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URBAN DESIGN + PLANNING
INTERIOR DESIGN

Type III Land Use Design Review Application
Pre-App # EA 21-058331
Design Review # 21-100992

Cambria Portland - NW Park Avenue

NW Park Avenue between NW Couch and NW Davis Streets - Portland, Oregon

November 18, 2021
(revised January 17, 2021)

CONTENTS

APPLICATION FORM

City of Portland, Oregon - Bureau of Development Services

1900 SW Fourth Avenue · Portland, Oregon 97201 | 503-823-7300 | www.portland.gov/bds

Land Use Review Application

File Number:

FOR INTAKE, STAFF USE ONLY

Date Rec _____ by _____

☐ Type I ☐ Type Ix ☐ Type II ☐ Type IIx ☐ Type III ☐ Type IV

LU Reviews _____

[Y] [N] Unincorporated MC

[Y] [N] Flood Hazard Area (LD & PD only)

[Y] [N] Potential Landslide Hazard Area (LD & PD only)

[Y] [N] 100-year Flood Plain [Y] [N] DOGAMI

Qtr Sec Map(s) _____ Zoning _____

Plan District _____

Historic and/or Design District _____

Neighborhood _____

District Coalition _____

Business Assoc _____

Related File # _____

APPLICANT: Complete all sections below that apply to the proposal. Please print legibly. Email this application and supporting documents to: LandUseIntake@portlandoregon.gov

Development Site Address or Location 105 & 135 NW Park Ave

Cross Street NW Davis **Sq. ft./Acreage** 20,000

Site tax account number(s)

R 140534 | R 140535 | R 140536

R | R | R

Adjacent property (in same ownership) tax account number(s)

R | R | R

Describe project (attach additional page if necessary)

New hotel and 1,800 ground floor retail.
Ground floor operations and back-of-house services, upper floors guest units. Total project will be 6 story, 69' tall, 95,000 square feet, 178 units.
Modifications for loading space and building line standards

Describe proposed stormwater disposal methods

Stormwater requirements provided through ecoroof covering 60% of site area on main roof

Identify requested land use reviews

Type III Design Review
Modification for quantity of loading spaces 1 type A space
Modification building line percentage standards on park avenue

- **Design & Historic Reviews** - For **new development**, provide project valuation. $ 25,500,000
  For **renovation**, provide exterior alteration value. $ _____
  AND provide total project valuation. $ _____
- **Land Divisions** - Identify number of lots (include lots for existing development). _____
  New street (public or private)? ☐ yes ☐ no
- **Affordable Housing** - For buildings containing five or more dwelling units, will 50% or more of the units be affordable to households with incomes equal to or less than 60% of the median family income for the county or state, whichever is greater? ☐ yes ☐ no ☑ N/A

continued / over

Applicant Information

- Identify the primary contact person, applicant, property owner and contract purchaser. Include any person that has an interest in your property or anyone you want to be notified. Information provided, including telephone numbers and e-mail addresses, will be included in public notices.
- For all reviews, the applicant must sign the Responsibility Statement.
- For land divisions, all property owners must sign the application.

PRIMARY CONTACT:

Typed Full Name: Gary Golla — ☑ I acknowledge this typed name as my signature

Company/Organization: SERA Design Architecture, LLC

Mailing Address: 338 NW 5th Avenue

City: Portland State: OR Zip Code: 97209

Day Phone: 503-445-7372 FAX: email: garyg@seradsign.com, jonm@seradesign.com

Check all that apply ■ Applicant ☐ Owner ☐ Other

Typed Full Name: Casey Gemunder — ☐ I acknowledge this typed name as my signature

Company/Organization: Choice Hotels International

Mailing Address:

City: State: Zip Code:

Day Phone: 301-628-4396 FAX: email: casey.gemunder@choicehotels.com

Check all that apply ☐ Applicant ■ Owner ☐ Other

Typed Full Name: Ellesse Desmarteau — ☐ I acknowledge this typed name as my signature

Company/Organization: Highside Development, LLC

Mailing Address:

City: State: Zip Code:

Day Phone: 720-891-8266 FAX: email: desmarteau@highsidedevelopment.com

Check all that apply ☐ Applicant ☐ Owner ■ Other Construction Manager

Typed Full Name: Vega Civil Engineering — ☐ I acknowledge this typed name as my signature

Company/Organization:

Mailing Address:

City: State: Zip Code:

Day Phone: 503-349-1381 FAX: email: martha@vegacivil.com

Check all that apply ☐ Applicant ☐ Owner ■ Other Civil Engineer

Responsibility Statement As the applicant submitting this application for a land use review, I am responsible for the accuracy of the information submitted. The information being submitted includes a description of the site conditions. I am also responsible for gaining the permission of the owner(s) of the property listed above in order to apply for this review and for reviewing the responsibility statement with them. If the proposal is approved, the decision and any conditions of the approval must be recorded in the County Deed Records for the property. The City of Portland is not liable if any of these actions are taken without the consent of the owner(s) of the property. In order to process this review, City staff may visit the site, photograph the property, or otherwise document the site as part of the review. I understand that the completeness of this application is determined by the Director. By my signature, I indicate my under-standing and agreement to the Responsibility Statement.

Name of person submitting this application agrees to the above Responsibility Statement and acknowledges typed name as signature:

Gary Golla Date: October 21, 2021

Phone number: 50-445-7372

Email this application and supporting documents to LandUseIntake@portlandoregon.gov | **Submittal of locked or password protected documents will delay intake of your application.**

WRITTEN STATEMENT

Project Location and Existing Conditions

The proposed Site is a half block located at the southwest corner of NW Park Avenue and NW Davis Street. Two buildings and a surface parking lot are currently one the site. The Building at 105 NW Park is a 2 story unreinforced masonry building with a footprint of approximately 100' x 100'. The building at 135 NW Park Avenue is a 5 story unreinforced masonry building with a footprint of approximately 50' x 100'. The surface parking is mid-block between the 2 buildings and has a footprint of approximately 50' x 100'. Neither of the two existing buildings are listed as historic and the district. The two existing buildings and the surface parking are proposed to be removed; a land-use permit is not required for removal.

Property ID: R140534, R140535, R140536
Site Area: 10,000 Square Feet

Project Summary

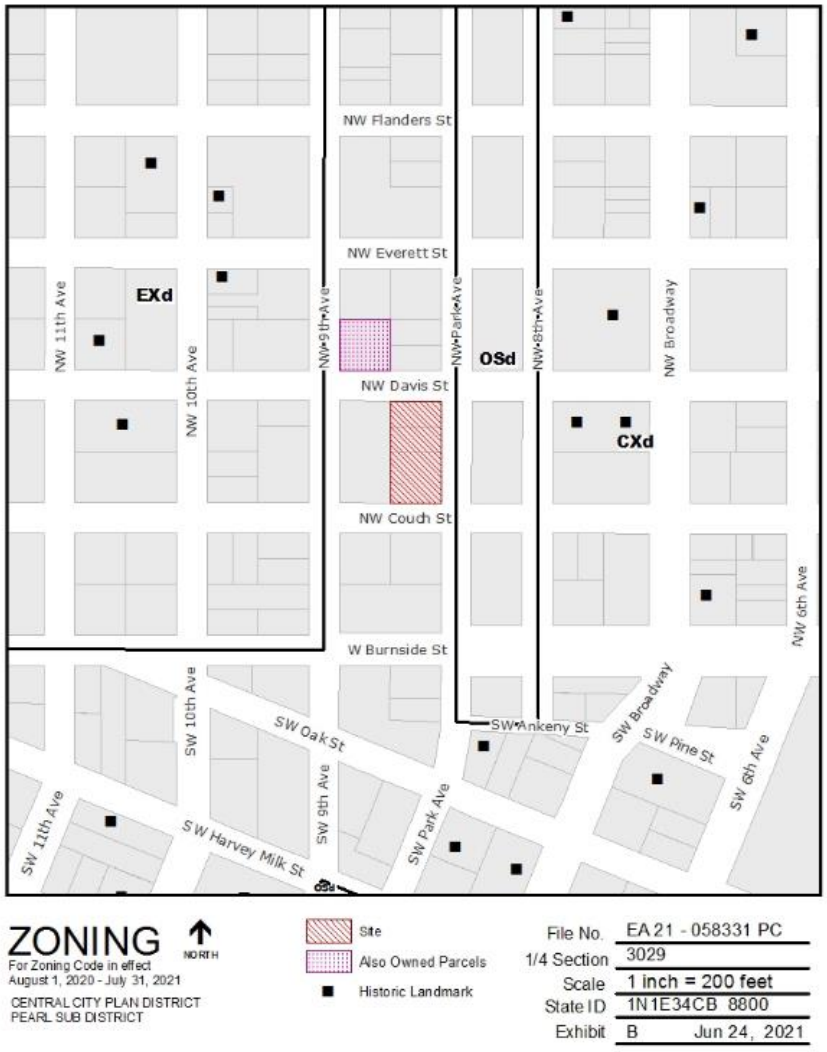
The project consists of a newly proposed 6 story hotel with 178 guest units, a 1,700 square foot retail area, and associated public right of way improvements. The building will be approximately 95,000 square feet, approximately 69' tall. The first floor be approximately 17,600 square feet and will contain the hotel's public spaces consisting of the Lobby/Reception, Lounge, Restaurant/Bar, a Multi-use room (1,400 SF) and the retail space. Hotel support and guest use spaces include guest fitness room, onsite laundry, trash/recycling, loading/service area, employee lounge, bicycle storage, employee work areas, and utility spaces. Floors 2-6 will be approximately 15,500 square feet each and contain hotel rooms, hotel support and utility spaces. The building's mechanical system will provide heating and cooling via roof mounted condensing units that pump temperature regulated refrigerant to each interior zone where air from that zone is moved over the coil containing refrigerant thereby providing heating and cooling for interior spaces. The guestrooms are provided with continually running exhaust fans in each bathroom that subduct exhaust air to the roof. Make-up air is provided to interior zones via roof mounted Dedicated Outdoor Air Systems that distribute air into the space to replace exhausted air. The retail space has exterior louvers to provide make-up air and

Land Use Reviews Required

- Type III Design Review to review compliance with the CX base zone, Central City Plan District, Central City Fundamental Design Guidelines.
- Adjustment to reduce the 2 required Type A loading bays to 1 Type A loading bay.
- Modification to adjust the setback and landscape percentage along Park Avenue.

Zoning Summary

The property is located in the CXd Zone (Central Commercial, 33.510) base zone, with a Design Overlay (d, 33.420), within the Pearl Subdistrict of the Central City Plan District.



Transportation

- Traffic Classes: NW Couch Street is a Traffic Access street. NW Park and Davis are Local Service Traffic Streets.
- Transit Classes: NW Couch, NW Davis and NW Park are Local Service Transit Streets
- Bicycle Classes: NW Couch is a Local Service Bikeway, NW Davis is a City Bikeway, NW Park is a Major City Bikeway
- Pedestrian Classes: NW Park is a Major City walkway, NW Couch and NW Davis are Neighborhood Walkways.
- The site is also located in the Downtown Pedestrian District.

DEVELOPMENT STANDARDS **(For Phase 2 project only unless otherwise noted)**

Base Zone: Central Commercial Zone (CX)
Overlay: design overlay (d)
Plan District: Central City (CC)
Subdistrict: River Subdistrict, North Park Blocks

Section Title and Number	Requirement	Compliance
Primary Uses (Park Block, River District 33.130.100 33.501.118	CX Zone - Retail Sales and Service is Allowed per Table 130-1	Complies
FAR (Central City Plan District) 33.510.200, Map 510-2	Allowed FAR is 5 to 1. No FAR increase requested	Site Area: 20,000 SF Allowed FAR: 5 to 1 (100,000 SF) Proposed FAR: 4.85 to 1 (97,000 SF) Complies
Height Limit (Central City Plan District) 33.510.210, Map 510-3	Allowed Base height is 100'-0" No height increase allowed.	Proposed height = 69'-0" Complies
Required building lines (Central City Plan District) 33.510.215.B.1, Map 510-22	B.1: General Standard – The building must extend to the street lot line for at least 75% of the length of the lot line.	Couch and David Street frontages extend to the property line. Complies
Required building lines (Central City Plan District) 33.510.215.B.5	Park Block Standard – the building must be setback at least 12 feet from the street lot line along at least 75% of the length of the lot line. 50% of the space between building and street lot line must be landscaped with ground cover, plants and shrubs and contain 1 tree per 400 square feet.	Park Avenue is requesting a Modification to this standard. Park Ave has a 200' frontage. Portions of Park are set back a depth of 14'-6" for a cumulative length of 97'-7" The total setback area between the building and street lot line is 1,415 SF, which would require 4 trees
Ground Floor Windows 33.510.220, Map 510-8	Couch and Davis Streets ground floor windows on must cover 40% of the wall between 2-10 feet above finish grade. Park Ave Ground floor windows must cover 60% of the wall between 2-10 feet above finish grade.	Couch St - window area = 45% Davis St – window area = 42% Park Ave – Window area = 68% Complies
Bird Safe Glazing 33.510.223	Building to provide bird save glazing on a façade when that façade's glazing percentage exceeds 30%.	Couch Street has 29% glazing Park Street has 28% glazing. Davis has 2927.8% glazing. The east wall has 10% glazing All facades have less than 30% glazing. Complies
Ground Floor Active Uses 33.510.225, Map 510-9	50% of ground floor wall must meet the following: Distance from finished floor to bottom of structure at least 12', area at least 25' deep measured from street facing	This Standard is not applicable to the project site. However, the project is designed to comply with the standard.

	façade. Active uses include Lobbies, retail, commercial and office uses	
Ecoroofs 33.510.243	Ecoroofs must cover 100% of building roof area, 40% of roof area may be covered with mechanical equipment and associated mechanical access/clearances, elevator and stair enclosures, and skylights.	The total roof area is 17,831 SF. The Main roof and level 2 roof will have an extensive eco roof with a combined eco roof area of 12,558 sf. This calculates to approximately 70% eco roof area. We have reserved approximately 30% of the roof area for mechanical equipment and associated mechanical access/clearances, elevator and stair enclosures, and skylights. Complies
Low-Carbon Building 33.510.244	Provide letter from the Bureau of Planning and Sustainability that verifies the proejct has registered for a green building certification program.	The building has registered with the USGBC for LEED Gold, the required letter is included with the Land-use application. Complies
Parking & Loading Access 33.510.263	Loading access allowed on Davis Street	Loading access is allowed on Davis street, which is not listed in subsection B, and is not a major transportation route for any classifications listed and is not on a light rail or street car. Complies
Height 33.130.210, Table 130-2	Base height: 75’-0” Site is not adjacent to Residential zone	The building height is 69’-0” Complies
Building setback 33.130.215, Table 130-2	Min=0 Max=no max at street lot line, 10’ in Transit Street or Pedestrian Zone	The building is not setback except for required building lines on Park Avenue. Complies
Max. Building Coverage 33.130.220, Table 130-2	No Limit	Complies
Min. Landscape Area 33.130.225, Table 130-2	None	Complies
Windows 33.130.230	15% of area in each façade that faces a street must be windows or main entrance doors.	Couch Street has 29% glazing Park Street has 30% glazing. Davis has 27.8% glazing. Complies all street facing facades have greater than 15% glazing. Complies
Ground Floor Window Standards 33.130.230	Base Zone: ground level windows must be at least 40% of the ground floor wall area between 2-10’ above finish grade. The CX zone standards require higher percentages.	Proposal meets the higher CX zone standard. Complies
Mechanical Screening 33.130.235	Screen for mechanical equipment on ground. Screening for rooftop equipment within 50’ of R zone.	Gas meter screening? Rooftop equip is not 50’ from R zone. Complies
Pedestrian Standards 33.130.245	Each building to have a main entrance to a street.	All Main entries are directly to the adjacent street Complies
Parking spaces 33.266	Minimum-none, Maximum (Std B) 1/196 sf	No on site parking provided. Complies

Short-Term Bike Parking 33.266.200, Table 266-6 33.266.220.C	Standard A Retail Space: 2 or 1/2,700 SF Temp. Lodging: 2 or 1/40 rentable rooms and1 per 5,000 squarefeetof meeting room Restaurant: 2 or 1 per 1,000 SF	2 short term bicycle spots currently exist on the sidewalk near the Park and Davis corner. Short term bicycle parking spaces are not proposed, a payment to the Bike Parking fund will be required. 178 units require 5 spaces, 1,400 SF meeting room requires 1 space, 1,800 SF Retail requires 2 spaces, 1,700 SF Restaurant requires 2 spaces Complies
Long-Term Bike Parking 33.266.200 33.266.210 Table 266-6	Standard A. Retail Space: 2 or 1/3,800 SF Temp. Lodging: 2 or 1/20 rentable rooms. Restaurant: 2 or 1 per 2,300 SF4 stalls (1/20 rentable rooms)	9 spaces are provided for the 178 guest rooms. 2 spaces are provided for the 1,700 SF Restaurant. 2 spaces are provided for the 1,800 SF Retail. All spaces will be per the Alternative Spacing allowance for Vertical Spaces. Proposed Bike rack is 'The Stirrup' by Huntco. Complies
Loading 33.266.310	Provide 2 standard A loading spaces (35' long, 10' wide, 13' tall)	Modification required to change from 2 Standard A loading spaces to 1 Standard A loading space.

DESIGN REVIEW NARRATIVE

Central City Fundamental Design Guidelines
SECTION A - PORTLAND PERSONALITY

A1: *INTEGRATE THE RIVER*
A1-1: *LINK THE RIVER TO THE COMMUNITY*
Link the Willamette River to the Community reinforcing the river's significance.

Response: The proposed site is across from the North park Blocks and 9 blocks west of Governor Tom McCall Waterfront Park. The park can be accessed by heading east along NW Davis or NW Couch Streets. The project proposes the following elements to increase the connection to the Willamette River.

- The project will have a prominent water feature located at the entry of the hotel as an identifying symbol of the power of water and its importance in the development of "Old Town", the North Park Blocks and to the greater Portland community. The project team is working with *9-dot* to identify an artist and suitable art and is planning to seek approval via the Regional Arts and Cultural Council.
- Maintaining building edges at the property lines, providing active use spaces along street frontages, and providing canopies along portions on Couch and Davis Streets which connect the pedestrian to the River.
- Preserving the 2 existing healthy ironwood street trees along NW Couch Street

A2: *EMPHASIZE PORTLAND THEMES*
When provided, integrate Portland-related themes with the development's overall design concept.

Response: The hotel will build on the materialism of the Pearl District and its history as a railroad warehouse district and the prominent use of brick. The resiliency of the hardened material will be the dominant material throughout the building's exterior. The buildings articulation will reflect on simple massing with punched openings in a modern expression of some of the surrounding buildings from the area. The pronounced architecture expression on NW Davis and NW Couch allows a courtyard to a primary feature for hotel guests and the community that reflects on the dynamic architecture of the US Customs House across the park. The buildings red brick reflects on numerous brick buildings in the Pearl District and the red brick combination setting on a black brick base takes its cues from the historic Armory Building just a few short blocks away. The project will provide an integrated art installation and water feature at the Main entry of the building to be approved via the RACC process.

A3: *RESPECT THE PORTLAND BLOCK STRUCTURES*
A3-1: *PROVIDE CONVENIENT PEDESTRIAN LINKAGES*
Provide Convenient linkages throughout the River District that facilitate movement for pedestrians to and from the river, and to and from adjacent neighborhoods.

Response: The pedestrian network and linkages are enhanced by defining the building edge at the property line, providing active use spaces at the street fronts of the building and extending canopies along each side right of way. The unique location of this site across from the Park blocks provides an opportunity for the building to orient to the Park Blocks and the zoning code requires that the building along Park Avenue is setback from the property line to create a landscape buffer zone. The proposed hotel design will integrate this set back requirement on Park Avenue into the building's overall design and seeks to create a vibrant outdoor landscape space oriented to the Park blocks thus allowing the hotel to work as a transition from the organic and natural space of the North Park Blocks into the more

urban and dense Pearl District. The North Park blocks which themselves act as an urban forest green linkage element between neighborhoods. With the arrival of the future Green Loop the proposed outdoor space will become another spot of vibrancy for cyclists and pedestrians to pass through or to stop and visit.

A4: USE UNIFYING ELEMENTS
Integrate unifying elements and/or develop new features that help unify and connect individual buildings and different areas.

Response: The neighborhood is characterized by a diverse mix of historic buildings, such as the US Customs House and Pacific Northwest College of Art buildings, and contemporary buildings, such as 8 NW 8 Housing tower and the Arthouse building. The proposed new hotel will continue the pattern of buildings that reflect the vibrancy of the district. The proposed building will draw from the mass and proportion of the old warehouse buildings in the area, using brick as the primary cladding material and incorporating large punched openings into the building mass.

A5: *ENHANCE, EMBELLISH, AND IDENTIFY AREAS*
A5-1-2: *REINFORCE THE IDENTITY OF THE NORTH PARK BLOCKS AREA*

Response: The proposed design has located loading and utility spaces are located away from the Park Block frontage.

The building is 6 stories and 69 feet tall this will help to create a sense of enclosure for the Park Blocks and the building is pulled to the property line at the Park Avenue intersection with Davis Street and Couch Street. A courtyard is setback along a portion of Park Avenue seeking to create a vibrant outdoor area to compliment the adjacent Park Blocks.

A5-3: *INCORPORATE WATER FEATURES*
Incorporate water features or water design themes that enhance the quality, character, and image of the River District

Response: The project will have a prominent water feature located at the entry of the hotel as an identifying symbol of the power of water and its importance in the development of “Old Town”, the North Park Blocks and to the greater Portland community.

A5-4: *INTEGRATE WORKS OF ART*
Integrate works of art of other special design features that increase the public enjoyment of the District.

Response: The project team is working with *9-dot* to identify an artist and suitable art and is planning to seek approval via the Regional Arts and Cultural Council.

A6: *REUSE/REHABILITATE/RESTORE BUILDINGS*
Where practical, reuse, rehabilitate, and restore buildings and/or building elements

Response: There are two existing buildings currently on the site a 2 story brick building on the corner of Couch Street and Park Avenue and a 5 story building on the corner of Davis Street and Park Avenue. It is not practical to rehabilitate these buildings or portions of these buildings. The buildings are not contributing historic structures.

A7: *ESTABLISH AND MAINTAIN A SENSE OF URBAN ENCLOSURE*
Define public rights-of-way by creating and maintaining a sense of urban enclosure

Response: The proposed building will extend to the property line on both Couch and Davis Streets. Along Park Avenue the building will extend to the property line at the corners of Couch and Davis Streets, but a mid-block portion of the frontage will be setback approximately 14'-6" from the property line to accommodate a courtyard defined by raised planters at the property line and large opening windows at the building edge to allow the restaurant lounge area to spill out into the courtyard.

A8: *CONTRIBUTE TO A VIBRANT STREETSCAPE*
A8-1: *DESIGN FENCES, WALLS AND GATEWAYS TO BE SEEN OVER*
Design fences, walls and gateways locate between a building and the sidewalk to be seen over and allows for social interaction.

Response: Along Park Avenue, a portion of the building will be setback approximately 14'-6" from the property line to accommodate a courtyard defined by raised planters at the property line and large opening windows at the building edge to allow the restaurant lounge area to spill out into the courtyard. Large ground level windows provide a visual connection to the Hotel's interior spaces: the vibrant restaurant lounge, a multipurpose room, and the retail space. Framed by landscape courtyards the main entry portico to the hotel creates an inviting covered shelter with warm wood ceilings and a greeting piece that is simple, well light and with refined details in brick craftsman that extends out to greet pedestrians and visitors to the hotel. The outdoor area is separated from the sidewalk by a low planter, approximately seat height. This will allow a visual connection from inside the building across the outdoor area, the street and into the park.

A9: *STRENGTHEN GATEWAYS*
Develop and/or strengthen gateway locations

Response: Not Applicable, site is not located at potential gateway point.

SECTION B - PEDESTRIAN EMPHASIS

B1: *REINFORCE AND ENHANCE THE PEDESTRIAN SYSTEM*
Maintain a convenient access route for pedestrian travel where a public right–of–way exists or has existed. Develop and define the different zones of a sidewalk: building frontage zone, street furniture zone, movement zone, and the curb. Develop pedestrian access routes to supplement the public right–of–way system through superblocks or other large blocks.

Response: The proposed new hotel will enhance the pedestrian system by locating program uses with active frontages at an intimate human scale, all along the Park Avenue Frontage, and the majority of the length of the Couch and Davis frontages. The building main entry portico is located facing Park Avenue and is defined by a simple and clearly defined grand entry with canopy that is higher and more prominent than canopies running along Park, Couch and Davis. The main entry gateway reaches out to the sidewalk to greet visitors with clean refined articulation of form at the property edge and works as funneling point between the recessed landscape areas on each side. The sidewalk and right-of-way are designed to PBOT standards and include the furnishing zone, the pedestrian zone, street trees, street lights, bike parking. Canopies are provided with lighting at the building entrances. Street lighting

currently exists along Park Avenue and one street light on Davis will be replaced with a twin head streetlight. Architectural lighting will be used to demarcate entries and at street level as well as lighting to enhance the outdoor space and art/fountain feature.

B2: *PROTECT THE PEDESTRIAN*

Protect the pedestrian environment from vehicular movement. Develop integrated identification, sign, and sidewalk oriented night-lighting systems that offer safety, interest, and diversity to the pedestrian. Incorporate building equipment, mechanical exhaust routing systems, and/or service areas in a manner that does not detract from the pedestrian environment

Response: The Hotel's new entry portico allows for the pedestrian as well as the hotel guests to be protected with a semi-enclosed porch that reaches out from the primary building to provide shelter from the weather as well as a place to pause waiting for other guests or car service. With a focus on a integrated lighting affect the portico effectively identifies the the building entry and egress points. The outdoor lounge area will also have lighting for the seating and landscape. Most mechanical equipment is located on the main roof or level 2 roof and is screened from view. Trash/recycling areas are located inside the building and will be accessed via the loading area; we are requesting a modification to reduce the number of loading bays from 2 Standard A spaces to 1 Standard A space, which will reduce the impact on the pedestrian experience.

B3: *BRIDGE PEDESTRIAN OBSTACLES*

Bridge across barriers and obstacles to pedestrian movement by connecting the pedestrian system with innovative, well-marked crossings and consistent sidewalk designs

Response: Not applicable.

B4: *PROVIDE STOPPING AND VIEWING PLACES*

Provide safe, comfortable places where people can stop, view, socialize, and rest. Ensure that these places do not conflict with other sidewalk uses.

Response: Park avenue is the active edge for this building the project proposes to utilize a required setback standard to provide an outdoor lounge area with large windows that open into the interior of the restaurant lounge of the hotel. A seating height planter wall will demarcate the outdoor lounge area from the sidewalk moving zone. The main entry structure will provide integrated seating that will look into the outdoor lounge on one side and overlook the art/water feature element on the other side.

B5: *MAKE PLAZAS, PARKS, AND OPEN SPACE SUCCESSFUL*

Orient building elements such as main entries, lobbies, windows, and balconies to face public parks, plazas, and open spaces. Where provided, integrate water features and/or public art to enhance the public open space. Develop locally-oriented pocket parks that incorporate amenities for nearby patrons

Response: the building's primary façade, the Main entry and the outdoor lounge, which intends to serve as outdoor seating the the restaurant/bar inside the hotel are oriented to Park Avenue and the future green loop. A water/art feature is added in this setback area adjacent to the main entry.

B6: *DEVELOP WEATHER PROTECTION*

Develop integrated weather protection systems at the sidewalk-level of buildings to mitigate the effects of rain, wind, glare, shadow, reflection, and sunlight on the pedestrian environment

Response: The proposed scheme incorporates canopies that extend out approximately 6'-4" from the building face and are placed approximately 9'-3" above finish grade. These canopies are placed along Couch, Street, Park Avenue and Davis Street. Park Avenue also has a large canopy at the main entry to the hotel at 11'-6" above finish grade. These canopies will provide protection from the elements and areas for outdoor seating associated with the retail tenant space.

B7: *INTEGRATE BARRIER FREE DESIGN*

Integrate access systems for all people with the building's overall design concept

Response: Entries to the building will meet code requirements for accessible.

SECTION C - PROJECT DESIGN

C1: *ENHANCE VIEW OPPORTUNITIES*
C1-1: *INCREASE RIVER VIEW OPPORTUNITIES*
Increase river view opportunities to emphasis the River District ambiance.

Response: The primary façade faces east toward the Willamette River. However, the organizing feature of the neighborhood is the North Park Blocks. The active Use areas, the main entry, the outdoor lounge all focus the Park Avenue Façade and help to create a connection between the building, the right-of-way and the North Park Blocks across the street.

C2: *PROMOTE QUALITY AND PERMANENCE IN DEVELOPMENT*
Use design principles and building materials that promote quality and permanence

Response: The building will use durable and attractive materials **brick** for the majority of the facade, combined with a three coat stucco plaster system on the east wall and courtyard. Ground floor windows will be aluminum storefront windows and doors. Upper floor windows will use Commercial grade fixed vinyl windows; VPI's Endurance Series windows are the basis of design. The ground floor will use a "corduroy" style of brick course, where alternating courses are set forward from the face of the wall. This corduroy pattern is repeated at the parapet and is combined with a soldier course.

C3: *RESPECT ARCHITECTURAL INTEGRITY*
C3-1: *INTEGRATE PARKING*
Respect the original character of an existing building when modifying its exterior.
Develop vertical and horizontal additions that are compatible with the existing building, to enhance the overall proposal's architectural integrity

Response: Not Applicable.

C4: *COMPLEMENT THE CONTEXT OF EXISTING BUILDINGS*
Complement the context of existing buildings by using and adding to the local design vocabulary

Response: The proposed project draws on a similar design vocabulary of the nearby warehouse buildings and the massing of the US Customs House. The hotel incorporates a massing similar to that of the US Customs House, which extends to the street corner with a multistory wing of the building, then the building steps back mid-block to create a courtyard. The even spacing of windows of the old warehouse buildings was used to bring in natural light, this window spacing is repeated in the proposed project. The main entry of the hotel is facing the park blocks and the proposed materials are commonly used in this neighborhood of buildings.

C5: *DESIGN FOR COHERENCY*
Integrate the different building and design elements including, but not limited to, construction materials, roofs, entrances, as well as window, door, sign, and lighting systems, to achieve a coherent composition

Response: The project uses brick, which is the principal cladding material on all street facades and the primary cladding material for the building. Aluminum storefront windows and doors are used at the ground floor. Brick cladding and storefront windows/doors which is a very common material in the

neighborhood. The mass of the building is similar to other buildings in the neighborhood, a simple form that pulls the building to the street corners and extends to the parapet without setbacks.

C6: *DEVELOP TRANSITIONS BETWEEN BUILDINGS AND PUBLIC SPACES*

Develop transitions between private development and public open space. Use site design features such as movement zones, landscape elements, gathering places, and seating opportunities to develop transition areas where private development directly abuts a dedicated public open space.

Response: The proposed project has a setback of approximately 14'-6" deep along park avenue that is used as an outdoor lounge area that includes seating for the hotel restaurant/bar, landscape to act as a soft edge between the outdoor lounge and the public sidewalk. Though the building is separated from the North Park Blocks by park Avenue, this setback and incorporation of outdoor space helps to build a transition between the hotel property and the Park Blocks.

C7: *DESIGN CORNERS THAT BUILD ACTIVE INTERSECTIONS*

Use design elements including, but not limited to, varying building heights, changes in facade plane, large windows, awnings, canopies, marquees, signs, and pedestrian entrances to highlight building corners. Locate flexible sidewalk-level retail opportunities at building corners. Locate stairs, elevators, and other upper floor building access points toward the middle of the block

Response: The proposed building extends to the property line on the Couch and Davis Street corners. And the ground floor, these corners contain retail space on Couch Street and a multi-use space on Davis Street. The multi-use space is designed to provide the ability to transition from a relaxed lounge style seating into a lecture room, or banquet hall, or other space depending upon need.

C8: *DIFFERENTIATE THE SIDEWALK LEVEL OF BUILDINGS*

Differentiate the sidewalk-level of the building from the middle and top by using elements including, but not limited to, different exterior materials, awnings, signs, and large windows

Response: The proposed scheme differentiates the first level by enlarging windows and using a continuous dark grey brick that is accented in a "corduroy" style of brick course, where alternating courses are set forward from the face of the wall The first floor has a 16' floor to floor height which is differentiated from the upper floors which have a 10'; floor to floor height. A canopy also helps to define the first floor

C9: *DEVELOP FLEXIBLE SIDEWALK LEVEL SPACES*

Develop flexible spaces at the sidewalk-level of buildings to accommodate a variety of active uses

Response: The proposed scheme incorporates an outdoor area on Park Avenue adjacent to the main entry to the Hotel. The restaurant and bar seating area inside the hotel have large doors that open onto the outdoor area creating a strong connection between the interior uses of the building, the outdoor space and the Park blocks beyond. The Retail tenant space also has storefront windows and doors along Park Avenue and Couch street to allow for potential sidewalk seating in the furnishing zone if desired by the retail tenant.

C10: *INTEGRATE ENCROACHMENTS*
Size and place encroachments in the public right-of-way to visually and physically enhance the pedestrian environment. Locate permitted skybridges toward the middle of the block, and where they will be physically unobtrusive. Design skybridges to be visually level and transparent

Response: All encroachments meet the standard of the City of Portland, PBOT, and the OSSC and do not detract from the visual environment.

C11: *INTEGRATE ROOFS AND USE ROOFTOPS*
Integrate roof function, shape, surface materials, and colors with the building's overall design concept. Size and place rooftop mechanical equipment, penthouses, other components, and related screening elements to enhance views of the Central City's skyline, as well as views from other buildings or vantage points. Develop rooftop terraces, gardens, and associated landscaped areas to be effective stormwater management tools

Response: Mechanical equipment on the roof will be concealed by a mechanical screen. The equipment will be arranged to minimize the required screened in area and combined with the elevator overrun. The second level roof will also contain mechanical equipment. Both the main roof and second level roof will also be utilized for an extensive ecoroof.

C12: *INTEGRATE EXTERIOR LIGHTING*
Integrate exterior lighting and its staging or structural components with the building's overall design concept.
Use exterior lighting to highlight the building's architecture, being sensitive to its impacts on the skyline at night

Response: Exterior architectural lighting will be used in the canopies to demarcate entries and exits and to illuminate the sidewalk around the building at street level. The main entry point will have additional architectural lighting to differentiate it from the other entries. Landscape will have it's unique lighting scheme to illuminate the plantings from above and create an ambient lighting effect for the outdoor lounge. The art/water feature will have accent lighting to draw attention for the pedestrian experience as well as from the hotel main entry.

C13: *INTEGRATE SIGNS*
Integrate signs and their associated structural components with the building's overall design concept.
Size, place, design, and light signs to not dominate the skyline.
Signs should have only a minimal presence in the Portland Skyline

Response: Not applicable. Signage will be integrated into the design but is not a part of this review. Exterior building signage will be a separate design review at a later date.

SECTION D – SPECIAL AREAS

D1: ***PARK BLOCKS***
Orient windows, entrances, balconies, and other building elements to surrounding points of interest

Response: The building has been purposely designed to maximize views to and from the North Park Blocks. The building mass is oriented to the Park, with the mic-block set back to provide an outdoor lounge the associates with the interior restaurant.

Adjustments and Modifications Requested

Proposed adjustment to the Number of Loading Spaces

The Loading Standards require two Type A loading spaces. We propose to provide one Type A loading space on the property with access via NW Davis. There are no offsite loading spaces requested. The project has minimal need for loading spaces as there is no move-in/move out as may be needed in a residential project and there are not extensive food service deliveries. Loading will only be used during garbage/recycle pick-up and deliveries of supplies. Full details on the delivery schedule and comparative buildings can be found in the Loading Demand Study produced by DKS and included in this document.

Loading Standards

33.266.310.A. Loading Standards; Purpose. A minimum number of loading spaces are required to ensure adequate areas for loading for larger uses and developments. These regulations ensure that the appearance of loading areas will be consistent with that of parking areas. The regulations ensure that access to and from loading facilities will not have a negative effect on the traffic safety or other transportations functions of the abutting right of way.

33.266.310.C.2 Number of loading spaces; Buildings where any of the floor area is in uses other than household living must meet the standards of this paragraph.

> ***c. Two loading space meeting Standard A are required for buildings with more than 50,000 square feet of floor area in uses other than Household Living.***

33.266.310.D Size of loading spaces. Required loading spaces must meet the standards of this subsection.

> ***a. Standard A the loading space must be at least 35 feet long, 10 feet wide, and have a clearance of 13 feet.***
>
> ***b. Standard B: the loading space must be at least 18 feet long, 9 feet wide and have a clearance of 10 feet.***

Adjustment required to reduce the number from 2 loading space to 1.

33.805.040 Adjustment Approval Criteria

A. Granting the adjustment will equally or better meet the purpose of the regulation to be modified.

Response: As stated in 33.266.310.A above, the purpose of the Loading standards are to 1. Ensure adequate loading areas; 2. Ensure appearance will be consistent with parking areas; and 3. Ensure access to loading areas will not negatively affect the function of the right-of-way.

As described above the use of the proposed building will not require significant deliveries and one type A size loading space will be adequate to receive and store deliveries while awaiting distribution to storage areas within the building.

The project does not have parking on site. We intend to visually minimize the appearance of the loading area to better fit into the district. Reducing the number of loading spaces from 2 to 1 area will better meet this intent.

If the proposed project were to provide 2 spaces the length of loading would be at least 20 feet of the 100 foot NW Davis Street frontage. Without the adjustment, parking in the right-of-way might be reduced. The addition of more loading spaces would also create greater disruption of the pedestrian zone surfaces and reduce the amount of glazing needed to meet the Ground Floor Window standard.

B. If in a residential zone, the proposal will not significantly detract from the livability or appearance of the residential area, or if in an OS, C, E, or I zone, the proposal will be consistent with the classifications of the adjacent streets and the desired character of the area.

Response: The zoning of this site is CX (Central Commercial). A reduced loading area will allow for a greater percentage of façade with active space ground floor windows that visually connect to the sidewalk space. Active street frontages are an important aspect of the buildings fronting the Park blocks. Couch is a Traffic Access Street, a Local Service Street, and is not on a bus route. Many of the adjacent buildings have their loading access points on the side streets.

C. If more than one adjustment is being requested, the cumulative effect of the adjustments results in a project which is still consistent with the overall purpose of the zone.

Response: This criteria is not applicable as this is the only adjustment being requested.

D. City-designated scenic resources and historic resources are preserved.

Response: The proposed adjustment does not impact designated scenic or historic resources.

E. Any impacts resulting from the adjustment are mitigated to the extent practical

Response: Two loading bays are not necessary due to the amount of deliveries proposed for this site. Fewer loading bays is more consistent with the character of the district.

F. If in an environmental zone, the proposal has as few significant detrimental environmental impacts on the resource and resource values as is practicable

Response: The proposed project is not in an environmental zone.

NE Park and Davis Hotel – Type III Land Use Review
January 17, 2021

Proposed Modification: Required Building Line Standards

The Required Building Lines Standard requires that 75% of the Park Avenue frontage length is set back for a depth of 12' from the property line and landscape is provided for 50% of the are of the set back, with 1 tree per 400 square feet of the landscape area; plants used for landscape shall be on the Portland Tree and Landscape Manual.

The proposed project will set back approximately 49% of the length of the Park Avenue frontage. The setback depth will be 14'-6". The landscaped area is approximately 530 sf and provides for 6 trees. Because the Park Blocks are the focus of the neighborhood and this project it is important to maintain the street lines of the buildings along Park Avenue. the project will extend the corners of the building on Couch and Davis Streets to the property line. The length of these extensions is approximately 50' on both corners. This length on each corner, combined with the proportions for the allowed building height provide a necessary and substantial building frontage at the Park Avenue property line. the setback area accommodates a combined art/water feature, a grand entry to the hotel, and an open outdoor lounge with roll-up doors linking the restaurant lounge to the right of way. Low planters separate the sidewalk right of way from the outdoor lounge area

Required Building Line Standard

33.510.215.A Purpose. The required building line standards ensure that buildings in certain parts of the Central City are built to the sidewalk's edge unless landscaping or an extension of the sidewalk is provided. The standards support the street and development character objectives of the Central City 2035 Plan by creating diverse street character, promoting active uses, pedestrian movement, and opportunities for stopping and gathering. Extensions of the sidewalk may incorporate trees, landscape planters, groundcover, and areas for stormwater management between the building and the sidewalk.

B.5. Required Building Line Standards for the Park Blocks. On sites with a frontage on a street shown on Map 510.22, and on sites that are adjacent to an open area shown on Map 510-22, buildings must be setback at least 12 feet from the street or adjacent lot line along at least 75 percent of the length of the lot line. At least 50 percent of the space between the building and the street or adjacent lot line must be landscaped with ground cover plants and shrubs, and contain one tree per 400 square fee. All plants must be selected from the Portland Tree and Landscaping Manual. This standard applies to new development. Exterior walls of buildings designed to meet the requirements of this Paragraph must be at least 15 feet high measured from the finished sidewalk at the building's edge.

33.825.040 Modifications That Will Better Meet Design Review Requirements

The review body may consider modification of site-related development standards, including the sign standards of Chapters 32.32 and 32.34 of the Sign Code, as part of the design review process. These modifications are done as part of design review and are not required to go through the adjustment process. Adjustments to use-related development standards (such as floor area ratios, intensity of use, size of the use, number of units, or concentration of uses) are required to go through the adjustment process. Modifications that are denied through design review may be requested as an adjustment

through the adjustment process. The review body will approve requested modifications if it finds that the applicant has shown that the following approval criteria are met:

A. Better meets design guidelines. The resulting development will better meet the applicable design guidelines

A8: *CONTRIBUTE TO A VIBRANT STREETSCAPE*
Integrate building setbacks with adjacent sidewalks to increase the space for potential public use. Develop visual and physical connections into buildings' active interior spaces from adjacent sidewalks. Use architectural elements such as atriums, grand entries and large ground-level windows to reveal important interior spaces and activities

Response: Through active indoor/outdoor programming use at the building ground level the hotel creates a vibrant zone of hospitality that better meets the design guidelines. Leveraging the building setback guidelines, the hotel uses the landscape buffer depth to creates an easily accessible engagement for the community to stop in the restaurant/bar while equally providing a bit of privacy by minimizing people walking right next to your table, thus creating a vibrant dining area on the park experience. Framing the landscape setback with two 50' wide flanking hotel wings will create an intimate courtyard that shelters guests from the environmental elements and will maximize the use of the roll-up doors to create a unique indoor/outdoor environment on the North Park Blocks. A simple but elegant grand entry/cateway will sit at the sidewalk edge creating a processional approach to the hotel entry. Using clean and simple forms for massing, the gateway entry will be defined by the refined craftsmanship of an alternating staggered brick detailing, accent museum lighting, and a western red cedar soffit. In combination with the adjacent water feature, the entry gateway and the outdoor dining/lounge the hotel will have one of the more vibrant blocks along the future green loop and diversity at the streetscape for the greater North Park Blocks.

B. Purpose of the standard. On balance, the proposal will be consistent with the purpose of the standard for which a modification is requested.

Response: As stated in 33.510.215, the purpose of the Required Building Lines standard is to "create a diverse street character, promoting active uses, pedestrian movement, and opportunities for stopping and gathering." This project will be the first building on the North Park Blocks to incorporate this new urban design standard into the architectural context of the neighborhood. With the majority of the buildings on the North Park Blocks extended to their Property lines and the Park Avenue lot line this will be a new precedent for this district. The proposed hotel will hold the building lot line on the street corners creating a 100% corner similar to other contextual buildings, while providing a significant setback mid-block. This is a similar building geometry to the courtyard design of the US Customs House with flanking wings across the park. At the US Customs House, the courtyard is separated from the Park Blocks by a colonnade infilled with a fence. A diverse street frontage would not be achieved by repeating the treatment of the US Customs House, which also cuts the indoor space off from the Park. The proposed design creates architectural diversity while achieving all the other design intentions of the standard.

LEED NARRATIVE Approval Letter

The project is pursuing Leadership in Energy and Environmental Design (LEED) Gold certification under the LEED NC rating system. In addition to satisfying all the prerequisites necessary for LEED program, the project employs a variety of sustainable strategies that support the overall environmental and enhanced performance goals of the project. See attached Approval Letter from the Portland Office of Sustainable Development.

THE BUREAU OF PLANNING & SUSTAINABILITY

October 20, 2021

Jon McAuley, LEED AP
Associate
SERA
338 NW 5th Ave., Portland, OR 97209

Dear Jon,

The Bureau of Planning and Sustainability (BPS) reviewed the documents for your Low-Carbon Buildings submittal on October 8, 2021, for the Cambria Hotel Portland at 105 and 135 NW Park Ave.

BPS determined that you **meet** the requirements by registering for the following certifications at the corresponding level:

_X The US Green Building Council's Leadership in Energy and Environmental Design™ (LEED) at the "Gold" level.

___ Earth Advantage's Small Commercial or Earth Advantage Multifamily at the "Gold" level.

___ Green Building Initiative's Green Globes at the "4 Globes" level.

___ The Institute for Living Future's Living Building Challenge at the "Certified" level.

This letter serves as proof that your project meets the substantive requirements of the **Low-Carbon Buildings Administrative Rule of Portland's Zoning Code Section 33.510.244**. Please submit a copy of this letter and submittal documents with your land use review or permit application materials to the Bureau of Development Services.

Thank you,

Andrea Durbin
Director

SITE PHOTOS, CONTEXT, NEIGHBORHOOD PHOTOS

Existing Uses and Activities:
The existing property is comprised of three lots. Lot address 105 NW Park Avenue is approximately 100' x 100' and a vacant, 2-story, unreinforced masonry building that currently occupies the lot. Lot address 135 NW Park is approximately 50' x 100' and a vacant, 5-story, unreinforced masonry building currently occupies the lot. Between these two building is a fenced, surface parking lot approximately 50' x 100' in area.

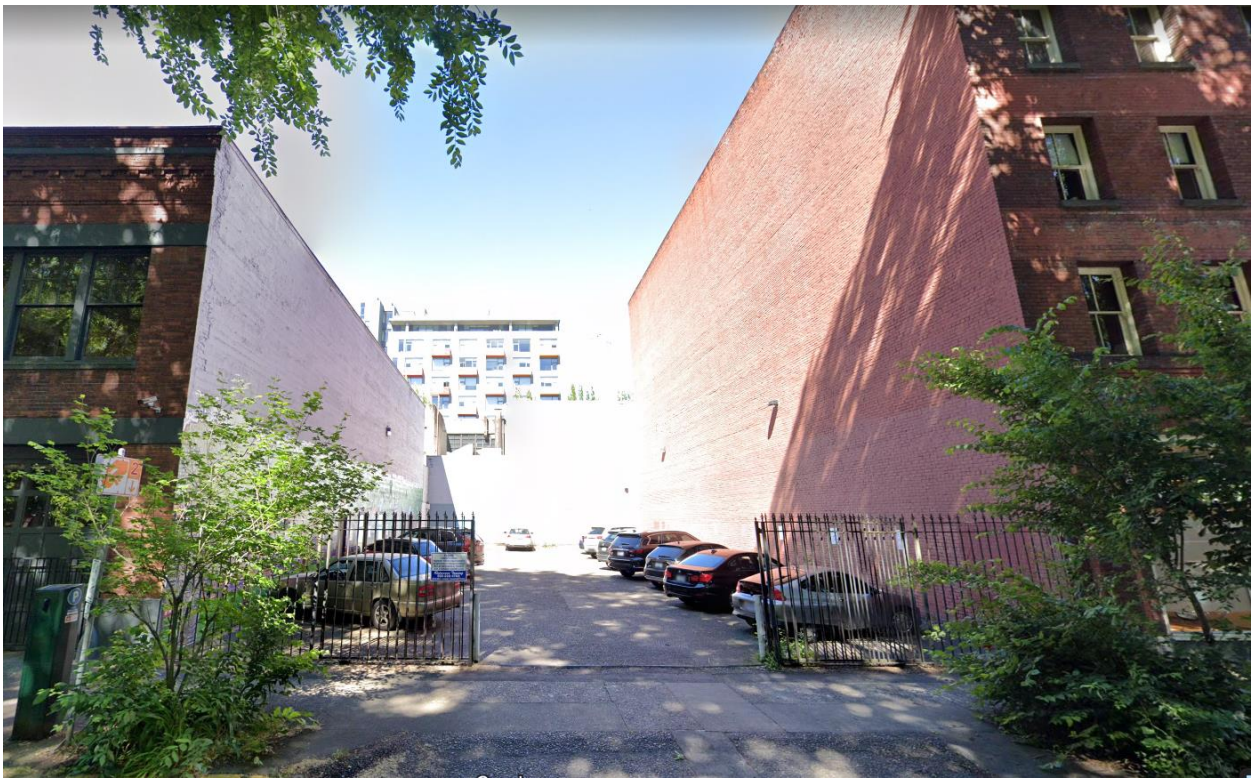
Surrounding Buildings:
Along the west property line are two buildings, a 3 story unreinforced masonry building and a 2-story unreinforced masonry building that house office and restaurant uses; these buildings face NW 9th Avenue.

To the south of the site, at the corner of NW Couch Street and NW Park Avenue is the 6-story Arthouse Building occupying a quarter block. It is an apartment building with ground floor retail/restaurant. On other west end of Couch Street, at NW 9th Avenue and Couch is a 2-story, unreinforced masonry building that has a parking garage as it's use.

To the north of the site, at the corner of NW Davis and NW Park Avenue is the 2 story, Modern Media Building. It appears to be a stucco clad brick building and serves as an office use. On the west end of Davis Street at NW 9th Avenue and Davis, is a 2-story, unreinforced masonry building that is currently used as a warehouse/retail building.

PROJECT SITE – looking northwest from Couch Street and Park Avenue

PROJECT SITE – looking southwest from Davis Street and Park Avenue



PROJECT SITE – looking west from Park Avenue

Corner of 9th Avenue and Couch Street – Looking northeast

Corner of NW 9th Avenue and Davis – Looking southeast

Corner of NW Park Avenue and Couch Street - Looking southwest

Corner of NW 9th Avenue and Couch Street – Looking southeast

Corner of NW Park Avenue and Davis Street – Looking northwest

Corner of NW 9th Avenue and NW Davis Street – Looking northeast

LIST OF DRAWINGS (under separate cover)

C01	COVER SHEET
C02	TABLE OF CONTENTS
C03	PROGRAM
C04	EXISTING SITE & VICINITY PHOTOS
C05	AERIAL SITE
C06	NEIGHBORHOOD CONTEXT
C07	NEIGHBORHOOD CONTEXT
C08	AREA AMENTITES
C10	SITE PLAN
C11	GROUND FLOOR PLAN
C12	TYPICAL UPPER FLOOR PLAN
C13	ROOF PLAN
C14	NORTH ELEVATION - NW DAVIS ST.
C14.1	NORTH RETURN ELEVATION
C15	EAST ELEVATION - PARK AVE.
C16	SOUTH ELEVATION - NW COUCH ST.
C16.1	SOUTH RETURN ELEVATION
C17	WEST ELEVATION
C18	NORTH ELEVATION (BLACK & WHITE)
C18.1	NORTH RETURN ELEVATION (BLACK & WHITE)
C19	EAST ELEVATION (BLACK & WHITE)
C20	SOUTH ELEVATION (BLACK & WHITE)
C20.1	SOUTH RETURN ELEVATION (BLACK & WHITE)
C21	WEST ELEVATION (BLACK & WHITE)
C22	BUILDING SECTION - EAST/WEST
C23	BUILDING SECTION - NORTH/SOUTH
C24	STREET VIEW - SIGHTLINE DIAGRAM
C25	GROUND FLOOR ACTIVE USE DIAGRAM
C25.1	LOBBY LOUNGE CONCEPT
C26	GROUND FLOOR WINDOW %
C27	GROUND FLOOR WINDOW %
C28	BIRD SAFE GLAZING - EAST & SOUTH
C29	BIRD SAFE GLAZING - WEST & NORTH
C31	PARK AVE.
C32	BUILDING MATERIALS
C33	LANDSCAPE- SITEWORKS PLAN
C34	LANDSCAPE - PLANTING PLAN
C35	LANDSCAPE - RENDERING
C35.1	HOTEL ENTRANCE - RENDERING
C36	LIGHTING PLAN
C37	SITE UTILITY PLAN
C38	NE PERSPECTIVE
C38.1	NIGHT RENDERING
C70	WINDOW/LOUVER DETAILS
C71	STOREFRONT DETAILS
C72	ROOF DETAILS
C73	DETAILS
C74	DETAILS
C75	LOADING DOORS
C76	ENTRY
C77	LANDSCAPING DETAILS
C78	ALTERNATE WINDOW SURROUND
C79	ALTERNATE WINDOW SURROUND DETAILS

STORM WATER NARRATIVE AND UTILITY PLAN

VEGA
CIVIL ENGINEERING LLC

Preliminary Stormwater Report

Cambria Hotel

NW Park Avenue & NW Couch Street
Portland, OR 97209

Date:
October 27, 2021

Owner:
Choice Hotels International, Inc.
1 Choice Hotels Circle, Suite 400
Rockville, Maryland 20850

Associated Permit Numbers:
2021-058331-000-00-EA

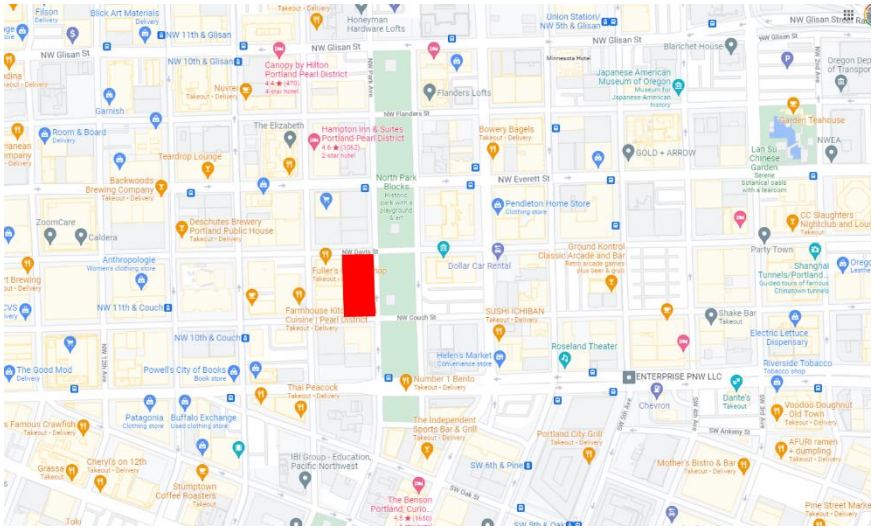
Engineer of Record:
Martha Williamson, PE
Vega Civil Engineering, LLC
1300 SE Stark St #207
Portland, OR 97214
martha@vegacivil.com
(503)349-1381

I hereby certify that this Stormwater Management Report for the Cambria Hotel has been prepared by me or under my supervision and meets minimum standards of the City of Portland and normal standards of engineering practice. I hereby acknowledge that the jurisdiction does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities designed by me.

Table of Contents

Appendices

Project Overview and Description

Location	105 NW Park Ave
Managed Area	20,000 sf
Vicinity Map	
Zoning	CX – Central Commercial
Development Type	Hotel
Watershed	Willamette River – Tanner
Existing Conditions	The existing site is occupied by two brick buildings and a surface parking lot.
Development Description	The project will construct a hotel building with small pedestrian areas at ground level.

Methodology

Existing Drainage	The existing site drains generally to the north and enters the public combined sewer system.
Infiltration Testing Results	Infiltration testing was not reviewed because an ecoroof is provided that equates to at least 60% of the site area.
Stormwater Hierarchy Justification	Stormwater is being managed with an ecoroof, and there are no storm-only sewers in the vicinity of the site; therefore, the project falls under Level 3 of the Stormwater Hierarchy, and runoff will be managed with an partial ecoroof that will discharge to the combined sewer main in NW Davis St.

Proposed Stormwater Management System	Stormwater will be managed for water quality and quantity via an ecoroof, which will discharge to the combined sewer in NW Davis St.

Analysis

Relevant Design Storms	10yr – 3.4 inches 25yr – 3.9 inches
Computation Methods & Software	HydroCAD was used for sizing the stormwater facility.
Curve Numbers	A CN of 98 was used for all newly constructed impervious areas. The pre-developed condition was given a CN of 81, per the 2020 Stormwater Manual. A CN of 61 was used for the ecoroof.
Time of Concentration	5 min.
Escape Route or Inundation Level for 24-hour 100-yr event	Overflow from the 100-year storm event will be safely conveyed to the public system in NW Davis St.

Table 1 – Catchment and Facility Summary

Catchment or Facility ID	Impervious Area Type	Area (sf)	Ownership (private/public)	Facility Type	Facility Size – bottom area (sf)
Catchment A	Roof/Sidewalk	7,442	Private	n/a	
Ecoroof	N/A	12,558	Private	Ecoroof	12,558
Total Area		**20,000**			

Table 2 – Flow Rates

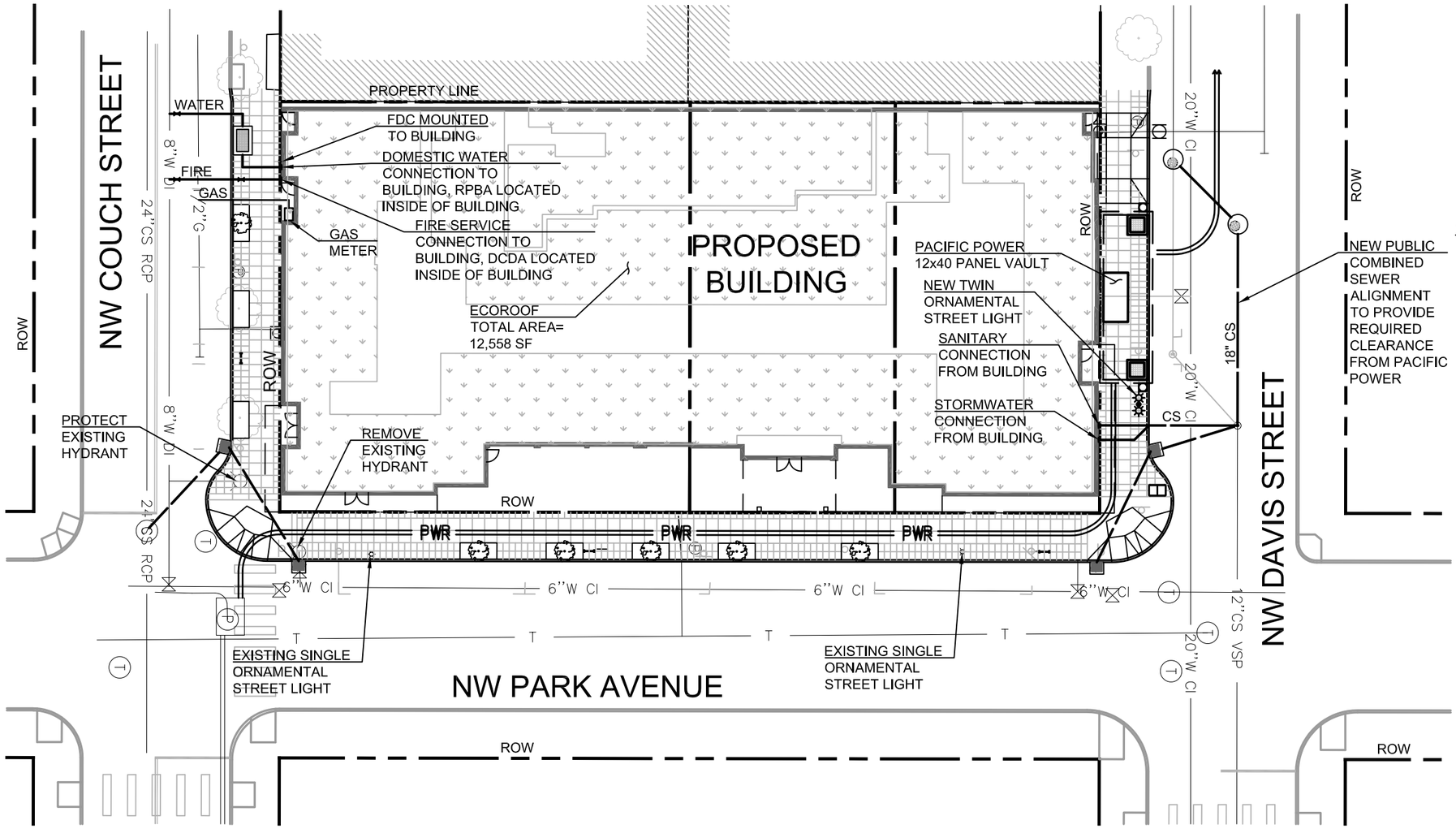
	Pre-Developed 10-Year Storm	Pre-Developed CN	Post-Developed 25-Year Storm (with planter)	Post-Developed CN
Catchment A	0.07 cfs	81	0.15 cfs	98
Ecoroof	0.11 cfs	81	0.03 cfs	61
TOTAL	**0.18 cfs**		**0.18 cfs**	

Engineering Conclusions

Water Quality	The proposed development will meet the requirements for water quality per the 2020 City of Portland Stormwater Management Manual
Water Quantity	The proposed development will meet the requirements for water quality per the 2020 City of Portland Stormwater Management Manual
Upstream / Downstream Impacts	The proposed development will not have an impact on upstream or downstream systems.

Appendix A - Stormwater Facility Details / Exhibits

Utility Plan
Catchment Map



STORMWATER NARRATIVE

PRIVATE SITE

STORMWATER MANAGEMENT WILL BE PROVIDED VIA A PARTIAL ECOROOF.

ECOROOF AREA=12,558 SF

PUBLIC STREET IMPROVEMENTS

STORMWATER MANAGEMENT IS NOT REQUIRED FOR THE IMPROVEMENTS TO THE PUBLIC RIGHT OF WAY. THE EXISTING STORMWATER DRAINAGE FOR THE RIGHT OF WAY WILL BE PROTECTED DURING CONSTRUCTION.

UTILITY CONTACTS

ELECTRICAL
JOHN MOUDY
PORTLAND GENERAL ELECTRIC
JOHN.MOUDY@PACIFICORP.COM
503-880-1479
WORK ORDER NO. 8068154

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503-610-7693

WATER
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PORTLAND WATER BUREAU
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503-823-3805

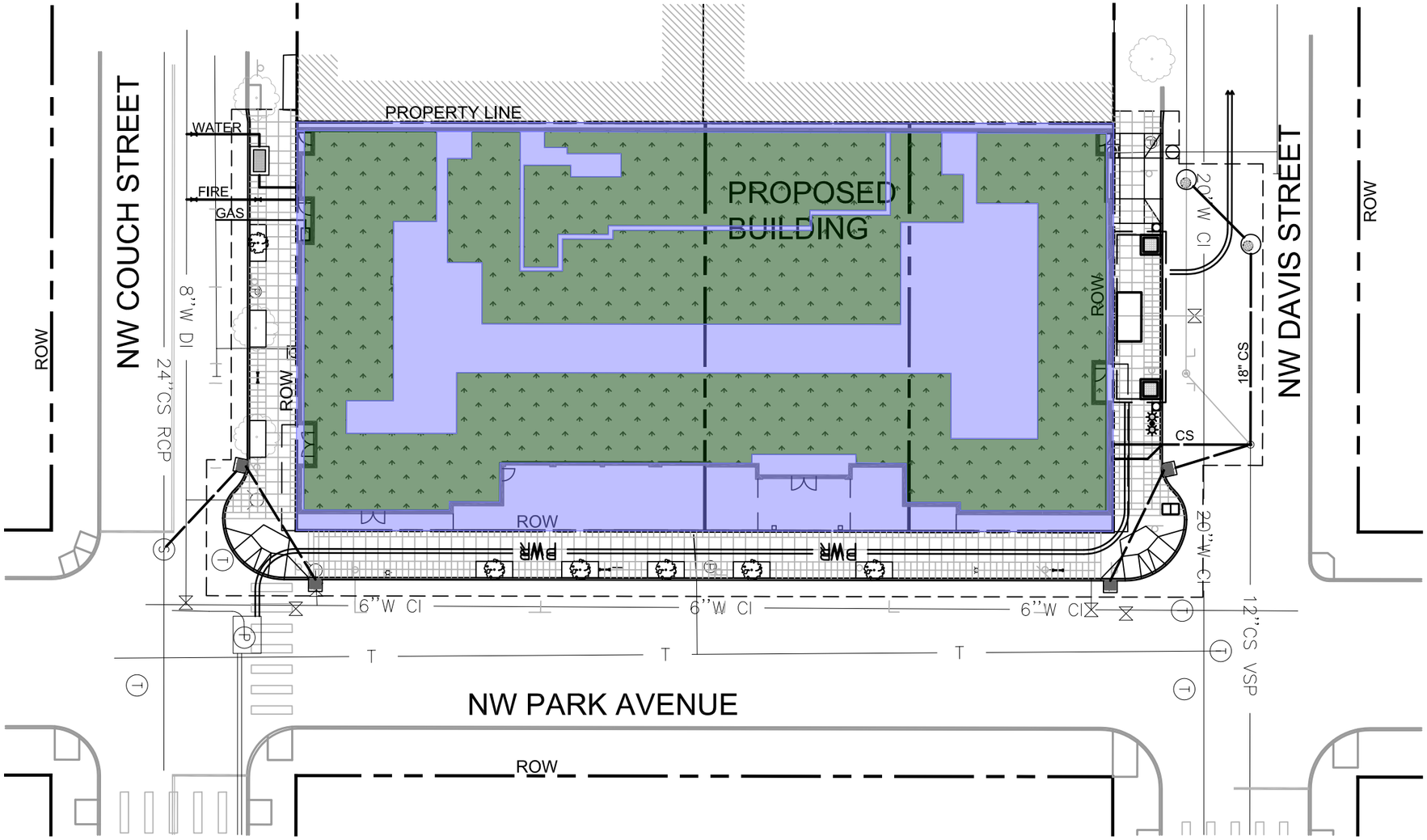
STORM/SANITARY
ABIGAIL CERMAK
PORTLAND BUREAU OF ENVIRONMENTAL SERVICES
ABIGAIL.CERMAK@PORTLANDOREGON.GOV
503-823-7577

N

0 30 60

1 INCH = 30 FEET

VEGA
CIVIL ENGINEERING LLC
503.662.1901 | WWW.VEGACIVIL.COM



SITE LEGEND

ECOROOF
12,558 SF

CATCHMENT A
7,442 SF

N

0 30 60

1 INCH = 30 FEET

VEGA
CIVIL ENGINEERING LLC
503.662.1901 | WWW.VEGACIVIL.COM

Appendix B - Calculations

HydroCad Report

Summary for Subcatchment 8S: Pre-developed

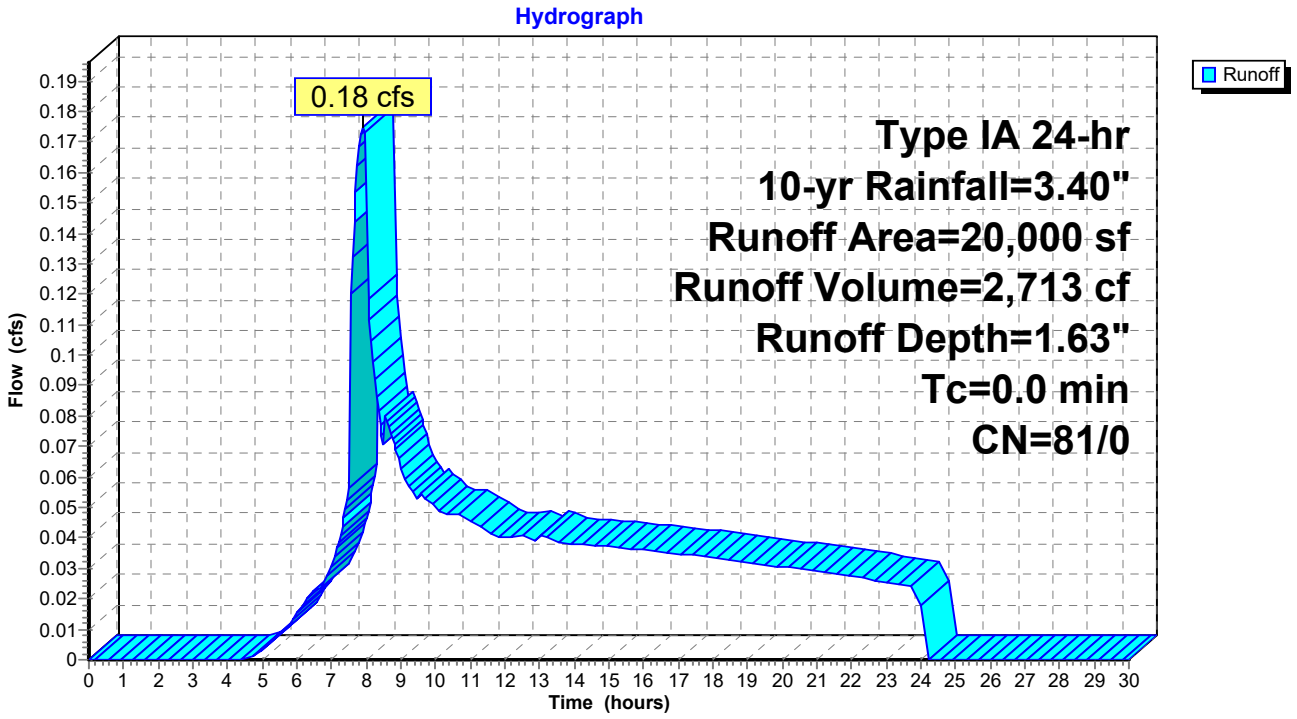
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.18 cfs @ 7.92 hrs, Volume= 2,713 cf, Depth= 1.63"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	20,000	81	
	20,000	81	100.00% Pervious Area

Subcatchment 8S: Pre-developed



Summary for Subcatchment 11S: Post-developed

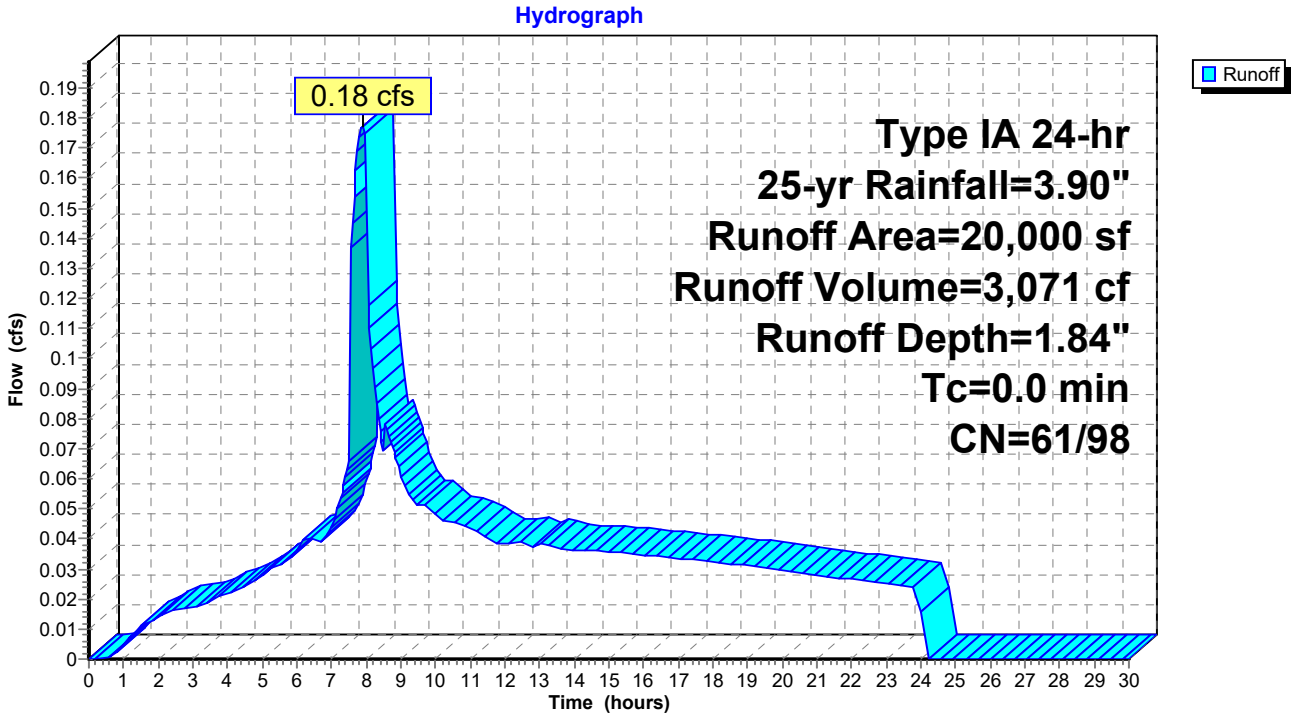
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.18 cfs @ 7.89 hrs, Volume= 3,071 cf, Depth= 1.84"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type IA 24-hr 25-yr Rainfall=3.90"

	Area (sf)	CN	Description
*	7,442	98	
*	12,558	61	
	20,000	75	Weighted Average
	12,558	61	62.79% Pervious Area
	7,442	98	37.21% Impervious Area

Subcatchment 11S: Post-developed



LOADING DEMAND STUDY

DKS 720 SW WASHINGTON STREET, SUITE 500, PORTLAND, OR 97205 • 503.243.3500 • DKSASSOCIATES.COM

LOADING DEMAND STUDY

DATE: December 16, 2021

TO: Gabe Golla | SERA Architects

FROM: Reah Flisakowski, PE, Dock Rosenthal, PE | DKS Associates

SUBJECT: Portland Choice Cambria Hotel – 105 & 135 NW Park Avenue Project #21186-000

This memorandum summarizes the loading demand study conducted for the proposed Choice Cambria Hotel located at 105 & 135 NW Park Avenue in Portland, Oregon. The zoning code requires two type A loading spaces based on the project land use and size. The applicant is requesting an adjustment to reduce the number of on-site Standard A loading spaces to one. The purpose of this demand study is to estimate the loading demand for the proposed development and determine if the modification approval criteria have been satisfied. The following sections present the loading demand analysis, findings and recommendations.

PROJECT DESCRIPTION

The Choice Cambria Hotel site is located on the west side of NW Park Avenue between NW Couch Street and NW Davis Street. The site occupies the half-block bounded by these streets. The site is zoned for Central Commercial with Design Overlay (CXd).

CURRENT SITE CONDITIONS

The project site covers two properties, 105 & 135 NW Park Avenue, that consists of two buildings and a vacant area. There is an existing curb cut on SW Couch Street that provided access to a loading dock and an existing curb cut on SW Park Avenue that provided access to the vacant lot. SW Park Avenue is a northbound one-way street with two-hour metered parking and sidewalks on both sides. NW Davis Street and NW Couch Street are two-way streets with metered two-hour parking and sidewalks on both sides. There is an existing 40-foot on-street truck loading zone on NW Davis Street.

PROPOSED SITE CONDITIONS

The proposed development would remove the existing buildings and construct a new 93,690 square-foot hotel building. The new site will not provide on-site visitor parking. The project is proposing one on-site Type A loading dock on NW Davis Street. The proposed site plan is shown in Appendix D. Hotels, including the proposed development, have a large back-of-house area for laundry and hotel operations, as well as utility requirements for services entering from the right of way and spaces required inside the building at the property line such as electrical and backflow preventers. In addition to these functional requirements, the zoning code requires Active Use Areas and Ground Floor Window Areas. Active Use Areas are required to comprise at least 50% of the spaces abutting the right of way be dedicated for uses such as the lobby, retail, and office. The Ground Floor Window Area require a minimum of 40% of ground floor window area on both Couch and Davis Streets and 60% ground floor window area along Park Avenue. The hotel operators have found that two loading spaces aren't needed for hotels this size and that one type A space is adequate for minimal deliveries and trash pickup. Two loading spaces would require twice the floor area and frontage area to be dedicated to functions that aren't necessary and would be better used to meet other needs and for compliance with the zoning requirements for Active Use and Ground Floor Window Area.

CITY REQUIREMENTS

The City of Portland Planning and Zoning Code, Section 33.266.310, requires two Standard A on-site loading spaces for a building larger than 50,000 square-feet of non-household living. A Standard A loading space must be at least 35 feet long, 10 feet wide, and have a vertical clearance of 13 feet. These regulations aim to ensure that access to and from the loading facilities will not have a negative impact on the traffic safety or function of the abutting right-of-way.

The City of Portland Planning and Zoning Code, Section 16.20.220 designates the use of truck loading zones to the delivery of merchandise to commercial property. Allowable vehicles include trucks, vans, pick-ups, taxicabs and passenger cars with proper registration or signage for commercial use. This analysis studied the loading frequency and duration at similar sites to evaluate the feasibility of providing a single loading dock as provided in the proposed site plan. Preliminary PBOT scope approval is included in Appendix A.

SITE OPPORTUNITIES AND CONSTRAINTS

The following site opportunities and constraints in relation to the proposed develop were identified:

- The site will only be occupied by the proposed hotel development. None of the existing structures on the site will remain. The site is relatively level and has fronts three public streets: SW Park Avenue, SW Davis Street and SW Couch Street.
- Adjacent streets have low traffic volumes. SW Park Avenue, SW Davis Street and SW Couch Street are estimated to serve less than 2,000 vehicles per day.

- SW Park Avenue and SW Davis Street are classified as Local Traffic Streets. SW Couch Street is a Traffic Access Street, one classification higher than a Local Traffic Street. Burnside Street, one block south of the site, is classified as a Major Traffic Street and provides the main vehicular access to the site.

EXISTING ON-STREET PARKING

To help assess the loading needs of the site, an inventory of current site conditions was completed. The existing on-street loading and parking zones within a 200-ft radius from the proposed service entrance are illustrated in Figure 2, which includes the following elements:

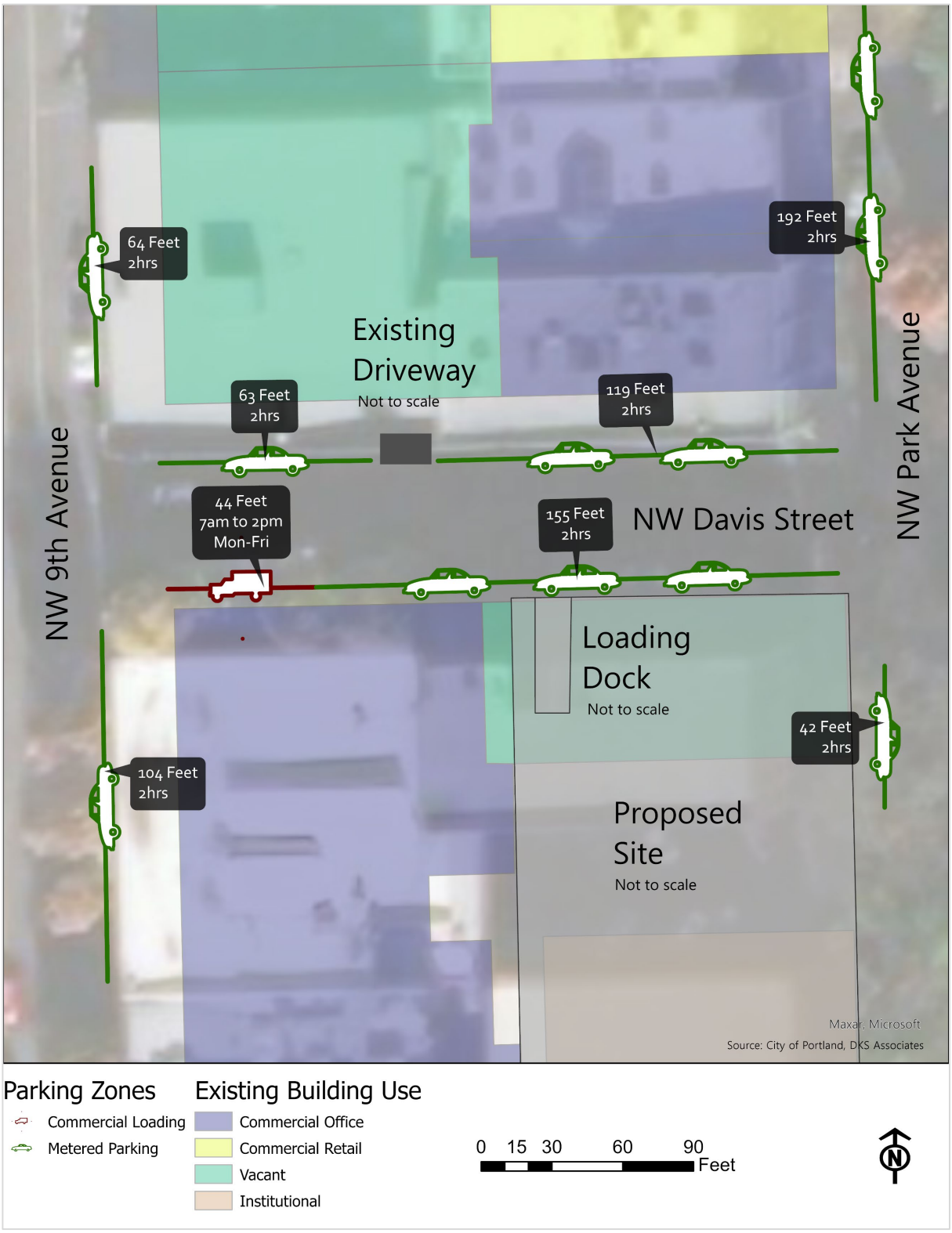
- Truck loading zone curb lengths
- Posted limits on time of day/day of week and duration
- Metered and unmetered on-street parking
- Adjacent land uses

The site has the following available on-street delivery parking within a 200-ft radius from the proposed service entrance:

- Approximately 44-foot long on-street truck loading zone on the south side of NW Davis Street, west of project frontage – reserved for 30-minute truck loading from 7 AM to 2 PM, Monday to Friday.

The remaining on-street parking areas near the proposed development are designated two-hour metered parking from Monday through Saturday 8am-7pm and Sunday from 1pm to 7pm.


COMMERCIAL SIGNAGE REQUIRED
TRUCK LOADING ONLY
30-MIN LIMIT
7AM-2PM
MON-FRI
PAY TO PARK
ALL OTHER
METER HOURS


64 Feet
2hrs
192 Feet
2hrs
Existing
Driveway
Not to scale
63 Feet
2hrs
119 Feet
2hrs
NW 9th Avenue
NW Park Avenue
44 Feet
7am to 2pm
Mon-Fri
155 Feet
2hrs
NW Davis Street
Loading
Dock
Not to scale
42 Feet
2hrs
104 Feet
2hrs
Proposed
Site
Not to scale
Maxar, Microsoft
Source: City of Portland, DKS Associates
Parking Zones
Commercial Loading
Metered Parking
Existing Building Use
Commercial Office
Commercial Retail
Vacant
Institutional
0 15 30 60 90
Feet
N

LOADING DEMAND DATA

To support the loading demand study, data was collected at the project site and three similar urban hotel sites. The data is presented in the following sections. The detailed loading survey data for each site can be found in Appendix B. Trucks were classified using the Federal Highway Administration (FHWA) Vehicle Classification provided in Appendix C. Observed deliveries that appear to meet City of Portland loading zone use requirements, described on page 2, were selected to estimate the loading demand for each surveyed site.

PROJECT SITE ON-STREET LOADING DEMAND

The existing on-street truck loading zone on the south block face of NW Davis Street starts at the corner with NW 9th Avenue. The space is approximately 44 feet long and is restricted to commercial vehicles only from 7 a.m. to 2 p.m. Monday through Friday.

A 72-hour video loading survey was conducted at the existing building on the project site from September 28 to September 30, 2021. Over the 72-hour period, there were 23 vehicles that utilized the on-street loading space. Of these, only eight were commercial vehicles, resulting in 65% of the vehicles being violators. It is possible that some violators used the truck loading zone due to the Portland Healthy Business permit activity along NW 9th Avenue, which allows temporary changes to streets to give people more space to conduct business safely amid our current public health crisis. These conditions are not expected to exist when the proposed hotel is completed.

The classification of commercial vehicles observed was evenly split between Class 3 (pick-ups and vans) and Class 5 (single-unit two-axle trucks). The average duration of commercial vehicle use was 23 minutes. This does not include a significant vehicle outlier in the data, a duration of four hours, that occurred on September 30, 2021. There was an average of three commercial uses per day. The loading data is presented in Table 1.

TABLE 1: EXISTING PROJECT SITE ON-STREET LOADING ACTIVITY

COLLECTION PERIOD	VEHICLE CLASS	TIME IN	TIME OUT	TOTAL TIME	VEHICLE LENGTH	VEHICLE HEIGHT
SEPTEMBER 28, 2021	Class 2	7:23	7:25	0:02	18'	7’
	Class 2	9:00	9:44	0:44	18'	7’
	Class 2	9:30	9:41	0:11	18'	7’
	Class 2	10:18	10:27	0:09	18'	7’
	Class 5 Commercial	10:48	10:54	0:06	25'	10'
	Class 2	11:26	11:31	0:05	18'	7’
	Class 3 Commercial	12:37	2:00	1:23	18'	10’
	Class 3 Commercial	12:42	1:04	0:22	18'	10’

COLLECTION PERIOD	VEHICLE CLASS	TIME IN	TIME OUT	TOTAL TIME	VEHICLE LENGTH	VEHICLE HEIGHT
	Class 5 Commercial	1:56	2:14	0:18	25'	10'
SEPTEMBER 29, 2021	Class 3	6:48	7:30	0:42	18'	7’
	Class 2	7:28	7:31	0:03	18'	7’
	Class 2	10:09	10:22	0:13	18'	7’
	Class 3	10:41	10:43	0:02	18'	7’
	Class 5 Commercial	12:09	12:33	0:24	25'	10'
	Class 3 Commercial	12:52	12:57	0:05	18'	10’
SEPTEMBER 30, 2021	Class 3	6:51	7:24	0:33	18'	7’
	Class 5 Commercial	8:37	8:43	0:06	25'	10'
	Class 2	9:05	9:52	0:47	18'	7’
	Class 2	9:31	9:37	0:06	18'	7’
	Class 2	9:53	9:55	0:03	18'	7’
	Class 2	10:50	11:05	0:15	18'	7’
	Class 3 Commercial	11:25	3:25	4:00	18'	10’
	Class 2	11:51	12:39	0:48	18'	7’

SIMILAR SITE ON-STREET LOADING DEMAND

To estimate loading demand for the proposed development, loading data was collected from three similar sites pending approval by the City of Portland. The sites were selected based on similar hotel uses and operations in the CXd zoning area. The video loading survey was conducted over a 72-hour period in December 2015.[1]

SITE #1 TRUCK LOADING DATA

Data was collected for 550 SW Oak Street in Portland, Oregon, a 175,000 square-foot hotel located in downtown Portland. This hotel operates with 256 short stay guestrooms, on-site laundry service, off-site valet parking, and a kitchen for hotel and public food service. The loading zones are shown in Figures 3 and 4.

The following designated loading facilities are available for this building:

- One hotel loading zone on SW Oak Street that is also used by deliveries.
- One on-site loading dock and adjacent on-street loading zone on SW Stark Street.

[1] Additional 24-hour data was collected in April 2016 at the Courtyard by Marriott City Center to capture the loading activity on SW Stark Street adjacent to that property’s loading dock.

FIGURE 3: SITE #1 SW OAK STREET HOTEL ZONE

FIGURE 4: SITE #1 SW STARK STREET LOADING DOCK AND ON-STREET LOADING

A 72-hour video truck loading survey was collected at both loading zones. In December, three deliveries were recorded on SW Oak Street. In April, seven deliveries were recorded on SW Oak Street, five deliveries were recorded on SW Stark Street, an average of four deliveries a day. Four of the five deliveries on SW Stark Street used the on-site loading dock. All vehicles fall within vehicle classifications 3, 5, and 6 which corresponds with panel vans to single unit 3-axle trucks respectively. No large delivery trucks were observed during the study period. Vehicle lengths were estimated to be between 18 and 25 feet. Vehicle heights were estimated at 10 feet. The loading data is presented in Tables 2 and 3.

TABLE 2: SW OAK STREET TRUCK LOADING OBSERVATIONS

COLLECTION PERIOD	VEHICLE DESCRIPTION	TIME IN	TIME OUT	TOTAL TIME	VEHICLE LENGTH	VEHICLE HEIGHT
DECEMBER 8-10, 2015	Armored truck	11:47	11:52	0:05	25’	10’
	White work truck	7:32	7:38	0:06	18’	10’
	FedEx truck	9:14	9:23	0:09	25’	10’
APRIL 26, 2016	Commercial box truck	6:45	7:11	0:26	25’	10’
	Cintas commercial vehicle	7:06	7:11	0:05	25'	10'
	Alsco commercial vehicle	7:55	8:05	0:10	25'	10'
	Charlie's Produce commercial vehicle	9:44	9:49	0:04	25'	10'
	FedEx commercial vehicle	10:14	10:24	0:09	25'	10'
	FedEx commercial vehicle	11:31	11:34	0:02	25'	10'
	Ashland commercial vehicle	12:04	12:08	0:04	25'	10'

TABLE 3: SW STARK STREET TRUCK LOADING OBSERVATIONS

COLLECTION PERIOD	VEHICLE CLASS	TIME IN	TIME OUT	TOTAL TIME	VEHICLE LENGTH	VEHICLE HEIGHT
APRIL 26TH 2016	Garbage truck	2:20	2:22	0:01	25'	10’
	Garbage truck	2:24	2:28	0:04	25'	10'
	Garbage truck	3:11	3:14	0:03	25'	10'
	Moving truck	5:30	5:57	0:27	25'	10'
	Box truck	9:56	10:15	0:18	25'	10'

SITE #2 TRUCK LOADING DATA

Data was collected for 1150 NW 9th Avenue in Portland, Oregon, a 172,700 square-foot hotel located in downtown Portland. This hotel operates with 223 extended stay guestrooms, on-site laundry, kitchen for hotel food service and a single Type A loading area. The loading zones are shown in Figures 5 and 6.

The following designated truck loading facilities are available for this building:

- One on-site loading dock and adjacent on-street truck loading zone on NW Northrup Street.
- One hotel loading zone on NW 9th Street (location was not used by any commercial vehicles).

FIGURE 5: SITE #2 NW NORTHRUP STREET ON-SITE LOADING AND ON-STREET TRUCK LOADING

FIGURE 6: SITE #2 NW 9TH AVENUE HOTEL LOADING

A 72-hour video truck loading survey was collected at both loading zones. Over 72 hours in December 2016, 32 deliveries were recorded on NW Northrup Street, an average of 11 deliveries a day. The loading dock on-site is used for storage and all loading occurs via the on-street space. No deliveries were observed at the NW 9th Avenue loading zone. Most vehicles fall within vehicle classifications 2, through 6 which corresponds with passenger vehicles to single unit 3-axle trucks respectively. One large 3-axle truck was observed during the study period. Vehicle lengths were estimated to be between 15 and 25 feet except for the 3-axle truck at 44 feet. Vehicle heights were estimated between 5 and 10 feet. The loading data is presented in Tables 4.

TABLE 4: NW NORTHRUP STREET TRUCK LOADING OBSERVATIONS

VEHICLE DESCRIPTION	TIME IN	TIME OUT	TOTAL TIME	VEHICLE LENGTH	VEHICLE HEIGHT
GARBAGE TRUCK	6:46	6:52	0:06	25'	10'
BOX TRUCK	9:02	9:03	0:01	25'	10'
BOX TRUCK	10:29	10:35	0:06	25'	10'
FEDEX TRUCK	12:52	12:53	0:01	25'	10'
FEDEX TRUCK	13:25	13:30	0:02	24'	10'
UPS TRUCK	14:32	15:11	0:02	24'	10'
REDDAWAY TRUCK	14:39	15:06	0:27	25'	10'
WHITE USPS MINIVAN	15:12	16:03	0:51	17'	6'
DARK SPRINTER VAN	15:36	15:48	0:12	17'	10'
WHITE BOX TRUCK	5:21	5:55	0:04	25'	10'
GARBAGE TRUCK	6:46	6:52	0:34	24'	10'
GARBAGE TRUCK	8:06	8:13	0:06	25'	10'
BOX TRUCK	9:02	9:07	0:07	25'	10'
FEDEX TRUCK	9:03	9:07	0:05	25'	10'
BOX TRUCK	10:29	10:35	0:04	24'	10'
WHITE VAN	10:30	10:35	0:06	25'	10'
WHITE THREE AXLE SINGLE TRAILER	10:38	11:17	0:05	17'	6'
GRN/WHITE GARBAGE TRUCK	12:32	12:34	0:39	44'	10'
FEDEX VAN	12:46	12:55	0:02	25'	10'
FEDEX TRUCK	12:52	12:59	0:09	17'	6'
WORK TRUCK	13:19	13:21	0:06	25'	10'
UPS TRUCK	13:46	14:18	0:02	25'	6'
REDDAWAY TRUCK	14:39	15:06	0:32	24'	10'
WHITE BOX TRUCK	14:41	14:50	0:27	25'	10'
USPS VAN	14:54	16:06	0:09	25'	10'
RECYCLING TRUCK	8:52	9:05	0:13	24'	10'
GARBAGE TRUCK	12:06	12:10	0:04	24'	10'
UPS TRUCK	13:14	14:14	1:00	19'	10'
WHITE WINDOWLESS VAN	14:42	15:17	0:35	19'	7'
TAXI PRIUS	16:00	16:03	0:03	15'	5'
WHITE SEDAN WITH ILLEGIBLE LOGO	17:22	17:23	0:01	15'	5'
BLACK SEDAN WITH SIGN ON ROOF	21:03	21:09	0:06	15'	5'

SITE #3 TRUCK LOADING DATA

Data was collected for 520 SW Broadway in Portland, Oregon, a 201,658 square-foot hotel located in downtown Portland. This hotel operates with 249 short stay guestrooms, on-site laundry service off-site valet parking, and a kitchen for hotel and public food service. The loading zones are shown in Figures 7 and 8.

The following designated truck loading facilities are available for this building:

- One on-site loading dock SW Washington Street.
- One hotel loading zone along SW Broadway that is also used by deliveries.

FIGURE 7: SITE #3 SW WASHINGTON LOADING DOCK

FIGURE 8: SITE #3 SW BROADWAY HOTEL ZONE AND SERVICE ENTRANCE

A 72-hour video truck loading survey was collected at both loading zones. Over 72 hours in December 2016, five deliveries were recorded on SW Broadway and five deliveries were recorded on SW Washington, an average of 3 deliveries a day.

Most vehicles fall within vehicle classifications 2, through 6 which corresponds with passenger vehicles to single unit 3-axle trucks respectively. One large 5-axle truck with a trailer was observed during the study period. Vehicle lengths were estimated to be between 15 and 25 feet except for

the 5-axle truck at 65 feet. Vehicle heights were estimated between 5 and 15 feet. The loading data is presented in Tables 5 and 6.

TABLE 5: SW WASHINGTON STREET TRUCK LOADING OBSERVATIONS

VEHICLE CLASS	TIME IN	TIME OUT	TOTAL TIME	VEHICLE LENGTH	VEHICLE HEIGHT
WHITE COMMERCIAL VEHICLE	3:35	4:19	0:44	65’	10’
GARBAGE TRUCK	8:00	8:07	0:07	25’	10'
SEMI TRUCK	5:13	5:22	0:09	35’	14'
BOX TRUCK	6:29	6:40	0:11	25’	10'
WORK TRUCK	6:02	6:29	0:27	25’	7'

TABLE 6: SW BROADWAY TRUCK LOADING OBSERVATIONS

VEHICLE CLASS	TIME IN	TIME OUT	TOTAL TIME	VEHICLE LENGTH	VEHICLE HEIGHT
WHITE BOX TRUCK	1:55	1:59	0:02	24’	10’
GARDA ARMORED TRUCK	12:23	12:33	0:02	21’	10'
UPS TRUCK	9:39	9:41	0:02	25’	10'
UPS TRUCK	13:54	14:05	0:11	25’	10'
WHITE MINIVAN	6:12	6:13	0:01	16’	10'

PROJECTED LOADING DEMAND ANALYSIS

The video data surveys conducted at the three comparable hotel sites were reviewed to estimate the loading demand for the proposed development. As shown in Table 7, the average loading demand rate from the prior survey data is 0.03 deliveries per thousand square feet of building area. Applying the average loading demand rate to the proposed development results in an estimated 3 deliveries per weekday.

TABLE 7: AVERAGE DELIVERIES BY BUILDING AREA

LOCATION	AVERAGE DAILY DELIVERIES	BUILDING AREA (KSF)	DELIVERIES PER KSF
SITE #1 550 SW OAK STREET	4	175	0.02
SITE #2 1150 NW 9TH AVENUE	11	172.7	0.06
SITE #3 520 SW BROADWAY	3	201.7	0.01
PROPOSED SITE – 105 & 135 NW PARK AVENUE	3[a]	93.7	0.03[a]

a. Calculated value

Deliveries to the proposed development are expected to be provided on a recurring as-needed basis and will vary over time. Based on the collected demand data, the following loading characteristics are anticipated for the proposed hotel development:

- Demand for up to three deliveries per weekday
- Delivery vehicles with a vehicle classification of 6 or less, no large delivery trucks anticipated
- An estimated delivery truck length between 15 and 25 feet
- An estimated delivery truck height of 10 feet for trucks and vans
- An average length of stay of 13 minutes for deliveries
- Most deliveries would occur during the morning and early afternoon, 80% of deliveries at similar sites were before 2 p.m.
- Most deliveries can be scheduled by the hotel to avoid potential conflicts, more than one delivery at a time is unlikely

RECOMMENDATIONS

Based on the loading demand analysis, we recommend approval of the applicant's request to reduce the number of on-site Standard A loading spaces to one based on the low number of expected daily deliveries and nearby on-street loading zones.

The proposed hotel is projected to generate 3 deliveries per weekday. The existing on-street loading space near the project site on NW Davis Street operates below its capacity. The maximum daily deliveries using the space is currently three, with an average 20-minute duration over a seven-hour period when the space is restricted. This results in a parking utilization rate of about 30%. The NW Davis Street loading space could adequately accommodate the current demand and the projected demand for the proposed hotel, totaling six commercial vehicles per weekday.

As shown in the site plan (Appendix D), a "Hotel Zone" will be located on NW Park Avenue within 200 feet of the proposed loading dock and could also be used for deliveries. Many of the hotel's deliveries will be scheduled and eliminate any conflict at the on-street truck loading zone on NW Davis Street.

Due to the low existing utilization of the NW Davis Street loading space and the low number of projected daily deliveries at the proposed hotel, the modification will meet the purpose of the regulation, 33.260.310, outlined in the adjustment criteria 33.805.040.

APPENDIX

CONTENTS

SECTION A. PBOT SCOPE SUBMITTAL

PBOT
PORTLAND BUREAU OF TRANSPORTATION
1900 SW Fourth Ave., Suite 5000 Portland, OR 97201 503-823-5185
Fax 503-823-7576 TTY 503-823-6868 www.portlandoregon.gov/transportation
Chloe Eudaly Commissioner Chris Warner Director

Reviewed by: Rachel Bolton, PE
PBOT Development Review
rachel.bolton@portlandoregon.gov
503-823-4270
10-04-2021

2 Standard Loading A'S Required
Per Email from Dock Rosenthal, 1 Standard A requested.

Attachment A
TRAFFIC SCOPE APPROVAL FORM

Prior to starting a traffic study, a Traffic Scope Approval Form must be completely filled out, submitted for review, and approved by PBOT's Development Review Traffic Engineer. The approved form shall be included in every traffic study submittal as Attachment A. PBOT may require additional analysis/information during the course of the review of the project. This Traffic Scope Approval Form is for City requirements only. Consultants must contact ODOT to determine requirements related to access permits and work in ODOT right-of-way.

SITE / PROJECT INFORMATION

PROJECT NAME: Choice Cambria Hotel ASSOCIATED APPLICATION (EA#/LU#) 21-058331-EA

SITE LOCATION: 105 & 135 NW Park Avenue
(ADDRESS/ID #)

BRIEF PROJECT DESCRIPTION (NUMBER OF STORIES, TOTAL AREA, NUMBER OF PARKING SPACES, ETC.):

The proposed Site is the half block bounded by NW Park Avenue, NW Couch, and NW Davis Street. The property addresses are 105 & 135 NW Park. The parcel measures 100'x 200' and is currently occupied by two existing buildings and a vacant lot. The total area is 20,000 square feet. No parking will be provided on site. Zoning requires two loading spaces but only one space is currently included. There is an existing on-street truck loading zone within 200 feet of the loading dock on NW Davis Street.

Applicant is proposed to use one on-street space on NW Davis Street (see map below)

APPLICANT: Choice Cambria Hotels/SERA Architects

TRAFFIC ENGINEER / FIRM: DKS Associates DATE: 09/23/2021

SITE PLAN – ATTACH SITE PLAN

Include in the study justification for why required loading can't be accommodated onsite.

REQUIRED LAND USE REVIEW(S)

☐ LAND DIVISION (33.641) ☐ CONDITIONAL USE (33.815) ☒ ADJUSTMENT (33.805)

☐ CENTRAL CITY PARKING REVEW (33.808) ☐ COMPREHENSIVE PLAN AMENDMENT (33.810)

☐ ZONING MAP AMENDMENT (33.855) ☐ TRANSPORTATION IMPACT REVIEW (33.852)

☐ OTHER: _____

APPROVAL CRITERIA (LIST ALL EVALUATION FACTORS)

Adjustment Criteria 33.805.040

A. Granting the adjustment will equally or better meet the purpose of the regulation to be modified; and
B. If in a residential, CI1, or IR zone, the proposal will not significantly detract from the livability or appearance of the residential area, or if in an OS, C, E, I, or CI2 zone, the proposal will be consistent with the classifications of the adjacent streets and the desired character of the area; and
C. If more than one adjustment is being requested, the cumulative effect of the adjustments results in a project which is still consistent with the overall purpose of the zone; and
D. City-designated scenic resources and historic resources are preserved; and
E. Any impacts resulting from the adjustment are mitigated to the extent practical; and
F. If in an environmental zone, the proposal has as few significant detrimental environmental impacts on the resource and resource values as is practicable

Narrative for study should address adjustment criteria in 33.805.040 to reduce loading required per 33.266.310.

REQUIRED TRAFFIC STUDY REVIEW(S)

☐ TRAFFIC IMPACT STUDY (ATTACHMENT A.1)	☐ PARKING IMPACT STUDY (ATTACHMENT A.2)	☒ LOADING DEMAND STUDY (ATTACHMENT A.3)
☐ ASTR TRAFFIC STUDY (ATTACHMENT A.4)	☐ TDM PLAN (ATTACHMENT A.5)	☐ SIGHT DISTANCE STUDY
☐ QUEUING ANALYSIS	☐ ALT TRIP RATE STUDY	☐ OTHER: _____

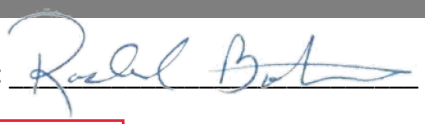
ADDITIONAL COMMENTS:

1. Study Parking availability during height of loading activity time for hotel site
2. Parking Control is supportive of 'Hotel Zone' for passenger unloading/loading, however, have confirmed that this area can also be used for product unloading/loading. Include analysis of this proposed space for product unload/loading in addition.

Will the site have onsite laundry facilities?

APPROVALS

APPROVED BY: Rachel Bolton, PE
TRAFFIC ENGINEER
PBOT DEVELOPMENT REVIEW

SIGNATURE: 

DATE: 10-15-2021

Email approval forms and supporting documents in pdf format to PBOTDevRevTrafficScopes@portlandoregon.gov.
Option to mail or hand-deliver forms to:

Attn: Amanda Owings
City of Portland, Building Plan & Development Review
1900 SW 4th Avenue, Suite 5000 (5th floor)
Portland, Oregon 97201

PBOT
PORTLAND BUREAU OF TRANSPORTATION
1900 SW Fourth Ave., Suite 5000 Portland, OR 97201 503-823-5185
Fax 503-823-7576 TTY 503-823-6868 www.portlandoregon.gov/transportation
Chloe Eudaly Commissioner **Chris Warner** Director

Will the site have onsite laundry facilities?

Attachment A.3
LOADING DEMAND STUDY

This traffic study attachment must be completely filled out and submitted for review along with the Traffic Scope Approval Form – Attachment A.

STUDY PARAMETERS

SPECIFIC ADJUSTMENT/MODIFICATION REQUEST:

33.266.310 Loading Standards - Adjustment requested for the requirement for two Type A loading spaces for a building larger than 50,000 square feet. The site proposes one Type A loading

PROPOSED STUDY SITES

DEVELOPMENT SITE	ADDRESS	BRIEF DESCRIPTION OF DEVELOPMENT	TOTAL AREA (SF)	AREA BY TYPE OF USE (SF)
PROPOSED DEVELOPMENT	105&135 NW Park A	Hotel/Retail	93,690	91790/1900
STUDY SITE 1	550 SW Oak St	Hotel/Retail	175,000	171400/2500
STUDY SITE 2	1150 NW 9th Ave	Hotel/Retail	172,700	170200/2500
STUDY SITE 3	520 SW Broadway	Hotel/Retail	201,658	199558/2100

LOADING DATA Do these sites have onsite laundry facilities?

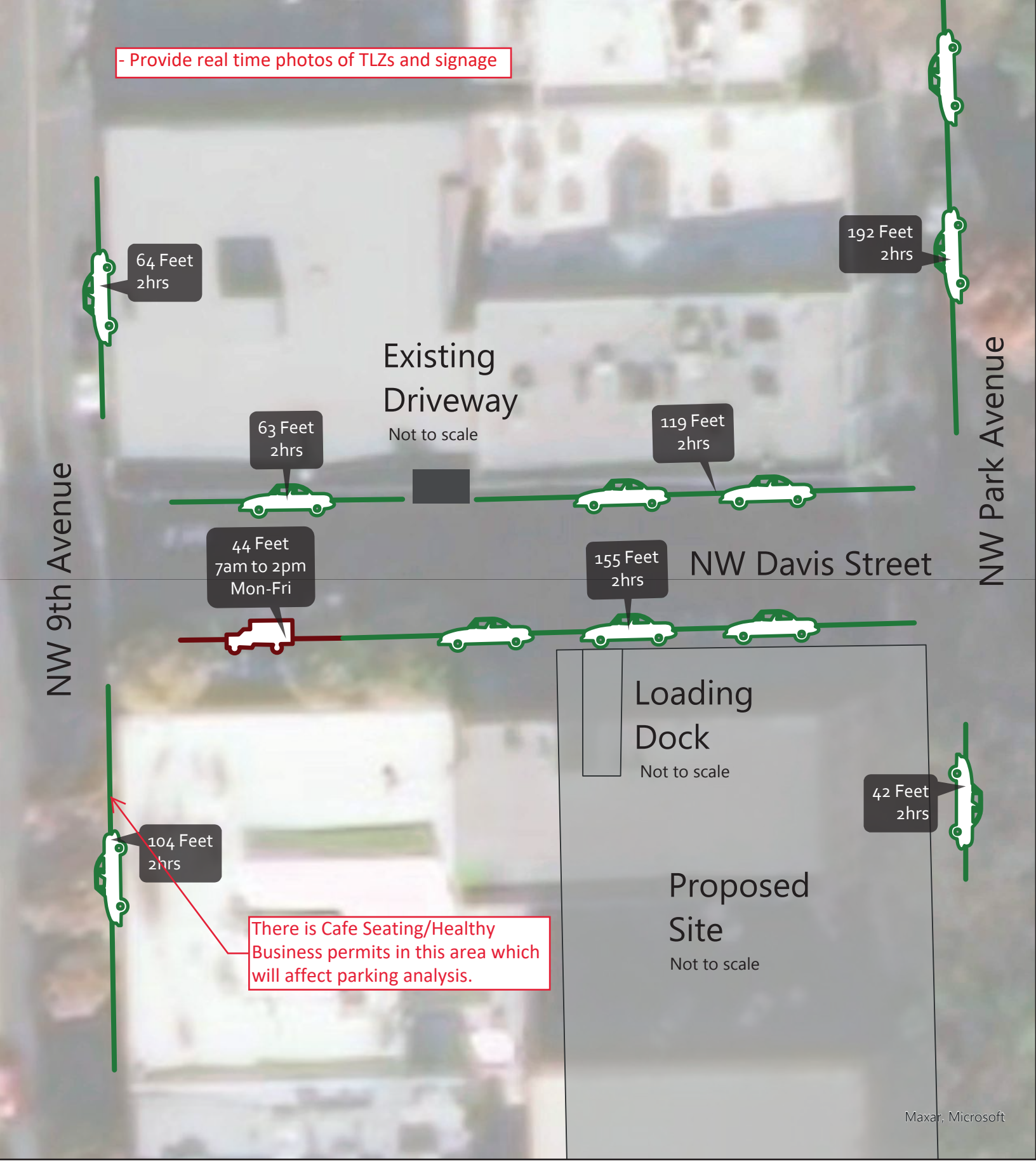
☒ 72-HR LOADING VIDEO DATA AT STUDY SITES ☐ OTHER: _____

DEVELOPMENT SITE	ON-SITE LOADING SPACES (LOCATIONS AND SIZES)	ON-STREET TRUCK LOADING ZONES WITHIN 200FT OF SERVICE ENTRANCE (LOCATIONS AND SIZES)	PROPOSED CAMERA LOCATIONS
PROPOSED DEVELOPMENT	----------	shown in figure	SE corner of NW
STUDY SITE 1	1 (Harvey Milk St)	2 (Stark 20'L, Oak 110'L)	2 at SW Stark ar
STUDY SITE 2	1 (Northrup St)	2 (NW 9th 170'L, Northrup 50'L)	2 at NW 9th and
STUDY SITE 3	1 (Washington St)	1 (Broadway 130'L)	2 at Broadway a

AREA MAP – ATTACH AREA MAP SHOWING THE QUANTITIES AND TYPES OF ON-STREET PARKING AND LOADING AND CURBSIDE FEATURES WITHIN 200FT OF THE PROPOSED SERVICE ENTRANCE

SUBMIT WITH ATTACHMENT A.
EMAIL APPROVAL FORMS AND SUPPORTING DOCUMENTS IN PDF FORMAT TO:
PBOTDevRevTrafficScopes@portlandoregon.gov

DELIVERABLES – ALL FINAL STUDIES MUST BE SUBMITTED AT THE TIME OF LAND USE APPLICATION. ALL FINAL STUDIES AND SUBSEQUENT REVISIONS MUST BE PROVIDED TO THE ASSIGNED PBOT PLANNER IN THE FORM OF ONE (1) ELECTRONIC WORD DOC AND ONE (1) ELECTRONIC ADOBE PDF.



Parking Zones

- Commercial Loading
- Metered Parking

0 15 30 60 90 Feet

N

SECTION B. LOADING COUNT DATA

NW Davis Street TLZ

Tuesday 9-28

Arrive	Depart	Duration	Class
7:23	7:25	2	Class 2
9:00	9:44	44	Class 2
9:30	9:41	11	Class 2
10:18	10:27	9	Class 2
10:48	10:54	6	Class 5 Commercial
11:26	11:31	5	Class 2
12:37	2:00	83	Class 3 Commercial
12:42	1:04	22	Class 3 Commercial
1:56	2:14	18	Class 5 Commercial

Wednesday 9-29

Arrive	Depart	Duration	Class
6:48	7:30	42	Class 3
7:28	7:31	3	Class 2
10:09	10:22	13	Class 2
10:41	10:43	2	Class 3
12:09	12:33	24	Class 5 Commercial
12:52	12:57	5	Class 3 Commercial

Thursday 9-30

Arrive	Depart	Duration	Class
6:51	7:24	33	Class 3
8:37	8:43	6	Class 5 Commercial
9:05	9:52	47	Class 2
9:31	9:37	6	Class 2
9:53	9:55	3	Class 2
10:50	11:05	15	Class 2
11:25	3:25	360	Class 3 Commercial
11:51	12:39	48	Class 2

550 SW Oak St (Courtyard Portland City Center) - 12/8							
Vehicle Class	Description of Vehicle	Zone Used	Time In	Time Out	Total Time (h:mm)	Approx Length of Vehicle	Approx Height of Vehicle
5	Armored Truck	Service Entrance	11:47	11:52	0:05	25'	10'
550 SW Oak St (Courtyard Portland City Center) - 12/9							
3	White work truck	Service Entrance	7:32	7:38	0:06	18'	10'
550 SW Oak St (Courtyard Portland City Center) - 12/10							
5	FedEx truck	Service Entrance	9:14	9:23	0:09	25'	10'

1150 NW 9th Ave (Residence Inn Pearl District) - 12/8							
Vehicle Class	Description of Vehicle	Zone Used	Time In	Time Out	Total Time (h:mm)	Approx Length of Vehicle	Approx Height of Vehicle
6	Garbage truck	Loading Dock	6:46	6:52	0:06	25'	10'
5	Box truck	Loading Dock	9:02	9:03	0:01	25'	10'
5	Box truck	Loading Dock	10:29	10:35	0:06	25'	10'
5	Fedex Truck	Northrup Service Entrance	12:52	12:53	0:01	25'	10'
5	FedEx truck	Loading Dock	13:25	13:30	0:02	24'	10'
5	UPS truck	Loading Dock	14:32	15:11	0:02	24'	10'
5	Reddaway Truck	Loading Dock	14:39	15:06	0:27	25'	10'
3	White USPS minivan	Loading Dock	15:12	16:03	0:51	17'	6'
3	Dark Sprinter van	Loading Dock	15:36	15:48	0:12	17'	10'
1150 NW 9th Ave (Residence Inn Pearl District) - 12/9							
Vehicle Class	Description of Vehicle	Zone Used	Time In	Time Out	Total Time (h:mm)	Approx Length of Vehicle	Approx Height of Vehicle
6	White box truck	Loading Dock	5:21	5:55	0:34	24'	10'
6	Garbage Truck	Loading Dock	6:46	6:52	0:06	25'	10'
6	Garbage Truck	Loading Dock	8:06	8:13	0:07	25'	10'
5	Box truck	Loading Dock	9:02	9:07	0:05	25'	10'
5	FedEx truck	Loading Dock	9:03	9:07	0:04	24'	10'
5	Box truck	Loading Dock	10:29	10:35	0:06	25'	10'
3	White Van	Loading Dock	10:30	10:35	0:05	17'	6'
8	White three axle single trailer	Loading Dock	10:38	11:17	0:39	44'	10'
6	Grn/White garbage truck	Loading Dock	12:32	12:34	0:02	25'	10'
3	FedEx van	Loading Dock	12:46	12:55	0:09	17'	6'
5	Fedex Truck	Northrup Service Entrance	12:52	12:59	0:06	25'	10'
5	Work truck	Loading Dock	13:19	13:21	0:02	25'	6'
5	UPS truck	Loading Dock	13:46	14:18	0:32	24'	10'
5	Reddaway Truck	Loading Dock	14:39	15:06	0:27	25'	10'
6	White box truck	Loading Dock	14:41	14:50	0:09	25'	10'
3	USPS van	Loading Dock	14:54	16:06	1:12	17'	6'
1150 NW 9th Ave (Residence Inn Pearl District) - 12/10							
Vehicle Class	Description of Vehicle	Zone Used	Time In	Time Out	Total Time (h:mm)	Approx Length of Vehicle	Approx Height of Vehicle
6	Recycling Truck	Loading Dock	8:52	9:05	0:13	24'	10'
6	Garbage Truck	Loading Dock	12:06	12:10	0:04	24'	10'
6	UPS truck	Loading Dock	13:14	14:14	1:00	19'	10'
3	white windowless van	Loading Dock	14:42	15:17	0:35	19'	7'
2	Taxi prius	Loading Dock	16:00	16:03	0:03	15'	5'
2	White sedan with illegible logo	Loading Dock	17:22	17:23	0:01	15'	5'
2	black sedan with sign on roof	Loading Dock	21:03	21:09	0:06	15'	5'

520 SW Broadway (Portland Marriott City Center) - 12/15							
Vehicle Class	Description of Vehicle	Zone Used	Time In	Time Out	Total Time (h:mm)	Approx Length of Vehicle	Approx Height of Vehicle
6	White Box truck	Broadway Service Entrance	1:55	1:59	0:02	24'	10'
9	White Commercial Vehicle	Washington Service Entrance	3:35	4:19	0:44	65'	10'
6	Garbage Truck	Washington Service Entrance	8:00	8:07	0:07	25'	10'
5	Garda Armored Truck	Broadway Service Entrance	12:23	12:33	0:02	21'	10'
520 SW Broadway (Portland Marriott City Center) - 12/16							
5	Semi truck	Washington Service Entrance	5:13	5:22	0:09	35'	14'
5	Box truck	Washington Service Entrance	6:29	6:40	0:11	25'	10'
5	UPS Truck	Broadway Service Entrance	9:39	9:41	0:02	25'	10'
5	UPS Truck	Broadway Service Entrance	13:54	14:05	0:11	25'	10'
520 SW Broadway (Portland Marriott City Center) - 12/17							
5	Work truck	Washington Service Entrance	6:02	6:29	0:27	25'	7'
2	white minivan	Broadway Service Entrance	6:12	6:13	0:01	16'	10'

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
971-223-0003
www.qualitycounts.net

Site Code: 13790702
Date: 4/26/2016

SW Stark St

Vehicle Class	Zone	Description of Vehicle	Time In	Time Out	Total Time (h:mm)	Approx Length of Vehicle	Approx Height of Vehicle	Loading or Unloading
6	Loading Dock	Garbage truck	2:20	2:22	0:01	25'	10'	Loading
6	Loading Dock	Garbage truck	2:24	2:28	0:04	25'	10'	Loading
6	Loading Dock	Garbage truck	3:11	3:14	0:03	25'	10'	Loading
5	Street	Moving truck	5:30	5:57	0:27	25'	10'	Both
5	Loading Dock	Box truck	9:56	10:15	0:18	25'	10'	Unloading

Average Length of Stay:	0:11

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
971-223-0003
www.qualitycounts.net

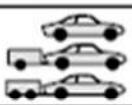
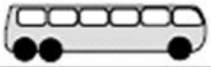
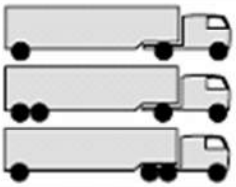
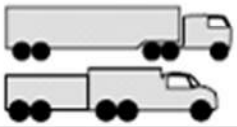
Site Code: 13790701
Date: 4/26/2016

SW Oak St

Vehicle Class	Zone	Description of Vehicle	Time In	Time Out	Total Time (h:mm)	Approx Length of Vehicle	Approx Height of Vehicle	Loading or Unloading
5	NW	Commercial box truck	6:45	7:11	0:26	25'	10'	Unloading
5	NW	Cintas commercial vehicle	7:06	7:11	0:05	25'	10'	Unloading
5	NW	Alsco commercial vehicle	7:55	8:05	0:10	25'	10'	Unloading
5	SW	Charlie's Produce commercial vehicle	9:44	9:49	0:04	25'	10'	Unloading
5	SW	FedEx commercial vehicle	10:14	10:24	0:09	25'	10'	Unloading
5	SW	FedEx commercial vehicle	11:31	11:34	0:02	25'	10'	Unloading
5	SW	Ashland commercial vehicle	12:04	12:08	0:04	25'	10'	Unloading

Average Length of Stay:	0:09

SECTION C: FHWA CLASSIFICATION

CLASS GROUP		DESCRIPTION	NO. OF AXLES
1		MOTORCYCLES	2
2		ALL CARS CARS CARS W/ 1-AXLE TRAILER CARS W/ 2-AXLE TRAILER	2 3 4
3		PICK-UPS & VANS 1 & 2 AXLE TRAILERS	2, 3, & 4
4		BUSES	2 & 3
5		2-AXLE, SINGLE UNIT	2
6		3-AXLE, SINGLE UNIT	3
7		4-AXLE, SINGLE UNIT	4
HEAVY TRUCKS			
8		2-AXLE, TRACTOR, 1-AXLE TRAILER (2&1) 2-AXLE, TRACTOR, 2-AXLE TRAILER (2&2) 3-AXLE, TRACTOR, 1-AXLE TRAILER (3&1)	3 4 4
9		3-AXLE, TRACTOR, 2-AXLE TRAILER (3&2) 3-AXLE, TRUCK W/ 2-AXLE TRAILER	5 5
10		TRACTOR W/ SINGLE TRAILER	6 & 7
11		5-AXLE MULTI-TRAILER	5
12		6-AXLE MULTI-TRAILER	6
13	ANY 7 OR MORE AXLE		7 or more

SECTION D: SITE PLAN

LEGEND - SITE PLAN

(E) TREES

(N) TREES

HARDSCAPE PAVERS

LANDSCAPE AREAS

PARK AVENUE

60'-0" ROW

(N) STREET TREES, TYP

CANOPIES ABOVE

WATER FEATURE

VALET DROP-OFF

HOTEL ENTRANCE

CANOPIES ABOVE, TYP

(E) STREET TREES, TYP

33'-0"

MULTI-PURPOSE ROOM

WELCOME LOBBY

PRE-FUNCTION

LOUNGE / RESTAURANT

BAR

RETAIL

FITNESS

FUNCTION STORAGE

ELEVATORS

ELEVATOR LOBBY

RECEPTION

MARKET

LUGGAGE

WORKROOM / GM OFFICE

WOMENS

MENS

KITCHEN

LINEN

LAUNDRY

UP

TRASH

GM

ELECTRICAL

OFFICE

OFFICE DOS

1/2" / 12" SLOPE

VAULT

LOADING SPACE

TRASH

BOILER ROOM

OFFICE

IT

WATER HEATERS

BIKE PARKING

EMPLOYEE

FOOD STORAGE

RISER ROOM

GAS METER

34'-0"

NW DAVIS STREET

NW COUCH STREET

60'-0" ROW

LOADING AREA 10' x 35'

SLAB STEP

EXISTING BUILDINGS, TYP.

SERA

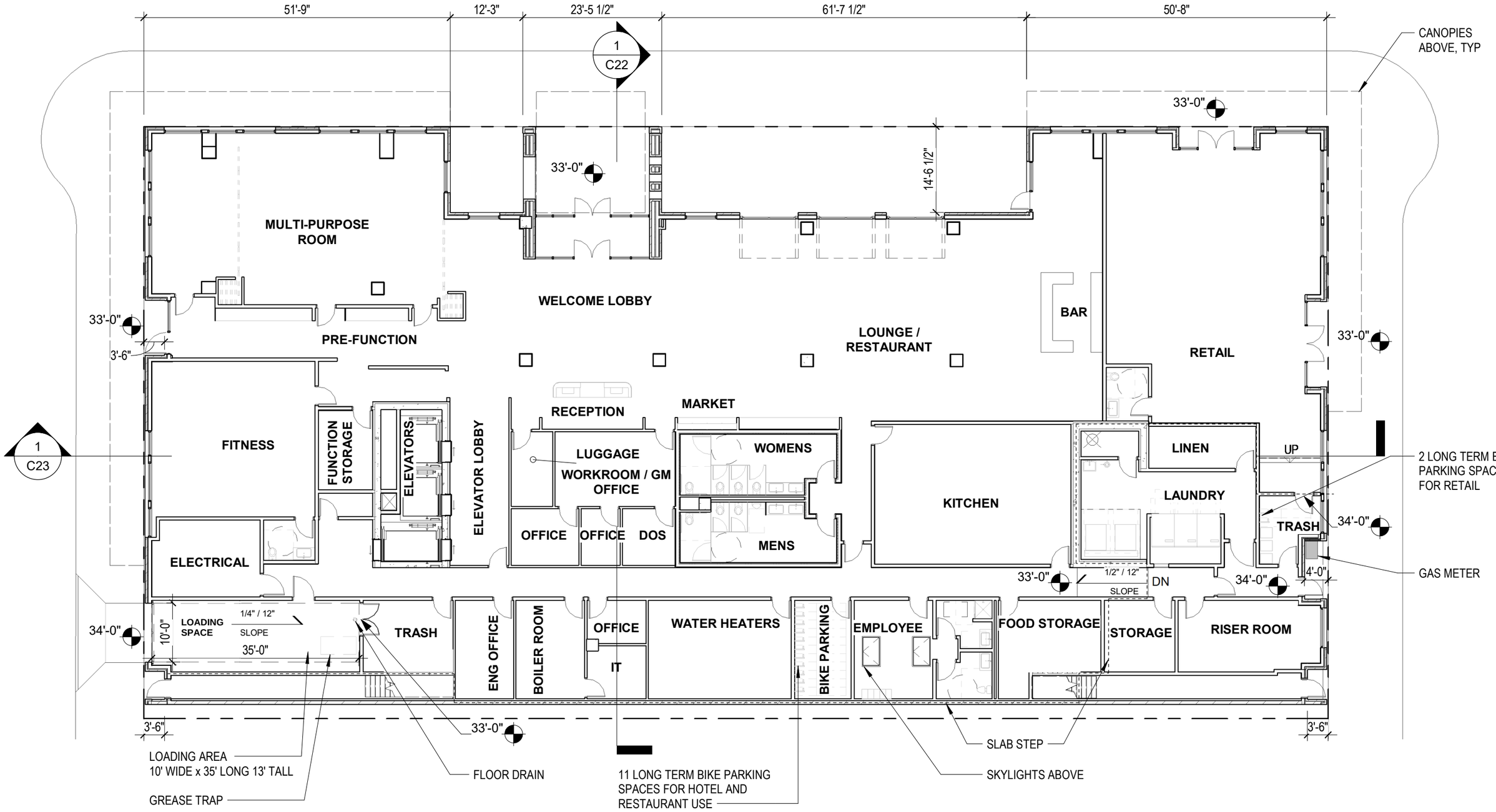
CAMBRIA HOTEL PORTLAND

NOVEMBER 18, 2021

1" = 20'-0"

LU 21 -100992 DZM

SITE PLAN C10



SERA

CAMBRIA HOTEL PORTLAND

DECEMBER 2, 2021

1/16" = 1'-0"

LU 21 -100992 DZM

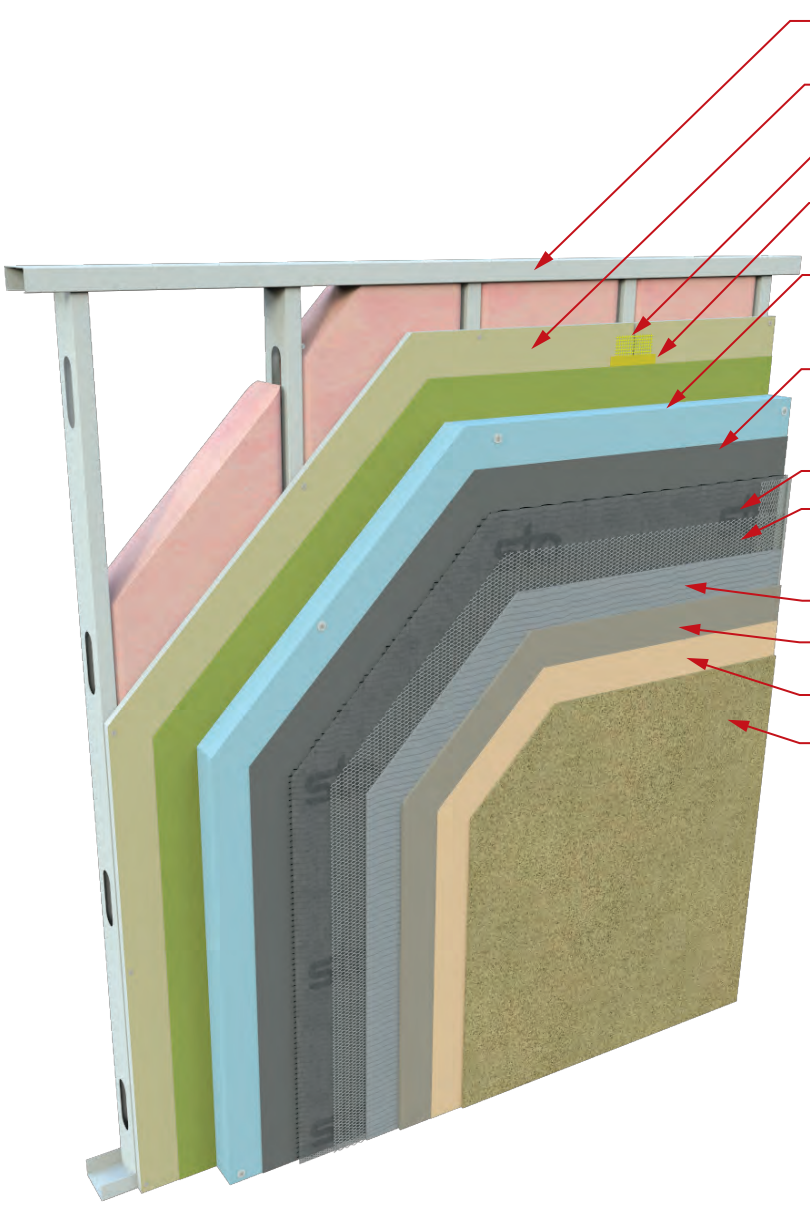
GROUND FLOOR PLAN C11

MATERIAL CUT SHEETS

Cement Plaster System

Sto Powerwall®ci
System Components

Detail No.: 63s.00
Date: March 2016



IMPORTANT: Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

Notes:

1. StoGuard® joint treatment options:
   a. StoGuard® RapidFill® (joints ≤ 1/4 inch [6 mm])
   b. Sto Gold Fill® with StoGuard® Mesh (joints ≤ 1/8 inch [3 mm])
   c. StoGuard® Fabric with StoGuard® air and moisture barrier (joints ≤ 1/8 inch [3 mm])

2. StoGuard® air and moisture barrier options:
   a. Sto Gold Coat® (vapor permeable)
   b. Sto EmeraldCoat® (high perm)
   c. Sto VaporSeal™(vapor impermeable)
   d. Sto AirSeal™ (high perm)
   (Not for use with Sto Guard Fabric)

3. Refer to product bulletins and Sto Specification S 507x for complete information on Sto products. Refer to StoGuard® Air and Moisture Barrier detail series 20.XX for information on detailing with StoGuard®.

4. IMPORTANT. Refer to Sto Detail 63s.FP for special requirements related to Noncombustible Type construction and Fire-Resistive Rated Construction.

5. Prevent the accumulation of water into or behind the stucco, either by condensation or leakage into the wall construction, in the design and detailing of the wall assembly. Drainage is not a replacement for sound design and construction practice. Refer to Sto Tech Hotline Nos. 0403-BSc, Critical Detail Checklist for Wall Assemblies, and 0603-BSc, Moisture Control Principles for Design and Construction of Wall Assemblies, for more information.

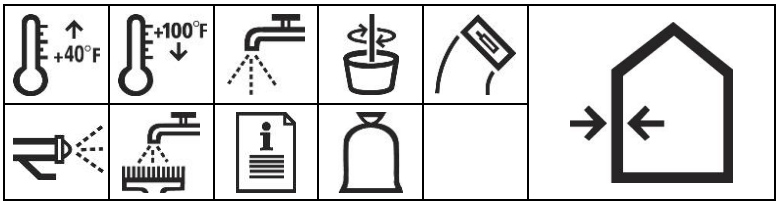
6. Provide drainage behind insulation board when appropriate, based on project design and exposure conditions. Use Sto Drainscreen™ installed behind insulation, OR use ribbons of Turbostick adhesive to install maximum 2'x8' (600x2400mm) insulation board, OR use Dow STYROFOAM™ Brand Perimate™ with channels oriented vertically, OR use other code approved method.

www.stocorp.com

Product Bulletin

Powerwall®
Scratch & Brown

80108 Powerwall® Scratch & Brown



Powerwall® Scratch & Brown is a factory prepared portland cement stucco base coat to which sand and water are added at the job site. Powerwall® Scratch & Brown is an integral component of a conventional one hour fire-rated stucco assembly. It meets ASTM 926 requirements.

Technical Data

Powerwall Scratch & Brown Blend	Mix Ratio: Water[1] / Bag / Sand[2]	Mix Time (min)	Yield[3] in ft² at thickness of ¾"	Compliance[4] ASTM C 926
Western Top Gun Premium Plaster	Pump: 2.75 – 3.25 gal / 94 lbs. / 3 parts Hand: 3.75 – 4.25 gal / 94 lbs. / 4 parts	3 – 5	Pump: 45–55 Hand: 55-65	Yes[5]

1. Water must be clean and potable. Limit amount of water to stiff but workable consistency.
2. Sand added at job site: use damp, loose, washed plaster sand in conformance with ASTM C 897 or C 144.
3. Yield will vary with application technique, surface conditions, substrate variances from required tolerance, and other variables that may exist.
4. Portland cement in mix complies with ASTM C 150.
5. Mix complies with C 926 mix ratio requirements. Installation and other aspects of C 926 such as stucco thickness must be followed for full compliance.

Features		Benefits
1	**Concentrate**	Economical; easier to transport to jobsite; high-quality consistent formula batch to batch
2	**Abrasion, impact, and water-resistant**	Creates a highly durable, long lasting base coat

Surface Preparation

Concrete and masonry surfaces:
Substrates must be absorbent, slightly scarified, and free of all bond-inhibiting materials, including dirt, efflorescence, form oil and other foreign matter. Loose, weak or damaged material must be removed and repaired. Dampen highly absorbent substrates prior to application of stucco. Verify bond of Powerwall Scratch & Brown Stucco to properly prepared concrete or concrete masonry, as specified by design professional, at minimum 28 day age of stucco.

Wood or metal frame construction:
Self-furring or furred galvanized diamond mesh metal lath or welded wire or fabric lath must be in conformance with and be installed in compliance with the applicable building code.

Refer to ASTM C 926 for complete details on preparation and required condition of surfaces to receive portland cement stucco and recommended construction practices when installing stucco.

Mixing

Plaster sand shall comply with ASTM C 144 or C 897. Mix in a mechanical type mixer. Add one half to two thirds of the water first, then one half of the sand required for the batch. While sand and water are mixing add all of the bags of Powerwall Scratch and Brown required for the batch. Add the rest of the sand and the minimum amount of water for proper consistency and mix for the prescribed amount of minutes after all materials are in the mixer. Keep mix ratio consistent from batch to batch and mix each batch separately. USE ONLY THE AMOUNT OF WATER NECESSARY FOR A STIFF BUT WORKABLE MIX. DO NOT ADD EXCESS WATER TO MIX. USE OF EXCESS WATER IS DETRIMENTAL TO PERFORMANCE. Avoid re-tempering. Discard material that has taken initial set.

Packaging

Powerwall Scratch & Brown:

94 lb bag (42.5 kg).

Shelf Life

12 months if properly stored and protected from moisture.

Storage

Store off the ground in a dry area
Protect from extreme heat [90ºF (32ºC)], moisture, direct sunlight, and freezing.

Product Bulletin

Powerwall® Scratch & Brown

Application

Powerwall Scratch & Brown may be applied by hand or machine. Application methods, acceptable substrates, and total applied thickness shall meet the requirements set forth in ASTM C 926.

Surface temperatures must be above 40°F (4°C) and below 100°F (34°C) during application and for at least 24 hours following set of stucco. Apply with proper spray equipment or a stainless steel trowel, and only to sound and clean, dry, properly prepared, frost free surfaces. Consult equipment manufacturer for proper spray/pump application.

Scratch the first coat horizontally and apply the second coat as soon as the first coat is firm enough to receive it. Alternatively, moist cure the first coat up to 48 hours and dampen the scratched surface with water immediately before applying the second coat. Level the stucco surface with a rod or straight edge, fill low spots with stucco, then darby and float to achieve a smooth, even surface receptive for finish.

Curing/Drying

Moist cure by lightly fogging the installed area for at least 48 hours after the stucco takes initial set (usually within the first 1 to 4 hours after installation). Hot, dry, or windy weather requires more frequent moist curing to avoid rapid dehydration of stucco.

Finishing

Allow final stucco application to completely dry before applying primer or finish. Check for pH<10 before installing Sto primer or finish or wait 28 days for full cure of stucco. Alternatively, install Sto Hot Prime minimum 2 days after moist cure of stucco, then install Sto finish after 7 day age of stucco.

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Clean Up

Clean tools and equipment with water immediately after use. Cured material can only be removed mechanically.

Limitations

- Do not install Powerwall Scratch & Brown over stucco accessories or joints in construction
- Install only at temperatures above 40°F (4°C) and below 100°F (34°C). Maintain these temperatures for at least 24 hours following set of stucco
- Do not apply to surfaces that have not been properly prepared
- Not recommended as a finish coating
- Do not add air-entraining agents, accelerants, waterproofing agents, or any other additives to the stucco mix.
- Some cracking and efflorescence are inherent in portland cement stucco. These are not product defects.
- Always verify bond to the prepared substrate, as specified by the design professional, at minimum 28 day age of stucco. Where the substrate is too smooth, dense, or non-absorbent for stucco adhesion, install appropriate metal lath plaster base as specified by the design professional.

Health And Safety

DANGER!
Harmful if swallowed, causes skin irritation. Causes serious eye damage. May cause cancer. Causes damages to lungs through prolonged or repeated exposure.
Health Precaution
Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have read and understood.
First Aid
Inhalation: If breathing is difficult remove victim and keep at rest in a position comfortable for breathing. Seek medical advice/attention, if you feel unwell.
Skin Contact: In case of contact immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothes before reuse. Call a physician, if irritation develops and persists.
Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. Get medical attention immediately.
Ingestion: If swallowed do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Immediately call a poison center or doctor/physician.
Store locked up.
Spills: Collect in an appropriate container. Uncured material may be removed with water.
Disposal: Dispose of in accordance with local, state or federal regulations.
Warning
KEEP CONTAINER CLOSED WHEN NOT IN USE. KEEP OUT OF THE REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY. Consult the Safety Data Sheet (SDS) on www.stocorp.com for further health and safety information.
LIMITED WARRANTY
This product is subject to a written limited warranty which can be obtained free of charge from Sto Corp.
Refer to Sto Specifications for more complete information on proper use and handling of this product.

Sto Corp.
3800 Camp Creek Parkway
Building 1400, Suite 120
Atlanta, GA 30331

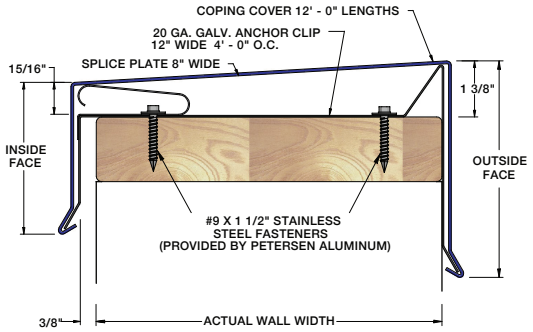
Tel: 404-346-3666
Toll Free: 1-800-221-2397
Fax: 404 346-3119
www.stocorp.com

S155-80108
Revision: A3.0
Date: 03/2019

Metal Coping

PAC-TITE COPING

TAPERED VERSION



PRODUCT FEATURES

- Superior, efficient design for ease of installation
- Accommodates wall widths up to 34"
- Extensively tested for reliable long-term performance
- Snap-on design eliminates field-crimping
- Concealed splice plates provide watertight installation
- Pre-fabricated miters and accessories for proper system fit
- Custom fabrication available for job-specific details
- Stainless steel springs factory attached to 12" wide, pre-punched anchor clips
- Wide variety of colors, finishes and gauges
- Convenient 12' lengths
- Recyclable material
- Custom and radius capabilities available
- All fasteners, splice plates and anchor clips are included

MATERIALS

- 15 Stocked PAC-CLAD Finishes (22 gauge steel)
- 43 Stocked PAC-CLAD Finishes (24 gauge steel)
- 22 Stocked PAC-CLAD Finishes (.040 aluminum)
- 29 Stocked PAC-CLAD Finishes (.050 aluminum)
- 6 Stocked PAC-CLAD Finishes (.063 aluminum)
- Mill Finish Aluminum (.040, .050 & .063 aluminum)
- Clear and Colored Anodized (.040, .050 & .063 aluminum)

ACCESSORIES

- Miters (90 Degrees and Non-90 Degrees, Welded or Quicklocked)
- Transitions
- Endcaps
- Endwall Flashing

TESTING

- ANSI/SPRI/FM ES-1 Standard to comply with the International Building Code
- Factory Mutual approved
- Miami-Dade Approved to comply with the High Velocity Hurricane Zone of the Florida Building Code.

WARRANTY

A 20-Year, 120 mph Wind Warranty is available on orders to meet a project's specification. It provides a maximum of 20 years, 120 mph coverage for the repair or replacement of any portion of the roof edge system that has failed due to a defect in the supplied materials.

FLUSH/REVEAL SOFFIT

Metal Panel Soffit

MATERIALS

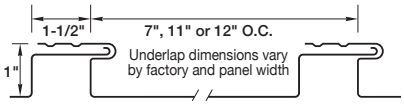
.032 aluminum — 24 gauge steel
.040 aluminum* — 22 gauge steel*

* Limited color availability

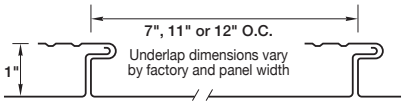
SPECS

7", 11" or 12" O.C. — 1" High

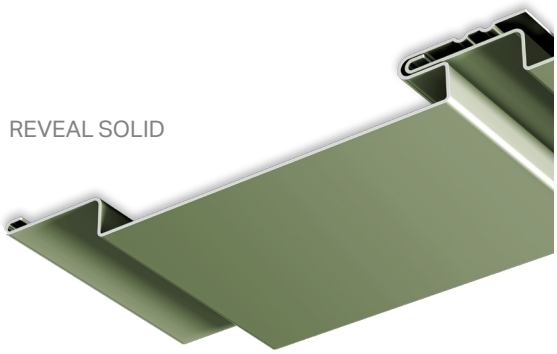
REVEAL SOFFIT



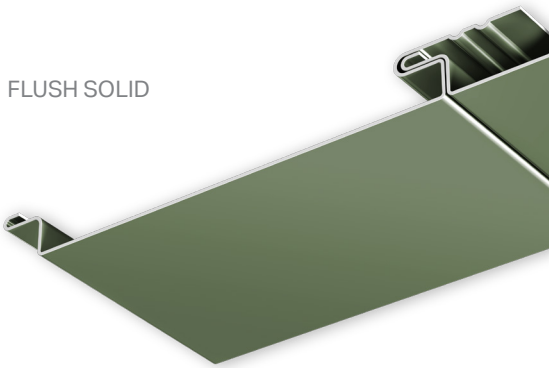
FLUSH SOFFIT



REVEAL SOLID



FLUSH SOLID



PRODUCT FEATURES

- Four profiles available
- Perforation available for ventilation on .032 aluminum only
- Roll-formed to exact lengths
- Matching "J" trim available
- 30-year non-prorated finish warranty

MATERIAL

- 43 stocked colors (24 gauge steel)
- 16 Stocked colors (22 gauge steel)
- 36 stocked colors (.032 aluminum)
- 22 stocked colors (.040 aluminum)
- Galvalume Plus available

ASTM TESTS

- ASTM E330 Tested: Flush panel (12" only)

FLORIDA BUILDING PRODUCT APPROVALS

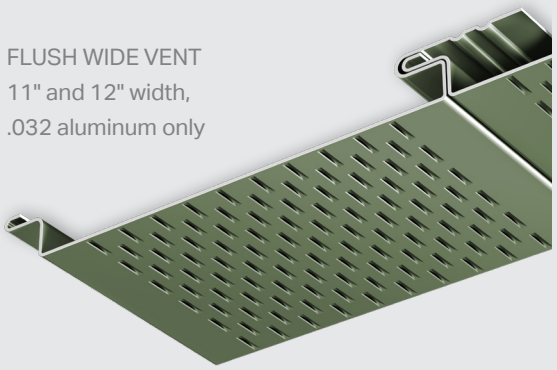
Please refer to pac-clad.com or your local factory for specific product approval numbers for soffit panels.

OPEN AIR PERCENTAGES FOR VENTED FLUSH PANELS

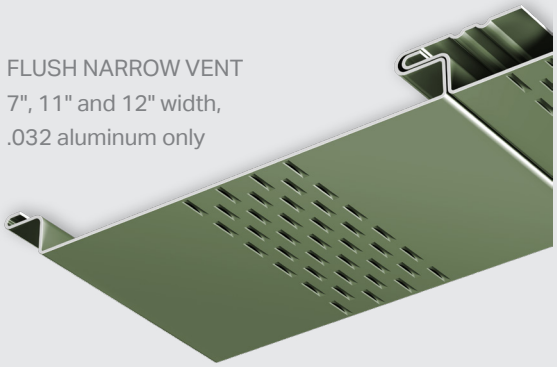
(these percentages are nominal and may vary per profile)

- Wide vent - 12%
- Narrow vent - 6%

FLUSH WIDE VENT
11" and 12" width,
.032 aluminum only



FLUSH NARROW VENT
7", 11" and 12" width,
.032 aluminum only



Storefront System

Features

- Trifab® 451UT is 4-1/2" (114.3) deep with a 2" (50.8) sightline
- Center Plane glass applications
- Flush glazed from either the inside or outside
- Screw Spline fabrication
- Screw Spline Pre-Glazed option
- Dual IsoLock® lanced and debridged thermal break
- Infill options up to 1-1/8" (28.6) thickness
- High performance sill flashing
- Permanodic® anodized finishes in seven choices
- Painted finishes in standard and custom choices

Optional Features

- Acoustical rating per AAMA 1801 and ASTM E 1425
- Project specific U-factors (See Thermal Charts)
- Integrates with Versoleil® SunShade Outrigger System and Horizontal Single Blade System

Product Applications

- Storefront, Ribbon Window, Punched Openings or Pre-Glazed
- Single-span
- Integrated entrance framing allowing Kawneer standard entrances or other specialty entrances to be incorporated
- Kawneer windows, GLASSvent® UT windows are easily incorporated

For specific product applications,
consult your Kawneer representative.

Metric (SI) conversion figures are included throughout these details for reference. Numbers in parentheses ( ) are millimeters unless otherwise noted.

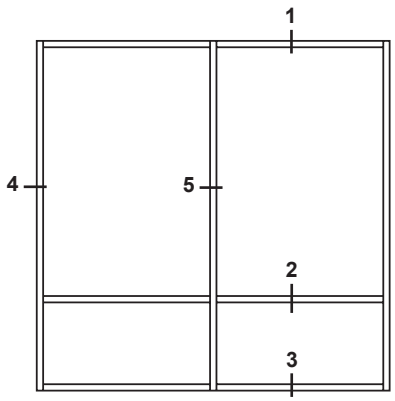
The following metric (SI) units are found in these details:

m – meter
cm – centimeter
mm – millimeter
s – second
Pa – pascal
MPa – megapascal

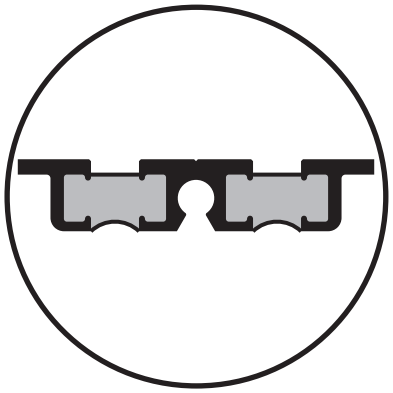
Trifab® 451UT Framing System

BASIC FRAMING DETAILS (CENTER - Inside Glazed - Stops Down)

Additional information and CAD details are available at www.kawneer.com

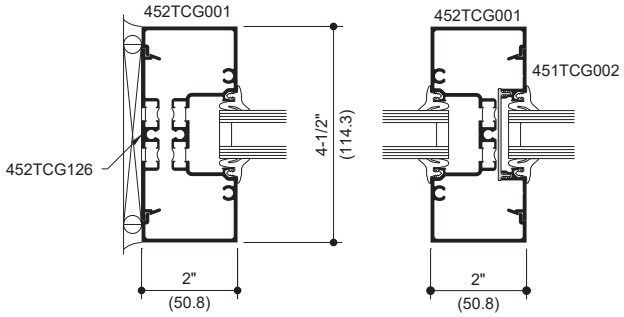


ELEVATION IS NUMBER KEYED TO DETAILS



DUAL IsoLock® THERMAL BREAK

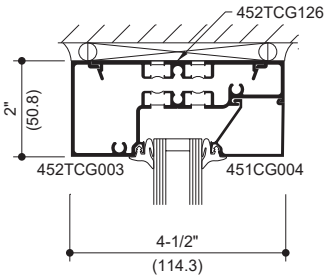
SCREW SPLINE



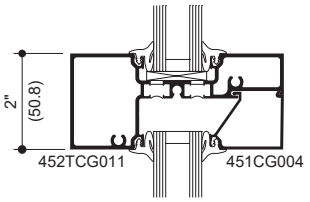
4
JAMB

5
VERTICAL

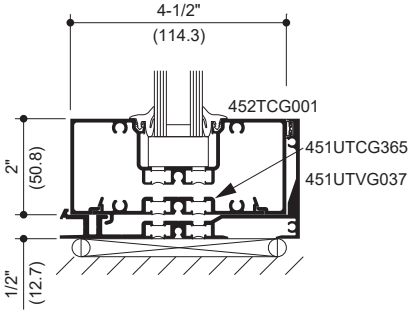
1
HEAD



2
HORIZONTAL



3
SILL



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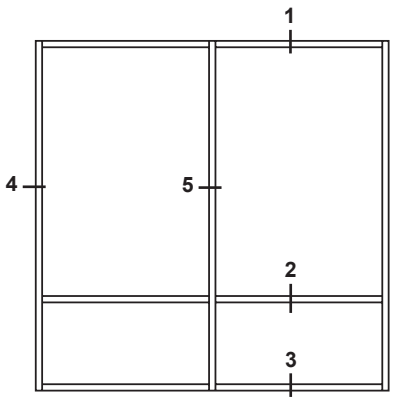
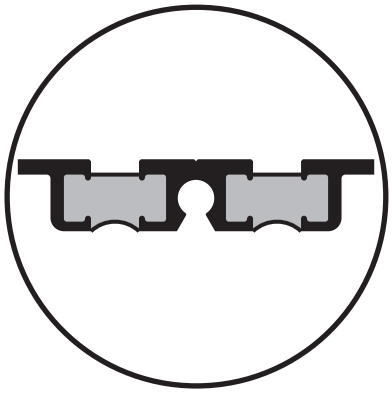
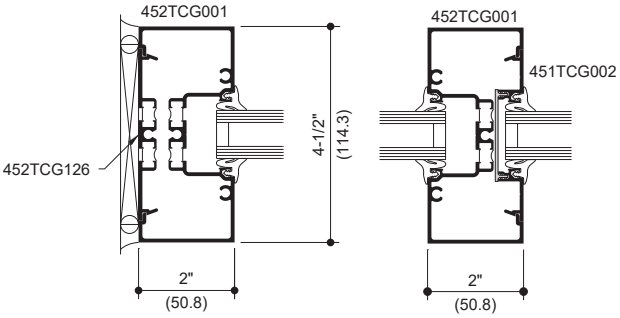


ELEVATION IS NUMBER KEYED TO DETAILS



DUAL IsoLock® THERMAL BREAK

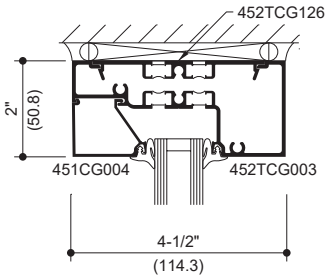
SCREW SPLINE



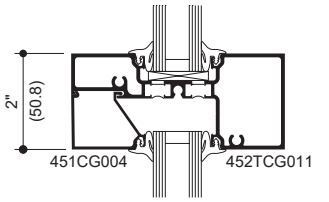
4 JAMB

5 VERTICAL

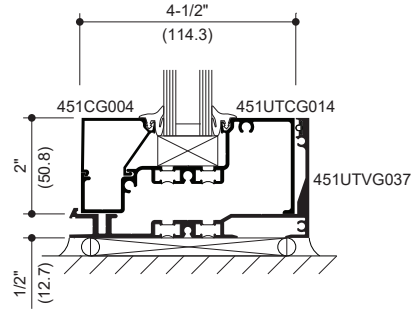
1 HEAD



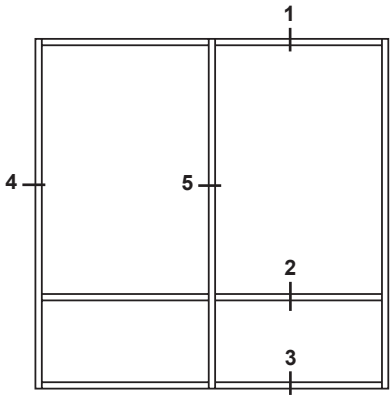
2 HORIZONTAL



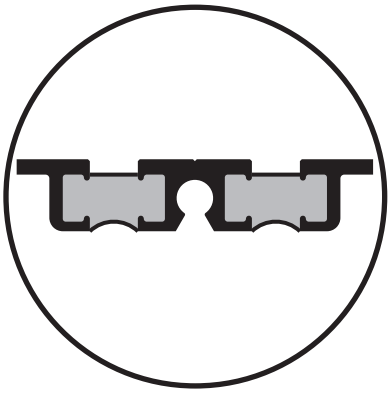
3 SILL



Additional information and CAD details are available at www.kawneer.com

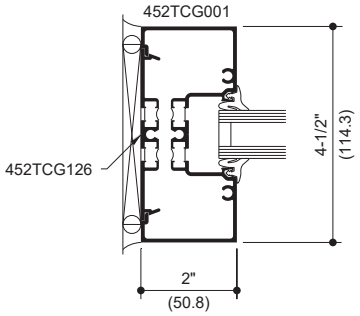


ELEVATION IS NUMBER KEYED TO DETAILS



DUAL IsoLock® THERMAL BREAK

SCREW SPLINE



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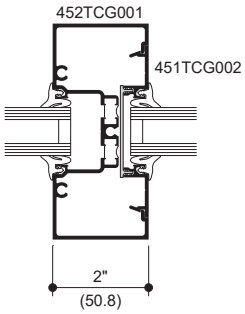
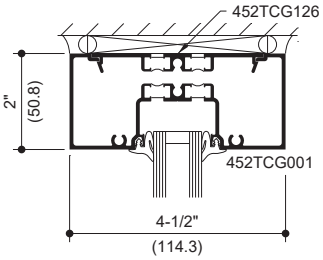
JAMB

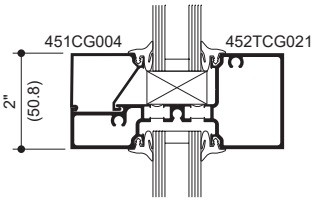


5
VERTICAL

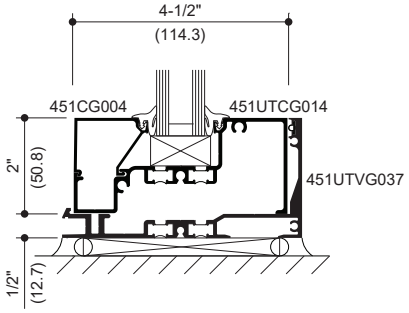
1
HEAD



2
HORIZONTAL



3
SILL



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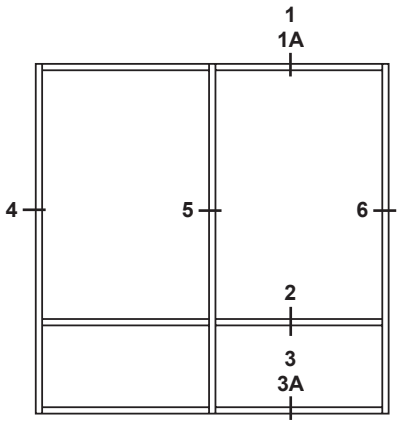
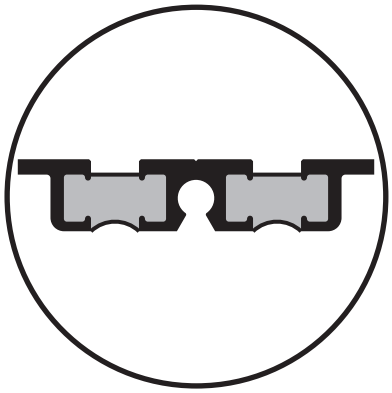
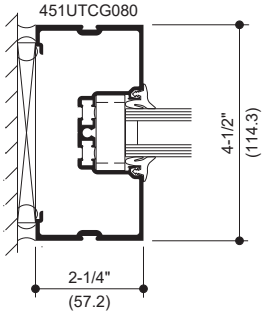


ELEVATION IS NUMBER KEYED TO DETAILS

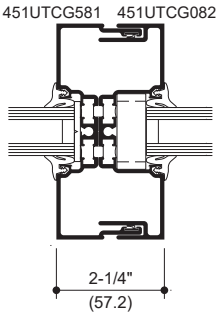


DUAL IsoLock® THERMAL BREAK

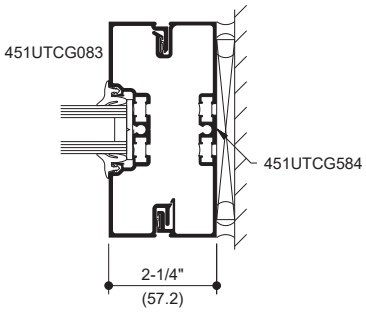
SCREW SPLINE



4
JAMB

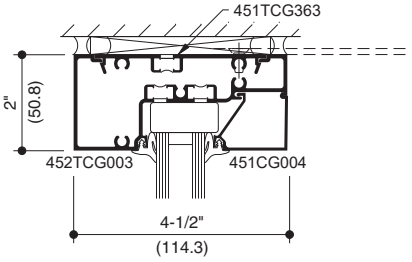


5
VERTICAL

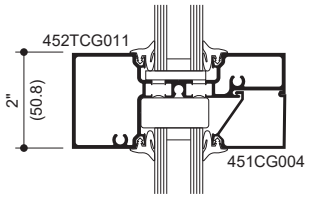


6
JAMB

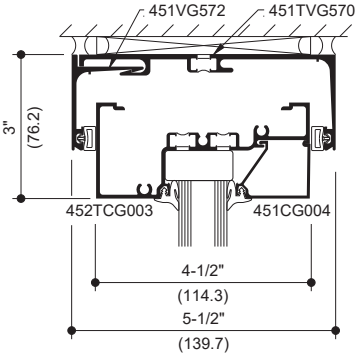
1
HEAD



2
HORIZONTAL

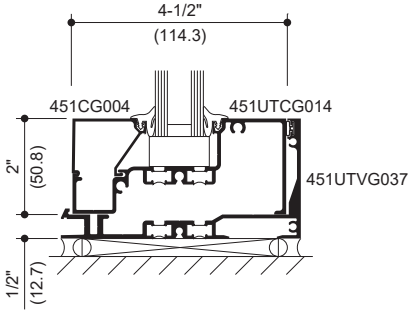


1A
HEAD

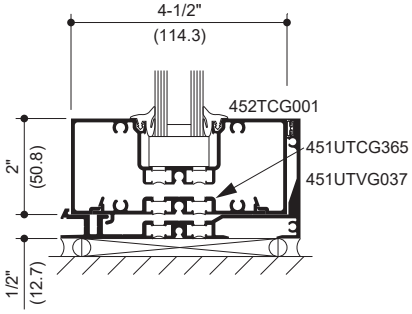


STANDARD HEAD
COMPENSATING RECEPTOR
(EXTERIOR INSTALLED)

3
SILL



3A
SILL



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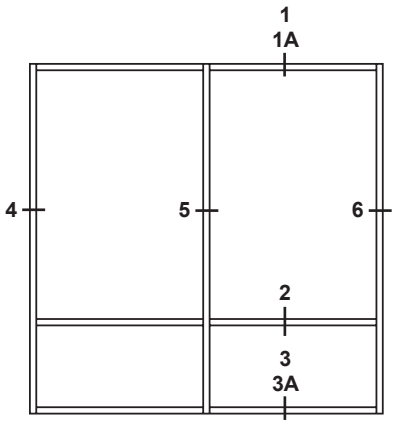

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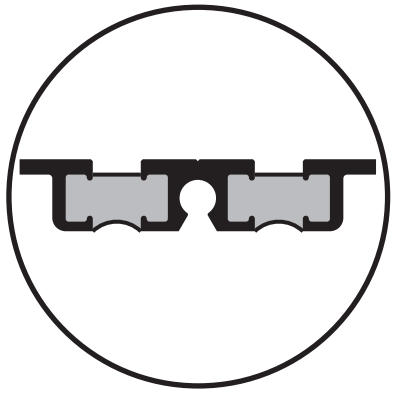
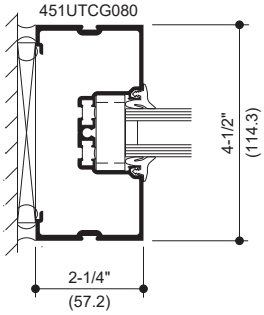
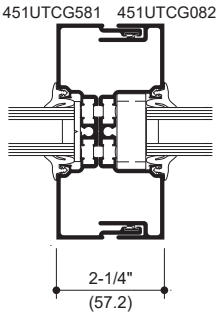


DUAL IsoLock® THERMAL BREAK

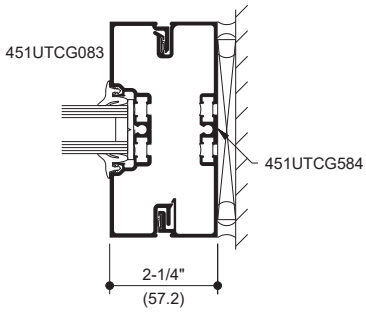
SCREW SPLINE



4
JAMB

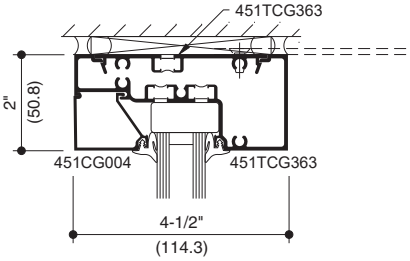


5
VERTICAL

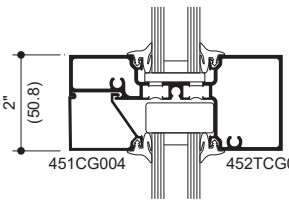


6
JAMB

1
HEAD



2
HORIZONTAL



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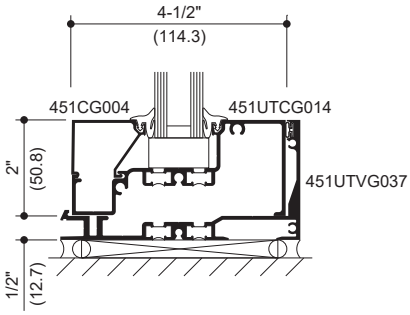
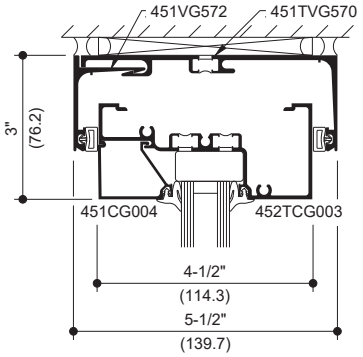
SILL

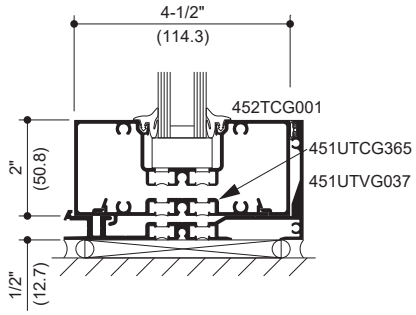


1A
HEAD



STANDARD HEAD
COMPENSATING RECEPTOR
(EXTERIOR INSTALLED)

3A
SILL



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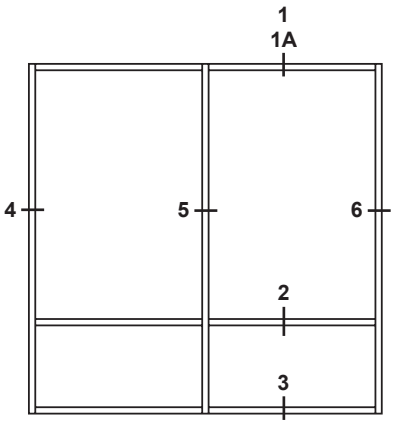
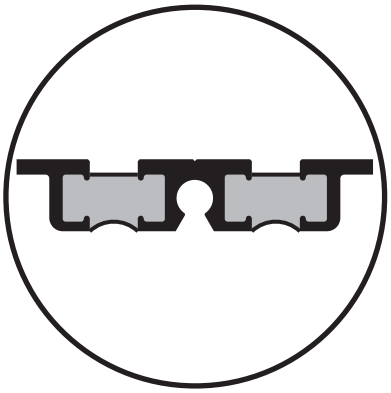
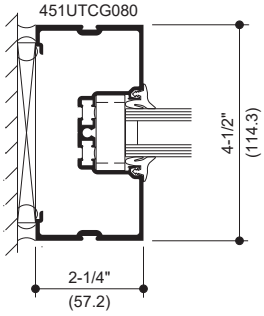


ELEVATION IS NUMBER KEYED TO DETAILS

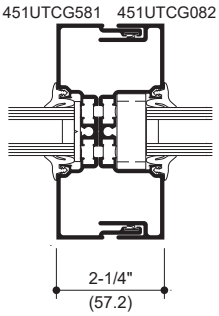


DUAL IsoLock® THERMAL BREAK

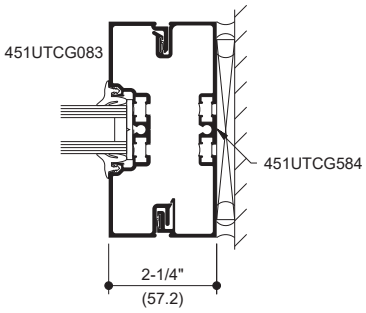
SCREW SPLINE



4
JAMB

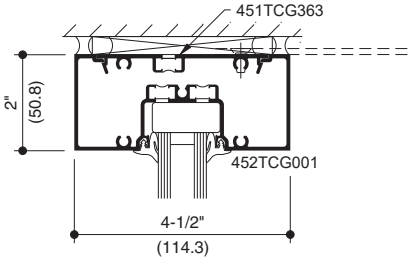


5
VERTICAL

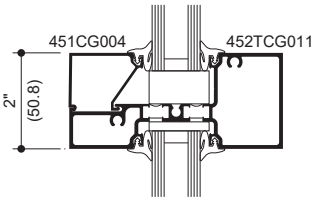


6
JAMB

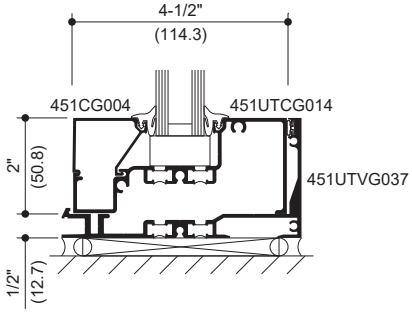
1
HEAD



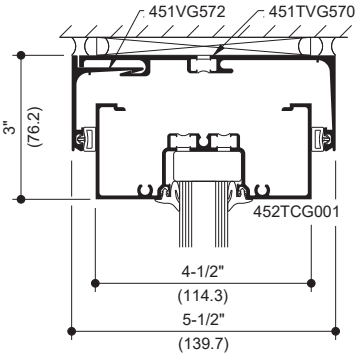
2
HORIZONTAL



3
SILL

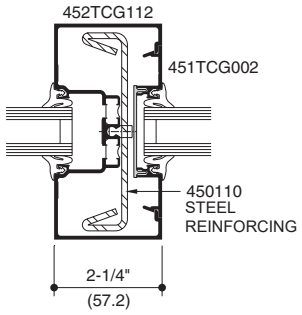


1A
HEAD

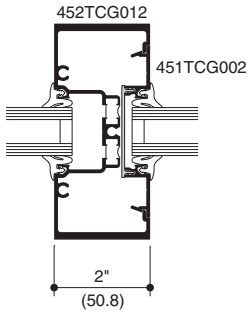


STANDARD HEAD
COMPENSATING RECEPTOR
(EXTERIOR INSTALLED)

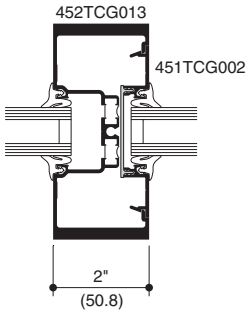
Additional information and CAD details are available at www.kawneer.com



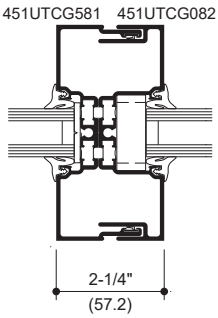
2-1/4" (57.2) MULLION W/ STEEL



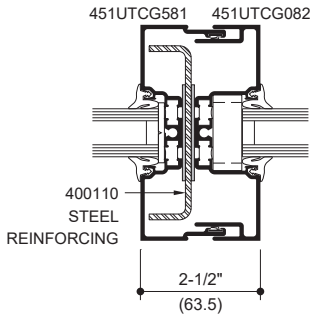
MEDIUM WEIGHT MULLION



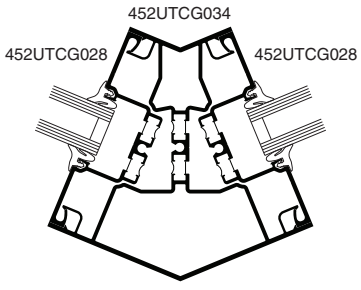
HEAVY WEIGHT MULLION

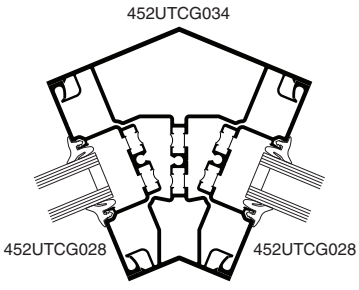


PRE-GLAZED EXPANSION MULLION



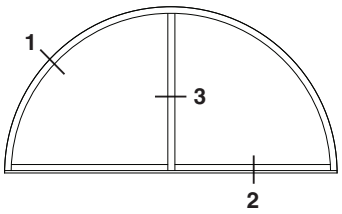
PRE-GLAZED EXPANSION MULLION WITH OPTIONAL STEEL





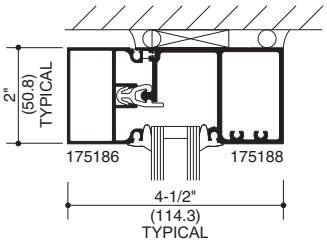
135° CORNER (THERMAL)

Additional information and CAD details are available at www.kawneer.com



CURVING DETAILS
(Center Plane Only)

1



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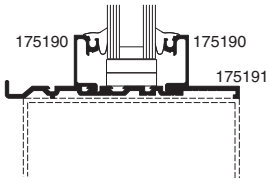

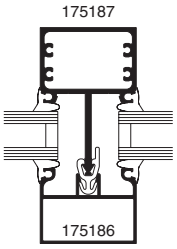

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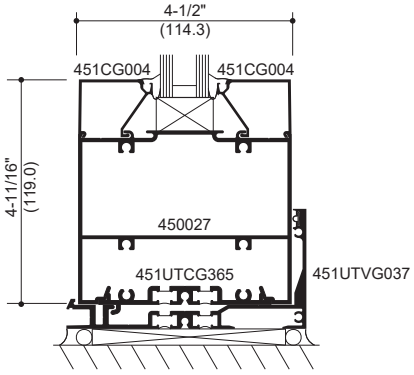
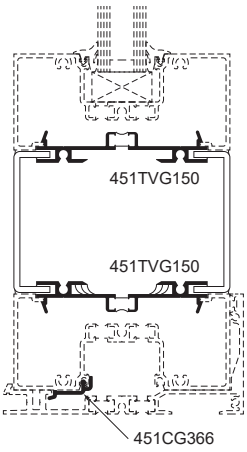
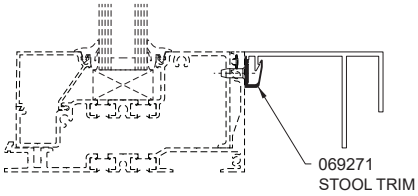


SIDELITE BASE

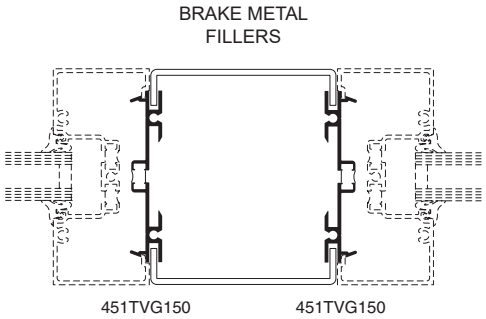


BRAKE METAL
ADAPTOR AT HORIZONTAL



STOOL TRIM CLIP
WITH HIGH PERFORMANCE
FLASHING

Seal over Stool Trim fasteners
to prevent water infiltration.



BRAKE METAL
ADAPTOR AT VERTICAL

Trifab® 451UT Framing System

AIR/VAPOR BARRIER TIE-IN OPTION

The following applications utilize Tremco Proglaze® ETA Connections as the transition assembly from the wall air/vapor barrier membrane to the storefront framing perimeter. Corners are sealed with either Proglaze® ETA 3D molded silicone corners or lapped Proglaze® ETA silicone sheet material. Transition assembly components are set in Tremco Spectrem® 1 silicone sealant. For complete installation instructions of Tremco Proglaze® ETA products, contact your local Tremco representative or visit www.tremcosealants.com.

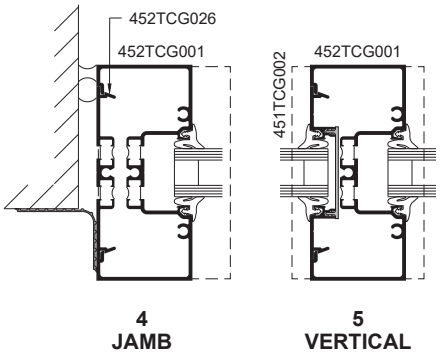
For integration of a silicone engineered transition assembly, the Trifab™ storefront system must use continuous head and jamb mullion fillers, a head receptor with continuous jamb fillers or a head receptor with jamb receptors.

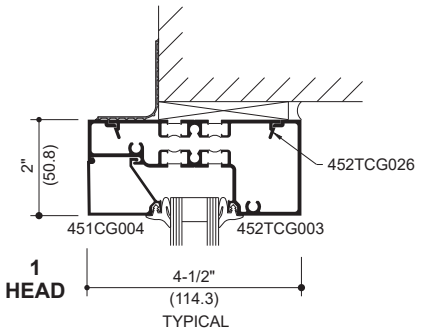
Reference air/vapor barrier installation instructions 451VG977EN. All storefront framing to be installed according to applicable Kawneer storefront system installation instructions, project specific plans, specifications and shop details.

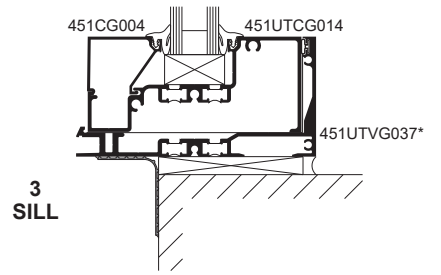
Storefront installations require the sill to be structurally supported directly under the glass setting blocks and mullion locations, as well as where the sill is anchored to the substrate. Any projecting or cantilevered sill applications that are not supported must be reviewed by Kawneer application engineering.

Installer to independently confirm sealant compatibility and adhesion with all job specific storefront framing materials, silicone ETA sheet material and wall AVB material.

CONTINUOUS HEAD AND JAMB MULLION FILLERS



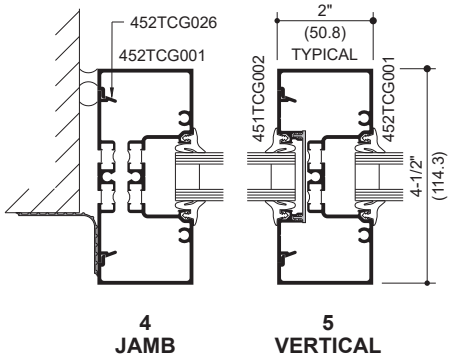


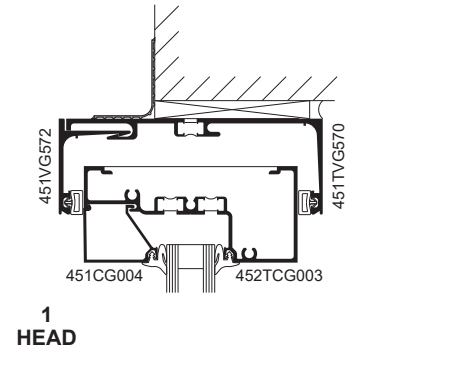


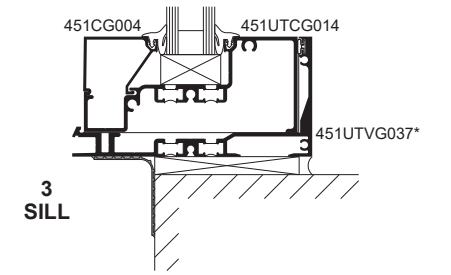
* HP Sill Flashing shown with optional gasket.

HEAD RECEPTOR WITH CONTINUOUS JAMB FILLERS

(EXTERIOR INSTALLED)



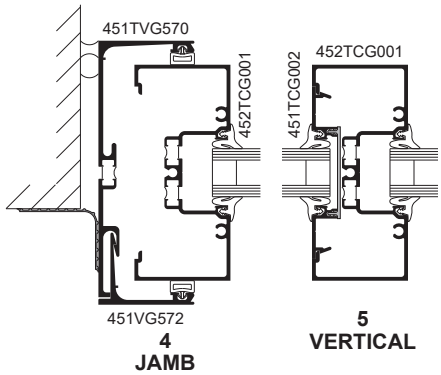


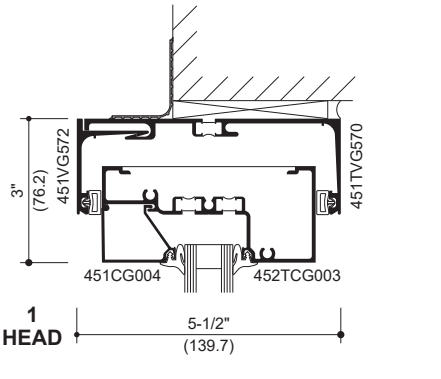


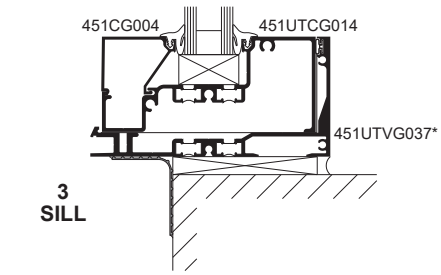
* HP Sill Flashing shown with optional gasket.

HEAD AND JAMB RECEPTORS

(EXTERIOR INSTALLED)



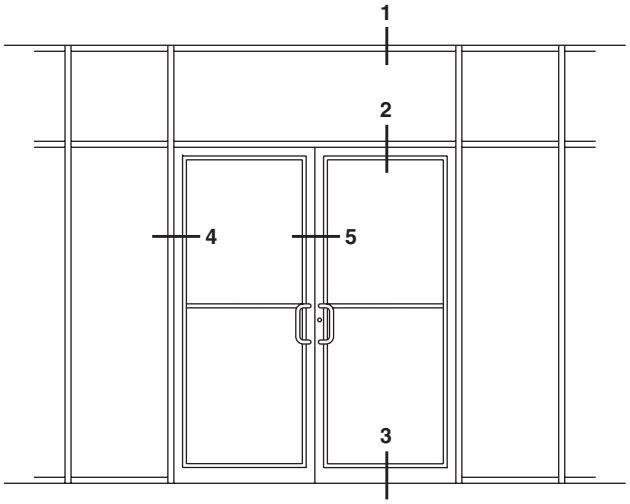




* HP Sill Flashing shown with optional gasket.

Additional information and CAD details are available at www.kawneer.com

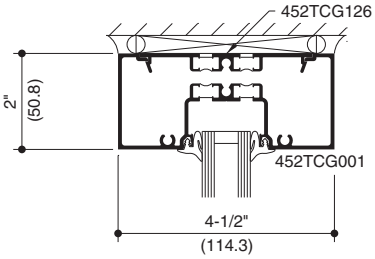
Trifab® VG 451T CENTER DOOR FRAMING SHOWN.
OTHER FRAMING OPTIONS AVAILABLE.
CONSULT YOUR KAWNEER REPRESENTATIVE.



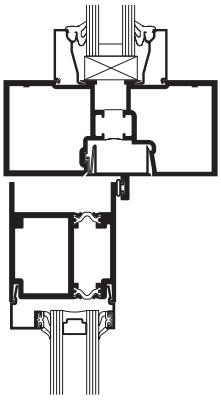
ELEVATION IS NUMBER KEYED TO DETAILS.

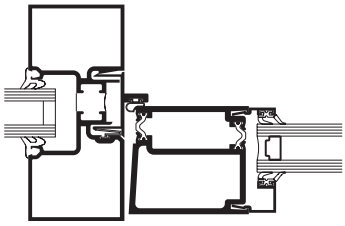
NOTE: Butt Hung or Offset Pivot Doors Only.

1
HEAD



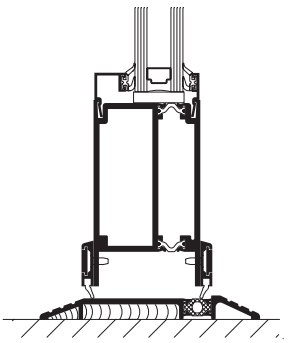
2
TRANSOM BAR

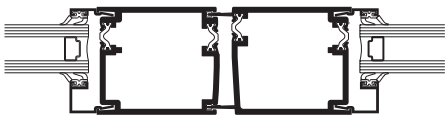




4
DOOR JAMB

3
BOTTOM RAIL





5
MEETING STILES

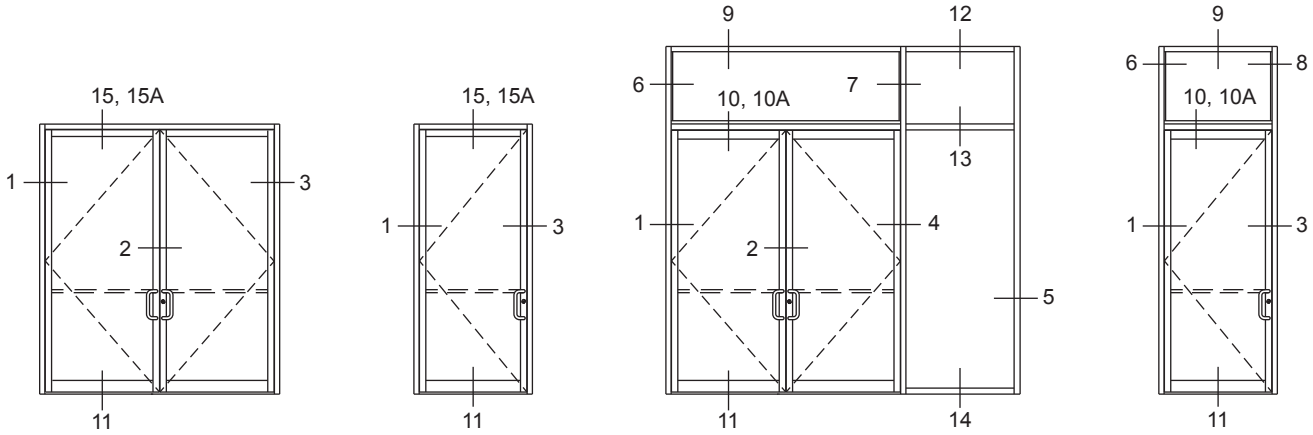
AA® 250/425 THERMAL DOOR

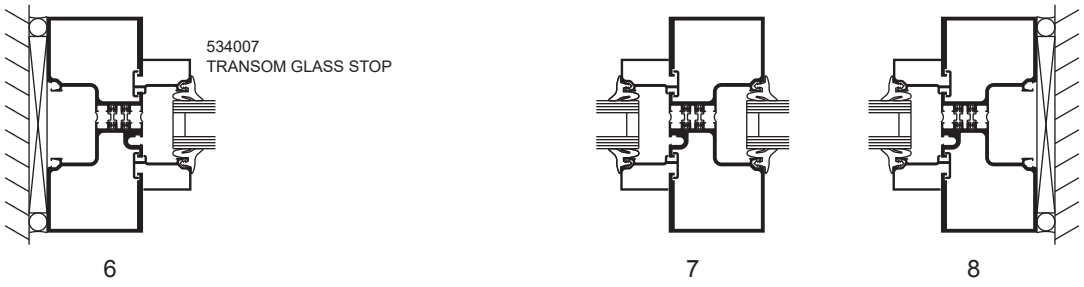
Additional information and CAD details are available at www.kawneer.com

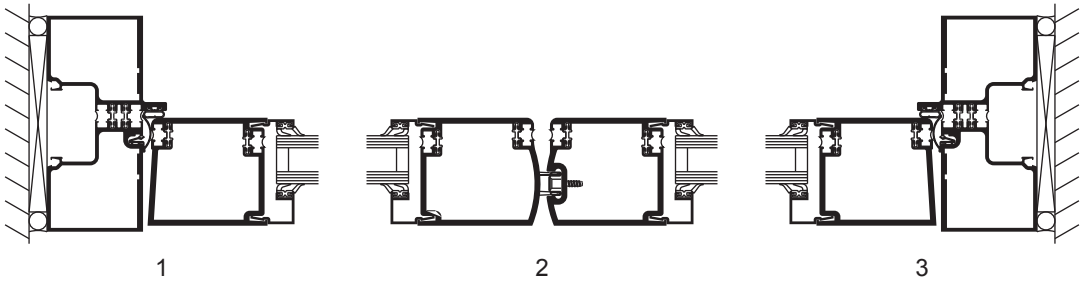
NOTE:

1. SERIES 250T NARROW STILE DOORS ARE DETAILED, MEDIUM STILE 350T DOORS AND WIDE STILE 500T DOORS ALSO MAY BE USED.

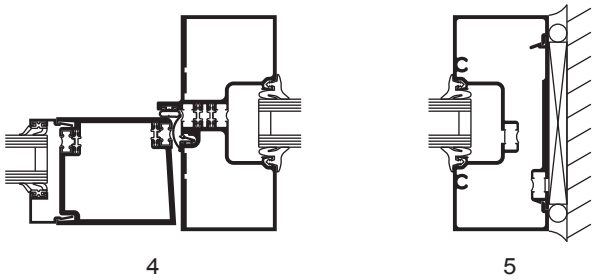
2. TRIFAB™ VG 451T CENTER, 2" x 4-1/2" (50.8 x 114.3) FRAMING IS DETAILED WITH THE DOORS FOR REFERENCE. OTHER KAWNEER FRAMING SERIES OR CURTAIN WALL SYSTEMS MAY BE USED.



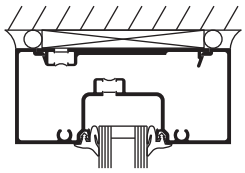




SINGLE ACTING DOORS



Additional information and CAD details are available at www.kawneer.com



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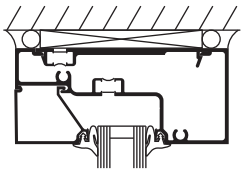
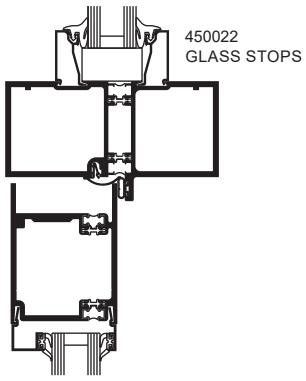


12

SINGLE ACTING DOORS



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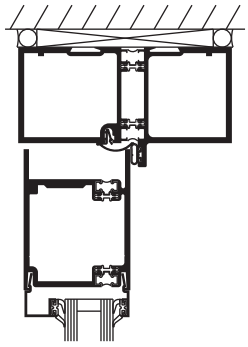

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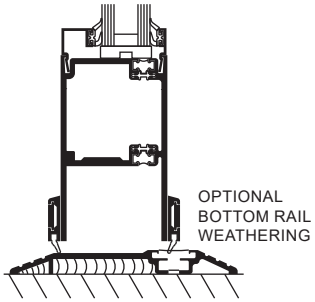
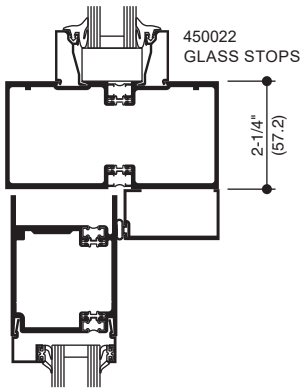


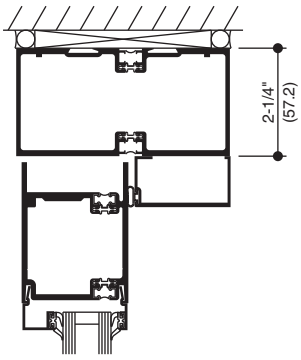
11

SURFACE OVERHEAD CLOSER

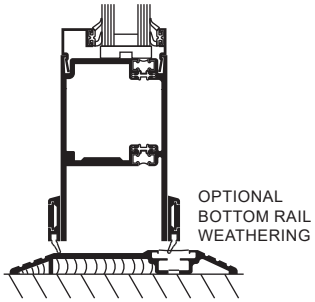
COC WITH SINGLE ACTING OFFSET ARM



10A

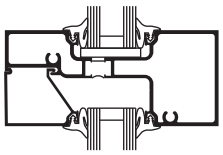


15A



11

CONSEALED OVERHEAD CLOSER



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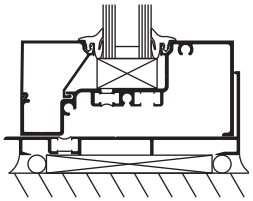


14

STOREFRONT GLAZING

Product Data Sheet

SOLARBAN®60
Solar Control Low-E Glass

Aesthetic Description
Solarban® 60 solar control, low-e glass by Vitro Architectural Glass (formerly PPG Glass) was engineered to control solar heat gain, which is essential to minimizing cooling costs. In a standard one-inch insulating glass unit (IGU), *Solarban*® 60 glass offers an exterior appearance similar to clear, uncoated glass.

With a very good Solar Heat Gain Coefficient (SHGC) of 0.39, *Solarban*® 60 glass blocks 66 percent of the total solar energy while allowing 70 percent of the visible light to pass through. This combination produces an excellent Light to Solar Gain (LSG) ratio of 1.79, along with exceptional insulating performance, as evidenced by its 0.29 winter nighttime U-value.

Aesthetic Options
Solarban® 60 glass can be coated on *Starphire*® glass and paired with *Starphire*® glass to produce an IGU with exceptional clarity and solar control characteristics. For even more color and performance options, it can be coated on the second (#2) surface of nearly all Vitro's wide range of tinted glasses. It can also be combined in an IGU with any Vitro tinted glass, *Solarcool*® reflective glass or *Vistacool*® subtly reflective, color-enhanced glass (see performance data on back page).

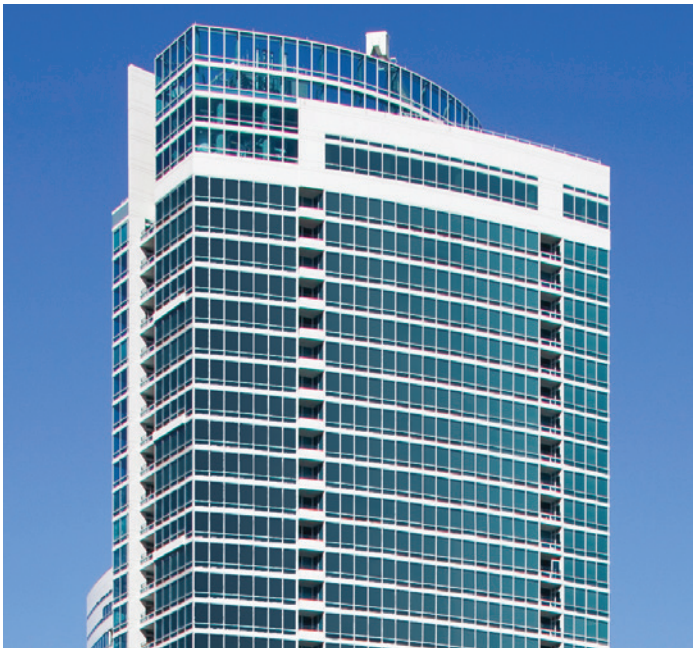
Solarban® 60 Glass and Sustainable Design
An energy modeling study conducted by an independent energy design and consulting firm showed that architects and building owners can potentially save millions of dollars during a building's lifetime by specifying *Solarban*® 60 glass instead of less advanced architectural glazings.

For instance, the study showed that, by substituting *Solarban*® 60 glass in place of dual-pane tinted glass, the owners of a typical glass-walled, eight-story office building in Boston could lower their initial HVAC equipment costs by nearly $350,000 while realizing annual energy savings of more than $80,000. Corresponding carbon emissions from the same building were also reduced by more than 300 tons per year, eclipsing the total carbon emissions generated by 31,000 gallons of gasoline.

In addition to making products that support sustainable design, Vitro has pioneered innovative technologies that reduce energy consumption during the glass-making process. Vitro promotes environmentally responsible manufacturing by recovering and reusing virtually all of its glass manufacturing by-products and by shipping its materials on reusable steel racks. Vitro also facilitates regional sourcing through its nationwide network of certified glass fabricators and laminators

Prudential Center

Location: Newark, NJ | **Product:** *Solarban*® 60 Glass | **Architect:** Morris Adjmi Architects | **Glass Contractor:** Josloff Glass | **Glass Fabricator:** J.E. Berkowitz, LP



Streeter Place

Location: Chicago, IL | **Product:** *Solarban*® 60 Glass | **Architect:** Solomon Cordwell Buenz and Associates | **Owner/Developer:** Golub and Company | **Glass Fabricator:** Northwestern Industries, Inc. | **Glazing Contractor:** Custom Windows and J&D Erectors

CERTIFIED cradle to cradle

Vitro®

Fabrication and Availability

Solarban® 60 glass is available exclusively through the *Vitro Certified*™ Network. *Vitro Certified*™ Fabricators can meet tight construction deadlines and accelerate the delivery of replacement glass before, during and after construction. *Solarban*® 60 glass is manufactured using the sputter-coating process and is available for annealed, heat-strengthened and tempered applications.

Additional Resources

Solarban® 60 glass is *Cradle to Cradle Certified*™. For more information or to obtain samples of any Vitro Glass product, call **1-855-VTRO-GLS (887-6457)** or visit **vitroglazings.com**.

Vitro Architectural Glass is the first U.S. float glass manufacturer to have its products recognized by the *Cradle to Cradle Certified*™ program, and offers more C2C-certified architectural glasses than any other float glass manufacturer.

Insulating Glass Unit Performance Comparisons | 1-inch (25mm) units with 1/2-inch (13mm) airspace and two 1/4-inch (6mm) lites

Glass Type: Outdoor Lite: Coating if Any (Surface) Glass + Indoor Lite: Coating if Any (Surface) Glass	Visible Light Transmittance (VLT)	Visible Light Reflectance		(BTU/hr°ft²°°F) NFRC U-Value		Solar Heat Gain Coefficient (SHGC)	Light to Solar Gain (LSG)
		Exterior %	Interior %	Winter Nighttime	Winter Argon		
***Solarban*® 60 Solar Control Low-E Glass**							
Solarban® 60 (2) Clear + Clear	70	11	12	0.29	0.24	0.39	1.79
Solarban® 60 (2) *Starphire*® + *Starphire*®	74	11	12	0.29	0.24	0.41	1.80
Solarban® 60 (2) *Solexia*® + Clear	61	9	12	0.29	0.24	0.32	1.91
Solarban® 60 (2) *Atlantica*® + Clear	53	8	11	0.29	0.24	0.27	1.96
Solarban® 60 (2) *Azuria*® + Clear	54	8	11	0.29	0.24	0.28	1.93
Solarban® 60 (2) *Solarblue*® + Clear	45	7	11	0.29	0.24	0.28	1.61
Solarban® 60 (2) *Pacifica*® + Clear	34	6	10	0.29	0.24	0.22	1.55
Solarban® 60 (2) *Solarbronze*® + Clear	42	7	11	0.29	0.24	0.28	1.50
Solarban® 60 (2) *Optigray*® + Clear	50	8	11	0.29	0.24	0.30	1.67
Solarban® 60 (2) *Solargray*® + Clear	35	6	10	0.29	0.24	0.25	1.40
Solexia® + *Solarban*® 60 (3) Clear	61	10	10	0.29	0.24	0.37	1.65
Atlantica® + *Solarban*® 60 (3) Clear	53	9	10	0.29	0.24	0.31	1.71
Azuria® + *Solarban*® 60 (3) Clear	54	9	10	0.29	0.24	0.31	1.74
Solarblue® + *Solarban*® 60 (3) Clear	45	7	9	0.29	0.24	0.33	1.36
Pacifica® + *Solarban*® 60 (3) Clear	34	6	9	0.29	0.24	0.25	1.36
Solarbronze® + *Solarban*® 60 (3) Clear	42	7	9	0.29	0.24	0.32	1.31
Optigray® + *Solarban*® 60 (3) Clear	50	8	9	0.29	0.24	0.35	1.43
Solargray® + *Solarban*® 60 (3) Clear	35	7	9	0.29	0.24	0.29	1.21
GraylitE II + *Solarban*® 60 (3) Clear	7	4	8	0.29	0.24	0.13	0.54
Vistacool*® and *Solarcool*® with *Solarban*® 60 Solar Control Low-E (3)							
Vistacool® (2) *Azuria*® + *Solarban*® 60 (3) Clear	42	20	24	0.29	0.24	0.26	1.62
Vistacool® (2) *Pacifica*® + *Solarban*® 60 (3) Clear	26	11	23	0.29	0.24	0.21	1.24
Solarcool® (2) *Solexia*® + *Solarban*® 60 (3) Clear	24	24	29	0.29	0.24	0.19	1.26
Solarcool® (2) *Azuria*® + *Solarban*® 60 (3) Clear	21	19	29	0.29	0.24	0.17	1.24
Solarcool® (2) *Solarblue*® + *Solarban*® 60 (3) Clear	17	14	29	0.29	0.24	0.18	0.94
Solarcool® (2) *Pacifica*® + *Solarban*® 60 (3) Clear	13	10	29	0.29	0.24	0.15	0.87
Solarcool® (2) *Solarbronze*® + *Solarban*® 60 (3) Clear	17	14	29	0.29	0.24	0.18	0.94
Solarcool® (2) *Solargray*® + *Solarban*® 60 (3) Clear	14	11	29	0.29	0.24	0.17	0.82

* Data based on using *Starphire*® glass for both interior and exterior lites.

All performance data calculated using LBNL Window 6.3 software, except European U-value, which is calculated using WinDat version 3.0.1 software. For detailed information on the methodologies used to calculate the aesthetic and performance values in this table, please visit www.ppgideascapes.com or request our Architectural Glass Catalog.

For more information about *Solarban*® low-e glass and other *Cradle to Cradle Certified*™ architectural glasses by Vitro Glass, visit **vitroglazings.com**, or call **1-855-VTRO-GLS (887-6457).**

Printed in the USA 02/06/17 (7071)

Endurance Window

Commercial Mid-Rise Windows

Strength & Performance

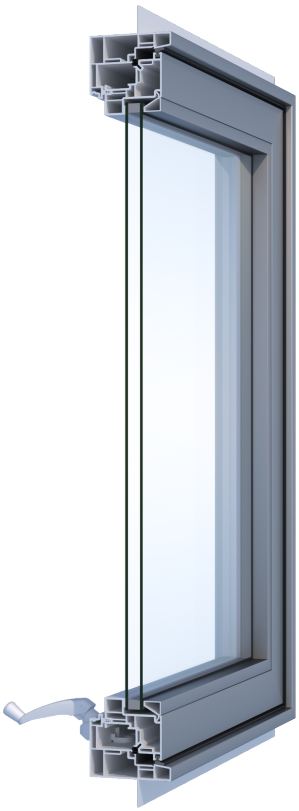
- Superior product performance developed and tested in the lab, proven in the field
- Commercial grade metal reinforcements interconnected throughout window assembly
- Vinyl frames deliver consistent thermal performance and minimize condensation
- Windows are assembled with continuous frames to avoid risky mulls

Water Resistance

- Panel level design minimizes water intrusion and air infiltration/ex-filtration
- Fusion welded corners provide environmental comfort and protect against leaks
- Integral nailfin options for ease of installation and water barrier

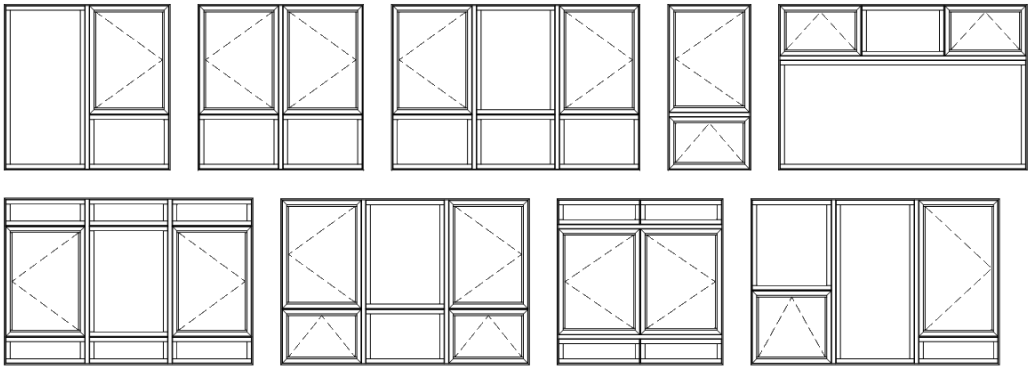
Design & Security

- Durable, co-extruded acrylic exterior finishes allow for color diversity
- Available multiple locking points ensure security and compress the triple weather seal for superior air and water resistance
- Easy to operate hardware for egress and fair housing requirements
- Heavily reinforced intersecting "T-Bar" system allows for design freedom with superior structural, air, water, and thermal performance



Commercial-Rated Performance:
Engineered for Mid-Rise Construction

Common Configurations:



Options:

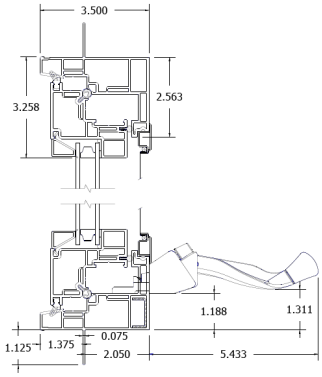
- Casement
- Awning
- Fixed
- Single Hung
- Horizontal Slider

Sill Details:

Casement/Awning

3 1/2" Frame Depth

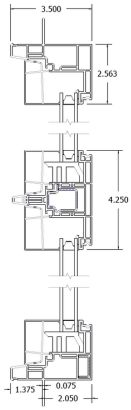
- Up to CW PG-70
- U values as low as .18
- Sound Rating as high as STC 44/OITC 33



Fixed Window

3 1/2" Frame Depth

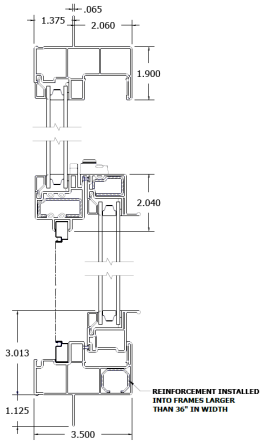
- Up to CW PG-40
- U values as low as .16
- Sound Rating as high as STC 44/OITC 33



Single Hung

3 1/2" Frame Depth

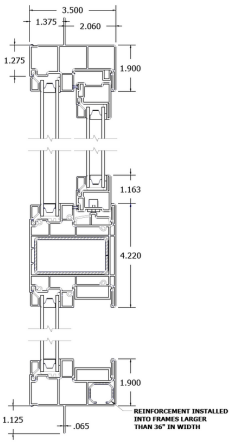
- Up to LC-PG55
- U values as low as .22
- Sound Rating as high as STC 36/OITC 29



Horizontal Slider

3 1/2" Frame Depth

- Up to LC-PG50
- U values as low as .22
- Sound Rating as high as STC 36/OITC 29



Colors:

Base

White | **Tan** | **Adobe**

*SuperCapSR**

Black | **Silver** *(clear anodized appearance)* | **Architectural Bronze**

SuperCapSR Heat-Reflective Color Technology

*Printing limitations prevent exact color duplication. Contact your VPI representative for color samples.

Overhead Doors - Garage and Lobby

Custom C.I.™

COMMERCIAL | RESIDENTIAL

Custom C.I.™ is the largest windloaded aluminum and glass overhead sectional door available on the market.

It was designed to meet the needs of large openings where it can be manufactured up to a maximum width of 30'-2" wide. Since 1958, ArmRLite has been consistently manufacturing the Custom C.I.™ Model and has never compromised on the quality of our doors. Because of this, ArmRLite is able to produce replacement sections for any of our welded models, regardless of purchase date.

- Maximum Width of 30'-2"
- Windload Available
- 20-Year Welded Frame Warranty*
- Lifetime Residential Warranty*

MATERIAL	6063-T6 Alloy
CONSTRUCTION METHOD	Heli-Arc Welding
TOP RAIL	4½" or 7½"
BOTTOM RAIL	4½" or 7½"
END STILES	3⅜", 4½" or 7½"
CENTER STILES	3⅜"
MEETING RAILS	3⅞" wide per pair
FRAME THICKNESS	1¾"

*Except the top section when trolley operated.

Custom C.I.™

Custom Garage Door Options

Due to our exclusive welded construction, ArmRLite's aluminum overhead sectional doors are capable of the highest degree of customization. Many of the options listed below are exclusive to ArmRLite due to our superior construction method.

GLASS GLAZING OPTIONS

DSB / Annealed
Tempered / Safety
Acrylic
Laminated
Insulated
Hurricane / Impact
Acoustical*
Frosted
Tinted
Polycarbonate
Custom

GLASS THICKNESS:
1/8" non-insulated
1/4" non-insulated
7/16" insulated
5/8" insulated
1" insulated

INTERIOR PANEL OPTIONS

Solid
Insulated
Perforated
Mesh
Stamped Panel Designs
Custom Panels
Operable / Inoperable Louvers

FINISH OPTIONS

Anodized Finishes: The standard finish is clear anodized aluminum. Optional anodized finishes include dark bronze and black anodized in stock for an upgrade. Custom Anodized finishes are available such a champagne bronze, medium bronze, ETC. Anodized finishes are the most resiliant in corrosive environments. Includes a 20-year finish warranty except on installations within 1 mile of saltwater.

Fluropon® Finishes: Upgrade option featuring hundreds of colors including metallic and non-metallic options. Custom color matches are also available upon request. Includes a 20-year finish warranty except on installations within 1 mile of saltwater.

RAL Powdercoat: Upgrade option featuring over 150 color choices to be selected from RAL color chart. Includes a 1-year finish warranty except on installations within 1 mile of saltwater.

Faux Wood: Upgrade option featuring 6 faux wood finishes. Includes a 10-year warranty except on installations within 1 mile of saltwater.

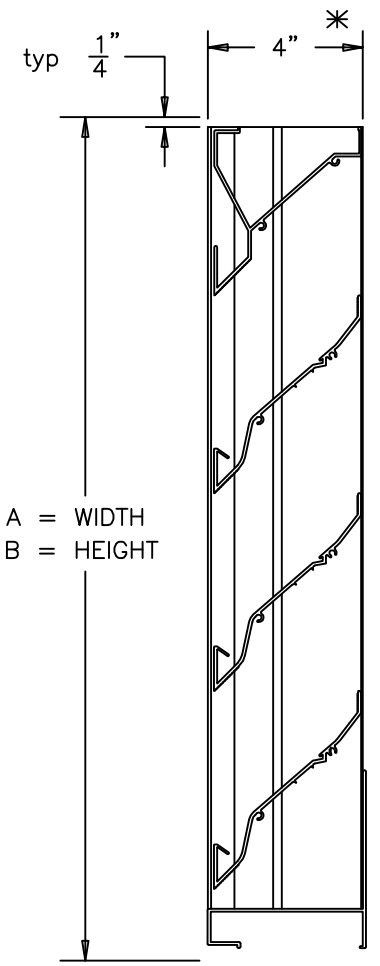
CUSTOM OPTIONS

Step-Over Pass Door/ADA Pass Door*
Sloping Bottom
Awning Windows
Mail Slots
Energy Efficiency Package
Motor or Manual Operation
Corrosion Resistant Package
High Cycle Springs
Exhaust Ports
Matching Transoms, Side Lites, Entrance Doors and gates

*Please consult with ArmRLite regarding limitations.

EXTRUDED ALUMINUM, 4" DEEP, FIXED DRAINABLE TYPE BLADE

Mech. Louvers



SECTION VIEW

MODEL LE–21
STANDARD SPECIFICATIONS

FRAME: 4" DEEP CHANNEL, .081" THICK 6063–T5 EXTRUDED ALUMINUM ALLOY.

BLADES: .081" THICK 6063–T5 EXTRUDED ALUMINUM ALLOY.

FINISH: MILL.

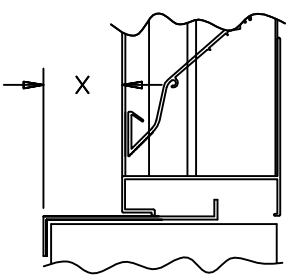
SCREEN: 1/2" REMOVABLE EXPANDED ALUMINUM BIRD SCREEN, LOCATED ON INTERIOR.

MAXIMUM PANEL SIZE: 96" X 96".

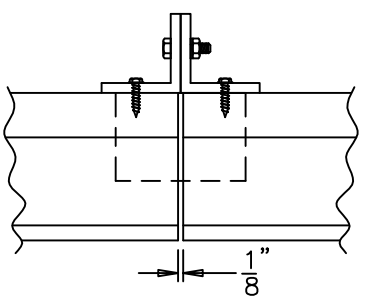
MINIMUM PANEL SIZE: 12" X 12".

DIMENSIONS: "A" (WIDTH) "B" (HEIGHT) ARE OPENING SIZES. LOUVERS ARE MADE 1/2" UNDERSIZE.

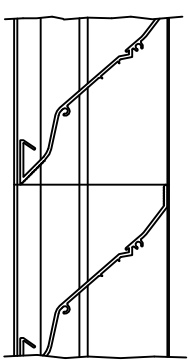
✳ PANELS OVER 60" WIDE WILL BE 5–1/2" DEEP DUE TO A VERTICAL INTERIOR BLADE SUPPORT ANGLE.



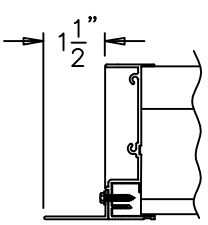
EXTENDED SILL
OPTIONAL



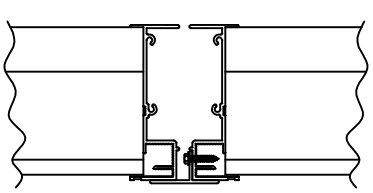
ARCHITECTURAL VERTICAL
MULLION OPTIONAL



STANDARD HORIZONTAL
MULLION



FLANGED FRAME
OPTIONAL
(JAMB SHOWN)



STANDARD VERTICAL
MULLION

American Warming and Ventilating certifies that the model LE–21 louver shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings and water penetration ratings.

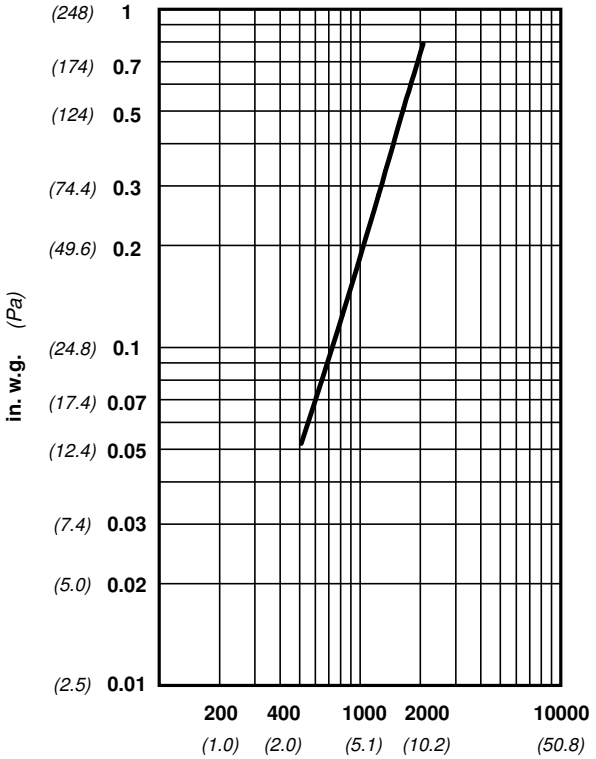
awv® american warming and ventilating
A MESTEK COMPANY
7301 INTERNATIONAL DRIVE HOLLAND, OHIO
Phone (419) 865–5000 Fax (419) 865–1375

LE–21 STATIONARY LOUVER

DRN. BY	DWG. NO.	REV.
ESS	LE–21	
DATE 1/4/12		

Water Penetration : 0.01 oz (3.0 g) at 1025 fpm (5.21 m/s) recommended free area velocity
Pressure Drop : 0.20 in wg (49.8 Pa.) at 1025 fpm (5.21 m/s) and 8210 scfm (3.87 scm/s)
Free Area : 8.01 sq ft (0.744 sq m) = 50.1% for 48'' x 48'' (1.22m x 1.22m) test size

INTAKE PRESSURE DROP

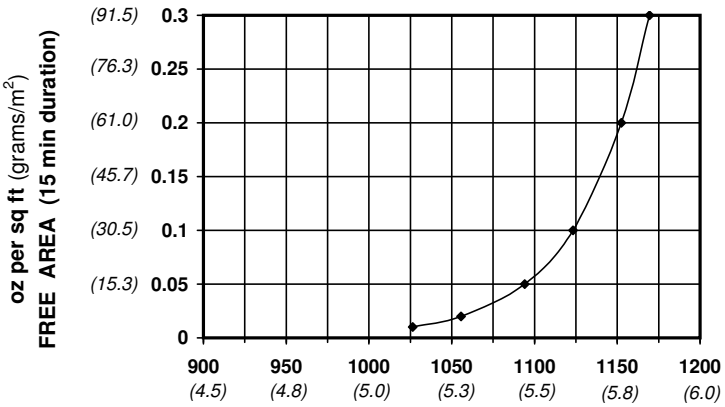


VELOCITY THROUGH FREE AREA fpm (m/s)
standard air- .075 lbs per cu ft
Ratings do not include the effect of a wire bird screen
Test based on a 48" x 48" test size per AMCA Standard 511
Figure 5.5. Data are based on intake performance.

FREE AREA IN SQUARE FEET *(sq meters)*

HEIGHT	WIDTH								
	in.	**12**	**24**	**36**	**48**	**60**	**72**	**84**	**96**
	mm	*305*	*610*	*914*	*1219*	*1524*	*1829*	*2134*	*2438*
	12	**0.28**	**0.65**	**1.01**	**1.38**	**1.74**	**2.06**	**2.43**	**2.79**
	305	*0.026*	*0.060*	*0.094*	*0.128*	*0.162*	*0.191*	*0.226*	*0.259*
	24	**0.68**	**1.56**	**2.44**	**3.32**	**4.20**	**4.97**	**5.85**	**6.73**
	610	*0.063*	*0.145*	*0.227*	*0.308*	*0.390*	*0.462*	*0.543*	*0.625*
	36	**1.14**	**2.62**	**4.10**	**5.58**	**7.06**	**8.35**	**9.83**	**11.31**
	914	*0.106*	*0.243*	*0.381*	*0.518*	*0.656*	*0.776*	*0.913*	*1.051*
	48	**1.64**	**3.76**	**5.89**	**8.01**	**10.14**	**12.00**	**14.12**	**16.25**
	1219	*0.152*	*0.350*	*0.547*	*0.744*	*0.942*	*1.115*	*1.312*	*1.509*
	60	**2.02**	**4.64**	**7.26**	**9.88**	**12.50**	**14.79**	**17.41**	**20.03**
	1524	*0.188*	*0.431*	*0.674*	*0.918*	*1.161*	*1.374*	*1.617*	*1.861*
	72	**2.50**	**5.74**	**8.98**	**12.22**	**15.46**	**18.29**	**21.53**	**24.77**
	1829	*0.232*	*0.533*	*0.834*	*1.135*	*1.436*	*1.699*	*2.000*	*2.301*
	84	**2.89**	**6.65**	**10.40**	**14.16**	**17.91**	**21.20**	**24.96**	**28.71**
	2134	*0.268*	*0.618*	*0.966*	*1.316*	*1.664*	*1.970*	*2.319*	*2.667*
	96	**3.36**	**7.71**	**12.06**	**16.42**	**20.77**	**24.58**	**28.94**	**33.29**
	2438	*0.312*	*0.716*	*1.120*	*1.525*	*1.930*	*2.284*	*2.689*	*3.093*

WATER PENETRATION



VELOCITY THROUGH FREE AREA fpm (m/s)
Both maximum recommended free area velocity and beginning of water penetration are 1025 fpm at standard air -.075 lbs per cu ft. The above water penetration data is based on mill finish, 48" x 48" test size per AMCA Standard 511.

amca CERTIFIED RATINGS
WATER PENETRATION
AIR PERFORMANCE
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PRINTED IN THE UNITED STATES OF AMERICA

American Warming and Ventilating certifies that the model LE-21 louver shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance and water penetration ratings.

LE-21

Openings that require multiple louver panels in both width and height will require internal structural supports. It is recommended that large openings be divided with structural members so that the louvers will span either width or height with a single panel. Unusually high wind loading may require structural supports on non-multiple wide and multiple high assemblies. **Structural supports and mounting accessories are not supplied as a standard**.

Below is an explanation of how to use the AMCA Performance data for the recommended free area velocity of 1025 fpm (5.21 m/s).

To determine minimum free area required for louver:

Step #1: Divide the required CFM flow by the maximum recommended free area velocity.

Step #2: Select the most desirable louver size, from the free area table, that meets the minimum free area requirement.

Step #3: Compare specified performance to the certified water penetration and pressure drop ratings.

Example: Given: 15000 CFM design flow

Step #1:

$$\text{min. free area} = \frac{\text{Design CFM}}{\text{Max. Recommended Velocity}}$$

$$= \frac{15000}{1025} = \textbf{14.6 sq ft}$$

Step #2: From the free area table above the approximate louver size is 48" x 84" = (14.16 sq ft)

HUNTCO
SITE FURNISHINGS

Bike racks, lockers, benches and architectural site furnishings since 1980.

Tradition & Innovation

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EMAIL Sales@Huntco.com
WEB Huntco.com
TWITTER @Huntcosupply
MAIL P.O. Box 10385
Portland, Or. 97296-0385

Bike Racks

×1

THE STIRRUP

An economical space saver, the Stirrup tidies cluttered bike rooms, keeping bikes out of the way and secure.

CONSTRUCTION/MATERIAL

- .25" Plate Steel Backer
- .375" Solid Steel Hook
- .625" Solid Steel Lock bar

Wheel Cushion: Rubber

DIMENSIONS

- 3.5" Width
- 35" Length
- 19.75" Depth (from wall)

MOUNTING

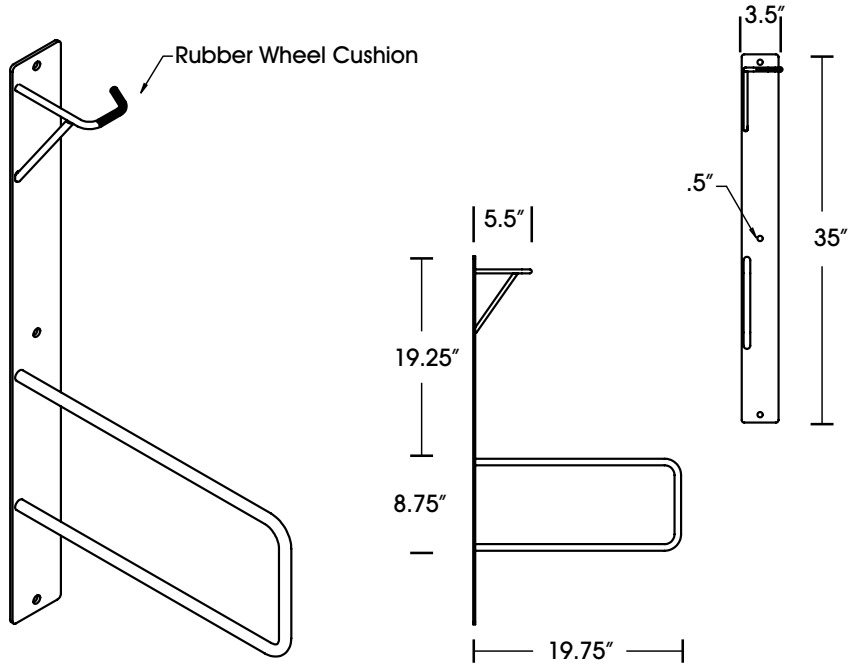
(3) .5" Mounting Holes

FINISH OPTIONS

- ☐ Hot Dipped Galvanized
- ☐ Powder Coating
  #
- ☐ Thermoplastic Coating
  #

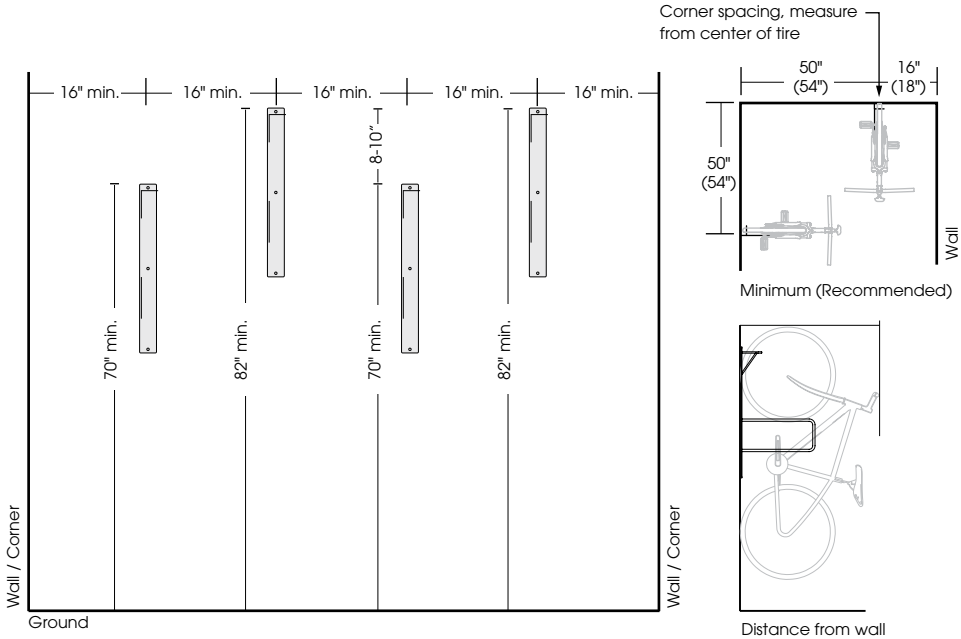
FEATURES

- U-Lock Compatible



RECOMMENDED LAYOUT

\\\ **NOTE:** Wall mount bike racks can be installed non-staggered at 20"-24" spacing.



CONTRACTOR:

JOB:

NOTES:

Manufactured in the Pacific Northwest

HUNTCO
SITE FURNISHINGS

Bike racks, lockers, benches and architectural site furnishings since 1980.

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Portland, Or. 97296-0385

INSTALLING: SHEETROCK

New and existing sheetrock wall installation recommendations.

NEW WALL

If installing on a wood framed 2”x 4” standard wood stud wall that is going to receive sheetrock it is recommended to put 2”x10” wood backing inside the stud cavities.

Blocking should be placed to match your install (staggered or straight).

RECOMMENDED MATERIALS

– 2"x10" Wood

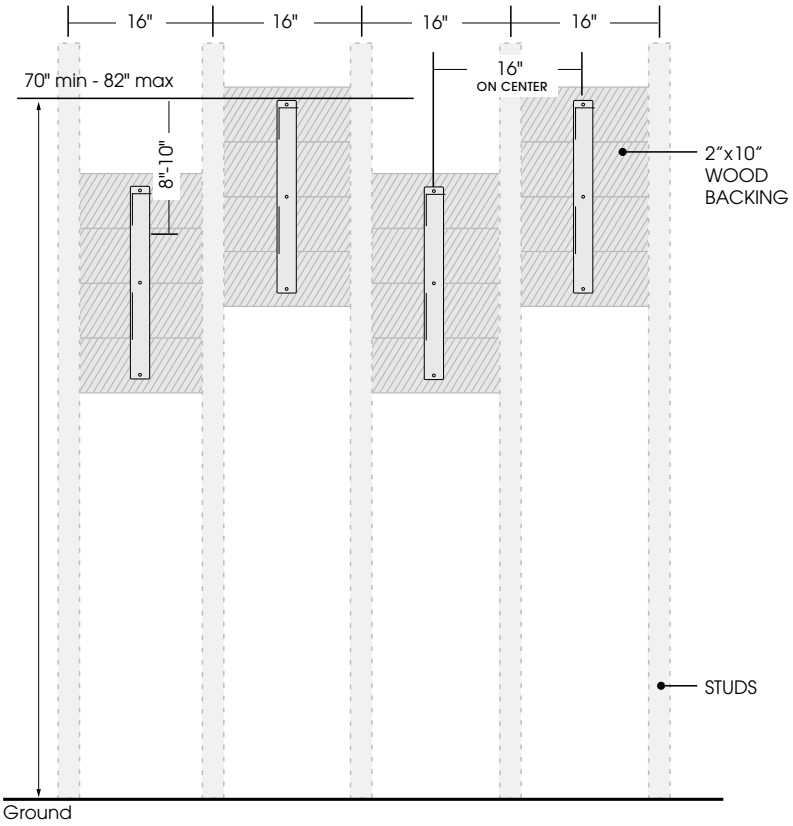
EXISTING WALL

If the bike racks are going to be installed on an existing sheet rock wall. The installer will need to overlay ¾” plywood either on the entire wall or in strips.

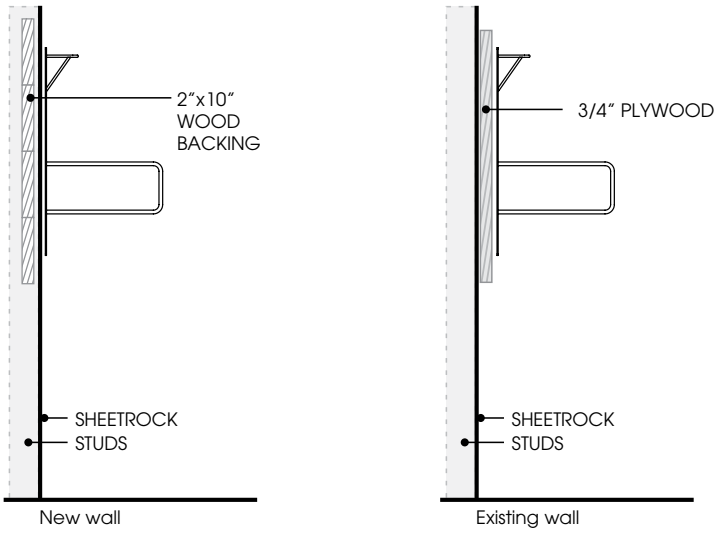
Plywood should be placed to match your layout.

RECOMMENDED MATERIALS

– 3/4" Plywood



FRONT



SIDE

Manufactured in the Pacific Northwest

BeveLED Mini® Basic - B3RD-L2
3″ Round Downlight

USAI® Lighting

Field changeable between Trimmed / Trimless / Millwork

usailighting.com/minibasic

Introducing BeveLED Mini Basic, our newest LED downlight to deliver consistently classic white light with the same below ceiling appearance as our BeveLED Mini product line.

FEATURES

- Available in a full range of Classic White and Dim to Warm color temperature options
- Downlight, wallwash and adjustable accent configurations
- Dry/damp/wet location rated for bathrooms and showers
- All of USAI's dimming driver options including 0-10V, digital, and phase dimming
- All housings are field convertible from trimless or millwork to trimmed installations in the field

DOWNLIGHT PERFORMANCE DATA

DELIVERED* PERFORMANCE:	Classic White				Dim to Warm
	9W		15W		15W
Correlated Color Temperature:	3000K		3000K		3000K
Color Rendering Index (CRI):	80+	90+	80+	90+	90+
Source Lumens:	1075	900	1575	1325	1150
Lumens Per Watt:	92	77	76	64	59
Delivered Lumens:	825	700	1200	1000	825
Color Consistency:	2-Step MacAdam Ellipse				3-Step MacAdam Ellipse

*Based on 50° beam. Performance varies for each specific beamspread and color temperature. See IES files for exact values at usailighting.com.

CORRELATED COLOR TEMPERATURE MULTIPLIER	Classic White							
	2700K		3000K		3500K		4000K	
Color Rendering Index:	80+	90+	80+	90+	80+	90+	80+	90+
Multiplier for Lumen Output:	0.98	0.81	1.00	0.84	1.02	0.98	1.06	0.98

usailighting.com
info@usailighting.com
T 845–565–8500
F 845–561–1130
1126 River Road
New Windsor, NY 12553

HOW TO SPECIFY

BeveLED Mini® Basic - B3RD-L2
3" Round Downlight

USAI® Lighting

Specify fixture part number. (All boxes must be filled in to correctly order)

B3RD__

Trim Style	Wattage Options	LED Color Temperature Options	Beam Options	Lens Options	Bevel Trim Finish Options	*Flange/ Millwork Collar Finish	Natatorium Corrosion Protection (optional)	Housing Options	Voltage Options *Select one*	Dimming Driver Options	Accessories (Optional)*
B3RDF 3" Round Downlight Overlap Flange **B3RDL** 3" Round Downlight Trimless Plaster Frame **B3RDM** 3" Round Downlight Trimless Millwork	**Classic White** **09L2** 9W LED **15L2** 15W LED **Dim to Warm** **15DW1** 15W LED	**27KS** 2700K, 80+ CRI **27KH** 2700K, 90+ CRI **30KS** 3000K, 80+ CRI **30KH** 3000K, 90+ CRI **35KS** 3500K, 80+ CRI **35KH** 3500K, 90+ CRI **40KS** 4000K, 80+ CRI **40KH** 4000K, 90+ CRI 2-Step MacAdam Ellipse Color Consistency is standard for all **3018KH** 3000K-1800K, 90+ CRI 3-Step MacAdam Ellipse Color Consistency is standard	**20** 20° beam (3) **30** 30° beam **50** 50° beam	**S** Solite (provided standard) **BF** Borosilicate Frosted	**WH** White **SC** Conduit Silver **GR** Grey **BL** Black **BZ** Bronze **PR** Primer Finish **AC** Clear Matte Anodized **AB** Piano Gloss Black **RAL** Custom Color Specify RAL #	**WH** White **SC** Conduit Silver **GR** Grey **BL** Black **BZ** Bronze **PR** Primer Finish **AC** Clear Matte Anodized **WH** White **BL** Black **GR** Grey **BZ** Bronze **AB** Piano Gloss Black **WH** White **GR** Grey **BL** Black **BZ** Bronze **RAL** Custom Color Specify RAL # *Leave blank for Trimless	**NT** Natatorium triple-coat Corrosion resistant (available with "F" flanged trims and painted finishes only) * Leave blank for non Natatorium trims	**EC** Mini Basic New Construction **NC1** Universal New Construction Housing **NCIC** New Construction Insulation Contact Rated / Airtight **NCCP** Chicago Plenum	**UNV** 120V-277V **120V**	***For use with Universal Voltage 120V - 277V*** **D22** 0-10V dim, 1% (provided standard) **D4A** Lutron ECO, 0.1% (1, 3) **D4P** Lutron ECO, 1% (1) **D6A** EldoLED 0-10V, 0.1% (1) **D6B** EldoLED 0-10V, 0.1% (1) **D6E** EldoLED 0-10V, 1% (1) **D6F** EldoLED 0-10V, 1% (1) **D7** EldoLED DALI, 0.1% (1) ***For use with 120V only*** **D3** Lutron 2-wire, 1% (1) **D19** Phase 2-wire, 1% (3) **D21** ERP Phase dimming, 1% *1 Not available with 9W LED* *2 Available with NC1 housing only; above ceiling access required* *3 Not available with Dim to Warm 15DW1 LED*	**CB27** 27" C-Channel Bars **CB52** 52" C-Channel Bars **EM** Emergency Battery, Dry/Damp Only (2) **EMW** Emergency Battery, Wet Location (2) *Residential grade nailer bars provided standard

TRIM FINISH OPTIONS


White - WH


Grey - GR


Black - BL


Bronze - BZ

Primer finish and custom colors also available

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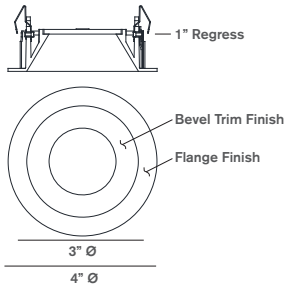
BeveLED Mini® Basic - B3RD-L2
3″ Round Downlight

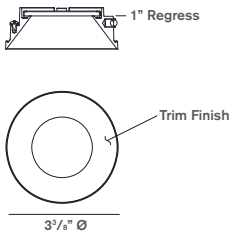
USAI® Lighting

TRIM DETAILS

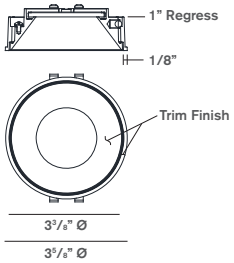
Trimmed - B3RDF



Trimless - B3RDL



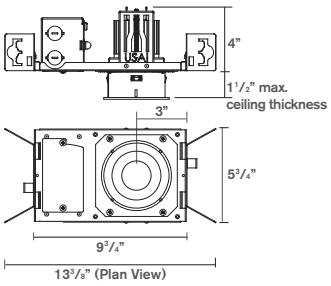
Millwork - B3RDM



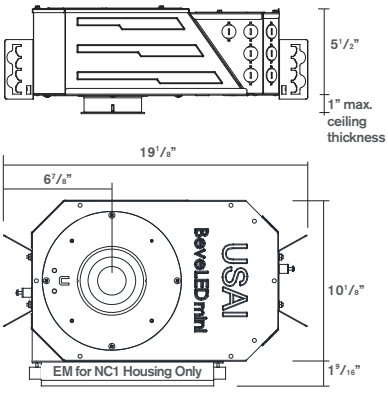
HOUSING OPTIONS

Trimmed - B3RDF

Mini Basic
New Construction Housing - EC



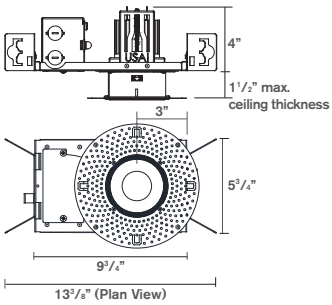
Universal New Construction Housing - NC1
Insulation-Contact Rated/Airtight - NCIC
Chicago Plenum Housing - NCCP



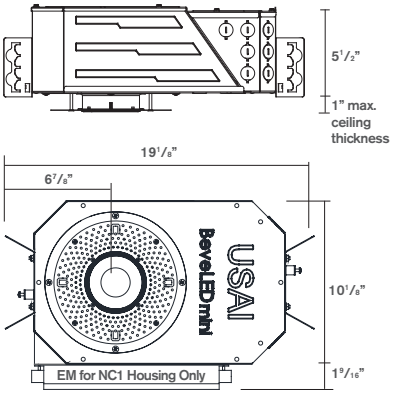
* Above ceiling access required for EM service

Trimless - B3RDL

Mini Basic
New Construction Housing - EC



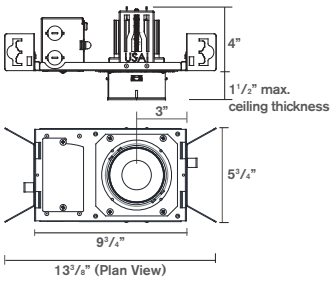
Universal New Construction Housing - NC1
Insulation-Contact Rated/Airtight - NCIC
Chicago Plenum Housing - NCCP



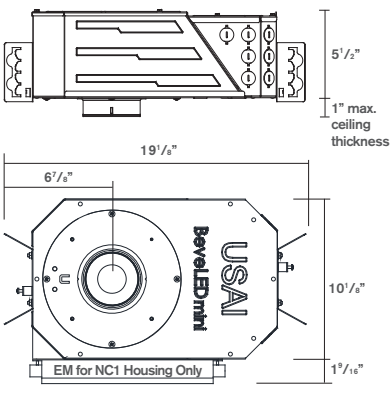
* Above ceiling access required for EM service

Millwork - B3RDM

Mini Basic
New Construction Housing - EC



Universal New Construction Housing - NC1
Insulation-Contact Rated/Airtight - NCIC
Chicago Plenum Housing - NCCP



* Above ceiling access required for EM service

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HOW TO SPECIFY

BeveLED Mini® Basic - B3RD-L2
3" Round Downlight

USAI® Lighting

BEVELED MINI BASIC SPECIFICATIONS

FIELD REPLACEABLE LED LIGHT ENGINE
is serviceable through the aperture with a Philips screwdriver. All USAI Lighting light engines feature industry-leading color consistency within a 2-Step MacAdam Ellipse.

FIELD REPLACEABLE DRIVER
Unless otherwise specified, a 0-10V, 100%-1% solid state electronic constant current integral D22 dimming driver with a high power factor is provided standard and sources 2mA. All dimming drivers are serviceable from below the ceiling through the aperture and comply with IEEE C62.41 surge protection.

TRIM
Die cast aluminum bevel with a 1" regress is retained by two stainless steel mounting clips. 3" round aperture trim is provided with either 1/2" flange (F style trim) or flangeless (P and M style trims), and retains a glass lens (solite provided standard).

TRIM FINISH
BeveLED Mini trims are available in a wide range of finishes. USAI's standard powdercoat painted trim finishes are white, conduit silver, gray, black, and bronze. A clear matte anodized bevel and piano gloss black electrocoated bevel are also available with matching or contrast-painted flange finish options. Natatorium finishes are triple-coated for corrosion resistance; these coatings are offered in painted finishes only and are not available for trimless or millwork. All trim finishes are dry/damp/wet location rated, with the exception of the anodized (-AC-) and electrocoated (-AB-) bevel finishes, which are dry/damp only. Please contact the USAI factory with a RAL number specification for custom color trims, or specify the field-paintable primer finish option.

EMERGENCY
Emergency housing fixtures are provided with a remote test switch with a 24" lead length for location of the test switch. Remote test switch is dry/damp rated only; select EMW option for gasketed, dry/damp/wet-location rated remote test switch. Emergency battery requires above ceiling access for service.

FIXTURE WEIGHT
BeveLED Mini Basic standard EC housing with trim weighs 5 lbs. NC1, NCIC and NCCP housings weigh 11 lbs each. NC1 housing with EM battery weighs 15 lbs.

HOUSING
Fabricated of 20 ga. steel construction with thru wire J-box, 4 in 4 out at min. 90°C, #12 AWG thru branch circuit wiring.

MOUNTING
B3RDF overlap flange fixtures are designed for use in sheetrock, acoustical ceiling tile, and many other ceiling materials. B3RDL plaster frame fixtures are provided with a spackle collar and are designed for use in sheetrock/mud-in ceiling applications. B3RDM millwork fixtures are provided with a millwork collar in finish to match trim finish specified and are designed for use in wood/millwork construction applications. Butterfly brackets and adjustable nailer bars extendible from 14" to 24" centers with integral nails are provided for attachment to building structure. C-channel bars are optionally available for acoustical ceiling applications.

WARRANTY
Based on IESNA LM80-2008, BeveLED Mini Basic has a 50,000 hour rated life at 70% lumen maintenance (L70). USAI Lighting Warranty covers replacement parts for 5 years from date of shipment.

CEILING CUT OUT
B3RDF Overlap Flange: 3-5/8" Ø
B3RDP Plaster Frame: 4-3/16" Ø
B3RDM Millwork: 3-5/8" Ø

MAXIMUM CEILING THICKNESS
As noted on housing drawings

LISTINGS
Dry/Damp/Wet location. AC and AB trim finishes are dry/damp only. EM test switch is dry/damp only. Select EMW option for wet location remote test switch. UL2043 rated for use in air handling plenums. Not for use in fire-rated installations. NRTL/CSA-US tested to UL standards. IBEW union made.

NOTES
- Not for use in corrosive environment
- Use of pressure washer voids warranty

PHOTOMETRICS
Consult factory or website for IES files. Tested in accordance with IESNA LM79.

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BeveLED Mini® Infinite Color+® - B3RD-FC1
3″ Round Downlight

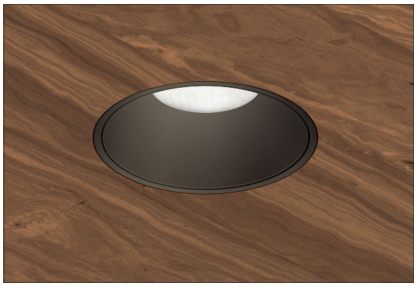
USAI® Lighting

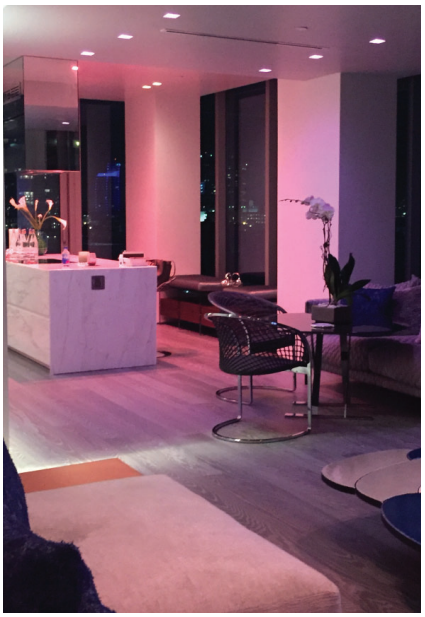
Field Convertible from Trimless or Millwork to Trimmed

Trimmed - B3RDF-FC1

Trimless - B3RDL-FC1

Millwork - B3RDM-FC1





usailighting.com/infinitecolormini

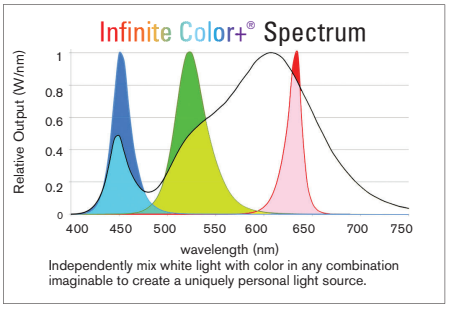
BeveLED Mini Infinite Color+ - the smallest member of our iconic BeveLED family to offer full color + tunable white light flexibility. Access to a wide variety of perfect architectural whites, saturated colors, neutrals, and pastels are possible with DMX controls. Infinite opportunities abound for residential, hospitality and retail lighting applications, and any project requiring full color and white light flexibility.

FEATURES

- Full color and white light flexibility
- Dry/damp/wet location rated for showers
- Field convertible from trimless or millwork to trimmed

DOWNLIGHT PERFORMANCE DATA

DELIVERED* PERFORMANCE:	Infinite Color + White Light Channel Only	Multi Channel Output
Wattage	**17W**	**18W**
Source Lumens:	1100	1200
Lumens Per Watt:	48	50
Delivered Lumens:	850	925



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HOW TO SPECIFY

BeveLED Mini® Infinite Color+® - B3RD-FC1
3" Round Downlight

USAI® Lighting

1. Specify fixture part number and options.

B3RD__	18FC1		SF				RM	
BeveLED Trim Style	**Wattage Options**	**Beam Options**	**Lens Options**	**Bevel Trim Finish Options**	***Flange/ Millwork Collar Finish**	**Housing Options**	**Remote Dimming Driver**	**Accessories (Optional)**
F Trimmed with Flange (use with all materials)	**18FC1** 18W LED	**50** 50° beam	**SF** Solite Frosted	**WH** White	**WH** White	**FT** Flat Housing New Construction	**RM** Remote Dimming Driver, specify remote power supply in table below	**CB27** 27" C-Channel Bars
L Trimless Spackle-in (use with sheetrock and plaster only)		**70** 70° beam		**SC** Conduit Silver	**SC** Conduit Silver	**FTA** Flat Adjustable Housing		**CB52** 52" C-Channel Bars
M Millwork Knife-Edge (use with wood and stone)				**GR** Grey	**GR** Grey	**NC1** New Construction All-in-One		**CM27** 27" C-Channel Bars (use with FT housing only)
				BL Black	**BL** Black	**NCCP** Chicago Plenum		**CM52** 52" C-Channel Bars (use with FT housing only)
				BZ Bronze	**BZ** Bronze	**NCIC** Insulation Contact Rated / Airtight		
				PR Primer Finish	**PR** Primer Finish			
				AC Clear Matte Anodized	**AC** Clear Matte Anodized			
					WH White			
					GR Grey			
					BL Black			
					BZ Bronze			
				AB Piano Gloss Black	**AB** Piano Gloss Black			
					WH White			
					GR Grey			
					BL Black			
					BZ Bronze			
				RAL Custom Color Specify RAL #	**RAL** Custom Color Specify RAL #			

*Leave blank for Trimless

USAI Power Supply Must Be Specified

TRIM FINISH OPTIONS


White


Grey


Black


Bronze


Custom RAL (example)


Custom RAL (example)

Custom colors and primer finish also available

2. Specify Remote Power Supply

RPB-01	18FC1	UNV	D23X1	
Remote Power Supply	**Fixture Wattage**	**Voltage**	**Remote Dimming Driver Type***	**Cabling Option** *Select one*
RPB-01 BeveLED Mini Infinite Color+ Remote Power Supply	**18FC1** 18W LED	**UNV** 120V - 277V	**D23X1** EldoLED DMX 0.1% dimming, manual addressing using RDM protocol, 8 bit *Requires remote enclosure by others, minimum size 9"L x 4"W x 2"H	**RJ** RJ45 Jacks **WR** Manual Wire Splice Connection

NOTE:
Remote Power Supplies Require Enclosures by Others.
See Page 6 for Details.

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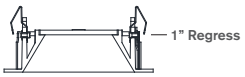
BeveLED Mini® Infinite Color+® - B3RD-FC1
3″ Round Downlight

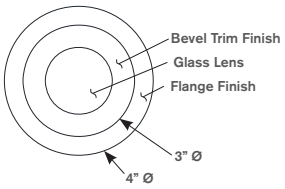
USAI® Lighting

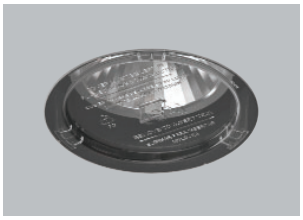
Trimmed - B3RDF-FC1

TRIM DETAILS

Trimmed - B3RDF-FC1



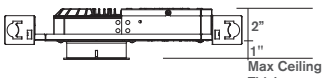


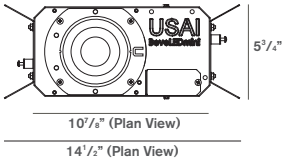


Clear acrylic overspray protector provided standard with every housing to keep out dust and contaminants during construction. Allows for use as work light.

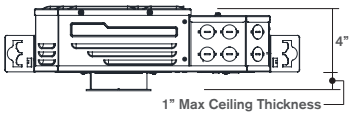
HOUSING OPTIONS

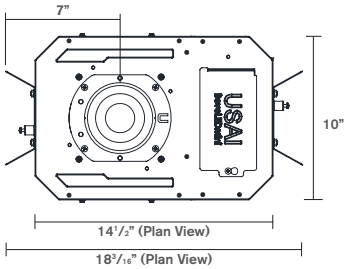
Flat Housing - FT



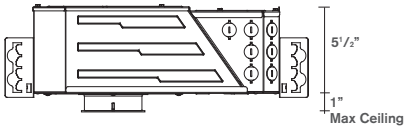


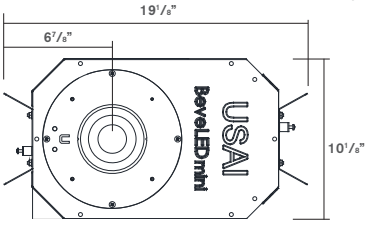
Flat Adjustable Housing - FTA





New Construction Housing - NC1
Insulation-Contact Rated - NCIC
Chicago Plenum Rated - NCCP





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BeveLED Mini® Infinite Color+® - B3RD-FC1
3" Round Downlight

USAI® Lighting

BEVELED MINI INFINITE COLOR+ SPECIFICATIONS

FIELD REPLACEABLE LED LIGHT ENGINE

is serviceable through the aperture with a Philips screwdriver. All USAI Lighting light engines feature industry-leading color consistency.

REMOTE LOCATION DRIVER

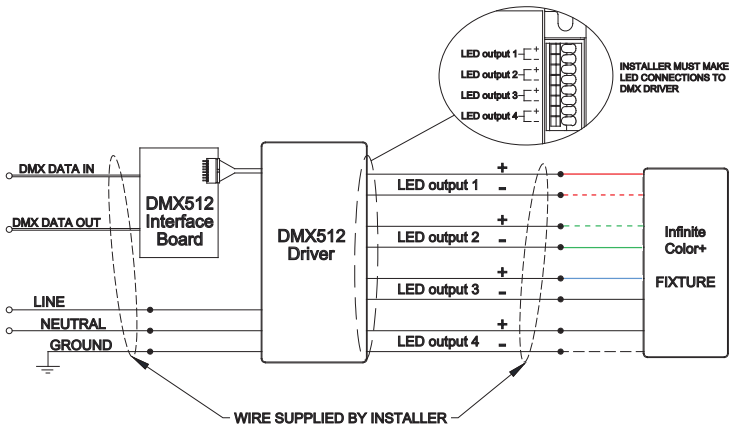
BeveLED Mini Infinite Color+ is supplied with quick connects for use with remotely located driver and requires 8-bit communication controls; contact USAI factory for 16 bit driver options. Driver is provided separately for remote location on site, enclosure to be provided by others. Remote dimming driver power supply option must be clearly specified in the "RP" table. Remote power supplies require enclosures by others that meet local codes and must be located in an accessible service panel within 100ft of the light fixture; see remote driver table below for coordination of enclosure sizes and wire gauges required. All dimming drivers comply with IEEE C62.41 surge protection.

Remote Power Supply Requirements and Wiring Diagrams Note: Must be wired in homeruns per wiring diagram "A" below.

1 Fixture Maximum Per Power Supply.

Remote Power Supply	Dimming Option	Wire Gauge Required*	Minimum Enclosure Size Required (by others)
RPB-01-18FC1	UNV-D23X1 EldoLED, 8 bit, DMX, 0.1%	18/16	9" W x 4" L x 2" H

* Wire gauge 18/16 = Maximum distance from light fixture to remote power supply is 100' using 16 gauge wire, 50' using 18 gauge wire.



CABLING: Data cables must be run in series between fixtures. Choose your preferred method of connection when specifying. To avoid signal transmission problems, a DMX link terminator should be used in the last fixture in a series on a given DMX bus. NOTE: Data communication cables and AC power lines must not be run in the same conduit.

• **RJ Cabling Option:** If the RJ cabling option is specified, the remote power supply is provided with a DMX interface board that has RJ45 jacks for data connection with CAT5 cable terminated with RJ45 connectors. A link termination dip switch is provided at the connector board; no separate link termination device is required.

• **WR Cabling Option:** If the WR cabling option is specified, the remote power supply is provided with a DMX interface board with terminal blocks for wires to be manually spliced for data connection. A link termination dip switch is provided at the connector board; no separate link termination device is required. The data cable used must meet the following requirements:

- type: shielded, 2-conductor twisted pair
- maximum capacitance between conductors: 30 pF/ft
- maximum capacitance between conductor and shield: 55 pF/ft
- maximum resistance: 0.02 ohms/ft
- normal impedance: 100-140 ohms
- conductive core: 24 AWG is recommended

NOTE: If 3-wire data cables are preferred, we suggest a Belden 9841 or equivalent cable which meets the specifications for EIA RS-485 applications. Do not use standard microphone cables: they cannot transmit DMX512 data reliably over long distances.

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BeveLED Mini® Infinite Color+® - B3RD-FC1
3″ Round Downlight

USAI® Lighting

BEVELED MINI INFINITE COLOR+ SPECIFICATIONS

HOUSING
All BeveLED Mini fixtures are field-flexible which allows for field changes from trimless or millwork to trimmed with a simple components change with parts from USAI. Housings are fabricated of 20 ga. steel construction and are supplied with quick connects and wire connections for use with remotely located driver. Driver is provided separately for remote location on site, enclosure to be provided by others.

MOUNTING
B3RDF overlap flange fixtures are designed for use in sheetrock, acoustical ceiling tile, and many other ceiling materials. B3RDL trimless fixtures are provided with a spackle collar and are designed for use in sheetrock/mud-in ceiling applications. B3RDM millwork fixtures are provided with a millwork collar and are designed for use in wood/millwork and stone construction applications. Butterfly brackets and adjustable nailer bars extendible from 14" to 24" centers with integral nails are provided for attachment to building structure. C-channel bars are optionally available for acoustical ceiling applications. If channel bars are specified for FT housing, special reduced height channel bars (CM27 or CM52) will be provided.

FIXTURE WEIGHT
FT housing weigh 4 lbs. FTA housing weighs 10 lbs. NC1, NCIC, and NCCP housings weigh 11 lbs.

WARRANTY
Based on IESNA LM80-2008, BeveLED has a 50,000 hour rated life at 70% lumen maintenance (L70). USAI Lighting Warranty covers replacement parts for 5 years from date of shipment. Ambient temperatures at fixture location should not exceed 40°C during normal operation.

CEILING CUT OUT
B3RDF Trimmed with Overlap Flange: 3-5/8"Ø
B3RDL Trimless Spackle-in: 4-3/16"Ø
B3RDM Millwork Knife-edge: 3-9/16"Ø

LISTINGS
Dry/Damp/Wet location. AC and AB trim finishes are dry/damp only. UL2043 rated for use in air handling plenums. NRTL/CSA-US tested to UL standards. IBEW union made.

NOTES
- Not for use in corrosive environment
- Use of pressure washer voids warranty

PHOTOMETRICS
Consult factory or website for IES files. Tested in accordance with IESNA LM79.

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T: 845–565–8500
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ARTISTAR LED (REMOTE DRIVER)

IP66 RATED

DATE: | PROJECT: | TYPE:

CATALOG NUMBER LOGIC:

**Base height limited to 6" max. with Brass and Stainless Steel Canopy.*

CATALOG NUMBER LOGIC
Example: B - AR - LED - RM - x54 - FL - POL - 12 - 11 - B - 6 - WM
MATERIAL
(Blank) - Aluminum B - Brass S - Stainless Steel
SERIES
AR - ArtiStar
SOURCE
LED - Chip on Board Technology
HOUSING
RM - Remote Driver
LED TYPE
x52 - 10W LED/2700K x54 - 10W LED/4000K x53 - 10W LED/3000K
OPTICS
SP - Spot (20°) FL -Flood (40°) WFL - Wide Flood (60°)
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRI, CRM, HUG, MDS, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes
Brass Finishes (MAC, POL, MIT)
Stainless Steel Finishes (MAC, POL)
LENS TYPE
9 - Clear (Standard) 12 - Soft Focus 13 - Rectilinear
SHIELDING
11 - Honeycomb Baffle
CAP STYLE
A - 45°
B - 90°
C - Flush
D - 45° Less Weephole (Interior use only)
E - 90° Less Weephole (Interior use only)
F - 90° with Flush Lens
BASE HEIGHT
3" (Standard), 6", 12", 18", & 24" with Anchor Base
MOUNTING OPTIONS
PP - 18" Power Pipe Stake Mount
SF - Stability Flange (For use with Power Pipe)
WM - Wall or Ceiling Mount with 5" dia. Machined Canopy**

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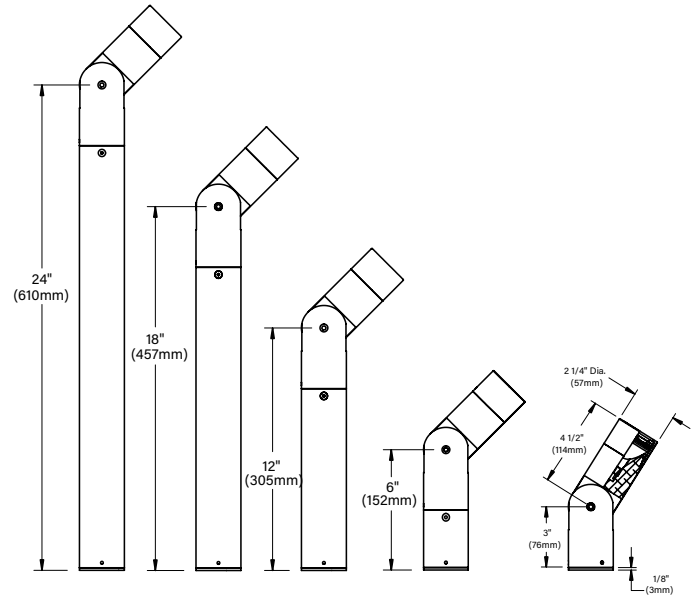
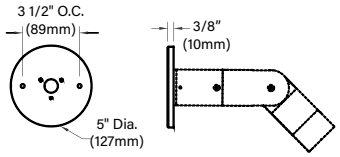
01/15/2020 SKU-1015
SUB-2126-00

ARTISTAR LED (REMOTE DRIVER)

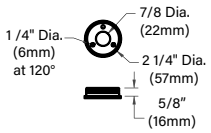
IP66 RATED

DATE:	PROJECT:	TYPE:

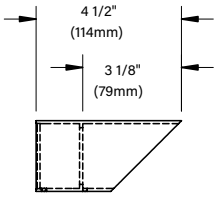




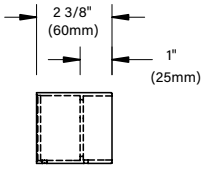
WALL MOUNT CANOPY



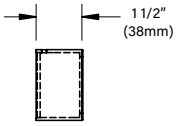
STANDARD BASE



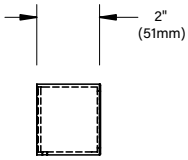
A/D CAP



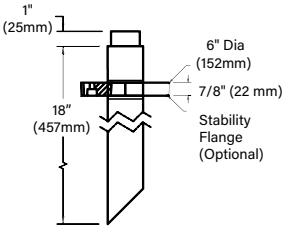
B/E CAP



C CAP



F CAP



POWER PIPE

STANDARD FINISHES

Satin Black (BLP)	Satin Bronze (BZP)	Satin White (WHP)	Satin Aluminum (SAP)
Black Wrinkle (BLW)	Bronze Wrinkle (BZW)	White Wrinkle (WHW)	Verde (VER)

Click Here to view larger, full-color swatches of all available finishes on our website.

PREMIUM FINISHES

Cascade Mtn. Granite (CMG)	Rocky Mtn. Granite (RMG)	Sierra Mtn Granite (SMG)	Aleutian Mtn Granite (AMG)	Textured Forest (TXF)
Black Chrome (BCM)	Beige (BGE)	Weathered Copper (WCP)	Old Copper (OCP)	Hunter Green (HUG)
Cracked Ice (CRI)	Mojave Desert Sandstone (MDS)	Antique Brass Powder (ABP)	Brown Patina Powder (BPP)	Sonoran Desert Sandstone (SDS)
Weathered Iron (WIR)	Clear Anodized Powder (CAP)	Cream (CRM)	Antique White (AQW)	Natural Brass Powder (NBP)

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01/15/2020 SKU-1015
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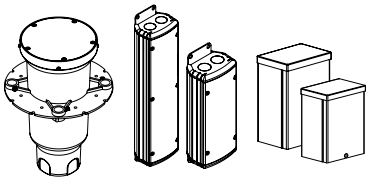
ARTISTAR LED (REMOTE DRIVER)

IP66 RATED

DATE:	PROJECT:	TYPE:

Accessories (Configure separately)



HP2RM PM2DRM & PM2RM DRM & RM

SPECIFICATIONS

ELECTRICAL	WATTAGE	10W LED
	WIRING	Teflon® coated, 18AWG, 600V, 250° C rated and certified to UL 1659 standard.
	REMOTE DRIVER	For use with remote LED driver. See remote driver submittal to determine remote distance and wiring requirements prior to detailing field installation of any remote wiring.
PHYSICAL	MATERIALS	Furnished in copper-free aluminum (6061-T6), brass (360) or stainless steel (304).
	BODY	Unibody design with enclosed, water-proof wireway and integral heat sink is fully machined from solid billet.
	KNUCKLE	Aim & Lock knuckle is integral to the body and features an interior taper machined from solid billet and a reverse angle taper allowing full 18° vertical adjustment without the use of aim-limiting serrated teeth. High temperature, silicone 'O' Ring provides water-tight seal and compressive resistance to maintain fixture position. Design withstands 73 lbs. static load prior to movement for optical alignment with a ½" pipe thread for mounting. Optional 360SL provides biaxial source control with 360° horizontal rotation in addition to vertical adjustment.
	CAP	Fully machined and accommodates two (2) lens or louver media.
	LENS	Shock-resistant, tempered glass lens is factory adhered to fixture cap and provides hermetically sealed optical compartment.
	LED	Integrated solid state system and modular design with electrical disconnects allow for easy field upgrade and maintenance. LM-80 certified. Minimum 50,000 hour rated life at 70% of initial lumens (L70). LED technology provides long life, significant energy reduction and exceptional thermal management.
	COLOR MANAGEMENT	Corrected cold phosphor technology delivers natural white light with long term phosphor maintenance over product life. Exact color point conformity exceeds ANSI C78.377 standard. Provides uniform beam with no color variation over angle. Module exceeds 80 CRI (RA>80, R9>16).
	INSTALLATION	Available for installation in three distinct mounting conditions:
	ANCHOR BASE (STANDARD)	Machined anchor base with 7/8" dia. slip conduit hole and (3) 3/16" dia. anchor bolt holes (hardware by others).
	POWER PIPE (OPTIONAL)	Provides a clean transition from wiring system to fixture. Schedule 80, 18" PVC housing for direct burial into soil or concrete. Machined 2 1/4" dia. cap for fixture mounting with stainless steel hardware. Optional 6" dia., molded stability flange, to simplify installation and projects into substrate to reinforce housing stability.
	WALL MOUNT CANOPY (OPTIONAL)	Optional 5" dia. machined canopy permits mounting to junction box (gasket by others). 8" maximum base height for canopy-mounted brass or stainless steel fixture.
	OPTICS	Interchangeable OPTIKIT modules permit optical field changes. Color-code: Narrow Spot (NSP) = red; Spot (SP) = green; Medium Flood (MFL) = yellow; Wide Flood (WFL) = blue.
	HARDWARE	Tamper-resistant, stainless steel hardware. Knuckle vertical aiming screw is black oxide treated for additional corrosion resistance.
c UL us LISTED	FINISH	StarGuard, our 15-stage chromate-free process cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating and is RoHS compliant. Powder coat or metal finish options available for brass material and metal finish option only for stainless steel material.
RoHS	WARRANTY	5-year limited warranty.
MADE IN THE USA	CERTIFICATION & LISTING	ITL tested to IESNA LM-79. UL Listed. Certified to CAN/CSA/ANSI Standards. RoHS compliant. Suitable for indoor or outdoor use, in wet locations, and for installation within 4' of the ground. IP66 Rated. Made in the USA with sustainable processes.

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01/15/2020 SKU-1015
SUB-2126-00

LAMP & DRIVER DATA (x52, x53, x54)

DATE:	PROJECT:	TYPE:

LM79 DATA

BK No.	LUMENS (Source)	CCT (Typ.)	CRI (Ra.Typ.)	Input Watts (Typ.)
x52	1180	2700K	80	10
x53	1230	3000K	80	10
x54	1280	4000K	80	10

L70 DATA

Minimum Rated Life (hrs. 70% of initial lumens (L_{70})
50,000
50,000
50,000

OPTICAL DATA

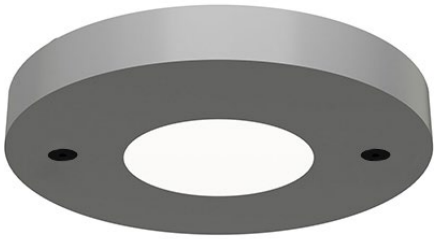
Beam Type	Angle	CBCP
Spot	20°	2680
Flood	40°	1744
Wide Flood	60°	640

VERSA STAR LED (JUNCTION BOX)

IP65 RATED

DATE:	PROJECT:	TYPE:

CATALOG NUMBER LOGIC:



**Requires magnetic low voltage dimmer.*

***Please see Adjust-e-Lume photometry to determine desired intensity.*

CATALOG NUMBER LOGIC	
Example: B - VS - LED - e103 - WFL - A4 - BLW - 13 - 11	
MATERIAL	
(Blank) - Aluminum	B - Brass S - Stainless Steel
INSTALLATION	
(Blank) - Back Box	
SERIES	
VS - Versa Star	
SOURCE	
LED - with Integral Dimming Driver (25W min. load when dimmed)*	
LED TYPE	
e100 - 5W LED/2700K	e102 - 5W LED/4000K
e101 - 5W LED/3000K	e103 - 5W LED/Amber
OPTICS	
NSP - Narrow Spot (13°)	MFL - Medium Flood (23°)
SP - Spot (16°)	WFL - Wide Flood (31°)
ADJUST-E-LUME OUTPUT INTENSITY**	
A9 (Standard), A8, A7, A6, A5, A4, A3, A2, A1	
FINISH (See page 2 for full-color swatches)	
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)	
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRI, CRM, HUG, MDS, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)	
Also available in RAL Finishes	
Brass Finishes (MAC, POL, MIT)	
Stainless Steel Finishes (MAC, POL)	
LENS TYPE	
12 - Soft Focus	13 - Rectilinear
SHIELDING	
11 - Honeycomb Baffle	

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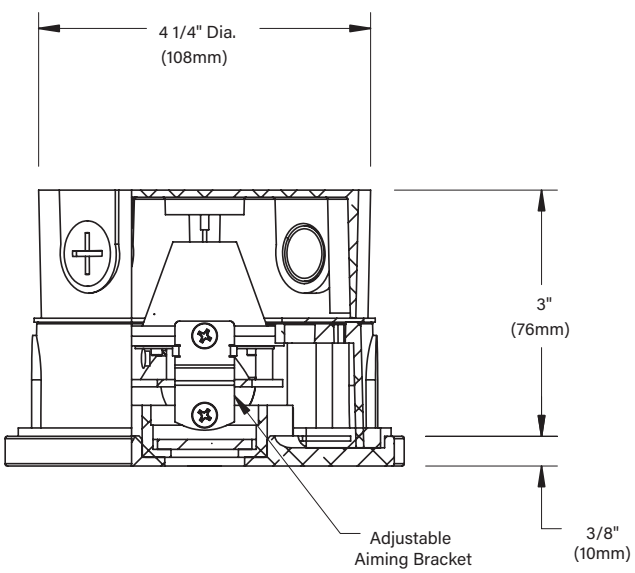
01/31/2020 SKU-771
SUB001016

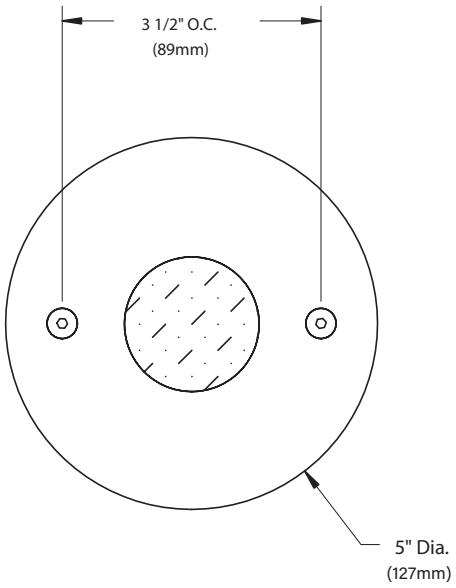
L21

VERSA STAR LED (JUNCTION BOX)

IP65 RATED

DATE:	PROJECT:	TYPE:





STANDARD FINISHES

Satin Black (BLP)

Satin Bronze (BZP)

Satin White (WHP)

Satin Aluminum (SAP)

Black Wrinkle (BLW)

Bronze Wrinkle (BZW)

White Wrinkle (WHW)

Verde (VER)

Click Here to view larger, full-color swatches of all available finishes on our website.

PREMIUM FINISHES

Cascade Mtn. Granite (CMG)

Rocky Mtn. Granite (RMG)

Sierra Mtn Granite (SMG)

Aleutian Mtn Granite (AMG)

Textured Forest (TXF)

Black Chrome (BCM)

Beige (BGE)

Weathered Copper (WCP)

Old Copper (OCP)

Hunter Green (HUG)

Cracked Ice (CRI)

Mojave Desert Sandstone (MDS)

Antique Brass Powder (ABP)

Brown Patina Powder (BPP)

Sonoran Desert Sandstone (SDS)

Weathered Iron (WIR)

Clear Anodized Powder (CAP)

Cream (CRM)

Antique White (AQW)

Natural Brass Powder (NBP)

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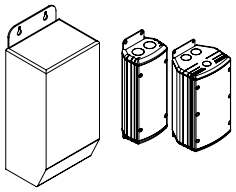
01/31/2020 SKU-771
SUB001016

VERSA STAR LED (JUNCTION BOX)

IP65 RATED

DATE:	PROJECT:	TYPE:

Accessories (Configure separately)



TR Series UPMRM

SPECIFICATIONS

ELECTRICAL	WATTAGE	5W LED
	ADJUST-E-LUME	Integral electronics allows dynamic lumen response at the individual fixture. Indexed (100% to 25% nom.) lumen output. Maintains output at desired level or may be changed. Specify factory preset output intensity.
	WIRING	Teflon® coated, 18AWG, 600V, 250° C rated and certified to UL 1659 standard.
	REMOTE TRANSFORMER	For use with 12VAC remote transformer or magnetic transformers only. B-K Lighting cannot guarantee performance with third party manufacturers' transformers.
PHYSICAL	MATERIALS	Furnished in copper-free aluminum (6061-T6), brass (360) or stainless steel (304).
	BACK BOX	Round, 4-1/4" dia. x 3-1/8" deep construction with two (2) mounting tabs. Front access for wire connection and inspection. Provided with five (5) 1/2" NPS tapped holes and four (4) plugs. Suitable for concrete pour.
	FACEPLATE	Fully machined from solid billet. Countersunk holes provide for flush hardware mounting with two (2) tamper-resistant, stainless steel mounting screws. Stainless steel universal mounting ring for faceplate adjustment and 1/8" thick HT-805A silicone foam gasket with acrylic adhesive for water-tight seal. Accommodates one (1) lens or louver media.
	LENS	Shock resistant, tempered, glass lens is factory adhered to faceplate.
	LED	Integrated solid state system is scalable for field upgrade. Modular design with electrical quick disconnects permit field maintenance. High power, forward throw source complies with ANSI C78.377 binning requirements. Exceeds ENERGY STAR® lumen maintenance requirements. LM-80 certified components. Integral, constant current driver. 12VAC/VDC input. 50/60Hz. Proprietary input control scheme achieves power factor correction and eliminates inrush current. Output, overvoltage, open-circuit, and short circuit protected. Inrush current limited to <1A (non-dimming). Conforms to Safety Std. C22.2 No. 250.13-12.
	DIMMING	Line voltage dimmable via magnetic low voltage dimmer with dedicated neutral conductor. Remote magnetic transformer with LED loads should be loaded to 25% of the transformer VA (watts) rated value.
	OPTICS	Interchangeable OPTIKIT modules permit optical field changes. Color-code: Spot (SP) = green; Medium Flood (MFL) = yellow; Flood (FL) = blue.
	AIMING & CONTROL	Adjustable optical bracket provides up to 24° vertical aiming.
	HARDWARE	Tamper-resistant, stainless steel hardware. Faceplate screws are black oxide treated for additional corrosion resistance.
	FINISH	StarGuard, our 15-stage chromate-free process cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating and is RoHS compliant. Powder coat or metal finish options available for brass material and metal finish option only for stainless steel material.
	WARRANTY	5-year limited warranty.
	CERTIFICATION & LISTING	ITL tested to IESNA LM-79. UL Listed. Certified to CAN/CSA/ANSI Standards. RoHS compliant. Suitable for indoor or outdoor use, in wet locations, and for installation within 4' of the ground. IP65 Rated. Made in the USA with sustainable processes.

c UL us LISTED

RoHS

MADE IN THE USA

01/31/2020 SKU-771
SUB001016

LAMP & DRIVER DATA (e100, e101, e102, e103)

DATE: | PROJECT: | TYPE:

CATALOG NUMBER LOGIC:

DRIVER DATA	Input Volts	InRush Current	Operating	Dimmable	Operation Ambient Temperature
	12VAC/DC 50/60Hz	<250mA (non-dimmed)	500mA	Magnetic Low Voltage Dimmer	-22°F-194°F (-30°C - 90°C)

	LM79 DATA			L70 DATA	OPTICAL DATA		
BK No.	CCT (Typ.)	CRI (Typ.)	Input Watts (Typ.)	Minimum Rated Life (hrs.) 70% of initial lumens (L_{70})	Angle	CBCP	Delivered Lumens
e100	2700K	80	5	50,000	13°	3938	309
	2700K	80	5	50,000	16°	2988	301
	2700K	80	5	50,000	23°	1134	269
	2700K	~	5	50,000	31°	743	271
e101	3000K	80	5	50,000	13°	4029	316
	3000K	80	5	50,000	16°	3056	308
	3000K	80	5	50,000	23°	1161	275
	3000K	~	5	50,000	31°	760	277
e102	4000K	80	5	50,000	13°	4527	355
	4000K	80	5	50,000	16°	3434	346
	4000K	80	5	50,000	23°	1304	309
	4000K	~	5	50,000	31°	854	311
e103	Amber (590nm)	~	5	50,000	~	~	~

OPTICS

Optic	Angle
NSP - Narrow Spot	13°
SP - Spot	16°
MFL - Medium Flood	23°
WFL - Wide Flood	31°

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NEON³ SERIES
STATIC WHITE IP65

Date: Project: Type:

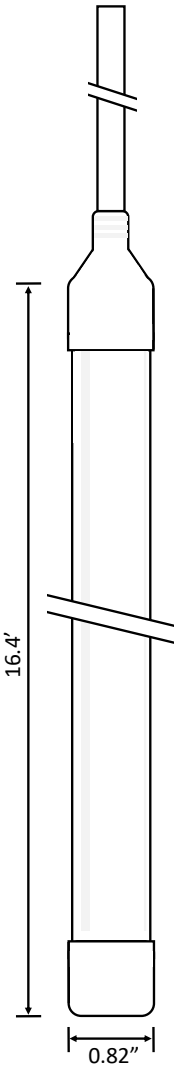
Ordering Guide:

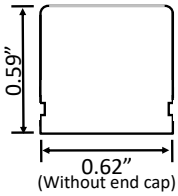
Series		CCT		Output/Foot		Length
NEO3	-		-		-	

27 (2700K)
30 (3000K)
35 (3500K)
41 (4100K)

SO (2.75watts)

CC @XX (Custom cut, specify length)



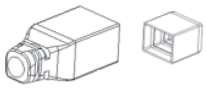


Features:

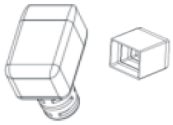
- 120° beam angle
- 24 Volt
- Top & side bend
- Bending radius of 2.36"
- Dimmable:
  ELV,MLV,TRIAC or 0-10V
- Field cuttable :
  NO PREDETERMINED CUT POINTS
- 50,000 hour life
- 5 year warranty
- IP65

Model Number	NEO3-XX-SO
Voltage	24VDC
Lumens/foot 2700K	123
3000K	132
3500K	140
4100K	180
Static colors available as well	
CRI	80+
Watts/foot	2.75
Cut section length	∞
Diode spacing (pitch) O.C.	NA
Diodes per foot	30
Maximum run length	16.4'
Certifications	UL Listed
Location Rating	IP65

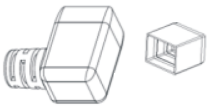
End Cap Options



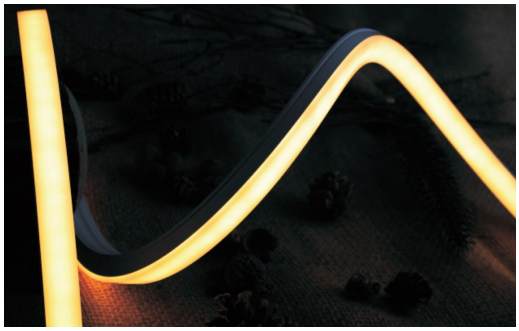
Back Feed



End Feed



Side Feed



Note: Drawings not to scale.

All Omnilight products are tested and warrantied for use exclusively with Omnilight power supplies.

OL1

OMNILIGHT 6501 N. Avondale Ave., Chicago, Illinois 60631 773-696-1602 sales@omnilight.com omnilight.com

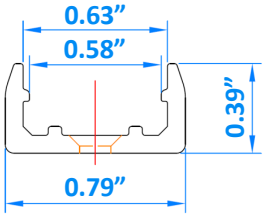
NEON³ SERIES
STATIC WHITE IP65

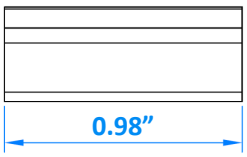
Date: Project: Type:

Accessories:

OCH-CLIP-N3ST

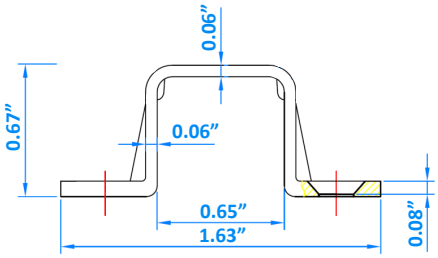
Mounting clips
(included)

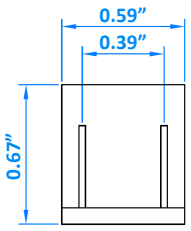




OCH-BRACKET-N3ST

Mounting Brackets
(optional)

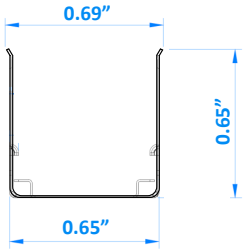


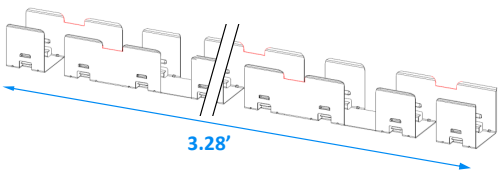


Channels:

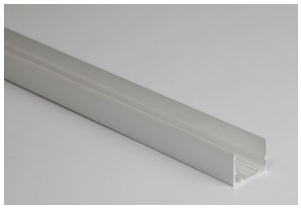
OCH-FLEX-N3ST

Flexible Channel
(optional)

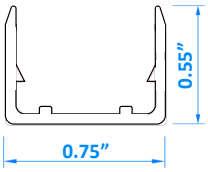


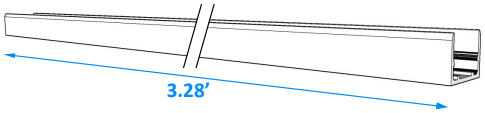


OCH-RIGID-N3ST



Rigid Channel
(optional)





OMNILIGHT 6501 N. Avondale Ave., Chicago, Illinois 60631 773-696-1602 sales@omnilight.com omnilight.com

MECHANICAL CUT SHEETS

GUESTROOM ROOFTOP MINI SPLIT

Job Name/Location:

Date:

For: ☐ File ☐ Resubmit ☐ Approval ☐ Other

PO No.:

Architect: GC:

Engr: Mech:

Rep:
(Company) (Project Manager)

LD187HHV4

Single Zone Low Static Ducted with LGRed°

Outdoor Unit (ODU) - LUU180HHV, Indoor Unit (IDU) - LDN187HV4

LG Life's Good

Performance:

Cooling:

Cooling (Min~Rated~Max, Btu/h)	7,200 ~ 18,000 ~ 22,000
SEER	18.8
EER	12.5

SEER - Seasonal Energy Efficiency Ratio EER - Energy Efficiency Ratio

Heating:

Heating (Min~Rated~Max, Btu/h)	6,800 ~ 20,000 ~ 24,000
HSPF	10
Max. Heating @ Indoor 70°F DB (Btu/h)	
Outdoor 17°F WB	22,550
Outdoor 5°F WB	20,000
Outdoor -4°F WB	17,970
Outdoor -13°F WB	15,990

HSPF - Heating Seasonal Performance Factor

Cooling Nominal Test Conditions:
Indoor: 80°F DB / 67°F WB
Outdoor: 95°F DB / 75°F WB

Heating Nominal Test Conditions:
Indoor: 70°F DB / 60°F WB
Outdoor: 47°F DB / 43°F WB

Electrical:

Power Supply[1] (V/Hz/Ø)	208-230/60/1
MOP (A)	30
MCA (A)	22
Cooling / Heating Rated Amps (A)	6.4 / 8.1
Compressor (A)	14.5
Fan Motor (IDU + ODU) (A)	2.2
Locked Rotor Amps (A)	23
Cooling Power Input (Min~Rated~Max, kW)	0.51 ~ 1.44 ~ 2.00
Heating Power Input (Min~Rated~Max, kW)	0.47 ~ 1.82 ~ 2.50

MOP - Maximum Overcurrent Protection MCA - Minimum Circuit Ampacity

Piping:

Installed Liquid Pipe (in., O.D.)	3/8
Installed Vapor Pipe (in., O.D.)	5/8
IDU Liquid Connection (in., O.D.)	1/4
IDU Vapor Connection (in., O.D.)	1/2
Additional Refrigerant (oz./ft.)	0.43
Min. / Max. Pipe Length[2] (ft.)	16.4 / 164
Piping Length (no add'l refrig., ft.)	24.9
Max. Elevation (ft.)	98.4

Features:

- ESP control
- Hot start
- Condensate Pump
- Inverter (variable speed)
- ODU drain pan heater
- IDU compatible with Multi F ODUs
- Smart Diagnosis
- Optional Wi-Fi control
- Auto restart
- Control lock
- Group control
- Timer (on/off)
- Sleep Mode

Required Accessories (sold separately):

Controller (Any LG wired remote controller)

Optional Accessories:

☐ MultiSITE™ CRC1 - PREMTBVC0
☐ MultiSITE CRC1+ - PREMTBVC1
☐ MultiSITE Comm. Mgr. - PBACNBTR0A
☐ PI-485 - PMNFP14A1
☐ Dry Contact - PDRYCB320
☐ Wi-Fi Module - PWFMDD200
☐ Low Ambient Wind Baffle (Cooling operation to -4°F) - ZLABGP04A
☐ Simple Controller with Mode (White) PQRCVCL0QW

For a complete list of available accessories, contact your LG representative.

Operating Range:

Outdoor Unit:

Cooling (°F DB)	5 ~ 118
Heating (°F WB)	-13 ~ 64

Indoor Unit:

Cooling (°F WB)	57 ~ 77
Heating (°F DB)	59 ~ 81

System Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Refrigerant Charge (lbs.)	4.4
ODU Sound Pressure[3] (Cooling / Heating) ±1 dB(A)	51 / 52
IDU Sound Pressure[3] (Cooling / Heating) ±1 dB(A)	36 / 34 / 31
ODU Net / Shipping Weight (lbs.)	133.4 / 144.4
IDU Net / Shipping Weight (lbs.)	48.5 / 57.3
Heat Exchanger Coating	GoldFin™

Fan:

ODU Type	Propeller
IDU Type	Sirocco
Fan Speeds (Fan/Cool/Heat)	3 / 3 / 3
Fan Quantity (ODU + IDU)	1 + 3
Motor/Drive	Brushless Digitally Controlled/Direct
Maximum ODU Air Volume (CFM)	2,048
IDU Air Volume H/M/L (CFM)	530 / 441 / 353
Dehumidification (pts./hr.)	3.84
IDU External Static Pressure (ESP) Operating Range (Min ~ Default ~ Max) (in wg)	0.0 ~ 0.1 ~ 0.2

Notes:

1. Acceptable operating voltage: 187V-253V.
2. Piping lengths are equivalent.
3. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
4. All communication / connection (power) cable from the outdoor unit to the indoor unit is field supplied and is to be minimum four-conductor, 18 AWG, stranded, shielded or un-shielded (if shielded, it must be grounded to the chassis of the outdoor unit only), and must comply with applicable local and national codes.
5. See Engineering Manual for sensible and latent capacities.
6. Power wiring cable size must comply with the applicable local and national code.
7. The indoor unit comes with a dry helium charge.
8. This data is rated 0 ft. above sea level, with 24.6 ft. of refrigerant line and a 0 ft. level difference between outdoor and indoor units.
9. Must follow installation instructions in the applicable LG installation manual.
10. Multi compatible 18k IDUs include socket adapters for refrigerant pipe connections with Single Zone systems.

LGRED° Powerful Heat Technology

AHRI CERTIFIED www.ahridirectory.org Unitary Small AC AHRI Standard 210/240 Certification applies only when the complete system is listed with AHRI.

For continual product development, LG reserves the right to change specifications without notice.

Job Name/Location: _____

LD187HHV4

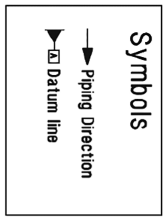
Single Zone Low Static Ducted with LGRed°

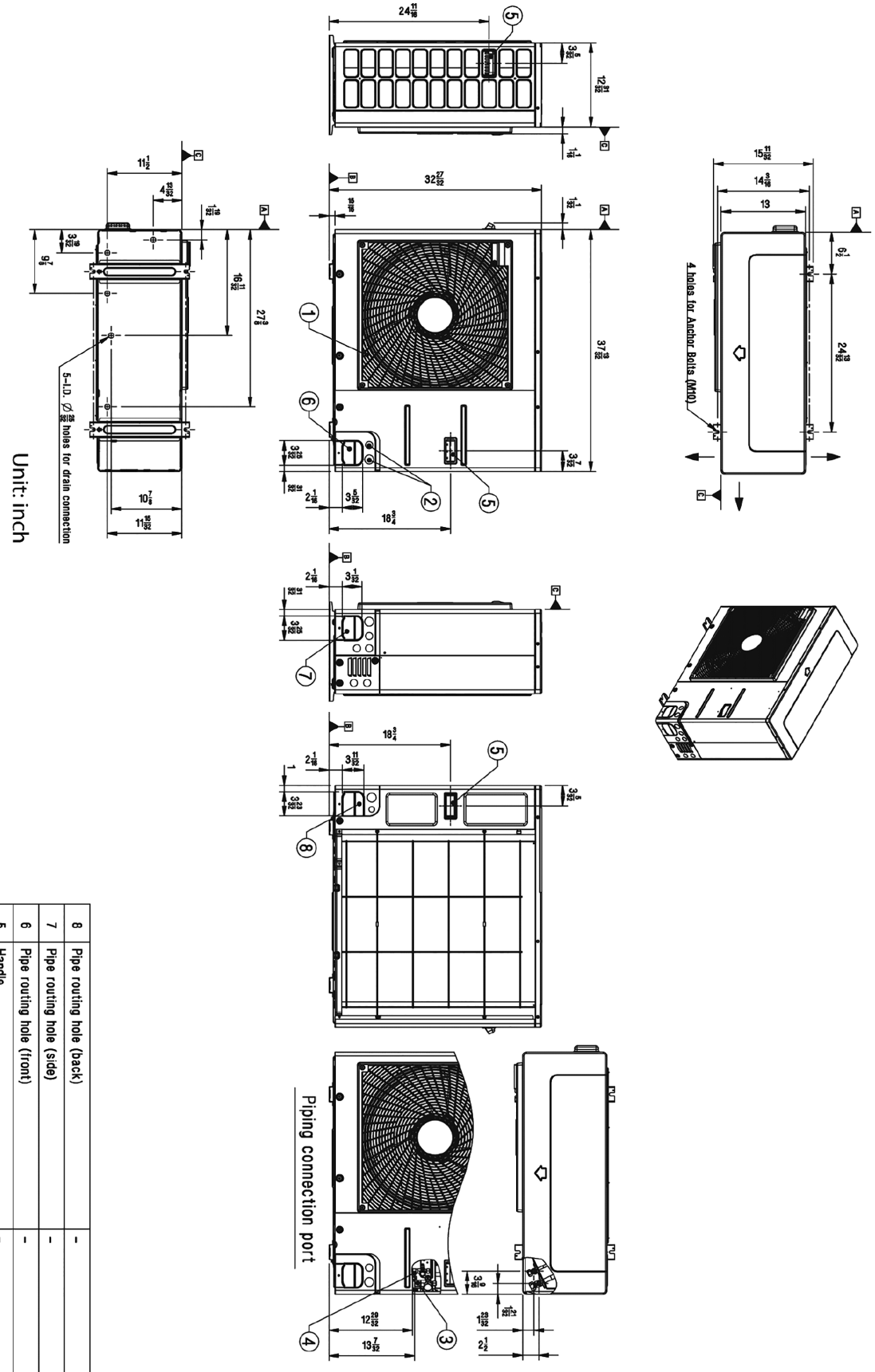
Outdoor Unit (ODU) - LUU180HHV, Indoor Unit (IDU) - LDN187HV4

Tag No.: _____

Date: _____

PO No.: _____





No.	Part Name	Description
1	Air Outlet	-
2	Power and communication cable Hole	-
3	Gas Pipe Connection	Flare joint
4	Liquid Pipe Connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-

Job Name/Location: _____

LD187HHV4

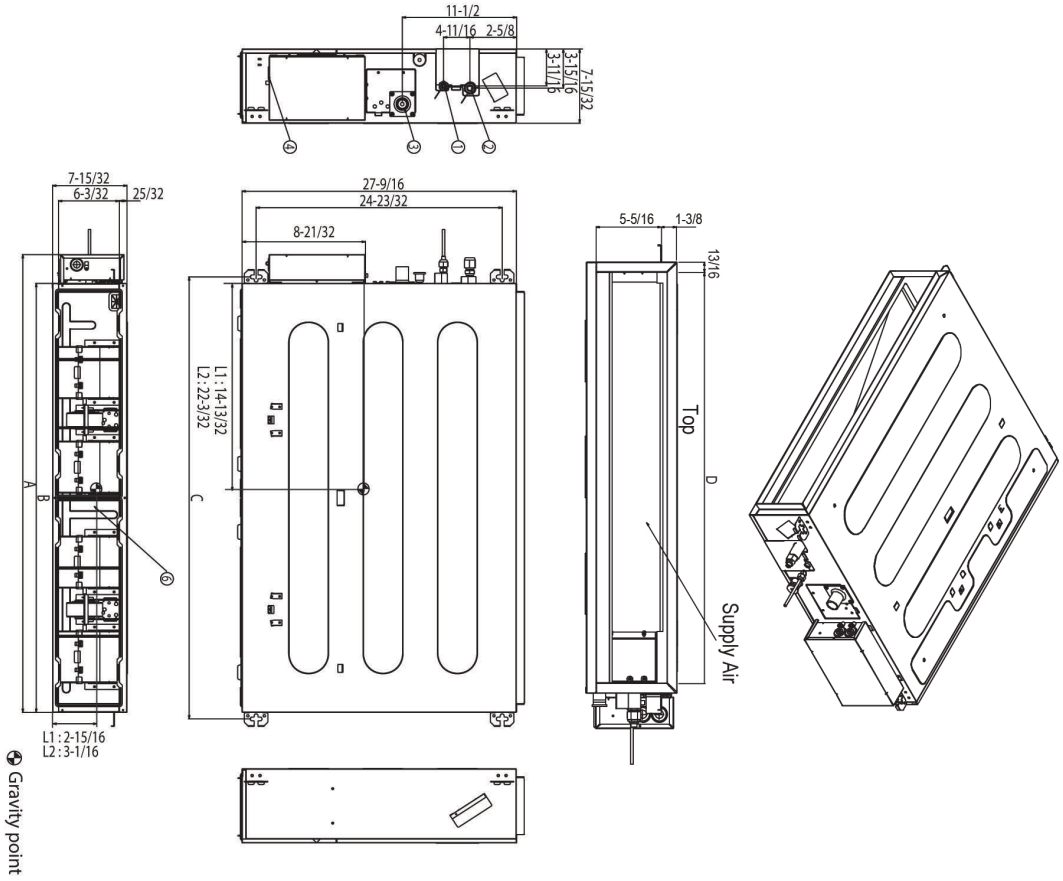
Single Zone Low Static Ducted with LGRed°

Outdoor Unit (ODU) - LUU180HHV, Indoor Unit (IDU) - LDN187HV4

Tag No.: _____

Date: _____

PO No.: _____



Number	Name	Description
1	Liquid pipe connection	
2	Gas pipe connection	
3	Drain pipe connection	
4	Power supply connection	
5	Air discharge	
6	Air suction	

(unit : inch)

Model Number	A	B	C	D
LDN187HV4	38-11/32	35-7/16	36-23/32	33-27/32

(unit: inch)

Job Name: RV-25-12.5 Cut Sheet
Tag: MK-1
Quantity: 1
Printed Date: September 16, 2021

DOAS-1; LEVEL 1 VENTILATION
DOAS -2 and DOAS -3; GUEST ROOM AND CORRIDOR VENTILATION

Model: RV-25-12.5

Design Conditions

Elevation (ft.)	Summer		Winter (F)	Supply (CFM)	Outdoor Air (CFM)
	DB (F)	WB (F)			
50	95	67	20	2,500	2,500

Unit Specification

Weight (lbs.)	Cooling Type	Heating Type	Unit Installation	Unit ETL Listing
2,513	Packaged DX	Indirect Gas	Outdoor	UL / cUL 1995

Configuration

Outdoor Air

Intake Position	Discharge Position	Supply Air Filters	Outdoor Air Damper
End	Bottom	Two Inch MERV8 And Two Inch MERV13	Low Leakage

Cooling Specifications

Type	Coil DB/WB		Reheat		Total Capacity (MBH)	Sensible Capacity (MBH)	Compressor Type	ISMRE
	EAT (F)	LAT (F)	Capacity (MBH)	LAT (F)				
Packaged DX	95/67	48.4/48.1	67.9	73.5	136.2	127.4	Digital	4.3

Heating Specifications

Type	Performance		Input (MBH)	Output (MBH)	Gas Type	Turn Down Ratio	Max Temp Rise (F)	Min Temp Rise (F)
	EAT (F)	LAT (F)						
Indirect Gas	20	79.3	200	160	Natural	16:1	59.3	3.7

Air Performance

Type	Total Volume (CFM)	External SP (in wg)	Total SP (in wg)	RPM	Operating Power (hp)	Fan			
						QTY	Type	Size (in)	Drive-Type
Supply	2,500	1.5	2.093	1,573	1.32	1	Plenum	PRM450_40	Direct

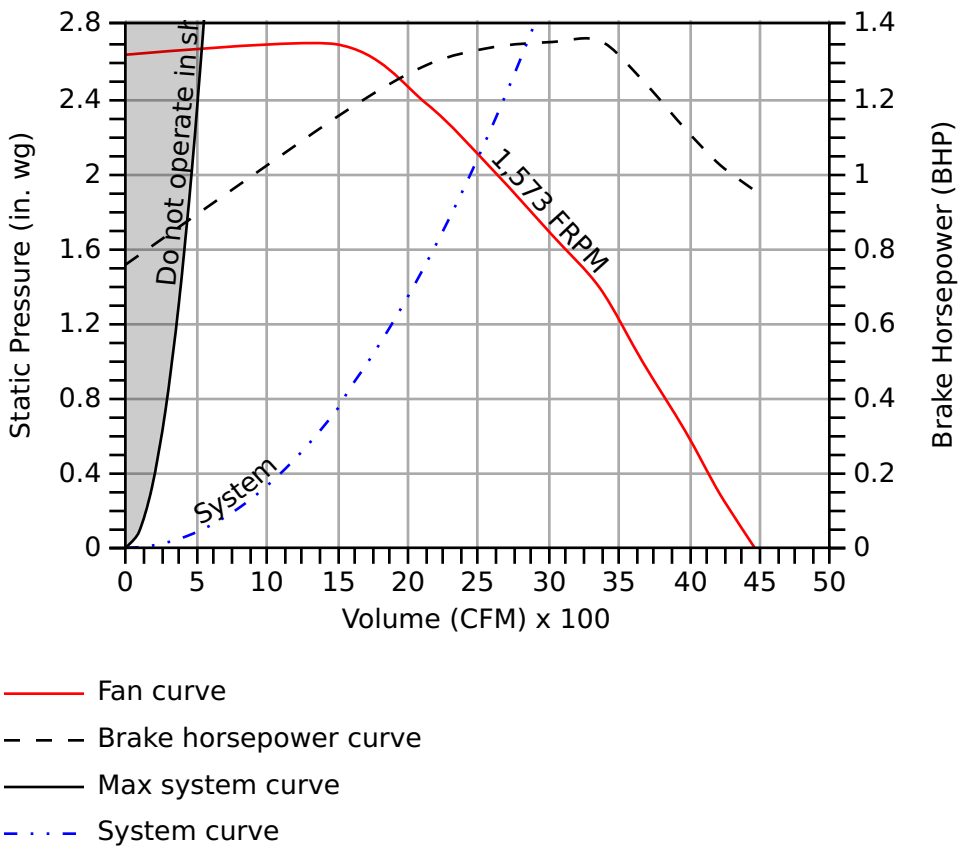
Motor Specifications

Motor	Qty	Size (hp)	Enclosure	Efficiency	RPM
Supply Fan Motor	1	1-1/2	ODP	NEMA Premium	1,755

Electrical Specifications

Power Supply	Rating (V/C/P)	MCA (Amps)	MOP (Amps)
Unit (Normal Operation)	208/60/3	57.9	70

Supply Fan



Fan curve
Brake horsepower curve
Max system curve
System curve

Controls Sequence

Application (Base Sequence): Upon a unit start command, the factory-mounted microprocessor controller opens dampers and energizes the fans. Heating, cooling, and dehumidification are controlled to maintain the unit discharge temperature set point. Fans run at a constant speed. During unoccupied periods the unit is de-energized.

On/Off Control (Digital Input): Hard wired signal to unit microprocessor controller controls start/stop.

Occupancy Control (Digital Input): Hard wired signal to unit microprocessor controller controls occupancy.

Supply Fan Control (Constant Volume With VFD): Supply fan provides a constant volume set through unit controller.

Recirc Damper Control (N/A):

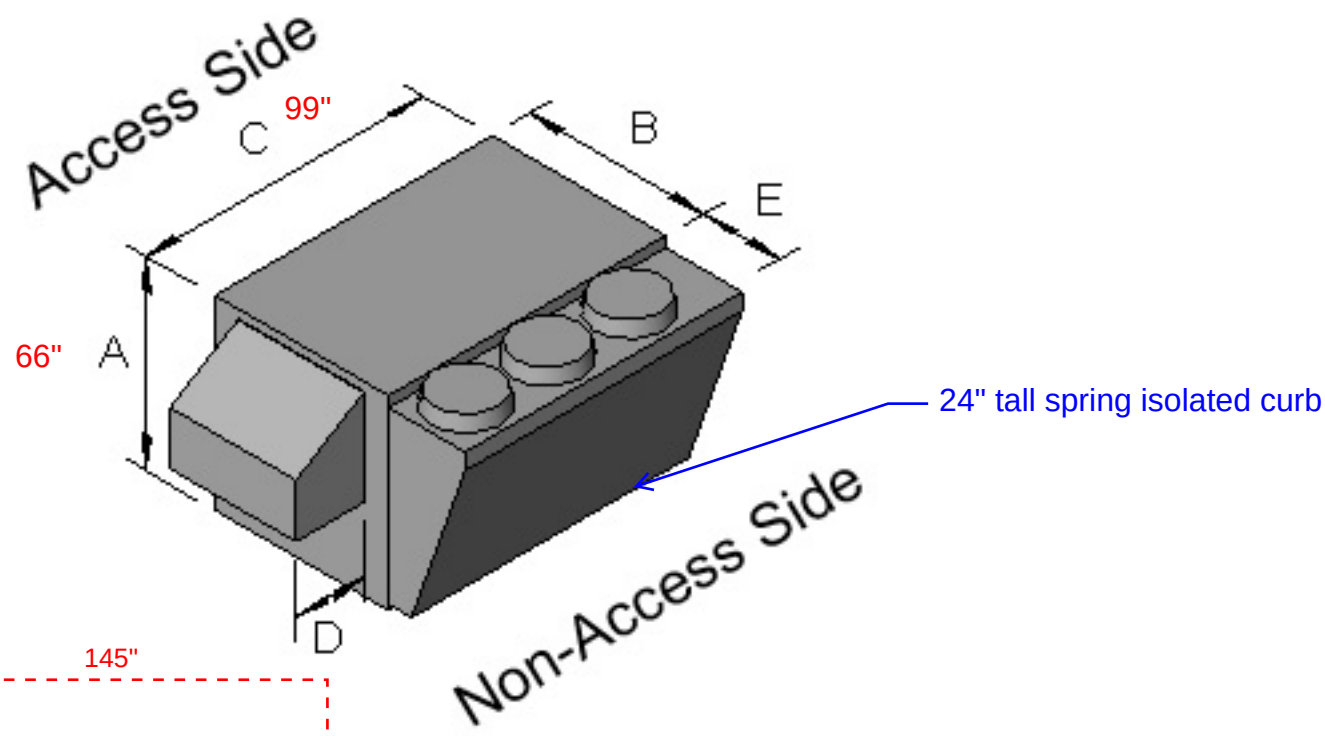
Exhaust Fan Control (N/A):

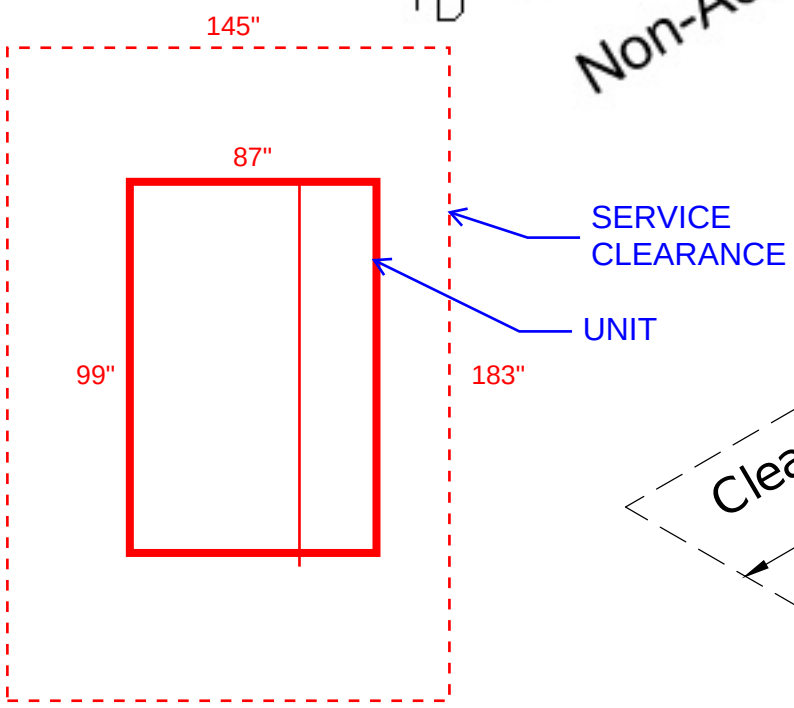
Temperature Control (Discharge): Unit monitors discharge air temperature and integral cooling and heating sequences modulate to maintain a discharge set point. Temperature set point controlled through unit controller or building management system.

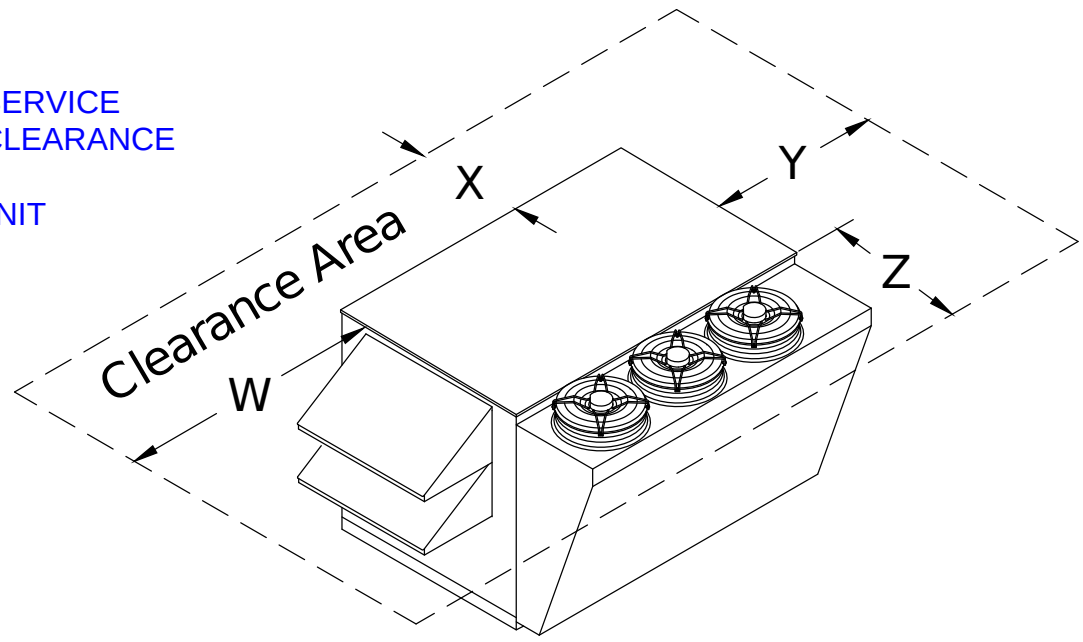
Humdity Control (Discharge): Unit's integral cooling sequence provides dehumidification to 55 degrees F (adj.) when the outdoor air temperature is greater than 65 degrees F (adj.).

TOTAL WEIGHT:
3500 LBS

Dimensions and Weights		
Label	**Value**	**Description**
-	2,513	Weight w/o accessories (lbs)
A	66	Overall Height (in)
B	53	Overall Width (in)
C	99	Overall Length (in)
D	22	Outdoor Air Weatherhood (in)
E	34	Condensing Section (in)
W	42	Outdoor Air Intake (in)
X	40	Access Side (in)
Y	42	Control Center Access (in)
Z	52	Non-Access Side (in)

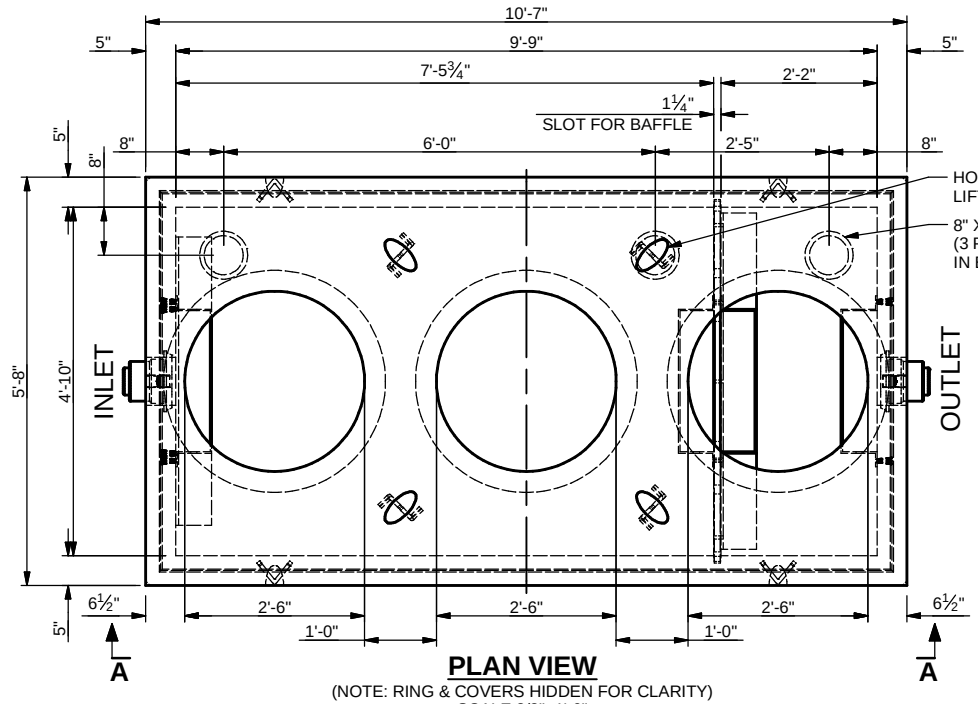




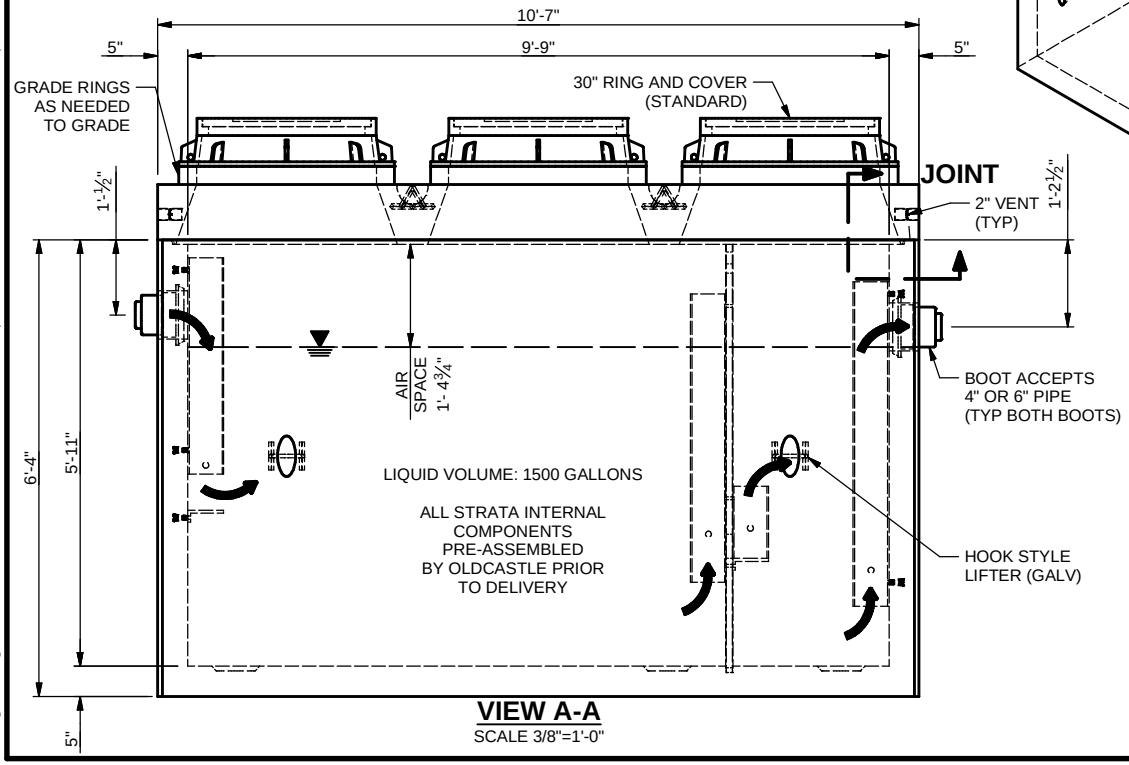


Grease Interceptor

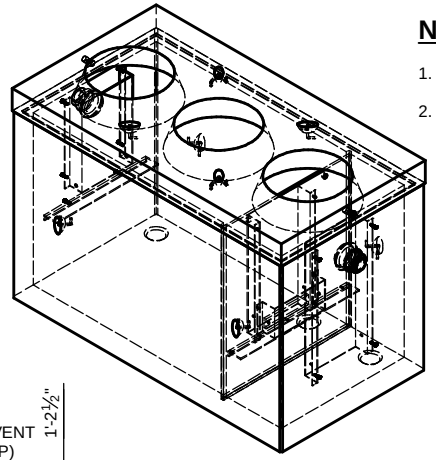
WEIGHTS	
WEIGHT (LBS)	DESCRIPTION
15035	BASE SECTION
5139	LID SECTION
141	BAFFLE WALL



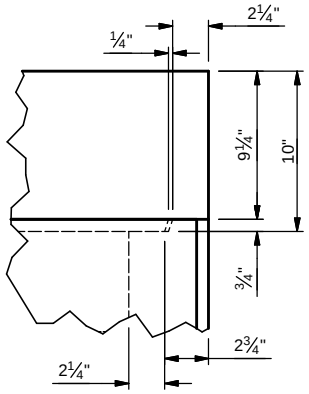
PLAN VIEW
(NOTE: RING & COVERS HIDDEN FOR CLARITY)
SCALE 3/8"=1'-0"



VIEW A-A
SCALE 3/8"=1'-0"



ISOMETRIC VIEW
SCALE 3/16"=1'-0"



DETAIL JOINT
SCALE 1" = 1'-0"

STRUCTURAL NOTES:

1. LOADS:
   - -HS-20 TRUCK WHEEL LOAD W/ IMPACT
   - -40 PCF LATERAL SOIL PRESSURE (DRY)
   - -0'-5' SOIL COVER
   - -SOIL DENSITY = 120 PCF
   - -LLS = 80 PSF
   - -ASSUMED WATER TABLE 2' BELOW GRADE
2. DESIGN:
   - -ACI-318 BUILDING CODE
   - -ASTM C-890
   - -BOOT SEAL: ASTM C-923
   - -NO LATERAL SURCHARGE FROM ADJACENT STRUCTURES OR FOUNDATIONS
3. CONCRETE: 28 DAY COMPRESSIVE STRENGTH f'c = 6,000 PSI
4. REBAR: ASTM A-615 OR A-706, GRADE 60

NOTES TO CONTRATOR:

1. ENSURE ADEQUATE BEARING SURFACE IS PROVIDED (I.E. LEVEL AND COMPACTED)
2. ALL HORIZONTAL JOINTS TO HAVE BUTYL SEALANT BETWEEN PRECAST PIECES

****THIS MUST BE FILLED OUT BEFORE MANUFACTURING BEGINS****

APPROVED W/ NO EXCEPTIONS TAKEN: ☐
APPROVED AS NOTED: ☐
REVISED AND RESUBMIT: ☐

SIGNATURE: **DATE:**

Oldcastle Precast®

STRATA GREASE INTERCEPTOR (TM)

1500 GALLON CAPACITY
SUBMITTAL DRAWING

CUSTOMER

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
9/16/2016		JRS	BL		

DRAWING NUMBER	REVISION	SHEET
Strata - 1500 Grease Interceptor - Submittal.idw	1 DATE 2/27/2017	1 OF 1

F:\Engineering\Inventor\Standard Products\Grease Interceptor\Northwest Pacific\Grease Interceptor\Submittal\1500 Interceptor\Strata - 1500 Grease Interceptor - Submittal.idw

Submittal Data Sheet

16-Ton VRV-IV Heat Pump Unit - 230V

RXYQ192TTJU

HP-1
HP-2
common area heat pumps,
located on the roof

FEATURES

- Variable Refrigerant Temperature (VRT) control allows the VRV IV to deliver up to 28% of improvement in seasonal cooling efficiency compared to previous Daikin VRV heat pump systems
- Same product structure for 230V and 460V simplifies ordering
- The rated seasonal cooling efficiency has been improved by an average of 11% compared to VRV III
- Improved efficiency with IEER values now up to 28
- Larger capacity single modules ranging up to 14 tons and systems up to 34 tons allow for a more flexible system design
- New configurator software designed to simplify the commissioning and maintenance of the system
- Larger capacity single modules allow for opportunity to reduce electrical connections, piping connections and outdoor unit mounting fixtures
- System wide auto-climate adjustment technology to increase the energy efficiency
- All inverter compressors to increase the efficiency and avoid starting current inrush
- Assembled in the US to increase flexibility and reduce lead times
- Standard Limited Warranty: 10-year warranty on compressor and all parts

BENEFITS

- 3 row 7mm heat exchanger coil improves efficiency
- Inverter control board cooled by refrigerant to avoid influence from abient temperatures
- Heat exchanger coil wraps around on all 4 sides of the unit to increase the surface area / efficiency
- Designed with reduced MOP to optimize installation cost
- Digital display on the unit for improved and faster configuration, commissioning, and trouble shooting.

Submittal Data Sheet

16-Ton VRV-IV Heat Pump Unit - 230V

RXYQ192TTJU

PERFORMANCE			
Outdoor Unit Model No.	RXYQ192TTJU	Outdoor Unit Name:	16-Ton VRV-IV Heat Pump Unit - 230V
Type:	Heat Pump	Unit Combination:	RXYQ120TTJU + RXYQ72TTJU
Rated Cooling Conditions:	Indoor (°F DB/WB): 80 / 67 Ambient (°F DB/WB): 95 / 75	Rated Heating Conditions:	Indoor (°F DB/WB): 70 / 70 Ambient (°F DB/WB): 47 / 43
Rated Piping Length(ft):			
Rated Height Difference (ft):	0.00		
Rated Cooling Capacity (Btu/hr):	184,000	Rated Heating Capacity (Btu/hr):	206,000
Nom Cooling Capacity (Btu/hr):		Nom Heating Capacity (Btu/hr):	
Cooling Input Power (kW):	15.80	Heating Input Power (kW):	15.40
EER (Non-Ducted/Ducted):	11.90 / 12.30	Heating COP (Non-Ducted/Ducted):	3.8 / 3.6
IEER (Non-Ducted/Ducted):	22.20 / 20.70	Heating COP 17F (Non-Ducted/Ducted):	2.3 / 2.4

OUTDOOR UNIT DETAILS			
Power Supply (V/Hz/Ph):	208-230 / 60 / 3	Compressor Type	Inverter
Power Supply Connections:	L1, L2, L3 Ground	Capacity Control Range (%):	20 - 100
Min. Circuit Amps MCA (A):	27.6+36.3	Capacity Index Limit:	96.0 - 250.0
Max Overcurrent Protection (MOP) (A):	35+45	Airflow Rate (H) (CFM):	5544+6286
Max Starting Current MSC(A):		Gas Pipe Connection (inch):	1-1/8
Rated Load Amps RLA(A):	15.7+26.2	Liquid Pipe Connection (inch):	5/8
Dimensions (Height) (in):	66-11/16	H/L Pressure Connection (inch)	
Dimensions (Width) (in):	85-9/16	H/L Equalizing Connection (inch)	
Dimensions (Depth) (in):	30-3/16	Sound Pressure (H) (dBA):	61
Net Weight (lb):	435+528	Sound Power Level (dBA):	
		Max. No. of Indoor Units:	33

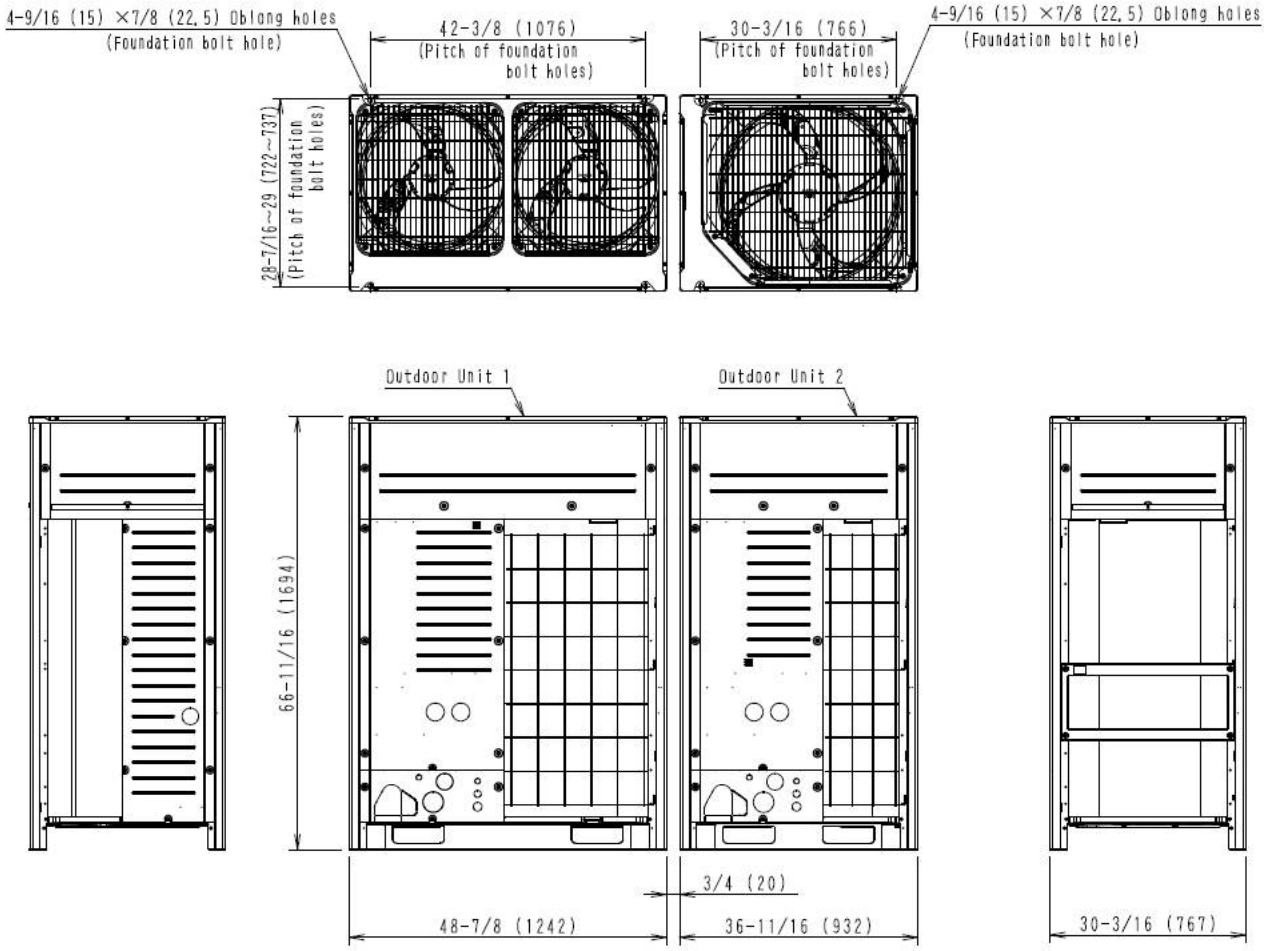
Submittal Data Sheet

16-Ton VRV-IV Heat Pump Unit - 230V

RXYQ192TTJU

SYSTEM DETAILS			
Refrigerant Type:	R-410A	Cooling Operation Range (°F DB):	23 - 122
Holding Refrigerant Charge (lbs):	13.0+22.9	Heating Operation Range (°F WB):	-4 - 60
Additional Charge (lb/ft):		Max. Pipe Length (Vertical) (ft):	295
Pre-charge Piping (Length) (ft):		Cooling Range w/Baffle (°F DB):	-
Max. Pipe Length (Total) (ft):	540	Heating Range w/Baffle (°F WB):	-
Max Height Separation (Ind to Ind ft):	0		

DIMENSIONAL DRAWING



GREENHECK
Building Value in Air.

Job Name: IGX-P115-H12-MF Cut Sheet
Tag: MK-1
Quantity: 1
Printed Date: September 16, 2021

Model: IGX-P115-H12-MF

MAU-1
(Laundry)

Design Conditions				
Elevation (ft.)	Summer		Winter (F)	Supply (CFM)
	DB (F)	WB (F)		
50	90	67	20	2,500

Unit Specification				
Weight (lbs.)	Cooling Type	Heating Type	Unit Installation	Unit ETL Listing
1,108	None	Indirect Gas	Outdoor	UL / cUL 1995

Configuration		
Outdoor Air		
Discharge Position	Supply Air Filters	Outdoor Air Damper
Bottom	None	Inlet Damper

Heating Specifications							
Type	Performance		Input (MBH)	Output (MBH)	Gas Type	Turn Down Ratio	Max Temp Rise (F)
	EAT (F)	LAT (F)					
Indirect Gas	20	79.3	200	160	Natural	16:1	59.3

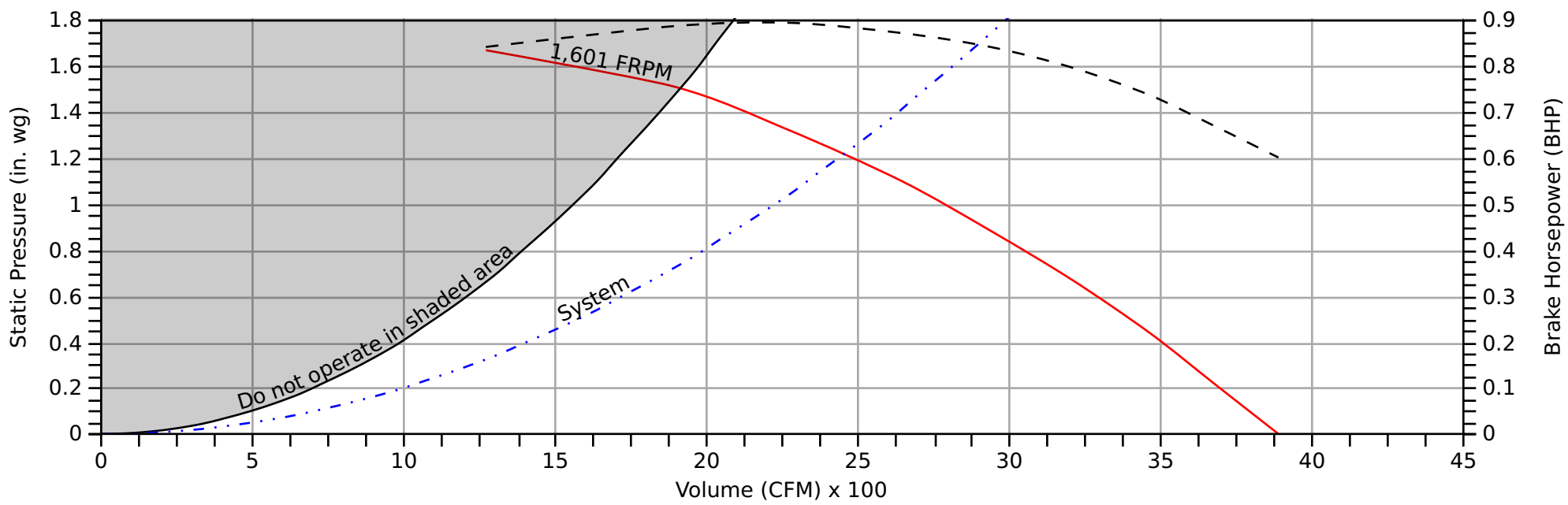
Air Performance									
Type	Total Volume (CFM)	External SP (in wg)	Total SP (in wg)	RPM	Operating Power (hp)	Fan			
						QTY	Type	Size	Drive-Type
Supply	2,500	1	1.267	1,601	0.9	1	MixedFlow	15	Direct

Sound Performance										
Sound Power by Octave Band								Lwa	dBA	Sones
62.5	125	250	500	1000	2000	4000	8000			
85.2	89.4	78.4	73.9	73.3	68.1	62.4	56.3	79	68	16

Motor Specifications					
Motor	Qty	Size (hp)	Enclosure	Efficiency	RPM
Supply Fan Motor	1	1	ODP	NEMA Premium	1,725

Electrical Specifications			
Power Supply	Rating (V/C/P)	MCA (Amps)	MOP (Amps)
Unit	460/60/3	3.3	15

Supply Fan



Fan curve
Brake horsepower curve
Max system curve
System curve

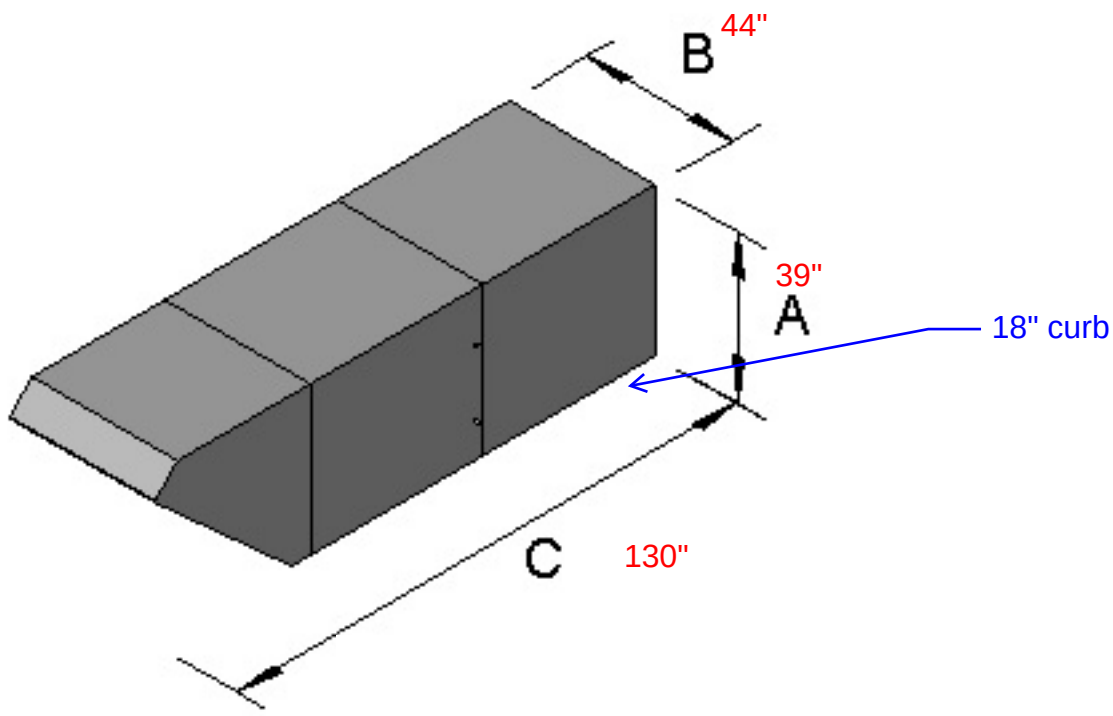
Controls Sequence

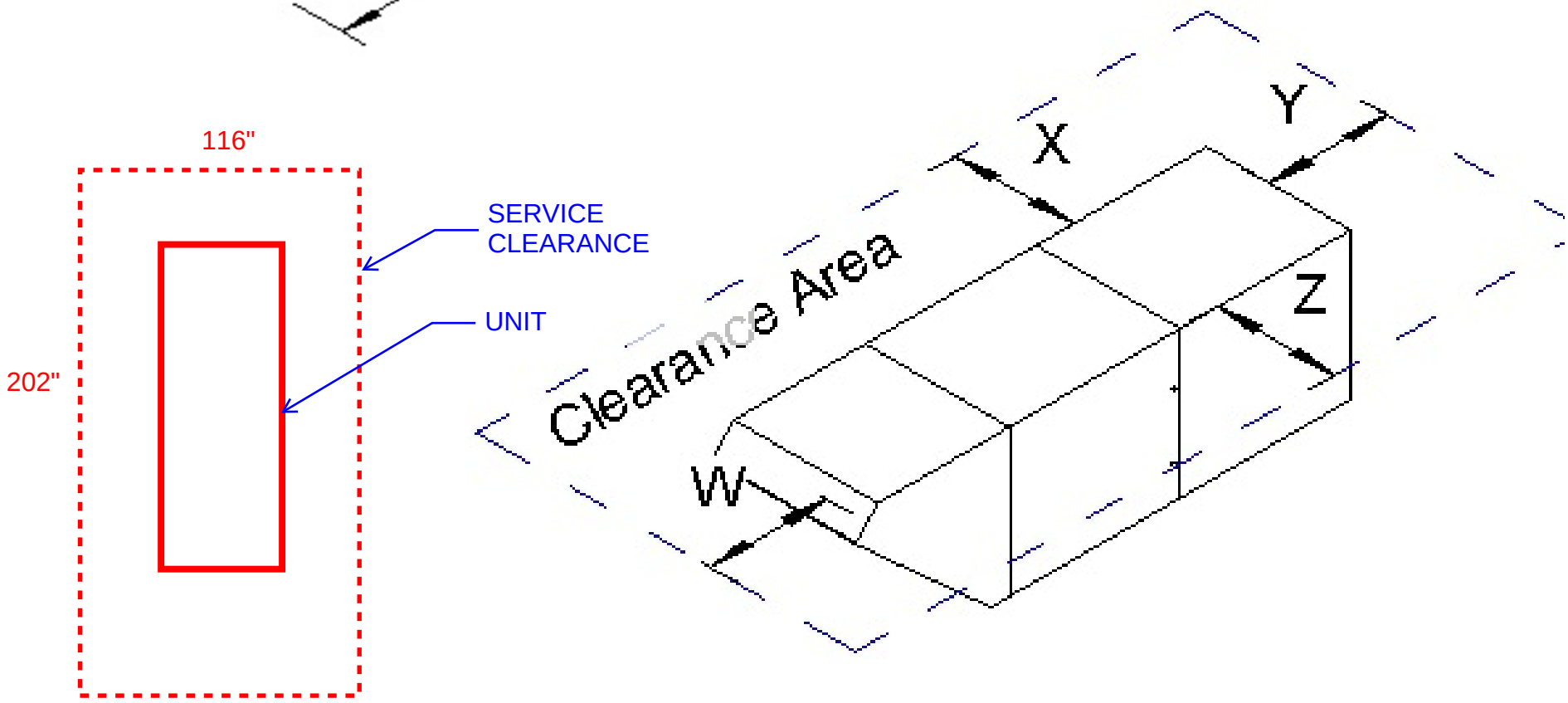
General Operation: Unit will operate through a contact closure on R & G. This actuates the dampers (if equipped) and supply fan to operate. The fan will operate at a constant volume, unless the unit is selected with variable air volume; Through various available controls, the unit will have the ability to modulate between design and 50% of design performance.

Heating Operation: Unit heating will operate through a contact closure between R & W1, when outdoor air temperature is below the heating inlet air temperature sensor setpoint (If equipped). The unit will modulate to a set discharge temperature setpoint (discharge temperature control) or a room temperature setpoint (room temperature control).

TOTAL WEIGHT;
1500 LBS

Dimensions and Weights		
Label	**Value**	**Description**
-	1108	Weight w/o accessories (lbs)
-	22.8	Supply Duct Width (in)
-	16.8	Supply Duct Height (in)
A	39	Overall Height (in)
B	44	Overall Width (in)
C	130	Overall Length (in)
W	36	Outdoor Air Intake (in)
X	36	Non-Access Side (in)
Y	36	Control Center Access (in)
Z	33	Access Side (in)





EXHAUST FAN INFORMATION – Job#2230228

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	ø	VOLT	FLA	WEIGHT (LBS.)	SONES
1	KEX	DU85HFA	1200	1.000	1157	0.750	0.3040	3	208	2.9	79	11.7

MUA FAN INFORMATION – Job#2230228

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	CFM	ESP.	RPM	H.P.	B.H.P.	ø	VOLT	FLA	EVAP COOLER ENTERING DB TEMP.	EVAP COOLER ENTERING WB TEMP.	EVAP COOLER LEAVING DB TEMP.	EVAP COOLER LEAVING WB TEMP.	WEIGHT (LBS.)	SONES
2	MUA-1	D76	G7	D.6	1100	0.500	1766	2.000	0.7600	3	208	6.2	90.0°F	69.0°F	72.0°F	69.0°F	494	22

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	TAG	ACTUAL AIR DENSITY?	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE
2	MUA-1	NO	83935	77220	65 deg F	7 in. w.c. - 14 in. w.c.	Natural

FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1	KEX	1 - Grease Box
2	MUA-1	1 - AC Interlock Relay - 24VAC Coil
		1 - Inlet Pressure Gauge, 0-35"
		1 - Manifold Pressure Gauge, -5 to 15" wc
		1 - Freeze Protection Drain Kit for Evaporative Coolers
		1 - Extra Set of Belts
		1 - Motorized Intake Damper (D76)
		1 - Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) - Three Phase Only

FAN ACCESSORIES

FAN UNIT NO.	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEX	YES						
2	MUA-1						YES	

CURB ASSEMBLIES

NO.	ON FAN	WEIGHT	ITEM	SIZE
1	# 1	36 LBS	Curb	23.000"W x 23.000"L x 20.000"H Vented Hinged
2	# 2	50 LBS	Curb	19.500"W x 52.000"L x 20.000"H Insulated
	# 2		Rail	4.000"W x 4.000"L x 36.000"HAlong Width,

ELECTRICAL PACKAGES – Job#2230228

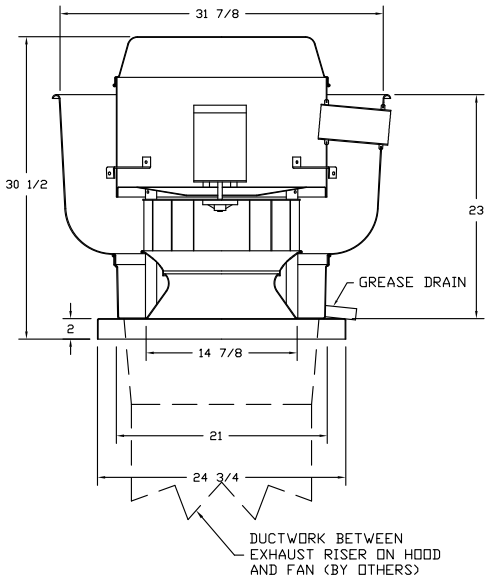
NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	ø	H.P.	VOLT	FLA
1		DCV-1111	Wall Mount In SS Box	SS Wall Mount Box	1 Light 1 Fan	Smart Controls DCV	Exhaust	3	0.750	208	2.9
							Supply	3	2.000	208	6.2

Exhaust Fan (Kitchen)

CAPTIVE-AIRE

JOB	
LOCATION	OR, 97030
DATE 1/19/2015	JOB # 2230228
DWG # 1	DRAWN BY Sean Elias
REV.	SCALE 3/8" = 1'-0"

FAN #1 DU85HFA - EXHAUST FAN (KEX)



FEATURES:

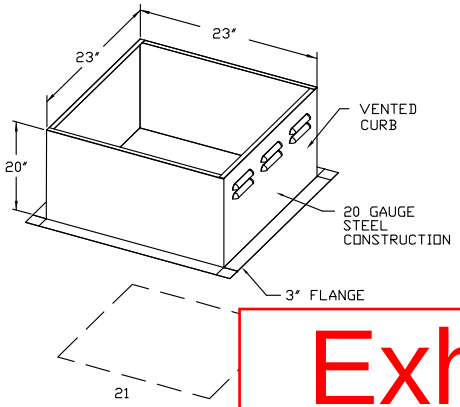
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

GREASE BOX



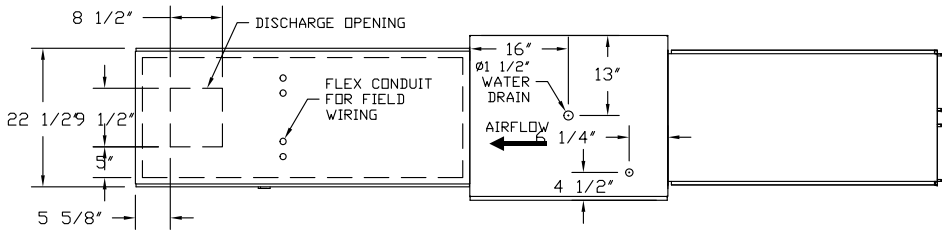
Exhaust Fan (Kitchen)

JOB			
LOCATION	OR, 97030		
DATE 1/19/2015		JOB #	2230228
DWG # 2		DRAWN BY	Sean Elias
REV.		SCALE	3/8" = 1'-0"

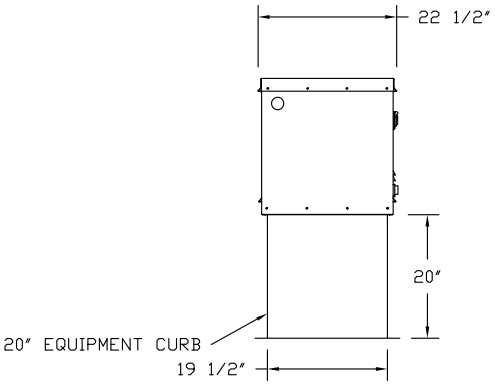
FAN #2 D76 - HEATER (MUA-1)
1. LOW CFM DIRECT FIRED HEATER. BELT DRIVE.
2. EVAP COOLER (LPD CELDEK) -W/INTAKE HOOD W/EZ FILTERS
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
4. COOLING INTERLOCK RELAY. 24VAC COIL. 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
5. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
6. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE
7. FREEZE PROTECTION DRAIN CONTROL KIT FOR EVAPORATIVE COOLERS. INCLUDES 3-WAY WATER SOLENOID VALVE 8316G064 (SHIPPED LOOSE), PRESSURE SWITCH INSTALLED UPSTREAM OF 2WAY SOLENOID IN UNIT, BRASS TEE, 2 NPT HALF INCH NIPPLES, AND TWO STAGE THERMOSTAT T678A-1015. FIELD WIRING REQUIRED BY OTHERS FOR 3-WAY VALVE. FOR BOTH CELDEK AND STANDARD V-BANK TYPE CONFIGURATIONS.
8. EXTRA SET OF V-BELTS. ONLY TO BE ORDERED AS FAN OPTION AT TIME FAN IS ORDERED.
9. MOTORIZED BACK DRAFT DAMPER 13" X 17" FOR D76 COMPACT DIRECT FIRED HEATERS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, TF120S ACTUATOR INCLUDED
10. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.

SUPPLY SIDE HEATER INFORMATION:

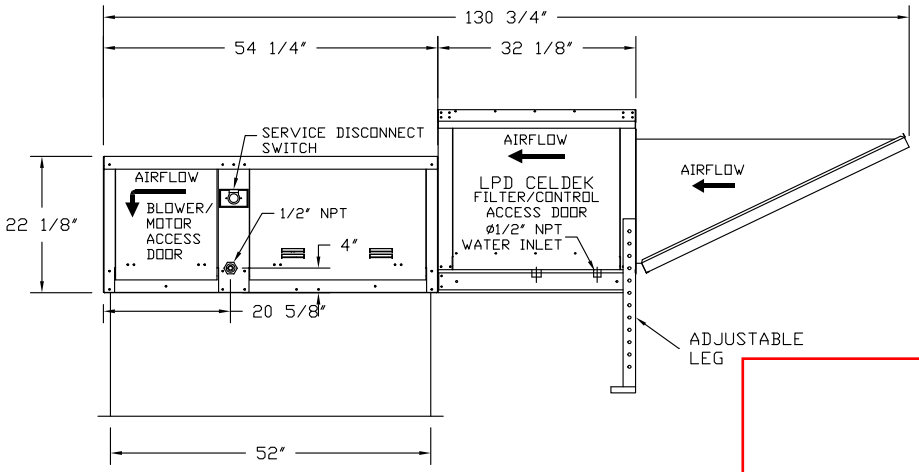
WINTER TEMPERATURE = 0°F. TEMP. RISE = 65°F.
BTUs CALCULATED OFF STANDARD AIR DENSITY
OUTPUT BTUs AT ALTITUDE OF 0.0 ft. = 77220
INPUT BTUs AT ALTITUDE OF 0.0 ft. = 83935



ACCESS PANELS ON LEFT SIDE WHEN FACING AIR INLET



ROOF OPENING 2" SMALLER THAN CURB DIMENSION.



MAU-2 (Kitchen)

JOB	
LOCATION	OR, 97030
DATE 1/19/2015	JOB # 2230228
DWG # 3	DRAWN BY Sean Elias
REV.	SCALE 3/8" = 1'-0"