



# Bharat Heavy Electricals Limited

Fabrication Stamping & Insulator Plant

Jagdishpur, Amethi – 227817(U.P.)

MATERIAL MANAGEMENT

## EXPRESSION OF INTEREST (EOI)

A unit “Fabrication Stamping and Insulator Plant” of Bharat Heavy Electricals Limited located at Industrial Area, Jagdishpur, District-Amethi (Uttar Pradesh) is fabricating 10000 MT- 12000 MT Power Plant Structures/ Industrial Components yearly.

Below major Jobs is being executed through Works Contracts:

| Type of Contract                      | Type of Jobs  |
|---------------------------------------|---|
| <b>AWB: Auto Welded Structures</b>    | Beams and Bracing jobs- I-section beams, Box Columns, Welded box, Bracings, Ceiling Girders, transportation material etc. |
| <b>Duct &amp; Structures</b>          | T ducts, Y ducts, Transition Ducts, Hopper Ducts, Misc. Structures (Beam Assembly, Channel Box, trusses etc.).            |
| <b>Miscellaneous Jobs</b>             | DT- Cone , Pit Liner, TBA, BBA etc.   |
| <b>Heavy Jobs( &gt;18 MT)</b>         | ITC, Spider , BBC, TBC, Water Box etc.  |
| <b>Bowl Mills and Sub- Assemblies</b> | Separator Body, MSL, PGB, Wet Bowl Mill etc.  |

BHEL- FSIP Jagdishpur intends to invite Expression of Interest (EOI) from interested prospective contractors for fabrication activities including experienced as well as start-ups (Registered with GOI) as per extant government/BHEL guidelines for executing the following types of jobs as below:

| Table-02                             |   |                                   |
|--------------------------------------|---|-----------------------------------|
| Type of Contract                     | Type of Jobs  | Sample Drawings(Attached)         |
| <b>AWB: Auto Welded Structures</b>   | Beams and Bracing jobs- I-section beams, Box Columns, Welded box, Bracings, Ceiling Girders, transportation material etc. | 0-35-513-27214<br>0-35-533-27227  |
| <b>Duct &amp; Structures</b>         | T ducts, Y ducts, Transition Ducts, Hopper Ducts, Misc. Structures (Beam Assembly, Channel Box, trusses etc.).            | 1-48-012-44764,<br>1-48-202-42835 |
| <b>Miscellaneous Jobs</b>            | DT- Cone , Pit Liner, TBA, BBA etc  | 0-201-03-21102,<br>0-202-07-20202 |
| <b>Heavy Jobs( &gt;18 MT)</b>        | ITC, Spider , BBC, TBC, Water Box etc   | 0-203-01-18107,<br>0-203-01-18106 |
| <b>Bowl Mills and Sub-Assemblies</b> | Separator Body, MSL, PGB, Wet Bowl Mill etc   | 0-61-310-01509,<br>0-61-104-00899 |

All Interested prospective contractors are advised to submit the following details along with organizational soundness and company background, technical features/ product catalog, reference list, annual audited financial reports etc.



# Bharat Heavy Electricals Limited

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MATERIAL MANAGEMENT

| Sl. No. | Parameter/Item  |
|---------|---|
| 1.      | Qualified Welders (ITI (Welding trade) or Qualified Welder from Govt/PSU/Reputed Organizations)<br><br>During the course of execution of work, The Welder who will qualified by BHEL, FSIP Jagdishpur as per applicable procedure and WPS will be only allowed.   |
| 2.      | Suitable machines / equipment such as welding machines (SMAW / SAW / GMAW), grinding machines, portable drilling machines and their drill bits, PUG cutting machines, Gas cutting torches along with all their accessories, electrode carrying oven, material handling facilities and other tools and tackles required for execution of job . |
| 3.      | Adequate no. of lifting tools and tackles e.g. slings, D- Shackle, Bow Shackle, I – Bolt etc. of required capacity to handle the jobs must be available with supplier/vendor. The test certificate of lifting tools must be available at the worksite of job and shall be produced to BHEL  |
| 4.      | Portable drilling machine capacity upto 50mm dia hole   |

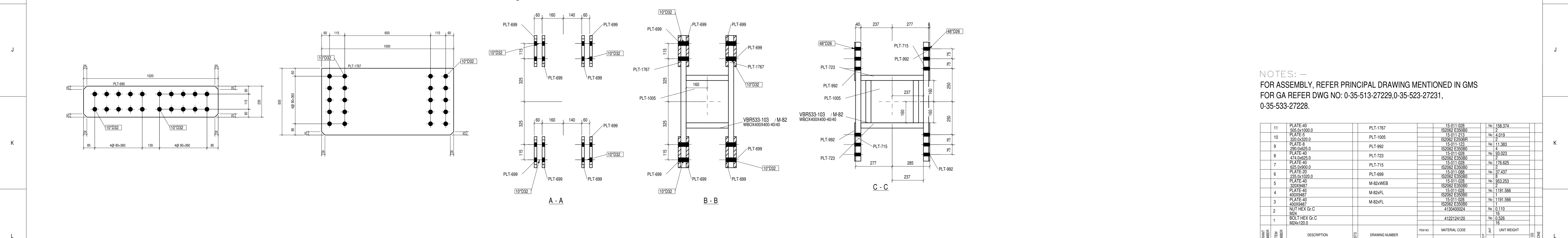
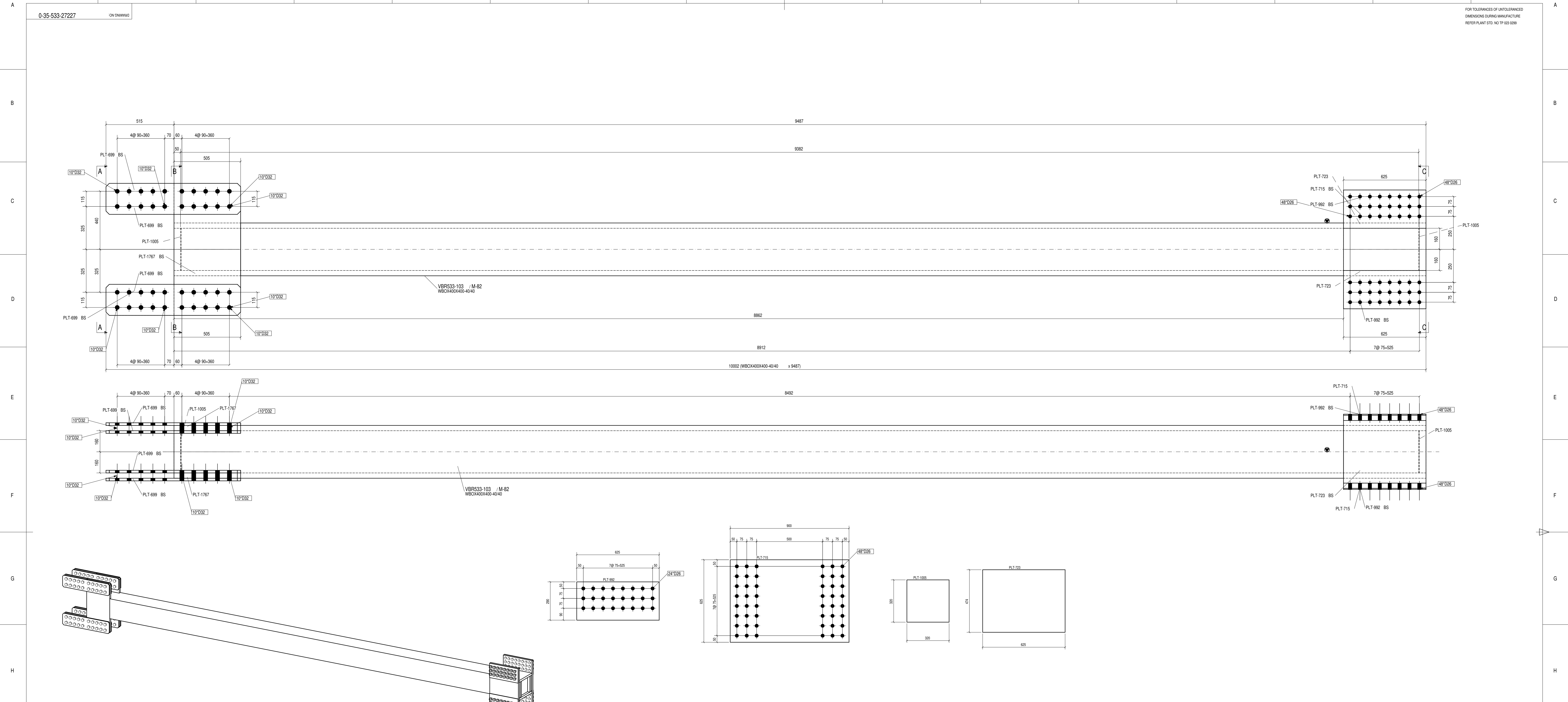
The registration against this EOI will as per extant BHEL/Govt guidelines. Supplier may register through <https://supplier.bhel.in> or GeM (<https://gem.gov.in>). Contact persons for Technical Clarification/ registration issues are

1. Sh Kapil Kumar, Manager, email: [kapilsachan@bhel.in](mailto:kapilsachan@bhel.in), Mob: 7317799425

2. Sh Anil Kumar Kaushal, Dy Manager, email: [anilkumarkaushal@bhel.in](mailto:anilkumarkaushal@bhel.in), Mob: 9344082129

This EOI shall be live up to 31.03.2023.





NOTES: -  
 FOR ASSEMBLY, REFER PRINCIPAL DRAWING MENTIONED IN GMS  
 FOR GA REFER DWG NO: 0-35-513-27229, 0-35-523-27231,  
 0-35-533-27228.

| ITEM NO | DESCRIPTION   | EST | DRAWING NUMBER | ITEM NO        | MATERIAL CODE | UNIT WEIGHT | QTY      | ZONE |
|---------|---------------|-----|----------------|----------------|---------------|-------------|----------|------|
| 11      | PLATE-40      |     | PLT-1767       | 15-011-028     |               | No          | 158.374  |      |
| 10      | PLATE-5       |     | PLT-1005       | IS2002 E33039  |               | P           | 4.619    |      |
| 9       | PLATE-6       |     | PLT-992        | IS2002 E33039R |               | P           | 1.383    |      |
| 8       | PLATE-40      |     | PLT-723        | IS2002 E33039  |               | P           | 63.023   |      |
| 7       | PLATE-40      |     | PLT-715        | IS2002 E33039  |               | P           | 176.625  |      |
| 6       | PLATE-40      |     | PLT-699        | IS2002 E33039  |               | P           | 37.437   |      |
| 5       | PLATE-40      |     | M-82XFL        | IS2002 E33039  |               | P           | 953.253  |      |
| 4       | PLATE-40      |     | M-82XFL        | IS2002 E33039  |               | P           | 953.253  |      |
| 3       | PLATE-40      |     | M-82XFL        | IS2002 E33039  |               | P           | 1191.566 |      |
| 2       | NUT HEX GR C  |     | M84            | 4130400024     |               | No          | 0.110    |      |
| 1       | BOLT HEX GR C |     | M24x120.0      | 4122124120     |               | No          | 0.526    |      |

CAUTION: The information on this drawing is the property of Bhat Heavy Electricals Ltd. It must not be disclosed to the interest of the company.

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

**Bharat Heavy Electricals Ltd**  
 UNIT: HIGH PRESSURE BOILER PLANT  
 TIRUCHIRAPALLI - 620014

DATE: 20.12.2018  
 DATE: 21.12.2018  
 DATE: 24.12.2018

SCALE: NTS  
 WEIGHT (KG): 5215.069

PROJECT: REF 15-001-03-DWG

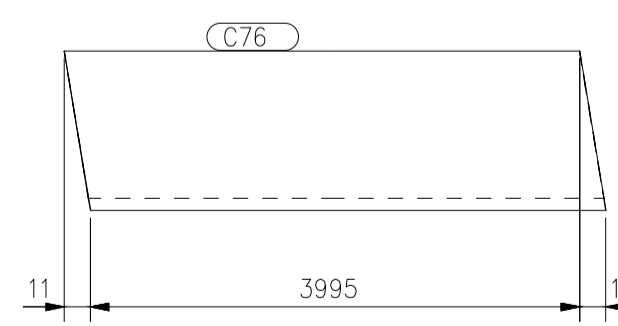
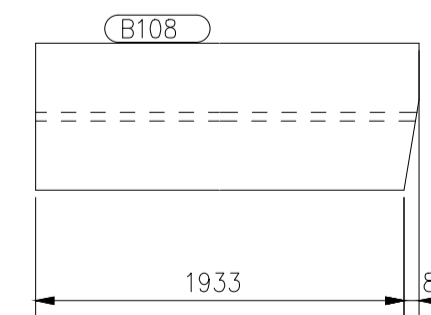
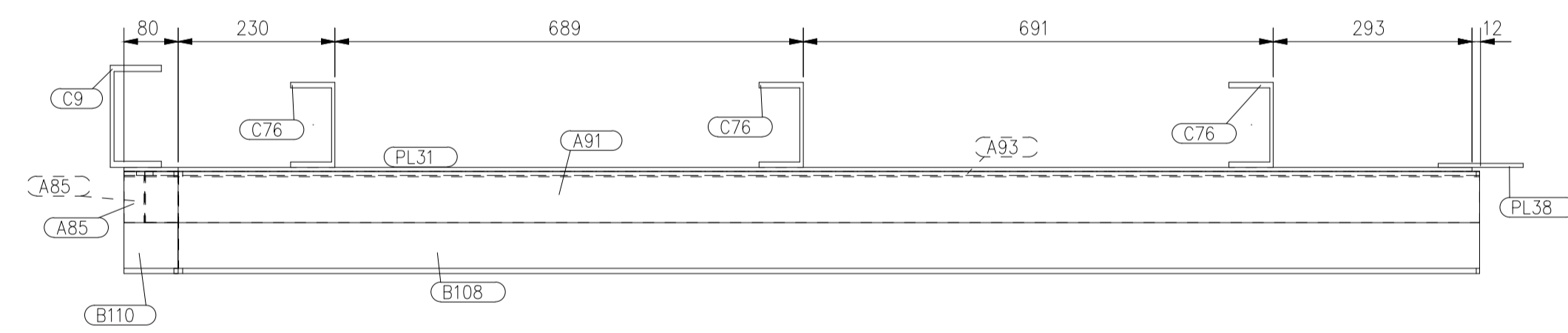
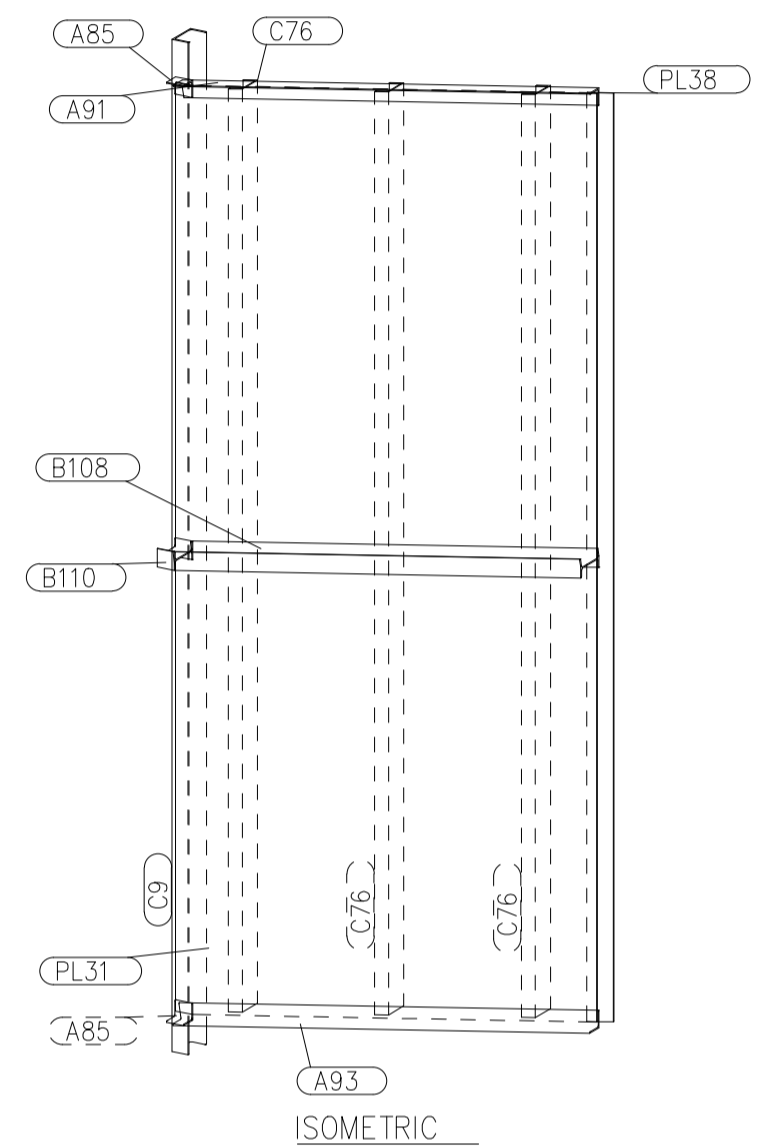
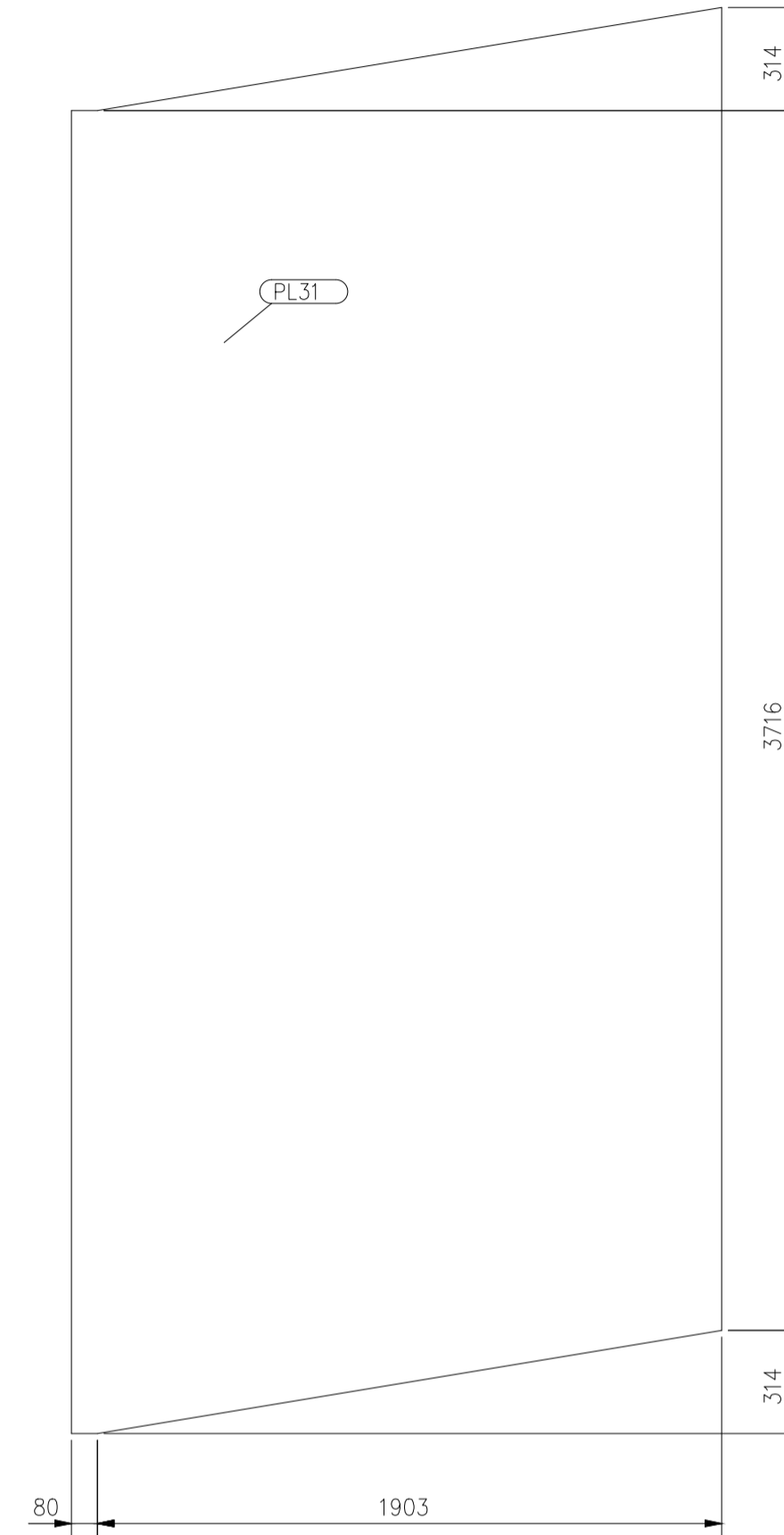
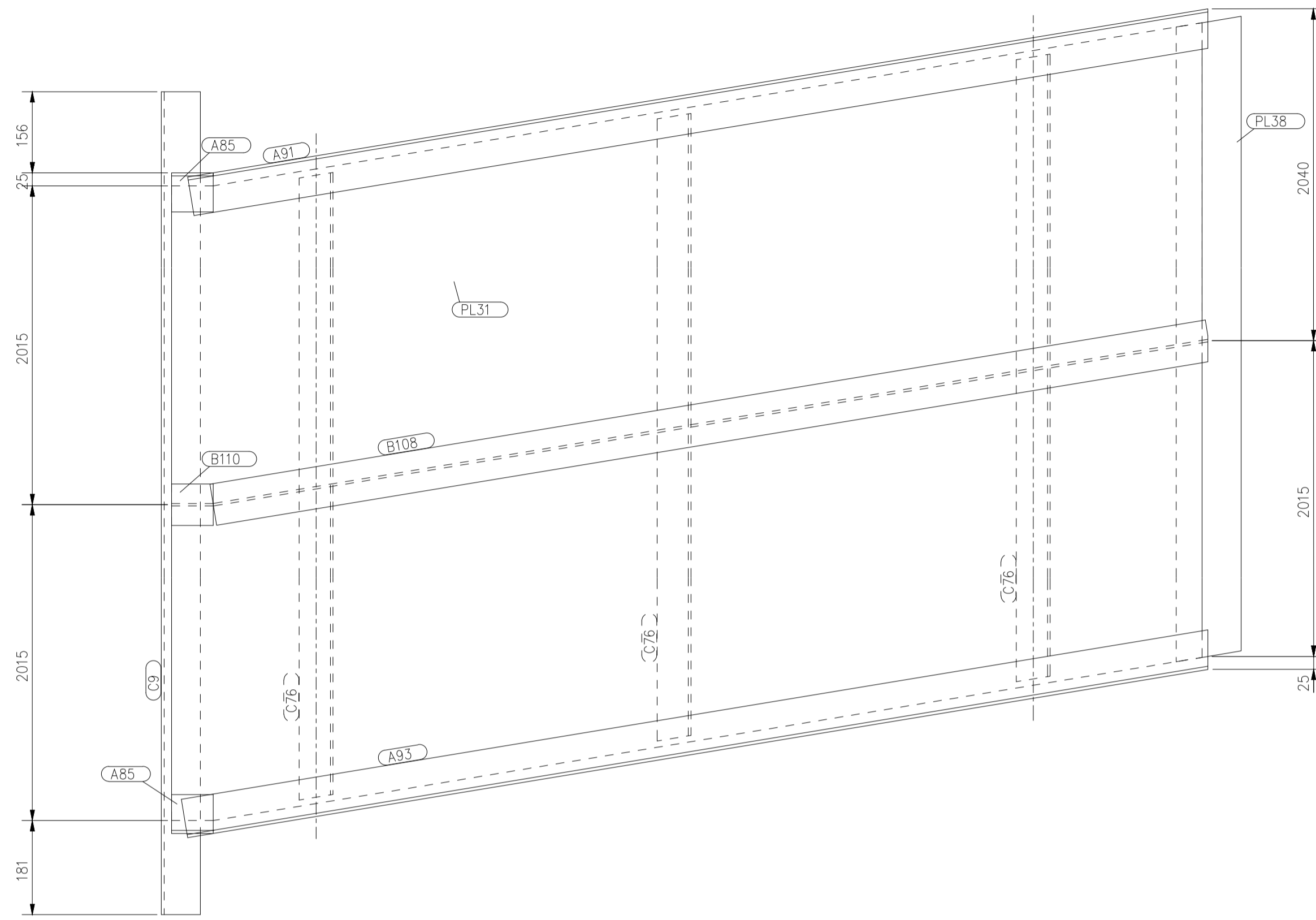
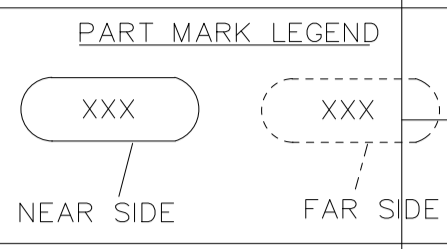
TITLE: VBR533-103  
 DRAWING NO: 0-35-533-27227

2 NUMBERS REQUIRED AS DRAWN, MARKED VBR533-103

DRWING NO. 1-48-012-44764

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER PLANT STD. NO TP 023 0299

- NOTES:
- 01. FOR GENERAL NOTES REFER PAGE NO.41 (REF.41) OF DUCT CONSTRUCTION MANUAL REF. 121 FOR CONSTRUCTION DETAIL
  - 02. THIS DRAWING TO BE READ ALONG WITH ASSEMBLY DRAWING 1-48-012-44767



| VARIANT NUMBER | SNO  | ITEM NUMBER           | DESCRIPTION | STD | DRAWING NUMBER | ITEM NO | MATERIAL CODE  | UNIT | UNIT WEIGHT | QTY | ZONE |
|----------------|------|-----------------------|-------------|-----|----------------|---------|----------------|------|-------------|-----|------|
| VAR NO         |      |                       |             |     |                |         | MATERIAL SPECN | DI   | QUANTITY    |     |      |
| 1              | A85  | ISA 75X75X6 80        |             |     |                |         | 150130050000   |      | 0.544       | 2   |      |
| 2              | A91  | ISA 75X75X6 1989      |             |     |                |         | 150130050000   |      | 13.524      | 1   |      |
| 3              | A93  | ISA 75X75X6 2002      |             |     |                |         | 150130050000   |      | 13.608      | 1   |      |
| 4              | B108 | ISMB 150 1941         |             |     |                |         | 150090220000   |      | 29.113      | 1   |      |
| 5              | B110 | ISMB 150 80           |             |     |                |         | 150090220000   |      | 1.200       | 1   |      |
| 6              | C9   | ISMC 150 4392         |             |     |                |         | 150100350000   |      | 73.786      | 1   |      |
| 7              | C76  | ISMC 125 4016         |             |     |                |         | 150100020000   |      | 52.615      | 3   |      |
| 8              | PL31 | PLATE 6 4344.0x1983.0 |             |     |                |         | 152110920000   |      | 376.304     | 1   |      |
| 9              | PL38 | PLATE 6 4051.0x125.0  |             |     |                |         | 152110920000   |      | 23.727      | 1   |      |

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

**Bharat Heavy Electricals Ltd.**  
 UNIT: HIGH PRESSURE BOILER PLANT  
 TIRUCHIRAPALLI - 620014

DRN: NAME SS MANI  
 CHD: RAJ  
 APPD: BMK

DATE: 29.09.2018  
 DATE: 01.10.2018  
 DATE: 03.10.2018

DEPT: 355-053  
 DUCT CODE: 124  
 ALL DIMENSIONS ARE IN MM  
 PROJECTION: NTS  
 SCALE: NTS  
 WEIGHT (Kg): 690.193

REF TO ASSY / OLD DWG

TITLE: TRANSITION DUCT WALL

DRAWING NO: 1-48-012-44764

REV

DU NO: 12 DU QTY: 2

1-48-202-42835  
DRAWING NO.

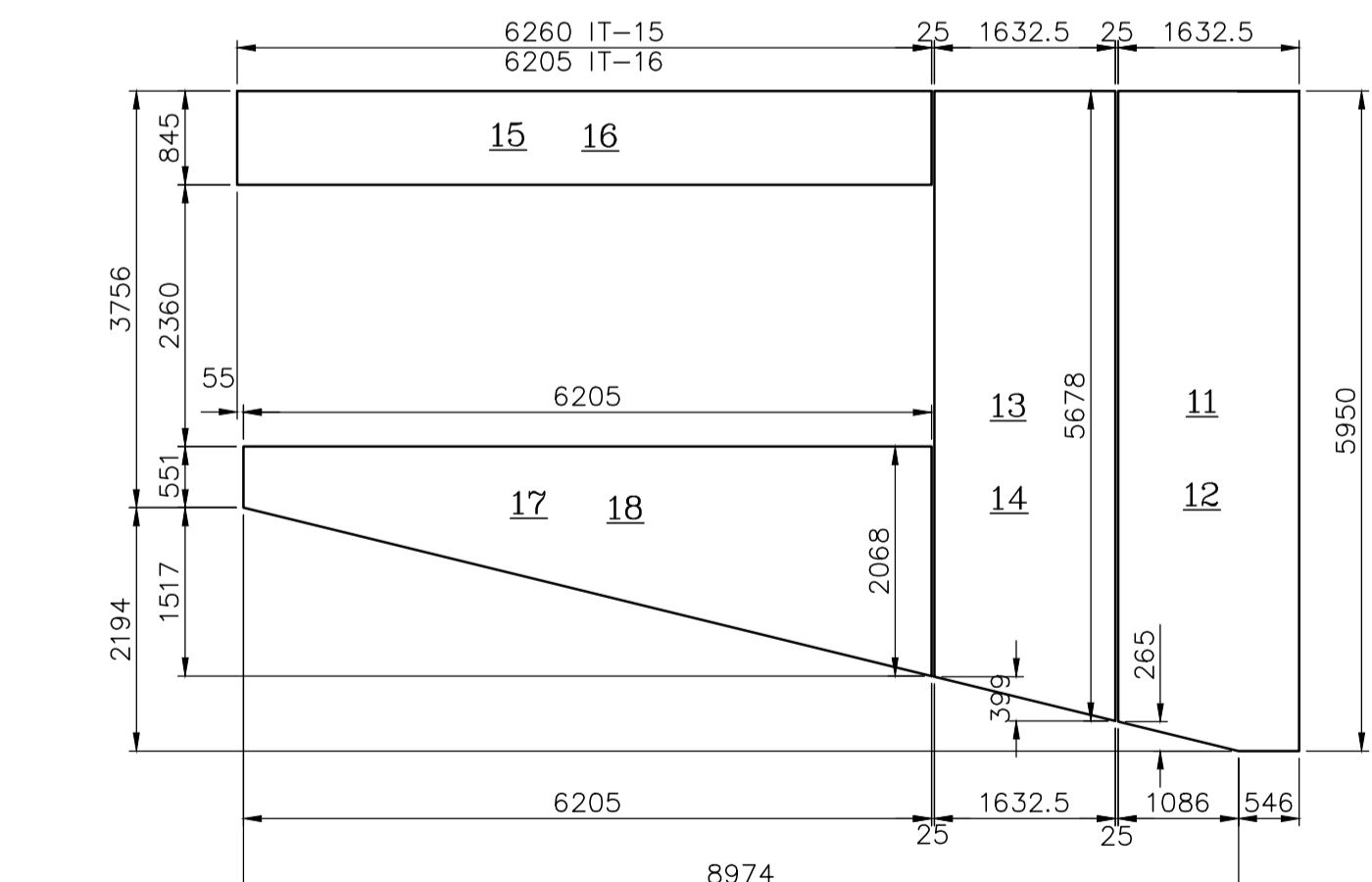
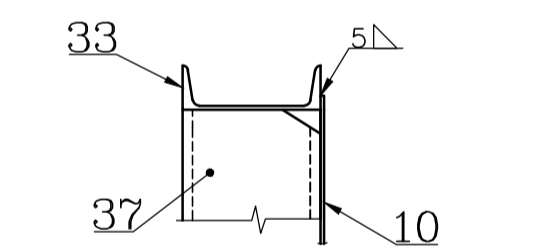
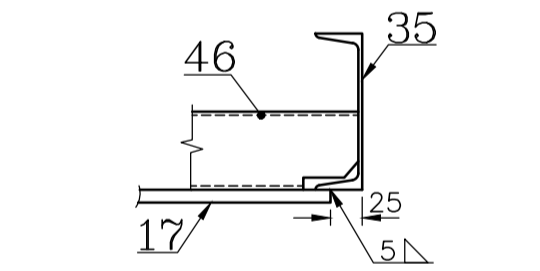
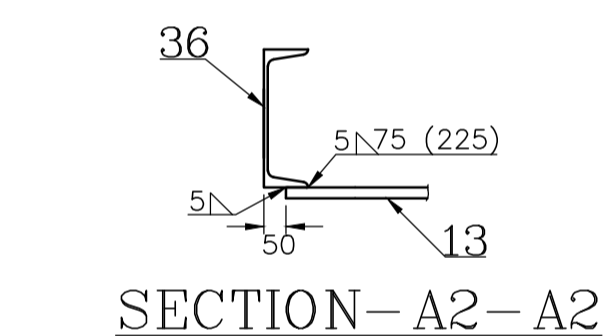
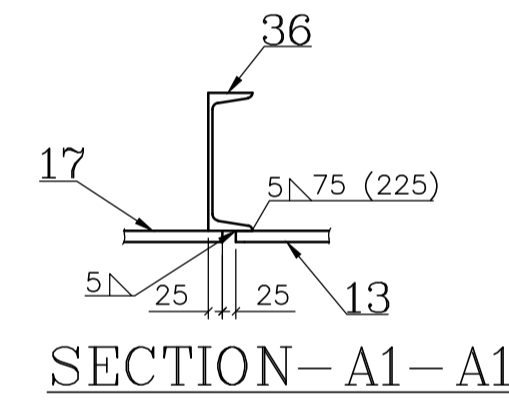
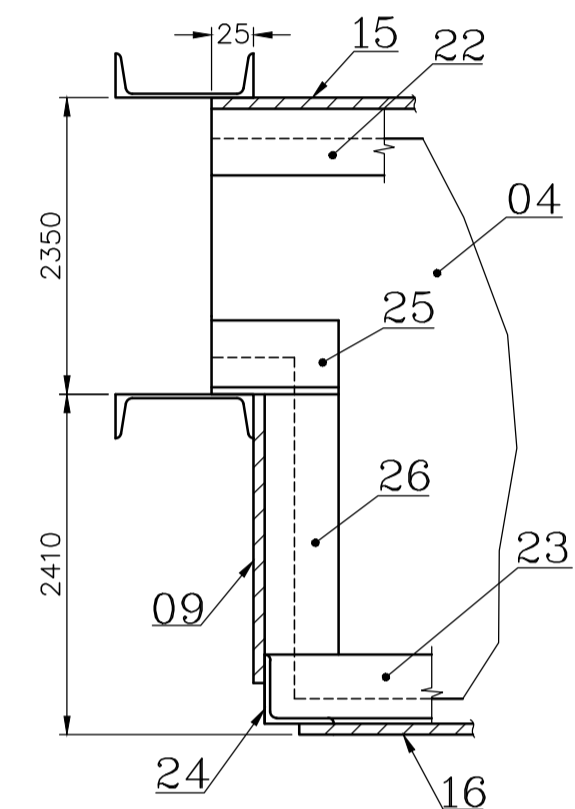
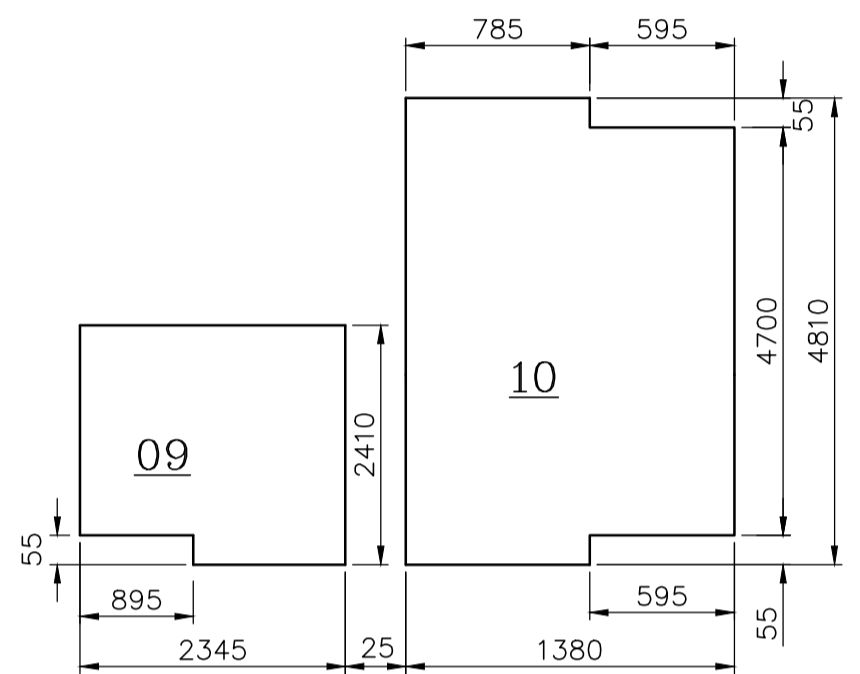
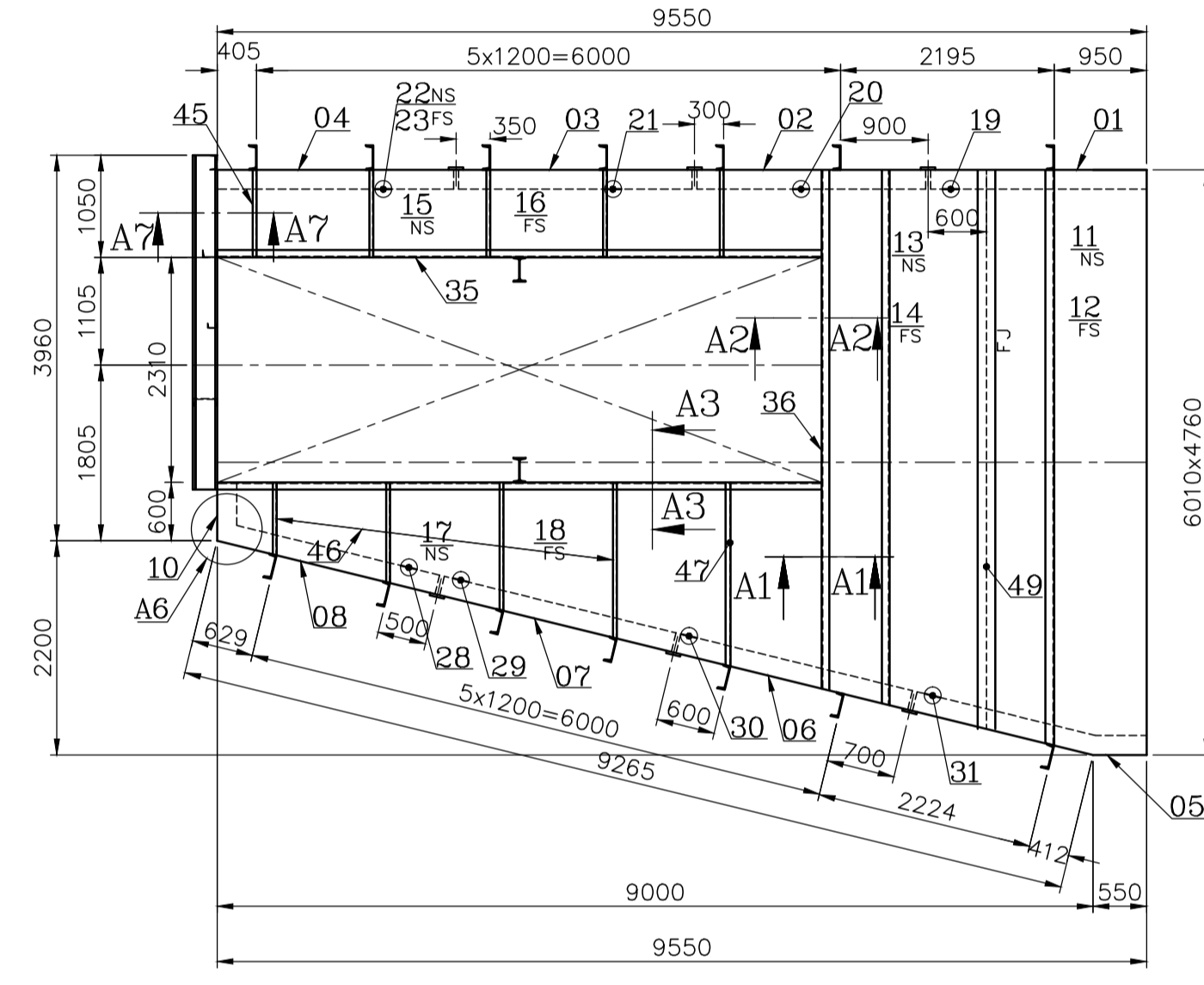
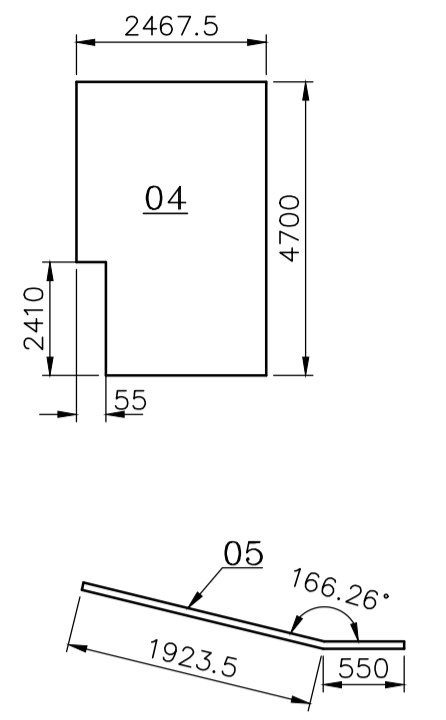
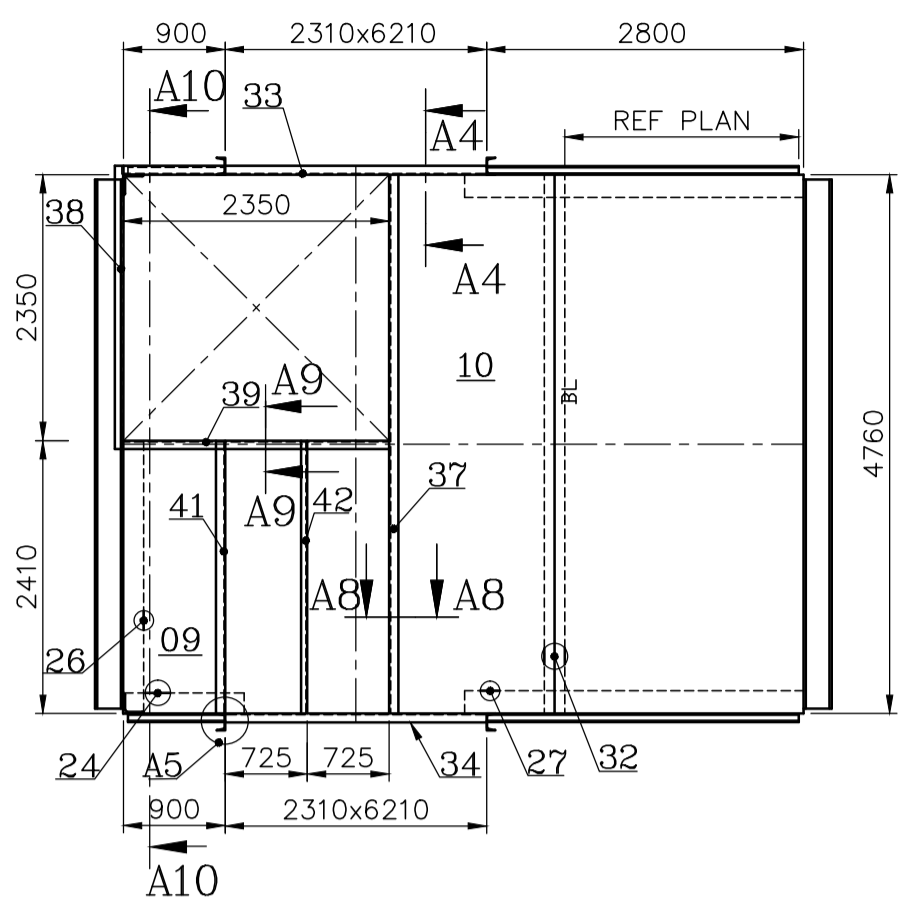
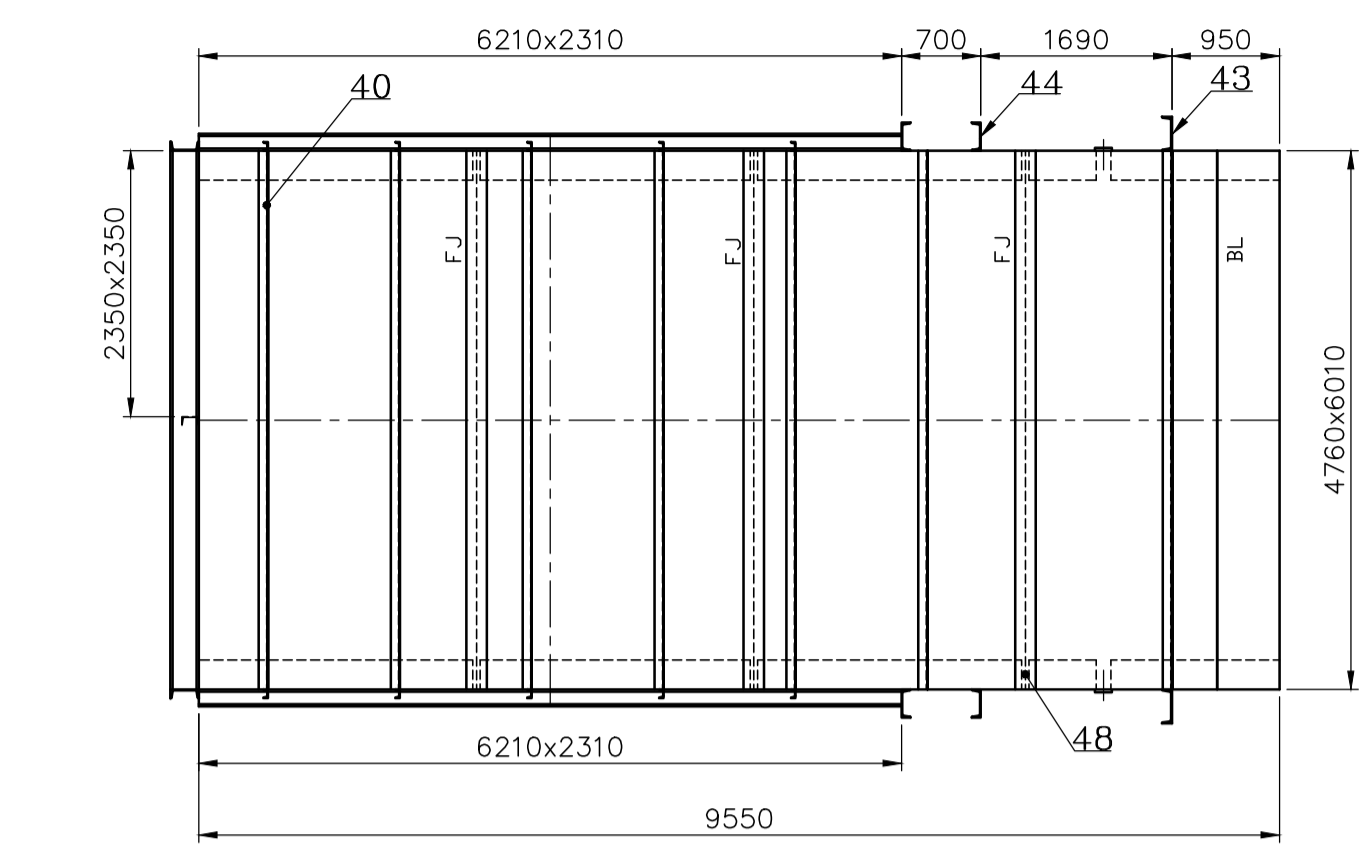
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER PLANT STD. NO TP 023 0299

**NOTE:**  
01. FOR GENERAL NOTES REFER PAGE NO. 41 (REF:41) OF DUCT CONSTRUCTION MANUAL. REF121 FOR CONSTRUCTION DETAIL.

**DESPATCH TABLE**

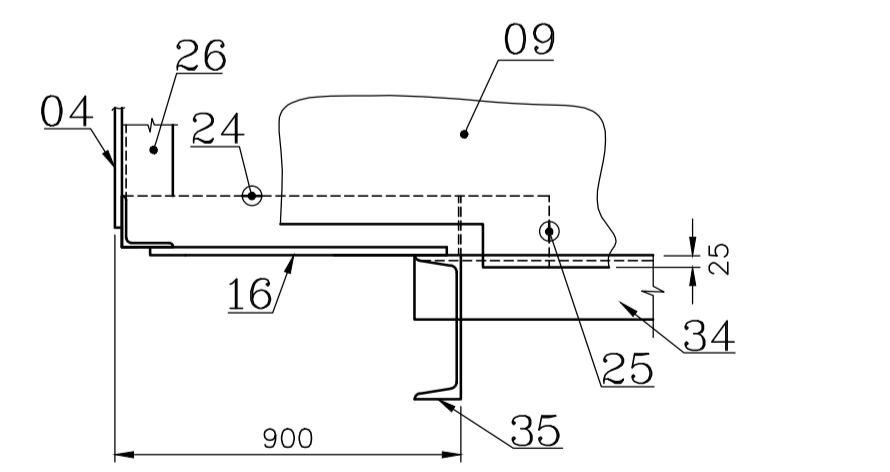
| SL. NO. | DESCRIPTION      | DU NO. | NO. OFF | ITEM NO. NO.OFF |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |
|---------|------------------|--------|---------|-----------------|----|----|----|----|----|----|--|--|--|--|--|--|--|--|--|--|
|         |                  |        |         | 01              | 19 | 40 | 48 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 1       | T DUCT WALL      | 207    | 1       | 01              | 19 | 40 | 48 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 2       | T DUCT WALL      | 208    | 1       | 02              | 20 | 40 | 48 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 3       | T DUCT WALL      | 209    | 1       | 03              | 21 | 40 | 48 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 4       | T DUCT WALL      | 210    | 1       | 04              | 22 | 23 | 25 | 26 | 38 | 40 |  |  |  |  |  |  |  |  |  |  |
| 5       | T DUCT WALL      | 211    | 1       | 05              | 31 | 40 | 48 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 6       | T DUCT WALL      | 212    | 1       | 06              | 30 | 40 | 48 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 7       | T DUCT WALL      | 213    | 1       | 07              | 29 | 40 | 48 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 8       | T DUCT WALL      | 214    | 1       | 08              | 28 | 32 | 40 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 9       | T DUCT WALL      | 215    | 1       | 09              | 25 | 39 | 41 | 42 |    |    |  |  |  |  |  |  |  |  |  |  |
| 10      | T DUCT WALL      | 216    | 1       | 10              | 25 | 27 | 37 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 11      | T DUCT WALL      | 217    | 1       | 11              | 43 | 49 |    |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 12      | T DUCT WALL      | 218    | 1       | 12              | 43 | 49 |    |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 13      | T DUCT WALL      | 219    | 1       | 13              | 36 | 44 |    |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 14      | T DUCT WALL      | 220    | 1       | 14              | 36 | 44 |    |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 15      | T DUCT WALL      | 221    | 1       | 15              | 35 | 45 |    |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 16      | T DUCT WALL      | 222    | 1       | 16              | 24 | 35 | 45 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 17      | T DUCT WALL      | 223    | 1       | 17              | 35 | 46 | 47 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 18      | T DUCT WALL      | 224    | 1       | 18              | 35 | 46 | 47 |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 19      | COLLECTOR FLANGE | 225    | 1       | 33              |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |
| 20      | COLLECTOR FLANGE | 226    | 1       | 34              |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |

| VARIANT NUMBER | ITEM NUMBER | DESCRIPTION         | STD | DRAWING NUMBER | ITEM NO | MATERIAL CODE | A/C/P | UNIT | UNIT WEIGHT | QTY | ZONE |
|----------------|-------------|---------------------|-----|----------------|---------|---------------|-------|------|-------------|-----|------|
|                | 35          | ISMC 150 6210       |     |                |         | 150100350000  |       |      | 104.320     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 4           |     |      |
|                | 34          | ISMC 250 2460       |     |                |         | 150100340000  |       |      | 84.130      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 33          | ISMC 250 3360       |     |                |         | 150100340000  |       |      | 114.910     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 32          | PLATE 5 150x4600    |     |                |         | 150110290000  |       |      | 27.080      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 31          | ISA 75X75X6 2484.5  |     |                |         | 150130050000  |       |      | 16.890      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 2           |     |      |
|                | 30          | ISA 75X75X6 2497    |     |                |         | 150130050000  |       |      | 16.980      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 2           |     |      |
|                | 29          | ISA 75X75X6 2497    |     |                |         | 150130050000  |       |      | 16.980      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 2           |     |      |
|                | 28          | ISA 75X75X6 2342.5  |     |                |         | 150130050000  |       |      | 15.920      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 2           |     |      |
|                | 27          | ISA 75X75X6 615     |     |                |         | 150130050000  |       |      | 4.180       |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 2           |     |      |
|                | 26          | ISA 75X75X6 2330    |     |                |         | 150130050000  |       |      | 15.840      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 25          | ISA 75X75X6 105     |     |                |         | 150130050000  |       |      | 0.710       |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 4           |     |      |
|                | 24          | ISA 75X75X6 895     |     |                |         | 150130050000  |       |      | 6.080       |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 23          | ISA 75X75X6 2448.5  |     |                |         | 150130050000  |       |      | 16.650      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 22          | ISA 75X75X6 2478.5  |     |                |         | 150130050000  |       |      | 16.850      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 21          | ISA 75X75X6 2447    |     |                |         | 150130050000  |       |      | 16.640      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 2           |     |      |
|                | 20          | ISA 75X75X6 2397    |     |                |         | 150130050000  |       |      | 16.300      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 2           |     |      |
|                | 19          | ISA 75X75X6 2243.5  |     |                |         | 150130050000  |       |      | 15.250      |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 2           |     |      |
|                | 18          | PLATE 5 2068x6205   |     |                |         | 150110290000  |       |      | 318.980     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 17          | PLATE 5 2068x6205   |     |                |         | 150110290000  |       |      | 318.980     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 16          | PLATE 5 845x6205    |     |                |         | 150110290000  |       |      | 205.790     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 15          | PLATE 5 845x6260    |     |                |         | 150110290000  |       |      | 207.620     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 14          | PLATE 5 1632.5x5678 |     |                |         | 150110290000  |       |      | 351.050     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 13          | PLATE 5 1632.5x5678 |     |                |         | 150110290000  |       |      | 351.050     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 12          | PLATE 5 1632.5x5950 |     |                |         | 150110290000  |       |      | 375.580     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 11          | PLATE 5 1632.5x5950 |     |                |         | 150110290000  |       |      | 375.580     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 10          | PLATE 5 1380x4810   |     |                |         | 150110290000  |       |      | 257.960     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 09          | PLATE 5 2345x2410   |     |                |         | 150110290000  |       |      | 221.810     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 08          | PLATE 5 4700x2286.5 |     |                |         | 150110290000  |       |      | 421.800     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 07          | PLATE 5 4700x2475   |     |                |         | 150110290000  |       |      | 456.570     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 06          | PLATE 5 4700x2475   |     |                |         | 150110290000  |       |      | 456.570     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 05          | PLATE 5 4700x2473.5 |     |                |         | 150110290000  |       |      | 456.290     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 04          | PLATE 5 4700x2467.5 |     |                |         | 150110290000  |       |      | 449.680     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 03          | PLATE 5 4700x2425   |     |                |         | 150110290000  |       |      | 447.350     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 02          | PLATE 5 4700x2375   |     |                |         | 150110290000  |       |      | 438.120     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |
|                | 01          | PLATE 5 4700x2232.5 |     |                |         | 150110290000  |       |      | 411.840     |     |      |
|                |             |                     |     |                |         | IS2062 E250A  |       |      | 1           |     |      |

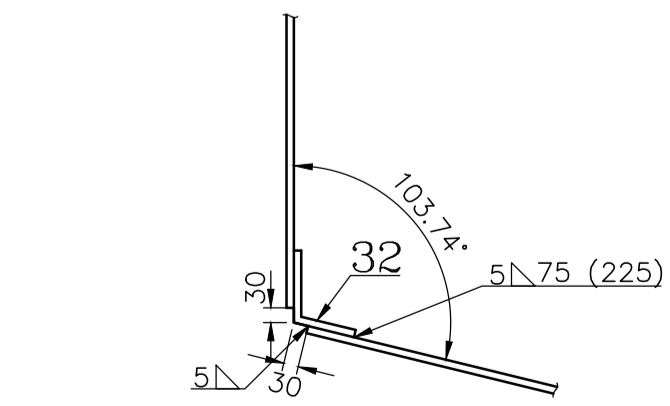


SECTION-A3-A3

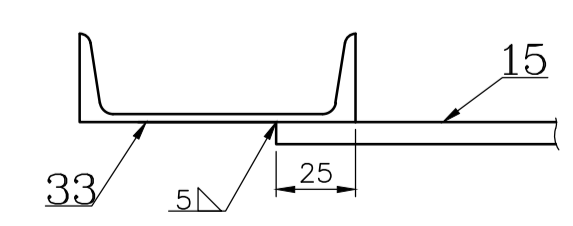
SECTION-A4-A4



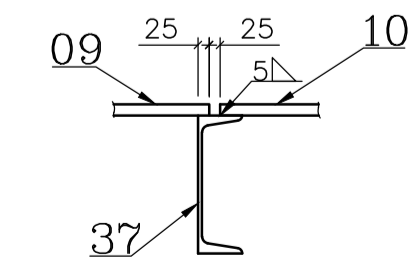
DETAIL-A5



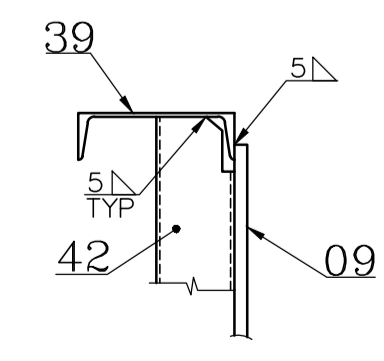
DETAIL-A6



SECTION-A7-A7



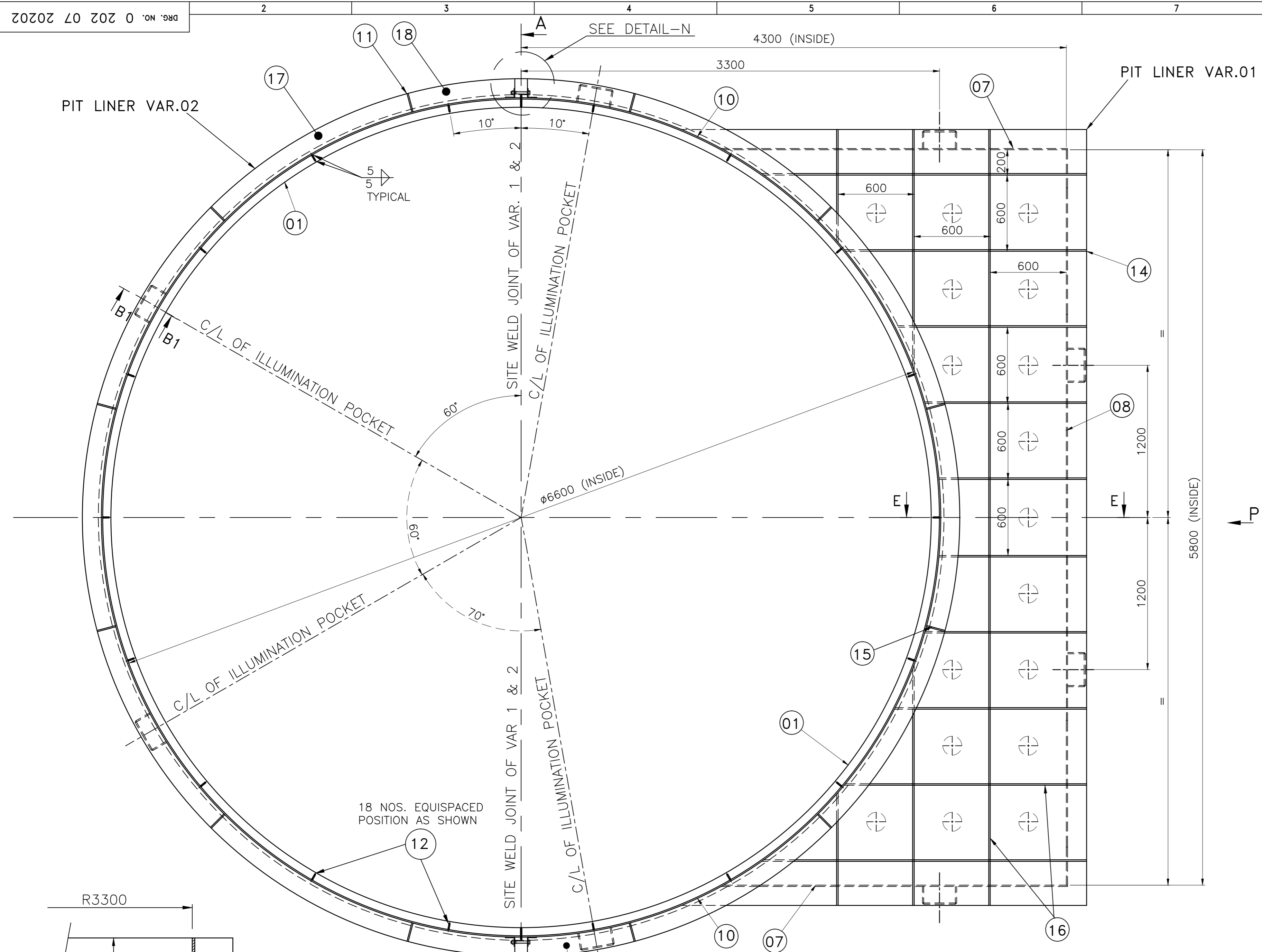
SECTION-A8-A8



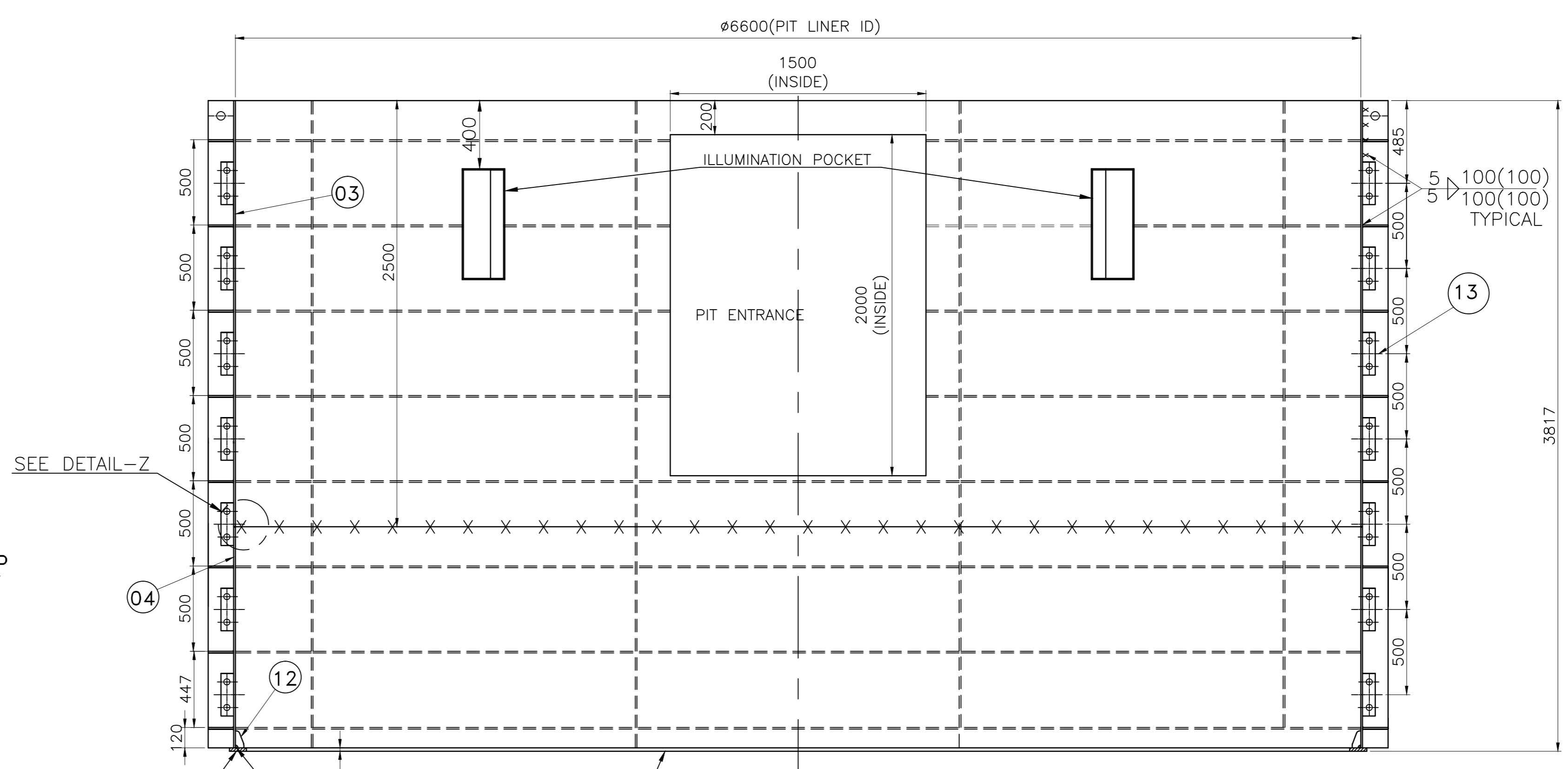
SECTION-A9-A9

|    |                         |  |    |              |  |        |  |
|----|-------------------------|--|----|--------------|--|--------|--|
| 49 | PLATE 5 C.T.S. 125x5750 |  |    | 150110290000 |  | 28.210 |  |
|    |                         |  |    | IS2062 E250A |  | 2      |  |
| 48 | PLATE 5 125x4700        |  |    | 150110290000 |  | 23.050 |  |
|    |                         |  |    | IS2062 E250A |  | 6      |  |
| 47 | ISMC 100 1841           |  |    | 150100030000 |  | 17.600 |  |
|    |                         |  | </ |              |  |        |  |

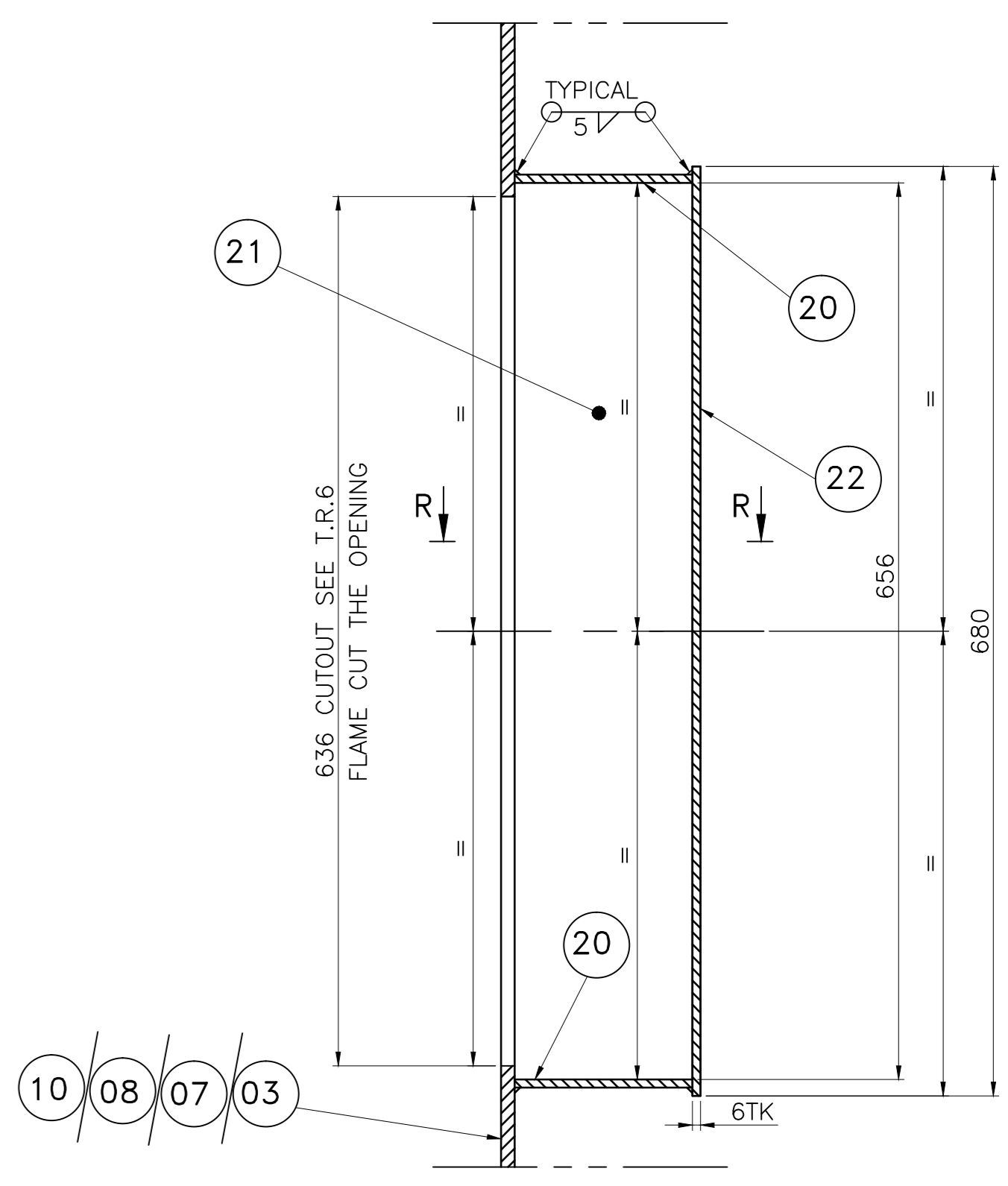




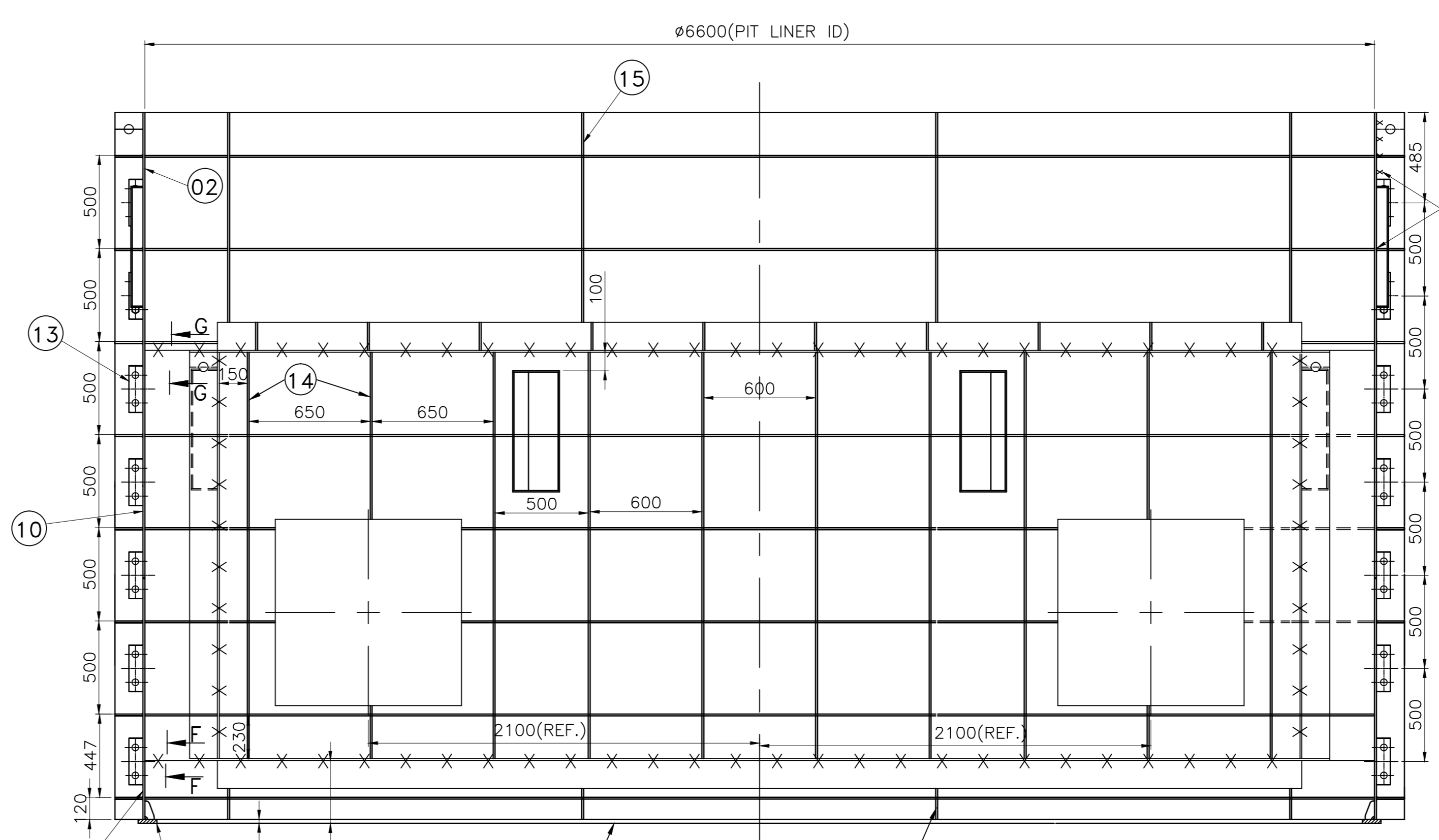
TOP VIEW



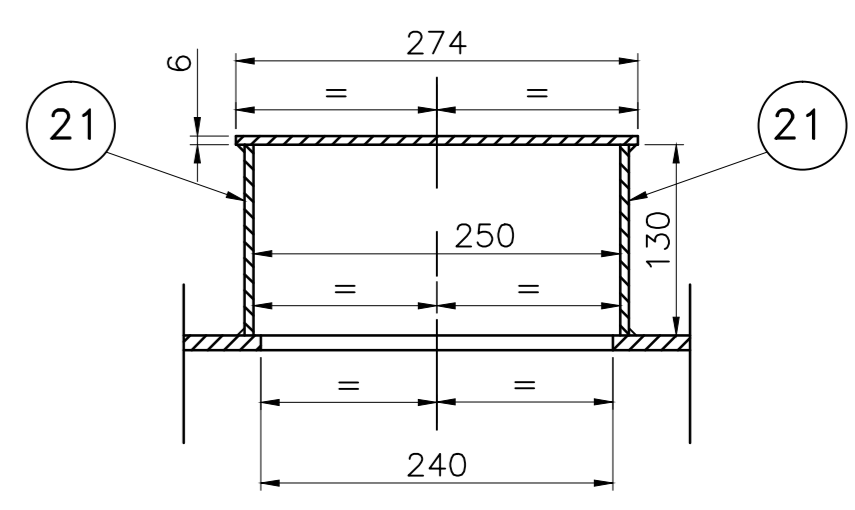
SECTION-AA (VAR.02) (ZONE-A3,F3)



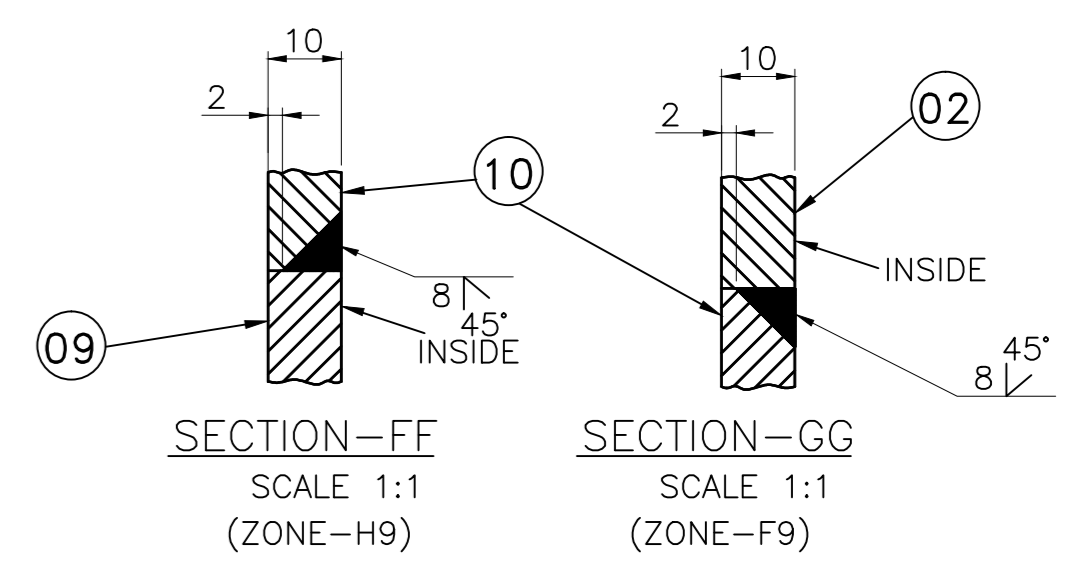
SECTION-B1B1 (TYP.) SCALE 1:5 (ZONE-B1)



VIEW-P (VAR.01) (ZONE-C7)

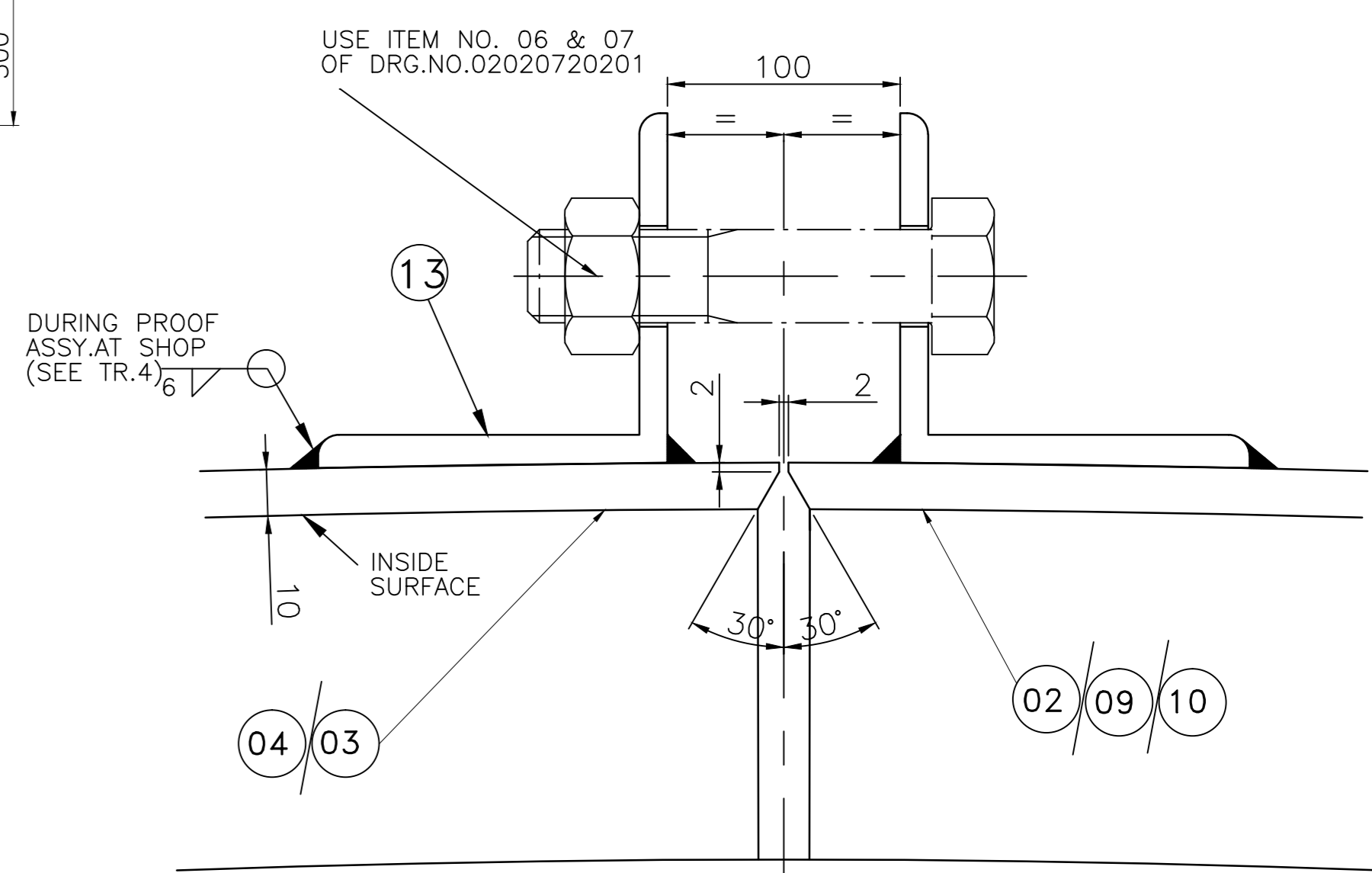


SECTION-RR SCALE 1:5

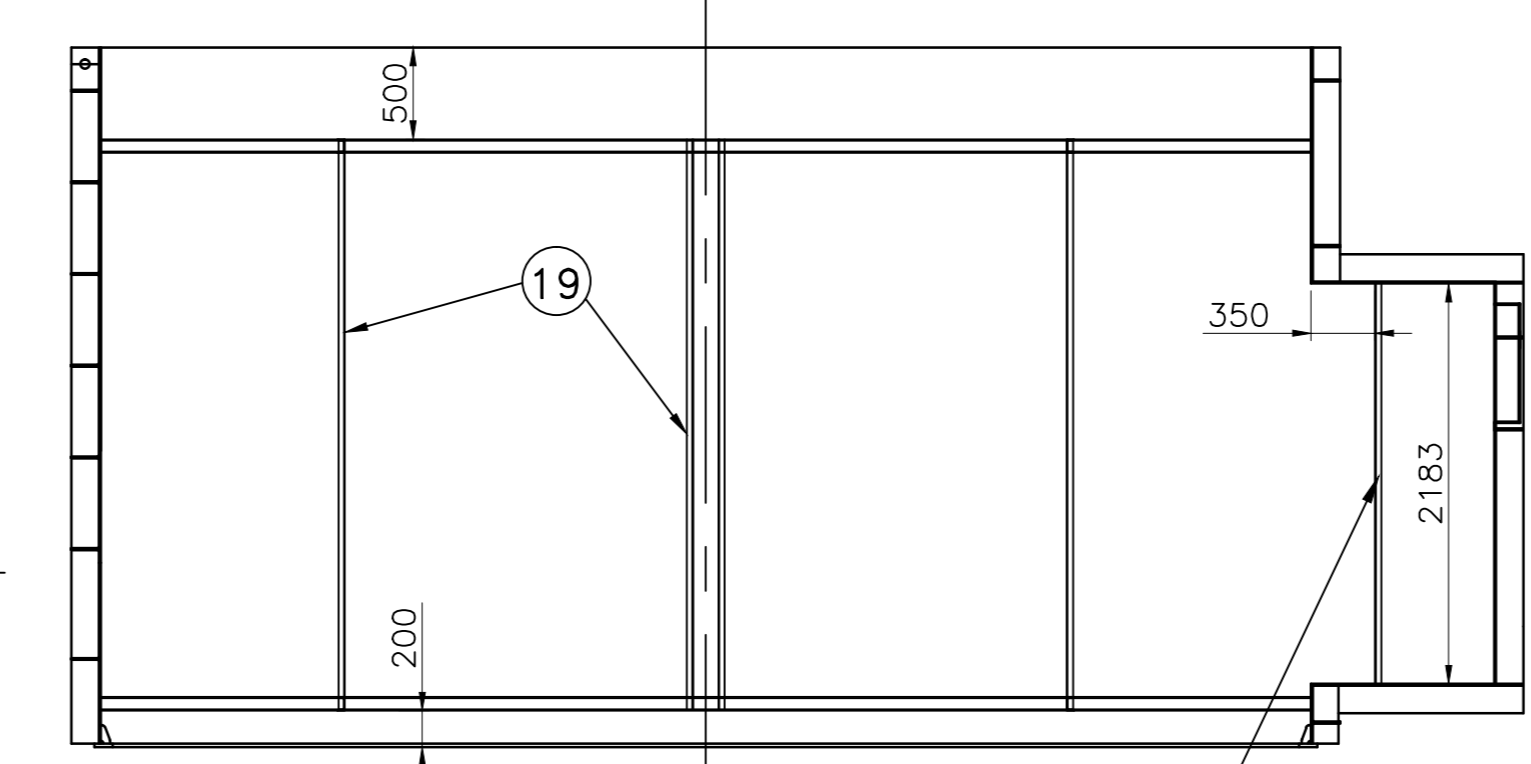


SECTION-FF SCALE 1:1 (ZONE-H9)

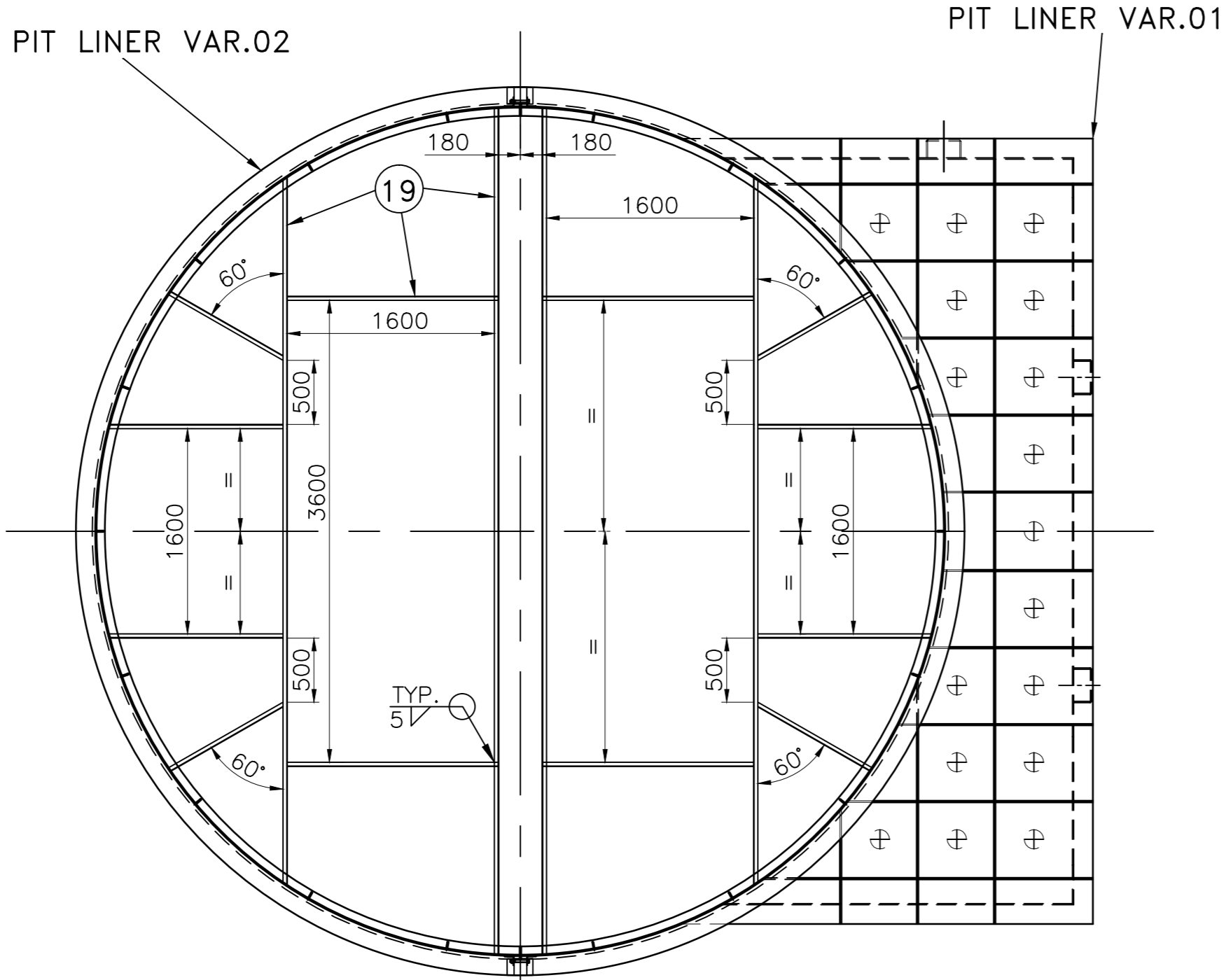
SECTION-GG SCALE 1:1 (ZONE-F9)



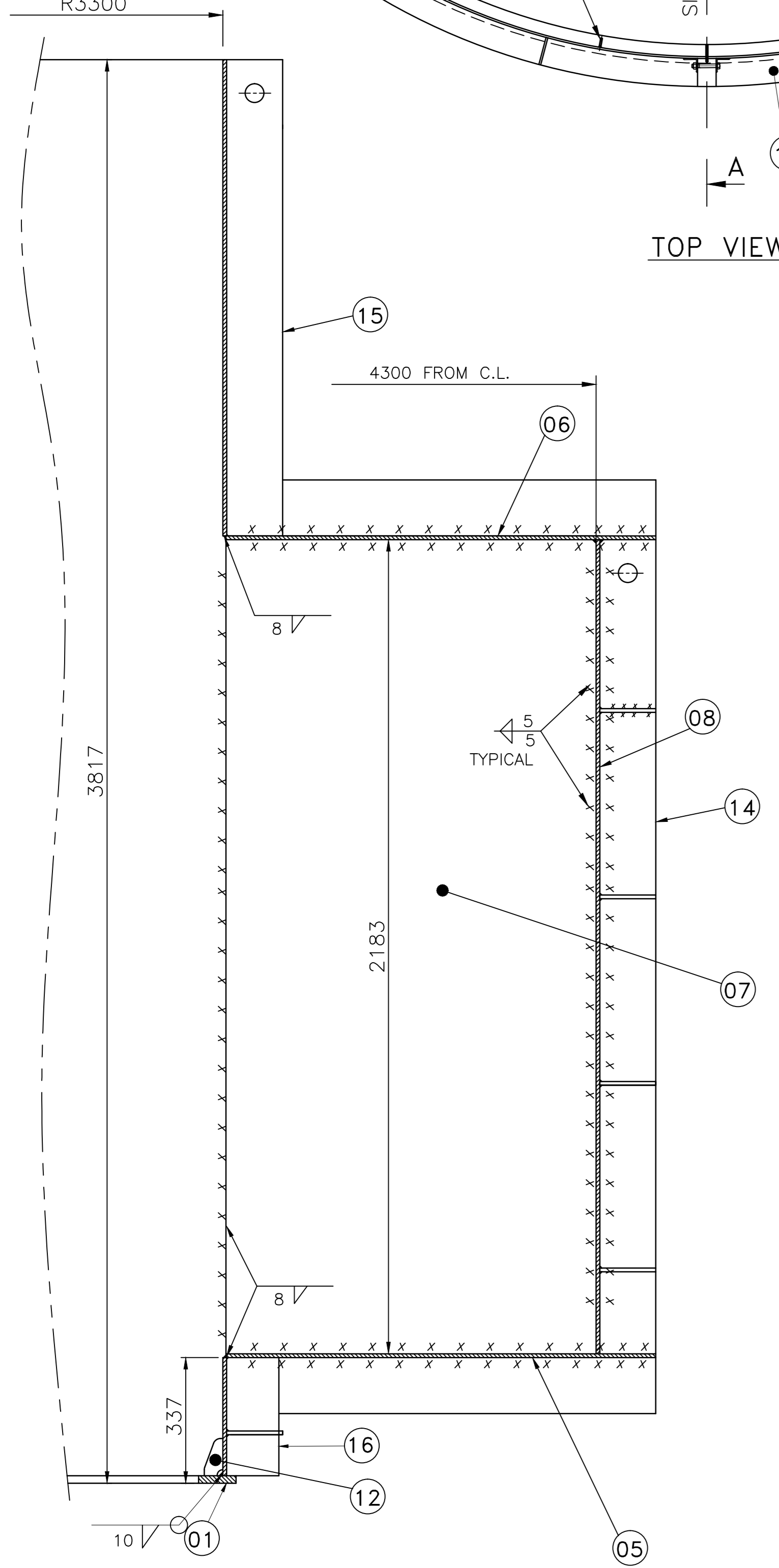
DETAIL-N SCALE 1:2 (ZONE-A4)



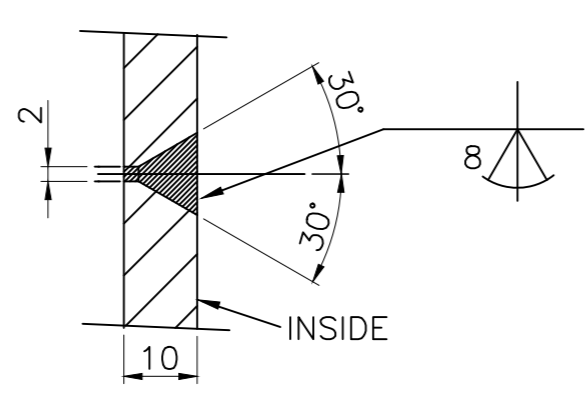
(SCHEME FOR TRANSPORT STAYS) (TYPICAL) SCALE 1:40



SECTION-UU (SCHEME FOR TRANSPORT STAYS) (TYPICAL) SCALE 1:40



SECTION-EF SCALE 1:10 (ZONE-C5,C7)



DETAIL-Z SCALE 1:1 (ZONE-C8)

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INVENTORY NO. SIGN. & DATE REF. DRG. NO.

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

|           |          |             |             |      |    |         |          |
|-----------|----------|-------------|-------------|------|----|---------|----------|
| REVISIONS | ITEM NO. | DESCRIPTION | DRAWING NO. | DATE | BY | CHECKED | APPROVED |
|           |          |             |             |      |    |         |          |

ADDITIONAL INFORMATION  
36210A20202 TO 36218A20202

STATUS OF DRAWING "U"

DISTRIBUTION OF PRINTS

HTE-2, WTM(P)-1, WTM(S)-4  
FGM - 7, THX - 1

CUSTOMER: IRRIGATION & CAD DEPARTMENT, GOVT. OF TELANGANA

CONTRACTOR: BHARAT HEAVY ELECTRICALS LTD. BHOPAL

M/S-MEIL

SCALE: 1:20

WEIGHT(KGS): 32000049014

REF. TO ASSY. DRG.: 0207 20201 01&02

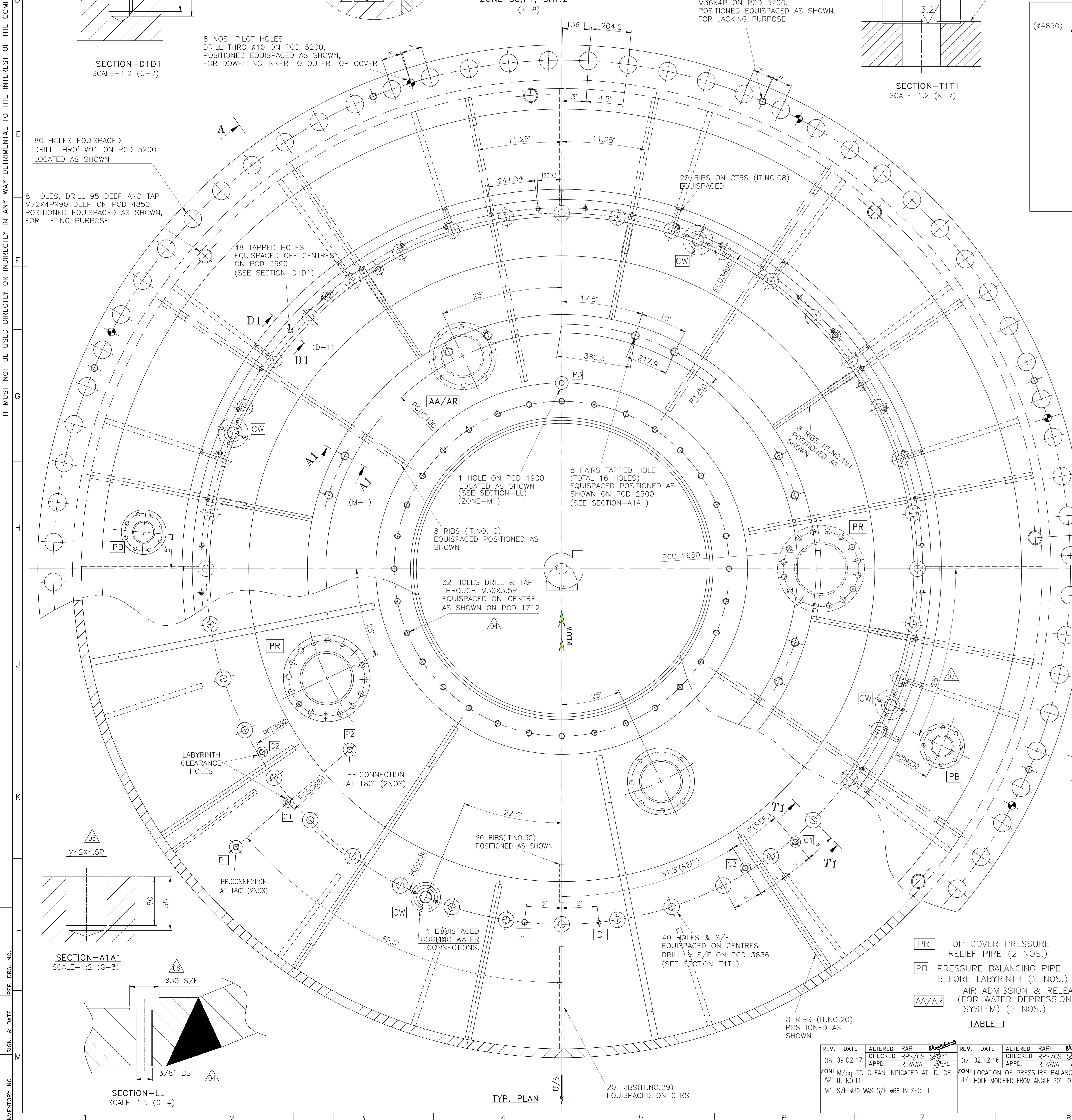
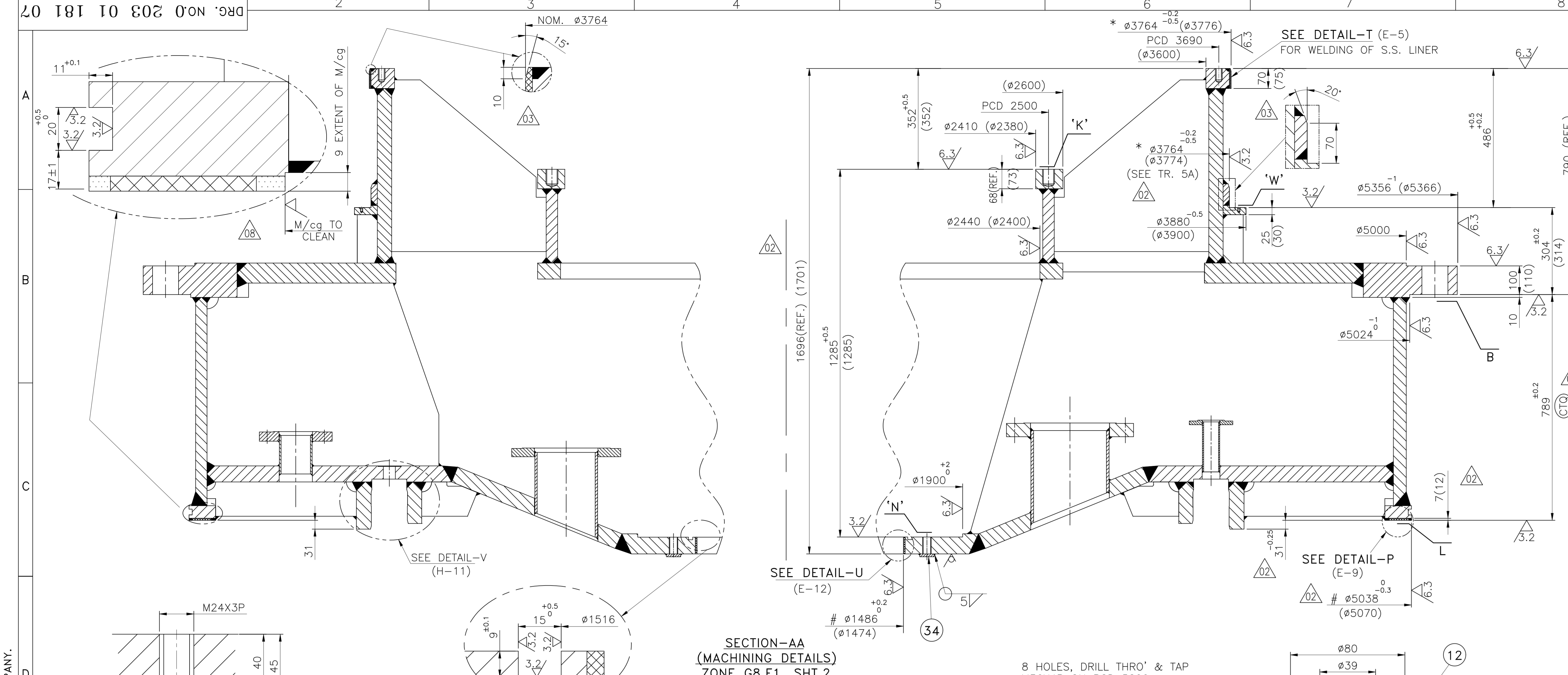
ITEM NO. OF ITEM: 022

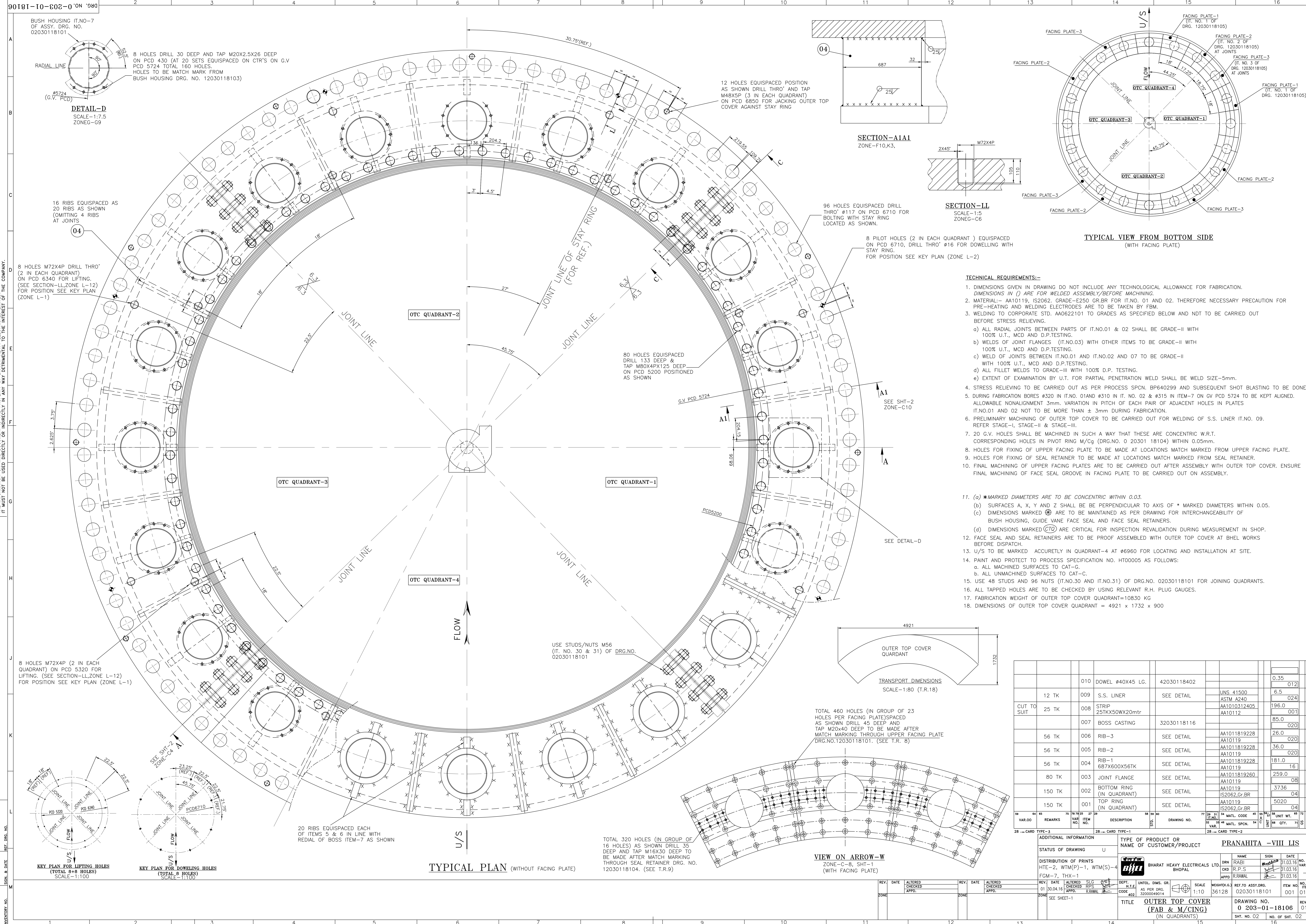
TITLE: PIT LINER (WELDED ASSEMBLY)

DRAWING NO.: 02020720202

REV: 00

SHT. No. 01 NO. OF SHT. 02





- TECHNICAL REQUIREMENTS:-**
- DIMENSIONS GIVEN IN DRAWING DO NOT INCLUDE ANY TECHNOLOGICAL ALLOWANCE FOR FABRICATION. DIMENSIONS IN ( ) ARE FOR WELDED ASSEMBLY BEFORE MACHINING.
  - MATERIAL:- AA10119, IS2062, GRADE-E250 GR.BR FOR IT.NO. 01 AND 02. THEREFORE NECESSARY PRECAUTION FOR PRE-HEATING AND WELDING ELECTRODES ARE TO BE TAKEN BY FBM.
  - WELDING TO CORPORATE STD. AA0622101 TO GRADES AS SPECIFIED BELOW AND NOT TO BE CARRIED OUT BEFORE STRESS RELIEVING.
    - ALL RADIAL JOINTS BETWEEN PARTS OF IT.NO.01 & 02 SHALL BE GRADE-II WITH 100% U.T., MCD AND D.P. TESTING.
    - WELDS OF JOINT FLANGES (IT.NO.03) WITH OTHER ITEMS TO BE GRADE-II WITH 100% U.T., MCD AND D.P. TESTING.
    - WELD OF JOINTS BETWEEN IT.NO.01 AND IT.NO.02 AND 07 TO BE GRADE-II WITH 100% U.T., MCD AND D.P. TESTING.
    - ALL FILLET WELDS TO GRADE-III WITH 100% D.P. TESTING.
    - EXTENT OF EXAMINATION BY U.T. FOR PARTIAL PENETRATION WELD SHALL BE WELD SIZE-5mm.
  - STRESS RELIEVING TO BE CARRIED OUT AS PER PROCESS SPCN. BP640299 AND SUBSEQUENT SHOT BLASTING TO BE DONE.
  - DURING FABRICATION BORES #320 IN IT.NO. 01 AND #310 IN IT. NO. 02 & #315 IN ITEM-7 ON G.V PCD 5724 TO BE KEPT ALIGNED. ALLOWABLE NONALIGNMENT 3mm. VARIATION IN PITCH OF EACH PAIR OF ADJACENT HOLES IN PLATES IT.NO.01 AND 02 NOT TO BE MORE THAN ± 3mm DURING FABRICATION.
  - PRELIMINARY MACHINING OF OUTER TOP COVER TO BE CARRIED OUT FOR WELDING OF S.S. LINER IT.NO. 09. REFER STAGE-I, STAGE-II & STAGE-III.
  - 20 G.V. HOLES SHALL BE MACHINED IN SUCH A WAY THAT THESE ARE CONCENTRIC W.R.T. CORRESPONDING HOLES IN PIVOT RING M/Cg (DRG.NO. 0 20301 18104) WITHIN 0.05mm.
  - HOLES FOR FIXING OF UPPER FACING PLATE TO BE MADE AT LOCATIONS MATCH MARKED FROM UPPER FACING PLATE.
  - HOLES FOR FIXING OF SEAL RETAINER TO BE MADE AT LOCATIONS MATCH MARKED FROM SEAL RETAINER.
  - FINAL MACHINING OF UPPER FACING PLATES ARE TO BE CARRIED OUT AFTER ASSEMBLY WITH OUTER TOP COVER. ENSURE FINAL MACHINING OF FACE SEAL GROOVE IN FACING PLATE TO BE CARRIED OUT ON ASSEMBLY.
  - (a) \*MARKED DIAMETERS ARE TO BE CONCENTRIC WITHIN 0.03.  
 (b) SURFACES A, X, Y AND Z SHALL BE PERPENDICULAR TO AXIS OF \* MARKED DIAMETERS WITHIN 0.05.  
 (c) DIMENSIONS MARKED  $\phi$  ARE TO BE MAINTAINED AS PER DRAWING FOR INTERCHANGEABILITY OF BUSH HOUSING, GUIDE VANE FACE SEAL AND FACE SEAL RETAINERS.  
 (d) DIMENSIONS MARKED  $\phi$ 70 ARE CRITICAL FOR INSPECTION REEVALUATION DURING MEASUREMENT IN SHOP.
  - FACE SEAL AND SEAL RETAINERS ARE TO BE PROOF ASSEMBLED WITH OUTER TOP COVER AT BHEL WORKS BEFORE DISPATCH.
    - ALL MACHINED SURFACES TO CAT-G.
    - ALL UNMACHINED SURFACES TO CAT-C.
  - USE 48 STUDS AND 96 NUTS (IT.NO.30 AND IT.NO.31) OF DRG.NO. 02030118101 FOR JOINING QUADRANTS.
  - ALL TAPPED HOLES ARE TO BE CHECKED BY USING RELEVANT R.H. PLUG GAUGES.
  - FABRICATION WEIGHT OF OUTER TOP COVER QUADRANT=10830 KG
  - DIMENSIONS OF OUTER TOP COVER QUADRANT = 4921 x 1732 x 900

| VAR. NO.    | REMARKS                | DATE                      | DESCRIPTION          | DRAWING NO.  | MATL. CODE | UNIT WT. | NO. OF |
|-------------|------------------------|---------------------------|----------------------|--------------|------------|----------|--------|
| 010         | DOWEL $\phi$ 40x45 LG. |                           | 42030118402          |              |            | 0.35     | 012    |
| 12 TK       | 009                    | S.S. LINER                | SEE DETAIL           | UNS 41500    |            | 6.5      | 024    |
| CUT TO SUIT | 25 TK                  | 008                       | STRIP 25TKX50WX20mtr | AA1010312405 |            | 196.0    | 001    |
|             |                        | 007                       | BOSS CASTING         | 32030118116  |            | 85.0     | 020    |
| 56 TK       | 006                    | RIB-3                     | SEE DETAIL           | AA1011819228 |            | 26.0     | 020    |
| 56 TK       | 005                    | RIB-2                     | SEE DETAIL           | AA1011819228 |            | 36.0     | 020    |
| 56 TK       | 004                    | RIB-1 687X600X56TK        | SEE DETAIL           | AA1011819228 |            | 181.0    | 16     |
| 80 TK       | 003                    | JOINT FLANGE              | SEE DETAIL           | AA1011819260 |            | 259.0    | 08     |
| 150 TK      | 002                    | BOTTOM RING (IN QUADRANT) | SEE DETAIL           | AA10119      |            | 3736     | 04     |
| 150 TK      | 001                    | TOP RING (IN QUADRANT)    | SEE DETAIL           | AA10119      |            | 5020     | 04     |

| REV. | DATE     | ALTERED | SLG     | DEPT.       | UNTO. | DIMS. | GR. | SCALE | WEIGHTS | REF. TO ASSY. DRG. | NO. OF |
|------|----------|---------|---------|-------------|-------|-------|-----|-------|---------|--------------------|--------|
| 01   | 30.04.16 | CHECKED | RPS     | AS PER DRG. |       |       |     | 1:10  | 36128   | 02030118101        | 001    |
|      |          | APPROV. | R.S.MAL |             |       |       |     |       |         |                    | 010    |

| STATUS OF DRAWING   | TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT | PRANAHITA - VIII LIS   |
|---|---|--|
| U   | BHARAT HEAVY ELECTRICALS LTD BHOVAL         | DRN RABI 31.03.16<br>CDX R.P.S 31.03.16<br>APPRO R.RAWAL 31.03.16  |
| TITLE: OUTER TOP COVER (FAB & M/CING) (IN QUADRANTS)<br>DRAWING NO.: 0 203-01-18106<br>SHT. NO. 02 / NO. OF SHT. 02 |   | SIGN: [Signature]<br>DATE: 31.03.16<br>NO. OF VAR.: -<br>REF. TO ASSY. DRG.: 02030118101<br>ITEM NO. OF ITEM: 001<br>NO. OF SHT.: 02 |

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