

# 2026 RIHousing Development Standards - Section 3



These Development Standards (referred herein as “Standards”) aim to establish a concise and predictable process, articulate program objectives, and document Design and Construction Standards for projects developed with RIHousing funds.

This document outlines specific requirements pertaining to all developments utilizing RIHousing funds, including new construction, existing buildings undergoing renovation/rehabilitation, and those utilizing Housing Trust Funds and/or HOME Program Funds. Where there are conflicts between individual requirements within this document, with other funding source requirements, and/or with the requirements of other state, federal, and local entities, the more stringent limitation or requirement shall always prevail.

**Development Standards are organized into the following chapters:**

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# Chapter 1 – Underwriting Guidelines

RIHousing's criteria for evaluating a submitted project's financial feasibility and underwriting assumptions:

## 1.0 General Guidelines

- 1.1 Rental Developments shall be located in the State of Rhode Island.
- 1.2 All Rental Development shall meet the 20/50, 40/60 or Income Averaging Section 42(g) Set-Asides. The Income Limits shall be adjusted for family size as detailed in the Income Limits and Maximum Rents Exhibit in the Statistical Data and Forms section of this Handbook.
- 1.3 Rental Developments shall be restricted for occupancy by low-income households for a minimum of 30 years.
- 1.4 Rental Developments shall provide a permanent structure for year-round residential use with rental units used on a permanent or transitional basis (non-LIHTC units only).
- 1.5 Rental Developments shall make all units available to the general public in accordance with federal, state, and local fair housing laws and statutes.
- 1.6 Rental Developments shall replace all existing deed-restricted affordable units being demolished on a one-for-one basis.
- 1.7 Rental Developments shall comply with applicable federal, state, and local building and health codes.
- 1.8 Rental Developments shall satisfy all other guidelines for the various resources that are made available. Where conflicts exist between requirements, the more stringent shall apply.

## 2.0 Affirmative/Action EEO Statement: RIHousing is committed to a policy of nondiscrimination in all fields and phases of employment

- 2.1 RIHousing maintains a strong commitment to goals established for affirmative action and equal employment opportunities for MBE/WBE businesses and workforce utilization. RIHousing will monitor developments for compliance with these goals.
- 2.2 All developments receiving funding or award of tax credits from RIHousing are required to maintain goals to (a) award at least 10% of the total construction contract dollar amount to MBEs/WBEs and (b) ensure that at least 10% of labor hours for all trades are performed by minorities and women.
- 2.3 At all times, Developers are encouraged to exceed the minimum hiring goals set by RIHousing. Note that only those businesses included in the Rhode Island Department of Administration's Directory of Certified Minority and Women Business Enterprises will be recognized in measuring the goals.

## 3.0 Costs Incurred in Submitting Proposals

- 3.1 RIHousing will not be responsible or liable in any manner for costs incurred by Developers in preparing a funding application.

- 3.2 RIHousing reserves the right to reject any or all proposals submitted and to announce additional criteria for program funds at a future date.
- 3.3 All proposals submitted by Developers shall become the property of RIHousing.
- 3.4 Predevelopment Loans for nonprofit developers may be available from RIHousing to assist in structuring proposals for financing.

#### **4.0 Total Development Costs**

- 4.1 RIHousing has developed Total Development Cost (TDC) caps by building type. The TDCs are outlined in the current Program Bulletin located in Section 9 of the Developer's Handbook.
- 4.2 To ensure that applicants are submitting realistic pricing for their proposals, if allocated LIHTC, the first 10% of construction cost overruns over and above the preliminary budget, will be absorbed by a like reduction in paid developer fee before any additional LIHTC or soft funds will be allocated to the project.

#### **5.0 Construction Costs**

- 5.1 Square foot costs are to be based on building gross square footage calculated to the outside face of exterior wall surfaces for all finished spaces. The following percentage of partial areas will be used: Garage = 2/3 of area; Unenclosed Porch = 1/2 of area; Enclosed Porch = 2/3 of area; Unfinished Basement = 1/2 of area; Canopies = 1/4 of area; and Two-story room = 1 1/2 of area.
- 5.2 Finished attics, where headroom is 5' or more, will be calculated at 100% of area. Unfinished attics will be excluded.

#### **6.0 Bidding**

- 6.1 Competitive bidding for a development will be required in most situations. In certain situations, RIHousing reserves the right to allow a negotiated bid if a strong argument can be made that it is cost-effective and will greatly assist the development. If, under a negotiated bid scenario, the cost of construction increases more than 10% after Preliminary Approval, the construction shall be put out to bid. Line-item bid results are to be provided for all negotiated contracts.
- 6.2 Recipients shall submit a project management plan with their application that outlines how the project will be managed (e.g. General Contractor (GC) competitive bid process using an AIA A101 Stipulated Sum Agreement or General Contractor (GC) open book, negotiated bid process using AIA A102 COST PLUS FEE with GMP agreement). Any changes to the project management operational structure that substantially varies from the plan provided to RIHousing at the time the funding is awarded requires prior notification to RIHousing staff.
- 6.3 RIHousing recognizes that in limited instances, stringent local code requirements, difficult site conditions, and/or special design considerations may necessitate costs in excess of the ranges established. In such instances, Developers will be required to justify higher costs by identifying and quantifying specific cost factors. Any deviation from ranges shall be explained in writing and a waiver shall be submitted to RIHousing for review. Developers should note that one factor considered in awarding a reservation of tax credits is the cost of construction on a project, unit and per square foot basis.

- 6.4 Developers whose proposal includes a community center as part of the development scope should separate the costs of that facility from the residential expenses. [NOTE: The term residential rental property includes any facilities that are functionally related and subordinate to the property. For example, swimming pools, parking lots and community rooms are considered residential rental property, may be included in eligible basis, and may generate tax credits for the owners of an affordable low-income property if no fee is charged.]
- 6.5 In mixed-income developments, if the cost of non-low-income units exceeds the cost of a low-income unit (using the average square foot cost and assuming the same size) by more than 15%, the entire cost of the non-low-income unit shall be excluded from the building's eligible basis.
- 6.6 Developments shall demonstrate that the lowest possible fixed-price contract has been obtained for the approved scope of work.

## **7.0 Architectural Fees**

- 7.1 Allowable fees are outlined in the current Program Bulletin.
- 7.2 Architectural fees shall be calculated based on RIHousing's published fee percentages multiplied by the total construction cost, not including contingency, and shall be negotiated as a fixed price contract with reimbursable expenses included within this fee.
- 7.3 Architectural fees shall include all Mechanical, Plumbing, Electrical, Equipment and Structural Engineering fees as well as Civil Engineering and Landscape Architect fees for projects requiring minimal site design such as scattered site city lots or small infill lots.
- 7.4 Civil Engineering and Landscape Architect fees for large-scale developments with extensive road and utility improvements shall also be reviewed and approved by RIHousing. These fees will be assessed on a case-by-case basis and must be negotiated as fixed-price contracts with reimbursable expenses included as part of the fee.
- 7.5 Architectural fees for developments that have limited scopes of work or are moderate rehabilitation in nature shall be assessed on a case-by-case basis.
- 7.6 Architectural, Civil Engineering, and Landscape Architect Fees shall be charged at a maximum of 80% for design and 20% for construction administration.
- 7.7 All Architectural, Civil Engineering, Landscape Architect, and Design Consultant Contracts shall be reviewed and approved by RIHousing. All architectural firms executing contracts with borrowers/developers shall be licensed in the State of Rhode Island.
- 7.8 Notwithstanding any agreement to the contrary, contracts that exceed RIHousing's fee requirements will be the sole responsibility of the developer.

## **8.0 Bond Premium**

- 8.1 Rates are outlined in the current Program Bulletin in Section 9 of the Developer's Handbook.

## **9.0 General Contractor Fees**

9.1 Allowable fees are outlined in the current Program Bulletin in Section 9 of the Developer's Handbook.

## **10.0 Clerk of the Works**

10.1 Developers who wish to use a Clerk of the Works for the duration of the construction period may do so if they demonstrate the value this will add to the development. The Clerk of the Works' qualifications, resume, and contract shall be reviewed and approved by RIHousing.

10.2 Allowable fees are outlined in the current Program Bulletin in Section 9 of the Developer's Handbook.

## **11.0 Base Developer Fee**

The amount of the base developer fee will be calculated as per the current Program Bulletin with the following exceptions:

11.1 The per-unit developer fee for SRO, moderate rehabilitation, and Assisted Living properties will be determined case-by-case.

11.2 Developer fee for acquisition-only developments will be calculated at a maximum of 5% of the acquisition price.

11.3 Timing of fees: Up to 25% of the approved base developer fee may be paid at closing, provided that the remaining deferred and non-deferred fee is pledged to RIHousing unconditionally and irrevocably as a cost overrun/completion guarantee. To the extent that the assignment of the remaining developer fee is conditional or revocable, the allowable fee paid at closing may be reduced commensurably.

11.4 Developer fee calculated by the RIHousing proforma or through formula is a maximum fee. The actual developer fee earned by a developer is subject to adjustment by RIHousing based upon the development cost of a project, the availability of resources, and the financial contribution made by the developer.

## **12.0 Deferred Developer Fee**

12.1 Deferred Developer fee will be recognized by RIHousing to the extent such fees are pledged to cover development costs approved by RIHousing.

## **13.0 Development Consulting Fees**

13.1 Development consulting fees shall be paid by the developer from the approved developer fee and will be subject to the same restrictions as the developer fee.

## **14.0 Legal Fee Guidelines**

- 14.1 Developers should consider negotiating a maximum price with their legal counsel(s).
- 14.2 Any request for an increase in this amount is subject to review and approval by RIHousing.

## **15.0 Income Targeting and Long-Term Affordability Provisions**

- 15.1 All proposals shall include affordability provisions for a minimum of thirty years.
- 15.2 Developments targeting families at lower income levels than required by a particular funding source or that are serving a special needs population or homeless persons are a priority.

## **16.0 Calculation of Rent Levels**

- 16.1 Proposals with Project-Based Rental Assistance: Evidence of the award of the rental assistance should be included with the application. If the rental assistance contract term is less than the terms of the First Mortgage, a thirty-year operating projection shall be submitted demonstrating how affordability will be preserved following the expiration of the contract. RIHousing will require FHA Risk Sharing Insurance for such proposals.

Note that under the FHA Risk Sharing Program, maximum first mortgage loans will be limited to the lesser of (1) an amount supportable by the actual Section 8 contract rent, or (2) an amount supportable by rent levels for comparable, unassisted units in the market locale.

- 16.2 Proposals without Project-Based Rental Assistance: Rents for units to be occupied by low-income persons will be limited to the specific requirements of the funding sources requested. Income Limits and Maximum Rents are updated annually and can be found on our website. [www.rihousing.com](http://www.rihousing.com)
- 16.3 The maximum rents for each program include an allowance for RIHousing approved utility allowances. Utility Allowances are updated annually and can be found on our website. [www.rihousing.com](http://www.rihousing.com)
- 16.4 Market Rate Units: Rent levels for market-rate units will be determined by RIHousing through analysis of market comparables, local demographics, and market conditions based on a RIHousing commissioned appraisal and/or market study for the property.

## **17.0 Financing Fees**

- 17.1 RIHousing will assess financing fees as outlined in the current Program Bulletin and Term Sheets in this Developer's Handbook, which are specific to the Loan type.

## **18.0 Subsidy Layering**

- 18.1 All developments that receive LIHTC and at least one other source of government assistance will be subject to the subsidy layering review guidelines of Section 911 of the Housing and Community Development Act of 1992. These requirements are designed to ensure that developers of affordable multifamily housing do not receive excessive compensation by combining various HUD housing assistance programs with assistance from other federal, state, or local agencies. RIHousing typically performs this subsidy layering review function for HUD. Please note that developments receiving

either HOME funds or Housing Trust Funds will be subject to subsidy layering reviews established by each program instead of the Section 911 review process.

## **19.0 Syndication Proceeds**

- 19.1 Developers shall provide a signed Letter of Intent, no older than 60 days, with a syndicator prior to Firm Commitment. The LOI shall, at a minimum, contain information regarding project information, capital contributions cost per credit, reserve requirements, cash flow waterfall, adjusters, operating guarantees, and guarantors.
- 19.2 RIHousing will work with the developer and the syndicator to agree on a mutually acceptable schedule for capital contribution payments.

## **20.0 Capital Improvements to Existing Affordable Housing Developments**

- 20.1 RIHousing will consider proposals for capital improvements to existing affordable housing developments. In such cases, the Developer should be prepared to demonstrate what they will contribute to cover the cost of these improvements (including but not limited to development reserves, excess cash flow, pledged management fees, grants, or second mortgage loans) before requesting a contribution from RIHousing in the form of forbearance, an interest rate reduction on an existing RIHousing mortgage and/or Tax Credit Allocation. Wherever possible, the Developer is encouraged to consider the use of Tax-Exempt financing and 4% LIHTC for capital improvements to existing affordable housing.

## **21.0 Expense/Revenue Terms**

- 21.1 **Operating Expenses:** Operating expenses will be determined on a case-by-case basis based on each development's unit mix, building type, systems and components, location, expected vacancy and turnover rates, management agent, and management plan. Specific operating expense ranges can be found in the Program Bulletin in Section 9 of the Developer's Handbook.
- 21.2 **Trending Rates:** Trending rates for rental income and operating expenses will be determined on a case-by-case basis based on each development's location, marketability, proposed rent levels, development design, and amenities.
- 21.3 Income will be trended at an annual rate of 2%, and operating expenses will be trended at an annual rate of between 3%.
- 21.4 **Vacancy Rates:** Residential vacancy rates used in underwriting will be determined on a case-by-case basis in relation to each development's location, marketability, proposed rent levels, development design, and amenities.
- 21.5 In general, residential vacancy rates of between 5% and 7% will be employed for both low-income and market-rate units.
- 21.6 For developments containing commercial space, the greater of 10% or actual market vacancy rates will be applied to any commercial income used to support debt and/or development operations.

## **22.0 Required Development Reserves**

- 22.1 First-Year Insurance and Tax Escrows: Initial deposits to insurance and tax escrows shall be included as part of the overall development budget. RIHousing requires capitalization of 6 months of estimated insurance and tax payments. The initial deposit amounts may be adjusted depending on when monthly deposits to the escrow accounts are expected to commence.
- 22.2 Replacement Reserves: Required deposits to replacement reserves will be determined on a case-by-case basis. In general, annual replacement reserve deposits will be a minimum of \$325 per unit per year. Initial deposits to the Replacement Reserve will be, at a minimum, equal to one year of annual deposits for new production and \$2,000 per unit for preservation transactions. RIHousing reserves the right to increase the required initial deposit or the annual reserve contribution over the term of the loan based on underwriting. Typically, withdrawals from the replacement reserve account will not be considered until the total balance in said account has reached \$2,000 per unit.
- 22.3 Rent-Up/Absorption Reserve: A cash flow analysis will be completed to estimate anticipated operating losses incurred during the rent-up period (i.e., prior to stabilized occupancy). The cash flow will be based on the appraisal, market study, information submitted by the Developer, and analysis by RIHousing staff. If losses are anticipated, the developer shall provide cash or an irrevocable letter of credit (LOC) as security to cover anticipated losses and shortfalls in meeting the debt service coverage requirements. RIHousing staff shall approve all LOCs.
- 22.4 Operating Reserve: For new production transactions, borrowers will be required to capitalize at construction completion, an operating reserve equal to six months of operating expenses plus six months first mortgage debt service. For preservation transactions, the Operating Reserve is equal to six months of operating expenses plus six months first mortgage debt service minus the deposit into the Replacement Reserve. Fully funded operating reserves will be held by RIHousing for the term of the first mortgage to cover any potential shortfalls in revenues or to cure any operating defaults of the development.

## **23.0 Property Operations Terms**

- 23.1 Property Management: During development operations, RIHousing will review the annual development budget to ensure that adequate funds are available to maintain the development at the required debt service coverage. An annual audit will be required of the owner, and periodic property inspections and reviews of tenant files will be performed by RIHousing. RIHousing reserves the right to require the replacement of the management agent for all developments financed by RIHousing.
- 23.2 Certification of Tenant Income: Unless a recertification Waiver 8877 has been granted by the IRS, a Certificate of Continuing Program Compliance declaring compliance with IRS regulations and requirements shall be filed annually with RIHousing. Developers or owners shall submit to the Secretary of Treasury an annual certification evidencing compliance with the low and moderate-income set-aside requirements.
- 23.3 A certification of lead-safe housing shall be maintained on file for review by RIHousing staff during its physical inspection of the development.

## **24.0 Other Underwriting Terms and Considerations**

- 24.1 Underwriting Rates: RIHousing establishes mortgage interest rates for applications and underwriting purposes and updates them periodically via Program Bulletin.
- 24.2 Actual Rates: The actual interest rate applied to any mortgage loan offered by RIHousing will be determined at the time of the final loan commitment and can be higher or lower than the underwriting rate. RIHousing will address the impact on development feasibility of any variance between the underwriting rate and the actual rate on a case-by-case basis.
- 24.3 Risk Share: Following Preliminary Approval, RIHousing will assess the proposed development's risk and determine the level of HUD mortgage insurance (if any) required. If it is determined that Level II Risk Sharing insurance is required, the interest rate used for underwriting may be adjusted accordingly. Risk Share Guidelines are outlined in a Term Sheet included in Section 12 of the Developer's Handbook.
- 24.4 Credit Enhancement/Additional Fees: The Developer may be required to pay additional fees or post additional letters of credit when these are required by bond insurers and financial institutions that are providing credit for RIHousing's bonds.
- 24.5 Cost of Bond Issuance and Underwriter's Fees: Developers are responsible for the full cost of all Bond Issuance and Underwriter's Fees ("COI"). COI is an eligible project expense. Typically, the COI is paid in a lump sum at closing.
- 24.6 Acquisition Cost Limit: Approved acquisition costs will be limited to the lesser of the last actual arms-length transfer cost (including any carrying costs approved by RIHousing) or the acquisition value as determined by an independent appraisal commissioned by RIHousing.
- 24.7 Appraisal: Prior to firm commitment, an independent appraiser will be retained by RIHousing to determine the as-built fair market value of the property and to verify rent levels, marketability, and the rent-up/absorption period for the proposed development. The developer is responsible for paying the appraisal fee, which is an eligible financing expense. For developments involving the acquisition of property, an "as-is" valuation will also be required.
- 24.8 Market Analysis: RIHousing may require a comprehensive market study of the housing needs of low-income individuals served by the development. This market study will be commissioned by RIHousing and conducted by an independent party at the developer's expense. These costs may be reimbursed to the developer at the time of loan closing.
- 24.9 Market Study: For any development receiving LIHTC, a market study is required by law.
- 24.10 Commercial Space: For development proposals to be financed with taxable bonds, no more than 25% of the total square footage may be used for commercial purposes. Generally, no more than 3% of tax-exempt bond proceeds may be used to cover costs of developing commercial space. If included in the LIHTC partnership, all income from commercial space shall be guaranteed by a third-party master lease and a guarantee in an amount and form acceptable to RIHousing.
- 24.11 Applicants shall provide a commitment of financing for the commercial development regardless of whether the commercial space is part of the development or part of a separate ownership structure (i.e. a condominium).

- 24.12 Scattered Site Developments: Proposals for developments located on non-contiguous parcels of land are acceptable. For scattered site developments financed with tax-exempt bonds, each building on a non-contiguous parcel shall meet the applicable "20/50" test or "40-60" test.
- 24.13 Off-Site Improvements: Off-Site improvements are not eligible development expenses.
- 24.14 Debt Service Coverage: A minimum of 115% debt coverage is required on the first mortgage for 9% HTC deals. Tax-exempt bond financed developments will be underwritten at debt coverage of 120% with risk analysis enabling a higher or lower coverage ratio. Assisted Living Developments will be underwritten at higher ratios depending upon risk.
- 24.15 Loan to Value: The maximum allowable loan to value for all first mortgages is 90%. The final loan amount will be the lesser of (a) the maximum allowable loan to value or (b) the amount supportable by service coverage.
- 24.16 Equity: A minimum of a ten percent (10%) cash equity contribution will generally be required. If RIHousing is providing a construction loan, a minimum of fifteen percent (15%) cash equity contribution will be required.

Equity is defined as funds contributed by the general or limited partner(s) to pay approved development costs, but not including funds provided through state or federally funded programs. It may include cash, private charitable contributions, or syndication proceeds. In general, a maximum annual return on equity equal to the average yearly yield on thirty-year treasury bonds for the preceding calendar year plus 5% will be payable to the owner from surplus cash available after payment of debt service, operating expenses, required reserves, and required repayment of Deferred Payment Loan Funds (if applicable).

- 24.17 Secondary Financing: In general, soft second financing shall be fully subordinate to the RIHousing first mortgage, with no right of acceleration or foreclosure and payable only from surplus cash flow.
- 24.18 Minimum Rehabilitation costs for Tax Exempt Financing: Developments using tax-exempt financing shall include a minimum rehabilitation cost of at least 15% of the acquisition cost. Nonprofit mortgagors are exempt from the minimum rehabilitation requirements. Most development costs are eligible for funding under the first mortgage except: initial operating deficit reserves or other working capital, capitalized loan interest for the rent-up period, commercial space including commercial kitchens, syndication costs, and some legal expenses. Costs expended prior to a reservation of funds by the RIHousing Board of Commissioners are also ineligible and shall be funded from equity or a taxable capital source.
- 24.19 Construction Financing Only Proposals: RIHousing will consider construction financing for multifamily developments that obtain permanent take-out financing from other sources. Such proposals shall meet the program objectives outlined in this Handbook. In addition, the terms and conditions of the take-out financing shall be satisfactory in all respects to RIHousing.

## 25.0 Title

- 25.1 Title and Recording Fees: Borrowers are required to provide a Lender's Title Policy. Borrowers are responsible for all costs and fees associated with title and recording. By state law, there are no recording fees charged on documents recorded by or for the benefit of RIHousing.

# Chapter 2 – Regulation Compliance

All work shall comply with applicable Federal, State, and local codes, ordinances, and zoning requirements. Projects shall be designed by licensed professionals per the Rhode Island Rules and Regulations for Design Professionals <https://bdp.ri.gov/>. Architects, Engineers, and other design professionals shall be registered and/or licensed in the State of Rhode Island and shall ensure full compliance with all the applicable Federal, State and local codes, ordinances, and zoning requirements.

While this Chapter aims to aid development teams in verifying applicable requirements, development teams are expected to conduct their due diligence to verify the full scope of applicable federal, state, and local requirements for their project. Given the normal course of regulation revision cycles, and routine website updates, this list of items may become outdated, and the development team shall ensure that full compliance is achieved with all applicable requirements. The Rhode Island Department of State maintains a list on its website of applicable regulations for the Building Code Commission, Fire Safety Code Board of Appeal and Review, and Department of Labor and Training. <https://www.sos.ri.gov/divisions/open-government-center/rules-and-regulations/building-and-fire-codes>

Note – The State of Rhode Island has recently adopted the 2024 International Energy Conservation Code (IECC).. It is anticipated that RNC Tier standards will be modified in the near future accordingly.,

## **Regulations Promulgated by the Building Code Commission:**

- o RISBC-1 Rhode Island Building Code – 510-RICR-00-00-1  
Incorporates the International Building Code – 2018 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/510-00-00-1>
- o RISBC-2 Rhode Island State One- and Two-Family Dwelling Code – 510-RICR-00-00-2  
Incorporates the International Residential Code – 2018 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/510-00-00-2>
- o RISBC-3 Rhode Island Plumbing Code – 510-RICR-00-00-3  
Incorporates the International Plumbing Code – 2018 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/510-00-00-3>
- o RISBC-4 Rhode Island Mechanical Code – 510-RICR-00-00-4  
Incorporates the International Mechanical Code – 2018 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/510-00-00-4>
- o RISBC-5 Rhode Island Electrical Code – 510-RICR-00-00-5  
Incorporates the National Electrical Code – 2020 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/510-00-00-5>
- o RISBC-6 Rhode Island Property Maintenance Code – 510-RICR-00-00-6  
Incorporates the International Property Maintenance Code – 2018 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/510-00-00-6>
- o RISBC-8 State of Rhode Island Energy Conservation Code – 510-RICR-00-00-8  
Incorporates the International Energy Conservation Code – 2018 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/510-00-00-8>

- o [RISBC-9 Enforcement and Implementation Procedure](https://rules.sos.ri.gov/regulations/part/510-00-00-9) – 510-RICR-00-00-9  
<https://rules.sos.ri.gov/regulations/part/510-00-00-9>
- o [RISBC-10 Code Interpretations](https://rules.sos.ri.gov/regulations/part/510-00-00-10) – 510-RICR-00-00-10  
<https://rules.sos.ri.gov/regulations/part/510-00-00-10>
- o [RISBC-11 Rhode Island Certification of Building Officials, Building, Electrical, Plumbing and Mechanical](https://rules.sos.ri.gov/regulations/part/510-00-00-11) – 510-RICR-00-00-11  
<https://rules.sos.ri.gov/regulations/part/510-00-00-11>
- o [RISBC-12 New Materials, Devices or Methods of Construction](https://rules.sos.ri.gov/regulations/part/510-00-00-12) – 510-RICR-00-00-12  
<https://rules.sos.ri.gov/regulations/part/510-00-00-12>
- o [Rhode Island Swimming Pool and Spa Code](https://rules.sos.ri.gov/regulations/part/510-00-00-14) – 510-RICR-00-00-14  
Incorporates the International Swimming Pool and Spa Code – 2018 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/510-00-00-14>
- o [RISBC-17 Public Meetings Accessibility Standard](https://rules.sos.ri.gov/regulations/part/510-00-00-17) – 510-RICR-00-00-17  
Incorporates the Uniform Federal Accessibility Standards, as published in the Federal Register, by reference  
<https://rules.sos.ri.gov/regulations/part/510-00-00-17>
- o [RISBC-18 Use of Native Lumber](https://rules.sos.ri.gov/regulations/part/510-00-00-18) – 510-RICR-00-00-18  
<https://rules.sos.ri.gov/regulations/part/510-00-00-18>
- o [RISBC-19 State Fuel Gas Code](https://rules.sos.ri.gov/regulations/part/510-00-00-19) – 510-RICR-00-00-19  
Incorporates the International Fuel Gas Code – 2018 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/510-00-00-19>
- o [RISRC-1 State Rehabilitation Building & Fire Code for Existing Structures](https://rules.sos.ri.gov/regulations/part/510-00-00-20) – 510-RICR-00-00-20  
<https://rules.sos.ri.gov/regulations/part/510-00-00-20>
- o [State Wide Permitting Fee](https://rules.sos.ri.gov/regulations/part/510-00-00-21) – 510-RICR-00-00-21  
<https://rules.sos.ri.gov/regulations/part/510-00-00-21>

#### **Regulations Promulgated by the Fire Safety Code Board of Appeal & Review:**

- o [Fire Safety Code Sections 1 through 6](https://rules.sos.ri.gov/regulations/part/450-00-00-1) – 450-RICR-00-00-1  
<https://rules.sos.ri.gov/regulations/part/450-00-00-1>
- o [RI Fire Code](https://rules.sos.ri.gov/regulations/part/450-00-00-7) – 450-RICR-00-00-7  
Incorporates the Fire Code of the National Fire Protection Association, Inc., (NFPA 1) – 2018 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/450-00-00-7>
- o [RI Life Safety Code](https://rules.sos.ri.gov/regulations/part/450-00-00-8) – 450-RICR-00-00-8  
Incorporates the Life Safety Code of the National Fire Protection Association, Inc., (NFPA 101) – 2018 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/450-00-00-8>
- o [Rehabilitation Building and Fire Code for Existing Buildings and Structures](https://rules.sos.ri.gov/regulations/part/450-00-00-9) – 450-RICR-00-00-9  
<https://rules.sos.ri.gov/regulations/part/450-00-00-9>
- o [Rhode Island Fire Alarm Code](https://rules.sos.ri.gov/regulations/part/450-00-00-10) – 450-RICR-00-00-10  
Incorporates the National Fire Alarm & Signaling Code, (NFPA 72) – 2019 Edition, by reference  
<https://rules.sos.ri.gov/regulations/part/450-00-00-10>

## **Regulations Promulgated by the Department of Labor and Training:**

- o Elevator Safety Code – 260-RICR-30-10-1  
Incorporates the American Society of Mechanical Engineers Safety Code for Elevators and Escalators (ASME) – 2013, 2015, 2016, and 2017 Editions, by reference.  
<https://rules.sos.ri.gov/regulations/part/260-30-10-1>
- o Boiler and Pressure Vessel Inspection – 260-RICR-30-10-2  
Incorporates the Code of Rules published by the American Society of Mechanical Engineers and the National Board of Boiler and Pressure Vessel Inspectors – 2017 Edition, by reference.  
<https://rules.sos.ri.gov/regulations/part/260-30-10-2>
- o Weights and Measures – 260-RICR-30-10-3 <https://rules.sos.ri.gov/regulations/part/260-30-10-3>

## **Regulations Promulgated by the Federal Government:**

- o Americans with Disabilities Act (ADA), Title II (for public entities), and Title III (for places of public accommodations) implemented at 24 CFR parts 35 and 36, and 2010 ADA Standard for Accessible Design and attendant Design Guide (DOJ) <https://www.ada.gov/law-and-regs/design-standards/2010-stds/>
- o Fair Housing Act, which states in part that covered multifamily dwellings as defined by HUD's implementing regulations of 24 CFR 100.201 must meet the design requirements of 24 CFR 100.205  
<https://www.govinfo.gov/app/details/CFR-2022-title24-vol1/CFR-2022-title24-vol1-sec100-205>  
<https://www.huduser.gov/portal//publications/pdf/fairhousing/fairfull.pdf>
- o Renovation/Rehabilitation projects, if applicable, shall comply with Section 504 of the Rehabilitation Act of 1973 implemented by 24 CFR Part 8 [https://www.hud.gov/program\\_offices/fair\\_housing\\_equal\\_opp/disabilities/sect504faq](https://www.hud.gov/program_offices/fair_housing_equal_opp/disabilities/sect504faq)
- o Uniform Federal Accessibility Standards (UFAS) for federally assisted new construction housing developments.  
<https://www.access-board.gov/aba/ufas.html>

## **Additional Regulations Applicable to Historic Buildings:**

- o Section 106 of the National Historic Preservation Act <https://www.achp.gov/protecting-historic-properties>
- o The Secretary of the Interior's Standards for Rehabilitation  
<https://www.nps.gov/subjects/taxincentives/secretarys-standards-rehabilitation.htm>
- o The Secretary of the Interior's Guidelines for Rehabilitation of Historic Buildings  
<https://www.nps.gov/crps/tps/rehab-guidelines/rehabilitation-guidelines-1997.pdf>
- o State of Rhode Island Preservation & Heritage Commission  
Scopes of work shall be reviewed and approved by RIPHC, and local Historic District Commission (if applicable). Note that RIHPHC incentives require additional review. <https://preservation.ri.gov/>

# Chapter 3 – Design and Construction Timeframe

The steps from reservation to loan closing:

**Step 1** **Schematic Design (SD) Submission:** Development teams shall submit all required Schematic Design (SD) Submission materials for RIHousing Design and Construction staff, and Underwriting staff review. Upon completion of this review, RIHousing will issue a memorandum of all required revisions or clarifications. Funding commitments will occur once all items have been addressed.

**Step 2** **Kick-off Meeting:** RIHousing will meet with the Developer, the Architect, and the General Contractor, if selected, to review the requirements of the Standards. At this meeting, RIHousing will review any conditions attached to the approval of the Schematic Design submission and the drawing/specification requirements. As part of the kick-off meeting, a detailed list of the submissions required for firm commitment and closing will be reviewed. A generic list is attached at the end of this Chapter for reference.

Note that not all listed documents may be required. It is intended that the list be edited at the kickoff meeting to meet the specifics of the project. The development team will be required to establish a time frame with specific milestones for each submission and be prepared to discuss RIHousing review timelines.

Following the reservation of funds, and the approval of the Schematic Design submission, there are three submission milestones (refer to Chapter 4 for requirements):

**Design Development (DD) – Formerly the “Design Development 50% Review”**

**90% Construction Documents (90% CD)**

**100% Construction Documents (100% CD)**

The developer may not change these final 100% CD plans without written approval from RIHousing. Any drawing or specification changes shall be submitted as addenda with changes tracked with revision clouds. Changes will require additional review and confirmation that Standards are still being met. Scope under consideration for value engineering must be submitted to and approved by RIHousing.

**Step 3** **Final Commitment:** Once a development has been designed, bids have been received, the total cost of the development has been determined, and all final commitment checklist items have been received, the proposal will be submitted to the RIHousing Board of Commissioners (“Board”) for final commitment of funds.

**Step 4** **Loan Closing:** As part of the Loan Closing, all required documents will be finalized and certified by the Architect and General Contractor as necessary.

**Step 5** **Pre-Construction Meeting:** Immediately following the Loan Closing, the Pre-construction Meeting shall be held. At the Pre-Construction Meeting, RIHousing shall review the construction process and requirements. The Owner, Architect, General Contractor, and RIHousing representative shall sign all plans and other required documents.

## List of tentative submission requirements for discussion during “Step 2” Kick-Off Meeting:

Note that items are project specific and not all listed documents may be required.

Doc ID	Document	Phase
2000	<b>Preliminary Approval Submissions</b>	
2100	<b>Architect Documents</b>	
2101	Schematic Design w/ outline Specification	Preliminary
2102	Preliminary Narrative Work Write Up by Division	Preliminary
2103	AIA from B305 Qualification Statement	Preliminary
2200	<b>Contractor Documents</b>	
2201	Preliminary Construction Cost Breakdown (Schedule of Values)	Preliminary
2202	AIA Form A305 Qualification Statement	Before Firm
2300	<b>Developer Documents</b>	
2301	Preliminary Proforma	Preliminary
2302	CNA (less than 2 Yr Old)	Preliminary
2303	Comprehensive Master Plan Approval	Preliminary
2304	Master Plan Approval	Preliminary
2305	Preliminary Plan Approval	Preliminary
2306	Evidence of Property not in 100 year Flood Plain - FEMA Map	Preliminary
2307	Zoning Certificate	Preliminary
2308	Fire Code Report	Preliminary
2309	Geotechnical Report	Preliminary
2310	Structural Report - by Engineer	Preliminary
2311	Names of Prequalified Bidders (Provide AIA-305)	Preliminary
2312	Wetlands/Site Constraint Map	Preliminary
2313	REAC Inspection (most current inspection)	Preliminary
2314	HOME Program Property Maintenance Inspection Report	Preliminary
2315	NGRID & Energy Star Programs Status	Preliminary
2400	<b>Environmental Exhibits</b>	
2401	ESA Phase 1 (Within 6 Months)	Preliminary
2402	Asbestos Survey	Preliminary
2403	Lead Survey	Preliminary
2404	Radon Survey	Preliminary
2405	Mold Survey	Preliminary
2406	PCB Survey	Preliminary
2500	<b>Equipment Testing</b>	
2501	HVAC & Boiler Tests	Preliminary
2502	Elevator Inspection (ADA, Fire & Service)	Preliminary
2503	Generator Test	Preliminary
2504	Hot Water Heater (Boiler/Heater)	Preliminary
2600	<b>Evidence of Utilities</b>	
2601	Electric	Preliminary
2602	Heating Fuel (Gas, Propane, Oil) Evidence of Gas Service Capacity	Preliminary
2603	Water / Well Approval	Preliminary
2604	Evidence Fire Water Service & Flow Test	Preliminary
2605	Sewer / ISDS	Preliminary
2606	Storm water utility letter; NBC	Preliminary
2607	Cable/Broadband	Preliminary
2608	Telephone	Preliminary
2609	Trash	Preliminary
3000	<b>Firm Approval Submissions</b>	
3100	<b>Architect Doc</b>	
3101	Waiver of Corp. Design Req. (if applicable)	Before Firm
3102	Owner/Architect Agreement AIA/B101 - Draft	Before Firm
3200	<b>Architectural Exhibit</b>	

3201	Drawings 50% Complete	Before Firm
3202	Drawings 90% Complete	Before Firm
3203	Final Plans and Specs 100%	Before Firm
<b>3300</b>	<b>Contractor Docs</b>	
3301	Contractor Registration card	Before Firm
3302	Contractor's 3 Yr Financials	Before Firm
3303	Contractor's Credit Report	Before Firm
3304	Construction Schedule	Before Firm
3305	Owner/Contract Agreement - AIA - A101 w/ AIA A201 (bid) DRAFT	Before Firm
3306	Bid Results	Before Firm
3307	Owner/Contract Agreement - AIA - A102GMP w/ AIA A201 (neg) DRAFT	Before Firm
3308	Subcontract Line Item Bid Results	Before Firm
3309	RIH Affirmative Action Plan	Before Firm
3310	Construction Cost Breakdown - Signed SOV	Before Firm
<b>3400</b>	<b>Environmental / Building Reports</b>	
3401	Final CNA Reports	Before Firm
3402	Property Maintenance Inspection for Rehab Units	Before Firm
3403	Phase 2	Before Firm
3404	RIDEM Site Investigation Report (SIR)	Before Firm
3405	RIDEM RAWP With Approval Letter	Before Firm
3406	Asbestos O&M Plan	Before Firm
3407	Asbestos Abatement Plan w/DOH Approval	Before Firm
3408	Lead Remediation Plan	Before Firm
3409	Radon Remediation Plan	Before Firm
3410	PCB Remediation Plan (if applicable)	Before Firm
3411	Mold Remediation Plan	Before Firm
3412	UST RIDEM Certificate of Closure (if applicable)	Before Firm
<b>3500</b>	<b>Surveys</b>	
3501	Draft ALTA Survey	Before Firm
3502	Legal Description	Before Firm
<b>3600</b>	<b>Site Approvals</b>	
3601	Final Plan Approval	Before Firm
3602	Subdivision Approval	Before Firm
3603	Flood Zone Approval	Before Firm
3604	Wetland Approval	Before Firm
3605	CRMC Approval (if applicable)	Before Firm
3606	Building Variances	Before Firm
3607	Zoning Variances	Before Firm
3608	Impact Fee Variance (if applicable)	Before Firm
3609	Fire Code Variances / Approvals	Before Firm
3610	Curb Cuts	Before Firm
3611	Storm water Protection Permit / DEM Approval	Before Firm
3612	RIDOT Physical Alteration Permit	Before Firm
3613	RIDEM Insignificant Alteration Permit	Before Firm
3614	Historic 106 Approval	Before Firm
3615	Historic Part 1 Approval (if applicable)	Before Firm
3616	Historic Part 2 Approval (if applicable)	Before Firm
3617	Historic District Approval (if applicable)	Before Firm
<b>3700</b>	<b>Additional Items</b>	
3701	NGRID & Energy Star Programs Final Status/Agreement	Before Firm
3702	Statement of Davis Bacon Applicability	Before Firm
3703	Clerk of the Works Contract (if applicable)	Before Firm

3704	Security Plan	Before Firm
3800	RI Housing Documents	
3801	D&C to check construction related contracts against Final Proforma	Before Firm
3802	RIH Confirm Environmental Review	Before Firm
3803	Environmental issues sited in plans and specs?	Before Firm
<b>4000</b>	<b>HOME / HTF D&amp;C Requirements</b>	
4100	<b>Contractor Documents</b>	
4101	Signed Bid Forms (if applicable)	Before Firm
4102	Bid Tally Sheet w/Recommendations (sub bids for negotiated contracts)	Before Firm
4200	<b>Developer Documents</b>	
4201	Capital Needs Assessment with Useful Life Expectancy and Reserve Analysis	Before Firm
4202	HOME Final Schedule of Values	Before Firm
4203	HUD Part 35 Risk Assessment Conducted	Before Firm
4204	HUD Part 35 Remediation Plan Incorporated into Specs	Before Firm
4205	HUD Part 35 Remediation Plan	Before Firm
4300	<b>RI Housing Documents</b>	
4301	HOME Construction and Related Fee Cost Reasonableness Analysis	Preliminary
4302	Contractor Debarment List Check	Before Firm
4303	Final Cost Reasonableness	Before Firm
<b>5000</b>	<b>D&amp;C Post Firm Approval Submissions</b>	
5100	<b>Architect Documents</b>	
5101	Owner/Architect Agreement AIA/B101 - Final	Post Firm
5102	Architect Insurance Certificate	Post Firm
5103	Architect Design Certification (RIH form)	Post Firm
5104	Section 504/ADA/Fair Housing Approval - See Architect Design Cert	Post Firm
5105	Consent of Architect Agreement	Post Firm
5106	Architect's Fee Affadavit	Post Firm
5107	Final Plans, Specs & Addenda for DOCUSIGN	Post Firm
5200	<b>Contractor Documents</b>	
5201	Owner/Contract Agreement - AIA - A102GMP w/ AIA A201 (neg) FINAL	Post Firm
5202	Owner/Contract Agreement - AIA - A101 w/ AIA A201 (bid) Final	Post Firm
5203	List of Subcontractors (name, address, contact, WBE/MBE, \$ Amounts, if negotiated)	Post Firm
5204	Contractor's Insurance Certificate	Post Firm
5205	100% Payment & Performance Bonds AIA A-312 or 25% Letter of Credit	Post Firm
5206	Consent of Contractor	Post Firm
5207	Contractor's Fee Affadavit	Post Firm
5300	<b>Environmental Documents / Building Reports</b>	
5301	Phase 1 Update	Post Firm
5302	Asbestos Contractor License	Post Firm
5303	Lead Contractor License	Post Firm
5400	<b>Surveys</b>	
5401	Survey Report	Post Firm
5402	Survey Certificate	Post Firm
5403	Legal Description	Post Firm
5404	Property Easements / Agreements	Post Firm
5405	Final ALTA Survey	Post Firm
5500	<b>Site Approval</b>	
5501	Building Permits	Post Firm
5600	<b>Owner Documents</b>	
5601	Owner Insurance Policy with Builder's Risk Coverage or similar	Post Firm

# Chapter 4 – Drawing and Specification Requirements

RIHousing requires specific drawings and documents for each design stage submission, which occurs at:

- o Schematic Design (SD)
- o Design Development (DD) – Formerly the “Design Development 50% Review”
- o 90% Construction Documents (90% CD)
- o 100% Construction Documents (100% CD)

RIHousing assumes that the Developer is wholly familiar with the plans and specifications, that the plans reflect the current financial model, and the Developer has approved the submission of the documents to RIHousing for review. Checklists have been developed to ensure that the Development Team is providing the required information with each submission. Full size hard copies and digital copies are required for all submissions.

1. Note – In lieu of schematic design (SD) and design development (DD) plan submissions, preservation and moderate rehab developments with no significant changes to design shall submit an outline specification and work write narrative broken down by CSI division sets that align with the project Capital Needs Assessment (C.N.A.) scope of work and 20-year positive reserve schedule. All other items listed in SD & DD section are applicable. The submission of 90% and 100% plan submissions will still be required for firm commitment.
2. Note – Moderate Rehab developments with building components that are still in serviceable condition and are not scheduled for replacement in the C.N.A are not required to be replaced to meet the current Design and Construction Standards.
3. Note – For projects exceeding 12 units, an engineer licensed in the State of Rhode Island shall be engaged for structural, HVAC, plumbing, electrical, and fire protection.
4. Note – For projects with 1 or 2 units, development teams shall refer to the RIHousing Homeownership Streamline Program. Contact RIHousing for additional information.

## Schematic Design (SD)

These documents are to be submitted as part of the initial application (refer to Chapter 4 notes for exclusions)



Category	Requirement	
Cover Sheet	General – Indicate Site/Building Address, Submission Name, and Submission Date	
Cover Sheet	Building Details – Occupancy type, building size, and construction type designation	
Cover Sheet	Unit Distribution – Floor, area, bed/bath quantity, and accessible designations (i.e. Type A, Type A-UFAS, Type B, etc.)	
Cover Sheet	Zoning Summary Table – Indicate allowed by zoning compared to proposed use, parking ratios, setbacks, dimensional limitations, dwelling unit maximums, open space requirements, etc. as applicable with local requirements	
Cover Sheet	Areas – Residential, commercial, common & back of house (gross & net rentable)	
Cover Sheet	Site – Percentage occupied by building(s), and permeable/impermeable site features	
Cover Sheet	Standards – Confirm compliance and/or indicate waiver requests (if applicable)	
Cover Sheet	Code Review – Provide diagrams/tables of applicable code/dimensional requirements, including fire separation and egress travel distances and paths.	
Site Plan	Site Plan – Indicate lot lines, streets, existing buildings/structures, North arrow, etc.	
Site Plan	Existing Conditions – Indicate existing conditions, including: wetlands, ledge, dense vegetation, steep slopes and flood plains, and/or other site features as applicable	
Site Plan	Proposed Conditions – Proposed footprint, parking, site improvements (e.g. landscaping types/uses, fences, retaining walls, paving, etc. as applicable	
Site Plan	Zoning – Indicate setbacks, easements, and heights of adjacent buildings	
Floor Plan	Full Building – Each building level, roof, and basement at minimum 1/8" = 1' scale	
Floor Plan	Common Area – Enlarged plans of all common areas at minimum 1/4" = 1' scale	
Floor Plan	Units – Enlarged plans of each unique unit, with furniture at minimum 1/4" = 1' scale	
Elevations	Exterior – All elevations identifying: window types, exterior materials, and existing of new/existing buildings (if applicable) at a minimum of 1/8" = 1' scale.	
Section	Exterior Wall Sections – Include all typical sections, indicating building material/assemblies, and construction types at a minimum 1/2" = 1' scale.	
Specification	Outline and Narrative – CSI MasterFormat with all applicable divisions indicated. (Note that outline specification format is acceptable to be included only as part of the Schematic Design submission)	
Photovoltaic (PV) System	When Applicable – Include a Solar Photovoltaic array proposal from a qualified professional. The proposal should include a solar study indicating system size, percentage of anticipated development electrical consumption, return-on-investment analysis depicting up-front cost and life cycle savings, and meter narrative.	
Geotechnical	Subsoil Investigation Report – Include design recommendations by a licensed geotechnical professional. Include boring locations at a minimum: All foundations, underground utilities, catch basins/structures/galleys, randomly along roads, and parking areas. Test pits are an appropriate alternative at smaller scattered sites and urban infills. (Note that projects without soil disruption are exempt)	
Structure	Structural Narrative – To be prepared by a licensed engineer. For new construction and additions: Include a narrative describing structural systems and preliminary sizing. For renovations: Include a narrative describing the required structural work.	
MEP/FP	MEP/FP Narrative – To be prepared by a licensed engineer. Describe the general approach to systems and identify any options and/or outstanding decisions for the development team.	
Narrative	Renovation/Rehabilitation Allowances – Clearly indicating all existing condition assumptions, and detailed descriptions of all unforeseen condition allowances.	

Environmental Report	Phase I Environmental Site Assessment – Provide ASTM Standard Practice for Environmental Site Assessments, ASTM E1527-21. <i>(Note that scattered site developments are exempt)</i>	
Capital Needs Assessment	Renovation Developments – Provide Capital Needs Assessment no more than two years old with a positive 20-year Reserve Analysis.	
Checklist	Submit – Filled out Compliance Checklist – See Chapter 6	
Plan Review	Submit – One printed full-size set of drawings and specifications, and digital copies.	

**Design Development (DD)** – Formerly the “Design Development 50% Review” (refer to Chapter 4 notes for exclusions)

After the Pre-Processing Meeting, the Design Development submission shall be prepared to include the following:

Category	Requirement	✓
General	Include all items (and at scales) listed in the Schematic Design (SD) submission.	
Cover Sheet	Name & Address – Developer(s), Architect, and all Other Design Professionals.	
Cover Sheet	Schedule – Provide a Schedule/Index of Drawings.	
Site Plan	Plan – Utilities, Proposed landscaping including plant species, grading, and accessibility features at a minimum 1" = 30' scale.	
RAWP	Remedial Action Workplan (if required) – Provide environmental/abatement narrative indicating all anticipated requirements.	
Demolition	Plan – Indicate all items planned for demolition at a minimum 1" = 30' scale.	
Utility Plan	Existing Utilities – Indicate types/locations of all utilities (e.g. Water, Electric, Tel/Data, Gas, Sewer, Storm Water, etc.)	
Utility Plan	Proposed Utilities – Indicate types/locations of all utilities (e.g. Water, Electric, Tel/Data, Gas, Sewer, Storm Water, etc.)	
Floor Plan	Specificity – Include dimensions, Wall/door/window types, and area tabulations.	
Floor Plan	Specificity – Locate kitchen, Bathrooms, and utility rooms, and identify plumbing fixtures, appliances, boilers, tanks, and other large equipment.	
Sections	Unique Exterior Wall Sections – Including exterior wall assemblies, unit separations and fire walls (where applicable), foundation walls, and roofs.	
Sections	Unique Exterior/Interior Wall Sections – Indicating (or referencing assemblies) with sound insulation and thermal insulation indicating R-values.	
Details	Typical Exterior/Interior Details – Including wall Intersection Details for wall to roof, floor to wall, foundation to floor, and other critical envelope transitions as applicable.	
Elevations	Interior Elevations – For Kitchens, Bathrooms, Common Areas, including casework.	
Structural	Plans – Indicating structural framing and foundation plans, general notes including loading criteria, specifications, and typical details.	
MEP/FP	Preliminary Drawings –Including floor plans with major equipment/systems, updated solar photovoltaic (PV) study (if applicable), and projected electrical consumption.	
Specification	Full Specifications – CSI MasterFormat with all applicable divisions included. Indicate products and performance Standards (e.g. Energy Star, windows, etc.) (Note that moderate rehabilitation projects may be allowed a narrative exception.)	
Narrative	Construction Narrative – Indicating anticipated method(s) of construction, phasing, and identification of any prefabricated structural or mechanical components.	
Narrative	RNC Narrative – RIE/ClearResults sign-off on RNC Tier-level compliance.	
Narrative	Flood Resilience Narrative – Provide an analysis of adjacent flood plains and base flood elevation design accommodations per Chapter 5, item 04 01 01 (if applicable).	
Narrative	Renovation/Rehabilitation Allowances – Update per new findings (if applicable).	
Water Quality Testing	Incoming water shall be tested for hardness, dissolved solids, pH and Chloride. Domestic Hot Water System design shall reflect any necessary water filtration or treatment. Refer to Chapter 6, Section 15 05 07 for additional information.	
Memorandum	Provide a signed memorandum confirming that all RIHousing SD comments have been addressed in this Design Development (DD) Submission.	
Checklist	Submit – Filled out Compliance Checklist, updated per progress – See Chapter 6	
Plan Review	Submit – One printed full-size set of drawings and specifications, Construction Cost Breakdown Form (RIH CF-2328), and digital copies of each.	

## 90% Construction Documents (90% CD)

Once the Design Development plans have been approved, the Architect shall begin work on the Construction Documents. The Developer or Architect shall notify RIHousing in writing of any significant changes to approved Design Development plans. Such notification shall be made once the extent of the changes is known and impacts on construction cost are determined. The 90% Construction Documents submission shall include the following:

Section	Requirement	✓
General	Include all items (and at scales) listed in the Schematic Design (SD) and Design Development (DD) submissions.	
Cover Sheet	Signoffs – Provide space for signature/date of Owner, Architect, Contractor, & RIH.	
Survey	Existing Conditions Survey – Indicate lot lines, site dimensions, streets, existing site features (e.g. Fences, site walls, etc.), adjacent buildings' footprints & height, and Existing Buildings with dimensions to lot lines (if applicable).	
Survey	Existing Conditions Survey – Indicate setback dimensions, easement locations, zoning boundaries (if applicable), existing utilities (below grade and overhead), topography contours, wetlands, ledges, and vegetation (as applicable).	
Site Plan	Floor Elevations – At the ground floor, site, and roofs (as applicable).	
Site Plan	Spot Elevations – As necessary to identify scope, and along accessible routes.	
Site Plan	Landscape – Locations and Planting Schedule w/ Common Name, quantity, size/diameter, and details for all other landscape materials.	
Site Plan	Site Lighting & Site Utilities – Identify full project scope, with locations/schedules.	
Site Details	Details & Dimensions for all Site Features – Include for paving, curb cuts road /driveway radius, trash enclosures, recreational areas, etc.	
Elevations	Exterior Elevations – Identify ground floor, basement, and site grading elevations.	
Geotechnical	Subsoil Investigation Report – Update as required per project changes/revisions. Include required allowances for anticipated scope, per Engineer recommendations.	
RAWP	Remedial Action Workplan (if required) – Shall be approved by RIDEM. Documents shall indicate required soil allowances and environmental/abatement requirements.	
Elevations	Specificity – Indicate height of each Floor to Floor, parapet and/or Roof component.	
Sections	Interior/Exterior Wall Sections – Identifying all unique interior and exterior wall intersections, and all typical stair & elevator conditions.	
Sections	Specificity – Tag all typical interior walls, partitions/chases and floor assemblies, to identify locations of duct, plumbing, and fire protection in relation to structure.	
Sections and Details	MEP/FP – Identify the location/size of MEP/FP systems in relation to structural members, finished ceilings, and shaft enclosures. Diagram worse-case locations.	
Details	Exterior Envelope – Provide details of all unique conditions, including window/door openings, wall/roof penetrations, foundation transitions, overhangs, etc.	
Elevations	Kitchen and Bathroom - Indicate dimensions, materials, and mounting heights.	
Schedules	Finish, Door & Window Schedules – Key Elevations & Details to Plans & Elevations	
Schedules	Door Hardware – Indicate reference project Specification hardware set/heading.	
Schedules	Clothes Storage, Linen Closets – Key locations and indicate mounting heights.	
Schedules	Insulation and Windows – Indicate R-Values and NFRC window ratings.	
Structural	Structural Design – Provide all plans, sections, details, and notes sufficient to construct the building. Indicate all framing systems and component/member sizing.	
Structural	Design Loads – Indicate design criteria for wind, snow, and seismic loading.	
Structural	Codes – Indicate all governing codes, regulations, and applicable standards.	
Structural	Foundation Design – Responsive & coordinated with Subsoil Investigation Report.	
Mechanical	Mechanical Design – Provide all floor plans, indicating the location & type of heating elements, boilers, thermostats, controls, etc.	

Mechanical	Mechanical Details – Provide equipment schedules, ventilation diagrams, and sequence of operations for HVAC Controls and related components.	
Electrical	Complete Design – Provide all floor plans and schedules. Indicate location and specifications of all switches, receptacles, main service entrance, breaker panel and meter locations, and sequence of operation for lighting controls.	
Electrical	Photovoltaic (PV) Design – Coordinate scope with final study/design (if applicable).	
Plumbing	Complete Design – Provide all floor plans, schedules, riser diagrams, and details.	
Fire Alarm	Complete Design – Provide all floor plans, schedules, and riser diagrams.	
Fire Protection	Complete Design – Provide all plans, schedules, riser diagrams, & flow calculations.	
Narrative	Renovation/Rehabilitation Allowances – Update per new findings (if applicable).	
Specifications	RIHousing Appendix A – See Front End Specification Supplementary Conditions	
Specifications	Energy Efficiency Programs – Provide relevant information for all programs being pursued (e.g. RNC tier rating, EnergyStar, PHIUS, SERH requirements, etc.); Include a Division 1 specification section that outlines all project sustainability goals, and include all relevant materials as an appendix	
Plan Review	Submit – One printed full-size set of drawings and specifications, revised Construction Cost Breakdown Form (RIH CF-2328) signed and dated by Owner & Contractor, ALTA Boundary Outline Survey, Surveyors Report and Legal Description (RIH CF-141), and digital copies of each.	
Checklist	Submit – Filled out Compliance Checklist, updated per progress – See Chapter 6	

## Final 100% Construction Documents (100% CD)

After the 90% Construction Documents have been reviewed and approved by RIHousing, the Architect shall prepare the Final Construction Documents. These drawings and specifications shall be consistent with the approved 90% Construction Documents, including the development construction costs established during the preliminary phase. The drawings shall essentially be the same as those submitted at the Construction Documents stage with all revisions and additions included to bring the drawings to a 100% level of completion for construction. The 100% Construction Documents submission shall include the following:

Section	Requirement	✓
General	Include all items listed in the Schematic Design (SD), Design Development (DD), and 90% Construction Documents (90% CD) submissions.	
General	Verification – All drawings and specifications are to be consistent with previously approved construction documents, including Development Construction Costs established during the Preliminary Phase.	
General	Any drawing or specification changes shall be submitted as addenda with changes tracked with revision clouds.	
General	Stamps and Signatures – The architect shall stamp and sign all Architectural Drawings, and relevant Engineers shall stamp and sign all Engineering Drawings. Digital stamps/signatures are permitted in place of wet stamps.	
General	Submission Date – All drawings and specifications are to be dated consistently, and to match owner/contract agreement exhibits.	
Plan Review	Submit – Current Davis Bacon Wage Determination for Developments using Federal Funds for Construction (if Applicable).	
Plan Review	Submit – (1) printed full-size set of drawings and specifications, (1) printed copy of the final Construction Cost Breakdown Form (RIH CF-2328) signed and dated by Owner & Contractor, (1) printed ALTA Boundary Outline Survey, (1) printed copy of Surveyors Report and Legal Description (RIH CF-141), and digital copies of each.	
Checklist	Submit – Final filled out Compliance Checklist – See Chapter 6	
Meeting	RIHousing to host a pre-construction meeting at loan closing to review process expectations and agency requirements.	

# Chapter 5 – Design and Construction Standards

These Design and Construction Standards have been developed to ensure the long-term viability of housing developed under the RIHousing's Rental Housing Production Program. These Standards are based on experience from managing rental housing and are designed to ensure that the housing units developed are economical, comfortable, durable, healthy, energy-efficient, and attractive. These Standards are in addition to the Building Code requirements and any applicable federal, state, and local ordinances or regulations.

**Sustainable, Healthy Homes Goals:** RIHousing values and promotes healthy, durable, high-quality, affordable construction. Ultimately, RIHousing strives to cost-effectively combine sustainable building processes and affordable housing construction. Sustainable means long-lasting, high-performance housing. The goal is to use resources wisely to help establish a continuous cycle of use and renewal within the carrying capacity of the environment. The developer should consider long-term impacts and costs to the development as well as the environment.

The overall goal of these Standards is to produce affordable and attractive housing that is also:

- o Durable – Comes from both the quality of the building materials and the soundness of the building's design and construction. Materials should be long-lasting and able to withstand heavy use with minimal maintenance.
- o Energy Efficient – A modest upfront investment in materials and systems can result in lower operating costs over the life of a building while conserving natural resources.
- o Healthy – Significant aspects of health and quality of the indoor environment are to reduce conditions that can trigger asthma and other respiratory problems. Essential asthma reduction practices include:
  - o Clean – Dust can trigger allergic reactions. Design for ease of cleaning. Carpeting should be used only in exceptional circumstances.
  - o Combustion Product Free – Carbon monoxide et al. have adverse health consequences.
  - o Toxic Chemical free – Cleaning chemicals, pesticides, oil, and alkyd-based paints and solvents can release toxins into indoor air and exacerbate asthma and other pulmonary disease.
- o Safe – RIHousing encourages building and site designs that create safe spaces inside and outside. Safety includes shared spaces that are easily observable and monitored and provide clear physical and perceptual thresholds demarcating public space, semi-public space, and private space. Building and site designs should not include common areas, indoors or out, where activity cannot be observed regularly by residents and building management.

To encourage individuality and innovation, RIHousing will consider exceptions to these Standards, provided the intended results can be achieved by acceptable alternatives. “Innovation” may include but is not limited to: alternative project delivery processes, the use of new materials and building systems, prefabricated components, etc. Similarly, alternative design configurations of units and/or common spaces intended to serve unique populations may be considered. A request for an exception to the Standards may be made in writing to RIHousing’s Design and Construction Team, and Underwriting Team for review.

RIHousing reserves the right to establish additional requirements on a case-by-case basis prior to final approval of the Construction Documents. RIHousing may periodically revise these Standards; however, these revisions will not affect a development that has received approval of the Construction Documents unless the change is necessary for the health and safety of the future occupants.

These standards are broken out in accordance with the Construction Specification Institute (CSI) format. Some standards are statements of policies or minimum requirements. When these policies and requirements do not directly relate to the CSI format, the policies and regulations are placed in the CSI Division in which the policy or regulation fits best.

# Division 01 – General Requirements

## 01 01 Additional Resources

01 01 01 General – The following resources are strongly encouraged for incorporation into developments financed under the Rental Housing Production Program:

A Comprehensive Community Development – Developers and their designers shall familiarize themselves with Rhode Island Housing's Comprehensive Community Development criteria as outlined in the Rhode Island Qualified Allocation Plan and design all development communities with as many of the Comprehensive Community Development design elements as possible.

B Crime Prevention Through Environmental Design – Development is designed using the key principles of CPTED. <https://www.cpted.net/>

C Low Impact Development and Storm Water Management – Development incorporates LID and Storm Water best practices into the site planning and landscape approach.

<https://www.epa.gov/nps/urban-runoff-low-impact-development>

D Indoor airPLUS – The development team recognizes the impact of indoor air quality on occupant health and comfort and incorporates best practices from the EPA's Indoor airPLUS program into the development. <https://www.epa.gov/indoorairplus>

E Enterprise Green Communities – Development is designed using the program's best practices to create homes that are healthier, energy efficient, and climate-resilient.

<https://www.enterprisecommunity.org/impact-areas/resilience/green-communities>

## 01 02 Exterior Appearance

01 02 01 General – Proportion, scale, color, and arrangement of exterior openings, trim and materials create balanced and contextually appropriate designs. Development designs and details shall be simple yet attractive and designed with the following criteria in mind:

A Geometries – Avoid complicated framing details created by complex plan and roof geometries.

B Simplicity – Eliminate excessive or complicated trim details. Focus on building proportion, window proportion, window placement/size, and other more permanent design features.

C False Elements – Avoid elements serving no function e.g. false dormers, false chimneys, and fake mullions.

D Finishes – Specify modest finishes that are cost-effective, and limit more costly materials to locations where they are likely to have the greatest impact.

E Color Selections – Avoid garish or trendy colors that will appear dated or dirty prematurely.

## 01 03 Energy Efficiency and Sustainability

01 03 01 General – Applications will be assessed and evaluated based on RIHousing's expectations outlined below. In general, applicants are required to provide all-electric equipment and appliances or be electric-ready. Moderate Rehabilitation projects may seek an exemption, which will be evaluated on a case-by-case basis and approved at the discretion of RIHousing.

01 03 02 Energy Efficiency Standards – R.I. Residential New Construction (RNC) Tier I standards under Rhode Island Energy's program guidelines are the baseline requirement of RIHousing's design and construction guidelines. The standards apply to new construction and gut rehabilitations and includes compliance with current Energy Star residential or multifamily programs.

01 03 03 Moderate Rehabilitation – Shall request an energy assessment and seek project rebates through Rhode Island Energy’s Multifamily Program, administered by RISE Engineering.  
<https://www.rienergy.com/RI-Home/Energy-Saving-Programs/Multifamily>  
<https://www.riseengineering.com/multifamily/get-started>

01 03 04 Substantial Rehabilitation – Are encouraged to achieve RIE’s RNC Tier II standards.

01 03 05 Mill Conversions and Historic Restorations – Are encouraged to achieve RNC Adaptive Reuse Level 1 at a minimum.

01 03 06 New Construction – Are strongly encouraged to achieve RIE’s RNC Tier II and minimum Energy Star 3.1 revision 11 standards for single-family and Energy Star 1.1 revision 2 standards for multi-family to obtain a higher level of documented energy efficiency. New construction projects that meet this criteria will score additional points during application review. Refer to Rhode Island Residential New Construction (RNC) Program & Zero Energy Homes:

<https://www.rienergy.com/media/ri-energy/pdfs/energy-efficiency/ri-energy-rnzero-energy-ready-program-description.pdf>

01 03 07 Blower Door Testing – Shall occur for all developments, with low whole building infiltration rates compatible with appropriate RNC tier. Report(s) to be furnished to RIH once testing is completed.

01 03 08 Compartmentalization – Individual dwelling units shall be individually compartmentalized, with penetrations between units avoided as feasible. Floors to be individually compartmentalized from each other as feasible.

01 03 09 Net Zero and Passive House – Projects intending to achieve program certification shall refer to:

<http://www.energy.ri.gov/policies-programs/lead-by-example/rhode-island-stretch-codes.php>  
<https://www.energy.gov/energysaver/aim-zero-zero-energy-and-zero-energy-ready-homes>  
<https://www.phius.org>

01 03 10 Photovoltaic Systems – RIHousing strongly encourages development that incorporates Photovoltaic (PV) panels or other renewables, including net metering (as defined in R.I.G.L. Chapter 39-26-5). Moderate Rehabilitation projects may seek an exemption, which will be evaluated on a case-by-case basis and approved at the discretion of RIHousing.

Developments shall be designed with the following criteria:

A Structural Considerations – Roof structures in new construction shall be designed to accommodate the structural loads associated with PV panels, supporting structure, and ballasts (if applicable).

B PV Ready – At a minimum, the building shall be PV ready including conduit pathways, circuit breaker accommodation in the electric service equipment, and upsized bus bar amperage rating to accommodate the future installation of a photovoltaic system.

C Capacity – Systems shall have enough capacity to offset a determined amount of annual operating cost as proposed by the developer in their application submission package.

D Configuration – Connecting the PV system as a load-side connection “behind the meter” is preferred where permitted by the local electrical utility company.

01 03 11 Geothermal and Wind – RIHousing discourages renewable energy systems such as geothermal and wind energy that require excessive ongoing maintenance, as they can have a negative impact on long-term operating costs.

01 03 12 Resources for Renewable Energy Programs – listed below:

A REF Commercial Scale

<https://commerceri.com/wp-content/uploads/2018/03/REF-Commercial-Scale-Flyer-V3-11.25.19.pdf>

B REG Commercial Scale

<https://ngus.force.com/servlet/servlet.FileDownload?file=0156T00000FLwcM>

C CPACE

<https://riib.org/solutions/programs/commercial-property-assessed-clean-energy/>

D REF Small Scale

<https://commerceri.com/wp-content/uploads/2018/03/REF-Small-Scale-Flyer-V3-11.25.19.pdf>

E REG Small Scale

<https://ngus.force.com/servlet/servlet.FileDownload?file=0156T00000FLwcH>

01 03 13 LEED – Owners that intend to design their development to LEED or similar sustainability standards shall demonstrate that their project is cost-effective and shall seek non-federal or state funding for all third-party verifications and commissioning.

01 03 14 Utility benchmarking – Encouraged for all renovation and rehabilitation projects and shall cover all utilities, i.e. Energy Star's Portfolio Manager <https://www.energystar.gov/buildings/benchmark>

01 03 15 Healthy Home / Asthma-Free Design – Buildings shall be thoroughly ventilated before occupancy.

## 01 04 Flood Resilience Standards

01 04 01 General – Projects within 1/10<sup>th</sup> of a mile from a known Flood Plain, including coastal flooding and precipitation related flooding, shall meet at a minimum, the criteria established by HUD for flood resilience. <https://www.federalregister.gov/documents/2024/04/23/2024-06246/floodplain-management-and-protection-of-wetlands-minimum-property-standards-for-flood-hazard>

A Coastal Flooding – For Development sites within or near coastal flood areas, refer to 'STORMTOOLS' for guidance on establishing an appropriate Design Flood Elevation (DFE). At a minimum, the Design Flood Elevation shall be no lower than 2 feet above the FEMA-defined Base Flood Elevation per minimums established by HUD. <https://stormtools-mainpage-crc-uri.hub.arcgis.com/>

B Inland and Precipitation Related Flooding – The Design Flood Elevation shall be no lower than 2 feet above the FEMA-defined Base Flood Elevation per minimum established by HUD.

C Building Systems – All critical building systems (i.e. HVAC, electrical, fire alarm, and fire protection) and living areas shall be located above the design flood elevation and designed to be protected from flood-related damage.

D Site and Egress – Parking, site egress, and building egress must be designed outside of the 100-year flood plain per the terms outlined in the QAP.

E Exceptions – Basis and exceptions may be made per the terms outlined in the QAP.

F HUD Regulations – Note that projects receiving federal funding are required to comply with the U.S. Department of Housing and Urban Development (HUD) Federal Flood Risk Management Standard, which went into effect in May 2024. <https://www.federalregister.gov/documents/2024/04/23/2024-06246/floodplain-management-and-protection-of-wetlands-minimum-property-standards-for-flood-hazard>

## 01 05 Blasting

01 05 01 General – Blasting shall be performed in accordance with the rules and regulations of authorities having jurisdiction. Prior to any blasting, RIHousing requires that a pre-blast survey of surrounding structures be conducted by a qualified professional and submitted for review.

## 01 06 Structural Work in Renovations/Rehabilitations

01 06 01 General – Remediation of all substantial structural damage, deficiencies, and their cause shall be included and corrected in the development scope of work. A qualified professional shall examine each building's load bearing structure and assess its existing condition to determine suitability for continued use. Prior to final commitment, RIHousing reserves the right to require a structural survey by an approved licensed structural engineer to verify the adequacy of all structural members for current and proposed loads.

## 01 07 Attic Access

01 07 07 General – When attic access is provided for maintenance and/or inspection purposes, it shall occur from building common areas. Access shall have key locks and be sealed and insulated in accordance with the requirements of all applicable energy and building codes.

## 01 08 Dwelling Unit Requirements

01 08 01 Unit Area – Shall be within the following ranges, measured from the inside face of finished walls enclosing unit, and including mechanical spaces internal to the unit:

Unit Type	Unit Area
Studio (single level)	350 – 550 SQFT
1 Bedroom	550 – 650 SQFT
2 Bedroom	750 – 900 SQFT
3 Bedroom	950 – 1,150 SQFT
4 Bedroom	1,200 – 1,400 SQFT
Studio (loft)	Evaluated on a case-by-case basis
Townhouse	Add 50 – 100 SQFT

01 08 02 Layout – Dwelling unit areas will also be evaluated on a performance basis by RIHousing. Determining factors are the placement of furniture, tenant circulation, functional livability, and storage.

01 08 03 Rooms – Shall at a minimum meet the following:

Room	Minimum Area	Minimum Dimension	Comments
Primary Bedroom	120 SQFT	10'	Each apartment shall have one primary bedroom. All bedrooms shall have direct window access to the outdoors.
Additional Bedrooms	100 SQFT	9'-6"	
Living Room	120 SQFT	12'	
Dining Room	70 SQFT	8'	

Living/Dining Combination	180 SQFT	12'	
Kitchen	65 SQFT	8'	
Bathroom	50 SQFT		Or per code for accessible units

01 08 04 Kitchens – Shall at a minimum meet the following layout length requirements for cabinetry based on the unit's bedroom count:

<b>Bedroom Count</b>	<b>Base Cabinet</b>	<b>Wall Cabinet</b>
1, 2, & 3 Bedroom	minimum of 96"	minimum of 60"
4 Bedroom or larger	minimum of 144"	minimum of 96"

A Wall cabinets above refrigerators and shelf areas that are 74" or greater above finished floors shall not count towards required storage.

B Inside corner cabinets shall be counted as 50% of the shelf length.

C When revolving shelves (turntables) are used, the actual shelf length may be counted.

D Kitchen cabinet layouts with base cabinets that exceed 168" in length are strongly discouraged as they may incur unnecessary construction costs.

01 08 05 Bathrooms – Each unit shall have at least one full bathroom. Units with four or more bedrooms shall have a minimum of two full baths (one bath may have a shower instead of a shower/tub enclosure). Townhouse-style units, with three or more bedrooms, shall be equipped with a minimum of one full bath and one-half bath.

01 08 06 Hallways – Shall provide 42" minimum clear between wall bases. Note that this minimum width may be superseded by other project accessibility requirements that necessitate greater widths/clearances around doorways. Hallway widths of 48" or greater are strongly encouraged.

01 08 07 Storage – Each closet shall meet the following minimum requirements, per unit:

A Bedrooms – 4' wide by 2' deep

B Coat – 3' wide by 2' deep

C Linen – 2' wide by 1.5' deep

D Broom – 1' wide by 1.5' deep, may be provided as part of a kitchen cabinet system.

E Remote Storage – Lockable storage areas for larger items are desirable.

01 08 08 Furniture walls – Rooms shall provide minimum quantities of walls without windows:

A Living Room – 2 walls

B Bedrooms – 2 walls

C Dining room/area – 1 wall

D Corner units may contain rooms with fewer furniture walls provided the windows are located and sized in a way that allows for the functional arrangement of furniture.

01 08 09 Accessible Dwelling Units – Shall be designed and constructed in accordance with current requirements of the Fair Housing Act, Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, all applicable building codes, and the following requirements:

A UFAS “Accessible” – All New Construction and “Substantial” rehabilitation developments require a minimum of 5% of units (minimum of 1 unit) be “accessible” as defined by the Uniform Federal Accessibility Standards (UFAS), regardless of the use group exception contained in the Building Code.

B Visual and Hearing Impaired – All New Construction and “Substantial” rehabilitation developments require at least 2% of units (minimum of 1 additional unit) be designed as accessible to the visual and hearing impaired as defined by UFAS. Note that these units are in addition to those required to be “Accessible” as defined in item “A” above.

C Roll-in showers – Are required in a minimum of 1 out of every 5 accessible units. Roll-in showers are highly encouraged in all age-restricted units and 1-bedroom accessible units. Bathrooms with roll-in showers shall have tile floors with waterproofing membranes, and a central floor drain to capture bulk water outside of shower basin.

D In-wall blocking – Provide blocking that is structurally capable of supporting the future installation of grab bars and shower seats, at all unit bathrooms, at a minimum as defined below:

- o Toilet – Walls adjacent to and behind fixture, 6” beyond front/side, 31”-38” above finished floor
- o Tub – Walls on three sides from the top of tub to 60” above finished floor
- o Shower – Walls on three sides from the top of pan to 60” above the finished floor
- o Alternatives – Prefabricated shower/tub assemblies with integral grab bar reinforcing are acceptable in lieu of in-wall blocking, provided they are installed per manufacturer requirements.

E New Construction – All common spaces shall be made fully accessible.

F Substantial Rehabilitation – Note that “Substantial” rehabilitation projects are defined by the Uniform Federal Accessibility Standards (UFAS) as developments with 15 or more total units and the cost of rehabilitation is 75% or more of the replacement cost. For “Substantial” rehabilitation projects with common spaces, they shall be made accessible to the greatest extent feasible.

G Less-than-Substantial Rehabilitation – For projects with “less-than-substantial” rehabilitation (anything less than “substantial”), the project must be made accessible to the greatest extent feasible until 5% of the units are physically accessible, and common spaces made accessible to the greatest extent possible.

H 1 to 4 Unit Developments – All developments that do not trigger Uniform Federal Accessibility Standards (UFAS) compliance (i.e. developments with 4 or fewer units), are still strongly encouraged to meet these requirements. <https://www.access-board.gov/aba/ufas.html>

I Additional Requirements – Refer to divisions 8, 15, and 16 for additional dwelling unit accessibility related requirements.

01 08 10 Universal Design – Development teams shall review the following resource and familiarize themselves with the concept of Universal Design. <https://www.section508.gov/develop/universal-design/>

## **01 09 Building and/or Development Amenities**

01 09 01 Management Office – Required for developments of 50 or more dwelling units and desirable for developments of less than 50 units. The management office shall be in close proximity to the building’s primary entry and lobby. If a dedicated community building is not provided, alternative spaces within the development shall be set aside for a required management office and adequate maintenance storage.

01 09 02 Community Facilities – Required for developments of 50 or more dwelling units, and strongly encouraged for developments of less than 50 units. Scattered site developments will be reviewed on a case-by-case basis. Developments shall incorporate the following:

A Common meeting room – Minimum size of 12 square feet per dwelling unit or 600 square feet, whichever is greater.

B Kitchen – Separate fully equipped accessible kitchen, to service social functions held in the community room. Ranges are not required where wall ovens or microwave ovens are provided.

C Storage – Adequate area for folding chairs, tables, etc.

D Toilet Room – One gender-neutral accessible room adjacent to the community room, at a minimum, and any additional toilet rooms as required by code. Provide grab bars and a wall-mounted changing table in at least one toilet room and provide applicable signage.

E Proximity – All community rooms, fitness rooms, and amenity spaces for residents (excluding laundry rooms) shall be in close proximity to and visible from the lobby and the management office to deter use by non-residents.

F Age Restricted Developments – Provide backup generators to enable uninterrupted HVAC functionality in community rooms during power outages.

01 09 03 Laundry Rooms – Projects greater than 12 Units and not containing an elevator shall provide shared laundry facilities on each level or laundry hook-ups in each unit at a minimum.

01 09 04 Playground – Projects with 50 or more Units shall incorporate a playground as part of the development or demonstrate that existing playground facilities are in reasonable proximity. Equipment should comply with the latest edition of US Consumer Product Safety Commission playground guidelines, and meet playground regulations of the 2012 Americans with Disabilities Act Standards for Accessible Design. At a minimum, playgrounds shall be fenced with locking gate, well lit, located along an accessible route from the building, have an accessible route to the play equipment, have surfacing that complies with ASTM 1951, and furnished with at least one bench along an accessible route.

<https://www.ada.gov/law-and-regs/design-standards/2010-stds/>

<https://www.cpsc.gov/safety-education/safety-guides/playgrounds/public-playground-safety-checklist>

01 09 05 Outdoor seating – Developments with more than 1,000 square feet of usable open space shall provide outdoor seating as a minimum amenity. Outdoor gathering areas that include furniture and equipment for events and/or picnics are strongly encouraged. All seating shall be located along an accessible route.

01 09 06 Mail Delivery – Per requirements of the local postmaster. A storage room and/or storage locker system shall be provided for package delivery from both USPS and non-USPS carriers that are adequately sized for the number of residents. Developments shall provide a narrative for the receipt of packages from non-USPS carriers, including the location of drop-off spaces, access restrictions/requirements, and/or other management approaches.

01 09 07 Bicycle Storage – Secured, covered bicycle storage is required for all projects greater than 12 units. Storage capacity a minimum of .5 bicycles per unit. Where provisions for electrical bikes are provided, covered storage shall be in a separate detached structure to minimize risks associated with electrical fires.

01 09 08 Trash Collection – Facilities per local municipalities' requirements. Adequate space shall be allocated for the collection and storage of recyclable waste.

## 01 10 Elevator

01 10 01 General – Elevators are required in all developments four or more stories in height.

# Division 02 – Site Work

## 02 01 General

02 01 01 Applicability – These requirements apply to both new construction and rehabilitation of existing buildings. Rehabilitation developments should identify those Site Construction items that are not applicable to the development and seek an exception from the requirement from RIHousing.

## 02 02 Site Layout

02 02 01 Parking – Locate at the building's rear or side where possible to minimize visibility from the street.

02 02 02 Entries, General – Where there are separate building entries, i.e. one from the front/street side and one from the parking at the side or rear, configure the siting of the building and the design of the lobby so that both entries lead directly to the main lobby/reception area.

02 02 03 Entries, Parking Areas – Design to be visually accessible and clearly distinguished from individual unit entries, egress doors, or other points of access.

02 02 04 Existing Mature Trees – Retain non-invasive mature trees where present.

02 02 05 Solar Orientation – Optimize the solar orientation of the building for photovoltaic panels and energy conservation.

## 02 03 Site Improvements

02 03 01 General – Site improvements shall be designed to minimize maintenance. Use paving, plantings, fences, and other elements to delineate clear boundaries between public and private spaces, and semi-private space such as shared open space amenities.

02 03 02 Sidewalks – Concrete walks to connect all units, parking, and amenities; minimum 4' width, minimum 4" thick concrete with a light broom finish. Ensure that sidewalks and other pedestrian areas that may experience occasional vehicular traffic for maintenance are appropriately reinforced to withstand the additional loads.

02 03 03 Roadways – Meet RIDOT-Class I and municipal standards.

02 03 04 Parking – Shall meet the following criteria:

A Standards – Meet RIDOT-Class II or better and municipal standards.

B Quantities – Where parking counts are not determined by local zoning, minimize parking spaces to reflect the likely rates of vehicle ownership of tenants.

C Screening – Configure parking and landscaping to ensure units are screened from headlights.

D Spaces – Shall be striped and have wheel stops. Wheel stops are not required in parking lots with perimeter curbing or in parking areas serving less than 3 dwelling units.

E New Construction – Plant one tree directly adjacent to or within parking area for every five spaces, to help mitigate heat island effect. Alternative shading strategies will be considered by RIHousing.

02 03 05 Accommodations for Electric Vehicles – 10% of all parking spaces must be “EV-Ready” including conduit with pull wire from the house panel to each space, clear wall area for equipment, capacity in electrical panels/switchgears, and transformer sized appropriately to take the additional load. At least one electric vehicle parking space must be along an accessible route from the building, but development teams should consult other requirements to verify if greater quantities are required.

Note that EV-Ready requirements are likely to increase with the incorporation of the new energy code, and development teams shall confirm requirements as appropriate. Parking areas serving projects with 3 or fewer dwelling units may seek an exemption, which will be evaluated on a case-by-case basis, and approved at the discretion of RIHousing.

02 03 06 Plantings – Landscape Architect or Designer to incorporate the following, as applicable:

A General – All plantings to be native or nativar species, non-invasive, and drought tolerant. Long-term maintenance costs shall be considered when specifying plantings.

B Accent landscaping – At the fronts of buildings and around amenities is required. Landscape Architect or designer to select a mix of deciduous and evergreen plantings and take into consideration established planting windows for all plantings.

C Warranty – Contractor to provide one (1) year warranty or guarantee for plants and shrubs. Lawn warranty shall start once lawns are established, and the contractor is responsible for two cuttings minimum for maintenance.

D Buffers – Planting buffers located between tenant yard spaces is strongly encouraged for privacy. Planting buffers should be used to shield trash enclosures, utility meters, transformers, generators, condensers, and all other site obstructions/equipment from view as feasible.

E Plantings – Size of plant material is more important than quantity when specifying buffers.

F Sod – The use of sod for lawn areas is encouraged, particularly in areas where seeding may be impractical due to traffic, surface drainage, etc.

G Alternatives – The use of lawn alternatives such as clover, “no-mow grass,” and perennial ground covers are encouraged for cost and maintenance savings and increased ecological benefit.

02 03 07 Irrigation – New plantings shall be provided with adequate irrigation to maintain plant health while being mindful of water conservation concerns. Underground lawn sprinkling system, if used, shall utilize a time clock, rain sensor, and an abatement meter. Soaker hoses may be used as an alternative to permanent underground sprinkler systems for the first 6 months to establish new plantings. Properties with site irrigation systems shall be equipped with water conservation elements including time clocks, rain sensors, abatement meters, and/or drip systems at plantings.

02 03 08 Fencing – Perimeter fencing, if installed, shall be either black vinyl-coated chain link fence including posts and rails or cedar privacy fencing with galvanized posts set in concrete on the back and side yards. Uncoated chain link fences are not permitted. Painted wood picket, ornamental galvanized steel, vinyl picket, painted or powder-coated aluminum, or wrought iron fence may be installed on the front yards. Aluminum pickets are not permitted.

02 03 09 Lighting – Shall meet the following criteria:

- A General – Residential in appearance for roadways, sidewalks, and building entrances.
- B Efficiency – Provide high efficiency exterior light fixtures.
- C Dark Spots – No dark spots at building entrances and in parking areas.
- D Shielding – Lighting shielded/deflected away from living/sleeping area windows.
- E Standards – Lighting standards in scale with development buildings.
- F Building Signage – The permanent building entrance sign shall be illuminated.
- G Light Levels – A minimum 1-foot candle of illumination in all parking areas, trash dumpsters, mailboxes, accessible routes, and building entrances.
- H Dark Sky Compliance – Building and site lighting designed using Dark Sky compliant fixtures and shields to minimize light pollution and be configured to avoid glare at abutting properties.

02 03 10 Safety and Security – Tenant entry into exit stairways from exterior to be discouraged.

02 03 11 Outdoor Trash/Recycling Storage – Projects with 12 or more units, shall have concrete trash pads with protective bollards, located away from dwelling units, and fenced/screened on all sides with a latching gate at the front. Projects with fewer than 12 units shall have at a minimum, a dedicated tote storage area screened on 3 sides. Vinyl and other non-durable fence products are not permitted.

02 03 12 Site Drainage – Conform to all applicable local and state regulations. Wherever possible, use Low Impact Development approaches to manage stormwater. The use of large permeable pavement parking lots and private roadway areas that require excessive maintenance and protection are strongly discouraged.

02 03 13 Grading – Eliminate abrupt or excessive grade changes where possible. Design grading to avoid or minimize the need for retaining walls to control costs, with slopes no steeper than 33% where possible.

02 03 14 Debris – Remove debris, junk, and dead or dangerous tree growth. Dilapidated outbuildings, fences and other structures, unsafe structures, and visual nuisances shall be demolished and removed from the site. Repair or replace badly deteriorated essential paving. Remove nonessential deteriorated paving.

## Division 03 – Concrete

### 03 01 Foundations

03 01 01 Existing foundations – Fill all holes and cracks and re-point as necessary.

03 01 02 New Foundations – Provide damp proofing and perimeter insulation per the Energy Code. Install a capillary break on top of the footing and the perimeter foundation wall. Slab on grade is exempt except in locations with a high water table.

## 03 02 Basement Slabs

03 02 01 Existing Slabs – Shall be cleaned in a manner to expose the existing surface. All visible structural cracks shall be repaired with an approved concrete/bondel mix.

03 02 02 New Slabs – Minimum 4" reinforced concrete installed over 10-mil minimum vapor barrier.

03 02 03 Crawl Spaces – Provide a minimum 2" thick concrete rat slab over the vapor barrier.

## Division 04 – Masonry

### 04 01 Existing Masonry to Remain

04 01 01 Chimneys – In rehabilitated structures that are unsound, the chimney shall be repaired or removed entirely. When chimneys are being used for venting, they should be restored, and masonry re-pointed to a safe and operable condition, with flue liners installed as required by code.

04 01 02 Historic Masonry – Shall be restored to sound serviceable condition, and in accordance with Section 106 of the National Historic Preservation Act. Where masonry is considered historic, repairs will be carried out utilizing the Secretary of the Interior's "Standards of Rehabilitation" and related NPS Preservation Briefs for "Repointing Mortar Joints on Historic Masonry Buildings"  
<https://www.nps.gov/tps/standards/rehabilitation.htm>

04 01 03 Mortar – Joints shall be sound, and free of loose or deteriorated mortar, with no voids. Pointing of mortar joints shall be specified as necessary to assure the continued integrity of the structural assembly and prevent water intrusion.

## Division 06 – Wood and Plastics

### 06 01 Rough Carpentry, Sheathing

06 01 01 Rating – All sheathing shall be rated at a minimum, Exposure 1 and Structural 1.

06 01 02 Pitched Roofs – Plywood/OSB with integral weather barrier such as Zip Roof sheathing.

06 01 03 Flat Roofs and Subfloors – Plywood or weather-rated product such as Advantech sheathing.

06 01 04 Exterior Structural Walls – Plywood or OSB with integrated weather barrier such as Zip sheathing.

06 01 05 Underlayment – Formaldehyde-free ULB, AC Plywood, or gypcrete. Particle board or Luan are not permitted.

06 01 06 Rehabilitated Unit Flooring – Replace damaged subfloor and install new underlayment (minimum 1/2") or approved smooth surface underlayment in all existing bath and kitchen areas where glue-down resilient flooring is installed.

## 06 02 Stairs, Porches, and Stoops

06 02 01 General – Design and dimension per code.

06 02 02 Exterior – Provide rot-resistant, durable composite decking and railing systems.

06 02 03 Existing – Items intended to remain shall be reasonably level, even surfaces, and be provided with handrails and guardrails per code. Decking to remain shall be patched with matching materials.

## 06 03 Finish Carpentry

06 03 01 Exterior Woodwork and Trim – Shall meet the following criteria:

A Type – Pre-primed poly-ash, fiber cement, PVC, or clear wood products (e.g. premium grade, non-finger-jointed, clear cedar or redwood).

B Detailing – Eliminate miter cuts and provide chamfer details at exterior horizontal trims to shed water wherever possible. Only profiled moldings should be mitered; All other trim boards should have lap joints. Exterior miter joints inevitably open as wood shrinks, exposing the end grain of both boards to the weather. It is acceptable to join trim boards with scarf angle cuts.

C Finishing – Note that all trim materials, including PVC, require finished paint or stain as appropriate. Refer to Division 9 for finishing requirements.

06 03 02 Interior Trim – Baseboards, casings, moldings, and miscellaneous trim to be clear wood or pre-primed finger-jointed pine (FJP).

06 03 03 Interior Handrails – If wood, provide clear hardwood products.

06 03 04 Exterior Handrails – Newel posts and columns shall be a high-quality composite materials. On Historic projects clear wood (e.g. clear cedar, clear mahogany, or clear hemlock) are acceptable alternatives. Exterior handrails shall be painted steel, PVC-wrapped aluminum, mahogany, or clear douglas fir.

06 03 05 Repair of Historic Woodwork – In accordance with Secretary of the Interior's Standards for Rehabilitation. <https://www.nps.gov/subjects/taxincentives/secretarys-standards-rehabilitation.htm>

06 03 06 Closet Shelving – Vinyl-coated wire shelving attached to secure in wall blocking.

## Division 7 – Thermal and Moisture Protection

### 07 01 Residential New Construction (RNC) Program

07 01 01 General – The architect shall submit plans and specifications to the program manager to ensure compliance with program regulations. The RNC Program will certify each building to determine successful completion of program requirements and will prepare a list of required items. Developments seeking RNC Tier II or higher are encouraged to use the services of an energy consultant.  
<https://www.rienergy.com/RI-Home/Energy-Saving-Programs/New-Construction>

## 07 02 Thermal Insulation, Air Barriers, and Vapor Control Layers

07 02 01 Air Barriers and Vapor Control Layers – Air barriers shall be provided at the entire building envelope, and be coordinated with construction type and insulative materials as appropriate. Vapor control layers shall be provided as required and permeability class shall be determined by building code depending on the wall construction and insulation materials used.

07 02 02 Embodied Energy – Low embodied energy insulative materials are strongly encouraged, including: cellulose, fiberglass, and mineral wool. High embodied energy insulation shall be avoided, including extruded polystyrene (XPS), and foam products with conventional blowing agents. Coordinate project specifications accordingly.

07 02 03 Global Warming Potential – Where spray foam products must be used, projects shall seek alternative insulation products with low Global Warming Potential (GWP) blowing agents, such as expanded polystyrene (EPS) or Low GWP XPS. Coordinate project specifications accordingly.

07 02 04 Resources – Development teams shall review the following resources and familiarize themselves with the concepts of low embodied energy materials and low global warming potential materials.

<https://www.greenbuildingadvisor.com/article/choosing-low-carbon-insulation>

<https://www.greenbuildingadvisor.com/article/does-your-insulation-have-low-embodied-carbon>

## 07 03 Under Slab Vapor Control

07 03 01 General – Minimum 10 mil polyethylene membrane vapor barrier. Architect to provide detailing to critical areas, including penetrations and perimeter conditions.

## 07 04 Sound Insulation

07 04 01 General – These minimum requirements apply to both new and rehabilitated projects:

07 04 02 Common Walls – Shall meet the following criteria:

A Rating – STC 55 minimum at demising walls, stair walls, and mechanical walls.

B Joint Caulking – Shall occur at the base and top of walls on both sides of the wall to maintain the proper STC rating.

C Electrical Boxes – Electrical boxes and low-voltage boxes shall be sealed in electrical/acoustical putty and staggered a minimum of one stud bay from boxes in adjacent space to limit sound transmission.

07 04 03 Plumbing Walls – STC 52 minimum between bathrooms and kitchens, and external program and units.

07 04 04 Floors and Ceilings – STC of 55 and IIC 53 minimum. In new construction, wall and floor assemblies shall conform to rated UL assemblies.

07 04 05 Bedrooms – Stud cavities at perimeter of bedrooms and bedroom closets to be filled with acoustic batt at all adjacencies to other unit spaces. Bedroom common walls shall refer to 07 04 01 above.

07 04 06 Adaptive Reuse and Renovations – RIHousing shall evaluate all soundproofing techniques and methods on a case-by-case basis.

## 07 05 New Pitched Roofs

07 05 01 Slope – Provide a minimum roof slope ratio of 4/12; An exception may be granted if, as applicable to the project, the roof slope can be designed for consistency with the existing and/or historical character of the neighborhood.

07 05 02 Solar Reflectance Index – Minimum SRI 25, or as required to comply with Energy Code.

07 05 03 Manufacturer's Warranty – 30 years from the date of substantial completion.

07 05 04 Installer's Warranty – Minimum 2 years from the date of substantial completion.

07 05 05 Ice/Water Protection – Self-adhered bituthene product shall be installed at a minimum from the edge of the roof to 2' beyond the interior face of the exterior wall below, 3' on both sides of roof valleys, and 2' on the deck and 1' up the wall at roof/wall intersections prior to installing metal drip edge, felt paper and shingles. Locations not required to be covered by a self-adhered bituthene product per above, shall include a minimum 15 lb felt underlayment. Development teams shall consult roofing warranties for additional requirements.

07 05 06 Gutters and Downspouts – Aluminum with a minimum thickness of .032" for gutters and .032" for downspouts. Where downspouts are not hard piped to underground systems, provide concrete or stone splash pads pointing away from the path of travel.

## 07 06 New Flat Roofs

07 06 01 Material - EPDM or TPO with a minimum thickness of .060"

07 06 02 Solar Reflectance Index – Minimum 78

07 06 03 Manufacturer's Warranty – Minimum 20 years from date of manufacturer's final acceptance of the roofing system for wind speed as required by code or as indicated on the drawings.

07 06 04 Installer's Warranty – Minimum 2 years from the date of substantial completion.

## 07 07 Existing Roofs

07 07 01 Allowance – Carry an adequate allowance for replacement of all roofing/substrate components.

07 07 02 Damaged Decking/Sheathing – Replace or repair prior to installation of new roofing system.

07 07 03 Existing Flat Roof Systems – Shall be stripped in entirety to examine the existing decking for damage or deterioration. The overlay of existing flat roof systems is not allowed, although waivers may be granted pending the results of moisture testing of the sub-base.

07 07 04 Existing Roof Covering – Shall be replaced if blistered and the mineral covering is substantially deteriorated.

07 07 05 Missing Components – Repair or replace missing/leaking shingles and flashing on functional roofs.

07 07 06 Roof Shingles – All layers shall be stripped to the decking/sheathing when re-roofing.

Decking/sheathing shall be examined for large gaps and/or spaces, cracked boards or deterioration. If large gaps or spaces exist between boards or sheathing the roof shall be overlaid with 1/2" exterior plywood underlayment prior to installing new shingles. Rotted decking/sheathing shall be removed and replaced down to framing. The overlay of existing shingle or pitched roof systems is not allowed.

07 07 07 Slate Roofs – Existing historical roofs shall be repaired in accordance with the Secretary of the

Interior's "Standards for Rehabilitation" project requirements if applicable.

<https://www.nps.gov/tps/standards/rehabilitation.htm>

07 07 08 Rooftop Equipment – All unutilized or damaged rooftop equipment shall be removed.

## 07 08 Photovoltaic System

07 08 01 Manufacturer's Warranty – Product and Performance are to be guaranteed for a minimum of 20 years from the date of installation. Performance to be warrantied to include a degradation of no greater than 10% of labeled output.

## 07 09 Exterior Cladding

07 09 01 Existing Buildings – Cladding and trim to remain shall be intact, free of any defects, and weatherproof. Siding requiring more than 40% replacement shall be entirely removed and replaced. All wood components shall have a continuous coat of paint or stain. Replace existing wood siding on historic buildings as necessary per the Secretary of the Interior's "Standards for Rehabilitation" requirements.  
<https://www.nps.gov/tps/standards/rehabilitation.htm>

07 09 02 New Exterior Cladding – When located near high-traffic areas at ground level, cladding with greater durability shall be specified. Acceptable cladding materials include:

A Brick

B Wood Siding – Clear grade cedar clapboards of random lengths not less than 4' with an exposure of no more than 6". Finger jointed siding is not permitted.

C Wood Shingles – Either as panels (4" to 7" exposures, no. I grade vertical western red cedar panels available in 3-, 4-, and 5- course panels) or shingles (4" to 7" exposures, no. I grade vertical western red cedar shingles).

D Fiber Cement Siding – Reinforced with fiberglass mesh, with a typical thickness of 5/16" and a minimum thirty (30) year guarantee. The product shall have a minimum 15-year finish warranty.

E. LP SmartSide Siding with a 5-year full labor and materials warranty, a 15-year limited paint warranty on the finish, and a 50-year limited warranty on the substrate, for a total 5/15/50 limited warranty.

F PVC sheathing or Fiber Cement Panels – Joints covered by PVC or composite trim products.

G Back primed exterior paintable wood – Siding and trim materials, with primed cut ends to prevent moisture absorption (e.g. clear redwood or cedar). Note the use of pine for trim boards is not permitted.

H Alternative siding materials – Will be considered depending on the type of development and location, subject to RIHousing discretion, are as follows:

o Stucco - Portland cement plaster with a minimum 3/4" thickness. Acceptable products: Florida stucco, California stucco. Where stucco or EIFS siding meets grade, utilize mulch beds or similar around the foundation to deter damage from weed whackers/landscaping equipment.

- o Vinyl Siding – .042" to .048" thick and has a twenty-five (25) year guarantee. All vinyl J channel, F channel, and other necessary vinyl accessories shall be concealed behind trim boards. If vinyl siding is used on the first floor, it shall be a heavy gauge premium vinyl or a more durable material (e.g. cement board siding, vinyl shingles, pre-primed clear cedar clapboards or shingles). Acceptable products: Wolverine, Alcoa, CertainTeed, Heartland, Allside. Similar products may be submitted to RIHousing for approval. All trim and corner boards shall PVC trim such as Azek and/or reinforced vinyl trim products with built-in 'J' channel.
- o Masonry – Alternative masonry products (i.e. CMU, stone, granite, precast panels, etc.)
- o Poly-ash or PVC Trim Products – Required for wet areas such as: water tables, window sills, door trim, and skirt boards in close proximity to grade, soffit facias, rakes, and trim boards along or in contact with roofs, etc.

## Division 8 – Windows and Doors

### 08 01 Windows

08 01 01 Performance – Windows and doors shall be Energy Star certified.

08 01 02 New Construction or Replacement – Shall meet the following:

A Frames – Fiberglass, vinyl/uPVC, vinyl-clad, or aluminum that are thermally broken with a minimum thickness of frame wall – 3mm .12" or 1/8". If the building is located in a historic district or is listed on the National Register, the appropriate authority shall approve the type of window used. Note that wood frames are permitted on historic buildings.

B Warranty – Minimum ten (10) years on frames, twenty (20) years on glazing, ten (10) years on finishes, and two (2) years on hardware, from the date of substantial completion.

C Screens – Operable half screens for single and double-hung windows, full screens for tilt-turn or casement windows.

D Testing – In projects with 12 or more units, a qualified independent testing and inspecting agency shall perform field air and water infiltration testing of 3 or more fully installed and flashed windows in compliance with AAMA 502. Windows are to be selected by the Architect and include a sampling of different window types, locations, and cladding types as is feasible.

E Flashing – Install full-depth flashings on the rough openings of all windows and exterior doors. Windows, doors, and corner board locations, mechanical and plumbing penetrations shall have self-adhered flashing installed to all perimeters and sills for protection against air, water, and moisture.

F Living and Bedrooms – To have a minimum of one operable window with locking hardware. Windows shall have one operable sash to minimize maintenance issues, if permitted by code.

G Limiters or Guards – Install in all windows lower than 18" from the finish floor to prevent falling. New construction shall meet code including window guards or limiters.

H Accessible Units – Window controls within all accessible units shall be located within accessible reach ranges no more than 54" above the finished floor. Window controls are strongly encouraged to be located within accessible reach ranges within all units, and no more than 48" above the finished floor at accessible units. Note that other funding requirements may differ, and the most stringent requirement shall be enforced.

08 01 03 Existing Windows to Remain – Structures with existing windows may be allowed to remain when storm windows and screens are installed. To be reviewed on a case-by-case basis. Minimum criteria includes:

A Performance – Capable of providing adequate seal against air infiltration, the elements, and deemed to be appropriately energy efficient in order to meet the standards set by the development's overall energy efficiency strategy.

B Weather Stripping – Install new weather stripping to provide a seal against weather elements and air infiltration.

C Air Seal – Within shim spaces and window weight pockets as feasible

D Restore and Modify – As required to provide useful life. Windows shall have lead free friction surfaces and panned sills.

E Testing – Shall be tested and modified as necessary to operate smoothly/properly per code.

F Historic Windows - If designated to remain shall be restored to sound serviceable condition, and in accordance with the Secretary of the Interior's "Standards for Rehabilitation" project requirements.

G Hardware – Shall be intact and operational, or be replaced with new hardware as required

## 08 02 Doors

08 02 01 Exterior Common Entrance – Shall provide at a minimum:

A Doors – Minimum 1-3/4" thick, 18-gauge raised panel steel insulated doors with 16-gauge steel frame or 1-3/4" solid core wood raised panel door suitable for exterior locations. 1-4 unit developments may use 20-gauge doors. Aluminum Storefront Systems are an acceptable alternative for larger projects, provided they meet the requirements of the Energy Code.

B Door Width – Minimum 36" wide, with a 32" clear opening when door leaf is open 90 degrees.

C Hardware – Shall include lever style handle, self-locking mechanism, closers, and weather-stripping.

D Auto Door Openers – Shall be included at all primary building entrances, including entrances to Community Buildings.

08 02 02 Exterior Unit Entrance Doors – Shall provide at a minimum:

A Doors – High-quality fiberglass doors with Energy Star ratings for non-fire rated unit entry doors, which open directly to the building exterior. In 1-4 unit residential developments solid wood frames are an acceptable alternative. Hardware to include lever style handle.

B Storm Doors – Shall be provided that include: self-closer, full vision panel with self-storing screen, safety chain to prevent tear outs in high winds, and installed with frame fastened back to wall framing using long screws. Note that Rhode Island State Law requires that exterior entrances opening directly into dwelling units be equipped with a screened door. Refer to RI Law: R.I.G.L. 45-24.3-6&10.

<http://webserver.rilin.state.ri.us/Statutes/TITLE45/45-24.3/INDEX.htm>

C Door Width – Minimum 36" wide, with a 32" clear opening when door leaf is open 90 degrees.

08 02 03 Exterior Sliders/Patio Doors – Aluminum or protected wood shall be at minimum double-glazed and provided with a thermal break and screens.

08 02 04 Interior Doors – Shall provide at a minimum:

A Door Construction – 1-3/8" solid wood or solid/ semi-solid core high-density fiberboard (HDF). Hollow core doors are acceptable at closets only.

B Door Width – Minimum 34" wide, with a 32" clear opening when door leaf is open 90 degrees. 36" wide doors are strongly encouraged.

C Hardware – Provide lever style handles throughout, and include privacy locks with “coin turn” overrides at all bedrooms and bathrooms.

D Hollow Core Doors – In existing units shall be replaced, if damaged or scheduled for replacement within the first two (2) years as indicated on the projects Capital Needs Assessment.

E Stops – Base trim-mounted doorstops shall be supplied for all doors. Floor-mounted stops are only acceptable where base trim-mounted stops are not feasible. Wall-mounted bumpers/stops and hinge stops are not acceptable.

F Auto Door Openers – Required at primary interior community room entrances. Pre-wiring for the future installation of auto door openers is strongly encouraged at all other common programs (such as laundry rooms, meeting rooms, fitness centers, etc.)

08 02 05 Unit Entrances – Shall provide double-locking interconnected locksets with lever style hardware.

Regardless of the manufacturer, the operation of the lockset shall include the following features:

A From the exterior, key unlocks both latch and deadbolt.

B From the interior, turning knob disengages both latch and deadbolt at the same time.

C Single deadbolt locking interconnected locksets are an acceptable alternative.

08 02 06 Renovation / Rehabilitation – Restore doors as required to provide a useful life. Test and modify as necessary to operate properly. Install new weather stripping and sweeps to provide seal against weather elements and air infiltration. Historic doors designated to remain shall be restored to sound serviceable condition, and in accordance with the Secretary of the Interior’s “Standards for Rehabilitation” project requirements.

## Division 9 – Finishes

### 09 01 Interior Finish Coatings

09 01 01 New Construction – Shall provide:

A Paint – One coat of primer paint and two coats of finish paint

B VOCs – Paints, stains, and varnishes to have low (<50g/L) or no volatile organic compounds

C Substrate – Skim coat plaster on walls and ceilings over imperial drywall

D Finishes – Walls to have eggshell finish; Ceilings to have flat finish; Trims, baseboards, casings, and doors to have semi-gloss finish.

E Wet Spaces – Bathrooms, plumbing wet walls in kitchens, laundry rooms/closets, mechanical closets, and basement walls and ceilings shall provide moisture/mold resistant finishes and substrates, including:

Mildew-resistant eggshell finish paint on walls and ceilings (in lieu of general finishes above).

Moisture/mold resistant drywall, mold/mildew resistant fiberglass faced gypsum wallboard, cementitious backer board, or a skim coat plaster finish on walls/ceilings over an Imperial Drywall.

## 09 01 02 Renovation / Rehabilitation – Shall provide:

A Renewed Coatings – New paint, stain, or varnish coatings if provided at interior ceiling, wall, and trim surfaces shall have low (<50g/L) or no volatile organic compounds.

B Existing Walls, Ceilings and Trim – To be free from peeling paint and loose or cracked plaster. Deteriorated or stained paint or wallpaper shall be removed prior to preparation and painting. Solid plaster or wallboard that has uneven but sound surfaces may remain.

C Fire Rated Assemblies – Where existing finishes are proposed to remain as part of a fire-rated assembly, the State Preservation & Heritage Commission Office shall assist in making a determination as to the suitability. Refer to codes as they pertain to archaic materials and relevant NPS Preservation Briefs.

D Existing Trim – Shall be repaired and restored to usable condition, free of deterioration which compromises its use. Repair of historic woodwork & trims shall be in accordance with the Secretary of the Interior’s “Standards for Rehabilitation” project requirements.

<https://www.nps.gov/tps/standards/rehabilitation.htm>

## **09 02 Floor Coverings**

### 09 02 01 New Construction / New Flooring – Shall Provide:

A Unit Bedrooms, living areas, and kitchens – luxury vinyl tile (LVT) or plank (LVP) with minimal wear surface layer of 12 mils and 4" wood or vinyl/rubber base; Engineered wood/hardwood flooring is permitted throughout the dwelling unit except for kitchens and bathrooms, provided project funding is available.

B Unit Bathrooms – Ceramic Tiles or Porcelain Tile with ceramic or porcelain tile base, luxury vinyl tile (LVT) or plank (LVP) with minimal wear surface layer of 12 mils and 4" wood or vinyl/rubber base;

C Corridors, Community Rooms, and Foyers of scattered site developments – LVT or LVP with minimal wear surface layer of 20 mils and 4" wood or vinyl/rubber base. While discouraged, if carpet is proposed at corridors, it shall have a rating of  $\geq 3.5$  TARR (“Severe”).

D Stairs – Rubber or vinyl stair treads and risers the full width of the tread. The use of rubber stair treads is strongly encouraged. Vinyl/rubber base at landings. While discouraged, if carpet is proposed it shall have a rating of  $\geq 3.5$  TARR (“Severe”). Contrasting color shall occur at treads, risers, and stair landings to aid the visually impaired.

E Entrance Foyers /Vestibules – Impervious tile and base with entrance mat is strongly encouraged. Alternatively, carpet with wood or vinyl/rubber base is permitted, provided that carpet is glued-down berber weave or similar, with a rating of  $\geq 3.5$  TARR (“Severe”).

F Office – LVT, LVP, or Carpet with 4" wood or vinyl/rubber base. Carpet shall have a rating of  $\geq 3.0$  TARR (“Severe”).

G Public Restrooms Ceramic Tiles or Porcelain Tile with ceramic or porcelain tile base, –. Alternatively, VCT of .080-gauge minimum thickness with vinyl/rubber cove base is permitted.

H Basements and Ground Level Utility Rooms – 4" minimum concrete floors treated with hardener/sealer or painted

09 02 02 Renovations / Rehabilitation – Shall meet the following criteria:

A Existing Finishes – Existing hardwood, terrazzo, etc. may remain in order to maintain the same characteristics as previously installed or those of adjacent finishes.

B Existing Wood Flooring – In good condition should be repaired, sanded, and refinished.

C Substrate – All new flooring shall be installed over suitable substrates per manufacturer's specifications.

09 02 03 Thresholds/Transitions – Thresholds shall not exceed  $\frac{1}{2}$  inch height as measured from finished face of adjacent floor surfaces and shall be beveled on both sides with a slope no greater than one-in-two (1:2). Flooring transitions shall have an edge strip or threshold that is beveled at a ratio of one-in-two (1:2).

## 09 03 Exterior Finish

09 03 01 Wood, Poly-ash, or PVC Trim Products – One coat of primer, and two coats of finish acrylic paint, or solid wood stains.

09 03 02 Pressure-Treated Wood – Two coats of compatible stain.

09 03 03 Trim, Doors, and Rails – Semi-gloss finish, with paint product compatible with substrate.

09 03 04 Siding – Satin/eggshell finish. Flat finishes are strongly discouraged.

09 03 05 Renovation / Rehabilitation Projects – All exterior surfaces to be free from peeling paint and deteriorated/stained finishes. Remove all loose paint and address all sources of moisture that may compromise the lifespan of the finish prior to recoating. Bare wood must be primed with stain-concealing primer. Use only coating systems compatible with underlying paint/material.

# Division 10 – Specialties

## 10 01 Signage

10 01 01 Temporary Construction Signage – In conformance with RIHousing standards, temporary construction signage shall be furnished and installed by the Contractor, who will remove it when construction is complete. Refer to Chapter 7 “Supplementary Conditions”, Segment C for details.

10 01 02 Permanent Building and Unit Identification Signage – Shall meet the following requirements:

A Permanent Development Signs – Shall be installed at all new production developments and shall be distinct, well-designed, easily readable, and maintenance-free. Scattered site developments are exempt.

B Interior Signage – All rooms and interior unit entries shall be marked with high-contrast typeface, tactile numbers, and braille. Refer to the 2010 ADA standards for Accessible Design, Section 703 “Signs” for guidance. <https://www.ada.gov/law-and-regs/design-standards/2010-stds/#703-signs>

C Exterior Unit Signage – Exterior unit entries shall provide 4” minimum aluminum or brass numerical signage in compliance with local signage requirements, as applicable.

## 10 02 Accessories

10 02 01 Unit Bathrooms – Shall meet the following requirements:

A In-wall Blocking – required at all accessory locations.

B Accessories – Furnish and install the following:

- o Medicine cabinet with light (recessed cabinet where feasible), or surface mounted mirror with overhead light and additional enclosed storage within bathroom.
- o Towel bars 24" in length, minimum two, with at least one in close proximity to tub/shower.
- o Soap/Shampoo dish or shelf at showers. Soap dish can be integrated into tub/shower surrounds.
- o Double robe hook
- o Shower Rod
- o Toilet paper roll holder

10 02 02 Common Area Bathroom Accessories – Shall meet the following requirements:

A In-wall Blocking – required at all accessory locations.

B Accessories – Furnish and install the following:

- o Electric hand dryer
- o Mirror behind sink
- o Changing Table, fold-down style
- o Soap Dispenser
- o Toilet paper roll holder
- o Trash receptacle
- o Coat and bag hooks

10 02 03 Mailboxes – Mailboxes shall be in accordance with United States Postmaster requirements. See Division 1 requirements for package delivery narrative.

10 02 04 Fire Stop Canisters—Each kitchen range hood, located in common areas and within units, shall be outfitted with a pair of fire-stop canisters to prevent kitchen fires. Architects to coordinate rangehood selection to accommodate fire-stop canisters.

10 02 05 Fire Extinguishers – Extinguishers shall be furnished and installed in all common areas and corridors per code. Alternatively, dedicated extinguishers may be installed in each unit kitchen in lieu of corridor extinguishers when permitted per code.

## Division 11 - Equipment

### 11 01 Appliances

11 01 01 Energy Star – Provide certified refrigerators, range hoods, washers, dryers, and dishwashers.

11 01 02 Refrigerator/Freezer – Shall be frost-free, two-door style; At one-bedroom units provide with minimum 14.5 cubic feet, and at two or more bedroom units provide a minimum 18.0 cubic; At accessible units refrigerator/freezer shall be compliant with UFAS/ADA requirements.

11 01 03 Range – 30” minimum width electric range with integral oven. At accessible units, range shall be equipped with front controls and a self-cleaning oven. Gas ranges/ovens are not permitted.

11 01 04 Range Hood – To have washable grease filters. At accessible units, locate switch at apron of base cabinet within UFAS/ADA reach ranges. Re-circulation type hoods are encouraged, but only permitted when paired with a balanced central ventilation system.

11 01 05 Dishwashers – Required in all units containing one or more bedrooms.

11 01 06 Washer/Dryer – See “Laundry Facilities” under Division 15.

11 01 07 Non-Standard Equipment – Combination microwave range hood and garbage disposals are not considered standard equipment. However, if the development has sufficient non-RIHousing subordinate resources available, then these appliances can be included within each apartment.

## **Division 12 – Furnishings**

### **12 01 Kitchens and Bathrooms**

12 01 01 Kitchen Casework – Shall meet requirements for KCMA severe use. Acceptable alternatives shall be made of solid wood and plywood, without the use of MDF or particle board. Cabinet doors shall have raised or recessed panels and accessible door pulls. The use of flat panel cabinet doors shall be reviewed on a case-by-case basis.

12 01 02 Countertops – If laminate, one piece with rolled front edge and backsplash. More durable materials such as Quartz are permitted where not cost-prohibitive. Cultured stone vanity tops are acceptable in bathrooms. Contrasting color shall exist between counter tops and casework to aid the visually impaired.

12 01 03 Bathroom Vanities – Provide below sink storage are required in all dwelling units full and half-bathrooms except accessible units requiring clear knee space and rehabilitated units utilizing existing lavatories not adaptable to vanity arrangements. Cabinet doors shall have raised or recessed panels and accessible door pulls. The use of flat panel cabinet doors shall be reviewed on a case-by-case basis.

### **12 02 Window Treatments**

12 02 01 Type – Non-dust collecting types, such as fiberglass reinforced shades. Mini blinds are an acceptable alternative for projects with cost constraints. Provide vertical blinds at sliding patio doors, where present.

12 02 02 Openness – Opaque (e.g. “blackout”, or similar) window treatments are encouraged at bedrooms, especially in developments with adjacent street or site lighting. Shades with greater openness are encouraged at common areas and amenities to increase visibility.

## Division 13 – Specialty Construction

### 13 01 Lead Safe Construction

13 01 01 General – Renovation work shall be completed in a lead-safe manner as defined by the RI Rules and Regulations for Lead Poisoning Prevention (216-RICR-50-15-3). Furthermore, HUD Lead Safe Housing Rule (24 CFR, Part 35) requires various levels of evaluation and treatment of lead paint hazards when federal money is used for housing rehabilitation. All friction surfaces within units shall be made lead-free as defined by the aforementioned regulations. In addition, contracting firms shall become certified with the EPA and shall successfully complete an EPA-accredited renovator course for its workers. Furthermore, prior to tenant occupancy, post-abatement clearance testing shall be required for all units, soils, exteriors, common areas and water. The developer is responsible for the hiring of an independent Rhode Island licensed lead inspector to conduct all pre and post-abatement lead testing and clearance. Refer to Chapter 8 – “Lead Hazard Reduction Policy” for additional requirements.

### 13 02 Existing Asbestos

13 02 01 General – For renovations and rehabilitations, project must be assessed for the existence of asbestos-containing building materials by qualified professionals.

### 13 03 Radon Protection

13 03 01 General – All new construction and gut rehabilitation projects are required to install passive radon systems with wiring for future exhaust fans. All units with higher than EPA permissible exposure limits of 4.0 pCi/l for radon gas exposure are required to install active radon systems. In addition, community buildings, office buildings, maintenance buildings, and other auxiliary buildings where tenants or personnel occupy shall also comply with current radon guidelines. Radon testing is required pre and post construction in conformance with HUD, EPA and RIHousing protocols.

## Division 15 – Plumbing and HVAC

### 15 01 General

15 01 01 Design Team – All Mechanical and Plumbing systems shall be designed by an Engineer licensed in the State of Rhode Island.

15 01 02 Assumptions and Calculations – In developments with 12 or more units design documents shall clearly state assumptions and results/calculations of HVAC and plumbing system design.

15 01 03 Housekeeping Pads – At grade, provide a 4” thick concrete pad below all mechanical equipment. At wood framed floors and roofs provide support systems per manufacturer requirements.

15 01 04 Commissioning – Plan for a commissioning process in buildings with 12 or more units, to ensure that heating, ventilating, and air-conditioning (HVAC) systems perform in conformity with design intent. Commissioning Agent to provide testing and balancing reports/commissioning of systems in large multi-unit buildings (i.e. Heating and Cooling Systems greater than 200,000 BTU’s will require commissioning). At a minimum, manufacturer start-up reports shall be required for all new furnace, boiler, and HVAC equipment regardless of project size.

15 01 05 Final Commissioning Report – To be submitted to RIH for review and approval.

15 01 06 Water Damage Protection – Equipment storing any amount of water shall be located in rooms with floor drains and water-resistant floor coverings or drip pans with hard piped overflows. All boiler rooms are to be equipped with floor drains.

15 01 07 Refrigerant Piping – When located outdoors shall be jacketed for UV protection and sealed weather tight. The use of line set enclosures to hide/protect multiple line sets is encouraged.

15 04 08 Magnetic Filters – Systems that are retrofitted with new high efficiency boilers and new variable speed pumps with electronically commutated motors shall have magnetic filters installed to capture ferrous impurities in the piping system.

## 15 02 HVAC, New Construction and New Equipment

15 02 01 Ductwork – Seal all seams and joints with liquid mastic. Duct systems that cross compartmentalization boundaries shall be sealed to the following standards, based on SMACNA HVAC Air Duct Leakage Test Manual 2012: Seal Class A, Leakage Class 2 for round ductwork and Leakage Class 4 for rectangular ductwork. Ductwork to be pressure tested per Energy Star Requirements. The use of fiberglass/fibrous duct liner and duct-board is not permitted.

15 02 02 Concealment – Soffited, boxed, or concealed above ceilings within all dwelling unit living spaces. Exposed spiral ductwork will be reviewed on a case-by-case basis and is encouraged in mill conversion buildings and commercial areas with high ceilings.

15 02 03 Mechanical Penetrations – Seal all penetrations with corrosion and rodent-proof materials.

15 02 04 Unconditioned Spaces – Equipment and Ductwork is not permitted in unconditioned spaces located outside the thermal envelope.

15 02 05 Testing – Ducts shall be tested with duct blaster to be = $<8\%$  total leakage and = $<4\%$  leakage to outside. Submit duct test results to ClearResult for compliance.

15 02 06 Exterior Vents – Install mechanical vents that penetrate buildings on painted blocking and locate at side or rear elevations, or roof areas of the building wherever possible. Vents should be modest in scale and color that blends into the façade and aligned from floor to floor where possible to avoid a random appearance.

15 02 07 Controls and Thermostats – Individual wall-mounted controls and thermostats are required. Wireless controls are discouraged. Controls/Thermostats shall be mounted with operable portion of screen/device no higher than 48" above the finished floor. In Type A and visual/hearing impaired accessible units all controls and thermostats shall be located in places unlikely to be obstructed by furniture and include simple interface with large text. Controls and thermostats are strongly encouraged to be located in places unlikely to be obstructed by furniture at all units.

15 02 08 Sound and Vibration Isolation – All condensers attached to buildings or located on rooftops shall be installed with isolation pads or other means to prevent sound and vibration transmission to the interior.

15 02 09 Maintenance Utilities – Condenser and other similar equipment located on rooftops shall have a frost-proof hose bib and power outlet for maintenance measures.

15 02 10 Screening – Provide screening of large rooftop equipment located in highly visible locations or historically sensitive communities. Locate at-grade equipment so views and egress are not impeded and conceal with plant buffers or other screening at visible locations.

15 02 11 Balanced Ventilation – 24/7 balanced ventilation systems with air-to-air recovery are encouraged for all dwelling units. When Energy Recovery equipment is provided, its sensible recovery performance shall be greater than 80% and latent recovery greater than 50%.

15 02 12 Filters – Minimum MERV 13 filtration required on all incoming air streams and fan coils with recirculated air.

15 02 13 Electrical Rooms – Engineer to ensure that operational temperatures within all electrical rooms are controlled to ensure the safe operation and maintenance of all electrical equipment. As buildings move towards full-electrification and incorporate equipment related to electric-vehicle charging, the risk of uncomfortable and/or less efficient operational temperatures increases. As such, climate control of all electrical rooms is strongly encouraged.

### **15 03 HVAC, Renovation and Rehabilitation**

15 03 01 Air Conditioning – In projects without central HVAC systems, provide heavy-duty air conditioning brackets for future window installations. Specified brackets shall not void window warranties. In addition, developments that have only one egress window located in any unit area, shall utilize code-compliant air conditioners that do not restrict window egresses in accordance with HUD's Uniform Physical Condition Standards (UPCS). Dedicated air conditioner outlets shall be installed underneath or directly adjacent to at least one living room and one primary bedroom window.

15 03 02 Bathroom Fans – Energy Star rated continuous run or Smart Flow technology exhaust fan and light with integral timer and timer controls, or as required by code. A separate ceiling exhaust fan and light fixture with same function are acceptable alternatives. Sones:  $\leq 1$  for continuous run fans and  $\leq 3$  for intermittent fans. Verify exhaust approach meets code.

15 03 03 Exhaust – Unless prohibited by the Energy Code or performance certification criteria, exhaust kitchen and bath moisture and odors to the exterior. The bathroom fan does not have to be continuously run if there is an alternate ERV system. Recirculating range hoods are only acceptable if an ERV system is present.

15 03 04 Existing Heating Systems – When inoperative, hazardous, or inefficient (under 75% efficiency per test) they shall be repaired to perform at a minimum of 80% efficiency or be replaced. Ductwork and piping shall be enclosed in all habitable areas. Boilers and furnaces shall be located in fire-resistant/rated areas per code.

15 03 05 Finned Tube Radiation – Where used, shall be high output with heavy gauge enclosure. Baseboard finned tube radiation is recommended to provide a more durable product with a longer expected useful life. Replace existing ones as appropriate.

## 15 04 Heating Systems

15 04 01 All Electric Heat Pumps – All-electric, Air-Source Heat Pump systems are required for space heating, and shall meet the following criteria:

A Type – Equipment to be “cold climate” type that operates down to -13F (Fahrenheit) and sized to provide the required heat on a design heating day (currently +5F in Rhode Island).

B Capacity – Heat pumps shall be sized per its derated capacity and not its nominal capacity.

C Snow Considerations – Exterior equipment shall be located carefully to be above expected snow height/drifts, and to facilitate periodic snow removal.

D Alternative Systems – Ground-source heat pump systems may be considered but require RIHousing review and approval.

E Hardship Request – Renovation/rehabilitation projects with limited intervention of building enclosure (i.e. no continuous exterior insulation) may not benefit from heat pump systems in the same way that new construction can. Development teams may submit a written request to demonstrate hardship, which shall be reviewed and approved/rejected at the discretion of RIHousing.

15 04 02 Electric Resistance Heat – Shall be limited to select areas such as: stairwells, utility closets, and other locations where it is used only as emergency, backup, or for limited freeze protection. Tamper-proof thermostats shall be installed and set for minimal heating.

15 04 03 Motors and Pumps – Premium efficiency motors with variable speed capability.

15 04 04 Controls – Control wiring and control strategies with outdoor temperature reset, if applicable.

15 04 05 Unoccupied Zones – Avoid unnecessary heating of unoccupied spaces, such as storage, mechanical, and utility areas where permitted by code.

15 04 06 Equipment Placement – Locating heating equipment in basements is strongly discouraged.

## 15 05 Domestic Hot Water Supply

15 05 01 All Electric Ready – At a minimum provide electric conduit with pull wire, an appropriately sized electrical panel, appropriately sized room(s), and ventilation to accommodate the future installation of air-source heat pump domestic hot water systems.

15 05 02 Water Heater – Equipment shall be all electric heat pumps or high efficiency, condensing, and direct vent combustion equipment. See Item 01 03 01 for minimum future electrification provisions. Atmospheric combustion is not permitted. System to supply the following minimum storage requirements:

Efficiency, one and two-bedroom units – 30-gallon water heater or central heating system.

Three-bedroom unit – 40-gallon water heater or central water heating system.

Four-bedroom unit – 55-gallon water heater or central water heating system.

Acceptable Alternatives – Properly sized/engineered high-efficiency on-demand water heaters are acceptable alternatives to standard tank systems so long as they provide equivalent capacity.

15 05 03 All Electric Heat Pump Water Heaters – All-electric, Air-Source Heat Pump systems are strongly encouraged for water heating, and if provided shall meet the following criteria:

A Type – Equipment to be “cold climate” type that operates down to -13F (Fahrenheit) and sized to provide the required heat on a design heating day (currently +5F in Rhode Island).

B Capacity – Heat pumps shall be sized per its derated capacity and not its nominal capacity.

C Snow Considerations – Exterior equipment shall be located carefully to be above expected snow height/drifts, and to facilitate periodic snow removal.

D Refrigerant – The use of R744 refrigerant is strongly encouraged (Carbon Dioxide with a Global Warming Potential of 1).

15 05 04 Electric Resistance Water Heaters – Shall be avoided to ensure the required RNC Tier Rating and Energy Star Certification are met.

15 05 05 Hybrid Heat Pump Type Water Heaters – Are strongly discouraged within dwelling units due to equipment noise and risk of cold drafts.

15 05 06 System Design – Locate equipment in close proximity to kitchens and bathrooms to minimize piping runs and increase overall system efficiency. Recirculation piping systems, where present, shall be optimized to limit system length, utilize variable speed pumps, and include self-balancing thermostatic balancing valves.

15 05 07 Water Quality – The plumbing system design shall include water quality treatment to meet the water heater manufacturer’s requirements and avoid the buildup of calcium carbonate scale. Water treatment may include filtration, chemical and/or electronic systems. Incoming water shall be tested for hardness, dissolved solids, pH and Chloride during the design phase of the project. Existing domestic hot water piping shall be flushed to remove built up scale.

## 15 06 Plumbing

15 06 01 Water Conservation – All newly installed fixtures (except kitchen faucets) shall meet the current published EPA water sense standards. Water-conserving plumbing fixtures, showerheads, and faucet aerators are required. Toilets may not exceed 1.28 gallons per flush. <https://www.epa.gov/watersense>

15 06 02 Exterior Walls – The installation of supply or drain piping within exterior walls is not permitted, except where serving an exterior fixture.

15 06 03 Main Shutoff – Provide a labeled shutoff for each dwelling unit located either in the unit or interior to the structure and easily accessible.

15 06 04 Hose Bibs – Exterior frost-proof hose bibs are required adjacent to landscape areas.

15 06 05 Supply Piping Insulation – Insulation and vapor jacketing to be provided per code.

15 06 06 Accessible Units – All exposed supply and drain piping below sinks, shall be insulated with a protective insulative jacket.

15 06 07 Acoustic Insulation – Roof drain “rain leaders” and domestic drain lines shall be insulated for acoustic considerations when traveling through dwelling units or amenity spaces.

15 06 08 Vent Stacks – Install plumbing stacks biased to rear roof areas as feasible to limit visibility. Consider black finished piping at pitched roofs, and white finished piping at flat roofs.

15 06 09 Sink, Shower, and Tub Faucet Hardware – Shall be single lever/handle style, with no knobs.

15 06 10 Toilet Levers – Shall be located on the access side of the toilet.

15 06 11 Accessible Bathrooms and Kitchens – All newly installed fixtures in accessibly designated units and all common areas shall be ADA-compliant (including Type A adaptable units, UFAS accessible units, public restrooms, community spaces, and similar. Toilets located within all accessible unit and common area bathrooms shall locate the top of the toilet seat between 17-19 inches above the finished floor.

## 15 07 Laundry Facilities

15 07 01 General – Accessible central laundry facilities shall be provided in all developments, at a ratio of one set of washer/dryer per 14 units, and one additional washer/dryer to be ADA compliant). The ADA-compliant facilities shall be located to be accessible by residents in accessible units. Energy Star rated washers and dryers shall be used if supplied at common laundry rooms. The building manager or developer shall contract out or purchase and install coin-operated equipment.

15 07 02 Gas Dryers – Are not permitted.

15 07 03 Dwelling Unit Laundry – Clothes washer and dryer connections shall be provided within each accessible dwelling unit where no central laundry facility is provided or is not easily accessible. If connections are supplied in every unit, the tenants are responsible for furnishing and installing laundry appliances.

15 07 04 Scattered Site Properties – Laundry equipment hook-ups (hot and cold water, electrical duplex outlet, 220V electrical dryer outlet, dryer vent to exterior) shall be installed in the basements.

15 07 05 Water Damage Protection – Central laundry rooms shall have floor drains and water-resistance floor coverings. In-unit washing machines shall have hard piped drip pans. All washing machines shall have water leak detection shut-off devices, and easily accessible shut-off valves.

15 07 06 Stacked Laundry Equipment – Vertical washer and dryer stacked combination units are discouraged due to cost but will be considered on a case-by-case basis.

## Division 16 – Electrical

### 16 01 Power Supply System

16 01 01 All Electric Ready – At a minimum all electrical service, equipment, and related room(s) to be sized to accommodate a future conversion to all-electric heating and domestic hot water systems.

16 01 02 Service – Per code, with a minimum 100-amp service for each dwelling unit.

16 01 03 Meters – Shall be installed on the sides and rears of buildings and buffered with plantings, as permitted by the electrical utility company and state electrical code.

16 01 04 Existing Components – The designer, in concert with the State electrical inspector, shall examine the system and equipment. Substandard or critical non-code-compliant components shall be replaced. Open circuit breakers, knockouts, and/or gaps in the electrical panel, junction boxes, and other fixtures shall be properly capped/blanked.

16 01 05 Existing Service Entrance – Shall have a minimum capacity of 100 amps and be in good condition and sized to safely service all outlets, fixtures, and appliances proposed to remain or be newly installed during the rehab. Essential motors requiring 240 volts shall have a separate dedicated circuit and outlet.

16 01 06 Commercial Devices – In dwelling units of projects with 12 or more units, commercial grade receptacles, switches, and all other wiring devices shall be installed.

16 01 07 Low Vision Lighting – Provide low-level floor surface lighting tied to a photoelectric sensor at all hallways and bathrooms within visual/hearing impaired units.

## **16 02 Lighting and Convenience Outlets**

16 02 01 Switches – Provide decora/rocker style switches centered no higher than 48" above finished floor.

16 02 02 Convenience Outlets – Shall be centered no higher than 18" above the finished floor, except at kitchen countertops, bathroom vanities, or as required by specialty equipment/appliances.

16 02 03 Energy Star Lighting - All new light fixtures shall be LED Energy Star Compliant.

16 02 04 Lighting Fixtures – Provide the following:

A In every habitable room – At least one light fixture or outlet controlled by a wall switch.

B Stairways within dwelling unit – Fixture(s) controlled by a three-way switch

C Common stairways/hallways – Fixtures controlled by a three-way switch or occupancy devices.

D Exterior stairs – Fixture(s) to illuminate exit discharge per code.

E Dining areas – Ceiling light fixture.

F Bathrooms – Ceiling light fixture, medicine cabinet light fixture, and exhaust fan. A GFI duplex convenience outlet is to be located close to the sink.

G Kitchens – Minimum of one overhead light fixture and one light fixture located above the sink area with separate switches.

H Closets – Ceiling light fixture at walk-in closets, laundry closets, and mechanical closet areas.

I Building Security – Flood lights shall be equipped with motion sensors and/or photocell/timeclock controllers. Parking lighting shall be on photocell/timeclock controllers.

## **16 03 Telecommunications**

16 03 01 Telephone – Pre-wire for telephone service in accordance with the current regulations of the utility company. Include the installation of terminal boxes and interconnects resulting in a system ready for operation. Provide one phone jack in each dwelling unit, and at management office(s) as required.

16 03 02 Cable/Data – Install rough wiring and jacks for CATV outlets in each dwelling unit living room, all bedrooms, management office, and in any common spaces including community rooms, lounges, and fitness rooms if provided. Cable services provided to developments shall have broadband capability compatible with the most current federal upload and download feed standards.

## 16 04 Security

16 04 01 Security Plans – Shall be provided for all developments.

16 04 02 Emergency Call Systems – In senior/assisted living developments, the installation of a fully operational call system is encouraged,

16 04 03 Security Systems – Projects containing more than 12 units and buildings that house the elderly, shall install security alarm and camera monitoring systems.

## 16 05 Doorbells and Intercoms

16 05 01 Scoping – Developments shall comply with the following as applicable:

A 1-3 units or exterior townhouse entries – Install doorbells.

B 4-12 units – Install intercom systems with electronic buzzers and door strikes in buildings with two or more floors.

C More than 12 units and two or more floors – Provide video intercom at all units.

D Hearing impaired units – Provide doorbells with combination strobe/sounder devices in all living spaces, bedrooms, and bathrooms within the unit.

16 05 02 Mounting Height – Mount doorbells centered no higher than 48" above the finished floor. Mount video intercoms (where required above) with operable portions of screen/device no higher than 48" above the finished floor.

## 16 06 Fire Alarms

16 06 01 General – Install per code. All fire alarm wiring shall be concealed in walls, ceilings, floors, and chases, where possible. In Historic or renovation projects, electrical metallic tubing (EMT) that cannot be concealed shall be installed along the perimeter of the room in inconspicuous locations and painted to match adjacent ceiling and/or wall areas.

16 06 02 Visual and Hearing-Impaired Units – Install devices tied to primary and local building fire alarm. Provide combination strobe/sounder devices in living rooms and bedrooms, and strobe devices in bathrooms.

## Division 21 – Fire Suppression

### 21 01 Sprinklers

21 01 01 General – System do be designed and installed per the following criteria:

A Verification – Install sprinklers per code.

B Scoping – Each riser should include tamper and flow switches tied to a central station alarm or fire department.

C Concealment – All fire protection piping shall be concealed in walls, ceilings, floors, and chases, where possible. In Historic or renovation projects, piping that cannot be concealed shall be installed along the perimeter of the room in inconspicuous locations and painted to match adjacent ceiling and/or wall areas.

D Escutcheon Plates – Are to be installed at all wall/pipe penetrations.

E Sprinkler Heads – Shall be clean and free of paint or other materials that may compromise water flow.

# Chapter 6 – Standards Compliance Checklist

This Standards Compliance Checklist shall be submitted along with the Chapter 4 Drawing and Specification Requirement Checklists relevant to your design stage submission and be submitted to RIHousing for review. Consult the “Directions for Submitter” description for guidance on filling out this document. RIHousing shall furnish an excel version of this checklist for development team use.

## Chapter 6 - Standards Compliance Checklist

Project Name:

Submission:

Date:

Submitter:

**Directions for Submitter:** Complete this Standards Compliance Checklist along with the Chapter 4 Drawing Checklist relevant to your design stage Submission, and submit it to RIHousing. Regardless of submission, all items shall be filled out, with items that are in full compliance indicated with a checkmark “✓”, and out of compliance or not applicable items indicated with an “X”. Reference locations in specifications and/or drawings shall be indicated to aid RIHousing Staff in compliance verification. Any comments required to explain why the project is out of compliance with a particular item or any scoring clarifications shall be indicated in the relevant column. The right most column shall be left blank for RIHousing Responses. Any questions in filling out this document shall be directed to RIHousing prior to your submission of this checklist.

Standards Reference	Requirement	✓	Reference Location Specification	Comments and Clarifications Drawing	RIHousing Responses (Staff Use Only)
<b>Division 01 - General Requirements</b>					
01 01 <b>Additional Resources</b>					
01 01 01	General				
	A Comprehensive Community Development				
	B Green Preservation Through Environmental Design				
	C Low Impact Development and Storm Water Management				
	D Indoor airPLUS				
	E Enterprise Green Communities				
01 02 <b>Exterior Appearance</b>	General				
01 02 01	A Coloristics				
	B Signage				
	C False Elements				
	D Fauxes				
	E Color Selections				
01 03 <b>Energy Efficiency and Sustainability</b>	General				
01 03 01	General				
	A Energy Efficiency Standards				
	B Moderate Rehabilitation				
	C Substantial Rehabilitation				
	D All Corrections and Historic Restorations				
	E New Construction				
	F Blower Door Testing				
	G Compartmentalization				
	H Net Zero and Passive House				
	I Photovoltaic Systems				
	A Structural Considerations				
	B PV Ready				
	C Capacity				
	D Configuration				
	E Geothermal and Wind				
	F Residential for Renewable Energy Programs				
	G LEED Commercial Scale				
	H BREEAM Commercial Scale				
	I LEED Residential Scale				
	J RTU Small Scale				
	K RTU Large Scale				
	L RTU Small Scale				
01 03 13	LEED				
01 03 14	Utility Benchmarking				
01 03 15	Healthy Home / Asthma Free Design				
01 03	Efficiency Certification Placeholder				
01 04 <b>Flood Resilience Standards</b>	General				
01 04 01	General				
	A Coastal Flooding				
	B Inland and Precipitation Related Flooding				
	C Building Systems				
	D Site and Egress				
	E Exceptions				
	F HUHD Regulations				
01 05 <b>Blasting</b>	General				
01 05 01	General				
01 06 <b>Structural Work in Renovations / Rehabilitations</b>	General				
01 06 01	General				
01 07 <b>Access</b>	General				
01 07 01	General				
01 08 <b>Dwelling Units</b>	General				
01 08 01	Unit Area				
01 08 02	Layout				
01 08 03	Rooms				
01 08 04	Kitchens				
01 08 05	Bathrooms				
01 08 06	Walkups				
01 08 07	Storage				
	A Bedrooms				
	B Cost				
	C Laundry				
	D Storage				
	E Remote Storage				
01 08 08	Furniture Walls				
	A Living Room				
	B Bedrooms				
	C Dining room/area				
	D Counter Units				
01 08 09	Accessible Dwelling Units				
	A UFAS “Accessible”				
	B Visually and Hearing Impaired				
	C Roll in Showers				
	D Low 31.5 in				
	E New Construction				
	F Substantial Rehabilitation				
	G Less-than-Substantial Rehabilitation				
	H 1 to 4 Unit Developments				
	I Additional Requirements				
Per Code	Confirmit grab bars are in compliance with NPPA 101				
Per Code	Confirmit grab bars are in compliance with UFAS				
01 08 10	Universal Design				
01 09 <b>Building and/or Development Amenities</b>	General				
01 09 01	Management Office				
01 09 02	Common Facilities				
	A Common Meeting Room				
	B Kitchen				
	C Laundry				
	D Toilet Room				
	E Proximity				
	F Age Restricted Developments				
01 09 03	Laundry Rooms				

01.09.04	Playground			
01.09.05	Outdoor Seating			
01.09.06	Mail Delivery			
01.09.07	Bicycle Storage			
01.09.08	Trash Collection			
<b>01.10</b>	<b>Elevator</b>			
01.01.01	General			
<b>Division 02 - Site Work</b>				
<b>02.01</b>	<b>General</b>	02.01.01	Applicability	
<b>02.02</b>	<b>Site Layout</b>	02.02.01	Parking	
		02.02.02	Utilities, General	
		02.02.03	Utilities, Parking Areas	
		02.02.04	Existing Mature Trees	
		02.02.05	Solar Orientation	
<b>02.03</b>	<b>Site Improvements</b>	02.03.01	General	
		02.03.02	sidewalks	
		02.03.03	Roadways	
		02.03.04	Parking	
		A Standards		
		B Quantities		
		C Screening		
		D Spaces		
		E Construction		
		02.03.05	Accommodations for Electric Vehicles	
		02.03.06	Plantings	
		A General		
		B Accent Landscaping		
		C Warranty		
		D Irrigation		
		E Plantings		
		F Sod		
		G Alternatives		
		02.03.07	Irrigation	
		02.03.08	Irrigation	
		02.03.09	Lighting	
		A General		
		B Efficiency		
		C Dark Spots		
		D Shielding		
		E Standards		
		F Edge Spillage		
		G Light Levels		
		H Dark Sky Compliance		
		02.03.10	Safety and Security	
		02.03.11	Outdoor Trash/Recycling Storage	
		02.03.12	Site Drainage	
		02.03.13	Grading	
		02.03.14	Debris	
<b>Division 03 - Concrete</b>				
<b>03.01</b>	<b>Foundations</b>	03.01.01	Existing Foundations	
		03.01.02	New Foundations	
<b>03.02</b>	<b>Basement Slabs</b>	03.02.01	Existing Slabs	
		03.02.02	New Slabs	
		03.02.03	Crab Spaces	
<b>Division 04 - Masonry</b>				
<b>04.01</b>	<b>Existing Masonry to Remain</b>	04.01.01	Chimneys	
		04.01.02	Historic Masonry	
		04.01.03	Mortar	
<b>Division 05 - Wood and Plastics</b>				
<b>05.01</b>	<b>Rough Carpentry, Sheathing</b>	05.01.01	Roising	
		05.01.02	Patched Roofs	
		05.01.03	Flat Roofs and Subfloors	
		05.01.04	External Structural Walls	
		05.01.05	Underframing	
		05.01.06	Rehabilitated Unit Flooring	
<b>05.02</b>	<b>Stairs, Porches, and Stoops</b>	05.02.01	General	
		05.02.02	Locnor	
		05.02.03	Texturing	
<b>05.03</b>	<b>Finish Carpentry</b>	05.03.01	Exterior Woodwork and Trim	
		05.03.02	Interior Trim	
		05.03.03	Interior Handrails	
		05.03.04	Exterior Handrails	
		05.03.05	Repair or Replace: Woodwork	
		05.03.06	Closet Sheathing	
<b>Division 07 - Thermal and Moisture Protection</b>				
<b>07.01</b>	<b>Residential New Construction (RNC) Program</b>	07.01.01	General	
<b>07.02</b>	<b>Thermal Insulation</b>	07.02.01	Air Barriers and Vapor Control Layers	
		07.02.02	Embodied Energy	
		07.02.03	Global Warming Potential	
		07.02.04	Resources	
<b>07.03</b>	<b>Under-Slab Vapor Control</b>	07.03.01	General	
<b>07.04</b>	<b>Sound Insulation</b>	07.04.01	General	
		07.04.02	Common Walls	
		A Radiant		
		B Joint Caulking		
		C Electrical Boxes		
		07.04.03	Plumbing Walls	
		07.04.04	Floor and Ceilings	
		07.04.05	Belairous	
		07.04.06	Adhesive Reuse and Reconditioning	

07 05 New Pitched Roofs	07 05 01 Slope 07 05 02 Solar Reflectance Index 07 05 03 Manufacturer's Warranty 07 05 04 Installer's Warranty 07 05 05 Ice/Water Protection 07 05 06 Gutters and Downspouts			
07 06 New Flat Roofs	07 06 01 Material 07 06 02 Solar Reflectance Index 07 06 03 Manufacturer's Warranty 07 06 04 Installer's Warranty			
07 07 Existing Roofs	07 07 01 Allowance 07 07 02 Damaged Decking/Sheathing 07 07 03 Existing Flat Roof Systems 07 07 04 Existing Roof Covering 07 07 05 Missing Components 07 07 06 Roof Shingles 07 07 07 Slate Roof 07 07 08 Roofing Equipment			
07 08 Photovoltaic Systems	07 08 01 Manufacturer's Warranty			
07 09 Exterior Cladding	07 09 01 Existing Buildings 07 09 02 New Exterior Cladding A Brick B Wood Siding C Wood Shingles D Fiber Cement Siding E PVC or Fiber Cement Panels F Back Primed Exterior Wood G Alternative Siding Materials			
<b>Division 08 - Windows and Doors</b>				
08 01 Windows	08 01 01 Performance 08 01 02 New Construction or Replacement A Frames B Warranty C Screens D Tearing E Flashing F Tying and Bedrooms G Lineracks or Guards H Accessible Units 08 01 05 Existing Windows to Replace A Performance B Weather Stripping C Air Seal D Remove and Modify E Tearing F Historic Windows G Hardware Per Code: Window Egress Sizing			
08 02 Doors	08 02 01 Exterior Common Entrance A Doors B Door Width C Hardware D Auto Door Openers 08 02 02 Exterior Unit Entrance Doors A Door B Storm Doors C Door Width 08 02 03 Exterior Sliders/Panel Doors 08 02 04 Interior Doors A Door Construction B Door Width C Hardware D Hollow Core Doors E Storm F Auto Door Openers 08 02 05 Unit Entrances 08 02 06 Renovation / Rehabilitation Per Code: General Door Hardware Per Code: Unit Entry Peep Holes Per Code: Unit Entry Stormdoors			
<b>Division 09 - Finishes</b>				
09 01 Interior Finish Coatings	09 01 01 New Construction A Paint B VOC's C Substitute D Finishes E Wet Spaces 09 01 02 Renovation / Rehabilitation A Renewed Coatings B Existing Walls, Ceilings, and Trim C Fire Rated Assemblies D Tearing Trim			
09 02 Floor Coverings	09 02 01 New Construction / New Flooring A Unit Bathrooms, Living Areas, and Kitchens B Unit Bathrooms C Corridors, Community Rooms, and Shared Site Foyers D Stairs E Entrance Foyers and Vestibules F Office G Bathrooms H Basements and Ground Level Utility Rooms 09 02 02 Renovation / Rehabilitation A Existing Finishes B Existing Wood Flooring C Substitute			
09 03 Exterior Finish	09 03 01 Wood, Poly-ash, or PVC Trim Products 09 03 02 Pressure-Treated Wood 09 03 03 Trim, Doors, and Rails 09 03 04 Siding 09 03 05 Renovation / Rehabilitation Projects			

## Division 10 - Specialties

10 01	Signage			
10 01 01	Temporary Construction Signage			
10 01 02	Permanent Building and Unit Identification Signage			
A	Permanent Development Signs			
B	Interior Signage			
C	Exterior Unit Signage			
10 02	Accessories			
10 02 01	Unit Bathrooms			
A	In-Wall Blocking			
B	Accessories			
10 02 02	Common Area Bathroom Accessories			
A	In-Wall Blocking			
B	Accessories			
10 02 03	Mailboxes			
10 02 04	Fire Stop Canisters			
10 02 05	Fire Extinguishers			

## Division 11 - Equipment

11 01	Appliances			
11 01 01	Range/Stove			
11 01 02	Refrigerator/Freezer			
11 01 03	Range			
11 01 04	Range Hood			
11 01 05	Dishwashers			
11 01 06	Washer/Dryer			
11 01 07	Non-Standard Equipment			

## Division 12 - Furnishings

12 01	Kitchens and Bathrooms			
12 01 01	Kitchen Casework			
12 01 02	Countertops			
12 01 03	Bathroom Vanities			
12 02	Window Treatments			
12 02 01	Type			
12 02 02	Openness			

## Division 13 - Specialty Construction

13 01	Lead Safe Construction			
13 01 01	General			
13 02	Existing Asbestos			
13 02 01	General			
13 03	Radon Protection			
13 03 01	General			

## Division 15 - Plumbing and HVAC

15 01	General			
15 01 01	Design Team			
15 01 02	Assumptions and Calculations			
15 01 03	Housekeeping Pads			
15 01 04	Commissioning			
15 01 05	Final Commissioning Report			
15 01 06	Water Damage Protection			
15 01 07	Refrigerant Piping			
15 01 08	Magazine Filters			
15 02	HVAC, New Construction and New Equipment			
15 02 01	Ductwork			
15 02 02	Concealment			
15 02 03	Mechanical Penetrations			
15 02 04	Unconditioned Spaces			
15 02 05	Testing			
15 02 06	Exterior Vents			
15 02 07	Controls and Thermostats			
15 02 08	Sound and Vibration Isolation			
15 02 09	Maintenance Utilities			
15 02 10	Screening			
15 02 11	Balance Ventilation			
15 02 12	Filters			
15 02 13	Electrical Rooms			
	Sealed combustion air			
15 03	HVAC, Renovation and Rehabilitation			
15 03 01	Air Conditioning			
15 03 02	Bathroom Fans			
15 03 03	Exhausts			
15 03 04	Existing Heating Systems			
15 03 05	Finned Tube Radiation			
15 04	Heating Systems			
15 04 01	All Electric Heat Pumps			
A	Type			
B	Capacity			
C	Snow Considerations			
D	Alternative Systems			
E	Hardship Request			
15 04 02	Electric Resistance Heat			
15 04 03	Motors and Pumps			
15 04 04	Controls			
15 04 05	Unoccupied Zones			
15 04 06	Equipment Placement			
15 05	Domestic Hot Water Supply			
15 05 01	All Electric Ready			
15 05 02	Water Heater			
15 05 03	All Electric Heat Pump Water Heaters			
A	Type			
B	Capacity			
C	Snow Considerations			
D	Refrigerant			
15 05 04	Electric Resistance Water Heaters			
15 05 05	Hybrid Heat Pump Type Water Heaters			
15 05 06	System Design			
15 05 07	Water Quality			
15 06	Plumbing			
15 06 01	Water Conservation			
15 06 02	Exterior Walls			
15 06 03	Mass Shutoff			
15 06 04	Hot Piping			
15 06 05	Sewer Piping Installation			
15 06 06	Accessible Units			
15 06 07	Acoustic Insulation			
15 06 08	Vent Stacks			

15.06.09 Sink, Shower, and Tub Faucet Hardware  
 15.06.10 Toilet Levers  
 15.06.11 Accessible Bathrooms and Kitchens


**15.07 Laundry Facilities**  
 15.07.01 General  
 15.07.02 Gas Dryers  
 15.07.03 Dwelling Unit Laundry  
 15.07.04 Scattered Site Properties  
 15.07.05 Water Damage Protection  
 15.07.06 Stacked Laundry Equipment

#### Division 16 - Electrical

**16.01 Power Supply System**  
 16.01.01 All Electric Ready  
 16.01.02 Service  
 16.01.03 Meters  
 16.01.04 Existing Components  
 16.01.05 Existing Service Entrance  
 16.01.06 Commercial Devices  
 16.01.07 Low Vision Lighting  
 Per Code: Metering


Provide individual apartment metering in developments exceeding 10 dwelling units, per RI State Law.

**16.02 Lighting and Convenience Outlets**

16.02.01 Switches  
 16.02.02 Convenience Outlets  
 16.02.03 Energy Star Lighting

16.02.02 Lighting Fixtures  
 A Foyer/Inhabitable Room  
 B Stairways within Dwelling Units  
 C Common Stairways/Hallways  
 D Exterior Stairs

E Dining Areas  
 F Bathrooms  
 G Kitchens  
 H Closets  
 I Building Security

Per Code: Commissioning

Provide commissioning of lighting controls system, per code.

**16.03 Telecommunications**

16.03.01 Telephone  
 16.03.02 Cable/Data

**16.04 Security**

16.04.01 Security Plans  
 16.04.02 Emergency Call Systems  
 16.04.03 Security Systems

**16.05 Doorbells and Intercoms**

16.05.01 Scoping

**16.06 Fire Alarms**

16.06.01 General  
 16.06.02 Visual and Hearing Impaired Units






#### Division 21 - Fire Suppression

**21.01 Sprinklers**

12.31.01 General  
 A Ventilation  
 B Scoping  
 C Concealment  
 D Enclosures/Places  
 E Sprinkler Heads


# Chapter 7 – Supplementary General Conditions

## 7A – Project Specifications

The following are to be incorporated into the project specifications:

- 1 The Owner and Contractor acknowledge and understand that the work to be performed under this contract is to be financed by a construction loan to be secured by a mortgage. The terms of said loan are set forth in a Construction Loan Agreement between the Owner as a Borrower and RIHousing or another Construction Lender.
- 2 Changes in the Drawings and Specifications or any terms of the Contract Documents, or orders for extra work that add or delete from the work which will result in any construction cost change, or will change design, may be effectuated only with the prior written approval of the Owner and RIHousing and under such conditions as RIHousing may establish. RIHousing will allow the following combined overhead and profit for additional work resulting from approved change orders:

o To the General Contractor, for work performed by its own forces	12%
o To any Subcontractor, for work performed by its own forces	12%
o To any General Contractor, for work performed by its Subcontractor	8%

Note: All Change order requests must be submitted with itemized labor, materials, equipment and contract mark-ups for proper analysis. Mark-up on insurance is not allowed. The mark-up on bonds shall be limited to the percentage paid for the bond.

- 3 The date of substantial completion shall be the date RIHousing endorses the final Development Inspection Report (RIHousing Form HF-30 "Permission to Occupy").
- 4 The Contractor shall attach to each request for payment its acknowledgment of payment and all subcontractor's and suppliers' acknowledgments of payment for work done and materials, equipment and fixtures furnished through the date covered by the previous payment. Concurrent with the final payment, the contractor shall execute a waiver or release of lien for all work performed and materials furnished thereunder, and the Contractor shall obtain similar waivers or releases from all subcontractors and suppliers.
- 5 Upon completion of construction, the Contractor shall furnish to the Owner an "as-built" survey showing the location of all improvements constructed thereon, and showing the location of all water, sewer, gas, electrical, and telephone lines and mains, storm sewers, and of all existing utility easements. Such survey shall be prepared by a licensed surveyor who shall certify that the work is installed and erected entirely upon the land covered by the Mortgage and within any building restriction lines on said land and does not overhang or otherwise encroach upon any easement or right-of-way of others.
- 6 The Contractor shall furnish and pay the premium for Performance and Payment Bonds equal to 100% of the contract price. Said bonds shall be in Dual Obligee form to the Owner and RIHousing. In lieu of said bonds, a letter of credit equal to 15% of the total construction cost may be provided by a bank approved by RIHousing.
- 7 RIHousing and its agents or assigns, at all times during construction, have the right of entry and free access to the development and the right to inspect all work done and materials, equipment and fixtures furnished, installed or stored in and about the development.
- 8 RIHousing reserves the right to request one (1) copy of all approved shop drawings, catalog cuts, samples, etc.
- 9 RIHousing will be furnished one (1) copy of all change orders. The Owner and Contractor acknowledge and understand that funding of approved change orders during construction are the responsibility of the Owner and must be obtained from sources outside of the Mortgage Loan. RIHousing will have the exclusive right of determination.

- 10 The Architect will perform field inspection services of a nature and frequency determined by construction progress and sound professional judgment. Field inspections will encompass all disciplines (e.g. architectural, mechanical, electrical, site, etc.).
- 11 Field and laboratory testing service requirements to be paid for by the Contractor shall be incorporated into the technical specifications. These shall include, but not necessarily be limited to, soil compaction and analysis, concrete design, mix, concrete compression, pile load test. RIHousing shall be provided with copies of all test reports as these reports are available.
- 12 AIA Forms G702 and G703 (latest editions) will be utilized for Contractor requisitions.
- 13 Notwithstanding any agreements to the contrary between the Owner and the Contractor, the Lender will advance for construction monthly from mortgage proceeds 95% of the value of work in place (including fees), and material stored on the development site. With the concurrence of the Owner, and upon written request, the Lender will consider a reduction of the retainage percentage from 5% to 2.5% upon Substantial Completion of the work included in the contract. Retainage can be further lowered to 1% at Occupancy. Developments with multiple buildings shall be allowed to use these retainage provisions on a building by building and contractual basis.
- 14 Notwithstanding any agreement to the contrary between the Owner and the Architect, the Lender will advance requisitions for architectural services during the construction administration/ supervision phase in increments proportional to the Contractor's progress billings. In no event will the Supervising Architect be paid in full prior to development final completion and project close-out.
- 15 Construction Completion – Mortgagors of all developments must assume financial responsibility for the completion of construction. Any cost overruns shall be the sole responsibility of the mortgagor.
- 16 Cost Certification – Cost certification for the developer and general contractor must be submitted at the completion of the construction period prior to the final advance of funds.
- 17 In-state Subcontractor Requirements – A minimum of fifty percent (50%) of the value of the construction contract shall be awarded to Rhode Island construction firms. A Rhode Island construction firm shall be defined as a contractor/subcontractor whose place of business is located in the State of Rhode Island and is registered and/or licensed in the State of Rhode Island.
- 18 Non-Resident (Out of State) Contractor Tax Compliance – Notwithstanding anything herein to the contrary provided, in the event that any contractor or subcontractor is a “non-resident contractor” as that term is used in Section 44-1-6 of the General Laws of Rhode Island, as amended, Lender shall withhold 3% of the cumulative value of these contracts until such time as the Borrower has complied with the provisions of this Section. All non-resident (out of state) contractors or subcontractors shall be required to furnish a “No Tax Due” affidavit issued by the R.I. Division of Taxation as evidence of compliance with this law.
- 19 For projects that have received funds generated from state and Local Fiscal Recovery Funds, the following section will be applicable:

American Rescue Plan Act (“ARPA”) Reporting and Maintenance of and Access to Records: Owner and Contractor agree to comply with any reporting obligations established by RIHousing and Treasury as they relate to use of ARPA and State and Local Fiscal Recovery Funds (“SLFRF”). Owner and Contractor shall maintain records and financial documents sufficient to evidence compliance with Treasury regulations implementing ARPA, and guidance issued by Treasury regarding ARPA. RIHousing, the Treasury Office of Inspector General and the Government Accountability Office, or their authorized representatives, shall have the right of access to records (electronic and otherwise) of Owner and Contractor in order to conduct audits or other investigations. Records shall be maintained by Owner and Contractor for a period of five (5) years. Owner and Contractor’s reporting obligations shall include, without limitation, reporting on the following:

A To the extent applicable, certification that all laborers and mechanics employed by contractors and subcontractors for such projects are paid wages of at least the prevailing wage rate as determined by the U.S. Secretary of Labor in accordance with the Davis-Bacon Act (40 U.S.C. Chapter 31, Subchapter IV) as applicable to Rhode Island.

If such certification is not provided, Owner and Contractor must provide a project employment and local impact report detailing each of the following:

- o The number of employees of contractors and subcontractors working on the project;
- o The number of employees on the project hired directly and hired through a third party;
- o The wages and benefits on the project by classification; and
- o Whether those wages are at rates less than those prevailing.

B To the extent applicable, a certification that a project includes a project labor agreement, meaning a pre-hire collective bargaining agreement consistent with section 8(f) of the National Labor Relations Act (29 U.S.C. 158(f)).

If such certification is not provided, the Owner and Contractor must provide a workforce continuity plan detailing each of the following:

- o How the Owner and Contractor will ensure the project has ready access to a sufficient supply of appropriately skilled and unskilled labor to ensure high-quality construction throughout the life of the project including a description of any required professional certifications and/or in-house training;
- o How the Owner and Contractor will minimize the risk of labor disputes and disruptions that would jeopardize the timeliness and cost effectiveness of the project;
- o How the Owner and Contractor will provide a safe and healthy workplace that avoids delays and costs associated with workplace illnesses, injuries, and fatalities, including descriptions of safety training, certification, and/or licensure requirements for all relevant workers; and
- o Whether workers on the project will receive wages and benefits that will secure an appropriately skilled workforce in the context of the local or regional labor market.

C Whether the project prioritizes local hires.

D Whether the project has a Community Benefit Agreement, with a description of any such agreement.

## **7B – Equal Opportunity and Affirmative Action Rules and Regulations**

### **Section 1 – Purposes of Procedures:**

RIHousing has determined that a need exists to ensure that recipients of its funds under the Rental Housing Production Program do not discriminate in their hiring or contract practices on the basis of race, sex, national origin, age, religion, sexual orientation, handicap or status as a veteran. RIHousing has also determined that it is necessary to take affirmative action to eliminate the vestiges of past societal discrimination and to ensure equal employment opportunities and social advancements for minorities and women. These Rules and Regulations set forth requirements established by RIHousing to ensure non-discrimination and affirmative action by Developers, Contractors, and Subcontractors, and shall be construed and applied so as to accomplish the objective stated above.

### **Section 2 – Construction of Rules and Regulations and Definitions:**

Unless otherwise defined herein or unless a different meaning is required from the context in which they are used herein, all words and terms used in these Rules and Regulations are as defined in the Act.

- 1 “Act” means the Housing and Mortgage Finance Corporation Act more particularly set forth in R.I.G.L. 42-55 as amended.
- 2 “Affirmative Action Officer” (AAO) means the individual(s) appointed by the Executive Director to serve as AAO under these Rules and Regulations.
- 3 “Board of Commissioners” means the Board of Commissioners of the RIHousing and Mortgage Finance Corporation.
- 4 “Contractor” means an individual, corporation or partnership retained by a Developer to serve as a general contractor or construction manager in the construction of a development.
- 5 “Corporate Office” means 44 Washington Street, Providence, Rhode Island 02903.
- 6 “Development” means a multi-family residential housing complex developed under the Program.
- 7 “Executive Director” means the Executive Director of RIHousing.
- 8 “Hearing Officer” means the individual or individuals appointed by the Executive Director to serve as a Hearing Officer under these Rules and Regulations.
- 9 “Minorities” or “Minority” means person or persons who is included in any of the following racial and ethnic categories:
  - a African American/Black – A person having origins in any of the black racial groups of Africa.
  - b American Indian or Alaskan Native – A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.
  - c Asian or Pacific Islander – A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands.
  - d Hispanic/Latino – A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- 10 “Minority and Female Owned” means businesses in which at least fifty-one percent (51%) of the ownership interest is held by, and which are managed and controlled by minorities and/or women, and which have obtained written certification thereof from the state in which their principal office is located or from such other governmental or non-governmental office, board, commission, department, agency or entity satisfactory to RIHousing.
- 11 “Mortgage Loan” means a loan made to a Developer for the purpose of providing construction or permanent financing, or both, for a Development.
- 12 “Program” means the RIHousing Rental Housing Production Program.
- 13 “Proposal” means a written proposal for the construction, development and/or rehabilitation of a development.
- 14 RIHousing means RIHousing and Mortgage Finance Corporation, a public corporation organized and existing under the Act.
- 15 “Developer” means corporations, individuals, joint ventures, partnerships, limited partnerships, trusts, firms, associations, or other legal entities or any combination thereof, whether organized for profit or not, qualified either to own, construct, acquire, develop or rehabilitate a Development.
- 16 “Subcontractor” means individuals, corporations, joint ventures, partnerships, limited partnerships, associations, or other legal entities retained by a Developer or Contractor to render services, or services and material in connection with the construction or rehabilitation of a Development.
- 17 “Suspension” means disqualification of a Developer from participation in RIHousing’s programs and suspension of Developer’s rights to disbursements from Mortgage Loan.

- 18 “Total Construction Cost” means the total funds expended on the construction or rehabilitation of the Development.
- 19 “Total Work Force Hours” means the total number of worker-hours expended on the construction or rehabilitation of the Development.

### **Section 3 – Affirmative Action Obligations:**

- 1 Through affirmative action activities provided for herein, the developer and or contractor shall use all reasonable efforts to ensure that ten percent (10 %) of the Total Work Force Hours are provided by Minorities and women.
- 2 The Developer and or Contractor shall always use its best efforts to ensure that at least ten percent (10%) of the Total Construction Costs shall be paid to Minority and/or females Contractors and Subcontractors, or Minority and/or Female Owned Contractors and Subcontractors.
- 3 The Developer and or Contractor shall utilize Minorities and females, and Minority and Female Owned businesses, as Contractors and Subcontractors to the greatest extent practicable in the construction of the Development. The Developer and or Contractor shall include a statement regarding its non-discriminatory and affirmative action policies in all solicitations for Contractors and Subcontractors issued in connection with the Development.
- 4 The Developer and or Contractor shall maintain records relating to all such solicitations, all responses received to solicitations (specifically identifying responses received from Minority and Female Owned businesses), and all awards made based on such solicitations and the reasons therefore. The Developer and or Contractor shall provide RIHousing with a schedule of anticipated awards to be made to Minority and Female Owned Contractors and Subcontractors prior to the initial closing of the Mortgage Loan.
- 5 Contractual Obligations – All contracts with a contract price of \$50,000.00 or more executed in connection with the Rental Housing Production Program development shall:
- 6 Post a written notice of at least 8 inches by 11 inches in size in a conspicuous place in its principal office stating that it is an equal opportunity employer and does not discriminate on the basis of race, sex, national origin, age, religion, sexual orientation, handicap or status as a veteran;
- 7 Abstain from harassment, intimidation and coercion of employees based on race, sex, national origin, age, religion, sexual orientation, handicap or status as a veteran;
- 8 Establish and maintain a current list of recruitment sources for Minority and female employees, provide written notification to such sources of employment opportunities, and maintain a record of each organization’s response to each such notification;
- 9 Maintain a record of the name, address and telephone number of each Minority and female applicant for employment, which record shall contain a statement regarding the action taken with respect to the application;
- 10 To the extent feasible, participate in area-based training programs for Minorities and women;
- 11 Provide notice of its obligations under these Rules and Regulations to any union(s) with which it has entered a collective bargaining agreement, and to entities regularly conducting training programs within the area of its principal place of business, and request the assistance of such unions and entities in its compliance with these Rules and Regulations;
- 12 Include a statement of its non-discriminatory practices in any company manuals, collective bargaining agreements it enters, and company newspapers or newsletters it produces;
- 13 Notify the Developer in writing when signatory unions and bargaining agreements it has entered prohibit or deter its equal employment and affirmative action recruiting activities;

- 14 Ensure that all facilities and activities under its control are non-segregated, except for the segregation by sex of toilet and changing facilities;
- 15 Where feasible, employ Minority and female workers in summer employment and on-the-job training programs;
- 16 Take such other steps as necessary to ensure that equal employment policies are implemented, and that recruitment job classifications and other employment procedures do not have a direct, or indirect discriminatory effect on Minority or female employees or applicants.

#### **Section 4 – Preliminary Information:**

Once funds have been reserved for a Rental Housing Production Program development, the AAO shall provide the Developer with a summary of the equal opportunity and affirmative action requirements contained in these Rules and Regulations, and a list of Minority and female contractors. Said list was compiled by the State of Rhode Island and amended by RIHousing.

#### **Section 5 – Pre-Construction Conference:**

At the Pre-Construction Meeting, RIHousing shall discuss the requirements of these Rules and Regulations and the Developer's affirmative action goals for the Rental Housing Production Program development with the Developer and all contractors chosen as of that date.

#### **Section 6 – Utilization Reports:**

The Developer shall submit to RIHousing monthly, a report of the total construction cost as of the date of said report, and shall specify therein, the total amount paid to Minority and female contractors and subcontractors or Minority and Female Owned contractors and subcontractors.

#### **Section 7 – Review Conference and On-Site Inspections:**

RIHousing may, anytime during construction or rehabilitation of a development, conduct such on-site inspection(s), reviews of the Developer's records and all contracts relating to the development, and conferences with Developer, contractors and subcontractors as it deems necessary to ensure compliance with these Rules and Regulations.

#### **Section 8 – Report of Discrimination Charges Filed:**

The Developer shall promptly notify RIHousing, in writing, of any charges it becomes aware of which have been filed with the Rhode Island Commission of Human Rights, the United States Equal Employment Opportunity Commission or any other agency alleging discrimination by the Developer, or any Contractor or Subcontractor in connection with the development.

#### **Section 9 – Suspension of Developers and/or Contractors:**

- 1 Generally – Suspension is a measure which may be invoked by RIHousing either to exclude or to disqualify a Developer and/or a Contractor from participation in any of the RIHousing's programs. Suspension shall be used to ensure compliance with these Rules and Regulations and not for punitive purposes. The exclusion or disqualification of a Developer and/or a Contractor from participation in RIHousing's programs, and the reconsideration of such measures, shall be based upon all available evidence and facts. Investigations required to accumulate such facts and evidence shall be conducted by the AAO or by such other individuals as may be designated by the Executive Director from time to time.

- 2 Notice of Violation – In the event that it is determined that a Developer and/or a Contractor is in violation of these Rules and Regulations, the AAO shall notify the Developer and/or a Contractor of such violation(s) in writing by certified or registered mail. Said notice shall: specify the violation(s); request the developer and/or contractor to correct the violation(s) within fifteen (15) business days from receipt of said notice; and inform the Developer and/or Contractor of possible suspension for failure to rectify the violation(s) within said period. The Developer and/or Contractor shall, within the allotted time, rectify the violation(s) and provide evidence of compliance satisfactory and acceptable to the AAO. In the event the Developer and/or Contractor fails to rectify the violations and produce sufficient evidence of compliance, the AAO may recommend to the Executive Director that the Developer and/or Contractor be suspended.
- 3 Suspensions – The Executive Director shall review all findings and recommendations of the AAO and may suspend any developer and/or contractor who fails to comply with these Rules and Regulations. Said suspension shall be in full force and effect until the Developer and/or Contractor can demonstrate, to the satisfaction of the Executive Director, that the violation(s) has been corrected and that steps have been taken to insure future compliance with these Rules and Regulations.
- 4 Effects of Suspension – The Developer and/or Contractor may not obtain any advances or payments due under any existing loan agreement with RIHousing nor participate in any RIHousing programs. The Executive Director may waive these limitations if it is determined that the limitations will adversely affect the community to be served, the development/proposal has some unique value or that the limitations are not in the best interest of the public.
- 5 Notice of Suspension – The Developer and/or Contractor shall be served by certified mail, return receipt requested, with a written notice of suspension within five (5) days prior to the effective date of the suspension. The notice shall state: the basis for the suspension; that the suspension is effective until compliance has been documented; that the Developer and/or Contractor may not participate in any program of RIHousing during the term of the suspension; that all rights of the Developer and/or Contractor under all loan agreements with RIHousing shall be suspended until reinstatement of the Developer and/or Contractor; and, that the Developer and/or Contractor may request a hearing and be represented by counsel at the hearing.

## Section 10 – Hearings:

- 1 Requests for Hearings – The Developer and/or Contractor may request a hearing on the suspension and may be represented by counsel at the hearing. The hearing request shall be made in writing, addressed to RIHousing at the Corporate Office and to the attention of AAO. The Developer and/or Contractor shall have ten (10) days from receipt of notification of suspension to request a hearing. If no request is received by RIHousing within the time period, the Developer and/or Contractor shall be deemed to have waived its right to be heard, and final action on the proposed suspension may be taken.
- 2 Notice and Procedures – Upon receipt of a request for a hearing, the AAO shall arrange a prompt and timely hearing. Notice of the time and place of such hearing shall be in writing, and delivered to all interested parties by certified mail, return receipt requested, together with a statement indicating the nature of the proceedings. All hearings shall be conducted in accordance with Section 42-35 of the General Laws of the State of Rhode Island of 1956, as amended, by a Hearing Officer. All witnesses shall testify under oath or affirmation and shall be subject to cross-examination.
- 3 Determination by Hearing Officer in Suspension Hearings – The Hearing Officer shall make a written determination and recommendation to the Executive Director based on all evidence presented at the hearing. All interested parties shall be notified of said determination by certified mail, return receipt requested. The Executive Director shall review the findings of the Hearing Officer and issue a final determination on suspension of the Developer and/or Contractor within thirty (30) days from the date of the hearing. Notice of the Executive Director's determination shall be given to all interested parties in writing, signed by the Executive Director and transmitted by registered mail, return receipt requested.

4 Powers of Hearing Officer – While conducting hearings, the Hearing Officer shall have all powers necessary to conduct hearings in an expeditious and fair manner. The powers of the Hearing Officer shall include, but not be limited to, the power to:

- a Hold conferences to settle, simplify, or fix the issues in a proceeding, or to consider other matters that may aid in the expeditious disposition of the proceeding by consent of the parties or upon his own motion;
- b Require parties to state their position with respect to the various issues in the proceeding;
- c Require parties to produce for examination those relevant witnesses and documents under their control;
- d Rule on motions and other procedural items on matters pending before him/her;
- e Regulate the course of the hearing and conduct of the participants therein;
- f Receive, rule on, exclude, or limit evidence, and limit lines of questioning of testimony which are irrelevant, immaterial or unduly repetitious;
- g Fix time limits for submission of written documents in matters before him/her;
- h Impose appropriate sanctions against any party or person failing or refusing to follow or to obey an order under these procedures which sanctions may include;
- i Refusing to allow the party to support or oppose designated claims or defenses, or prohibiting him/her from introducing designated matters in evidence,
- j Excluding all testimony of an unresponsive or evasive witness,
- k Expelling any party or person from further participation in the hearing.
- l Take official notice of any material fact not appearing in evidence in the record, which is among the traditional matters of judicial notice.

## **Section 11 – Rescission and Reinstatement:**

The Developer and/or Contractor against which a suspension has been invoked may request reinstatement in writing. Reinstatement proceedings shall be conducted by the AAO. All recommendations of the AAO for reinstatement shall be submitted to the Executive Director for final approval. Reinstatements may only be granted upon the determination that the matter or matters resulting in suspension have been rectified, and that the suspended party shall comply with all requirements of these Rules and Regulations in the future. When a suspension has been rescinded, the Executive Director shall forward notice of reinstatement to the Developer and/or Contractor by certified mail, return receipt requested.

## **Section 12 – Substitute Policies or Procedures:**

A Developer and/or Contractor subject to other equal employment and affirmative action laws, regulations, procedures or policies (“Substitute Regulations”) of any federal or state agency, board or commission may request that RIHousing accept compliance with such Substitute Regulations in lieu of compliance with these Rules and Regulations if such Substitute Regulations are substantially similar to the requirements of these Rules and Regulations. All such requests shall be made in writing to the Executive Director of RIHousing and shall set forth the requirements of such Substitute Regulations. All decisions of the Executive Director regarding such Substitute Regulations shall be final and binding on the parties.

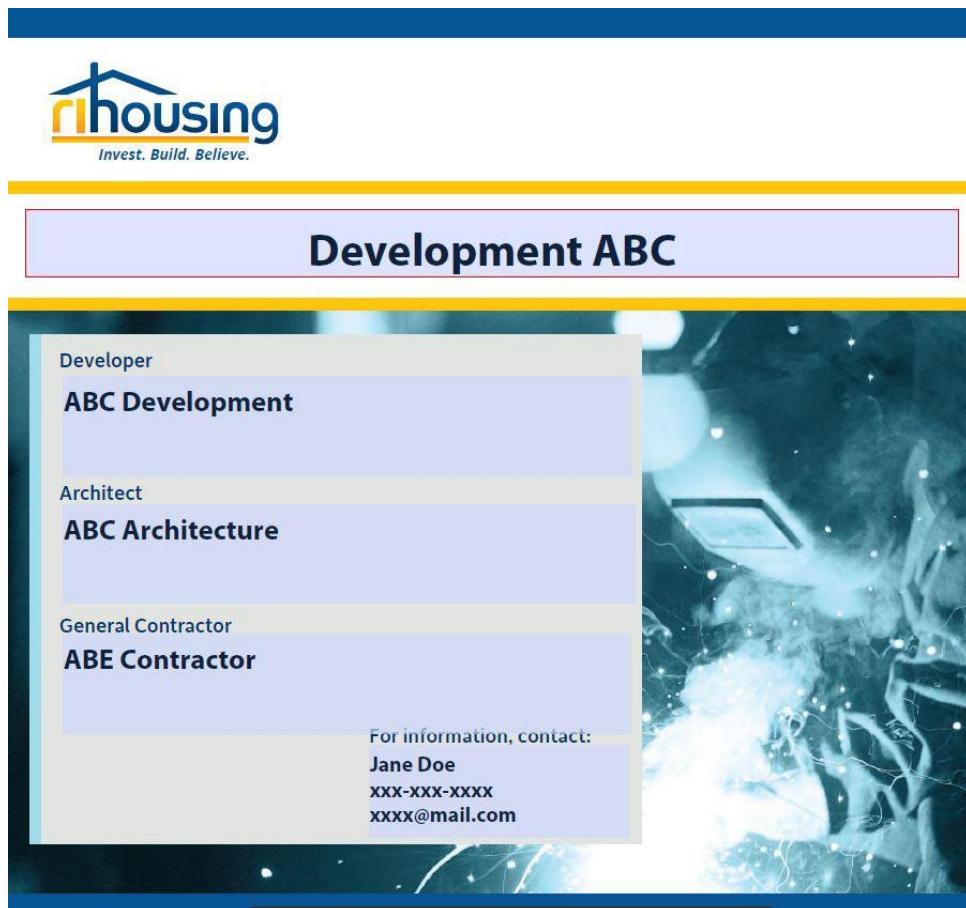
NOTE: Projects with Federal Funding will require additional supplementary conditions pertaining to Section 3 Reporting and may require Davis Bacon reporting requirements.

## 7C – Development Sign Specifications

We require that a development sign be displayed at each job site in order to provide proper development identification and furnish information to assist prospective residents. A layout of the mandatory design is below.

Prior to the start of construction, the Contractor and/or the Developer shall contact the Development Officer for the development to order the development sign. RIHousing will design and order the development sign for installation. The contractor is responsible for installing the development sign provided by RIHousing at the development site. Contractors will be billed for the cost of the development sign and should budget at least \$1,000 for the sign. Contractors and developers should contact RIHousing for the most current signage pricing.

In addition, the sign shall be placed not less than 36" from grade, with no obstructions between sign and adjacent public ways. Signposts shall be 4' x 4' with horizontal bracing as needed. The sign location must be approved by RIHousing. Developers may erect an additional sign, but its location must be more than 10' from the RIHousing sign.



## 7D – Lead Hazard Reduction Policy

Any building constructed prior to 1978 may have lead-based paint (LBP). Sponsors seeking financing from RIHousing will be required to have appropriate testing of painted surfaces performed, and if positive results are obtained, will be required to perform lead hazard reduction and/or abatement in accordance with the most stringent state or federal requirements.

All units receiving financing from RIHousing must comply with the State of Rhode Island Rules and Regulations for Lead Poisoning Prevention. In all cases involving work on existing buildings, lead-safe construction techniques shall be utilized. Demolition and rehabilitation work creates potentially dangerous situations for workers as well as children living in abutting properties. Therefore, construction work financed by RIHousing will be expected to comply with state law, Rhode Island Department of Health Regulation Lead Poisoning Prevention (216-RICR-50-15-3) of RI General Laws Chapter 23-24.6 PB and federal regulation under Sections 1012 and 1013 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, Title X regarding lead-safe hazard reduction.

<https://rules.sos.ri.gov/regulations/part/216-50-15-3>

### 7D.1 – Projects Not Utilizing Federal Funds

All units financed through RIHousing with only state funding and no HUD funds in the project will be subject to the following minimum lead clearance standards depending on the type of construction:

- o All new construction: analytical testing to determine lead in soil and water supply lines; units are assumed to be lead-free.
- o Mixed new construction and rehabilitation: lead-safe or Full lead safe (formerly known as lead-free) certificates for all units and common areas, building exterior, soil and water supply lines.
- o Rehabilitation: lead-safe or Full lead safe (formerly known as lead-free) certificates for all units and common areas, building exterior, soil and water supply lines.

Lead-safe or Full Lead-Safe Certificate (formerly known as Lead-free certificates) must be issued for all units and common areas, building exterior, soil and supply line water prior to tenant occupancy.

The following types of properties may be exempt from this regulation. However, RIHousing will assess if a property is exempt on a case-by-case basis.

- o Housing built after 1978 (when lead paint was banned for residential use).
- o Housing exclusively for the elderly or people with disabilities unless a child under age 6 is expected to reside there.
- o Zero-bedroom dwellings, including efficiency apartments, single-room occupancy, or dormitory housing, unless a child under the age of 6 is expected to reside there.
- o Property that has been found to be free of lead-based paint by a certified environmental lead inspector.
- o Unoccupied housing that will remain vacant until it is demolished.
- o Non-residential property.
- o Any rehabilitation or housing improvement that does not disturb a painted surface.

Units determined to have lead hazards may be eligible for State and Federal Lead Hazard Reduction funding. Contact RIHousing at 401-450-1350 to discuss eligibility. All lead hazard reduction work must be performed in accordance with state law and the Rhode Island Department of Health Regulation R 23-24.6 PB, which requires the use of state-licensed lead contractors and inspectors.

Note: For general lead related questions or questions related to the rehabilitation of public housing and Section 8 related rehabilitation, please contact Christine Hunsinger ([chunsinger@rihousing.com](mailto:chunsinger@rihousing.com)) for more information on the additional HUD LBP standards required under Part 35.

## 7D.2 – Projects Utilizing HOME and/or other Federally Funded Programs

In addition to meeting State requirements as stated above, Sponsors seeking financing or assistance through federally funded programs must also comply with federal regulations at §24 CFR Part 35 <https://www.ecfr.gov/current/title-24/subtitle-A/part-35>. For RIH administered funds, this includes HUD-funded project-based and tenant-based rental assistance as well as HOME, the Housing Trust Fund (HTF) and other programs used to fund the acquisition, rehabilitation or construction of affordable housing.

For HOME and HTF funded rehabilitation of housing, pre-1978 properties that are not determined to be exempt are subject to the HUD LBP standards at 35.900 - .930, which requires (beyond State lead requirements):

- o Risk assessments of the entire property by a certified risk assessor (when federal rehabilitation assistance exceeds \$5,000 per unit).
- o Abatement of lead hazards by a certified abatement contractor (when federal rehabilitation assistance exceeds \$25,000 per unit); and
- o Clearance under federal standards.

For questions about our HOME and HTF lead hazard reduction policy contact Tony A'Vant (401-457-1103) or (tavant@rihousing.com).

# Chapter 8 – Environmental Guidelines

Environmental concerns have recently emerged as one of the most potentially serious problems facing the real estate industry. Recognizing this, RIHousing finds it necessary to establish policy guidelines to be followed in connection with its underwriting and administrative processes applicable to the Rental Housing Production Program. These guidelines are intended to address, but not necessarily be limited to, RIHousing's concern with the environmental effects of the following:

- o Hazardous waste deposits
- o Lead based paint
- o Asbestos
- o Radon
- o Underground storage tanks (UST's)
- o Noise pollution
- o Air Quality
- o Ground water quality
- o Mold
- o Polychlorinated biphenyl (PCB's)

**APPLICATION** – All applications for financing must include a signed statement from the Developer which shall include a disclosure of the Developer's knowledge of any past or present environmental impact on the proposed site, a summary of corrective action previously taken or proposed to be taken, if applicable and a list of authorities having jurisdiction (i.e. DEM, EPA, etc.).

RIHousing will routinely conduct a site inspection of each property submitted as part of its underwriting process. Part of this inspection will involve a physical survey of the site and abutting areas to identify any potential or suspicious environmental problems. Based on the conclusions of the survey, RIHousing will determine minimum requirements, if necessary, for further investigation and/or corrective action.

**HAZARDOUS MATERIAL DEPOSIT** – As lender, RIHousing will exercise due diligence to sufficiently satisfy itself that the loan collateral is free from any negative environmental impact. This will be accomplished by requiring (1) an environmental assessment of the property prior to Firm Commitment and (2) ongoing confirmation, subsequent to closing that the property is maintained in an environmentally sound manner.

The environmental assessment requirement will consist of the following:

- 1 An evaluation of any disclosures submitted by the Developer with the loan application.
- 2 An evaluation based on the observations made during RIHousing's site inspection.
- 3 A Phase I environmental site assessment based upon the ASTM E1527-21 standards.
- 4 Depending on the conclusions and recommendations of the Phase I assessment, a Phase II site assessment may be required. Both Phase I and II assessments are further described below.
- 5 Phase I Environmental Site Assessment (ESA) - The report must have been within the last 180 days (or 6 months). It can be updated between 6-12 months. A new report is required after 12 months.

A Phase I environmental site assessment is principally a screening process to quickly determine if sufficient information is available to clearly evaluate the environmental status of the property and focuses on: (1) a review of available documents; (2) interviews with persons familiar with site operations; and (3) a physical inspection of the site and adjoining properties. The site assessment must follow the most recently revised version of ASTM. In cases where the Phase I conclusions are of an adverse or questionable nature, a Phase II assessment is required. A Phase II assessment involves a more detailed site inspection and review of historical records. The purpose of this assessment is to determine the presence or absence of a questionable hazard (i.e. asbestos, lead, radon, mold, leaking UST, PCB) or

to quantify the extent of an observed or suspected hazard, such as ground water contamination. Based on the results and conclusions of the Phase II assessment, further testing and/or investigation may be necessary, usually to identify specific hazards and sources.

Both Phase I and II assessments must be performed by professionals qualified in the field of environmental consulting. Consultants shall demonstrate the firm's personnel have adequate and appropriate education and training to carry out the required tasks. In addition, consultants must be able to demonstrate successful experience in their areas of expertise, such as letters of reference, certification, or licensing by a professionally recognized or governmental authority, or successful completion of work of a similar nature to that proposed to be done. Unacceptable, for instance, would be a situation where a firm having experience only in asbestos abatement is proposed to perform ground water tests.

It should be noted that some properties may have conditions which are either acceptable (i.e., within established safe limits as determined by authorities having jurisdiction) or have been corrected in an approved manner but must be monitored for the term of the loan by instituting an operations and maintenance program (O & M program). An example of a condition requiring an O & M program is the confirmed existence of asbestos, the hazard having been corrected by approved encapsulation. While the danger from the asbestos material has been acceptably abated, measures must be undertaken to ensure that the protective covering is maintained in an undamaged condition and that people are made aware of the potential hazard. Such O & M programs will be required to be incorporated into any approved Management Plan.

The approved Management Plan and Management Agreement shall contain provisions requiring the agent to monitor and report any suspected environmental threat or condition which could have an adverse impact on the property or residents. In addition to notifying RIHousing, all actions necessary to ensure that any known violations of applicable environmental statutes are reported to the appropriate local, state or federal authorities shall be taken.

LEAD SAFE HOUSING RULE – U.S. Department of Housing and Urban Development Office of Health Homes and Lead Hazard Control, Washington DC 20410 ([www.hud.gov/offices/lead](http://www.hud.gov/offices/lead)) Revised June 21, 2004. The Lead Safe Housing Rule applies to the Low-Income Housing Credit Program when the HUD Uniform Physical Conditions Standards (UPCS) are used by the state housing agency for monitoring purposes. The Lead Safe Housing Rule is part of the UPCS [24 CFR 5.703(f)]. Resources for information about lead hazards and prevention: (1) National Lead Information Center (800-424-LEAD, [www.epa.gov/lead/nlic.htm](http://www.epa.gov/lead/nlic.htm)): Information about lead hazards and prevention (EPA, HUD, CDC); (2) Lead Listing ([www.leadlisting.org](http://www.leadlisting.org)): Lists of certified firms, training providers, etc.; (3) Lead Regulations Hotline: 202-402-7698 and [lead\\_regulations@hud.gov](mailto:lead_regulations@hud.gov); (4) HUD lead website ([www.hud.gov/offices/lead](http://www.hud.gov/offices/lead)): Regulatory and guidance information, general lead information; and (5) EPA lead website ([www.epa.gov/lead](http://www.epa.gov/lead)): Info about lead, lead hazards, and protective steps. Any building constructed prior to 1979 may have lead-based paint. Developers seeking financing from RIHousing will be required to have appropriate testing of painted surfaces performed, and if positive results are obtained, will be required to perform lead-paint hazard reduction in accordance with the most rigid local, state or federal requirements.

All units receiving financing from RIHousing must comply with the Rhode Island Rules and Regulations for Lead Poisoning Prevention. In all cases, lead safe construction techniques shall be utilized. Demolition and rehabilitation work creates potentially dangerous situations for workers as well as children living in abutting properties. Therefore, construction work financed by RIHousing will be expected to comply with State law, RI Department of Health Regulation R 23-24.6PB and Federal regulations under sections 1012 and 1013 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, Title X regarding lead hazard reduction. HUD Lead Safe Housing Rule (24 CFR, Part 35) requires various levels of evaluation and treatment of lead paint hazards when federal money is used for rehabilitation of target. More information is available at:

[http://portal.hud.gov/hudportal/documents/huddoc?id=DOC\\_12347.pdf](http://portal.hud.gov/hudportal/documents/huddoc?id=DOC_12347.pdf)

In addition, On April 22, 2008, EPA issued [a rule requiring the use of lead-safe practices](#) and other actions aimed at preventing lead poisoning. Under the Renovation, Repair, and Painting Rule (RRP), beginning in April 2010, contractors performing renovation, repair and painting projects that disturb lead-based paint in homes, childcare facilities, and schools built before 1978 must be certified and must follow specific work practices to prevent lead contamination. Contracting firms must become certified with the EPA and must successfully complete an EPA-accredited renovator course for its workers.

In addition, all units financed through RI Housing programs will be required to achieve a minimum of lead-safe status as defined in Section c.1.0 of the Rhode Island Rules and Regulations for Lead Poisoning Prevention. All friction surfaces (i.e. windows and doors) shall be addressed by the lead hazard reduction methods, as defined in the RIDOH regulation 12.1(d). A lead-safe certificate is required for each unit prior to final disbursement of funds.

The following types of properties may be exempt from these regulations. However, RIHousing will assess if a property is exempt on a case-by-case basis.

Housing built after 1979 (when lead paint was banned for residential use).

- o Housing exclusively for the elderly or people with disabilities unless a child under age 6 is expected to reside there.
- o Zero-bedroom dwellings, including efficiency apartments, single-room occupancy, or dormitory housing, unless a child under the age of 6 is expected to reside there.
- o Property that has been found to be free of lead-based paint by a certified lead-based paint inspector.
- o Unoccupied housing that will remain vacant until it is demolished.
- o Non-residential property.
- o Any rehabilitation or housing improvement that does not disturb a painted surface.

**RADON** – Existing buildings proposed to be rehabilitated and proposed new construction sites shall be surveyed for the existence of radon levels exceeding the maximum safe limits as established by local, state or federal authorities. For those locations considered at risk due to elevated radiation, appropriate design and construction requirements will be imposed to mitigate the problem. Radon testing must be completed in strict conformance with HUD, EPA, Rhode Island Department of Health and RIHousing Requirements. Determination of any radon hazard with an acceptable remediation strategy will be made during the initial (preliminary) loan underwriting period.

**UNDERGROUND STORAGE TANKS** – Underground storage tanks (USTs) must be registered with the Rhode Island Department of Environmental Management (DEM) in accordance with current rules and regulations. It should be noted that USTs of any size which contain diesel oil must be registered. For USTs holding other materials, the requirement for registration depends on the tank size.

RIHousing requires that all USTs be pressure tested for integrity at least once per year or more frequently if required by other authorities having jurisdiction. Test results that show leakage in excess of the maximum allowed by local, state or federal requirements shall be promptly reported to RIHousing and DEM. Immediate corrective action shall be taken to ensure compliance with existing regulations.

**NOISE POLLUTION** – Based on the initial site inspection by RIHousing, a determination shall be made on the necessity to conduct a noise survey. Survey results that exceed the maximum acceptable noise readings established by local, state or federal standards will be mitigated, if possible, by incorporating appropriate design and construction requirements into the structure.

**AIR QUALITY** – The initial site inspection generally will determine the necessity of requiring an air quality survey; however, results of either a Phase I or II environmental site assessment could disclose factors or conditions which would indicate that an air quality study should be performed. As a rule, RIHousing will discourage the establishment or financing of developments in areas of demonstrated poor or unacceptable air quality.

**GROUND WATER QUALITY** – A determination of the potential hazard from substandard ground water shall be based on the conclusions of a Phase I or II environmental site assessment.

**MOLD HAZARDS** – A determination of the potential hazard of mold shall be based on the conclusions of a Phase I environmental assessment. If the Phase I assessment does not address mold hazards, then a separate environmental hazmat survey for mold will be required and all findings must be properly treated and/or abated.

**POLYCHLORINATED BIPHENYL (PCBs)** – A determination of the potential hazard and required abatement provisions for identified PCBs shall be based on the conclusions of a Phase I or II environmental site assessment.

These guidelines are intended to provide direction to the Developer/applicant and the remainder of the development team. They do not necessarily address each and every possible environmental situation or condition, which may be encountered. For any cases not specifically covered, RIHousing reserves the right to review and establish requirements on a case-by-case basis.

Nothing in these guidelines is to be interpreted as superseding or conflicting with applicable codes, laws, ordinances or regulations issued by legally established authorities.

# Chapter 9 – National Housing Trust Fund (HTF) Rehabilitation Standards

## 9A – General

### PURPOSE OF STANDARDS

- 1 The National Housing Trust Fund Rehabilitation Standards (known herein as the “HTF Standards”) are designed to outline the requirements for building rehabilitation for all RIHousing National Housing Trust Fund (HTF) funded multi-family housing projects. The HTF Standards are applicable to all RIHousing HTF-funded rehabilitation projects. The HTF Standards, though required specifically for the development entity in direct receipt of RIHousing HTF funding, are written to provide guidance to all relevant members of a project development team.
- 2 The goal of the RIHousing HTF program is to provide functional, safe, affordable and durable housing that meets the needs of the tenants and communities in which the housing is located. The purpose of the HTF Standards is to ensure that property rehabilitation puts each building in the best possible position to meet this goal over its extended life and that, at a minimum, all health and safety deficiencies are addressed.
- 3 If a project is out of compliance with the HTF Standards, the recipient shall bring to the attention of RIHousing staff the specific portion of the project that does not comply, stating the reasons for non-compliance. RIHousing staff will make a determination as to whether an exception to the HTF Standards shall be granted.

### ADDITIONAL STANDARDS

- 1 Standards: In addition to the requirement that recipients of National Housing Trust Fund funding must conform to these HTF Standards, developments must also conform to RIHousing Development Standards’ (“RIH Standards”). Where conflicts exist between these HTF Standards and the RIH Standards, the most stringent standards shall apply. The HTF Standards and the RIH Standards include the following:
  - A The Housing Trust Fund Standards (HTF Standards) include three guidance documents:
    - **Segment 9A: General (this Exhibit)**
    - **Segment 9B (formally Exhibit A):** The Property Maintenance Code Inspection Form, also known as the “Inspectable Items and Observable Deficiencies form”.
    - **Segment 9C (formally Exhibit B):** The Capital Needs Assessment (CNA) Guidance.
- 2 The implementation of the most stringent standards to the design and construction of the housing rehabilitation (Segment B1 above) is the responsibility of both the HTF recipient and RIHousing:
  - A HTF recipients are required to use both these HTF Standards, Exhibit A and Exhibit B of these HTF Standards, and the RIH Standards, as guides in developing construction documentation (in coordination with architects and engineers) to be included in project applications.
  - B RIHousing Design and Construction staff will review construction documents (required per § 93.301(a)(2)(iv) and § 93.301(b)(2) of HTF Regulations) to make sure that the most stringent standards have been applied to all design, construction and health and safety components of the project. The Design and Construction staff will use these HTF Standards to check the standards against the

referenced sections of the RIH Guidelines. The analysis of most stringent standards application will occur at the following project timeframe milestones:

- o The Scope and Cost Review process during the application review period;
- o Construction contract documents review process between preliminary award and funding commitment;
- o And all phases of inspection (required prior to processing funding requisitions, upon unit occupancy, etc.)

## **SCOPE OF WORK DETERMINATION**

- 1 In developing scopes of work, HTF recipients will work with RIHousing to ensure that all requirements are satisfied under these HTF Standards (and its exhibits) and RIHousing Guidelines, and that the proposed scope of work meets the goals of Part I above.
- 2 RIHousing approval of all scopes of work is required in accordance with RIHousing standard practice as outlined in RIHousing Policy & Procedures for Project Underwriting.
- 3 While it is required that a project application include a preliminary scope of work, RIHousing staff will review and propose revisions to the scope of work between the preliminary award of HTF funds and the commitment of HTF funds to a project.

## **EXPECTED USEFUL LIFE / REHABILITATION SCOPE & CAPITAL PLANNING**

- 1 In developing scopes of work on housing rehabilitation projects, HTF recipients will consider the remaining expected useful life of all building components with regards to building long-term sustainability and performance. Specifically, each building component with a remaining expected useful life of less than the applicable HTF period of affordability (30 years) shall be considered for replacement, repair or otherwise updated. Additionally, new building components with an expected useful life of less than 30 years shall be considered for future replacement (for entire expected useful life requirements, see Exhibit B, Appendix I).
- 2 The industry standard period for Capital Needs Assessments (CNAs) is 20 years; however, project CNAs must be updated every five years during the life of the project to ensure projected capital needs through the 30-year HTF affordability period are anticipated and planned for. The initial CNA will cover years 1-20. The first 5-year update will be done in year 5 and cover years 6-25. The second 5-year update will be done in year 10 and will cover years 11-30.
- 3 Once a scope of work has been developed by the HTF recipients and their development team, the HTF recipient must also develop a capital plan in compliance with RIHousing policy on Capital Needs Assessments. Whether or not a particular building component has been replaced, repaired or otherwise updated as part of the rehabilitation scope of work, all building components and major systems must demonstrate adequate replacement reserves funding to be viable for at least 20 years (the length of the capital plan), with subsequent updates every five years during the 30-year affordability period.
- 4 Example #1: Kitchen cabinets with a remaining useful life of 8 years may be permitted to remain in place and not included in the rehabilitation scope. However, adequate funding shall be demonstrated in the building capital plan to replace those cabinets in year 8 of the post-rehabilitation capital plan.
- 5 Example #2: If a building component such as a new roof is installed during the rehabilitation and this roof has an expected useful life of 25 years, it will not show up on the initial CNA as needing replacement during that 20-year period. However, since RIHousing requires updates of CNA's to be performed every 5 years, it will show up on the next 20-year CNA which will be performed in year 5 of the project and cover years 6-25.

During these 5-year CNA updates, the project reserve contributions will be reviewed to ensure all future capital expenditures articulated in the CNA are adequately funded through the 30-year affordability period.

- 6 Monthly replacement reserves contributions of at least \$25 per unit per month (pum) are required through the 30- year affordability period. If the initial 20-year CNA and capital plan (and/or any subsequent 5-year updates) indicate that replacement costs for the period exceed the amount generated by a \$25 pum contribution, a higher pum contribution will be required.
- 7 HTF recipients and their development teams should ensure that all building components are analyzed as part of a comprehensive effort to balance rehabilitation scope and capital planning in a way that maximizes long-term building performance as much as possible within the parameters of both development and projected operational funding available.

## **9B – National Housing Trust Fund (HTF), Property Maintenance Code Inspection Form**

Segment 9B is designed to exceed the Rhode Island Property Maintenance Code SBC-6-2015 and the Uniform Physical Condition Standards (UPCS). The form, also called the “Inspectable Items and Observable Deficiencies form”, includes descriptions of the types and degrees of deficiency for each item that any HTF-assisted project must address, at a minimum. Deficiency categories are: minor (Level 1), major (Level 2) or severe (Level 3). If the housing is occupied at the time of construction or rehabilitation, any life-threatening deficiencies must be identified and addressed immediately, per the instructions noted herein. All other deficiencies found will need to be addressed in the project’s scope of work per coordinated review with RIHousing staff.

### **Notes to HTF Recipients on the Requirements/Directions in Using this Form:**

- 1 Inspections using this form are required to be conducted on 10% of units (if development is in one building) or in at least 1-unit per building (if development includes multiple buildings).
- 2 HTF recipients are required to address Level 1, Level 2, or Level 3 Non Life Threatening deficiencies in the scope of work approved by RIHousing staff between preliminary award and commitment of funds (See Section V. Scope of Work Determination in HTF Rehab Standards document).
- 3 “NOD” means No Observed Deficiency and “NA” means that the inspectable item is not present in that unit/building. If there is no observed deficiency for that item, check mark the “NOD” box; if the inspectable item listed is not present at that site then check-mark “NA”.
- 4 One box must be checked for each observable deficiency row in this Form.
- 5 If there is a deficiency found at any level and the H&S (Health and Safety) column is grayed-out, then the deficiency is not considered a health and safety hazard. If the H&S column contains an “NLT”, then a marked deficiency is non-life threatening and correction of that deficiency can be included in the scope of work.
- 6 Level 3 Deficiencies noted as Life Threatening (LT) Hazards in the H&S column of this report must be corrected immediately within 12 hours, if the housing is occupied. RIH requires a written response and completed work orders within 24 hours of repairs.
- 7 In instances in which the Level 1, 2 or 3 deficiency is grayed-out, then this level of deficiency is not applicable for that inspectable item for the Final Dictionary of Deficiency Definitions (link in footer, below table).

- 8 In order to accurately categorize a deficiency as a "Level 1", "Level 2" or "Level 3" (including independent Health & Safety items), you must refer to the Final Dictionary of Deficiency Definitions (PASS) Version 2.3, dated 03/08/2000. This document can be found at [https://www.hud.gov/sites/documents/DOC\\_26281.PDF](https://www.hud.gov/sites/documents/DOC_26281.PDF)
- 9 Additional clarification to these definitions is contained in the REAC PASS Compilation Bulletin which can be found at [https://portal.hud.gov/hudportal/documents/huddoc?id=CompBullet4Ver2\\_31515.pdf](https://portal.hud.gov/hudportal/documents/huddoc?id=CompBullet4Ver2_31515.pdf)

**PLEASE NOTE:** RIHousing will conduct an initial inspection to confirm the deficiencies that must be addressed and will conduct progress and final inspections to determine that work was done in accordance with work write-ups.

# Uniform Physical Condition Standards – Comprehensive Listing

Inspectable Area: Site \_\_\_\_\_

Page: \_\_\_\_\_ of \_\_\_\_\_

Property ID/Name: \_\_\_\_\_

Building Number: \_\_\_\_\_ Inspection Date: \_\_\_\_\_

Inspectable Item	Observable Deficiency	NOD	Level				H&S
			1	2	3	NA	
Fencing and Gates	Damaged/Falling/Leaning						NLT
	Holes						NLT
	Missing Sections						NLT
Grounds	Erosion/Rutting Areas						NLT
	Overgrown/Penetrating Vegetation						
	Ponding/Site Drainage						
Health & Safety	Air Quality - Sewer Odor Detected						NLT
	Air Quality - Propane/Natural Gas/Methane Gas Detected						LT
	Electrical Hazards - Exposed Wires/Open Panels						LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment						LT
	Flammable Materials - Improperly Stored						NLT
	Garbage and Debris - Outdoors						NLT
	Hazards – Other						NLT
	Hazards - Sharp Edges						NLT
	Hazards - Tripping						NLT
	Infestation - Insects						NLT
	Infestation - Rats/Mice/Vermin						NLT
	Mailbox Missing/Damaged						
	Signs Damaged						
Market Appeal	Graffiti						
	Litter						
Parking Lots/Driveways/Roads	Cracks						
	Ponding						
	Potholes/Loose Material						
	Settlement/Heaving						
	Motor Vehicles - inoperative/ unregistered/ unlicensed/ abandoned/ parked/left on the premises						NLT
Play Areas and Equipment	Damaged/Broken Equipment						NLT
	Deteriorated Play Area Surface						
Refuse Disposal	Broken/Damaged Enclosure-Inadequate Outside Storage Space						
Retaining Walls	Damaged/Falling/Leaning						NLT
Storm Drainage	Damaged/Obstructed						
Walkways/Steps	Broken/Missing Hand Railing						NLT
	Cracks/Settlement/Heaving						
	Spalling						

## Uniform Physical Condition Standards – Comprehensive Listing

Inspectable Area: Building Exterior

Page: \_\_\_\_ of \_\_\_\_

Property ID/Name: \_\_\_\_\_

Building Number: \_\_\_\_\_ Inspection Date: \_\_\_\_\_

Inspectable Item	Observable Deficiency	NOD	Level				H&S
			1	2	3	NA	
Doors	Damaged Frames/Threshold/Lintels/Trim						NLT
	Damaged Hardware/Locks						
	Damaged Surface (Holes/Paint/Rusting/Glass)						
	Damaged/Missing Screen/Storm/Security Door						NLT
	Deteriorated/Missing Caulking/Seals						
	Missing Door						
Fire Escapes	Blocked Egress/Ladders						LT
	Visibly Missing Components						LT
Foundations	Cracks/Gaps						
	Spalling/Exposed Rebar						
Health and Safety	Electrical Hazards - Exposed Wires/Open Panels						LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment						LT
	Emergency Fire Exits - Emergency/Fire Exits Blocked/Unusable						LT
	Emergency Fire Exits - Missing Exit Signs						NLT
	Flammable/Combustible Materials - Improperly Stored						NLT
	Garbage and Debris - Outdoors						NLT
	Hazards – Other						NLT
	Hazards - Sharp Edges						NLT
	Hazards - Tripping						NLT
	Infestation - Insects						NLT
	Infestation - Rats/Mice/Vermin						NLT
Lighting	Broken Fixtures/Bulbs						
Roofs	Damaged Soffits/Fascia						
	Damaged Vents						
	Damaged/Clogged Drains						
	Damaged/Torn Membrane/Missing Ballast						
	Missing/Damaged Components from Downspout/Gutter						
	Missing/Damaged Shingles						
	Ponding						
Walls	Cracks/Gaps						
	Damaged Chimneys						NLT
	Missing/Damaged Caulking/Mortar						
	Missing Pieces/Holes/Spalling						
	Stained/Peeling/Needs Paint						
Windows	Broken/Missing/Cracked Panes						NLT
	Damaged Sills/Frames/Lintels/Trim						
	Damaged/Missing Screens						
	Missing/Deteriorated Caulking/Seals/Glazing Compound						
	Peeling/Needs Paint						
	Inoperable/Not Lockable						
	Security Bars Prevent Egress						LT

## Uniform Physical Condition Standards – Comprehensive Listing

Inspectable Area: Building Systems

Page: \_\_\_\_ of \_\_\_\_

Property ID/Name: \_\_\_\_\_

Building Number: \_\_\_\_\_ Inspection Date: \_\_\_\_\_

Inspectable Item	Observable Deficiency	NOD	Level				H&S
			1	2	3	NA	
Domestic Water	Leaking Central Water Supply						
	Misaligned Chimney/Ventilation System						LT
	Missing Pressure Relief Valve						NLT
	Rust/Corrosion on Heater Chimney						NLT
	Water Supply Inoperable						NLT
Electrical System	Blocked Access/Improper Storage						NLT
	Burnt Breakers						NLT
	Evidence of Leaks/Corrosion						NLT
	Frayed Wiring						
	Missing Breakers/Fuses						LT
	Missing Covers						LT
Elevators	Not Operable						NLT
Emergency Power	Auxiliary Lighting Inoperable						
	Run-Up Records/Documentation Not Available						
Fire Protection	Missing Sprinkler Head						NLT
	Missing/Damaged/Expired Extinguishers						LT
Health & Safety	Air Quality - Mold and/or Mildew Observed						NLT
	Air Quality - Propane/Natural Gas/Methane Gas Detected						LT
	Air Quality - Sewer Odor Detected						NLT
	Electrical Hazards - Exposed Wires/Open Panels						LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment						LT
	Elevator - Tripping						NLT
	Emergency Fire Exits - Emergency/Fire Exits Blocked/Unusable						LT
	Emergency Fire Exits - Missing Exit Signs						NLT
	Flammable Materials - Improperly Stored						NLT
	Garbage and Debris - Indoors						NLT
	Hazards – Other						NLT
	Hazards - Sharp Edges						NLT
	Hazards - Tripping						NLT
	Infestation - Insects						NLT
	Infestation - Rats/Mice/Vermin						NLT
HVAC	Boiler/Pump Leaks						
	Fuel Supply Leaks						NLT
	General Rust/Corrosion						NLT
	Misaligned Chimney/Ventilation System						LT
Roof Exhaust System	Roof Exhaust Fan(s) Inoperable						
Sanitary System	Broken/Leaking/Clogged Pipes or Drains						NLT
	Missing Drain/Cleanout/Manhole Covers						

Inspectable Item	Observable Deficiency	NOD	Level				H&S
			1	2	3	NA	
Health & Safety	Air Quality - Mold and/or Mildew Observed						NLT
	Air Quality - Propane/Natural Gas/Methane Gas Detected						LT
	Air Quality - Sewer Odor Detected						NLT
	Electrical Hazards - Exposed Wires/Open Panels						LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment						LT
	Emergency Fire Exits - Emergency/Fire Exits Blocked/Unusable						LT
	Emergency Fire Exits - Missing Exit Signs						NLT
	Flammable/Combustible Materials - Improperly Stored						NLT
	Garbage and Debris - Indoors						NLT
	Garbage and Debris - Outdoors						NLT
	Hazards – Other						NLT
	Hazards - Sharp Edges						NLT
	Hazards - Tripping						NLT
	Infestation - Insects						NLT
	Infestation - Rats/Mice/Vermin						NLT
Pools and Related Structures	Fencing - Damaged/Not Intact						
	Pool - Not Operational						
Trash Collection Areas	Chutes - Damaged/Missing Components						

## Uniform Physical Condition Standards – Comprehensive Listing

Inspectable Area: Community/Public Spaces Page: \_\_\_\_\_ of \_\_\_\_\_

Property ID/Name: \_\_\_\_\_

Building Number: \_\_\_\_\_ Inspection Date: \_\_\_\_\_

Inspectable Item	Observable Deficiency	NOD	Level				H&S
			1	2	3	NA	
Please complete these two pages for each community/public space in the proposed project. Check location below.	Baluster/Side Railings - Damaged						
	Cabinets - Missing/Damaged						
	Call for Aid - Inoperable						NLT
	Ceiling - Bulging/Buckling						
	Ceiling - Holes/Missing Tiles/Panels/Cracks						
	Ceiling - Peeling/Needs Paint						
	Ceiling - Water Stains/Water Damage/Mold/Mildew						
	Countertops - Missing/Damaged						
	Dishwasher/Garbage Disposal - Inoperable						
	Doors - Damaged Frames/Threshold/Lintels/Trim						NLT
	Doors - Damaged Hardware/Locks						
	Doors - Damaged Surface (Holes/Paint/Rust/Glass)						
	Doors - Damaged/Missing Screen/Storm/Security Door						NLT
	Doors - Deteriorated/Missing Seals (Entry Only)						
	Doors - Missing Door						
	Dryer Vent -Missing/Damaged/Inoperable						
Closet/Utility/ Mechanical	Electrical - Blocked Access to Electrical Panel						NLT
	Electrical - Burnt Breakers						NLT
Community Room	Electrical - Evidence of Leaks/Corrosion						NLT
	Electrical - Frayed Wiring						
Day Care	Electrical - Missing Breakers						LT
	Electrical - Missing Covers						LT
Halls/Corridors/Stairs	Floors - Bulging/Buckling						
	Floors - Floor Covering Damaged						
Kitchen	Floors - Missing Floor/Tiles						
	Floors - Peeling/Needs Paint						
Laundry Room	Floors - Rot/Deteriorated Subfloor						
	Floors - Water Stains/Water Damage/Mold/Mildew						
Lobby	GFI - Inoperable						NLT
	Graffiti						
Office	HVAC - Convection/Radiant Heat System Covers Missing/ Damaged						
	HVAC - General Rust/Corrosion						
Other Community Spaces	HVAC - Inoperable						
	HVAC - Misaligned Chimney/Ventilation System						LT
Patio/Porch/Balcony	HVAC - Noisy/Vibrating/Leaking						
	Lavatory Sink - Damaged/Missing						NLT
Restrooms/Pool Structures	Lighting - Missing/Damaged/Inoperable Fixture						
	Mailbox - Missing/Damaged						

Inspectable Item	Observable Deficiency	Level					H&S
		NOD	1	2	3	NA	
Storage	Outlets/Switches/Cover Plates - Missing/Broken						LT
	Pedestrian/Wheelchair Ramp						
	Plumbing - Clogged Drains						NLT
	Plumbing - Leaking Faucet/Pipes						NLT
	Range Hood /Exhaust Fans - Excessive Grease/Inoperable						
	Range/Stove - Missing/Damaged/Inoperable						
	Refrigerator - Damaged/Inoperable						
	Restroom Cabinet - Damaged/Missing						
	Shower/Tub - Damaged/Missing						
	Sink - Missing/Damaged						NLT
	Smoke Detector - Missing/Inoperable						LT
	Stairs - Broken/Damaged/Missing Steps						NLT
	Stairs - Broken/Missing Hand Railing						NLT
	Ventilation/Exhaust System - Inoperable						
	Walls - Bulging/Buckling						
	Walls - Damaged						
	Walls - Damaged/Deteriorated Trim						
	Walls - Peeling/Needs Paint						
	Walls - Water Stains/Water Damage/Mold/Mildew						
	Water Closet/Toilet - Damaged/Clogged/Missing						
	Windows - Cracked/Broken/Missing Panes						NLT
	Windows - Damaged Window Sill						
	Windows – Damaged/Missing Screens						
	Windows - Inoperable/Not Lockable						NLT
	Windows – Missing/Deteriorated Caulking/Seals/Glazing Compound						
	Windows – Peeling/Needs Paint						
	Windows – Security Bars Prevent Egress						LT

# Uniform Physical Condition Standards – Comprehensive Listing

Inspectable Area: Unit \_\_\_\_\_

Page: \_\_\_\_\_ of \_\_\_\_\_

Property ID/Name: \_\_\_\_\_

Building Number: \_\_\_\_\_ Inspection Date: \_\_\_\_\_

Inspectable Item	Observable Deficiency	NOD	Level				H&S
			1	2	3	NA	
Bathroom	Bathroom Cabinets - Damaged/Missing						
	Lavatory Sink - Damaged/Missing						NLT
	Plumbing - Clogged Drains						NLT
	Plumbing - Leaking Faucet/Pipes						NLT
	Shower/Tub - Damaged/Missing						NLT
	Ventilation/Exhaust System - Inoperable						
	Water Closet/Toilet - Damaged/Clogged/Missing						NLT
Call-for-Aid	Inoperable						NLT
Ceiling	Bulging/Buckling						
	Holes/Missing Tiles/Panels/Cracks						
	Peeling/Needs Paint						
	Water Stains/Water Damage/Mold/Mildew						
Doors	Damaged Frames/Threshold/Lintels/Trim						NLT
	Damaged Hardware/Locks						
	Damaged/Missing Screen/Storm/Security Door						NLT
	Damaged Surface - Holes/Paint/Rusting/Glass						
	Deteriorated/Missing Seals (Entry Only)						
	Missing Door						NLT
Electrical System	Blocked Access to Electrical Panel						NLT
	Burnt Breakers						NLT
	Evidence of Leaks/Corrosion						NLT
	Frayed Wiring						
	GFI - Inoperable						NLT
	Missing Breakers/Fuses						LT
	Missing Covers						LT
Floors	Bulging/Buckling						
	Floor Covering Damage						
	Missing Flooring Tiles						
	Peeling/Needs Paint						
	Rot/Deteriorated Subfloor						
	Water Stains/Water Damage/Mold/Mildew						
Health & Safety	Air Quality - Mold and/or Mildew Observed						NLT
	Air Quality - Sewer Odor Detected						NLT
	Air Quality - Propane/Natural Gas/Methane Gas Detected						LT
	Electrical Hazards - Exposed Wires/Open Panels						LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment						LT
	Emergency Fire Exits - Emergency/Fire Exits Blocked/Unusable						LT
	Emergency Fire Exits - Missing Exit Signs						NLT
	Flammable Materials - Improperly Stored						NLT

Inspectable Item	Observable Deficiency	NOD	Level				H&S
			1	2	3	NA	
Health & Safety (continue)	Garbage and Debris - Indoors						NLT
	Garbage and Debris - Outdoors						NLT
	Hazards - Other						NLT
	Hazards - Sharp Edges						NLT
	Hazards - Tripping						NLT
	Infestation - Insects						NLT
	Infestation - Rats/Mice/Vermin						NLT
Hot Water Heater	Misaligned Chimney/Ventilation System						LT
	Inoperable Unit/Components						NLT
	Leaking Valves/Tanks/Pipes						
	Pressure Relief Valve Missing						NLT
	Rust/Corrosion						NLT
HVAC System	Convection/Radiant Heat System Covers Missing/ Damaged						
	Inoperable						
	Misaligned Chimney/Ventilation System						LT
	Noisy/Vibrating/Leaking						
	Rust/Corrosion						
Kitchen	Cabinets - Missing/Damaged						NLT
	Countertops - Missing/Damaged						NLT
	Dishwasher/Garbage Disposal - Inoperable						
	Plumbing - Clogged Drains						NLT
	Plumbing - Leaking Faucet/Pipes						NLT
	Range Hood/Exhaust Fans - Excessive Grease/Inoperable						
	Range/Stove - Missing/Damaged/Inoperable						
	Refrigerator-Missing/Damaged/Inoperable						NLT
	Sink - Damaged/Missing						NLT
Laundry Area (Room)	Dryer Vent - Missing/Damaged/Inoperable						
Lighting	Missing/Inoperable Fixture						NLT
Outlets/Switches	Missing						LT
	Missing/Broken Cover Plates						LT
Patio/Porch/Balcony	Baluster/Side Railings Damaged						
Smoke Detector	Missing/Inoperable						LT
Stairs	Broken/Damaged/Missing Steps						NLT
	Broken/Missing Hand Railing						NLT
Walls	Bulging/Buckling						
	Damaged						
	Damaged/Deteriorated Trim						
	Peeling/Needs Paint						
	Water Stains/Water Damage/Mold/Mildew						
Windows	Cracked/Broken/Missing Panes						NLT
	Damaged Window Sill						
	Damaged/Missing Screens						
	Missing/Deteriorated Caulking/Seals/Glazing Compound						
	Inoperable/Not Lockable						NLT
	Peeling/Needs Paint						
	Security Bars Prevent Egress						LT

# **9C – RIH Housing Trust Fund (HTF) Program, Capital Needs Assessment (CNA)**

Segment 9C is a tool for HTF recipients to plan for the long-term physical health of the affordable housing properties constructed or rehabilitated using HTF funding. The completion of a Capital Needs Assessment is critical to determining the scope of work, and thus in determining the project's capital expenses. Further, the CNA is critical to determining the expected useful life of all building systems, and thus in determining the needed replacement reserves for maintenance expenses.

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This joint document has been developed by the Rhode Island Housing Finance Agency (RIHOUSING) as guidance for housing developers, asset managers and property managers that receive funding through the National Housing Trust Fund Program (and thus serve as HTF recipients). HTF recipients are required to conduct capital needs assessments as a tool for the long term physical health of affordable housing properties.

For the purpose of this document, capital expenses (also referred to as Physical Condition Assessments – PCAs) are considered expenses involving the replacement of building components over time. They are not annually recurring expenses and differ from routine building maintenance expenses in this way.

## **Definition of Capital vs. Maintenance Operating Expense**

**Capital Expense** – Major capital improvements to maintain the physical integrity and upkeep of a property are usually funded from the Replacement Reserve account. Funds from this account should be restricted for uses consistent with the CNA unless otherwise approved by the funding agencies. Typical uses include: new appliances, heating equipment, hot water heaters, re-shingling roofs, exterior painting and repair, kitchen and bathroom fixtures, doors and windows, flooring, plumbing equipment, kitchen cabinetry, elevators, grounds maintenance equipment, major site-work modifications, septic/sewer line repair, sprinkler and alarm systems, electrical equipment, and similar improvements or replacements.

**Maintenance Expense** – any and all regular and recurring expenses associated with maintaining the physical integrity and upkeep of a property not otherwise considered a capital expense.

Turnover Expense – the costs of interior painting, cleaning and unit prep (exclusive of carpet, appliance and cabinetry replacement) should be maintenance expenses and not capital expenses.

## **Capital Needs Issues to Consider During the Development Process**

Several critical areas play an important role in assuring both new and existing properties are able to meet future capital replacement costs. They include:

- o When acquiring and/or rehabbing an existing building, the scope of rehabilitation work and CNA must be in sync so that the CNA for a rehabbed property reflects the new infrastructure and systems. This will also result in establishing accurate replacement reserve deposit levels so reserves can accumulate prior to the need for replacement of building components.
- o Funds for completing the first post-construction or rehabilitation CNA should be included in the development budget.
- o Accurate assumptions in the development and underwriting phase are critical to a property's ability to fund reserves in the required amount. Income, expense and trending estimates must be realistic and based on experience of asset management staff using the most similar properties' actual history.

## **Pre-Capitalized Reserves and Completion of Initial CNA**

- o The funding agencies strongly encourage and, in some cases, may require the capitalization of a replacement reserve account initially during the development stage in combination with required ongoing deposits in order to help match the future funds needed with actual replacement costs.
- o New loan/grant applications for existing buildings not undergoing substantial rehabilitation must include a CNA to support the budgeted reserve deposit levels. For the purpose of this document, substantial rehabilitation is defined as rehabilitation that involves the upgrading or replacement of the majority of building components to achieve a “like new” condition. Moderate rehabilitation is defined as selective replacement of building components that have come to the end of their useful life or are within five years of coming to the end of their useful life, or need to be upgraded to meet current building code requirements. In general, the cost of construction in a building undergoing moderate rehabilitation is less than 25% of the total development cost (consult with funders' staff on a case by case basis).
- o New construction and/or substantial rehab properties must also complete a Capital Needs Assessment as part of RIHousing's firm commitment due diligence process. If the CNA is provided prior to loan closing, the replacement reserve deposit levels in the operating budget should reflect the amount indicated in the CNA.

## **General CNA Report Requirements**

- o Initial CNAs on all projects must be completed by an approved third party who does not have an identity of interest relationship with the HTF recipient.
- o Initial CNAs on projects that are not new construction or substantial rehab must not be older than two years of the loan application date. Site inspection must confirm that project's physical condition is consistent with the findings of the CNA.
- o Each CNA report must cover a period of 20 years for both existing (rehab.) projects and new construction.

- o Each CNA report must include a cash flow model, in spreadsheet format, providing an analysis of existing capital reserves and a detailed year by year schedule of expected repairs and replacement costs incurred. An inflation factor that is consistent with actual experience and historical data shall also be built into future replacement cost projections. It is recommended that an electronic copy of the spreadsheet be provided to the HTF recipient so that it can be used as an interactive record of capital costs and reserve balances moving forward.

## CNA Updates

Each CNA must be updated every five years for the life of the project. Updated CNAs should be incorporated into the yearly annual budget process as an integral part of capital planning and should reflect any changes in federal, state or local codes which may impact on future capital needs.

HTF recipients will have two options for fulfilling the requirement for five year CNA updates:

**Option one:** HTF recipients will hire a third party approved CNA provider to provide a new/updated CNA every five years.

**Option two:** HTF recipients who show the interest and capacity (in the opinion of funders) to perform an “in house” CNA review and update will be permitted to do so at the 5, 15, 25, etc. year review period. The requirement for a formal third party CNA will be for years 1, 10, 20, etc. HTF recipients wishing to pursue Option two shall perform the following:

- 1 Submit a letter of intent to the Asset Management Staff of your funding agency outlining the property to be reviewed, the name(s) of the in house staff tasked with performing the review, the qualifications of this/these staff member/s to perform a CNA review, and the current reserve balance surplus/shortfall projection based on the previous formal third party CNA which is to be reviewed and updated.
- 2 In house staff in performing the CNA review/update shall assess all appropriate building systems. Estimated Useful Life (EUL) estimates provided with these guidelines together with on-site experience and other sources shall be utilized to extend the review period an additional five (5) years maintaining a 20 year projection time horizon.
- 3 Upon completion of the update/review process a report shall be submitted to RIHousing Development staff outlining the findings of the CNA update/review together with a projection spreadsheet reflecting the new extended 20 year time horizon. This report shall be reviewed and signed by the HTF recipient’s Director of Asset Management (or equivalent) as well as by the HTF recipient’s Executive Director.

## Required Components of a Capital Needs Assessment (CNA)

An effective CNA is composed of the following elements:

**The inventory component must include all of the building systems**, not just those that may require attention during the 20 year report period. Any item that has recently been replaced, and may not be expected to need attention again for the next 20 years or more, should still be listed for reference. If the assessor has made an assumption that a particular item represents an operating cost concern, the analysis should be shown to facilitate discussion and remediation.

**Each system or item included must have its age identified.** In older properties, ages of components may not coincide with the development’s age. Ages may vary widely between items and even across a single item. i.e., Unit flooring may have been installed over a five-year period, which began eight years ago.

**Expected useful life (EUL) estimates are the key to replacement timing.** Capital planning is built on the idea that even systems that operate properly now will eventually fail. EULs should be adjusted from the norms found in various tables to the actual conditions at each development. EULs should be adjusted for climate, original materials and installation, maintenance practices, and resident demographic profiles. For example, elderly and family occupancy

present different issues. Tables for typical estimated useful life cycles may be found on the Fannie Mae website and are attached as Appendix I of this document.

**Cost estimating is a critical part of capital planning** and the CNA consultant should take into account replacement costs adjusted for the local area. The ability to adjust costs for individual building circumstances and the relative purchasing power of the HTF recipient are equally important. RS Means and Marshall and Swift are reliable resources for this information.

**A detailed year-by-year cost summary of all of the anticipated capital needs should list not only how much needs to be spent but when.** While a steady level may be desirable from a financial viewpoint, peaks and valleys will more accurately describe the real needs of the property, especially at single-building developments.

**Narrative presentations should describe the current condition, maintenance history, and the rationale behind the consultant's cost and timing decisions,** therefore, an Executive Summary is especially helpful. Narratives allow for a description of the cause of current problems, details on location of problems, or discussion of alternatives like rebuilding a pump motor instead of replacing the whole pump.

**Photographs are required and are an invaluable tool when the report has a non- technical audience or is shared with a third party.** These readers may never have been in a boiler room or crawl space and may be unfamiliar with technical terms. Photographs can also support the findings and recommendations of the consultant. Showing the extent of the siding damage or the width of the foundation cracks can overcome a lot of resistance.

**Capital Need Assessments must incorporate plans to install or maintain required building code requirements and improvements required under ADA, Section 504 and/or Fair Housing Guidelines.**

**Optimum Energy Efficiency is critical.** In today's escalating and volatile utility markets, properties must be as energy efficient as possible and meet the highest standards possible to assure long-term operating sustainability. Recommendations on energy and utility efficiency improvements must be included as an essential part of the CNA. RHODE ISLAND Energy Conservation Code SBC-8-2013 and RIHousing Sustainability Standards and Water Conservation Standards, which can be found in RIHousing HTF Rehabilitation Standards, Section VII-C should be used as a frame of reference in achieving optimum energy efficiency.

**RIHOUSING shall evaluate past and current operating and maintenance practices** for consistency with the project's operating pro forma and most recent CNA, and to ensure practices are consistent with the findings of the most recent physical inspection.

**Life Safety Issues.** The CNA must report the presence of potentially hazardous materials, waste or toxic substances including but not limited to the presence of mold, asbestos, lead, urea formaldehyde, etc. if observed.

**Most importantly, the CNA must evaluate existing capital reserves and annual contributions to reserves against the long-term spending plan.** This analysis, presented as a spreadsheet cash flow analysis, will indicate the optimum annual contribution to reserves in a way that can be convincingly presented to funding agencies. The reserve plan should reflect real life constraints that are at odds with making the "optimum" contribution. Please go to [www.on-site-insight.com](http://www.on-site-insight.com), or [Forms | Fannie Mae Multifamily](#) for detailed information and an example of acceptable CNA formatting.

## Requirements of a Capital Needs Assessment Consultant

The CNA Consultant must meet minimum qualifications, professional education, training and experience to perform site visits and prepare CNA reports.

### Professional Experience

- o CNA Consultant, its personnel and subcontractors must be independent third-parties, unrelated to, and not have any financial or economic interest in the property; or

- o CNA Consultant must not be an affiliated entity of the HTF recipient unless previously approved by RIHOUSING.
- o CNA Consultant must not be under suspension or debarment by HUD or Fannie Mae, involved as a defendant in criminal or civil action with HUD or Fannie Mae, and not be an Federal Housing Finance Agency (FHFA) prohibited party.
- o Five years of professional experience in one or more of the following disciplines:
  - architecture;
  - engineering (structural, mechanical or civil); or
  - Construction management and cost estimating (which may include cost estimating experience associated with the preparation of a CNA Report). Three years of experience performing multifamily property condition physical needs assessments, completed a minimum of five property inspections, and reporting of property condition assessment findings in a manner consistent with these Instructions or ASTM E2018-08 “Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process”; or
  - Knowledge and experience with ASTM E2018-08; or
  - Minimum of three years history providing CNA reports acceptable to RIHOUSING either directly or through a RHODE ISLAND approved CNA Consultant.
- o RIHOUSING may approve new CNA Consultants based on a review of a resume, sample reports and references.

## **Education Requirements**

CNA Consultants must possess or have completed one of the following programs:

- Bachelor of Science degree in engineering, architecture, construction management, historic preservation, construction/building science or building facilities management.
- Property Inspection Risk Management course offered by the MBA;
- Real Estate Assessment Center (“REAC”) for the Department of Housing and Urban Development (“HUD”) as a Certified Home Inspector;
- Building Performance Institute (BPI);
- American Society of Home Inspectors (“ASHI”);
- National Association of Home Inspectors (“NAHI”);
- At least five years assessing multifamily properties and preparation of ASTM E2018-08 compliant reports; or
- Other approved professional certifications, registrations, or training recognized by a Government Sponsored Enterprise (GSE) or HUD.

## **Insurance Requirements**

The CNA Consultant must provide evidence of the following insurance coverage to RHODE ISLAND as an exhibit to the CNA report:

- Commercial General Liability Insurance with limits of at least \$1 million per occurrence and \$2 million aggregate with a maximum deductible amount of \$35,000.
- Professional Liability Insurance with limits of \$1 million per claim and \$2 million aggregate with a maximum deductible amount of \$100,000;
- Worker’s Compensation insurance; and
- Automobile Liability Insurance for all owned (if any), non-owned and hired vehicles of \$1 million per accident.

The CNA Consultant should have appropriate insurance coverage in place for traveling to and from the Property and conducting work at the Property.

## 'Appendix F' Estimated Useful Life (EUL) Tables



### INSTRUCTIONS FOR PERFORMING A MULTIFAMILY PROPERTY CONDITION ASSESSMENT (VERSION 2.0)

#### APPENDIX F – ESTIMATED USEFUL LIFE TABLES

These Estimated Useful Life Tables for multifamily property systems and components are intended to represent standardized average estimated useful life ("EUL") values and are not intended to replace the professional judgment of the PCA Consultant in determining the Effective Age and Remaining Useful Life of the systems and components at the Property. The PCA Consultant should consider preventive maintenance practices, as well as environment, geographic, resident, and other factors when determining Effective Age and Remaining Useful Life of the systems and components of a multifamily Property. In addition to providing guidance on EUL values typically considered capital expenditure items, the EUL tables may include items that are typically considered general maintenance and repair items to be handled by in-house maintenance staff.

#### Estimated Useful Life (EUL) Tables

FLATWORK, PARKING AREAS AND WALKWAYS	Multifamily / Coop	Seniors	Students
Asphalt pavement	25	25	25
Asphalt seal coat	5	5	5
Concrete pavement	50	50	50
Curbing, asphalt	25	25	25
Curbing, concrete	50	50	50
Parking, stall striping	5	5	5
Parking, gravel surfaced	15	15	15
Security gate (site ingress/egress) - rolling gate / lift arm	10	10	10
Sidewalk, asphalt	25	25	25
Sidewalk, brick paver	30	30	30
Sidewalk, concrete	50	50	50

SITE LIGHTING	Multifamily / Coop	Seniors	Students
Building mounted exterior lighting	10	10	10
Building mounted High Intensity Discharge (HID) lighting	10	20	10
Lighting (pole mounted)	25	25	25

SITE FENCING AND RETAINING WALLS	Multifamily / Coop	Seniors	Students
Bulkhead (barrier) / partition wall /embankment	10	20	10
Fencing, chain-link (4' height)	40	40	40
Fencing, concrete masonry unit (CMU)	30	30	30
Fencing, dumpster enclosure (wood)	12	15	10
Fencing, PVC (6' height)	25	25	25
Fencing, Tennis Court (10' height)-Chain link	40	40	40
Fencing, wood privacy (6' height)	15	20	10
Fencing, wrought iron (4-6' height and decorative)	50	50	50
Retaining walls, 80 lb block type	50	50	50
Retaining walls, concrete masonry unit (CMU) with brick face	40	40	40
Retaining walls, timber (railroad tie)	25	25	25

<b>STRUCTURAL FRAME AND BUILDING ENVELOPE</b>			
<b>BUILDING STRUCTURES</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Carports	40	40	40
Canopy, concrete	50	50	50
Canopy, wood / metal	40	40	40
Garages	50	50	50
Storage Sheds	30	30	30
Penthouse (mechanical room)	50	50	50

<b>FOUNDATIONS</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Foundations	50+	50+	50+
Waterproofing (foundations)	50+	50+	50+

<b>FRAMING</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Brick or block	40	40	40
Precast concrete panel (tilt-up)	40	40	40
Wood floor frame	50+	50+	50+

<b>BUILDING ENVELOPE / CLADDING / EXTERIOR WALL FINISHES</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Aluminum Siding	40	40	40
Brownstone	40	40	40
Brick or Stone Veneer	50+	50+	50+
Cement-board siding (Hardi-plank)/ Cementitious (mfgr) siding	45	45	45
Exterior Insulation Finishing Systems (EIFS)	20	20	20
Glass block	40	40	40
Granite block	40	40	40
Insulation, wall	50+	50+	50+
Metal/ glass curtain wall	30	30	30
Painting, Exterior	5-10	5-10	5-10
Pre-cast concrete panel	45	45	45
Stucco systems	50+	50+	50+
Vinyl siding	25	25	25
Wood shingle/ clapboard/ plywood, stucco, composite wood	20	20	20

<b>ROOF SYSTEMS</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Asphalt shingle (3-tab)	20	20	20
Built-up roof - Ethylene Propylene Diene Monomer (EPDM) / Thermoplastic Polyolefin (TPO)	20	20	20
Metal	40	40	40
Parapet wall	50+	50+	50+

Caps, copings (aluminum/ terra-cotta) - Parapet	25	25	25
Roof drainage exterior (gutter/ downspout)	10	10	10
Roof drainage interior (drain covers)	30	30	30
Roof railing	25	25	25
Roof structure	50+	50+	50+
Roof hatch	30	30	30
Roof skylight	30	30	30
Slab	50+	50+	50+
Slate, clay, concrete tile	40	40	40
Soffits (wood/ stucco)	20	20	20
Soffits (aluminum or vinyl)	25	25	25
Wood shingles (cedar shake)	25	25	25

DOORS AND WINDOWS	Multifamily / Coop	Seniors	Students
Exterior common door, aluminum and glass	30	30	30
Exterior common door, solid core wood or metal clad	25	25	25
Exterior unit door, solid wood/ metal clad	25	30	20
Residential Sliding Glass Doors	25	30	20
Residential French Glass Doors	25	30	20
Ceilings, open or exterior	30	30	30
Service door (roof)	25	30	20
Storm/ screen doors	7	10	5
Storm/ screen windows	10	15	7
Windows (frames and glazing), vinyl or aluminum	30	30	30

APPURTENANCES	Multifamily / Coop	Seniors	Students
Chimney	40	40	40
Exterior stairs, wood	15	20	15
Exterior stairs, metal pan- concrete filled	30	30	30
Exterior stairs, concrete	50	50	50
Fire Escapes	40	40	40
Porches, concrete	50	50	50
Wood Decks	20	20	20

AMENITIES	Multifamily / Coop	Seniors	Students
Basketball court	25	25	25
Mail kiosk	10	15	10
Mail facility, interior	20	25	20
Pool deck	15	15	15
Pool/ spa plaster liner	8	8	8
Tennis court / basketball court surface (paint markings)	5	7	5

Tennis court Surface (acrylic emulsion)	10	12	10
Tot-lot (playground equipment)	10	15	10
Tot-lot, uncompressed ground cover	2+	3+	2+

MECHANICAL/ELECTRIC/ PLUMBING SYSTEMS			
<b>WATER DISTRIBUTION AND DOMESTIC HOT WATER SYSTEMS</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Feedwater only (hydronic)	10	10	10
Condensate and feedwater (steam)	cluded boiler	cluded oiler	cluded boiler
Cooling Tower	25	25	25
DHW Circulating Pumps	by size	by size	by size
Domestic Hot Water (DHW) - supply / return	30	30	30
Tank only, dedicated fuel	10	10	10
Exchanger in storage tank	15	15	15
Exchanger in boiler	15	15	15
External tankless	15	15	15
Instantaneous (tankless type)	10	10	10
Domestic Hot Water Storage Tanks, Small (up to 150 gallons)	15	15	15
Domestic Hot Water Storage Tanks, Large (over 150 gallons)	15	15	15
Domestic Cold Water Pumps	15	15	15
Heating Water Circulating Pumps	by size	by size	by size
Heating Water Controller	15	15	15
Hot and Cold Water Distribution	50	50	50
Solar Hot Water	20	20	20
Water Softening and Filtration	15	15	15

<b>SANITARY WASTE AND VENT</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Purchased Steam Supply Station	50+	50+	50+
Sanitary Waste and Vent System	50+	50+	50+
Sewage Ejectors	50	50	50

<b>SUMP PUMP</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Residential Sump Pump	7	7	7
Commercial Sump Pump	15	15	15

<b>HEATING/COOLING SYSTEM AND CONTROLS</b>	<b>Multifamily / Coop</b>	<b>Senior</b>	<b>Student</b>
Pad/ roof condenser	20	20	20
A/C window unit or through wall	10	10	10

Evaporative Cooler	15	15	15
Fan coil unit, electric	20	20	20
Fan coil unit, hydronic	30	30	30

Furnace (electric heat with A/C)	20	20	20
Furnace (electric heat with A/C)	20	20	20
Furnace (gas heat with A/C)	20	20	20
Packaged terminal air conditioner ( PTAC)	15	15	15
Packaged HVAC (roof top units)	20	20	20
Heat pump condensing component	20	20	20
Heater, electric baseboard	25	25	25
Heater, wall mounted electric or gas	20	20	20
Hydronic heat/ electric A/C	20	20	20
Line Dryers	15	15	15
Master TV System	10	10	10
Motorized Valves	12	12	12
Outdoor Temperature Sensor	10	10	10
Pneumatic lines and Controls	30	30	30

BUILDING HEATING WATER TEMPERATURE CONTROLS	Multifamily / Coop	Seniors	Students
Chilled Water Distribution	50+	50+	50+
Chilling Plant	15	15	15
Cooling Tower	25	25	25
Fuel Oil Storage	25	25	25
Fuel Transfer System	25	25	25
Gas Distribution	50+	50+	50+
Heat Sensors	15	15	15
Heat Exchanger	35	35	35
Heating Risers and Distribution	50+	50+	50+

VENTILATION SYSTEMS	Multifamily / Coop	Seniors	Students
Combustion Air, Duct with fixed louvers	30	30	30
Combustion Air, Motor louver and duct	25	25	25
Flue Exhaust	w/boiler	w/boiler	w/boiler
Free Standing Chimney	50+	50+	50+

ELECTRICAL SYSTEMS	Multifamily / Coop	Seniors	Students
Common area	15	15	15
Buzzer/Intercom, central panel	20	20	20
Central Unit Exhaust, roof mounted	15	15	15
Compactors	15	15	15
Dumpsters	10	10	10

Electrical distribution center	40	40	40
Electric main	40	40	40
Emergency Generator	25	25	25

Gas lines	40	40	40
Gas main	40	40	40
Heating supply/ return	40	40	40
Power distribution	40	40	40
Transformer	30	30	30

<b>BOILER ROOM EQUIPMENT</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Blowdown and Water Treatment	25	25	25
Boiler Room Pipe Insulation	Included in boiler	Included in boiler	Included in boiler
Boiler Room Piping	Included in boiler	Included in boiler	Included in boiler
Boiler Room Valves	15	15	15
Boiler Temperature Controls	Included in boiler	Included in boiler	Included in boiler

<b>VERTICAL TRANSPORTATION - ELEVATORS</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Electrical Switchgear	50+	50+	50+
Electrical Wiring	30	30	30
Elevator, Controller, dispatcher	15	20	10
Elevator, Cab	15	20	10
Elevator, Machinery	30	30	30
Elevator, Shaft-way Doors	20	20	20
Elevator, Shaft-way Hoist rails, cables, traveling	25	25	25
Elevator, Shaft-way Hydraulic piston and leveling	25	25	25

<b>BOILERS</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Oil-fired, sectional	22	22	22
Gas/ dual fuel, sectional	25	25	25
Oil/ gas/ dual fired, low MBH	30	30	30
Oil/ gas/ dual fired, high MBH	40	40	40
Gas fired atmospheric	25	25	25
Electric	20	20	20

<b>FIRE SAFETY AND FIRE PROTECTION SYSTEMS</b>	<b>Multifamily / Coop</b>	<b>Senior</b>	<b>Student</b>
Call station	10	15	10
Emergency Generator	25	25	25

Emergency Lights	8	10	5
Fire Extinguisher	10	15	5
Fire Pumps	20	20	20
Fire Suppression	50+	50+	50+
Smoke and Fire Detection System, central panel	15	15	15

**INTERIOR ELEMENTS (COMMON AREA / DWELLING UNIT)**

<b>INTERIOR / COMMON AREA FINISHES</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Common area doors, interior (solid wood/ metal clad)	20	20	20
Common area floors, ceramic / quarry tile, terrazzo	50+	50+	50+
Common area floors, wood (strip or parquet)	30	30	30
Common area floors, resilient tile or sheet	15	15	15
Common area floors, carpet	5	5	5
Common area floors, concrete	50+	50+	50+
Common area railing	20	20	20
Common area ceiling, concrete	50+	50+	50+
Common area ceiling, acoustic tile (drop ceiling), drywall / plaster	10	10	10
Common area countertop and sink	20	20	20
Common area, refrigerator	10	10	10
Common area dishwasher	15	15	10
Common area disposal	5	7	3
Common area kitchen cabinets, wood	15	20	10
Common area walls	15	25	10
Interior railings	20	25	15
Interior lighting	15	20	10
Public bathroom accessories	7	12	5
Public bathroom fixtures	15	20	10

<b>DWELLING FIRE, SAFETY AND SECURITY</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Unit Smoke/Fire Detectors *	5	5	5
Unit Carbon Monoxide Detectors *	5	5	5
Unit Buzzer/Intercom	20	20	20

\*Tested annually, batteries changed annually.

<b>DWELLING UNIT CEILINGS</b>	<b>Multifamily / Coop</b>	<b>Seniors</b>	<b>Students</b>
Concrete	50+	50+	50+
Acoustic Tile / Drywall / Plaster	10	15	10

<b>DWELLING UNIT FIXTURES</b>	<b>Multifamily / Coop</b>	<b>Senior</b>	<b>Students</b>
Bathroom: Vanity	10	15	10
Bathroom: Fixtures / Faucets	15-20	20+	15-20
Bathroom: Fiberglass Bath / Shower	20	25	18
Bathroom: Toilet	50+	50+	40
Bathroom: Toilet Tank Components	5	5	5
Bathroom: Vent / Exhaust	10	10	10
Interior Doors	15	30	10
Kitchen: Cabinets (wood construction)	20	25	15
Kitchen: Cabinets (particle board)	15	20+	13
Kitchen: Dishwasher	5-10	10-12	5-8
Kitchen: Microwave	10	12	8
Kitchen: Range	15	25	15
Kitchen: Range-hood	10	20	10
Kitchen: Refrigerator	10	20	10
Window covering	3	5	1+

<b>DWELLING UNIT FLOORS</b>	<b>Multifamily / Coop</b>	<b>Senior</b>	<b>Students</b>
Ceramic / Tile / Terrazzo	20	25	20
Wood (strip/ parquet)	15	20	20
Resilient Flooring	10	15	7
Carpet	7	10	3+
Concrete	50+	50+	50+

<b>DWELLING UNIT HVAC AND MECHANICAL EQUIPMENT</b>	<b>Multifamily / Coop</b>	<b>Senior</b>	<b>Students</b>
A/C window unit or through wall	10	10	10
Evaporative cooler	15	15	15
Fan coil unit, electric	20	20	20
Fan coil unit, hydronic	30	30	30
Furnace (electric heat with A/C)	20	20	20
Furnace (gas heat with A/C)	20	20	20
Packaged terminal air conditioner (PTAC)	15	15	15
Packaged HVAC (roof top unit)	15	15	15
Heat pump condensing component	15	15	15
Heater, electric baseboard	25	25	25
Heater, wall mounted electric or gas	20	20	20
Hydronic heat/ electric AC	20	20	20
Unit Electric Panel	50+	50+	50+
Unit Level Boiler	25	25	25
Unit Level Domestic Hot Water	10	15	10
Unit Level Hot Air Furnace	25	25	25
Unit Radiation - Steam/ Hydronic (baseboard or freestanding)	30	30	30
Unit Wiring	30	30	30