

SECTION 01010

SPECIAL ENVIRONMENTAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This project is being designed to include the requirements of the Maine State Housing Authority Green Standards and the Enterprise Foundation's Green Communities Design Criteria. These are comprehensive programs for the design, specification, construction and operation of environmentally responsible buildings.
- B. These specifications include green building practices and require the submission of basic documentation that identify and quantify the environmental attributes of products and materials
- C. Section Includes Special Environmental Requirements: Work includes special environmental, sustainable, and “green” building practices related to energy conservation and efficiency, indoor air quality, and resource efficiency, including the following:
  - 1. Special Requirements:
    - a. Require practices to ensure healthy indoor air quality in final Project.
    - b. Maximize use of low VOC emitting materials.
    - c. Maximize use of durable products.
    - d. Maximize use of products easy to maintain, repair, and that can be cleaned using non-toxic substances.
    - e. Maximize use of reusable and recyclable packaging.
    - f. Maximize use of products with low embodied energy (production, manufacturing, and transportation). Includes selection of regionally manufactured materials as well as regionally extracted, harvested, or recovered materials.
  - 2. Construction team is required to comply with sustainable building practices during construction and when considering materials for substitutions. Refer to Article 1.3 – Design Requirements.
- D. Related Requirements: Refer to Specification sections for special environmental requirements for specific products.
  - 1. Section 01505: Construction Waste Management.
  - 2. Section 01600: Product Requirements.

1.2 DEFINITIONS

- A. Certificates of Chain-of-Custody: Certificates signed by manufacturers certifying that wood used to make products was obtained from forests certified by an FSC-accredited certification body to comply with FSC 1.2, "Principles and Criteria." Certificates shall include evidence that mill is certified for chain-of-custody by an FSC-accredited certification body.

- B. **Rapidly Renewable Materials:** Materials made from agricultural products that are typically harvested within a ten-year or shorter cycle. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.
- C. **Regionally Manufactured Materials:** Materials that are manufactured within a radius of 300 miles from the Project location. Manufacturing refers to the final assembly of components into the building product that is installed at the Project site. This definition does apply to MSHA - and note the 300 mile radius.
- D. **Regionally Extracted, Harvested, or Recovered Materials:** Materials that are extracted, harvested, or recovered and manufactured within a radius of 300 miles from the Project site.
- E. **Recycled Content:** The percentage by weight of constituents that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (pre-consumer), or after consumer use (post-consumer).
  - 1. Spills and scraps from the original manufacturing process that are combined with other constituents after a minimal amount of reprocessing for use in further production of the same product are not recycled materials.
  - 2. Discarded materials from one manufacturing process that are used as constituents in another manufacturing process are pre-consumer recycled materials.

### 1.3 DESIGN REQUIREMENTS

- A. **General:** Owner has established with design team general environmental goals for design and for construction of Project; Contractor, subcontractors, suppliers, and manufacturers (construction team) are encouraged to participate where possible to realize Owner's environmental goals.
  - 1. Intent is for environmental goals to be achieved in manner that ultimately provides safe and healthy environment for building occupants with minimal impact on local, regional and global environment.
  - 2. Contract Documents are not intended to limit alternative means of achieving environmental goals.
    - a. Suggestions from construction team for implementing goals are encouraged.
    - b. Team approach is encouraged.

### 1.4 SUBMITTALS

- A. **General:** Submit requirements included in other sections of the Specifications.
- B. **Project Materials Cost Data:** Statements indicating total cost for building materials used for Project will not be required. Statements indicating cost for construction waste management will be required to identify percentage of construction waste diverted from landfills.
- C. **Indoor Air Quality (IAQ) Data:**
  - 1. **Cleaning and Maintenance Products:** Provide data on manufacturers' recommended maintenance, cleaning, refinishing and disposal procedures for materials and products. These procedures are for final Contractor cleaning of the project prior to substantial

completion and for provided materials and products as required by the specific specification sections.

2. Limit VOC content to MSHA requirements.

#### 1.5 MSHA GOALS FOR THE PROJECT

- A. Maine State Housing Authority Green Building Standards: The Owner has established the following environmental goals for the Project. These goals are general in nature; refer to specific specification sections for more detailed goals. Notify Owner and Architect if conflicts arise between performance of the work and environmental goals. This specification is not intended to limit alternative means of achieving these goals. Suggestions and input from the Contractor(s) for implementing these goals are encouraged.
- B. Site:
  1. R 1: Landscape with at least 75% northern hardy native species that do not require irrigation. This is measured by number of plantings.
  2. R 2: Not applicable.
  3. R 3: Minimize light pollution to the night sky.
- C. Building Design:
  1. R 1: An overall water management plan for the building envelope for prevention of indoor air quality (IAQ) problems from mold.
- D. Energy Efficiency - Building Envelope:
  1. R 1: The building envelope must be sealed to prevent air leaks.
  2. R 2: The thermal envelope shall be insulated in a manner that complies with either the requirements of Chapter 4 of the 2004 IECC or the requirements of state law whichever is more stringent.
  3. R 3: Energy efficient windows optimized for solar gain OR advanced framing techniques such as OVE, SIPS, ICF, stress skin panel and others.
  4. R 4: Spaces between trusses or rafters shall have blocking at the soffit to prevent "windwashing" of the attic insulation.
  5. R 5: No pipes or ducts in outside walls.
- E. Energy Efficiency - Systems & Appliances:
  1. R 1: Energy Star labeled systems & appliances.
  2. R 2: Bathroom exhaust fans shall be low noise with energy efficient fan motor rated for continuous duty with a minimum rating of 50 cfm.
  3. R 3: Water Efficiency: Low flow faucets and showerheads.
  4. R 4: Water Efficiency: Low flow toilets.
  5. R 5: Seal ductwork with duct mastic to prevent air leakage.
- F. Energy Efficiency - Interior Lighting Fixtures:
  1. R 1: Lighting lamps and fixtures shall be Energy Star rated.
  2. R 2: No recessed light fixtures shall be installed in roof/ceiling assemblies.
  3. R 3: All emergency exit signs shall be LED.

- G. Inspection/Commissioning:
  - 1. R 1: Commissioning required for projects of five units or more with central mechanical systems.
  - 2. R 2: For each project, a representative number of units, as determined by MSHA, must be “Blower Door” tested to verify effectiveness of air.
  - 3. R 3: A representative sampling of ducted air distribution systems, as determined by MSHA, must be tested to verify effectiveness of duct sealing.
  
- H. Indoor Environmental Quality:
  - 1. R 1: Position and size operable windows and glazing systems to take advantage of natural ventilation, cooling and daylighting.
  - 2. R 2: Use low VOC paint.
  - 3. R 3: Use low VOC adhesives & sealants.
  - 4. R 4: If carpet is installed it must meet CRI low emission test standard.
  - 5. R 5: No carpet in kitchens, bathrooms or within 3' of entry doors.
  
- I. Materials:
  - 1. R 1: Use framing and finish lumber harvested from sustainably managed forests OR local / regional materials OR durable materials.
  
- J. Resource Efficiency:
  - 1. R 1: Provide space for recycling containers at convenient location(s) for storage of recyclables.
  - 2. R 2: Non-mercury thermostats.
  
- K. Post Occupancy:
  - 1. R 1: Provide tenants with educational materials about green design, building operations, recycling & building maintenance.
  - 2. R 2: Non-mercury thermostats.

## 1.6 GREEN COMMUNITIES DESIGN GOALS FOR THE PROJECT

- A. Enterprise Foundation's Green Communities Design Criteria: The Owner has established the following environmental goals for the Project. These goals are general in nature; refer to specific specification sections for more detailed goals. Notify Owner and Architect if conflicts arise between performance of the work and environmental goals. This specification is not intended to limit alternative means of achieving these goals. Suggestions and input from the Contractor(s) for implementing these goals are encouraged.
  
- B. Section 1 - Integrated Design Process:
  - 1. 1.1 - Green Development Plan:
    - a. Incorporate all mandatory Green Criteria items into a written Green Development Plan with at least the minimum number of optional measures possible for the project. Green Development Plan will be submitted to The Enterprise Foundation upon Completion of the Schematic design Phase. When Construction Documents are completed the project Architect or green design specialist will certify that these Criteria are included in the Construction Documents and that the Owner and Resident Manual are complete.

- C. Section 2 - Location and Neighborhood Fabric:
1. 2.1 - Smart Site Location (Mandatory):
    - a. Locate project on sites with access to existing roads, water, sewers, and other infrastructure within or contiguous to existing development.
  2. 2.2 - Smart Site Location (Mandatory):
    - a. Do not locate new development on wetlands, steep slopes, prime farmland, or parkland.
  3. 2.3 - Smart Site Location, Proximity to Services (Mandatory):
    - a. Locate projects within walking distance of community facilities, retail establishments, and civic amenities.
  4. 2.4 - Compact Development (Mandatory except for rehab):
    - a. Average minimum density for new construction must be 6 units per acre for detached or semi-detached; 10 for town homes; and 15 for apartments.
  5. 2.5 - Walkable Neighborhoods (Mandatory):
    - a. Include sidewalks or other suitable pathways within a multi-family property or single-family subdivision to encourage walking within and off the site and connectivity to the surrounding environment.
  6. 2.6 - Smart Site Location (Optional): Not applicable
  7. 2.7 - Smart Site Location (Optional):
    - a. Locate the project on a grayfield, brownfield or adaptive reuse site (10 points).
  8. 2.8 - Compact Development (Optional):
    - a. Increase average minimum density for new construction above: 6 units per acre for detached or semi-detached; 10 for town homes; and 15 for apartments (5 points maximum for an increase of at least 2 units per acre).
  9. 2.9 - Walkable Neighborhoods (Optional):
    - a. Provide at least 3 separate connections to sidewalks or pathways in surrounding neighborhoods (5 points).
  10. 2.10 - Transportation Choices (Optional):
    - a. Locate boundary of site within a 1/4 mile radius of public transit service or 1/2 mile radius from a fixed rail station or ferry station (10 points).
- D. Section 3 - Site Improvements:
1. 3.1 - Environmental Remediation (Mandatory):
    - a. Conduct a Phase I Environmental Site Assessment and additional assessments if required, then provide a plan for abatement of any hazards.
  2. 3.2 - Erosion and Sedimentation Control (Mandatory):
    - a. Implement EPA Best Management Practices for erosion and sedimentation control during construction.
  3. 3.3 - Surface Water Management (Optional): Not applicable
  4. 3.4 - Storm Drain Labels (Optional):
    - a. Label all storm drains or storm inlets (2 points).
- E. Section 4 - Water Conservation:
1. 4.1 - Water Conserving Appliances and fixtures (Mandatory):
    - a. Use appliances and plumbing fixtures that reduce water use and sewage outflow; OR If a rehab project, use low-flow toilets and showerheads and meet requirements for new construction wherever and whenever fixtures and appliances are replaced.

2. 4.2 - Water Conserving Landscaping (Mandatory):
    - a. Select trees and plants appropriate to the climate, including drought-tolerant species in regions with low levels of rainfall during the summer or throughout the year. Provide street trees with watering tube to water trees for first few years.
  3. 4.3 - Efficient Irrigation (Mandatory): Not applicable
- F. Section 5 - Energy Efficiency:
1. 5.1 - Efficient Energy Use (Mandatory):
    - a. Demonstrate energy efficiency through an energy analysis of at least 30% more efficient than the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous or through a Home Energy Rating System (HERS) design score of 86; OR If a rehab project, demonstrate energy efficiency by implementing all cost-effective energy improvements with a 10-year or better payback as identified by a qualified engineer or energy auditor.
  2. 5.2 - Energy Star Appliances (Mandatory):
    - a. Install Energy Star labeled appliances.
  3. 5.3 - Efficient Lighting (Mandatory):
    - a. Install Energy Star labeled lighting fixtures. Install daylight sensors on all outdoor lighting.
  4. 5.4 - Electricity Meter (Mandatory):
    - a. Install individual or sub-metered electric meters in multifamily housing units (except zero-bedroom dwelling units).
  5. 5.5 - Additional Reduction in Energy Use (Optional): Not applicable
  6. 5.6 - Photovoltaic Panels (Optional): Not applicable
- G. Section 6 - Materials Beneficial to the Environment:
1. 6.1 - Recycled Content (Optional): Not applicable
  2. 6.2 - Certified Wood (Optional): Not applicable
  3. 6.3 - Water-Permeable Walkways and Parking Areas (Optional): Not applicable
  4. 6.4 - Reducing Heat Island Effect - Roofing (Optional): Not applicable
  5. 6.4b - Reducing Heat Island Effect - Paving (Optional): Not applicable
- H. Section 7 - Healthy Living Environment:
1. 7.1 - Paints and Primers (Mandatory):
    - a. Specify low volatile organic compound (VOC) paints and primers.
  2. 7.2 - Adhesives and Sealants (Mandatory):
    - a. Specify low-volatile organic compound (VOC) sealants and adhesives.
  3. 7.3 - Composite Wood (Mandatory):
    - a. Use composite wood only if free of added urea formaldehyde or if sealed with a low VOC sealant or laminate.
  4. 7.4 - Carpet (Mandatory):
    - a. Use Carpet and Rug Institute's Green Label certified carpet in carpeted areas. Do not install carpets in basements, entryways, laundry rooms, bathrooms, or kitchens.
  5. 7.5 - Exhaust Fans (Mandatory except for moderate rehab):
    - a. To ensure effective removal of moisture, install Energy Star-labeled bathroom fans that exhaust to the outdoors and are equipped with a humidistat sensor, or timer. Install power vented fans or range hoods that exhaust to the exterior when gas cook tops and gas ovens are present.

6. 7.6 - Ventilation (Mandatory except for moderate rehab):
    - a. Adequately ventilate all living areas by providing 15 cubic feet per minute of fresh air per occupant either via the HVAC system or through natural ventilation.
  7. 7.7 - HVAC Sizing (Mandatory):
    - a. Appropriately size HVAC systems to prevent short-cycling of heating or air conditioning and ensure adequate dehumidification.
  8. 7.8 - Water Heaters (Mandatory):
    - a. To avoid moisture problems, use tankless hot water heaters or install conventional hot water heaters so that overflow or leaks are captured by drains.
  9. 7.9 - Cold Water Pipe Insulation (Mandatory):
    - a. Insulate cold water pipes in climates and building conditions susceptible to moisture condensation. Avoid putting plumbing in exterior walls.
  10. 7.10 - Materials in Wet Areas (Mandatory):
    - a. Do not install mold-propagating materials such as vinyl wallpaper and unsealed grout, in wet areas. Use highly durable, moisture resistant materials in tub/shower enclosures.
  11. 7.11 - Basements and Concrete Slabs (Mandatory):
    - a. Provide proper drainage to the lowest level of concrete. Waterproof exterior of foundation walls, and provide vapor barriers under all slabs. In EPA Zone 1 areas, install radon-resistant features below the slab.
  12. 7.12 - Surface Water Drainage (Mandatory):
    - a. Provide surface drainage of water away from windows, walls, and foundations.
  13. 7.13 - CO2 Sensors in Garages (Mandatory): Not applicable
  14. 7.14 - Healthy Flooring Materials (Optional):
    - a. Use alternative, non-vinyl, non-carpet floor coverings in all rooms. (5 points).
  15. 7.15 - Surface Water Drainage (Optional): Not applicable
  16. 7.16 - Clothes Dryer Exhaust (Mandatory):
    - a. Clothes dryers must be exhausted directly to the outdoors.
  17. 7.17 - Integrated Pest Management (Mandatory):
    - a. Seal all wall, floor, and joint penetrations with low-VOC caulk.
  18. 7.18 - Lead-Safe Work Practices (Mandatory): Not applicable
- I. Section 8 - Operations and Maintenance:
1. 7.1 - Owner's Manual (Mandatory except when developer will be Owner):
    - a. Provide a plan for educating the owner regarding the intent of integrated Green building and landscaping features as well as their proper use and maintenance.
  2. 7.2 - Resident's Manual (Mandatory for Rental Properties):
    - a. Provide a Green Guide for residents describing the intent, benefits, use and maintenance of Green building features encouraging additional features such as recycling and use of healthy cleaning materials.
  3. 7.3 - Owner Orientation (Mandatory):
    - a. Development Staff and Fore Solutions will orient Management staff on the green features of the project, and review the owner manual.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Packaging: To the greatest extent possible, deliver materials in recyclable or in reusable packaging such as cardboard, wood, paper, or reusable blankets, which will be reclaimed by supplier or manufacturer for recycling.
  - 1. General: Minimize packaging materials to maximum extent possible while still ensuring protection of materials during delivery, storage, and handling.
    - a. Minimize the use of polyurethane, polyisocyanate, polystyrene, polyethylene, and similar plastic materials such as “foam” plastics and “shrink-fit” plastics.
  - 2. Reusable Blankets: Deliver and store materials in reusable blankets and mats reclaimed by manufacturers or suppliers for reuse where program exists or where program can be developed for such reuse.
  - 3. Pallets: Where pallets are used, suppliers shall be responsible to ensure pallets are removed from site for reuse or for recycling.
  - 4. Corrugated Cardboard and Paper: Where paper products are used, recycle as part of construction waste management recycling program, or return to material’s manufacturer for use by manufacturer or supplier.
  - 5. Sealants, Paint, Primers, Adhesives, and Coating Containers: Return to supplier or manufacturer for reuse where such program is available.

## 1.8 PROJECT CONDITIONS

- A. No smoking will be permitted in indoor Project site locations.
- B. Construction Ventilation and Preconditioning:
  - 1. Temporary Construction Ventilation: Maintain sufficient temporary ventilation of areas where materials are being used that emit VOCs. Maintain ventilation continuously during installation, and until emissions dissipate after installation. If continuous ventilation is not possible via building’s HVAC system(s) then ventilation shall be supplied via open windows and temporary fans, sufficient to provide no less than three air changes per hour.
    - a. Period after installation shall be sufficient to dissipate odors and elevated concentrations of VOCs. Where no specific period is stated in these Specifications, a time period of 72 hours shall be used.
    - b. Ventilate areas directly to outside; ventilation to other enclosed areas is not acceptable.
  - 2. During dust producing activities (e.g. drywall installation and finishing) turn ventilation system off, and openings in supply and return HVAC system shall be protected from dust infiltration. Provide temporary ventilation as required.
  - 3. Pathway Interruption: Prevent contamination of clean spaces. Include the following strategies that apply:
    - a. Use 100% outside air ventilation (when outside temperatures are between 55 degrees F and 85 degrees F and humidity is between 30% and 60%) with air exhausted directly to the outside during installation of finishes and other VOC emitting materials.
    - b. Erect some type of barrier between work areas or between the inside and outside of the building to prevent unwanted airflow from dirty to clean areas



4. Preconditioning: Prior to installation, allow products which have odors and significant VOC emissions to off-gas in dry, well-ventilated space for 14 calendar days to allow for reasonable dissipation of odors and emissions prior to delivery to Project site.
  - a. Condition products without containers and packaging to maximize off-gassing of VOCs
  - b. Condition products in ventilated warehouse or other building. Comply with substitution requirements for consideration of other locations.
- C. Protection:
  1. Moisture Stains: Materials with evidence of moisture damage, including stains, are not acceptable, including both stored and installed materials; immediately remove from site and properly dispose. Take special care to prevent accumulation of moisture on installed materials and within packaging during delivery, storage, and handling to prevent development of molds and mildew on packaging and on products.
    - a. Immediately remove from site and properly dispose of materials showing signs of mold and signs of mildew, including materials with moisture stains.
    - b. Replace moldy materials with new, undamaged materials.
  2. Ducts: Seal ducts during transportation, delivery, and construction to prevent accumulation of construction dust and construction debris inside ducts.
- D. Implementation:
  1. Manager: The Contractor shall designate an on-site party (or parties) responsible for instructing workers and overseeing and the Construction Ventilation and Preconditioning for the Project.
  2. Progress Meetings: Construction related Construction Ventilation and Preconditioning procedures shall be included in the pre-construction and construction progress meeting agendas.
  3. Instruction: The Contractor shall provide on-site instruction of the Construction Ventilation and Preconditioning procedures and ensure that all participants in the construction process understand the importance of the goals of the Construction Ventilation and Preconditioning procedures.

## PART 2 - PRODUCTS

### 2.1 RECYCLED CONTENT OF MATERIALS

- A. The cost of post-consumer recycled content of an item shall be determined by dividing the weight of post-consumer recycled content in the item by the total weight of the item and multiplying by the cost of the item.
- B. The cost of post consumer recycled content plus one-half of pre-consumer recycled content of an item shall be determined by dividing the weight of post-consumer recycled content plus one-half of pre-consumer recycled content in the item by the total weight of the item and multiplying by the cost of the item.
- C. Recycled content of materials shall be defined according to the Federal Trade Commission's "Guide for the Use of Environmental Marketing Claims," 16 CFR 260.7 (e).

## 2.2 CERTIFIED WOOD

- A. Provide wood-based materials that are produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC 1.2, "Principles and Criteria."

## 2.3 LOW-EMITTING MATERIALS

- A. For interior applications use adhesives and sealants that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24):
1. Wood Glues: 30 g/L.
  2. Metal to Metal Adhesives: 30 g/L.
  3. Adhesives for Porous Materials (Except Wood): 50 g/L.
  4. Subfloor Adhesives: 50 g/L.
  5. Plastic Foam Adhesives: 50 g/L.
  6. Carpet Adhesives: 50 g/L.
  7. Carpet Pad Adhesives: 50 g/L.
  8. VCT and Asphalt Tile Adhesives: 50 g/L.
  9. Cove Base Adhesives: 50 g/L.
  10. Gypsum Board and Panel Adhesives: 50 g/L.
  11. Rubber Floor Adhesives: 60 g/L.
  12. Ceramic Tile Adhesives: 65 g/L.
  13. Multipurpose Construction Adhesives: 70 g/L.
  14. Fiberglass Adhesives: 80 g/L.
  15. Structural Glazing Adhesives: 100 g/L.
  16. Wood Flooring Adhesive: 100 g/L.
  17. Contact Adhesive: 250 g/L.
  18. Plastic Cement Welding Compounds: 350 g/L.
  19. ABS Welding Compounds: 400 g/L.
  20. CPVC Welding Compounds: 490 g/L.
  21. PVC Welding Compounds: 510 g/L.
  22. Adhesive Primer for Plastic: 650 g/L.
  23. Sealants: 250 g/L.
  24. Sealant Primers for Nonporous Substrates: 250 g/L.
  25. Sealant Primers for Porous Substrates: 775 g/L.
  26. Adhesive for rubber roofing: 250 g/L.
- B. For interior applications use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24) and the following chemical restrictions:
1. Flat Paints and Coatings: VOC not more than 50 g/L.
  2. Non-Flat Paints and Coatings: VOC not more than 150 g/L.
  3. Anti-Corrosive Coatings: VOC not more than 250 g/L.
  4. Varnishes and Sanding Sealers: VOC not more than 350 g/L.
  5. Stains: VOC not more than 250 g/L.
  6. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).

7. Restricted Components: Paints and coatings shall not contain any of the following:
- a. Acrolein.
  - b. Acrylonitrile.
  - c. Antimony.
  - d. Benzene.
  - e. Butyl benzyl phthalate.
  - f. Cadmium.
  - g. Di (2-ethylhexyl) phthalate.
  - h. Di-n-butyl phthalate.
  - i. Di-n-octyl phthalate.
  - j. 1,2-dichlorobenzene.
  - k. Diethyl phthalate.
  - l. Dimethyl phthalate.
  - m. Ethylbenzene.
  - n. Formaldehyde.
  - o. Hexavalent chromium.
  - p. Isophorone.
  - q. Lead.
  - r. Mercury.
  - s. Methyl ethyl ketone.
  - t. Methyl isobutyl ketone.
  - u. Methylene chloride.
  - v. Naphthalene.
  - w. Toluene (methylbenzene).
  - x. 1,1,1-trichloroethane.
  - y. Vinyl chloride.

### PART 3 - EXECUTION

#### 3.1 ENVIRONMENTAL GOALS IMPLEMENTATION

- A. Contractor shall designate an on-site party (or parties) responsible for instructing workers and overseeing the Environmental Goals for the Project.
- B. Distribution: The Contractor shall distribute copies of the Environmental Goals to the job-Site Foreman, each Subcontractor, the Owner, and the Architect.
- C. Meetings: Environmental Goals shall be discussed at the following meetings:
  1. Pre-bid meeting.
  2. Pre-construction meeting.
  3. Regular job-site meetings.

### 3.2 CLEANING

#### A. Final Cleaning Environmental Issues:

1. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains, and foreign substances; polish transparent and glossy surfaces.
2. Clean equipment and fixtures to sanitary condition.
3. Vacuum carpeted and soft surfaces with high efficiency particulate arrestor (HEPA) vacuum.
4. If ducts were not sealed during construction, and contain dust or dirt, clean ducts using HEPA vacuum immediately prior to Substantial Completion and prior to using ducts to circulate air. Oil film on sheet metal shall be removed before shipment to site. However, ducts shall be inspected to confirm that no oil film is present. Remove oil.
5. Replace all air filters (i.e., pre and final filters) just prior to Substantial Completion.
6. Remove and properly dispose of recyclable materials using construction waste management program described in Section 01505 – Construction Waste Management.

### 3.3 PROTECTION

#### A. Environmental Issues:

1. Protect interior materials from water intrusion or penetration; where interior products not intended for wet applications are exposed to moisture, immediately remove from site and dispose of properly.
2. Protect installed products using methods that do not support growth of molds and mildews.
  - a. Immediately remove from site materials with mold and materials with mildew.

END OF SECTION