

## **Project Description & Need**

Construction of a 2-story, energy efficient addition to the existing Engineering Service Building (ESB) providing an additional 12,898 square feet of space and renovation of the adjoining 6,072 square feet of existing space.

This project has been designed to incorporate the practice of sustainable design and be LEED's certifiable. The mission of the staff housed in this facility is directly related to the support of our City's wastewater collection and stormwater drainage and conveyance systems. As such the facility has been designed to serve as a laboratory for water quality improvement efforts by incorporating a green roof, cistern for re-use of water and rain gardens.

The existing ESB is outdated, extremely energy inefficient and severely undersized. The expanded facility will house overcrowded staff in the Constructions Inspection, Operations, GIS/Mapping and Special Projects sections of the Engineering Division. These personnel are presently located at two separate facilities. The CCB office space vacated by GIS/Mapping and Special Projects staff, in turn, will provide space for the overcrowded Street, Sanitary and Storm sections.

## **GREEN**

- Stormwater management – roof garden, cistern, rain gardens – Zero runoff from site
- Green roof advantages
  - Increased life expectancy of roof
  - Slow building heat gain and loss
  - Reduce cooling costs
  - Reduce heat island effect – reduces rate of ozone depletion which causes smog – public health impact
- Daylighting - uses natural light to illuminate buildings by bringing indirect sunlight deep into a building; reduces lighting and cooling costs.  
Photometric controls
- Open, flexible space
- Emphasis on recycled, sustainable materials
- Indoor Air Quality – Green Guard Interior Air Quality certification
- Construction Waste Management Plan to divert waste from landfill
- Energy efficient mechanicals & general construction
- No/low VOC and renewable/recycled materials (i.e. paints, adhesives, flooring, furnishings, acoustical tiles, etc.)

## **BIDS**

We received 5 bids for the ESB Expansion project. Low bid was from Bachmann Construction. 5 bids separated by 10.08%.

Bids came in \$509K higher than architect's estimated cost. Reasons:

- steel
- oil
- other building materials costs increases
- green roof/landscaping

Square foot cost for project is \$147.23. City building comparable are:

- |                   |          |               |
|-------------------|----------|---------------|
| • Water Utility   | \$147/sf | (2004 bid)    |
| • Fire Station 11 | \$176/sf | (2004 bid)    |
| • So Police       | \$140/sf | (2000 bid)    |
| • East PD         | \$190/sf | (5/13/05 bid) |

## **FUNDS**

Total project cost \$3.25 Million

Need additional \$500K

- \$1,650,000 Sanitary Sewer revenue bonds – will not increase projected borrowing nor change 2005 rate structure
- \$825,000 storm – adequate funds exist in reserves
- \$775,000 adequate funds available from remediation fees

## **OTHER GREEN STUFF**

- Bay Savers
- Pulverizing existing asphalt; using as part of base
- Recycled tire rubber roof tiles
- Rain garden
- Brick exterior – Sioux City Brick & Tile Co.
- Wood – Forest Stewardship Council certified wood whenever possible
- All interior insulation products are required to be Green Guard Interior Air Quality certified ([www.greenguard.com](http://www.greenguard.com))
- Drywall - minimum 95% recycled content
- Tile – minimum 95% reclaimed and reused unfired raw material
- Acoustical ceiling tile – High Light Reflectance Panels – minimum 66% recycled content
- Fine textured panels – 27% to 43%
- Resilient flooring – homogeneous sheet linoleum consisting of sustainable materials (linseed oil, cork, wood flour, rosin binders, mixed and calendared onto natural jute backing).
- Low emitting adhesives
- Carpet tile w/100% post-consumer recycled-content backing made from PVC carpet backing and nylon fibers of used carpet and carpet tile. Peel-and-stick system to install using factory-applied low-VOC adhesive. Eliminates wet adhesive so indoor air-quality is minimally affected.
- Paint – no VOC for majority of areas; low VOC for metal door and frames
- Wall corner guards – recycled material (C/S Group or InPro Corp)

### Holeless hydraulic elevator

- holeless solution features above ground hydraulics mounted directly on the floor of a simple, self-contained pit, eliminating the need for drilling holes in the ground and avoiding the potential for below-ground leaks.

### Plumbing

- Water conservation – low flow fixtures, waterless urinals, auto on-off sensors

### HVAC

- energy efficient, natural gas, sized based on building as designed

- direct digital control system with electronic actuation; electronic room sensors
- CO2 monitoring system
- high-efficiency filtration
- UV-C germicidal lamps prevent microbial growth, fungus and mold, eliminates odor and allergy-causing irritants

#### Electrical

- Fluorescent 3500K
- Rapid start fixture shall be energy saving type
- Photometric sensors
- Occupancy sensors