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On-Site Column Erection

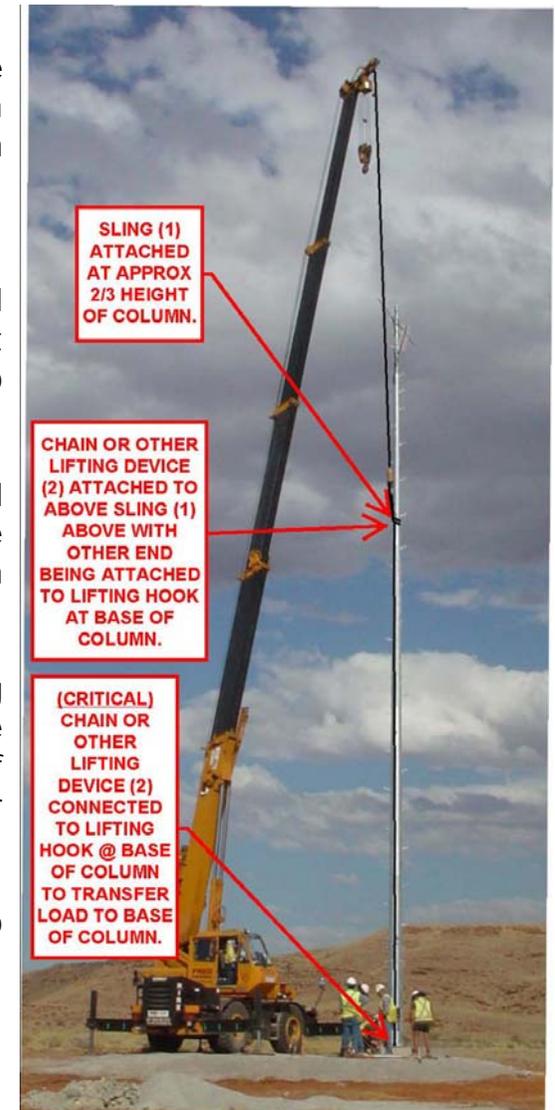
This procedure is for columns that are baseplate mounted for securing onto ragbolt footings. If the column foundation is supplied by others, it is important to ensure that they are constructed in accordance with the applicable Standards to ensure that the foundation is appropriate to the column designs parameters.

Ensure that the bolt threads are free of egress such as cement from the concrete foundation pour. Each bolt thread will have two nuts and two washers. For four bolt arrangements, ensure that all the lower nuts are screwed down to a level base to which the column will be fixed ensuring that they are clear from the concrete by approximately 30mm. Then place one of the two washers onto each of the bolt threads.

For ragbolt arrangements with greater than four bolts, adjust two pair of nuts diametrically opposed at 90 degrees so that they are 10mm higher than the remainder and level with each other. These four nuts will provide a means of obtaining vertical plumbing of the column. (Please see diagram below).

Ensure that the column crossarm / headframe, light fittings, other accessories or operating equipment are fitted to the column prior to erection. Mark the baseplate and foundation to ensure that the crossarm / headframe, lighting or other operating equipment are correctly orientated. If necessary, rotate the column on it's packing, prior to lifting to facilitate the orientation. After erection, a cherry picker will be required to fit these items in their correct position.

It is important to note that with the Mid-Hinged Columns, the accessories must be fitted prior to column erection in order to have the column in balance.





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A sling or chain should be attached around the column approximately two-thirds up to ensure that when the load is released, the sling or chain will loosen and lower under its own weight. **(Sling 1)** This sling or chain must have another chain or lifting device connected to it, **(Sling 2)** which has the other end connected to the lifting hook at the base of the column. This is **crucial** and will prevent the column coming apart while lifting and will transfer the load to the base of the column. **DANGER: Under no circumstances should the column be lifted from the top section(s) as this will cause the column sections to separate and bend.**

All lifting equipment must be checked for its capacity and adequacy for the mass of the respective column prior to lifting.

Using a crane with an adequate lifting capacity, slowly lift the column into position, placing the base onto the ragbolts, ensuring that the column orientation is correct with the lights or other attachments facing in the right direction.

For larger columns, it may be necessary to use a small mobile crane as in the diagram below, to tail in the base end of the column as the main crane is lifting the column. This will avoid the baseplate dragging on the ground and maintain control of the base, until the column is held in a vertical position by the main lifting crane.

Slowly lower the base onto the ragbolts ensuring that the threads are not damaged and that there are no obstructions under the base. Eg. Draw wires from the electrical conduits. For four bolt arrangements, once the column is in its correct position, fit the remaining washers and nuts. Each thread should have one washer and one nut on top of the base plate. Screw all the nuts down to the base of the column then tighten each nut with an adequate tightening device.

For ragbolt arrangements with greater than four bolts, plumb the column using the adjusting nuts that were previously screwed up 10mm higher than the other nuts. When the column is in a vertical,



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level position, tighten up all nuts to the underside of the base and then tighten down all nuts above the baseplate.

Remove the lifting load from the column and retrieve the lifting device. Tighten all top nuts down onto the baseplate with an adequate tightening device.

Grout under the baseplate with an adequate non-shrink construction grout, ensuring not to contaminate the bolt threads and to install adequate drain pipes if required.

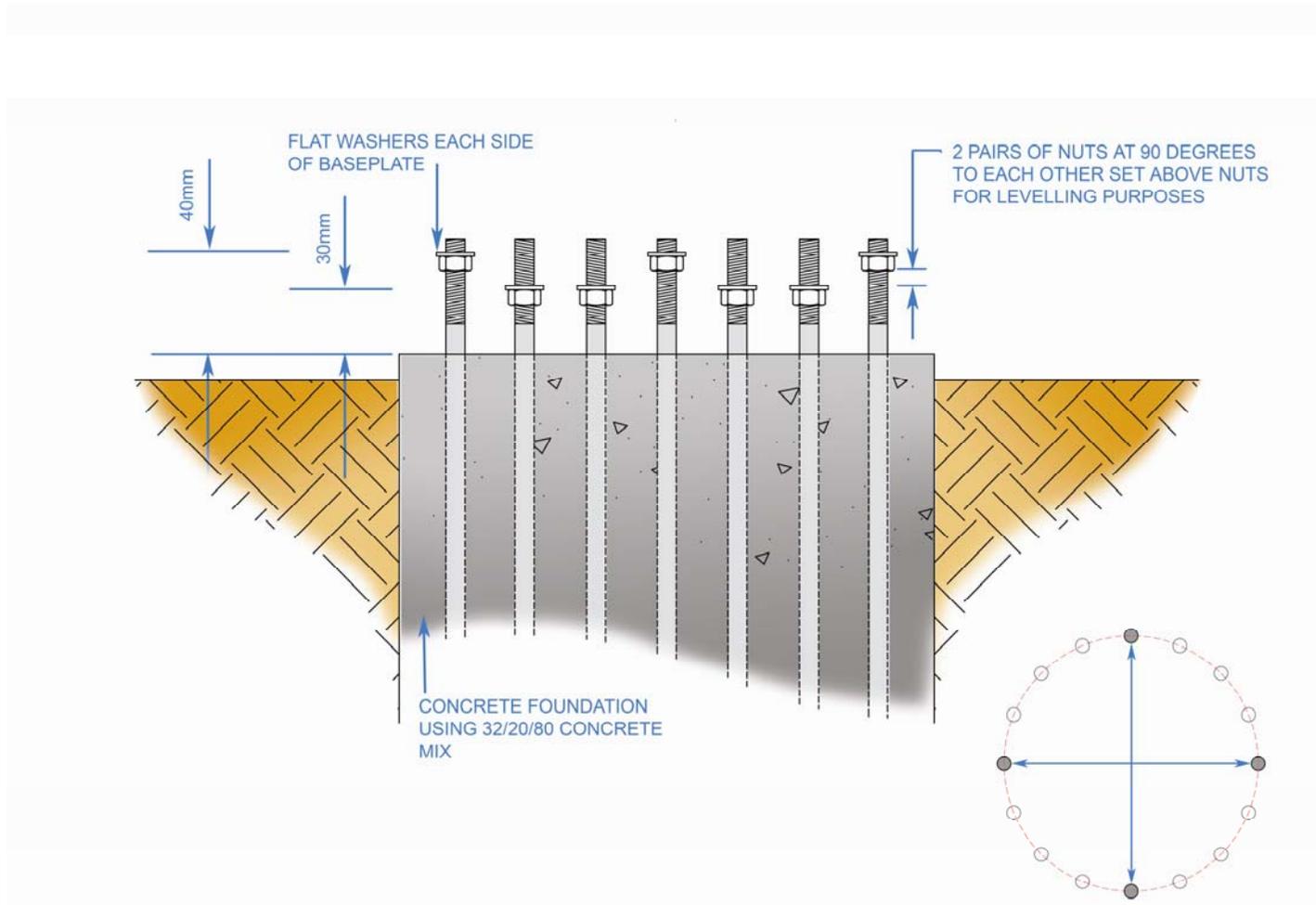
These instructions are provided as a recommended guide only and are to be followed in conjunction with any current site and safe working / Worksafe regulations. It is the contractor's responsibility to contact G&S if any doubt exists when following this procedure or to source any additional information required to ensure the safe erection of the column.

If required, G&S can provide this service at competitive rates.

Please see next two pages for Levelling Preparation and Column Erection Diagram.



Levelling Preparation





Column Erection Procedure

