DEPARTMENT OF HOUSING AND DABAN DEVELOPMENT

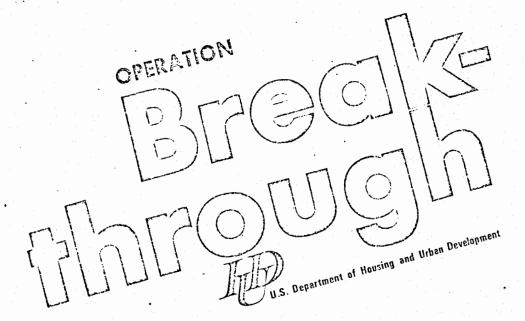
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GUIDE AND FORMAT FOR THE
PREPARATION OF A HOUSING SYSTEM
TESTING AND ANALYSIS PROGRAM
FOR
OPERATION BREAKTHROUGH
HOUSING SYSTEMS

A PRELIMINARY REPORT VOLUME II - MULTIFAMILY LOW RISE

Guide and Format for the Preparation of a Housing System Testing and Analysis Program

for:

OPERATION BREAKTHROUGH

HOUSING SYSTEMS

A Preliminary Report Volume II - Multifamily Low Rise

by The Building Research Division Team E.O. Pfrang, Managar

NBS PROJECT 4213400-421.00

Prepared for Office of Research and Technology Department of Housing and Urban Development Washington, D.C. 20410

U.S. DEPARTMENT OF COMMERCE NATIONAL BUREAU OF STANDARDS REPORT

Guide and Format for the Preparation of a Housing System Testing and Analysis Program

1. Introduction

The purpose of this document is to guide and assist the Housing System Producer (HSP) in his preparation of the required testing and analysis program. This program should indicate the procedures that will be used to demonstrate that the performance levels as stated in the HUD Guide Criteria* developed for Operation BREAKTHROUGH will be satisfactorily met.

The information is to be submitted in three formats:

- A. TESTING AND ANALYSIS PLAN (See Section 4, Format for Testing and Analysis Plan, on page 3.)
- B. SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM (See Section 5, Summary of Testing and Analysis Program, on page 4.)
- C. SCHEDULE OF PHYSICAL TESTING (See Section 6, Schedule of Physical Testing, on page 6.)

The acceptability of each HSP's testing and analysis program will be determined by HUD from the above data and the program shall be revised by the HSP if required.

2. Scope of Testing and Analysis Program

A program for each proposed housing type requiring independent consideration (Multifamily High Rise, Multifamily Low Rise, Single Family Attached, or Single Family Detached) should be submitted. To expedite approval,

^{*(}Guide Criteria for Design and Evaluation of: Operation BREAKTHROUGH Housing Systems, Volumes I through IV.)

the testing and analysis program shall contain adequately documented and detailed information. It will not be sufficient to merely state that a physical test will be conducted. The testing and analysis program shall include specific information on the tests to be conducted, the test methods to be used, the components or modules to be selected for testing, etc. When documented evidence of previous testing is proposed for use in the HUD evaluation, information giving the source of the document, an outline of the testing and analysis procedure used, and the identity of the testing authority must be included.

Testing and analysis is not intended for the purpose of developing and/or improving the design of system components.

3. General Guidelines for the Testing and Analysis Program

Compliance with any criterion should be demonstrated by one or more of the following:

- A. Review of plans and specifications.
- B. Review of previous documented testing.
- C. Accepted certification or standards.
- D. Professional judgment based upon previously documented user-experience.
- E. Analysis by rational application of engineering and scientific principles including calculations as required.
- F. Physical examination or testing of materials, components, modules, living units or complete buildings.
- G. On-site evaluative measurement in or of complete buildings.

Most of the criteria can be satisfied through professional judgment based upon documented prior experience, examination of plans and specifications, and/or computational analysis. Physical testing should be proposed when sufficient information cannot be adequately obtained by other means; or when testing is a more acceptable means (time, cost, etc.) for demonstrating compliance with criteria.

Since environmental exposure will vary with geographic locale, design information on load levels such as snow, wind and thermal or earthquake severity, etc., should be given in detail. If the housing system is to be applicable for a wide range of conditions or is to be limited to specific geographic regions, statements to that effect should be made and evidence provided to clearly indicate that extreme load conditions either have or have not been taken into account.

4. Format for Testing and Analysis Plan

As part of the overall testing and analysis program, an individual testing and analysis plan shall be prepared by the HSP for each criterion which explains in detail how he plans to demonstrate that the intent of each criterion has been or will be satisfied (see Figure 1, SAMPLE TESTING AND ANALYSIS PLAN). As mentioned in Section 2, on page 1, and Section 3, on page 2, the information shall include the following when applicable:

- A. Identification or related drawings, plans and specifications.
- B. Type, number, style, size of specimen(s), etc.
- C. Test methods to be used including special conditions, testing organizations, etc.
- D. Evidence of conformance with recognized standards.
- E. Documentation attesting to previous applicable certification and/or testing.
- F. Calculation methods used and actual calculations.

- G. Documentation attesting to pertinent experience data.
- II. Other information relative to the particular criterion.

The testing and analysis plans shall be prepared on 8 1/2" x 11" or 8 1/2" x 14" sheets (leaving a margin of at least 1" on the left side) which shall be grouped by HUD Guide Criteria Matrix intercept (A.1, A.2, L.9. See Figure 2). Each intercept grouping should be annotated with the name of the HSP, the building type, and the number of abbreviated title of the criterion to which it relates as listed in the attached SUMMARY FORMS. The criterion numbers are those in the HUD Guide Criteria which should be consulted for details of each criterion.

5. Summary of Testing and Analysis Program

The summary listing of the proposed testing and analysis program to be prepared by the HSP will provide an overview of the various tasks and will permit scheduling of activities. Listing of criteria are provided on the attached SUNMARY FORMS which give criterion numbers and abbreviated performance statements. Figure 3 is a sample showing how this form can be completed. Information on this SUMMARY FORM is divided into two categories.

Category I, Evaluation of Plans and Specification and Documentation, includes those evaluations which are proposed to be made by either:

- A. Review of plans and specifications,
- B. Analysis by rational application of engineering and scientific principles, or
- C. Analysis of previous test results or approved Industry Certification.

Category II, Evaluation of Physical Elements, should include those evaluations which are proposed to be made by:

A. Professional judgment based on examination of components and/or assemblies, or

B. Physical testing and analysis of results.

Under the first column of Category I, Review of Plans and Specifications, a check mark will be sufficient. For the other columns of Category I and Category II the identity of the specimen(s) is needed. The specimen(s) should be identified by one of the following symbols:

Ma - for materials,

H - housing unit, and

C - component

Hs - housing system.

M - module

Material is any single element such as surface coating for floor, wall, etc. Component is an assembly of elements such as: a mechanical system, composite wall panel, window assembly, etc. Module is a volumetric assembly having walls, ceiling and floor. Housing unit is an assembly of modules and/or components making up at least one complete living unit. Housing system is a complete structure errected on site.

Where the treatment of some criteria has been completed, the specimen(s) symbol should be circled.

There may be some criteria which will not be applicable for certain types of construction. In these cases mark "NA" as appropriate under Categories I and II.

6. Schedule of Physical Testing

. If physical testing is proposed, a schedule shall be prepared and submitted to assure the adequate planning of this phase. This schedule shall follow the format outlined in Figure 4.

The test schedule shall include only tests or groups of tests which require a specimen to be specially procured or fabricated for the purpose of performing physical tests.

The test schedule prepared should be hardware oriented, by specimen. The schedule shall show by a dashed line the manufacturing or procurement lead-time for each specimen and the shipment of specimens to the test facility. The total testing time required shall be shown by a solid line (including errection, instrumentation and test time) and the analysis time required after each test shall be shown by a dotted line. A particular specimen (module, component, etc.) may be used concurrently or in sequence to demonstrate adequacy with respect to more than one criterion. Scheduling should be by calendar week estimating start and completion dates. The overall schedule will be used to assure that the procurement of sufficient number of test specimens are contemplated for the performance of the required tests in the overall time frame of the program.

7. Recommended Testing Laboratories

For each test which must be conducted as shown on the SCHEDULE FOR PHYSICAL TESTING, Figure 4, the proposed testing laboratory along with alternate testing organizations should be identified. If consultants are used, the consultant, or consulting firm, along with alternates should be also identified.

In considering possible testing facilities, it should be noted that Federal laboratories with applicable capabilities are available and may be utilized in this program. Agreements have been reached, or are contemplated, making available the facilities of the National Bureau of Standards, Gaithersburg, Maryland, the Forest Products' Laboratory, Madison, Wisconsin, the Naval Civil Engineering laboratory, Port Hueneme, California, and the Army Construction Engineering Research Laboratory, Champaign, Illinois.

8. <u>List of Required Submittals</u>

As descibed in this document, three separate submittals comprising the proposed testing and analysis program are to be prepared:

- A. TESTING AND ANALYSIS PLANS; on 8 1/2" x 11" or 8 1/2" x 14" sheets, grouped by matrix intercept.
- B. SUMMARY FORMS FOR TESTING AND ANALYSIS PROGRAM (one set for each building type).
- C. SCHEDULE OF PHYSICAL TESTING.

TESTING AND ANALYSIS PLAN

Housing System Producer XYZ Corporation

Building Type Multifamily High Pise

E.7.3.1 Air Infiltration through exterior Wall System

- 1. Propose to use window assembly (No. 24A), door assembly (No. 31C) and preformed panel wall system (Model No. 313).
- 2. Scale drawings and detailed specifications of test specimens will be furnished.
- 3. Test has been conducted at the "Universal Testing Laboratory", Tucson, Arizona. NAAMM Interim Standard TM-1-68T (4.3 Test for Air Infiltration) used. Door assembly not included in test. Test Report #24381, Universal Testing Laboratory, to be furnished.
- 4. Door assembly will be described by detailed drawings and will be tested at "ABC Testing Laboratories", Denver, Colorado, or other testing laboratory meeting your approval, using ASTM E-283 Test Method; or a door assembly having a previously certified performance level and satisfying the criteria will be used and appropriate documentation furnished.

Figure 1.

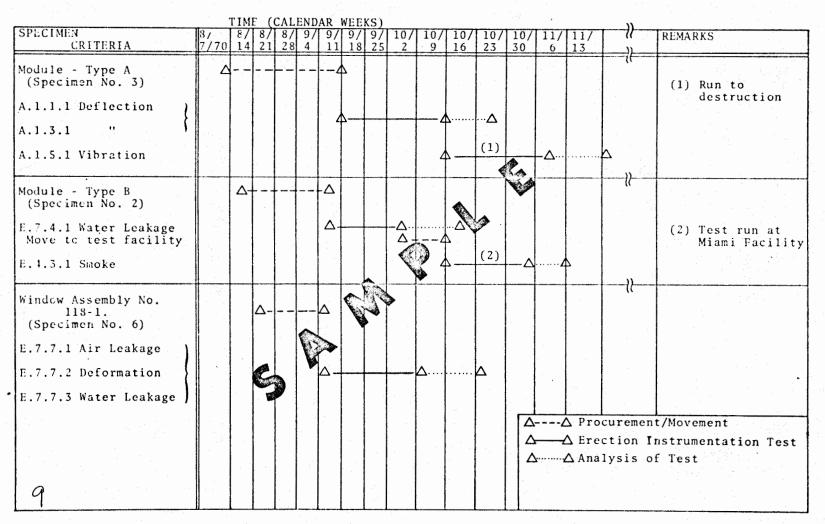
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	ENCLOSED SPACES	LIGHTING	POWER, ELECTRICAL DISTRIBUTION, COMMUNICATIONS	MECHANICAL EQUIP- MENT, APPLIANCES	PLUMBING	FIXTURES AND HARDWARE	ROOF-CEILING, GROUND FLOOR	WALLS, DOORS AND WINDOWS	FLOOR- CEILING	AND DOORS, INTRA-DWELLING	AND DOORS, INTER-DWELLING	STRUCTURE	Elements	Built	
	F	天	Comm	10142 -	2000 2000	ପ	-17	777	U	0	53	D	S		
	·				·								and .	STRUCTURAL SERVICEABILITY	
								·			·		N	STRUCTURAL SAFETY	
							- L.					-	ယ	HEALTH AND SAFETY	
										·			4	FIRE SAFETY	Attr
													5	ACOUSTIC ENVIRONMENT	ribut
			-							·			0	ILLUMINATED ENVIRONMENT	ites
												•	7	ATMOSPHERIC ENVIRONMENT	
									*				00	DURABILITY/TIME RELIABILITY (FUNCTION)	
	7												9	SPATIAL CHARACTERISTICS AND ARRANGEMENT	

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Housing Sys	ystem Producer: XYZ Corporation		ategor		Cate	gory II	SUMMARY FORM FOR
	oe: Multifamily Low Rise (Guide Criteria Vol. 11)		Evaluation of Plans & Specs. & Documentation			ation of sical	TESTING AND ANALYSIS PROGRAM
Intercept:						ents	Legend
			/suoi	er.	6		Ma -Material H -Housing Unit C -Component HS -Housing System
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	minat	Examination Testing to be Done	M -Module -Completed (symbol circled)
Number	Subject	Rev	S A	I nd	Exa		Remarks
A.1.1.1	Vertical deflection						
(a)	Performance criteria (1D+1L+1C)			М			
•							
•							
D.4.3.1	Floor-ceiling-smoke generation		•		•	С	
						-	
		679				-	
E.7.3.1	Air infiltration through wall system			0			All tests documented except door infiltration
		<u> </u>					
•						<u> </u>	
F.8.1.1	Service life of roofing				c		Systems available for examination
•							
•							
F.8.2.1	Water penetrations-resistance of roofing					_ C	

SCHEDULE OF PHYSICAL TESTING



Building Type	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: A.1 Structure/Structural Serviceability		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of sical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend		
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)		
Number	Subject	Rev Plan	A Con	Test	Exa	Test be	Remarks		
A.1.1.1(a)	Structure/Vert. Deflect Performance Criteria								
(b)1									
2	" - roof (1D+1L)								
3	" - floor (1D+1D+creep)								
4	" - roof (1D+1L+creep)								
A.1.2.1	Structure/Drift (0.9D+1W)								
A.1.2.2	Structure/Drift (1D+1L+0.8W)								
A.1.3.1(a)	Structure/Horiz, Deflect Performance Criteria	·			<u> </u>				
(b)	" - Exterior Walls				ļ <u>.</u>				
1	(0.9D+1W)								
• 2	(1D+1L+0.8W)		<u> </u>						
(c)	Structure/Horiz. Deflect Interior Walls								
1	(1D+1L)								
2	(1D+5psf)			<u> </u>					
A.1.4.1	Structure/Foundation Settlement (19+1L)								
. '	A.1 Intercept continued on next page								

Housing Syste	em Producer:	Co	tegor	/.1	Cate	gory II	SUMMARY FORM FOR		
	Multifamily Low Rise (Guide Criteria Vol. II)	1 .	luations & S		Evaluation of Physical —		TESTING AND ANALYSIS PROGRAM		
	Intercept: A.2 Structure/Structural Safety		& Documentation			nents	Legend		
		f ecs.	Computations/ Analysis	Test Data/ Industry Cert.	ion		Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed		
Criteria		Review of Plans/Specs.	iputa Ilysis	Date	Examination	Testing to be Done	(symbol circled)		
Number	Subject	Revi	Con	Test Indu	Exa	Test be (Remarks		
Λ.2.1.1	Structure/Load Capacity								
. (a)	1.4D+1.7L								
(b)	0.9D+1.3W								
(c)	0.9D+1.45E								
(d)	1.1D+1.3L+1.3W								
(e)	1.1D+1.3L+1.45E								
(f)	0.9D+1.7Q			· .					
A.2.1.2	Structure/Effect of creep and inelastic deflections on load capacity								
A.2.2.1	Structure/Load capacity under repeated loading		•						
(a)1	100 cycles: 1D to (1D+0.5L)								
2	1000 cycles: 1D to (1D+0.5W)								
(b)	5 cycles: (1D+E) to (1D-E)								
	A.2 Intercept continued on next page								

Building Type	em Producer: e: Multifamily Low Rise (Guide Criteria Vol. II)	Eva	ategor uluation ns & S	n of pecs.	Evalu Phy	gory II ation of sical	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria	1 (Continued)	Review of Plans/Specs.	Computations/ Camputations/	Test Data/	Examination	ot 60	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)
Number	Subject	Revie Plans	Comp	Test I	Ехаш	Testing to be Done	Remarks
A.1.5.1(a)	Structure/Vibrations - Transient (251b x 3ft)	o consideration delicate	y sighteeth is t bash chidasan	**************************************	4714 MARIEN		
(b)	" - Steady-state						
(c)	· - Environmental						
A.1.6.1(a)	Structural Elements/Local Damage - Vertical						
(b)	" - Horizontal						
Λ.1.7.1	Structure/Expansion and Contraction						
(a)	Performance Criteria						
(b)	Deflections						
					: . 7		
						i.	

Housing Syste	em Producer:		ategon		Cate	gory II	SUMMARY FORM FOR			
Building Type	Multifamily Low Rise (Guide Criteria Vol. II)	Evaluation of Plans & Specs.				ation of sical	TESTING AND ANALYSIS PROGRAM			
Intercept: A. 2	tercept: A.2 (Continued)		ocumentation				Legend			
		ecs.	tions /	Analysis Test Data/ Industry Cert.	Examination		Ma-Material H -Housing Unit C -Component HS -Housing System			
Criteria		Review of Plans/Specs.	nputa alysis			Testing to be Done	M -Module			
Number	Subject	Rev	A Con	Tes	Exa	Tes be	Remarks			
A.2.3.1	Structure/Sustained loading (1.2D+1.5L) for 24 hours									
(a)1	dv									
2	dh									
(b)1	dvr .									
2	Dvr									
A.2.4.1	Structure/Progressive collapse (1D+0.5L)									
Λ.2.5.1	Structure/Effect of differential foundation settlement on load capacity									
A.2.6.1	Structure/Capacity of inserts and hangers									
(a)	Ceilings									
(b)	Structural members									
A.2.7.1	Capacity reduction by cutting for utilities		ļ							
						ļ				

Housing Syst		Evo	ategor Iluatio	n of		gory II	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM		
	e: Multifamily Low Rise (Guide Criteria Vol. II) 4 Structure/Fire Safety		Plans & Specs. & Documentation			sical nents	Legend		
		of pecs.	Computations/ Analysis	Test Data/ Industry Cert.	ion		Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed		
Criteria		Review of Plans/Specs.	npute alysis	Date Ustry	Examination	Testing to be Done	M -Module -Completed (symbol circled)		
Number	Subject	Rev	Con	Test	Exa	Test	Remarks		
A.4.1.1	Structural Components - Fire Resistance								
A.4.1.2	" Connections - " "								
A.4.3.1	Sprayed fire protection								
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Building Ty	stem Producer: pe: Multifamily Low Rise (Guide Criteria Vol. II) .5 Structure/Acoustic Environment	Category I Evaluation of Plans & Specs. & Documentation		Category II Evaluation of Physical Elements		SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)
Number	Subject	5 2	P C	Tes	Ex	les be	Remarks
A.5.1.1	Structure borne noise						
•		_	_				
		<u> </u>		1.			

	stem Producer: De: Multifamily Low Rise (Guide Criteria Vol. II)	Evo	ategor Iluation	n of	Evalue	gory II	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM	
Intercept: A	.8 Structure/Durability/Time Reliability (Function)	& Documentation		Elements		Legend Ma -Material H -Housing Unit		
Criteria	(Tane Pron)	Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	C -Component HS -Housing System -Completed (symbol circled)	
Number	Subject	Revi Plan	Com	Test Indu	Exai	Test be [Remarks	
A.8.1.1	Eliminate continuous voids	dice mediane economic	r - distriction Williams			· · · · · · · · · · · · · · · · · · ·		
A.8.1.2	Provide adequate vapor barriers and ventilation							
A.8.2.1	Structural/time reliability							
A.8.3.1	Static and dynamic deflections							
					. : 12.3			

Housing Syst	tem Producer:	C	ategor	y I	Cate	gory II		SUMMARY FORM FOR		
	e: Multifamily Low Rise (Guide Criteria Vol. II)	1	Evaluation of Plans & Specs.			ation of	TESTING AND ANALYSIS PROGRAM			
Intercept: B.	ntercept: B.1 Interior Space Dividers-Walls and Doors,		cumen		Physical — Elements		Legend			
	Inter-Dwelling/Structural Serviceability	Si	ions/	ert.	no		Ma -Material C -Component			
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module	-Completed (symbol circled)		
Number	Subject	Rev	Ang A	Test	Exa	Test be I	Re	emarks .		
B.1.1.1	Inter-dwelling walls/deflections - load supporting									
B.1.1.2	Inter-dwelling walls/deflections - non-load supporting									
3.1.2.1	Inter-dwelling walls/foundation settlement									
B.1.3.1	'' /local damage	_								
(a)	150 1b anywhere		<u> </u>							
(b)	200 1b 3in above floor									
(c)	10 psf									
(d)	Attached shelves or 40 lh/ft at eccentricity									
	of 6in + t/2									
(e)	Impact									
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Housing Syst	em Producer:		ategor	-	Cate	gory	SUMMARY FORM FOR			
Building Typ	e: Multifamily Low Rise (Guide Criteria Vol. II)		Evaluation of Plans & Specs. & Documentation			ation of sical	TESTING AND ANALYSIS PROGRAM			
Intercept: B.	2 Interior Space Dividers-Walls and Doors,	& Do				nents	Legend			
	Inter-Dwelling/Structural Safety	, S	ions/	ert.	E		Ma-Material H -Housing Unit C -Component HS -Housing System			
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module			
Number	Subject	Rev	Con	Test	Exa	Test be I	Remarks			
B.2.1.1(a)	Inter-duciling walls/load capacity - load supporting									
(b)	Inter-dwelling walls/load canacity - non-load supporting				·	:				
			<u> </u>							
:		1								
	:									
•										

Housing Sy	Housing System Producer:		ategor		Cate	gory II			SUMMARY FORM FOR	
Building Ty	pe: Multifamily Low Rise (Guide Criteria Vol. II)		aluatio ns & S			ation of vsical		TESTING AND	ANALYSIS PROGRAM	
Intercept: E	3.4 Interior Space Dividers, Walls and Doors,		cumer			nents	Legend			
· · · · · ·	Inter-Dwelling/Fire Safety			ert.	5	6	Ma - Material H - Housing Unit C - Component HS - Housing System			
Criteria	iteria		Computations/ Analysis	Analysis Test Data/ Industry Cert.	Examination	Testing to be Done	M -Mode		-Completed (symbol circled)	
Number	Subject	Review of Plans/Specs.	Con	Test	Exa	Test be		Remark	•.**	
B.4.1.1	Inter-dwelling walls - fire endurance									
B.4.1.2	" - no through openings									
B.4.1.3	" " - service and utility openings									
	openings									
B.4.2.1	Inter-dwelling walls - flame spread							no discondinate anno del constitución de la constit		
B.4.3.1	" - smoke generation									
B.4.4.1	" - potential heat									
B.4.5.1	Fire walls - fire resistance						· · · · · · · · · · · · · · · · · · ·			
B.4.5.2	" - openings				<u> </u>					
B.4.5.3	" - wall-roof juncture			<u> </u>						
B.4.6.1	" - no continuous voids								•	
B.4.7.1	" " - flame spread					. /				
B.4.8.1	' ' - smoke generation							71 - 21		
B.4.9.1	- potential heat									

Criteria	Inter-Dwell	ing/Acou	stic Envi	uilding Type: Multifamily Low Rise (Guide Criteria Vol. II) Mercept: B.5 Interior Space Dividers-Walls and Doors,			cumen	oecs. tation		sical ients	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend		
	riteria				Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)		ng System leted	
Number	Subject					Revi	Com	Test	Exan	Testi be D	en agrandi de de relación en esta de la compressión de la compressión de la Percentina de la compressión de la	Remarks	The second secon
B.5.1.1 Ir	nter-dwelling	walls •	airborne	noise									
D. 3. 1	enclosed spa		nsulation	hetween									
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Housing Syste	em Producer:		ategor			gory II	SUMMARY FORM FO		
Building Type	e: Multifamily Low Rise (Guide Criteria Vol. II)		ilvations & S			ation of sical	TESTING AND ANALYSIS PROGRAM		
Intercept: C.	1 Interior Space Dividers-Walls and Doors,		cumen		Elements		Legend		
Intra-Dwelling/Structural Serviceability Criteria		so.	lions/	/ Cert.	ion		Ma - Material H - Housing Unit C - Component HS - Housing System		
		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module		
Number	Subject	Rev	Com	Tes	Exa	Test be [Remarks		
0.1.1.1	Intra-dwelling walls/deflections - load				100 1000				
	supporting								
.1.1.2	Intra-dwelling walls/deflections - non-load								
	supporting								
2.1.2.1	Intra-dwelling walls/foundation settlement								
C.1.3.1	" /local damage								
(a)	150 lb anywhere								
(b)	200 lb 3in above floor								
(c)	10 psf								
(d)	Attached shelves or 40 lb/ft at eccentricity								
	of 6in + t/2		<u> </u>						
(e)	Impact								
			<u> </u>						
The second secon									

Building Typ	e: Multifamily Low Rise (Guide Criteria Vol. II) 2 Interior Space Dividers-Walls and Doors,	Eve Plan	ategor alvation as & S ocumen	n of pecs.	Evalue Phy	Category II SUMMARY Valuation of TESTING AND ANALYSIS Physical Legend		
Criteria	Intra-Dwelling/Structural Safety		Review of Plans/Specs. Computations/ Analysis	Analysis Test Data/ Industry Cert.	Excmination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)	
Number	Subject	Revi	Com	Test Indu	Exca	Testi be D	Remarks	
C.2.1.1(a)	Intra-dwelling walls/load capacity - load supporting			Total grant of the				
(b)	Intra-dwelling walls/transfer of loads - non-load supporting	And the second second	Transcriber 1					
		An in a graph of the state of t	eratri i meta			Colonia Production and Colonia		
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	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II)		ategor alvations & S	n of pecs.	Evalue	gory II ation of sical	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM
Intercept: C.	4 Interior Space Dividers-Walls and Doors, Intra-Dwelling/Fire Safety		cumen		Elements		Legend Ma -Material H -Housing Unit C -Component HS -Housing System
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module -Completed (symbol circled)
Number	Subject	Rev	Con	Test	Exa	Test be	Remarks
C.4.1.1	Intra-dwelling walls - fire stops						
C.4.2.1	" - flame spread						
C.4.3.1	" - smoke generation						
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Building Typ				n of pecs. itation	Evalue Phy	gory !I ation of sical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend		
Criteria			Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS-Housing System M -Module -Completed (symbol circled)		
Number	Subject	Review of Plans/Specs.	Con	Test	Exa	Test be [Remarks		
C.5.1.1	Intra-dwelling walls - airborne noise								
C.5.1.2	noise isolation between enclosed spaces								
									
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Building Typ	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: C.8 Interior Space Dividers-Walls and Doors, Intra-Dwelling/Durability/Time Reliability			y I n of pecs. itation	Evalue Phy	gory II ation of vsical ments	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend		
Criteria	Intra-Dwelling/Durability/Time Reliabilit (Function)	Review of Plans/Specs.	Computations/ Analysis	Test Data/ industry Cert.	Examination	Testing to be Done	Ma -Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)		
Number	Subject	Re	Cor	Tes	E SE	Les pe	Remarks		
C.8.1.1	Performance of the final finish	ne (Carlotte Carlotte							
4.5									
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	em Producer: B: Multifamily Low Rise (Guide Criteria Vol. II) I Interior Space Dividers-Floor-Ceiling/	Eva Plar	ategory luation is & Sp cumen	of oecs.	Evalu Phy	gory II ation of rsical nents	SUMMARY FORM TESTING AND ANALYSIS PROG Legend		
Structural Serviceability Criteria			Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma -Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)		
Number	Subject	Review of Plans/Specs.	Com	Test	Exar	Testi be D	Remarks		
D.1.1.1	Floor-ceiling assembly/deflections				and displayment the Administration		And the second s	Harris Marie Const.	
D.1.2.1	" /foundation settlement								
D.1.3.1(a)	Local damage/structural vibrations - floors	A man had been been been as		**************					
(b)	" /steady-state vibrations - ceiling		-						
D.1.4.1	Local damage to floor-ceiling assembly								
(a)	750 ft-1b impact								
(h)	400 1b concentrated load								
(c)	Ceilings - 50 or 4 psf	ļ						<u> </u>	
D.1.5.1	Local damage to protruding elements 500 lb horizontally								
	norizontally			ļ	ļ				
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Building Typ	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: D.2 Interior Space Dividers-Floor-Ceiling/			Eve Plan	ategor aluations & S ocumen	n of pecs.	Evalue Phy	gory II ation of rsical nents	Le	AND ANALY	RY FORM FOR SIS PROGRAM
Criteria	Structural			Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	ne to	Ma -Material C -Component M -Module		
Number	Subject			Reviev Plans/	Comp	Test D Industr	Exami	Testing to be Done	Re		
D.2.1.1	Floor-ceiling,	load capacity			CARCATTREES.			AND A SHARE AND AND AS A SHARE			
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Housing System Producer:			ategor		Cate	gory II	SUMMARY FORM FOR
	e: Multifamily Low Rise (Guide Criteria Vol. II)		aluation ns & S			ation of sical	TESTING AND ANALYSIS PROGRAM
Intercept: D	4 Interior Space Dividers-Floor-Ceiling/Fire		cumen	tation		ients	Legend
	Safety	S.	Computations/ Analysis	Cert	io		Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed
Criteria		Review of Plans/Specs.	nputa Ilysis	Test Data/ Industry Cert.	Examination	Testing to be Done	(symbol circled)
Number	Subject	Rev	Con	Test Indu	Exa	Test be (Remarks
D.4.1.1	Floor-ceiling - fire endurance						
D.4.1.2	" - fire stons						
D.4.1.3	" - no through openings						
D.412.1	" - flame spread						
D.4.3.1	" - smoke generation						
D.4.4.1	' - potential heat						
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Building Typ	e: Multifamily Low Rise (Guide Criteria Vol. II) 5 Interior Space Dividers-Floor-Ceiling/	Eve Pla	ategor alvation ns & S ocumen	n of pecs.	Evalue Phy	gory II ation of rsical nents	SUMMARY FORM FO TESTING AND ANALYSIS PROGRAM Legend
	Acoustic Environment	P 0 0	Computations/ Analysis	Test Data/ Industry Cert.	ation	Q •	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed
Criteria Number	Subject	Review of Plans/Specs.	ompu	est Do ndustry	Examination	Testing to be Done	(symbol circled) Remarks
Nomber	Subject	122	-			- 4	Kemorks
.5.1.1	Floor-ceiling assembly/airborne noise and						
	impact						
.5.1.2	Inter-dwelling noise isolation and impact						
	insulation between enclosed spaces						
.5.2.1	Floor-ceiling assembly/sound transmission						
	and impact insulation						
0.5.2.2	Multi-level dwelling/noise isolation and						
	impact insulation		 		ļ		
			 				
			 				
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Building Ty	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: D.8 Interior Space Dividers-Floor-Ceiling/			of pecs.	Evalue Phy	gory II ation of rsical	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM		
Intercept: I	Durability/Time Reliability (Function)	 	/se	T		nents	Legend Ma - Material H - Housing Unit C - Component HS - Housing System		
Criteria	Criteria		Computations, Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module -Completed (symbol circled)		
Number	Subject	Review of Plans/Specs.	Con	Test	Exa	Test be [Remarks		
D.8.1.1	Flooring, dry areas - dimensional stability		A CLASSICAL PROPERTY OF THE PARTY OF THE PAR	COLUMN TERRORISMENT	PORTOR DEL COMPANY				
D.8.1.2	" " - indentation								
D.8.1.3	" " - bond to substrate								
D.8.1.4	" " - service life								
D.8.2.1	" wet areas - dimensional stability		<u> </u>	<u> </u>	<u> </u>				
D.8.2.2	" " - indentation		ļ						
D.8.2.3	" " - bond to substrate		<u> </u>						
D.8.2.4	" - water penetration	1	<u> </u>	<u> </u>					
D.8.2.5	". " - resistance to chemicals								
D.8.2.6	" " - wear life	_			<u> </u>		•		
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Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: E.1 Exterior Envelope-Walls, Doors and Windows/Structural Serviceability Criteria			- Evo	Category I Evaluation of Plans & Specs. & Documentation		Category II Evaluation of Physical Elements		SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
			Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	nation	ne to	Ma -Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)	
Number	Subject		Reviev Plans	Comp	Test D Indust	Examination	Testing to be Done	Remarks	
E.1.1.1	Exterior wall/local damage								
E.1.2.1	" envelope/horizont	al deflections							
E.1.3.1	" " /foundati	on settelment							
E.1.4.1	Width and movements of joi	nts							
		-							

Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: E.2 Exterior Envelope-Walls, Doors and Windows/Structural Safety Criteria		Category I Evaluation of Plans & Specs. & Documentation		Category II Evaluation of Physical Elements		SUMMARY FORM FOR	
						TESTING AND ANALYSIS PROGRAM Legend	
		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	_	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)
E.2.1.1(a)	Exterior wall/load capacity - load supporting						
(b)	supporting '' - non-load						
(c)	Attachment of veneer (5D vertically + 3D horizontaFly)						
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Building Typ	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. 1!) Intercept: E.4 Exterior Envelope-Walls, Door and Windows/Fire Safety Criteria		Category 1 Evaluation of Plans & Specs. & Documentation			gory II ation of sical ments	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria			Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)
Number	Subject	Review of Plans/Specs.	\$ \$	Tes	Ex	Tes	Remarks
E.4.1.1	Exterior walls - fire resistance						
E.4.2.1	" - flame spread						
E.4.3.1	" - smoke generation						
E.4.4.1	" - potential heat						
E.4.5.1	" - floor-wall joint						
				1		1	

Housing Sy	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: E.5 Exterior Envelope-Walls, Doors and				itegory		Categ	gory II	SUMMARY FORM FOR	
				Evaluation of Plans & Specs. & Documentation			Evalue Phy	ation of	TESTING AND ANALYSIS PROGRAM	
Intercept: E							Elements		Legend	
	Windows/Acoustic En	vironment		ec.	Computations/ Analysis	ı/ Cert.	ion		Ma-Material H -Housing Unit C -Component HS-Housing System M -Module — -Completed	
Criteria				Review of Plans/Specs.	nputa alysis	Test Data/ Industry Cert.	Examination	Testing to be Done	(symbol circled)	
Number	Subject			%	Con	Tes Ind	Exa	Tes be	Remarks	
5.1.1	Exterior envelope nois	e attenuation								
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Housing Sy	Housing System Producer:		Category I			gory !i	SUMMARY FORM FOR		
Building Type: Multifamily Law Rise (Guide Criteria Vol. II) Intercept: E.7 Exterior Envelope-Walls, Doors and			valuation of ans & Specs.		Evaluation of		TESTING AND ANALYSIS PROGRAM		
		& Documentation		Physical — Elements		Legend			
	Windows/Atmospheric Environment	ş	ons/	ert.	LO		Ma - Material H - Housing Unit C - Component HS - Housing System		
Criteria		Review of Plans/Specs.	Computations Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module -Completed (symbol circled)		
Number	Subject	Plar Plar	Con And	Test	Exa	Test be	Remarks		
.7.1.1	Exterior wall winter heat loss								
.7.1.2	Winter total heat loss through windows								
.7.1.3	Exterior wall summer heat gain	<u> </u>							
.7.1.4	Heat transmission through exposed ceilings								
.7.2.1	Provisions for thermal breaks								
.7.3.1	Air infiltration through exterior wall system								
.7.4.1	No water leakage through exterior wall system		<u> </u>						
.7.5.1	" ", " below grade								
	foundation								
.7.6.1	Warm side vapor barrier								
.7.6.2	" " " for low permeance								
	exterior								
:7,7.1	Window air leakage								
7.7.2	No damage to window assembly from design								
	Wind b oad								
	La Intercept continued on next page					1			

Buildin	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: E.7 (Continued)			Category I Evaluation of Plans & Specs. & Documentation			SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
Criteria		Review of Flans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	ig to	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)	
Number	Subject	Revie Plans	Comp	Test I	Exam	Testing to be Done	Remarks	
E.7.7.	No water leakage through window assembly							
E.7.7.	Acoustic requirements for window assembly							
F.7.7.	Window hardware				·			
B.7.7.	Sizes of windows							
E.7.8.	Poor assembly air leakage							
E.7.8.	No water leakage through door assembly							
E.7.8.	Acoustic requirement for door assembly			<u> </u>				
E.7.8.	Durability of doors							
				<u> </u>				
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Building Typ	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: E.8 Exterior Envelope-Walls, Doors and		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of sical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria	Windows/Durability/Time Reliability (Function)	Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)
Number	Subject	8 8	° ₹	Tes F	Ä	Tes be	Remarks
E.8.1.1	Effective life of sealants						
E.8.2.1	Performance and renewability of finish of exterior walls, doors and windows						
E.8.2.2	Protection of exterior metal						
E.8.2.3	" " masonry						
E.8.3.1	Distortion of exterior cladding						
F.8.4.1	Thermal movement of exterior walls, doors and windows						
E.8.5.1	Exterior door warpage						
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Housing Sy	stem Producer:		ategor			gory II	SUMMARY FORM FOR	
	Building Type: Multifamily Low Rise (Guide Criteria Vol. II)			n of pecs.	Evaluation of Physical		TESTING AND ANALYSIS PROGRAM Legend	
Intercept: E	Intercept: E.9 Exterior Envelope-Walls, Doors and Windows/Spatial Characteristics and Arrangement		Computations/		1	nents	Ma -Material H -Housing Unit C -Component HS -Housing System	
Criteria		Review of Plans/Specs.	putat Ilysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module	
Number	Subject •	Rev Plar	Con	Test	Exa	Test be [Remarks	
E.9.1.1	Communication with public play area							
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Housing Sy	stem Producer:		alegor			gory II	SUMMARY FORM FOR	
	Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: F.1 Exterior Envelope-Roof-Ceiling, Ground Floor/Structural Serviceability		Evaluation of Plans & Specs. & Documentation			ation of vsical nents	TESTING AND ANALYSIS PROGRAM Legend	
			Computations/ Analysis	Cert.			Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed	
Criteria		Review of Plans/Specs.	nputa Ilysis	Test Data/ Industry Cert.	Examination	Testing to be Done	(symbol circled)	
Number	Subject	Rev	Con	Test	Exa	Test be [Remarks	
F.1.1.1	Roof - vertical deflection							
F.1.2.1	" - vibrations							
				<u> </u>	<u> </u>			

Housing Syst	em Producer:			C	ategor	y.Ì	Categ	ory II	SUMMARY FORM FOR
	Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: F.2 Exterior Envelope-Roof-Ceiling, Ground			aluatio ns & S		Evalua Phy:	ation of	TESTING AND ANALYSIS PROGRAM	
Intercept: F.			& Do	& Documentation			ents	Legend	
	Floor/Structu	ral Safety		, Si	Computations/ Analysis	Cert.	ion		Ma-Material H -Housing Unit C -Component HS -Housing System M -Module — -Completed
Criteria				Review of Pians/Specs.	nputa	Test Data/ Industry Cert.	Examination	Testing to be Done	(symbol circled)
Number	Subject			Pë ë	A C	Tes	Exa	Tes be	Remarks
F.2.1.1(a)	Roof/load capaci	ty - load supp	orting structure						
(b)		- non-load	supporting						
	elements	,							
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Housing Sy	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: F.4 Exterior Envelope-Roof-Ceiling, Ground			y I	Cate	gory II	SUMMARY FORM FOR	
				Evaluation of Plans & Specs. & Documentation			TESTING AND ANALYSIS PROGRAM Legend	
Intercept: p								
	Floor/Fire Safety	5.5	Computations/ Analysis	Cert.	ion		Ma - Material H - Housing Unit C - Component HS - Housing System M - Module — Completed	
Criteria		Review of Plans/Specs.	nputa	Test Data/ Industry Cert.	Examination	Testing to be Done	(symbol circled)	
Number	Subject	Plar	Con	Tast	Exa	Test	Remarks	
F.4.1.1	Roof-ceiling - fire resistance							
F.4.2.1	" - fire stops							
F.4.2.2	" - no through openings							
F.4.3.1	" " flame spread							
F.4.4.1	" - roofing class							
F.4.5.1	" - smoke generation							
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Housing Sy	stem Producer:	C	ategor	/ I	Cate	gory II	SUMMARY FORM FOR		
	pe: Multifamily Low Rise (Guide Criteria Vol. II)	Evaluation of Plans & Specs.			Evaluation of Physical		TESTING AND ANALYSIS PROGRAM		
	.7 Exterior Envelope-Roof-Ceiling, Ground		& Documentation			rsical nents	Legend :		
<u> </u>	Floor/Atmospheric Environment	S	ions/	ert.	5		Ma - Material H - Housing Unit C - Component HS - Housing System		
Criteria .		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module -Completed (symbol circled)		
Number	Subject *	Rev	Con	Tes	Exa	Tes	Remarks		
F.7.1.1	Flat roof deck construction/moisture or wetting damage								
F.7.2.1	Flat roof construction/condensed moisture damage								
F.7.3.1	Attic space ventilation								
F.7.4.1	Heat transmission through exposed ceiling								
F.7.5.1	Vapor barrier under concrete slab-on-grade								
F.7.6.1	Crawl space ventilation								
F.7.6.2	Ground cover in crawl space								
F.7.7.1	Heat loss through floors over unheated spaces		<u> </u>						
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Housing Sys	Housing System Producer:		itegor	/ 1	Cate	gory II	SUMMARY FORM FOR
Building Typ	Building Type: Multifamily Low Rise (Guide Criteria Vol. II)			n of pecs. itation	Evaluation of Physical Elements		TESTING AND ANALYSIS PROGRAM Legend
mercepi. F.	Intercept: F.8 Exterior Envelope-Roof-Ceiling, Ground Floor/Durability/Time Reliability (Function)						Ma-Material H -Housing Unit C -Component HS -Housing System
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Examination Testing to be Done	M -Module — -Completed (symbol circled)
Number	Subject	Rev	Page A	Test	Ë	Test be	Remarks
F.8.1.1	Roofing - service life		MARKET SAME POR A T				
F.8.2.1	" - water penetration resistance						
F.8.3.1	" - wind load						
F.8.4.1	" - impact "				·		
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Housing Syst			ategor			gory II ation of	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM
	e: Multifamily Low Rise (Guide Criteria Vol. II) 1 Fixtures and Hardware/Structural	Plans & Specs. Physical Elements		ysical	Legend		
	Serviceability	, s	Computations/ Analysis	Cert.	, E		Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed
Criteria		Review of Plans/Specs.	nputa alysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module -Completed (symbol circled)
Number	Subject	Rev Pla	P A	Tes	Ä	Tes	Remarks
G.1.1.1	Fixtures - compatibility with deflections						
(a)	Vertical deflection						
(b)	Drift						
(c)	Horizontal deflection						
(d)	Settlement						
G.1.2.1	Local damage to fixture						
							· · · · · · · · · · · · · · · · · · ·
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Criteria Number Subject G.2.1.1 Capacity of fixtures to transmit load The subject S	Building Typ	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: G.2 Fixtures and Hardware/Structural Safety Criteria		- Eve Plai	ategor alvations ns & S ocumen	n of pecs. Itation	Evalue Phy	gory II ation of sical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend		
G.2.1.1 Capacity of fixtures to transmit load	Criteria						nputations/ slysis	Data/ ustry Cert.	mination	ing to Done	C -Component HS-Housing System M -Module
	Number	Subject				Rev	Con	Tes	Exa	Tes be	Remarks
	G.2.1.1	Capacity of	fixtures to	transmit	1oad		nd rayin takkara	de tale societaria.		Charles Annual A	
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Housing Sys	tem Producer:	C	ategor	/ I	Cate	gory II	SUMMARY FORM FOR		
	e: Multifamily Low Rise (Guide Criteria Vol. II)		iluation			ation of sical	TESTING AND ANALYSIS PROGRAM		
Intercept: G.	5 Fixtures and Hardware/Acoustic Environment	& Do	& Documentation		Elements		Legend		
		ecs.	Computations/ Analysis	Cert.	io E		Ma-Material H -Housing Unit C -Component HS -Housing System M -Module		
Criteria		Review of Plans/Specs.	nputa alysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module -Completed (symbol circled)		
Number	Subject •	a B	A Co	Tes	Ex	Tes be	Remarks		
G.5.1.1	Fixtures and hardware/noise generated and								
	transmitted					<u> </u>			
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Building Typ	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: G.8 Fixtures and Hardware/Durability/Time		Category I Evaluation of Plans & Specs. & Documentation		Category II Evaluation of Physical Elements		SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria	Reliability (Function)	Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)
Number	Subject	82	υ̃₹	9 <u>c</u>	ă ă	+ å	Remarks
G.8.1.1	Performance of hardware						Sylvania (Sylvania)
G.8.2.1	Mail boxes/slots - convenience and location						
G.8.2.2	" " - size						
G.8.2.3	" " - protection						
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Building Type	Iding Type: Multifamily Low Rise (Guide Criteria Vol. II) Procept: II.1 Plumbing/Structural Serviceability		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of rsical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma -Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)
Number	Subject	8 2	3 ₹	ے م	Ã	P 8	Remarks
H.1.1.1(a) (b) (c) (d) H.1.2.1 H.1.3.1(a) (b) (c)	Plumbing system - vertical deflections " - horizontal drift " - " deflection " - foundation settlement Plumbing system vibration Limit angular rotation of horizontal lines " " vertical lines Loads not to impair proper function						
(d)	No loss of stability or tightness						
H.1.3.2(a)	Fixture rims and supports to carry load					 	
(b)	Center loading of sump			-			

Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: H.2 Plumbing/Structural Safety		- Ev Pla	Category I Evaluation of Plans & Specs. & Documentation			gory II ation of vsical ments	SUMMARY FORM FOI TESTING AND ANALYSIS PROGRAM Legend	
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)	
Number	Subject	Revi Plan	Com	Test	Exar	Testi be D	Remarks	
H.2.1.1	Hangers, supports and inserts not to fail							
11.2.2.1	Structural safety not to be impaired							
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Housing Syst	em Producer:		ategory			gory II	SUMMARY FORM FOR		
Building Type	e: Multifamily Low Rise (Guide Criteria Vol. II)		Evaluation of Plans & Specs.			ation of	TESTING AND ANALYSIS PROGRAM		
Intercept: 11.	3 Plumbing/Health and Safety	& Documentation			Elements		Legend		
		3.0	ions/	no		Ma - Material H - Housing Unit C - Component HS - Housing System			
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module — Completed (symbol circled)		
Number	Subject	Re	Co.	Tes	Ě	p de les	Remarks		
н.з.1.1	Minimum fixtures required								
Н.3.1.2	Laundry facilities								
Н.3.1.3	Service sinks or equivalent								
H.3.1.4	Floor drains or equivalent								
H.3.2.1(a)	Roughed in DWV leak test (static)								
(b)	Finished DWV leak test (static)								
(c)	" " (dynamic)								
(d)	Interior storm-drainage system watertightness								
(e)	Water supply system watertightness								
· (f)	Safe pans and shower drains watertightness		·						
H.3.3.1(a)	Hot water system - supply to fixtures								
(b)	" " - capacity and safety								
(c)	" " lines - insulation and return			<u> </u>					
	Circulation	<u> </u>							
(d)	" " temperature								
	Intercept H.3 continued on next page								

Building Typ	uilding Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: H.3 (Continued)		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of visical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend			
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	ig to	Ma -Material C -Component M -Module	H -Housing Unit HS -Housing System -Completed (symbol circled)		, PA
Number	Subject	Revie Plans	Computat Analysis	Test	Exam	Testing to be Done	Ren	narks		
11.3.4.1(a)	Hot water system safety devices	April 1 (1)			religional Milesent (g.	Hazar zajawowa, u ili Ary No	destron estados es ministra () estados alemanos en emprendos em parte en que primero em especial em em special	erteck dy Mile von Alliferpritte i Adriv trak de i nære ut vogen de	Particular plan. ** carcum springaryana.	
(b)1	Pressure relief valve in c-w supply									
2	Location of T and T-P relief valves									
3	Prohibited devices between relief valve and heater							erione de la filosophica de la companya de la comp	modificación en el finale el publicación	
4	Location of energy shutoff devices									
H.3.5.1	Adequate but not excessive water usage								Patriatas an augusta a	-
H.3.5.2	Limit discharge rate at water outlets						The second secon			
H.3.6.1	Separation between potable and non-potable water supply systems				·					
Н.3.6.2	Air gap at water outlet									
Н.3.6.3	Devices for preventing backflow									
H.3.6.4	Non-toxic materials in water supply system									
H.3.6.5	Avoid leaking drain lines above water tanks									
	Intercept H.3 continued on next page									

Housing Syst	em Producer:		ategor		 	gory II	SUMMARY FORM FOR		
Building Type	e: Multifamily Low Rise (Guide Criteria Vol. 11)	Evaluation of Plans & Specs.			Evaluation of Physical		TESTING AND ANALYSIS PROGRAM		
Intercept: H.	3 (Continued)		& Documentation				Legend		
		20	ions/	ert.	5		Ma - Material H - Housing Unit C - Component HS - Housing System		
Criteria		Review of Plans/Specs.	Computations Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module — Completed (symbol circled)		
Number	Subject	Rev Pla	A Co	Tes	Ä	Tes be	Remarks		
Н.3.6.6	Avoid threaded fixture faucets and submergible								
	connectors								
H.3.7.1	Control of vermin and rodents		an aphaban has saide.						
H.3.8.1(a)	Prevent emission of unsafe or unsanitary fluids				·				
(b)	Pneumatic pressures in DWV system								
(c)	Vent terminals - location and closure								
(d)	Area of vent terminals								
(e)	Vents to be pitched				ļ				
(f)	Avoid connections to suds zones			ļ					
H.3.9.1(a)	Capacity of drainage stacks								
(b)	Horizontal drains - flow velocity and capacity			ļ					
(c)	Interfixture hydraulic effects								
(d)	Design loads for DWV systems			<u> </u>					
(e)	Backwater protection								
				ļ					
<u>-</u>	Intercept H.3 continued on next page								

Building Type	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: II.3 (Continued)		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of vsical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ industry Cert.	Examination	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)
Number	Subject	Re	A Co	Tes	Ex	Les Pe	Remarks
H.3.9.1(f)	Indirect connections of equipment containing sterile materials						
(g) (h)	Sub-sewer drainage Sub-soil drainage	en a and a a					
H.3.10.1(a)	Adequate discharge rates at water outlets Maximum water pressure and water hammer	or an all statistic responses, specific and the state of	riladore especialista de espec				
	Water system to be designed for the available pressure	- And April April -					
н.3.11.1	Storm water removal by "instantaneous" or "controlled" flow						
H.3.11.2	Prevent storm drainage into sanitary sewer, or vice-versa						
н.з.11.3	Trap rain pipes and floor drains to combination						
Н.3.11.4	Size combination storm-sanitary system as storm systems						
Н.3.11.5	Prevent sewer backwater						

Housing Sys	tem Producer:	C	ategor	y I	Cate	gory	SUMMARY FORM FOR		
	e: Multifamily Low Rise (Guide Criteria Vol. II)		aluatio ns & S		Evaluation of Physical		TESTING AND ANALYSIS PROGRAM		
Intercept: H	4 Plumbing/Fire Safety	& Documentation			Elements		Legend		
		oe cs.	Computations/ Analysis	Test Data/ Industry Cert.	rio n		Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed		
Criteria		Review of Plans/Specs.	npute	t Data	Examination	Testing to be Done	(symbol circled)		
Number	Subject	Rev Pla	A C	Tes	Ex	Tes	Remarks		
H.4.1.1	Plumbing not to contribute to fire spread								
11.4.1.2	Minimize fire spread through plumbing system								
11.4.1.3	Fire rating of partitions having plumbing								
H.4.3.1	Hazardous areas - sprinkler system								

Building Type	ding Type: Multifamily Low Rise (Guide Criteria Vol. II)		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of rsical	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria	5 Plumbing/Acoustic Environment	Review of Plans/Specs.	1>	T	 	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)
Number	Subject	Rev	Con	Test	Exa	Test be [Remarks
H.5.1.1(a)	Plumbing - NC requirement						
(b)	" - noise reduction						
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Suilding Ty	ousing System Producer: uilding Type: Multifamily Low Rise (Guide Criteria Vol. II) stercept: II.7 Plumbing/Atmospheric Environment		Category I Evaluation of Plans & Specs. & Documentation		Evalue Phy	gory II ation of sical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module —Completed (symbol circled)
Number	Subject	Plar	Con	Test	Exa	Test	Remarks
11.7.1.1	Prevent condensation on plumbing						
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Housing Sys	tem Producer:	C	ategor	y I	Cate	gory II	SUMMARY FORM FOR		
-	Building Type: Multifamily Low Rise (Guide Criteria Vol. II)		Evaluation of Plans & Specs.		Evaluation of		TESTING AND ANALYSIS PROGRAM		
Intercept: 11.	8 Plumbing/Durability/Time Reliability	1	& Documentation		Physical — Elements		Legend		
	(Function)	δ.	/suoi	ert.	ę		Ma - Material H - Housing Unit C - Component HS - Housing System		
Criteria		Review of Plans/Specs.	Computations Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module -Completed (symbol circled)		
Number	Subject	Revi	Con	Test	Exa	Test be [Remarks		
11.8.1.1	Plumbing life expectancy		and a second						
li.8.2.1(a)	Quality of materials and equipment								
(b)	Acceptability of standard and non-standard materials and equipment								
11.8.3.1	Quality of design and installation								
H.8.4.1	Self-scouring velocities in horizontal drains								
11.8.4.2	Access for cleaning drains								
11.8.4.3	Functional surfaces - cleanability and soilability	-							
11.8.4.4(a)	Slope of drain lines								
(b)	Avoid elements that retard flow								
(c)	Crossflow of waste water prohibited								
(d)	Maximum length of trap arms								
(e)	Avoid chilling of drain lines								
	Intercept H.8 continued on next page								

Building Typ	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercopt: H.8 (Continued)		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of vsicai nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)	
Number	Subject •	Rev	A Co	Tes	Ex	Test be	Remarks	
H.8.4.4(f)	Bases of submergible vents washed by small fixtures							
(g)	Minimum sizes of dry vents below flood level							
(h) (i)	Washing of vents to horizontal drains Geometrical aspects of fittings in drainage system design							
(j)	Vent grading (pitch)							
H.8.4.5(a)	Shutoff of building water supply outside building							
(b)	Interior building water supply shutoff							
(c)	Water tank shutoff					<u> </u>		
(d)	" shutoff of each riser							
(e)	Shutoff of water supply to each dwelling unit							
(f)	Shutoff to each WC							
(g)	Water heating equipment shutoff							
	Intercept II.8 continued on next page				<u> </u>			

	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II)		Category I Evaluation of Plans & Specs.			gory II ation of sical	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM
Intercept: H.	8 (Continued)	& Documentation		Elements		Legend Ma -Material H -Housing Unit	
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	C -Component HS -Housing System M -Module -Completed (symbol circled)
Number	Subject	Revi	Computat Analysis	Test	Exan	Testi be D	Remarks
H.8.4.5(h)	Shutoff devices - hydraulic characteristics						
(i)	Draining of water supply system						
(j)	Access for inspection and servicing						
11.8.4.6	Pressure control of pump supplies						
11.8.4.7	Metering of water supply	<u> </u>					
H.8.4.8	Pressure and temperature indicators, and control devices	-					
11.8.4.9	Standby power and duplex equipment - sewage, areaway storm water and subsoil water below sewer						
11.8.4.10	Standby power and duplex equipment - water supply						
H.8.5.1	Freeze protection						
н.8.6.1	External corrosion protection - piping						
11.8.6.2	Internal " " "						
н.8.6.3	" - equipment						
	Intercept H.8 continued on next page						

	stem Producer:		ategor			gory II	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM
	ntercept: H.8 (Continued)		Plans & Specs. & Documentation			sical nents	Legend
		Review of Plans/Specs.	Computations / Analysis	Test Data/ Industry Cert.	Examination	٥	Ma -Material H -Housing Unit C -Component H5 -Housing System M -Module -Completed
Criteria		iew ns/S	nput alysi	Dat Datry	Ė	Testing to be Done	(symbol circled)
Number	Subject	Rev	Con	Tes	Exa	Tes	Remarks
11.8.6.4	Staining by water supply						
11.8.6.5	Minimize electrolysis and particulate deposition						
11.8.6.6	Maximum water pipe velocities						
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Building Typ	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: I.1 Mechanical Equipment, Appliances/Structural Serviceability Criteria		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of vsical ments	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
			Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)	
Number	Subject	Review of Plans/Specs.	P G	Tesi	Š	Test	Remarks	
1.1.1.1	Mechanical equipment to accommodate structure deflection							
I.1.2.1	Vibrations caused by mechanical equipment							
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Housing Sys	tem Producer:		ategor			gory II	SUMMARY FORM FOR
	ntercept: 1.2 Mechanical Equipment, Appliances/Structural		Evaluation of Plans & Specs. & Documentation			sical nents	TESTING AND ANALYSIS PROGRAM Legend
	Safety	of Secs.	Computations/ Analysis	Test Data/ Industry Cert.	ion		Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed
Criteria		Review of Plans/Specs.	mputc alysis	t Date	Examination	Testing to be Done	(symbol circled)
Number	Subject	8 8	ο¥	Tes Ind	-X	Tes	Remarks
I.2.1.1	Structural failure caused by mechanical equipment/failure of inserts and hangers						
1.2.2.1	Structural failure caused by installation of mechanical equipment						
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Building Typ	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: 1.3 Mechanical Equipment, Appliances/Health and		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of sical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
Criteria	Safety	Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma -Material H -Housing Unit C -Component HS -Housing System	
Number	Subject	æ ₽	S &	Tes	Ä	Tes	Remarks	
1.3.1.1	Heating and cooling system - conformance to recognized safety standards							
I.3.1.2	Guarding of operating equipment							
1.3.1.3	Marking of exposed connections							
I.3.1.4	Protection from hot pipes							
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Housing Sys	tem Producer:	C	ategor	y I	Cate	gory II	SUMMARY FORM FOR
	e: Multifamily Low Rise (Guide Criteria Vol. II)	Evaluation of Plans & Specs. Safety			Evaluation of Physical		TESTING AND ANALYSIS PROGRAM
Intercept: I	.4 Mechanical Equipment, Appliances/Fire Safety					nents	Legend
		ß	ons/	ert.	5		Ma - Material H - Housing Unit C - Component HS - Housing System
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module -Completed (symbol circled)
Number	Subject	Re Pe	S &	Tes	ă	Tes	Remarks
1.4.1.1	HVAC - safe materials and assemblies						
I.4.1.2	Protected openings						
I.4.1.3	Vertical risers and access doors in protected shafts	-					
I.4.1.4	Smoke detecters: smoke dampers, alarm, fan shutoff						
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Housing Syst	em Producer:		ategor	-	Cate	gory II	SUMMARY FORM FOR
Building Typ	Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: I.5 Mechanical Equipment, Appliances/Acoustic Environment		Evaluation of Plans & Specs.			ation of	TESTING AND ANALYSIS PROGRAM
			& Documentation		Elements		Legend Ma -Material H -Housing Unit C -Component HS -Housing System
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	C -Component HS -Housing System M -Module -Completed (symbol circled)
Number	Subject	Revi	Com	Test	Exar	Testi be D	Remarks
I.5.1.1(a)	Mechanical equipment/NC requirement						
(b)	" /noise reduction	·					
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Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: I.6 Mechanical Equipment, Appliances/Illuminated		Category 1 Evaluation of Plans & Specs. & Documentation			Evalue Phy	gory II ation of sical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria			Computations/ Analysis	ata/ iry Cert.	Examination	g to	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)
Number	Subject	Review of Plans/Specs.	Comp Analy	Test Data/ Industry Ce	Exam	Testing to be Done	Remarks
1.6.1.1	Lighting of equipment rooms						
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Housing Syste	em Producer:	Co	ategory	/ I	Cate	gory II	SUMMARY FORM FOR	
	e: Multifamily Low Rise (Guide Criteria Vol. II)	Evaluation of Plans & Specs.			Evaluation of Physical		TESTING AND ANALYSIS PROGRAM	
Intercept: I.	7 Mechanical Equipment, Appliances/Atmospheric						Legend	
. <u> </u>	Environment	. S.	tions/	Cert.	ion		Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed	
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module -Completed (symbol circled)	
Number	Subject	Pe P	S &	Tes	Ä	Tes be	Remarks	
I.7.1.1	Provide heating and/or cooling							
I.7.1.2(a)	Capacity to maintain 75 degrees F	<u> </u>						
(b)	Automatic control	ļ				<u> </u>		
(c)	Temperature and velocity variation	ļ						
(d)	Relative humidity control	<u> </u>			<u> </u>			
(e)	Air filtration	<u> </u>			<u> </u>			
(f)	Duct leakage							
I.7.1.3	Multiple heat generators	<u> </u>						
I.7.1.4	Stand-by heating source	<u> </u>						
1.7.1.5	Auxiliary components					<u> </u>		
I.7.2.1	Prevent condensate on a/c supply duct							
1.7.3.1	Control humidity in high humidity areas			<u> </u>				
					<u> </u>			

Building Typ	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: I.8 Mechanical Equipment, Appliances/Durability/		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of sical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
Criteria	Time Reliability (Function)	Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)	
Number	Subject	Plan	Com	Test	Exan	Testii be D	Remarks	
1.8.1.1	Duct performance requirements							
I.8.1.2	Damage to adjacent elements caused by ducts							
1.8.2.1	HVAC - reliable operation							
I.8.2.2	" - ease of maintenance							
1.8.3.1	Elevator capacity, speed, etc.	<u> </u>						
1.8.3.2	" safety							
1.8.3.3	" operation on emergency power							
I.8.3.4	" emergency fire operation	<u> </u>						
I.8.4.1(a)	Range/oven - capacity and function	<u> </u>						
(b)	" - safety			<u> </u>				
(c)	" - durability and maintainability				<u> </u>			
(d)	" - appearance	<u> </u>		ļ				
I.8.5.1(a)	Refrigerator - capacity and function			ļ				
(ь)	" - safety		ļ		ļ	ļ		
(c)	durability and maintainability	-				ļ		
	Intercept I.8 continued on next page	<u> </u>	<u> </u>		<u></u>			

Building Type	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: I.8 (Continued)		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of vsical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)
Number	Subject	~ <u>~</u>	Ŭ 4	卢드	<u> </u>	ق تــ	Remarks
I.8.5.1(d)	Refrigerator - appearance	<u> </u>					
(e)	" - noise and vibration						
1.8.6.1	Garbage and trash systems						
1.8.6.2	Chute-type garbage and trash system						
1.8.6.3	Garbage and trash - no incineration						
1.8.6.4	" - compaction						
1.8.6.5	" " - fire resistant room, etc.						
1.8.6.6	" " ' - impact resistance						
1.8.7.1	Mechanical equipment - function and adequacy						
I.8.7.2	" - safety						
1.8.7.3	" - air pollution						
I.8.7.4	" - noise and vibration						
I.8.7.5	" - structural service-						
I.8.7.6	ability and safety Mechanical equipment - durability and reliability						
I.8.7.7	Mechanical equipment - maintainability						

Building Ty	ousing System Producer: uilding Type: Multifamily Low Rise (Guide Criteria Vol. II) stercept: J.1 Power, Electrical Distribution,		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of sical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
Criteria	Communications/Structural Serviceability	Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)	
Number	Subject	Rev	P or	Tes Indi	Exa	Tes be	Remarks	
1.1.1	Settlement - effect on powerlines							
								
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Building Typ	ing System Producer: ing Type: Multifamily Low Rise (Guide Criteria Vol. II) cept: J.2 Power, Electrical Distribution,)	Evaluation of Plans & Specs. & Documentation Eleme			Evalue Phy	sical	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
Criteria .	Communication				Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)
Number	Subject	. •			Revie	Comp	Test	Ехан	Testir be D	Remarks
7.2.1.1	Power elements	- effect on	structural	safety						
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Building Ty	ousing System Producer: uilding Type: Multifamily Low Rise (Guide Criteria Vol. II) ntercept: J.4 Power, Electrical Distribution,		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of rsical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria	Communications/Fire Safety	Review of Plans/Specs.	mputations, ralysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)
Number	Subject	P. R.	8 g	Te Te	Ä	D e	Remarks
J.4.1.1	Conduit and outlets						
J.4.1.2	Recessed electric cabinets						
J.4.2.1	Automatic smoke detection						
J.4.2.2	Continuous sounding alarm devices						
J.4.2.3	Municipal fire alarm initiation						
J.4.3.1	Exit illumination, emergency lighting						
J.4.3.2	Exit signs						
J.4.4.1	Lightening protection			Ŀ			
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Housing Sys	tem Producer:		ategor	<u> </u>	Cate	gory II	SUMMARY FORM FOR
Building Typ	De: Multifamily Low Rise (Guide Criteria Vol. II) S Power, Electrical Distribution,	Pla	aluations & S ocumer	pecs.	Phy	ation of rsical	TESTING AND ANALYSIS PROGRAM Legend
. <u></u>	Communications/Acoustic Environment		Computations/ Analysis	Cert.	E		Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed
Criteria		Review of Plans/Specs.	nputa slysis	Test Data/ Industry Cert.	Examination	Testing to be Done	(symbol circled)
Number	Subject	Piev Piar	Con	Test	Exa	Test	Remarks
J.5.1.1(a)	Power, electrical distribution and						
	communications - NC requirements						
(b)	Power, electrical distribution and communications - noise reduction						
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Housing Syst	tem Producer:	Co	ategor	y I	Cate	gory II	SUMMARY FORM FOR
Building Typ	e: Multifamily Low Rise (Guide Criteria Vol. II)	Plan	valuation of ans & Specs.		Ph	ation of ysical	TESTING AND ANALYSIS PROGRAM Legend
Intercept: J.	<pre>8 Power, Electrical Distribution, Communications/Durability/Time Reliability (Function)</pre>		<u> </u>	Cert.	-	ments	Ma - Material H - Housing Unit C - Component HS - Housing System
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module — -Completed (symbol circled)
Number	Subject	Rev	Con	Test	Exa	Test be l	Remarks
J.8.1.1	Main breaker capacity						
J.8.1.2	" - conformance to N.E.C.						
J.8.2.1(a)	Power characteristics						
(b)	Electrical distribution system - characteristics						
(c)	Electrical distribution system - capacity						
(d)	" - safety						
(e)	" - durability	<u> </u>					
J.8.2.2	Emergency power - distribution						
J.8.3.1	" electric power - need						
J.8.3.2	" - automatic						
. :	initiation						
J.8.3.3	Emergency electric power - items to be powered						
J.8.3.4	" - 96-hour operation				-		
J.8.3.5	" - periodic check						
	Intercept J.8 continued on next page						

Building Ty	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: J.8 (Continued)		Evaluation of Plans & Specs. & Documentation			gory II ation of sical ments	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria		Review of Plans/Specs.	nputations/ alysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)
Number	Subject	Rey	Co.	Tes	Exa	De de	Remarks
J.8.3.6	Emergency electric power - conformance to mechanical equipment requirement	Control for Shallow	gerendelskanderig augspelije Terrendelskanderige	A Company of the Comp			
J.8.4.1	Telephone wiring						
J.8.4.2	" - compatibility with local						
J.8.6.1	Master TV signal distribution						
J.8.6.2	" " " - capacity						
J.8.6.3	" - construction						
J.8.6.4	" " " - durability					11	
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Building Type	System Producer: Type: Multifamily Low Rise (Guide Criteria Vol. II) K.1 Lighting Elements/Structural Serviceability		Category I Evaluation of Plans & Specs. & Documentation Elements			ation of	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)
Number	Subject	Pe e	A G	Tes	Exo	Tes	Remarks
K.1.1.1	Lighting elements - ceiling damage	Í				Ì	
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Building Typ	ling Type: Multifamily Low Rise (Guide Criteria Vol. II) cept: K.2 Lighting Elements/Structural Safety			y I n of pecs. tation	Evalue Phy	gory II ation of sical	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria		Review of Plans/Specs.	nputations/ alysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)
Number	Subject	Pa P	Co	Tes	ξx	Tes	Remarks
K.2.1.1	Lighting elements - strength of connections		A WANTE OF	anide (Adella, California e A			
		-					

Building Ty	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II)		ategor aluation as & S	of oecs.	Categ Evalua Phys	tion of	SUMMARY FORM FO TESTING AND ANALYSIS PROGRAM Legend
Intercept: K.4 Lighting Elements/Fire Safety		& Documentation Elements			Ma - Material H - Housing Unit C - Component HS - Housing System		
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	M -Module -Completed (symbol circled)
Number	Subject	P. P	Con	Tes	Ë	Tes be	Remarks
.4.1.1	Lightening Fixtures - fire hazard		-				
(.4.2.1	" - flame spread						
(.4.3.1	" - smoke generation						
		· 					
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Building Type	dousing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: K.5 Lighting Elements/Acoustic Environment		Plans & Specs. & Documentation		Category II Evaluation of Physical Elements		SUMMARY FORM FOI TESTING AND ANALYSIS PROGRAM Legend	
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)	
Number	Subject	Revie	Com	Test Indu	Exam	Testii be D	Remarks	
.5.1.1(a)	Lighting element/NC requirement					THE STATE OF THE S		
(b)	" /noise reduction							
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Building Type	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: K.6 Lighting Elements/Illuminated Environment		Category I Evaluation of Plans & Specs. & Documentation			gory II ation of vsical nents	SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend
Criteria		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component H5 -Housing System M -Module -Completed (symbol circled)
Number	Subject	Revi	Con	Test	Exa	Test be [Remarks
K.6.1.1(a)	Lighting elements - minimum requirements		a in the later of the later.				
(b)	" - location of wall switches						
(c)	" - noise						
(d)	" - durability, maintainability						
<u> </u>							A CONTRACTOR OF THE PROPERTY O
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Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: L.3 Enclosed Spaces/Health and Safety Criteria		Category I Evaluation of Plans & Specs. & Documentation		Category II Evaluation of Physical Elements		SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)
Number	Subject	P.G.	P Q	Tes	Exa	T es	Remarks
L.3.1.1(a)	Elements causing falls						
(b)	Casualties from fires						
(c)	Heating and cooking equipment hazards	<u> </u>					
(d)	Sharp edges; pointed projections, glass doors and enclosures						
(e)	Enclosed spaces openable from inside	1	-				
(f)	Fixtures and fittings securely mounted or fastened						
(g)	Ingress of insects, rodents, etc.						
(h)	Floor surfacing						
(i)	Security from criminal activity						
(j)	Lighting to provide safety						
(k)	Projecting awnings or hoods						
	L.3 Intercept continued on next page			-	-		

Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: L.3 (Continued) Criteria		Eva	Category I Evaluation of Plans & Specs. & Documentation		Category II Evaluation of Physical Elements		SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma -Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)	
Number	Subject	8 5	9 £	T es	ă	چ م و	Remarks	
L.3.2.1(a)1	Slipperiness/floor surface							
	Change in slipperiness factor							
3	Slipperiness increases with wetting							
4	" of tuh and shower surfaces							
(b)1	Rough surfaces, carpet weaves, sills, etc.							
2	Changes in floor level							
3	Stair and balcony railings							
4	Windows: case of opening; sills, guards; cleanability							
. 5	Means of egress							
L.3.3.1	Personal security from criminal acts							

Housing Sy	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: L.4 Enclosed Spaces/Fire Safety		ategor	, I	Category II		SUMMARY FORM FOR		
			Evaluation of Plans & Specs. & Documentation		Evaluation of Physical Elements		TESTING AND ANALYSIS PROGRAM		
intercept: L							Legend		
		50	tions/	a/ Cert.	e o		Ma - Material H - Housing Unit C - Component HS - Housing System		
Criteria		Review of Plans/Specs.	Computations/ Analysis	Analysis Test Data/ Industry Ce	Examination	Testing to be Done	M -Module		
Number	Subject	8 € 2 €	S &	T es	×	Ťes be	Remarks		
L.4.C.1	Summary table/fire criteria								
L.4.1.1	Doors - self closing/automatic closing				<u> </u>	<u> </u>			
L.4.1.2	" - direction of opening				ļ	-			
L.4.1.3	" - fire resistance								
14.1.4	Exit doors/temperature rise								
L.4.2.1	Exits								
L.4.2.2	" - minimum per floor								
L.4.2.3	Stairwells								
L.4.2.4	Width of corridors and stairways					1			
L.4.2.5	Exterior balcony used as exit				ļ		•		
L.4.2.6	Stairs								
L.4.2.7	Exit doors								
L.4.2.8	" signs								
L.4.2.10	Multi-level-apartments/exits/smoke		ļ						
	detectors				1				
L.4.3.1	Maximum undivided area between fire walls								

Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: L.5 Enclosed Spaces/Acoustic Environment Criteria		Category I Evaluation of Plans & Specs. & Documentation		Category II Evaluation of Physical Elements		SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend		
		Review of Plans/Specs.	Computations/ Analysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled)	
Number	Subject	Revi	Con	Test Indu	Exa	Test be [Remarks	
L.5.1.1	Total system: enclosed space noise levels							
		-			ļ			

Building Ty	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: L.6 Enclosed Spaces/Illuminated Environment		Category I Evaluation of Plans & Specs. & Documentation		Category II Evaluation of Physical Elements		SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend	
Criteria		Review of Plans/Specs.	mputations/ alysis	Test Data/ Industry Cert.	Examination	Testing to be Done	Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled)	
Number:	Subject	1X 0	3 ई	اء <u>د</u>	ă	5 5 E	Remarks	
L.6.1.1	Admission of natural light							
L.6.2.1	Lighting elements - capacity							
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Building Ty	Housing System Producer: Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: L.7 Enclosed Spaces/Atmospheric Environment		Category I Evaluation of Plans & Specs. & Documentation			ory II stion of sical ents	SUMMARY FORM FO TESTING AND ANALYSIS PROGRA Legend
		Review of Plans/Specs.	Plans/Specs. Computations/ Analysis	a/ Cert.	on lon		Ma-Material H -Housing Unit C -Component HS -Housing System M -Module ()-Completed
Criteria			nputa	Test Data/ Industry Ce	Examination	Testing to be Done	(symbol circled)
Number	Subject	Rev	Cor	Tesi	Exa	Test be	Remarks
7.1.1	Natural ventilation of habitable room	ıs					
L.7.1.2	Mechanical ventilation requirements						
L.7.1.3	" for summer com	fort					
L.7.1.4	Prevention of air interchange between dwelling units						
L.7.1.5	Positive exhaust into common ducts se	rving					
L.7.2.1	Maximum air infiltration into living	units					
L.7.3.1	Conditioning of intake air						
				<u> </u>			

Housing Sy	ystem Producer:	C	ategor	y 1	Cate	gory !!	SUMMARY FORM FOR		
	Building Type: Multifamily Low Rise (Guide Criteria Vol. II) Intercept: L.9 Enclosed Spaces/Spatial Characteristics and Arrangement Criteria		Evaluation of Plans & Specs.			ation of ysical	TESTING AND ANALYSIS PROGRAM		
Intercept:			& Documentation		1 '	ments	Legend		
			Computations/ Analysis	ert.	5		Ma - Material H - Housing Unit C - Component HS - Housing System M - Module () - Completed		
Criteria			ilysis	Data ustry (Examination	Testing to be Done	M -Module		
Number	Subject	Rev	Review of Plans/Specs. Computations Analysis Test Data/ Industry Cert.	Exar	T lesti	Remarks			
L.9.1.1	Reference to subsequent criteria								
L.9.2.1	Living area				<u></u>				
L.9.3.1	Dining area	<u> </u>			<u> </u>				
L.9.4.1	Kitchen location]					
L.9.4.2	" space								
L.9.4.3	" light and ventilation								
L.9.4.4	" range/fire protection and safety								
L.9.5.1	Laundry spaces								
L.9.6.1	Bedroom spaces								
L.9.7.1	Bathroom spaces								
L.9.8.1	Bedroom closets			<u> </u>					
L.9.9.1	Doorways								
L.9.9.2	Habitable rooms/natural lighting and ventilation				ļ				
	ventifation								
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