Enterprise Asset Management Initiative

Port of Tacoma
People. Partnership. Performance.

2013 AAPA Facilities Engineering Seminar

November 8, 2013

2012 Cargo Activity

Breakbulk = 259,915 Short Tons (+68.4%)

Rail Lifts = 439,760 (+29.7%)

Containers = 1,711,134 TEUs (+15.9%)

Total Tonnage = 18,534,288 ST (+3.7%)

Autos = 148,239 Units (-8.7%)

Logs = 66,405,210 Board Feet (-36.0%)

Grain = 4,804,265 Short Tons (-19.0%)

Source: Internal Port Statistics

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Year 1: 2012

…an Asset Management Pilot Program

Project Initiation

1. Internal interviews
2. Initial ‘all-hands’ briefings; regular updates
3. Written Project Plan
4. Consultant scope of work and selection
5. Resource recruitment
    a) Working Group
    b) Executive Steering Committee
6. Selection of short-term wins
7. Long-term commitment

Basic Message

"The Port recognizes it must monitor the condition of its assets, know where to reinvest for the greatest good and improve its understanding and control of asset life cycle costs."

Initial Approach

Pilot an asset management program, in part, through creation of an ‘escrow’ database, without changing:

1. Our systems; or,
2. How we do our business

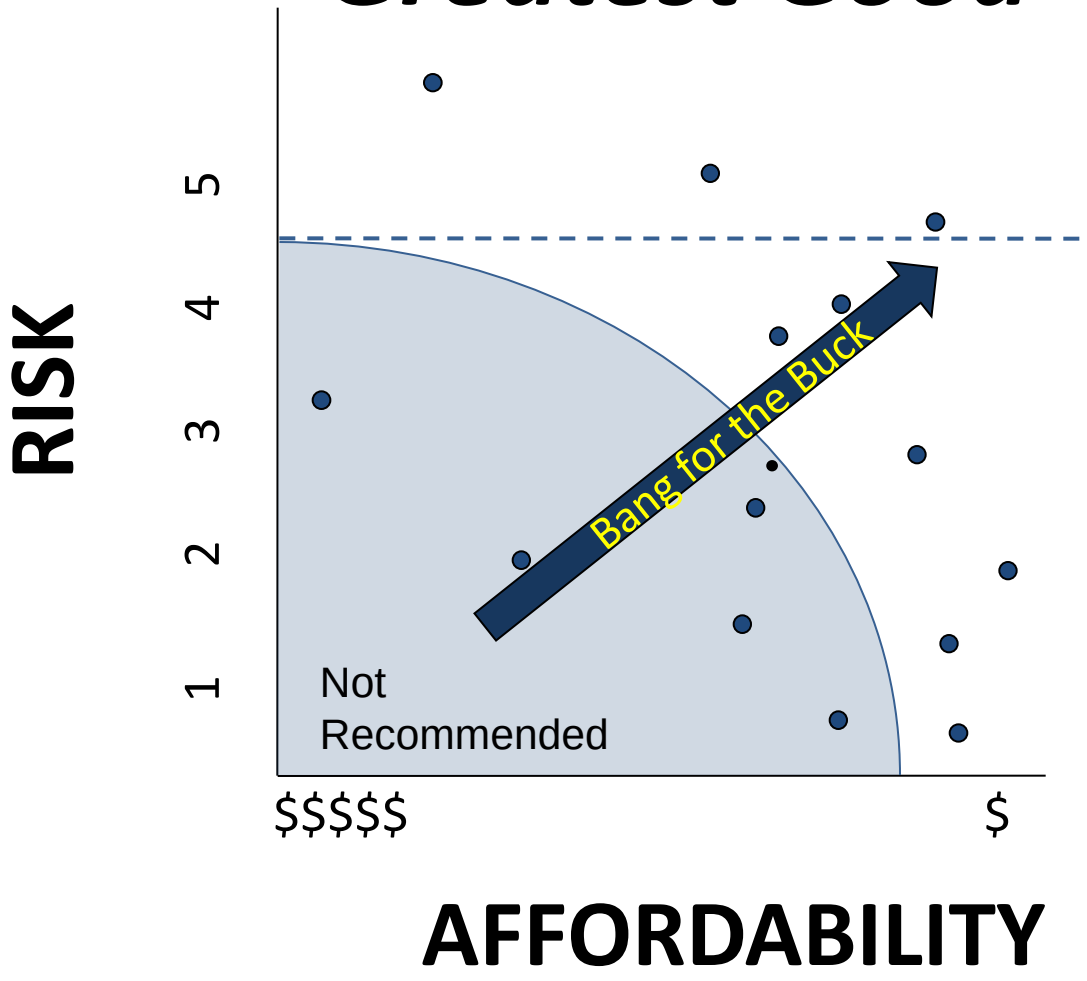
So that we can ‘*learn by doing*’ and adapt.


Lincoln Ave

Criteria Development

1. Create an objective, standardized, credible, repeatable process to guide our decision-making relative to asset reinvestments.
2. Provide organizational focus and alignment - - on problems, not projects.
3. Subject to change.

Know where to Reinvest for the Greatest Good

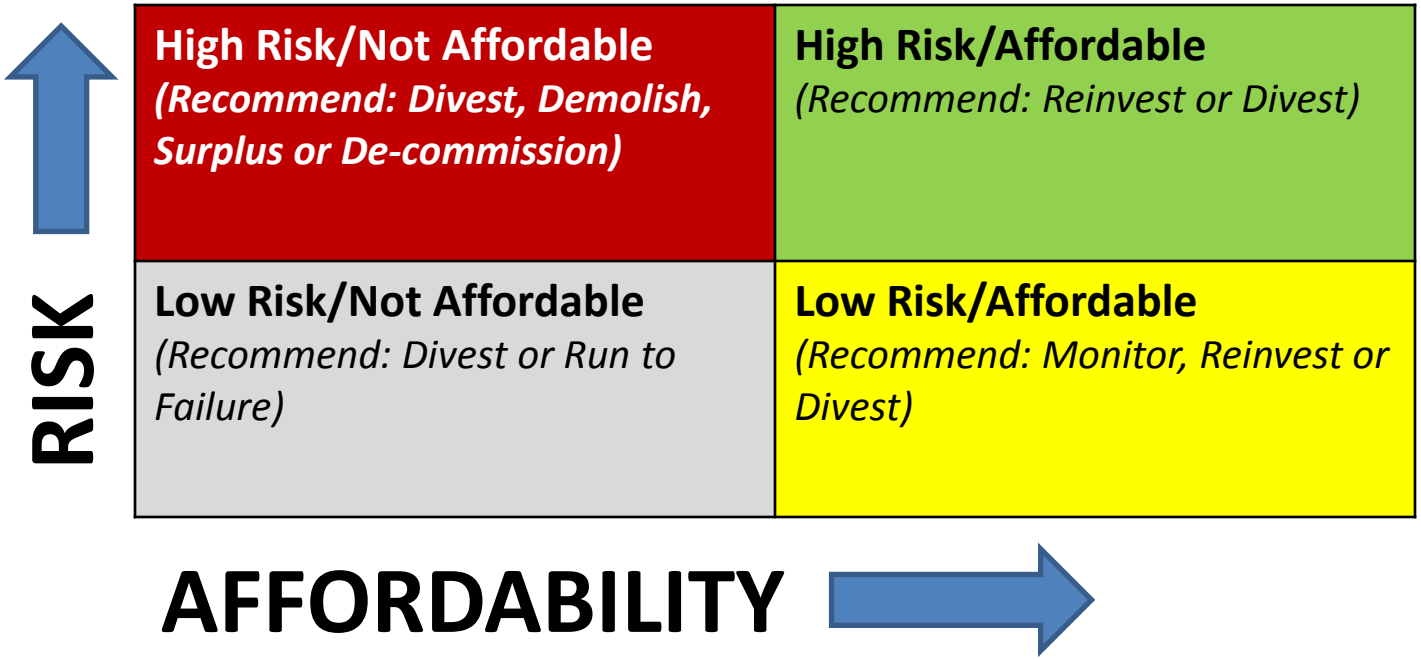


Building Roofs

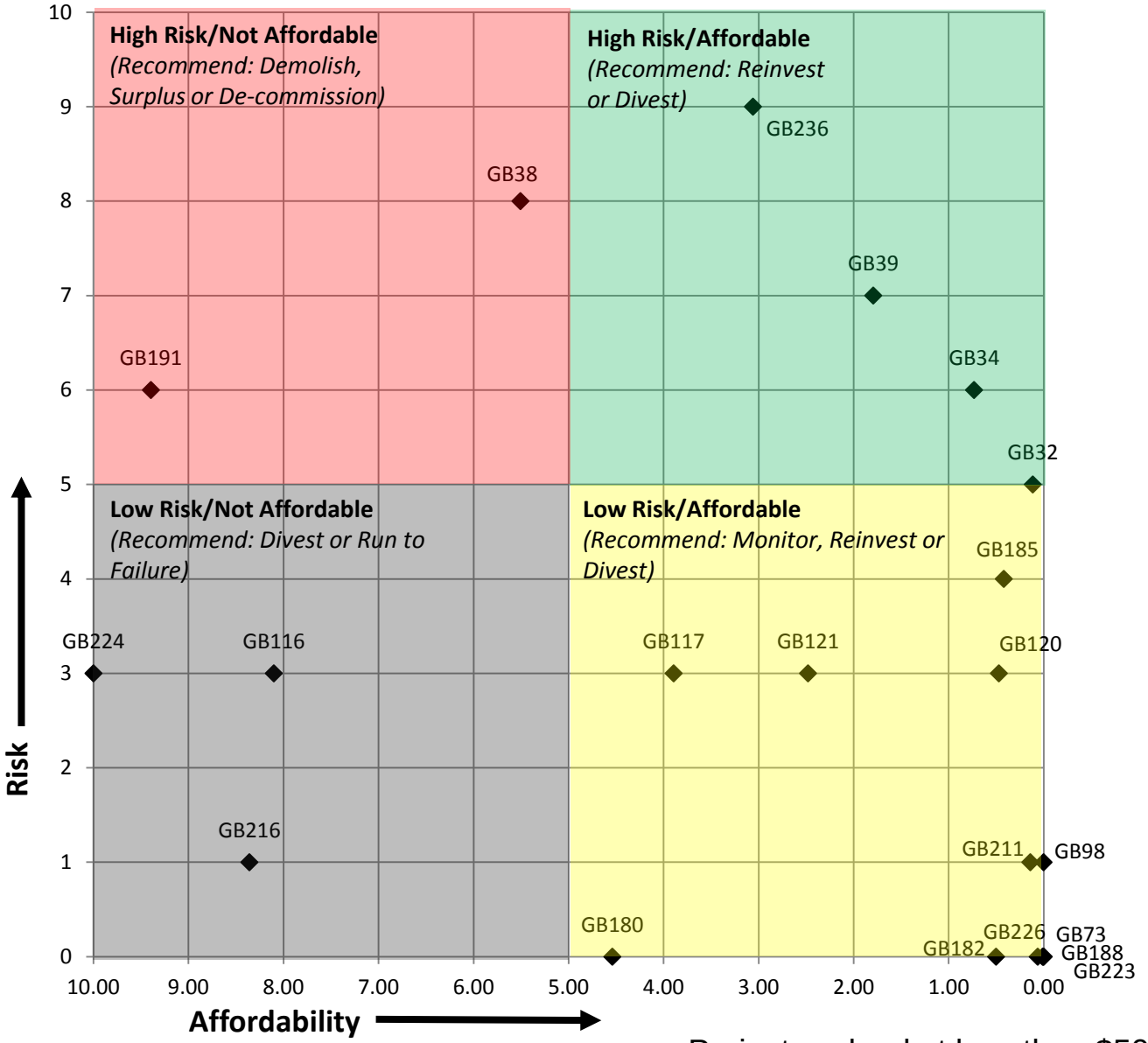
1. Reviewed available data on 244 buildings and structures.
2. Conducted field evaluations on 85 building roofs; assigned “Risk Ratings” to 76.
3. Developed roof repair cost estimates on 41 buildings.
4. Matched to available revenue data to develop prioritized list.

Array of Actions

Array our assets as points in a graphic (as follows), prioritize based on *distance from the point of origin* and categorize recommended actions (as drafted below).



Summed Risk vs. Cost/Revenue



Projects valued at less than $50,000 are not shown.

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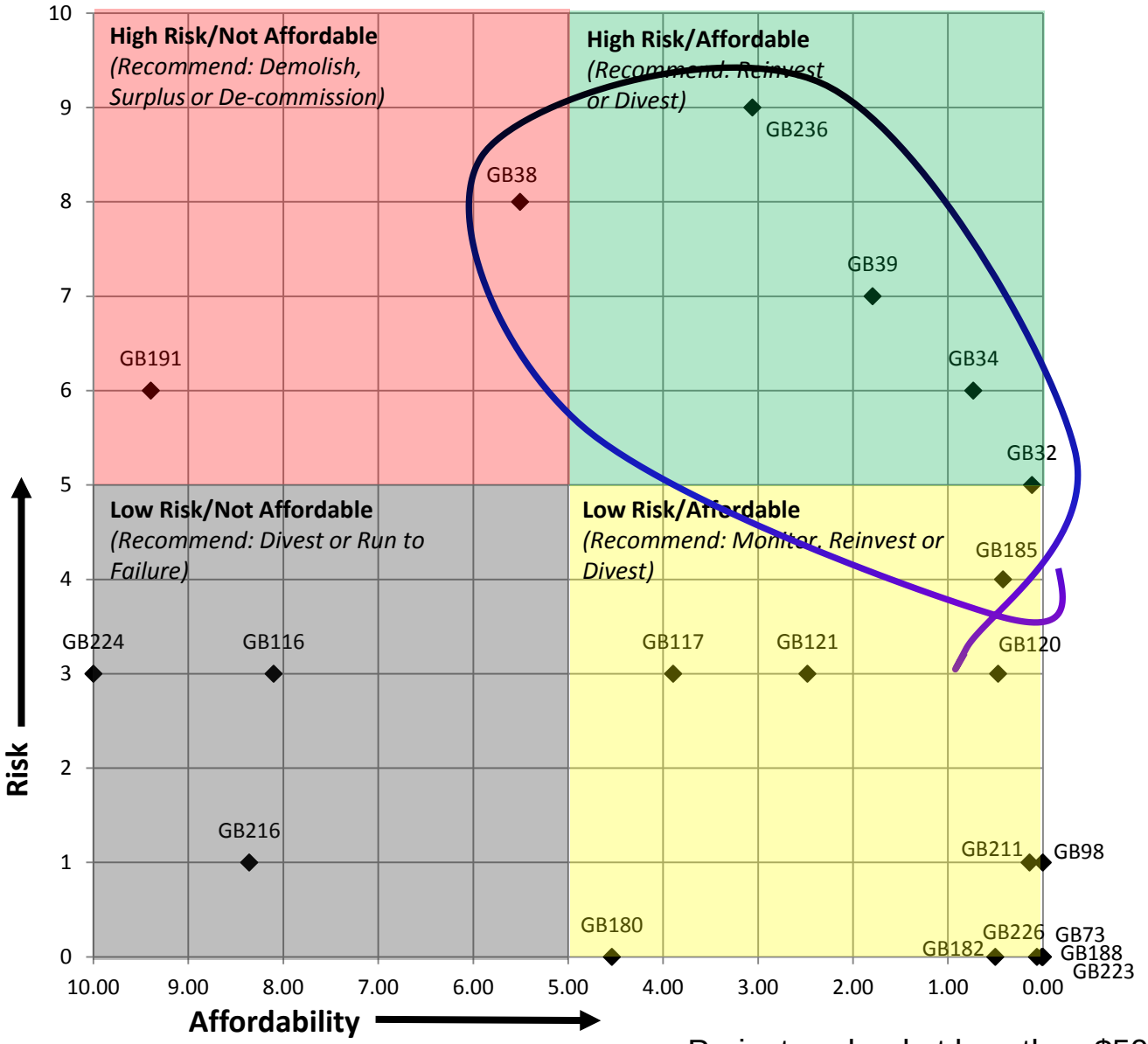

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Initial Lessons Learned

1) Create market demand; stay on message
2) Avoid becoming the “Asset Tzar”
3) Co-author a Project Plan
4) Create a repeatable decision-making process based on objective data and agreed criteria
5) Recognize the Asset Manager only manages one type of asset

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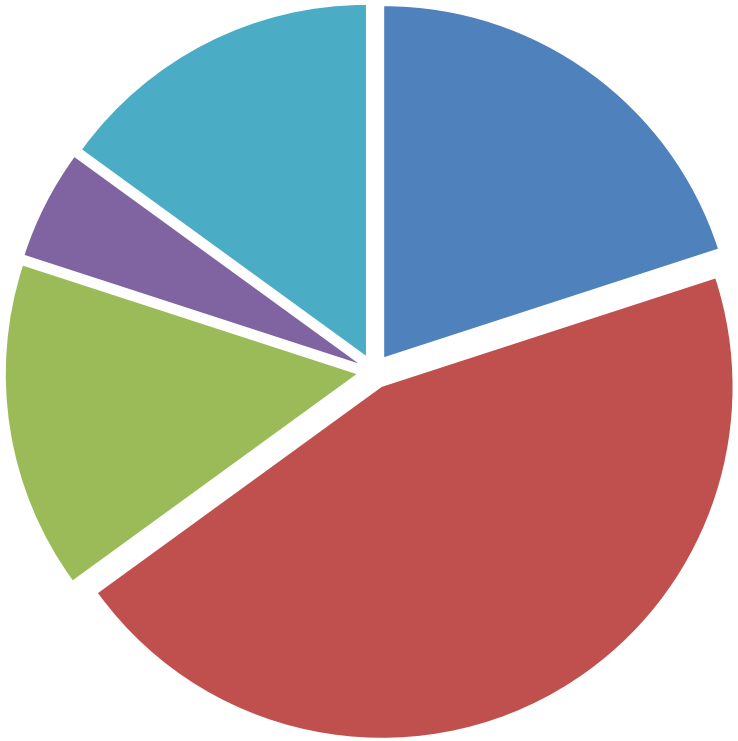
Initial Lessons Learned

6) Expect defensiveness
7) Secure early wins - - even at the expense of the long-term project schedule
8) Language barriers exist. Write the new lexicon for the organization
9) Secure a high-profile executive sponsor; Stay visible
10) Don’t go alone. Secure technical expertise

Initial Project Costs



- Project Management
- Pier and Wharf FCAs
- Database Development
- Cost Estimating
- Building Assessment/Data Pilot

Five (5) Year Program Budget: $3,475,000

Year 1 Expenditures: $970,000

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Year 2: 2013

….Standards Definition and Adoption

Current Work

1. Completing identified reinvestment projects (based on 2012 Pilot)
2. Adopting Classification and Data Standards
3. Deploying a '*Proof of Concept*'

Program Development (Year 2) Expenditures: $197,941

Identified Investments

	2013	2014	2015	Total #	3-Year Budget
Building Roofs	7	4	0	11	$6,828,000
Demolitions	0	4	0	4	1,250,000
Piers and Fenders	3	2	3	8	8,715,000
Strad Replacements	5	0	4	9	9,800,000
Auto Replacements	5	5	5	15	600,000
Planned Asset Reinvestment Totals:					$27,193,000

Asset Data Standards

Allow for:

1. Levels of Information
2. Translation
3. Transformation
4. Evaluation
5. Predictability/Portability

And, promote Cost Savings

Classification Comparisons

MasterFormat® is perhaps the most widely used standard for classifying construction information, used by designers and constructors to break down a facility into components for construction processes and cost estimations.

Uniformat™ arranges construction information based on functional elements, or parts of a facility characterized by their functions, without regard to the materials and methods used to accomplish them. This makes it ideal for facilities management.

OmniClass is a consolidation of multiple facility management classification methods (Including MasterFormat and Uniformat), normalizing and categorizing detailed attributes/properties and processes developed to support the National BIM Standard.

OmniClass Example

Cold-storage Warehouse Category Code 431-10

OmniClass

- 21-02 00 00 Shell
  - 21-02 20 00 Exterior Enclosure
    - 21-02 20 10 Exterior Walls
    - 21-02 20 20 Exterior Windows
  - 21-02 30 00 Roof
    - 21-02 30 10 Roof Covering
    - 21-02 30 20 Roof Opening

Terminal Entities

Building	BUILDING #1, GUARD SHACK (NORTH ENTRANCE), TOTE
	BUILDING #2, LANE 4 BOOTH, TOTE
	BUILDING #3, DRIVER SERVICE BUILDING, TOTE
	BUILDING #5, RELOC SHOP, TOTE
	BUILDING #6, VESSEL STORES, TOTE
	BUILDING #8, VEHICLES PROCESSING, TOTE
	BUILDING #12, GUARD SHACK (SOUTH ENTRANCE), TOTE
	BUILDING, INBOUND CANOPY LANES 4-5, TOTE
	BUILDING, INBOUND CANOPY LANES 1-3, TOTE
	BUILDING #4, TOTE ADMIN, TOTE
	BUILDING #9, MAINTENANCE BUILDING, TOTE
	BUILDING #7, TOTE TOWER, TOTE
	BUILDING #11, Dry Out Shed, TOTE
	BUILDING #10, MARINE WAREHOUSE
	BUILDING, FIRE SPRINKLER HOUSE
Structure	BUILDING, OUTBOARD SCALE, TOTE
	UNDERGROUND STORAGE TANKS
	PIER BLADDER, (North), TOTE (Assume Tank-type item)
	PIER BLADDER, (South), TOTE (Assume Tank-type item)
Linear Form	TEMPORARY OFF-DECK STORAGE AREA PAVEMENT
	CONTAINER YARD PAVEMENT
	DRIVING LANES PAVEMENT
	STAGING AREA PAVEMENT
	PLANTING, GROUNDS AND LANDSCAPING
	WASH PAD PAVEMENT
Land	TOTE EXPANSION AREA, LAND
	SUBMERGED LANDS
Environmental	CONTAMINATED LAND
	ENVIRONMENTAL MONITORING WELLS

Site Finishes	FENCE
	TRAFFIC BARRIER SYSTEM
	SHORELINE, MANAGED
	SITE SIGNAGE
	ENTRY CONTROL
Utilities and Infrastructure	ELECTRICAL SYSTEM
	NATURAL GAS/PROPANE SYSTEM
	POTABLE WATER SYSTEM
	STORMWATER SYSTEM
	SEWER SYSTEM (Should include Oil water separators)
	FIBER OPTICS/COMMUNICATION SYSTEM
	FIRE SUPPRESSION SYSTEM
	REEFER ELECTRICAL POWER
	FIXED COMPRESSED AIR SYSTEM
Water-Related Construction	MOORAGE AREA
	MANAGED WATERWAY
	NAVIGATIONAL AIDS
	CAPSTANS
	NORTH BERTH PIER
	NORTH FORWARD PIER
	SOUTH FORWARD PIER
	MIDSHIP PIER
	AFT PIER
	DOLPHINS, PIER
Facility Services	YARD LIGHTING
	SECURITY CAMERA SYSTEM

Future Work

1. Fully deploy standards
2. Implement new processes
3. Improve data access
4. Identify the Systems of Record and dismantle the Escrow Database
5. Revisit and improve analysis tools
6. Expand our condition assessments

Basic Message

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