Innovative approaches
Practical results
Outstanding service

Measurement, Analysis, Knowledge Management

Leveraging Technology

Gwen Perez, Controller
Gary Soward, CIO
Freese and Nichols, Inc.

• Multi-service engineering, architecture and environmental science firm
• 117-year history means experience, strength and stability
• 12 offices, all in Texas
• More than 450 experienced professionals, technical experts and support personnel
Complex Design Delivers Sustainable Solutions

Elm Fork Athletic Complex

MARKETS: Municipal
SERVICES: Storm Water, Engineering, Environmental Science, Site Development, Master Planning, Water/Wastewater Planning
Data for Planning and Monitoring Performance

Key Focus Indicators + Strategic Actions = Balanced Scorecard

- KFI Client Satisfaction Index (CSI)
- Strategic Action: Improve Client Communications
- KFI CSI: AD/CMO/GM/PM
- % One-Page Rpts: GM/PM

- Data selection driven by
  - Key Focus Indicators
  - Industry standard metrics
  - Outcomes of strategic actions
- Consistent across all business units
- Provides line-of-sight alignment
- Provides basis for accountability
Data for Planning and Monitoring Performance

**Line-of-Sight Alignment**

- **Company Scorecard**
  - Client Satisfaction Index (CSI) = 4.7

- **Division Metrics**
  - Division Manager Goal: CSI = 4.7

- **Group Metrics**
  - Group Manager Goal: CSI = 4.7

- **Employee Metrics**
  - Project Manager Goal: CSI = 4.7

**Key Focus Indicators**

- Division Manager Goal: CSI = 4.7
- Group Manager Goal: CSI = 4.7
- Project Manager Goal: CSI = 4.7

**Strategic Action Outcomes**

- % One-Page Reports = 85%
- Division Manager Goal: One-Page Report = 85%
- Group Manager Goal: One-Page Report = 85%
- Project Manager Goal: One-Page Report = 85%
## Data for Planning and Monitoring Performance

<table>
<thead>
<tr>
<th>Key Focus Areas</th>
<th>Strategic Objectives</th>
<th>Key Focus Indicators</th>
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</thead>
<tbody>
<tr>
<td>1. Growth with Financial Stability</td>
<td>Sustain Growth and Profit for Long Term Success</td>
<td>Net Bookings, Company Profit, Utilization, Labor Multiplier, Negative Variance as a % of Net Revenue</td>
</tr>
<tr>
<td>2. Commitment to Clients</td>
<td>Improve the Way We Serve Our Clients</td>
<td>Client Satisfaction Survey Overall Rating</td>
</tr>
<tr>
<td>3. Commitment to Technical Excellence</td>
<td>Develop Technical Expertise to Address Client’s Needs</td>
<td>TEP Satisfaction Survey Overall Rating</td>
</tr>
<tr>
<td>4. Commitment to Employees</td>
<td>Be the Employer of Choice</td>
<td>Employee Opinion Survey Overall Rating</td>
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</tbody>
</table>
Data Analysis to Support Planning and Decision Making

Employee Retention

- FNI Involuntary Turnover
- FNI Voluntary Turnover
- FNI Retention
- FNI Target Retention
- PSMJ Top Mid Size Ret.
- PSMJ Top Overall Ret.

Graph showing employee retention rates from 2006 to 2010 YTD.

- 2006
- 2007
- 2008
- 2009
- 2010 YTD

Retention rates vary over the years.
Data to Manage Operations: Management Portals

Weekly Utilization Trend

Utilization %
Data to Manage Operations: Employee Portals

My Utilization %

- Billable Hours: 68.3%
- Marketing: 19.3%
- Office: 12.5%

My Utilization Trend

- MTD
- YTD
- Goal
Data to Manage Operations: Manager eResource

Resource Schedule & Capacity

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Resource Name</th>
<th>Feb 11</th>
<th>Mar 11</th>
<th>Apr 11</th>
<th>May 11</th>
<th>Jun 11</th>
<th>Jul 11</th>
<th>Aug 11</th>
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<tbody>
<tr>
<td>Employee</td>
<td>Anne M. Carrel</td>
<td>202</td>
<td>210</td>
<td>202</td>
<td>202</td>
<td>170</td>
<td>162</td>
<td>162</td>
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<td>Employee</td>
<td>Charles Allen Kucherka</td>
<td>217</td>
<td>277</td>
<td>275</td>
<td>271</td>
<td>237</td>
<td>233</td>
<td>147</td>
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<tr>
<td>Employee</td>
<td>David T. Bennett</td>
<td>145</td>
<td>323</td>
<td>321</td>
<td>325</td>
<td>285</td>
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<tr>
<td>Employee</td>
<td>Davin D. Hatley</td>
<td>166</td>
<td>270</td>
<td>330</td>
<td>320</td>
<td>254</td>
<td>322</td>
<td>232</td>
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<td>Employee</td>
<td>Gary Ray Smith</td>
<td>126</td>
<td>134</td>
<td>140</td>
<td>148</td>
<td>136</td>
<td>184</td>
<td>179</td>
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<tr>
<td>Employee</td>
<td>Lianne Marie Douglas</td>
<td>268</td>
<td>356</td>
<td>328</td>
<td>258</td>
<td>240</td>
<td>238</td>
<td>233</td>
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<tr>
<td>Employee</td>
<td>Michael G Morrison</td>
<td>248</td>
<td>175</td>
<td>143</td>
<td>174</td>
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<td>157</td>
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<tr>
<td>Employee</td>
<td>Michael Stafford Gunning</td>
<td>273</td>
<td>286</td>
<td>206</td>
<td>186</td>
<td>278</td>
<td>262</td>
<td>270</td>
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<tr>
<td>Employee</td>
<td>Mukesh Ramvir Pratap</td>
<td>94</td>
<td>122</td>
<td>190</td>
<td>278</td>
<td>220</td>
<td>217</td>
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<td>Employee</td>
<td>Rebecca Elizabeth Glaser</td>
<td>347</td>
<td>351</td>
<td>197</td>
<td>157</td>
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<tr>
<td>Employee</td>
<td>Scott Henry Hekman</td>
<td>186</td>
<td>314</td>
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<td>246</td>
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<tr>
<td>Employee</td>
<td>Tarlton Wade Smith, II</td>
<td>255</td>
<td>186</td>
<td>151.4</td>
<td>187</td>
<td>184</td>
<td>181</td>
<td>158</td>
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### Data to Manage Operations:

**Employee eResource**

<table>
<thead>
<tr>
<th>Project</th>
<th>Project Name</th>
<th>Project Manager</th>
<th>Feb 11</th>
<th>Mar 11</th>
<th>Apr 11</th>
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<tbody>
<tr>
<td>1151POTNTL</td>
<td>1147 Potential Projects (pre-2011)</td>
<td>Tarlton Wade Smith, II</td>
<td>0</td>
<td>8</td>
<td>8</td>
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<tr>
<td>COR08271</td>
<td>O. N. Stevens Raw Wtr Influent Impr</td>
<td>Tarlton Wade Smith, II</td>
<td>4</td>
<td>4</td>
<td>10.4</td>
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<tr>
<td>COR10165</td>
<td>Mary Rhodes Phase 2</td>
<td>Anne M. Carrel</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<tr>
<td>CORUVDF1</td>
<td>Whitecap UV Disinfection Improvem.</td>
<td>Mukesh Ramvir Pratap</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>GBA10355</td>
<td>I-35/Texas Highway 130 Water Transm</td>
<td>Tarlton Wade Smith, II</td>
<td>121</td>
<td>64</td>
<td>40</td>
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<tr>
<td>SWB11121</td>
<td>Reg Carrizo Proj: Water Integr Pipe</td>
<td>David T. Bennett</td>
<td>4</td>
<td>8</td>
<td>8</td>
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<tr>
<td>TR110152</td>
<td>Pump Stations 13/13A Improvements C</td>
<td>Erin Colleen Flanagan</td>
<td>3</td>
<td>6</td>
<td>8</td>
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<tr>
<td>TR110442</td>
<td>On-Site Storage System Construction</td>
<td>Gennady Boksiner</td>
<td>4</td>
<td>4</td>
<td>0</td>
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<tr>
<td>TRA07353</td>
<td>CPS - Pump Station 13/13B &amp; Equaliz</td>
<td>Tarlton Wade Smith, II</td>
<td>1</td>
<td>4</td>
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<td>TRA08184</td>
<td>TRA CRWS On Site Storage System (OS)</td>
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<td>TRA08301</td>
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<td>12</td>
<td>2</td>
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</table>

**Total Scheduled**

<table>
<thead>
<tr>
<th>Project</th>
<th>Project Name</th>
<th>Project Manager</th>
<th>Remaining Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEG09424</td>
<td>ONSWTP Process Monitoring/Improveme</td>
<td>Tarlton Wade Smith, II</td>
<td>3.6</td>
</tr>
<tr>
<td>COR08271</td>
<td>O. N. Stevens Raw Wtr Influent Impr</td>
<td>Tarlton Wade Smith, II</td>
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<td>COR10165</td>
<td>Mary Rhodes Phase 2</td>
<td>Anne M. Carrel</td>
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<td>GBA10355</td>
<td>I-35/Texas Highway 130 Water Transm</td>
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<tr>
<td>SWB09391</td>
<td>Water Res Int Prj 1: Pipeline Seg 3</td>
<td>Charles Allen Kucherka</td>
<td>2</td>
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<tr>
<td>TR110152</td>
<td>Pump Stations 13/13A Improvements C</td>
<td>Erin Colleen Flanagan</td>
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<td>TR110442</td>
<td>On-Site Storage System Construction</td>
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<td>TRA08301</td>
<td>CPS for Admin Bldg &amp; Plant Disinfec</td>
<td>Tarlton Wade Smith, II</td>
<td>50</td>
</tr>
</tbody>
</table>
Data Analysis to Improve Performance

Average A/R Collection Days

- Municipalities
- Emerging Mkts
- WD/RA
- FNI
- Industry Top Mid Size
- Industry Top Overall

Graph showing trends from 2006 to 2010 with a downward arrow indicating good performance.
## Data Analysis to Improve Performance

<table>
<thead>
<tr>
<th>Ratings By Role</th>
<th>Project Communications Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Adm Assistant</td>
<td>3</td>
</tr>
<tr>
<td>Architect</td>
<td>2</td>
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<tr>
<td>Construction Services</td>
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<tr>
<td>Contracts</td>
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<tr>
<td>Engineer</td>
<td>22</td>
</tr>
<tr>
<td>Environmental Scientist</td>
<td>11</td>
</tr>
<tr>
<td>Group Manager</td>
<td>3</td>
</tr>
<tr>
<td>Planner</td>
<td>3</td>
</tr>
<tr>
<td>Project Manager</td>
<td>13</td>
</tr>
<tr>
<td>Technician/Analyst</td>
<td>14</td>
</tr>
</tbody>
</table>
Leveraging Technology: Improvements

• Recent Improvements
  – eResource
  – 2nd generation financial portals

• Future Improvements
  – Company-wide audit of data definitions/analysis
  – Knowledge Database
  – Intranet Redesign
Leveraging Technology:
New Intranet Under Construction
Leveraging Technology: Intranet Built Using

Microsoft SharePoint

IBM Lombardi Business Process Management Suite
Leveraging Technology: Intranet Building Blocks

• Operational Processes
• Data – Client, Project and People
• Action Items
• Help Catalog
• Highly integrated communications
• Collaboration
• Content targeted to each individual
Data for How We Work: Intranet Fueled With Data From

- Sales and Marketing
- Projects
- Risk Management
- Accounting
- Human Resources
Data for How We Work: Transformed into Information

• Expanded use of dashboards
  – Operations
  – Sales and Marketing
  – Project Management

• Incorporated news and communications

• Action items
Information on How We Work: Based on Context and Role

• Pages have a message for everyone
  – Transfer of institutional knowledge
  – Emphasize a current message

• Pages target specific audiences
  – Clients main page >> account directors and client representatives
  – Client detail pages >> client representatives and project managers
  – Projects main page >> division, department, and project managers
  – Project detail pages >> project managers and project teams
Information on How We Work: Use Graphics To Connect with Employees

- Strategic placement of information and graphic call outs to
  - Convey information (strategic, institutional knowledge, or highlight something timely)
  - Provide navigation
- Provide multiple paths to information
- Take advantage of excellent search capabilities
Information on How We Work: Transformed into Knowledge

- Establish a complete picture of our Clients
  - Projects, Relationships, History, Current events, and Strategy
- Establish a complete picture of our Projects
  - Project team, Client satisfaction, One-page reports, Pictures, Contracts
- Knowledge database
- 2nd generation TEP Websites
- Production WIKI for CADD and GIS
Information on How We Work: Example

- Project Manager
- Browser
Information on How We Work: Example

- Drawn by the rotating emphasis graphics
  - Watch utilization
  - Open enrollment ends in 3 days
Information on How We Work: Example

- Can check utilization
- Can check future assignments
Information on How We Work: Example

• Highlight of project news posted by a team member

• Click the link to go to the project page
Information on How We Work: Example

• Highlight of trend on financial summary
• Click link to PM Portal for detailed data to drill down
Thank You

Questions