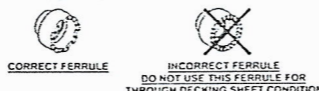



ENGINEERING ERECTION DRAWING

GENERAL NOTES

| GENERAL | DESIGN | FABRICATION | PANEL SPECIFICATIONS | MATERIAL SPECIFICATIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|---|---|-----|-----------------------|-------------------------|----------|---|------------------|---|----------------------------|---|--------------------|------------|----------------------------|---------|----------------------------|---|-------|--------------------|----------------------------|---|-------------------------------|--|----------------------------|---|-----------------|---|----------------------------|------------------------------------|----------------------------|---|--------------------------|--|----------------------------|---|---------|--------------------|-------------|------|----------------------------|---|-------------|-----------|----------------------------|------------------------------------|----------------------------|---|--------------------|--|----------------------------|----|----------|-----------------------------------|----------------------------|----|--------------|---------------------------|----------------------------|
| <p>1.1 All dimensions are in millimeters (mm) unless noted otherwise</p> <p>1.2 All connection bolts are High Strength Bolts with Hot Dipped Galvanized Finish fully threaded. Bolts to be lubricated and free from dust / debris. If the erector notices any lack of such lubrication, he is required to lubricate them at site before tightening.</p> <p>1.3 All bolted connections are classified to be in non-slip-critical category. For tightening of bolts refer erection notes drawing N01.</p> <p>1.4 It is the responsibility of the erector to ensure the correct type and size of bolt are used at correct location as per the erection drawings</p> <p>1.5 Bracing is to be installed as per the erection drawings and must remain tight during the life of the building.</p> <p>1.6 Additional bracings and guy ropes may be required during erection for stability of the structure during erection. It is the responsibility of the erector to determine the quantity of such bracing, and to procure, and install as required.</p> <p>1.7 Do not remove, change location or modify any bracings in the entire building without prior written consent of the Engineering Department at MBS.</p> <p>1.8 Girts will sag, use temporary supports to align girts before fixing wall panels.</p> <p>1.9 If the flange braces are required only on one side of the column / rafter the required gusset plates may be welded only on that side of the column / rafter.</p> <p>1.10 Sidewall and endwall girts are not designed to take any wind load from blockwork walls.</p> <p>1.11 Do not apply any live loads on the purlins before the sheeting is complete.</p> | <p>5.1 Design Loads: This building has been designed to support its own self weight plus all other loads as noted below. Live Load on Roof: 0.57 kN / m² Live Load on Frame: 0.57 kN / m² Wind Speed (3 second gust, Exp B): 130 km / hr (As per MBMA 2006) Importance Factor: 1.00 Seismic Load: Zone 1 UBC 1997 Rainfall Intensity: 200mm / hr Mezzanine Loads: Refer drawing no E06 & E07</p> <p>5.2 Design Codes: Following design codes are used in this building design. • AISC 360-2005 • AISI-2001 • AWS : D1.1/D1.1M, 2020 Edition</p> <p>5.3 Building Codes: Following building code is used in the design of its buildings. • MBMA : 2006 Edition</p> <p>5.4 Design Software: Metal Building Software and or Staad are used for the design of all type of Steel Buildings.</p> <p>5.5 Bolted connections: Bearing-type connections only, designed for actual design forces</p> <p>5.6 Minimum thickness: Considered in design are: Built-up Section: a) Minimum web thickness : 4mm b) Minimum flange thickness : 6mm Hot-Rolled Section: a) Minimum web thickness : 3mm b) Minimum flange thickness : 3mm Cold-Formed Section: a) Minimum Roof Purlin thickness : 1.5mm b) Minimum Wall Girt thickness : 1.5mm Miscellaneous: a) Purlin & Girt clips : 5mm</p> <p>5.7 Deflection limits: Considered in design are: For rafters: Span / 180 for LL Span / 120 for DL+LL For columns: Height / 100 for WL (Full Height Blockwall) For purlins: Span / 120 for DL+LL (or) DL + WL For Mezzanine: Joists & Beams: Span / 240 due to DL + LL & Span / 360 due to LL only</p> <p>5.8 The structure under this contract has been designed and detailed for the loads mentioned and shown on this sheet. Any alterations to the structural system or the removal of any components parts of the addition of other construction materials or loads must not be done without the prior consent of Engineering Department at MBS.</p> <p>5.9 For roof system resting on concrete columns, the stability of the reinforced concrete substructure is to be checked by civil contractor.</p> | <p>6.1 Continuous machine submerged arc weldings (SAW) meets the applicable requirements of the American Welding Society (AWS) D1.1/D1.1M.</p> <p>6.2 Web-to-flange welds are 'SINGLE' side fillet welds, and size of fillet welds are in accordance with the AWS D1.1 (Minimum Fillet Weld Size Table) unless noted otherwise.</p> <p>6.3 CJP quality welds shall have appropriate edge preparation for plates greater than 12mm thickness.</p> <p>6.4 In built-up member desired length of member are achieved by welding multiple pieces.</p> <p>6.5 The desired lengths of hot rolled sections are achieved by cutting from 12m long pieces or by perpetually welding pieces. Perpetual welds are full penetration butt welds.</p> <p>6.6 Hot Rolled members are cut to length and holes in them are punched or drilled using an automatic beam processor to produce semi fabricated members.</p> <p>6.7 Secondary members ("Z" purlins & girts, "C" channels and angles) are roll formed using galvanized coils.</p> <p>6.8 Electrodes Specifications: SAW Weld - Flange to Web - EM 12K 70 660PSI tensile strength. GMAW -Gusset Plate and clips and complete ER70S6-70,000 PSI tensile Strength. Design stress for fillet weld = 10.24 N/mm²</p> <p>6.9 Fabrication tolerances are followed as per Section 9 of MBMA-2012 Common Industry Practices</p> | <p>10.1 Roof Panel Specifications Single Skin = 0.5 mm Thk. Aluzinc Profile = M45-250 Finish = Polyester Colour = TBE</p> <p>10.2 Roof panels may be field cut to suit openings.</p> <p>10.3 Trims are provided in MBS standard lengths. The quantity of trims are provided to cover the required length using a 50 mm end laps. It may result in shortage of length if, this specified lap length is exceeded. If the lap length is reduced, there is possibility of leakage. Always cut any excess trim length at the end of trim line.</p> <p>10.4 Bead mastic must be placed carefully over the panel profile to avoid stretching.</p> <p>10.5 Downspout may be relocated at site if it required to avoid any obstruction with the wall accessories. Refer roof sheeting plan for location of downspouts.</p> <p>10.6 In order to provide a proper drainage at the location of the valley gutters, customer must provide suitable floor drainage system.</p> <p>10.7 Avoid stepping on the high rib of the panel during erection process, use wooden planks to span at least three purlins spacing and place it in the valley portion of the sheeting profile.</p> <p>10.8 Avoid stepping, walking or sitting on the skylights and roof curbs.</p> <p>10.9 To attain a good appearance and watertight finish, curved eave panels should be installed after careful and accurate alignment of the framing is completed. Correct lapping of wall, curved panel and roof panel is essential. Lapping and alignment of each run should be checked before final fastening.</p> <p>10.10 Valley gutters supplied by MBS are designed for normal environment conditions and provided routine maintenance is carried out, will perform satisfactorily. For severe environment and weather conditions, it is recommended to apply a protective coating system such as polyurethane or bituminous membranes by spray or brush. For extremely harsh conditions, neoprene or fiberglass lining may be provided.</p> <p>10.11 Wall panels may be field cut to suit openings.</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Structural Components</th> <th>Material Specifications</th> <th>Strength</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Built-up Section</td> <td>ASTM A572M Grade 430 T45 (EN 10025 S355 JR)</td> <td>Fy = 345 N/mm²</td> </tr> <tr> <td rowspan="2">2</td> <td rowspan="2">Hot Rolled Section</td> <td>I-sections</td> <td>Fy = 345 N/mm²</td> </tr> <tr> <td>Channel</td> <td>Fy = 345 N/mm²</td> </tr> <tr> <td>3</td> <td>Tubes</td> <td>ASTM A500M Grade B</td> <td>Fy = 315 N/mm²</td> </tr> <tr> <td>4</td> <td>Cold formed secondary members</td> <td>ASTM A653M S5 Grade 40 (EN 10143 S275)</td> <td>Fy = 275 N/mm²</td> </tr> <tr> <td rowspan="2">5</td> <td rowspan="2">Sheeting Panels</td> <td>Aluzinc coated steel Bare & Pre-painted</td> <td>Fy = 345 N/mm²</td> </tr> <tr> <td>Aluminum Mill finish & Pre-painted</td> <td>Fy = 145 N/mm²</td> </tr> <tr> <td>6</td> <td>Mezzanine Decking Panels</td> <td>ASTM A653M S5 Grade 40 (EN 10143 S275)</td> <td>Fy = 275 N/mm²</td> </tr> <tr> <td rowspan="2">7</td> <td rowspan="2">Bracing</td> <td>Diagonal "X" Cable</td> <td>Fy = 120 kN</td> </tr> <tr> <td>Rods</td> <td>Fy = 240 N/mm²</td> </tr> <tr> <td rowspan="2">8</td> <td rowspan="2">Anchor Bolt</td> <td>HR Angles</td> <td>Fy = 250 N/mm²</td> </tr> <tr> <td>ASTM A153A Grade 26 (EN 10204 2.6)</td> <td>Fy = 250 N/mm²</td> </tr> <tr> <td>9</td> <td>High Strength Bolt</td> <td>ASTM A325M Type 4 or equivalent (Fully Threaded)</td> <td>Fy = 850 N/mm²</td> </tr> <tr> <td>10</td> <td>Sag Rods</td> <td>ASTM A307M Grade 2 (EN 10002 2.2)</td> <td>Fy = 200 N/mm²</td> </tr> <tr> <td>11</td> <td>Flange Brace</td> <td>ASTM A36M (EN 10025 S275)</td> <td>Fy = 250 N/mm²</td> </tr> </tbody> </table> <p>Fy = Yield Strength. Fu = Ultimate Tensile Strength. Pu = Minimum Breaking Load</p> <p>Important Note:- Subject to market conditions and material availability, MBS reserves the right to substitute equivalent or better material.</p> | No. | Structural Components | Material Specifications | Strength | 1 | Built-up Section | ASTM A572M Grade 430 T45 (EN 10025 S355 JR) | Fy = 345 N/mm ² | 2 | Hot Rolled Section | I-sections | Fy = 345 N/mm ² | Channel | Fy = 345 N/mm ² | 3 | Tubes | ASTM A500M Grade B | Fy = 315 N/mm ² | 4 | Cold formed secondary members | ASTM A653M S5 Grade 40 (EN 10143 S275) | Fy = 275 N/mm ² | 5 | Sheeting Panels | Aluzinc coated steel Bare & Pre-painted | Fy = 345 N/mm ² | Aluminum Mill finish & Pre-painted | Fy = 145 N/mm ² | 6 | Mezzanine Decking Panels | ASTM A653M S5 Grade 40 (EN 10143 S275) | Fy = 275 N/mm ² | 7 | Bracing | Diagonal "X" Cable | Fy = 120 kN | Rods | Fy = 240 N/mm ² | 8 | Anchor Bolt | HR Angles | Fy = 250 N/mm ² | ASTM A153A Grade 26 (EN 10204 2.6) | Fy = 250 N/mm ² | 9 | High Strength Bolt | ASTM A325M Type 4 or equivalent (Fully Threaded) | Fy = 850 N/mm ² | 10 | Sag Rods | ASTM A307M Grade 2 (EN 10002 2.2) | Fy = 200 N/mm ² | 11 | Flange Brace | ASTM A36M (EN 10025 S275) | Fy = 250 N/mm ² |
| No. | Structural Components | Material Specifications | Strength | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Built-up Section | ASTM A572M Grade 430 T45 (EN 10025 S355 JR) | Fy = 345 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Hot Rolled Section | I-sections | Fy = 345 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Channel | Fy = 345 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Tubes | ASTM A500M Grade B | Fy = 315 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Cold formed secondary members | ASTM A653M S5 Grade 40 (EN 10143 S275) | Fy = 275 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Sheeting Panels | Aluzinc coated steel Bare & Pre-painted | Fy = 345 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Aluminum Mill finish & Pre-painted | Fy = 145 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Mezzanine Decking Panels | ASTM A653M S5 Grade 40 (EN 10143 S275) | Fy = 275 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Bracing | Diagonal "X" Cable | Fy = 120 kN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Rods | Fy = 240 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Anchor Bolt | HR Angles | Fy = 250 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | ASTM A153A Grade 26 (EN 10204 2.6) | Fy = 250 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | High Strength Bolt | ASTM A325M Type 4 or equivalent (Fully Threaded) | Fy = 850 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Sag Rods | ASTM A307M Grade 2 (EN 10002 2.2) | Fy = 200 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Flange Brace | ASTM A36M (EN 10025 S275) | Fy = 250 N/mm ² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>BLOCKWALL</p> <p>2.1 Construction of blockwork is the responsibility of the civil contractor. It is assumed that the blockwalls are self supporting.</p> <p>2.2 MBS recommends that the Civil Contractor construct a 20cm x 20cm concrete column at each steel column (and in between steel columns for very long bay lengths) adding a concrete coping beam on the top of the blockwall (and intermediate horizontal concrete beams if the blockwall is very high) to stabilize the blockwall.</p> <p>2.3 When the block wall condition is flush type at Side Interior (Partition / End wall, then Civil contractor must tie steel columns to blockwork (not by MBS) at locations shown on the erection drawings using tie clips provided by MBS and 12mm tie rods (by Civil Contractor).</p> <p>2.4 Before the construction of blockwork, civil contractor should ensure that all the flange braces for main frames and endwall columns are in place and fixed to the sidewall and endwall girts.</p> | <p>5.8 The structure under this contract has been designed and detailed for the loads mentioned and shown on this sheet. Any alterations to the structural system or the removal of any components parts of the addition of other construction materials or loads must not be done without the prior consent of Engineering Department at MBS.</p> <p>5.9 For roof system resting on concrete columns, the stability of the reinforced concrete substructure is to be checked by civil contractor.</p> | <p>SURFACE PREPARATION & PAINTING</p> <p>7.1 All built-up and hot rolled members are Sweep Blast to Swedish Standard SA 1.0</p> <p>7.2 All built-up and hot rolled sections are applied with following paint at the shop: 50(microns) Quick Dry Alkyd Primer(Grey), Color: (Grey Oxide)</p> | <p>ERECTION</p> <p>8.1 The building must be erected according to MBS Engineering Drawings issued for construction using safe erection practices. Please refer erection notes drawing.</p> <p>8.2 SHEAR STUD (wherever applicable) Shear studs to be welded at site (erector) by using shear stud welding guns only and use proper ferrule for intended purpose. (refer image shown below)</p> <p>a) For Through decking steel b) For direct on steel beam/post</p> <div style="text-align: center;">  <p>CORRECT FERRULE INCORRECT FERRULE DO NOT USE THIS FERRULE FOR THROUGH DECKING SHEET CONDITION</p> </div> | <p>FOUNDATIONS & EMBEDMENTS</p> <p>9.1 The Customer or his Consultant is responsible for design & construction of foundations which support the steel structure of this building.</p> <p>9.2 MBS assumes the Compressive strength of concrete, Fc = 25 N/mm²</p> <p>9.3 Foundation shall be designed and constructed based on MBS provided column reactions and RC pedestal minimum size requirement.</p> <p>9.4 Reactions force are in Kilo-Newton (kN) and Moments in Kilo-Newton Meter (kNm) units.</p> <p>9.5 Bracing reactions should be added to the main frame reactions.</p> <p>9.6 The customer / contractor is responsible for locating the building lines and bench marks at the site. Under no circumstance should the Customer or his Civil Contractor use the approval drawings as guide for the placement of anchor bolts. Anchor bolt installation to be carried out as per issued for construction anchor bolt drawing</p> <p>9.7 The area and depth of pedestal necks must be large enough to accommodate the embedment length and the L shape of MBS anchor bolts.</p> <p>9.8 The preferred edge distance of 6 times the diameter of the anchor bolt need to be maintained from the center of anchor bolt to the edge of the footing. However this can be reduced by providing necessary steel reinforcement in the concrete around the anchor bolts as per ACI.</p> <p>9.9 50mm thick non shrinkable grout to be provided under the base plate by civil contractor.</p> <p>9.10 Anchor bolt must be set straight and to the given dimensions and the projections with a minimum of 5mm tolerances.</p> <p>9.11 Anchor bolt threads must be protected while pouring the concrete and must be thoroughly cleaned, and the templates are to be removed after pouring concrete</p> <p>9.12 The concrete edge beam/slab must be square and level to within 5mm tolerances.</p> <p>9.13 The following are maximum allowable tolerances for setting up the anchor bolts: - ± 2 mm between any two anchor bolts in any anchor bolt group - ± 3 mm between any two adjacent anchor bolt groups - ± 5 mm for the top of anchor bolts.</p> <p>9.14 All the anchor bolts must be set perpendicular to the theoretical bearing surface unless noted otherwise.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>MEZZANINE</p> <p>3.1 Mezzanine floor is designed for concrete slab of thickness 125 mm. The slab thickness includes the depth of decking panel.</p> <p>3.2 MBS is not responsible for the design of the concrete slab, its steel reinforcement / wire mesh, this must be designed by a Qualified Civil Engineer in accordance with the appropriate local governing building codes.</p> <p>3.3 The concrete slab should be designed to carry the dead load and the full live load and any additional floor finish loads.</p> <p>3.4 The mezzanine decking panel is designed to carry only the self weight of the concrete slab and an additional working load of 50 kg/m².</p> <p>3.5 Concentrated loads due to storage of materials and heaping of concrete during casting of slab should be avoided.</p> <p>3.6 Small openings in the mezzanine slabs between steel joists can be made without affecting the steel mezzanine framing. Proper reinforcement around the openings should be provided in the slab.</p> <p>3.7 Mezzanine joists, beams and columns are not designed to carry any block wall load unless noted. Before the erection of mezzanine floor, all the flange braces for the main frame / end wall columns / beams must be fixed.</p> <p>3.8 If mezzanine slab is with a precast hollow core slab, MBS supply for the mezzanine system includes mezzanine main beams and support columns only. Manufacturer of precast panel slabs must provide proper fixing of slabs to mezzanine beams, so as to provide adequate lateral bracing to mezzanine beams at the interval spacing not exceeding 1500 mm on centers. In the absence of this lateral support the mezzanine main beams may fail due to lateral buckling.</p> | <p>5.8 The structure under this contract has been designed and detailed for the loads mentioned and shown on this sheet. Any alterations to the structural system or the removal of any components parts of the addition of other construction materials or loads must not be done without the prior consent of Engineering Department at MBS.</p> <p>5.9 For roof system resting on concrete columns, the stability of the reinforced concrete substructure is to be checked by civil contractor.</p> | <p>FOUNDATIONS & EMBEDMENTS</p> <p>9.1 The Customer or his Consultant is responsible for design & construction of foundations which support the steel structure of this building.</p> <p>9.2 MBS assumes the Compressive strength of concrete, Fc = 25 N/mm²</p> <p>9.3 Foundation shall be designed and constructed based on MBS provided column reactions and RC pedestal minimum size requirement.</p> <p>9.4 Reactions force are in Kilo-Newton (kN) and Moments in Kilo-Newton Meter (kNm) units.</p> <p>9.5 Bracing reactions should be added to the main frame reactions.</p> <p>9.6 The customer / contractor is responsible for locating the building lines and bench marks at the site. Under no circumstance should the Customer or his Civil Contractor use the approval drawings as guide for the placement of anchor bolts. Anchor bolt installation to be carried out as per issued for construction anchor bolt drawing</p> <p>9.7 The area and depth of pedestal necks must be large enough to accommodate the embedment length and the L shape of MBS anchor bolts.</p> <p>9.8 The preferred edge distance of 6 times the diameter of the anchor bolt need to be maintained from the center of anchor bolt to the edge of the footing. However this can be reduced by providing necessary steel reinforcement in the concrete around the anchor bolts as per ACI.</p> <p>9.9 50mm thick non shrinkable grout to be provided under the base plate by civil contractor.</p> <p>9.10 Anchor bolt must be set straight and to the given dimensions and the projections with a minimum of 5mm tolerances.</p> <p>9.11 Anchor bolt threads must be protected while pouring the concrete and must be thoroughly cleaned, and the templates are to be removed after pouring concrete</p> <p>9.12 The concrete edge beam/slab must be square and level to within 5mm tolerances.</p> <p>9.13 The following are maximum allowable tolerances for setting up the anchor bolts: - ± 2 mm between any two anchor bolts in any anchor bolt group - ± 3 mm between any two adjacent anchor bolt groups - ± 5 mm for the top of anchor bolts.</p> <p>9.14 All the anchor bolts must be set perpendicular to the theoretical bearing surface unless noted otherwise.</p> | <p>MEZZANINE</p> <p>3.1 Mezzanine floor is designed for concrete slab of thickness 125 mm. The slab thickness includes the depth of decking panel.</p> <p>3.2 MBS is not responsible for the design of the concrete slab, its steel reinforcement / wire mesh, this must be designed by a Qualified Civil Engineer in accordance with the appropriate local governing building codes.</p> <p>3.3 The concrete slab should be designed to carry the dead load and the full live load and any additional floor finish loads.</p> <p>3.4 The mezzanine decking panel is designed to carry only the self weight of the concrete slab and an additional working load of 50 kg/m².</p> <p>3.5 Concentrated loads due to storage of materials and heaping of concrete during casting of slab should be avoided.</p> <p>3.6 Small openings in the mezzanine slabs between steel joists can be made without affecting the steel mezzanine framing. Proper reinforcement around the openings should be provided in the slab.</p> <p>3.7 Mezzanine joists, beams and columns are not designed to carry any block wall load unless noted. Before the erection of mezzanine floor, all the flange braces for the main frame / end wall columns / beams must be fixed.</p> <p>3.8 If mezzanine slab is with a precast hollow core slab, MBS supply for the mezzanine system includes mezzanine main beams and support columns only. Manufacturer of precast panel slabs must provide proper fixing of slabs to mezzanine beams, so as to provide adequate lateral bracing to mezzanine beams at the interval spacing not exceeding 1500 mm on centers. In the absence of this lateral support the mezzanine main beams may fail due to lateral buckling.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

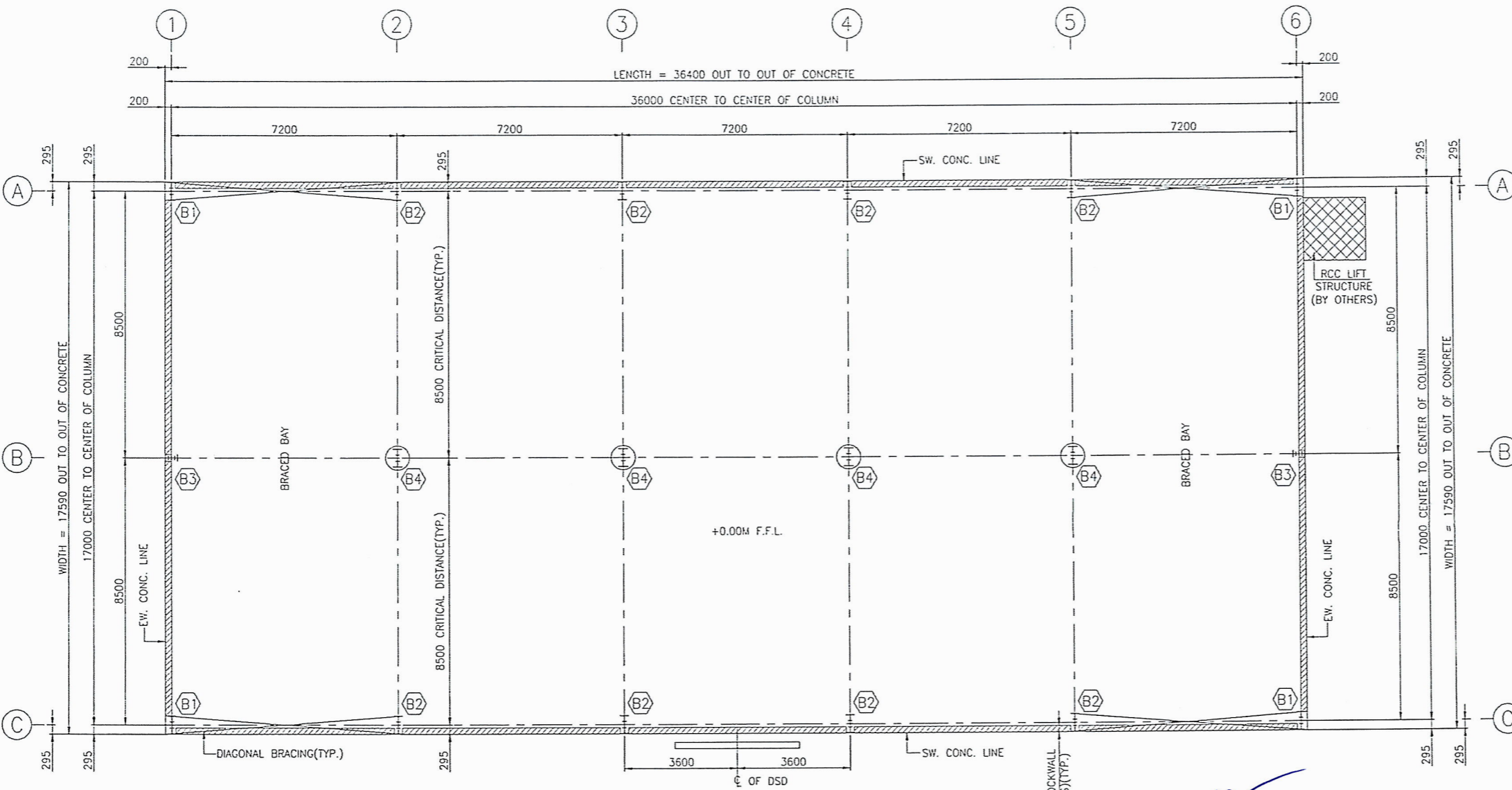
| DRAWING INDEX | | | | |
|---------------|------------------------------------|--------------|----------|-----|
| DRG | TITLE | PURPOSE | DATE | REV |
| D000 | NOTES & INDEX SHEET | CONSTRUCTION | 23-12-24 | 0 |
| F01 | ANCHOR BOLT SETTING PLAN & DETAILS | CONSTRUCTION | 23-12-24 | 1 |
| F02 | REACTIONS | CONSTRUCTION | 23-12-24 | 1 |



| | | | | | | |
|---|----------|-------------------------|-----|-----------|-----|-----|
| 0 | 23 12 24 | ISSUED FOR CONSTRUCTION | IRE | SKU | RKP | SAX |
| NO. | DATE | DESCRIPTION | DSN | DRY | CHK | APD |
| PROJECT: Warehouse Tanzania | | | | | | |
| STEEL CONTRACTOR | | | | | | |
|  | | | | | | |
| P.O. Box 41668 HFZ - Sharjah - U.A.E E-mail : sales@mbs.ae Website : www.mbs.ae Head Office & Plant Phone : 009716 514 9999 Fax : 009716 514 9993 | | | | | | |
| JOB NUMBER BUILDING NO | | DRAWING NO | | | | |
| T2-789 B01 | | DG00 | | | | |
| DRAWING TITLE | | | | FILE NO | | |
| NOTES & INDEX SHEET | | | | 78901DG00 | | |

General Notes

1. All dimensions are in millimeters (mm) (UNO)



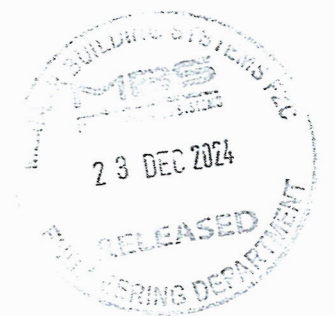
ANCHOR BOLT SETTING PLAN

DSD :- DENOTES DOUBLE SLIDING DOOR OF SIZE 4000(W)x4000(H) - 1NO.

⊕ :- DENOTES MEZZANINE COLUMNS



FOR CONSTRUCTION



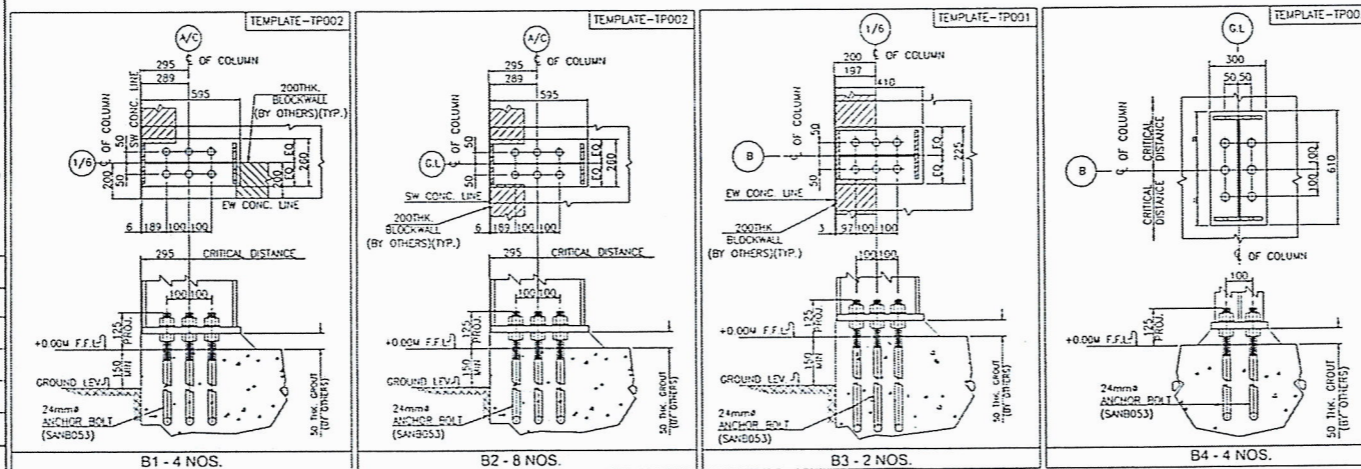
ANCHOR BOLT ASSEMBLY.

LEGEND:-
 QTY - QUANTITY
 T - THREAD BOLT PROJECTION
 E - UNHEADED STRAIGHT LENGTH
 L - VERTICAL LENGTH
 X - HOOK LENGTH
 Lc - OVERALL LENGTH
 Wt - WEIGHT
 R - BEND RADIUS
 Lc - CENTERLINE LENGTH

NOTE:-
 EACH SUPPLIED ASSEMBLY CONSISTS OF
 1- 1" SHARPED ANCHOR BOLT
 2- HEXAGONAL NUTS AND
 1- WASHER

| PART MARK | DIAMETER (D) | QTY | T (mm) | E (mm) | L (mm) | X (mm) | Lc (mm) | Wt (kg) | R (mm) | Lc (mm) |
|-----------|--------------|-----|--------|--------|--------|--------|---------|---------|--------|---------|
| SANB051 | 16 mm | 00 | 100 | 275 | 375 | 120 | 495 | 0.828 | 40 | 458 |
| SANB052 | 20 mm | 00 | 150 | 300 | 450 | 175 | 625 | 1.599 | 50 | 579 |
| SANB053 | 24 mm | 108 | 150 | 375 | 525 | 205 | 730 | 2.746 | 60 | 675 |
| SANB054 | 30 mm | 00 | 200 | 550 | 750 | 265 | 1015 | 5.778 | 75 | 946 |
| SANB055 | 36 mm | 00 | 200 | 850 | 1050 | 295 | 1345 | 11.112 | 90 | 1262 |

ANCHOR BOLT SCHEDULE



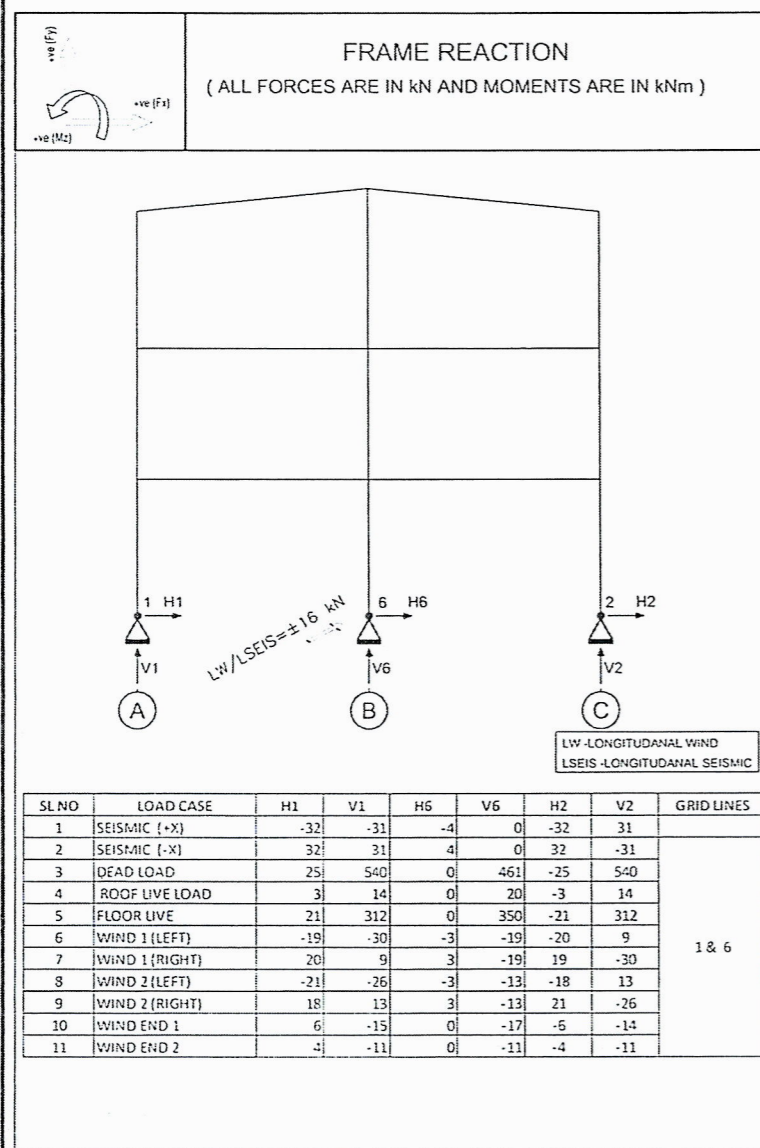
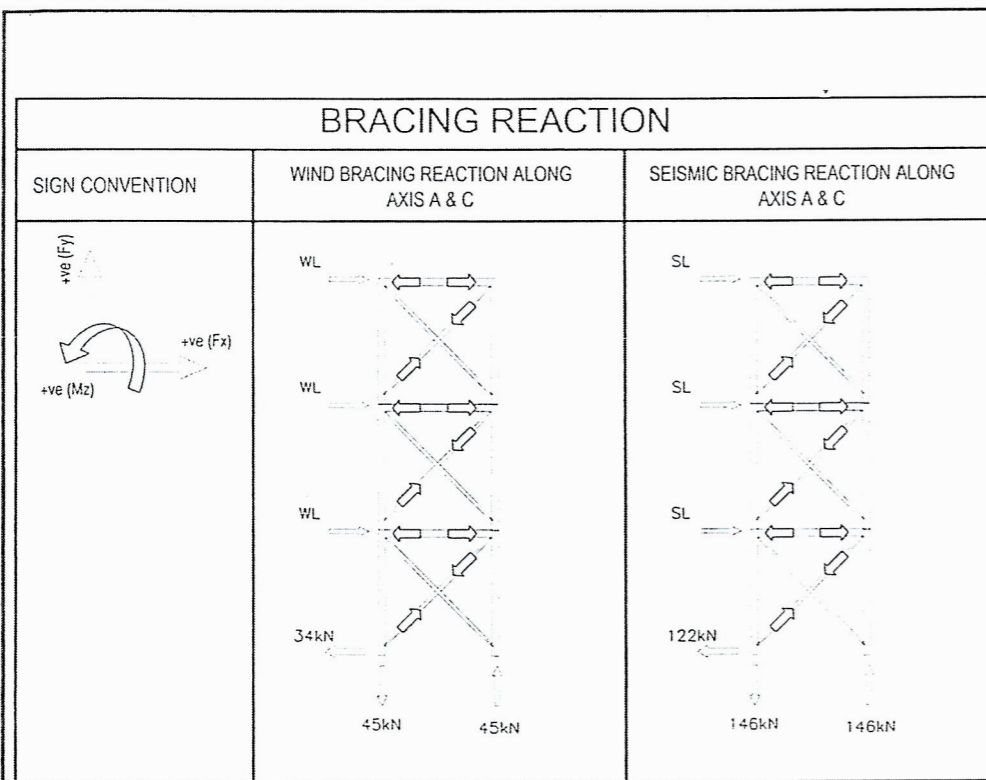
| | | | | | | |
|-----|----------|-------------------------|-----|-----|-----|-----|
| 1 | 23 12 24 | ISSUED FOR CONSTRUCTION | IRE | SKU | RKP | SAK |
| 0 | 05 12 24 | ISSUED FOR APPROVAL | IRE | FKP | TVG | SAK |
| NO. | DATE | DESCRIPTION | DSN | DRN | CHK | APD |

PROJECT: Warehouse Tanzania

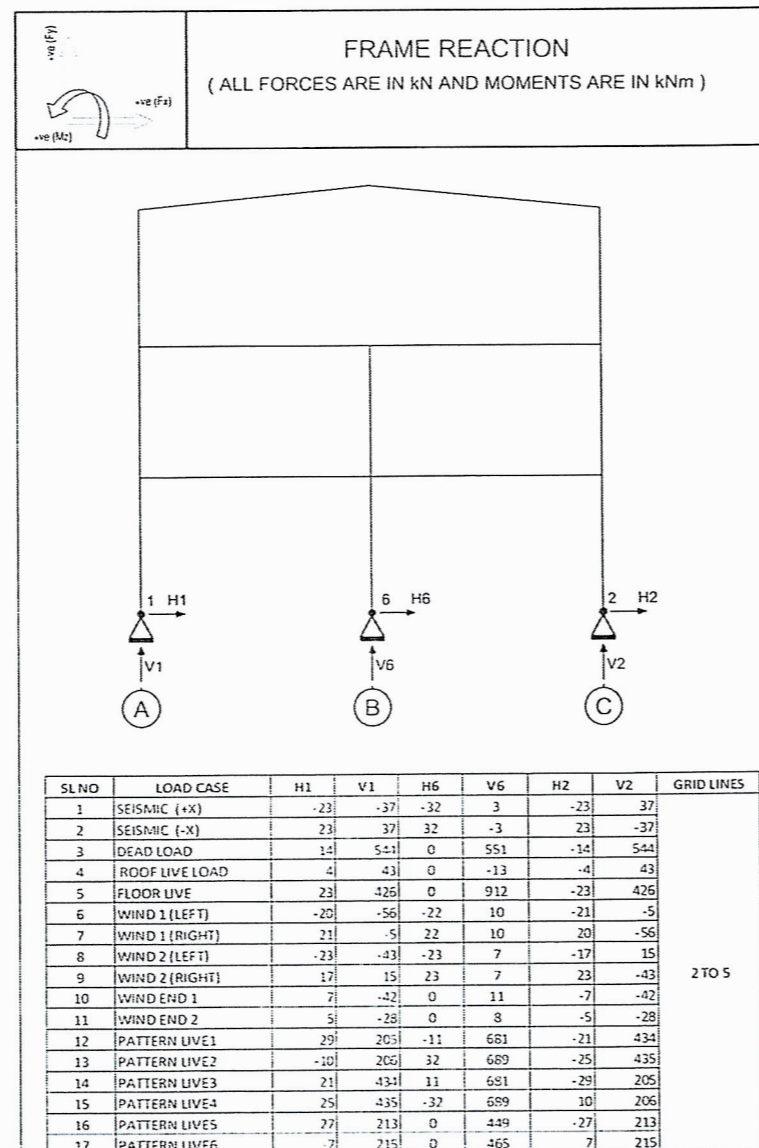
STEEL CONTRACTOR:

P.O. Box 41668
 HFZ - Sharjah - U.A.E.
 E-mail : sales@mbs.ae
 Website : www.mbs.ae
 Head Office & Plant
 Phone : 009716 514 9599
 Fax : 009716 514 9593

| | | |
|------------------------------------|-------------|------------|
| JOB NUMBER | BUILDING NO | DRAWING NO |
| 12.7689 | B01 | F01 |
| DRAWING TITLE | | FILE NO |
| ANCHOR BOLT SETTING PLAN & DETAILS | | 7853301F01 |



This frame is designed for half bay loading only with EW column as a part of main frame
 Dead loads includes mezzanine dead loads
 Foundations shall be designed for the given reactions as a minimum.



Dead loads includes mezzanine dead loads
 Foundations shall be designed for the given reactions as a minimum.

General Notes
 1. All dimensions are in millimeters (mm) (UNO)

FOR
CONSTRUCTION



| NO. | DATE | DESCRIPTION | DSN | DRN | CHK | APD |
|-----|----------|-------------------------|-----|-----|-----|-----|
| 1 | 23.12.24 | ISSUED FOR CONSTRUCTION | IRE | SKU | RKP | SAK |
| 0 | 09.12.24 | ISSUED FOR APPROVAL | IRE | FKP | TVG | SAK |

PROJECT: Warehouse Tanzania

STEEL CONTRACTOR: MBS ENGINEERING DEPARTMENT

P.O. Box 41668
 HFZ - Shaurah - U.A.E
 E-mail : sales@mbs.ae
 Website : www.mbs.ae
 Head Office & Plant
 Phone : 009716 514 9999
 Fax : 009716 514 9933

| JOB NUMBER | BUILDING NO | DRAWING NO |
|---------------|-------------|---------------------|
| TZ-7883 | B01 | F02 |
| DRAWING TITLE | | REACTIONS |
| | | FILE NO. 7885001F02 |