BUILDING MAINTENANCE INSPECTIONS

EXTERIOR AND GROUNDS

1. GENERAL

1.01 This section outlines a plan for making and reporting periodic, scheduled inspections of building exteriors and grounds. It also suggests procedures for administering the corrective measures indicated by the inspections.

1.02 It is the purpose of the inspections to disclose conditions requiring repairs and to classify them according to their urgency as follows:

(a) Conditions requiring immediate repair attention with emphasis on those involving safety of personnel or property.

(b) Conditions requiring repairs which will be scheduled for completion prior to the next inspection.

(c) Conditions of a deteriorated nature not requiring repairs before the next inspection but which should be given special attention on subsequent inspections.

1.03 It is intended that the inspections will be made by personnel qualified to recognize and evaluate the physical condition of the buildings. The plan for inspections outlined herein does not supersede day-to-day supervisory observation and reporting of defective structural and grounds conditions.

2. SAFETY PRECAUTIONS

2.01 THE INSPECTOR SHALL AT NO TIME EXPOSE HIMSELF TO PERSONAL INJURY. Where circumstances require the examination of items in hazardous locations, a qualified contractor with proper equipment for making such examination in a safe manner should be employed.

3. FREQUENCY OF INSPECTIONS

3.01 Inspections of the exterior of building structures and surrounding ground areas should be made at least annually. It is generally preferable to schedule such inspections at a time of the year which will allow any necessary repairs to be completed during weather favorable to outside work.

3.02 Special inspections should be made on buildings following severe storms or other disturbances which might affect the buildings structurally.

4. CHECKING LIST

4.01 Form E-3922, Checking List, Building Exterior and Grounds Inspection, is used for guidance in making the inspection. The form lists items to be inspected and principal conditions to be observed. A copy of this form filled out for a typical inspection is shown in Exhibit 1.

4.02 The checking list includes items typical of those to be examined on the inspection of building exteriors and grounds. Space is provided for writing in items not specifically mentioned.

4.03 The principal conditions to be observed are described or illustrated in Part 5. These are intended to aid the inspector in recognizing defects commonly found on building exterior and ground inspections.

5. PRINCIPAL CONDITIONS TO BE OBSERVED

Sidewalks and Paving

5.01 Fig. 1 illustrates defective conditions commonly found on sidewalks or paved areas, such as spalled surfaces, uneven surfaces, cracks and deteriorated joints. Sidewalks and paving should also be inspected for loose expansion joints and poor drainage.

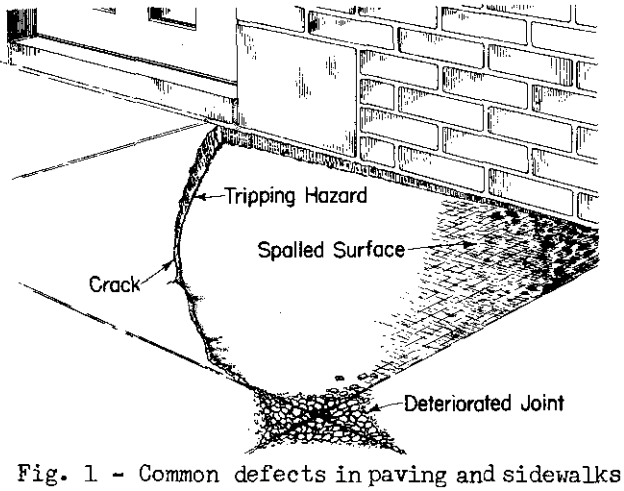

Fig. 1 - Common defects in paving and sidewalks

Landscaping

5.02 Ground areas should be examined for evidence of erosion, poor drainage and grading. Dead or diseased trees and shrubs should be reported. Trees and shrubs should be checked for proper pruning. Cases where limbs interfere or rub on wires or buildings should be noted. Because of potential damage to exterior surfaces, vines on buildings should be observed. Lawn areas should be inspected and conditions indicating the need for repairs such as resodding, regrading, etc., reported.

Masonry

5.03 Illustrated in Fig. 2 is an example of open joints in brickwork. This defect is frequently found in masonry construction of all types. The head (vertical) joints are especially susceptible and should be carefully examined. Open joints if not corrected usually result in leaks and deterioration of the wall and possible damage to interior walls.

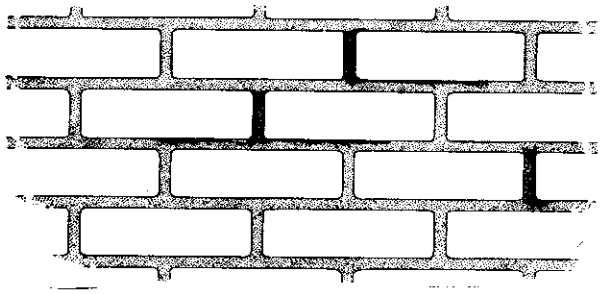

Fig. 2 - Open joints in masonry wall

5.04 Fig. 3 illustrates a structural crack in a brick wall. These are usually caused by settlement and are generally found on corners of the building and around doors and windows. Cracks such as this should be repaired promptly to avoid leakage and further deterioration. Stonework, terra cotta and other types of masonry construction should also be observed for evidence of structural cracks.

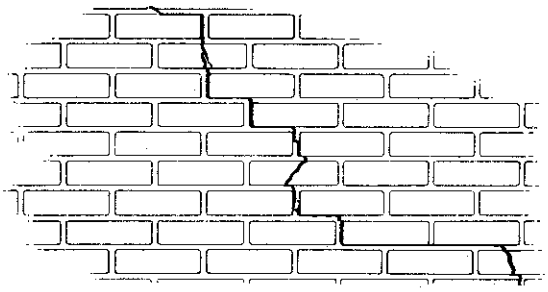

Fig. 3 - Structural crack in masonry wall

5.05 Spalling of the surface of a brick wall is illustrated in Fig. 4. This is generally found on surfaces which have been painted or sealed and usually results from moisture being trapped in the brick or stone. The adjacent area should be examined for cracks or openings permitting water penetration.

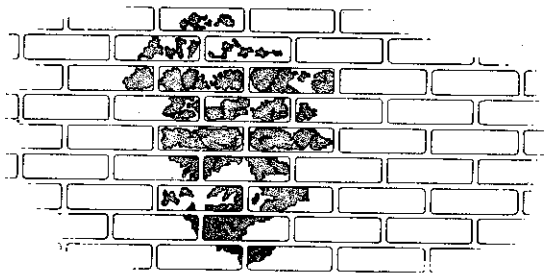

Fig. 4 - Spalling on brickwork

5.06 Masonry should also be observed for loose bricks, stone or terra cotta. Caulking around windows, coping joints, grills, etc., should be examined and dried or loose conditions reported.

5.07 Efflorescence usually results from moisture in the wall. Surrounding areas should be examined carefully for leaks, cracks or open joints.

5.08 Painted masonry surfaces should be inspected for signs of deterioration of the paint.

Woodwork

5.09 Woodwork should be examined for damaged or loose portions, dried or loose caulking, nail rust stains, cracked and rotted areas and deteriorated paint. Woodwork should also be inspected for evidence of termite damage in areas where these insects are prevalent.

Windows and Doors

5.10 In Fig. 5 are shown some of the common defects found on windows and doors. Metal doors and windows should be examined for evidence of rust and corrosion. Other defective conditions on windows and doors to be observed are: damaged frames or sash, broken or cracked glass, defective or missing hardware and improper operation. Screens and grills should be inspected for corrosion, damaged screen or frames, deteriorated paint and improper operation.

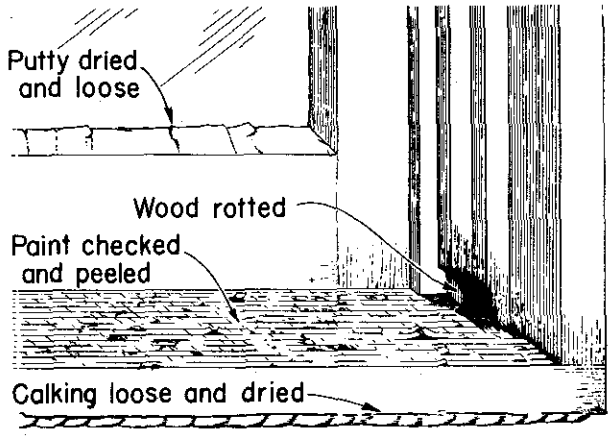

Fig. 5 - Common defects on windows and doors

Metal Work

5.11 Exterior metal work such as fire escapes, manhole covers, fences, gratings, fill pipe caps, grills, louvres, access doors, etc., should be examined for deteriorated paint, rust or corrosion, damaged or bent metal, loose fastenings, defective operation and loose or dried caulking. Metal work adjacent to driveways or parking areas should be observed for adequacy of protection against damage by vehicles.

Roofing

5.12 Figs. 6, 7 and 8 illustrate some of the defects found on flat roofs and flashing. Cracks, breaks and open joints should be observed and reported. Blisters and alligatoring do not necessarily indicate trouble but these areas should be examined carefully for dried felts or cracking. A check should be made for exposed or dried felts which deteriorate rapidly. Flashings should be examined for evidence of damage, breaks, looseness, dried out membranes and open joints.

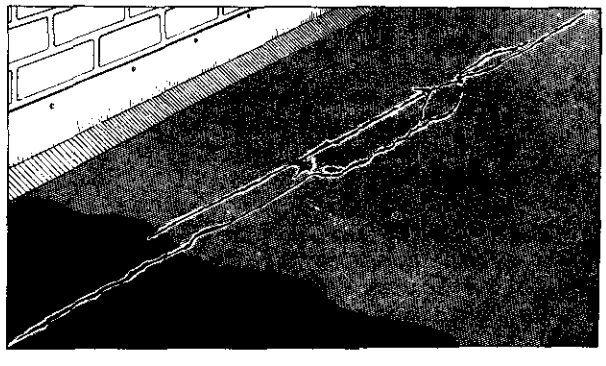

Fig. 6 - Cracks in smooth surfaced roof

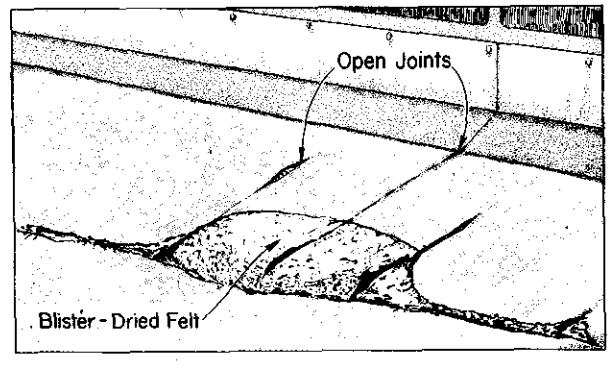

Fig. 7 - Defects on pitch and gravel roof

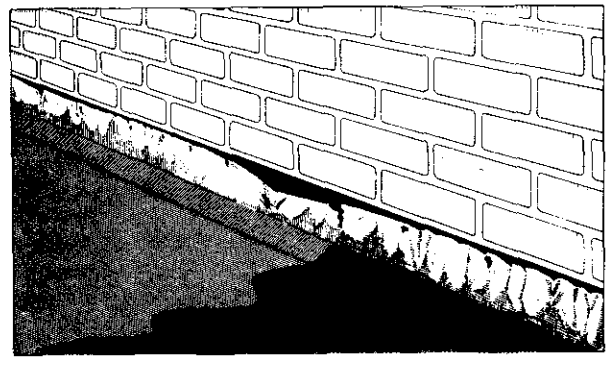

Fig. 8 - Loose and damaged flashing.

5.13 Flat roofs should also be checked for miscellaneous objects stored or lying about as these may cause damage. Debris around sumps and leaders may cause water to stand on the roof. Damaged or missing strainers on drains should be reported.

5.14 Shingle roofs should be inspected for loose, damaged or missing shingles. Ridge rows and valleys should also be examined for defective flashings.

5.15 Slate roofs should be examined for broken or missing slates and for damaged or missing snow stops.

6. INSPECTION PROCEDURE

6.01 The checking list Form E-3922 is used as a guide in making the inspection and notes on the inspection are made on Form E-3923, Notes on Inspection. Notes should be numbered and the number shown opposite the item on the checking list. Notes should describe in detail the conditions found and include recommendations as to nature of correction. Space is provided for indicating the urgency and estimated cost. Minor items need not be estimated but should be marked "Minor". Form E-3923 is shown in Exhibit 2 filled in for a typical inspection.

6.02 In making the inspections, the following procedure is suggested.

(a) Inspect the exterior and grounds with the supervisor in charge of the building and check defects and leaks known to him.

(b) Refer to previous inspections and check on the completion of items reported. Special attention is given to those items reported as requiring attention at a future date. Recent House Service Quality Inspections (B.S.P. H54.201) and Building Maintenance Interior Inspections (B.S.P. H54.311) should also be referred to and attention given those items within the scope of this inspection.

(c) Inspect ground areas.

(d) Inspect exterior wall surfaces from the ground. The use of binoculars is helpful in examining high areas. Note any vantage points on the building such as windows, fire escapes or offsets from which closer examination of the wall areas may be made.

(e) Proceed to the roof and examine the roof, parapets, flashings, copings and other items on the roof as indicated on the checking list.

(f) From the roof go down through the building and examine the interior surfaces of exterior walls and ceilings for evidence of wall or roof leaks. Further investigation of such conditions should be made as necessary.

(g) While going through the building examine exterior wall surfaces and appendages from vantage points such as windows, fire escapes or building offsets. Defects noted in the inspection from the ground should be reexamined at close quarters.

(h) Where possible defects on exterior surfaces are in such locations that close examination from safe vantage points is not possible, consideration should be given to employing a qualified contractor to make the examination from drop scaffolds or other proper equipment.

(i) On multi-story buildings of such height that examination of the exterior wall surfaces can not be made satisfactorily from the ground or vantage points on the building, and when the general condition of the accessible portions of the walls indicate that a complete inspection is advisable, the employment of a qualified contractor to examine the walls from drop scaffolds or other proper equipment should be considered. When such inspections are made, any necessary minor repairs are generally made concurrently with the inspection.

7. BUILDING MAINTENANCE INSPECTION REPORT FORM E-3924

7.01 The field notes on the inspection which were made on Form E-3923 are reviewed and conditions requiring attention are summarized on Form E-3924. Exhibit 3 shows a sample of Form E-3924 filled out for a typical inspection.

7.02 The report is addressed to the supervisor responsible for maintenance in the building, district or area as local practice may require. Copies of the report may be sent to other supervisors for their information as necessary.

7.03 The heading on Form E-3924 is completed by filling in the inspector's name, date of inspection, city and building as indicated. The items are numbered for reference. The conditions requiring attention are fully described and recommendations for repairs made in the space headed "Recommendations." Items of a similar nature are grouped together on the form.

7.04 The urgency with which corrective measures are required is to be designated in the column headed "Urgency" by the letters A, B or C as follows:

A - Requires immediate repairs.

B - Repairs are required but will be scheduled for completion prior to the next inspection.

C - Condition is deteriorated but repairs are not required prior to the next inspection when item is to be re-examined.

7.05 The estimated cost of the recommended repairs as shown on Form E-3923 is entered in the column headed "Est. Cost." The estimate need only be approximate as it is not intended to be a basis for contract negotiation.

7.06 Form E-3924 provides a means for checking progress in correcting conditions requiring attention. The date that it is desired to have the form returned for review should be shown in the space provided at the bottom of the form. This date should be set sufficiently in the future to allow adequate time for completing repairs indicated as urgent or for scheduling those to be completed prior to the next inspection.

7.07 On or before the return date indicated on Form E-3924, the supervisor responsible for completing the repair work should indicate the action taken in regard to each item and return a copy of the form through lines of organization to the supervisor who originally signed the summary. Order numbers, contract references, costs or other pertinent information may be shown if available. The date of completion of the work on each item should be shown in the last column. If the work is uncompleted, explanatory remarks in regard to uncompleted items should be shown in the "Action Taken" space. Arrangements should be made for further tracing on uncompleted items as necessary.

Attached:
Exhibits 1 through 3, inclusive.

EXHIBIT #1

E-3922
(1-52)

CHECKING LIST
BUILDING EXTERIOR AND GROUNDS INSPECTION

INSPECTED BY A. Jones CITY Alphatown

DATE 9-18-51 BUILDING Alphatown C.O.

GROUNDS	WALLS	ROOF
AREA WAYS	AWNINGS	ANTENNAS
CURBING	BRICKWORK (2)	CATWALKS
DRAINS	CORNICES	CHIMNEYS
DRIVEWAYS	DOORS & FRAMES	COLUMN STUBS
FENCES & GATES	FIRE ESCAPES	COPINGS
GRATINGS	FIRE SHUTTERS	DRAINS
LAWNS & SHRUBBERY	FLAGPOLES	FLAGPOLES
PARKING AREAS	GUTTERS & DOWN SPOUTS	FLASHINGS
PAVEMENTS	HOSE BIBS	HATCHES
RAILINGS	INTERIOR WALLS	HOIST BEAMS
RETAINING WALLS	LIGHT FIXTURES (3)	LADDERS
SIDEWALKS (1)	LINTELS	LEADERS
SIDEWALK OPENINGS	METAL TRIM	PARAPETS
SPRINKLER SYSTEMS	SCREENS	PENTHOUSES
STEPS	SIAMESE CONNECTIONS	ROOFING (4)
	SIGNS	SKYLIGHTS
	STONEWORK	VENTS & STACKS
	STUCCO	
	TERRA COTTA	
	VENT OPENINGS	
	WINDOWS & FRAMES	
	WOOD SIDING	
	WOOD TRIM	

NUMBER NOTES MADE ON THE INSPECTION AND PLACE THE NUMBER OPPOSITE THE ITEM ABOVE FOR REFERENCE. ITEMS NOT NUMBERED INDICATES CONDITION IS SATISFACTORY. USE BLANK SPACES FOR WRITING IN ITEMS NOT LISTED.

PRINCIPAL CONDITIONS TO BE OBSERVED

LANDSCAPING
DRAINAGE OR GRADING POOR
TREES OR SHRUBS DISEASED
PRUNING REQUIRED

SIDEWALKS & PAVING
CRACKS
SPALLED SURFACES
POOR DRAINAGE
UNEVEN
LOOSE EXP. JOINTS

WOODWORK
PAINT DETERIORATED
ROTTED
CRACKED OR BROKEN
CAULKING LOOSE

MASONRY
OPEN JOINTS
CRACKS
SPALLED SURFACES
LOOSE
CAULKING DRIED OR LOOSE
EFFLORESCENCE
PAINT DETERIORATED

WINDOWS & DOORS
PAINT DETERIORATED
FRAMES OR SASH DAMAGED
GLASS BROKEN
CORRODED OR ROTTED
PUTTY OR CAULKING LOOSE
HARDWARE DEFECTIVE
DEFECTIVE OPERATION
SCREEN DAMAGED

ROOFING
CRACKS OR BREAKS
BLISTERS
EXPOSED OR DRY FELTS
OPEN JOINTS
LOOSE OR DAMAGED FLASHING
LOOSE OR DAMAGED SHINGLES
DEBRIS

METAL WORK
PAINT DETERIORATED
CORRODED
LOOSE
DAMAGED
DEFECTIVE OPERATION
CAULKING LOOSE

EXHIBIT #2

E-3923
(1-52)

NOTES ON INSPECTION

INSPECTED BY A. Jones CITY Alphatown

DATE 9-18-51 BUILDING Alphatown C.O.

NO.	NOTES	URGENCY* EST. COST
(1)	Sidewalk to front steps is cracked and slab is sunken. Immediate repairs recommended to remove tripping hazard.	A 55.00
(2)	Structural crack has developed in brickwork on northeast corner of building at 2nd. story level. Should be repaired and painted before freezing weather.	B 150.00
(3)	Light globe above rear exit doorway is cracked. Recommend immediate replacement before it breaks and falls.	A Minor
(4)	General large blisters have formed on roofing. No action is recommended at this time	C

* INDICATE URGENCY BY LETTER
A - REQUIRES IMMEDIATE REPAIR
B - REPAIRS TO BE SCHEDULED
C - RE-EXAMINE ON NEXT INSPECTION

* MINOR ITEMS NEED NOT BE ESTIMATED - MARK "MINOR."

E-3924
(1-52)

BUILDING MAINTENANCE INSPECTION REPORT

To H. Smith
Div. Supv. of Bldgs. & Supplies.
TITLE

INSPECTED BY A. Jones
DATE 9/18/51

CITY Alphatown
BUILDING Alphatown C.O.

ITEM NO.	RECOMMENDATIONS	URGENCY*	ESTIMATED COST	ACTION TAKEN	DATE COMPLETED
1	Repair sidewalk to front steps. Slab is cracked and sunken. It is a tripping hazard.	A	55.00	Repaired on W.O. # 6942 Contract with Apex Const. Co. Cost $50.00	10.2.51
2	Repair structural crack in brickwork on northeast corner of building at 2nd story level. Pointing recommended before freezing weather.	B	150.00	Work approved on W.O. #7016 scheduled for Completion 12.31.51	
3	Replace light globe above rear exit doorway. Globe is cracked.	A	Minor	Replaced by building mechanic	9.24.51
4	Several large blisters have formed on roofing. No action is recommended at this time.	C	-	None necessary at this time.	

RETURN ONE COPY OF THIS REPORT BY 12/18/51
SHOW ACTION TAKEN AND COMPLETION DATES.
INDICATE STATUS OF UNCOMPLETED ITEMS.

* INDICATE URGENCY BY LETTER
A - REQUIRES IMMEDIATE REPAIRS.
B - REPAIRS TO BE SCHEDULED.
C - RE-EXAMINE ON NEXT INSPECTION.

S. Brown
Supt. of Bldgs.
TITLE

EXHIBIT #3