UNIVERSITY OF HOUSTON PLANT OPERATIONS

Utility Infrastructure Master plan update

August 25, 2010

Agenda

- **Background and goals**
- **Major Disciplines**
- **Scope overview**
- **Status**
- **Stake holders**
- **Roles and responsibilities**
- **Requirements for study completion - Discussion**

Historical:

- Program took priority; Infrastructure – secondary
  - Capacity and condition now an issue

Strategic Goals: Infrastructure

- Address infrastructure needs brought on by campus growth and deferred maintenance
  - Prioritize – Immediate need due to Aged infrastructure/risk level
  - Capacity and Growth 2-5 Year Plan/6-10 Year Plan
- Comprehensive approach to infrastructure planning including all university facilities
- Coordinate planning across service areas where appropriate

Infrastructure Overview

Major Disciplines:

Storm and Sanitary Sewers	Domestic Cold Water	Steam and Condensate Return
Chilled Water	Utility Tunnels	Heating Hot Water
Natural Gas	Electric Power	Roadway

- Infrastructure Master Plan being developed to review and document needs of the campus to ensure proper renewal, investment and demand for campus growth.
- Landscape Infrastructure will also be addressed including sidewalks and Irrigation
- IT needs to be incorporated into surveys and future capital planning efforts

Scope Overview

- **Deferred maintenance and infrastructure renewal – (HIGHEST PRIORITY)**
- **Electrical load and demand analysis**
- **Chilled water and steam distribution analyses**
- **Assessment of campus growth needs**
- **Identification of grid bottle necks and overloads**
- **Recommendations for possible operating scenarios**
- **Cost estimations for recommended options along with a desired implementation schedule**
  - **Plan integration – integrate all components into one physical and capital plan**

Status

- **Shah Smith & Associates, hired to study the capacity and distribution of the campus chilled water, steam, and electrical utility infrastructures to meet the current/ future campus demands and make recommendations to address concerns.**
- **Water related utilities will be addressed by Civil IDIQ firm**
- **Will negotiate with Cobb Fendley or Miller Surveying**
- **Sidewalk and roads master planning firm - TBD**
- **Once complete – all sections will be integrated and planned in alignment with master plan updates and FCI findings (Expected completion of December 2011)**

Stake holders

- **Primary Stake holder : Facilities Management – Utilities group (responsible to maintain campus utility infrastructure reliability and efficiency)**
- **Secondary Stake holder – FPC/ Planning and Real Estate**
- **General Campus - Priorities**
  - **Business Continuity/Life Safety/UHPD**
  - **Research**
  - **Auxiliary**
    - **Auxiliary Food**
    - **Auxiliary Residential**
    - **Auxiliary Other (Parking and Transportation)**
  - **Academic**
  - **Office**

Roles and responsibilities

- **Master plan project management**

  Sameer Kapileshwari– Electric, Chilled water, steam, condensate

  Keith Ivy – Domestic water, sanitary, storm, irrigation, sidewalks, roads

- **Historic information and support**

  Bob Bowden, Jack Gill and Neal Smith– Fire & Water infrastructure (plumbing and irrigation)

  Paul Robinson – Operations of the Central Plant

  Louis Madrigal – Tunnels, Chilled water, and steam distribution

  Avinash Rahurkar/Dan Bartow – Electrical

  Bob Browand/Brad Wigtil – Roadways and sidewalks

- **Project Advising** – Mike Yancey and Sameer Kapileshwari

- **Project Executives** – Melissa Rockwell and Spencer Moore

Requirements for study completion – for discussion

- **Identification of proposed buildings and locations for better distribution planning (size, building type, and function) (FPC?)**
- **Proposed schedules for construction (FPC?)**
- **Some additional funding for utility documentation and plan integration (FM)**
- **Selection of consultant for full plan integration (FM)**
- **Plan for IT involvement and integration (all)**