Strategic Planning
Electrical, Lighting and Communications
October 24th, 2017
Strategic Planning

“Process of defining an organization’s strategy or direction, and making decisions on allocating its resources to pursue this strategy.”
What’s and Where’s of Strategic Planning

• Utility Corridors
• Berths/Cargo/Container Yards
• Cruise Terminals

1. Electrical
2. Lighting
3. Communications
Your Port’s Goals

1. Start with the Master Plan

2.Ports plans for the specific piece of property in question?

3.What electrical, lighting and communication systems need to be implemented to achieve these goals?
Trends

ELECTRICAL

• Energy Efficiency/Renewables
• Safety
• Smart Electrical System
• Continuity of Service
Trends

LIGHTING

- Energy Efficiency
- LEDs
  - Reduced Maintenance Costs
  - Dimming Capabilities
- Environmentally Friendly
  - Light Trespass
  - Dark Sky
  - Marine Wildlife
- Safe Working Environment
Trends

COMMUNICATIONS

- More Pathways, Power and Heat
- More Cybersecurity Concerns, and Redundancy Requirements
- Internet of Things, What Technologies Are Next.
Utility – Corridors

ELECTRICAL

• Local Utility Capacity and Reliability
• Looped Medium Voltage System
• Substation Locations
  1. Configuration
  2. Design
  3. Cost
• Voltage Needed to Serve/Support Port Functions
  1. 13.8 kV
  2. 480 V
Utility – Corridors

COMMUNICATIONS

• Wireless vs. Wired
• Where to Locate Communications Systems:
  - Configuration
  - Proximity to Electrical System
  - Design
  - Cost
• Local Infrastructure Capacity, Future Growth and Redundancy
• Manhole Locations and Securing Against Cybersecurity Threats
Berths/Cargo/Container Yards

ELECTRICAL

• Utility’s Capacities/Voltage
• Redundancies/Flexibility
• Routing
• Switchgear Placement - Flood Elevation
• Level of Smart System
• Renewables
Berths/Cargo/Container Yards

LIGHTING

• Local/State/Port/IES Requirements
• Required and Desired Light Levels
• Consistency
  - Poles
  - Lighting Controls
Berths/Cargo/Container Yards

COMMUNICATIONS

- Secure and Reliable System
- Routing Ductbanks
- Depths - Concrete Encase
- Future Proof - Growth
  - Lighting Control Systems on Communication Infrastructure
  - Building Automation Systems of Communications Infrastructure
  - IP Camera Systems, Access Control, Wireless, RFID
Cruise Terminals

ELECTRICAL

• Reliability of Service
  - Smart Electrical System
• Two Feeders and Redundant System
• Locate Utility Transformers
  - Secure and Protected Location
• Locate Equipment Above Flood Level
• Determine Necessary Voltage
Cruise Terminals

LIGHTING

• Local/State/Federal/Port Requirements
• Safety and Security Light Levels
• Architectural Lighting
• Lighting Controls
Cruise Terminals

COMMUNICATIONS

• Multiple Stakeholder Requirements
  - CBP
  - Cruise Operator
  - Security
  - Passenger Experience
• Building Communications Pathways
• More Technologies Required in Cruise Terminals
  - Digital Signage
  - DAS (Distributed Antenna Systems)
  - Building Automation Systems
General Do’s and Don'ts

Do:

- Develop Port-Wide Specifications and Design Standards
- Establish Electrical Safety Requirements for Equipment
  - Arc Flash Hazard Training
- Establish Consistent Lighting
- Define Security Requirements with Stakeholder Groups
- Establish Good Relationships with Your Utility and Communication Service Providers
General Do’s and Don'ts

Don’t:

• Install Multiple Lighting Control Systems
• Install Anything Other than LED Lighting
• Skimp on Spare Underground Conduits
• Forget to Future-Proof
• Forget to Consider Flood Levels for Equipment Locations
Recap

“Process of defining an organization’s strategy or direction, and making decisions on allocating its resources to pursue this strategy.”
Questions?