



## System Design – How to Survive till the Growing Season.

### □ Initial Design Considerations

- **Minimize Span Length**
  - Reduce Carried Weight and Rut production
    - Rut Repair: Cinders and Pit Run Gravel
- **Carrier Pipe Material – What is the Best Option?**
  - Stainless – Best but \$\$\$\$
  - CORE 10 – Good Properties, Unknown History, better \$\$
  - Galvanized – Good, Corrosion concerns, low \$
  - Aluminum – Not readily available, light weight
  - Poly Lined Pipes- Poor option due to torch heating

## Initial Design Considerations, Continued

- **Sprinkler Considerations**
  - Increase the Nozzle Sizing (10/64)
  - Senninger 360 have modification options (Drag tubes)
  - Utilize 180 nozzles near towers - Reduce Spray Drift
  - Manual or Automatic End Dump Valves at End of Machine
  - Dump Valves on each Span
  - Remove “Mushroom plugs” add stainless nipple with valve
  - Center Air Relief on top of Each Span (2-inch Rain Bird)
- **Other Considerations**
  - Use Stainless Steel Goose necks (only \$2 more ☺)
  - Synthetic Oil or Blend in Wheel and Center Drives
    - Better viscosity in the cold temperatures

## Meeting the Cold Weather Challenge

- **Winter Operations**
  - **Temperature is not you Friend ☺**
    - Temperature Decrease ⇒ Oversight Increase
    - Recommend Minimum 2 Hour Checks
    - Run out Machines to Minimize ponding
    - Stuck Drag Tubes & Wheels
    - Quickly Drain Carrier and Riser piping
  - **Onsite Structures / Equipment**
    - Heated and Insulated Buildings
    - Manage Temperature to the Frost Line
    - Portable Propane Torches with Rose bud tips
    - Your Friend for a Frozen Pipe ☺

## Winter Irrigation Practices

*Current Operational Trends & Lessons Learned (not to repeat)*

- **Summary**
  - **Preplanning is a MUST**
    - Designed Wrong = Failure Soon
  - **Operational Challenges**
    - **KEEP Ahead of the Temperature Change**
  - **Learn from Other Facilities**
    - Improve on the wheel
    - High level of experience on the ground

## Winter Irrigation Practices

*Current Operational Trends & Lessons Learned (not to repeat)*

### □ **Vendor Information**

- **Reinke Irrigation Systems**
  - <http://www.reinke.com>
- **Valmont Industries**  
(dba Valley pivot Irrigation Systems)
  - <http://www.valleyirrigation.com>
- **Lindsay**  
(dba Zimmatic Irrigation Systems)
  - <http://lindsaymanufacturing.com>

## Winter Irrigation Practices

*Current Operational Trends & Lessons Learned (not to repeat)*

*Questions or Comments?*

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