The Philips Lumec MetroScape LED post top luminaire features flexible, robust energy-saving solutions for heritage-styled urban architectural lighting. Crowned with an ornamental hood, the post top model comes with a flat lens to highlight the thinness of the LEDs. The luminaire provides attractive lighting at night, adding appeal to the surroundings and promoting safe use of the environment. Includes Service Tag, Philips innovative way to provide assistance throughout the life of the product.

Luminaire ordering guide

<table>
<thead>
<tr>
<th>Series</th>
<th>LED Module</th>
<th>CCT</th>
<th>Gen.</th>
<th>Optical System</th>
<th>Voltage</th>
<th>Driver</th>
<th>Luminaire option</th>
<th>Mounting</th>
<th>Pole</th>
<th>Finish</th>
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1. DMG 0-10V driver come standard
2. The 347V and 480V are not available.
3. Not available with HS option.
4. Use of photocell or shorting cap is required to ensure proper illumination.
5. Not available with Motion Response.
LED Wattage and Lumen Values for 3000K & 4000K fixtures

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<tr>
<th>Ordering Code</th>
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<th>System Watt (W)</th>
<th>Average Lumen Output*</th>
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*Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc., highly recommended to confirm performance with a layout - contact Applications at outdoorlighting.applications@philips.com.

**Note:** Some data may be scaled based on tests of similar. But not identical luminaires.

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MetroScape LED post top
Urban

Specifications

Cage
In a round shape with 4 arms and a built-in mechanical ring, this cage is a one piece die cast A360 Aluminum alloy 0.100 (2.5mm) minimum thickness, mechanically assembled to the fitter.

Fitter:
Made of die cast A360.1 Aluminum alloy 0.100 (2.5mm) minimum thickness, the fitter is complete with watertight access door giving access to the driver rated IP66, and a terminal block which accepts (10 max) wires from the primary circuit. Comes with an easy self adjusting system with two (2) set screws 3/8" UNC for ease of maintenance and installation. Fits on a 4" (102mm) outside diameter by 4" (102mm) long tenon.

Finial
Decorative cast 356 aluminum, mechanically assembled.

Hood
Made of die cast A360.1 Aluminum alloy 0.1 (2.5mm) minimum thickness, mechanically assembled to the cast aluminum heat sink.

Access-Mechanism
A die cast A360.1 Aluminum alloy 0.1 (2.5mm) minimum thickness technical ring with latch and hinge.

Light Engine
LEDpipe is composed of 4 main components: LED lamp / Optical System / Heat Sink / Driver Electrical components are RoHS compliant.

LEx Lens
Flat Lens: Made of soda lime clear tempered glass, mechanically assembled and sealed onto the ring of the access mechanism.

LED Module
Composed of high-performance white LEDs, Color temperature as per ANSI/NEMA bin Neutral White. 4000 Kelvin nominal (3985K +/-275K or 3710K to 4260K) or Warm White, 3000 Kelvin nominal (3045K +/-175K or 2870K to 3220K), CRI 70 Min. 75 Typical.

Optical System
Composed of high performance optical polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target luminous and a superior lighting uniformity. System is rated IP66. Performance shall be tested per LM 63, LM 79 and TM 15 (IESNA) certifying its photometric performance. Street side indicated. Dark Sky compliant with 0% uplight and U/D per IESNA TM 15.

Heat Sink
Made of cast aluminum optimizing the LEDs efficiency and life. Product does not use any cooling device with moving parts (only passive cooling device).

Driver
High power factor of 95%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 and 347 to 480 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. Maximum ambient operating temperature from 40°F (40°C) to 130°F (55°C). Certified in compliance to UL 1530 cULus requirement. Dry and damp location. Assembled on a unitized removable tray with Tyco quick disconnect plug resistant to 227°F (105°C). Dimmable driver 0-10V. The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

Surge Protector
Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line Ground, Line Neutral and Neutral Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV/10kA.

Driver options
AST: Pre-set driver for progressive start-up of the LED module(s) to optimize energy management and enhance visual comfort at start-up.
CLO: Pre-set driver to manage the lumen depreciation by adjusting the power given to the LEDs offering the same lighting intensity during the entire lifespan of the LED module.
DMG: Dimmable driver 0-10V
OTL: Pre-set driver to signal end of life of the LED module(s) for better fixture management.
CDMG: Dynamitmer standard dimming functionalities including pre-programmed scenarios to suit many applications and needs from safety to maximum energy savings.

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<td>CDMG550</td>
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<td>CDMG75S75</td>
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<td>CDMG550D50</td>
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<td>50% power</td>
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Luminaire options

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City of Montpelier Police Department
2013
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[Image of the received documents]
Specifications (continued)

Luminaire accessories

Motion Response: Tenon mount motion response provides 270° coverage on an adjustable knuckle. The coverage equals to up to 6 times the sensor height. It is an option offered jointly with the Dynadimmer OVR option, that can bring the light up to 100% when the motion response is triggered. It is available in a single or double mounting option. Finish options for the motion response device are white or dark gray. Finish options for the tenon must be specified to match the luminaire and pole. The tenon mount is fully rotatable 360°. This option is available for a 4" OD x 4" long tenon. See instruction sheet for time setting functionality (12 second to 16 minute turn off options) and for mounting instructions.

Finish

The Thermosetting powder coating provided meets the color requirements of the AAMA 2604 specification as measured per ASTM D2244. The Thermosetting product is applied at a dry film of 2.5 to 4.0 mils (64-102 microns) on textured finishes, resulting in a durable long lasting finish.

Textured Finishes:
- BE2TX: Midnight Blue
- BE6TX: Ocean Blue
- BE8TX: Royal Blue
- BG2TX: Sandstone
- BKTX: Black
- BRTX: Bronze
- GN4TX: Blue Green
- GN6TX: Forest Green
- GN8TX: Dark Forest Green
- GNTX: Green
- GY3TX: Medium Grey
- RD2TX: Burgundy
- RD4TX: Scarlet
- WHTX: White

Other Finishes:
- GR: Gray Sandtex
- NP: Natural Alum.
- TG: Hammer-tone Gold
- TS: Hammer-tone Silver

Quality Control

Manufactured to ISO 9001 2008 and ISO 14001 2004 International Quality Standards Certification.

Vibration Resistance

Meets the ANSI C136.31 American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications. (Tested for 3g over 100,000 cycles by an independent lab).

Service Tag

Each individual luminaire is uniquely identifiable, thanks to the Philips Service tag application. With a simple scan of a QR code, placed inside the luminaire, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire’s lifetime. Just download the APP and register your product right away.

For more details visit: philips.com/servicetag

Certifications and Compliance

CSA, cULus Listed for Canada and USA. MetroScape is on the DesignLights.

LED Performance

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<th>Ambient Temperature (°C)</th>
<th>Driver mA</th>
<th>Calculated L70 hours</th>
<th>L70 per TM-211</th>
<th>Lumen Maintenance % at 60,000 hours</th>
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1. Predicted performance derived from LED manufacturer’s data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.
2. L70 is the predicted time when LED performance deprecates to 70% of initial lumen output.
3. Calculated per IESNA TM-21-11. Published L70 hours limited to 6 times actual LED test hours.
Specifications (continued)

Poles

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<td>3.05</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2.44</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1.83</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.22</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.61</td>
<td></td>
</tr>
</tbody>
</table>

MPTR-FN10
Pole: RTA800-PS
Mounting: CRF-2

MPTR
Pole: RAS1

MPTR-PHE-FN11
Pole: RTA905-BA

Consult Philips.com/luminares for details and the complete line of Philips poles and brackets.
Philips Gardco 111 LED mini sconce luminaires are compact in size, perfect for low mounting height wall mount applications. 111 LED luminaires are designed to integrate naturally to wall surfaces. 111 LED luminaires are available with three (3) different distribution patterns, providing full cutoff performance (in the normal downlight position) and featuring LED arrays. Luminaires provide performance excellence and advanced Philips Gardco LED thermal management technology. High performance Class 1 LED systems offer potential energy savings of 50% or more compared to HID systems. 111 LED luminaires are also available with 0-10V Dimming.

### Ordering guide

<table>
<thead>
<tr>
<th>Prefix</th>
<th>No. of LEDs</th>
<th>Drive Current</th>
<th>Color/Generation</th>
<th>Distribution</th>
<th>Voltage</th>
<th>Controls</th>
<th>Electrical/Luminaire</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>111L</td>
<td>16</td>
<td>350mA</td>
<td>WW-G2</td>
<td>Type II Wide Throw Optic, with maximized lateral throw</td>
<td>UNV 120-277V 50Hz/60Hz</td>
<td>DD 0-10V Dimming</td>
<td>DL Diffusing Lens</td>
<td>Textured</td>
</tr>
<tr>
<td></td>
<td></td>
<td>550mA</td>
<td></td>
<td>Type III Preferred Wide Throw Optic, with improved forward throw</td>
<td>120 120V</td>
<td>F2 Double fusing (208, 240VAC)</td>
<td></td>
<td>BK Black</td>
</tr>
<tr>
<td></td>
<td></td>
<td>750mA</td>
<td></td>
<td>Type IV Maximized Forward throw optic</td>
<td>208 208V</td>
<td>F3 Canadian double pull fusing (208, 240VAC)</td>
<td></td>
<td>WW White</td>
</tr>
</tbody>
</table>

#### Dimensions

![Dimensions Diagram]

Note: Mounting plate center is located in the center of the luminaire width and 2.38" (6.03 cm) above the luminaire bottom (lens down position). Splices must be made in the J-box (by others). Mounting plate must be secured by max. 1/4" (6mm) diameter bolts (by others) structurally to the wall.
111 Mini Sconce LED
110 Line LED, Wall Mount

LED Wattage and Lumen Values

<table>
<thead>
<tr>
<th>Ordering Code</th>
<th>Total LEDs</th>
<th>Current (mA)</th>
<th>Avg System Wattage (W)</th>
<th>Lumen Output</th>
<th>Beg Rating</th>
<th>Efficiency (Lm/W)</th>
<th>Lumen Output</th>
<th>Beg Rating</th>
<th>Efficiency (Lm/W)</th>
<th>Lumen Output</th>
<th>Beg Rating</th>
<th>Efficiency (Lm/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-16L-350-NW-GW</td>
<td>16</td>
<td>350</td>
<td>18</td>
<td>1908</td>
<td>BI-UD-G0</td>
<td>106</td>
<td>1795</td>
<td>BD-UD-G0</td>
<td>102</td>
<td>1766</td>
<td>BI-UD-G0</td>
<td>98</td>
</tr>
<tr>
<td>111-16L-550-NW-GW</td>
<td>16</td>
<td>550</td>
<td>29</td>
<td>2900</td>
<td>BI-UD-G0</td>
<td>107</td>
<td>2657</td>
<td>BI-UD-G1</td>
<td>95</td>
<td>2688</td>
<td>BI-UD-G1</td>
<td>93</td>
</tr>
<tr>
<td>111-16L-750-NW-GW</td>
<td>16</td>
<td>750</td>
<td>40</td>
<td>3807</td>
<td>BI-UD-G1</td>
<td>95</td>
<td>3591</td>
<td>BI-UD-G1</td>
<td>90</td>
<td>3529</td>
<td>BI-UD-G1</td>
<td>88</td>
</tr>
</tbody>
</table>

1. Wattage and lumen output may vary by +/- 8% due to LED manufacturer's tolerance and ambient temperature. Wattage shown is average for 120V through 277V input. Actual wattage may vary by an additional +/− 10% due to actual input voltage.
2. Tests available for luminaires with the DL option and other color temperatures. Contact outdoor lighting applications@philips.com if any approximate estimates are required for design purposes.
3. Absolute lumen for Cool White (CW) matches the Neutral White (NW) lumen outputs. Warm White (WW) performance is reduced by 12% compared to Neutral White (NW) values shown.

Specifications

Housing
Housings are die cast aluminum. A memory retentive gasket seals the housing to the door frame to exclude moisture, dust, insects and pollutants from the optical system. A black die cast ribbed backplate dissipates heat for longer system life. Main body cast housing and back plate made of a low copper die cast. Hinged door allows access to driver and LED compartment.

Mounting
Mounting is completed through integral back plate that features a separate recessed feature for hook and lock quick mount plate that secures with two set screws from bottom of luminaire. Luminaire ships fully assembled, ready to install.

Light Engine
Composed of 4 main components: Heat Sink/LED Module/Optical System/Driver. Electrical components are RoHS compliant. Metal core board ensures greater heat transfer and longer lifespan.

IP Rating
Luminaires are rated IP66.

Optical systems
The advanced LED optical systems provide IES Types 2, 3, 4. Composed of CDM-UV stabilized optical grade plastic refractor lenses to achieve desired distribution optimized for maximum spacing, target luminous and superior illumination. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Dark sky compliant with 0% uplight and U0 per IESNA TM-15.

Door Frame
A single-piece die cast aluminum door frame integrates to the housing form. The door frame is hinged closed and secured to the housing with captive stainless steel fasteners. Heat and impact resistant 1/8" (3.2cm) tempered glass lens and one-piece gasket are mechanically secured to the door frame with galvanized steel retainers. A clear tempered glass lens is included. A diffuse lens is available as an option.

Thermal Management
Philips Gardco 111 LED luminaires utilize extruded aluminum integral thermal radiation fins to provide excellent thermal management critical to long LED system life.

Finish
Five standard colors offered in textured black, white, bronze, dark gray and medium gray. Color in accordance with the AAMA 2604 standard. Application of polyester powder coat paint 2.5 mile minimum. The thermosetting resins provide a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard, RAL, and custom color matching available.

LED Useful Life
Luminaire Useful Life accounts for LED lumen maintenance. Refer to IES files for energy consumption and delivered lumens for each option. Based on IES07 in situ thermal testing in accordance with UL1598 and UL8750, LED LM-80/ TM-21, expected to reach 100,000 hours with >L70 lumen maintenance > 25°C.

Certifications and Compliance
cULus Listed for Canada and USA suitable for wet locations when mounted downward facing. cULus Listed for Canada and USA suitable for damp locations when inverted upward facing when mounted in covered ceiling application. DesignLights Consortium qualified on models as listed on DLC QPL. Luminaire is rated for operation in ambient temperature of -40°C (-40°F) up to +40°C (+104°F).

Limited Warranty
5-year limited warranty. See philips.com/warranties for details and restrictions. Visit our eCatalog or contact your local sales representative for more information.

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Philips reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.
philips.com/luminaires
Philips Gardco 111 LED mini sconce luminaires are compact in size, perfect for low mounting height wall mount applications. 111 LED luminaires are designed to integrate naturally to wall surfaces. 111 LED luminaires are available with three (3) different distribution patterns, providing full cutoff performance (in the normal downlight position) and featuring LED arrays. Luminaires provide performance excellence and advanced Philips Gardco LED thermal management technology. High performance Class 1 LED systems offer potential energy savings of 50% or more compared to HID systems. 111 LED luminaires are also available with 0-10V Dimming.

**Ordering guide**

<table>
<thead>
<tr>
<th>Prefix</th>
<th>No. of LEDs</th>
<th>Drive Current</th>
<th>Color/Generation</th>
<th>Distribution</th>
<th>Voltage</th>
<th>Controls</th>
<th>Electrical/Luminaire</th>
<th>Finish</th>
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<tbody>
<tr>
<td>111L</td>
<td>16L</td>
<td>350 mA</td>
<td>Cool White</td>
<td>2</td>
<td>UNV</td>
<td>DD</td>
<td>DL</td>
<td>TBE</td>
</tr>
<tr>
<td></td>
<td>16 LED</td>
<td></td>
<td>5000K, 70 CRI</td>
<td></td>
<td>120-277V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>550 mL</td>
<td>550 mA</td>
<td></td>
<td>Neutral White</td>
<td></td>
<td>120</td>
<td>DD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>750 mL</td>
<td>750 mA</td>
<td></td>
<td>Warm White</td>
<td></td>
<td>240</td>
<td>DD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dimensions**

- 12-1/8' (30.79 cm)
- 17.78 cm

Note: Mounting plate center is located in the center of the luminaire width and 2.38' (72.03 cm) above the luminaire bottom (lens down position). Splices must be made in the J-box (by others). Mounting plate must be secured by max. 1/4" (6.4 cm) diameter bolts (by others) structurally to the wall.

**Received**

City of Montpelier Planning Department

Oct 19 2019
Mini Sconce LED
110 Line LED, Wall Mount

LED Wattage and Lumen Values

<table>
<thead>
<tr>
<th>Gridcode Code</th>
<th>Total Leds</th>
<th>Lumen (ml)</th>
<th>Avg System Wattage</th>
<th>Lumen Output</th>
<th>Type 2 Eff., lumen (W)</th>
<th>Effic. (lum/W)</th>
<th>Type 3</th>
<th>Lumen Output</th>
<th>Eff., lumen (W)</th>
<th>Effic. (lum/W)</th>
<th>Type 4</th>
<th>Lumen Output</th>
<th>Eff., lumen (W)</th>
<th>Effic. (lum/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11L-16L-350-02</td>
<td>16</td>
<td>350</td>
<td>18</td>
<td>1908</td>
<td>80-UD-G0</td>
<td>105</td>
<td>1799</td>
<td>80-UD-G0</td>
<td>100</td>
<td>1768</td>
<td>80-UD-G0</td>
<td>98</td>
<td>1739</td>
<td>80-UD-G0</td>
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<tr>
<td>11L-16L-350-02</td>
<td>16</td>
<td>550</td>
<td>29</td>
<td>2000</td>
<td>80-UD-G0</td>
<td>101</td>
<td>2736</td>
<td>80-UD-G0</td>
<td>95</td>
<td>2698</td>
<td>80-UD-G0</td>
<td>93</td>
<td>2591</td>
<td>80-UD-G0</td>
</tr>
<tr>
<td>11L-16L-750-02</td>
<td>16</td>
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<td>3807</td>
<td>80-UD-G0</td>
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<td>88</td>
<td>3405</td>
<td>80-UD-G0</td>
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</tbody>
</table>

1. Wattage and lumen output may vary by +/- 5% due to LED manufacturer forward volt specification and ambient temperature.
2. Wattage shown is average for 120V through 277V input. Actual wattage may vary by an additional +/- 10% due to actual input voltage.
3. Tests available for luminaries with the DI option and other color temperatures. Contact outdoorlightingapplications@philips.com if any approximate estimators are required for design purposes.
4. Absolute luminos Cool White (CW) matches the Neutral White (NW) lumen outputs. Warm White (WW) performance is reduced by 12% compared to Neutral White (NW) values shown.

Specifications

Housing

Housings are die cast aluminum. A memory retentive gasket seals the housing to the door frame to exclude moisture, dust, insects and pollutants from the optical system. A black, die cast ribbed backplate dissipates heat for longer system life. Main body cast housing and back plate made of a low copper die cast. Hinged door allows access to driver and LED compartment.

Mounting

Mounting is completed through integral back plate that features a separate recessed feature for hook and lock quick mount plate that secures with two set screws from bottom of luminaire. Luminaire ships fully assembled, ready to install.

Light Engine

Composed of 4 main components: Heat Sink/LED Module/Optical System/Driver. Electrical components are RoHS compliant. Metal core board ensures greater heat transfer and longer lifespan.

IP Rating

Luminaires are rated IP66.

Predicted Lumen Depreciation Data

<table>
<thead>
<tr>
<th>Ambient Temperature °C</th>
<th>System Current</th>
<th>LED Current</th>
<th>Calculated Life (hrs)</th>
<th>Ly per TM21</th>
<th>Lumen Maintenance at 90% 10000hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>25°C</td>
<td>750 mA</td>
<td>750 mA</td>
<td>&gt;100,000</td>
<td>&gt;50,000</td>
<td>97%</td>
</tr>
</tbody>
</table>

1. Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual performance may vary due to field application conditions.
2. L70 is the predicted time when LED performance degrades to 70% of initial lumen output.
3. Calculated per IESNA TM-21-11. Published L70 hours limited to 6 times actual LED test hours.

Optical systems

The advanced LED optical systems provide IES Types 2, 3, 4. Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target luminous and a superior lighting uniformity. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Dark sky compliant with 0% uplight and 10% per IESNA TM-15.

Door Frame

A single-piece die cast aluminum door frame integrates to the housing form. The door frame is hinged closed and secured to the housing with captive stainless steel fasteners. The heat and impact resistant 1/8" (32cm) tempered glass lens and one-piece gasket are mechanically secured to the door frame with galvanized steel retainers. A clear tempered glass lens is included. A diffusion lens is available as an option.

Thermal Management

Philips Gardco III LED luminaires utilize extruded aluminum integral thermal radiation fins to provide excellent thermal management critical to long LED system life.

Finish

Five standard colors offered in textured black, white, bronze, dark gray and medium gray. Color in accordance with the AAMA 2604 standard. Application of polyester powder coat paint 2.5 mils minimum. The thermostats resins provides a discoloration resist finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard. RAL and custom color matching available.

LED Useful Life

Luminaire Useful Life accounts for LED lumen maintenance. Refer to IES files for energy consumption and delivered luminous for each option. Based on IESFT in situ thermal testing in accordance with UL1598 and UL850. LED LM-80/TM-21, expected to reach 700,000+ hours with >L70 lumen management at 25°C.

Certifications and Compliance

cULus Listed for Canada and USA suitable for wet locations when mounted downward facing. cULus Listed for Canada and USA suitable for damp locations when inverted upward facing when mounted in covered ceiling application. DesignLights Consortium qualified on models as listed on DLC QPL. Luminaire is rated for operation in ambient temperature of -40°C (-40°F) up to +40°C (+104°F).

Limited Warranty

5-year limited warranty. See philips.com/warranties for details and restrictions. Visit our eCatalog or contact your local sales representative for more information.

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201 Franklin Square Drive, Somerset, NJ 08873
Tel. 855-486-2216

Philips Lighting Canada Ltd.
281 Hillmount Rd. Markham, ON, Canada L4C 2S3
Tel. 800-668-9008
SPECIFICATIONS

DESCRIPTION:
Compact LED adjustable accent fixture with integral angled glare shield. Suitable for wet/damp/dry location installations.

MATERIAL:
Standard overall material is 6061 aluminum.
- HL-369-LED - Machined Aluminum (Standard)
- HL-369-LED-26 - Machined Brass

FINISH:
- AA - Anodized Satin Aluminum
- AP - Powder Coat Aluminum
- BK - Powder Coat Black
- BZ - Powder Coat Bronze
- WT - Powder Coat White
- N - Natural, for Stainless Steel and Brass

LED OPTIONS:
Integral high output LED, warm white (3000K CCT) standard, others available.
- 3LED - 3W LED
- 8LED - 8W LED

Options:
- SP - Spot, 12°
- NE - Narrow Flood, 24°
- FL - Flood, 36°

VOLTAGE:
12 - 12 VAC output transformer required, not included.

MOUNTING:
Fixture is designed with a 1/2-NPS adjustable mounting stem.

OPTIONS:
- Lenses/Louvers/Color Filters
  - LA-1 - Hexcell Louver (Black)
  - LA-2 - Prismatic lens
  - LA-3 - Linear spread lens
  - LA-4 - Soft focus lens (diffused)
  - LA-5 - Moonlight lens
  - LA-6 - Blue lens

SAMPLE ORDER SPECIFICATION:
- HL-369-3LED-BZ-FL-12-LA-1

RATING:
Wet/damp/dry location,
THE U-CARA™ ADVANTAGE

- Easy-to-learn system
- Easy-to-handle lightweight components
- Interchangeable components for seamless integration with other Unilock products
- One platform to create different looks
- Dimensional accuracy for precise installation

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COMPONENTS

**Standard Sure Track Backer**
6" H x 8" L x 6" W
15 cm x 20 cm x 15 cm

**Large Sure Track Backer**
6" H x 7" L x 12" W
15 cm x 17.5 cm x 30 cm

**Sure Track Corner Insert**
L = 2" (5 cm)

**Universal Coping**
2.75" H x 19" L x 14" W
7 cm x 48.2 cm x 35.5 cm

**U-Cara Standard Fascia Panel**
6" H x 18.5" L x 2.36" W
15 cm x 46.6 cm x 6 cm

**U-Cara Standard Fascia Half Panel**
6" H x 9.25" L x 2.36" W
15 cm x 23.3 cm x 6 cm

**U-Cara Closed-End Fascia Corner Panel**
6" H x 20.9" L x 2.36" W
15 cm x 53 cm x 6 cm

**Universal Base Unit**
2" H x 19" L x 14" W
5.5 cm x 48.2 cm x 35.5 cm

The U-Cara Multi-Face Wall System is a platform comprised of only a few components that provide a huge array of installation and design options.
Always observe retaining wall building codes. Large walls should always be reviewed by a professional engineer prior to construction.
Virtually any landscape wall or feature can be built using the U-Cara Multi-Face Wall System. U-Cara's dimensions, sizes and technology make it the most flexible and easy to install system on the market. This manual will illustrate how to construct some of the most common walls and features. The more you work with it, the more you'll discover U-Cara's application flexibility.
The U-Cara wall system is a patented wall system that gives you more design options for complete creative flexibility. That's because U-Cara Fascia Panels can be placed anywhere on the Sure Track® Backer Blocks, allowing for a variety of pattern, color and texture combinations not possible with other systems.
Always start with an in-depth consultation to better understand what your client is looking for. Learning about your client's budget, needs and aspirations will help you to design their outdoor space.

In practical terms, a good outdoor living space should always take in consideration things such as group size, traffic flow of people and proportional scale to the size of the home.

We recommend that you watch the U-Cara Installation Video Series at unlock.com for a first-hand look at an actual project installation.

PLANNING

Whether you are building a seat wall, pillar or grill island, plan your project with U-Cara Fascia Panel dimensions in mind. Remember, fewer cuts means faster installation.

1. Sketch your overall design concept.
2. Use CAD or Uvision 3D to lay out location and heights of features.
3. Optimize your design using fascia panel lengths.
4. Decide on location of lights, water and other utilities.
5. Calculate number of fascia panels and Sure Track™ Backer Blocks.
6. Calculate base requirements.
CALCULATION EXAMPLE

The example below can help you calculate the number of U-Cara products needed for a pillar and wall project.

PILLARS:
- 4 Large Backer Blocks per layer
  = 24 units per pillar x 2 = 48 units total
- 4 Standard U-Cara Closed-End Corner Panels per layer = 24 units per pillar
  x 2 = 48 units total
- 2 Pillar Caps
- 96 Sure Track™ Corner Inserts
- 8 Tubes of Concrete Adhesive (10 oz Approx.)

WALL:
- 9 Standard Sure Track Backer Blocks per layer = 27 units total
- 12 Standard U-Cara Fascia Panels per side = 24 units total
- 4 Universal Coping units
BASE PREPARATION

Base preparation for walls and pillars is standard for all Unilock wall systems. However, with U-Cara, we strongly recommend you use the Universal Base Unit as a leveling pad on top of the gravel base. This will significantly increase the speed of installation and maintain the long-term integrity of your project.

1. Excavate a trench with a minimum depth of 16" for walls and 24" for pillars.
2. The width of the trench should be twice the width of the wall unit.
3. Ensure that all topsoil is removed down to undisturbed subsoil.
4. Line the trench with Unilock DriveGrid™ or a permeable landscape filter fabric.
5. Place 4" to 8" of free draining gravel in the trench. (Open-graded gravel or typical road base is recommended.)
6. Walls generally should have one complete row of wall units below grade. However, for walls 12" or lower, a half block below grade is sufficient. Pillars should have a minimum of 2 courses of wall units below grade. Adjust your excavation accordingly.
7. Compact the gravel in the trench with a jumping jack, hand tamper or plate compactor.
8. Place and level the Universal Base Units on the gravel base at the appropriate height.
GRAVITY WALL

1. Perforated Drainage Pipe
2. Filter Fabric
3. 3/4" Clear Stone (ASTM No. 57) or Road Base (6" thick)
4. Universal Base Unit
5. 3/4" Clear Stone (ASTM No. 57) Backfill min. 12" wide
6. Large Sure Track Backer Block
7. U-Cara Fascia Panel
8. Coping
9. Subsoil
10. Topsoil
11. Turf
GEOREGRID WALL

1. Perforated Drainage Pipe
2. Compacted Granular Fill as specified by engineer
3. 3/4" Clear Stone (ASTM No. 57) or Road Base (6" thick)
4. Universal Base Unit
5. Approved Geogrid
6. Large Sure Track® Backer Block
7. U-Cara Fascia Panel
8. Filter Fabric
9. Coping
10. Subsoil
11. Topsoil
12. Turf

See pages 23-26 for more information about constructing higher walls.

Received
OCT 19 2018
City of Montpelier Planning Department
TYPICAL ASSEMBLY

1. U-Cara must be installed on a hard surface. We recommend Unilock Universal Base Units placed over a compacted bed of gravel.

2. Position and glue the first row of Standard Sure Track Backer Blocks onto the Universal Base Unit using the alignment grooves to help keep your line straight.

3. Always position U-Cara Fascia Panels onto the backer blocks before glue sets. This will allow you to easily adjust wall straightness with a straight-edge or stringline. Avoid cutting backer blocks by spacing them apart as required. The fascia panels will cover up any gaps. **Important**: Large Sure Track Backer Blocks do not require adhesive between rows. Only use adhesive between Standard Sure Track Backer Blocks when installed in the vertical position. No adhesive is required in the setback position.

4. Position and glue subsequent rows of backer blocks onto the previous course, staggering the joints. The bottom channels of the block will allow for construction of vertical or setback walls.

5. After placing a row of glued backer blocks, hang the U-Cara Fascia Panels before the adhesive has cured making minor alignment adjustments easier.

TIP:
- By offsetting the key and channel connection, you can create a 5.5 degree battered wall for additional strength.
- Use the factory-stamped grooves in the Universal Base Unit to help maintain the alignment of your first row of backer blocks.
- Backer blocks can be conveniently spaced apart to make up differences in wall lengths. The spaces are hidden by the panels. Use fiber fabric behind single-sided planter walls.
90° CORNERS

- Corners are generally constructed with Large Sure Track Backer Block units. (See Fire Pits on page 22 for an alternate method.)

- Prepare several large backer blocks by removing both top keys with a mallet and chisel. Then, snap Sure Track Corner Inserts into one side of the corner backer block.

- Position and glue the first corner backer block to the base unit.

- Position and glue large or standard backer blocks in each direction from the corner unit until you reach your next corner, pillar or wall. Before the glue sets, position and glue a U-Cara Closed-End Corner Panel onto the backer blocks.

- Complete each corner with a U-Cara Standard Half Fascia Panel (provided in the corner bundle). Position these half units on the opposing side against the closed end of the corner panel.

- Use a large square to ensure your corner is square.

- Reverse the position of the large backer block every other row. Position and glue this assembly carefully.

Note: Closed end panels come bundled with 4 panels that close on the right and 3 that close on the left (per layer). Keep this in mind when deciding which panel should be used first on a corner or pillar.
Removal of alignment key from backer blocks is required to accommodate crossing layers.

45° CORNERS

1. Whether you are constructing 90 or 45 degree corners, corners should always be constructed first.

2. When constructing a 45 degree corner, backer blocks will overlap every other row which will require the removal of any interfering top keys.

3. Cut the ends of U-Cara Fascia Panels and standard half panels on a 45 degree angle as shown.

4. It is a good practice to glue any angular cut backers or panels for additional strength.

5. When starting each course, always make sure to stagger the backer block joints.

6. Begin each course with the corner backers and corner panels.

7. Repeat steps 4 through 6 until desired height is reached.

TIP: For optimal structural and visual integrity, use concrete adhesive wherever possible between components.
CURVED WALLS

1. Always construct walls on Universal Base Units. Prepare 2 Standard Sure Track® Backer Blocks per panel length by removing the top alignment keys.

2. For single-sided walls, you only need fascia panels on one side of the backer blocks. One panel mounts on to two standard backers. No cutting of backers or panels is required.

3. For double-sided walls, you will need to order enough fascia panels to cover both sides. Inside radius panels must be cut to a length that will achieve your desired radius.

4. Min. radius (r) = 8 ft (2 m)
   Inside panel length 8 ft 16.75" (42.5 cm)
   Max. curved wall height = 24" above grade

5. When constructing two-sided curved walls, fill any voids between backer blocks with gravel to prevent light from showing through.

TIPS
- Adhesive is required to secure curved walls.
- You will need approximately one 10 oz. tube for every 5 feet of wall.

Removal of alignment key from top of all backer blocks is required to accommodate the radius.
SURE TRACK™ OPTIONS
(VERTICAL WALLS ONLY)

Sure Track Backer Blocks offer various options for positioning U-Cara Fascia Panels. Fascia panels can be placed anywhere and on any track vertically or horizontally. This can only be done when the backers are stacked vertically.

Note: When a fascia panel straddles two courses of backer blocks, the wall will automatically be strengthened by a mechanical connection.

6. Straddling the backer blocks with the fascia panels will require the first row of panels to be cut length-wise as a starter unit. Keep the cut-off piece to use for the last row just under the coping, or choose option 6.

6. In order to create a utility channel for electricity, gas or irrigation, simply install a full panel as the last row and then cap with coping. Use liberal amounts of concrete adhesive and always secure your work so that panel will not shift before curing.
SEAT WALLS

1. Universal 14" x 19" Coping (1.75" overhang each side)
2. U-Cara Fascia Panels (on both sides)
3. Patio or Lawn
4. Paver Bedding Course 1/4" Clear Chip Stone (ASTM No. 8 or 9)
5. 4"-6" of 3/4" Clear Stone Base (ASTM No. 57)
6. Unilock DriveGrid™
7. 4"-6" of 3/4" Clear Stone Base (ASTM No. 57)
8. Universal Base Unit
9. Native Subsoil

TIPS
- Comfortable seat walls are typically 6-18" from patio floor to top of coping.

Remove alignment key from top row of backer blocks.

Seat Wall Side Elevation

Received
OCT 19 2013
City of Montpelier
Planning Department
GARDEN BORDERS

The combined thickness of a Standard Sure Track® Backer Block and a fascia panel is less than 9" deep, making the U-Cara Wall System ideal for small garden borders or self-standing planters.

1. Install Universal Base Units on a 6" gravel base ensuring they are perfectly level. Use DriveGrid® under gravel for added stability.

2. Use a permeable filter fabric to separate the soil from the back of the wall.

3. If stacked vertically, standard backer blocks should be glued.

4. Attaching fascia panels to backers will help align the backers as you go. Note: In frost-prone areas, applying some glue between the bottom of the fascia panels and the universal base unit is good practice.

5. Always glue coping to the top of your backers after removing the alignment key.

Tips: For narrow planters consider using U-Cara Fascia Panels as coping.
Building steps with U-Cara is like building a set of miniature single-course walls, one behind the other.

1. Universal Base Units should be used to construct steps quickly and securely.

2. Steps are constructed using Large Sure Track™ Backer Blocks with the top keys removed. Position and glue an entire row of the backer blocks to the Universal Base Unit. Be sure to leave enough room to adhere fascia panels onto the front of the backer blocks. Then, the assembly of backer and fascia can be pushed forward to meet the previous coping or paver surface. The adhesive under the backers will facilitate the sliding forward.

3. Complete each step by gluing the coping to the top of the large backer units. An overhang of 1.5" (3.8 cm) to 2" (5 cm) is recommended.

4. For each consecutive step, install another row of Universal Base Units flush to the top of the backers of the previous step.

5. In order to attach panels on an exposed end, simply snap in the Sure Track Corner inserts and attach a U-Cara Fascia Panel.

Tips: Visit unilex.com to watch the “How to Build Steps” video.
RAISED PATIO

1. Install Universal Base Units on a 6" gravel base, ensuring they are perfectly level.

2. Adhere the first row of Large Sure Track™ Backer Blocks onto the Universal Base Units. (Optional) Use the grooves impressed onto the surface of the base unit to maintain block alignment.

3. Continue to install subsequent rows of backer blocks making sure you horizontally offset each row by one half block. You may need to cut one backer in half every other row. We recommend installing backers in the "set-back" position for increased wall strength.

4. Back fill as you go (max two layers of U-Cara) with 3/4" clear stone (ASTM No. 57). A layer of filter fabric is recommended directly behind the block to prevent any aggregate from migrating through any openings. Note: Geogrid (optional) may also be used to reinforce walls (See page 25).

5. When you reach patio-level height and your plan calls for a seat wall around the perimeter of the patio, you can transition over to standard backer blocks and clad both sides with fascia panels.

6. In order to attach coping to the top of the seat wall, remove the top key on the top row.
PILLARS
ASSEMBLY

Pillars should be constructed on 6\" (15 cm) to 12\" (30 cm) of clear open graded gravel. The pillar embedment should never be less than 12\" (30 cm) below grade.

1. Install 4 Universal Base Units on a compacted gravel base. These base units must be level.

2. Before constructing the pillar, prepare enough large backer blocks by removing the "front" top key of each block. Using concrete adhesive, adhere 4 large backer blocks to the base units ensuring that the corner inserts face outwards.

3. Position 4 "left" panels on the Sure Track Rails. Use a carpenter's square to square up the first layer of corner backer blocks and fascia panels.

4. To begin the second layer, adhere 4 corner backer blocks in an offset "log cabin" layout.

5. Position 4 "right" fascia panels on the rails. Use a carpenter's square to square up the first layer to the second layer.

6. Continue each layer until you have reached the desired height.

7. Adhere a coping unit to the top.

For lamp posts, be sure to run conduit and electrical wire to the pillar. All electrical work must be done by a qualified electrician.

Closed end corner fascia panels come in "lefts" and "rights". Alternate between lefts and rights every other course.

Remove front alignment key from top of each backer block.
GRILL ISLAND

1. Grill Islands and other larger features should be constructed on a concrete pad supported by 10" diameter concrete piers seated below the frost line. Space piers 6' apart and place a wire mesh or rebar across the piers prior to pouring the 6" thick pad.

2. Ensure there is also 6" of 3/4" open-graded stone gravel under the pad.

3. Position Large Sure Track® Backer Blocks at the corner locations and fill in between with standard or large backers. If you are constructing the island within the panel dimensions, attach the panels to the backer blocks as you go for precise alignment. You will need to insert 4 Sure Track Corner Inserts into the side channel so you can hang a panel. We recommend that you glue corner fascia panels to the backer blocks for additional strength.

4. In order to "log cabin" the corners, remove the top key and repeat step 3 with the corner backer starting in the opposite direction.

5. Install precast or granite counter top.

TIPS

1. Install gas lines right after drilling in the piers and before pouring the concrete pad.

2. Order the grill in advance of constructing the grill island so that you will know the exact dimensions for the opening in the grill island and the counter top.

Remove alignment key from top row of backer blocks.
**FIRE PIT**

1. Install 8 Universal Base Units on a minimum 6" gravel base as shown, ensuring they are perfectly level.

2. You will need to prepare 12 Standard Sure Track Backer Blocks by removing the top key. Construct the corners by creating a butt joint with the standard backer blocks as shown. **Note:** Do not use the large backer blocks with the plastic inserts because the inserts are not designed for high heat applications.

3. Position and glue the first row of standard backer blocks as shown. Only use construction adhesive rated for high-heat applications (a 1200°F minimum rating is recommended).

4. Adhere U-Cara Corner Fascia Panels on the outside and inside of the fire pit using the same construction adhesive. Position and glue the next row of backer blocks onto the first row of backers. Create a "log cabin" corner as shown.

5. Repeat for consecutive rows until the desired height has been reached.

**Tips:**
- Only use construction adhesive rated for high-heat applications (a 1200°F minimum rating is recommended).
- If you are building a gas fire pit, make sure that you run your gas line to the center of the pit area before installing the base units.
- Always apply adhesive between the bottom of the first row of backers and the Universal Base Unit.

**NOTE:** It is highly recommended that you use a metal insert or firebrick cladding on the inside of any fire pit to prevent potential heat damage to the concrete.
Load Assumptions

<table>
<thead>
<tr>
<th>Wall Alignment</th>
<th>Exposed Wall Height (ft/m)</th>
<th>Max Total Wall Height (ft/m)</th>
<th>Exposed Wall Height (ft/m)</th>
<th>Max Total Wall Height (ft/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0° Vertical</td>
<td>1.7/0.52</td>
<td>2.2/0.67</td>
<td>1.7/0.52</td>
<td>2.2/0.67</td>
</tr>
<tr>
<td>5.5° Battered</td>
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<td>2.7/0.82</td>
<td>2.2/0.67</td>
<td>2.7/0.82</td>
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Soil Assumptions

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<thead>
<tr>
<th>Soil Condition</th>
<th>Description</th>
<th>O-degrees</th>
<th>Unit Weight (g-lb/cu.ft)</th>
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<tbody>
<tr>
<td>Drainage (Min. 12°/0.3m)</td>
<td><strong>GP</strong> Free Draining Gravel, max 5% fines</td>
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<tr>
<td>Retained</td>
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<td>125</td>
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<tr>
<td>Foundation</td>
<td><strong>CL</strong> Inorganic Clays, low-med plasticity</td>
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<td>125</td>
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Drainage to be Free Draining Material in accordance with NCMA recommendations. A minimum Embedment of 0.5 ft/0.15 m is required.
Load Assumptions

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<tr>
<th>Wall Alignment</th>
<th>Exposed Wall Height (ft/m)</th>
<th>Max Total Wall Height (ft/m)</th>
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<tr>
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Soil Assumptions

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<tr>
<th>Soil Condition</th>
<th>Description</th>
<th>O-degrees</th>
<th>Unit Weight (g-lb/cu.ft)</th>
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<tr>
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</table>

Drainage to be Free Draining Material in accordance with NCMA recommendations. A minimum Embedment of 0.5 ft/0.15 m is required.

Disclaimer: Geogrid Reinforcement to be Stabilgrid 200 or approval equivalent. The above design information is being provided for preliminary estimate and feasibility purpose only and should not be used for construction. A Final Design must be supplied by a qualified Engineer licensed in the applicable State/Province. Handrails and/or traffic barriers are not shown but are typically required and may influence the wall design. The above design is not to be used with the terraced structures, water applications or within the line of influence of other permanent structures. 1-800-UNLOCK-UNLOCK.com.
Soil Assumptions

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Disclaimer: Geogrid Reinforcement to be Stratagrid 200 or approval equivalent. The above design information is being provided for preliminary estimate and feasibility purpose only and should not be used for construction. Prior to wall construction, a Final Design must be supplied by a qualified Engineer licensed in the applicable State/Province. Handrails and/or traffic barriers are not shown but are typically required and may influence the wall design. The above design is not to be used with the following structures, water applications or within the line of influence of other permanent structures. UNBLOCK | unblock.com,
GEORGRID REINFORCED
TYPICAL BATTERED (5.5-DEGREE)

Geogrid Required (for Vertical or Battered Wall Installation)

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Received
OCT 19 2013
City of Los Angeles Planning Department
14 Sabin Street  
Montpelier, VT 05602  
October 18, 2018  

Design Review Committee and  
Development Review Board  
City Hall  
39 Main Street  
Montpelier, VT 05602

Dear Design Review Committee and Development Review Board members,

We write to express concern for pedestrian issues surrounding the new parking garage. For the garage to be an asset to the downtown, shoppers who park in the garage must be able to safely and efficiently walk from their cars to stores and restaurants. We have several suggestions on how to improve the design of the garage site.

1. **The current design of the garage does not provide for easy pedestrian access to Main Street businesses** located across the new pedestrian bridge on the multi-use path. The architect has stated that the grade from the door at the southeast corner of the garage to the path is too steep to accommodate a ramp. Therefore, the only access shown on his plans is through the narrow alley between the new hotel and the garage. A viable link to the path is essential for making full use of the path and for leading shoppers into the heart of our downtown. Therefore, we suggest:
   a. A stairway should be built from the southeast door of the garage to the multi-use path.
   b. Architectural elements should be used to highlight the alley as a means of connecting to the path and the downtown. There could be many ways of achieving this. One option might be to create a cover over the walkway that extends out to the north beyond the edge of the parking garage, announcing its presence to those who are exiting the garage. A covered walkway would have the advantage of keeping the path free of snow and ice in the winter, which is going to be a real problem given the narrowness of the alley.

2. **Egress from the garage at the northwest corner toward State Street is a dangerous undertaking** for pedestrians, forcing them to cross the main vehicular entrance to the garage before reaching the sidewalk that runs along the side of the Capitol Plaza/Northfield Savings Bank. We suggest:
   a. Two sets of columns on either side of the main vehicular entrance from Taylor Street, or some other architectural element, should be designed to create a visible presence for the crosswalk. This would also have the benefit of defining the space in front of the parking garage.
b. The crosswalk should be textured to give motorists further indication that they are cross a pedestrian way.

3. The absence of a pedestrian path from the northeast corner of the parking garage to State Street along the side of Christ Church is dangerous. At the northeast corner of the garage pedestrians are dumped out into the Heney parking lot, which has no sidewalks. This area needs complete reengineering to accommodate the pedestrians who will be using this entrance to walk to local businesses on State Street.

4. The traffic patterns on the site and its interactions with sidewalks and streets are unknown. The city's traffic study did not address circulation of traffic on the garage site itself. The study failed to examine potential traffic backing up on the site as it attempts to exit onto State Street or Taylor Street. These potential backups could affect pedestrian and vehicular safety alike.

5. There is no safe pedestrian access to the parking garage from Taylor Street, where buses will be discharging passengers. The plans show a vehicle entrance from Taylor Street without any accommodation for pedestrians. This means that vehicular and pedestrian traffic will mix in one space. Someone who parks a car in the parking garage and then takes a bus leaving from the transit center would either have to find the circuitous route along the multi-use path or walk with cars toward Taylor Street. People always want to take the most direct route to their destination, so we need to make that direct route safe and attractive. This seems to be a real failure in planning.

The focus of planning for this garage seems to have been on how to squeeze in as many cars as possible. There does not seem to have been any attention paid to the experience of the drivers when they leave their cars and become pedestrians. In order for the garage be an attractive amenity for the city, pedestrians need to be provided with safe, attractive, and efficient connections to the city streets and their businesses. We urge you to require the city to create a plan that protects pedestrians as they move to and from this garage.

Thank you,

Paul and Eve

Paul Carnahan and Eve Jacobs-Carnahan