GASB 34 Compliance: Made Easy

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PROJECT GOALS

• POSITION CITY OWNED UTILITIES FOR GIS DATA BASE
  – USE TRIMBLE PROXRS FOR GPS POSITIONING
  • OMNISTAR DIFFERENTIAL SYSTEM FOR REAL TIME POSITIONING
  • PATHFINDER OFFICE FOR POST-PROCESSING
  – USE LASER ATLANTA ADVANTAGE CI FOR LASER OFFSETS
  – MAINTAIN ACCURACY WITHIN 3 FEET HORIZONTAL
  – DIFFERENTIATE POSITIONS COLLECTED
  • FIRE HYDRANTS, WATER VALVES, STORM AND SEWER MANHOLES,
    STREET SIGNS, TRAFFIC SIGNS
PROJECT REQUIREMENTS

- UNIQUE ID NUMBER FOR EACH FEATURE
- MINIMUM 15 POSITIONS FOR EACH FEATURE
- MAX. PDOP OF 6.00
- U.S. STATE PLANE 1983
  - TEXAS NORTH CENTRAL 4202
    - UNITS: FEET

PROJECT SETUP

- DATA DICTIONARY
  - SET FEATURES
    - DEFINE SELECTED OBJECTS TO BE COLLECTED
  - SET ATTRIBUTES
    - DEFINE INFORMATION ABOUT EACH OBJECT
NEED FOR LASER OFFSETS
OTHER NEEDS FOR LASER OFFSETS
MOBILE UNIT SETUP
USE GPS ONLY
USE GPS ONLY
USING LASER OFFSET

- INTERNAL COMPASS NOT USED
  - MAGNETIC INTERFERENCE FROM VEHICLE
- HEADING FROM GPS USED FOR REFERENCE BEARING
  - LASER GUN OPERATED AT RIGHT ANGLE FROM HEADING
Last Year’s Primary Goals

- Water and Sewer Network Development
- GASB 34 Compliance
- Plat and Construction Drawings – Document Management

Develop City’s Water and Sewer Network:

- Scanning
- Geo-Registration
- Digitization
Manual Process

Plat/AsBuilts Reproduction
Manual Process

Total Time - 13 minutes

Min. No. of Requests per day – 10

Total time spent – 130 mins/Person/day

- Warm up plat copier – 3 min
- Find and remove plat from book – 3 min
- Insert paper into the copier – 2 min
- Put plat back into plat book – 2 min
Plat/AsBuilt/Construction Drawings Digital Conversion

Issues:
Resolution 150, 300, 600 dpi (Printing)
File Format *.jpg, *.gif, *.tiff (Web and Printing)
Nomenclature Plat/AsBuilt Name + Block + Lot No. + Phase No (Identification)
Automated Process

- Click on the display plat button – 5 sec.
- Find plat in the database index – 15 sec.
- Setup the printer – 30 sec.
- Printing – 30 sec.
Automated Process
### Valuation Summary Table

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Replacement Cost</th>
<th>Approx. Value</th>
<th>Annual</th>
<th>Approx. Value</th>
<th>Accumulated Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>$6,899,855.10</td>
<td>$4,291,019.88</td>
<td>$171,640.80</td>
<td>$1,029,644.77</td>
<td>$3,261,175.11</td>
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<tr>
<td>1984</td>
<td>$10,447,932.26</td>
<td>$6,625,033.85</td>
<td>$265,001.35</td>
<td>$1,855,009.48</td>
<td>$4,770,024.37</td>
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<td>1985</td>
<td>$7,462,294.43</td>
<td>$4,807,056.10</td>
<td>$192,282.24</td>
<td>$1,538,257.95</td>
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<td>1986</td>
<td>$14,873,062.42</td>
<td>$9,776,114.97</td>
<td>$390,804.60</td>
<td>$3,517,241.39</td>
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<tr>
<td>1987</td>
<td>$3,339,310.78</td>
<td>$2,256,361.53</td>
<td>$90,014.46</td>
<td>$900,144.61</td>
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<tr>
<td>1988</td>
<td>$501,032.14</td>
<td>$346,907.85</td>
<td>$13,078.31</td>
<td>$152,639.45</td>
<td>$194,268.39</td>
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<tr>
<td>1989</td>
<td>$41,638.23</td>
<td>$25,392.42</td>
<td>$1,175.70</td>
<td>$14,108.36</td>
<td>$15,264.06</td>
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<td>1990</td>
<td>$430,936.13</td>
<td>$311,941.57</td>
<td>$12,476.46</td>
<td>$162,194.02</td>
<td>$149,717.55</td>
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<td>1991</td>
<td>$1,153,060.62</td>
<td>$552,688.32</td>
<td>$34,107.53</td>
<td>$477,505.46</td>
<td>$375,182.86</td>
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<tr>
<td>1992</td>
<td>$636,756.68</td>
<td>$485,526.21</td>
<td>$19,421.05</td>
<td>$291,345.73</td>
<td>$194,210.48</td>
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<tr>
<td>1993</td>
<td>$1,851,589.82</td>
<td>$1,507,391.35</td>
<td>$60,295.65</td>
<td>$964,730.47</td>
<td>$542,660.89</td>
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<tr>
<td>1994</td>
<td>$7,261,739.78</td>
<td>$6,006,911.16</td>
<td>$240,276.46</td>
<td>$4,084,699.88</td>
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<tr>
<td>1995</td>
<td>$1,962,077.26</td>
<td>$1,641,866.25</td>
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<td>$1,182,143.70</td>
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<tr>
<td>1996</td>
<td>$3,138,916.83</td>
<td>$2,745,788.91</td>
<td>$109,991.56</td>
<td>$2,089,839.57</td>
<td>$659,949.34</td>
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<tr>
<td>1997</td>
<td>$3,768,650.40</td>
<td>$3,358,244.37</td>
<td>$134,329.77</td>
<td>$2,686,595.50</td>
<td>$671,648.87</td>
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<tr>
<td>1998</td>
<td>$5,883,465.96</td>
<td>$5,336,524.33</td>
<td>$213,460.98</td>
<td>$4,482,680.48</td>
<td>$853,843.90</td>
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<tr>
<td>1999</td>
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<td>$2,175,994.29</td>
<td>$87,199.77</td>
<td>$1,918,394.88</td>
<td>$261,589.32</td>
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<td>2000</td>
<td>$8,121,430.85</td>
<td>$7,727,541.45</td>
<td>$309,101.66</td>
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<td>$618,203.32</td>
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<tr>
<td>2001</td>
<td>$4,578,510.00</td>
<td>$4,442,070.40</td>
<td>$177,682.82</td>
<td>$4,264,387.58</td>
<td>$177,682.82</td>
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<tr>
<td>2002</td>
<td>$872,838.49</td>
<td>$853,374.20</td>
<td>$34,134.97</td>
<td>$853,374.20</td>
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<tr>
<td>2003</td>
<td>$1,155,324.10</td>
<td>$1,155,324.10</td>
<td>$46,212.96</td>
<td>$1,155,324.10</td>
<td>$0.00</td>
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<tr>
<td><strong>Grand Total</strong></td>
<td><strong>$103,832,183.73</strong></td>
<td><strong>$73,103,048.79</strong></td>
<td><strong>$2,924,121.96</strong></td>
<td><strong>$41,179,664.66</strong></td>
<td><strong>$32,285,568.54</strong></td>
</tr>
</tbody>
</table>
## ALTMAN ADDITION NO. 2

<table>
<thead>
<tr>
<th>LINE SIZE</th>
<th>LINE LGTH.</th>
<th>2003 UNIT CST</th>
<th>APPROX 2003 REPLACEMENT COST</th>
<th>APPROX VALUE AT ACQUISITION</th>
<th>ANNUAL DEPRECIATION</th>
<th>CURRENT VALUE</th>
<th>ACCUMULATED DEPRECIATION</th>
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</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>20.60</td>
<td>$56.00</td>
<td>$1,750.00</td>
<td>$504.14</td>
<td>$32.17</td>
<td>$66.33</td>
<td>$739.81</td>
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<tr>
<td>5&quot;</td>
<td>1,200.04</td>
<td>$90.00</td>
<td>$100,000.22</td>
<td>$49,695.30</td>
<td>$1,962.44</td>
<td>$2,385.47</td>
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<tr>
<td><strong>Sub Total</strong></td>
<td><strong>1,220.63</strong></td>
<td><strong>490,973.48</strong></td>
<td><strong>$60,410.02</strong></td>
<td><strong>$2,076.40</strong></td>
<td><strong>$4,612.30</strong></td>
<td><strong>$46,377.22</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Material useful lives were obtained from Public Works and Utilities Department
2. Construction Cost Deflation Indexes were obtained from data provided by Engineering News-Record (www.enr.com), part of the Reed Elsevier Construction Companies. The BMR Construction Cost Index is comprised of labor costs, material costs, indirect costs, and subcontractor costs.
3. Costs are estimated by the engineers and are based on their experience and judgment.
4. Existing asset quantities were obtained from Rowlett GIS and Water and Sewer Network databases that are under development. These databases are used for a preliminary 80% of the assets and are in the Planning Control phase of the data development process.

Friday, February 27, 2004
Construction cost deflation indices were obtained from data provided by Engineering News-Record (www.enr.com), part of the McGraw-Hill Construction Companies.

**FORMULA(S):**

1. **REP_CST** = \( [UNIT\_CST] \times SHAPE\_LGTH \)
   
   Where,
   
   \( REP\_CST \) = Replacement Cost in the year 2003
   
   \( UNT\_CST \) = Cost of a linear foot of Water/Sewer line based on the size (Ref. Table A)
   
   SHAPE\_LGTH = Length of the Water/Sewer line in feet

2. \( [\text{PER\_ACQ}_{03}] = [\text{REP\_CST}] \times DEF\_FAC\_1 \)
   
   Where,
   
   \( ANUL\_DEP \) = Annual Depreciation
   
   \( VAL\_ACQ \) = Value at Acquisition
   
  DEF\_FAC\_1 = Deflation Factor
   
   Assumed life of Transmission and Distribution Water/Sewer Lines = 25 years

3. \( ANUL\_DEP = [\text{PER\_ACQ}_{03}] / 25 \)
   
   Where,
   
   \( ANUL\_DEP \) = Annual Depreciation
   
   \( VAL\_ACQ \) = Value at Acquisition
   
   Assumed life of Transmission and Distribution Water/Sewer Lines = 25 years

4. \( CUR\_VAL = [\text{PER\_ACQ}_{03}] - (2002 - (\text{Year}_0 + 1)) \times [ANUL\_DEP] \)
   
   Where,
   
   \( CUR\_VAL \) = Current Value

5. \( ACC\_DEP = [\text{PER\_ACQ}_{03}] - [CUR\_VAL] \)
   
   Where,
   
   \( ACC\_DEP \) = Accumulated Depreciation
**ACKNOWLEDGEMENTS:**
Under the supervision of Dr. Carlos Aiken, Professor, UT Dallas - Graduate Student Cody Cantral, collected most of the GPS data and related pictures. Lance Singleton, Sr. GIS Technician and Pete Frye, GIS Intern with the City of Rowlett worked on various segments of this project.

**QUESTIONS?**

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