







1 General

- 1.2 This general notes document is a part of each design drawings even if it is not referred to, on them.
- 1.3 All structural work and material shall conform to the requirements of all job specifications as well as the standard drawings.
- 1.4 Unless otherwise noted, all dimensions & sizes are in millimeters and all coordinates and levels are in meters.
- 1.5 Do not scale from drawings; all dimensions should be read or computed.
- 1.6 All dimensions shall be checked by contractor before start of any construction work.
- 1.7 Civil and structure drawings shall be conducted with mechanical, piping, electrical and other discipline drawings before construction and deviations shall be announced to the engineer.
- 1.8 Where actual conditions conflict with the drawings, they shall be reported to the field engineer/consultant so that proper revision may be made. Field modification of details shall not be made without prior written approval of field engineer/consultant.
- 1.9 The following abbreviations have been used in the drawings:

| | | | | | |
|--------|----------------------|--------|----------------------------|--|-------------------------------|
| B.O. | Bottom of ... | STD. | Standard |  | SAND GRAVEL & CORBEL CEMENTED |
| B.O.C | Bottom of Concrete | Stiff. | Stiffener |  | COMPACTED GRAVEL |
| B.O.F | Bottom of Foundation | S.T. | Snug Tight Bolt Connection |  | MAIN CONCRETE |
| B.P. | Base Plate | ST. | Steel |  | LEAN CONCRETE |
| C.C. | Center to Center | THK. | Thickness |  | STEEL PLATE |
| Contc. | Concrete | T.O. | Top of... |  | GROUND |
| No. | Number | T.O.F | Top of Foundation | | |
| NTS | Not to Scale | T.O.PL | Top of Plate | | |
| OVS. | OVER SIZE | T.O.B | Top of Beam | | |
| Ped. | Pedestal | T.O.S | Top of Slab | | |
| PL. | Plate | Typ. | Typical | | |
| PT. | PRE TENSION BOLT | VAR | Variable | | |

2 Steel works

- 2.1 Following codes and specifications are dominant for design and fabrication of structural steel (editions are specified in contract):
- Iranian National Building Code, Part 10.
 - AISC
 - American Welding Code.
 - Iranian National Welding Code.

- 2.2 Unless otherwise noted on drawings, Mild steel grade ST37-2 with minimum yield point strength of $F_y=2400$ kg/cm² in accordance with ASTM A36M or approved equivalent shall be used in all structural steel parts.
- 2.3 All steel parts shall be galvanized or coated with paint in accordance with project specifications.
- 2.4 Lower part of columns that will be buried in the soil shall be protected by two layer gunny and three layer of bitumen.

- 2.5 Structural components that are in direct contact with the soil shall be protected according to drawings, in case of loose of detail, they shall be coated with a layer of insulation.
- 2.6 All steel sheet cuttings required for the fabrication of plate girders and columns with less than 12 mm. thickness, should be cut by shear.
- 2.7 High strength structural hexagonal bolts shall be according to ASTM A490 (or 10.9 according to ISO), ASTM A325/A325M (or 8.8 according to ISO) and ordinary bolts shall be according to ASTM A307 (or 4.5 according to ISO). Unless otherwise noted on drawings, ASTM A490 bolts type shall be considered for all connections
- 2.8 All bolts have to be tightened as pretension type, unless otherwise noted in the drawings.
Pretension bolts have to be tightened as pretension type. Snug-tight (S.T.) shall not be pretensioned.
- 2.9 Minimum pretension force in bolts is equal to $T_b = 0.55 A_b F_u$ (A_b = area of the bolts and F_u = ultimate strength of bolts) by one of the following methods:
 - Turn-of-nut tightening
 - Calibrated wrench tightening
 - Direct tension indicator tightening

- 2.11 The length of bolts shall be such that the end of the bolt will be 0.5db project beyond the face of the nut, when properly installed. (db is bolt diameter).
- 2.12 Irrespective of the tightening method, hardened washers must be used under both the head and the nut of high strength bolts.
- 2.13 Steel connection bolt hole's diameter shall be 2mm. larger than corresponding bolt size. (It is not applicable for anchor bolt). Standard(STD) and Over-size(OVS) hole type shall be in accordance with Iranian building code number 10
- 2.14 Holes may be punched, sub-punched (db-2) and reamed or drilled. Use of thermal cutting in making of bolt holes is not permitted.
- 2.15 All connection shall be with one nuts and washer. pretension bolts shall have one nut and washer in each side
- 2.16 All nuts and washer shall be hot dip galvanized (at least 40u) and shall be pre-assembled and oiled.
- 2.17 Contractor shall prepare WPS for engineer approval prior to welding.
- 2.19 Otherwise specified in the drawings, the welding electrodes for all welds (fillet and groove weld) are type E70XX according to AWS A5.1. That XX will be chosen according to welding condition.
- 2.20 All welding shall be in accordance with the latest edition of AWS D1.1 code.
- 2.21 All welding workmanship, technique, qualification and testing shall conform to AWS specifications.
- 2.22 Minimum size of fillet welds shall be checked as specified in below table according to material thickness of thicker part jointed:

| Thicker part jointed (mm) | Minimum size of fillet weld (mm) | Maximum size of fillet weld |
|------------------------------|-------------------------------------|--------------------------------|
| To 7 | 3 | Thinner part thickness (mm) |
| Over 7 to 12 | 5 | Thinner part thickness - 2 |
| Over 12 to 20 | 6 | |
| Over 20 | 8 | |

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|---------------------------|--------------|-----------------|-----------|-------------|----------------|---------------|-----------------|------------|----------|--|--|--|--|
| Client | Contractor | | | | | | | | | | | | |
| Client # | Project Code | Main Contractor | Area Code | Plant Group | Equipment Code | Document Type | Eng. Discipline | Serial No. | | | | | |
| GISD | 7-2 | 119 | 1003 | 7 | AA | 04 | S | 101 | | | | | |
| Serial No. | DATE | designations | | | | | | | | | | | |
| AREA 350 / PIPE RACK AREA | | | | | | | | | | | | | |
| GENERAL NOTE (1 OF 2) | | | | | | | | | | | | | |
| DESIGNED | APPROVED | Drawing No. | | | | | | | | | | | |
| PER2002 | H. ALWAFI | SPR 2015 | | | | | | | | | | | |
| PER2002 | SAAD HANZ | SPR 2015 | | | | | | | | | | | |
| APPROVED | SAAD HANZ | SPR 2015 | | | | | | | | | | | |
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