FACILITIES

CAMP Committee

September 19, 2016

What do we own & maintain?

- City Hall – 53,000 sqft
- Police HQ – 50,000 sqft
- Civic Center Library – 55,000 sqft
- Rincon Library – 4,000 sqft
- Springtown Library – 2 bldgs, 2,800 total sqft
- Maintenance Service Center – 9 bldgs, 60,000 sqft
- Fire Station 6 – 10,000 sqft
- Fire Station 7 – 8,200 sqft
- Fire Station 8 – 6,300 sqft
- Fire Station 9 – 7,700 sqft
- Fire Station 10 – 4,000 sqft

What do we own & maintain?

- Multi-Service Center – 10,000 sqft
- Downtown Parking Garage – 220,000 sqft
- Council Chambers – 2,900 sqft
- Old Library – 15,000 sqft
- Shea Plaza Restrooms – 500 sqft

What do we own?

- Bankhead Theater – 22,500 sqft
  - LVPAC pays for routine and interior maintenance
  - City pays for: roofing, structure, foundation
  - Major system repair or replacements:
    - During the first five years of the agreement (2014-2019)LVPAC pays for first $10,000, City and LVPAC split remainder 50/50
    - Thereafter, LVPAC is solely responsible.
- ECHO Housing – 141 N Livermore
- 145 N Livermore
- Speedee Oil Change
- Machine Shop on North M St.

What do we own?

- Historical Buildings:
  - Railroad Depot (will be LAVTA)
  - Southern Bell Building (i-Gate)

  - Operated by Livermore Heritage Guild
    - Duarte Garage & Caretaker's House
    - Hagemann Farm

  - Operated by LARPD:
    - The Barn
    - Carnegie Library
    - Ravenswood

Facilities Factoids

- Buildings range in age from 180 years old (Hagemann Farm house) to less than one year old (Fire Station 9).
- 500,000 total square footage of City-maintained buildings.
- Only 3 full time facility maintenance staff.

Major Systems/Components

- HVAC
- Electrical
- Plumbing
- Roofing
- Doors and Windows
- Interior and Exterior Paint/Coatings
- Flooring
- Structure
- Site Improvements

HVAC Systems

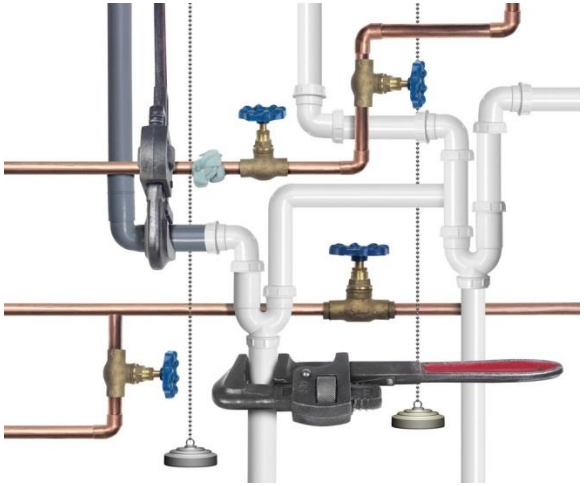
- Major Components:
  - Heat Pumps
  - Air Handlers
  - Variable Air Valve (VAV) Boxes
  - Cooling Tower / Boilers
  - Thermostats & Controllers
- O&M Considerations
  - Filters
  - Inspections & Preventative Maintenance
  - Replacement of major components
- Common Problems:
  - Adjustment of thermostat settings
  - Wear and tear of components

Electrical

- Major Components
  - Lighting & Fixtures
  - Electrical Panels
  - Generators
  - Uninterruptible Power Supplies
  - Photovoltaic Panels (Solar)
  - Wiring and Conduit
- O&M Considerations
  - Frequently replacing light bulbs (500+ per year)
  - Replacement of major components
  - Preventative maintenance of UPS, solar panels, and generators
- Common Problems
  - Vandalism of exterior lights
  - Wear and tear of components

Plumbing

- Major Components
  - Water Heaters
  - Fixtures (toilets, faucets, etc.)
  - Valves
  - Piping
- O&M Considerations
  - Replacement of major components
- Common Problems
  - Wear and tear of components



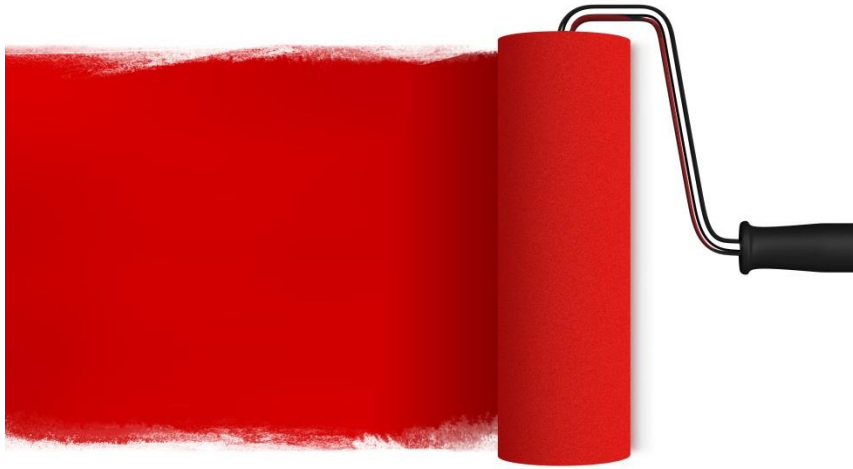
Roofing

- Major Components
  - Roofing
  - Gutters
- O&M Considerations
  - Replacement of major components
- Common Problems
  - Leaks
  - Gutter clogs

Doors & Windows

- Major Components
  - Person Doors
  - Garage Doors
  - Windows
- O&M Considerations
  - Replacement of major components
  - Locks and keys
  - Preventative maintenance for critical doors (exterior, fire garage)
- Common Problems
  - Trouble opening or closing doors
  - Leaks

Paint



- Major Components
  - Interior
  - Exterior
- O&M Considerations
  - Preventative maintenance for protective paint (exterior insulation, water resistance in damp areas)
  - Office movement
- Common Problems
  - Aesthetics - Marring, Aging, Fading
  - Water infiltration
  - Graffiti / Vandalism

Flooring

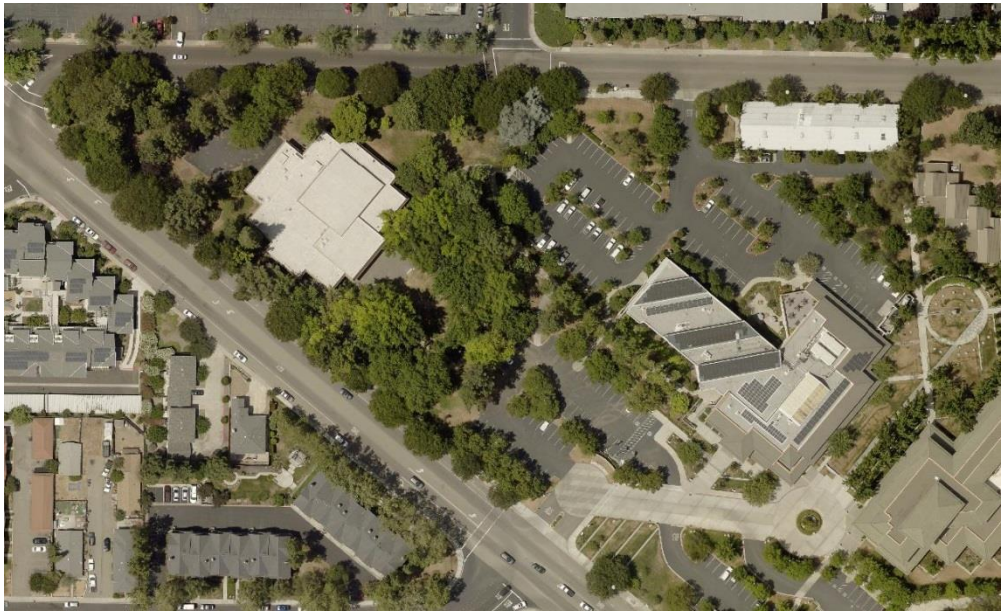
- Major Components
  - Various flooring materials
- O&M Considerations
  - Aesthetics
  - Trip/Fall
- Common Problems
  - Aesthetics - Marring, Aging, Fading
  - Water infiltration

Structure

- Major Components
  - Foundation
  - Walls
  - Roof Structure
- O&M Considerations
  - Visual inspections of visible components
  - For historical buildings, seismic stability
- Common Problems
  - Uncommon
  - Occasional damage

Site Improvements

- Major Components
  - Parking Lots
  - Hardscape
  - Landscape / Trees
  - Fountains
  - Site Lighting
- O&M Considerations
  - Aesthetics
  - Lighting
  - Parking Lot Striping
- Common Problems
  - Trip / Fall / Access Concerns
  - Graffiti / Vandalism



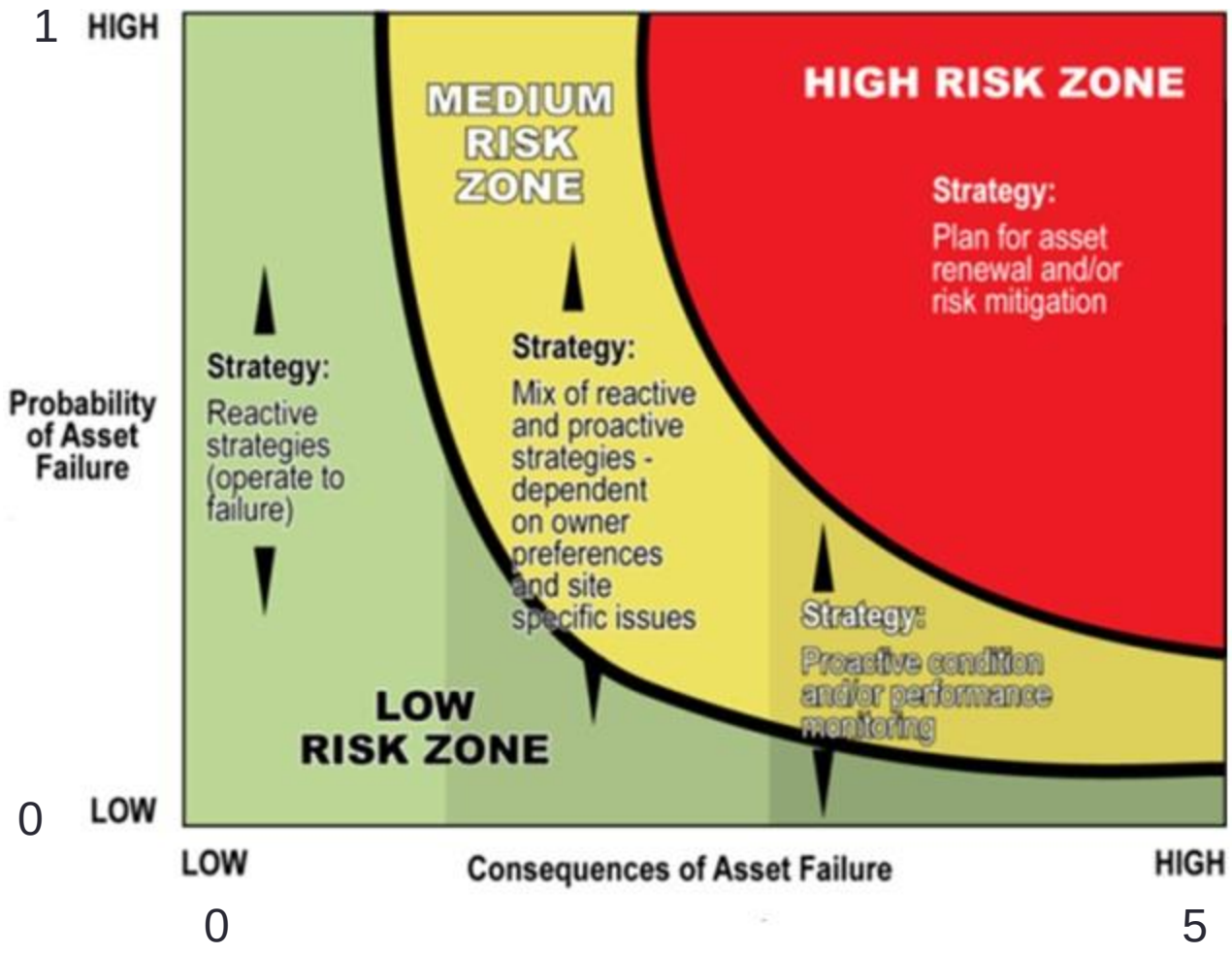
Asset Hierarchy

- Building Management System
  - Facility
    - Building
      - Building Components – shell, roof, interior, services, equipment

Risk

- Risk = PoF x CoF
  - Probability of Failure
    - Time to Failure and Current Condition
  - Consequence of Failure
    - When an asset fails, how bad is it?
  - Assigned on an asset level
  - Criticality factor assigned on a building level and asset level (two tiers)

Risk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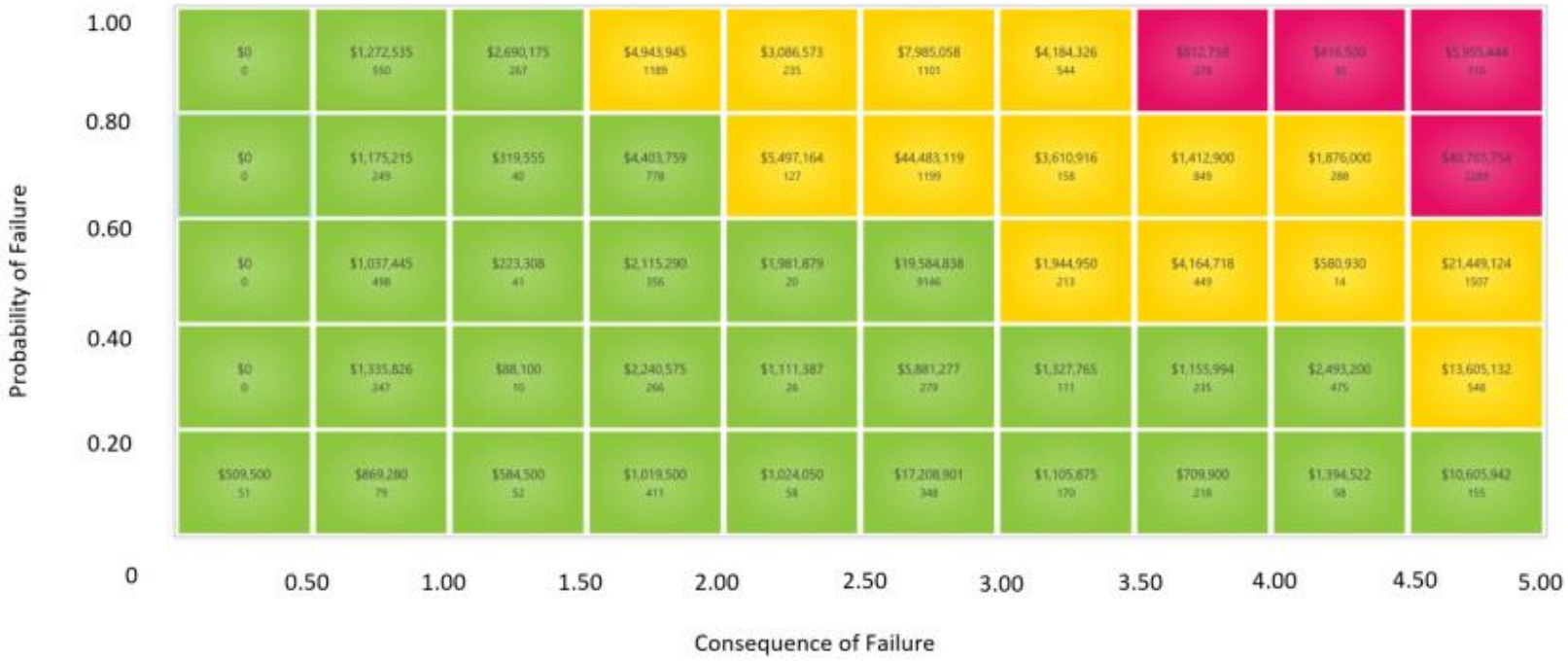
HIGH
0
LOW
Probability of Asset Failure
MEDIUM RISK ZONE
HIGH RISK ZONE
Strategy:
Plan for asset renewal and/or risk mitigation
Strategy:
Reactive strategies (operate to failure)
Strategy:
Mix of reactive and proactive strategies - dependent on owner preferences and site specific issues
Strategy:
Proactive condition and/or performance monitoring
LOW RISK ZONE
LOW
Consequences of Asset Failure
HIGH
0
5

Risk Matrix (sample)



Prioritization

- Prioritization will primarily occur on an asset basis using risk scores and adjustments.
- Logical groupings of asset needs will be combined to create projects:
  - Grouping similar work at different buildings (eg. re-roofing multiple buildings at once)
  - Grouping different work within one building (eg. remodel of several different asset classes in one building)

Criticality

- Modifier for Risk scores for assets.
- Essential Facility / Core City Service
- Enrichment Service / High Usage or Non-Core City Service
- Enrichment Service / Low Usage or Non-Core City Service

Replacement of Buildings

- The decision to replace a building instead of continue to maintain it can be based on the following:
  - Economic Factors
  - Social / Capacity / Functional Factors
  - Environmental Factors

Economic Factors

- Is the average remaining useful life of all assets within a building less than 5 years?
- Will replacement of a building lead to a reduction in the lifecycle cost versus the existing building?
- Is the total replacement cost of the high-risk assets more than 50% of the total replacement cost?

Social / Capacity / Functional Factors

- Does the building still effectively serve its primary mission?
- Does the building still provide sufficient capacity for people (employees and/or public)?
- Does the building adequately address access concerns?
- Does the building adequately address safety and health concerns?
- Does the building meet established City goals and objectives?
- Does the building encourage efficiency in the delivery of services?

Environmental Factors

- Does the building meet City goals for environmental standards?
  - Such as carbon footprint, LEED standards, etc.