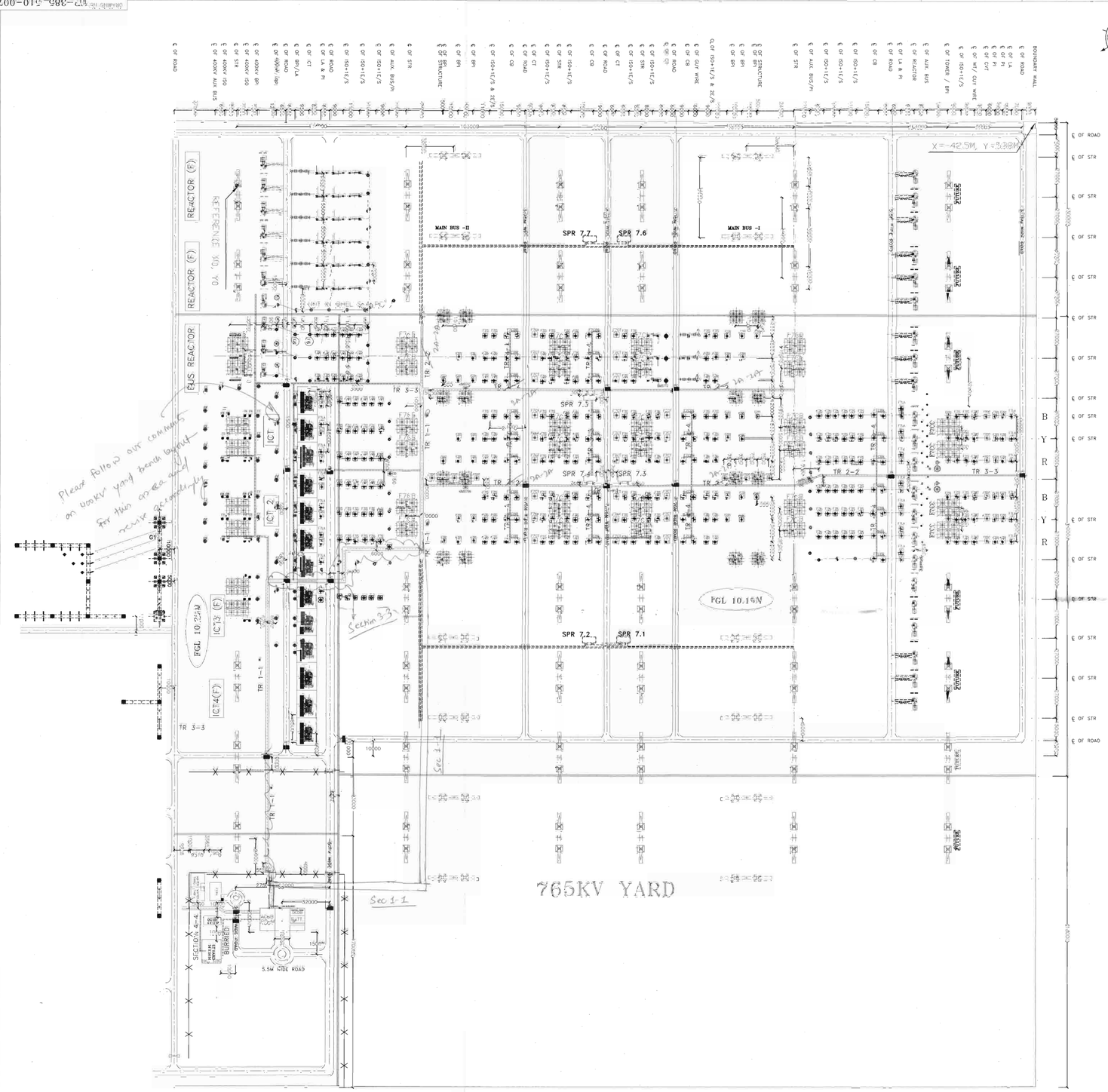
FIRST ANGLE PROJECTION ( ALL DIMENSIONS ARE IN MM. )

DRAWING NO. TB-385-510-007




Please follow our comments on 400kV yard trench layout for this as well as 765kV accordingly

## NOTES :-

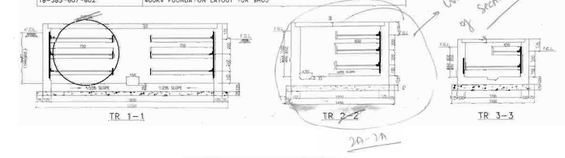
1. ALL DIMENSIONS ARE IN mm.
2. THE LOCATION OF CABLE TRENCHES MARKED ON THIS DWG MAY BE SUBJECT MODIFIED TO SUIT SITE CONDITIONS.
3. SPACERS FOR TWO-OUT OUT PVC PIPES TO EQUIPMENTS SHALL BE PROVIDED IN CABLE TRENCHES
   SPACERS OF SIZE SUITABLE TO 5nos 2Q/100 PIPE SHALL BE PROVIDED BELOW TOP CABLE SUPPORT.
4. XMB - INDICATES THE MARSHALLING BOX.
5. TRENCH SHALL BE PLACED IN THE LOCATION SHOWN. EXACT COORDINATES TO BE SUITABLY DECIDED AT SITE.
6. CABLES SHALL BE LAID IN MULTILAYER ON CABLE SUPPORT (ANGLES)
7. CABLE SUPPORT SHALL BE PROVIDED AT EVERY 2.75m INTERVAL
8. INSERTS MUST BE EMBEDDED AT EVERY 2.75m INTERVAL FOR FIXING CABLE SUPPORT.
9. ALUMINIUM POWER CABLES SHALL BE LAID IN TOP TIERS AND CONTROL CABLES IN BOTTOM TIERS, AS PER TECHNICAL SPECIFICATION
10. BURIED CABLING SHALL BE DONE AS PER SPECIFICATION( INSTALLATION OF CABLES)
11. BURIED CABLES FOR LIGHTING PURPOSE SHALL BE AS PER LIGHTING LAYOUT.
12. LOCATION OF CABLE TRENCHES INSIDE BUILDING, ROOM SHALL BE SHOWN SEPARATELY.
13. EARTH MONITORING SLAB WILL BE FLAT TO BE WELDED ON THE CABLE SUPPORT BEFORE INSTALLATION OF CABLES.
14. CABLES CROSSING ROAD/RAIL TRACK SHALL BE LAID IN RCC PULLOUT.
15. FOR POWER & CONTROL SEPARATE PIPES SHALL BE USED (CONSIDERING 30% VOID N.W. EACH PIPE i.e. 40% FILLING CRITERIA
16. PLACEMENT OF HZ AND VERTICAL AND ITS CABLE TRENCH IS TENTATIVE, EXACT COORDINATES TO BE SUITABLY DECIDED AT SITE.
17. ——— INDICATES CABLES LAID IN PVC PIPES OF 160/110mm OUTER DIA AT DEPTH OF 200mm (MAX.)
    CABLE FROM EQUIPMENT TO CABLE TRENCH SHALL RUN IN PVC PIPES
18. WHERE THERE IS INDICATES CABLE ENTRY/EXIT FROM EQUIPMENT
19. ALL OTHER DETAILS PERTAINING TO CIVIL WORKS SHALL BE REPEATED IN THE RESPECTIVE CIVIL DRAWINGS.
20. PVC PIPES SHALL BE SECURELY FIXED AT BOTH ENDS, EITHER EMBEDDED IN CONCRETE OR WITH PROPER CLAMPED.
21. AFTER LAYING THE CABLES THE ENDS OF PIPES SHALL BE FULLY SEALED TO PREVENT INGRESS OF WATER INSIDE THE PIPE.
22. CONTROL CABLES & POWER CABLES MUST BE LAID IN SEPARATE PVC PIPES.
23. CABLE TRENCH SHALL BE PROVIDED ON MARSHALLING BOX SIDE OF EQUIPMENT.
24. THE PURPOSE OF TRENCH LAYOUT DRAWING IS FOR USE AS FOLLOWS:
    - TO BE USED AS CIVIL INPUT FOR CABLE TRENCHES.
    - FOR ERECTION OF CABLE RACKS AT SITE.
    - FOR CABLE LAYING AND ROUTING AT SITE
25. CABLE RACK AND SUPPORTS SHALL BE PAINTED AFTER INSTALLATION WITH 2 COATS OF (WETS) PRIMER (COMPRISING OF RED OXIDE & ZINC CHROMATE IN A SYNTHETIC WEDDING) FOLLOWED BY TWO FINISHING COAT OF ALUMINIUM PAINT.
26. ■ INDICATES STUB PIPES SHALL BE PROVIDED IN TRENCH WHERE FUTURE TRENCH/EQUIPMENT PIPE TERMINATED TO REPRESENT SCOPE OF TRENCH
27. SCRAPER PULL OUT BOX SHALL BE PROVIDED IF REQUIRED WHERE CABLE SHALL BE LAID IN PVC PIPE
28. LONGITUDINAL SLOPE IN CABLE TRENCH SHALL BE TYPICALLY 1:500
29. ■ INDICATE PIPE CULVERT.
30. RACK ASSEMBLIES FOR CABLE TRENCHES SHALL BE PROVIDED ON THE FACE OF TRENCH WALL MARKED ◀ THUS
31. FOR ALL CIVIL WORKS INCLUDING INCLUSION POWER GRID APPROVED/RELEASED DRGS SHALL BE FOLLOWED.
32. UNDERGROUND LAYING OF FIBER OPTIC CABLE SHALL BE DONE IN GI PIPE.
33. FOR CABLE TRENCH SECTION AND CONSTRUCTION DETAILS PLEASE REFER TO THE STANDARD CABLE TRENCH SECTION DRAWING RELEASED FOR CONSTRUCTION FOR BHUJ S/S
34. TYPICAL DETAILS FOR PIPE AND CABLE TRENCH ARRANGEMENT FOR EQUIPMENTS LIKE CT, CVT, CB & ISOLATOR SHALL BE ISSUED SEPERATELY.
35. FOR CABLING FROM CONTROL ROOM TO SWITCHYARD IN MAIN TRENCH, CABLE SHALL BE LAID SUCH THAT BOTTOM TIER ARE PREFERABLY FILLED FIRST.
36. BURRIED CABLE TRENCH TO BE USED FOR CABLES FOR DG SET, FIRE PROTECTION PUMP HOUSE & LIGHTING.

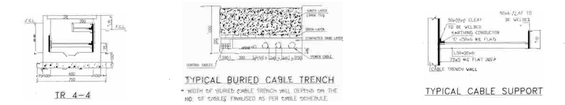
## REMARK –

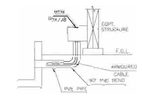
1. ~~THIS DRG INCLUDES NO LOOSE FUTURE SCOPE, ONLY THE CABLE RACK / SUPPORT ANGLES TO BE INSTALLED~~

REFERENCE DWG :-

| DWG. NO. | TITLE |
|---|---|
| TB-385-510-001 | SINGLE LINE DIAGRAM 765/400kV BHUJ S/S |
| TB-385-310-002 | ELECTRICAL LAYOUT PLAN FOR 765/400kV BHUJ S/S |
| TB-385-607-601 | 765KV FOUNDATION LAYOUT FOR BHUJ |
| TB-385-607-602 | 400KV FOUNDATION LAYOUT FOR BHUJ |




DETAIL SHOWING ROUTING OF CABLE INSIDE PVC PIPE CABLE TRENCH TO EQUIPMENT

| PVC PIPES : CLASS IV (AS PER IS 4985) | | | | | |
|---|---|---|---|---|---|
| | | | FOR POWER CABLES | FOR CONTROL CABLES | |
| S.NO. | ITEM | NO | 160 OUTSIDE DIA | 110 OUTSIDE DIA | 90 OUTSIDE DIA |
| 1 | 400kV | 40 (EQUIPS) | - | - | - |
| 2 | 400 (EQUIP) | EACH PHASE 40 (OFF / ON) | - | - | - |
| 3 | 765kV | 120 NO OR | - | - | - |
| 4 | 765kV | 240NO (EQUIPS WITH "F") | - | - | - |
| 5 | 765kV (EQUIPS WITH "F") | 765kV (EQUIPS WITH "F") | - | - | - |
| 6 | 765kV (EQUIPS WITH "F") | 765kV (EQUIPS WITH "F") | - | - | - |
| 7 | 765kV (EQUIPS WITH "F") | 765kV (EQUIPS WITH "F") | - | - | - |
| 8 | 400kV (EQUIPS WITH "F") | 400kV (EQUIPS WITH "F") | - | - | - |
| 9 | 400kV (EQUIPS WITH "F") | 400kV (EQUIPS WITH "F") | - | - | - |
| 10 | 400kV (EQUIPS WITH "F") | 400kV (EQUIPS WITH "F") | - | - | - |
| 11 | 765kV | 400kV REACTOR | - | - | - |
| 12 | 765kV | 315MVA TRANS. | - | - | - |

TABLE-I

| QUANTITY OF 2Q ACT PIPE FOR ROAD CROSSING | | |
|---|---|---|
| S.NO. | 400kV CS | 300MW CO |
| TR-2-2 | 02 NO. | 01 NO. |
| TR-3-3 | 01 NO. | 01 NO. |

| PVC PIPES CLASS IV (AS PER IS 4985) FOR ANCILLARY EQUIPMENTS | | | | | |
|---|---|---|---|---|---|
| S.NO. | ITEM | NO | FOR POWER CABLES 160 OUTSIDE DIA | FOR CONTROL CABLES 110 OUTSIDE DIA | 90 OUTSIDE DIA |
| 1 | 400kV | 40 (EQUIPS) | - | - | - |
| 2 | 400 (EQUIP) | EACH PHASE (OFF / ON) | - | - | - |
| 3 | 765kV | 120 NO OR | - | - | - |
| 4 | 765kV | 240NO (EQUIPS WITH "F") | - | - | - |
| 5 | 765kV | 400kV REACTOR | - | - | - |

Cat - B

| REV. | DATE | ALTERED / CHECKED / APPROVED | REV. | DATE | ALTERED / CHECKED / APPROVED | REV. | DATE | ALTERED / CHECKED / APPROVED | REV. | DATE | ALTERED / CHECKED / APPROVED | REV. | DATE | ALTERED / CHECKED / APPROVED | REV. | DATE | ALTERED / CHECKED / APPROVED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZONE | | | ZONE | | | ZONE | | | ZONE | | | ZONE | | | ZONE | | |

ADDITIONAL INFORMATION W.O.No.

STATUS OF DRAWING

DISTRIBUTION OF PRINTS

ग्राहक/परियोजना का नाम NAME OF CUSTOMER: POWER GRID CORPORATION OF INDIA LTD

NAME OF PROJECT :
Sub1 for Construction of 765/400/220kV BHUJ POOL (New) S/S and
Extension of 765kV Ramasantha S/S under
Green Energy Corridors : Inter-State Transmission Scheme (ISTS) – Part C
NOA NO.- CC-CS/484-WRG/SS-2953/11/G8/NOA-I & II/5727 & 5728 Dtd 31 March 2016

भारत हैवी इलेक्ट्रिकल्स लिमिटेड
पारेषण परियोजना विभाग
BHARAT HEAVY ELECTRICALS LTD.
TRANSMISSION PROJECTS DIVISION

| | DEPT. /NAME | SIGN | DATE |
|---|---|---|---|
| DRAWN | AS | | 18.07.16 |
| CHECKED | SK | | |
| APPROVED | AS | | |

स्केल / SCALE: NTS

कार्ड कोड CARD CODE

शीर्षक/TITLE: CABLE TRENCH LAYOUT – 765KV YARD
BHUJ POOL SS (NEW) SUB STATION

ड्रॉइंग सं./DRAWING NO. TB-385-510-007

शीट/SHEET No. 01 अगली शीट/NEXT SHEET –

FRONT SIZE A1

C/E NGG/WR/BHUJ-10 12/08/16