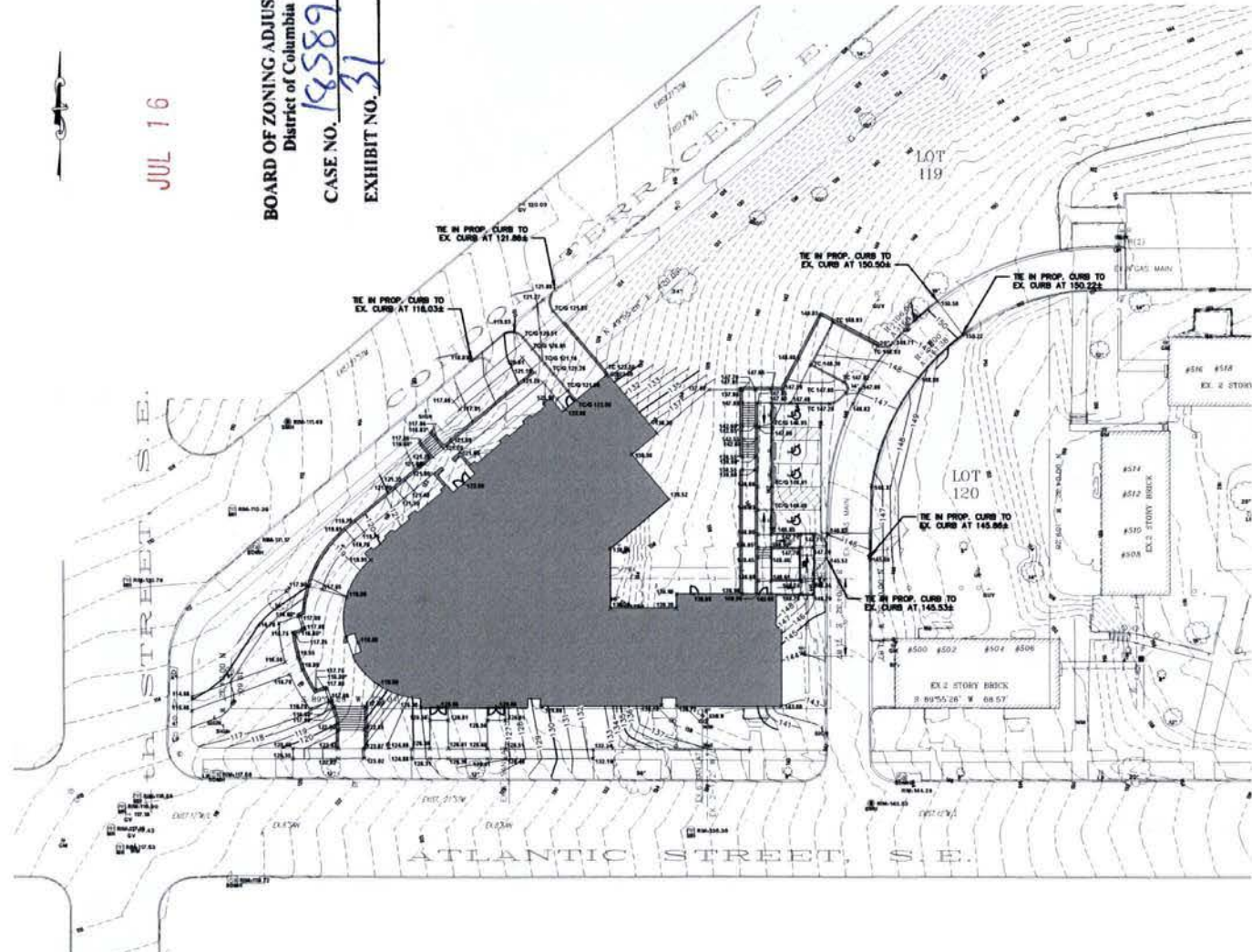


JUL 16

BOARD OF ZONING ADJUSTMENT
District of Columbia

CASE NO. 18589

EXHIBIT NO. 31



- GENERAL SITE CONSTRUCTION NOTES:**
1. ALL EXISTING CONDITIONS ARE NOT NECESSARILY DERIVED ON THIS PLAN SHEET. SEE THE EXISTING CONDITIONS PLAN (SHEET C-2.1) FOR ADDITIONAL INFORMATION.
 2. CALL NEAR UTILITY (202-283-7177) OR 811 AT LEAST 48 HOURS, AND NOT MORE THAN 14 DAYS, PRIOR TO ANY CONSTRUCTION, TO LOCATE ALL UTILITIES. PRIOR TO THE START OF CONSTRUCTION, THE EXISTING UTILITIES ON THE SITE SHALL BE LOCATED BY FIELD SURVEYS CONDUCTED BY AMT, LLC, AND FROM AVAILABLE RECORDS. THE CONTRACTOR SHALL CONFIRM THE LOCATION AND DEPTH OF EXISTING UTILITIES BEFORE MAKING ANY CONNECTIONS.
 3. EXISTING UTILITIES MAY NOT BE PROPERLY INDICATED ON THE PLANS, AS A FIRST STEP IN CONSTRUCTION, RECALL ALL UTILITIES WITHIN THE LIMITS OF EXISTING UTILITIES TO DETERMINE LOCATIONS OF EXISTING UTILITIES. LOCATE TEST PITS FOR UTILITIES TO DETERMINE LOCATION AND DEPTH. NOTIFY THE ENGINEER IF EXISTING UTILITIES CONFLICT WITH THE PROPOSED WORK.
 4. AMT, LLC IS NOT RESPONSIBLE FOR ANY DAMAGE OR DELAY SUSTAINED DURING CONSTRUCTION BY ANY PERSON, VEHICLE, OR EQUIPMENT USED ON, OR ADJACENT TO, THE SITE.
 5. CONTRACTOR SHALL OBTAIN A DC-APPROVED SURVEYOR TO FIELD-HOPE PROJECT-SPECIFIC INFORMATION FOR CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF DISCREPANCIES EXIST WITH THE PLANS.
 6. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY AND ALL DC-AGENCY PERMITS NOT PROVIDED WITH CONSTRUCTION DOCUMENTS, INCLUDING WORK PERMITS TO OBTAIN PERMITS, PERMIT PROCESSING, INSPECTIONS, AND PERMIT CLOSURES.
 7. MAKE FIELD ADJUSTMENTS, AS NECESSARY, TO MEET EXISTING CONDITIONS WHEN AUTHORIZED BY THE OWNER'S REPRESENTATIVE OR DC-AGENCY INSPECTOR.
 8. MAINTAIN A WORKING COPY OF MEASURED CONSTRUCTION DRAWINGS AND ACCURATELY MEASURE ALL CONSTRUCTION INFORMATION. THE SECOND "AS-BUILT" REVISION SET OF DRAWINGS SHALL BE PROVIDED TO THE ENGINEER OR OWNER'S REPRESENTATIVE AT THE COMPLETION OF CONSTRUCTION.
 9. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICAN WITH DISABILITIES ACT (ADA).
 10. MAINTAIN FIRE DEPARTMENT, EMERGENCY, SERVICE, DELIVERY, AND PEDESTRIAN ACCESS TO EXISTING FIRE HYDRANTS IN AND ADJACENT TO THE SITE.
 11. CONTRACTOR SHALL PROVIDE AND MAINTAIN PERMANENT SITE SECURITY FOR THE LENGTH OF CONSTRUCTION, COORDINATE TEMPORARY PERMIT SECURITY MEASURES WITH THE OWNER.
 12. ALL CONSTRUCTION IN THE RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE DISTRICT OF COLUMBIA STANDARD DETAILS AND SPECIFICATIONS INCLUDING:
DC DEPARTMENT OF TRANSPORTATION (DDOT)
DC WATER AND SEWER AGENCY (DC WASH)
DC DEPARTMENT OF THE ENVIRONMENT (DDOE)
 13. REINSTALL OR REPLACE ALL ROAD SIGNS (STOP SIGNS, TRAFFIC SIGNS, PARKING SIGNS, ETC.) AFFECTED BY PROPOSED WORK. COORDINATE WITH THE DDOT INSPECTOR FOR NEW OR ADJUSTED SIGN LOCATIONS.
 14. CONTACT APPLICABLE DC AGENCIES TO DETERMINE IF PUBLIC SPACE FEATURES (TREES, LIGHTS, BENCHES, BIKES, CANALS, STONE CLIMBING, ETC.) SHOULD BE RELOCATED OR REMOVED TO BE SALVAGED. FOLLOW AGENCY PROCEDURES FOR SALVAGED ITEMS.
 15. CONTRACTOR SHALL MAINTAIN TRAFFIC IN 8'0" STREET, HW AND N STREET, HW AT ALL TIMES. PROTECT ROAD MARK. IF NECESSARY, TO DIRECT ALTERNATIVE FLOW PATTERN OF TRAFFIC.
 16. ALL PAVED REPLACEMENT MATERIALS AND METHODS SHALL CONFORM TO DDOT STANDARDS AND DETAILS.
 17. ALL CONCRETE WALK, CURB, AND GRUTTER SHALL CONFORM TO DDOT STANDARDS AND SPECIFICATIONS.
 18. MAINTAIN OPERATION OF BUS DURING CONSTRUCTION, IN ACCORDANCE WITH THE SPECIFICATIONS AND CODE STANDARDS.
- GENERAL GRADING NOTES:**
1. MAINTAIN DRAINAGE FACILITIES ON AND THROUGH THE SITE AT ALL TIMES. MAINTAIN DRAINAGE FROM TEMPORARY CONSTRUCTION. MAINTAIN DRAINAGE ARRANGEMENTS, OR CONNECTIONS, AS REQUIRED, TO MAINTAIN DRAINAGE.
 2. SITE GRADING AND PAVING WORK SHALL BE DONE IN SUCH A MANNER TO ENSURE POSITIVE DRAINAGE TO ALL EXISTING STORM DRAIN INLETS, AND PREVENT PONDING OR FINISHED SURFACES AND CREATION OF LOW POINTS.
 3. SPOT ELEVATIONS SHOWN AS THIS INTO EXISTING PAVING ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR. DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER. THE CONTRACTOR SHALL MAINTAIN EXISTING GRADE AND PROVIDE SMOOTH TRANSITION WHERE THIS PROPOSED WORK TO EXISTING.
 4. ADA ACCESSIBLE ROUTES SHALL BE INSTALLED WITHIN 8% MAX SLOPE AND 2% MAX CROSS SLOPE. ADA RAMP AND CURB RAMP SHALL BE INSTALLED WITHIN 8% MAX SLOPE AND 2% MAX CROSS SLOPE.
 5. INSTALL DRAINAGE WITH A CROSS SLOPE MIN 1% MAX 2% TO DRAIN AS SHOWN ON THE DRAWING, OR WHERE NOT INDICATED, TOWARD THE GENERAL DRAINAGE DIRECTION.
 6. ADJUST ALL EXISTING UTILITY TOPS (CLEANOUTS, MANHOLES, ETC.) TO FINAL GRADE WITHIN THE LIMITS OF DISTURBANCE. WHEN FINAL GRADE DOES NOT MATCH EXISTING GRADE.
 7. STABILIZE ALL NON-PAVED AREAS WITH PERMANENT SEEDING, SOIL, MULCH, OR OTHER LANDSCAPING.
 8. * IN PLAN VIEW REPRESENTS ELEVATION AT THE BOTTOM OF RIGOR.

DATE	REVISION	DES.	DRN.	CON.

ARCHITECT
TORTI GALLAR AND PARTNERS, INC.
1300 SPRING STREET
4TH FLOOR
SILVER SPRING, MD 20908
ATTN: ALEX GALAZAR
Phone: (301) 588-4800 x 1178

AMT, LLC
PROFESSIONAL ENGINEERS & LAND SURVEYORS
16 0 STREET, N.E. SUITE 400
WASHINGTON, D.C. 20002
PHONE: (202) 289-4048 FAX: (202) 289-8081

This document has undergone Quality Review by the following:

Eng: _____
PM: _____
DC: _____

SHEET TITLE		HIGHLAND DWELLINGS PHASES F	
GRADING PLAN		SCALE 1" = 20'	AMT. FILE No. 112-807
400 ATLANTIC AVENUE, SE WASHINGTON, DC		DATE	SHEET C-2.1

Board of Zoning Adjustment
District of Columbia
CASE NO.18589
EXHIBIT NO.31

Highland Dwellings - 24 Unit Building - Green Communities Checklist DRAFT 7/15/2013
Mandatory Criteria

			Project Implementation			Areas of Consideration
	Green Communities Criteria		N/A	Yes	No	Comments
Integrated Design Process						
Mandatory	1.1a	Green Development Plan : Integrative Design Meetings	☐	☒	☐	Conduct one or more integrative design meetings and submit a Green Development Plan or equivalent documentation.
Mandatory	1.1b	Green Development Plan: Criteria Documentation	☐	☒	☐	Create design and construction documentation to include information on implementation of appropriate Enterprise Green Communities Criteria.
Location and Neighborhood Fabric						
Mandatory New Const.	2.1	Sensitive Site Protection	☐	☒	☐	Do not locate new development, including buildings, built structures, roads, or other parking areas, on portions of sites that meet any of the following provisions: • Land within 100 feet of wetlands, including isolated wetlands or streams • Land on slope greater than 15% • Land with prime soils, unique soils, or soils of state significance • Public parkland • Land that is specifically identified as habitat for any species on federal or state threatened or endangered lists • Land with elevation at or below the 100-year floodplain
Mandatory New Const.	2.2	Connections to Existing Development and Infrastructure	☐	☒	☐	Locate project on a site with access to existing roads, water, sewers, and other infrastructure within or contiguous to existing development. Connect the project to the pedestrian grid.
Mandatory New Const.	2.3	Compact Development	☐	☒	☐	Design and build the project to a density of at least: • Urban /Small Cities: 10 dwelling units per acre, or at least 75% of surrounding net residential density, whichever is greater
Mandatory New Const.	2.5	Proximity to Services	☐	☒	☐	Locate the project within: • Urban /Small Cities: a 0.25-mile walk distance of at least two OR a 0.5-mile walk distance of at least four of the list of facilities
Environmental Remediation						
Mandatory	3.1	Environmental Remediation	☐	☒	☐	Conduct an environmental site assessment to determine whether any hazardous materials are present on site.
Mandatory	3.2	Erosion and Sedimentation Control	☐	☒	☐	Implement EPA's Best Management Practices for erosion and sedimentation control during construction.
Mandatory	3.3	Low-Impact Development	☒	☐	☐	Projects located on greenfields must meet the list of low-impact development criteria.
Mandatory if landscape	3.4	Landscaping	☐	☒	☐	Provide new plants (including trees, shrubs, and ground cover) such that at least 50% of area available for landscaping is planted with native or adaptive species, all new plants are appropriate to the site's soil and microclimate, and none of the new plants is an invasive species.

Mandatory if landscape	3.4	Efficient Irrigation and Water Reuse	☐	☒	☐	If irrigation is utilized, install an efficient irrigation or water reuse system.
Water Conservation						
Mandatory	4.1a	Water Conserving Fixtures: New Construction	☐	☒	☐	Install or retrofit water-conserving fixtures in all units and any common facilities with the following specifications: Toilets — 1.28 gpf; Urinals — 0.5 gpf; Showerheads — 2.0 gpm; Kitchen faucets — 2.0 gpm; Bathroom faucets — 1.5 gpm
Energy Efficiency						
Mandatory	5.1a	Building Performance Standard: Single family and Multifamily	☐	☒	☐	Meet Energy Star standards (single family and low rise residential) or exceed ASHRAE 90.1-2004 by 15 percent
Mandatory	5.3	Sizing of Heating and Cooling Equipment	☐	☒	☐	Size heating and cooling equipment in accordance with The Air Conditioning Contractors of America (ACCA) Manuals, Parts J and S, or ASHREA handbooks.
Mandatory	5.4	ENERGY STAR Appliances	☐	☒	☐	If providing appliances, install ENERGY STAR–labeled clothes washers, dishwashers, and refrigerators.
Mandatory	5.5a	Efficient Light: Interior	☐	☒	☐	Follow the guidance appropriate for the project type: install the ENERGY STAR Advanced Lighting Package (ALP); OR follow the ENERGY STAR MFHR program guidelines, which require that 80% of installed lighting fixtures within units must be ENERGY STAR–qualified or have ENERGY STAR– qualified lamps installed; OR if replacing, new fixtures and ceiling fans must meet or exceed ENERGY STAR efficiency levels.
Mandatory	5.5b	Efficient Lighting: Common Areas and Emergency Lighting	☐	☒	☐	Follow the guidance appropriate for the project type: use ENERGY STAR–labeled fixtures or any equivalent high-performance lighting fixtures and bulbs in all common areas; OR if replacing, new common space and emergency lighting fixtures must meet or exceed ENERGY STAR efficiency levels. For emergency lighting, if installing new or replacing, all exit signs shall meet or exceed LED efficiency levels and conform to local building codes.
Mandatory	5.5c	Efficient Light: Exterior	☐	☒	☐	Follow the guidance appropriate for the project type: install ENERGY STAR–qualified fixtures or LEDs with a minimum efficacy of 45 lumens / watt; OR follow the ENERGY STAR MFHR program guidelines, which require that 80% of outdoor lighting fixtures must be ENERGY STAR–qualified or have ENERGY STAR-qualified lamps installed; OR if replacing, install ENERGY STAR compact fluorescents or LEDs with a minimum efficacy of 45 lumens / watt.
Mandatory	5.6a	Electricity Meter	☐	☒	☐	Install individual or sub-metered electric meters. Can utilize methods other than legal meters.

			Project Implementation			Areas of Consideration
	Green Communities Criteria		N/A	Yes	No	Comments
Materials Beneficial to the Environment (all optional criteria)						
Mandatory	6.1	Low / No Volatile Organic Compounds (VOC) Paints and Primers	☐	☒	☐	All interior paints and primers must be less than or equal to the following VOC levels: Flats — 50 g/L; Non-flats — 50 g/L; Floor — 100 g/L
Mandatory	6.2	Low / No VOC Adhesives and Sealants	☐	☒	☐	All adhesives must comply with Rule 1168 of the South Coast Air Quality Management District. All caulks and sealants must comply with regulation 8, rule 51, of the Bay Area Air Quality Management District.
Mandatory	6.3	Construction Waste Management	☐	☒	☐	Commit to following a waste management plan that reduces non-hazardous construction and demolition waste by at least 25% by weight through recycling, salvaging, or diversion strategies.
Healthy Living Environment						
Mandatory	7.1	Formaldehyde-free Composite Wood	☐	☒	☐	Do not install carpets in entryways, laundry rooms, bathrooms, kitchens / kitchenettes, utility rooms, and all rooms of ground-connected floors. Any carpet products used must meet the Carpet and Rug Institute's Green Label or Green Label Plus certification for carpet, pad, and carpet adhesives. Any hard surface flooring products used must be either ceramic tile, unfinished hardwood floors, OR in compliance with the Scientific Certification System's Floor Score program criteria.
Mandatory if floor coverings provided	7.2	Environmentally Preferable Flooring	☐	☒	☐	If using carpet, use the Carpet and Rug Institute's Green Label certified carpet, pad and adhesives
Mandatory except for moderate rehabs	7.4a	Exhaust Fans – Bathroom: New Construction	☐	☒	☐	Use Energy Star fans that exhaust to outdoors (Also per HACM tax credit app.), connected to switch with sensor or timer (HACM prefers timer). Included in single family, will need to make case for equivalency in multi-family.
Mandatory except for moderate rehabs	7.5a	Exhaust Fans – Kitchen: New Construction	☐	☒	☐	Use power vented fans or range hoods that exhaust to outdoors. (Need to be Energy Star per HACM tax credit app.)
Mandatory except for moderate rehabs	7.6a	Ventilation: New Construction	☐	☒	☐	Install a ventilation system for the dwelling unit capable of providing adequate fresh air per ASHRAE requirements for the building type.
Mandatory	7.7	Clothes-Dryer Exhaust	☐	☒	☐	Clothes dryer exhausts to outdoors
Mandatory	7.8	Combustion Equipment	☐	☒	☐	Specify power-vented or closed-combustion equipment when installing new space and water-heating equipment in New Construction and any Substantial and Moderate Rehab projects.
Mandatory	7.9a	Water Heaters: Mold Prevention	☐	☒	☐	Provide drains at water heaters.
Mandatory	7.9b	Materials in Wet Areas: Surfaces	☐	☒	☐	Specify durable, moisture-resistant materials wet areas

Mandatory	7.9c	Materials in Wet Areas: Tub and Shower Enclosure	☐	☒	☐	Specify durable, moisture-resistant materials in tub/shower enclosures
Mandatory except for rehab	7.1	Basements and Concrete Slabs: Vapor Barrier	☐	☒	☐	Properly drain to lowest level of concrete; vapor barrier under all slabs, waterproof exterior of foundation walls
Mandatory	7.11	Basements and Concrete Slabs – Radon: New Construction	☐	☒	☐	Install passive radon-resistant features below the slab along with a vertical vent pipe with junction box. Per IBC, Milwaukee county is EPA Zone 2, will need to include venting.
Mandatory	7.12	Water Drainage	☐	☒	☐	Proper details showing drainage away from windows, walls, and foundations
Mandatory	7.14	Integrated Pest Management	☐	☒	☐	Seal all wall, floor, and joint penetrations with low-VOC caulk
Operations and Maintenance						
Mandatory	8.1	Building Maintenance Manual for Owner	☐	☒	☐	Provide a manual that includes the following: a routine maintenance plan; instructions for all appliances, HVAC operation, water-system turnoffs, lighting equipment, paving materials and landscaping, pest control and other systems that are part of each occupancy unit; an occupancy turnover plan that describes the process of educating the tenant about proper use and maintenance of all building systems.
Mandatory	8.2	Occupant's Manual	☐	☒	☐	Provide a guide for homeowners and renters that explains the intent, benefits, use and maintenance of green building features, along with the location of transit stops and other neighborhood conveniences, and encourages additional green activities such as recycling, gardening and use of healthy cleaning materials, alternate measures for pest control, and purchase of green power.
Mandatory	8.3	Homeowner and New Resident Orientation	☐	☒	☐	Provide a walk-through and orientation to the homeowner or new resident using the Occupant Manual from 8-2 above that reviews the building's green features, operations and maintenance along with neighborhood conveniences.

Highland Dwellings - 24 Unit Building - Green Communities Check DRAFT 7/15/2013
DRAFT - Optional Criteria

			Project Implementation			Areas of Consideration	
Max Pts.	Exp. Pts.	Criteria	N/A	Yes	No	Champion	Comments
Integrated Design Process (all mandatory criteria)							
2	0	1.2a Universal Design (New Construction only)	☐	☒	☐		Design a minimum of 15% of the dwelling units (no fewer than one) in accordance with ICC /ANSI A117.1, Type A, Fully Accessible guidelines.
Location and Neighborhood Fabric							
6	5	2.4 Compact Development	☐	☒	☐		We are at 13.2 units/acre. It does not appear that incremental points are awarded here. The 5 points are available only when we meet or exceed the 15 units/acre.
3	1	2.7 Preservation and Access to Open Spaces	☐	☒	☐		Set aside a percentage of the total project acreage as open space for use by residents: 20% [1 point]; 30% [2 points]; and 40% + written statement of preservation / conservation policy for set-aside land [3 points]
5		2.8 Access to Public Transportation	☐	☐	☒		• Urban /Small Cities: a 0.5-mile walk distance of combined transit services (bus, rail, and ferry) constituting 76 or more transit rides per weekday and 32 or more transit rides on the weekend • Suburban / Mid-Size Towns: a 0.5-mile walk distance of combined transit services (bus, rail, and ferry) constituting 60 or more transit rides per weekday and some type of weekend ride option • Rural / Tribal / Small Towns: 5-mile distance of either a vehicle share program, a dial-a-ride program, an employer van pool, or public-private regional transportation
5	5	2.9 Walkable Neighborhoods: Connections to Surrounding Neighborhoods	☐	☒	☐		Site design provides a minimum of three connections to surrounding neighborhoods.
7	0	2.10 Smart Site Location: Make Use of Passive Solar Heating/Cooling	☐	☐	☒		Buildings not arranged per solar orientation
2	2	2.11 Smart Site Location: Grayfield, Brownfield or Adaptive Reuse Site	☐	☒	☐		Locate the project on a brownfield or adaptive reuse site. Select either: adaptive reuse site [2 points] or brownfield remediation [2 points]
6	0	2.12 Access to Fresh, Local Foods	☐	☐	☒		Pursue one of three options to provide residents and staff with access to fresh, local foods, including neighborhood farms and gardens; community-supported agriculture; proximity to farmers market.
4	0	2.13 LEED for Neighborhood Development Certification	☐	☐	☒		Locate the project in a Stage 2 Pre-Certified LEED for Neighborhood Development plan or a Stage 3 LEED for Neighborhood Development Certified Neighborhood Development.
Site Improvements							
6	0	3.6 Surface Water Management	☐	☐	☒		Retain, infiltrate, and /or harvest stormwater on site. Select only one: partial stormwater retention [2 points] or full stormwater retention [6 points]
Water Conservation							
6	6	4.2 Advanced Water-Conserving Appliances and Fixtures	☐	☒	☐		Install or retrofit water-conserving fixtures in all units and any common facilities with the following specifications: Toilets — 1.2 gpf; Showerheads — 1.5 gpm; Kitchen faucets — 1.5 gpm; Bathroom faucets — 0.5 gpm. Select any, or all, of the options: • Toilets [2 points] • Showerheads [2 points] • Faucets — kitchen and bathroom [2 points]

4	0	4.2	Advanced Water-Conserving Appliances and Fixtures	☐	☐	☒		Harvest, treat, and reuse rainwater and /or greywater to meet a portion of the project's water needs. • 10% reuse [1 point] • 30% reuse [3 points] • 20% reuse [2 points] • 40% reuse [4 points]
Energy Efficiency								
15	7	5.2	Additional Reductions in Energy Use	☐	☒	☐		Additional point (up to 10) for every HERS point or percent energy efficiency over required
12	0	5.7a	Renewable Energy	☐	☐	☒		Install photovoltaic (PV) panels, wind turbines, or other electric-generating renewable energy source to provide a specified percentage of the project's estimated energy demand.
2	0	5.7b	Photovoltaic (PV) Ready	☐	☐	☒		Site, design, engineer, and /or plumb the development to accommodate installation of photovoltaic (PV) or solar hot water system in the future.
5	5	5.8	Advanced Metering Infrastructure	☐	☒	☐		Site, design, engineer, and wire the development to accommodate installation of smart meters and /or be able to interface with smart grid systems in the future.

Materials Beneficial to the Environment								
5	3	6.4	Construction Waste Management	☐	☒	☐	Determine percentage of waste diversion and earn all points below that threshold: • 35% waste diversion [1 point] • 65% waste diversion [1 point] • 45% waste diversion [1 point] • 75% waste diversion [1 point] • 55% waste diversion [1 point]	
5	2	6.6	Recycled Content Material	☐	☒	☐	Incorporate building materials that are composed of at least 25% post-consumer recycled content or at least 50% post-industrial recycled content. Select from the following: • Framing materials [1 point] • Exterior materials: siding, masonry, roofing [1 point] • Concrete / cement and aggregate [1 point] • Drywall / interior sheathing [1 point] • Flooring materials [1 point]	
5	2	6.7	Regional Material Selection	☐	☒	☐	Use products that were extracted, processed, and manufactured within 500 miles of the home or building for a minimum of 50% of the building material value (based on cost). Select any or all of these options: • Framing materials [1 point] • Exterior materials: siding, masonry, roofing [1 point] • Concrete / cement and aggregate [1 point] • Drywall / interior sheathing [1 point] • Flooring materials [1 point]	
5	5	6.3	Certified, Salvaged and Engineered Wood	☐	☒	☐	Use 25% FSC certified, salvage or engineered wood	
3	0	6.5a	Reduce Heat-Island Effect: Roofing	☐	☐	☒	Use Energy Star–compliant roofing or install a “green” (vegetated) roof for at least 50% of the roof area. Select only one: cool roof [3 points] or green roof [1 point]	
1	0	6.5b	Reduce Heat-Island Effect: Paving	☐	☐	☒	Use light-colored, high-albedo materials and /or an open-grid pavement, with a minimum solar reflectance of 0.3, over at least 50% of the site’s hardscaped area.	
Healthy Living Environment								
5	0	7.3	Healthy Flooring Materials: Alternative Sources	☐	☐	☒	Use non-vinyl, non-carpet floor coverings in all rooms. Review relative to Healthy Homes. Likely cost prohibitive.	
9	0	7.16	Smoke Free Building	☐	☐	☒	Implement and enforce a no smoking policy in all common, individual living areas, and with a 25-foot perimeter around the exterior of all residential buildings.	
Operations and Maintenance (all mandatory criteria)								
12	0	8.4	Project Data Collection and Monitoring System	☐	☐	☒	Collect and monitor project performance data on energy, water, and, if possible, healthy living environments for a minimum of five years.	
137	43	total	35 Points Minimum Required for Certification					



Project Name: Highland Dwellings
 Project #: 112-508.03
 Project Location: Atlantic Street & Condon Terrace, SE
 Jurisdiction: District of Columbia
 Date: 7/15/2013
 Revised: _____
 Prepared by: BW
 Checked by: _____

NOTE: All inputs are in RED

Spreadsheet to Calculate: Green Area Ratio

Required Formulas & Procedures:

$$\text{GAR} = \frac{(\text{Area of Landscape Element} * \text{multiplier})}{\text{Lot Area}}$$

Formula/Calculations can be found in Z.C. Notice of Proposed Rulemaking; Z.C. Case. No. 08-06, 1303)

Calculations:

Table 1303.09

GREEN AREA RATIO LANDSCAPE ELEMENTS	AREA(SF)	MULTIPLIER	PLANTINGS	EQUVLT. AREA CREDIT (SF)	EQUVLT. AREA TOTAL (SF)
Landscape area (select one of the following for each area)					
Landscape Areas with a soil depth of less than 24 inches	3358	0.3		N/A	N/A
Landscape Areas with a soil depth of 24 inches or more	1351	0.6		N/A	N/A
Bioretention Facilities		0.4		N/A	N/A
Plantings					
Ground covers, or other plants less than 2 feet tall at maturity		0.2		9	0
Plants at least 2 feet tall at maturity		0.3	252	9	2268
Tree canopy for all trees 2.5 inches to 6 inches in diameter		0.5	42	50	2100
Tree canopy for new trees 6 inches - 12 inches in diameter		0.6		250	0
Tree canopy for new trees 12 inches - 18 inches in diameter		0.6		600	0
Tree canopy for new trees 18 inches - 24 inches in diameter		0.6		1300	0
Tree canopy for trees larger than 24 inches in diameter		0.6		2000	0
Tree canopy for preservation of existing trees 6 in. - 24 in. diam.		0.7			0
Tree canopy for preservation of ex. Trees 24 in. diam. Or larger		0.8			0
Vegetated wall, plantings on a vertical surface		0.6			0
Vegetated roofs					
Extensive vegetated roof over at least 2 inches but less than 8 inches of growth medium		0.6		N/A	N/A
Intensive vegetated roof over at least 8 inches of growth medium		0.8		N/A	N/A
Water features (using at least 50% recycled water)		0.2		N/A	N/A
Permeable paving					
Permeable paving over at least 6 inches and less than 2 feet of soil or gravel		0.4		N/A	N/A
Permeable paving over at least 2 feet of soil or gravel		0.5		N/A	N/A
Enhanced tree growth systems		0.4		N/A	N/A
Renewable energy generation (area of)		0.5		N/A	N/A
Bonuses					
Native plant species		0.1		N/A	N/A
Landscaping in food cultivation		0.1		N/A	N/A
Harvested Stormwater irrigation		0.1		N/A	N/A

Lot Area (LOD)	35157
Public Space	8101
Building	12536
Miscellaneous*	1895

* Includes portion of driveway on private property and parking areas

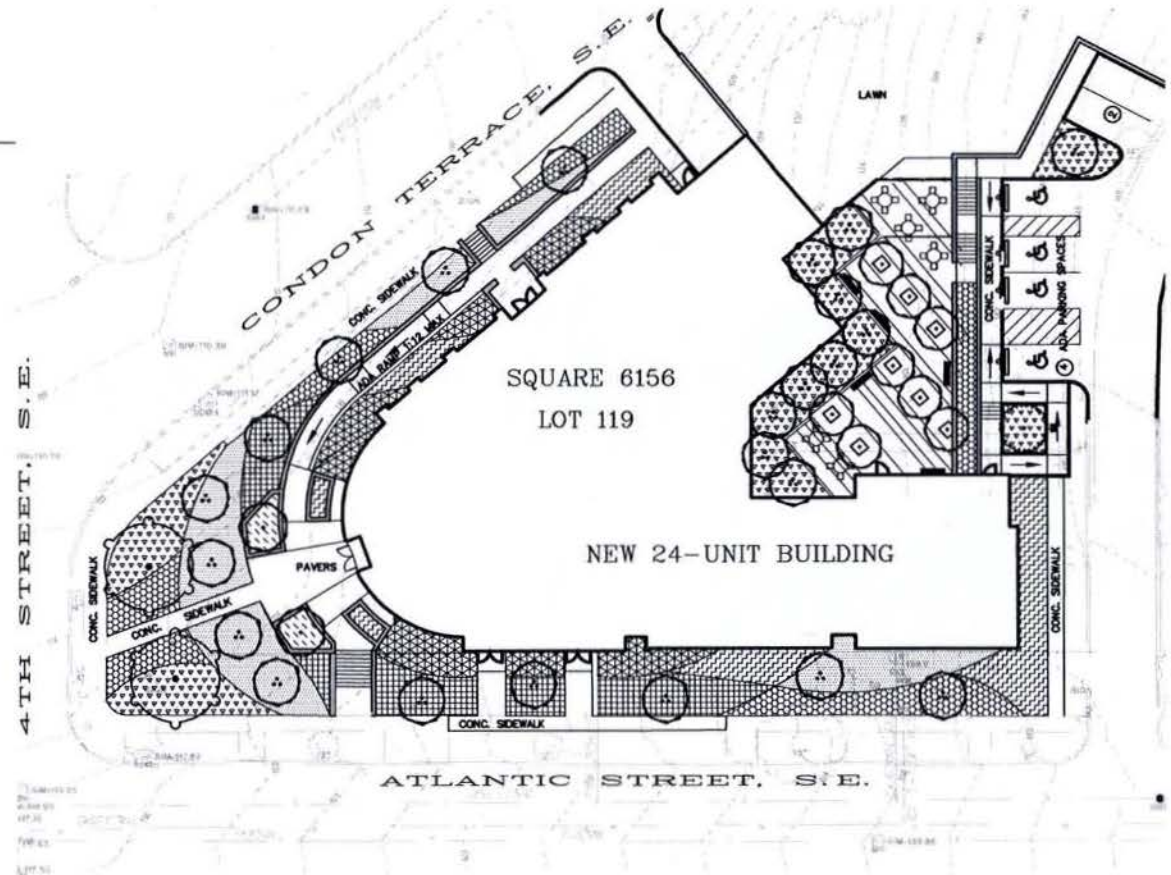
Modified GAR calculation:

$$\text{GAR} = \frac{(\text{Area of Landscape Element} * \text{multiplier})}{\text{Lot Area} - (\text{Public Space} + \text{Building} + \text{Miscellaneous})}$$

GAR = 0.281

PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE
23	BETULA NIGRA 'DURAHEAT' / DURAHEAT RIVER BIRCH MULTI-TRUNK	B & B	12'-14" H		
10	CERCIS CANADENSIS 'FOREST PANSY' TM / FOREST PANSY REDBUD	B & B	2" CAL	10'-12" H	
1	CERCIS CANADENSIS 'ROYAL WHITE' / ROYAL WHITE REDBUD	B & B	2" CAL	10'-12" H	
2	QUERCUS PHELLOS / WILLOW OAK	B & B	3" CAL	14'-18" H	
ROOFTOP PLANTER TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE
6	BETULA NIGRA 'DURAHEAT' / DURAHEAT RIVER BIRCH MULTI-TRUNK	B & B	10'-12" H		
GROUND COVERS	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE
1,252	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	2 GAL	12"		
548	HEMEROCALLIS X 'STELLA DE ORO' / STELLA DE ORO DAYLILY	1 GAL	18"		
781	HYPERICUM FRONDOSUM 'SUNBURST' / SUNBURST HYPERICUM	3 GAL	18"		
111	JASMINE NUDFLORUM / WINTER JASMINE	3 GAL	18"		
2,120	LIROPE MUSCARI 'BIG BLUE' / BIG BLUE LAYTURF	4" POT	12"		
79	LIROPE MUSCARI 'VAREGATA' / VAREGATED LILY TURF	4" POT	18"		
1,166	MUHLENBERGIA CAPILLARIS 'WHITE CLOUD' / WHITE MUHLY GRASS	1 GAL	12"		
252	ROSA X 'KNOCKOUT' TM / ROSE	5 GAL	24"		



PRELIMINARY LANDSCAPE PLANTING PLAN

PRELIMINARY
PRELIMINARY NOT FOR CONSTRUCTION,
RECORDING PURPOSE, OR INTERPRETATION.

1"=30'



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