artment of Housing and Urban Development
Public and Indian Housing

Managing Maintenance in Public Housing
A Guide for Administrators and Supervisors

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PREFACE

This Guidebook was produced as one of several ongoing efforts by the Department to provide assistance to housing authorities in the area of maintenance. It contains no specific requirements, but is intended to serve as a resource for the industry (including public housing agencies, Indian housing authorities, resident management corporations, resident leaders and HUD staff) in addressing maintenance problems where they exist through structured systems of maintenance administration.

It is recognized that the material contained in this Guidebook is extensive. For that reason, some of the material may not be particularly suited to smaller housing authorities. However, the principals of maintenance management have universal application and with minimal modifications to suit their specific needs, smaller housing authorities should also find the Guidebook useful. Further, the Department is planning to issue a similar publication specifically tailored to small housing authorities.

Additionally, portions of the Guidebook may be helpful in exploring solutions to a specific maintenance problem. For example, if a housing authority were experiencing low Public Housing Management Assessment scores in the Unit Turnaround Indicator, the Vacancy Reoccupancy section and the Preventive Maintenance Program sections of Chapter III would be useful to explore solutions to such a problem.

Another important use of the Guidebook is in the areas of training and indoctrination. The Guidebook is an excellent resource for educating newly hired housing authority and HUD staff as well as residents and resident leaders on the ingredients and techniques for successful maintenance management.

Other maintenance related efforts that are in various stages of completion by the Department at this printing include a Supervisory Maintenance Training Curriculum, a Supervisory Maintenance Training Video and sample Guide Specifications for housing authority purchase of materials, supplies and equipment. The industry will be notified as these efforts are completed.

Additional copies of this document can be obtained through the HUD USER at (800) 245-2691.

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Public and Indian Housing

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I. INTRODUCTION

The primary purpose of this manual is to provide the basic principles for organizing and managing the maintenance operations in a public housing authority (PHA). The manual is intended for broad use, both in a wide range of housing authorities and among a wide range of staff within a PHA. It will provide minimum procedures in each area, which is to say guidelines rather than instructions, on how to address each maintenance function.

This manual is intended for use primarily by the policy makers and supervisors in the housing authority. It provides a clear definition of the key elements of a well-run and fully integrated maintenance system. This information can also serve as a standard against which to measure the adequacy, in terms of efficiency and effectiveness, of existing PHA policies and procedures. The guidelines contained here will have to be supplemented by more detailed and specific information in order to be useable by maintenance workers at a particular PHA.

HUD, housing authority staff, and housing professionals have all contributed their years of experience to the preparation of this manual. The result is a practical set of guidelines that supervisors in both large and small housing authorities will be able to put to immediate use.

MAINTAINING THE PHYSICAL FACILITIES

Maintaining the physical facilities of a housing authority should be the focal concern of all PHA staff. Every department and employee has a role to play in the delivery of maintenance services in a housing authority. The responsibility for maintaining the physical facilities is not the job of the maintenance staff only:

Management Department

The management department must have policies and procedures in place that encourage resident cooperation and penalize residents who are negligent or abuse property. Having residents assume responsibility for maintenance tasks such as lawn care or snow removal in yard areas of individual units is one such initiative. When a PHA is experiencing costs associated with resident damages or move-outs with residents owing rent or leaving damaged or unclean units, another management initiative is to implement provisions through its lease for adequate security deposits and damage charges. Absent such policies, the PHA will not have sufficient resources to maintain its property. Damage charges have the additional benefit of deterring damages, thus decreasing the maintenance workload. Firm, consistent and fair lease enforcement therefore becomes a critical element of the maintenance delivery system in a well-run housing authority.

Admissions Department

The admissions department supports the maintenance effort by doing proper applicant screening for non-economic criteria. It is this department's responsibility to weed out through its screening process those applicants with a history of destruction of property,

poor housekeeping habits, and/or social problems which could result in property damage or have a negative effect on the environment of the community. Additionally, this department must have appropriate applicants ready to lease units when the maintenance department finishes preparing vacant units for reoccupancy. Unoccupied vacant apartments invite vandalism which results in costly repeat repair work.

Legal Department

As staff enforce screening procedures and lease provisions, it is the responsibility of the legal staff or representative of the housing authority to gain the understanding and support of the local court system. It takes time, careful discussion and effective presentation to get court officers and judges to appreciate the relationship of screening and lease enforcement on the physical appearance and condition of public housing developments. The PHA's legal representatives therefore play an important role in developing external support for the authority's maintenance policies and procedures. The legal representative's work is also helping the authority to demonstrate its commitment to these standards to applicants and residents.

Finance/Purchasing Department

The finance department must have effective purchasing and vendor payment procedures, to ensure the availability of materials and service contractors needed to perform maintenance work in a timely manner. Materials shortages can stop all work on a maintenance task. This can result in idle or inefficient use of maintenance workers, excessive delays in completion of work orders, and loss of credibility with residents.

These are only a few examples of the ways in which the policies, procedures and actions of each department in a PHA directly impact maintenance services and the quality of resident life. A well managed housing authority recognizes these interrelationships and constantly reinforces them through clear and consistent staff supervision.

MANAGING THE MAINTENANCE OPERATION

Managing maintenance is a major role for any housing authority. The complexity of the job is determined by the number of public housing units in the authority's inventory, the age and condition of units, the location and design of the units and the characteristics of the families in occupancy. A well-managed maintenance operation will provide for:

1. Timely response/resolution by maintenance staff to emergencies

2. A preventive maintenance program which includes:
   - o Annual unit inspection and repairs
   - o Regular servicing of mechanical systems
   - o Regular servicing of equipment and vehicles
   - o Regular inspection and upkeep of buildings and grounds

3. A work order system organized by type of work

4. A program for repairing and returning vacant units to occupancy within an acceptable time frame

5. A routine maintenance program including regular janitorial services

6. Minimal backlog of maintenance work orders

7. A maintenance work force appropriately trained, staffed, supervised and utilized

8. Quality control program

The importance of quality maintenance performed in a timely fashion cannot be over emphasized as a priority for a public housing authority. Systematic and prudent maintenance keeps the authority's physical plant in a good state of repair and extends its useful life. This results in lower operating and upkeep cost. A competent maintenance program also enhances resident satisfaction and encourages resident cooperation.

A managed maintenance system is one with a minimum of surprises. The first task is to evaluate current or existing conditions, in order to get a baseline against which to measure future performance. This may be a difficult task or produce results which do not appear to accurately reflect existing conditions. The quality or reliability of available data may produce unsatisfactory results, but the effort will be instructive for future programming. Managing maintenance means planning service delivery. The process starts with this initial assessment of conditions and is supported by an approach to work which anticipates needs and provides accurate information for future planning.

Structure and discipline are cornerstones of a managed maintenance operation. The steps required can be easily identified and are listed below. However, the time and effort needed to customize programs should not be underestimated. Each task has to be specifically adapted to each authority and site, as well as periodically updated, if the PHA's service delivery system is to perform at maximum efficiency. The authority must:

1. Set Priorities

2. Establish Procedures

3. Define Uniform Performance Standards

4. Document Demand and Operating Costs

5. Offer Instruction and Training

6. Engage in Long-Range Planning

This is a lot of work. Why do it? Because we cannot afford to not do it. Demands always seem to be growing, while resources seem to be diminishing. This manual is intended to help PHA administrators and supervisors address this challenge.

The guidelines contained in this non-technical document should serve to more clearly define the components of a minimum effective program to ensure that all required maintenance services are managerially directed and controlled through uniform policies and procedures of accountability. These procedures, when fully implemented, will confirm whether any and all maintenance services delivered are cost effective, efficient and timely.

II. MINIMUM REQUIREMENTS FOR MANAGING MAINTENANCE

To develop and operate a comprehensive, well integrated and cost effective maintenance program in a PHA requires clear definition of goals, structure and expectations by administrators and supervisors. Outlined below is an approach to doing this. If a PHA follows the steps presented, supervisory personnel will gain a sense of confidence and control over individual functional areas as well as the maintenance delivery system as a whole. This effort results in improved maintenance services for residents and more cost effective operations at the PHA.

1. SET PRIORITIES

Definition: Identify the system that will be used to determine the order of work assignments.

The PHA must have a comprehensive and systematic approach to maintenance activities. The work priority list should be short, clear and have a minimum of overlap between categories. The list of priorities is a statement of the PHA's philosophy for meeting its obligation to maintain the physical facilities in a safe, sanitary, efficient, cost effective and attractive manner. The priorities, in short, are a statement of the agency's goals.

The integrity of a priority system, and therefore its effectiveness as a management tool, is dependent upon all parties recognizing and respecting the system. Concurrence must include the Board of Commissioners, and the entire senior management team of the authority residents, as well as the on-site maintenance and management staff. When a set of maintenance priorities is defined and accepted for use in a PHA, all administrators, staff and residents should be informed.

The priority system adopted by a PHA should demonstrate the agency's recognition of its obligation to provide safe, decent, sanitary housing in the most cost effective manner possible. It should be a system that minimizes liabilities, maximizes income/occupancy, and anticipates needs. The system found that most aggressively accomplishes these goals is the following:

Priority 1: Emergencies
Priority 2: Vacancies
Priority 3: Planned Operations and Services
Priority 4: Routine Requested Services

Establishing such a system of priorities within a PHA is the first step toward managing the maintenance services of the authority.

The program of services under each item is discussed in Service Categories, Section III of this manual. Establishing the most cost effective order is the concern here. Hazards to health and safety (Emergencies) must be given the highest priority, and not doing this work immediately will vastly increase the cost of the corrective work.

Vacant apartments mean a reduction in available housing resources, as well as income loss to the PHA, and may pose a safety threat to existing residents. These unoccupied units also tend to invite vandalism and thus create additional costs that can be avoided by rapid reoccupancy.

Work requests generated by management and/or maintenance personnel as a result of conducting preventive maintenance inspections, should be addressed before resident requests for routine maintenance. Many requested maintenance services by residents and others fall into one of the higher priority categories and should be treated as such. Scheduled routine maintenance such as checking the condition of grounds or furnaces should also be done before resident requests. The objective is to identify and correct problems early, before they affect resident living conditions.

As the maintenance system becomes more effective in anticipating problems and/or catching them when they are still minor, the number of resident requests should actually decrease. The focus of the inspection programs is to find problems before they become aggravated or of crisis proportions. Catching problems early before the item is a resident problem can significantly reduce the need and cost for the later corrective work.

2. ESTABLISH PROCEDURES

Definition: Convert the agency's policy statements into specific instructions with a system of accountability supported by reporting forms.

Procedures define the method by which all functions and tasks are performed in the PHA. They provide a uniform approach for all workers to follow and be held accountable to in performing their duties. Staff accountability to agency policies can only be expected and achieved if all policies are supported by procedures, and all procedures are written.

If, for example, a PHA adopts a policy which states that emergency work receives the highest priority for service, and must be resolved within 24 hours, then there should be a set of procedures that explicitly define how this policy will be supported. The procedures, at a minimum, would define who receives the emergency calls and dispatches staff, how 24 hour coverage is provided and by whom, how the decision is made to categorize the work request as an emergency, and what level of work is completed to abate the emergency versus the level of work needed to fully restore the unit/site to its original condition.

The minimum content of any operating procedure, to be effective, must include the location and amount of every item or system component that is to be inspected, serviced or generated. The procedure must stipulate who (by job title) is to conduct the inspection, service, or operation, and on what schedule.

A well-written and effective procedure will specify the following:

- o Purpose of procedure
- o Job title responsible for initiation of task
- o Job title responsible for scheduling task
- o Job title responsible for performing task
- o Form used to document initial condition
- o Form used to document work performed and cost
- o Schedule or frequency of action
- o Explicit guidelines to ensure safety of service

In order for written procedures to serve their intended purpose of implementing agency policy and defining a system of staff accountability, they cannot be viewed as unchangeable static documents. Procedures should be regularly reviewed, updated and/or eliminated. Changes in equipment, personnel, and techniques can affect the approach which should be used to most efficiently carry out a function or work task.

The relationship between policies and procedures, and their enforcement has a dramatic impact on maintenance. The well managed PHA recognizes the relationship and makes this the backbone of its operation. The poorly managed agency overlooks or ignores the relationship resulting usually in conflicting policies and procedures, and poor staff accountability.

3. DEFINE UNIFORM PERFORMANCE STANDARDS

Definition: Establish measures that will be used to determine the productivity and efficiency of maintenance operations.

Performance standards must be clearly stated and understood by all personnel. The agency's ability to hold staff accountable is dependent upon the clear statement of what is acceptable performance for each task.

The uniform, timely and accurate identification of deficiencies in the agency's physical facilities is reliant upon recognition by board, staff and residents of the performance standards operative in the authority. Performance standards in a housing authority should be attainable by the staff and resources available to the agency. They are not intended to be either unreachable goals that staff strive toward, or a minimum level of staff productivity. Performance standards should be set at the level which is necessary for the agency to meet its obligation to provide safe, decent, sanitary housing in a cost effective manner.

Whenever performance standards are being prepared or revised, several factors affecting authority operations should be considered including:

- Applicable Local Codes for Physical Facilities
  - Building
  - Existing Structures
  - Plumbing
  - Electrical
  - Licensing
  - Fire
  - Zoning
- Applicable Dwelling Unit Standards
  - HUD Housing Quality Standards for Occupancy (HQS)
  - Housing Code for Habitability
  - National Fire Prevention Association (NFPA)
- Applicable Agency Policies
  - Personnel Policy
  - Collective Bargaining Agreements
  - Lease Agreements
  - Administrative Operating Policies
- Applicable Federal and Local Laws
  - Lead Paint Abatement
  - Solid Waste Recycling
  - Handicap Access
  - Hazardous Materials Removal

Developing a set of performance standards for the authority, its individual sites and staff is a task that should be done with considerable review and care. The most appropriate starting point is to analyze the agency's performance against the HUD defined standards which are stated in the Public Housing Management Assessment Program (PHMAP). PHAs are advised that these standards will be revised from time to time. These performance standards represent the basis upon which HUD will judge, then evaluate the condition and operation of a housing authority. PHAs are strongly encouraged to consider these standards when setting the performance goals for their individual agency.

After adopting a set of performance goals against which the entire agency's performance will be measured, a series of questions should be asked. First, in order to achieve the agency's performance goals, what will each department and housing development have to do? The answer to this question will serve as the basis for setting individual department and property site performance goals. This answer will also help to facilitate the process of identifying resource and staffing deficiencies.

The second question is how do the agency's performance goals relate to individual staff job descriptions? The answer to this question will aid supervisors and personnel managers in setting individual staff performance standards for the PHA's employees. Some PHAs have established standards such as those listed below as a means of quantifying performance. Individual PHAs should set such standards based upon the PHMAP goals and the condition of its existing units.

Examples of Performance Standards

1. Respond and resolve emergency request, within 24 hours.
2. Prepare vacant units for reoccupancy within 21 days.
3. Respond to routine maintenance requests within three working days.

To complement this effort, some PHAs have established performance time standards for individual maintenance tasks. These standards should not be seen as a minimum time to complete the task. Rather, these standards serve as a benchmark to measure whether staff performance is at an acceptable or higher level of productivity. A set of time standards is included at Appendix 12. These standards are an example only and must be customized to individual PHAs based upon actual work performance of a PHA's personnel.

The third question that should be asked as the PHA implements performance standards is how familiar are the residents with the PHA's performance goals and the impact these goals have on daily operations? It is unrealistic to expect resident cooperation or support of agency policies and procedures if they have little or no understanding of the principles behind the rules. Answering this question will help the PHA to develop a strategy to solicit resident input in setting goals, priorities and performance standards. At a minimum, residents need to be informed about the agency's standards, since they will have to actively support them through cooperation with scheduling unit inspections, performing certain repairs or janitorial duties for their units, and other items as may be identified in their lease agreement with the PHA.

4. DOCUMENT SOURCE OF WORK DEMAND AND OPERATING COSTS

Definition: Measure the source, nature and priority category of all work requests. Identify the cost to the authority in staff, materials and time to perform all maintenance tasks.

This information will provide the authority with the data needed to effectively anticipate and plan the delivery of maintenance services. A comprehensive work order system can perform all of these functions for an agency. The extent of the effectiveness and accuracy of the work order to measure demand/needs and operating costs is directly dependent upon how widely work orders are used, and how completely and accurately they are filled out. Work orders are an invaluable management tool for measuring costs and staff performance. When work orders are tied to inventory systems, they serve to define purchasing needs and material usage. The full potential of work orders as management tools will not be realized unless all service requests and activities performed by maintenance staff are recorded on work order forms.

The resistance which is commonly voiced by staff concerning extensive or, preferably, comprehensive use of work orders, usually is for one or more of the following reasons:

- Too time consuming - Well designed inspection and work order forms can be quickly completed. Tied to an inventory system, the forms will expedite purchasing, material availability, and appropriate scheduling of personnel.

- Accountability - Work orders are a method of verifying workload/performance of maintenance personnel. Where was the worker, how long did it take to complete the task, what materials were used on the job? This information is needed for planning purposes, to assure that the right people and materials are available and assigned to a job.

- Literacy- Not all maintenance personnel are able to read and/or write. Training in this educational area is a necessity which the PHA may have to offer assistance to its employees.

As a tool for understanding and controlling the maintenance delivery system in a housing authority, or in any real estate operation, nothing can substitute for the work order. How the information is recorded or the specifics of who gets which copy, is not the issue. Rather, the critical step is to record the information; on paper slips, or into a hand-held computer, it does not matter. Whatever works for the organization and the capacity/skills of its staff, is the approach to pursue.

A work order system which is being aggressively used as a tool to manage maintenance operations will use work orders to record all grounds work, custodial work, vacancy turn-around activities, routine repairs, inspections, and all preventive maintenance work. Further, the work orders will be logged, assigned to a priority category, and coded for materials/inventory control. To achieve these objectives, the work order form should include at least the following information:

- Control number
- Source of request for service (PHA or resident)
- Location
  - Address
  - Service system
- Date and times for all points
  - Origination
  - Assignment
  - Work performance(s)
  - Completion/approval

- Work description
  - Requested/estimated
  - Performed
- Estimated materials and time needed to complete
- Actual materials, time and cost to complete work
- Identification of staff/contractor who performed work
- Final classification of work performance by priority category
- Resident
  - Phone number
  - Permission to enter
  - Resident damages/charge
  - Work approval
  - Signature
- Copy distribution

Completion of the initial work order must be done carefully to define what and where only. The work order should not tell the worker how or when (except in the case of emergencies). Supervisors should regularly review completed work orders to monitor actual performance against initial estimates of time and materials. Analysis of these work orders can also identify trends, help anticipate problems and serve as useful guides when preparing capital improvement programs. See Appendix 1 for a sample work order form.

As noted earlier, all work orders can and should be coded by site. This does not require a project based managed system (See Section IV. Methods of Service Delivery for discussion of options in structuring management operation), only a coding in the recording of the work order data. When information is available to the authority on a project basis and all maintenance time and materials have been fully documented, critical analysis of the cost effectiveness of the PHA's operation is possible.

HUD maintains data from all PHAs on cost for labor, materials and contracted work. This data is broken down by ordinary maintenance and operation versus non-routine maintenance, and by size of agency. PHAs are strongly encouraged to check with HUD on a periodic basis for this data and to then evaluate their own performance against the experience of comparable agencies. If the PHA has maintained maintenance data by sites, then there is an opportunity to objectively measure the performance of each site. The PHA's overall performance, as reported to HUD, may have been significantly reduced by the operating experience at only one or two sites. Objectively isolating the site and the specifics of its poor performance is only possible if work order data has been coded by site. This analysis should affect future staffing allocations, materials expenditures and volume of service contracting, (i.e., resource allocation and budgeting practices of the PHA) and can be very useful in the project based accounting process.

Availability of data on a project basis enhances the ability of the PHA to correctly identify and correct conditions at a site that is at significant variance with PHA overall and/or HUD average performance levels.

5. OFFER INSTRUCTION AND TRAINING

Definition: Provide staff with training opportunities for them to learn new policies and procedures, refine technical skills, and develop understanding of performance standards which will be used to evaluate their work.

This is not a one-time program, but must be an on-going effort which serves to initially present policies, procedures and standards. This information has to be regularly restated and reinforced by supervisors if uniformity of standards and services is to be maintained over time.

The most efficient and cost effective way to achieve, and retain uniformity and quality of maintenance of physical facilities is to conduct continuous programs of instruction for management, supervisors as well as support staff. Depending upon the areas of designated authority and responsibility, every participating individual should receive, at a minimum, instruction in:

- Basic vocabulary and techniques in understanding housing's physical facilities
- Techniques for supervising, inspecting, estimating and scheduling
- Performance standards
- Contractual obligations

In addition, technical employees (e.g. mechanics, computer operators) may require specific skill training oriented to their present jobs or to positions they may be seeking in the future.

Training is a critical component of maintaining housing's physical facilities. Scheduled sessions of instruction for all appropriate personnel and departments will serve to ensure both the clear understanding and the reliable implementation of all required activities involved in each service category.

Such sessions of instruction are best conducted when guided by a written agenda, mandatory uninterrupted attendance, and active attendee participation through discussion, written exercises and, whenever appropriate, field work that can exemplify the classroom presentations.

The training effort in an authority should be a high profile program. Completion of courses should be formally recognized with modest ceremonies and presentation to employees of certificates. When a course of instruction is the primary method used to establish and/or reinforce a uniform standard within maintenance operations, then successful completion of the course must be a prerequisite to performing a job. An example of this would be the

annual living unit inspection. Regardless of previous training or experience, only authority trained inspectors should be permitted to perform this inspection. Previous experience enhances the inspector's technical skills, but they can only learn the agency's standards which they are to enforce through the specific training instruction provided by the authority. To maximize cost effective and efficient operations in this area, PHA's should permit only certified (PHA trained) inspectors to perform annual living unit inspections.

The following list identifies the most important basic programs of instruction along with an outline agenda for each. This listing represents only the minimum curricula necessary for any public agency involved in maintaining housing's physical facilities.

Programs of Instruction

1. Supervisory Techniques
   - o Leadership Development
   - o Operating Policies
   - o Accountability
     - detecting deviation
     - quality control/approval
     - performance standards
     - scheduling/assignment
2. Personnel Motivation
3. Inspection Techniques
   - o Definitions
     - inspection
     - repair
     - replace
   - o Standards and Operating Policies
   - o Deficiency Identification
   - o Reporting
   - o Work Order Generation and Coordination
   - o Scheduling

- o Living Unit Inspection
  - techniques
  - resident citations for damage
  - service referrals to correct problems or damage
  - exercises

4. Estimating Techniques

- o Definitions
  - values of installation or deficiency correction
  - cost of material
  - print reading
- o How
  - basic mathematics
  - print take-offs
  - establishing value
  - available production costs, e.g. R. S. Means, prior experience
- o Exercises

5. Scheduling Techniques

- o Definitions
- o Identification of Elements of a Schedule
  - events
  - flexibility on performance time
  - diagram by time or event
- o Exercises
  - timing
  - costing

6. Safety Measures

- o Governing Standards
  - construction
  - occupancy
  - materials
- o Personnel
  - protective clothing, gear or equipment
  - demonstrated proficiency

- o Control
  - hazardous substance identification
  - assistance
    - o phone listings posted
    - o support services available

7. Energy Conservation Measures

- o Building Systems Identification
  - structural
  - water
  - domestic hot water
  - heat
  - light and ventilation
  - air conditioning
- o Conservation suggestions/mandates

8. Productivity Performance Standards

- o Types
  - national
  - regional
  - local
  - customized
- o Implementation
  - adoption
  - direction
  - instruction
  - recognition
  - enforcement
- o Exercises
  - painting
  - floor covering

It should be noted that before training can be conducted in an area, written agency policies and procedures must be prepared and available. Training is not a means of formulating policy or procedures, nor can it be a substitute for these when decisions have not been finalized. When an agency proceeds with a course or training program before written policy and procedures have been adopted in the subject area, the authority is wasting staff time and dollars.

Training programs for residents which complement staff training and general maintenance operations are discussed (See Section V, Resident Cooperation and Initiatives.)

6. ENGAGE IN LONG-RANGE WORK PLANS

Definition: To establish the priorities and schedules for the delivery of maintenance services, that cover monthly, annual and 5 year periods. To accomplish this, a PHA must develop a work plan which addresses the following:

- Staffing needs and patterns
- Material amounts and costs
- Delivery dates of service by component and address

This work plan is most accurately developed by using the steps outlined below. The initial work plan is developed after the agency has at least three (3) months experience using priority categories to classify all work requests, and has used written work orders to record all work requests.

Guidelines for Development of Maintenance Work Plans

(See Appendix 5 for example of the work plan development forms as underlined in these steps).

STEP 1 - Develop the Scope of Work by

A. Building
B. Apartment
C. Address
D. Site Locations

STEP 2 - Compile either inspection reports or work orders by building and category of work to formulate The Labor and Materials Estimate. Agreed-upon hourly wage rates should include the Authority's overhead costs, i.e. pro rata share of administrative and benefits costs.

STEP 3 - Complete the Labor and Materials Estimate by category.

STEP 4 - Complete the Staffing Allocation Report for all assigned personnel.

STEP 5 - Complete the development's Work Plan Summary by listing the bottom line for each category (to be taken from the Labor and Materials Estimate). The required weeks per category is determined by dividing the total hours required by the weekly hours available as defined on the Staffing Allocation Report.

STEP 6 - Complete the Weekly Schedule By Building by listing the categories as shown on the Work Plan Summary and filling in the appropriate building number in the correct week as defined on the Labor and Materials Estimate and constrained by staffing assignment abilities as listed in the estimated weeks column of the Work Plan Summary.

STEP 7 - A 30 Day Implementation Schedule is to be formulated by the maintenance supervisory personnel that utilizes all the previous information in the work plan. This schedule is to be by Category, Day, Building and Apartment Number.

Note: When the required materials are on hand, a start date should be established and filled in in the appropriate spaces on the schedule.

STEP 8 - Appointments for work in apartments for workers are to be made in accordance with the 30 Day Implementation Schedule.

STEP 9 - Manager and Supervising personnel are to update the 30 Day Implementation Schedule every two weeks.

When an agency can anticipate its need for materials, supplies, equipment and staff then procurement can be done in a planned and therefore cost effective manner. The work plans provide the authority with the information necessary to address and support 1) an accurate inventory control; 2) timely specifications development for bidding, contracting and/or purchasing; 3) sound budgetary formulations; and 4) prompt identification of need for supplemental personnel recruitment, reassignment or transfer. These are the key elements of a planned procurement system.

The information gained from work orders and the work plans is critical for capital improvements planning as well. Deficiencies, trends and other problems will be identified when supervisors and managers review work order report summaries and work plans. This information is to be used, not put to one side or ignored because the necessary resources do not appear to be available. Staff will have to be continually reminded and encouraged to look for, and point out problems. The systems or methodology described in this chapter can, if fully understood and implemented, provide a housing authority with the information, analytic framework and supportive environment needed to effectively manage maintenance operations.

III. SERVICE CATEGORIES

All work performed to maintain housing's physical facilities can be assigned to a service category. A well-planned and managed maintenance delivery system is one in which all work activities are known, directed and, therefore, controlled. Single-minded commitment and discipline are required for board, staff and residents to develop an effective maintenance delivery system that is responsive to the needs of each party.

The initial step toward developing an efficient and cost effective maintenance system is to document or record all work activities. The second step is to categorize all work activities, and then prioritize the categories. When all work is categorized and given a priority ranking, then staff have a clear sense of direction, managers can anticipate and plan, and resident expectations can be in alignment with good agency performance.

This chapter defines a comprehensive set of service categories, and these service categories correspond to the recommended priority system presented in the previous chapter.

EMERGENCY

Response to emergency situations receives the highest priority of all maintenance-related work items. In order to classify a situation as an emergency, staff must determine if the situation meets one or both of the following tests:

- The situation poses a serious health or life-threatening situation to residents or staff

and/or

- A condition exists which will cause serious structural or systems damage to property if not addressed within a twenty-four (24) hour period

Generally, emergency situations are easily identifiable based on the above tests. Typical examples of emergencies include, but are not limited to: fires, gas leaks, power failures, no heat, sewer back-ups, people trapped in elevators.

In cases where staff are uncertain as to whether a situation warrants an emergency priority, they should first attempt to consult their supervisor, or other more experienced staff, prior to making the determination. If this is not possible, staff should use their own experience, common sense and best judgement to guide them - using the test criteria and the typical examples found above for assistance. Staff then acting as if the situation were an emergency, should discuss the matter later with their supervisor.

Off-Hour Response Plans

Housing authorities, like other property owners, address emergency situations by having staff available (at least on an "on call" basis) 24 hours a day. This staff may or may not directly work on abating an emergency. Instead, an answering service may contact special staff or outside contractors.

Each approach or system will require the adoption of a methodology for identifying the appropriate supervisor as well as actual personnel to perform work. Consideration may also have to be given to seniority rankings. In order to perform this work in a responsible and expeditious manner, there must be ready availability of:

- Qualified Contractors
  - o Listed by skills,
  - o Phone number and location,
  - o Written guidelines on contracting policies
- Open purchase orders for acquisition of supplies and/or equipment
- Access to needed materials and equipment that are on hand
  - o Lists by name
  - o Location of material and equipment
  - o Keys

This information should be maintained in an "Emergency Response Service Directory" which is continuously updated and readily available to all designated responsible parties that have been assigned to handle the abatement of emergencies during off-hours (nights, weekends and holidays).

The activities involved in emergency abatement must be reported to the regularly assigned maintenance personnel as soon as possible. This is best accomplished through preparation of a work order or creation of a report which is later converted to a work order. The work order generated should designate where, what, who, when and the status, i.e., completed or incomplete of the work performed.

VACANCY REOCCUPANCY

A prime objective of a PHA is to reoccupy vacancies as quickly as possible. Authorities rely on resident rents for nearly a third of their total income. Substantial vacancy days, when rent cannot be charged, cut into this significant source of income. Even more importantly, a lengthy waiting list is an indication of the substantial need for housing by low income families. The quicker apartments are turned around and made available, the more this need is met. Finally, vacant apartments are an invitation to vandalism and other breaches of security. They create an unpleasant and unsafe environment for residents of nearby apartments.

The total number of unit vacancy days will vary with the number and type of vacancies that have occurred at the PHA. Even the average number of days of unrented status will vary with the profile of types of vacancies. A burnout or seriously vandalized apartment may take 3-4 weeks to make ready for reoccupancy. And a routine "clean and repaint only" vacancy with 15 days notice may be available in 2 or 3 days.

It is important here to emphasize the need for long-range planning by the property manager (who in a small PHA may be the Executive Director) and the maintenance supervisor. By reviewing move-out records for the previous 12-18 months, the manager will be able to get a fairly accurate estimate of the number of vacancies which are likely to occur over the upcoming twelve month period. In order to get an accurate picture of the work load, transfers need to be included in the move-out counts. The review of move-outs will also point out seasonal move-out variations; i.e., most move-outs occur in July, August, and September, the fewest number of move-outs occur from December to February. This information is an important planning aid.

Property managers and maintenance supervisors then should look at how existing staff resources match up against anticipated vacancies, and prepare tentative monthly and six month work schedules based on this information. Generally, property managers and maintenance supervisors can use their experience at the development to project the average amount of work per apartment needed to restore each vacancy to habitable condition.

The most cost effective approach for preparing a vacant unit for reoccupancy is one in which each step is planned and carefully scheduled. The chart below outlines the most aggressive program that a PHA could undertake with confidence that all inspections and work tasks were properly performed in an expeditious manner.

A Model Vacancy Reoccupancy Process

Assigned Day	Event	Activity
1	Move-out	Report to manager.
		Formulate work order to clean and control.
1	Control	Change locks - secure.
		Clean out (broom swept).
		Complete work order.
1-2	Inspection	Identify all deficiencies.
		Estimate skills, time, materials and equipment required to correct deficiencies.
		Convert findings to work orders.
		Prepare Proposed Reoccupancy Schedule.
1-2	Schedule	Determine availability of required materials, skills, equipment and prospective resident per the proposed schedule.
		Formulate actual agreed upon implementation schedule through to reoccupancy with dates assigned.
2-7	Implementation	Assign work orders per schedule and monitor progress.
		Complete all work orders.
		Recruit new resident and lease per schedule.
7-8	Completion	Inspect for Acceptance.
		Calculate cost of expenditures of time and materials.
		Change locks.
8	Close-out	Move in.
		Submit completed summary of all activities and expenditures to area manager.

RAPID REOCCUPANCY PROGRAM

When authorities are experiencing serious problems with vacancy levels and turn-around time, an initiative such as a Rapid Reoccupancy Program may be appropriate. Some PHAs have successfully established such programs when vacancies are extremely high. In such situations, vacancy reoccupancy would become the authority's single, highest priority (except for narrowly defined emergency situations, the above schedule would be closely adhered to, and a person within the agency would be designated the Rapid Reoccupancy Coordinator. The mandate given to the coordinator would be to fill vacancies as fast as possible, utilizing any and all resources of the authority to meet this goal. This program requires careful planning and definition of standards. Often compromises on scope of work (i.e., cosmetic finish work) will be required to achieve the rapid turnover. All staff members must be instructed on the minimum standard for unit habitability in order to protect the PHA from offering units that do not meet the standard.

The time frame for scheduling and performing the tasks in the vacancy reoccupancy program outlined above will vary due to unit age, unit condition, local labor practices, and staffing patterns. The timing for each task and execution of the full program should be closely monitored, recorded and reported to senior administrators on a regular basis.

PLANNED OPERATIONS AND SERVICES

This category of work includes all tasks which must be performed on a regular basis to confirm condition, properly maintain the physical facilities, and prepare for future maintenance needs. This work is done in addition to the customary daily walk around each site. These are services or tasks which can be scheduled without initial regard for site characteristics or condition. Certain tasks can be planned for simply because they are a requirement of a cost effective maintenance system.

Work in this service category can be divided in one of two groups. The first is Preventive Maintenance Programs, meaning all inspection programs. The second group is all other Scheduled Routine Programs. Work in either group is done based on a schedule, consistent with a plan prepared by management and/or maintenance supervisors. The work is not done in response to requests or need, but in anticipation of future maintenance repair demands.

1. Preventive Maintenance Program

The core of any preventive maintenance program is a system of uniformly performed maintenance inspections. The purpose of which is to ensure that the PHA can plan, direct and control the provision of most required maintenance services. With this information, the PHA can control expenditures and work assignments that are involved in maintaining all physical facilities, meaning all buildings, grounds, public use areas, service systems, and living units.

The basic goals of efficiency and cost effectiveness, can be readily achieved through programs of inspections. The findings of the inspections are translated into work orders that in turn list the times, individuals, and specific materials used. Such inspection programs must cover all of the areas involved in the authority's physical facilities:

- Living Unit Inspection - conducted for vacancies at move-out and move-in, and for occupied units at least once a year.
- Building and Grounds Inspection - conducted weekly.
- Service Systems Inspection - conducted on regular schedules that are set by need, by manufacturer's recommendations, by season, or by code standards.

The formulation of procedures for each inspection program should start with the identification by location and amount of every item or system component that is to be inspected, serviced or tested and continues through to the establishment of who specifically is to conduct the inspection, service, or test operation and on what schedule.

The inspection report documents location, inspection and condition. As an accountability report for the PHA it identifies the subject, responsible party, date of activity, location and number of components, a description of the inspection or service rendered, a reviewing supervisor and date of acceptance.

All completed inspection reports are to be submitted by the person inspecting to the supervisor for review, approval and/or the scheduling of any required corrective actions through the generation of specific work orders.

The procedures and minimum standards for each Inspection Program are outlined below. The principle and approach do not change in housing authorities of differing size. Sample forms for all inspections are included in the Appendix of this guidebook.

O ANNUAL LIVING UNIT INSPECTION

The purpose of the ongoing Annual Living Unit Inspection Program is to ensure that all occupied units in each development meet basic minimum standards for habitability. The goal is to inspect the interior of each living unit at least once annually. Each inspection is to include the formulation of appropriate work requests that briefly describe the location and scope of work, along with an estimate of time and materials required.

The definition of the standard that should be used in any Annual Living Unit Inspection Program shall begin with the HUD Housing Quality Standard (HQS). Local health and/or housing codes should be reviewed and where the requirements exceed HQS, the PHA inspection standard should be expanded.

There are three basic approaches to conducting an Annual Living Unit Inspection Program. Each approach has its advantages and disadvantages. The most significant factor affecting the selection of one approach over another in an agency, is the management style of the Executive Director, Director of Operations or Director of Management Operations. Generally the size of the organization affects who makes the decisions. In a small agency, decisions are usually made by the Executive Director, while in a large PHA the Director of Management Operations may have all management and maintenance personnel under his/her direction and will make the decisions on staffing structure and assignments. Who makes the decision, or which approach is chosen is secondary. Of prime importance is only that the PHA selects one approach, commits the required staff, and uses the information gained from the inspections to plan the delivery of future maintenance services. The three approaches to conducting unit inspections are:

1. Establish a Preventive Maintenance (PM) Crew

Use a small team of maintenance employees to inspect occupied units and make a series of repairs while they are in the unit. Routine items are replaced, like washers or filters, regardless of condition because it can reasonably be assumed that through normal wear and tear replacement will be needed once a year. Other minor repairs which can quickly be performed with materials that are carried by the PM crew, are also done at the time of the inspection. Repairs requiring more time, specialized labor and/or material are written up in the inspection report and appropriate work orders are generated.

Advantages: Calls from residents for minor repairs are minimized because corrective action often is taken before a problem arises. Residents make fewer requests for work and more services are being provided. The reduced number of calls and work orders can save time and dollars for the PHA. Further, residents see that maintenance services are delivered specifically to their unit at least once a year. They may even delay calling in a work request because they think it can wait until their scheduled service visit.

Disadvantages: A portion of the maintenance work force is conducting inspections and working on minor repairs, and is not readily available for scheduling or assignment to other, possibly higher priority work tasks. Operative items may be removed and discarded several months before needed, which could result in some over purchasing of materials. Maintenance personnel are identifying the maintenance work load which they and their fellow workers will be assigned. Some deficiencies may not be identified because either the task is one which the maintenance inspector does not like, or to minimize the volume of work requests which department

personnel will have to address. Many PHAs have management personnel conduct a separate annual inspection of the units to identify any non-technical maintenance conditions which deserve further attention such as poor housekeeping, resident-caused damages through negligence or indications of child/spouse abuse. Thus, the authority incurs the cost of personnel time for two inspectional visits per unit per year.

2. Inspections Conducted By Maintenance Staff

Maintenance staff, usually personnel assigned to the specific site, conduct the annual unit inspections, write inspection reports and work order requests.

Advantages: Maintenance personnel using existing skills/knowledge can perform inspections. Their existing technical knowledge allows them to analyze the cause of deficiencies observed and to estimate personnel and materials required to correct the problem.

Disadvantages: Maintenance personnel are identifying the maintenance work load which they and their fellow workers will be assigned. Some deficiencies may not be identified because either the task is one which the maintenance inspector does not like, or to minimize the volume of work requests which department personnel will have to address. Many PHAs have management personnel conduct a separate annual inspection of the units to identify any non-technical maintenance conditions which deserve further attention such as poor housekeeping, resident-caused damages through negligence or indications of child/spouse abuse. Thus, the authority incurs the cost of personnel time for two inspectional visits per unit per year. Unless specific training is provided to maintenance personnel conducting inspections, uniformity of standards among sites is likely to suffer. Potentially less service is offered but more time and dollars are expended.

3. Inspections Conducted By Management Staff

Management or non-maintenance personnel are trained as living unit inspectors. They are provided with instructions on acceptable standards for the condition of a unit, techniques on determining extent of repair or replacement required to correct deficiencies, and technique for generating appropriate work orders from inspection report findings.

Advantages: Management personnel perform the initial analysis of the need for services, schedule and/or coordinate these requests with other work demands for their sites. Maintenance workers are not solely defining the work load for themselves and the other maintenance workers. The maximum amount of maintenance staff time is available to directly perform maintenance work tasks, with only minimal time spent on writing work orders and other reports. Only one inspection per unit per year is required since trained management personnel can observe both physical and social conditions within the unit.

Disadvantages: Management or non-maintenance personnel must receive specialized instruction in inspection techniques, cost estimating and scheduling. Usually requiring 20 hours of training per employee trained, the initial cost for trainer and staff time may be significant. Refresher and new employee training should also be provided to maintain consistent performance standards. Thus there is some on-going staff training program costs that have to be borne by the PHA. Often this approach requires a considerable period of time to fully implement because management and maintenance staff do not have adequate confidence in the judgements of managers who are doing technical inspections for the first time.

As PHAs schedule the living unit inspections, adequate time should be allowed to properly perform the two components of task, i.e., physical observation and written reports. Experience indicates that the requisite time for each task is as follows:

- o Approximately 15 to 30 minutes to inspect for a prearranged appointment with the occupant or their adult representative

- o Approximately 15 to 30 minutes to convert the inspection findings (deficiencies) into work orders that include estimates of time and materials

HUD requires annual inspection of all units, but every effort should be made to keep the pace of inspections such that maintenance staff can perform any repair work identified within 2 weeks of the inspection. Longer than this time, conditions will change enough to affect the accuracy of the inspection and work order. An inspection scheduling system which recognizes the capacity of staff to deliver services is one which will have credibility with residents and staff. If the inspections become a process that creates a significant backlog of work orders beyond the capacity of staff and supplies to address, the program may be seen as only a "make work" effort.

To ensure comprehensive accountability and efficient maintenance work scheduling, every living unit inspection must result in a written report that serves to document by specific location in the unit the acceptability of each component of the unit.

Whenever an item inspected is not acceptable, i.e. requires corrective action such as repair, cleaning or replacement, the inspection report should include additional information that will assist the preparation of a work order with estimates of time and materials required. Examples of such information include a brief description, a size, an area, a type, or anything that will quickly serve to expedite scheduled corrective action. Appendix 2 contains generic forms for unit inspections and the Richmond Redevelopment and Housing Authority's PM crew checklist and inspection form.

To provide uniformity and accountability, each inspection report must have sufficient space to record:

- o Complete address

- o The specific space inspected, i.e. living room, dining room, bedroom, stairwell, kitchen, hall, bath, entry hall or other space such as laundry room or pantry.

- o Name of the inspector

- o Date of the inspection

- o Deficiencies noted

- o All referrals for other services such as:
  - Occupant citation for corrective action or change
  - Pest control
  - Roof leak investigation request
  - Management or social service assistance for resident

- o Action taken, i.e., work order numbers for each cited deficiency

o BUILDING AND GROUNDS INSPECTION

In conjunction with the Annual Living Unit Inspection Program, the Building and Grounds Inspection Program strives to ensure that all areas of the development outside the actual living units are, at a minimum, safe, clean, attractive, and free of debris. The condition of outside grounds and interior common areas play a major role in shaping both the residents' attitudes and the image of the housing development.

This inspection program covers the following areas of the site:

- o Hallways - Corridors
- o Stair towers
- o Community Rooms
- o Laundries
- o Lobbies
- o Common entries
- o Common basements
- o Exterior Grounds
- o Parking Areas
- o Sidewalks
- o Fencing
- o Exterior Furnishings
- o Yards
- o Areaways
- o Lawns
- o Trees
- o Landscaping

The written procedures developed for the building and grounds inspection program should specify those individuals responsible for scheduling, and conducting the inspections. Additionally, the written procedure should identify when, how and by whom the inspection findings are converted into appropriate work orders for corrective action.

The written inspection report form (see Appendix 3 for sample) should provide sufficient space to record:

- o Complete address and site location
- o Name of inspector
- o Date of inspection
- o Deficiency description with specific location
- o Action taken, i.e., work order numbers for each cited deficiency

o SERVICE SYSTEMS INSPECTION

The upkeep and regular inspection of all service systems is one of the most fundamental aspects of physical facilities maintenance. As with all of the other inspection programs, the objective is to regularly inspect and maintain these systems in advance to ensure their maximum useful life and to ensure that residents receive the full benefit of the system. In addition, this inspection increases the PHA's cost effectiveness by finding and correcting deficiencies before they become large and more expensive conditions to address.

This inspection program covers the following areas of the site:

- o Catch Basin Inspection and Service
- o Compactor Inspection and Service
- o Condensate Pump Inspection
- o Electric Transformer Inspection
- o Elevator Equipment Inspection
- o Emergency Lighting Inspection and Service
- o Exhaust Fan Inspection and Service
- o Exterior Light Inspection
- o Fire Extinguisher Inspection
- o Fire Hose Inspection
- o Heating Plant Operations and Maintenance
- o Lighted Exit Sign Inspection and Service
- o Mechanical Equipment Maintenance
- o Refuse Chute Entry Inspection
- o Sanitary Drain Inspection and Clean-out

A specific program of inspection and service is required for each of the service systems components. Each program must be customized for each site's design and equipment. Appendix 4 of this guidebook contains a description of the minimum elements of each service system program, including the purpose, frequency and documentation for the program.

2. Scheduled Routine Maintenance Programs

This category of work includes those tasks which can be anticipated to need eventual attention but can be placed on a regular timetable for performance.

The specific components of the scheduled Routine Maintenance Program are:

Work Item	Suggested Minimum Schedule
o Pest Control Applications	Three (3) applications per year
o Landscaping and Grounds Maintenance	Mowing 2-3 times per month in season
o Roof Repair/Replacement Monitoring	Monthly
o Fleet/Equipment Maintenance	Twice per year
o Interior Painting	Every 4-6 years
o Exterior Painting	Every 3-5 years
o Protection Systems Testing	Fire systems twice per year Standby generators once per month Smoke alarms once per year

Included here are both inspection and service programs. Performance of this work can and should be automatically part of the assignments which maintenance supervisors schedule for their staff.

o PEST CONTROL

This service provides treatment for the elimination and control of all the usual types of household vermin and insects including roaches, waterbugs, beetles, silverfish, ants, crickets, fleas, weevils, mice, rats, cereal bugs and bedbugs in partitions or woodwork, but excluding termites, moths, flying insects and carpet beetles which require specialized treatment programs or residents can be reasonably expected to control.

This service should be provided to residents either by outside contractors or through application by authority personnel licensed to handle controlled substances.

Every resident should be notified both two (2) weeks and forty-eight (48) hours prior to actual treatment. Each resident will require written instructions (bi-lingual where appropriate) that stipulates:

- o Importance of entry by schedule
- o The emptying of all cabinets, shelves and counters of utensils, canned food and other articles
- o Clearing of the floor and shelving in all closets and medicine closets
- o The covering of all removed items with plastic or newspapers (include fish tanks)
- o The removal of all pets
- o The refrigerator should be left closed
- o Everything removed may be replaced within two (2) hours of application

To maintain an effective pest control program, the entire area of the housing development, including all grounds and buildings needs to be inspected and treated. Once each year, three (3) applications, spaced 16 to 18 days apart to correspond with the roach egg hatching cycle, should be made. Each building in its entirety is to be treated including, but not limited to, dwelling units, lobbies, maintenance areas, management areas, storage areas, laundry rooms, halls, stairways, elevator shafts and pits, public or community rooms and all other public areas. Service in each apartment shall include all areas likely to become infested or already infested with the exception of the residents' personal property.

The scheduled application service primarily involves crack and crevice treatment including all baseboards in apartments and when properly prepared, all closets, cabinets, shelves, medicine cabinets, sink cabinets and behind and under appliances. All common areas are serviced around the perimeter and each stair and landing is also treated. Where rodent

activity is present (evidence of grease trails, droppings or sightings) these areas are treated with bait and traps with a follow-up to monitor activity.

PHAs that utilize their own staff for pest control must comply with all applicable state and local regulations, as well as manufacturers' instructions. These PHAs will also have to maintain records on use of pesticides. It is recommended that these PHAs contact appropriate state regulators to assure compliance.

o LANDSCAPING AND GROUNDS

This is a service category that includes the responsibility to control litter. Litter can mean blowing paper, unwanted weeds, misplaced solid waste, abandoned vehicles and/or their parts. All of this should be collected and removed daily and particularly prior to the mowing of lawns.

Also under this category of work is the inspection and maintenance of such items as fencing, benches, playgrounds and their equipment, parking lots, exterior lighting drying yards. Included here is also the spotting and expeditious removal of growth from walls, fences or other parts of PHA property. The care and feeding of lawns, shrubs, flower beds and trees is included as well.

Schedules for performance of general landscape work are dependent upon climate and type of plantings and exterior equipment located at a site. Landscape manuals and independent professionals can be helpful in defining appropriate schedules for the area. At a minimum all existing plants, shrubs, trees and ground cover should be identified and maintenance schedule for each type growth developed. The schedule should note timing for watering, fertilizing, trimming and planting of additional or complementary growth for area.

Another and important part of a seasonal schedule for exterior maintenance in certain parts of the country is a snow and ice control plan.

The minimum components in such a plan must include and address:

- o Provisions for a planned authority-wide snow removal and ice control program
- o Implementation of essential snow plowing/removal during serious storm or the aftermath of several concurrent snowstorms producing heavy accumulations of snow, where in each situation the normal snow plan would be ineffective
- o Provision for temporary housing of essential personnel trapped by heavy snow accumulations

The basic snow removal and ice control program must stipulate in written form the following:

- o Individual responsibilities for all affected personnel
- o Specified areas of assignment, i.e., neighborhood, development, extent of streets, walkways and public entries
- o Care and availability of tools and equipment including sand/salt spreaders, snowblowers, snowplows, shovels
- o Availability of materials by location including sand, salt, gloves

Further, when major storms are encountered there should be clear instructions concerning emergency assistance for residents and working personnel, access for fuel deliveries, and emergency fire vehicle access.

o ROOF REPAIRS/REPLACEMENT

To maintain roof coverings and/or roofed surfaces in an acceptable condition (i.e. waterproof) scheduled inspections by supervisory personnel are required that will ensure:

- o Authorized access only to all roofed surfaces
- o Clear and effective drainage
- o Clean and clear gutters and downspouts
- o Timely deficiency identification

Such inspections should be conducted once a month and more often whenever a chronic drainage problem and/or unauthorized access is present.

The minimum maintenance service of clearing gutters and downspouts should occur bi-annually, i.e., once after all leaves in the area have fallen (November - December) and once in mid-spring (April - May).

Generally it is not cost effective for the average maintenance work force to accomplish any but minor temporary repairs to most leaking or defective roof coverings. Appropriate specifications for outside contracting of most repairs and all replacements should be formulated in advance and in conjunction with a roof covering replacement plan. Whenever available, guarantees on materials and effectiveness of installation should be secured, monitored and enforced by the PHA. Roof covering repair work is performed most cost effectively when the repair work can be coordinated with other work in the roof covering replacement plan.

The information needed to establish and maintain a roof covering replacement plan is:

- o The type of roof covering, i.e., shingles (asphalt, wood, shakes), built-up, terra cotta, single membrane, slate, etc.
- o The area in squares (one square is equivalent to 100 square feet in area) for each type of roof material
- o The date of installation, i.e., month and year
- o The date of routine maintenance activities

Using this data an accurate estimate of the roof covering's anticipated life prior to replacement may be ascertained along with a projected cost estimate for removal and replacement. A working budget for contracted replacements is then formulated that permits cost effective judgements regarding the ongoing scope and costs of repair work. This information, while gathered and updated by maintenance staff, is invaluable for management and modernization staff as they develop capital improvements plans.

o FLEET/EQUIPMENT MAINTENANCE

To ensure the safe and proper use of all vehicles and/or motorized equipment each operator should be certified to operate the specific vehicles and/or equipment by administrative or supervisory personnel annually. A listing of such motorized equipment includes, but is not limited to:

- o cars
- o vans
- o trucks
- o fork-lifts
- o bucket trucks
- o backhoes
- o tractors
- o bobcats
- o snow blowers
- o lawn mowers
- o leaf blowers
- o sweepers
- o chain saws
- o weed cutters

A certification to operate begins with a visual validation of any license(s) required by local and state law and includes an actual witnessed field test that emphasizes skill of operation, safety and proper equipment/vehicle usage and care.

In addition to an active on-going annual operator certification program, each item of motorized equipment should be scheduled in advance for service either by in-house personnel or outside contractors. The servicing provided should include one or both of the following approaches:

o Minimum/Routine Services:

These are generally vehicular services that encompass items such as:

Item	Suggested Schedule
lubrication	quarterly
filter changes	quarterly
brake inspection	semi-annually
state inspection	annually
tune-up	annually

In addition, an inspection/servicing activity should be conducted whenever any vehicle and/or motorized equipment receives any type of service. This inspection/service requires a check whenever appropriate of the operating components including but not limited to battery, coolant, windshield wash, power steering fluid, "V" belts, hoses, clamps, air cleaner, transmission fluid, brake fluid and brake pedal, emergency brake, mirrors, horn, gauges, wiper blades, tires, exhaust system, lights, clutch pedal, cleanliness, and lubrication/oil.

o Seasonal Preparation Services:

Certain motorized equipment should be routinely prepared (maintained) on a seasonal schedule to ensure efficient and timely maintenance work performances. For winter climates this includes snow blowers, bobcats, spreaders, and snow plows). For warm climates this means lawn mowers, chain saws, sweepers, weed cutters, and tractors.

A cost effective and more easily scheduled time for corrective and routine preparation for such seasonal equipment may be:

- late summer (September) or early fall (October) for snow/ice control

- late winter (February/March) or early spring (March/April) for landscape/environment control

o INTERIOR PAINTING

Interior unit paint conditions are very visible and correcting deficiencies (i.e., repainting) is usually quite disruptive to the resident household occupying the unit. A minimum standard

for painting interior surfaces in housing units will serve to ensure that both materials and workmanship will provide, on an efficient and economic basis, an interior finish of acceptable appearance and of the highest durability.

The criteria for approving repainting request, aside from physical damage, is that the previous painting must be between four (4) and six (6) years old and of a poor appearance even when thoroughly cleaned. The application of the paint directly affects the appearance, durability and, therefore, overall quality of the work done. Regardless of whether the PHA uses staff, contractors or residents to do interior painting, the authority should have a specific written standard for the work that, at a minimum, addresses the following:

- o Surface preparation
- o Protection of non-painted surfaces (e.g., windows, hardware, personal property, appliances)
- o Color and finish
- o Paint quality
- o Equipment use and care
- o Method of application by area (i.e., appropriate use of sprayers vs. rollers)
- o Lead paint testing and abatement
- o Application monitoring

The key words in an interior painting standard are prepared and approved prior to paint application. An effective approach to ensure compliance with the PHA's standards is to have a skilled maintenance department worker/supervisor monitor and approve the paint application one room at a time. This person confirms that everything has been properly prepared in a room prior to actual paint application. The person confirms that the application is correct before giving approval for painting of the next room. This approach limits the repetition of unacceptable techniques and provides the greatest assurance that the completed work will be attractive and of the highest quality.

Interior painting is an area where residents may be used. Some PHAs provide residents with paint and encourage them to do the painting needed within their units. PHAs have also contracted with resident-operated businesses to do interior painting work. If the PHA provides clear standards and training instruction to residents, the finished work should be of high quality and the residents will have developed a potentially marketable skill through the process.

o LEAD BASED PAINT

Housing authorities are required to determine whether lead based paint hazards exist in pre-1978 family developments prior to December 6, 1994. If lead based paint hazards exist, residents, maintenance workers and/or contractors must be informed of the hazards of lead based paint and of the precaution to take to avoid lead poisoning. Maintenance workers and/or contractors must be informed of the proper precautions to take to protect themselves, residents and their belongings, and the surrounding environment from the hazards of lead paint dust and debris. The issues of lead based paint abatement and

prevention arise in a wide range of activities in a PHA including:

- o Possible presence of lead based paint
- o Protection of residents and workers from lead based paint hazards
- o Surface Protection of non-painted surfaces (e.g., windows, hardware, personal property, appliances)
- o Color and finish
- o Paint quality
- o Equipment use and care
- o Method of application by area (i.e., appropriate use of sprayers vs. rollers)
- o Application monitoring

HUD has developed guidelines for lead paint detection and removal which are periodically updated as the techniques in this field are continually refined. Copies of the Lead Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing, September 1990, may be obtained by calling HUD USER at 1-800-245-2691. All PHAs are strongly encouraged to contact HUD about updates of these standards and techniques.

o EXTERIOR PAINTING

Maintaining exterior painted surfaces in sound and attractive condition is a constant and costly activity.

Exterior painting of entire structures is usually accomplished by outside painting contractors while certain selected portions such as railings, porches, canopies, entry doors or facias generally receive attention by maintenance staff.

Regardless of whether staff or contractors perform the work, a five to ten year painting plan should be formulated to ensure maximum cost effectiveness and the timely protection of all exterior surfaces. The plan should address all exterior surfaces requiring protection from the elements and poor appearance, i.e., masonry, wood, iron and steel, concrete, galvanized steel and aluminum. The plan should include the buildings, fencing, light poles and any other exterior painted item associated with the structure.

In addition to establishing the scope of work, the painting plan formulates an accurate estimate of the probable costs and timing for each surface. This estimate is most effectively gained by first listing the measurements (i.e. areas of each surface to be painted by the type of surface), and second by obtaining from a prospective manufacturer the probable area coverage for the quality of paint selected for each surface type.

These estimates can then be converted for use in projecting the purchasing, bidding, and/or staff assignment needs on a schedule that ensures the completion of all repainting in a timely, cost effective manner. These actions ensure that the longest useful life, acceptable appearance and protection from the elements of each surface and structure have been addressed.

Given the scope of work and estimates of time, materials and monies, preparation of the exterior painting plan should also consider:

- o Lead paint testing and abatement
- o Paint quality (each surface type)
- o Surface preparation (50% of the total task)
- o Seasons of application (temperature, weather)
- o Safety in application
- o Performance standards
- o Licensing (some localities require riggers type license prior to the use of scaffolding or staging)

o PROTECTIVE SYSTEMS TESTING

This program includes the inspection and testing of all protective equipment. Improper maintenance of these systems may be life-threatening to residents and staff. The inspections and testing must be done on a rigorously adhered to schedule and fully documented. The scheduling and servicing requirements at a minimum are the following:

- o Fire Alarms
  - Unless otherwise stipulated by local ordinance the testing of the fire alarm system should be conducted quarterly and fire drills in coordination with the residents and management should be conducted at least semi-annually
  - Call boxes and equipment should be formally inspected for vandalism each month

  Note: The testing, repair and/or resetting of the fire alarm systems and components are usually best accomplished in a safe and cost effective manner by contracting for these services, certain localities mandate by law or ordinance that these systems be serviced by qualified contractors exclusively.

- o Fire Extinguishers
  - Inspect monthly to ensure mechanical stability, use status
  - Service annually
  - Hydrostatically test cylinders every five years

- o Fire Hoses
  - Inspect monthly for proper racking, mechanical stability, degree of moisture in hose (should be dry) and connection to standpipe
- o Stand-by Generators
  - Check fuel supply weekly
  - Inspect quarterly
  - Test weekly
- o Remote Emergency Lighting
  - Inspect and test monthly
  - Wipe lamp and adjust direction toward exit if required during each inspection/service
- o Smoke Detectors
  - Inspect and test each detector during every living unit inspection, but never less than once annually whether battery or hard-wired regardless of location, i.e., apartment, basement, public area or mechanical rooms.
- o Sprinkler Systems
  - Test annually the valves and the operating condition of wet or dry sprinkler systems
  - Check annually for evidence of corrosion on pipes and connectors
  - Check and test annually that sprinkler heads and alarm indicators are operative

ROUTINE REQUESTED SERVICES

This category of work refers to all resident generated work requests that do not fall into any other categories. These are the non-emergency calls which residents make seeking maintenance services to correct a problem in a unit or on the site. They are not planned for and often cannot be anticipated until the resident request is formally placed with management.

By definition, these requested work assignments are short-term, and usually can be addressed by on-site staff. These resident generated requests may include follow-up calls for pest control services or for repairs that become necessary between annual living unit inspections, such as broken window panes or clogged drains.

These requests are placed into the maintenance workload through the normal work order intake process. Many resident generated work orders will fall into high priority categories. Some PHAs place this category near the top of their priority system, just under emergencies. The disadvantage of this approach is that maintenance work is not then being grouped in the most efficient manner. Work is performed in response to requests, not by determination of a relative need or consideration of grouping similar assignments to save worker time. Some balance must be struck, so that residents feel that they neither control the daily activities of maintenance nor feel that they never get their individual requests addressed. Involving and/or informing residents about the PHA's maintenance priorities and service delivery systems, can significantly improve resident confidence in staff and performance of maintenance services.

o Fire Hoses

- Inspect monthly for proper racking, mechanical stability, degree of moisture in hose (should be dry) and connection to standpipe

o Stand-by Generators

- Check fuel supply weekly
- Inspect quarterly
- Test weekly

o Remote Emergency Lighting

- Inspect and test monthly
- Wipe lamp and adjust direction toward exit if required during each inspection/service

o Smoke Detectors

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IV. METHODS OF SERVICE DELIVERY

Individual housing authorities use different approaches to structuring their maintenance departments, and delineating work assignments between staff and contracted services. There is no absolute or even preferred approach. Experience has shown that if the maintenance system is structured, prioritized and documented, the style in which the work is performed will not be a key determinant to cost effective operations. The major options or initiatives considered by authorities are briefly discussed below. Each agency must make a determination as to which approach or combination of approaches is most appropriate for their present Board, Executive Director and staff.

CENTRALIZED VS. DECENTRALIZED

Some authorities have the Executive Director or Director of Operations in charge of all maintenance services. In such a centralized system, a Director of Maintenance, or Maintenance Superintendent working for them, coordinates staff and allocates all resources. Generally this person also directly supervises the skilled tradespeople (carpenters, plumbers, electricians, etc.) who work out of a central maintenance shop. On-site maintenance personnel may be limited to one or two janitors per development. Technical work assignments are handled by staff sent from central maintenance or by outside contractors. This system allows for maximum efficiency of staff assignments to the authority's skilled tradespeople. Allocation of technical and trade personnel to specific categories of work and sites can be tightly controlled. The program and work priorities of the authority can be continually reinforced by the manner in which personnel and resources from central maintenance are made available to individual sites and programs.

A centralized maintenance system requires very strong organizational and supervisory skills in the central office, if the system is to operate effectively and actually realize its intended efficiencies. Issues of staff accountability are difficult to manage because workers are often assigned to tasks far from their immediate supervisor, and most likely are working at a site where supervisory personnel (i.e. superintendents, managers) have no authority to monitor, direct or correct the actions of the central maintenance staff. Generally in a centralized system site-level knowledge and expertise are sacrificed in the decision making process. Therefore, it is difficult to coordinate priority work at each development site.

The model at the opposite end of the spectrum is decentralized and has strong on-site property managers who supervise all activities at their sites. The maintenance crew assigned to the site works under the direction of the site manager to accomplish most routine maintenance tasks. Typically, even in the most decentralized authorities, there remains a central maintenance crew which includes all of the skilled trades personnel, and their services are requested and used in a manner similar to that of hiring an outside technician for a service.

A decentralized system allows for the most efficient management of a comprehensive maintenance program at the site level, though it can be duplicative or otherwise inefficient for the agency as a whole. Staff accountability is clear, everyone working at a site is under

the direction and supervision of the site manager and their senior maintenance superintendent. Generally the supervisory units in a decentralized system are smaller than those in a centralized operation, demanding less by way of supervisory skills and greater opportunities for staff to gradually gain these skills with progressive promotions. Factors affecting selection of a centralized vs. a decentralized approach include the issues stated above as well as:

Factors for Consideration

- Size of agency

  Small PHAs or agencies with only a few sites will find centralized systems to be most cost effective. Other staff members in smaller agencies have broadly defined job duties. One maintenance worker may do painting, minor carpentry, janitorial cleaning and mow the lawns. Typically these agencies use outside contractors for specialized work. A large PHA may feel that the number of sites and personnel to manage are beyond the capacity of one or two senior staff to responsibly supervise. This agency might select a decentralized system as a means of gaining better control of operations.

- Size and location pattern at development sites

  When a PHA has a significant portion of its inventory spread over a large geographic area, a decentralized approach to maintenance delivery may be the most cost effective and efficient manner to deliver services. A large number of units at one site or all sites within a contained geographic area may be most effectively managed by establishing only one center for maintenance services. Economies of scale can be realized by grouping purchasing and contracting work together. Supervision of staff is simplified by the proximity of work site(s) to the senior personnel directing the maintenance operation.

- Management style of Executive Director

  If an Executive Director's individual management style emphasizes delegation of responsibility and his/her focus of attention is on broad issues of financial operations, capital planning and relations with community/local government representatives, decentralization may be the preferable approach for that agency. Trying to force that Executive Director to function with a centralized system may require a level of direct decision making and supervision beyond either the interest or technical skills of the Director and their senior staff. On the other

hand, an Executive Director with a very "hands on" style may feel out of control unless he/she is substantively participating in most decision making in the agency. For this person, a centralized operation is the structure which best complements their management skills and strengths.

- Capacity and/or training opportunities for property managers and maintenance supervisors.

The issue of staff supervision is, as discussed above, directly affected by the organizational structure which is adopted by the PHA. If property managers or maintenance supervisors have historically had limited supervisory responsibilities and tasks like rent collection, resident selection and assignments, vacancy preparations, and work order assignments have all been done centrally, a significant adjustment will be required if the agency shifts to a decentralized structure. Resources will be required to train staff in the full range of their new responsibilities and duties. If the training resources are not available, the change in organizational structure will be an extremely disruptive event and will result in an extended period of high staff frustration. Service delivery during this period will also suffer.

- Existence and nature of organized labor agreements

In some PHAs, the labor agreements may dictate where staff are or can be assigned. The ability to shift personnel, assign new duties and/or change supervisors may be limited by these agreements or by labor's interpretation of prior conditions. Proposed changes should be discussed with union representative(s) to give them an understanding of the modifications being sought and the eventual positive impact these changes will have on the organization. Early discussions with the union could significantly enhance the possibility for positive negotiations and contract revisions (should they be required) on the reorganization plan.

- Nature of job descriptions (i.e. broad vs. narrow definition of duties

If a PHA has job descriptions which broadly define work duties and responsibilities, shifting from one system to another may not require re-writing individual job descriptions. However, very specific and/or narrowly defined job descriptions will necessitate careful evaluation, re-classification and/or re-writing. This can be a very time consuming process.

CONTRACT SERVICES

Housing authorities may contract with outside firms or individuals to perform certain maintenance tasks. The reasons for using a contractor rather than authority staff for a task or project include lack of needed skill on staff, and insufficient time to perform the task(s) when other responsibilities are considered. An authority may make the determination that a certain skill will be needed so rarely that it does not warrant adding the skill to the staff even if it were possible. Examples of this could be elevator maintenance, design of computer hardware system, or legal services to settle a labor dispute.

The contracting process can be a complex one, requiring preparation of specifications, public bidding, and contract management. Regardless of the size of the PHA, size of work task or technical nature of task, careful consideration should be given to several factors when reviewing this option:

- State and federal procurement requirements
- Staff and/or union objections to using non-PHA personnel
- Cost difference between PHA and contractor performance of task
- Availability and capacity of PHA employees to monitor contractor performance
- Cost of training staff for a technical or licensed job

Each time the PHA considers using outside contractors, the option should be weighed against these factors. Usually this review takes place as a discussion between the maintenance department supervisor and the purchasing or finance department. It is their blending of perspectives on these factors which will determine whether the PHA will actually seek an outside contractor for the work in question. The objective is to identify a cost effective means of securing the service that is done in a timely, legal and expeditious manner.

Prior to preparing an invitation for bids, a PHA must make an independent cost estimate of the required service. If the estimate indicates a cost of less than $25,000 (or other amount as specified by state law), a PHA may use simplified small purchase procedures prescribed at 24 CFR 85.36(d). When costs are greater than the small purchase limitation, sealed bidding or competitive proposals methods must be used.

Contracted services should be based upon clear and detailed statements of work and specifications. These documents, depending on the size and complexity of the task(s) addressed, will stipulate the acceptable quality, quantity and timeliness of the products and services. The requests for services should also state the expected contractor qualifications and experience needed to perform the tasks. Specifications or statements of work whether drafted by staff or other qualified individuals such as engineers or architects, and then serve as bid documents.

Prior to contract award, the required qualifications and experience should be confirmed through reference checking. This includes confirming the proposed contractor's ability to deliver on the needed schedule with the appropriate personnel, supplies and equipment. When the authority evaluates proposals, it measures how well the offeror has responded to the solicitation. Offerors, who either have offered the scope of work requested, provided a performance schedule significantly different from that requested, or have in some other way not complied with the requirements of the solicitation are determined to be non-responsive or unacceptable offeror. A PHA has the right and obligation to reject any bid or proposal, regardless of price being offered, that the PHA determines not to be responsive or acceptable to the specification, terms and conditions that were defined in the solicitation.

To control the actual execution of any contract for services and to properly monitor performance through certain events, the steps listed below should generally be followed, and more detailed steps can be found at HUD 7460.8 REV-1 Appendix A.

- o Conduct a Pre-Bid or Pre-Proposal Conference
  - o Clarify terms of IFB or RFP or specifications
  - o Clarify nature or structure of proposal desired
  - o Clarify qualifications
  - o Public and uniform responses to individual bidder questions
- o Conduct a Pre-Construction Conference
  - o Clarify understanding of technical nature of tasks
  - o Clarify prevailing wage rate obligations
  - o Clarify affirmative action (hirings, MBE, WBE) compliance and reporting requirements
  - o Confirm work and payment schedules
- o Require Submittal Approvals
- o Perform Regular Inspections
- o Develop a Payment Authorizations system that minimizes the PHA's exposure
- o Require Regular Receiving Reports
- o Utilize Warranty Enforcement Protections

When the volume or complexity of contracts for services is significant, some authorities have found it useful to consolidate the contract management responsibilities for all contracts under one staff person. The duties of the service contracts coordinator include formulation, implementation and administration of authority-wide service contracts. A sample job description for this position is in Appendix 10.

V. RESIDENT COOPERATION AND INITIATIVES

Residents should be encouraged to participate in activities that increase the quality of their lives. They can be valuable participants in maintaining public housing, and the quality of that maintenance has a significant impact on residents' lives. Residents should be encouraged to participate in maintenance activities, and the PHA and residents should establish, and enforce policies that deter damage and vandalism. The strict enforcement of carefully developed policies benefits residents as well as the housing authority. PHAs are also encouraged to take note of, and reward positive resident behavior, and to encourage and assist residents who wish to participate in maintenance activities. HUD strongly encourages PHAs to identify opportunities for direct resident involvement in the management and maintenance of public housing communities. In addition to utilizing HUD staff, notices and handbooks for suggestions, PHAs should also consider the initiatives outlined below.

OPPORTUNITIES FOR RESIDENT PARTICIPATION

o Maintenance Assessment and Planning

Residents should be encouraged to participate in assessing maintenance needs and in planning services. This can be accomplished by holding resident meetings and conducting surveys. PHAs are encouraged to find out what the residents perceive as the greatest maintenance needs and the residents need to know how and why the PHA has established maintenance priorities.

o Establishment of Management/Maintenance Rules By Building, Development or PHA Wide

If residents are involved in establishing policies, there is greater tendency to not only abide by them, but to participate in their enforcement. The PHA may wish to give some leeway to residents for establishing particular policies for their developments in order to address specific needs.

o Contracting With Resident Organizations or RMCs For Maintenance Services or Enforcement

Resident groups may wish to contract with PHAs for specific maintenance tasks. Possible areas include groundskeeping, custodial maintenance, painting, unit turnover preparation, and snow removal. Resident organizations could use the proceeds for paying participants, special purposes, or to establish a fund for resident advancement training. Homeownership residents could earn shares by participating in the initiative.

o Resident Employment

PHAs are encouraged to employ residents in the operation of the housing authority. At a minimum, job openings should be posted in areas where residents will be able to read them. PHAs should consider hiring residents for a range of temporary and permanent positions including:

- o Clerk and receptionist positions
- o PHA representative to accompany outside contractors working in occupied units, such as exterminators, or CIAP improvement installations
- o Schedulers for extermination services
- o Inventory takers for capital assets
- o Inspectors for annual living unit inspection program

o Repairs By Residents to Avoid Damage Charges

The PHA could consider implementation of a program that identifies repairs which residents could be expected to competently provide themselves, rather than be charged a fee to correct the condition which resulted from abuse or negligence by their household.

o Resident Assumption of Certain Maintenance Responsibilities

PHAs are mandated through 24 CFR 966.4 to include a lease provision which requires residents to keep areas assigned exclusively to them in a clean, safe condition. This section also permits a lease clause to require other resident maintenance as is customary in the area. This provision is especially useful for scattered site housing where custodial maintenance by the PHA is expensive and could cause resentment by non-subsidized neighbors.

o Training

For developments undergoing comprehensive modernization, management improvement funds may be used to train residents to perform modernization work items. There may also be instances where residents may be trained in maintenance skills. If, for example, a PHA has identified that a particular development needs improved maintenance capability the residents could be trained to provide maintenance under management improvements.

Some PHAs have established training programs for maintenance employees and residents are frequently given priority for such training. Community training resources should not be overlooked. They include community colleges, adult education, and local civic organizations.

VI. COMPUTER ENHANCED SERVICE DELIVERY

Many of the routine tasks in a housing authority can and are being automated. In terms of maintenance operations, there are a number of opportunities to use computerization to record information, monitor/track performance, prepare reports and correspondence, and coordinate materials usage with purchasing and inventory control. Two common assumptions in this area are made which should be noted.

First, it is often assumed that comprehensive and accurate information cannot be maintained on work orders, scheduling and coordination of inventory control unless the PHA has a computerized work order system. This is incorrect. Computers do not create good maintenance procedures or systems; they merely enhance the speed by which data is available. The PHA's first task is to develop good policies and procedures, such as requiring all maintenance tasks to be recorded on work orders which tie material usage to inventory. Computerization of this system means supervisors can more quickly identify trends in types of service requests, staff productivity levels or purchasing needs. All of this information would still be available to the supervisor without the computer, however, more time would be required to develop the analysis.

A second assumption often made is that if the PHA's work order system is not automated and tied to the agency's other computerized departments or functions, then computerization of any maintenance task is either not feasible or cost effective. This is incorrect. There are a number of applications where computers can be used to enhance the speed and accuracy of maintenance service delivery without being tied to a mainframe system. This is particularly important for small PHAs who use personal computer systems only, and larger agencies which have not or will not be adding work orders to their automated systems. Examples of computer applications that do not require coordination or support from mainframe systems are:

HAND HELD COMPUTERS

Hand held computers with software programs are available to expedite data collection and report generation in a number of critical maintenance areas including:

- o Meter reading
- o Inventory taking and warehouse control
- o Work inspections
- o Work order preparation
- o Security guard tour clocking
- o Service system boiler inspections

PC SOFTWARE

There are a number of software programs for specific task applications, and comprehensive integrated systems designed for public housing authorities. These programs can support many of maintenance delivery tasks. A small to medium size PHA may find that the personal computer programs are adequate for use with their entire inventory. Larger

PHAs may find these programs useful for PC operations at individual sites as a means of more readily providing the agency with project based data. These applications include:

- o Inventory control
- o Work order preparation
- o Preventive maintenance schedules

Therefore, a PHA does not have to re-evaluate or reconfigure its entire computer information system in order to take advantage of some computer assisted record keeping and monitoring applications. Many of the existing packages on the market are for use with personal computers as well as mainframe systems.

TRAINING

It cannot be over emphasized, that the effective utilization of any computer system is directly dependent upon the quality of training provided to the users. The foundation must be laid in terms of implementation of sound policies and procedures. This should then be followed with professional installation and customization of the hardware and/or software system. Training materials and "hands-on" instruction should be developed and provided to the staff who will use the system(s). This training should tie together the staff's working knowledge of policies and procedures, with the capabilities of the computer to enhance speed and quality of maintenance services which are delivered.

VII. QUALITY CONTROL

Every housing authority's efforts to control the quality of both the management and the maintenance of its physical facilities must begin with performing PERSONNEL and include active continuous follow-up of actual work PERFORMANCE. Quality control means the monitoring and correcting of service delivery systems to ensure that the PHA's policies and procedures are being followed in a manner which allows the agency to meet its performance goals and standards. This is done by:

PERSONNEL PROCEDURES AND PRACTICES

Personnel administration is the art of selecting new employees and of using all employees in such a manner that the maximum quality and quantity of work and service are delivered by the work force. Such administration of personnel, to be effective, must actively address the areas of 1) Position classification; 2) Recruitment; 3) Instruction and Training; 4) Supervision and Evaluation.

Position Classification

The job description is the basic product of a system of position classification. It is the written standard or specification for each class (or group) of positions. Accordingly, it serves to clearly provide information in three critically important areas:

- o Responsibilities and duties of the position and tasks ordinarily assigned to the incumbent
- o Degree of supervision under which the work is to be performed
- o Knowledge and skill necessary for adequate performance of the responsibilities and duties of the position

The best way to develop job descriptions is to write down as straightforwardly as possible the tasks, supervisory relationships and qualifications involved in the job as presently being performed or as envisioned. Interviews with persons now performing the job can help. This information is then reviewed against the tasks/skills objectively needed to carry out the functions of the position within the table of organization. It is also useful to review job descriptions from other PHAs for content and format. Several job descriptions are included in Appendices 6-11 for the purpose of offering such model formats. In general, the responsibilities section of the job description should be as broad as possible, providing the PHA with the maximum flexibility in daily assignments. The qualifications section should set the highest reasonable standards.

Often overlooked are several job requirements that can directly impact staff effectiveness in a position. The first is possession of a valid local driver's license if the employee is expected to travel between sites or operate PHA vehicles as part of their job duties.

Another common omission concerns employee leave time. Physical facility needs and services do not cease for vacations, illness or any such absences of those individuals that direct, supervise, lead or coordinate the required maintenance work. Therefore, a clause in the job description defining mandated personnel substitutions should be included as part of the Responsibilities and Duties of every job. This specification must require that the individual in the position being described will also be informed about the duties of another position that is to be stipulated by title, so that substitution may occur whenever required without diminishing the quality and quantity of the services.

Finally, the ability to read and write basic English should be added to job descriptions where it is important. Even when PHAs can arrange to make certain agency documents easy to use and understand for illiterate staff members, the necessity to read manufacturer instructions, resident notes, information from supervisors, etc. makes it impractical to have employees who cannot communicate in English.

Recruitment

The importance of an aggressive recruitment policy cannot be over-emphasized. Timely, careful searching for required personnel (both new and promotions) is a significant step toward maintaining the PHA's physical facilities in a cost effective, efficient manner. Additional time and expense in the recruitment phase can be more than made up for in reduced expenditures for training, supervision, inefficient work place, or disciplinary actions.

In order to avoid delays or disruptions in the on-going delivery of maintenance services, the authority's recruitment policies for both new and existing (for promotion) personnel must be based upon an established policy that includes:

- Provisions that ensure timeliness of employment and/or advancement
- Clearly understood job classifications, job descriptions and qualifications
- Where applicable, collective bargaining agreement stipulations
- Equal employment opportunities regardless of sex, religion, race, or political affiliation
- Specified interviewing procedures as well as equitable methods for demonstrating required skills when they are part of the described qualifications
- Rapid reference checks of past performance and dependability

The PHA's system of recruitment should also have provisions for targeted outreach efforts. The desire to have a diverse and balanced work force, or to identify individuals with a special, needed skill will require a planned affirmative marketing effort to get an adequate

pool of such applicants from which to finally select the new worker(s). In order to facilitate such an effort, the authority should develop a list of outreach contacts to be used for each kind of job it needs to fill. The list might include large employers in the area, schools and colleges that train such people, groups that represent particular types of potential employees, job placement services, and any other contacts that might prove fruitful. Frequently, the best potential candidate for a particular job is not scanning want ads, but is working productively at your agency or elsewhere. This list of contacts should make it easier to reach such people than simply advertising in the paper.

Instruction and Training

In order to continuously improve the overall performance of the PHA, it is important to provide staff with training opportunities. These sessions should help employees learn new policies and procedures, refine or develop technical skills, and learn about the performance standards of the PHA. This should not be viewed as a one-time program, but rather as an on-going effort which serves to initially present policies, procedures and standards to new employees, and then to regularly restate and reinforce this information in order to ensure uniformity of services and standards over time. The most efficient and cost effective way to achieve and retain this uniformity is to have a continuous program of instruction for all employees. Every individual should receive, at a minimum, instruction in the following topics:

- Basic vocabulary and techniques in understanding housing's physical facilities
- Techniques for supervising, inspecting, estimating, and scheduling
- Performance standards of the PHA
- Contractual obligations

In addition, technical employees (e.g., mechanics, computer operators) may require specific skill training oriented to their present jobs or to positions they may be seeking in the future. In this age of rapid technological change, it is particularly important to provide training opportunities so that employees stay abreast of the latest developments in their fields.

Training is a critical component of maintaining housing's physical facilities. Scheduled sessions of instruction for staff will increase clear understanding and reliable implementation of all maintenance activities. This is an important element, therefore, of quality control in maintenance operations.

Supervision and Evaluation

Every employee is entitled to a performance evaluation from their supervisor at least once a year. The best personnel systems provide for much more constant feedback to the worker and a style of supervision and evaluation viewed as "coaching." There are several purposes for a staff evaluation program. They include the following:

- o To improve the employee's performance (and, as a result, the PHA's performance)
- o To assess the employee's potential for promotion
- o To determine salaries
- o To build a documented record of performance for reference giving purposes and to support personnel actions of any kind

Several principles are important in designing a good staff evaluation system:

o Make the Standard Clear

First, the standards against which the employee will be measured should be clearly understood at the beginning of the assessment period by both the employee and the supervisor. These standards should be found in the job description or in some other document used specifically for evaluation purposes. Some PHAs have successfully used time to complete tasks as the approach to objective definition of standards. Appendix 12 provides an example of time standards.

o Evaluate Frequently

Second, the more regular the feedback can be, the better. In this fashion, employees are kept constantly informed of how they are doing in relation to the established standards. Such a program is oriented toward helping the worker reach the agreed upon goals, rather than simply "tallying the score" at the end of the evaluation period.

o Include Objective Measures of Performance

Third, it is very helpful if the system can include some objective measures of performance as well as the traditional subjective judgements. For example, information on the percentage of call-backs on work orders performed by a particular employee would be a good measure of quality of work when combined with random spot checks and a subjective assessment by the supervisor. This is easier for some categories of jobs than others.

o Make a Written Record

Finally, evaluation systems work best when they include a written record of the evaluation. Many standard forms exist for this purpose. Appendix 14 contains an example of an evaluation form. The best forms have some boxes to check, some room for narrative comments by the evaluator, places for the worker, the evaluator and the evaluator's supervisor to sign and a place for the employee to note comments, as well. When a good evaluation program is integrated with good recruitment, training and supervision, the result is an efficient, well-functioning work force. The quality and performance standards of the PHA are operationalized and reinforced by these procedures.

Quality control of housing authority performed tasks/services is maintained by consistent adherence to written procedures and performance evaluation systems in the agency. All employees should know what is specifically expected of them and they should be rewarded or punished based upon their performance against these stated expectations. The inspection programs of the authority become a crucial tool in reinforcing standards, measuring performance, and controlling quality.

QUALITY CONTROL PROGRAMS

Some authorities have designated a quality control inspector for the agency. This person's responsibilities include inspecting work performed by staff and contractors and, like an internal auditor, reporting to senior management.

Quality control committees have also been successfully established in some housing authorities. The committees are typically composed of representatives from central maintenance, property managers, resident organizations, site maintenance crews, purchasing department, and modernization department. The purpose of the meetings is to inform staff responsible for capital improvements planning, bid preparation and purchasing about anticipated needs for materials and equipment. The meeting also provides these people with feedback on the actual quality of performance of materials and services which the authority has previously used. This information is invaluable for an authority that wants to get the maximum benefit from their maintenance dollar expenditures.

At a minimum, all supervisors should see quality control as a critical element of their job. A portion of the supervisor's work week should be set aside to confirm both the quality and quantity of work performed by the personnel under their supervision. This means reviewing a sample of inspection reports and work orders to confirm completeness, speed of completion, backlog and actual cost/time against estimates. Further, the supervisor should do occasional spot-check inspections on work performed by staff. They should confirm that work was done as described, in a timely and workmanlike manner.

Another important component of quality control in a PHA is resident feedback both on work performance and materials used. Maintenance supervisory staff should, on a regular basis, review resident requested work orders and resident comments on completed work order slips as a means of checking the performance of materials and personnel. Further, resident participation on the quality control committee should be supplemented with maintenance staff presentations to resident organizations on maintenance problems and planned work programs. The objective of these meetings should be to get the residents' perspectives on these issues and to better inform residents about the performance expectations of the PHA.

Residents can be an extension of the maintenance department's effort to determine the most effective approaches and materials to use. This will yield the best results when residents are kept well informed about programs and performance expectations, and when there is an established mechanism for continually getting resident comments into the PHA's planning process.

COLLECTIVE BARGAINING AS A RESOURCE

Administrators can find employee organizations (i.e., unions) very valuable as instruments for collective presentation and settlement of grievances. Unions can also provide channels of communication with the staff for purposes of building morale and energizing the creative potential of the employees. Viewing union presence only as adversarial or obstructionist can significantly impede managements' sense of control/responsibility and worker initiative.

A thorough understanding by all administrative, managerial and supervisory personnel of their collective bargaining agreement(s) responsibilities is mandatory for successful goal attainment in maintaining the physical facilities. The responsibilities include, at a minimum, a complete comprehension of the parameters and processes involved in:

- o Days and Hours of Work
- o Employee Benefits
- o Seniority and Recruitment
- o Promotional Opportunities
- o Work Performance Evaluation
- o Grievances
- o Arbitration

VIII. BUDGETING

THE REASONS FOR PREPARING BUDGETS

PHA administrators and supervisors correctly understand that the income they are going to receive from residents and HUD is a relatively fixed sum, and there is little the PHA staff can do to increase it. In reality, the dollars needed to carry out the maintenance initiatives described in earlier chapters are limited, and are not likely to be substantially more than are available in the current year's budget. Some conclude from this reasoning that budgeting is a waste of time. Quite to the contrary, the careful planning that is necessary to prepare good budgets can help increase the efficiency of the available dollars, thus providing "new" funds for local initiatives.

Creating realistic budgets is the first step toward gaining the maximum benefit from new efficiencies in the maintenance operations. Following the recommendations on prioritizing work, using work orders to track all work tasks, operating preventive maintenance programs and doing careful record keeping, will provide the means to monitor the cost effectiveness of the maintenance operation. Following these initiatives will provide the data necessary to measure the true costs and demand for service and materials. It will also enable the authority to identify what savings have been and to where these dollars have been reallocated. This process will also allow the PHA to quantify the unmet needs (i.e., capital improvements or uncompleted work orders) of the authority.

Budgeting is the term used to describe the process which administrators, supervisors and the commissioners go through to set the performance targets, expressed in dollars, for PHA staff for each year. The preparation of a realistic budget is dependent upon accurate information on staff and materials needs of the maintenance operation. This chapter will provide some guidance on how to effectively integrate the maintenance data into your budgeting process.

Budgeting To Undertake Needs Assessments

In order to prepare a meaningful budget, the PHA must have information about previous spending patterns, current needs, future concerns and long range goals. If a budget is completed without this data, the document will not serve as an effective management tool. Further, supervisors will understand agency operations better if they use the budget preparation schedule as a set of deadlines for data collection or analysis.

Budgeting To Set Priorities

There is never enough money to do everything staff, board or residents would like to do. To create a balanced budget, the authority must choose the goals that are most important for the PHA to accomplish in that fiscal year. In the maintenance area, this might mean concentrating on landscaping this year, and postponing cycle painting until next year. These trade-offs are often difficult to make but the value of the budget process is that it forces everyone to choose priorities and move ahead.

Budgeting To Control Spending

The existence of a budget figure for spending in a particular category has the effect of capping costs near that number. A budget does provide a tool which all parties can use to monitor spending so the intentions of the people who developed and approved the document will be carried out through the fiscal year. By closely monitoring the spending, the cost of work will also be maintained in a reasonable range.

Budgeting To Increase Understanding of PHA Finances

Good decision making requires that those involved share considerable amounts of information. The more residents, staff, local public officials and others understand the limitations on PHA financing and the nature of the budgeting process, the more efficient budget preparation and operations will be.

Budgeting To Address HUD Review and Evaluation

HUD provides the money to build and operate public housing developments. To be responsible to the taxpayers and to the legislative mandates for public housing, HUD needs to review the spending priorities of each PHA to ensure that they are consistent with program guidelines. HUD uses the annual budget forms to assist them with this task. In this way, the preparation of the budget is an activity that helps to shape the relationship with HUD and to determine the capacity of each agency.

Developing a budget is more than simply putting down a series of numbers and adding them up at the bottom of the page. With good information, thoughtful planning and vigorous deliberation, the preparation of a budget can be very valuable policy setting activities for the PHA.

GOOD BUDGETING PROCEDURES

Residents have an important role to play throughout the budget preparation process. Their comments and priorities should be actively solicited and they, like all PHA staff, should be informed about the realistic boundaries (i.e., the AEL) within which a PHA must operate.

Federal regulations require that all PHAs move toward development based budgeting. Every agency is made up of developments, with a unique complex of structures, neighborhoods, staff and residents. The efficiency of the overall operation can be increased by understanding the individual costs of running each development. Without development based data it is more difficult and more subjective to determine which developments are having problems and which are not. PHAs and their residents will benefit from starting the planning for each budget at the development level, compiling those budgets into a full PHA financial document, and then maintaining spending records at a development level in order to feed into the following year's budget. The steps in the project based budgeting process generally look as follows:

1. Define Financial Needs At Each Development

This step should start at least six months before the beginning of a fiscal year. Managers or finance department staff should be encouraged to gather data about the previous and current year's spending and to consult with their staff and the residents about additional needs. These ideas might be stated first in terms of projects: "We need to improve the way the grounds look;" or "We need to respond to plumbing requests more quickly." Then the manager or finance department staff can turn these statements into operating cost estimates, i.e., staff time and salaries, materials and contract costs. This process might suggest that particular projects be accomplished with non-routine expenditures or with modernization funds.

The manager, staff and residents should be encouraged to be ambitious at this point. Prioritization of work items will be critical. If some needs cannot be funded, participants will have a head start on planning for the next budget year.

2. Consider the Revenue Side of the Budget

PHAs do not often think about ways in which a good maintenance program can actually increase income. During the budgeting process determine whether the vacancy time can be reduced by a more efficient work effort, or the costs of vacancy refurbishment reduced through a more effective inspection program. The authority should also consider how to improve rent collections, reduce turnaround time and eliminate costly vandalism as means of increasing the dollars available for improved maintenance services.

3. Formulate An Overall PHA Budget

Formulating an overall PHA budget at a large authority may involve several departments and steps. Smaller agencies may have only two or three development budgets to add to the central administration budget. Inevitably, when the individual budgets are added together, the sum will be larger than the funds available. The Executive Director must now negotiate the adjustments among developments, and between management and residents. Work items must be prioritized before funds can be shifted from one budget to another or between work items. The low priority items not funded one year may have to be postponed for later funding.

The development based supervisory staff should be kept informed of all adjustments and compromises being made, so that they stay fully involved in the process and can explain to other staff and residents what is happening at all times.

4. Seek Board Approval

All budgets must be approved by the Board of Commissioners before submission to HUD. Modernization (CIAP) budgets must also demonstrate that residents have been involved in the development of the application. Board approval should not be a complicated step if some general budget information has been flowing to the board during the process. A budget is a policy document, so it is appropriate for commissioners to ask questions and

modify budgets where policy is concerned. It is not appropriate, however, for board members to alter individual line items that generally represent the staff's judgment about how to carry out a policy.

5. Submit Budget To HUD

Budgets must be sent to HUD at least 90 days before the fiscal year begins. This will leave time for review and approval as well as some correspondence around particular issues. When the approved budgets return, managers and residents should be informed of any changes and of the money available for their development in the coming year.

6. Allocate Spending Authority

Some PHAs give supervisors authority to spend maintenance dollars to the same extent that they participated in shaping the budget. A Director of Management may have authority to make trade-offs within the budgets of the managers or sites he or she supervises. In short, the pyramid of spending authority may reflect the pyramid of budgetary responsibility. At the top of the pyramid is the Executive Director, who is responsible to the Board of Commissioners for living with the full budget. The Board of Commissioners in return, is responsible to HUD for this same commitment.

7. Monitor Financial Records on a Development Basis

Executive Directors and their managers should be able to determine the quarterly cost of staff actually employed at each development, materials used and contract services provided. This data, when added to other cost items, will help the Executive Director and each manager know the financial status at each development. Corrections can be made where specifically needed instead of at the overall PHA level where often the changes are not appropriate, necessary or very effective.

8. Prepare New Budget Based On Spending Records

Budgeting can be an intimidating experience, but it is not difficult. Previous spending records can greatly assist the accuracy and practicality of the new budget. By using the spending record as a base, the preparation process can be a policy setting tool to improve operations of the authority.

IX. SPECIAL CONSIDERATIONS FOR PHA SIZES AND SITE CONFIGURATIONS

The size of a housing authority, meaning the number of units, personnel and budget with which it is working, directly affect the style or approach that is used to carry out daily operations. In terms of the maintenance delivery system, size may have significant impact on the work order system and staffing arrangements used by a PHA. Discussed below are some of the more critical issues that should be recognized in designing and monitoring a well managed maintenance delivery system.

WORK ORDER SYSTEMS

Small Housing Authorities

The most significant differences in a small authority's work order system and that of a large PHA relate to the form of the record keeping. At a small agency, for example, it may be possible to record all of the important pieces of information regarding maintenance work on simple hand-written forms kept in a loose-leaf binder. The summarizing of these records may be accomplished by spending an hour at the end of the week adding the numbers from the various columns. Integration with purchasing, inventory and staff evaluation programs can be accomplished through personal conversations in very small staffs. In these agencies, one person may be maintenance supervisor and the purchasing agent, personnel specialist and purchasing agent, or some other combination of positions. In slightly larger staffs, simple memo-writing can take care of the communications issues. An example of a Maintenance Work Log, when used as an alternative to actual work orders, is included in Appendix 15.

It is important to note several things that should not change just because it is a small authority. First, the minimum pieces of information that should be reported do not change. The agency still needs to know what was done, by whom, using what materials and how long it took, even though this record-keeping may not save as many dollars as it does a larger PHA since it is working with fewer dollars. In the final analysis, each PHA must make the most efficient use possible of its funds and a good work order system helps make that possible.

Another thing which does not change by size is the importance of recording all work into the work order system. Partial records are more likely to be unhelpful than partially helpful. In a small agency, recording 100% of the work on work orders should be relatively easy because of the reduced size of the staff and number of units. Note also a worker should always be able to leave a note for the resident when responding to a request for service.

Finally, there is no difference in the sources of work requests or the priorities. Small agencies still need an Inspection Program that generates work orders, as well as a

Small PHAs typically choose a centralized system of maintenance organization. In a small organization, the Executive Director is expected to know everything that is going on, a centralized system makes it easier to achieve good information flow.

Contracting for services is more common in some small PHAs than others. When there is an excellent generalist of a maintenance employee on staff, many preventive services can be performed in-house. In other cases, the authority must rely on the network of local contractors to take care of a considerable amount of maintenance activity. When contracting does occur, the same principles apply of defining the nature of the work, selecting carefully and monitoring thoroughly.

Personnel systems should have the same basic elements as those found in a large PHA, but in simple format. Job descriptions should be developed and regularly updated for every job at the agency. Recruitment procedures should be written down and followed in order to assure that the best possible staff is hired. Each must be a contributor to the maintenance team. Training should be a part of the PHA's activities. Evaluations will probably be very informal, though some documentation should go into the employee's folder. This can be simple notes of regular conversations about how the employee is progressing, or formal semi-annual evaluation forms.

In short, smaller PHAs need to write down policies and procedures and document performance, but this task can be accomplished in a professional manner without using complex systems or high technology.

Medium Housing Authorities

Medium-sized PHAs have maximum flexibility in the personnel area. They are typically small enough to choose to adopt either a more informal organizational approach, relying on verbal communication and good team-work, or more formal administrative tools, based on forms and written instructions.

Choices between centralized and decentralized systems of maintenance organization often have to do with the configuration of the PHA's stock. In a few cases, a centralized system may still make sense for its advantages of clear communications and standards, and focused control of the maintenance effort. If developments are far apart, a decentralized operation will save extensive travel time and allow staff to develop real specialties appropriate for particular developments.

Contracting for services may be more involved at medium sized PHAs, particularly where there is some level of decentralization. If a contracted service is to be used at several sites, each site manager should be involved in monitoring the product or service delivered. This may require skills training for existing personnel to assume such tasks or for them to keep pace with changing needs and demands of their sites.

All parts of a good personnel system should be well documented. Generalist job descriptions are preferred over specific and narrow ones. Avoid job descriptions that specify a location; this can result in difficulty in moving staff from one site to another.

Recruitment and training can be extensive and formalized in a medium sized agency where there are enough staff, for example, to justify the time of a manufacturer's representative to come and deliver a training session. Since evaluations will be conducted by several supervisors at a medium sized PHA, a formal evaluation system should be developed with training in the assessment process and forms to be used for evaluation.

Large Housing Authorities

Large PHAs must introduce considerably more formality to their operations to ensure consistency of standards across the operation, and to allow for much greater amounts of information to be collected and monitored by senior officials. A common and increasing frequent theme of recommendations for efficient maintenance operations at larger authorities is, therefore, the use of computers for work order scheduling and tracking system.

Large PHAs should give serious consideration to a decentralized maintenance operation. Maintaining good written policies and procedures, documenting activities, and standardized forms are very important to ensure consistent standards. Further, this effort enables reasonable assembly of data for monitoring purposes. Most authorities have found that the creation of an organization hierarchy makes sense, with specific delegation of responsibilities to each level. For instance, delegating direct personnel supervisory responsibilities to a regional or area maintenance superintendent will reduce the top maintenance director's workload. This arrangement, therefore, allows the maintenance director to focus more on overall planning activities, coordination with other departments, and the development of training and evaluation programs.

In the case where all maintenance staff are assigned to specific sites and tradespeople are directed and assigned from a central maintenance shop, experience seems to indicate that tradespeople should be supervised and monitored by site personnel when they are working at a local site. Once again this ensures local priority setting and coordination are maintained at a high level.

Large authorities tend to do a significant amount of contracting, in part because they have complex housing stock (e.g., elevators, large boilers, complicated alarm systems, etc.) and because they often face heavy cyclical demands for certain tasks (e.g., vacancies, landscaping, painting). Many large authorities find it appropriate to create a "Contracts Coordinator" position on staff to administer contracts, monitor warranty deadlines and facilitate the public bidding process. This person must have skills in bidding, reference checking, site monitoring, and evaluation. In some situations he or she may become a specification writer. This official develops an orderly set of files that allow for good planning and record keeping in the contract administration area. The use of a computer may help with the complex monitoring of these various contracts. (See Appendix 10 for a sample job description).

Personnel systems are critical in a large PHA. Job descriptions should be regularly updated to keep pace with employee growth and assumption of new responsibilities. Recruiting procedures need to be pursued aggressively because of what is typically a constant

turnover of staff. Regular mailings to key recruitment contacts are a good practice, even when a particular job opening is not currently available. Training programs should be scheduled regularly, with a curriculum that each employee is expected to complete over a given period of time. Staff orientation programs should be offered in order to smoothly bring new employees on board. The creation of explicit career ladders within the organization will allow employees to see themselves as having a career at the agency with advancement made possible through good evaluations and completion of training programs. This evaluation program should be formalized with standard forms, well documented files and training for all managers in good supervisory techniques. In many larger PHAs, the position of Personnel Officer is created to deal with the creation and implementation of good personnel procedures.

SCATTERED SITES

The operation of scattered site units raises a series of maintenance and management related issues. There are three general approaches used by PHAs to provide maintenance services to scattered site units:

o **Scattered Site Units Treated As Single Development**

This approach groups all scattered site units together for the purpose of administration and maintenance services. Organizational structure of centralized or decentralized service delivery influences the actual staffing assignments. Maintenance workers will be sent from central maintenance to a specific address, either at a conventional development or scattered site property in a centralized system. If the agency has decentralized services, then a manager and maintenance crew will be assigned to the scattered site units in the same manner and with the same responsibilities as staff assigned to a single conventional development site. In either case, staff assignments, budgets and resident selection treat the scattered site units as though they were one property.

The advantage offered by this approach is that the maintenance needs of these units are not regularly compared with the work demands in the conventional public housing sites before a decision is made to provide services. The nature or severity of the scattered site service request relative to the requests in conventional developments does not become the primary determinant of when maintenance services will be delivered. Rather, all scattered site requests are prioritized as a group and do not individually compete with demands for service in the conventional program.

The disadvantage of this approach is that maintenance staff assigned to scattered site work may spend a significant portion of their work day traveling between work assignment sites. The wider the area over which the units are spread, the more maintenance staff time will be devoted to travel. Supervisors also have more difficulty monitoring staff time and performance. In an attempt to partially address this problem, some PHAs have the scattered site maintenance crew(s) use trucks that are equipped with the most frequently used tools and materials. This can be a successful technique for reducing multiple visits to complete a single work request, if the trucks are correctly outfitted and work orders provide some detail about the scope of work required.

Efficiency, cost effectiveness and staff accountability may be difficult to sustain at satisfactory levels using this approach to delivery of maintenance services in scattered site units.

o **Scattered Site Units Joined With Conventional Sites**

This approach extends the boundaries of each conventional public housing site to include the scattered site units closest to it. Maintenance personnel assigned to the conventional site include the scattered site units near their development as part of the property for which they are responsible. If resident requests for maintenance services are called into individual site offices, then the residents in the scattered site units call the development site that is closest to the building in which they live. The preventive maintenance programs and schedules for each conventional site will include the off-site scattered site units near that property. Central office or administrative functions usually remain separated from the conventional developments, primarily because the units were developed/acquired separately and have separate HUD budgets.

The advantage offered by this approach is that maintenance personnel are used in a relatively efficient manner. Travel time between work assignments is cut to a minimum. Supervisors are more likely and able to monitor staff performance because personnel for whom they are responsible are working within a narrowly defined geographic area.

The disadvantage which often occurs in PHAs that use this approach is a competition of needs. Often the physical condition of the conventional developments is not as good or attractive as the scattered site units. Maintenance and management personnel tend to focus attention on the sites, conditions or problems which are the worst. Therefore, work in the scattered site units will often wait longer for attention because staff feel that they should first address maintenance needs in the conventional developments.

o **Scattered Site Units Serviced By Outside Contractor**

This approach groups all scattered site units together and uses non-PHA personnel to provide maintenance services. Resident requests for services are usually called into a central location within the PHA (e.g., central maintenance, administration office). The work requests are recorded, prioritized and forwarded to the firm hired by the PHA to do the maintenance work in the scattered site units. Large PHAs with scattered site units in a wide geographic area may divide the units into regions and hire different firms for separate regions in order to minimize response time.

The PHAs using this approach to maintenance services usually retain full responsibility for the provision of all other services. The administrative functions such as resident selection and budgeting continue to be performed by PHA personnel within the central offices of the authority. The advantage offered by this approach is that PHA resources for scattered site maintenance services are expended in a very efficient manner. PHA staff do not have to weigh the relative needs of scattered site units against those of conventional developments. The PHA is not paying for travel time of maintenance personnel, assuming

it has negotiated terms with the outside contractor that pay only for time at the job site. Worker performance or quality of services offered scattered site residents is monitored by the PHA's contract administrator. Unsatisfactory performance can result in contract termination, often an easier task than firing existing PHA employees.

The disadvantage of this approach is a potential loss of control in terms of the style and quality of work performed. Unless the PHA exercises prudence in use of the contractor and closely monitors performance, more money may actually be spent or needed to provide maintenance services to scattered sites than was initially budgeted.

An additional concern is raised in this approach concerning PHA compliance with the public contracting process. The contracts for services must be publicly bid and awarded to the lowest responsive bidder. This could mean that the maintenance team providing services to a group of units could change on a regular basis (i.e., one year contracts mean potentially different personnel each year). The advantages gained by on-going contact with the same properties are lost every time the PHA is required or chooses to change maintenance contractors. Residents may also find it difficult to establish working relationships and/or confidence in a maintenance work force that changes on a regular basis.

It should be noted that some housing authorities have found two factors can have a significant impact on the success of the maintenance delivery system for scattered site units. The first is resident selection practices. Some PHAs see scattered site living as something which is reserved for households who have demonstrated good practices in the care of their dwelling units. These PHAs make most of their assignments to scattered site units from existing residents requesting transfers. Thus the quality of use or wear and tear on the units is likely to be far better than it is in an average conventional unit. It can also be expected in these PHAs that the condition/appearance of the scattered site units will be above that of the average conventional development site.

The converse of this situation should also be noted. Some PHAs find that their largest size units are in the scattered site program. Others use the scattered site units as the place to transfer problem families in order to remove them from the conventional developments. In either case, the physical demands that these large and/or troubled households place on the units can have a significant negative impact on the condition/appearance of the scattered units.

The second factor that can significantly impact the PHA's apparent success in maintaining the scattered site inventory is the age of that inventory. Some housing authorities have the oldest units in the scattered site program. Buildings in some communities are 50 - 100 years old. Though the properties have been renovated, the buildings cannot be expected to successfully endure unusually heavy use or wear and tear that is expected of family use. The dollars are not usually available to the housing authority to cover the cost of specialized materials or care required for old buildings. Managing maintenance in scattered site units requires managing operating efficiencies and staff accountability. Management and administrative decisions directly impact a PHA's apparent success in maintaining the physical condition of the scattered site units.

X. HOW ARE WE DOING? SUPERVISOR CHECKLISTS

Managing maintenance is an on-going and constant process. Regular evaluation of staffing patterns, staff performance, and procedures should be part of every supervisor's job duties.

Gaining control of the maintenance operation is a gradual process. The previous sections of this manual provide an integrated and comprehensive approach for gaining and sustaining such control. However, the whole system cannot quickly be fully implemented at one time. Housing authorities will modify their operations over time, adopting only portions of the system at one time. For example, a PHA could begin by training staff to do uniform living unit inspections. The agency would have to establish performance standards and revise inspection reports. The work order form might be revised while staff is receiving training on inspection standards. Inspection programs for buildings and grounds or service systems might not start for another six months when supervisors felt the living unit inspection program was running smoothly.

The following series of checklists will provide supervisors, i.e., the PHA staff responsible for managing maintenance operations, with a quick analysis of where they are and what is missing. Each checklist provides minimum standards for the task area by identifying:

A. **Objective** - A statement about what this area is about and what PHAs should be achieving with this element of their management.

B. **Coverage** - A list of individual tasks that are dealt with under this area.

C. **Procedures** - A list of the procedures that constitute "Minimum Standards" in this area. Every PHA should have established, written descriptions about how to handle operational situations in this area.

D. **Forms and Reports** - A list of all of the documentation that is necessary to do an adequate job in this area.

E. **Information Flow** - A set of statements about what information should move from whom to whom in this area. In particular, the movement and disposition of each form and report is identified.

F. **Methodology for Implementation** - Identification of the critical steps in implementing any parts of the "Minimum Standards" that do not presently exist.

A review of completed checklists will assist supervisors in identifying deficiencies, and prioritizing their work program for improved management of maintenance services.

CHECKLIST FOR SUPERVISORS I

■ MANAGEMENT OF MAINTENANCE

A. Objective

To ensure adequate planning and control over the maintenance operations and costs of the PHA through the establishment of maintenance priorities and procedures, and through the maximization of employee productivity

B. Coverage

1. Definition of all maintenance work by category
2. Definition of maintenance priorities
3. Development of procedures for addressing each maintenance work category
4. Allocation of materials, supplies, services, and labor to complete all work
5. Monitoring staff productivity through performance standards
6. Schedules for performance and completion

C. Procedures

YES	NO	
___	___	1. Work order intake and processing and system
___	___	2. Handling emergency requests
___	___	3. Living unit inspection program
___	___	4. Common areas & grounds maintenance/inspection program
___	___	5. Vacancy preparation program
___	___	6. Systems maintenance and inspection program (preventive)
___	___	7. Completing resident-generated work requests
___	___	8. Use of outside contractors and service contracts,including contract administration
___	___	9. Basic standards for janitors in senior buildings

D. Forms & Reports

YES	NO	
___	___	1. Work order form
___	___	2. Work order summary sheets by priority category including completed w.o. information
___	___	3. Living unit inspection forms with instructions
___	___	4. Form letters to notify residents of service call
___	___	5. Vacancy preparation crew progress report
___	___	6. Buildings and grounds inspection report
___	___	7. Inspection reports for each component of the systems maintenance and inspection program
___	___	8. Completed "emergency" w.o. summary sheet
___	___	9. Use of outside vendor/service contractor summary sheet
___	___	10. Budget updates
___	___	11. Overtime usage reports
___	___	12. Annual maintenance plans and schedules

E. Information Flow

YES	NO	
___	___	1. Resident-generated work orders are directed to a designated telephone number
___	___	2. Unit and system inspections result in PHA maintenance generated work orders
___	___	3. Prompt notification of vacancies to prep crew
___	___	4. Notification to purchasing/finance of emergency purchases and use of outside vendor services
___	___	5. Summary work order reports to senior management including modernization coordinator
___	___	6. Summary sheets reviewed periodically to spot trends and systemic problems

YES NO

___ ___ 7. Manager/senior management monitors budget and overtime usage

___ ___ 8. Periodic review sessions involving modernization, maintenance, and management

YES NO F. Methodology for Implementation

___ ___ 1. Board review/approval of maintenance priorities

___ ___ 2. Development of forms and written procedures

___ ___ 3. Communicate maintenance request procedures to residents

___ ___ 4. Development of appropriate job descriptions and job training programs

CHECKLIST FOR SUPERVISORS II

■ INSPECTIONS

A. Objective

To provide for a routine system of inspecting and servicing all physical components of each housing site.

B. Coverage

1. Living unit inspection
2. Common areas and grounds maintenance and inspection
3. Building systems maintenance and inspection

YES NO C. Procedures

___ ___ 1. Living unit inspection program (LUIP) - annual and at vacate

___ ___ 2. Follow-up repair work for LUIP

___ ___ 3. Common areas and grounds maintenance/inspection program

___ ___ 4. Systems maintenance and inspection program

Check programs available:

___ a. Catch basin service/inspection
___ b. Compactor service/inspection
___ c. Condensate pump inspection
___ d. Electric transformer inspection
___ e. Elevator equipment inspection
___ f. Emergency lighting service/inspection
___ g. Exhaust fan service/inspection
___ h. Exterior light inspection
___ i. Fire extinguisher inspection
___ j. Fire hose inspection
___ k. Heating plant operations and maintenance
___ l. Lighted exit sign service/inspection
___ m. Mechanical equipment maintenance
___ n. Refuse chute entry inspection
___ o. Sanitary drain clean-out/inspection

YES NO

___ ___ 5. Notification to residents

___ ___ 6. Training for inspectors

YES NO D. Forms and Reports

___ ___ 1. Living unit inspection form

___ ___ 2. Common areas/grounds inspection form

___ ___ 3. Inspection form for each area under C.4

___ ___ 4. Work order

___ ___ 5. Letters to notify residents of planned entry, system shut-downs, etc.

E. Information Flow

___ ___ 1. LUIP system interfaces with resident selection department to allow for prompt reoccupancy

___ ___ 2. A copy of each unit inspection report goes to the maintenance supervisor, manager, and resident

___ ___ 3. A copy of all other inspection reports goes to the maintenance supervisor and manager

___ ___ 4. Results of inspections are translated into work order requests

F. Methodology for Implementation

___ ___ 1. Training program for all maintenance/inspection staff

___ ___ 2. Maintenance supervisor ensures that all procedures occur on schedule

CHECKLIST FOR SUPERVISORS III

■ WORK ORDER SYSTEM

A. Objective

Means of recording all maintenance work, time and cost of repairs for the purpose of monitoring expenditures of PHA resources.

B. Coverage

1. All resident generated requests for maintenance services
2. All requests for maintenance services generated by preventive maintenance, and by inspections of units, buildings grounds
3. All PHA generated daily/routine maintenance work assignments

YES NO C. Procedures

___ ___ 1. Recording resident requests for maintenance services

___ ___ 2. Recording maintenance requests generated by unit, systems, building and grounds inspections

___ ___ 3. Recording daily/routine maintenance assignments

___ ___ 4. Prioritizing of maintenance work assignments

___ ___ 5. Estimating and tracking cost of each maintenance task

___ ___ 6. Recording expenditures of manpower, materials and contract services by each PHA property

___ ___ 7. Charging resident accounts for damages

D. Forms and Reports

___ ___ 1. Work order form which includes:

Check where included:

___ a) Source of request for services
___ b) Estimate of materials and time needed to complete
___ c) Actual materials, time and cost to complete work
___ d) Identification of staff/contractor who performs work
___ e) Site where work is to be performed
___ f) Identification if resident caused damage
___ g) Priority category of work

YES NO

___ ___ 2. Daily and monthly summary of work orders completed and not completed, by site and category of work

___ ___ 3. Log of resident requests for maintenance services which include time of request and time of work completion

E. Information Flow

___ ___ 1. Work order distributed to:

Check who receives:

___ a) Maintenance supervisor
___ b) Management division
___ c) Purchasing/warehouse
___ d) Finance division (resident accounts)

___ ___ 2. Daily summary work orders completed and pending sent to supervisors for maintenance and management of particular site where work was to be performed

___ ___ 3. Monthly summary of work orders completed and pending sent to supervisor of maintenance and management divisions of PHA

___ ___ 4. Daily log available for work order intake person to use for quick reference on inquiries from residents, supervisors, etc.

CHECKLIST FOR SUPERVISORS IV

■ COORDINATION OF MAINTENANCE, MODERNIZATION AND MANAGEMENT

A. Objectives

A system which assures maximum information flow among the three functions of maintenance, modernization and management as well as the reinforcement of the goals in each area by the programs of the other areas.

B. Coverage

1. Communications among staff

2. Meetings among staff

YES NO C. Procedures

___ ___ 1. Development review meetings on a site by site basis

___ ___ 2. Standard checklist for development review meetings

___ ___ 3. Record of development review meeting decisions

___ ___ 4. Budget sign-off sheet

___ ___ 5. Modernization application sign-off sheet

E. Information Flow

___ ___ 1. Maintenance problems and observations to management and modernization from maintenance

___ ___ 2. Product and construction methodology problems and observations to management and modernization from maintenance

___ ___ 3. Problems for residents in operation of equipment and facilities to maintenance and modernization from management

___ ___ 4. Short and long range projections of available funds to management and maintenance from modernization

___ ___ 5. Schedule of capital improvements to maintenance and management from modernization along with regular updates

YES	NO	
___	___	6. Budget sign-off sheet from fiscal to management to maintenance to modernization and back to fiscal
___	___	7. Modernization sign-off sheet from modernization to maintenance to management and back to modernization

F. Implementation

___	___	1. Staff meeting to discuss importance of communications and coordination among these three departments. Discuss nature and function of
___	___	2. Develop standard agenda for review meetings
___	___	3. Schedule first meeting for each development
___	___	4. Develop forms and reports

XI. REFERENCES

GENERAL PROPERTY MANAGEMENT AND MAINTENANCE PUBLICATIONS

1. *Handbook of Real Estate Terms*, by Dennis S. Tosh, Jr. (NAHRO Publication No. N905)

   This valuable reference book contains 2,400 definitions of acronyms, abbreviations, and buzzwords used extensively in the real estate industry. Also included are the major real estate organizations' mailing addresses, telephone numbers, and activities; the real estate commissions in the U.S. and Canada; and standardized forms.

2. *No Cost/Low-Cost Energy Conservation Measures for Multi-Family Housing*, by the Institute of Real Estate Management (NAHRO Publication No. 0366)

   An indispensable publication describing 13 energy conservation measures that can be implemented with little or no material and labor costs. Easy instructions will help ensure significant energy savings.

3. *Handbook of Building Maintenance Management*, by Mel A. Shear (NAHRO Publication No. 0360)

   This authoritative, well organized text explains how to correct maintenance problems and also how to fine tune preventive maintenance programs. It is packed with detailed illustrations, tables, and charts.

4. *Building Construction Cost Data, 1990*, (Catalog No. 60010); *Means Repair & Remodeling Cost Data, 1990* (Catalog No. 60040); *Means Square Foot Costs, 1990* (Catalog No. 60050); *Means Electrical Cost Data, 1990* (Catalog No. 60030); *Means Mechanical Cost Data, 1990* (Catalog No. 60020); *Means Plumbing Cost Data, 1990* (Catalog No. 60210); *Means Site Work Cost Data, 1990* (Catalog No. 60070); *Means Residential Cost Data, 1990* (Catalog No. 60170); *Means Interior Cost Data, 1990* (Catalog No. 60090); by R. S. Means Company, Inc.

   A series of reference publications which are used as estimating (unit cost) guides by contractors, design professionals, and others in the construction industry.

5. *Increasing HUD's effectiveness through improved management* (1/10/84), GAO (order from GAO - (202) 275 - 6241).

6. *Monitoring and setting standards for public housing performance* (4/84), Citizens Housing and Planning Association , 7 Marshall St., Boston, MA 02108.

   An examination of existing practices (small sample of authorities) in monitoring and setting standards in five management areas, including maintenance, rent collection, occupancy, energy, and personnel evaluation.

7. *Financing and Procurement Strategies for North Carolina Public Housing* (8/88), by OKM for North Carolina Alternative Energy. OKM, 6164 Canal St., Boston, MA 02114.

8. *Cambridge Housing Authority Manager's Handbook* (2/86). CHA, 270 Green St., Cambridge, MA 02139.

   A handbook designed to aid managers in their day-to-day tasks, to standardize management practices, and to make clear the reporting requirements managers have. This handbook consists of two volumes -- a volume of text and an accompanying volume of sample forms and documents.

9. *Studies of Effective Management Practices within Public Housing Agencies, Volume 2 - Maintenance and Custodial* (11/85), Office of Policy Development and Research, HUD.

   Brief overview of the maintenance and custodial function, with three case studies (Cumberland Housing Authority, Housing Authority of the County of Lawrence, and Huntsville Housing Authority) of effective management practices.

10. *Public Housing Management Performance, A Comprehensive Guidebook for Achieving Quality Public Housing)* 1/85), The Venture for Quality Public Housing C/O Dorothy Fulghum, Norfolk Redevelopment and Housing Authority, P. O. Box 968, Norfolk, VA 23501.

11. *Project Venture Maintenance Training*, Norfolk Redevelopment and Housing Authority. (For address, see item 10).

    A maintenance training manual, with proposed curriculum designed to provide 120 hours of classroom instruction, 60 hours of on-the-job training, and 20 hours of attitude/behavior/motivational training.

12. *Preventive Maintenance Manual*, Housing Authority of Pittsburgh (order from - Frank H. Mazza, (412) 456 - 5012).

13. *Practical Apartment Management*, by Edward N. Kelley (IREM Publication No. 772).

    A how-to, hands-on approach (80% revised and expanded third edition) that covers all the basics of managing multi-family housing.

14. *The Successful On-Site Manager*, by Carole Stone King, Gary Langendoen, Lyn H. Hummel (IREM Publication No. 811).

    A standard reference text for not only site managers, but property managers and owners as well, with topics of interest, including management planning, and maintenance management and procedures.

15. *How to Write an Operations Manual: A Guide for Apartment Management* (IREM Publication No. 805).

    This unique guide offers a complete outline for putting together a complete operations manual.

16. *Innovations in Residential Management* (IREM Publication No. 836).

    Illustrates new techniques for improving residential leasing and operations, using case studies and hands-on descriptions.

17. *The Venture for Quality Public Housing's Landscape Manual for Administrators*, by Boston Urban Gardeners. Order from Real Estate Enterprises, Inc., 1 Faneuil Hall Marketplace, Boston, MA 02109.

    An administrators guide to improving the public housing landscape, with topics of interest, including design considerations, overview of "the process", and management of maintenance workers.

18. *The Venture for Quality Public Housing's Landscape Manual for On-Site Personnel*, by Boston Urban Gardeners. Order from Real Estate Enterprises, Inc., 1 Faneuil Hall Marketplace, Boston, MA 02109.

    A step-by-step illustrated maintenance manual for improving the public housing landscape for use by maintenance workers.

19. *Providence Housing Authority Maintenance Department of Policies and Procedures Manual*, by Providence Housing Authority, Providence, RI.

    This manual outlines procedures which provide for the effective performance of PHA maintenance staff in areas of operation, including emergency services, vacant unit preparation, painting, snow removal, etc.

20. *Preventative Maintenance Resource Guide*, by Duncan C. Speel, Director of Development and Modernization, Woonsocket Housing Authority, Woonsocket, RI.

    A collection of articles, procedures, and forms from various sources that speak to the benefits of an effective property maintenance system.

GENERAL MAINTENANCE REFERENCES

Many of these works can be obtained from, or ordered by, commercial bookstores.

1. Basic Engineering

   - *Simplified Engineering for Architects and Builders*, by Harry Parker.

2. Print Reading

   - *Architectural Graphic Standards*, by J. N. Boaz.

   - *Blueprint Reading - Interpretation of Architectural Working Drawings*, by Wm. J. Horning.

3. Wood

   - *Standard Grading Rules for Northeastern Lumber*, by American Lumber Standards Committee, P. O. Box 1554, Rockville, MD 20850.

   - *Wood Handbook*, by U. S. Department of Agriculture, Washington, D. C.

   - *Audel's Carpenters and Builders Guide* (Vol. 1 thru 4), by Theo. Audel and Co., Publishers.

4. Brick and Masonry

   - *Technical Notes # 20, 23, 23A, and 30*, by Brick Institute of America.

   - *Technical Notes on Brick Construction*, by Brick Institute of America.

   - *American Standard Building Code Requirements for Masonry*, by U. S. Department of Commerce, Washington, D. C.

   - *Audel's Masons and Builders Guide* (Vol. 1 thru 4), by Theo. Audel and Co., Publishers.

5. Concrete and Reinforcement

   - *Concrete Information*, by Portland Cement Association.

   - *Design and Control of Concrete Mixtures*, by Portland Cement Association.

   - *Concrete Primer*, by American Concrete Institute, P. O. Box 4754, Redford Station, Detroit, MI 48219.

   - *Manual of Concrete Inspection*, by American Concrete Institute.

   - *Reinforced Concrete - A Manual of Standard*, by Concrete Reinforcing Steel Institute, 228 N. LaSalle St., Chicago, IL 60601.

6. Scheduling

   - *Means Scheduling Manual*, by R. S. Means Co. Inc.

7. Residential Construction

   - *Plasterers Manual*, by Portland Cement Association.

   - *Portland Cement Plaster (Stucco) Manual*, by Portland Cement Association.

   - *Gypsum Construction Handbook*, by U. S. Gypsum, 101 S. Wacker Dr., Chicago, IL 60606

   - *Using Gypsum Board for Walls and Ceilings*, by Gypsum Association, 1603 Orrington Ave., Suite 1210, Evanston, IL 60210.

   - *Illustrated Encyclopedic Dictionary of Building and Construction Terms*, by Hugh Brooks - Prentice Hall, Inc.

   - *Tools and How to Use Them*, by A. Jackson & D. Day.

   - *Standard Grading Rules for Northeastern Lumber*, by NELMA, 4 Fundy Rd., Falmouth, ME 04105.

   - *Roofing Systems - Materials and Applications*, by John Watson - Reston Publishing Company, Inc.

   - *Built-Up Roofs*, by Johns-Manville, Greenwood Plaza, Denver, CO 80217.

   - *Large Appliance Repair Manual*, by Popular Mechanics. Hearst Books, 224 W. 57th St., New York, NY 10019.

8. Maintenance Management

   - *The Maintenance Managers' Resource Book*, National Center for Housing Management, 1275 K St., N.W., Washington, DC 20005-4052.

   - *Handbook of Building Maintenance Management*, by Mel A. Shear, Institute of Real Estate Management, P.O. Box 109025, Chicago, IL 60610-9025.

CONTACT ORGANIZATIONS

Institute of Real Estate Management (IREM)
430 N. Michigan Avenue
Chicago, IL 60611
312 - 661 - 1930

Portland Cement Association
5420 Old Orchard Road
Skokie, IL 60076

U. S. Gypsum
101 S. Wacher Drive
Chicago, IL 60606

R. S. Means Co. Inc.
P. O. Box 800
Kingston, MA 02364
1 - 800 - 448 - 8182

Brick Institute of America
1750 Old Meadow Road
McLean, VA 22101

NAHRO
1320 18th Street N.W.
Washington, D. C. 20030
202 - 429 - 2960

HUD
7th & D. Streets S.W.
Washington, D. C. 20410
202 - 708 - 1800

National Multihousing Group
Washington, D. C.
202 - 659 - 3381

ExPress Publishing
El Cerrito, CA
415 - 236 - 5496

Building Owners/Managers Association
Washington, D. C.
202 - 289 - 7000

Northwest Center for Professional Education
Bellevue, WA
206 - 746 - 4173

National Center for Housing
Management (NCHM)
1275 K Street, NW
Suite 700
Washington, D.C. 20005-4052

XII. APPENDICES

This section contains forms and procedures that have been used in public housing authorities. They should be used as a tool or guide by other PHAs. This material is not intended for use in a local agency without careful review and revisions to appropriately fit the size and conditions of the specific housing authority.

APPENDIX 1

SAMPLE HOUSING AUTHORITY

NUMBER: _____

EMERGENCY: _____

PERMISSION TO ENTER: _____

WORK ORDER

ORIGINATED BY: _____

M_____R_____

RECORDED BY: _____

DATE: _____

DEV. # | STREET ADDRESS | APT. # | TENANT'S LAST NAME | TELEPHONE #

SPECIAL INSTRUCTIONS

DESCRIPTION AND LOCATION OF WORK REQUIRED:

EMERGENCY _____ PERSON CONTACTED: _____ TIME: _____

ASSIGNED TO: _____ CONTRACTOR: _____ CONTRACT # _____

REASSIGNED TO: _____ DATE: _____

WORK PERFORMED: MATERIALS USED:

TENANT CHARGES: YES ___ NO ___. IF "YES", REASON: _____

AUTHORIZATION: YES ___ NO ___ BY: (MANAGER) _____ DATE: _____

CODE:

(CIRCLE ONE) (1) IMMEDIATE THREAT TO LIFE/SAFETY (2) SCHEDULE REPAIRS (3) APPEARS TO BE IN ACCEPTABLE CONDITION

WORK COMPLETED BY: _____ DATE: _____ TIME:_____HOURS

WORK COMPLETED BY: _____ DATE: _____ TIME:_____HOURS

COMMENTS:

THE WORK DESCRIBED ABOVE HAS BEEN SATISFACTORILY PERFORMED. YES ____ NO ____

RESIDENT'S SIGNATURE: _____ DATE: _____

IF IT HAS NOT, PLEASE DESCRIBE PROBLEM:

DATE | LABOR/CLASS | HOURS | RATE | COST | MATERIAL & PARTS | UNIT PRICE | TOTAL COST

OFFICE USE: ACCOUNT # _____ POSTED BY: _____ DATE: _____

WHITE: CENTRAL OFFICE BLUE: PRINCIPAL CLERK YELLOW: TENANT PINK: STOREKEEPER ORANGE: MAINTENANCE SUPERVISOR

SAMPLE

Part 1 of 3

LIVING UNIT INSPECTION REPORT

Tenant _____

Permission to Enter _____

ADDRESS: _____ UNIT #: _____

Specify location by circling one:

LOCATION: L.R. - D.R. - B.R. - HALL - STAIRWAY - ENTRY HALL - MISC. (SPECIFY)

ITEM	CODE	WORK REQUEST DESCRIPTION	WORK ORDER #
Entry Door & Hardware			
Floor/Floor Covering			
Walls			
Interior Decoration			
Trim			
Ceiling			
Doors			
Windows			
Screens			
Switches			
Lighting			
Receptacles			
Heating Unit			
Closet			
Thermostat			
Stairs			
Handrails			
Intercom - Doorbell			
Mailbox			
Sprinkler Head			
Smoke Detector			
Emergency Call Switch			

REMARKS:

CODE REPORTING KEY:
1 = Acceptable
2 = Repair
3 = Clean
4 = Replace
5 = Paint
6 = Not Applicable
7 = Other (Specify)

INSPECTED BY _____ DATE _____

APPENDIX 2

SAMPLE

Part 2 of 3

LIVING UNIT INSPECTION REPORT

Tenant _____

Permission to Enter _____

ADDRESS: _____ UNIT #: _____ LOCATION: Kitchen

Specify location by circling one:

LOCATION: L.R. - D.R. - B.R. - HALL - STAIRWAY - ENTRY HALL - MISC. (SPECIFY)

ITEM	CODE	WORK REQUEST DESCRIPTION	WORK ORDER #
Entry Door & Hardware			
Floor/Floor Covering			
Walls			
Interior Decoration			
Trim			
Ceiling			
Doors			
Windows - Fan - Vent			
Screens			
Switches			
Lighting			
Receptacles			
Heating Unit			
Closet			
Water Pressure			
Sink			
Garbage Disposal			
Countertop			
Cabinets - Base			
Cabinets - Wall			
Electric Load Center			
Range - Hood			
Refrigerator			
Washing Machine Supply & Drain			
Sprinkler Head			
Smoke Detector			

REMARKS:

CODE REPORTING KEY:
1 - Acceptable
2 - Repair
3 - Clean
4 - Replace
5 - Paint
6 - Not Applicable
7 - Other (Specify)

INSPECTED BY _____ DATE _____

APPENDIX 2

SAMPLE

Part 3 of 3

LIVING UNIT INSPECTION REPORT

Tenant _____

Permission to Enter _____

ADDRESS: _____ UNIT #: _____ LOCATION: Bath

Specify location by circling one:

LOCATION: L.R. - D.R. - B.R. - HALL - STAIRWAY - ENTRY HALL - MISC. (SPECIFY)

ITEM	CODE	WORK REQUEST DESCRIPTION	WORK ORDER #
Floor/Floor Covering			
Walls			
Ceramic Tile - Wall - Floor			
Interior Decoration			
Trim			
Ceiling			
Doors			
Windows Fan - Vent			
Screens			
Switches			
Lighting			
Receptacles			
Emergency Call Switch			
Heating Unit			
Closet			
Water Pressure			
Lavatory			
Medicine Closet			
Tub			
Shower - Head - Valve - Rod			
Toilet & Seat			
Caulking (Waterproofing)			
Paper Holder			
Soap Dish			
Towel Bars			
Acessories			

REMARKS:

CODE REPORTING KEY:
1 - Acceptable
2 - Repair
3 - Clean
4 - Replace
5 - Paint
6 - Not Applicable
7 - Other (Specify)

INSPECTED BY _____ DATE _____

SAMPLE

BUILDINGS AND GROUNDS INSPECTION REPORT

Development: _____ Address: _____

Condition Key: - Approved = Defective (Specify)

INSPECTION ITEM	NO.	COND.	LOCATION	DEFICIENCY	ACTION TAKEN
Sidewalks					
Yards					
Parking areas					
Fencing					
Areaways					
Garage area					
Fencing					
Basement					
Lobby					
Community room					
Office areas					
Stairtower					
Stairtower					
Roofs					
Penthouses					
Corridors					
Laundries					
Electric Sub-stations					
Dumpsters					

INSPECTED BY: _____ DATE: _____

REVIEWED BY: _____ DATE: _____

APPENDIX 4

SAMPLE SERVICE SYSTEM PROCEDURE

To maintain a continuous, safe and sanitary operation of the solid waste disposal refuse chutes, the service rooms on reach floor and all chute entry doors are to be inspected by an assigned maintenance worker each month for:

1. Cleanliness
2. Improper Storage
3. Lighting
4. Operation (service room door and chute entry door (hatch) are to be self-closing and must latch positively).
5. Mechanical Stability, i.e., all operating parts in proper working order.

All inspections are to be recorded on the Refuse Chute Entry Inspection Report using the following reporting key in the 'Condition' column:

1 - Requires Cleaning
2 - Storage to be Removed
3 - Replace Light
4 - Faulty Operation (Specify in 'Comments')
5 - Mechanical Instability (Specify in 'Comments')
6 - Approved

All completed Inspection Reports are to be submitted by the performing maintenance worker to the assigning supervisor for review, approval and the scheduling of any required corrective actions which is done by generating work orders. Note the corrective actions taken on the Inspection Report by recording the work order number and date.

APPENDIX 4

SAMPLE

Refuse Chute Entry Inspection Report

Development: _____

LOCATION	CONDITION	COMMENTS (Specify when not Approved)
1st Floor		
2nd Floor		

CONDITION REPORTING KEY

1 - Requires Cleaning
2 - Storage to be Removed
3 - Replace Light
4 - Faulty Operation
5 - Mechanical Instability
6 - Approved

INSPECTED BY: _____ DATE: _____

REVIEWED BY: _____ DATE: _____

SERVICE SYSTEMS INSPECTION PROGRAM

o Catch Basin Inspection and Service

To prevent flooding conditions and to ensure sanitary conditions, each catch basin is to be inspected and, if required, cleaned on a semi-annual schedule by an assigned laborer.

Catch basin locations and numerical designations should be shown on a plot plan of the development that clearly depicts this information and is attached to report.

All inspections and services are to be recorded on a Catch Basin Inspection and Service Report.

o Compactor Inspection and Service

To maintain a continuous and efficient operation of all solid waste compactors, each unit is to be inspected, cleaned and serviced according to the manufacturer's recommendations each week by an assigned maintenance worker.

All inspections and work performed are to be recorded on a Compactor Inspection and Service Report.

o Condensate Pump Inspection

To ensure a continuous and efficient operation of all condensate return pumps each location should be listed on a Condensate Pump Inspection Report is to be inspected by an assigned maintenance worker each week.

The procedure should require that all pumps, pump rooms and equipment be inspected for operation, security, lighting, cleanliness and general condition, particularly leaks requiring repair.

The inspector shall ascertain that all equipment is operational by observation and/or testing. This includes, but is not limited to, tests, thermometers, pumps, controls and sumps. All findings are to be recorded on the report form.

o Electric Transformer Inspection

To ensure safe and continuous operation of all electrical transformers each transformer as listed on an Electric Transformer Inspection Report is to be inspected each month.

Each transformer manhole, vault and/or enclosure is to be kept clear of storage, clean, lighted, dry and secure from unauthorized entry (locked).

The procedure requires that each manhole and vault be opened and entered to inspect for improper storage, degree of cleanliness, security, lighting and general operating conditions such as flooding or excessive insulating dust.

Each finding is to be recorded on the report form.

o Elevator Equipment Inspection

To ensure continuous and safe operation each elevator is to be serviced by a certified staff elevator mechanic or contractor not less than required by local code. Upon receipt of the servicing contractor's service report and/or upon completion of any service work completed by the maintenance work force an assigned maintenance worker is to inspect the elevator equipment room for cleanliness, lighting, security and improper storage. In addition, each elevator cab is to be checked for cleanliness, lighting and smoothness of operation monthly.

All inspections are to be recorded on an Elevator Equipment Inspection Report.

o Emergency Lighting Inspection and Service

To ensure reliable emergency lighting service, an assigned maintenance worker is to inspect and service each emergency lighting unit as listed on an Emergency Lighting Inspection and Service Report on a quarterly schedule.

The required inspection and service shall include testing each unit for correct operation and, in the case of a battery unit, adjusting the lamps and checking the batteries. Each finding is to be recorded on the report form.

o Exhaust Fan Inspection and Service

To maintain a continuous and efficient ventilation system, each exhaust fan as listed on an Exhaust Fan Inspection and Service Report is to be inspected and serviced in accordance with the manufacturer's recommendations by an assigned maintenance worker on a semi-annual schedule.

The inspection and service is to include:

- o Lubricate motor when required
- o Lubricate bearings and shaft when required
- o Check assembly for mechanical stability
- o Clean unit and components (filters)
- o Adjust "V" belt and report existing condition, i.e., whether good/poor or in need of replacement
- o Check timers for correct setting
- o Check fan operation

All inspections and services performed are to be recorded on the report form.

o Exterior Light Inspection

To assist in maintaining a safe environment and to ensure continuous timely exterior lighting service, an assigned maintenance worker shall conduct a tour of all buildings and grounds weekly between the hours of dusk and dawn to inspect each exterior light as indicated on a development site plan.

The site plan should clearly define the location of all managerially controlled exterior lights such as pole, canopy and wall fixtures. The inspector during the tour is to note any light that is not functioning on an Exterior Lighting Inspection Report. In the case of fixtures controlled by mechanical timers the inspector is to record the on and off time settings as well as adjust whenever required.

o Heating Plant Operations and Maintenance

To ensure an efficient and cost effective heating plant operation an assigned maintenance worker shall perform those activities as listed on the appropriate activity reports, i.e., daily, weekly, monthly and quarterly, bi-annual and annual service reports.

Manufacturer's instructions will dictate the maintenance requirements for the equipment which has been installed. At a minimum these instructions should identify which tasks should be performed on daily, weekly, monthly, quarterly, biannual and annual basis.

Upon the completion of each scheduled and specified activity, the performing worker shall record in the appropriate column the date and their initials to signify work completion.

o Lighted Exit Sign Inspection and Service

To assist in maintaining a safe environment, an assigned maintenance worker shall inspect and service each lighted exit sign as listed on a Lighted Exit Sign Inspection and Service Report at least once monthly. Every lighted exit sign shall be kept clean, mechanically stable and lighted.

After inspection of each lighted exit sign the condition and service, if required, shall be recorded in the appropriate space on the report.

o Mechanical Equipment Maintenance

To maintain a continuous and efficient operation of mechanical equipment such as electrical heaters (overhead or wall) and air conditioning units, each unit as listed on a Mechanical Equipment Maintenance Report is to be inspected, vacuumed and the filters cleaned and/or replaced every April and September by an assigned maintenance worker.

All inspections and services performed are to be recorded on the report.

o Refuse Chute Entry Inspection

To maintain a continuous, safe and sanitary operation of the solid waste disposal chutes, the service rooms on each floor and all chute entry doors are to be inspected by an assigned maintenance worker on a weekly and monthly basis for:

- o Cleanliness
- o Improper storage
- o Lighting
- o Operation (service room door and chute entry hatch are to be self closing and must latch positively)
- o Mechanical stability, i.e., all operating parts in proper working order.

All inspections are to be recorded on a Refuse Chute Entry Inspection Report.

o Exterior Main Sanitary Drain Line Maintenance

To assist in preventing emergency flooding and backups of all sanitary drain lines each exterior main sanitary drain line shall be rodded and flushed clear to the main city sewer system once each year by an assigned maintenance worker.

Exterior main sanitary drain line locations and numerical designations should be shown on a plot plan of the Development that clearly depicts this information.

All services are to be recorded on an Exterior Main Sanitary Drain Line Activity Report.

SAMPLE

WORK PLAN

Part 1 of 6

Schedule of Inspection

DEVELOPMENT: ______________________ PAGE______ OF______

BLDG.	APT.	ADDRESS	BRS.	DATE OF INSPECTION

SAMPLE

WORK PLAN

Part 2 of 6

Labor and Materials Estimate

DEVELOPMENT: _____ CATEGORY: _____ RATE: _____

BUILDING	# OF UNITS	LABOR HOURS	LABOR COST	MATERIALS COST	ESTIMATED TOTAL COSTS

APPENDIX 5

SAMPLE

WORK PLAN

Part 3 of 6

Staffing Allocation Report

DEVELOPMENT: _____ DATE: _____

CRAFT	HRS. WKLY.	WEEKLY ALLOCATION BY HOURS: EMERGENCY	VACANCIES	PLANNED INSPECTIONS	CORRECTIVE WORK

REMARKS:

PREPARED BY: _____

REVIEWED BY: _____ DATE: _____

SAMPLE

WORK PLAN

Part 4 of 6

DEVELOPMENT: _____

CATEGORY	# OF UNITS	LABOR ESTIMATE HOURS	LABOR ESTIMATE WEEKS	COST ESTIMATE LABOR	COST ESTIMATE MATERIALS	COST ESTIMATE TOTAL
TOTALS						

PREPARED BY: _____ DATE: _____

SAMPLE

WORK PLAN

Part 5 of 6

Weekly Schedule By Building

DEVELOPMENT: _____

CATEGORY	WEEK 1	2	3	4	5	6	7	8	9	10	11	12	13
COMPLETION													

PROGRAM STARTING DATE: _____

PREPARED BY: _____ DATE: _____

REVIEWED BY: _____ DATE: _____

APPENDIX 5

SAMPLE

WORK PLAN

Part 6 of 6

Development: _____ 30 DAY IMPLEMENTATION SCHEDULE

DATE																														
CALENDAR DAYS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	3
WORK DAYS																														
Electricians																														
Plumbers																														
Painters																														
Carpenters																														

PREPARED BY: _____ DATE: _____ REVIEWED BY: _____ DATE: _____

APPENDIX 6

SAMPLE

POSITION: MAINTENANCE SUPERINTENDENT I

GENERAL DESCRIPTION:

Under general supervision, to supervise a group of workers engaged in building maintenance activities; and to be responsible for the maintenance and operation of one or more public housing developments; and to perform related work as required.

TYPICAL EXAMPLES OF WORK PERFORMED:

Subject to written assignments and oral and written orders, to review of reports and occasional inspection of work, but with opportunity for consultation with superior on special problems, and with responsibility for maintaining quality and quantity of work.

Supervising a group engaged in a variety of building maintenance and custodial activities, such as repairing roofs, plaster, woodwork, masonry and cement work, plumbing and heating installations, electrical installation, cleaning and painting interior and exterior of buildings, maintaining grounds and landscaping and cleaning of buildings and grounds by studying new assignments and pertinent drawings and specifications and inspecting buildings and grounds to determine what work is required; scheduling work and making assignments to subordinates, redistributing work in accordance with work progress and time limitations; laying out work; advising subordinates on work methods; inspecting work in progress and upon completion; individually keeping record of work done; and preparing reports and recommendations of activities and employees supervised, estimates of cost, and requisitioning materials and supplies.

As required, and in addition to supervising a variety of building maintenance and custodial activities, directing one or more related activities such as unloading, storing and distributing materials, salvaging, sorting and storing lumber and other building materials and equipment.

MINIMUM QUALIFICATIONS:

Education equivalent to completion of two years in and preferably graduation from a four year trade or vocational high school with courses in building construction or shop work; considerable experience in the care and maintenance of multiple story buildings including the operation and maintenance of equipment therein; considerable knowledge of the operation and maintenance of buildings and related structures and equipment;

MAINTENANCE SUPERINTENDENT I (continued)

demonstrated ability to supervise and direct the work of a group engaged in a variety of building maintenance activities; mechanical aptitude and mental alertness; good powers of observation; physically active; tact in dealing with subordinates and building occupants; initiative and resourcefulness in handling difficult building maintenance problems.

EXPERIENCE:

Experience may be substituted for formal education requirements if it is demonstrated that such experience is directly applicable to performance of the stated duties and responsibilities in a satisfactory manner.

SAMPLE

MAINTENANCE SUPERVISOR

FUNCTION:

By assignment of the Manager, the Maintenance Supervisor is responsible for maintaining a safe, sanitary and orderly living environment. This individual supervises a group of workers engaged in a variety of building maintenance activities and must ensure the sound physical condition of the site, structure and servicing systems of one or more public housing developments.

TYPICAL DUTIES:

1. Supervises and coordinates the performance of contractors and assigned personnel engaged in both maintenance service and repairs.

2. Operates, adjusts and maintains in good working order, the mechanical systems and equipment including heating, plumbing, electrical, fire protection, and all appliances, apparatus and fixtures.

3. Maintains tenant relations as appropriate and is available for emergency service requests and abatement.

4. Performs continuous programmed services including landscaping, snow/ice removal, housekeeping in public areas, solid waste disposal, pest control, general security and inspection tasks.

5. Assists in the allocation of the operating expense budgets.

6. Coordinates the preparation of vacated living units for reoccupancy.

7. Recommends changes to ongoing preventive maintenance and service programs.

8. Performs related duties as required.

QUALIFICATIONS REQUIRED:

1. Prior maintenance or construction experience in one or more of the building trades crafts at the journeyman level, or prior acceptable experience as a maintenance supervisor.

2. Ability to supervise and coordinate maintenance service and repair contractors.

3. Ability to supervise personnel.

4. Ability to deal effectively with people.

SAMPLE

JOB DESCRIPTION

SERVICE SYSTEMS COORDINATOR

NATURE OF WORK:

This is a technical position under the direction and supervision of the Chief of Technical Services or other personnel as assigned. This individual is responsible for the daily efficient operation and maintenance of all heating plants, services systems and their components, and maintenance equipment.

ILLUSTRATIVE DUTIES

1. Performs major and technical repairs to heating and hot water systems which is beyond the scope of normal routine and preventive maintenance in emergencies or when other staff is not available. Examples which are illustrative only include: pipefitting, valve replacement, major burner and motor repair.

2. Responds to emergency and routine maintenance/service requests. Available on an on-call basis for emergencies, and will perform repairs when other staff is unavailable.

3. Implements preventive and routine maintenance system schedules which shall include complete written instructions and diagrammatic instructions where necessary.

4. Develops, structures, and implements formal and informal training programs (to include written material) for personnel who service heating equipment and other service systems.

5. Performs routine, daily, weekly, monthly and annual inspections of heating plants and related systems to be followed by reports and recommendations regarding on-going maintenance, preventive maintenance, equipment replacement, and inventory needs.

6. Is responsible for submitting written recommendations, based on personal surveys, for repairs required to maximize safe, efficient operation.

7. Maintain an inventory of essential replacement parts to minimize the disruption to heat, hot water and related systems.

8. Remain informed about the responsibilities of the Chief of Technical Services and the Rapid Reoccupancy Coordinator so that substitutions may be affected whenever required without diminishing the quality and quantity of the services.

9. Performs other related responsibilities as assigned.

SERVICE SYSTEMS COORDINATOR (continued)

QUALIFICATIONS:

1. A minimum of four (4) years experience servicing and maintaining heating plant equipment and systems, which shall have included the replacement and installation of valves and pipes; one (1) year of which experience shall have been in a supervisory capacity.

2. Must have two (2) years of college and an Associates degree. Experience may substitute for a portion of this academic requirement.

3. Must have a valid local Driver's License.

SAMPLE

JOB DESCRIPTION

RAPID REOCCUPANCY COORDINATOR

NATURE OF WORK

This is a technical position responsible to the Chief of Technical Services or other personnel as assigned. This individual is responsible for conducing inspections of vacant living units to establish the required scopes of work and restoration/reoocupancy schedules by coordinating maintenance activities with Maintenance Supervisors, and reoccupancy activities with Property Managers to effect rapid turnover of move outs under the standards as set forth in the Local Housing Code.

ILLUSTRATIVE DUTIES:

1. Conducts efficient, systematic and programmed inspections to ensure quality control, schedule adherence and code compliance.

2. Develops varying scopes of work by craft and materials required under established performance standards.

3. Develops and coordinates schedules of production aimed at rapid reoccupancy of vacant living units.

4. Recommends final acceptance of all satisfactorily completed work.

5. Prepares routine reports and other assigned record-keeping functions.

6. Responsible for remaining informed about the duties of the Service Contracts Coordinator and the Chief of Technical Services, so that substitution may be affected whenever required without diminishing the quality and quantity of the services.

7. Performs related duties as required.

RAPID REOCCUPANCY COORDINATOR

QUALIFICATIONS:

1. Two (2) years experience in obtaining compliance on large-scale physical improvement projects through construction management or quality control inspection.

2. Working knowledge of apartment repair and remodeling construction practices, cost data, and performance standards.

3. Working knowledge of basic construction techniques utilized in apartment structure, site improvements and maintenance.

4. Working knowledge of the Local Housing Code.

5. Demonstrated ability to schedule varying scopes of work in living unit restoration work.

6. Ability to work effectively with people .

7. Must have two (2) years of college and an Associates degree in engineering. Experience may substitute for a portion of this academic requirement.

8. Must have a valid local Driver's License.

SAMPLE

JOB DESCRIPTION

SERVICE CONTRACTS COORDINATOR

NATURE OF WORK

This is a managerial position responsible to the Chief of Technical Services or other personnel as assigned. They receive a minimum of daily direction and supervision. This individual is responsible for the formulation, implementation and administration of authority-wide service contracts for elevators, emergency generators, solid waste disposal and all other contracted preventive maintenance and extraordinary maintenance service programs, as well as the supervision of an ongoing pest control program.

ILLUSTRATIVE DUTIES:

1. Initiates and assists on the formulation of contracts for required maintenance service and/or repairs.

2. Coordinates contractor activities and supervises service contracts to the satisfactory completion of work specifications.

3. Conducts efficient, systematic and programmed inspections to ensure contract compliance and fulfillment of all guarantees.

4. Supervises and assigns personnel to perform efficient, cost-effective pest control services.

5. Responsible for remaining informed about the duties of the Chief of Technical Services and the Rapid Reoccupancy Coordinator, so that substitution may be affected whenever required without diminishing the quality and quantity of services.

6. Prepares routine reports and other assigned recordkeeping functions.

7. Responsible for fleet management of Authority's automotive vehicles.

8. Performs related duties as required.

SERVICE CONTRACTS COORDINATOR (continued)

QUALIFICATIONS:

1. Five (5) years experience formulating and administrating service contracts for building operations and maintenance.

2. Must have two (2) years of college and an Associates degree. Experience may substitute for a portion of this academic requirement.

3. Thorough knowledge of bid documents (specifications) formulation for contracting purposes in the local area.

4. Thorough knowledge of terminologies and components utilized in all assigned areas of responsibility, i.e., solid waste disposal, elevator maintenance/service, emergency generation of electrical power, and pest control, including knowledge of the methodologies currently in practice throughout the various disciplines.

5. Possession of a valid State License to manage controlled substances for purposes of pest control or the ability to obtain one within six (6) months of accepting position.

6. Knowledge of basic construction techniques utilized in living unit rehabilitation.

7. Ability to supervise personnel.

8. Ability to work effectively with people.

9. Must have a valid local Driver's License.

SAMPLE

POSITION: QUALITY CONTROL INSPECTOR

GENERAL DESCRIPTION:

This is a technical position responsible to the Physical Improvements Coordinator that receives general supervision and direction. This individual is responsible for performing and conducting inspections for such physical improvement programs as large-scale landscaping, paving, masonry or roofing repairs as well as tree trimming/removal, steel pan/concrete stair restoration, traffic/parking barrier deterrent installations and living unit restorations to ensure quality control and acceptable production.

TYPICAL EXAMPLES OF WORK PERFORMED:

Obtains compliance to job specifications and/or bid documents by conducting inspections, formulating punch lists of deficiencies, reinspections of corrected work and issuance of acceptable reports. Reviews and understands bid document formulations, prints and contracts. Develops varying scopes of work on assignment by craft and materials required under established performance standards. Conducts efficient, systematic and programmed inspections to ensure quality control and contract compliance. Prepares routine reports and other assigned recordkeeping functions. Recommends final acceptance of all satisfactory completed work. Performs related duties as required.

MINIMUM QUALIFICATIONS:

Two (2) years experience in obtaining compliance on large-scale physical improvement projects through construction management or quality control inspection. Working knowledge of apartment repair and remodeling construction practices, cost data and performance standards. Working knowledge of basic construction techniques utilized in apartment structure and site improvements and maintenance. Ability to read, interpret and implement bid documents (contracts, prints, specifications). Ability to formulate thorough inspection reports with summaries for recommended action. Ability to deal effectively with people. Possession of a valid local driver's license.

PROVIDENCE HOUSING AUTHORITY

MAINTENANCE DEPARTMENT

TIME STANDARDS/SCHEDULES
FOR MAINTENANCE ACTIVITIES

SEPTEMBER 1990

PROVIDENCE HOUSING AUTHORITY
100 BROAD STREET
PROVIDENCE, RI 02903

TABLE OF CONTENTS

CENTRAL MAINTENANCE

JOB STANDARDS

ELECTRICAL

JOB	HIGH	MEDIUM	LOW (manhours
TEST SMOKE ALARMS	30 min.	20 min.	10 min.
REPLACE LIGHT FIXTURE	1 hr.	30 min.	15 min.
CHECK CIRCUIT BREAKER	30 min.	15 min.	10 min.
CHECK FUSES	30 min.	15 min.	10 min.
LOCATE SHORT	2 hr.	1 hr.	15 min.
REPAIR SHORT	2 hr.	1 hr.	15 min.
REPAIR SWITCHES	30 min.	15 min.	10 min.
REPAIR SOCKETS	30 min.	15 min.	10 min.
REPAIR EXHAUST FANS	1 hr.	30 min.	20 min.
REPAIR ELECTRIC STOVES	1 hr.	30 min.	20 min.
REPAIR ROOF FANS	2 hr.	1 hr.	30 min.
REPAIR HALLWAY LIGHTS	30 min.	20 min.	15 min.
REPLACE EXTERIOR LIGHTS	1 hr.	30 min.	15 min.
RESET TIMERS	30 min.	20 min.	15 min.
REPAIR RECEPTACAL	30 min.	20 min.	15 min.
REPLACE WIRING	2 hr.	1 hr.	30 min.
REPAIR HEAT PUMPS	2 hr.	1 hr.	30 min.
REPAIR BOILERS	1 hr.	30 min.	20 min.
REPAIR AIR CONDITIONER	1 hr.	30 min.	20 min.
CHECK TRANSFORMER	30 min.	20 min.	15 min.
REPLACE BALLASTER	30 min.	20 min.	15 min.

CENTRAL MAINTENANCE

JOB STANDARDS

VEHICLE

JOB	HIGH	MEDIUM	LOW (manhours)
VISUAL INSPECTION:			
DENTS	20 min.	10 min.	8 min.
BROKEN WINDSHIELD	20 min.	10 min.	8 min.
HEADLIGHTS	30 min.	20 min.	10 min.
MIRRORS	30 min.	15 min.	10 min.
LENSES	20 min.	15 min.	10 min.
TIRES	30 min.	20 min.	15 min.
FLUID CHANGE:			
OIL	10 min.	-	-
WASHER	10 min.	-	-
BRAKE (flush if contaminated & bleed)	60 min.	-	-
RADIATOR (pressure test, flush, tighten hoses)	2 hr.	-	-
CLUTCH	1½ hr.	-	-
TRANSMISSION	1 hr.	-	-
CHECK ELECTRICAL:			
EXTERIOR LIGHTS	20 min.	15 min.	10 min.
BULBS	30 min.	20 min.	10 min.
HEADLIGHTS	30 min.	20 min.	10 min.
SIDE MARKERS	30 min.	20 min.	10 min.
PLATE LIGHT	30 min.	20 min.	10 min.
DIRECTIONALS	30 min.	20 min.	10 min.
STOP LIGHT	30 min.	20 min.	10 min.
BEAR LIGHT ASSEMBLY	30 min.	20 min.	10 min.
CHANGE BRAKES:			
FRONT PADS	1 hr.	30 min.	-
SHOES	1½ hr.	1 hr.	-
HOSES	30 min.	20 min.	-
DRUMS	2 hr.	1 hr.	-

CENTRAL MAINTENANCE

JOB STANDARDS

VEHICLE

JOB	HIGH	MEDIMUM	LOW (manhours)
CHANGE BRAKES: (continued)			
DRUMS	1 hr.	-	-
CALIPERS	1 hr.	-	-
ROTORS	1 hr.	-	-
WHEEL CYCLINDERS	1 hr.	-	-
SPRING KIT (w/shoes)	1 hr.	-	-
CABLES (front, intermidate, rear)	3 hr.	-	-
MASTER CYCLINDER	45 min.	-	-
REPLACE STARTERS:			
ALTERNATOR	45 min.	-	-
SOLENOID (apron mounted, starter)	1½ hr.	-	-
REGULATOR (firewall mtg or internal)	1¼ hr.	-	-
LINKAGE	1 hr.	-	-
VALVE COVER	2 hr.	-	-
GASKETS	1½ hr.	-	-
SPARK PLUGS	2 hr.	-	-
POINTS	45 min.	-	-
CAP	30 min.	-	-
ROTOR	45 min.	-	-
CONDENSOR	30 min.	-	-
WIRES	3 hr.	-	45 min.
FUEL FILTER	30 min.	-	-

CENTRAL MAINTENANCE

JOB STANDARDS

PAINTING

JOB	HIGH	MEDIUM	LOW (manhours)
RI 1-2; RI 1-3; RI 1-4; RI 1-5			
1 BEDROOM	24 hr.	-	-
2 BEDROOM	32 hr.	-	-
3 BEDROOM	40 hr.	-	-
4 BEDROOM	48 hr.	-	-
5 BEDROOM	56 hr.	-	-
RI 1-8 & RI 1-9			
0 BEDROOM	16 hr.	-	-
1 BEDROOM	24 hr.	-	-
2 BEDROOM	32 hr.	-	-
RI 1-11; RI 1-12; & RI 1-13			
0 BEDROOM	16 hr.	-	-
1 BEDROOM	24 hr.	-	-
2 BEDROOM	32 hr.	-	-

CENTRAL MAINTENANCE

JOB STANDARDS

JANITORIAL

JOB	HIGH	MEDIUM	LOW (manhours)
DRY MOP FLOOR	45 min.	30 min.	20 min.
SWEEP FLOOR	45 min.	30 min.	20 min.
WASH FLOOR	1¾ hr.	45 min.	30 min.
WAX FLOOR	1 3/4hr.	1¾ hr.	45 min.
SEAL FLOOR	1 3/4hr.	1¾ hr.	45 min.
SPRAY BUFF FLOOR	1½ hr.	1 hr.	45 min.
VACUUM RUG	1½ hr.	1 hr.	45 min.
SHAMPOO RUG	4 hr.	3 hr.	2 hr.
SPRAY RUG (static)	1½ hr.	1 hr.	45 min.
WASH WINDOW	40 min.	30 min.	20 min.
CLEAN AIR CONDITIONER FILTER	30 min.	20 min.	10 min.
CLEAN GAS RANGE	3 hr.	2 hr.	1 hr.
CLEAN ELECTRIC RANGE	3 hr.	2 hr.	1 hr.
CLEAN REFRIGERATOR	2 hr.	1 hr.	30 min.
CLEAN 1 BEDROOM UNIT	18 hr.	14 hr.	10 hr.
CLEAN 2 BEDROOM UNIT	22 hr.	18 hr.	14 hr.
CLEAN 3 BEDROOM UNIT	23 hr.	19 hr.	15 hr.
CLEAN 4 BEDROOM UNIT	24 hr.	20 hr.	16 hr.
CLEAN 5 BEDROOM UNIT	28 hr.	24 hr.	20 hr.
CUT GRASS - FRONT & REAR (100 sq. ft)	5½ hr.	4 hr.	2½ hr.
RAKE GRASS " "	6 hr.	4½ hr.	3 hr.
CLEAN YARD - FRONT & REAR " "	3½ hr.	2½ hr.	1½ hr.

CENTRAL MAINTENANCE

JOB STANDARDS

REFRIGERATORS

JOB	HIGH	MEDIUM	LOW (manhours)
BREAKER STRIP (one side)	1 hr.	45 min.	30 min.
BRACKET (right & left)	30 min.	20 min.	15 min.
CONTROL	35 min.	30 min.	-
VEGETABLE BIN	30 min.	15 min.	10 min.
OUTSIDE DOOR	1 hr.	45 min.	20 min.
FREEZER DOOR	35 min.	30 min.	15 min.
MOTOR FAN	1 hr.	45 min.	30 min.
GASKET (freezer)	2 hr.	1½ hr.	45 min.
GUARDETTE (motor protector)	1 hr.	45 min.	30 min.
HEATER	1¾ hr.	1 hr.	45 min.
HANDLE	45 min.	35 min.	25 min.
PANEL, FREEZER	2 hr.	1½ hr.	1 hr.
RELAY	1 hr.	45 min.	30 min.
SHELF	30 min.	20 min.	15 min.
SHELF STUDS	30 min.	20 min.	15 min.
LIGHT SWITCH	45 min.	30 min.	20 min.
ICE CUBE TRAY	30 min.	20 min.	15 min.
PLUG AND LEAD WIRE PAIR	45 min.	30 min.	25 min.
EVAPORATOR (hole)	3 hr.	2½ hr.	2 hr.

CENTRAL MAINTENANCE

JOB STANDARDS

HARDWARE

JOB	HIGH	MEDIUM	LOW (manhours)
STOPPER CHAIN	12 min.	10 min.	8½ min.
TOILET PAPER HOLDER	15 min.	10 min.	-
TOWEL BAR	30 min.	15 min.	-
SOAP DISH	30 min.	15 min.	-
TOOTHBRUSH HOLDER	30 min.	15 min.	-
RUBBER STOPPER	15 min.	10 min.	-
HANDLES (medicine cabinet)	15 min.	-	-
SASH LOCKS	20 min.	-	-
PEEP HOLES	15 min.	-	-
LIGHT BULBS	15 min.	-	-
RECEPTICAL COVERS	20 min.	-	-
SWITCH COVERS	30 min.	-	-
FRICTION CATCHES	15 min.	-	-
CABINET HINGE	30 min.	-	-
HOOK & EYE	15 min.	-	-
DOOR PULL	15 min.	-	-
DOOR SPRING	20 min.	-	-
DOOR STOPS	20 min.	-	-
WINDOW PANES	2 hr.	1 hr.	30 min.
WINDOW SCREENS	2 hr.	1 hr.	30 min.
DOOR KNOBS & SCREWS	1½ hr.	1 hr.	30 min.
BASKET STRAINER	40 min.	30 min.	-
MEDICINE CABINET	1½ hr.	1 hr.	-
SHADE BRACKETS	1½ hr.	1 hr.	-
PICTURE HANGERS	20 min.	-	-
SHADES	45 min.	30 min.	-

CENTRAL MAINTENANCE

JOB STANDARDS

RANGES

JOB	HIGH	MEDIUM	LOW (manhours)
BEARING (door)	2 hr.	1½ hr.	1 hr.
OVEN BURNER w/SUPPORT	1 hr.	45 min.	30 min.
BURNER ASSEMBLY	1 hr.	45 min.	30 min.
TOP BURNER	30 min.	20 min.	15 min.
BROILER DOOR CATCH	1 hr.	45 min.	30 min.
TOP GRATE	35 min.	25 min.	15 min.
DOOR HANDLE	1 hr.	45 min.	30 min.
FRONT VALVE HANDLE	30 min.	20 min.	15 min.
BROILER DOOR HINGES	2 hr.	1 hr.	30 min.
OVEN DOOR LINING	1 hr.	45 min.	30 min.
OVEN DOOR SPRINGS	1½ hr.	1 hr.	45 min.
OVEN CONTROL	45 min.	40 min.	30 min.
OVEN PILOT TUBES	1 hr.	45 min.	30 min.
TOP BURNER VALVES	45 min.	30 min.	25 min.
THERMO-COUPLING	45 min.	30 min.	15 min.
LIGHT & ADJUST TOP BURNER	45 min.	30 min.	15 min.
ADJUST OVEN CONTROL	45 min.	30 min.	15 min.
PRESSURE REGULATOR	1 hr.	45 min.	30 min.
FLEXIBLE GAS LINE	45 min.	30 min.	15 min.
CONTROL KNOBS	30 min.	20 min.	15 min.

CENTRAL MAINTENANCE

JOB STANDARDS

CARPENTRY

JOB	HIGH	MEDIUM	LOW (manhours)
LOCK CHANGE: DOOR	45 min.	30 min.	15 min.
DEADBOLT	30 min.	20 min.	15 min.
MORTISE	40 min.	30 min.	15 min.
KNOB	20 min.	15 min.	-
PANIC	2 hr.	1 hr.	30 min.
LOCK CHANGE: MAILBOX	30 min.	20 min.	15 min.
SASH BALANCE	45 min.	30 min.	25 min.
HANG DOORS (wood & metal)	4 hr.	3 hr.	1 hr.
FORM WORK (each room)	8 hr.	7 hr.	-
TILE FLOORS	8 hr.	4 hr.	2 hr.
FRAMING	8 hr.	6 hr.	4 hr.
CABINETS	6 hr.	4 hr.	-
COUNTER TOPS	3 hr.	2 hr.	1 hr.
ROOFING	3 hr.	2 hr.	1 hr.
SHELVING	1 hr.	45 min.	30 min.
SIDING	4 hr.	2 hr.	1 hr.
STAIRS	8 hr.	6 hr.	4 hr.
OVERHEAD DOORS	8 hr.	6 hr.	4 hr.
FORMICA	8 hr.	4 hr.	2 hr.

CENTRAL MAINTENANCE

JOB STANDARDS

PLUMBING

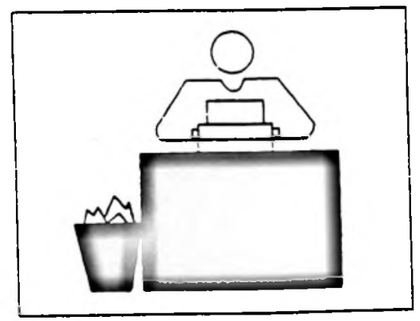
JOB	HIGH	MEDIUM	LOW (manhours)
FLOAT BALL	35 min.	25 min.	15 min.
BALLCOCK	35 min.	25 min.	15 min.
TOILET BOWL	70 min.	50 min.	35 min.
TOILET TANK	1 hr.	35 min.	25 min.
TOILET TANK COVER	25 min.	20 min.	15 min.
FAUCETS	1 hr.	45 min.	30 min.
FAUCET STEMS	40 min.	30 min.	20 min.
FLUSH TANK LEVER	35 min.	25 min.	15 min.
TOILET SEAT	35 min.	25 min.	15 min.
FLUSH RODS	30 min.	20 min.	15 min.
SHOWER HEAD	30 min.	25 min.	25 min.
FLEXIBLE SUPPLY LINE	1 hr.	45 min.	30 min.
ANGLE STOP (supply)	1 hr.	45 min.	30 min.
REFILL TUBE	40 min.	20 min.	20 min.
WASTE BENDw SLIP NUT	50 min.	35 min.	25 min.
WASHER, BIB	45 min.	30 min.	20 min.
PACK:			
FAUCET (hot & cold)	45 min.	35 min.	20 min.
BALLCOCK	30 min.	25 min.	15 min.
STOP-UPS: SINK			
PLUNGE	40 min.	30 min.	20 min.
SNAKE	1¼ hr.	45 min.	35 min.
STOP-UPS: TOILET			
PLUNGE	1 hr.	40 min.	20 min.
SNAKE	1½ hr.	1 hr.	30 min.
WAX RING	1 hr.	45 min.	30 min.

PROVIDENCE HOUSING AUTHORITY

MAINTENANCE DEPARTMENT

SCHEDULE OF CHARGES FOR TENANT CAUSED DAMAGES

SEPTEMBER 1990



PROVIDENCE HOUSING AUTHORITY
100 BROAD STREET
PROVIDENCE, RI 02903

LABOR RATES PER HOUR

CLASSIFICATION	HOURLY RATE	WITH BENEFITS
MAINTENANCE MECHANIC	$ 9.98	$ 13.83
MAINTENANCE AIDE	8.99	12.75
MAINTENANCE LABORER	8.60	12.31

NOTE: IF AN ITEM IS NOT LISTED, WE WILL CHARGE LABOR PLUS MATERIALS.

LABOR: $ 15.00 PER HOUR - BILLING MINIMUM 15 MINUTE INCREMENTS; MINIMUM CHARGE OF $ 3.75 LABOR.

PROVIDENCE HOUSING AUTHORITY
SCHEDULE OF TENANT CHARGES

SHADE PRICE LIST

ITEM	MATERIAL
37 1/4" X 6'	$ 1.90
46 1/4" X 6'	2.60
55 1/4" X 6'	3.45
SHADE BRACKETS	3.00
VINYL SHADE (BATHROOM)	11.50

LABOR: $ 15.00 PER HOUR - BILLING MINIMUM 15 MINUTE INCREMENTS; MINIMUM CHARGE OF $ 3.75 LABOR.

PLUMBING

ITEM	MATERIAL
8" MOEN FAUCET	$ 40.50
BATHTUB (CAST IRON)	155.00
TOILET BOWL	38.80
TOILET TANK	32.00
TOILET TANK COVER	17.00
TOILET SEAT	7.50
WASH BASIN	79.00
FAUCET TUB ASSEMBLY (SHOWER ASSEMBLY)	77.70
DOUBLE STAINLESS SINK	36.50
STRAINER, BASKET	7.75
SHOWER HEAD	5.89
HAND HELD SHOWER	9.11
REPLACEMENT KITCHEN SPOUT	23.89
STOPPERS (ALL SIZES)	1.40
REINFORCED VINYL HOSE	13.35
MEDICINE CABINET	31.00
PAPER HOLDER	4.50
TOOTHBRUSH/GLASS HOLDERS	3.50
GRAB BARS	15.50
BATHROOM TUB ENCLOSURE (SIMMONS SHOER ASSEMBLY)	153.00
SNAKE TOILET	LABOR COST
PULL TOILET	LABOR COST
INSTALL TOILET TANK	LABOR COST
SINK HOOK-UP	LABOR COST

LABOR: $ 15.00 PER HOUR - BILLING MINIMUM 15 MINUTE INCREMENTS; MINIMUM CHARGE OF $ 3.75 LABOR.

IMPERIAL GAS RANGES

ITEM	MATERIAL
GAS STOVE	$ 185.25
TOP BURNER	6.30
BURNER BOWL	7.30
REAR BURNER	14.70
VALVE HANDLE	24.00
GAS VALVE	14.50
THERMOSTAT DIAL	4.66
THERMOSTAT	56.10
OVEN WIRE RACK	9.85
OVEN DOOR HANDLE	7.45
BROILER DOOR HANDLE	5.65
GAS RANGE KNOBS	2.40
GAS RANGE KNOBS (SET)	9.74
OVEN THERMOSTAT KNOB	4.66

LABOR: $ 15.00 PER HOUR - BILLING MINIMUM 15 MINUTE INCREMENTS; MINIMUM CHARGE OF $ 3.75 LABOR.

ELECTRIC RANGE

ITEM	MATERIAL
ELECTRIC STOVE	$ 183.50
BURNER (LARGE)	21.20
BURNER (SMALL)	17.40

LABOR: $ 15.00 PER HOUR - BILLING MINIMUM 15 MINUTE INCREMENTS; MINIMUM CHARGE OF $ 3.75 LABOR.

ELECTRICAL

ITEM	MATERIAL
BREAKER (15 AMP)	$ 5.30
DOUBLE POLE BREAKERS (20 AMP)	12.00
SWITCHES	1.19
SWITCH COVERS	.50
PLUGS (15 AMP)	.86
FIXTURES (BEDROOM)	14.93 7.88
PORCELAIN LAMPHOLDERS	2.12
ELECTRIC EYES	5.15
THERMOSTATS	11.40 16.18
FLUORESCENT BULB 4'	2.26
BULB (60 WATT)	.60
BULB (SODIUM)	45.15
BULB (APPLIANCE)	.99
BULB (MERCURY)	16.28
RECEPTACLE COVER	.50
LIMELIGHT FLUORESCENT	7.00
SLIM LINE FLUORESCENT	9.00
BALLAST	9.00
FASCO HOOD FAN	42.00
PUSH BUTTON STATIONS	8.00
SMOKE ALARM	12.00

LABOR: $ 15.00 PER HOUR - BILLING MINIMUM 15 MINUTE INCREMENTS; MINIMUM CHARGE OF $ 3.75 LABOR.

REFRIGERATORS 11 CUBIC FT. & 15 CUBIC FT.

ITEM	MATERIAL
LARGE REFRIGERATOR (15 CUBIC FT.)	$ 345.00
SMALL REFRIGERATOR (11 CUBIC FT.)	225.00
SUPPORT HANDLE	3.05
EVEPERATOR HINGE TOP	2.51
EVEPERATOR HINGE BOTTOM	2.30
PIVOT BOTTOM	1.61
CHILLER TRAY W/FLIPPER	31.73
FLIPPER	7.28
VEGETABLE BIN	28.28
PLASTIC COVER	26.10
EVEPERATOR DOOR ASSEMBLY	31.28
ICE TRAY	1.16
SOCKET - LAMP	7.05
POWER CORD	8.48
VEGETABLE PAN	41.18
COVER PAN	19.28
VEGETABLE COVER	14.93
BREAKER STRIP (BOTTOM)	19.50
FREON	.99 (LB
VALVES	2.80
COPPER FITTING	.18

LABOR: $ 15.00 PER HOUR - BILLING MINIMUM 15 MINUTE INCREMENTS; MINIMUM CHARGE OF $ 3.75 LABOR.

STRUCTURES

ITEM	MATERIAL
ENTRANCE DOORS 2' - 10" X 7 (WOOD SOLID)	$ 175.00
STEEL DOOR	225.00
SCHLAGE LOCK KNOB	50.00
YALE DEAD BOLT	24.00
RUSWIN DEAD BOLT	115.00
SCHLAGE H-1-10	76.00
ARROW KEY LOCK-KNOB	32.00
ENTRANCE DOOR (WOOD)	175.00
SARGENT DEAD BOLT LOCK	95.00
ENTRANCE DOOR (METAL)	225.00
RUSSION LOCKS	56.00
DOOR LOCK ARROW	32.00
ARROW HEAVY DUTY KNOB LOCK	85.00
SCHLAGE DEAD BOLT LOCK	76.00
STRUCO LITE	11.00 (BAG)
ACCELERATOR	1.75 (BAG)
METAL LATHE	3.80 (SHEET)
LIME	6.00 (BAG)
STRUCO GAUGE	2.00
CERAMIC TILE	1.41 (SQ. FT)
PLASTER	16.00 (BAG)
SHEETROCK	.24 (SQ. FT)
VINYL TILE ASPHALT (12 X 12)	.55

STRUCTURES (CONTINUED)

ITEM	MATERIAL
VINYL TILE ASPHALT (12 X 12)	$ .43 (SQ. FT)
TILE CEMENT	2.00 (QT.)
PLYWOOD (1/4" X 4' X 8')	11.02 (SHEET)
ACUSTICAL CEILING (HIGH RISES)	2.76 (EA.)
LETTER SLOTS	17.00
FROSTED OR HAMMERED GLASS	4.25 (SQ. FT)
DOUBLE T GLASS	1.60 (SQ. FT)
INSULATED GLASS (RI 1-4 & 1-5) - (REPLACEMENT)	
22 15/16" X 20 15/16"	19.77
32 15/16" X 16 15/16"	16.03
32 15/16" X 12 15/16"	12.25
25 1/16" X 16 15/16"	12.62
25 1/16" X 12 15/16"	9.66
28 15/16" X 12 15/16"	10.77
36 15/16" X 20 15/16"	22.19
29 3/16" X 20 15/16"	18.00 (EACH)
30 3/16" X 20 15/16"	25.28 (FULL SCREENS
INSULATED GLASS (RI 1-14) (REPLACEMENT)	28.55
KITCHEN DRAWER COMPLETE	20.00
CABINET DOOR	9.00
WOOD STAIRS W/WOOD (THREAD)	18.00
HANDRAILS & BALUSTER (BALUSTER)	5.50
KITCHEN COUNTER	6.00 (LIN. FT)
KITCHEN CABINETS	106.00 (LIN. FT)
SECURITY SCREEN	210.00

STRUCTURES (CONTINUED)

ITEM	MATERIAL
SCREENS	6.50
DEADBOLT	6.00
STRIKER	4.80

MISCELLANEOUS

ITEM	MATERIAL
LOCKOUT (DAYS) 8:00 AM TO 4:00 PM	$ 5.00
LOCKOUT (WEEKENDS & NIGHTS) 4:00 PM TO MIDNIGHT	10.00
TRASH PICK-UP (TRUCK & LABOR)	LABOR COST
GRAFFETTI (REMOVAL FROM WALLS, SPRAY CAN)	5.50 (PER CAN)
PEEPHOLE	4.95
LOCK CHANGES (HIGH RISES) (FAMILY)	LABOR COST LABOR COST
REPLACEMENT KEYS	1.50

LABOR: $ 15.00 PER HOUR - BILLING MINIMUM 15 MINUTE INCREMENTS; MINIMUM CHARGE OF $ 3.75 LABOR.

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PAINT COST LIST

ITEM	COLOR	MATERIAL
INTERIOR FLAT LATEX	WHITE	$ 7.75
INTERIOR SEMI-GLOSS LATEX	BEIGE	8.50
INTER/EXTER ACRYLIC LATEX EPOXY FLOOR ENAMEL	COPPERTONE	14.50
INTER/EXTER URETHANE FLOOR ENAMEL (OIL)	COPPERTONE	15.95
INTER/EXTER URETHANE ENAMEL (OIL) CABINETS	WHITE	15.95
INTER/EXTER URETHANE ENAMEL (OIL) DOORS	BEIGE	15.95
INTERIOR ALKLYD UNDERCOATER (OIL)	WHITE	14.00
INTER/EXTER KILZ STAINKILLER (OIL)		11.95
EXTERIOR HOUSE PAINT ACRYLIC LATEX		14.50
EXTERIOR URETHANE LATEX STAIN		13.95
SPACKLE		2.95

STAFF EVALUATION FORM

NAME _____ DEPARTMENT _____ JOB TITLE _____

DATE HIRED _____ PERIOD COVERED BY APPRAISALS _____ TO _____

APPRAISER:

Consider the following five columns as a scale; the extreme right as outstanding, the extreme left as unusually poor. Based on your opinions, placed and "X" in the box under the group of words which best describes each quality of the individual. On the lines below each grouping, make a brief statement showing why certain conclusions are made. Evaluate only the qualities you have observed. Use additional blank sheets for opinion as necessary.

QUALITY Freedom from errors and mistakes; accuracy; quality of work in general.	Excessive errors and mistakes; very poor quality	Acceptable by minimum standards. Improvement needed.	No more mistakes than should be expected. Quality definitely acceptable.	Quality above average. Few errors and mistakes.	Highest possible quality. Final job virtually perfect.
	☐	☐	☐	☐	☐

Opinion: _____

QUALITY The technical work output of the employee relative to other employees.	Extremely low output. Definitely not acceptable.	Acceptable but low output. Below average.	Average output. Definitely acceptable.	Produces more than most. Above average.	Definitely a top producer.
	☐	☐	☐	☐	☐

Opinion: _____

COOPERATIVENESS Willingness to work harmoniously with others in getting a job done. Readiness to observe and confirm to the policies of management.	Extremely negative and hard to get along with. ☐	Indifferent. Makes no effort to cooperate. ☐	Cooperative. Gets along well with others. Has a good attitude. ☐	Goes out of his/her way to cooperate and get along. ☐	Extremely cooperative. Stimulates teamwork and good attitude to others. ☐

Opinion: _____

EFFORT The degree to which an employee does his/her best to be a top employee. (Without regard to how effective he/she may be.) Consider conscientiousness and motivation.	Exerts effort only when forced to do so. ☐	Low motivation. Could perform much better than he/she does. ☐	Satisfactory effort. Average motivation level. ☐	Exerts more effort than most. Hard worker. ☐	Intensely motivated. Exerts maximum effort. ☐

Opinion: _____

DEPENDABILITY The extent to which the employee can be depended upon to be available for work and do it properly. The degree to which he/she is reliable, trustworthy, and persistent.	Unusually unreliable. Does not assume responsibility. Gives up easily. ☐	Sometimes unreliable. Avoids responsibility. Satisfied to "get by." ☐	Trustworthy and reliable. Needs average direction. About average in persistence. ☐	More reliable than average. Usually persists in spite of difficulties. ☐	Completely reliable. Highly persistent. Finishes a job at any cost to him/herself. ☐

Opinion: _____

INITIATIVE AND CREATIVENESS Consider ability to plan work and to go ahead with a job without being told every detail, and the ability to make constructive suggestions.	Performs routine only, lacks initiative. ☐	Barely shows initiative; routine worker. ☐	Occasionally shows initiative; sometimes makes suggestions. ☐	Is progressive; has some creative imagination. ☐	Initiative and creativeness results in frequent savings in time and money. ☐

Opinion: _____

TENANT RELATIONS The polite attention an individual gives other people.	Blunt; discourteous; antagonistic. ☐	Sometimes tactless. ☐	Agreeable and pleasant. ☐	Always very polite and willing to help. ☐	Inspiring others in being courteous and very pleasant. ☐

Opinion: _____

JOB KNOWLEDGE Knowledge of the techniques, skills, processes, equipment, procedures, and materials.	Lacks knowledge to perform work properly. ☐	Minimum knowledge for doing a job. ☐	Satisfactory knowledge of job and sufficient knowledge of related jobs. ☐	Well informed about own job and related jobs. ☐	Authoritative knowledge of own work; superior knowledge of related jobs. ☐

Opinion: _____

PERSONAL APPEARANCE Personal impression an individual makes on others. (Consider cleanliness, neatness, grooming and appropriateness of dress on the job.)	Very untidy. ☐	Sometimes untidy and careless about personal appearance. ☐	Generally neat and clean. Satisfactory personal appearance. ☐	Careful about personal appearance. ☐	Unusually well groomed. Very neat. ☐

Opinion: _____

_____

ATTENDANCE Faithfulness in coming to work daily and conforming to work hours.	Often absent without good excuse and/or frequently reports for work late. ☐	Lax in attendance and/or reporting for work on time. ☐	Usually present and on time. ☐	Very prompt; regular in attendance. ☐	Always regular and prompt. ☐

Opinion: _____

_____

JUDGMENT The extent to which the employee makes decisions which are sound. Freedom from impulsiveness and immaturity in thinking. Ability to base actions on fact rather than emotion.	Frequently makes judgments which are unsound. Immature in thinking and judgment. ☐	Sometimes fails to consider facts and makes errors of judgment the average person would avoid. ☐	Generally thinks rationally. Not immature or illogical. Has healthy respect for facts. ☐	Better than average judgment. Very mature and sound in his/her thinking. ☐	Unusual rational powers. Brilliant in analyzing facts and solving problems. No impulsive decisions. ☐

Opinion: _____

_____

CAPACITY AND AMBITION For future growth. Review all of the factors that you have previously considered and evaluate his/her capacity and ambition for future advancement.	Going backward. ☐	Questionable. ☐	Has reached suitable job. ☐	Should be considered for promotion in his/her department. ☐	Should be considered for promotion in the LHA. ☐

Opinion: _____

_____

If this employee is promotable, list specific poitions to which you feel the individual is promotable:

Position Title: _____

List areas of performance needing improvement: _____

_____

_____

Specific action to be taken by supervisior and/or employee to improve weaknesses: By whom: By when:

_____

_____

Appraised by: _____ _____ Concurred by: _____ _____

Appraiser's signature Date *Signature of appraiser's supervisor* Date

Appraisal review with employee: _____ _____

Employee's signature Date

Comments resulting from interview: _____

_____

CALL IN LOG

DATE	TIME	CALLER	PROBLEM	WORK ORDER	ASSIGNED TO	DATE COMPLETE	HRS