The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

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<table>
<thead>
<tr>
<th>Description</th>
<th>No.</th>
<th>Date</th>
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</thead>
</table>

PRINT NAME: STUART M. KRAHN
SIGNATURE: LANDSCAPE ARCHITECT
LIC. NO.

SUBMITTED FOR CITY APPROVALS FEB 6, 2017

PUD EXHIBIT
Large Format High Performance Fiber Cement rain screen cladding system

Fiber Cement Products®
Brick Panels, Stone Panels, Block Panels, and Kurastone™
For Product Designation as Low VOC-Emitting Products in Accordance with the Following Standards:
§ LEED EQ Credit: Low-Emitting Materials for Building Design & Construction
§ Collaborative for High Performance Schools (2014 US-CHPS) EQ 7.1.6
§ California Department of Public Health Standard Method V1.1
§ Criteria for the MAS Certified Green® Program

Fly Ash content Pre consumer 25%
Wood Fibers Pre consumer 15%

2012 & 2015 IBC
Section 1403.2
Section 1404.10
Section 1405.2
Section 1405.16
Section 1405.17

Architectural Wall Panels meet wind design pressures with installed wind clips. Meets or exceeds 2012 & 2015 IBC wind pressure requirements when tested in accordance with ASTM E 330-02
Architectural Wall Panels have 0 flame spread and 0 Smoke Development. Meets or exceeds ASTM C 1186-08 for Type A Grade II products

Whether you are an architect, a builder or a contractor, Nichiha wants to ensure that you have all the information you need to make your project go as smoothly as possible. The way we see it, we are partners. Our website offers a

The look you're after, the performance we insist on.

Nichiha products are easy to install… you just need a few basic tools to get started.*

Take an even deeper dive and download our

www.nichiha.com
Nichiha's Illumination panels deliver sleek modern tones and subtle seams, perfect for gleaming glass, stainless steel, or paired with the warmth of wood. Get the natural look of wood with the unmatched aesthetic of METALLIC STONES, or the classic look of EMPIRE BLOCK. ArchitecturalBlock is a handsome, durable, and cost-effective solution with the ease of installation and wide variety of corner options. Perfectly imperfect in every way, BRICK SERIES...
ENDURAMAX

Integrated Insulation with brick veneer high performance rain screen cladding system

SELECTED WALL TYPES

Envelope is 12% of project budget

100% Envelope = 24% windows + 76% Wall
76% Wall = 57% Wall Type #22 + 19% Wall Type #23

Cold Climate, High Performance Affordable Housing
McKnight Foundation Presentation 7 December 2015

Complete integrated wall system approach
Increased energy efficiency R13
Moisture management on two sides
Sound reduction for acoustical comfort STC of 61 db
Can be paired with most Oldcastle masonry units including Trenwyth, Quik-Brik and select Artisan Veneers
High end aesthetics available
Unique design may cut installation time by up to 20% - up to 8 stories

Wind Ratings
Depending on building parameters, EnduraMax Wall System can withstand wind speeds of up to 140 MPH. Tested in accordance with ASTM E330.

Fire resistance:
EnduraMax Wall System may be used over any exterior fire resistance rated assembly without changing the assigned hourly rating allowing to meet a 2-hour fire rating. Tested in accordance with ASTM E119. EnduraMax is also NFPA 285 compliant.

Code compliance
2015 International Building Code® (IBC)
2012 International Building Code® (IBC)
EnduraMax Wall System qualifies for use in Type I, II, III or IV Construction
The EnduraMax masonry veneer units shall have an average thickness of 1-3 /4 to 2 inches (44.4 to 50.8 mm) depending upon product texture. Concrete masonry veneer units comply with ASTM C1634. Clay masonry veneer units comply with ASTM C1088.
EPS Boards: Expanded polystyrene (EPS) boards are molded with pre-configured veneer patterns for insertion of matching veneer units. Figure 1 of this report shows typical veneer patterns. The EPS boards shall comply with ASTM C578 as Type I, with a minimum density of 0.9 pound per cubic foot (15 kg/m3). The EPS boards shall have a flame-spread index not greater than 25 and a smoke developed index not greater than 450 when tested in accordance with ASTM E84. EPS boards shall have a nominal thickness of 2 inches (51 mm) and include gaps and notches in the front molded veneer pattern as well as a vertically corrugated back face for water drainage.

25 year warranty
VERTICAL PV PANELS

Vertically Integrated Photovoltaic panels

The panels are installed a few inches from the exterior wall and rather than transfer heat onto the building itself, they actually allow air to circulate between the wall and the panel, creating a shading and insulating element.

Modules Used: PS-A opaque, PS-C transparent, Double Glazed Unit (DGU)

Features of Polysolar’s Crystalline Silicon BIPV Module
• Laminated for compliance with overhead and safety glass
• Thermal properties similar to K glass.
• High conversion rate of up to 15%
• Rigorous quality of control standards and a worldwide certification program
• Product warranty 15 years
• Power warranty 30 years

Clear panels
Features of Polysolar’s Micromorph Module
• Advanced thin-film technology
• High Power
• Sleek and stylish aesthetics
• Sustained performance in high ambient temperatures
• Laminated for compliance with overhead and safety glass
• Thermal properties similar to K glass.
• High conversion rate of up to 8%
• Rigorous quality of control standards and a worldwide certification program
• Product warranty 5 years
• Power warranty 20 years
Pella Impervia
Fiberglass Windows

Windows comply with 2012 and 2015 IBC
Extruded fiberglass frame in multiple colors – no UV or color degradation
Frame and glass expand and contract at same rate – long seal life
4 sided LowE coatings
Integral insulation in frame – enhanced performance
U value performance up to 0.23 - 24% better than Energy Star N requirements
12 year payback over baseline
Triple pane glass is up to 0.17 but 3 times more money – takes up to 87 years payback
10 Year frame warranty
20 Year glass warranty
EXTERIOR BALCONIES

Endurable Balconies

- Prefabricated Exterior Balconies
- Endurable powder coated aluminum balconies
- Alumilast products are ultra low maintenance
- Fully engineered designed products
- Low thermal bridging - minimized to knife plates only
- Non combustible construction
- 50 year structural product warranty
**EGENERATION** = Solar PV + Wind + Anaerobic Digestion + Cogeneration + Greenhouse

**Anaerobic Digestion Energy**

Food waste from the residents, hotel and commercial will be converted into energy through the process of anaerobic digestion. A neighborhood-scaled anaerobic digestion system specifically designed by SEaB to be incorporated into communities will break down food waste using microbes whose methane output will be converted into energy. The byproducts of this process will be used as soil amendment and heat for the onsite greenhouse. This process will be entirely contained within the digester equipment and the E-Generation facility.

**Cogeneration Energy**

Optimizing the amount of energy generated onsite, the cogeneration process will convert methane from the grid into energy and heat. By combining cogeneration with solar, wind and anaerobic digestion renewable energy sources, the residents and tenants will have access to affordable, reliable energy and hot water while decreasing the burden on the area’s electrical grid.
Windside WS -12 technical info:
- Weight: ~4600 kg (approx).
- Swept area: 12m²
- Generator: customised
- Wind load, side force to the middle point of the vane. Calculated 3.3 m up from the generator: 3000 kg
- Max 400rpm
- Guaranteed at constant wind speed of 40 m/s
- Guaranteed at wind gusts of 60 m/s

Power production:
- 6-12 MWh per year depending on location

Materials:
- Vanes: Aluminium
- Shaft: Steel
- Generator and Generator end plates: hot dip galvanized steel
- All bolts stainless steel or hot dip galvanized (A4, A2, Zn)

Assets of Windside wind turbines:
- No need to stop or secure during storms
- Produces max. amount of energy in storms
- No need to be turned to the wind direction
- Soundless: 0 dB, measured in 2 meters distance from the vane
- Stands snow, frost, heat and humidity
- Long lifespan
- Minimum need of maintenance, only lubrication
- Safe to people, animals and nature

Requirements:
- The turbine requires a chassis frame or a mast that the upper bearing can be attached to.
The project will maximize the amount of clean, solar energy generated within the development and photovoltaic panels will be located throughout the site. These panels will be visible and interwoven thoughtfully into the design to celebrate the community's renewable energy capacity.

On the roof, solar panels will coordinate with the green roof since research has shown these two systems perform even better together in a somewhat symbiotic relationship. A canopy of solar panels will cover the surface lot adjacent to the E-Generation facility, providing the additional benefits of keeping cars cool in the summer for less energy spent on air conditioning and keeping the lot clear of most snow in the winter to reduce emissions expelled while plowing.

Solar panels will also be incorporated into the facade of the residential buildings, and placed to follow and absorb the maximum amount of sunlight.

SkyPort Specifications
Columns and Beams: (sized per site load conditions) Wide Flange Beam: ASTM A992 Gr. 50
Spacing: 18ft to 27ft O.C.
Finish: One coat tinted water base rust inhibitive primer
Optional: Hot Dip Galvanized ASTM A123

SkyPurlin
Cold Formed #14ga. Steel ASTM A570 Gr. 55
Typical Size: 10” x 3-1/2” x 1-1/2”
Finish: ASTM A653 G90 Galvanized

Trim-Channel
Cold Formed #14ga. Steel ASTM A570 Gr. 55
Typical Size: 10-1/8” x 2”
Finish: ASTM A653 G90 Galvanized

SkyBite Grounding Clamp: #14 ga. Stainless Steel
5/16” S/S Set screw. #12-14 Self Drilling Screw
The project will maximize the amount of clean, solar energy generated within the development and photovoltaic panels will be located throughout the site. These panels will be visible and interwoven thoughtfully into the design to celebrate the community’s renewable energy capacity.

On the roof, solar panels will coordinate with the green roof since research has shown these two systems perform even better together in a somewhat symbiotic relationship. 226 solar panels will cover the roof of the E-Generation facility. This is an additional total of 3978 sf of capacity or...

Solar panels will also be incorporated into the facade and rooftops of the residential buildings, and placed to follow and absorb the maximum amount of sunlight.

Flat plate system mounted to slope of roof following profile of roof
PV ROOF

TEN K SOLAR - REFLECT PV SYSTEM

mounted on north building with green roof areas.

TEN K SOLAR - REFLECT PV SYSTEM

mounted on south buildings with green roof areas.

TEN K SOLAR - REFLECT PV SYSTEM

Mechanical Specifications

<table>
<thead>
<tr>
<th></th>
<th>REFLECT 26</th>
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<tbody>
<tr>
<td>Configuration</td>
<td>Wave</td>
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<tr>
<td>Module Tilt</td>
<td>26°</td>
<td>28°</td>
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<tr>
<td>Reflector Tilt</td>
<td>45°</td>
<td>33°</td>
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<tr>
<td>Module Compatibility</td>
<td>Ten K Titan Series</td>
<td>Ten K Redundant Inverter Bus</td>
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<tr>
<td>Inverter Compatibility</td>
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<tr>
<td>Power Density</td>
<td>11.5 Wp/ft²</td>
<td>9.6 Wp/ft²</td>
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<td>Base System Weight</td>
<td>2.8 lb/ft²</td>
<td>2.4 lb/ft²</td>
</tr>
<tr>
<td>Reflector Materials</td>
<td>Tempered Glass, 3M™ Cool Mirror Film</td>
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<tr>
<td>Racking Material</td>
<td>Structural-grade aluminum alloys</td>
<td>Polymer Blend</td>
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<tr>
<td>Roofpad Material</td>
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<tr>
<td>Wind Resistance</td>
<td>Up to 120 mph</td>
<td></td>
</tr>
<tr>
<td>Power Warranty</td>
<td>25 Years</td>
<td>25 Years</td>
</tr>
<tr>
<td>Product Warranty</td>
<td></td>
<td>25 Years</td>
</tr>
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</table>
Objective: Generate renewable energy whilst utilising a weatherproof and artistic façade. Overall building requirement to achieve BREEAM Excellent.

Solution: Building integrated PV curtain wall and bonded rainscreen façade

Size: 4.6 kW

Module used: PS-A (100 watts) opaque, PS-C901 Transparent (90 Watts) double glazed (DGU)

Project: The Future Business Centre (FBC) in Cambridge is a purpose built incubation centre for social and environmental enterprises, the first of its kind. Polysolar was requested to provide the PV glazing for the stairwell curtain wall and the decorative rainsceen cladding. Dortech were selected by prime contractors Interserve to supply the curtain wall system. Close liaison with Polysolar saw the first truly transparent curtain wall elements employed within the UK.

Result: The installation uses Polysolar argon filled double-glazed PS-C series transparent units mounted in Reynaers curtain wall system. The PS-A-Series opaque units and the N-velope mounting frame provide an efficient bonded rainscreen façade. The cladding combines the benefits of a highly thermal efficient building cladding material with renewable energy technology in one. It is designed to keep the cold out and the heat in during the winter and vice versa in summer.

Polysolar's thin-film solar photovoltaic glass, when fitted as a double glazed unit, offer U-values of 1.2 W/m²K and G-values of 0.42. These figures are fundamental in driving the building into the highly coveted BREEAM category of Excellent.

The sleek aesthetics and low cost of the Polysolar’s PV glazing makes it ideal for a wide variety of applications. This enables customers to showcase CSR and carbon commitments, meet planning and building regulations (BREEAM) and offer the customer an ability to differentiate their design while reducing their building operation costs.

The panels are installed a few inches from the exterior wall and rather than transfer heat onto the building itself, they actually allow air to circulate between the wall and the panel, creating a shading and insulating element.

Modules Used: PS-A opaque, PS-C transparent Double Glazed Unit (DGU)

Features of Polysolar’s Crystalline Silicon BIPV Module
- Laminated for compliance with overhead and safety glass
- Thermal properties similar to K glass.
- High conversion rate of up to 15%
- Rigorous quality of control standards and a worldwide certification program
- Product warranty 15 years
- Power warranty 30 years

- Reduction in energy consumption
- Aesthetic solution that also limits overheating and excessive sunlight
- Regulation of interior temperature, less need for A/C
- Reduction in CO₂ emissions
- Environmental credentials
**Greenroof**

**Liveroof - Hybrid Green Roof System**

**LiveRoof® Green Roof Systems**

*The Hybrid System*

**Standard**

- **Soil Depth:** Approx. 4 1/4"
- **Module Size:** 1’ x 2’ x 3 1/4"
- **Weight:** Approx. 27-29 lbs/sf saturated and vegetated.
- **Dry Weight:** Approx. 20 lbs/sf (confirm with local grower.)
- **Merits:** Maximizes storm water management, integrates perfectly with new construction and often times existing buildings.
- **Plants:** Succulent ground covers, water conserving accent plants, and hardy spring blooming bulbs.

---

**LiveRoof Standard Module**

- Moisture Portals™
- LiveRoof Engineered Soil
- Liveroof Green Roof Plants (Minimum 95% Soil Coverage at Installation)

---

**Image:** Picnic tables on a green rooftop with lush vegetation.
# PV Panel & Greenroof Sizes

<table>
<thead>
<tr>
<th>Location</th>
<th>Type</th>
<th>Vendor</th>
<th>size</th>
<th>number of units</th>
<th>Watts per unit</th>
<th>Total size</th>
<th>Total Watts</th>
<th>Notes</th>
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<tr>
<td>Array A</td>
<td>rooftop</td>
<td>tenksolar</td>
<td>38 sf</td>
<td>9</td>
<td>500</td>
<td>342 sf</td>
<td>4500 reflect</td>
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<tr>
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<td>tenksolar</td>
<td>38 sf</td>
<td>24</td>
<td>500</td>
<td>912 sf</td>
<td>12000 reflect</td>
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<td>tenksolar</td>
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<td>76</td>
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<td>69</td>
<td>500</td>
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<td>68</td>
<td>500</td>
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<td>tenksolar</td>
<td>38 sf</td>
<td>78</td>
<td>500</td>
<td>2964 sf</td>
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<td><strong>sub total</strong></td>
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<td></td>
<td></td>
<td>324</td>
<td></td>
<td>12312 sf</td>
<td>162000</td>
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<td>Upper North Roof size</td>
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<td></td>
<td></td>
<td></td>
<td>36230 sf</td>
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<tr>
<td>Upper North Green roof</td>
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<td></td>
<td>15907 sf</td>
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<td>Upper Mechanical areas</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>8011 sf</td>
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<td>Lower North roof</td>
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<td>6368 sf</td>
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<td>Roof deck</td>
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<td>735 sf</td>
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<td>Lower North green roof</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>972 sf</td>
<td></td>
<td></td>
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<tr>
<td><strong>Total north Green roof</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>16879 sf</td>
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<td><strong>Total North roof</strong></td>
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<td></td>
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<td>42598 sf</td>
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<td>North Elevations</td>
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<tr>
<td>BIPV array A</td>
<td>15.4 sf</td>
<td>198</td>
<td>220</td>
<td>3059 sf</td>
<td>43560</td>
<td></td>
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<td></td>
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<tr>
<td>BIPV array B</td>
<td>15.4 sf</td>
<td>70</td>
<td>220</td>
<td>1078 sf</td>
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<td></td>
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<tr>
<td>BIPV array C</td>
<td>15.4 sf</td>
<td>40</td>
<td>220</td>
<td>620 sf</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td>15.4 sf</td>
<td>308</td>
<td>220</td>
<td>4757 sf</td>
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<tr>
<td>North Canopy</td>
<td>17.6 sf</td>
<td>863</td>
<td>270</td>
<td>15198 sf</td>
<td>233010</td>
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<tr>
<td>Egen building</td>
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<td>270</td>
<td>3978 sf</td>
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### PV Panel & Greenroof Sizes

#### South Hotel Building

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<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>TenkSolar</th>
<th>SF</th>
<th>Price (100)</th>
<th>SF</th>
<th>Total (100000)</th>
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<tbody>
<tr>
<td>Array G</td>
<td>rooftop</td>
<td>tenksolar</td>
<td>38</td>
<td>47</td>
<td>500</td>
<td>1786 sf</td>
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<td>Green Roof</td>
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<td>Hotel Mechanical areas</td>
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<td>Total Hotel roof</td>
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<td></td>
<td>3085 sf</td>
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<tr>
<td>Hotel BIPV Elevation</td>
<td></td>
<td></td>
<td>15.4</td>
<td>198</td>
<td>220</td>
<td>3059 sf</td>
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#### South Residential Building

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<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>TenkSolar</th>
<th>SF</th>
<th>Price (100)</th>
<th>SF</th>
<th>Total (100000)</th>
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<tbody>
<tr>
<td>Array H</td>
<td>rooftop</td>
<td>tenksolar</td>
<td>38</td>
<td>59</td>
<td>500</td>
<td>2242 sf</td>
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<tr>
<td>Array I</td>
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<td>tenksolar</td>
<td>38</td>
<td>56</td>
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<td>2128 sf</td>
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<td>Green Roof</td>
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<td></td>
<td></td>
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<tr>
<td>Hotel Mechanical areas</td>
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<td></td>
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<td>Total Hotel roof</td>
<td></td>
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<td></td>
<td></td>
<td>3661 sf</td>
</tr>
<tr>
<td>Residential BIPV Elevation</td>
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<td>15.4</td>
<td>198</td>
<td>220</td>
<td>1152 sf</td>
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#### Total Project Green Roof

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<tr>
<th>Component</th>
<th>TenkSolar</th>
<th>SF</th>
<th>Price (100)</th>
<th>SF</th>
<th>Total (100000)</th>
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<tbody>
<tr>
<td>Total Egen solar</td>
<td>SolarCity AZ</td>
<td>17.6</td>
<td>226</td>
<td>270</td>
<td>3978 sf</td>
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<td>Total Rooftop solar</td>
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<td>38</td>
<td>486</td>
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<td>Total Car Canopy solar</td>
<td>SolarCityAZ</td>
<td>17.6</td>
<td>863</td>
<td>270</td>
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<td>15.4</td>
<td>704</td>
<td>220</td>
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</tbody>
</table>

**Total Solar capacity:** 46612 sf  | **Total Roof area:** 70172 sf
SOUTH INTERIOR BICYCLE PARKING PROPOSAL

BICYCLE PARKING AT EACH STALL MOUNTED TO WALL
TOTAL COUNT = 62 in lower level of parking
BICYCLE STORAGE ROOM 1500 sf
STEADY RACK SYSTEM = capacity for 140 in storage

MSR Stantec place
PLACE - SUSTAINABILITY PROPOSALS
NORTH INTERIOR BICYCLE PARKING PROPOSAL

- BICYCLE PARKING AT EACH STALL MOUNTED TO WALL
- TOTAL COUNT = 94
- BICYCLE STORAGE ROOM 2650 sf
- STEADY RACK SYSTEM = capacity for 247

1-3 Features and Advantages
4 The Steadyrack Advantage
5-6 Spacing Guide
7 Mounting Heights
8 Care and Maintenance

Contents
The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

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**PROOF OF PARKING**

- **A** = 20 SPACES NORTH & SOUTH SIDES
- **B** = 12-15 SPACES NORTH SIDE
- **C** = 40 SPACES
- **D** = RAMP 55 SPACES PER LEVEL
- **E**-GEN STRUCTURED PARKING ALTERNATIVE
NOTE:
Discussions with City Staff have identified a number of under-utilized surface parking lots in the area of the PLACE St. Louis Park project. One such potential location, adjacent to the Hoigaard’s Pond, is shown (C).

PROOF OF PARKING

A = 20 SPACES NORTH & SOUTH SIDES

B = 12-15 SPACES NORTH SIDE

C = 40 SPACES

D = RAMP 55 SPACES PER LEVEL

E-GEN STRUCTURED PARKING ALTERNATIVE

NOTE:
Discussion with City Staff have identified a number of under-utilized surface parking lots in the area of the PLACE St. Louis Park project. One such potential location, adjacent to the Hoigaard’s Pond, is shown (C).
PROOF OF PARKING - E-GEN SITE - STRUCTURED PARKING
### PLACE: North Site

<table>
<thead>
<tr>
<th>Site Specifics</th>
<th>SLP Parking Required Before Discounts</th>
<th>Discount SLP Parking Required After Discounts</th>
<th>Reductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>218 Dwelling Units</td>
<td>84 – Studios 1 per bed 84</td>
<td>1 per unit 84</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>74 – 2 bedrooms 1 per bed 74</td>
<td>74-35=39 units for car free living @ 1 per unit 39</td>
<td>-35</td>
</tr>
<tr>
<td></td>
<td>35 – 3 bedrooms 1 per bed 70</td>
<td>35-25=10 units for car free living @ 2 per unit 20</td>
<td>-50</td>
</tr>
<tr>
<td></td>
<td>33 – 4 bedrooms 1 per bed 69</td>
<td>2 spaces per unit 46</td>
<td>-23</td>
</tr>
<tr>
<td></td>
<td>8 – 4 bedrooms 1 per bed 8</td>
<td>2 spaces per unit 4</td>
<td>-4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>305</td>
<td><strong>Total</strong> 193</td>
<td><strong>-144</strong></td>
</tr>
<tr>
<td></td>
<td>2,570 bikeshop 1 per 250 10.28</td>
<td>50% discount for rail/trail adjacency and shared parking 5.14</td>
<td>-5.14</td>
</tr>
<tr>
<td></td>
<td>2,529 makers space 1 per 250 10.12</td>
<td>100% discount for shared parking 0</td>
<td>-10.12</td>
</tr>
<tr>
<td></td>
<td>7,500 digester Per 2A 2</td>
<td>none 2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2472 greenhouse NA</td>
<td>none 0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>Total Required North</strong> 327.4</td>
<td><strong>Total Required North with Discounts</strong> 205</td>
<td><strong>-159</strong></td>
</tr>
<tr>
<td></td>
<td>Proposed Parking 216</td>
<td>Proposed Parking 216</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Percent of Requirement</strong> 66%</td>
<td><strong>Percent of Requirement</strong> 105%</td>
<td></td>
</tr>
</tbody>
</table>

### PLACE: South Site

<table>
<thead>
<tr>
<th>Site Specifics</th>
<th>SLP Parking Required Before Discounts</th>
<th>Discount SLP Parking Required After Discounts</th>
<th>Reductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>81 Dwelling Units</td>
<td>48 – Studios 1 per bed 48</td>
<td>48-15=33 units for car free living @ 1 per unit 33</td>
<td>-15</td>
</tr>
<tr>
<td></td>
<td>16 – 1 bedrooms 1 per bed 16</td>
<td>16-5=11 units for car free living @ 1 per unit 11</td>
<td>-5</td>
</tr>
<tr>
<td></td>
<td>13 – 2 bedrooms 1 per bed 26</td>
<td>13-10=3 units for car free living @ 2 per unit 6</td>
<td>-20</td>
</tr>
<tr>
<td></td>
<td>4 – 3 bedrooms 1 per bed 12</td>
<td>2 spaces per unit 8</td>
<td>-4</td>
</tr>
<tr>
<td></td>
<td>0 – 4 bedrooms 1 per bed 0</td>
<td>2 spaces per unit 0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>102</td>
<td><strong>Total</strong> 58</td>
<td><strong>-44</strong></td>
</tr>
<tr>
<td></td>
<td>110 room hotel 1.5 per room 165</td>
<td>1 per room 110</td>
<td>-55</td>
</tr>
<tr>
<td></td>
<td>4,644 café 1 per 60 77</td>
<td>25% discount for rail/trail/shared parking 57.75</td>
<td>-20</td>
</tr>
<tr>
<td></td>
<td>1,360 coffee 1 per 200 7</td>
<td>50% discount for rail/trail/shared parking 3.5</td>
<td>-3</td>
</tr>
<tr>
<td></td>
<td>3,854 co-working 1 per 400 10</td>
<td>25% discount for rail/trail/shared parking 7.2</td>
<td>-2</td>
</tr>
<tr>
<td></td>
<td><strong>Total Required South</strong> 361</td>
<td><strong>Total Required South</strong> 241</td>
<td><strong>-124</strong></td>
</tr>
<tr>
<td></td>
<td>Proposed Parking 231</td>
<td>Proposed Parking 231</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Percent of Requirement</strong> 64%</td>
<td><strong>Percent of Requirement</strong> 96%</td>
<td></td>
</tr>
</tbody>
</table>

**Total Required** 688 **Total Proposed** 447
**Percent of Requirement** 65% **Percent of Requirement** 100%
SLP MOBILITY PLAN

At the heart of PLACE’s transit-oriented development (TOD) lies the opportunity to decrease dependence on the car.
PLACE St. Louis Park is a mixed-income, mixed-use, transit-oriented development aimed at residents seeking a more affordable and sustainable lifestyle. Strategy One is to reduce the need for mobility through smart location and design that places people where they want to be through the creation of on-site jobs, live/work space, art and culture, green space, and food production. Strategy Two is to provide a mix of mobility options that work for people of different ages, abilities and incomes and maximize family time.
CAR-FREE LIVING

What does it mean to live car free? For some, it means poverty, disability or age. For an increasing number, it is a choice to ditch the cost and the hassle of personal car ownership.

PLACE promotes car-free living because it impacts communities in so many positive ways, including:

- Reduces traffic and vehicle miles traveled
- Improves health
- Makes for more affordable living
- Lowers the carbon footprint of cities
- Increases productive and family time

For our PLACE St. Louis Park project, we will create a package of incentives to encourage people to choose alternatives to car ownership.

“Minnesotans now average more vehicle miles than most of the country, more than even Californians drive.”

– Transportation.gov
STRATEGY ONE

Reduce the baseline need for transportation within the community.

LIVE/WORK SPACE
When people have access to well-designed live/work space, there need for mobility goes down. One third of our apartments will be live/work suites.

ON-SITE JOB CREATION
PLACE St. Louis Park will create over one hundred jobs on site. Our hotel will have a preference for hiring from the community. Other jobs will be created in the cafe, coffee house, E-Generation and live/work space for creatives.

MIXED-USE DEVELOPMENT
Through a smart development mix, people can already be where they want to be, reducing the need to drive. Community members can walk to work, food, recreation, public space, and to experience art and culture.

INTER-GENERATION LIVING
People need to drive to visit family members less often when they can easily live in the same community without barriers to aging in place.
PARKING IN A MIXED-USE DEVELOPMENT

Mixed-use development allows residential parking to share parking with commercial.

<table>
<thead>
<tr>
<th>Parking Uses</th>
<th>Dwelling Units</th>
<th>Parking Spaces Needed</th>
<th>Percent vacated from 9:00 - 5:00</th>
<th>Parking Needed from 9-5</th>
<th>Percent vacated from 5:00 - 9:00</th>
<th>Parking Needed from 5-9</th>
<th>Percent vacated from 10:00 - 9:00</th>
<th>Parking Needed from 10-9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable Residential</td>
<td>200</td>
<td>140</td>
<td>30%</td>
<td>140</td>
<td>0%</td>
<td>200</td>
<td>0%</td>
<td>200</td>
</tr>
<tr>
<td>Affordable Visitors</td>
<td>20</td>
<td>20</td>
<td>25%</td>
<td>15</td>
<td>0%</td>
<td>20</td>
<td>0%</td>
<td>20</td>
</tr>
<tr>
<td>Market-Rate Residential</td>
<td>100</td>
<td>100</td>
<td>40%</td>
<td>60</td>
<td>0%</td>
<td>100</td>
<td>0%</td>
<td>100</td>
</tr>
<tr>
<td>Market-Rate Visitors</td>
<td>20</td>
<td>20</td>
<td>35%</td>
<td>13</td>
<td>0%</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel</td>
<td>110</td>
<td>110</td>
<td>42%</td>
<td>63.8</td>
<td>30%</td>
<td>77</td>
<td>32%</td>
<td>74.8</td>
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<tr>
<td>Hotel Visitors</td>
<td>20</td>
<td>20</td>
<td>0%</td>
<td>20</td>
<td>0%</td>
<td>20</td>
<td>30%</td>
<td>6</td>
</tr>
<tr>
<td>Cafe</td>
<td>1</td>
<td>50</td>
<td>0%</td>
<td>50</td>
<td>50%</td>
<td>25</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Coffee House</td>
<td>1</td>
<td>50</td>
<td>0%</td>
<td>50</td>
<td>50%</td>
<td>25</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Co-working</td>
<td>1</td>
<td>20</td>
<td>0%</td>
<td>20</td>
<td>50%</td>
<td>10</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Bike Shop</td>
<td>1</td>
<td>10</td>
<td>0%</td>
<td>10</td>
<td>50%</td>
<td>5</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Maker Space</td>
<td>1</td>
<td>10</td>
<td>0%</td>
<td>10</td>
<td>0%</td>
<td>10</td>
<td>80%</td>
<td>2</td>
</tr>
<tr>
<td>E-Generation</td>
<td>1</td>
<td>2</td>
<td>0%</td>
<td>2</td>
<td>100%</td>
<td>0</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Car sharing vehicles</td>
<td>10</td>
<td>10</td>
<td>60%</td>
<td>10</td>
<td>40%</td>
<td>6</td>
<td>0%</td>
<td>10</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>472</strong></td>
<td><strong>373.8</strong></td>
<td></td>
<td><strong>428</strong></td>
<td></td>
<td><strong>322.8</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Peak parking
STRATEGY TWO

Provide a mix of mobility options combined with a mix of incentives.

MOBILITY OPTIONS

- Bus
- Light rail
- Shared car
- Cycling
- Shuttle
- Shared bike
- Car service (Uber)

INCENTIVES

- Car-Free Perks Payment
- Metro Pass
- Shared Bike Access
- Parking Savings
- Car-ownership savings

<table>
<thead>
<tr>
<th>Incentive</th>
<th>Monthly Value</th>
<th>Annual Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car-Free Perks Payment</td>
<td>$ 70.00</td>
<td>$ 840.00</td>
</tr>
<tr>
<td>Monthly Metro Pass</td>
<td>$ 66.00</td>
<td>$ 792.00</td>
</tr>
<tr>
<td>Shared Bike Access</td>
<td>$ 30.00</td>
<td>$ 360.00</td>
</tr>
<tr>
<td>Parking Savings</td>
<td>$ 55.00</td>
<td>$ 660.00</td>
</tr>
<tr>
<td>Car Ownership Savings</td>
<td>$ 760.17</td>
<td>$ 9,122.00</td>
</tr>
<tr>
<td><strong>TOTAL SAVINGS</strong></td>
<td><strong>$ 981.17</strong></td>
<td><strong>$ 11,774.00</strong></td>
</tr>
</tbody>
</table>
PARKING ENCOURAGES DRIVING

There are 800 million parking spaces in America taking up over ten percent of our land.

PLACE’s purpose in creating transit-oriented development is to significantly reduce traffic and dependence on the personal automobile. Getting people out of their cars has been shown to improve health, strengthen local economies, increase disposable income, increase public safety, and more. However, policies that increase parking—especially where parking is free—actually encourage more driving.

In a 2016 study, McCahill et al demonstrated actual causality between the availability of parking and increased driving. Parking requirements make it much more difficult to encourage use of transit, walking, cycling and other alternatives to the car.

PLACE will go further than any development yet to develop and incentivize alternatives to the car. We have an opportunity to truly change the habits of our community members if we are not forced to pay for and subsidize parking for the automobile.

Please consider eliminating all minimum parking requirements, if not for all new developments, at least for PLACE as a pilot project.
REFERENCES

The following references are provided as support for our mobility assumptions.