AFM R-Control® ULTRASCREEN™
Sight and Sound Barrier System

Typical Erection Procedure:

NOTE: The following procedure is intended to illustrate a typical erection sequence for the ULTRASCREEN™ System. The example assumes typical 6.625" x 4'-0" x 11'-10.5" panels, a total stacked panel wall height of 16', and wide flange steel columns spaced 12"-0" o/c. The columns may be either surface mounted (bolted to foundation via base plate) or embedded into the foundation. The design and erection of the system for any given installation will be governed by a number of project specific factors - such as the design wind load, local soil conditions, available equipment, local regulations, etc. This procedure should therefore be modified as needed by the project engineer of record before being used for an actual installation.

Requirements:

Equipment - The weight of a typical 6.625" x 4' x 11'-10.5" ULTRASCREEN™ panel is approximately 450 lbs. Lifting equipment (crane, boom truck, etc.) with this allowable lifting capacity would be required for panel installation. The weight of the column will obviously depend on the column material, cross section, and length. The column length will be governed by both the wall height and whether the surface mounted or embedded option is used.

Access - Working space requirements for erection will depend on the configuration and reach of the lifting device. Due to the light weight of the panel, it is expected that panels could be installed from either side of the wall with minimal working space required. Since the maximum individual panel height is 4', a vertical clearance of approximately 6' above the top of the columns will be required for panel installation.

Cutting - The ULTRASCREEN™ panels may be field cut if necessary using a portable circular saw with a carbide blade. Due to the panel thickness, cuts may be required from each side. Accurate alignment of the cut is required in this case to ensure a smooth edge. The exposed foam at the cut edge must be treated with two coats of weather proof coating (equal or similar to ALLGUARD weather resistive coating, manufactured by Dow Corning).

Erection Steps:

1. Mark the line of the proposed ULTRASCREEN™ wall via survey. Mark proposed column locations 12'-0" o.c.

2. Excavate a continuous trench approximately 3'-0" wide along the line of the proposed ULTRASCREEN™ wall. Depth of excavation should be slightly below the top of concrete mark at each column location.

3. Excavate column foundations by drilling to the depth and diameter shown on the project drawings. Provide bracing as required to maintain lateral stability of excavation.

4. Deposit a 6" gravel base into each footing excavation. If Step # 6 below is used, steel reinforcement per the structural specifications of the Engineer of record shall be installed prior to the concrete pour. Pour concrete to top of concrete mark using concrete mix with minimum 3500 psi 28 day compressive strength.

5. If embedded column option is used: Set column immediately full depth into footing and brace to ensure plumbness in two perpendicular directions. Column should be centered in footing and bottom of column should rest on gravel base. Orient column so that flanges are parallel to line of the proposed ULTRASCREEN™ wall. The column should be fabricated with a panel seat angle (see step 10) bolted or welded to the web. The column height should be 16'-0" from seat angle to top of column, and 16'-4" from top of concrete to top of column. Verify that columns are spaced 12'-0" $\pm$ 1/2".

6. If surface mounted option is used: For this option, column should be fabricated with a panel seat angle (see step 10), and with a welded base plate to allow for surface mounting to the concrete foundation. Set four threaded anchor rods immediately into concrete. Size of steel reinforcement, base plate and anchor rods should be based on design wind loads and site soil conditions shown on project drawings. Mask exposed portion of rods by taping to prevent concrete from attaching to threads. Ensure rods are plumb and that sufficient threaded length extends from top of concrete to allow attachment of base plate. Verify that center of rod clusters are spaced 12'-0" $\pm$ 1/2".

7. If surface mounted option is used: Columns can be installed after 2500 psi (minimum) concrete compressive strength has been reached. Install columns by mounting base plate over threaded rods. Orient column so that flanges are parallel to line of the proposed ULTRASCREEN™ wall. Shim and grout base plate as required to maintain column plumbness in two perpendicular directions. The column should be fabricated with a panel seat angle (see step 10) bolted or welded to the web. The column height should be 16'-0" from seat angle to top of column, and 16'-4" from top of concrete to top of column. Verify that columns are spaced 12'-0" $\pm$ 1/2".

8. ULTRASCREEN™ panels will normally be transported to site in vertical (standing) position on a flat bed truck. Three different panel types will be provided - bottom (or starter) panels, middle panels, and top panels. Panels are to be lifted and placed into position using a KEN-LIFT Curb Lifter or similar. Placement of ULTRASCREEN™ panels shall be as shown on the projects drawings.

9. Lift and insert starter panel between each set of adjacent columns by sliding panel between flanges. Ensure panel is centered between columns.

10. As discussed in steps 5 and 6, columns are to be fabricated with a panel seat angle to provide vertical support and elevation adjustment for the bottom panel. Seat angle can be bolted or welded to each side of the column web. Note that if angle is bolted, slotted holes should be provided to allow some field adjustment.

11. Lift and insert remaining panels by stacking atop starter panel. Note that groove of upper panel should "lock" around male top projection on the panel below. Ensure panels are centered between columns as they are stacked.

12. Back fill to finished grade elevation at base.

13. If specified for the project, apply metal cap at top of ULTRASCREEN™ wall. Cap is fastened to the top of the panel using appropriate concrete fasteners in the pattern and frequency shown on the shop drawing.

For Additional Information
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