PART I -- GENERAL

1.01 SUMMARY

A. Section Includes: General requirements and procedures for compliance with certain U.S. Green Building Council’s (USGBC) LEED™ prerequisites and credits needed for the Project to obtain minimum LEED™ [FILL IN LEVEL] certification.

1. Other LEED™ prerequisites and credits needed to obtain LEED™ certification are dependent on material selections and may not be specifically identified as LEED™ requirements. Compliance with requirements needed to obtain LEED™ prerequisites and credits may be used as one criterion to evaluate substitution requests.

2. Additional LEED™ prerequisites and credits needed to obtain the indicated LEED™ certification are dependent on the Architect’s design and other aspects of the Project that are not part of the Work of the Contract.

B. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

C. Related Documents
   1. Document 01 10 00 - Summary of Work: For summary of work.
   2. Document 01 50 00 - Temporary Facilities and Controls: For requirements for temporary facilities and controls, including temporary utilities, support facilities and security and protection.
   3. Document 01 62 00 - Product Options and Substitutions: For procedures for selecting products and requesting substitutions.
   4. Divisions 02 through 49 Sections for LEED™ requirements specific to the Work of each of those Sections. These requirements may or may not include reference to LEED™.

1.02 REFERENCES

A. ANSI - American National Standards Institute

B. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers
   1. 52.2 - Method of Testing General Ventilation Air Cleaning Devices for removal Efficiency by Particle Size.
   2. 55 - Thermal Comfort Conditions for Human Occupancy.
   3. 62.1 - Ventilation for Acceptable IAQ.
C. ASTM - American Society for Testing and Materials

D. Center for Resource Solutions

E. CR1 - Carpet and Rug Institute

F. Energy Star

G. EPA - Environmental Protection Agency
   1. Brownfields Definition.

H. FSC - Forest Stewardship Council

I. Green Seal
   1. GC-03 - Anti-Corrosive Paints.
   2. GS-11 - Paints.

J. IPMVP - International Performance Measurement and Verification Protocol

K. ISO - International Standards Organization
   1. 14021 - Environmental Labels.

L. SCAQMD - South Coast Air Quality Management District

M. SMACNA - Sheet Metal and Air Conditioning Contractors’ National Association
1. IAQ Guideline for Occupied Buildings Under Construction.

N. USDA - United States Department of Agriculture

O. USGBC - U. S. Green Building Council
   1. LEED™-NC v2.2, Green Building Rating System.

1.03 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. LEED™: Leadership in Energy & Environmental Design.

C. 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.

D. Regionally Manufactured Materials: Materials that are manufactured within a radius of 500 miles from the Project location. Manufacturing refers to the final assembly of components into the building product that is installed at the Project site.

E. Regionally Extracted, Harvested, or Recovered Materials: Materials that are extracted, harvested, or recovered and manufactured within a radius of 500 miles from the Project site.

F. 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.

1.04 SUBMITTALS

A. General: Submit additional LEED™ submittal requirements included in other sections of the Specifications.
B. LEED™ submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated LEED™ requirements.

C. LEED™ submittals must be prepared and submitted using the LEED™-Online credit website.
   1. The Contractor is responsible for obtaining project access to LEED™-Online and joining the project using the project’s IS digit project access code.
      a. Access to the credit templates requires installation of Adobe Reader or Professional 7.0 or higher.
   2. Once the Contractor has joined the project through LEED™-Online, the LEED™ Project Administrator or Architect will assign the LEED™ credits that the Contractor is responsible for completing.
      a. Each credit template is an editable Adobe pdf document.
      b. Each credit template may be completed or updated at any time prior to the LEED™ Construction Submittal.
      c. After completion of each credit documentation, use the “Save Template to LEED™ Online” button at the lower right hand corner of the last page of the template to save the data.
      d. Additional submittal documentation and back-up requirements should be uploaded to the LEED™-Online website following the instructions for each credit.

D. Project Materials Cost Data: Include specific material cost data for individual components and materials (not including labor) where required as part of LEED™ pre-requisite and credit submittals. To avoid repeated calculations, cost data shall be consistent for all credits requiring similar material cost data.

E. LEED™ Project Goals:
   1. SS Prerequisite (Erosion and Sedimentation Control).
   2. SS 4.2 (Bike racks component).
   3. SS 4.3 (Low-emitting/fuel efficient vehicles signage component).
   4. SS 4.4 (Carpool signage component).
   5. SS 6.1 and 6.2 (Stormwater Management and Treatment).
   6. SS 7.2 (Heat Island: Roof).
   7. SS 8 (Light Pollution Reduction).
   8. WE I (Water Efficient Landscaping).
   9. WE 2 (Innovative Wastewater Technologies).
   10. WE 3 (Water Use Reduction).
   11. LA Prerequisite I (Fundamental Commissioning).
   13. EA 3 (Additional Commissioning).
   14. EA 4 (Ozone Depletion: No HCFCs).
   15. MR 2.1 and 2.2 (Construction Waste Management).
   16. MR 4.1 and 4.2 (Recycled Content).
   17. MR 6 (Rapidly Renewable Materials).
18. MR 7 (FSC Certified Wood).
19. EQ 3.1 and 3.2 (Construction IAQ Management Plan: During and After Construction).
20. EQ 4.1, 4.2, 4.3, and 4.4 (Low-Emitting Materials).
21. EQ 5 (Permanent entryway grate component).
22. EQ 6.1 and 6.2 (Controllability of Systems: Perimeter and Non-Perimeter).
23. ID Credits (Construction/materials implications).

F. LEED™ Action Plans: Provide preliminary submittals within 7 days of date established for commencement of the Work indicating how the following requirements will be met:
1. Credit MR 2.1 and Credit MR 2.2: Waste management plan.
2. Credit MR 4.1 and Credit MR 4.2: List of proposed materials with recycled content.
   a. Indicate cost, post-consumer recycled content, and pre-consumer recycled content for each product having recycled content.
3. Credit MR 5.1 and Credit MR 5.2: List of proposed regionally manufactured materials and regionally extracted, harvested, or recovered materials.
   a. Identify each regionally manufactured material, its source, and cost.
   b. Identify each regionally extracted, harvested or recovered material, its source, and cost.
4. Credit MR 7.0: List of proposed certified wood products.
   a. Indicate each product containing certified wood, its source, and cost.
   b. Include statement indicating total cost for wood-based materials used for Project, including non-rented temporary construction.

G. LEED™ Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with LEED™ action plans for the following:
1. Credit MR 2.1 and Credit MR 2.2: Waste reduction progress reports.
2. Credit MR 4.1 and Credit MR 4.2: Recycled content.
3. Credit MR 5.1 and Credit MR 5.2: Regionally manufactured materials and regionally extracted, harvested, or recovered materials.

H. LEED™ Documentation Submittals
2. Credit SS 8.0: Product Data for interior and exterior lighting fixtures that stop direct-beam illumination from leaving the building site.
3. Credit MR 2.1 and Credit MR 2.2
   a. Complete the construction waste calculation tables in the LEED™ credit template. The following information will be required to fill in these tables:
      1) General description of each type/category of waste generated.
      2) Location of receiving agent (recycler/landfill) for waste.
      3) Quantity of waste diverted (by category) in tons or cubic yards.
b. Provide a narrative describing the project’s construction waste management approach. The narrative should include the project’s Construction Waste Management Plan. Please provide any additional comments or notes to describe special circumstances or considerations regarding the project’s credit approach.

4. Credit MR 4.1 and Credit MR 4.2
   a. Complete the LEED™ credit template to provide the following information:
      1) Provide the total project materials cost or provide the total project cost to apply the 45 percent default materials value.
      2) Provide a tabulation of each material used on the project that is being tracked for recycled content. The tabulation must include a description of the material, the manufacturer of the material, the product cost, the pre-consumer and/or post consumer recycled content percentage, and the source of the recycled content data.

b. Provide an optional narrative describing any special circumstances or considerations regarding the project’s credit approach.

5. Credit MR 5.1 and Credit MR 5.2: Product Data indicating location of material manufacturer for regionally manufactured materials.
   a. Include statement indicating cost and distance from manufacturer to Project for each regionally manufactured material.
   b. Include statement indicating cost and distance from point of extraction, harvest, or recovery to Project for each raw material used in regionally manufactured materials.

   a. Include statement indicating costs for each rapidly renewable material.

7. Credit MR 7.0
   a. Complete the LEED™ credit template to provide the following information:
      1) A list of items (and/or components of products) claimed as FSC certified, including product type, manufacturer, and the appropriate entity’s Chain of Custody (COC) certification number. Each product name can then be cross-referenced with the manufacturer or vendor COC number during the LEED™ certification review. Visit www.fscus.org/green building for more information.

b. Provide an optional narrative describing any special circumstance or considerations regarding the project’s credit approach.

8. Credit EQ 3.1
   a. Complete the LEED™ credit template to provide the following information:
      1) Provide a copy of the project’s Indoor Air Quality (IAQ) Management Plan.
      2) Confirm if the permanently installed air handling equipment was used during construction.
      3) Provide photos to highlight the implemented construction IAQ practices.
      4) List all filtration media (manufacturer, model number, MERV rating, location of installed filter) installed during construction and confirm that
each unit replaced prior to occupancy.

b. Provide an optional narrative describing any special circumstance or non-standard approached taken by the project.

9. Credit EQ 3.2
a. Complete the LEED™ credit template to provide the following information:
   1) Confirm the approach taken by project (pre-occupancy flush-out; flush-out with early occupancy; IAQ testing).
   2) Provide a copy of the project’s Indoor Air Quality Testing Report (if applicable).

b. Provide a narrative describing the project’s specific flush-out procedures and/or IAQ testing process and results.

10. Credit EQ 4.1
a. Complete the LEED™ credit template to provide the following information:
   1) Provide a listing of each indoor adhesive, sealant and sealant primer product used on the project. Include the manufacturer’s name, product name, specific VOC data (in g/L less water) for each product, and the corresponding allowable VOC from the referenced standard (listed on page 333 of the LEED™-NC v2.2 Reference Guide).
   2) Provide a listing of each indoor aerosol adhesive product used on the project. Include the manufacturer’s name, product name, specific VOC data (in g/L less water) for each product, and the corresponding allowable VOC from the referenced standard (listed on page 333 of the LEED™-NC v2.2 Reference Guide).

b. Provide a narrative to describe any special circumstances or non-standard compliance path taken by the project.

11. Credit EQ 4.2
a. Complete the LEED™ credit template to provide the following information:
   1) Provide a listing of each indoor paint and coating used on the project. Include the manufacturer’s name, product name, specific VOC data (in g/L less water) for each product, and the corresponding allowable VOC from the referenced standard (listed on page 337 of the LEED™-NC v2.2 Reference Guide).

b. Provide a narrative to describe any special circumstances or non-standard compliance path taken by the project.

12. Credit EQ 4.3
a. Complete the LEED™ credit template to provide the following information:
   1) Provide a listing of carpet product installed in the building interior. Confirm that the product complies with CR1 Green Label Plus Testing Program. For more information visit www.carpet-rug.org.
   2) Provide a listing of carpet cushion product installed in the building interior. Confirm that the product complies with CR1 Green Label Testing Program. For more information visit www.carpet-rug.org.

b. Provide a narrative to describe any special circumstances or non-standard compliance path taken by the project.

13. Credit EQ 4.4
a. Complete the LEED™ credit template to provide the following information:
   1) Provide a listing of each composite wood and agrifiber product installed in the building interior. Confirm that the product does not contain any added urea-formaldehyde.

b. Provide a narrative to describe any special circumstances or non-standard compliance path taken by the project.

1.05 SUBSTITUTIONS

A. In addition to the requirements of Document 01 62 00, the special substitution requirements described here apply only to the LEED™ certification related materials and requirements and environmental products and procedures identified in this Section.

B. Notify Owner and Architect when Contractor wishes to substitute materials, equipment, or products that meet the aesthetic and programmatic intent of the Construction Documents and offer equivalent or increased environmental sensitivity to materials, equipment, or products specified to meet LEED™ requirements as indicated in the Construction Documents.

C. Substitutions that may affect LEED™ certification must be clearly stated as such.

D. Comply with the requirements of Document 01 62 00, except as follows:
   1. Only 1 request for substitution for each product will be considered. When substitution is not accepted, provide specified product. Prior to submitting detailed information required under Document 01 62 00, submit the following for initial review by the Architect:
      a. Product data including manufacturers’ names, addresses, and phone numbers.
      b. Include copy of Material Safety Data Sheet (MSDS) if applicable.
      c. Description of the differences of the proposed substitution from specified product related to LEED™ requirements. Include description of environmental advantages of proposed substitution over specified product.

E. The Contractor is responsible for re-submittal of all calculations and documentation of products or material substitutions that affect LEED™ prerequisites and credits referenced in this Section, and which apply to any credits previously submitted as part of the LEED™ Design Application Submittal, and all credits included in the LEED™ Construction Submittal. Products that do not meet these requirements should not be submitted for substitution. Substitutions of materials and products specified as part of the Contract Documents in the following areas (but not necessarily limited to these items) will require review and potential re-submittal of LEED™ Design Application Prerequisites and Credits:

   1. Irrigation system.
   2. Stormwater system.
   3. Roofing products and materials.
   4. Plumbing fixtures and controls.
5. Interior and exterior lighting systems and controls.
6. HVAC equipment, systems, and controls.
7. CO2 monitoring system.

F. Substituted products shall not be ordered or installed without written acceptance by the owner.

G. Requests for Substitutions
1. Submit a separate request for each LEED™ related product substitution.
2. Identify product by Specification Section and LEED™ credit or credits, if applicable.
3. List similar projects using product, dates of installation, and names of Contractor and Owner.
5. Include copy of Material Safety Data Sheet (MSDS) if applicable.
6. Give cost data comparing proposed substitution with specified product and amount of net change to Contract Sum. The cost data should be based on life cycle analysis for each affected product including annual energy consumption and maintenance costs.
7. State the effect of substitution on construction schedule and changes required in other work of products.

PART 2- PRODUCTS

2.01 RECYCLED CONTENT OF MATERIALS

A. Credit MR 4.1 and Credit MR 4.2: Provide building materials with recycled content such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum of 10 percent of the cost of materials used for the Project.
1. 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.
2. 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.
3. Do not include mechanical and electrical components in the calculation.
4. 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).

2.02 REGIONAL MATERIALS
A. Credit MR 5.1: Provide 20 percent of building materials (by cost) that are regionally manufactured materials.

B. Credit MR 5.2: Of the regionally manufactured materials required by Paragraph “Credit MR 5.1” above, provide at least 50 percent (by cost) that are regionally extracted, harvested, or recovered materials.

2.03 CERTIFIED WOOD

A. Credit MR 7.0: Provide a minimum of 50 percent (by cost) of 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”.

1. Wood-based materials include but are not limited to the following materials when made from wood, engineered wood products, or wood-based panel products:
   a. Rough carpentry.
   b. Miscellaneous carpentry.
   c. Heavy timber construction.
   d. Wood decking.
   e. Metal-plate-connected wood trusses.
   f. Structural glued-laminated timber.
   g. Finish carpentry.
   h. Architectural woodwork.
   i. Wood cabinets.
   j. Non-rented temporary construction, including bracing, concrete formwork, pedestrian barriers, and temporary protection.

2.04 LOW-EMITTING MATERIALS

A. Credit EQ 4.1: 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.

B. Credit EQ 4.2: 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 Scalers: 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.

C. Credit EQ 4.4: Do not use composite wood and agrifiber products that contain urea-formaldehyde resin.