

O&M FOR CIP SUCCESS

EXPLORING THE NEW PM NARRATIVES MATRIX

DEFINITIONS

- CMMS – Computerized Maintenance Management System
- EEM – Energy Efficiency Measure
- EUI – Energy Use Intensity
- FCI – Facility Condition Index
- KSA – Knowledge, Skills, and Abilities
- O&M – Operations and Maintenance
- PM – Preventive Maintenance
- R&R – Renewal and Replacement
- WO – Work Orders

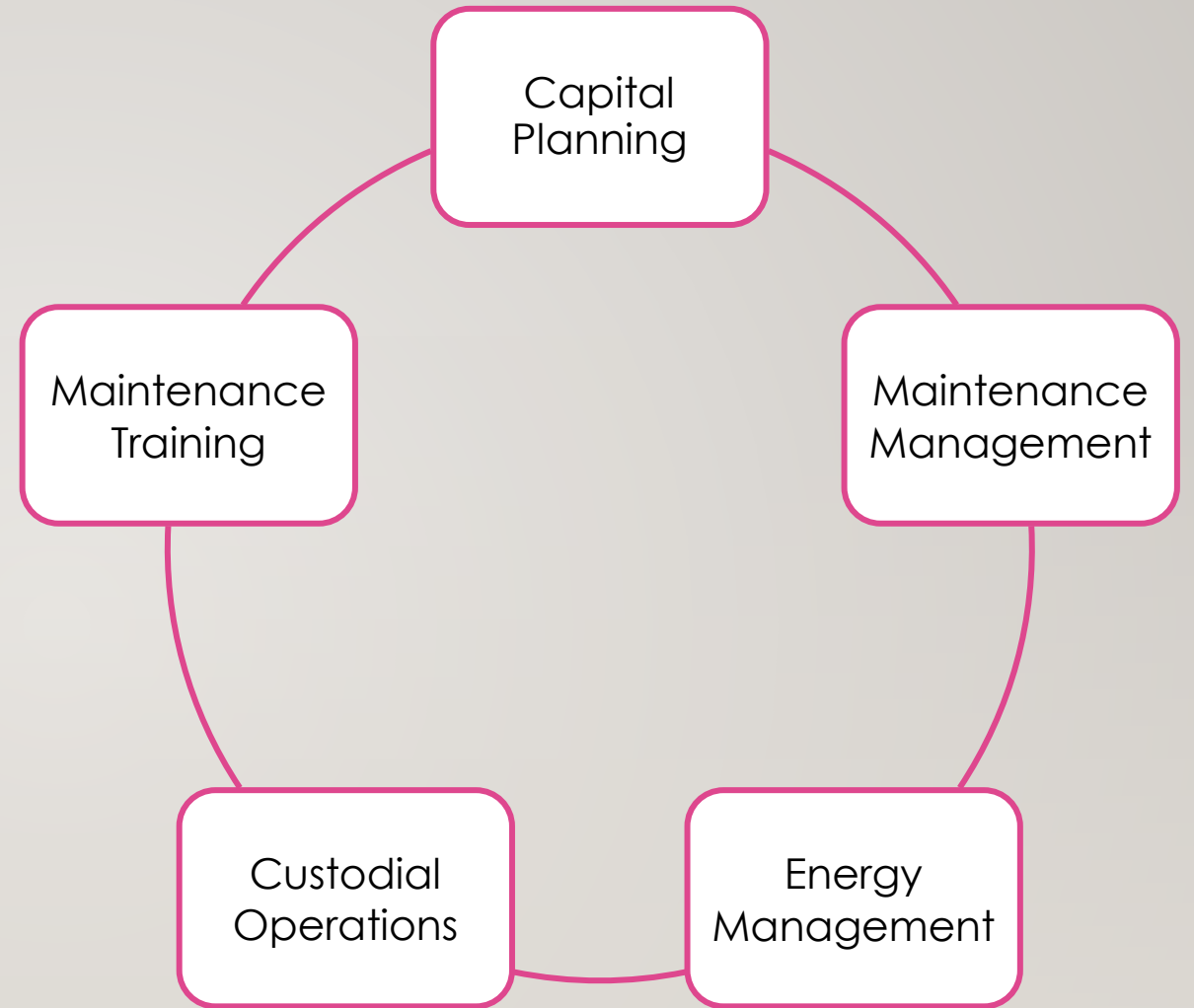
OVERVIEW



O&M SUPPORT FOR CIP

It's not just Capital Planning

It includes all areas of
Facility Management



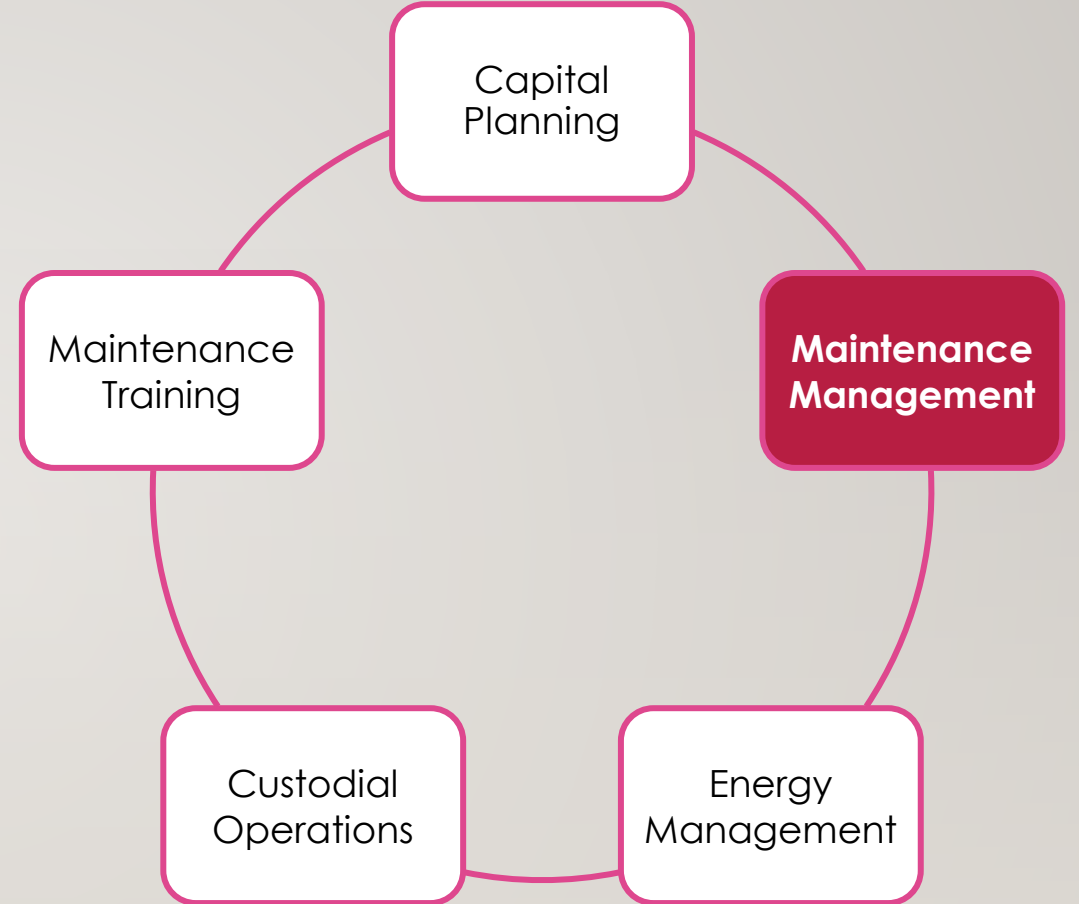
MAINTENANCE MANAGEMENT

Question 9a – Narrative & Supporting Documents

Question 9b – Maintenance Labor Reports

Question 9c – PM/Corrective Maintenance Reports

Question 9d – Five-year Average Expenditure for Maintenance



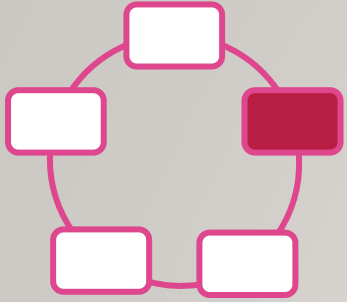
MAINTENANCE MANAGEMENT

BASIC NARRATIVE ELEMENTS

- Structure and staffing
- Work order program and process

SUPPORTING DOCUMENTS

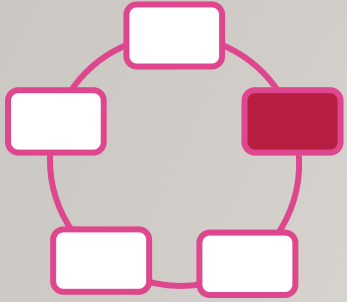
- 4 types of sample work orders
- Component report for main school facilities



NARRATIVE ELEMENTS

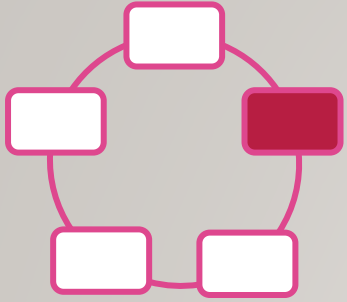
- Structure & Staffing

- Organizational structure
- Roles and responsibilities
- Staffing – district and local



NARRATIVE ELEMENTS

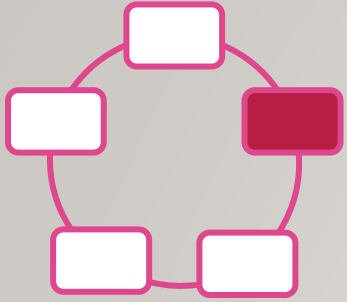
- Structure & Staffing
- WO Program & Process
- Work order classification
- Scheduling
- Tracking
- Completion/Deferral



NARRATIVE ELEMENTS

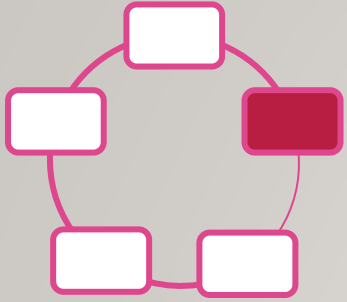
- Structure & Staffing
- WO Program & Process
- **WO Initiation**

- How are WO initiated
- Who can initiate WO
- *Goals, metrics, measurement?*



NARRATIVE ELEMENTS

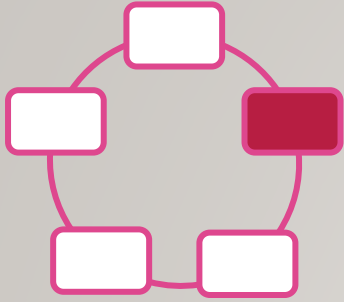
- Structure & Staffing
 - WO Program & Process
 - WO Initiation
 - **Component WO Focus**
- Component WO data
 - WO history and trends
 - Component WO scheduling/deferral



SUPPORTING DOCUMENTS

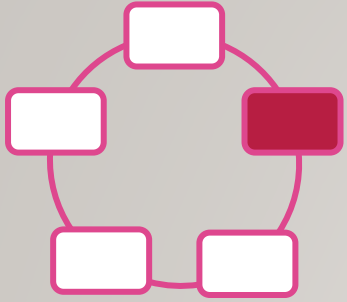
- Sample Work Orders –
3 Types

- Preventive maintenance
- Routine maintenance
- Corrective maintenance
(must show labor & material cost)



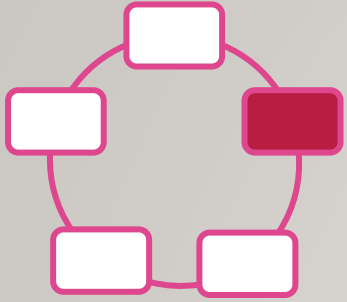
SUPPORTING DOCUMENTS

- 3 Sample General WOs (3ea)
- Sample Component WOs
- *Asset nomenclature*
- PM checklist (activities)
- Routine checklist (tasks)



SUPPORTING DOCUMENTS

- Sample General WOs (3ea)
- Sample Component WOs
- Sample WO Progressions
- Routine/CM - initiation to completion
- PM - initiation/completion to follow-on routine/CM

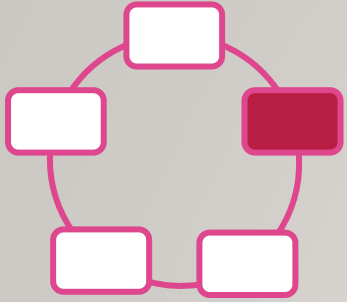


SUPPORTING DOCUMENTS

- Sample General WOs (3ea)
- Sample Component WOs
- Sample WO Progressions
- **Component Report:**
 - 10% main schools

- Date of installation
- Date of scheduled renewal or replacement;

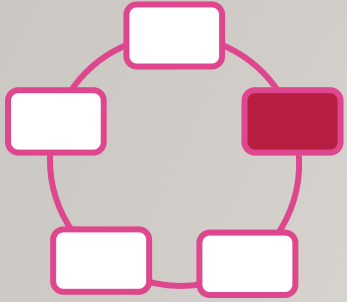
(includes components from each building system listed in DEED's R&R schedule)



SUPPORTING DOCUMENTS

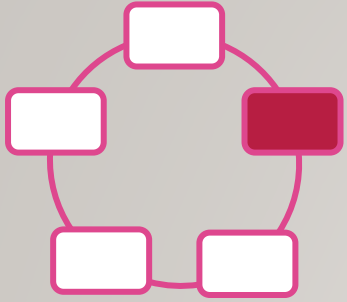
- Maintenance Labor Reports -
3 Items
 - By-month for prior 12 mo.

- Item A – labor hours on WO vs. total available
- Item B – WO completion rate
- Item C – Incomplete WO by age and status



SUPPORTING DOCUMENTS

- Maintenance Labor Reports
- Work Order Reports - 2 Items
 - By-month for prior 12 mo.
- Item A – PM WO hours to unscheduled WO hours
- Item B – unscheduled WO trends; hours and quantity



SUPPORTING DOCUMENTS

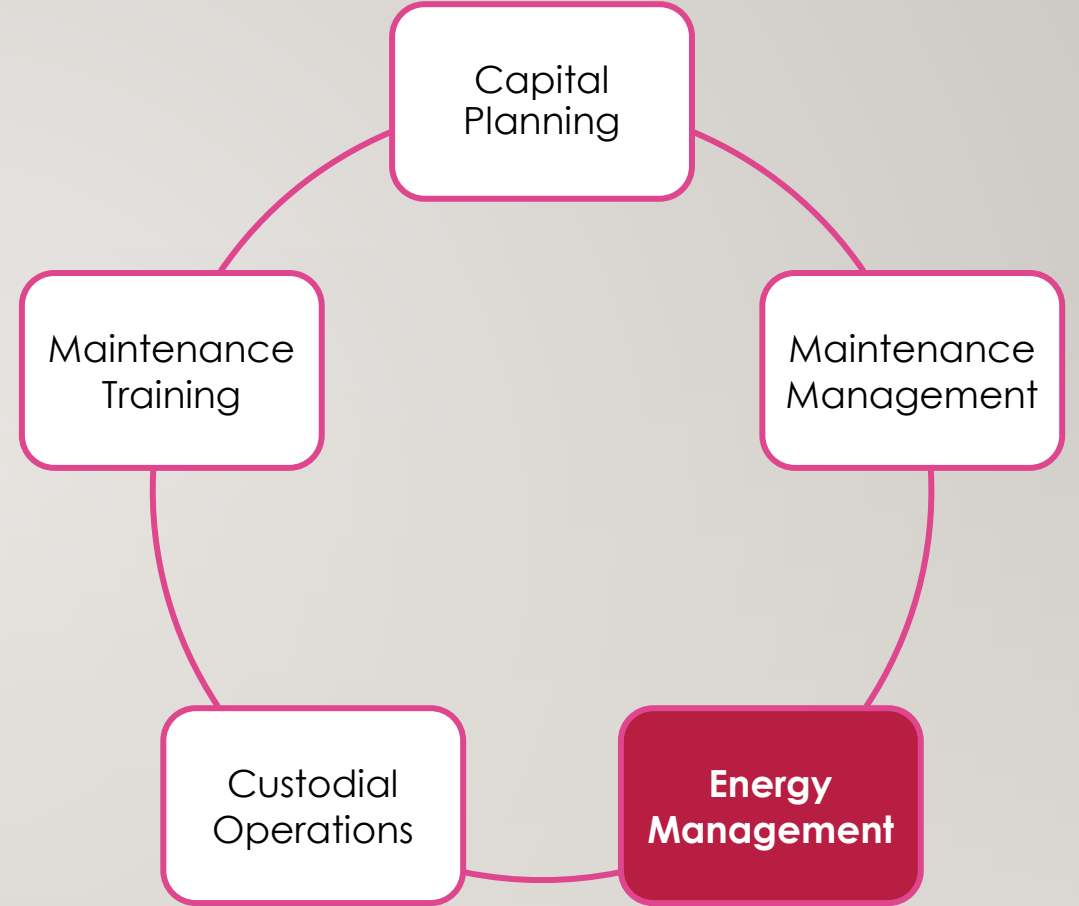
- 5yr Average Expenditure for Maintenance
 - Annual data collection

- Gathered from district annual audits
- Measured to industry standard metric:
 - *3% of building value, plus 1% for deferred maintenance*

ENERGY MANAGEMENT

Question 9e – Narrative & Supporting Documents

Question 9f – Energy Consumption Reports



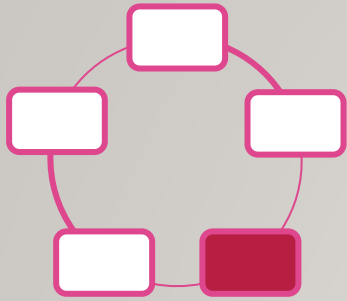
ENERGY MANAGEMENT SUMMARY

BASIC NARRATIVE ELEMENTS

- Energy policy and program structure
- Energy consumption monitoring and benchmarking
- Implementation/execution of energy efficiency measures (EEMs)

SUPPORTING DOCUMENTS

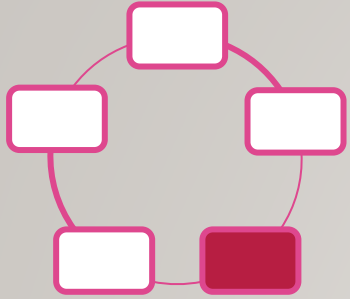
- Consumption records & main school EUIs
- Energy handbook, guide, or standard
- History of implemented EEMs



NARRATIVE ELEMENTS

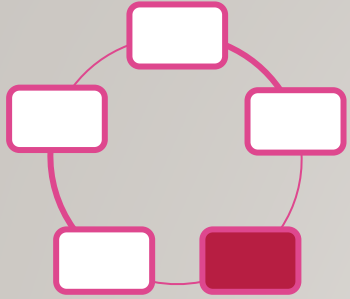
- **Energy Policy**

- *BP 3511 ENERGY CONSERVATION*
- *The School Board desires to reduce energy use in the district in order to help conserve natural resources and save money to support other district needs.*
- *The Superintendent or designee shall establish energy use reduction goals, monitor energy consumption and encourage employees and students to conserve resources. The Superintendent or designee shall regularly inspect district facilities and operations and make recommendations for maintenance and capital expenditures which may help the district reach its energy consumption goals.*
- *The Superintendent or designee shall establish an energy management program sufficient to meet, at a minimum, the standards needed in order to qualify for state-aid for school capital projects under ASI4.11.*



NARRATIVE ELEMENTS

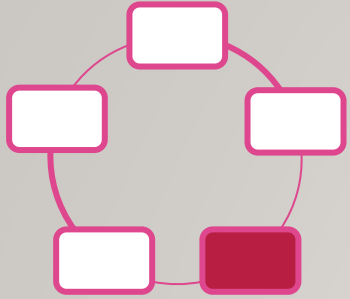
- Energy Policy
- Energy Program & Structure
- Roles and responsibilities
- Occupant comfort and safety standards
- *Goals* & benchmarks



NARRATIVE ELEMENTS

- Energy Policy
- Energy Program & Structure
- Energy Monitoring

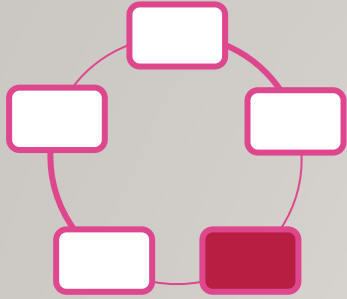
- Consumption measurement
- EUI calculations
- Energy audits & assessments
(all by-facility)



NARRATIVE ELEMENTS

- Energy Policy
- Energy Program & Structure
- Energy Monitoring
- Energy Implementation

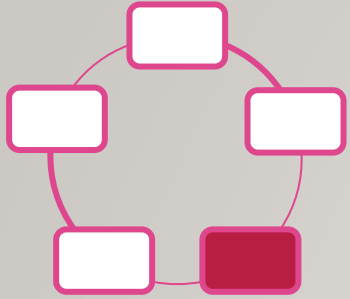
- EUI-based prioritization
- EEM identification
- EEM implementation



SUPPORTING DOCUMENTS

- Energy Handbook/Manual

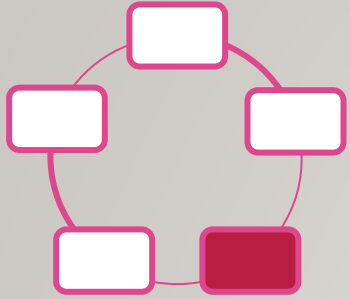
- Issued/updated 5yrs
- Covers narrative elements
- Available to district staff in electronic or print medium



SUPPORTING DOCUMENTS

- Energy Handbook/Manual
- Consumption and EUI Data

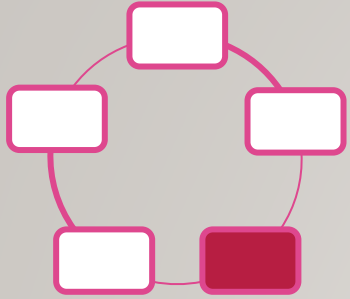
- Consumption data
- EUI calculations
(5 years historical data, by-facility)



SUPPORTING DOCUMENTS

- EEM Implementation Report

- 5-year history
- Energy savings/avoidance
- Savings documentation

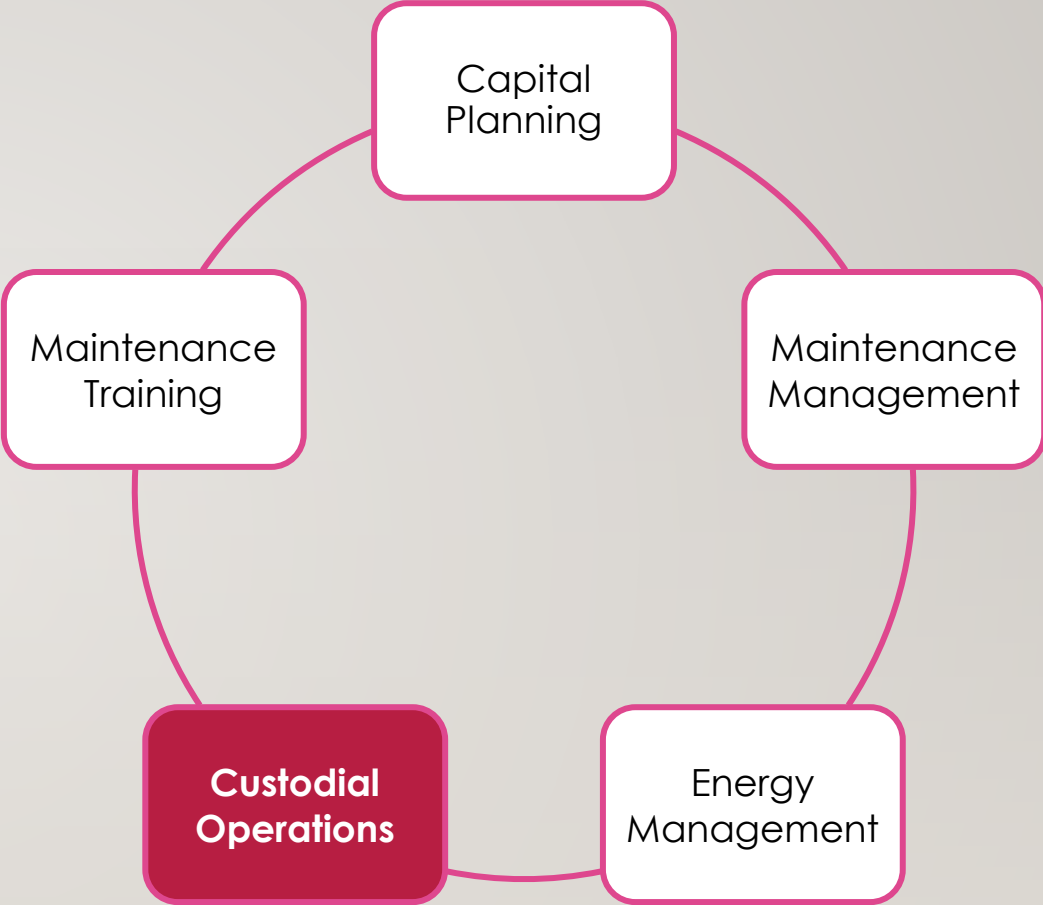


SUPPORTING DOCUMENTS

- Energy Handbook/Manual
 - Consumption and EUI Data
 - Energy Consumption Reports
- Monthly consumption
 - Each main school facility
 - 5 years of data

CUSTODIAL OPERATIONS

Question 9g – Narrative & Supporting Documents



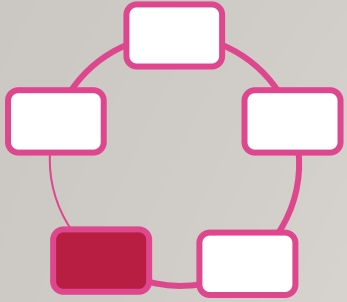
CUSTODIAL PROGRAM SUMMARY

BASIC NARRATIVE ELEMENTS

- Custodial policy, purpose, and standards
- Staffing, roles, integration w/maintenance
- Performance verification and enhancement

SUPPORTING DOCUMENTS

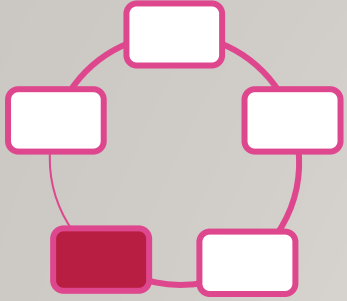
- Custodial handbook
- Site specific equipment and surface data tabulation
- Quality control checklists and site-specific results
- Report of program enhancements



NARRATIVE ELEMENTS

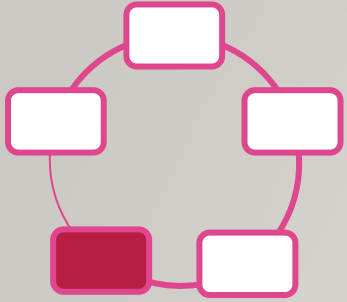
- Policy & Purpose

- Board policy
- Mission/purpose statement
- Adopted standards



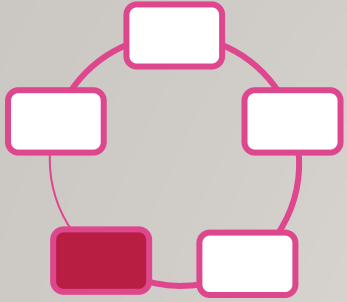
NARRATIVE ELEMENTS

- Policy & Purpose
- Custodial Program Structure
- Staffing
- Roles and responsibilities
- Integration with maintenance
- Worker & occupant safety



NARRATIVE ELEMENTS

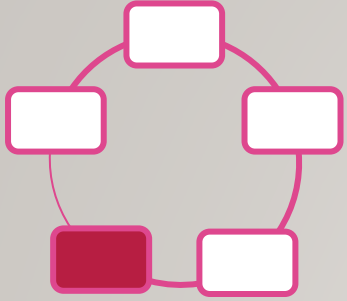
- Policy & Purpose
- Custodial Program Structure
- Performance Assessment
- Verification/quality control
- Initiatives/enhancements
- Efficiency measures



SUPPORTING DOCUMENTS

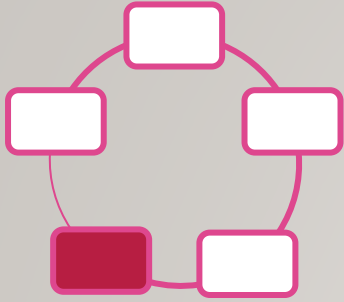
- Custodial Handbook

- Issued/updated 5yrs
- Covers narrative elements
- Available to district staff in electronic or print medium



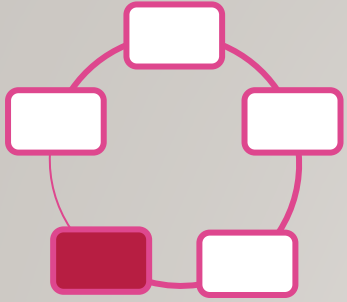
SUPPORTING DOCUMENTS

- Custodial Handbook
- Main School Supplements
- Types and quantities of surfaces and fixtures
- Frequency of care
- Staffing requirements
- Tabulated districtwide data (or)
- 2 school/yr or 1/3 of all



SUPPORTING DOCUMENTS

- Custodial Handbook
 - Main School Supplements
 - Quality Control Documents
- 10 custodian-initiated WOs
 - Q/C checklists w/photos
(minimum two facilities)

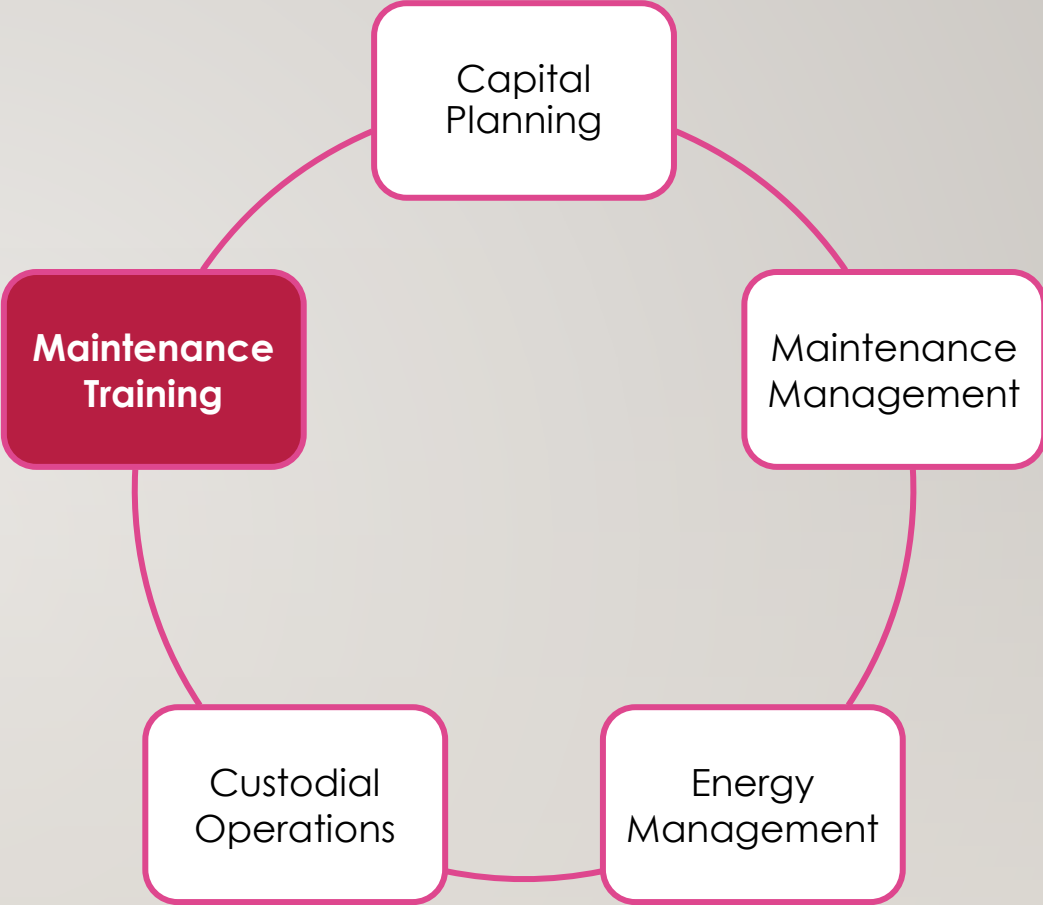


SUPPORTING DOCUMENTS

- Custodial Handbook
 - Main School Supplements
 - Quality Control Documents
 - Enhancement Report
- Sample program enhancements
 - Sample efficiency measures (within last 5 years)

MAINTENANCE TRAINING

Question 9h – Narrative & Supporting Documents



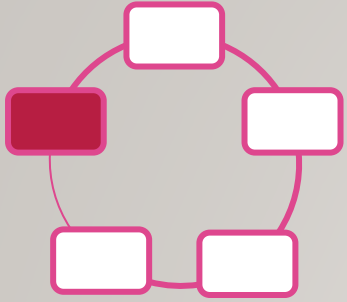
MAINTENANCE TRAINING SUMMARY

BASIC NARRATIVE ELEMENTS

- Training policy, staffing, and roles/responsibilities
- Training needs, methods, and tracking
- Effectiveness assessments

SUPPORTING DOCUMENTS

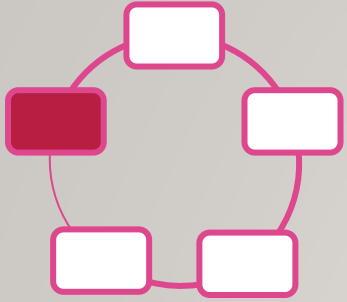
- Position descriptions that show required job functions, and KSAs
- Training plans—by individual
- Training log—5yrs, by individual
- Planned vs. completed training



NARRATIVE ELEMENTS

- Policy & Program Structure

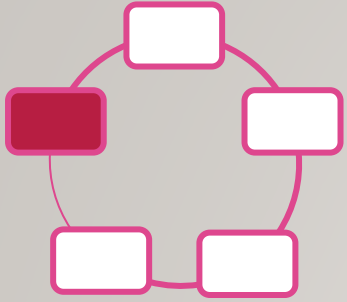
- Board or department policy
- Roles and responsibilities
- Training methods and types



NARRATIVE ELEMENTS

- Policy & Program Structure
- Training Needs Assessment

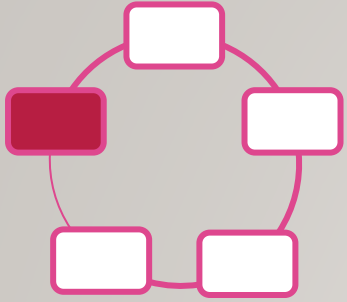
- Position description
- Job function
- Building systems supported



NARRATIVE ELEMENTS

- Policy & Program Structure
- Training Needs Assessment
- Scheduling & Tracking

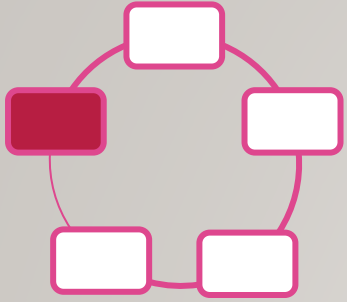
- Individual schedules
- Annual schedules
- Training documentation



NARRATIVE ELEMENTS

- Policy & Program Structure
- Training Needs Assessment
- Scheduling & Tracking
- Program Effectiveness

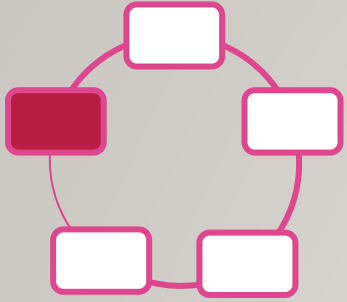
- Scheduled vs. completed
- *Cost-benefit*
- *Evaluation questionnaires*



SUPPORTING DOCUMENTS

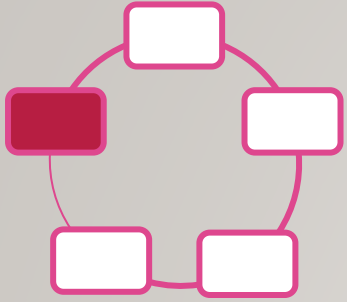
- Sample Job Descriptions

- Two from custodial
- Two from maintenance
- List job KSAs



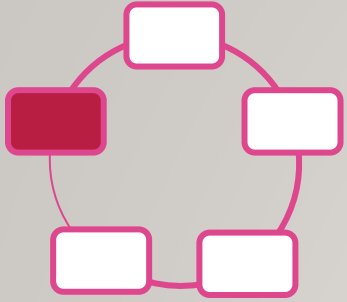
SUPPORTING DOCUMENTS

- Sample Job Descriptions
- Job Classification Matrix
- Lists of O&M job classes
- Job function list for each
- Building system KSAs



SUPPORTING DOCUMENTS

- Sample Job Descriptions
 - Job Classification Matrix
 - Training Plans
- By individual
 - Scheduled annual training
 - Title and method or type

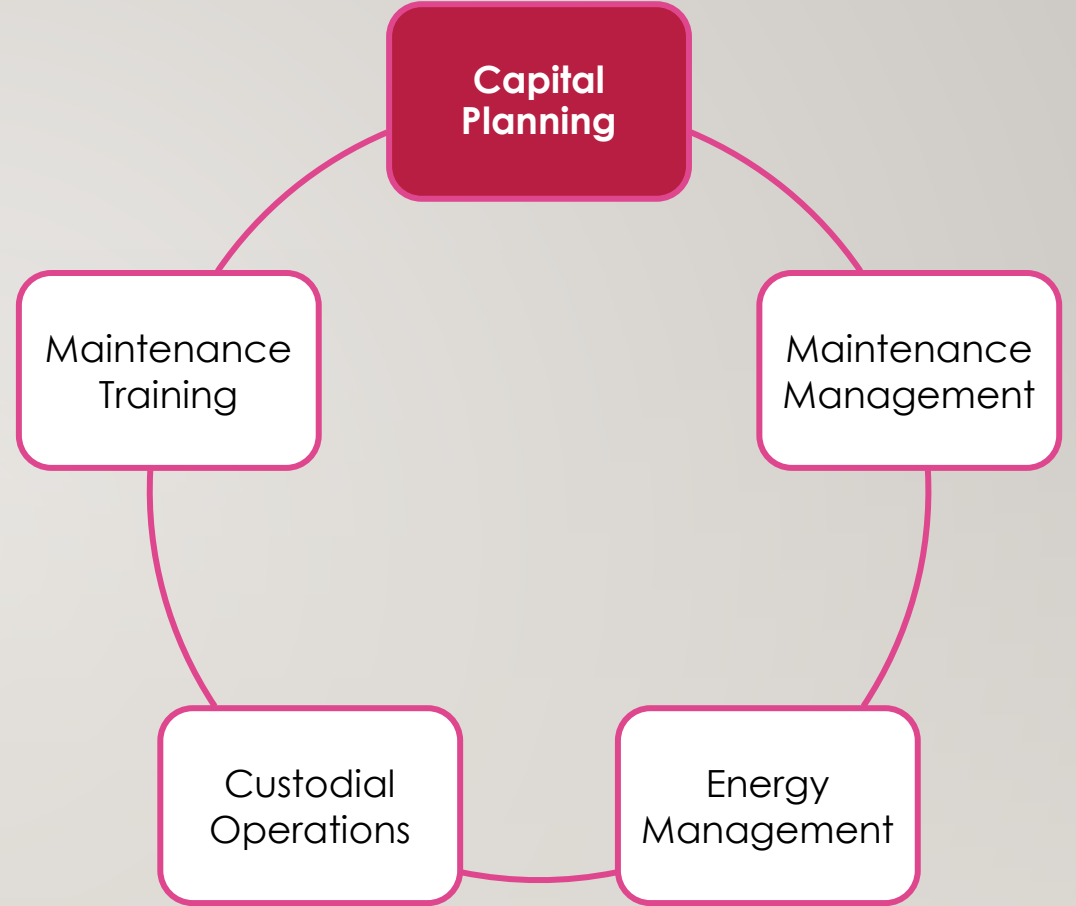


SUPPORTING DOCUMENTS

- Sample Job Descriptions
 - Job Classification Matrix
 - Training Plans
 - Program Effectiveness Report
- 5yr training log
 - Schedules vs. actual report

CAPITAL PLANNING

Question 9i – Narrative & Supporting Documents



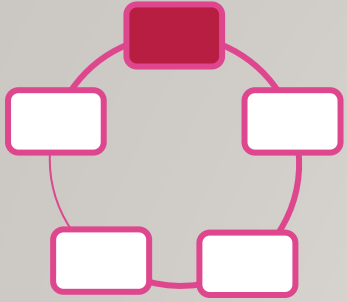
CAPITAL PLANNING SUMMARY

BASIC NARRATIVE ELEMENTS

- Planning policy, procedure, structure, and staffing
- Forecasting process, scope
- Forecasting verification

SUPPORTING DOCUMENTS

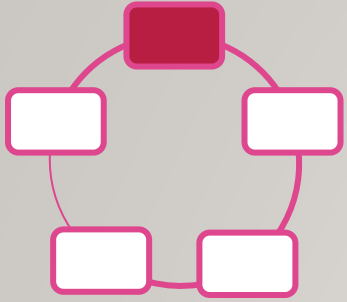
- Capital planning report and 6-yr plan
- Main school FCIs
- Population projection by attendance area
- Effectiveness and trends report(s)



NARRATIVE ELEMENTS

- Policy & Procedure

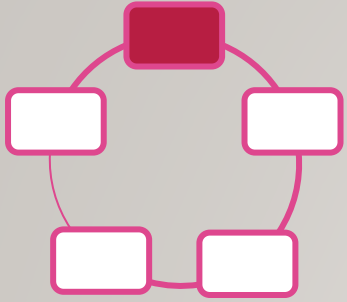
- Board or department policy
- Program structure
- Responsibilities and staffing



NARRATIVE ELEMENTS

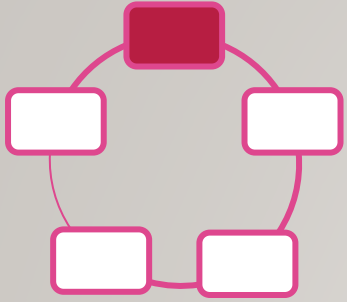
- Policy & Procedure
- Forecasting & Verification

- Renewal-based forecasting
- Program-based forecasting
- Population-based forecasting
- Condition assessments
- User input
- Maintenance WO analysis



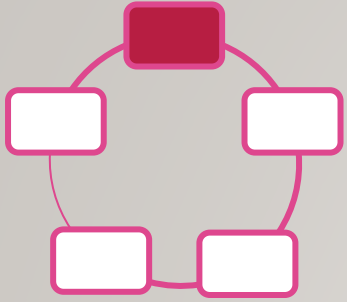
NARRATIVE ELEMENTS

- Policy & Procedure
 - Forecasting & Verification
 - CIP Development
- Project development
 - 6yr CIP planning
 - Resources and funding



NARRATIVE ELEMENTS

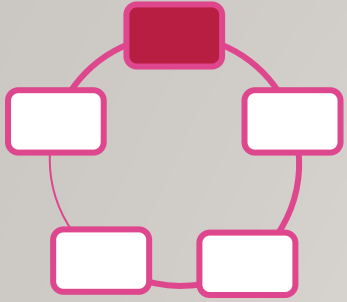
- Policy & Procedure
 - Forecasting & Verification
 - CIP Development
 - Program Effectiveness
- *Capital needs backlog*
 - Building condition trends



SUPPORTING DOCUMENTS

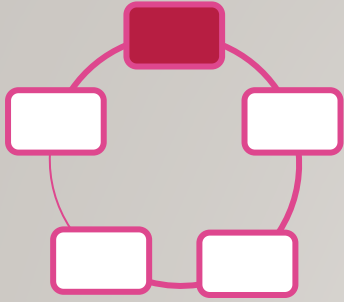
- Capital Planning Report

- Within past 12 months
- 6-yr CIP plan with at least one project in every year of the plan
- Considers all fund sources



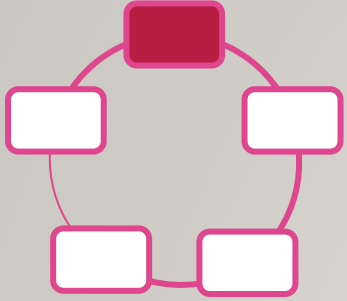
SUPPORTING DOCUMENTS

- Capital Planning Report
- Main School FCIs
- FCI calculations for main schools
- Condition assessments < 5yrs



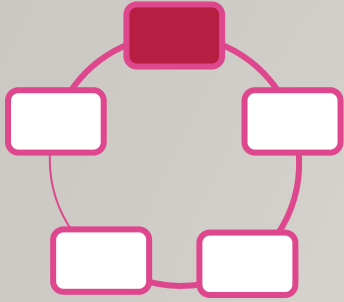
SUPPORTING DOCUMENTS

- Capital Planning Report
- Main School FCIs
- Student Population Projections
- Minimum 5-year outlook
- All district attendance areas



SUPPORTING DOCUMENTS

- Capital Planning Report
 - Main School FCIs
 - Student Population Projection
 - **Condition Assessments**
- All projects in year-one of CIP



SUPPORTING DOCUMENTS

- Capital Planning Report
 - Main School FCIs
 - Student Population Projection
 - Condition Assessments
 - Program Effectiveness Report
- Districtwide FCI trend (5 yr)
 - Districtwide capital exp. trend (5 yr)

FINAL THOUGHTS



DEED RESOURCES

Education.Alaska.Gov/Facilities/PM

- PM Publications, Guidance, and Tools

Education.Alaska.Gov/Facilities/Publications

- [Life Cycle Cost Analysis Handbook](#)
[Life Cycle Cost Analysis Workbook](#)
- [Capital Project Administration Handbook](#)
- Forms for Annual Reports, Closeout Worksheets, Six-Year Plan

FACILITIES STAFF – HERE TO HELP

- Tim Mearig, Architect/Facilities Manager, 465-6906
- (Vacant), Architect Assistant, 465-1858
- Wayne Marquis, Building Maintenance Spec. (PM), 465-6928
- Lori Weed, School Finance Spec. (grant), 465-2785
- Sharol Roys, School Finance Spec. (debt), 465-6470

Education.Alaska.Gov/Facilities