

TENDER SPECIFICATION FOR FABRICATION AND ERECTION OF DOWN SHOP LEAD FOR CRANES

PART- I

Technical cum qualification bid

1. Notice inviting Tender

01.	Name of work	Fabrication and Erection of DSL
02.	Location of work	Shipping outer yard, Disposal yard , RPS Structural yard, RPS Old yard & RPS new yard. at BHEL Trichy Complex
03.	Estimated Value	Rs.37.00 Lacs
04.	Earnest Money Deposit	Rs. 1.00 Lacs.
05.	Delivery	FOUR (4) MONTHS(From the date of commencement of the work which will be reckoned from the date handing over the site to the contractor)
06.	Last Date for Receipt of Tenders	28.02.2011/3.00PM
07.	Date of Technical cum Qualification Bid Opening	28.02.2011/3.30PM
08.	Date of RA/Price Bid Opening	Will be intimated separately to those who are qualified.
09.	Duration of work after releasing work order	6 Months
10.	Guarantee Period for workmanship	12 (Twelve) Months from the date of actual completion of the entire work and handed over to Bharat Heavy Electricals Limited.

The Tender documents can be down loaded from BHEL website / govt. website at free of cost.

Contractor's signature and seal

1.2. The Contractors must submit their Tenders as required in TWO parts in separate sealed covers prominently super scribed as PART-I TECHNICAL CUM QUALIFICATION BUD BID and PART-II PRICE BID and also indicating on each of the covers, The tender reference no and due date and time as mentioned in the tender notice

A separate EMD cover should also be submitted. PART-I, PART-II and EMD covers shall be placed in a common cover super scribing Name of work, Tender reference no and due date

1.3 Tenders may be finalised through TWO PART or BY REVERSE AUCTION.

1.4 Clarifications on the tender specification if any may be sought by the bidders so as to reach this office at least seven days before the tender due date .

ISSUING OFFICER

Contractor's signature and seal

2. Declaration by the bidders2.1 Declaration by bidder's authorized signatoryRef no: -----
-

Date: -----

I, hereby certify that all the information and data furnished by me with regard to this tender specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions and stipulations in detail and agree to comply with the requirements and intent of the specification. I further certify that i am duly authorised representative of the under mentioned bidder and a valid power of attorney to this effect is also enclosed.

Date:

Signature of authorized signatory
with seal2.2 Certificate of no-deviation

Ref no: -----

date-----

We, M/s
hereby certify that notwithstanding any contrary indications/ conditions elsewhere in our offer documents, i/we have neither set any terms and conditions nor there is any deviation taken from the conditions of BHEL's tender specifications, either technical or commercial, and i/we agree to all the terms and conditions mentioned in BHEL's tender specification with associated amendments and clarifications.

Date

Signature of the bidder

Contractor's signature and seal

2.3 Format for e - paymentFORMAT TO RECEIVE E-PAYMENT THROUGH EXISTING ACCOUNT WITH NEFT/SEFT/RTGS ENABLED BANK BRANCH

Sub: E-payments vide NEFT/SEFT/RTGS - Reg.

VENDOR CODE AS PER BHÉL	:	
VENDOR NAME AS PER BANK RECORDS	:	
ACCOUNT TYPE	:	
BANK ACCOUNT NUMBER	:	
NAME & ADDRESS OF THE BANK	:	
BRANCH CODE	:	
BRANCH RTGS CODE	:	
BRANCH MICR CODE	:	
NAME OF THE AUTHORISED SIGNAROTY	:	

I/we confirm that I/We will bear the charges, if any levied by my/our bank for the credit of SEFT/RTGS amounts in our account.

For.....

SIGNATURE
(Authorized signatory)

We confirm that we are enabled for receiving NEFT/SEFT/RTGS credits and we further confirm that the account number, the signature of the authorized signatory, branch code, RTGS code and MICR code of our branch mentioned above are correct.

BANK VERIFICATION
(Manger's/Officer's signature under bank stamp)

Note

The above format duly filled and signed by the Contractor and the Bank authorities shall be enclosed along with offer so as to return the EMD amount through Electronic media .

Contractor's signature and seal

3.0 Tender qualifying criteria:

Bidder must fulfil the following qualifying criteria concurrently for BHEL to accept the offer on Techno-Commercial ground and if any condition was not met by any vendor the offer may liable for rejection.

3.1. Bidder must be in the business of Fabrication and Erection of Structures for the last one year as on 30/04/2010.

They should provide necessary work order copies. Only vendors who have previous experience in the work of this nature and description detailed in this tender specification are expected to quote for this work duly detailing their experience along with the offer.

3.2. Financial Status:

3.2.1 Audited balance sheet for three years to be provided. (Financial years 2007-08, 2008-09 & 2009-10)

3.2.2 Copies of the income tax return for previous three years to be provided. (Financial years 2007-08, 2008-09 & 2009-10)

3.2.3 The Vendor should produce solvency certificate from a schedule bank for a value of 10 lacs

3.3. Offer should be submitted with EMD

4.0 Scope of work:

The contractor has to carry out the fabrication of DSL as per the details mentioned below. Also erection of Fabricated DSL Assembly , levelling, Painting and commissioning shall be done by the contractor

Quantum of work

NO	Description of work	Location of work	Qty in meters
1	Fabrication and Erection of DSL as per drawing no --3M02G0014407	SHIPPING OUTER YARD	400 Meter
2	Fabrication and erection of DSL as per Drawing no -3M02G0014408	DISPOSAL OUTER YARD	240 Meter
3	Fabrication and erection of DSL as per Drawing no3M02G0014415	RPS STRUCTURAL YARD	540 Meter
4	Fabrication and erection of DSL as per Drawing no3M02G0014418	RPS OLD YARD EXTENSION	150 Meter
5	Fabrication and erection of DSL as per Drawing no 3M02G0014381	RPS NEW YARD	200 Meter

Total weight of fabrication erection and painting IS approx - 228050 KGS

For the above layouts the part drawings are

1. DSL POST ----- 2M02G0004773-REV-02
2. DSL BRIDGE (10M.L) ----- 2M02G0004774-REV-02
3. LADDER -----3M02G0013606
4. DSL POST EXTN. (20M-ROAD SIDE) 2M02G0004902
5. DSL BRIDGE (20M-ROAD SIDE) -----2M02G0004778
6. DSL POST ----- 2M02G0004903
7. DSL BRIDGE (RPS OLD YARD) ----- 2M02G0004904

After fabrication one coat red oxide primer shall be painted and after erection two coats of synthetic enamel paint of ash gray colour shall be applied on all the DSL structures except the four full lengths 50x50x6 mm inverted 'V' shape DSL line angles.

At the bottom surface of 50x50x6 mm inverted 'V' shape line angles RED, YELLOW, BLUE & GREEN (top one is RED) colour paint shall be applied. On top surface no paint including primer shall be applied.

All the posts shall be erected on the foundation made for this purpose.

Insulators are to be fitted for all the line angles by bolting.

All the weld joints in 50x50x6 mm inverted 'V' shape line angles, top surface shall be smoothly grinded for easy movement of current collector.

Also all the weld joints in top and bottom guide tails (ISA 100 and inverted 'T' shape section) shall be grinded for easy movement of wheels and rollers.

DSL trolley is to be provided in between the top and bottom guide rails for each crane.

After completion of work trial run of the DSL trolley has to be done throughout the length of DSL line without derailment between its top and bottom guide rails.

5.0 BHEL to supply/ carry out the following at free of cost to carry out the fabrication and erection of DSL

- a. Raw material steel structural material, tubes, plates for the fabrication
- b. All fasteners and insulators
- c. Power supply
- c. Civil foundation with bolts grouted.
- d. Movement of steel raw materials from BHEL stores to fabrication area.

6.0. Contractor to supply/ carry out the following for the fabrication and Erection of DSL

- 6.1. All the consumables like Paints, Brushes, oxygen, acetylene gases, welding electrode etc.
- 6.2. Suitable welding machine and cutting set with accessories.
- 6.3. All hand tools and tackles for the fabrication and assembly.
- 6.4. Suitable mobile crane for fabrication, loading & unloading of fabricated items / erection.
- 6.5. Transportation of fabricated items to fabrication cum erection site over a distance of 4 km.
- 6.6. Fabrication /erection transportation.
- 6.7. All labourers for the entire work.

7.0 Payment Terms:

Payment will be made for the actual fabrication, erection and painting weight only as mentioned below on pro rata basis.

After completion of fabrication -----	50% of Order value
After completion erection-----	25% of Order value
After completion of painting and commissioning--	25% of Order value

8.0. Delivery:

The contractor has to complete the entire work within 120 days from the date of work order release.

9.0 Validity of Offer.

The rates in the Tender shall be kept open for acceptance for a minimum period of THREE MONTHS from the date of opening of tenders. In case BHEL (Bharat Heavy Electricals Ltd) calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer which shall be binding on the Bidders.)

10. Terms and Conditions:

10.1 Contractor should meet PF and ESI as statutory requirements for their employees. Copies of PF and ESI codes certificate should be submitted along with offer.

Contractor's signature and seal

10.2. Earnest money deposit

EMD: Rs 1, 00,000/= (One lac) should be submitted along with the offer in the form of cash (as permissible under IT act), pay order or demand draft only in favour of M/S BHEL Trichy.

Bidders who have already deposited One Time EMD of Rs. 2.00 lacs with BHEL are exempted from submission of EMD for this tender. However a copy of 'One Time EMD' at BHEL Trichy submitted shall be enclosed along with the Offer.

EMD is to be paid in the form of Pay order or Demand Draft in favour of Bharat Heavy Electricals Limited, Tiruchirapalli and payable at Tiruchirapalli. No other form of EMD remittance shall be acceptable to BHEL.

In the case of unsuccessful bidders, the Earnest Money will be refunded to them after acceptance of tender by successful bidder. EMD shall not carry any Interest.

10.3 Security deposit:

10.3.1 SD should be remitted by the successful tendered as below before starting the work.

- a. Up to 10 Lacs = 10% of Order value
- b. Above 10 Lacs and up to 50 Lacs = 1 Lac + 7.5% of Order value of exceeding 10 Lacs
- c. Above 50 Lacs = 4 Lakhs+5% of Order value of Exceeding 50 Lacs.

10. 3. 2 The security Deposit should be remitted before start of the work by the contractor either as Pay Order or Demand Draft in favour of BHEL.

10.3.4 Local cheques of scheduled banks, subject to realization. Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc. (Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).

10.3.5 Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back. \

10.3.6 Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be remitted (either by cash/DD or Security deposit for maximum 50% of total SD) before start of the work and the balance 50% may be recovered from the running bills.

10.3.7 EMD of the successful bidder shall be converted and adjusted against the Security Deposit excepting for such bidder who has remitted One Time EMD.

10.3.8 The Security Deposit shall not carry any interest.

10.3. 9. Return of security deposit:

If the contractor fully performs and completes the works in all respect to the entire satisfaction of BHEL, Security Deposit will be released to the contractor after deducting all costs of expenses of other amounts that are to be paid to BHEL

10.4 Regular working hours

The services of crane with operating crew shall be made available for duration of twelve (12) hours per day including one-hour break lunch/tea break. The regular working hours will usually be from 08:00 a.m. to 8:00 p.m. However, this shall be adjusted to suit the working hours of BHEL.

10.5. Insurance cover for men & materials

The Contractor shall arrange necessary Insurance cover with appropriate Third Party Liability cover Personal Accident Policy as applicable for the workmen crew. If any accident/injury/loss occurs while erection of the crane, to any other persons/ public and the properties of BHEL/client/other agencies/third party, the contractor shall have to pay necessary compensation and other expense, so decided by the appropriate authorities.

10.6 Accommodation & local conveyance

Contractor has to make their own arrangement for accommodation, local transport and other amenities for their workmen.

10.7 Safety of Men, Equipment, Material and Environment

10.7.1. PPEs shall be provided by the contractor as per attachment with appropriate trade job has to be ensured by the contractor at the job site at all times as per BHEL procedure. List of PPE is enclosed in ANNEXURE-A

10.7.2. Safe work permits should be obtained by the contractor for Erection of Cranes and Work at height before starting the work. The Format is enclosed herewith .ANNEXURE-B

10.7. 3. The Contractor shall abide by the Safety Regulations applicable for the Site/Project. Contractors are also to ensure that their employees and workmen use safety equipments as stipulated in the Factories Act (Latest Revision) during the execution of the work. Failure to use safety equipment as required by BHEL Engineer will be a sufficient reason for issuance of memo, which shall become part of Safety evaluation of the contractor at the end of the Project. Also all site work may be suspended if it is found that the workmen are employing unsafe working practice and all the costs/losses incurred due to suspension of work shall be borne by contractor.

10.7.4 The contractor shall submit report of all accidents, fires and property damage, dangerous occurrences to the authorized BHEL official immediately after such occurrence but in any case not later than twelve hours of the occurrence. Such report shall be furnished in the manner prescribed by BHEL and also to meet statutory requirement. Any injury sustained by any of the contractor's employees within the Project premises must be reported to BHEL supervisor and FIRST AID should be immediately administered. The Contractor shall be responsible for keeping and maintaining proper records of Accidents to his personnel. According to the Factory Act and the Employees state Insurance Act & regulation, any person sustaining any injury within the project premises and absenting himself from work for more than 46 hours, his accident report has to be sent to the respective Government Authorities. Therefore contractor shall inform the owner's representative such matter immediately for their needful action.

Contractor's signature and seal

10.8 BHEL reserves the right to go for a Reverse Auction (RA) or Opening the submitted Part-I Qualification cum Technical bid, which will be decided after technical evaluation.

10.9 General terms and conditions of RA. I.e. On line bidding through the internet

For the proposed reverse auction,

10.9.1. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.

10.9.2. BHEL will inform the vendor in writing in case of reverse auction, the details of Service Provider to enable them to contact & get trained.

10.9.3. Business rules like event date, time, and Start price, bid decrement, extensions etc. also will be communicated through service provider for compliance.

10.9.4. Vendors have to fax the Compliance form in the prescribed format (provided by Service provider) before start of Reverse auction. Without this, the vendor will not be eligible to participate in the event.

10.9.5 BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Mobilisation Charge, Demobilisation charge, Hiring Charges, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the vendor to enable them to fill-in the price and keep it ready for keying in during the Auction.

10.9.6. Reverse auction will be conducted on scheduled date & time.

10.9.7. At the end of Reverse Auction event, the lowest bidder value will be known on the network.

10.9.8. The lowest bidder has to Fax the duly signed Filled-in prescribed format as provided on case-to-case basis to BHEL through Service provider within 24 hours of Auction without fail.

10.9.9. . Any variation between the on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHEL as per prevailing procedure.

10.9.10. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.

For any queries / clarifications the bidders may contact us through FAX NO. +91 431 2521416 or through e-mail: esali@bheltry.co.in

Contractor's signature and seal

ANNEXURE "A" to POINT no 10.7.1

Personal Protective Equipment Recommended for Erection and cabling of New Cranes

- I. Personal Protective Equipment Recommended for Erection and cabling of New Cranes

Sl. No.	Job/Trade	PPE Recommended
1.	Arc welder	Leather gloves Leather apron Spectacle goggles Hand shield Filter lens 11-14 Leather leg guard Safety boots slip in type
2.	Gas welder	Gas welding goggles Leather gloves Safety shoes
3.	Painter	PVC gloves Light fume respirator Safety shoes Barrier cream Spectacle goggles
4.	Fitter / General	Leather gloves Safety shoes Spectacle goggles
5.	Crane operator_	Safety shoes Canvas gloves Spectacle goggles
6.	<u>Rigger</u>	Leather gloves Safety helmet Safety shoes Spectacle goggles
7.	_Unskilled / semi skilled Worker	Leather gloves Safety shoes Spectacle goggles Plastic face shield
8.	<u>Other Employees</u>	Safety shoes Spectacle goggles


II. Personal Protective Equipment Recommended for Hazardous Operations

High Noise Area

- | | |
|-------------------|---|
| 1. Bldg. 50 | Ear Plug / Ear Muff |
| 2. Work at height | Gloves
Safety Belt
Helmet
Safety Shoes |

Note: Contract Workers, Engineers, Supervisors and proprietors should wear Pant & Shoes while entering the factory premises.

ANNEXURE-B to point no 10.7.2Work permit form

 310-015/A		SAFE WORK PERMIT (WORK AT HEIGHT INCLUDING ROOF LIGHT MAINTENANCE & FURNACE WORK)	
PERMIT INITIATION			
M & S Control No.			Date
Description of Work			
Area of Work			
Period of Work	From	To	
Time	From	To	
	AM/PM	AM/PM	
Name of Executing Agency / Contractor Reference			
Name of the persons engaged :			
Date:	Signature of Initiating area's Executive	Name Seal	
PERMIT CLEARANCE			
PRODUCTION DEPARTMENT SHUT DOWN / INTIMATION			
Date:	Signature	Name Seal	
CRANES / M& S DEPARTMENT			
Date:	Signature	Name Seal	
SAFETY MANAGEMENT			
Date:	Signature	Name Seal	

Contractor's signature and seal

Annexure-B**Permit withdrawal form**

PERMIT WITHDRAWAL		
EXECUTING DEPARTMENT		
The work has been completed. Men and materials withdrawn. Intimation given to production.		
Date:	Signature of Executive	Name Seal
CRANES / M & S DEPARTMENT		
Withdrawal of permit is acceptable.		
Date:	Signature	Name Seal
SAFETY MANAGEMENT		
Withdrawal of permit is acceptable		
Date:	Signature	Name Seal
SAFETY INSTRUCTIONS:		
<ul style="list-style-type: none"> ❖ Use appropriate PPE (Safety belts, Helmets, Goggles etc.) ❖ Post a 'Look-out man' with red flag and whistle. ❖ Provide safe access ❖ Provide warning ❖ All loose materials / tools to be taken out. ❖ Permit will be valid for only one week (Monday to Saturday ; Separate Permit to be obtained for Sunday). 		
<u>TO BE ENSURED BY THE INITIATING DEPARTMENT (Put tick mark in the relevant box)</u>		
	ENSURED	NOT REQD
1. Necessary FIRE PREVENTION measures taken	<input type="checkbox"/>	<input type="checkbox"/>
2. Informed FIRE SERVICE	<input type="checkbox"/>	<input type="checkbox"/>
3. Alert other employees in the nearby area	<input type="checkbox"/>	<input type="checkbox"/>
4. Safe Access available / Provided	<input type="checkbox"/>	<input type="checkbox"/>
5. Use of SAFETY BELT	<input type="checkbox"/>	<input type="checkbox"/>
6. Wearing of HELMET	<input type="checkbox"/>	<input type="checkbox"/>
7. Use of SAFETY GOGGLES	<input type="checkbox"/>	<input type="checkbox"/>
8. Use of RESPIRATOR	<input type="checkbox"/>	<input type="checkbox"/>
9. 'LOOK-OUT' man	<input type="checkbox"/>	<input type="checkbox"/>

Contractor's signature and seal

PART- II**PRICE BID**

Name of work: Fabrication, Erection and commissioning of DSL in Outer yards of BHEL/Trichy complex

Schedule of Rate

Contractors should fill the rate , sealed and placed in a Cover separately by super scribing as PART-II/PRICE BID, Name of work, Tender ref no due date on the Cover

NO	Description of work	Location of work	Qty in meters	Rate per meter	Total value
1	Fabrication and Erection of DSL as per drawing no -- 3M02G0014407	Shipping outer yard	400 Meter		
2	Fabrication and erection of DSL as per Drawing no - 3M02G0014408	Disposal outer yard	240 Meter		
3	Fabrication and erection of DSL as per Drawing no3M02G0014415	RPS Structural yard	500 Meter		
4	Fabrication and erection of DSL as per Drawing no3M02G0014418	RPS Old Yard Extension	150 Meter		
5	Fabrication and erection of DSL as per Drawing no 3M02G0014381	RPS New Yard	200 Meter		

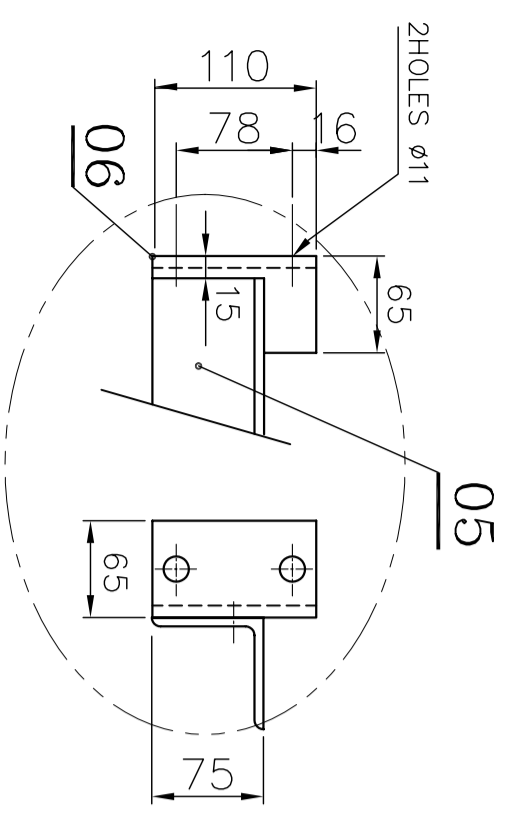
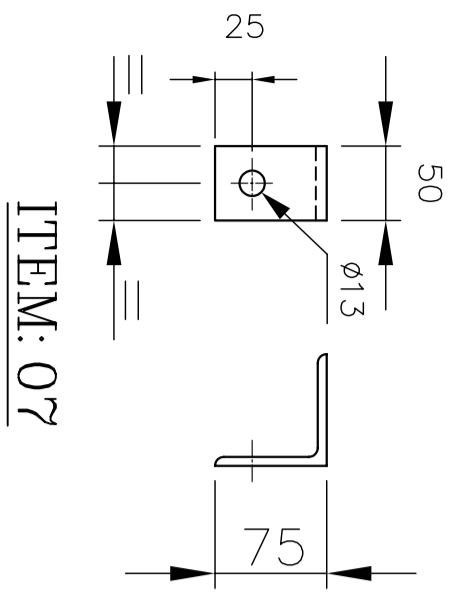
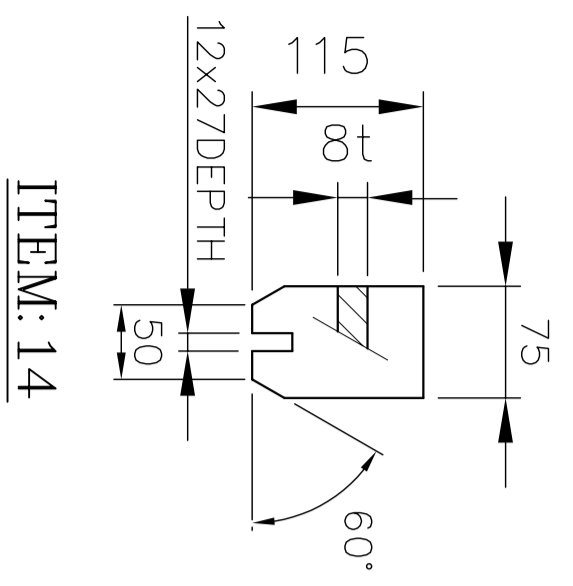
Applicable taxes shall be separately mentioned in the offer.

Contract will be issued to a Technically qualified Single contractor on cumulative L 1 basis

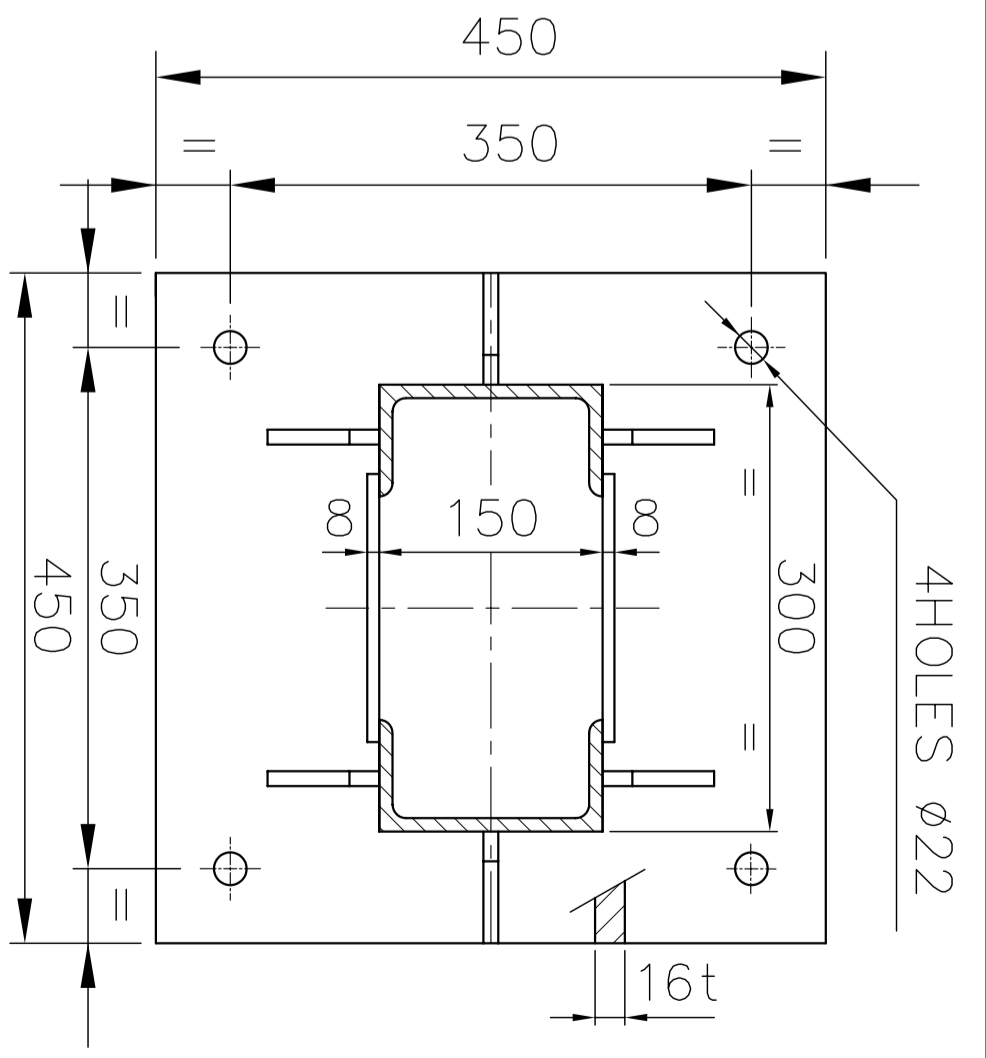
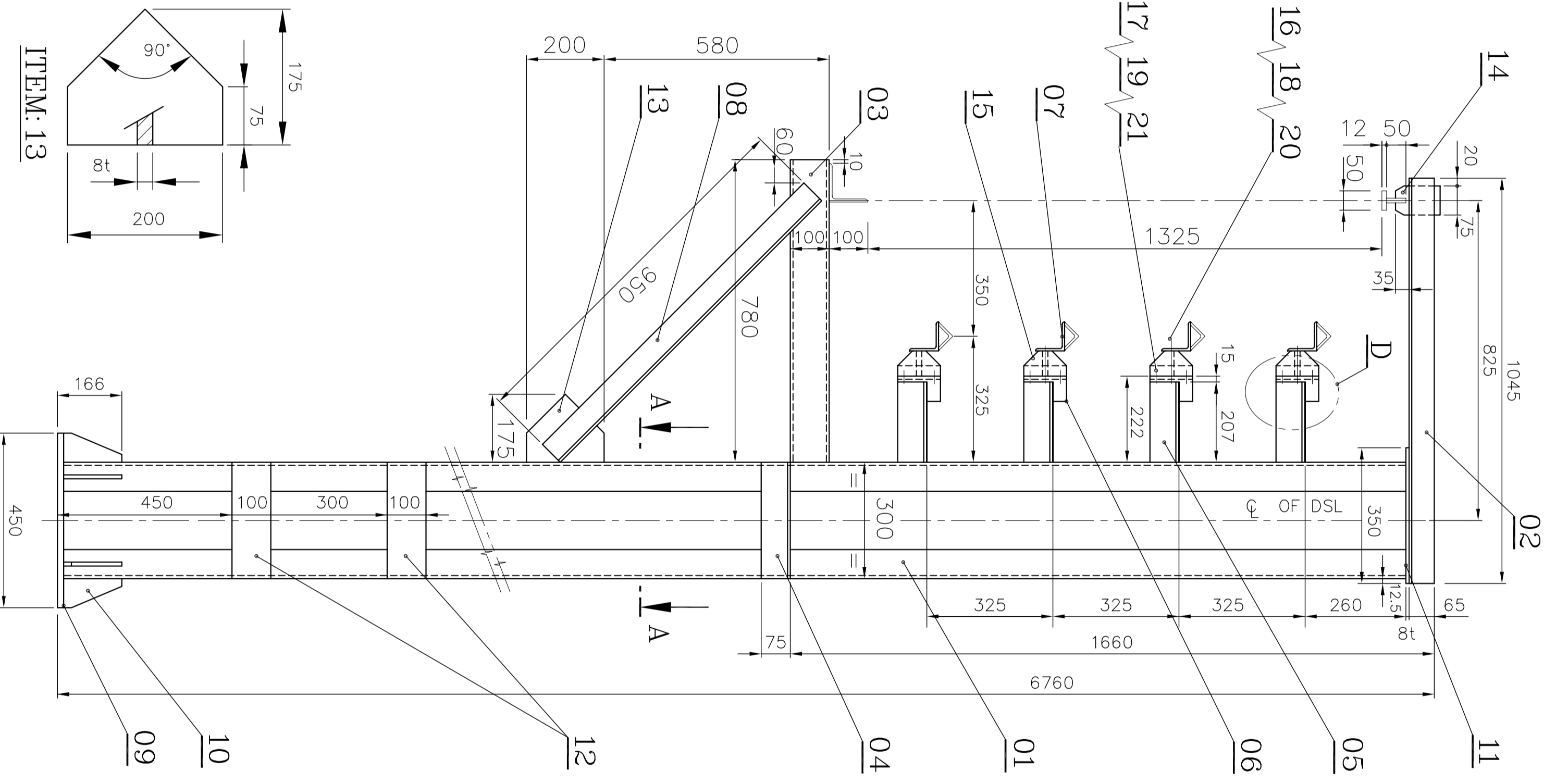
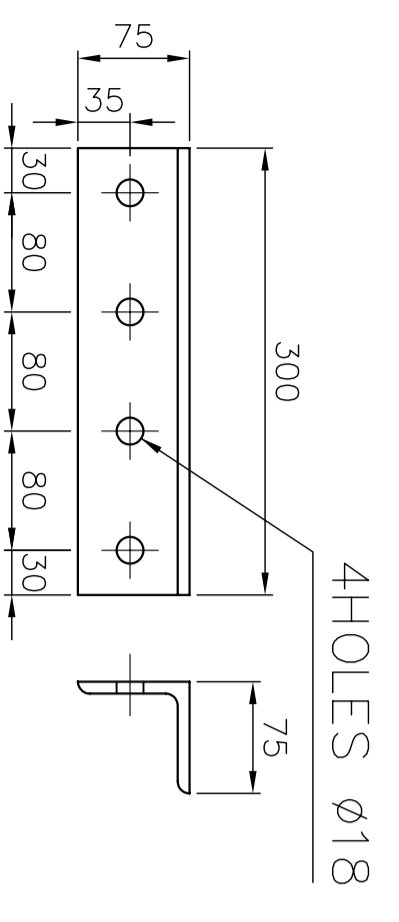
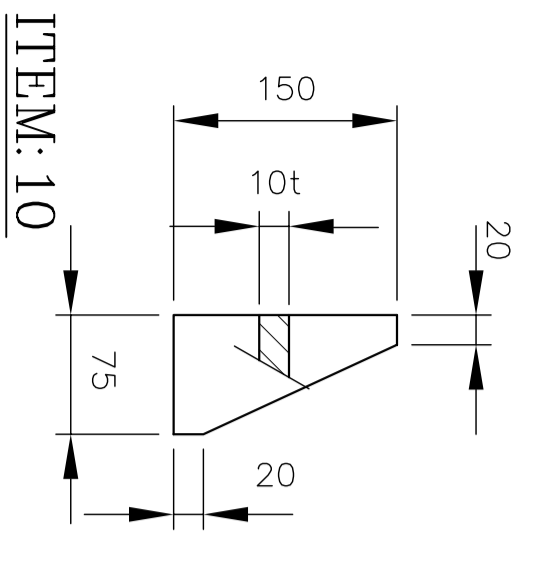
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Contractor's signature and seal

ALL DIMENSIONS ARE IN MM



DETAIL-D



ALL WELDED CONSTRUCTIONS

ITEM No.	DESCRIPTION	MATERIAL	NET.WT IN KGS.	DRAWING No.	ITEM INDEX
21	HEX.NUT-M10	BPS: 41304	0.90	4M02A0300026	01
20	HEX.NUT-M12	BPS: 41304	0.54		02
19	WASHER-B10	BPS: 41445	2.70		03
18	WASHER-B12	BPS: 41445	4.20		04
17	HEX.BOLT-M10x45L	BPS: 41221	6.59		05
16	HEX.BOLT-M12x50L	BPS: 41221	25.43		06
15	PORCELAIN INSULATOR		5.29		07
14	PL8tX75x115	Fe410WA	5.51		08
13	PL8tX175x200	Fe410WA	1.42		09
12	PL8tX100x280	Fe410WA	2.55		10
11	PL8tX150x350	Fe410WA	5.63		11
10	PL10tX75x150	Fe410WA	4.08		12
9	PL16tX450x450	Fe410WA	2.55		13
8	ISA 65x65x6tX950L	Fe410WA	5.51		14
7	ISA 75x75x6tX50L	Fe410WA	1.42		15
6	ISA 65x65x6tX110L	Fe410WA	2.55		16
5	ISA 75x75x6tX207L	Fe410WA	5.63		17
4	ISA 75x75x6tX300L	Fe410WA	4.08		18
3	ISMV 100X50X...780L	Fe410WA	7.26		19
2	ISA 65x65x6tX...1045L	Fe410WA	6.06		20
1	ISMV 150X75X...6672L	Fe410WA	224.18		21
ASSY.			340.34	2M02G0004775	01

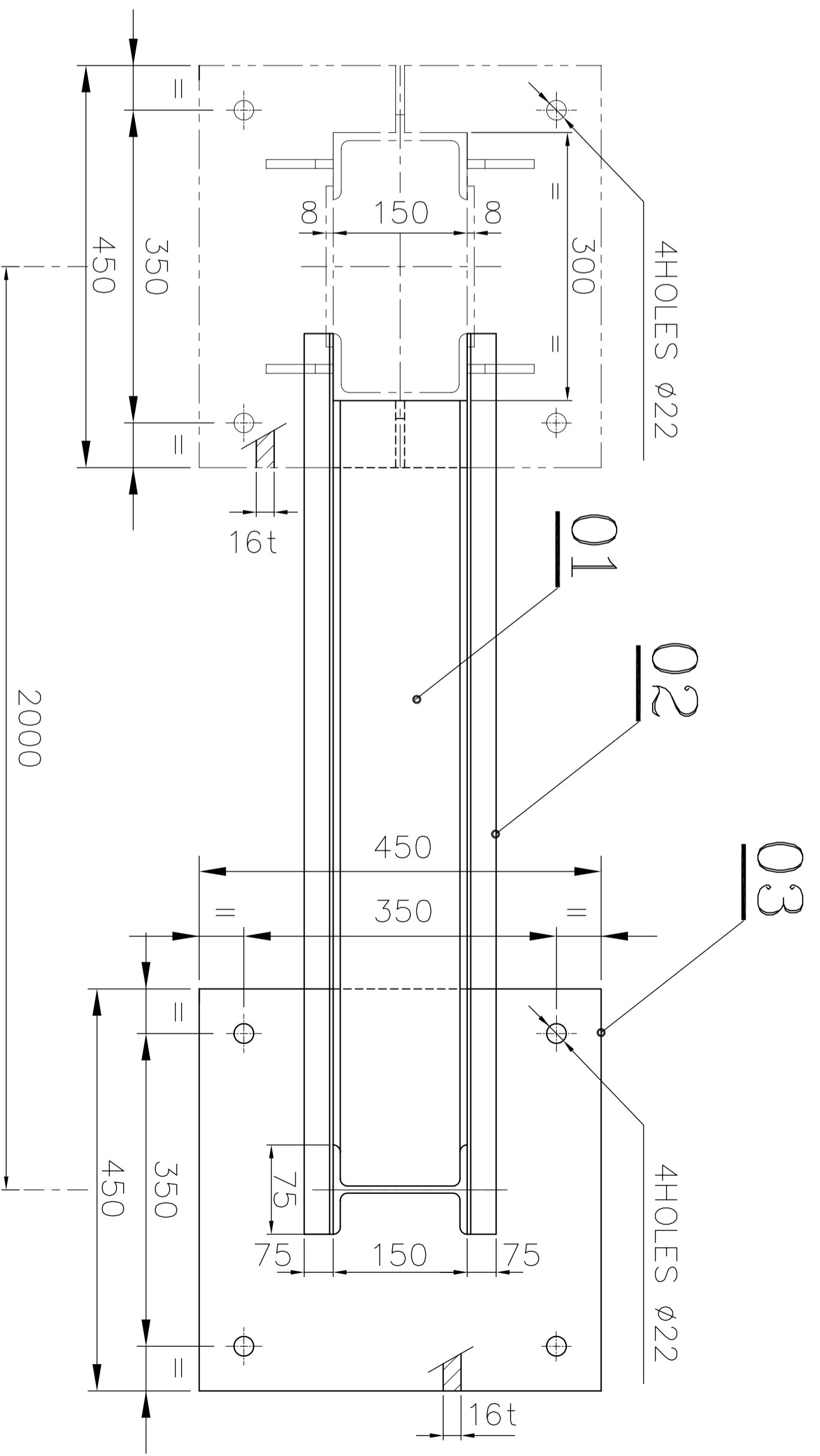
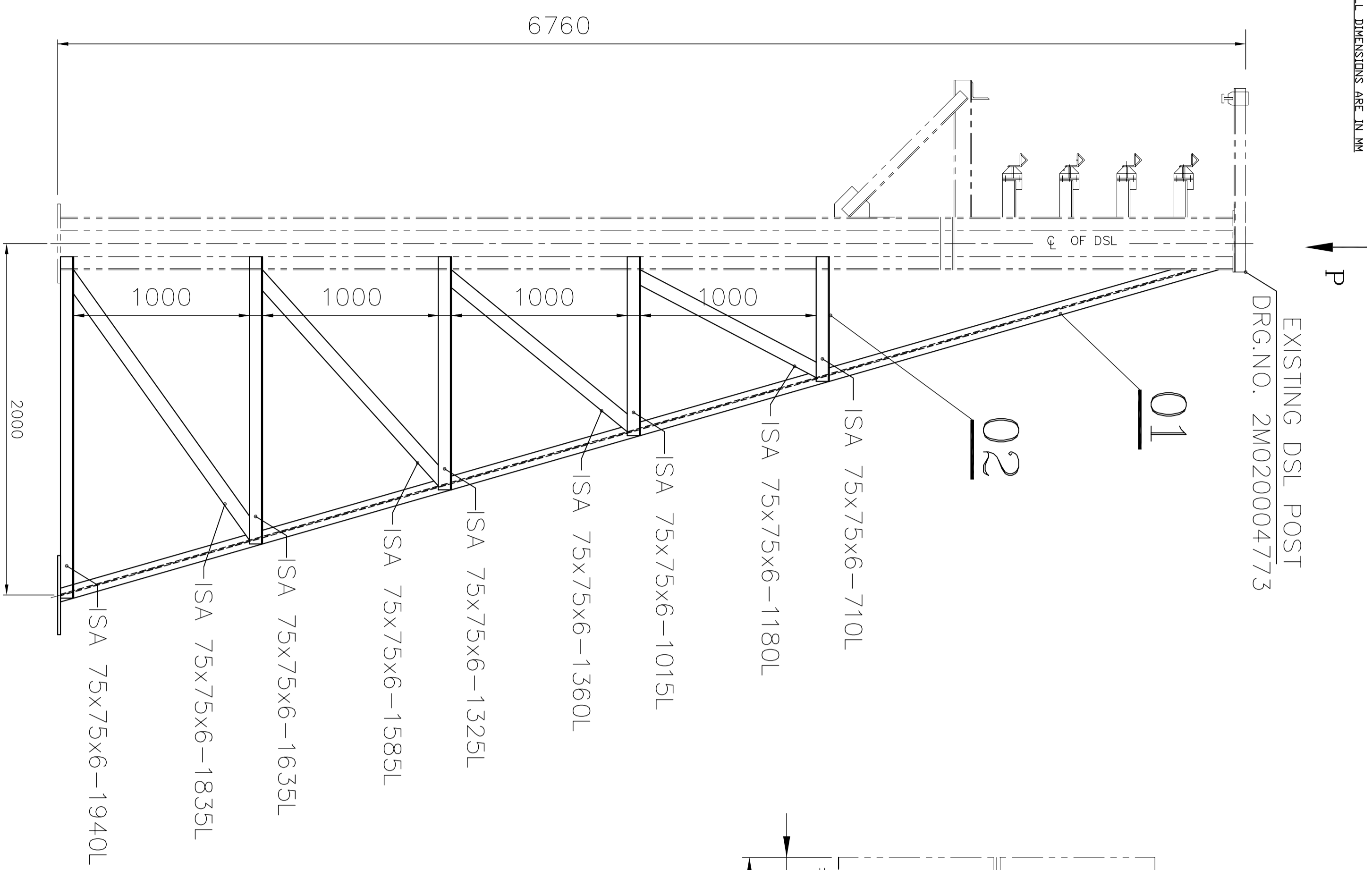
SCALE DRAWN 1:10
CHECKED (1:5)
APPROVED (1:5)
DATE 09/03/09

MACHINE: GANTRY CRANE
TYPE: 20T/32M

TITLE: DSL POST 6760 HT.
(RPS NEW-10M SPAN)

DRAWING No: 2M02G000477302
Sheet No: Noof Sheets

ALL DIMENSIONS ARE IN MM



VIEW-P

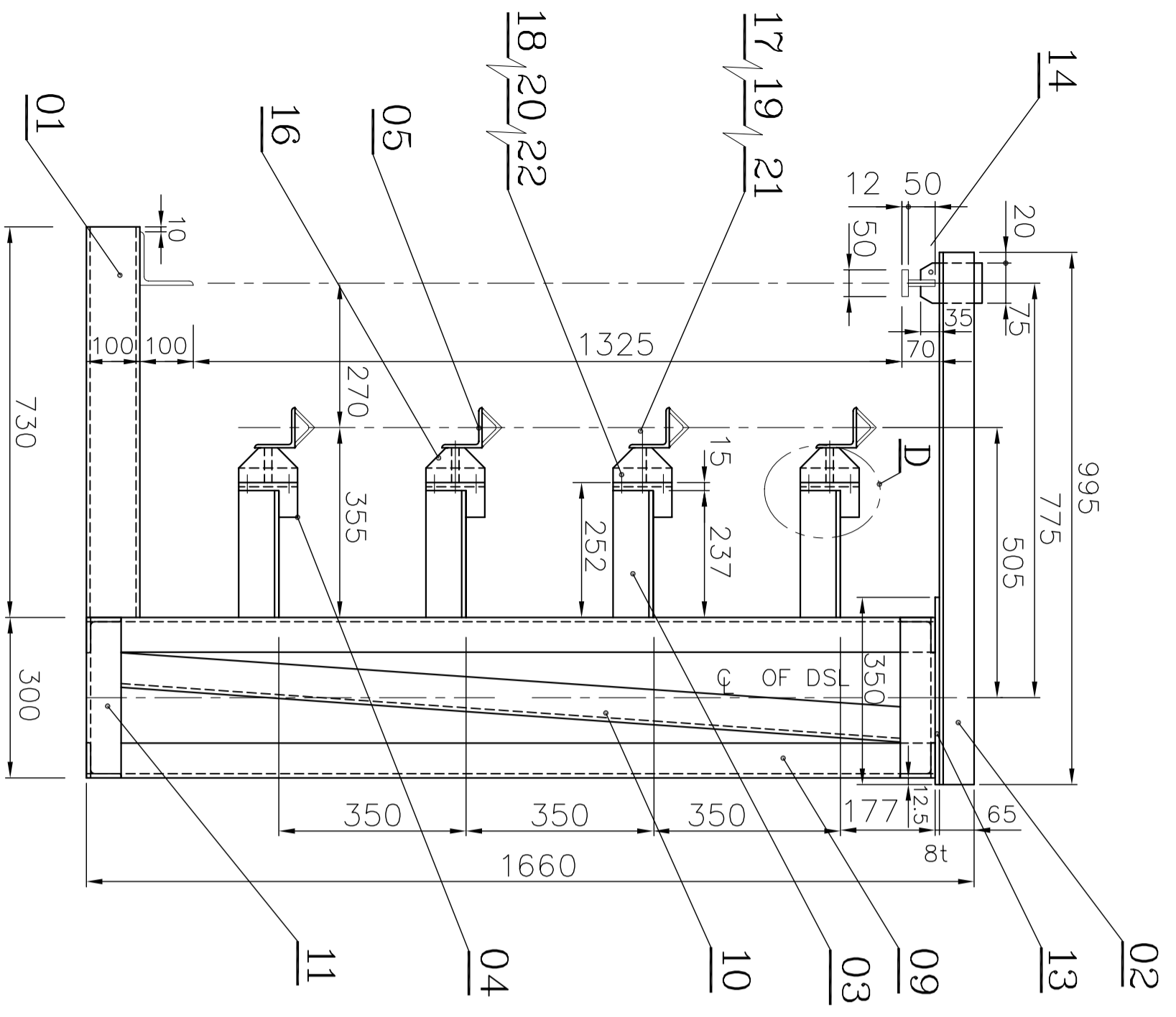
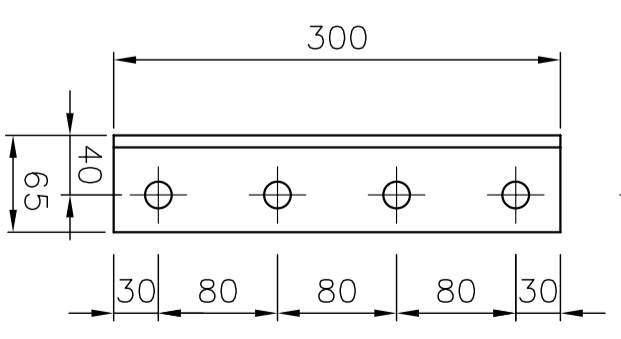
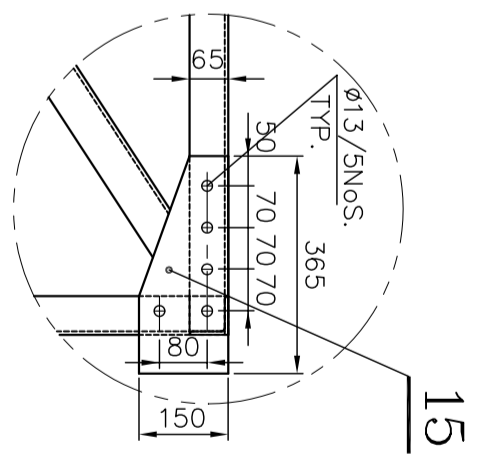
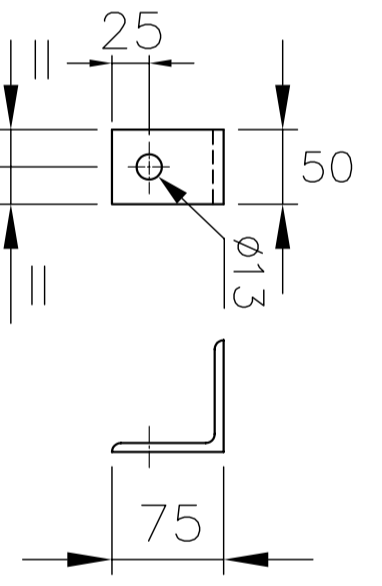
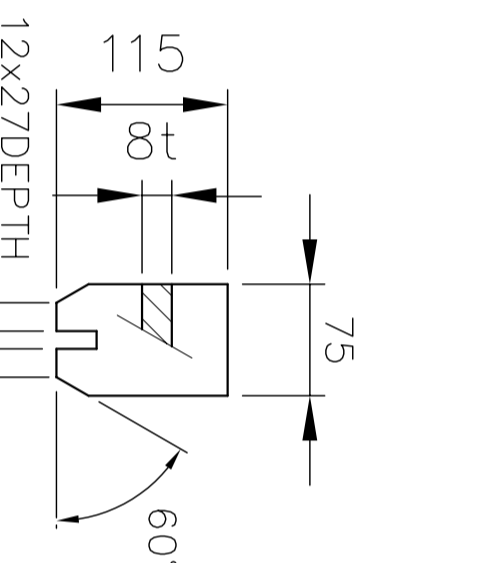
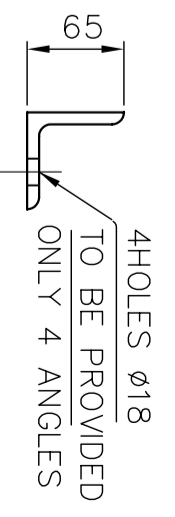
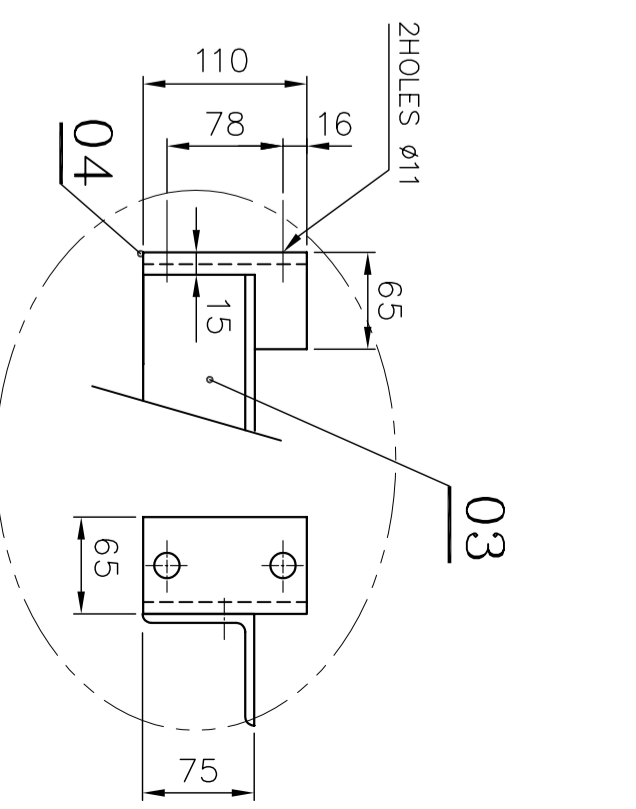
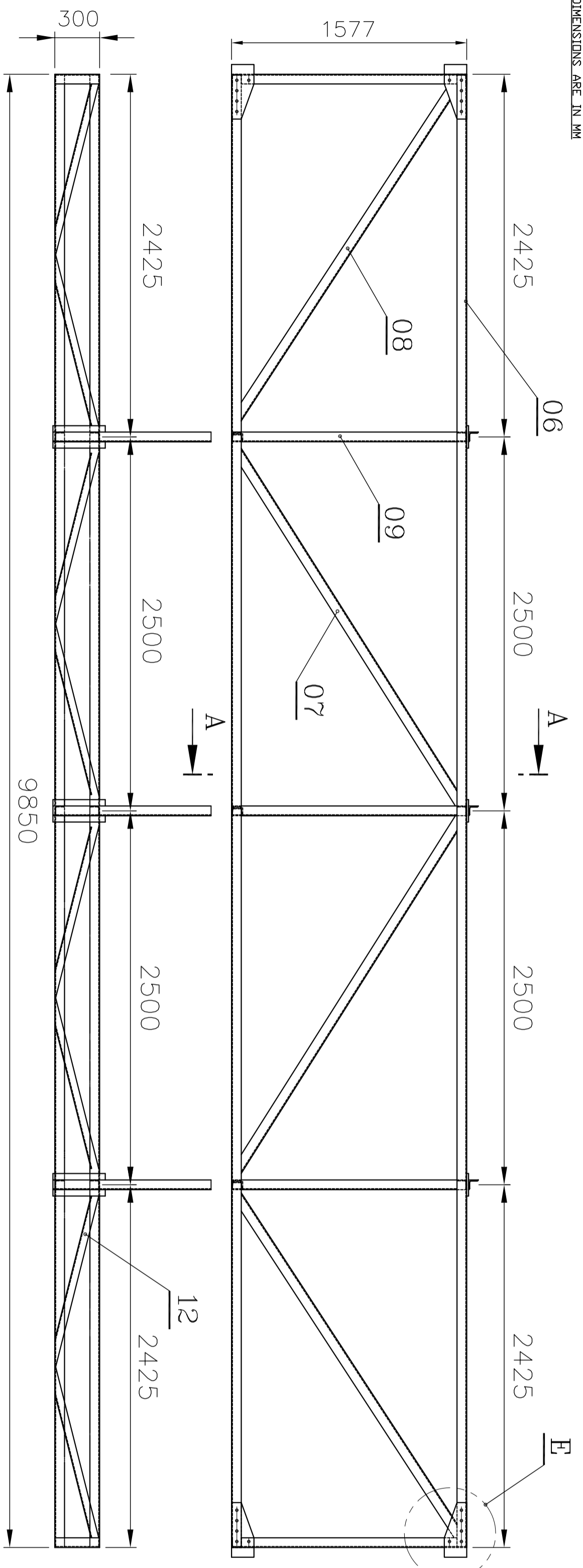
ALL WELDED CONSTRUCTIONS

ITEM No.	DESCRIPTION	MATERIAL	NET.WT IN KGS.	DCN REF.	DRAWING No.	DATE	SIGN.	INDEX
01	ASSY.		201.21		3M02G0014415			04
02	PL16x450x450	Fe410WA	25.43					
02	ISA 65x65x6tx..12585L	Fe410WA	72.99					
01	ISMB 150x75x...6853L	Fe410WA	102.79					

SCALE	DRAWN	G.G.R
1:20	CHECKED	
(1:5)	APPROVED	
DATE	07/10/10	

TITLE	TYPE	DRAWING No.	Sheet No.	No of Sheets
DSL POST EXTN. (20M-ROAD SIDE)	GANTRY CRANE	2M02G00014902		

ALL DIMENSIONS ARE IN MM



ALL WELDED CONSTRUCTIONS

24	HEX.NUT-M10	BPS: 41304	IS: 1363 PART-3							
12	HEX.NUT-M12	BPS: 41304	IS: 1363 PART-3							
24	WASHER-B10	BPS: 41445	IS: 3063.cd							
12	WASHER-B12	BPS: 41445	IS: 3063.cd							
24	HEX.BOLT-M10x45L	BPS: 41221	IS: 1363 PART-1							
12	HEX.BOLT-M12x50L	BPS: 41221	IS: 1363 PART-1							
12	PORCELAIN INSULATOR					4M02A0300026				
8	PL.8tX150X365	Fe410WA	IS: 2062							
3	PL.8tX75X115	Fe410WA	IS: 2062							
3	PL.8tX150X350	Fe410WA	IS: 2062							
16	ISA 50X50x6t...1180L	Fe410WA	IS: 2062							
10	ISA 65x65x6t...300L	Fe410WA	IS: 2062							
3	ISA 65x65x6tX1460L	Fe410WA	IS: 2062							
10	ISA 65x65x6t...1557L	Fe410WA	IS: 2062							

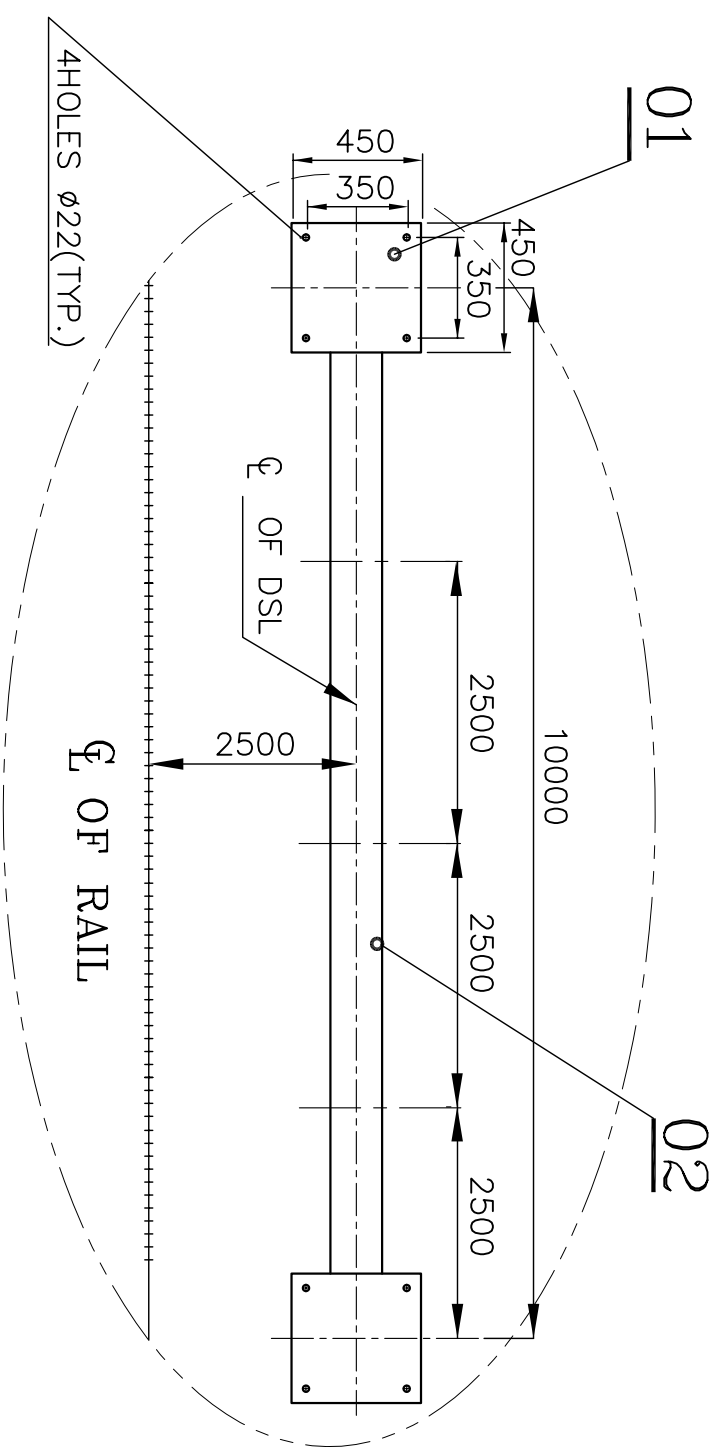
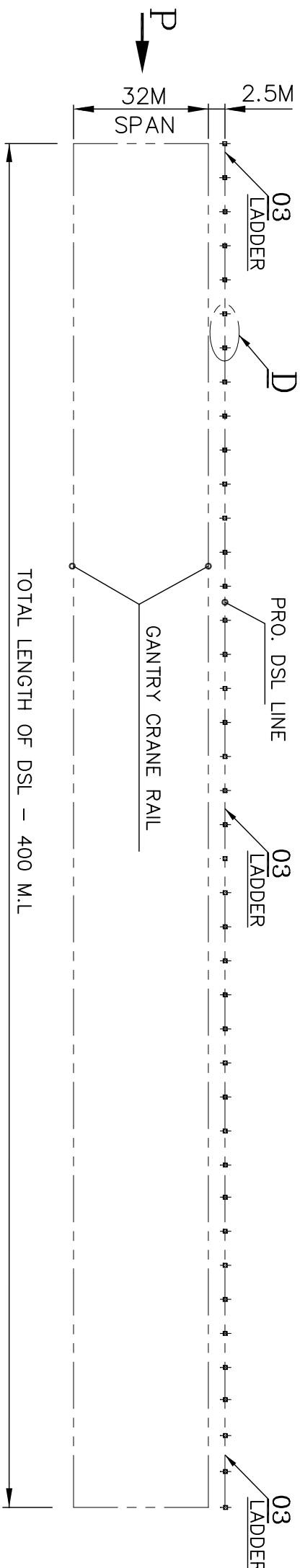
ITEM No.	DESCRIPTION	MATERIAL	NET.WT IN KGS.	DRAWING No.	ITEM INDEX
4	ISA 65x65x6t...2732L	Fe410WA	63.38		08
4	ISA 65x65x6t...2830L	Fe410WA	65.65		07
4	ISA 65x65x6t...9850L	Fe410WA	228.52		06
12	ISA 75x75x6tX50L	Fe410WA	4.28		05
12	ISA 65x65x6tX110L	Fe410WA	7.65		04
12	ISA 75x75x6tX237L	Fe410WA	19.33		03
3	ISA 65x65x6t...995L	Fe410WA	17.31		02
3	ISMC 100x50x...730L	Fe410WA	20.93		01
	ASSY.		684.18	3M02G0014418	02

SCALE	DRAWN	G.G.R
1:25	CHECKED	
1:10	APPROVED	
1:5	DATE	08/10/10

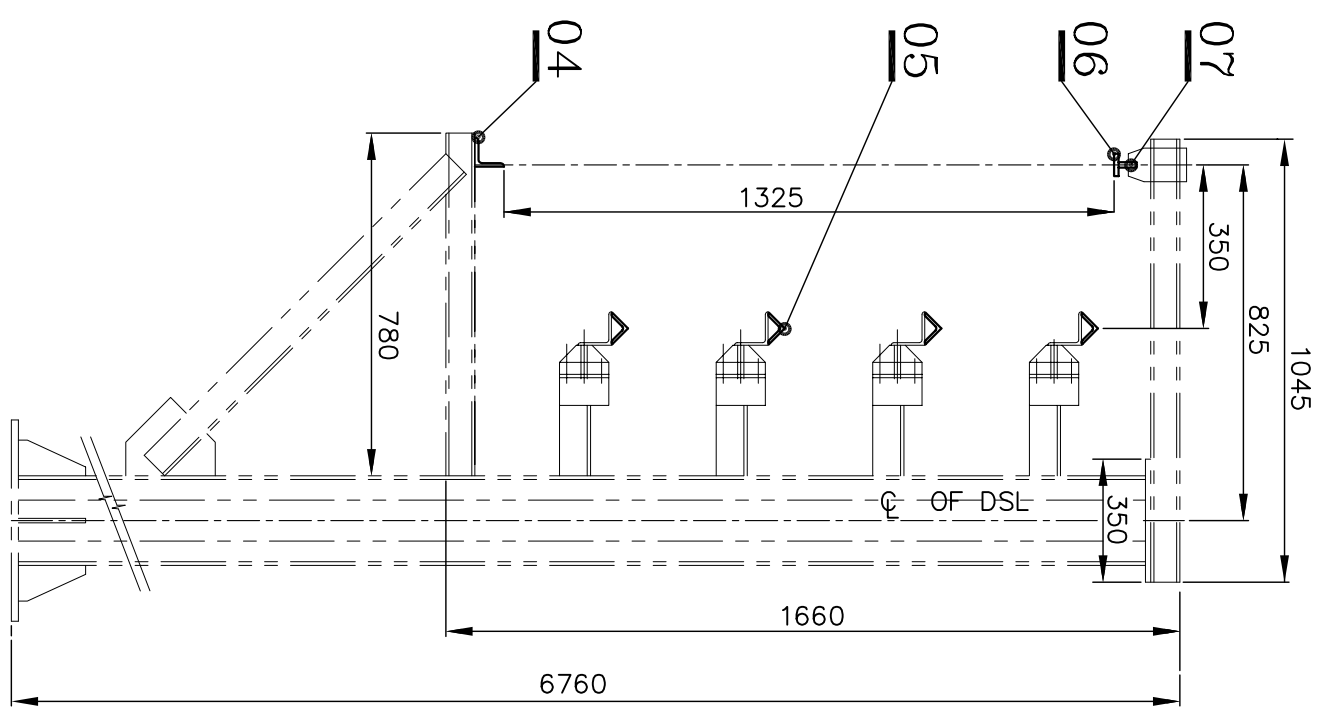
MACHINE	GANTRY CRANE
TITLE	DSL BRIDGE
	(150M.L-RPS OLD EXTN.)

TYPE	20T/32M
DRAWING No.	2M02G0004904
Sheet No.	
No. of Sheets	

ALL DIMENSIONS ARE IN MM



FOUNDATION DETAIL AT-D



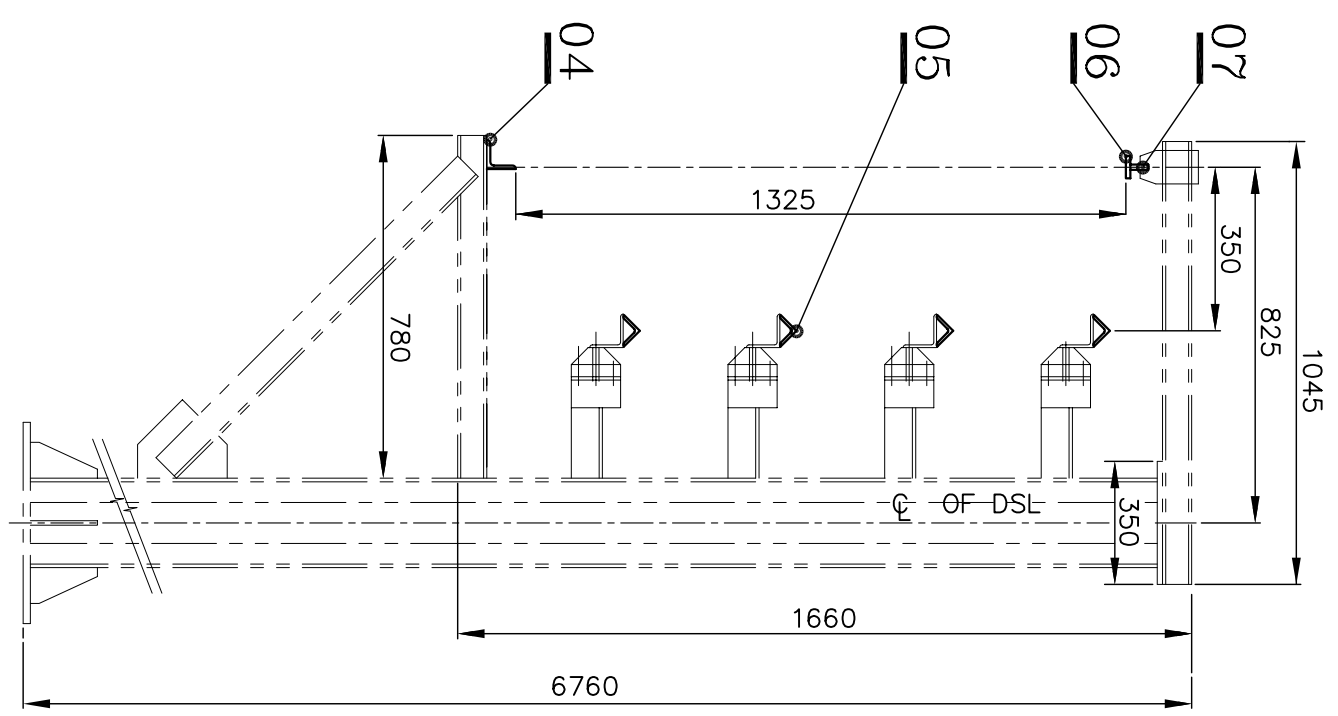
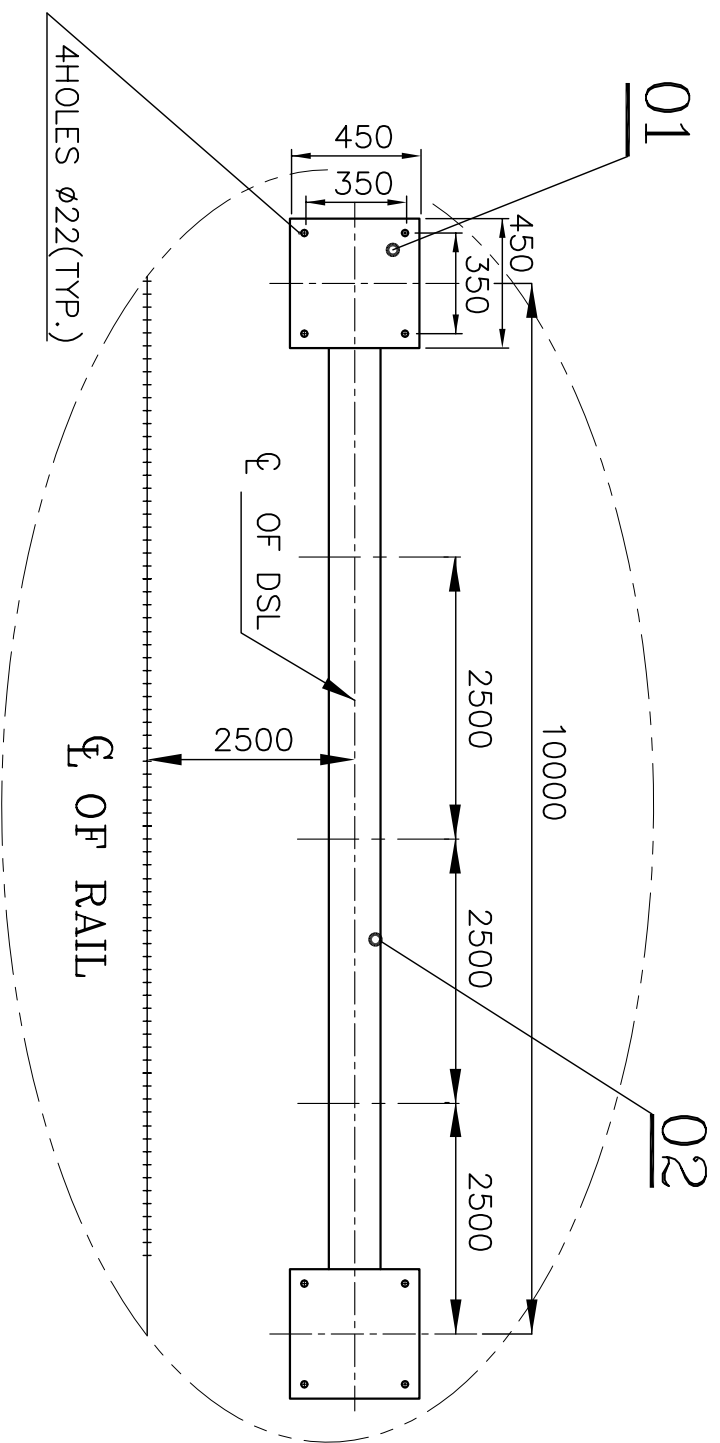
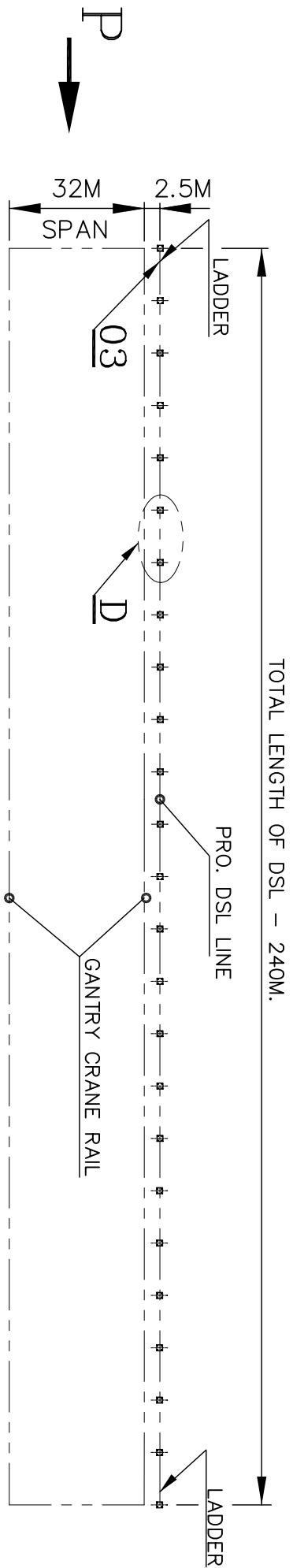
VIEW-P

NOTE:
LADDER ONCE IN 50MTS.

1	PL12tX50x400M.L	Fe410WA	IS: 2062	1884					
1	PL12tX50x400M.L	Fe410WA	IS: 2062	1884					
4	ISA 50x50x6t.....400M.L	Fe410WA	IS: 2062	7200					
1	ISA100x100x10t.....400M.L	Fe410WA	IS: 2062	5960					
9	LADDER			1180		3M02G00-13606			
40	DSL BRIDGE (10M SPAN)			27801		2M02G00-04774			
41	DSL POST			13954		2M02G00-04773			

No of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.	No of Sheets
59863							
SCALE		DRAWN		G.G.R			
NTS		CHECKED					
DATE		30/09/10					
MACHINE:		GANTRY CRANE		TYPE:		10T/32M	
TITLE:		D.S.L. LAYOUT		DRAWING No:		3M02G0014407	
(NEW SHIPPING OUTER YARD-400ML)				Sheet No:			
REV.							

ALL DIMENSIONS ARE IN MM



FOUNDATION DETAIL AT-D

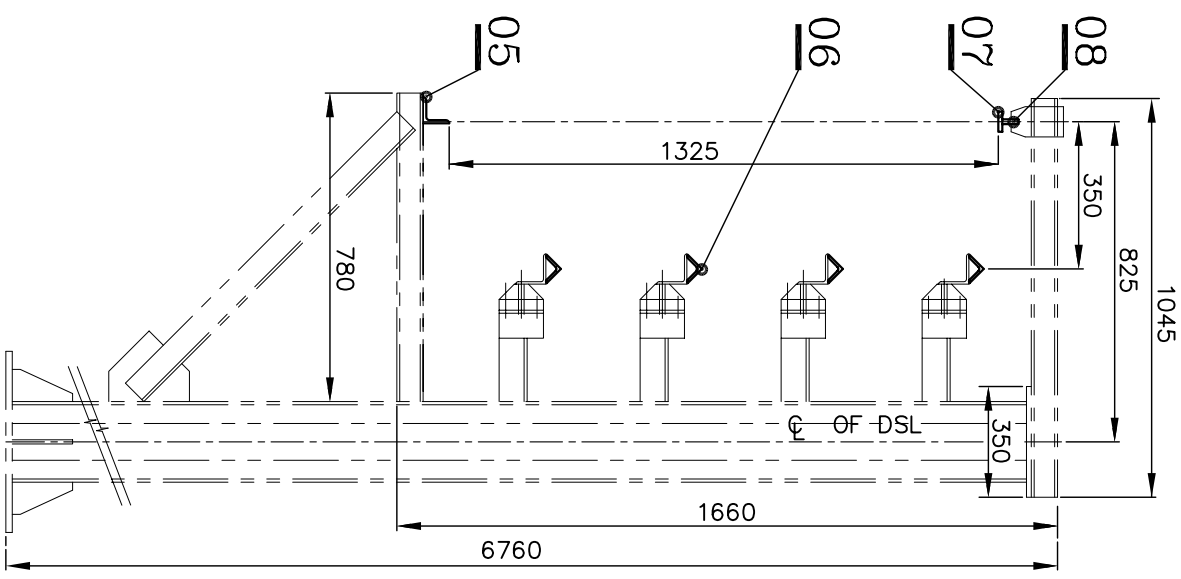
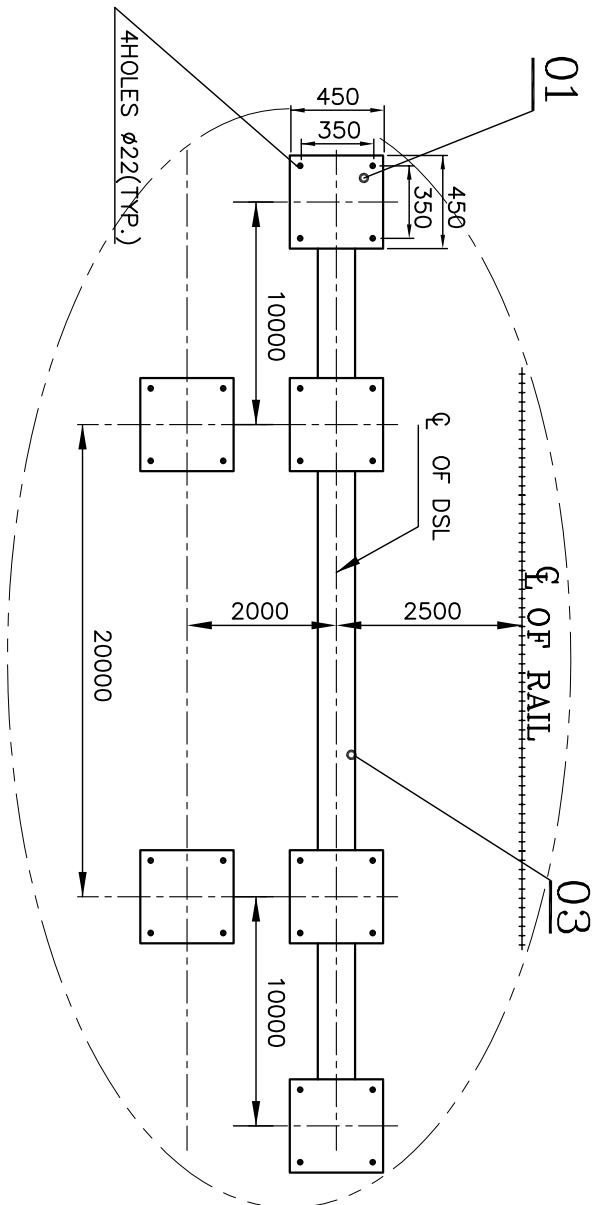
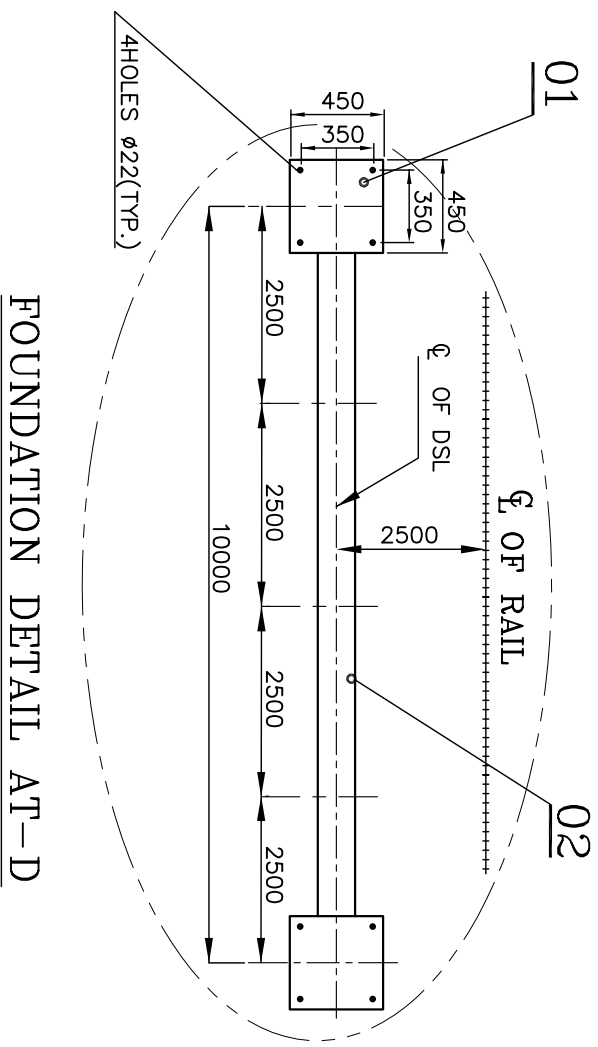
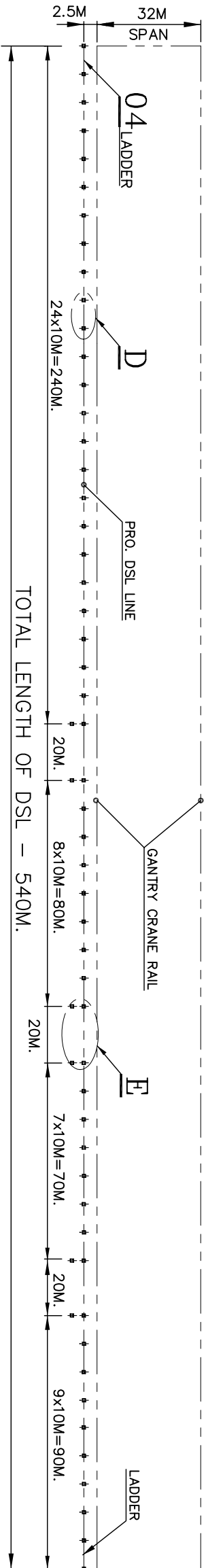
NOTE:
LADDER ONCE IN 50MTS.

VIEW-P

1	PL12tX50X240M.L	Fe410WA	IS: 2062	1130		07
1	PL12tX50X240M.L	Fe410WA	IS: 2062	1130		06
4	ISA 50X50X6t.....240M.L	Fe410WA	IS: 2062	4320		05
1	ISA100X100X10t.....240M.L	Fe410WA	IS: 2062	3576		04
5	LADDER			656	3M02G00-13606	03
24	DSL BRIDGE (10M SPAN)			16680	2M02G00-04774	02
25	DSL POST			8508	2M02G00-04773	01

No. of Pieces		DESCRIPTION		MATERIAL		STANDARD		NET.WT.IN KGS.		DRAWING No.		ITEM No.	
X		REFERENCE:				ALTERATIONS:				DATE		SIGN.	
SCALE		DRAWN		G.G.R						TYPE:		REV.	
NTS		CHECKED								DRAWING No:			
		APPROVED								3M02G0014408			
		DATE		30/09/10						Sheet No:		No. of Sheets:	
		MACHINE:		GANTRY CRANE						10T/32M			
		TITLE:		D.S.L. LAYOUT									
				(DISPOSAL YARD-240ML)									

ALL DIMENSIONS ARE IN MM



FOUNDATION DETAIL AT-D

FOUNDATION DETAIL AT-E

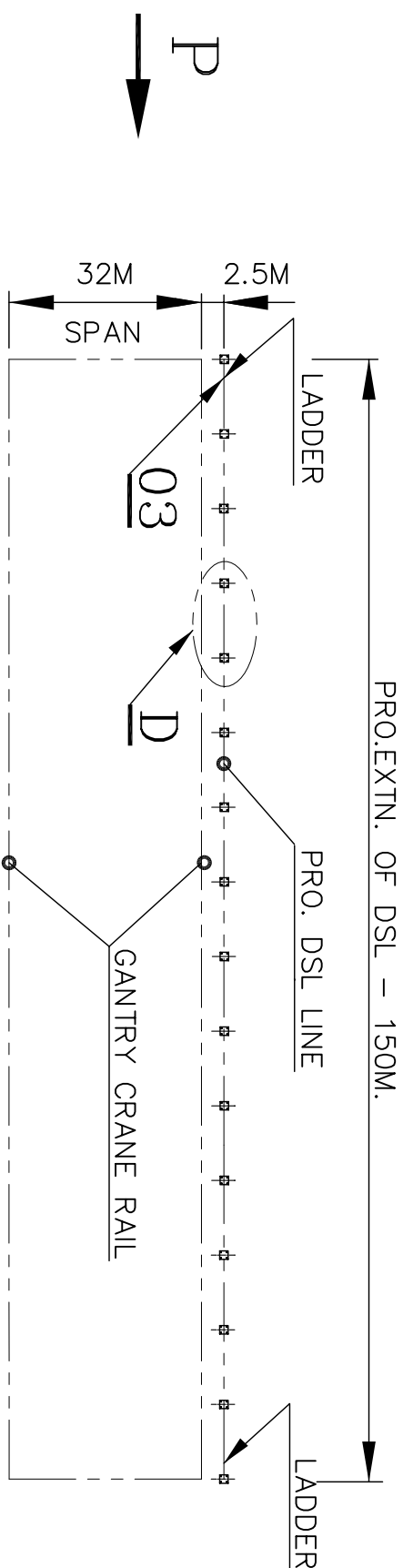
VIEW-P

NOTE:
LADDER ONCE IN 50MTS.

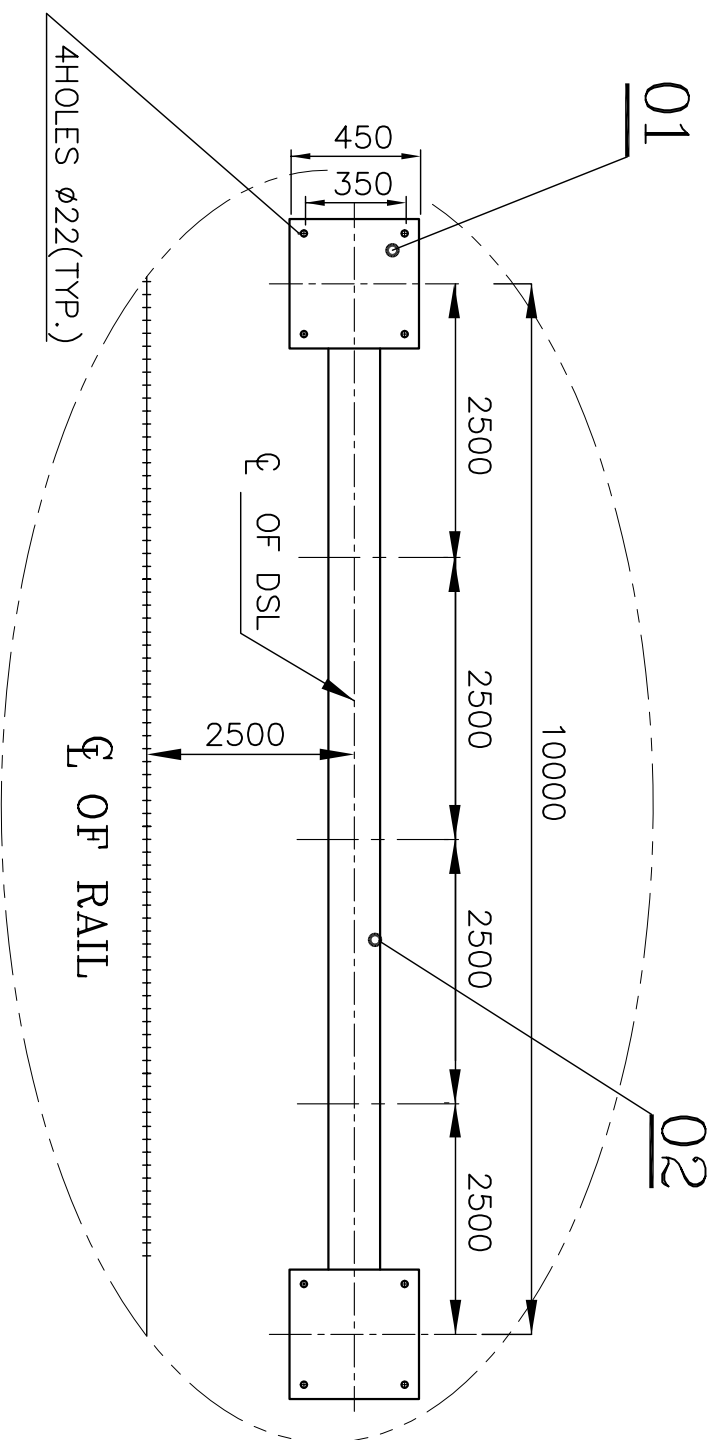
1	PL12tX50x540M.L	Fe410WA	IS: 2062	2543-		09
1	PL12tX50x540M.L	Fe410WA	IS: 2062	2543-		08
4	ISA 50x50x6t.....540M.L	Fe410WA	IS: 2062	9720-		07
1	ISA100x100x10t...540M.L	Fe410WA	IS: 2062	8046-		06
11	LADDER			1443-	3M02G00-13606	05
6	DSL POST EXTN.(20M-R.SIDE)			1207-	2M02G00-04902	04
3	DSL BRIDGE(20M-R.SIDE)			2492-	2M02G00-04778	03
48	DSL BRIDGE(10M SPAN)			33361-	2M02G00-04774	02
52	DSL POST			17698-	2M02G00-04773	01

No of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
SCALE	DRAWN	G.G.R		79053-		
NTS	CHECKED					
	APPROVED					
DATE	07/10/10					
MACHINE:	GANTRY CRANE					
TITLE:	D.S.L. LAYOUT					
	(RPS-540ML)					
	TYPE:	20T/32M				
	DRAWING No:					
		3M02G0014415				
	Sheet No:					
	No of Sheets:					
	REV.					

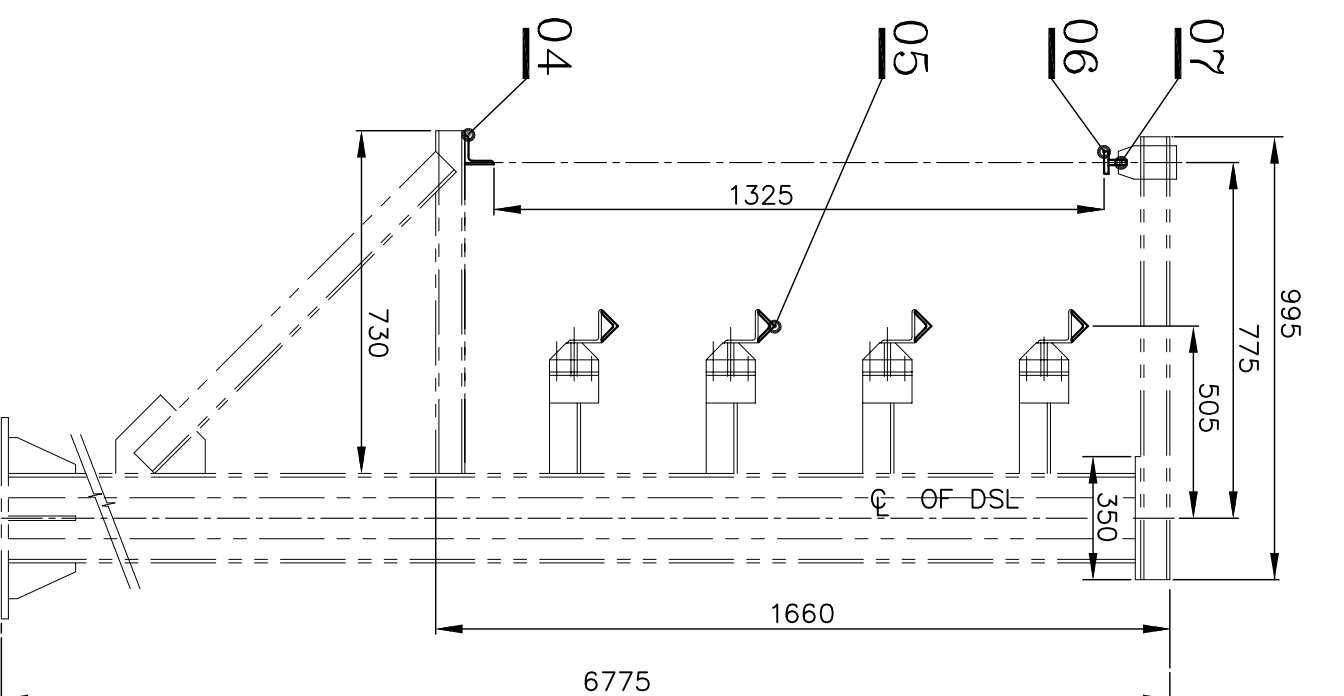
ALL DIMENSIONS ARE IN MM



PRO.EXTN. OF DSL - 150M.



FOUNDATION DETAIL AT-D



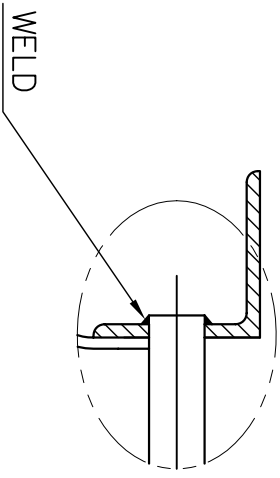
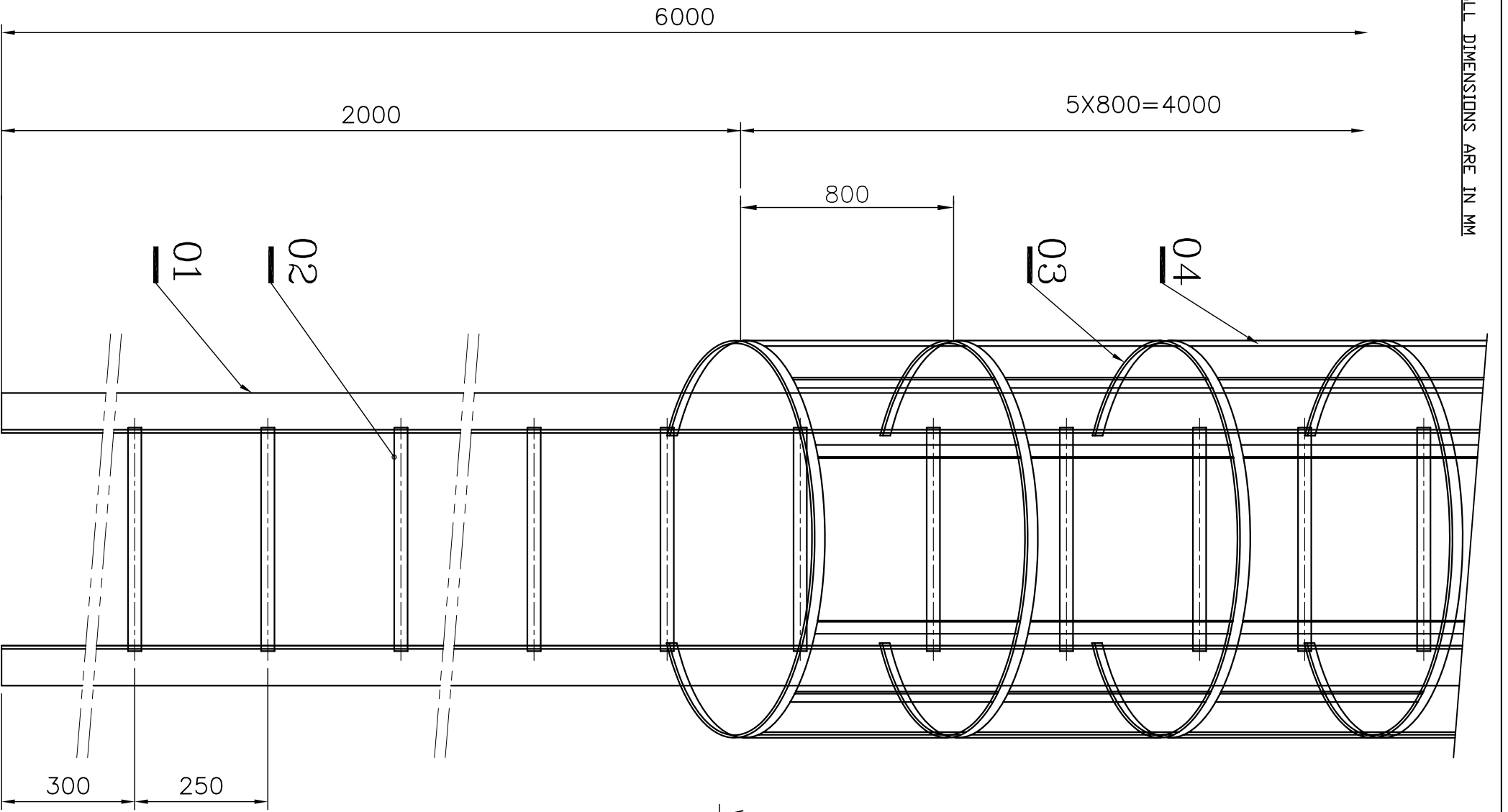
VIEW-P

NOTE:
LADDER ONCE IN 50M.TS.

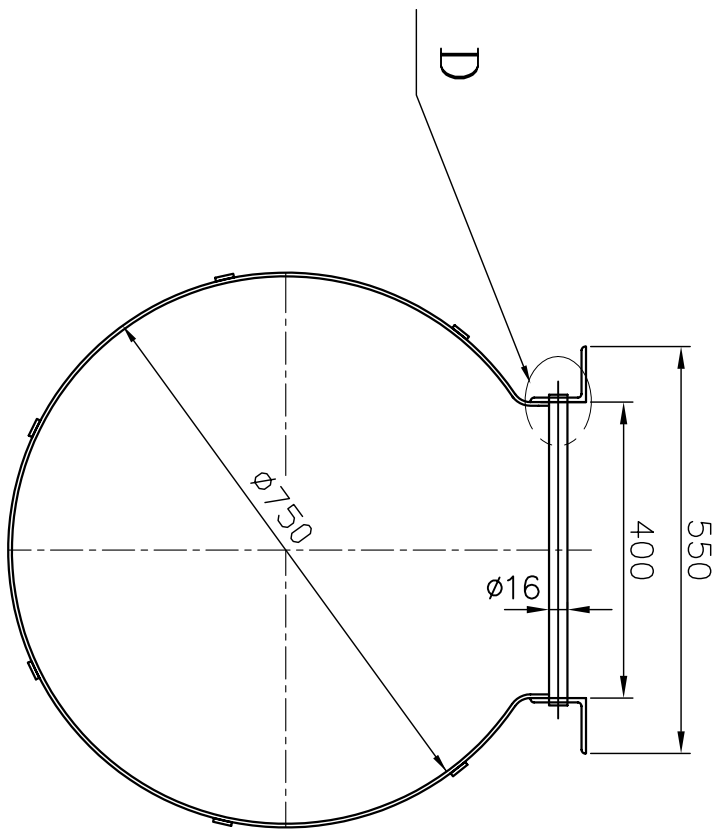
1	PL12tX50x150M.L	Fe410WA	IS: 2062	707-		07
1	PL12tX50x150M.L	Fe410WA	IS: 2062	707-		06
4	ISA 50x50x6t.....150M.L	Fe410WA	IS: 2062	2700-		05
1	ISA100x100x10t.....150M.L	Fe410WA	IS: 2062	2235-		04
4	LADDER			525-	3M02G00-13606	03
15	DSL BRIDGE (10M-OLD EXTN.)			10263-	2M02G00-04904	02
16	DSL POST (RPS OLD EXTN.)			5452-	2M02G00-04903	01

No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT. IN KGS.	DRAWING No.	ITEM No.
SCALE	DRAWN	G.G.R				
NTS	CHECKED					
	APPROVED					
DATE	30/09/10					
MACHINE:	GANTRY CRANE					
TITLE:	D.S.L. LAYOUT					
	(RPS OLD EXTN.-150ML)					
	TYPE:	10T/32M				
	DRAWING No:	3M02G0014418				
	Sheet No:					
	No. of Sheets:					
	REV.					

ALL DIMENSIONS ARE IN MM



DETAIL-D



No of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DCN REF	DATE	SIGN.	ITEM No.
6	PL 5tX25X4000	Fe410WA	IS: 2062	23.52				04
6	PL 5tX25X2000	Fe410WA	IS: 2062	11.76				03
22	ROD $\phi 16 \times 425$	Fe410WA	IS: 2062	14.60				02
2	1SA 75X75X6TX6000L	Fe410WA	IS: 2062	81.60				01
				131.18				

SCALE	DRAWN	G.G.R
1:10	CHECKED	
	APPROVED	
	DATE	03/08/08

MACHINE:	TYPE:
GANTRY CRANE	20T/32M

TITLE:	DRAWING No:	Sheet No:	No of Sheets:
LADDER (FOR DSL)	3M02G0013606		

V V V