### Project Information:

- **Project Name:** Clearwater Commons
- **Product:** DP-100 RP, Large Diamond Pier
- **Location:** Snohomish County, WA
- **Engineer:** Soils - Earth Consultants, Inc / Foundations - PFI
- **Date:** 4/23/2010

### Soil Information:
- **Soil 1**
  - **Description:** Loose to Medium Dense Silty Gravelly Sands
  - **Phi (degree):** 29.00
  - **Unit Weight (pcf):** 120.00
  - **Cohesion (psf):** 0.00
  - **Ground Water Table:** At Grade
  - **Neglected Depth (ft):** 1.00

### Pile Information:
- **Pile Type:** Diamond Pier (4 pins)
- **Pin Length (ft):** 5.25
- **Angle (degree):** 40.00
- **Pin Diameter (in):** 1.900
- **Wall Thickness (in):** 0.145
- **Pin Type and Grade:** Pipe, 36ksi
- **Effective Depth (ft), D:** 2.54
- **Effective Length (ft), B:** 5.95
- **Effective Pile Width (ft):** 0.32

### Pile Capacity:
- **Compression:**  
  - F.S. = 2:  
  - C_ultimate (kip) = 10.95  
  - C_allow (kip) = 5.47  
- **Uplift:**  
  - F.S. = 1.5:  
  - U_ultimate (kip) = 1.74  
  - U_allow (kip) = 1.16  
- **Lateral:**  
  - Parallel to Pins:  
    - L1_allow (kip) = 1.03  
  - Perpendicular to Pins:  
    - L2_allow (kip) = 1.03

### Calculation Data:
- **Bearing Capacity Factors:**  
  - Nc = 34.20  
  - Nq = 20.00  
  - Nr = 17.10  
- **Pressure at Base (psf):** 146.47  
- **Arching Factor:** 2  
- **Allowable Deflection (in):** 1  
- **Allowable Bending Strength (ksi):** 24

* Soil 2 - Not Used

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![Diagram of a foundation system](attachment:diagram.png)