

## EVAPORATIVE DISPOSAL SPRAY POND DESIGN

### RECOMMENDED NOZZLE:

¾ TF 32 XPN in 316 SS or Brass.

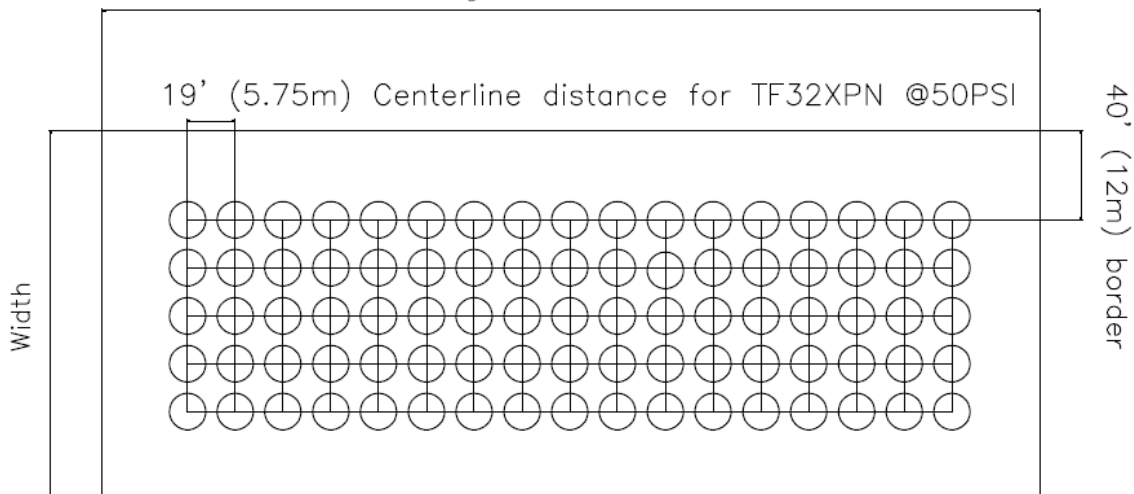
- The **TF32XPN** provides 42 gpm (159 L/m) at 40 PSI (2.7 bar) and a ½" (12.7mm) free passage equal to orifice diameter. Smaller TF- XPN nozzles can be used to produce a smaller droplet size for more evaporation. With a tradeoff of a smaller free passage and lower flow rate requiring more nozzles.
- Pressures should be between 40 and 60 PSI (3-4 bar). Higher pressures will produce smaller droplet sizes and improve evaporation.
- The nozzle should be orientated to spray vertically upward. The 90-degree spray pattern achieves maximum residence time to increase evaporation
- The nozzles should be installed 4' (1.25m) above the pond to increase residence time. Drift and wind speed should be taken into consideration
- The typical border width is 40' (12m). The minimum border to surround the pond should be 25' (7.5m). The border is to account for drift.
- Pond layout should be rectangular. The length of the pond should equal to 2 to 4 widths. The long side should face prevailing wind.
- Spacing between nozzle centerlines should be 19' (5.75m) for the TF32XPN.

### The BETE Difference

- The **BETE TF-XP** high-efficiency spiral nozzle design brings significant improvements to evaporative disposal applications over the performance possible with traditional whirl nozzles
- The **BETE TF-XP** series spiral nozzle produces sprays composed of droplets thirty to fifty percent smaller than conventional whirl nozzle designs at equivalent pressures. This finely atomized spray creates a large amount of droplet surface area to maximize evaporation. The nozzles are a compact, rugged, one-piece design having no internal plates or disks.
- In many spray pond applications the liquid being sprayed contains large solid particles that may plug the nozzle. The **BETE TF-XP** is a low-maintenance nozzle resistant to clogging, due to the absence of internals and a free-passage diameter equal to the orifice diameter.

| Nozzle Rating | Center line distance between nozzles | Flow rate per nozzle <b>40 PSI (3 bar)</b> | Maximum nozzle free passage |
|---------------|--------------------------------------|--|-----------------------------|
|               |                                      | gpm (L/m)                                  | in. (mm)                    |
| <b>32</b>     | <b>19' (5.75m)</b>                   | <b>42.0 (166)</b>                          | <b>0.50 (12.7)</b>          |
| 28            | 19' (5.75m)                          | 33.0 (130)                                 | 0.44 (11.1)                 |
| 24            | 19' (5.75m)                          | 24.1 (95.1)                                | 0.38 (9.53)                 |
| 20            | 19' (5.75m)                          | 16.5 (65.1)                                | 0.31 (7.94)                 |
| 16            | 19' (5.75m)                          | 10.6 (41.8)                                | 0.25 (6.35)                 |
| 14            | 16' (4.75m)                          | 8.1 (32.0)                                 | 0.22 (5.56)                 |
| 12            | 16' (4.75m)                          | 6.0 (23.7)                                 | 0.19 (4.76)                 |

Length=Width x 2 to 4



Recommended Layout