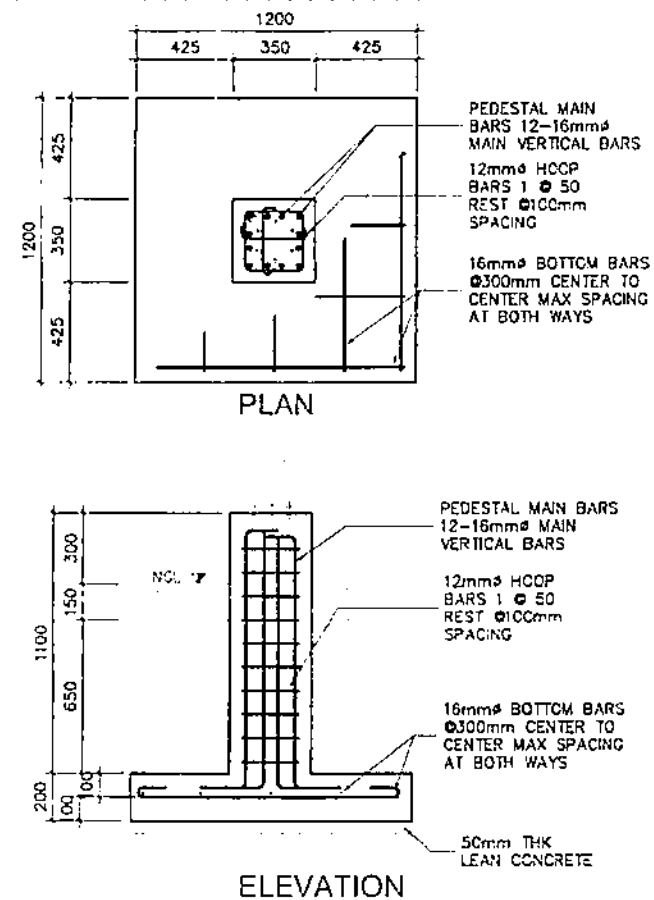
3 TYPICAL PEDESTAL DETAIL
ST-1021 SCALE 1:50



4 TYPICAL DEADMAN DETAIL
ST-1021 SCALE NTS

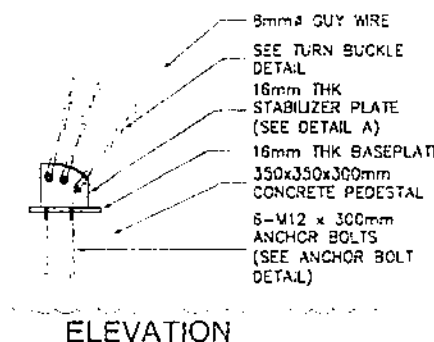


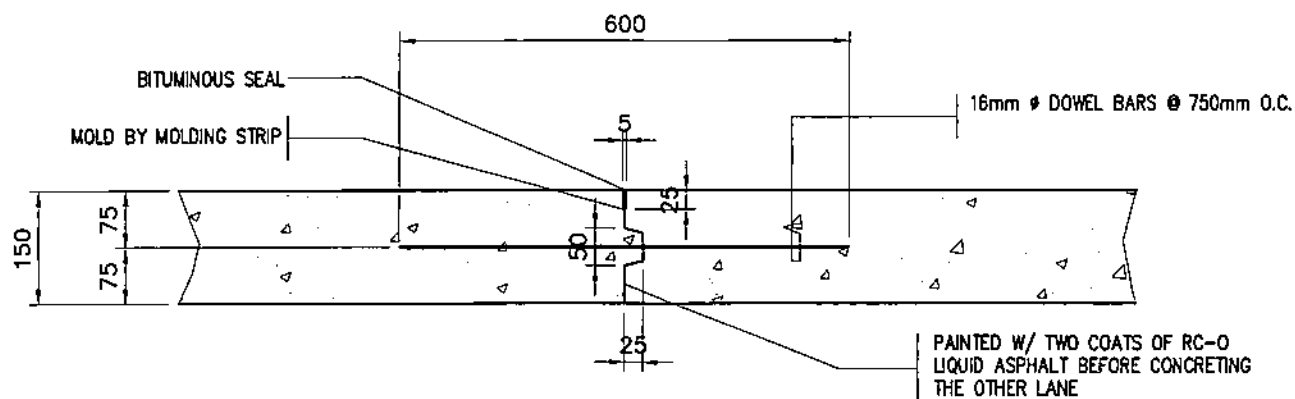
2 COLUMN FOOTING DETAIL
ST-1021 SCALE 1:50



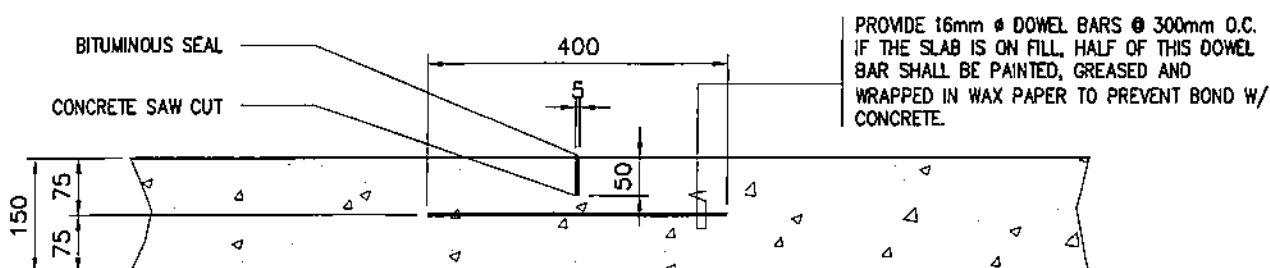
- NOTE:
- ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE INDICATED.
 - MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT 28-DAY PERIOD SHALL BE $f_c = 30\text{MPa}$. LEAN CONCRETE SHALL BE $f_c = 25\text{MPa}$.
 - ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 FOR 16mm AND GRADE 40 FOR 12mm.
 - DETAILS OF REINFORCING BARS (SPICES, BENDS, HOOKS, ETC.) SHALL BE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF ACI CODE.
 - ALLOWABLE SOIL BEARING CAPACITY SHALL NOT BE LESS THAN 115 KPA.
 - MATERIALS:
 - STRUCTURE STEEL: A36
 - ANCHOR BOLTS: $F_y = 38\text{CMPA}$, $F_u = 57\text{CMPA}$
 - NUTS: ASTM A563
 - WASHERS: ASTM F436
 - ALL ASPECTS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST ACI CODE.

REVISION NOTES:	
A	UPDATED DISTANCE OF PEDESTAL
B	UPDATED PEDESTAL SIZES
C	UPDATED SIZES OF ANCHOR BOLTS
D	UPDATED DETAIL DRAWINGS

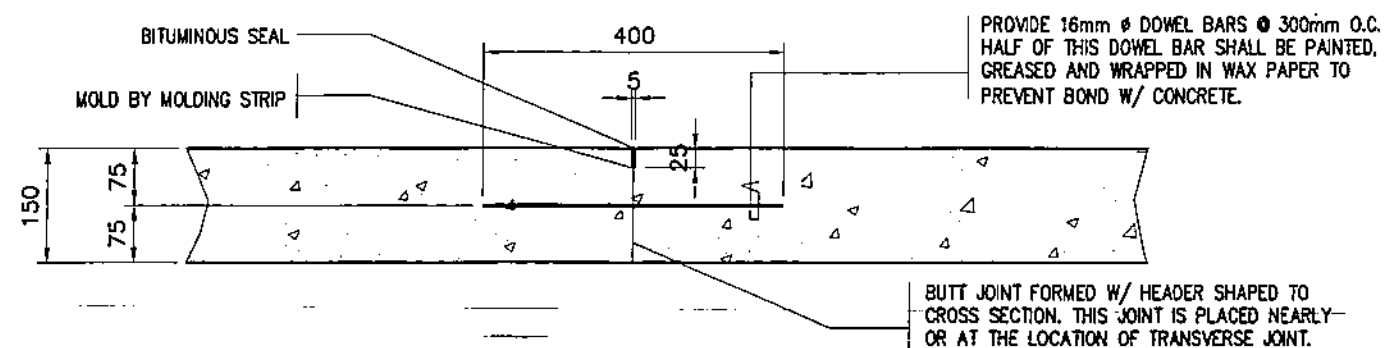




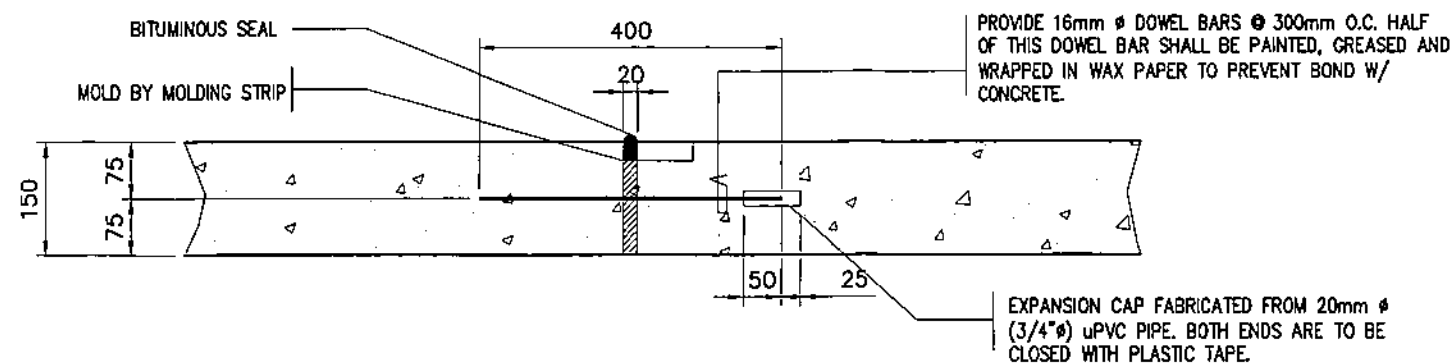
LONGITUDINAL CONSTRUCTION JOINT
SCALE NTS



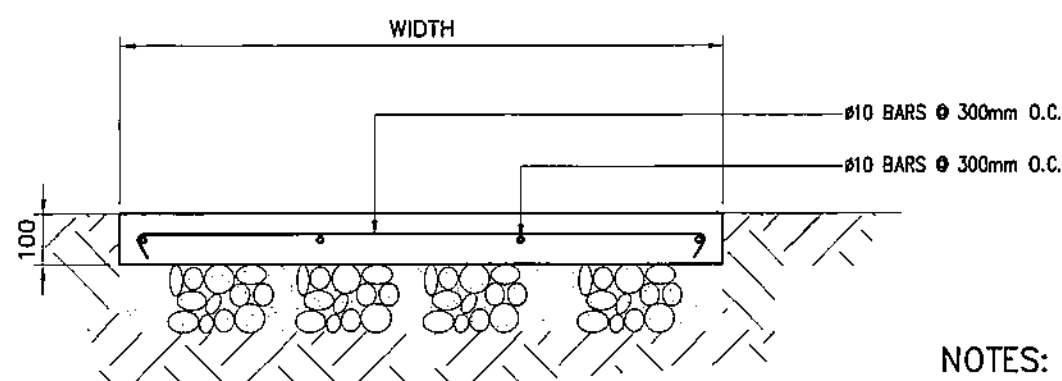
TRANSVERSE CONTRACTION JOINT
SCALE NTS



TRANSVERSE CONSTRUCTION JOINT
SCALE 1:150



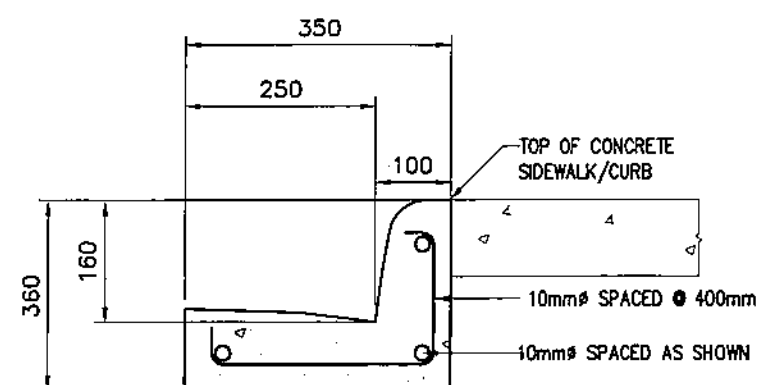
TRANSVERSE EXPANSION JOINT
SCALE NTS



DETAIL OF CONCRETE SIDEWALK
SCALE NTS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE FOR PAVEMENT, SIDEWALK, CURB & GUTTER SHALL BE 20.7 MPa AT 28 DAY PERIOD.
3. THE MINIMUM YIELD STRENGTH OF REINFORCEMENT SHALL BE GRADE 40 (275MPa).
4. ALLOWABLE BEARING CAPACITY OF SOIL SHALL NOT BE LESS THAN 140 KPa AND SHALL BE VERIFIED IN THE FIELD.



DETAIL OF CURB AND GUTTER
SCALE 1:150

OWNER:		NATIONAL POWER CORPORATION GABRIEL Y. ITCHON BLDG., SEN. MIRIAM P. DEFENSOR-SANTIAGO AVENUE (FORMERLY BIR ROAD) CORNER QUEZON AVENUE, DILIMAN 1100 QUEZON CITY, PHILIPPINES	
PROJECT: SUPPLY, DELIVERY, CONSTRUCTION, INSTALLATION, TESTING AND COMMISSIONING OF 10 MVA MASBATE (MALINTA) SUBSTATION			
LOCATION: MALINTA, MASBATE			
TITLE: ROADWAY (TYPICAL DETAILS)			
DESIGNED	BY	CHKD	DATE
DRAWN			
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			
SUBMITTED: JOSE L. MENDOZA Principal Engineer A, CEAD		RECOMMENDED: A. C. ESPIRITU Manager, CEAD	
APPROVED: G. B. MAGPOC JR. Manager, ODD			
DWG. NO. MSS-BDC-22.011		SPECS. NO. LuzP23Z1636Sce	
SCALE: AS SHOWN		BID DRAWING	
REV. 0			

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPO.