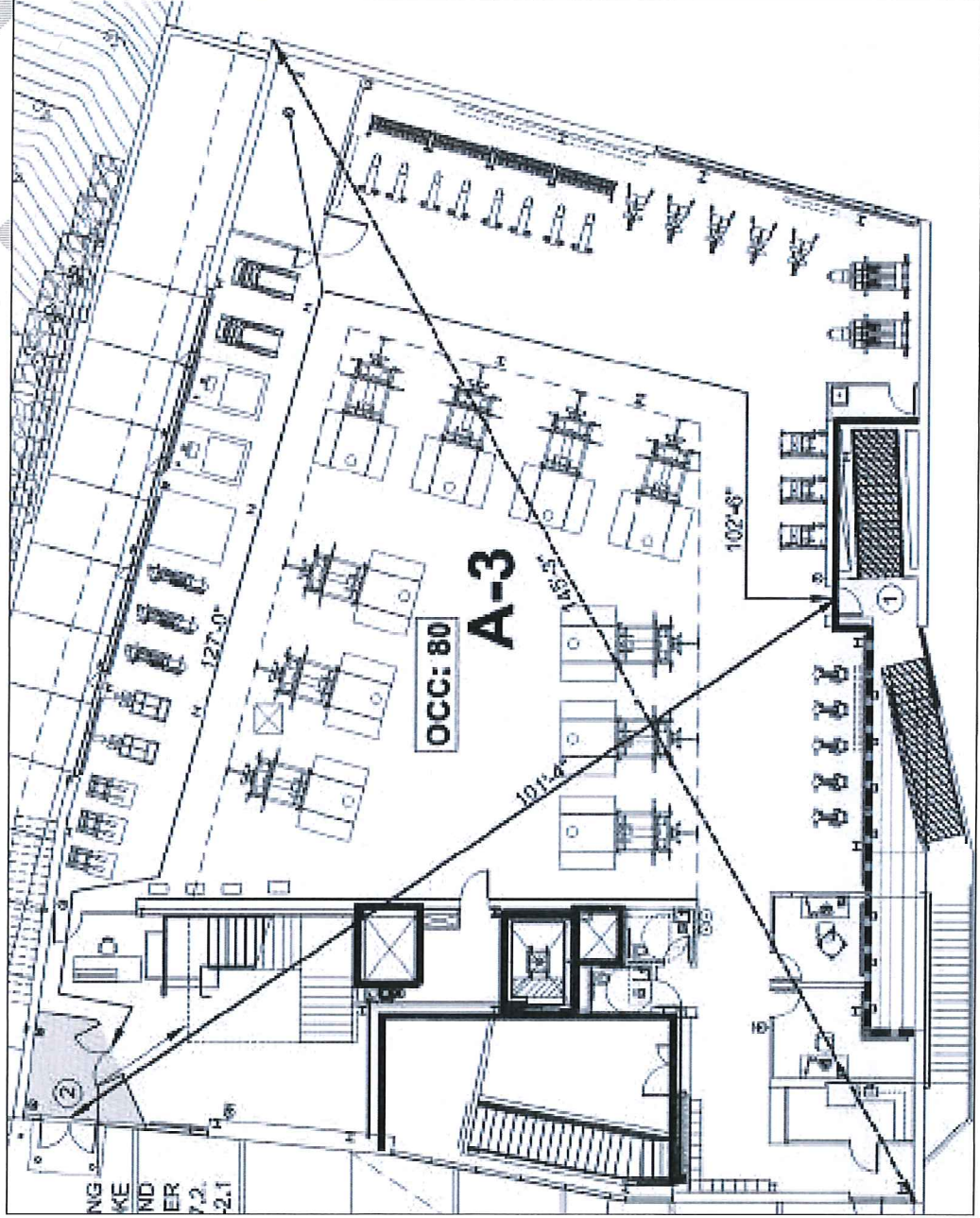


Egress and Fire Ratings



| LEGEND |                                              |
|--------|----------------------------------------------|
|        | FLOOR                                        |
|        | EXIT B                                       |
|        | TRAVEL DISTANCE                              |
|        | 3H RATING                                    |
|        | 2H RATING                                    |
|        | SIDETHROW SPRINKLER AT WINDOW WALL           |
|        | WALL MOUNTED EXIT LIGHT                      |
|        | WALL MOUNTED EXIT LIGHT W/ DIRECTIONAL ARROW |
|        | SHADING DENOTES FACE DIRECTION OF EXIT LIGHT |

LAST REVISED:

5/15/2015

## Code Considerations - Occupancy Calculations and the "18 Exceptions"

### The 18 Exceptions

|    | Issue                                                 | Design Approach                                                                                                                      |
|----|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Fuel, gas, plumbing and mechanical work               | Increase capacity to meet 2014 fresh air requirement                                                                                 |
| 2  | Fire protection systems                               | Building is fully sprinklered.                                                                                                       |
| 3  | Elevators, conveyors                                  | Existing elevator does not meet 2014 size requirements, but will not be touched. It is currently accessible and has audible signals. |
| 4  | Safety during construction operations                 | Floor will be vacant at the time of construction                                                                                     |
| 5  | Accessibility                                         | Modify one restroom for each gender                                                                                                  |
| 6  | Encroachments into the public right of way            | N/A                                                                                                                                  |
| 7  | Administration and enforcement                        | N/A                                                                                                                                  |
| 8  | Special inspections                                   | Lighting commissioning is in scope                                                                                                   |
| 9  | Materials                                             | N/A                                                                                                                                  |
| 10 | Security grilles                                      | N/A                                                                                                                                  |
| 11 | Energy efficiency                                     | Energy calculation is in scope                                                                                                       |
| 12 | Roof coverings and replacements                       | N/A                                                                                                                                  |
| 13 | Handrails                                             | N/A                                                                                                                                  |
| 14 | Guards                                                | N/A                                                                                                                                  |
| 15 | Areas of special flood hazard                         | N/A                                                                                                                                  |
| 16 | Structural                                            | N/A                                                                                                                                  |
| 17 | Emergency and standby power                           | N/A                                                                                                                                  |
| 18 | Parking garages and open parking lots (LL 130 / 3013) | N/A                                                                                                                                  |

TABLE 6-2 OCCUPANT LOAD REQUIREMENTS NET AREA TABLE:  
OCCUPANCY NET F.A. PER/OCC.  
CLASSROOM 20  
OFFICES 100

| OCCUPANT LOAD CALCULATIONS |                |           |            |         |            |            |
|----------------------------|----------------|-----------|------------|---------|------------|------------|
| Rm. #                      | Room Name      | Flr. Area | OCC. GROUP | SF/OCC. | CALC. LOAD | ACTL. LOAD |
| 301                        | LAB 1          | 705       | G          | 20      | 35         | 36         |
| 302                        | STORAGE        | 33        | G          | -       | -          | -          |
| 303                        | STAFF TOILET   | -         | -          | -       | -          | -          |
| 304                        | BOY'S ROOM     | -         | -          | -       | -          | -          |
| 305                        | JAN. CLOS.     | -         | -          | -       | -          | -          |
| 306                        | GIRL'S ROOM    | -         | -          | -       | -          | -          |
| 307                        | ELEV. LOBBY    | -         | -          | -       | -          | -          |
| 308                        | MECH. RM.      | -         | D-2        | -       | -          | -          |
| 309                        | CORRIDOR       | -         | -          | -       | -          | -          |
| 310                        | CLASSROOM 1    | 535       | G          | 20      | 27         | 27         |
| 311                        | CLASSROOM 2    | 510       | G          | 20      | 26         | 26         |
| 312                        | CLASSROOM 3    | 459       | G          | 20      | 23         | 23         |
| 313                        | CLASSROOM 4    | 550       | G          | 20      | 28         | 28         |
| 314                        | CORRIDOR       | -         | -          | -       | -          | -          |
| 315                        | CORRIDOR       | -         | -          | -       | -          | -          |
| 316                        | OFFICE A       | 199       | E          | 100     | 2          | 3          |
| 317                        | MEETING RM.    | 95        | E          | NS      | 0          | 0          |
| 318                        | WAITING ROOM   | 57        | E          | 100     | 1          | 2          |
| 319                        | DIV. DIRECTOR  | 159       | E          | 100     | 2          | 3          |
| 320                        | OFFICE B       | 206       | E          | 100     | 3          | 3          |
| 321                        | CORRIDOR       | -         | -          | -       | -          | -          |
| 322                        | MEETING AREA A | 65        | NS         | -       | -          | -          |
| 323                        | MEETING AREA B | 65        | NS         | -       | -          | -          |
| 325                        | CLASSROOM 5    | 465       | G          | 20      | 25         | 25         |
| 326                        | CLASSROOM 6    | 405       | G          | 20      | 21         | 21         |
| 327                        | CLASSROOM 7    | 403       | G          | 20      | 21         | 21         |
| 328                        | CLASSROOM 8    | 404       | G          | 20      | 21         | 21         |
| 329                        | CLASSROOM 9    | 404       | G          | 20      | 21         | 21         |
| 330                        | CORRIDOR       | -         | -          | -       | -          | -          |
| 331                        | CORRIDOR       | -         | -          | -       | -          | -          |
| 332                        | ENV. LAB       | 663       | G          | 20      | 45         | 45         |
| 333                        | CORRIDOR       | -         | -          | -       | -          | -          |
| <b>TOTAL</b>               |                |           |            |         | <b>303</b> | <b>309</b> |

# Small Scope Sustainability Checklist

Scope Summary:

| Energy and Atmosphere                                                                                                                                                                                                | Design Team |    |    | Construction Manager |    |    | Implementation Strategy |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----|----|----------------------|----|----|-------------------------|
|                                                                                                                                                                                                                      | YES         | NO | NA | YES                  | NO | NA |                         |
| <b>Electrical/Lighting</b>                                                                                                                                                                                           |             |    |    |                      |    |    |                         |
| <b>Optimize Energy Performance:</b> Reduce lighting power e.g. by selecting energy efficient light fixtures and lamp types, 100% cut off exterior fixtures etc                                                       |             |    |    |                      |    |    |                         |
| <b>Optimize Energy Performance:</b> Provide Lighting Control e.g. by using occupancy sensors, daylighting controls, task lighting etc                                                                                |             |    |    |                      |    |    |                         |
| <b>Mechanical (HVAC/Plumbing)</b>                                                                                                                                                                                    |             |    |    |                      |    |    |                         |
| <b>Optimize Energy Performance:</b> Optimize energy performance e.g. HVAC system zoned and controlled for low energy consumption, thermal comfort, building insulation and reduced heat island effect roofing, etc.) |             |    |    |                      |    |    |                         |
| <b>Enhanced Refrigerant Management</b> -minimize or eliminate use of refrigerants (eg watercoolers, individual AC units etc)                                                                                         |             |    |    |                      |    |    |                         |

Materials and Resources

Finish Materials (see Products List) :

|                                   |  |  |  |  |  |  |  |
|-----------------------------------|--|--|--|--|--|--|--|
| <b>6.1 Wood Substrates</b>        |  |  |  |  |  |  |  |
| <b>6.2 Exterior Wood</b>          |  |  |  |  |  |  |  |
| <b>7.1 Adhesives and Sealants</b> |  |  |  |  |  |  |  |
| <b>8.1 Doors</b>                  |  |  |  |  |  |  |  |
| <b>8.2 Windows</b>                |  |  |  |  |  |  |  |
| <b>9.1 Flooring</b>               |  |  |  |  |  |  |  |
| <b>9.2 Ceiling</b>                |  |  |  |  |  |  |  |
| <b>9.3 Wall Finishes</b>          |  |  |  |  |  |  |  |
| <b>9.4 Coatings</b>               |  |  |  |  |  |  |  |
| <b>Additional Products:</b>       |  |  |  |  |  |  |  |
| <b>7.2 Insulation</b>             |  |  |  |  |  |  |  |
| <b>7.3 Roofing</b>                |  |  |  |  |  |  |  |
| <b>9.4 Wood Stains</b>            |  |  |  |  |  |  |  |
| <b>9.4 Paint Remover</b>          |  |  |  |  |  |  |  |

## Small Scope Sustainability Checklist

Furniture and Furnishings

Low-Emitting Materials, Systems Furniture and Seating

Salvageable Building Components, Furniture and Equipment

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|  |  |  |  |  |  |

### Water Use Reduction

#### Plumbing:

**Water saving fixtures:** Use e.g. dual flush toilets, water saver faucets, low flow urinals, low flow lavs etc.

**Water efficient landscaping:** e.g. where applicable reduce storm water runoff, and limit potable water irrigation.

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|  |  |  |  |  |  |

### Construction Methods

#### Construction and Demolition Debris

LEED CI MR Credit 2: Divert 75% of construction & demolition waste

#### Air Quality

LEED CI IEQ Credit 3.1: Construction IAQ Management Plan during construction

LEED CI IEQ Credit 3.2 Construction IAQ Management Plan before occupancy

#### Construction Activity Pollution

LEED NC SS Prerequisite 1: Construction Activity Pollution Prevention

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

#### Other

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|--|--|--|--|--|--|

#### SMALL SCOPE PROJECTS:

No LEED certification is required. Projects are required to specify products meeting LEED criteria and use *Construction Methods* as per Sustainable Design Requirements. Substitutions of products or methods that achieve the same or greater sustainable attributes are allowable if approved by the CUF PM. Design Team to submit this checklist at the end of CD phase. CM / GC to submit at construction completion with close out documents.

## LEED for New Construction and Major Renovation Project Scorecard

Project Name: Columbia University Sample Scorecard

This sample scorecard reflects the credits that Columbia University has historically considered and/or achieved in pursuit of LEED certification. This scorecard is intended to serve as a guide to consultants in developing a LEED strategy that is consistent with Columbia University's values and goals.

### SUSTAINABLE SITES 26 Points

|                                                                                   |            |                                                                       |          |
|-----------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------|----------|
|  | Prereq 1   | Construction Activity Pollution Prevention                            | Required |
|  | Credit 1   | Site Selection                                                        | 1        |
|  | Credit 2   | Development Density and Community Connectivity                        | 5        |
|  | Credit 3   | Brownfield Redevelopment                                              | 1        |
|  | Credit 4.1 | Alternative Transportation - Public Transportation Access             | 6        |
|  | Credit 4.2 | Alternative Transportation - Bicycle Storage and Changing Rooms       | 1        |
|  | Credit 4.3 | Alternative Transportation - Low-Emitting and Fuel-Efficient Vehicles | 3        |
|  | Credit 4.4 | Alternative Transportation - Parking Capacity                         | 2        |
|  | Credit 5.1 | Site Development - Protect or Restore Habitat                         | 1        |
|  | Credit 5.2 | Site Development - Maximize Open Space                                | 1        |
|  | Credit 6.1 | Stormwater Design - Quantity Control                                  | 1        |
|  | Credit 6.2 | Stormwater Design - Quality Control                                   | 1        |
|  | Credit 7.1 | Heat Island Effect - Nonroof                                          | 1        |
|  | Credit 7.2 | Heat Island Effect - Roof                                             | 1        |
|  | Credit 8   | Light Pollution Reduction                                             | 1        |

### WATER EFFICIENCY 10 Points

|                                                                                     |          |                                                                                                                        |          |
|-------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------|----------|
|   | Prereq 1 | Water Use Reduction                                                                                                    | Required |
|  | Credit 1 | Water Efficient Landscaping                                                                                            | 2 to 4   |
|                                                                                     |          |  Reduce by 50%                      | 2        |
|                                                                                     |          |  No Potable Water Use or Irrigation | 4        |
|  | Credit 2 | Innovative Wastewater Technologies                                                                                     | 2        |
|  | Credit 3 | Water Use Reduction                                                                                                    | 2 to 4   |
|                                                                                     |          |  Reduce by 30%                      | 2        |
|                                                                                     |          |  Reduce by 35%                      | 3        |
|                                                                                     |          |  Reduce by 40%                      | 4        |

### ENERGY & ATMOSPHERE 35 Points

|                                                                                     |          |                                                                                                                                                                 |          |
|-------------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|  | Prereq 1 | Fundamental Commissioning of Building Energy Systems                                                                                                            | Required |
|  | Prereq 2 | Minimum Energy Performance                                                                                                                                      | Required |
|  | Prereq 3 | Fundamental Refrigerant Management                                                                                                                              | Required |
|  | Credit 1 | Optimize Energy Performance                                                                                                                                     | 1 to 19  |
|                                                                                     |          |  Improve by 12% for New Buildings or 8% for Existing Building Renovations    | 1        |
|                                                                                     |          |  Improve by 14% for New Buildings or 10% for Existing Building Renovations   | 2        |
|                                                                                     |          |  Improve by 16% for New Buildings or 12% for Existing Building Renovations   | 3        |
|                                                                                     |          |  Improve by 18% for New Buildings or 14% for Existing Building Renovations   | 4        |
|                                                                                     |          |  Improve by 20% for New Buildings or 16% for Existing Building Renovations   | 5        |
|                                                                                     |          |  Improve by 22% for New Buildings or 18% for Existing Building Renovations   | 6        |
|                                                                                     |          |  Improve by 24% for New Buildings or 20% for Existing Building Renovations   | 7        |
|                                                                                     |          |  Improve by 26% for New Buildings or 22% for Existing Building Renovations   | 8        |
|                                                                                     |          |  Improve by 28% for New Buildings or 24% for Existing Building Renovations   | 9        |
|                                                                                     |          |  Improve by 30% for New Buildings or 26% for Existing Building Renovations   | 10       |
|                                                                                     |          |  Improve by 32% for New Buildings or 28% for Existing Building Renovations   | 11       |
|                                                                                     |          |  Improve by 34% for New Buildings or 30% for Existing Building Renovations   | 12       |
|                                                                                     |          |  Improve by 36% for New Buildings or 32% for Existing Building Renovations   | 13       |
|                                                                                     |          |  Improve by 38% for New Buildings or 34% for Existing Building Renovations   | 14       |
|                                                                                     |          |  Improve by 40% for New Buildings or 36% for Existing Building Renovations   | 15       |
|                                                                                     |          |  Improve by 42% for New Buildings or 38% for Existing Building Renovations   | 16       |
|                                                                                     |          |  Improve by 44% for New Buildings or 40% for Existing Building Renovations   | 17       |
|                                                                                     |          |  Improve by 46% for New Buildings or 42% for Existing Building Renovations   | 18       |
|                                                                                     |          |  Improve by 48%+ for New Buildings or 44%+ for Existing Building Renovations | 19       |
|  | Credit 2 | On-Site Renewable Energy                                                                                                                                        | 1 to 7   |

|  |          |                                 |   |
|--|----------|---------------------------------|---|
|  |          | 1% Renewable Energy             | 1 |
|  |          | 3% Renewable Energy             | 2 |
|  |          | 5% Renewable Energy             | 3 |
|  |          | 7% Renewable Energy             | 4 |
|  |          | 9% Renewable Energy             | 5 |
|  |          | 11% Renewable Energy            | 6 |
|  |          | 13% Renewable Energy            | 7 |
|  | Credit 3 | Enhanced Commissioning          | 2 |
|  | Credit 4 | Enhanced Refrigerant Management | 2 |
|  | Credit 5 | Measurement and Verification    | 3 |
|  | Credit 6 | Green Power                     | 2 |

|                                  |                  |
|----------------------------------|------------------|
| <b>MATERIALS &amp; RESOURCES</b> | <b>14 Points</b> |
|----------------------------------|------------------|

|  |   |            |                                                           |          |
|--|---|------------|-----------------------------------------------------------|----------|
|  | Y | Prereq 1   | Storage and Collection of Recyclables                     | Required |
|  |   | Credit 1.1 | Building Reuse - Maintain Existing Walls, Floors and Roof | 1 to 3   |
|  |   |            | Reuse 55%                                                 | 1        |
|  |   |            | Reuse 75%                                                 | 2        |
|  |   |            | Reuse 95%                                                 | 3        |
|  |   | Credit 1.2 | Building Reuse - Maintain Interior Nonstructural Elements | 1        |
|  |   | Credit 2   | Construction Waste Management                             | 1 to 2   |
|  |   |            | 50% Recycled or Salvaged                                  | 1        |
|  |   |            | 75% Recycled or Salvaged                                  | 2        |
|  |   | Credit 3   | Materials Reuse                                           | 1 to 2   |
|  |   |            | Reuse 5%                                                  | 1        |
|  |   |            | Reuse 10%                                                 | 2        |
|  |   | Credit 4   | Recycled Content                                          | 1 to 2   |
|  |   |            | 10% of Content                                            | 1        |
|  |   |            | 20% of Content                                            | 2        |
|  |   | Credit 5   | Regional Materials                                        | 1 to 2   |
|  |   |            | 10% of Materials                                          | 1        |
|  |   |            | 20% of Materials                                          | 2        |
|  |   | Credit 6   | Rapidly Renewable Materials                               | 1        |
|  |   | Credit 7   | Certified Wood                                            | 1        |

|                                     |                  |
|-------------------------------------|------------------|
| <b>INDOOR ENVIRONMENTAL QUALITY</b> | <b>15 Points</b> |
|-------------------------------------|------------------|

|  |   |            |                                                                       |          |
|--|---|------------|-----------------------------------------------------------------------|----------|
|  | Y | Prereq 1   | Minimum Indoor Air Quality Performance                                | Required |
|  | Y | Prereq 2   | Environmental Tobacco Smoke (ETS) Control                             | Required |
|  |   | Credit 1   | Outdoor Air Delivery Monitoring                                       | 1        |
|  |   | Credit 2   | Increased Ventilation                                                 | 1        |
|  |   | Credit 3.1 | Construction Indoor Air Quality Management Plan - During Construction | 1        |
|  |   | Credit 3.2 | Construction Indoor Air Quality Management Plan - Before Occupancy    | 1        |
|  |   | Credit 4.1 | Low-Emitting Materials - Adhesives and Sealants                       | 1        |
|  |   | Credit 4.2 | Low-Emitting Materials - Paints and Coatings                          | 1        |
|  |   | Credit 4.3 | Low-Emitting Materials - Flooring Systems                             | 1        |
|  |   | Credit 4.4 | Low-Emitting Materials - Composite Wood and Agrifiber Products        | 1        |
|  |   | Credit 5   | Indoor Chemical and Pollutant Source Control                          | 1        |
|  |   | Credit 6.1 | Controllability of Systems - Lighting                                 | 1        |
|  |   | Credit 6.2 | Controllability of Systems - Thermal Comfort                          | 1        |
|  |   | Credit 7.1 | Thermal Comfort - Design                                              | 1        |
|  |   | Credit 7.2 | Thermal Comfort - Verification                                        | 1        |
|  |   | Credit 8.1 | Daylight and Views - Daylight                                         | 1        |
|  |   | Credit 8.2 | Daylight and Views - Views                                            | 1        |

|                             |                 |
|-----------------------------|-----------------|
| <b>INNOVATION IN DESIGN</b> | <b>6 Points</b> |
|-----------------------------|-----------------|

|  |          |                                     |        |
|--|----------|-------------------------------------|--------|
|  | Credit 1 | Innovation in Design                | 1 to 5 |
|  |          | Innovation or Exemplary Performance | 1      |
|  |          | Innovation or Exemplary Performance | 1      |
|  |          | Innovation or Exemplary Performance | 1      |
|  |          | Innovation                          | 1      |
|  |          | Innovation                          | 1      |
|  | Credit 2 | LEED® Accredited Professional       | 1      |

|                          |                 |
|--------------------------|-----------------|
| <b>REGIONAL PRIORITY</b> | <b>4 Points</b> |
|--------------------------|-----------------|

|                                                                                      |                   |                                    |            |
|--------------------------------------------------------------------------------------|-------------------|------------------------------------|------------|
| Credit 1                                                                             | Regional Priority |                                    | 1 to 4     |
|                                                                                      |                   | Regionally Defined Credit Achieved | 1          |
|                                                                                      |                   | Regionally Defined Credit Achieved | 1          |
|                                                                                      |                   | Regionally Defined Credit Achieved | 1          |
|                                                                                      |                   | Regionally Defined Credit Achieved | 1          |
| PROJECT TOTALS (Certification Estimates)                                             |                   |                                    | 110 Points |
| Certified: 40-49 points Silver: 50-59 points Gold: 60-79 points Platinum: 80+ points |                   |                                    |            |

