CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

PLANNING COMMISSION STAFF REPORT
CONDITIONAL USE PERMIT USE2025 0007
HEARING DATE: MARCH 25, 2025

(907) 586-0715
CDD_Admin@juneau.gov
www.juneau.org/community-development
155 Heritage Way • Juneau, AK 99801

DATE: March 17, 2025

TO: Mandy Cole, Chair, Planning Commission

BY: Ilsa Lund, Planner I *Ilsa Lund*

THROUGH: Jill Lawhorne, Director, AICP

PROPOSAL: Construct a three-story dental clinic.

STAFF RECOMMENDATION: Approval with conditions

KEY CONSIDERATIONS FOR REVIEW:

- The applicant owns multiple lots in this subdivision and this facility will become part of the medical complex.
- The lot is not large enough to accommodate the minimum parking requirement for the use, and a shared parking agreement will be implemented with a lot under the same ownership less than 500 feet away.

GENERAL INFORMATION	
Property Owner	Southeast Alaska Regional Health Consortium
Applicant	Dawson Construction
Property Address	3063 Vintage Blvd.
Legal Description	VINTAGE III LT B1
Parcel Number	5B1601430016
Zoning	Light Commercial (LC)
Land Use Designation	Traditional Town Center (TTC)
Lot Size	32,689 sq. ft./ 0.75 acre
Water/Sewer	CBJ
Access	Access easement off Vintage Boulevard
Existing Land Use	Undeveloped
Associated Applications	N/A

ALTERNATIVE ACTIONS:

1. **Amend:** require additional conditions, or delete or modify the recommended conditions.
2. **Deny:** deny the permit and adopt new findings for items 1-6 below that support the denial.
3. **Continue:** to a future meeting date if determined that additional information or analysis is needed to make a decision, or if additional testimony is warranted.

ASSEMBLY ACTION REQUIRED:

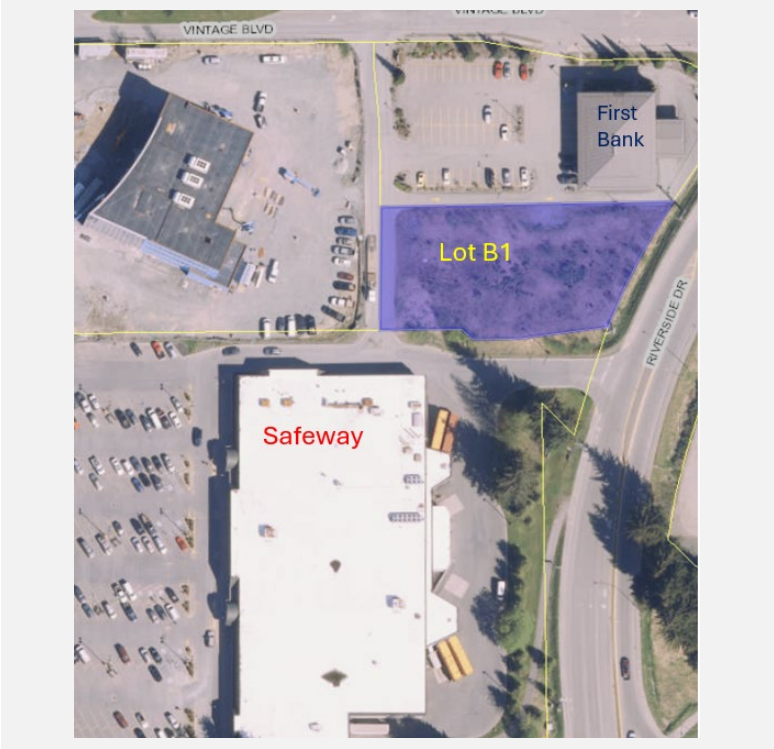
Assembly action is not required for this permit.

STANDARD OF REVIEW:

- Quasi-judicial decision
- Requires five (5) affirmative votes for approval
- Code Provisions:
  - 49.15.330
  - 49.25.215
  - 49.40.215
  - 49.80

The Commission shall hear and decide the case per *49.15.330(a) Conditional Use Permit.* *A conditional use is a use that may or may not be appropriate in a particular zoning district according to the character, intensity, or size of that or surrounding uses. The conditional use permit procedures is intended to afford the commission the flexibility necessary to make determinations appropriate to individual sites. The commission may attach to the permit those conditions listed in subsection (g) of this section as well as any further conditions necessary to mitigate external adverse impacts. If the commission determines that these impacts cannot be satisfactorily overcome, the permit shall be denied.*

SITE FEATURES AND ZONING



SURROUNDING ZONING AND LAND USES	
North (LC)	First Bank
South (LC)	Safeway
East (LC)	Riverside Drive Right-of-Way / Commercial
West (LC)	SEARHC Medical Clinic

SITE FEATURES	
Anadromous	None
Flood Zone	0.2% annual chance flood hazard
Hazard	None
Hillside	No
Wetlands	No
Parking District	No
Historic District	No
Overlay Districts	Mining & Exploration Surface Activities Exclusion District, Urban/ Rural Mining District

BACKGROUND INFORMATION

Project Description – The applicant proposes to build a three-story, 19,635 sq. ft. dental clinic on an undeveloped lot as part of the Southeast Alaska Regional Health Consortium (SEARHC) Vintage Park Campus (Attachment A). The façade of the building will match the existing SEARHC medical clinic on the adjacent lot (VINTAGE IV TR A2). Lot B1 is not large enough to accommodate the minimum amount of parking required for a clinic of this size, and the applicant will be required to record a shared parking agreement with a lot under the same ownership on Postal Way in accordance with CBJ 49.40.215(a).

Background – The Vintage Subdivision was initially platted in 1984 (Attachment B), and re-platted into Lots A and B in 2003. (Attachment C). These lots were re-platted again in 2004 to adjust the lot line and enlarge Lot B1 to its current size (Attachment D).

Date	Item	Summary
1984	Plat	Plat 84-117 Vintage Subdivision (Attachment B).
2003	Plat	Plat 2003-29 (Attachment C).
2004	Plat	Plat 2004-45 enlarged lot and added easements for drainage, utilities, access, and maintenance (Attachment D).

ZONING REQUIREMENTS

Standard		Requirement	Existing	Code Reference
Lot	Size	2,000 sq. ft.	32,689 sq. ft.	CBJ 49.25.400
	Width	20 ft.	~120 ft.	CBJ 49.25.400
Setbacks	Front	25 ft.	N/A	CBJ 49.25.400
	Rear	10 ft.	N/A	CBJ 49.25.400
	Side	10 ft.	N/A	CBJ 49.25.400
	Side	10 ft.	N/A	CBJ 49.25.400
	Street Side	17 ft.	N/A	CBJ 49.25.400
Lot Coverage		None	N/A	CBJ 49.25.400
Height	Permissible	45 ft.	N/A	CBJ 49.25.400
	Accessory	35 ft.	N/A	CBJ 49.25.400
Maximum Dwelling Units (30 units/acre)		N/A	Commercial	CBJ 49.25.500
Use		Light Commercial	Undeveloped	CBJ 49.25.300
Vegetative Cover		15% (4,903 sq. ft.)	Unknown	CBJ 49.50.300

SITE PLAN

ANALYSIS

Project Site – This undeveloped lot is located near the intersection of Riverside Drive and Vintage Boulevard next to Safeway. The lot is currently being used to stage construction materials while SEARHC builds out their Vintage Park Campus.

Condition: None.

Project Design – The exterior design of the building will match the existing façade of the SEARHC medical clinic on the adjacent lot. The materials are transparent resin and metal.

Condition: None.

Traffic – The Institute of Transportation Trip Generation Manual 9th Edition (TGM) for a facility of this size with approximately 50 staff on site at any given time indicates an average of 446 daily trips. With Lot B1 being in a TTC with a transit station and other amenities close at hand, 446 ADTs does not seem realistic. Adjacent uses, such as a grocery store, bank with drive-through, and post office are likely to generate more traffic.

The Applicant provided a TIA for the SEARHC medical clinic on the adjacent lot in 2022 and it was determined that the four (4) closest intersections did not meet the threshold to require mitigation (Attachment E). Given the results of that recent TIA, combined with the proposed development's projected traffic based upon 50 employees, a traffic impact analysis is not required per the Director's determination [CBJ 49.40.300(a)(3)].

Use	Number of Employees	Trips Generated	Total Trips
Medical-Dental Office Building	50	446	446
		Total ADTs:	**446**

Condition: None.

Vehicle Parking & Circulation – Primary access to the lot will be through the access easement off Vintage Boulevard, also known as Postal Way Extension**.** According to CBJ 49.40.210(a), 98 parking spaces are required for a facility of this size. Due to space limitations on the primary lot, the applicant has proposed to provide additional parking off-site on a lot under common ownership (Lot 40A) less than 500 feet away on Postal Way. Lot B1 will provide 51 parking spaces including four (4) ADA-compliant parking spaces. An additional 47 parking spaces will be provided on Lot 40A, providing 100 total parking spaces for this facility. The 47 spaces on Lot 40A are in addition to the ten (10) parking spaces required for the workforce housing multifamily units.

Use	Unit/Total Sq. Ft.	Spaces Required	Total Spaces
Dental Clinic	1/200 sq. ft.	98	98
		Total Parking Requirement:	**98**

Use	Unit/Total Sq. Ft.	Spaces Required	Total Spaces
		Off-Street Loading Spaces Required:	**1**
		ADA Accessible Spaces Required:	**4**

Condition: Prior to the issuance of a building permit, a joint use parking agreement under CBJ 49.40.200(5) must be approved by the CBJ Community Development Department, and must be recorded in the State Recorder's Office prior to issuance of a building permit for the structure proposed on VINTAGE III LT B1. The parking agreement must state that the parking agreement may be nullified when the use on VINTAGE III LT B1 is changed and the CBJ Community Development Department Director has approved the nullification of the agreement that is recorded with the State Recorder's Office.

Non-motorized Transportation and Proximity to Transit – The Vintage Park area is designated as a Traditional Town Center in the 2013 Comprehensive Plan, reflecting its strategic location for promoting walkability, mixed-use development, and integration with transit services. Providing secure, covered bicycle parking ensures that bicycles are properly stored and protected from the elements, promoting their use as a mode of transport. With The Valley Transit Station located less than 500 feet away across Riverside Drive, this area is well-positioned to support alternative transportation options, such as bicycling, which aligns with the goals of the plan to foster sustainable, transit-oriented development.

Condition: Prior to the issuance of a Temporary Certificate of Occupancy, one or more covered bicycle racks providing spaces for bicycles shall be provided. The rack(s) shall be permanently affixed to the ground, building, or other permanent fixture, and shall be located so that parked bicycles do not encroach into a pedestrian walkway or vehicle area.

Noise – The facility will contain outpatient dental services. Adjacent uses include a financial institution, a grocery store and gas station, condominiums, senior housing, a memory care facility, professional offices, a large post office distribution center, and other commercial services. The noise anticipated for this facility is not expected to be out of character with the existing neighborhood and Light Commercial zoning.

Condition: None.

Lighting - A lighting plan and light fixture data sheet was submitted with the application. According to CBJ 49.40.230(d), parking areas shall be suitably lit. All proposed fixtures shall be full cut-off design. Based on the submitted materials, staff believes that this requirement has been met.

Condition: None.

Vegetative Cover & Landscaping – The minimum required vegetative coverage for Light Commercial zoning district is 15 percent, or 4,903 sq. ft. for Lot B1. The lot is currently being used as a staging area for construction materials and the majority of the vegetative coverage has been removed or covered with gravel.

Condition: Prior to the issuance of a Temporary Certificate of Occupancy, the vegetative cover areas shown on the plans must be planted.

Habitat - No anadromous streams run within 200 feet. No other known habitat regulated by the land use code exists on the site.

Condition: None.

Drainage and Snow Storage – Drainage plans were submitted with the application, but there is no indication of a proposed snow storage location.

Condition: Prior to the issuance of a building permit for the proposed project, the applicant shall submit a site plan indicating proposed snow storage location(s).

Historic District – Not applicable.

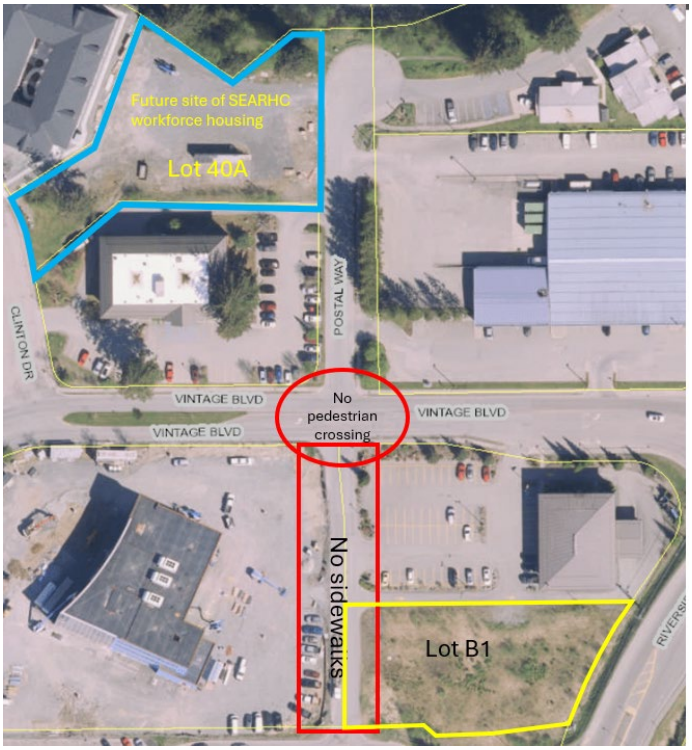
Condition: None.

Hazard Zones – Lot B1 is in Flood Zone X which, according to the Federal Emergency Management Agency, has only a one (1) percent chance of annual flooding with an average depth of less than one (1) foot. While the Zone X flood zone is not generally considered high risk, staff recommends that the applicant take into account potential future flood risks. A Flood Zone Development Permit is not required for development in this area.

Condition: None.

Public Health, Safety, and Welfare – The proposed development promotes the public health, safety, and welfare by providing a central location for medical services including primary and urgent care, pediatrics, labs, imaging, behavioral health, optometry, and dental care. This is located within one of Juneau's most populated areas and within 1,000 feet of the Valley Transit Center.

Public safety and welfare came up as a concern of the Fire Marshall's during the CBJ agency review period. The intersection of Postal Way and Vintage Boulevard does not have a pedestrian crossing and there are no sidewalks along the access easement leading to Lot B1. While there is a light pole on the east corner of Postal Way, the area is not well lit especially in the wintertime.



Condition: At the time of building permit application, fire suppression system plans must be submitted. Suppression system design cannot be deferred.

Property Value or Neighborhood Harmony – The proposed development is appropriate for Light Commercial zoning. No information has been submitted that suggests the proposal will reduce property values in the surrounding area.

Condition: None.

AGENCY REVIEW

CDD conducted an agency review comment period between February 24, 2025, and March 10, 2025, and received the following responses (Attachment F):

Agency	Summary
CDD Building Division	No response received.
General Engineering	No response received.
Capital City Fire & Rescue (CCFR)	The area is not well lit and CCFR responds to frequent requests for assistance at the Riverview Senior Living Center. A crosswalk is recommended. Fire suppression system plans cannot be deferred.

PUBLIC COMMENTS

CDD conducted a public comment period between February 24, 2025, and March 6, 2025. Public notice was mailed to property owners within 500 feet of the proposed development (Attachment G). A public notice sign was also posted on-site two weeks prior to the scheduled hearing (Attachment H). No public comments were submitted at time of writing this staff report.

CONFORMITY WITH ADOPTED PLANS

The proposed development is in general conformity with the 2009 Non-motorized Transportation Plan, the 2013 Comprehensive Plan, and the 2015 Juneau Economic Development Plan.

PLAN	Chapter	Page No.	Item	Summary
2009 Juneau Non-motorized Transportation Plan	8	73	Policy 10	Provide more bicycle racks. "Secure, covered, well-designed bike racks help encourage residents to take more trips by bicycle and are required for the development of a complete non-motorized network." Require installation of bike racks as part of new building construction.
2013 Comprehensive Plan	5	44	Policy 5.0	To develop and sustain a diverse economy, providing opportunities for employment for all residents.

PLAN	Chapter	Page No.	Item	Summary
	5	47	Policy 5.4	To encourage and support regional economic development in other cities and locations in Southeast Alaska to create a local environment of services and offerings attractive to commerce originating from outside the CBJ, and to actively participate in development and implementation of regional sustainable development goals.
	10	140	Policy 10.13	To provide for and encourage mixed use development that integrates residential, retail, and office use in downtown areas, shopping centers, along transit corridors, and in other suitable areas.
	11	157	Map 11.8 – TTC	Complies with the TTC designation of the 213 Comprehensive Plan.
	13	213	Policy 13.3	To promote quality medical and social services in the CBJ to ensure the safety, health, well-being, and self-sufficiency of its residents.
2015 Juneau Economic Development Plan	5	58	Objective 2	Increase the breadth and depth of skilled local healthcare workers and services for seniors.
	5	58	Objective 4	Improve senior access to community-based services and activities.

FINDINGS

Conditional Use Permit Criteria – Per CBJ 49.15.330 (e) & (f), Review of Director's & Commission's Determinations, the Director makes the following findings on the proposed development:

1. ***Is the application for the requested Conditional Use Permit complete?***

   Analysis: No further analysis needed.

   Finding: Yes. The application contains the information necessary to conduct a review of the proposed operations. The application submittal by the applicant, including the appropriate fees, substantially conforms to the requirements of CBJ Chapter 49.15.

2. ***Is the proposed use appropriate according to the Table of Permissible Uses?***

   Analysis: The application is for a 19,635 square foot, three-story, dental facility. The use is listed at CBJ 49.25.300(7.150) for the LC zoning district.

   Finding: Yes. The requested permit is appropriate according to the Table of Permissible Uses.

3. Will the proposed development comply with the other requirements of this chapter?

Analysis: No further analysis needed.

Finding: Yes. With the recommended conditions, the proposed development will comply with Title 49, including parking, lighting, vegetative cover, and flood development standards.

4. Will the proposed development materially endanger the public health, safety, or welfare?

Analysis: The proposed dental offices provide needed medical services in an accessible location. This proposed facility provides an essential community service and promotes the public health, safety, and welfare.

Finding: No. There is no information to suggest that with appropriate conditions, the requested medical facility, in an LC zoning district, will materially endanger the public health or safety.

5. Will the proposed development substantially decrease the value of or be out of harmony with property in the neighboring area?

Analysis: The surrounding area contains a variety of uses. The proposed development is in harmony with the existing developments in the LC zoning district.

Finding: No. There is no evidence to suggest that with appropriate conditions, the requested dental facility in an LC zoning district will substantially decrease the value or be out of harmony with the property in the neighboring area.

6. Will the proposed development be in general conformity with the Land Use Plan, Thoroughfare Plan, or other officially adopted plans?

Analysis: No additional analysis required.

Finding: Yes. The proposed dental facility, with the recommended conditions, will be in general conformity with the 2009 Juneau Non-motorized Transportation Plan, the 2013 Comprehensive Plan, and the 2015 Economic Development Plan.

RECOMMENDATION

Staff recommends the Planning Commission adopt the Director's analysis and findings and APPROVE WITH CONDITIONS the requested Conditional Use Permit. The permit would allow the development of a 19,635 square foot dental facility in a Light Commercial Zone.

The approval is subject to the following conditions:

1. Prior to the issuance of a building permit, a joint use parking agreement under CBJ 49.40.200(5) must be approved by the CBJ Community Development Department, and must be recorded in the State Recorder's Office prior to issuance of a building permit for the structure proposed on VINTAGE III LT B1. The parking agreement must state that the parking agreement may be nullified when the use on VINTAGE III LT B1 is changed and the CBJ Community Development Department Director has approved the nullification of the agreement that is recorded with the State Recorder's Office.

2. Prior to the issuance of a Temporary Certificate of Occupancy, one or more covered bicycle racks providing spaces for bicycles shall be provided. The rack(s) shall be permanently affixed to the ground, building, or other permanent fixture, and shall be located so that parked bicycles do not encroach into a pedestrian walkway or vehicle area.
3. Prior to the issuance of a Temporary Certificate of Occupancy, the vegetative cover areas shown on the plans must be planted.
4. Prior to the issuance of a building permit for the proposed project, the applicant shall submit a site plan indicating proposed snow storage location(s).
5. At the time of building permit application, fire suppression system plans must be submitted. Suppression system design cannot be deferred.

STAFF REPORT ATTACHMENTS

Item	Description
Attachment A	*Application Packet*
Attachment B	*Plat 84-117 Vintage Subdivision*
Attachment C	*Plat 2003-29*
Attachment D	*Plat 2004-45*
Attachment E	*March 2022 Traffic Impact Analysis*
Attachment F	*Agency Comments*
Attachment G	*Abutters Notice*
Attachment H	*Public Notice Sign Photo*
Attachment I	*Site Photos*

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

DEVELOPMENT PERMIT APPLICATION

NOTE: Development Permit Application forms must accompany all other Community Development Department land use applications. This form and all documents associated with it are public record once submitted.

To be completed by Applicant

PROPERTY LOCATION

Physical Address: None assigned

Legal Description(s) (Subdivision, Survey, Block, Tract, Lot): Vintage III Subdivision, Lot B1

Parcel Number(s): 5B1601430016

☐ This property is located in the downtown historic district
☐ This property is located in a mapped hazard area, if so, which _____

LANDOWNER/ LESSEE

Property Owner: Southeast Alaska Regional Health Consortium | Contact Person: Scott G Martin

Mailing Address: 3100 Channel Drive, Suite 312N, Juneau, AK 99801 | Phone Number(s): 907.463.0400

E-mail Address: smartin@searhc.org

LANDOWNER/ LESSEE CONSENT

Required for Planning Permits, not needed on Building/ Engineering Permits.

Consent is required of all landowners/ lessees. If submitted with the application, alternative written approval may be sufficient. Written approval must include the property location, landowner/ lessee's printed name, signature, and the applicant's name.

I am (we are) the owner(s)or lessee(s) of the property subject to this application and I (we) consent as follows:
A. This application for a land use or activity review for development on my (our) property is made with my complete understanding and permission.
B. I (we) grant permission for the City and Borough of Juneau officials/employees to inspect my property as needed for purposes of this application.

Southeast Alaska Regional Health Consortium — Landowner
Landowner/Lessee (Printed Name) — Title (e.g.: Landowner, Lessee)

X _____ 1-23-25
Landowner/Lessee (Signature) — Date

Southeast Alaska Regional Health Consortium — Landowner
Landowner/Lessee (Printed Name) — Title (e.g.: Landowner, Lessee)

X _____ 1-23-25
Landowner/Lessee (Signature) — Date

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours. We will make every effort to contact you in advance, but may need to access the property in your absence and in accordance with the consent above. Also, members of the Planning Commission may visit the property before a scheduled public hearing date.

APPLICANT — If same as LANDOWNER, write "SAME"

Applicant (Printed Name): Dawson Construction | Contact Person: Nate Katschke

Mailing Address: 8401 Airport Blvd, Juneau, AK 99801 | Phone Number(s): 360.325.5912

E-mail Address: NKatschke@dawson.com

X _____ 1/24/2025
Applicant's Signature — Date of Application

----------DEPARTMENT USE ONLY BELOW THIS LINE----------

Intake Initials	
Case Number: USE25-007	Date Received: 2/13/25

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

For assistance filling out this form, contact the Permit Center at 586-0770.

Attachment A - Application Packet

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

ALLOWABLE/CONDITIONAL USE PERMIT APPLICATION

See reverse side for more information regarding the permitting process and the materials required for a complete application.
NOTE: Must be accompanied by a DEVELOPMENT PERMIT APPLICATION form.

To be completed by Applicant

PROJECT SUMMARY
Construction of a Medical Office Building, CBJ Parcel 5B1601430016

TYPE OF ALLOWABLE OR CONDITIONAL USE PERMIT REQUESTED
- ○ Accessory Apartment – Accessory Apartment Application (AAP)
- ◉ Use Listed in 49.25.300 – Table of Permissible Uses (USE)
  Table of Permissible Uses Category: 7.150 Health care clinics, other medical treatment facilities

IS THIS A MODIFICATION or EXTENSION OF AN EXISTING APPROVAL? ○ YES – Case # _____ ◉ NO

UTILITIES PROPOSED WATER: ☑ Public ☐ On Site SEWER: ☑ Public ☐ On Site

SITE AND BUILDING SPECIFICS
Total Area of Lot 32,689 square feet Total Area of Existing Structure(s) 0 square feet
Total Area of Proposed Structure(s) 19,635 square feet

EXTERNAL LIGHTING
Existing to remain ○ No ○ Yes – Provide fixture information, cutoff sheets, and location of lighting fixtures
Proposed ○ No ◉ Yes – Provide fixture information, cutoff sheets, and location of lighting fixtures

ALL REQUIRED DOCUMENTS ATTACHED

☑ **Narrative including:**
- ☑ Current use of land or building(s)
- ☑ Description of project, project site, circulation, traffic etc.
- ☑ Proposed use of land or building(s)
- ☑ How the proposed use complies with the Comprehensive Plan

☑ **Plans including:**
- ☑ Site plan
- ☑ Floor plan(s)
- ☑ Elevation view of existing and proposed buildings
- ☑ Proposed vegetative cover
- ☑ Existing and proposed parking areas and proposed traffic circulation
- ☑ Existing physical features of the site (e.g.: drainage, habitat, and hazard areas)

If this is a modification or extension include:
- ☐ Notice of Decision and case number
- ☐ Justification for the modification or extension
- ☐ Application submitted at least 30 days before expiration date

----------DEPARTMENT USE ONLY BELOW THIS LINE----------

ALLOWABLE/CONDITIONAL USE FEES

	Fees	Check No.	Receipt	Date
Application Fees	$ 750.00			
Admin. of Guarantee	$			
Adjustment	$			
Pub. Not. Sign Fee	$ 50.00			
Pub. Not. Sign Deposit	$ 100.00			
Total Fee	$ 900.00			

This form and all documents associated with it are public record once submitted.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

For assistance filling out this form, contact the Permit Center at 586-0770.

Case Number	Date Received
USE25-007	2/13/25

Allowable/Conditional Use Permit Application Instructions

Allowable Use permits are outlined in CBJ 49.15.320, Conditional Use permits are outline in CBJ 49.15.330

Pre-Application Conference: A pre-application conference is required prior to submitting an application. There is no fee for a pre-application conference. The applicant will meet with City & Borough of Juneau and Agency staff to discuss the proposed development, the permit procedure, and to determine the application fees. To schedule a pre-application conference, please contact the Permit Center at 586-0770 or via e-mail at permits@juneau.org.

Application: An application for an Allowable/Conditional Use Permit will not be accepted by the Community Development Department until it is determined to be complete. The items needed for a complete application are:

1. **Forms:** Completed Allowable/Conditional Use Permit Application and Development Permit Application forms.
2. **Fees:** Fees generally range from $350 to $1,600. Any development, work, or use done without a permit issued will be subject to double fees. All fees are subject to change.
3. **Project Narrative:** A detailed narrative describing the project.
4. **Plans:** All plans are to be drawn to scale and clearly show the items listed below:
    A. Site plan, floor plan and elevation views of existing and proposed structures
    B. Existing and proposed parking areas, including dimensions of the spaces, aisle width and driveway entrances
    C. Proposed traffic circulation within the site including access/egress points and traffic control devices
    D. Existing and proposed lighting (including cut sheets for each type of lighting)
    E. Existing and proposed vegetation with location, area, height and type of plantings
    F. Existing physical features of the site (i.e. drainage, eagle trees, hazard areas, salmon streams, wetlands, etc.)

Document Format: All materials submitted as part of an application shall be submitted in either of the following formats:

1. Electronic copies in the following formats: .doc, .txt, .xls, .bmp, .pdf, .jpg, .gif, .xlm, .rtf (other formats may be preapproved by the Community Development Department).
2. Paper copies 11" X 17" or smaller (larger paper size may be preapproved by the Community Development Department).

Application Review & Hearing Procedure: Once the application is determined to be complete, the Community Development Department will initiate the review and scheduling of the application. This process includes:

Review: As part of the review process the Community Development Department will evaluate the application for consistency with all applicable City & Borough of Juneau codes and adopted plans. Depending on unique characteristics of the permit request the application may be required to be reviewed by other municipal boards and committees. During this review period, the Community Development Department also sends all applications out for a 15-day agency review period. Review comments may require the applicant to provide additional information, clarification, or submit modifications/alterations for the proposed project.

Hearing: All Allowable/Conditional Use Permit Applications must be reviewed by the Planning Commission for vote. Once an application has been deemed complete and has been reviewed by all applicable parties the Community Development Department will schedule the requested permit for the next appropriate meeting.

Public Notice Responsibilities: Allowable/Conditional Use requests must be given proper public notice as outlined in CBJ 49.15.230:

The Community Development Department will give notice of the pending Planning Commission meeting and its agenda in the local newspaper a minimum of 10-days prior to the meeting. Furthermore, CDD will mail notices to all property owners within 500-feet of the project site.

The Applicant will post a sign on the site at least 14 days prior to the meeting. The sign shall be visible from a public right-of-way or where determined appropriate by CDD. Signs may be produced by the Community Development Department for a preparation fee of $50, and a $100 deposit that will be refunded in full if the sign is returned within seven days of the scheduled hearing date. If the sign is returned between eight and 14 days of the scheduled hearing $50 may be refunded. The Applicant may make and erect their own sign. Please contact the Community Development Department for more information.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

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(907) 586-0715
CDD_Admin@juneau.gov
www.juneau.org/community-development
155 Heritage Way • Juneau, AK 99801

SEARHC Dental

Case Number:	PAC2025 0002
Applicant:	RESPEC, Dawson Construction, SEARHC
Property Owner:	Southeast Alaska Regional Health Consortium
Property Address:	Unassigned (0 Riverside Drive)
Parcel Code Number:	5B1601430016
Site Size:	32,689 sq. ft./ 0.75 acre
Zoning:	Light Commercial (LC)
Existing Land Use:	Vacant

Conference Date:	January 22, 2025
Report Issued:	January 27, 2025

DISCLAIMER: Pre-application conferences are conducted for the purpose of providing applicants with a preliminary review of a project and timeline. Pre-application conferences are not based on a complete application and are not a guarantee of final project approval.

List of Attendees

Note: Copies of the Pre-Application Conference Report will be emailed, instead of mailed, to participants who have provided their email address below.

Name	Title	Email address
Jen Kemp	Applicant	Jennifer.Kemp@respec.com
Kevin Puustinen		Kevin.Puustinen@respec.com
Nate Katschke		NKatschke@dawson.com
Scott Veerman		Scott@northformak.com
Ilsa Lund	Planning	Ilsa.Lund@juneau.gov
Jolene Murphy		Jolene.Murphy@juneau.gov
Sydney Hawkins	Permitting	Sydney.Hawkins@juneau.gov
Jeff Hedges	Building	Jeffrey.Hedges@juneau.gov
Theresa Ross	CCFR, Fire Marshal	Theresa.Ross@juneau.gov

Conference Summary

Questions/issues/agreements identified at the conference that weren't identified in the attached reports.

The following is a list of issues, comments and proposed actions, and requested technical submittal items that were discussed at the pre-application conference.

Q: How long does the Conditional Use permitting process take? A: Generally, 5-6 weeks because we are required to provide public notice regarding the meeting according to the Alaska Open Meetings Act.

If a complete application is submitted the week of January 27th, the case could make it onto the March 11, 2025 Planning Commission Agenda. If the application is received between February 1-10, the case will be heard at the March 25, 2025 Planning Commission. Below is an overview of the Conditional Use Permit process.

Conditional Use Permit Process:

- Submit the application and back-up materials (listed on ten back of the application).
    - Electronic submissions accepted at Permits@juneau.gov . Note that the permit center will call you for payment when the application is processed. Applications are submitted in the order in which they are received, and it may be a few days before you get a call.
- The project will be assigned to a planner. They will review submitted materials, and coordinate where necessary. When the planner assesses the file is complete, they will schedule a hearing before the Planning Commission.
    - A notice will be sent to property owners within 500 feet of the project.
    - There will be two newspaper ads for the case.
    - The Applicant is required to post a Public Notice sign, which will be provided by CDD. The sign must be posted two weeks before the hearing.
    - Staff will prepare a report analyzing the project, and make a recommendation to the Commission. The report will be publicly available the week before the hearing.
- At the Planning Commission meeting, the project can be:
    - On the Consent Agenda, where it will be passed without discussion.
    - On the Regular Agenda:
        - The Director will briefly describe the project.
        - The Applicant has 15 minutes to describe the project.
        - The public has the opportunity to comment. There is usually a time limit of two to three minutes.
        - The Applicant has time to respond to issues raised.
        - Public comment is closed and there is no additional opportunity to participate.
- The Planning Commission will:
    - Approve the project
    - Approve the project with conditions (the most common outcome)
    - Deny the project
    - Continue the project – if more information is required or if the Commission runs out of time.
- The decision can be appealed for 20 days after the Notice of Decision is filed with the City Clerk. If the decision is appealed, the Applicant can continue with their project at their own risk.

Videos of the Planning Commission activities are posted on Assembly's Minutes and Agendas site.
https://juneau-ak.municodemeetings.com/

Project Overview
Southeast Alaska Regional Health Consortium (SEARHC) is proposing to build a three-story dental clinic in the Vintage Park Subdivision. Some of the parking will be on site, but some will be on a lot across Vintage Boulevard where SEARHC is building workforce housing.
A shared parking agreement will be required for parking to be located off-site, even with the lots being under the same ownership. The agreement will need to be reviewed an approved by the Director of Community Development and, once approved, the agreement will need to be recorded with the Alaska Department of Natural Resources Recorder's Office. This document will help ensure that all parking requirements are met, particularly if one of the lots undergoes a change of ownership or use.

Planning Division

1. **Zoning** – Light Commercial
2. **Table of Permissible Uses** – 7.150- Health care clinics, other medical treatment facilities providing outpatient care
3. **Subdivision** – N/A
4. **Setbacks** –

Yard	Setback minimum (in feet)
Front	25
Rear	10
Side	10
Street side	17

5. **Height** – 45 feet maximum
6. **Access** – Postal Way
7. **Parking & Circulation** – One (1) parking space required for every 200 square feet of gross floor area.
    a. 19,635/200 = 98 parking spaces
    b. 4 ADA accessible parking spaces required
    c. 51 provided on site, 47 required in shared parking agreement with lot designated for workforce housing on Postal Way behind True North FCU.

(a) *Joint use.* Joint use occurs when the same off-street parking space is used to meet the parking requirement of different uses at different times. Joint use of off-street parking spaces may be authorized when the developer demonstrates there is no substantial conflict in the principal operating hours of the structures and uses involved and subject to the following requirements:

(1) Any structure or use sharing the off-street parking facilities of another structure or use must be located within 500 feet of such parking facilities, unless a lesser radius is identified in this chapter. A developer may apply to provide off-street parking in an area greater than 500 feet distant, if approved by the commission.

(2) The developer demonstrates with appropriate analysis or data that there is no substantial conflict in the principal operating hours of the structures or users for which joint use of off-street parking facilities is proposed.

The developer must present to the director a written instrument, proposed by the parties concerned, providing for joint use of off-street parking facilities. Upon approval by the director, such instrument must be recorded by the developer and documentation of recording provided to the director.

d. One (1) loading space is required

8. **Lot Coverage** – There are no restrictions on lot coverage in LC except for what is required for parking and vegetative coverage.
9. **Vegetative Coverage** – 15% minimum

10. **Lighting** – Exterior lighting may not shed light or glare above the roofline of the building or beyond the property line of the site.
    Prior to issuance of a building permit, the applicant shall submit a lighting plan illustrating the location and type of exterior lighting proposed for the development. Exterior lighting shall be designed and located to minimize offsite glare. Approval of the plan shall at the discretion of the Community Development Department, according to the requirements at §49.40.230(d)

    All exterior lighting fixtures shall be of a "full cutoff" design.

11. **Noise** – Noise is not expected to be out of character with the surrounding uses in the same zoning district.
12. **Flood** – This property is located within Flood Zone X. No Flood Zone Development Permit will be required.
13. **Hazard/Mass Wasting/Avalanche/Hillside Endorsement** – There are no mapped hazards in this area.
14. **Wetlands** – There are no wetlands on this site according to the National Wetlands Inventory.
15. **Habitat** – The proposed development narrative indicates that there are no eagles' nests within 600 feet of the development.
16. **Plat or Covenant Restrictions** – N/A
17. **Traffic** – Traffic is not **expected** to be significant enough to require a Traffic Impact Analysis.
18. **Nonconforming situations** – N/A

Building Division

19. **Building** – Project requires Alaska licensed design professionals for all elements of the building.
20. **Outstanding Permits** – N/A

General Engineering/Public Works

21. **Engineering** – The submittals shall include fixture schedules for water (water fixture units) and for sanitary sewer (drainage fixture units). Any stormwater structures or features shall be shown on the **Site Plan.**

    The site is flat, however call out any slopes and retaining structures where applicable.

    A **Utility Site Plan** shall be submitted showing the locations of water and sewer lines and shall include sizes and materials, valves and cleanouts, as well as unions, wye's as well as location of water meter.

    Any Right of Way work will require a **ROW permit and Bond**.

22. **Drainage** – The **Site or Grading Plan** shall show how the drainage is managed on the site. The stormwater shall be controlled within the property or divert only to approved drainage ways.

    All catch basins culverts and swales shall be shown on the plan and water flow direction to be expressed with squiggled arrows (see Grading Plan checklist).

23. **Utilities –**

    a. **Water** – The submitted **Utility Plan** shall show the water and sewer. It appears that a few water system configurations are being examined. Coordinate with the Water Department and GE for the plan that works best.
    Configurations that require a new service line will need ROW permit and Bond. This option is only available if there is not an existing service. A fire line will be subject to CBJ Fireline certification.
    b. **Sewer** – It appears that, based on your narrative that the sewer service has been located for connection. The Utility Plan must be submitted with the desired configuration and approved by Water Dept, Wastewater Dept and GE prior to permitting and work.

Fire Marshal

1. **Fire Items/Access** – Please verify that access meets IFC Appendix D specifically D104.1
2. Fire (Suppression/alarm) system plans must be submitted with the building permit application. These system designs cannot be deferred. Per the designer this will be a fully sprinklered and alarmed building. Knox Box location will be reviewed and approved during the review process.

Other Applicable Agency Review

24. N/A

List of required applications

Based upon the information submitted for pre-application review, the following list of applications must be submitted in order for the project to receive a thorough and speedy review.

1. Development Permit Application
2. Conditional Use Permit
3. Any signs are required to be permitted.

Additional Submittal Requirements

Submittal of additional information, given the specifics of the development proposal and site, are listed below. These items will be required in order for the application to be determined Counter Complete.

1. A copy of this pre-application conference report.

Exceptions to Submittal Requirements

Submittal requirements that staff has determined **not** to be applicable or **not** required, given the specifics of the development proposal, are listed below. These items will **not** be required in order for the application to be reviewed.

1. N/A

Fee Estimates

The preliminary plan review fees listed below can be found in the CBJ code section 49.85.

Based upon the project plan submitted for pre-application review, staff has attempted to provide an accurate estimate for the permits and permit fees which will be triggered by your proposal.

1. $750.00 for Class III Conditional Use Permit (based on size of facility)
2. $150.00 for public notice sign ($100 of which is a refundable deposit)

For informational handouts with submittal requirements for development applications, please visit our website at www.juneau.org/community-development.

Submit your Completed Application
You may submit your application(s) online via email to permits@juneau.gov
OR in person with payment made to:

City & Borough of Juneau, Permit Center
230 South Franklin Street
Fourth Floor Marine View Center
Juneau, AK 99801

Phone: (907) 586-0715
Web: www.juneau.org/community-development

Attachments:
49.15.330 – if a Conditional Use Permit
49.45 – Signs
Development Permit Application
Conditional Use Permit Application

January 2, 2025

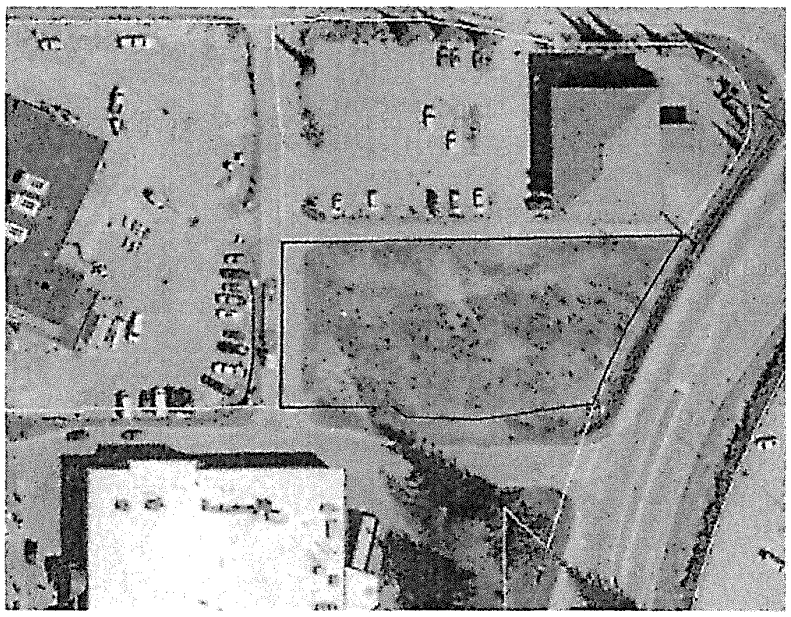
City and Borough of Juneau
Community Development Department
155 Heritage Way
Juneau, AK 99801

Attention: CBJ Building Department

Subject: SEARHC Dental Clinic – Lot B1, Vintage III Subdivision
Site Grading and Foundation Permit Narrative

To Whom It May Concern,

On behalf of the applicant, Dawson Construction, please consider this permit request to allow for site grading, installation of underground utilities, and foundation construction for a proposed SEARHC Dental Clinic building to be located in Juneau, Alaska. The project site is located on vacant Lot B1, Vintage III Subdivision, identified as 0 Riverside Drive. The lot is zoned light commercial and is 32,689 square feet. A future building permit application will be submitted for architectural, structural, mechanical, electrical, and civil design.



Project Site Location – SEARHC Dental Clinic

Project Narrative

The proposed project includes the construction of a three-story metal building for SEARHC dental offices. The planned total gross building area is 19,635 square feet. The zoning setbacks for light commercial are as follows:

9109 MENDENHALL MALL RD.
SUITE 4
JUNEAU, AK 99801
907.780.6060

respec.com

- 25' minimum front yard
- 17' minimum street side
- 10' minimum rear and side yard

Site Utilities

Record drawings indicate there is an existing 6" PVC sewer service that is stubbed out and capped near the southeast corner of the project site from a manhole located in Riverside Drive. Sanitary sewer from the dental clinic is planned to be a gravity connection to this existing 6" PVC line.

Two options are being studied for providing domestic/fire protection water to the site. The first option is to extend a new service line approximately 250' north and connect to an existing 12" ductile iron CBJ water main located in Vintage Boulevard near the intersection with Postal Way. The second option is to connect to the Safeway feed line before the Safeway valve, approximately 110' south of the project site. There are 4 existing fire hydrants located within 200' surrounding the project site.

Stormwater runoff from parking surfaces and building roof drains will be collected onsite in a new underground storm drain system. The new storm drain system will connect to an existing storm drain system in Postal Way, located immediately west of the project site. The existing storm drain system drains toward the north for approximately 600' where there is an outfall into the Mendenhall River oxbow.

Electrical and communication utilities for the site will be provided overhead from a utility pole located in Riverside Drive near the northeast corner of the project site.

Parking and Site Access

51 parking stalls (8.5' x 17') are planned onsite, 4 of which will be reserved for ADA. The future SEARHC workforce housing project that will be located 450' north of the proposed dental clinic has 49 parking stalls that have been designated for the dental clinic. A total of 100 parking stalls will be available for the dental clinic building. All Accessible parking stalls and access routes will be graded and signed to meet current ADA guidelines.

Flood Zone

The property is located within Flood Zone X according to the FEMA Flood Zone Panel Maps 02110C1526E and 02110C1527E. The project site is located west of Riverside Drive, between Safeway Grocery and First Bank.

Other Site Discussion Items

No eagle nesting trees are located within 600' radius to this property.

ATTACHED TO THIS NARRATIVE PLEASE FIND THE FOLLOWING:

- Conceptual Site Plan
- Conceptual Building Floor Plans and Elevation Views

We appreciate your review of this project narrative. Should you have any questions or need additional information please do not hesitate to contact me at (907) 780-6060.

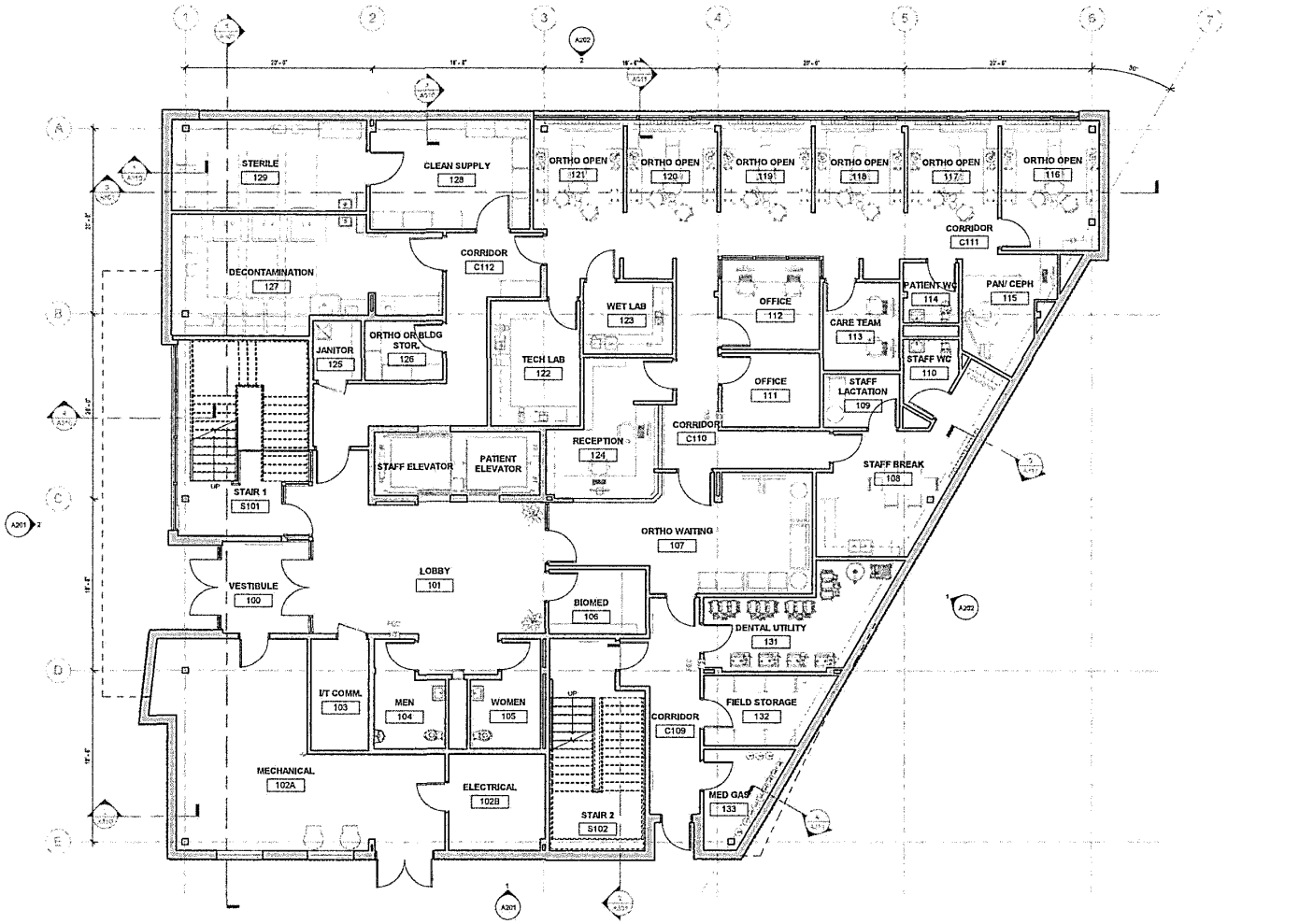
Sincerely,
RESPEC

Kevin Puustinen, PE

Attachments

9109 MENDENHALL MALL RD.
SUITE 4
JUNEAU, AK 99801
907.780.6060

respec.com



SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM

VINTAGE PARK DENTAL BUILDING

JUNEAU, ALASKA

SEARHC
FACILITIES MANAGEMENT
3100 CHANNEL DRIVE, SUITE 300
JUNEAU, ALASKA 99801

DAWSON
DAWSON CONSTRUCTION
9491 AIRPORT BLVD.
JUNEAU, ALASKA 99801
907.790.1500

NORTHFORM ARCHITECTURE
2525 GAMBELL STREET, SUITE 424
ANCHORAGE, ALASKA 99503
907.339.9250
CERT. AUTHORIZATION: 119231

Feb. 3, 2025

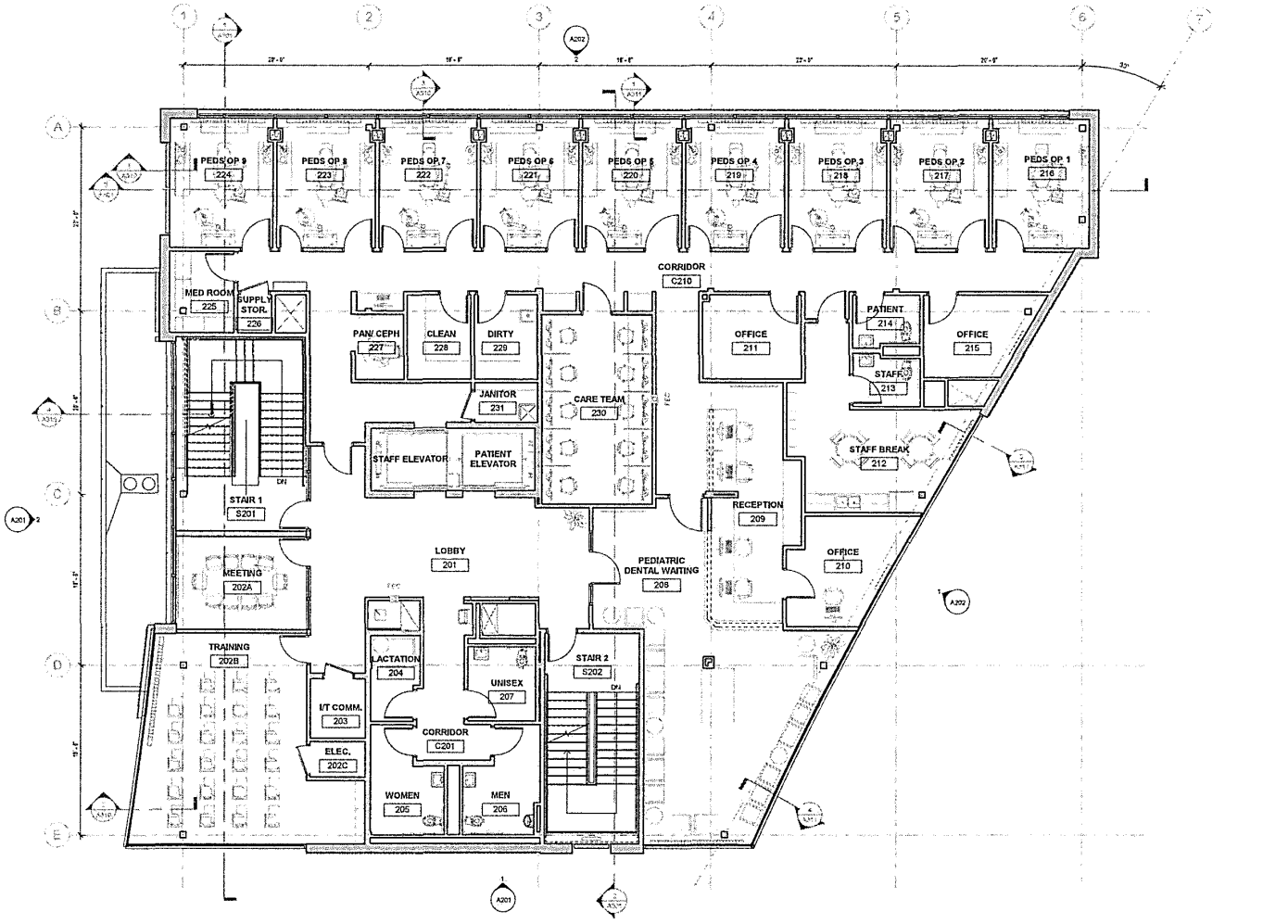
Rev.	Description	Date

PROJECT NO. 2411.00
DATE Feb. 3, 2025
DRAWN BY: Author
REVIEWED BY: Checker

SCHEMATIC DESIGN

SHEET TITLE
FLOOR PLAN LEVEL 1

SHEET NO.
A101



1 LEVEL 2 FLOOR PLAN
3/16" = 1'-0"

0 4 8 20

SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM

VINTAGE PARK DENTAL BUILDING

JUNEAU, ALASKA

SEARHC
FACILITIES MANAGEMENT
3100 CHANNEL DRIVE, SUITE 300
JUNEAU, ALASKA 99801

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JUNEAU, ALASKA 99801
907.780.1300

NORTHFORM ARCHITECTURE
2525 GAMBELL STREET, SUITE 424
ANCHORAGE, ALASKA 99503
907.339.9200
CERT. AUTHORIZATION: 119231

Feb. 3, 2025

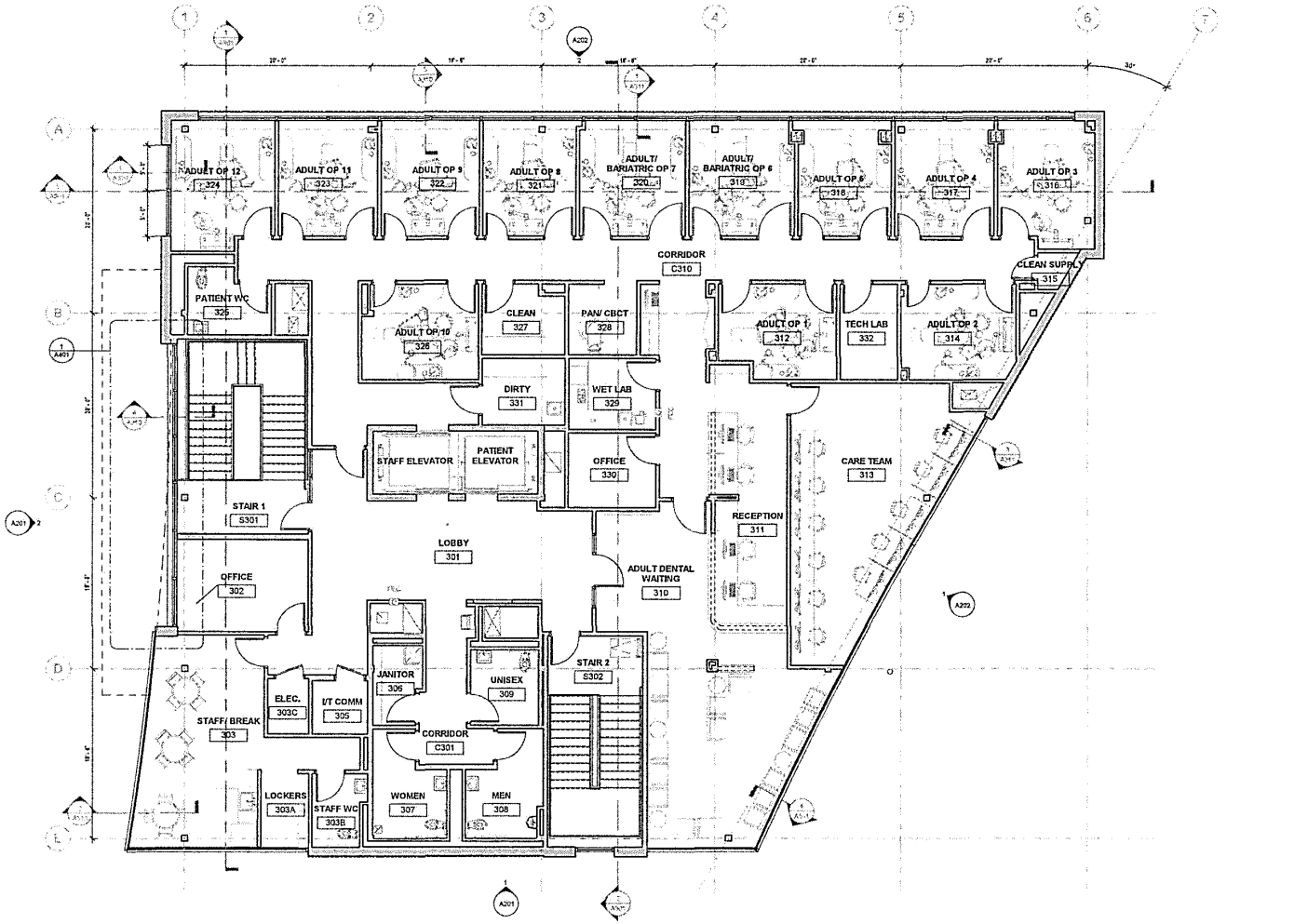
Rev.	Description	Date

PROJECT NO. 2411.00
DATE Feb. 3, 2025
DRAWN BY: Author
REVIEWED BY: Checker

SCHEMATIC DESIGN

SHEET TITLE
FLOOR PLAN LEVEL 2

SHEET NO.
A102



1 LEVEL 3 FLOOR PLAN
3/16" = 1'-0"

SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM

VINTAGE PARK DENTAL BUILDING

JUNEAU, ALASKA

SEARHC
SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM
FACILITIES MANAGEMENT
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907.780.1500

NORTHFORM ARCHITECTURE
2525 GAMBELL STREET, SUITE 424
ANCHORAGE, ALASKA 99503
907.339.9200
CERT. AUTHORIZATION: 119221

Feb. 3, 2025

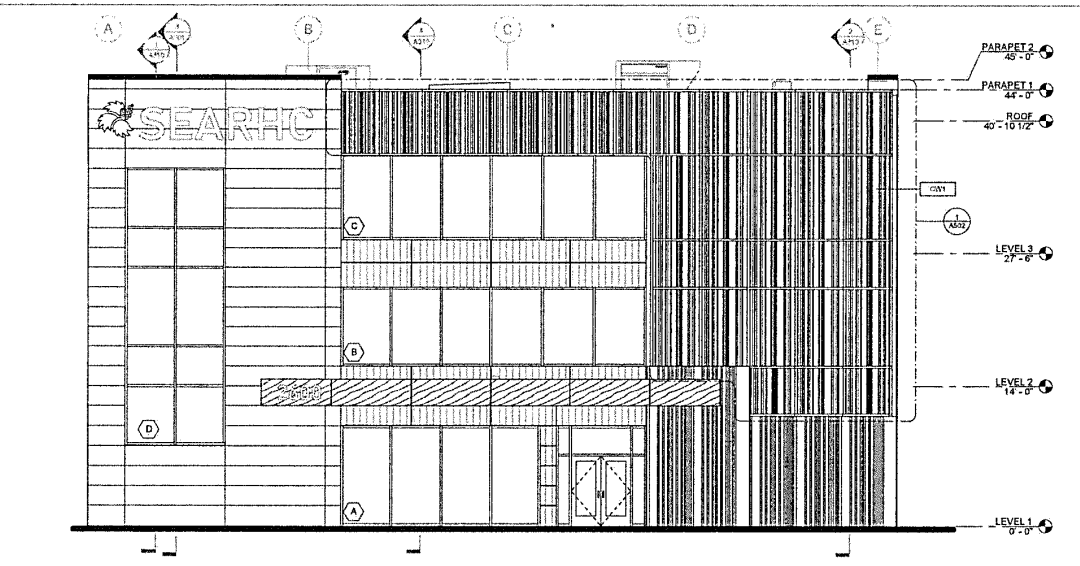
Rev.	Description	Date

PROJECT NO.	2411.00
DATE	Feb. 3, 2025
DRAWN BY:	Author
REVIEWED BY:	Checker

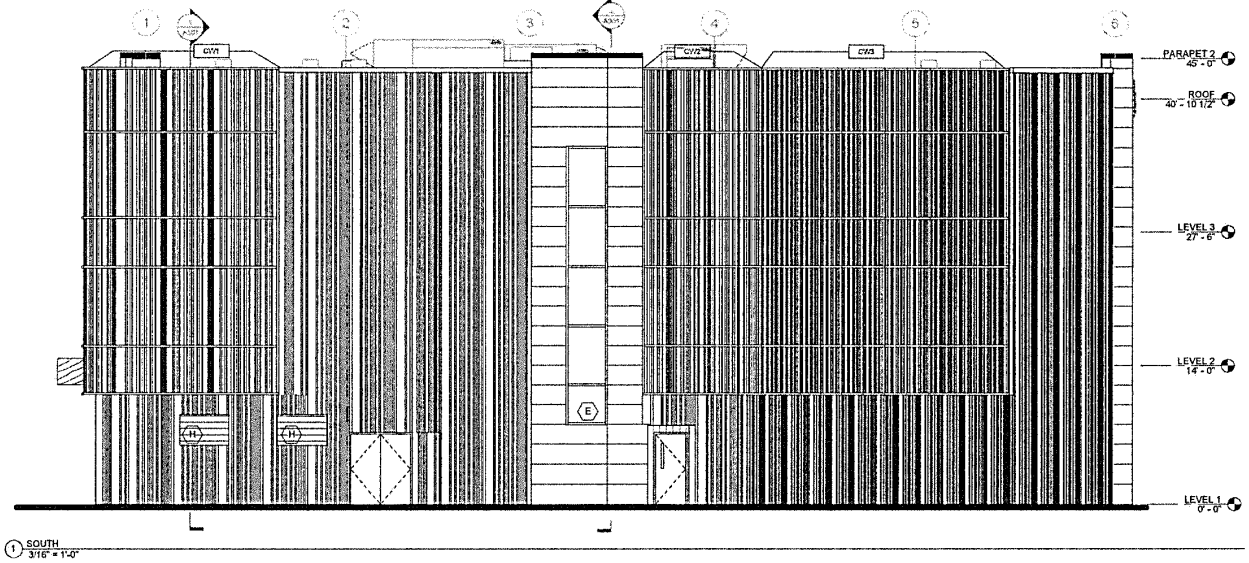
SCHEMATIC DESIGN

SHEET TITLE
FLOOR PLAN LEVEL 3

SHEET NO.
A103



2 WEST
3/16" = 1'-0"



1 SOUTH
3/16" = 1'-0"

EXTERIOR ELEVATIONS GENERAL NOTES

1. ALL UTILITY SUPPORTING UTILITY EQUIPMENT SHALL BE PAINTED TO MATCH THE BUILDING.
2. ALL FLOOD LIGHTS FOR HOSE BIBBS, WALL MOUNTED LIGHTS, RECEPTACLES, ETC. SHALL BE MOUNTED AS FOLLOWS:
   A. AT MP1 AND PUP: MOUNTED FLUSH TO THE PANEL WITH COOPERATING ESCUTCHEON TRIM PLATE.
   B. AT MP2: MOUNTED TO BLOCKING CLAD IN FLATSTOCK IN THE SAME COLOR AS THE BUILDING.
3. REFER TO CURTAIN WALL AND STOREFRONT TYPE FOR CLAD FRP SPECIFICATION.
4. LOUVERS SHALL BE PAINTED TO MATCH ADJACENT SIDING.

EXTERIOR ELEVATIONS LEGEND

METAL PANEL
MP1: MFG: DRIDESIGN OR EQUAL
STYLE: ENV
COLOR: ENV-#101 NUGGET GRAY
PANEL WIDTH: 24"
LENGTH: AS SHOWN ON ELEVATIONS
THICKNESS: 1 1/4"
REVEAL: 1/2"

METAL PANEL
MP2: MFG: AEP SPAN OR EQUAL CUP SYSTEM
STYLE: FLEX SERIES WITH STANDOFF CUP
COLOR: REGAL WHITE
PANEL WIDTH: 12"
LENGTH: AS SHOWN ON ELEVATIONS
THICKNESS: 20 GA
PROFILE: REFER TO FOR PATTERN

RESIN PANEL
PLP1: MFG: FIBER RESIN
STYLE: STONEWOOD ARCHITECTURAL PANELS, CLASS B
COLOR: 1144-09 RAW CHESTNUT
SIZE: AS SHOWN ON DRAWINGS
THICKNESS: 8MM
REVEAL: AS SHOWN ON ELEVATIONS

RESIN PANEL
PLP2: MFG: FIBER RESIN
STYLE: STONEWOOD ARCHITECTURAL PANELS, CLASS B
COLOR: 9114-CR DESIGNER WHITE
SIZE: AS SHOWN ON DRAWINGS
THICKNESS: 8MM
REVEAL: AS SHOWN ON ELEVATIONS

KEYNOTES

Note: Keynotes shown applies to this sheet only.

SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM

VINTAGE PARK DENTAL BUILDING

JUNEAU, ALASKA

SEARHC
SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM
FACILITIES MANAGEMENT
3100 CHANNEL DRIVE, SUITE 300
JUNEAU, ALASKA 99801

dawson
DAWSON CONSTRUCTION
8401 AIRPORT BLVD.
JUNEAU, ALASKA 99801
907.780.1300

NORTHFORM ARCHITECTURE
2525 GAMBELL STREET, SUITE 434
ANCHORAGE, ALASKA 99503
907.339.4200
CERT. AUTHORIZATION: 1192221

Feb. 3, 2025

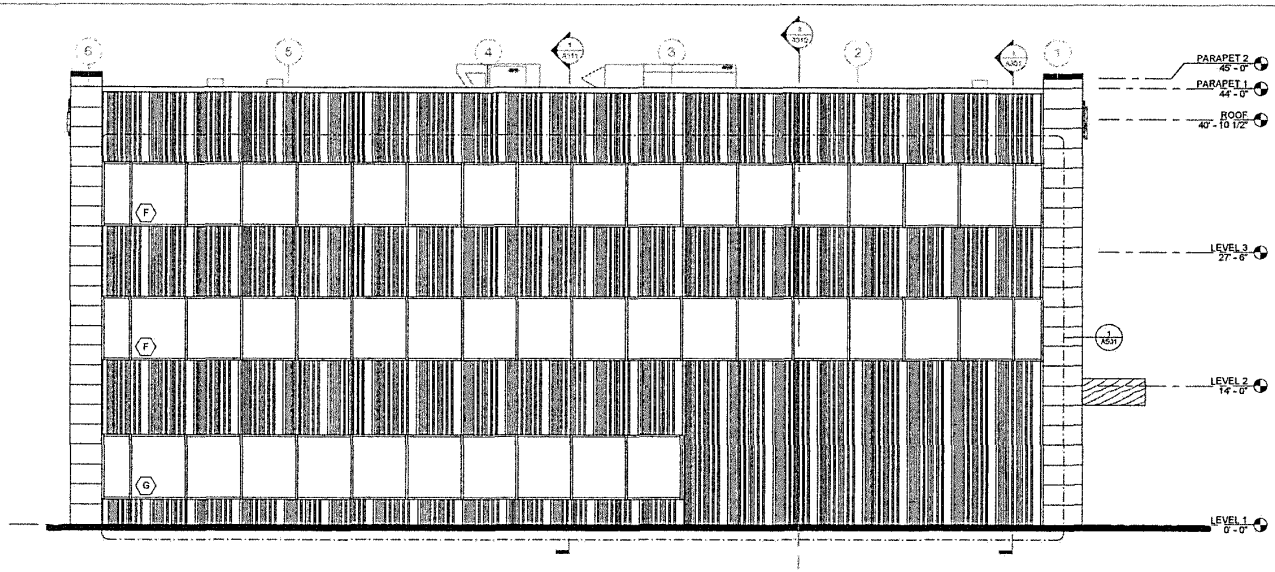
Rev.	Description	Date

PROJECT NO.	2411.00
DATE	Feb. 3, 2025
DRAWN BY:	RSJ
REVIEWED BY:	SRV

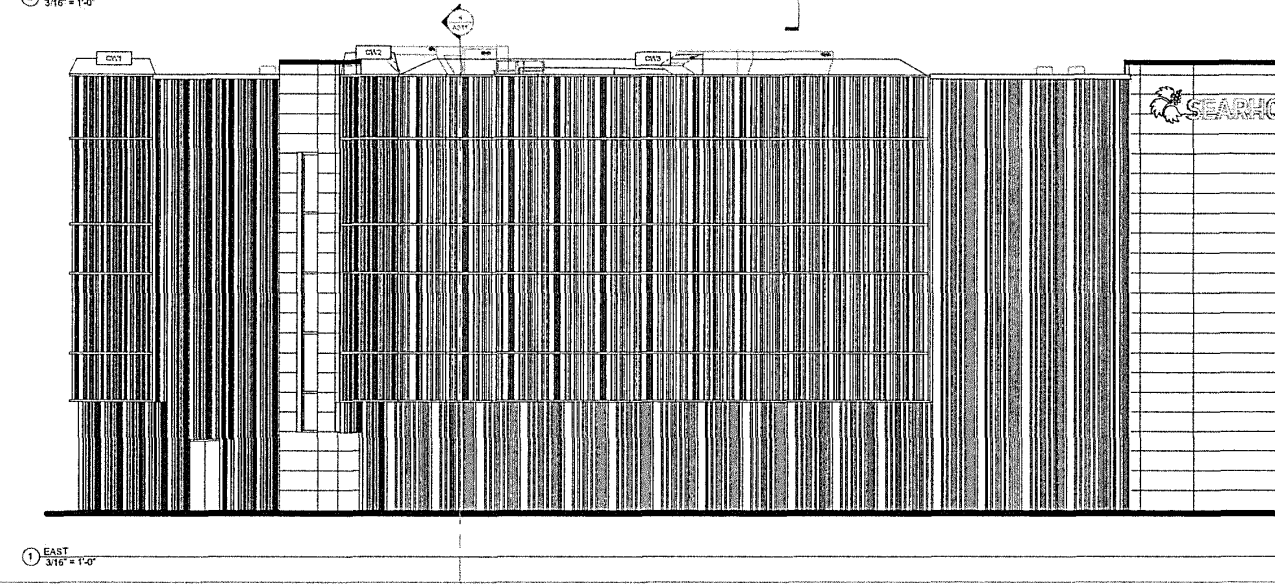
SCHEMATIC DESIGN

SHEET TITLE
EXTERIOR ELEVATIONS

SHEET NO.
A201



② NORTH
3/16" = 1'-0"



① EAST
3/16" = 1'-0"

EXTERIOR ELEVATIONS GENERAL NOTES

1. ALL UTILITY/SUPPORT/FACILITY EQUIPMENT SHALL BE PAINTED TO MATCH THE BUILDING.
2. ALL BLOCKOUTS FOR HOSE BIBBS, WALL MOUNTED LIGHTS, RECEPTACLES, ETC. SHALL BE MOUNTED AS FOLLOWS:
   A. AT LAP SIDING: MOUNTED FLUSH TO THE PANEL WITH COORDINATING SCOUTCHEON/TRIM PLATE.
   B. AT MP2: MOUNTED TO BLOCKING CLAD IN FLAT STOCK IN THE SAME COLOR AS THE BUILDING.
3. REFER TO CURTAIN WALL AND STOREFRONT TYPE FOR CLADDING SPECIFICATION.
4. LOUVERS SHALL BE PAINTED TO MATCH ADJACENT SIDING.

EXTERIOR ELEVATIONS LEGEND

METAL PANEL
MP1 MFG: ERA DESIGN OR EQUAL
STYLE: ERA1
COLOR: ERA1 818 BASKET GRAY
PANEL WIDTH: 24"
LENGTH: AS SHOWN ON ELEVATIONS
THICKNESS: 1 1/4"
REVEAL: 12"

METAL PANEL
MP2 MFG: AEP SPAN OR EQUAL CLIP SYSTEM
STYLE: FLEX SERIES WITH STANDOFF CLIP
COLOR: REGAL WHITE
PANEL WIDTH: 12"
LENGTH: AS SHOWN ON ELEVATIONS
THICKNESS: 26 GA
PROFILE: REFER TO FOR PATTERN

RESIN PANEL
RP1 MFG: FIBER RESIN
STYLE: STONEWOOD ARCHITECTURAL PANELS, CLASS B
COLOR: MAHOGANY CHESTNUT
SIZE: AS SHOWN ON DRAWINGS
THICKNESS: 8MM
REVEAL: AS SHOWN ON ELEVATIONS

RESIN PANEL
RP2 MFG: FIBER RESIN
STYLE: STONEWOOD ARCHITECTURAL PANELS, CLASS B
COLOR: 3194-CB DESIGNER WHITE
SIZE: AS SHOWN ON DRAWINGS
THICKNESS: 8MM
REVEAL: AS SHOWN ON ELEVATIONS

KEYNOTES

Note: Keynotes shown applied to this sheet only.

SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM

VINTAGE PARK DENTAL BUILDING

JUNEAU, ALASKA

SEARHC
SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM
FACILITIES MANAGEMENT
3100 CHANNEL DRIVE, SUITE 300
JUNEAU, ALASKA 99801

Dawson
DAWSON CONSTRUCTION
8451 AIRPORT BLVD.
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907.780.1300

NORTHFORM ARCHITECTURE
2525 GAMBELL STREET, SUITE 434
ANCHORAGE, ALASKA 99503
907.339.9200
CERT. AUTHORIZATION: 119231

Feb. 3, 2025

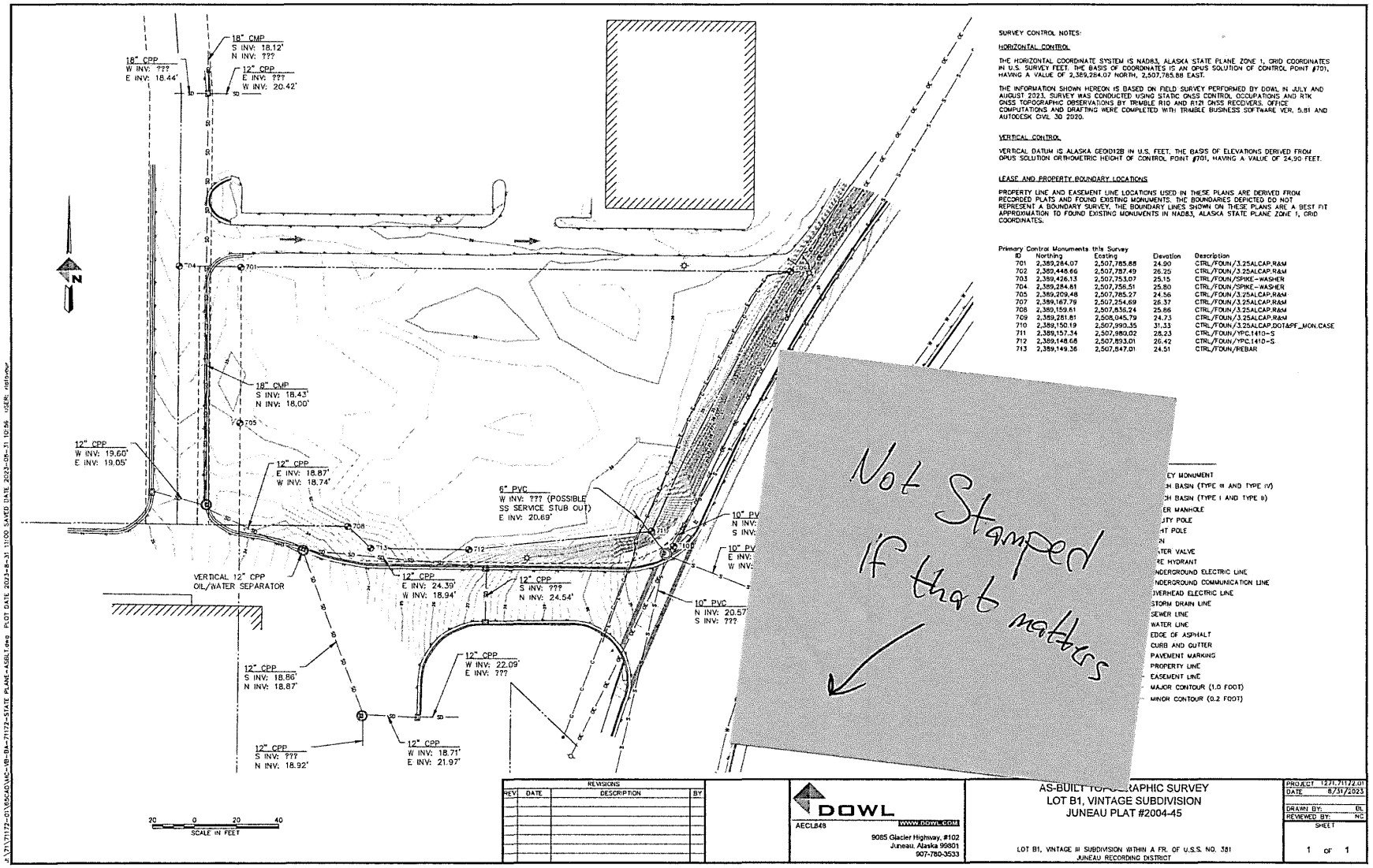
Rev.	Description	Date

PROJECT NO.	2411.00
DATE	Feb. 3, 2025
DRAWN BY:	Author
REVIEWED BY:	Checker

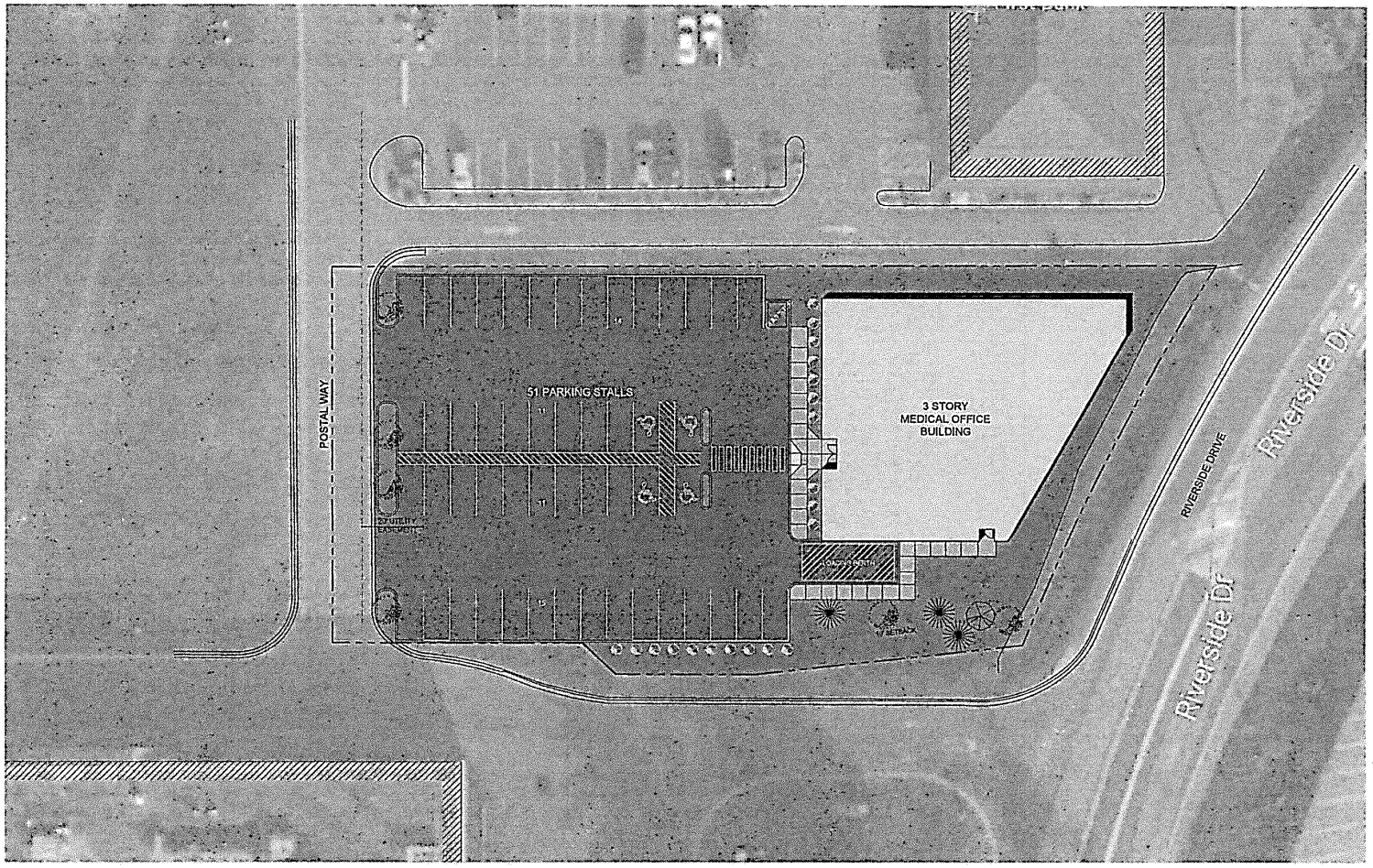
SCHEMATIC DESIGN

SHEET TITLE
EXTERIOR ELEVATIONS

SHEET NO.
A202



Attachment A - Application Packet



VINTAGE III SUBDIVISION, LOT B1

LOT SQUARE FEET: 32,689

ZONE: LIGHT COMMERCIAL (LC)

VEGETATED COVER: 15% MIN.

PARKING STALLS: 1 PER 200 GSF

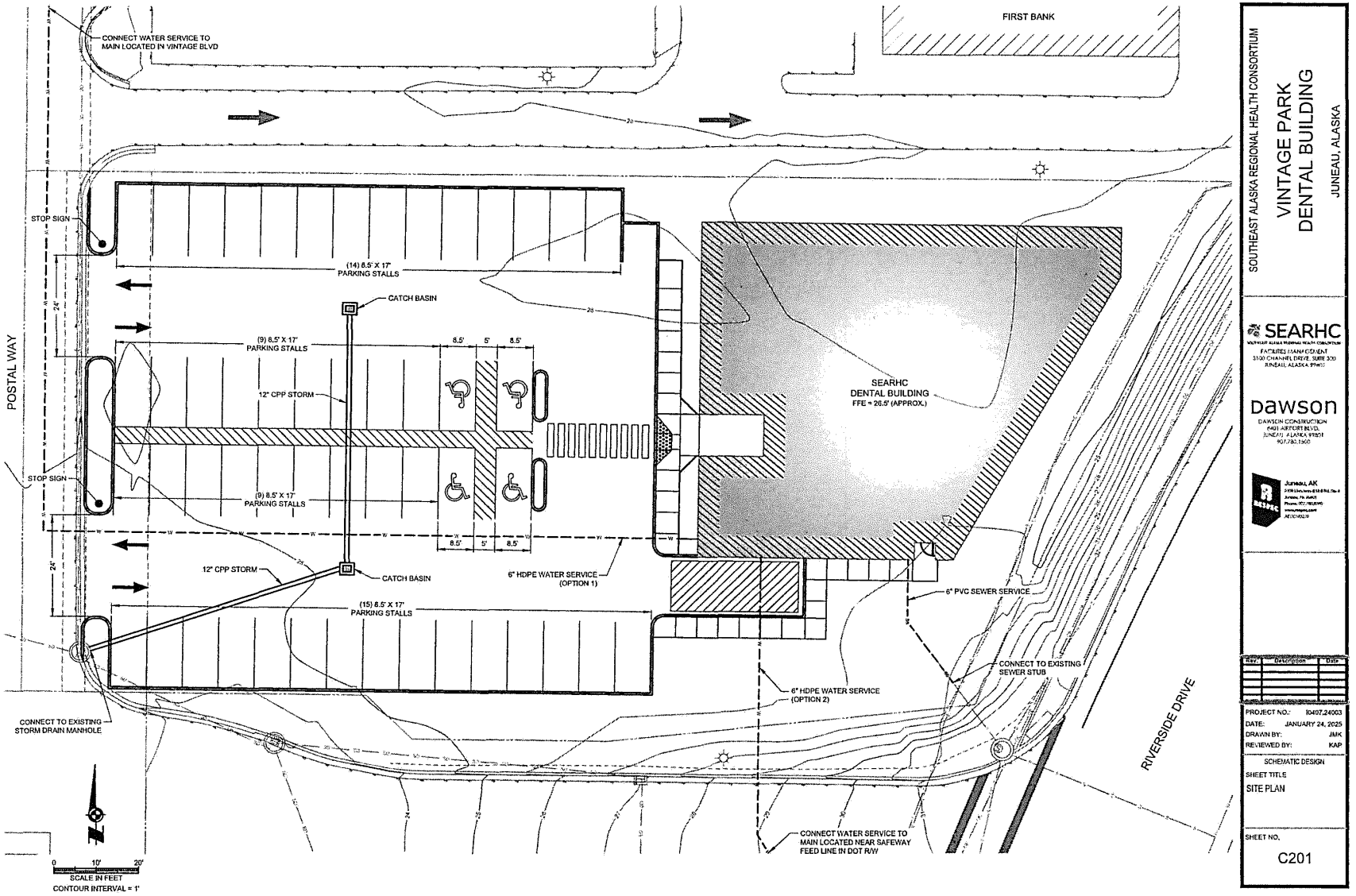
SEARHC

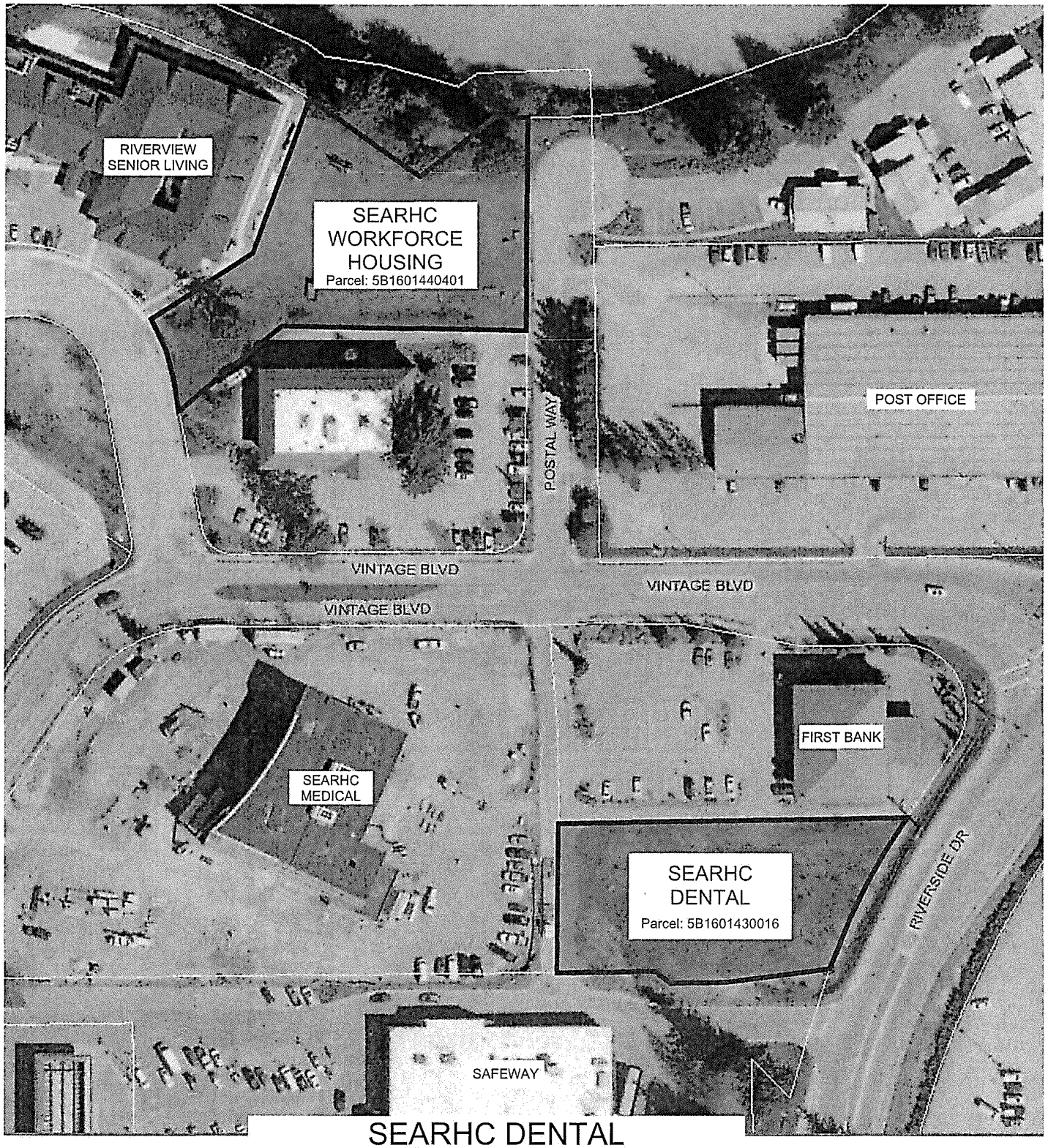
SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM

NF ARCHITECTURE dawson VINTAGE PARK DENTAL BUILDING

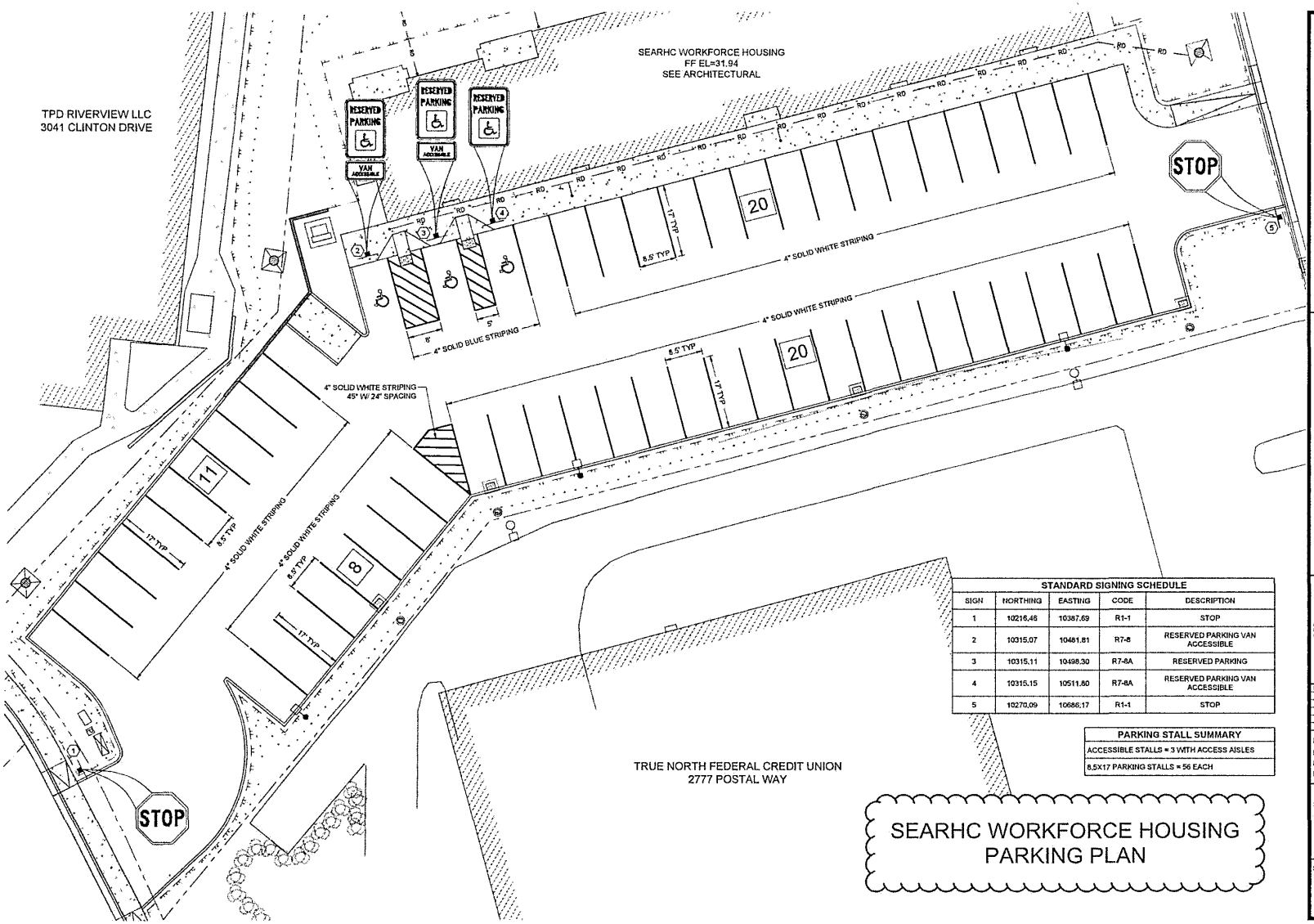
SITE PLAN

8 NOVEMBER 2024


CONNECT WATER SERVICE TO MAIN LOCATED IN VINTAGE BLVD
FIRST BANK
STOP SIGN
(14) 8.5' X 17' PARKING STALLS
CATCH BASIN
(9) 8.5' X 17' PARKING STALLS
12" CPP STORM
SEARHC DENTAL BUILDING FFE = 26.5' (APPROX.)
POSTAL WAY
STOP SIGN
(9) 8.5' X 17' PARKING STALLS
12" CPP STORM
CATCH BASIN
6" HDPE WATER SERVICE (OPTION 1)
6" PVC SEWER SERVICE
(15) 8.5' X 17' PARKING STALLS
CONNECT TO EXISTING SEWER STUB
6" HDPE WATER SERVICE (OPTION 2)
CONNECT TO EXISTING STORM DRAIN MANHOLE
RIVERSIDE DRIVE
CONNECT WATER SERVICE TO MAIN LOCATED NEAR SAFEWAY FEED LINE IN DOT R/W
SCALE IN FEET
CONTOUR INTERVAL = 1'
SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM
VINTAGE PARK DENTAL BUILDING
JUNEAU, ALASKA
SEARHC
dawson
Rev. Description Date
PROJECT NO.: 10407.24003
DATE: JANUARY 24, 2025
DRAWN BY: JMK
REVIEWED BY: KAP
SCHEMATIC DESIGN
SHEET TITLE
SITE PLAN
SHEET NO.
C201



SEARHC DENTAL
PROJECT VICINITY MAP



STANDARD SIGNING SCHEDULE				
SIGN	NORTHING	EASTING	CODE	DESCRIPTION
1	10216.46	10387.69	R1-1	STOP
2	10315.07	10481.81	R7-8	RESERVED PARKING VAN ACCESSIBLE
3	10315.11	10498.30	R7-8A	RESERVED PARKING
4	10315.15	10511.60	R7-8A	RESERVED PARKING VAN ACCESSIBLE
5	10270.09	10686.17	R1-1	STOP

PARKING STALL SUMMARY
ACCESSIBLE STALLS = 3 WITH ACCESS AISLES
8.5X17 PARKING STALLS = 56 EACH

SEARHC WORKFORCE HOUSING PARKING PLAN

SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM

VINTAGE PARK WORKFORCE HOUSING

JUNEAU, ALASKA

SEARHC
FACILITIES MANAGEMENT
3100 CHANNEL DRIVE, SUITE 300
JUNEAU, ALASKA 99801

Dawson
DAWSON CONSTRUCTION
8421 AIRPORT BLVD.
JUNEAU, ALASKA 99801
907.790.1500

Juneau, AK

STATE OF ALASKA
49TH
JOSEPH M. PUSICH
CE 8152
11-13-2024
REGISTERED PROFESSIONAL ENGINEER

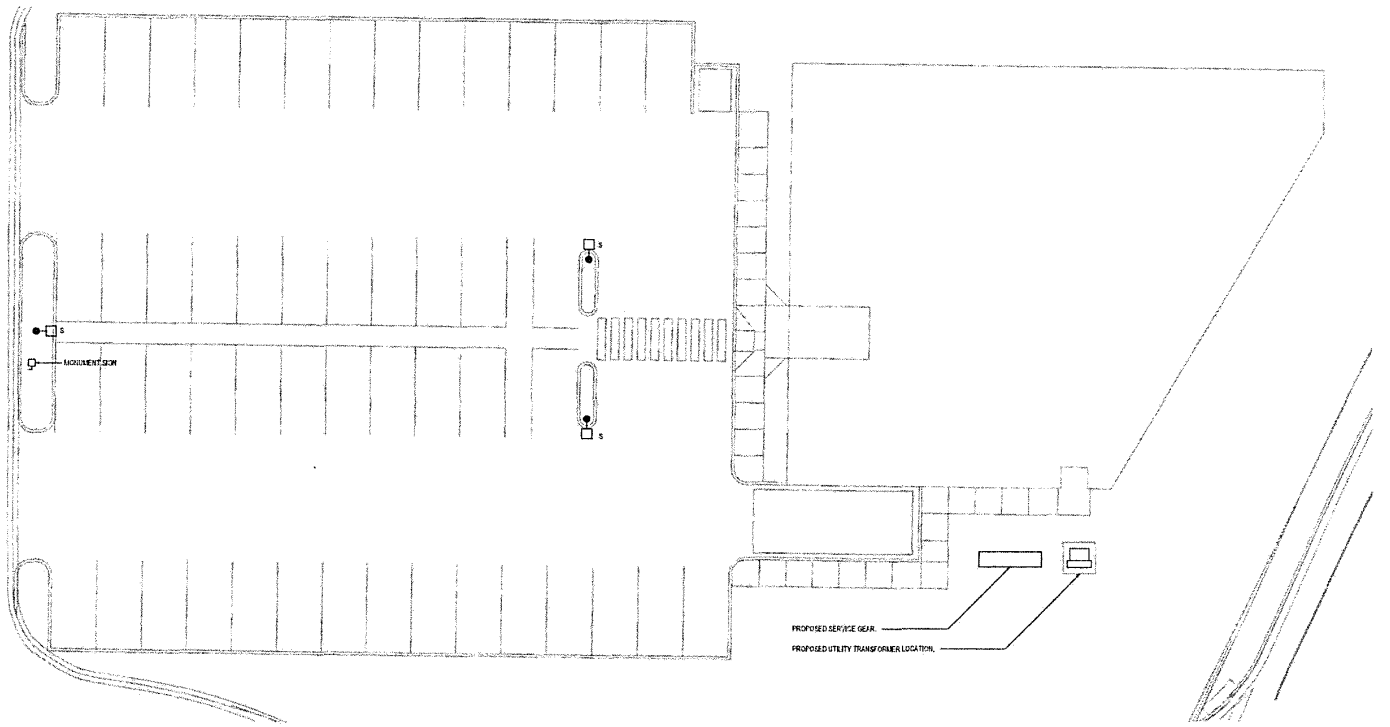
Rev.	Description	Date

PROJECT NO.: 10407.24001
DATE: NOVEMBER 13, 2024
DRAWN BY: MSM
REVIEWED BY: JMP

CONSTRUCTION DOCUMENTS

SHEET TITLE
SIGNING & STRIPING PLAN

SHEET NO.
C500



1 SITE PLAN
SCALE: 1" = 10'-0"

LIGHTING FIXTURE SCHEDULE

TYPE ID	MANUFACTURER MODEL NUMBER	FIXTURE DESCRIPTION	LED LUMENS	LED WATTS	MOUNTING TYPE
S	LITHONIA #DSX1 LED L5 40K T3M MVOLT SPA DDBXD	30' LED SITE LIGHT TO MATCH EXISTING AREA MOB TYPE FIXTURES.	16,000	105	30' POLE
			88 lm/w		

SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM

VINTAGE PARK
DENTAL MOB

JUNEAU, ALASKA

SEARHC
FACILITIES MANAGEMENT
3100 CHANNEL DRIVE, SUITE 300
JUNEAU, ALASKA 99801

dawson
DAWSON CONSTRUCTION
9401 AIRPORT BLVD
JUNEAU, ALASKA 99801
907.790.1500

ALCAN ELECTRICAL & ENGINEERING

T3 ALASKA

11.13.24

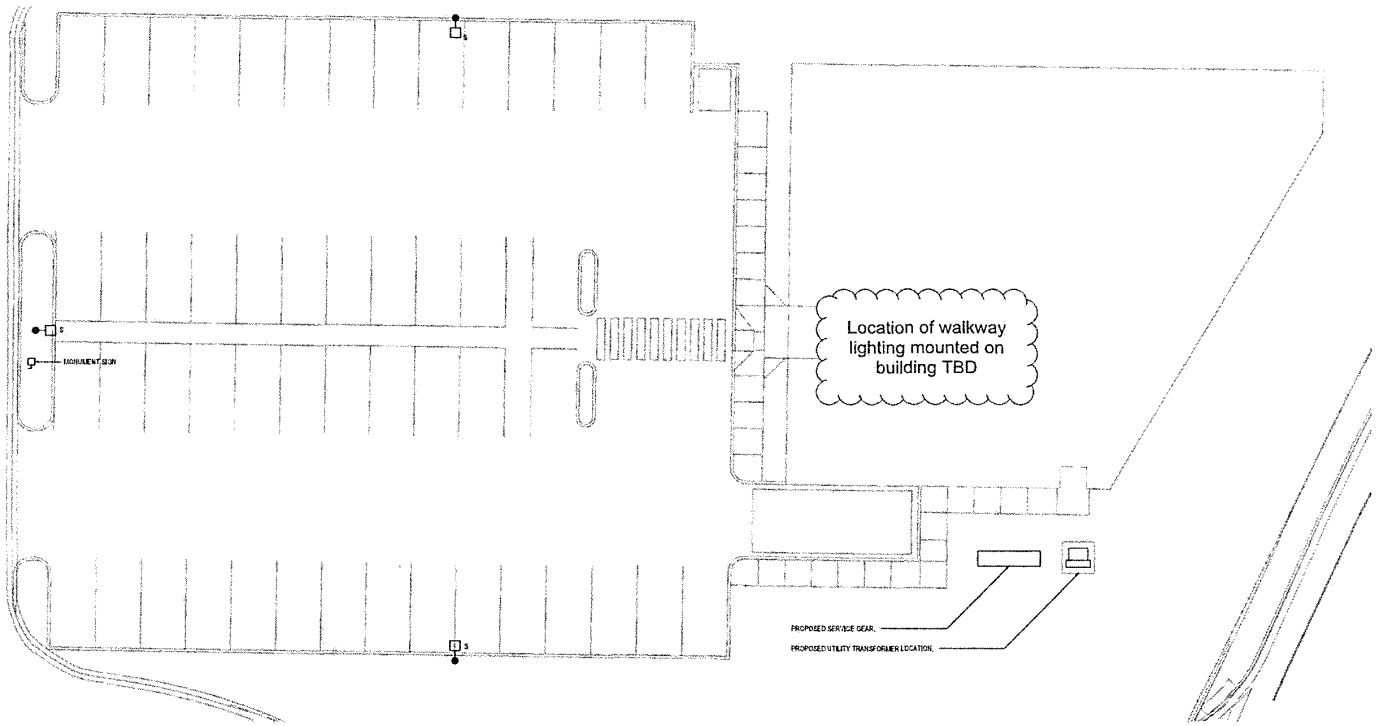
Rev.	Description	Date

PROJECT NO.: 2024.010.0
DATE: DECEMBER XX, 2024
DRAWN BY: SR.MJM
REVIEWED BY: TCA

REVIEW SET

SHEET TITLE
SITE PLAN

SHEET NO.
E100



1 SITE PLAN
SCALE: 1" = 10'-0"

LIGHTING FIXTURE SCHEDULE

TYPE ID	MANUFACTURER MODEL NUMBER	FIXTURE DESCRIPTION	LED LUMENS	LED WATTS	MOUNTING TYPE
S	LITHONIA KDSX1 LED L5 40K T3M MVOLT SPA DDBXD	30' LED SITE LIGHT TO MATCH EXISTING AREA MOB TYPE FIXTURES.	18,000	109	30' POLE
				85 lm/w	

SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM

VINTAGE PARK
DENTAL MOB

JUNEAU, ALASKA

SEARHC
SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM
FACILITIES MANAGEMENT
3100 CHANNEL DRIVE, SUITE 300
JUNEAU, ALASKA 99801

dawson
DAWSON CONSTRUCTION
9401 AIRPORT BLVD
JUNEAU, ALASKA 99801
907.780.1500

ALCAN
ELECTRICAL & ENGINEERING

T3 ALASKA

11.13.24

Rev.	Description	Date

PROJECT NO.: 2024.010.0
DATE: DECEMBER XX, 2024
DRAWN BY: SR,MJM
REVIEWED BY: TCA

REVIEW SET

SHEET TITLE
SITE PLAN

SHEET NO.
E100

ALCAN
ELECTRICAL & ENGINEERING

Submittal Cover Sheet

10.07.2022

Contractor Agency Name: Southeast Alaska Regional Health Consortium (SEARHC)

Project Name: SEARHC Vintage Park Medical Office Building

Contractor Name: Dawson Construction, LLC

Subcontractor Name: Alcan Electrical & Engineering

Alcan Job #: 22-0008

Supplier: Graybar Electrical Company, 5501 Anchorage, AK 99518

Manufacturer: Various please refer to the product data sheets

Specification Section: 26 50 00

Specification Paragraph: 1.4.C

Submittal: Light Fixtures – Site Lighting & Core and Shell

Variation:

Type:

Notes:

Variations:

Submittal prepared by: Cassandra Simpson (Barsalou)
csimpson@alcanelectric.com

SEARCH Juneau
Vintage Park

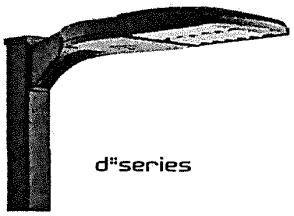
Alcan Electric

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING

Type	Manufacturer/Brand	Catalog Number
SITE		SITE
SA	ABL-Lithonia Lighting	DSX1 LED P5 40K T5W MVOLT SPA DDBXD
SB	ABL-Lithonia Lighting	DSX1 LED P5 40K T4M MVOLT SPA DDBXD
SC	ABL-Lithonia Lighting	DSX1 LED P5 40K T3M MVOLT SPA DDBXD
SD	ABL-Lithonia Lighting	DSX1 LED P5 40K T5M MVOLT SPA DDBXD
P1	ABL-Lithonia Lighting	SSS 30 4G DM19AS VD DBLXD
P2	ABL-Lithonia Lighting	SSS 30 4G DM28AS VD DBLXD
CORE AND SHELL		CORE AND SHELL
A	ABL-Lithonia Lighting	ZL1N L48 5000LM FST MVOLT 40K 80CRI WH
AE	ABL-Lithonia Lighting	ZL1N L48 5000LM FST MVOLT 40K 80CRI E10WLCP WH
SE	ABL-Lithonia Lighting	WDGE3 LED P2 40K 70CRI RFT MVOLT SRM DDBXD
SK	BEGA/US	55 942-K4
SKE	BEGA/US	55 942-K4
SKE	Evenlite	EMS-55-LC-V3-S
EXW	ABL-Lithonia Lighting	LE S 1 R EL N SD

Site Lighting

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5W MVOLT SPA DDBXD Note: VERIFY FINISH ON ALL SITE LIGHTING	Type SA



D-Series Size 1

LED Area Luminaire

Buy American

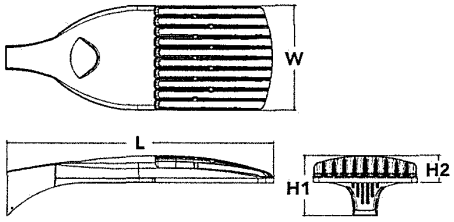
Catalog Number

Notes

Type

Specifications

EPA:	1.01 ft² (0.09 m²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height H1:	7-1/2" (19.0 cm)
Height H2:	3-1/2"
Weight (max):	27 lbs (12.2 kg)



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX1 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	**Forward optics** P1 P4[1] P7[1] P2 P5[1] P8 P3 P6[1] P9[1] **Rotated optics** P10[2] P12[2] P11[2] P13[1,2]	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short (Automotive) T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short [1] T5S Type V short [1] T5M Type V medium [1] T5W Type V wide [1] BLC Backlight control [3] LCCO Left corner cutoff [4] RCCO Right corner cutoff [4]	MVOLT[5] XVOLT (277V-480V)[6,7,8] 120[9] 208[9] 240[9] 277[9] 347[9] 480[9]	**Shipped included** SPA Square pole mounting RPA Round pole mounting[10] WBA Wall bracket[1] SPUMBA Square pole universal mounting adaptor[11] RPUMBA Round pole universal mounting adaptor[11] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[12]

Control options		Other options		Finish (required)	
Shipped installed		**Shipped installed**		DDBXD	Dark bronze
NLTAIR2	nLight AIR generation 2 enabled[14]	HS	House-side shield[24]	DBLXD	Black
PIRHN	Network, high/low motion/ambient sensor[14]	SF	Single fuse (120, 277, 347V)[9]	DNAXD	Natural aluminum
PER	NEMA twist-lock receptacle only (controls ordered separate)[15]	DF	Double fuse (208, 240, 480V)[9]	DWHXD	White
PER5	Five-pin receptacle only (controls ordered separate)[15,16]	L90	Left rotated optics[2]	DDBTXD	Textured dark bronze
PER7	Seven-pin receptacle only (controls ordered separate)[15,16]	R90	Right rotated optics[2]	DBLBXD	Textured black
DMG	0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[17]	HA	50°C ambient operations[1]	DNATXD	Textured natural aluminum
DS	Dual switching[18,19,20]	BAA	Buy America(n) Act Compliant	DWHGXD	Textured white
PIR	High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[20,21]	**Shipped separately**			
PIRH	High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[20,21]	BS	Bird spikes[24]		
PIR1FC3V	High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[20,21]	EGS	External glare shield		
PIRH1FC3V	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[20,21]				
FAO	Field adjustable output[20,21]				

PLEASE VERIFY FINISH

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ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5W MVOLT SPA DDBXD Note: VERIFY FINISH ON ALL SITE LIGHTING	Type SA

Ordering Information

Accessories

Ordered and shipped separately.

DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [25]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [25]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [25]
DSHORT SBK U	Shorting cap [25]
DSX1HS 30C U	House-side shield for P1, P2, P3, P4 and P5 [27]
DSX1HS 40C U	House-side shield for P6 and P7 [27]
DSX1HS 60C U	House-side shield for P8, P9, P10, P11 and P12 [27]
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish) [26]
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) [12]
DSX1EGS (FINISH) U	External glare shield

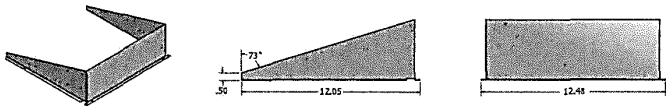
For more control options, visit DTL and ROAM® online.

NOTES

1 HA not available with P4, P5, P6, P7, P9 and P13.
2 P10, P11, P12 or P13 and rotated optics (L90, R90) only available together.
3 Any Type 5 distribution with photocell, is not available with WBA.
4 Not available with HS.
5 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
6 XVOLT only suitable for use with P3, P5, P6, P7, P9 and P13.
7 XVOLT works with any voltage between 277V and 480V.
8 XVOLT not available with fusing (SF or DF) and not available with PIR, PIRH, PIR1FC3V, PIRH1FC3V.
9 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V. XVOLT not available with fusing (SF or DF.
10 Suitable for mounting to round poles between 3.5" and 12" diameter.
11 Universal mounting brackets intended for retrofit on existing, pre-drilled poles only. 1.5 G vibration load rating per ANCI C136.31. Only usable when pole's drill pattern is NOT Lithonia template #8
12 Must order fixture with SPA option. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" diameter mast arm (not included).
13 Must be ordered with PIRHN. Sensor cover available only in dark bronze, black, white and natural aluminum colors.
14 Must be ordered with NLTAIR2. For more information on nLight Air 2 visit this link.
15 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting cap included.
16 If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Node with integral dimming.
17 DMG not available with PIRHN, PER5, PER7, PIR, PIRH, PIR1FC3V or PIRH1FC3V, FAO.
18 Provides 50/50fixture operation via (2) independent drivers. Not available with PER, PER5, PER7, PIR or PIRH. Not available P1, P2, P3, P4 or P5.
19 Requires (2) separately switched circuits with isolated neutral.
20 Reference Controls Option Default settings table on page 4.
21 Reference Motion Sensor table on page 4 to see functionality.
22 Not available with other dimming controls options.
23 Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
24 Must be ordered with fixture for factory pre-drilling.
25 Requires luminaire to be specified with PER, PER5 or PER7 option. See Control Option Table on page 4.
26 For retrofit use only. Only usable when pole's drill pattern is NOT Lithonia template #8.

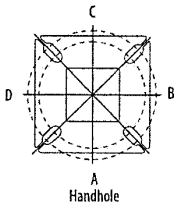
Options

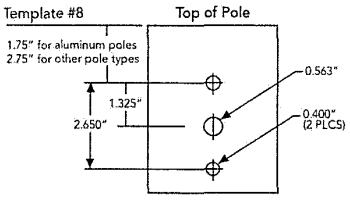
EGS - External Glare Shield



Drilling

HANDHOLE ORIENTATION





Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single Unit	2@180	2@90	3@90	3@120	4@90
2-3/8"	RPA	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 390	AS3-5 320	AS3-5 490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST35-190	AST35-280	AST35-290	AST35-390	AST35-320	AST35-490

Mounting Option	Drilling Template	Single	2@180	2@90	3@90	3@120	4@90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS

DSX1 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration	Single DM19	2@180 DM28	2@90 DM29	3@90 DM39	3@120 DM32	4@90 DM49
Mounting Type						
DSX1 LED	1.013	2.025	1.945	3.038	2.850	3.749

QUOTING BOTH OPTIONS

	Drilling Template	Minimum Acceptable Outside Pole Dimension					
SPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
RPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
SPUMBA	#5	2-7/8"	3"	4"	4"	3.5"	4"
RPUMBA	#5	2-7/8"	3.5"	5"	5"	3.5"	5"

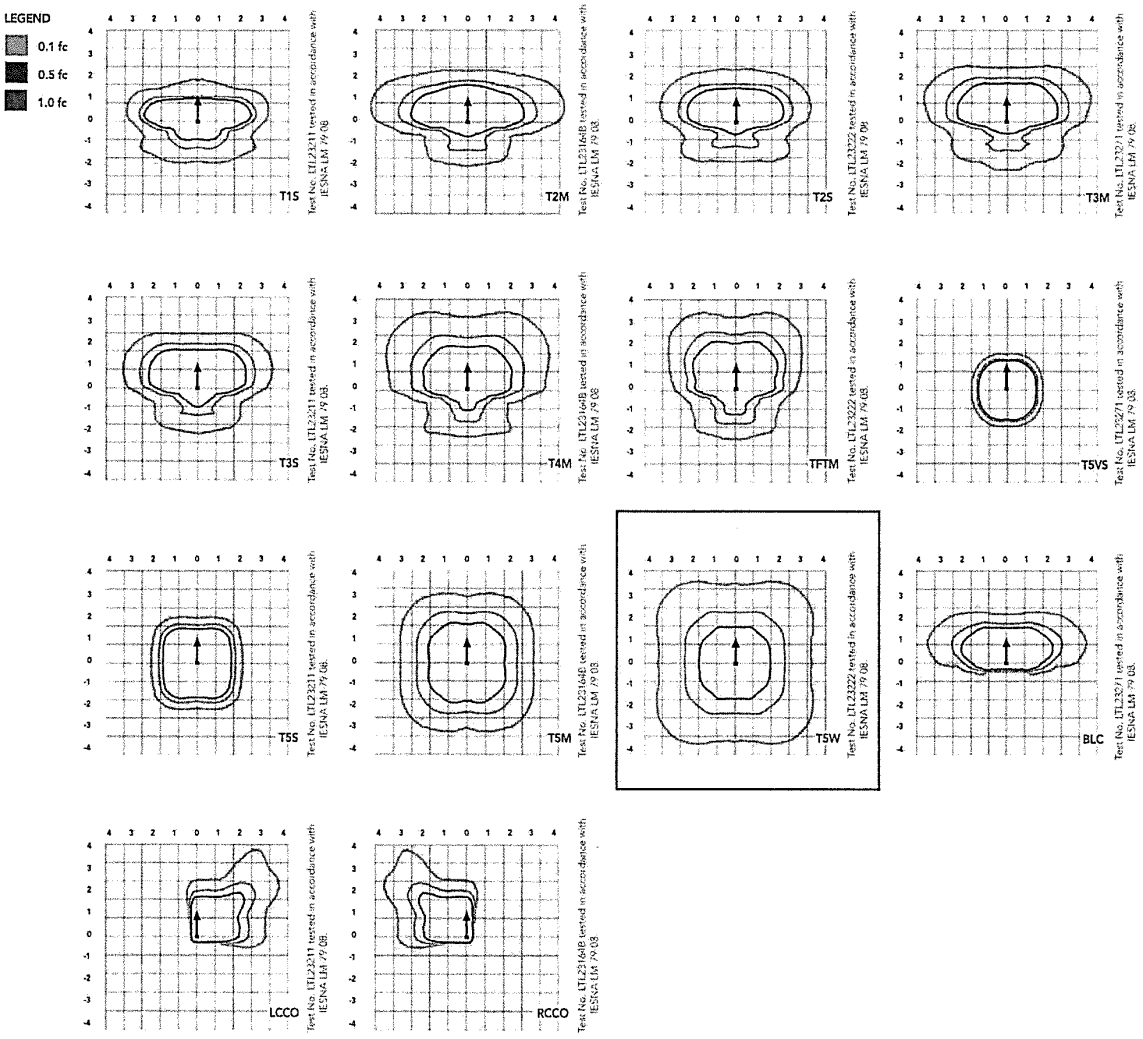
Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5W MVOLT SPA DDBXD Note: VERIFY FINISH ON ALL SITE LIGHTING	Type SA

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Area Size 1 homepage.

Isofootcandle plots for the DSX1 LED 60C 1000 40K. Distances are in units of mounting height (25').



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Attachment A - Application Packet

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°F**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
0	1.00
25,000	0.96
50,000	0.92
100,000	0.85

Motion Sensor Default Settings						
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min
*for use when motion sensor is used as dusk to dawn control.						

Electrical Load

					Current (A)					
	Performance Package	LED Count	Drive Current	Wattage	120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	30	530	54	0.45	0.26	0.23	0.19	0.10	0.12
	P2	30	700	70	0.59	0.34	0.30	0.25	0.20	0.16
	P3	30	1050	102	0.86	0.50	0.44	0.38	0.30	0.22
	P4	30	1250	125	1.06	0.60	0.52	0.46	0.37	0.27
	P5	30	1400	138	1.16	0.67	0.58	0.51	0.40	0.29
	P6	40	1250	163	1.36	0.78	0.68	0.59	0.47	0.34
	P7	40	1400	183	1.53	0.88	0.76	0.66	0.53	0.38
	P8	60	1050	207	1.74	0.98	0.87	0.76	0.64	0.49
	P9	60	1250	241	2.01	1.16	1.01	0.89	0.70	0.51
Rotated Optics (Requires L90 or R90)	P10	60	530	106	0.90	0.52	0.47	0.43	0.33	0.27
	P11	60	700	137	1.15	0.67	0.60	0.53	0.42	0.32
	P12	60	1050	207	1.74	0.99	0.87	0.76	0.60	0.46
	P13	60	1250	231	1.93	1.12	0.97	0.86	0.67	0.49

Controls Options				
Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PER5 or PER7	Twist-lock photocell recepticle	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire
PIR or PIRH	Motion sensors with integral photocell. PIR for 8-15' mounting; PIRH for 15-30' mounting	Luminaires dim when no occupancy is detected.	Acuity Controls SBGR	Also available with PIRH1FC3V when the sensor photocell is used for dusk-to-dawn operation.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclypse.	nLight Air rSDGR	nLight AIR sensors can be programmed and commissioned from the ground using the CLAIRity Pro app.

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5W MVOLT SPA DDBXD Note: VERIFY FINISH ON ALL SITE LIGHTING	Type SA

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30	530	P1	54W	T1S	6,457	2	0	2	120	6,956	2	0	2	129	7,044	2	0	2	130
				T2S	6,450	2	0	2	119	6,949	2	0	2	129	7,037	2	0	2	130
				T2M	6,483	1	0	1	120	6,984	2	0	2	129	7,073	2	0	2	131
				T3S	6,279	2	0	2	116	6,764	2	0	2	125	6,850	2	0	2	127
				T3M	6,468	1	0	2	120	6,967	1	0	2	129	7,056	1	0	2	131
				T4M	6,327	1	0	2	117	6,816	1	0	2	126	6,902	1	0	2	128
				TFTM	6,464	1	0	2	120	6,963	1	0	2	129	7,051	1	0	2	131
				T5VS	6,722	2	0	0	124	7,242	3	0	0	134	7,334	3	0	0	136
				T5S	6,728	2	0	1	125	7,248	2	0	1	134	7,340	2	0	1	136
				T5M	6,711	3	0	1	124	7,229	3	0	1	134	7,321	3	0	2	136
				T5W	6,667	3	0	2	123	7,182	3	0	2	133	7,273	3	0	2	135
				BLC	5,299	1	0	1	98	5,709	1	0	2	106	5,781	1	0	2	107
				LCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80
				RCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80
30	700	P2	70W	T1S	8,249	2	0	2	118	8,886	2	0	2	127	8,999	2	0	2	129
				T2S	8,240	2	0	2	118	8,877	2	0	2	127	8,989	2	0	2	128
				T2M	8,283	2	0	2	118	8,923	2	0	2	127	9,036	2	0	2	129
				T3S	8,021	2	0	2	115	8,641	2	0	2	123	8,751	2	0	2	125
				T3M	8,263	2	0	2	118	8,901	2	0	2	127	9,014	2	0	2	129
				T4M	8,083	2	0	2	115	8,708	2	0	2	124	8,818	2	0	2	126
				TFTM	8,257	2	0	2	118	8,896	2	0	2	127	9,008	2	0	2	129
				T5VS	8,588	3	0	0	123	9,252	3	0	0	132	9,369	3	0	0	134
				T5S	8,595	3	0	1	123	9,259	3	0	1	132	9,376	3	0	1	134
				T5M	8,573	3	0	2	122	9,236	3	0	2	132	9,353	3	0	2	134
				T5W	8,517	3	0	2	122	9,175	4	0	2	131	9,291	4	0	2	133
				BLC	6,770	1	0	2	97	7,293	1	0	2	104	7,386	1	0	2	106
				LCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79
				RCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79
30	1050	P3	102W	T1S	11,661	2	0	2	114	12,562	3	0	3	123	12,721	3	0	3	125
				T2S	11,648	2	0	2	114	12,548	3	0	3	123	12,707	3	0	3	125
				T2M	11,708	2	0	2	115	12,613	2	0	2	124	12,773	2	0	2	125
				T3S	11,339	2	0	2	111	12,215	3	0	3	120	12,370	3	0	3	121
				T3M	11,680	2	0	2	115	12,582	2	0	2	123	12,742	2	0	2	125
				T4M	11,426	2	0	3	112	12,309	2	0	3	121	12,465	2	0	3	122
				TFTM	11,673	2	0	2	114	12,575	2	0	3	123	12,734	2	0	3	125
				T5VS	12,140	3	0	1	119	13,078	3	0	1	128	13,244	3	0	1	130
				T5S	12,150	3	0	1	119	13,089	3	0	1	128	13,254	3	0	1	130
				T5M	12,119	4	0	2	119	13,056	4	0	2	128	13,221	4	0	2	130
				T5W	12,040	4	0	3	118	12,970	4	0	3	127	13,134	4	0	3	129
				BLC	9,570	1	0	2	94	10,310	1	0	2	101	10,440	1	0	2	102
				LCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76
				RCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76
30	1250	P4	125W	T1S	13,435	3	0	3	107	14,473	3	0	3	116	14,657	3	0	3	117
				T2S	13,421	3	0	3	107	14,458	3	0	3	116	14,641	3	0	3	117
				T2M	13,490	2	0	2	108	14,532	3	0	3	116	14,716	3	0	3	118
				T3S	13,064	3	0	3	105	14,074	3	0	3	113	14,252	3	0	3	114
				T3M	13,457	2	0	2	108	14,497	2	0	2	116	14,681	2	0	2	117
				T4M	13,165	2	0	3	105	14,182	2	0	3	113	14,362	2	0	3	115
				TFTM	13,449	2	0	3	108	14,488	2	0	3	116	14,672	2	0	3	117
				T5VS	13,987	4	0	1	112	15,068	4	0	1	121	15,259	4	0	1	122
				T5S	13,999	3	0	1	112	15,080	3	0	1	121	15,271	3	0	1	122
				T5M	13,963	4	0	2	112	15,042	4	0	2	120	15,233	4	0	2	122
				T5W	13,872	4	0	3	111	14,944	4	0	3	120	15,133	4	0	3	121
				BLC	11,027	1	0	2	88	11,879	1	0	2	95	12,029	1	0	2	96
				LCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72
				RCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72
30	1400	P5	138W	T1S	14,679	3	0	3	106	15,814	3	0	3	115	16,014	3	0	3	116
				T2S	14,664	3	0	3	106	15,797	3	0	3	114	15,997	3	0	3	116
				T2M	14,739	3	0	3	107	15,878	3	0	3	115	16,079	3	0	3	117
				T3S	14,274	3	0	3	103	15,377	3	0	3	111	15,572	3	0	3	113
				T3M	14,704	2	0	3	107	15,840	3	0	3	115	16,040	3	0	3	116
				T4M	14,384	2	0	3	104	15,496	3	0	3	112	15,692	3	0	3	114
				TFTM	14,695	2	0	3	106	15,830	3	0	3	115	16,030	3	0	3	116
				T5VS	15,283	4	0	1	111	16,464	4	0	1	119	16,672	4	0	1	121
				T5S	15,295	3	0	1	111	16,477	4	0	1	119	16,686	4	0	1	121
				T5M	15,257	4	0	2	111	16,435	4	0	2	119	16,644	4	0	2	121
				T5W	15,157	4	0	3	110	16,328	4	0	3	118	16,534	4	0	3	120
				BLC	12,048	1	0	2	87	12,979	1	0	2	94	13,143	1	0	2	95
				LCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71
				RCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5W MVOLT SPA DDBXD Note: VERIFY FINISH ON ALL SITE LIGHTING	Type SA

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40	1250	P6	163W	T1S	17,654	3	0	3	108	19,018	3	0	3	117	19,259	3	0	3	118
				T2S	17,635	3	0	3	108	18,998	3	0	3	117	19,238	3	0	3	118
				T2M	17,726	3	0	3	109	19,096	3	0	3	117	19,337	3	0	3	119
				T3S	17,167	3	0	3	105	18,493	3	0	3	113	18,727	3	0	3	115
				T3M	17,683	3	0	3	108	19,049	3	0	3	117	19,290	3	0	3	118
				T4M	17,299	3	0	3	106	18,635	3	0	4	114	18,871	3	0	4	116
				TFTM	17,672	3	0	3	108	19,038	3	0	4	117	19,279	3	0	4	118
				T5VS	18,379	4	0	1	113	19,800	4	0	1	121	20,050	4	0	1	123
				T5S	18,394	4	0	2	113	19,816	4	0	2	122	20,066	4	0	2	123
				T5M	18,348	4	0	2	113	19,766	4	0	2	121	20,016	4	0	2	123
				T5W	18,228	5	0	3	112	19,636	5	0	3	120	19,885	5	0	3	122
				BLC	14,489	2	0	2	89	15,609	2	0	3	96	15,806	2	0	3	97
				LCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72
				RCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72
40	1400	P7	183W	T1S	19,227	3	0	3	105	20,712	3	0	3	113	20,975	3	0	3	115
				T2S	19,206	3	0	3	105	20,690	3	0	3	113	20,952	3	0	3	114
				T2M	19,305	3	0	3	105	20,797	3	0	3	114	21,060	3	0	3	115
				T3S	18,696	3	0	3	102	20,141	3	0	3	110	20,396	3	0	4	111
				T3M	19,258	3	0	3	105	20,746	3	0	3	113	21,009	3	0	3	115
				T4M	18,840	3	0	4	103	20,296	3	0	4	111	20,553	3	0	4	112
				TFTM	19,246	3	0	4	105	20,734	3	0	4	113	20,996	3	0	4	115
				T5VS	20,017	4	0	1	109	21,564	4	0	1	118	21,837	4	0	1	119
				T5S	20,033	4	0	2	109	21,581	4	0	2	118	21,854	4	0	2	119
				T5M	19,983	4	0	2	109	21,527	5	0	3	118	21,799	5	0	3	119
				T5W	19,852	5	0	3	108	21,386	5	0	3	117	21,656	5	0	3	118
				BLC	15,780	2	0	3	86	16,999	2	0	3	93	17,214	2	0	3	94
				LCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70
				RCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70
60	1050	P8	207W	T1S	22,490	3	0	3	109	24,228	3	0	3	117	24,535	3	0	3	119
				T2S	22,466	3	0	4	109	24,202	3	0	4	117	24,509	3	0	4	118
				T2M	22,582	3	0	3	109	24,327	3	0	3	118	24,635	3	0	3	119
				T3S	21,870	3	0	4	106	23,560	3	0	4	114	23,858	3	0	4	115
				T3M	22,527	3	0	4	109	24,268	3	0	4	117	24,575	3	0	4	119
				T4M	22,038	3	0	4	106	23,741	3	0	4	115	24,041	3	0	4	116
				TFTM	22,513	3	0	4	109	24,253	3	0	4	117	24,560	3	0	4	119
				T5VS	23,415	5	0	1	113	25,224	5	0	1	122	25,543	5	0	1	123
				T5S	23,434	4	0	2	113	25,244	4	0	2	122	25,564	4	0	2	123
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123
				T5W	23,221	5	0	4	112	25,016	5	0	4	121	25,332	5	0	4	122
				BLC	18,458	2	0	3	89	19,885	2	0	3	96	20,136	2	0	3	97
				LCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
				RCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
60	1250	P9	241W	T1S	25,575	3	0	3	106	27,551	3	0	3	114	27,900	3	0	3	116
				T2S	25,548	3	0	4	106	27,522	3	0	4	114	27,871	3	0	4	116
				T2M	25,680	3	0	3	107	27,664	3	0	3	115	28,014	3	0	3	116
				T3S	24,870	3	0	4	103	26,791	3	0	4	111	27,130	3	0	4	113
				T3M	25,617	3	0	4	106	27,597	3	0	4	115	27,946	3	0	4	116
				T4M	25,061	3	0	4	104	26,997	3	0	4	112	27,339	3	0	4	113
				TFTM	25,602	3	0	4	106	27,580	3	0	4	114	27,929	3	0	4	116
				T5VS	26,626	5	0	1	110	28,684	5	0	1	119	29,047	5	0	1	121
				T5S	26,648	4	0	2	111	28,707	5	0	2	119	29,070	5	0	2	121
				T5M	26,581	5	0	3	110	28,635	5	0	3	119	28,997	5	0	3	120
				T5W	26,406	5	0	4	110	28,447	5	0	4	118	28,807	5	0	4	120
				BLC	20,990	2	0	3	87	22,612	2	0	3	94	22,898	2	0	3	95
				LCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71
				RCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5W MVOLT SPA DDBXD Note: VERIFY FINISH ON ALL SITE LIGHTING	Type SA

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K* (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
60	530	P10	106W	T1S	13,042	3	0	3	123	14,050	3	0	3	133	14,228	3	0	3	134
				T2S	12,967	4	0	4	122	13,969	4	0	4	132	14,146	4	0	4	133
				T2M	13,201	3	0	3	125	14,221	3	0	3	134	14,401	3	0	3	136
				T3S	12,766	4	0	4	120	13,752	4	0	4	130	13,926	4	0	4	131
				T3M	13,193	4	0	4	124	14,213	4	0	4	134	14,393	4	0	4	136
				T4M	12,944	4	0	4	122	13,945	4	0	4	132	14,121	4	0	4	133
				TFTM	13,279	4	0	4	125	14,305	4	0	4	135	14,486	4	0	4	137
				T5VS	13,372	3	0	1	126	14,405	4	0	1	136	14,588	4	0	1	138
				T5S	13,260	3	0	1	125	14,284	3	0	1	135	14,465	3	0	1	136
				T5M	13,256	4	0	2	125	14,281	4	0	2	135	14,462	4	0	2	136
				T5W	13,137	4	0	3	124	14,153	4	0	3	134	14,332	4	0	3	135
				BLC	10,906	3	0	3	103	11,749	3	0	3	111	11,898	3	0	3	112
				LCCO	7,789	1	0	3	73	8,391	1	0	3	79	8,497	1	0	3	80
				RCCO	7,779	4	0	4	73	8,380	4	0	4	79	8,486	4	0	4	80
60	700	P11	137W	T1S	16,556	3	0	3	121	17,835	3	0	3	130	18,061	4	0	4	132
				T2S	16,461	4	0	4	120	17,733	4	0	4	129	17,957	4	0	4	131
				T2M	16,758	4	0	4	122	18,053	4	0	4	132	18,281	4	0	4	133
				T3S	16,205	4	0	4	118	17,457	4	0	4	127	17,678	4	0	4	129
				T3M	16,748	4	0	4	122	18,042	4	0	4	132	18,271	4	0	4	133
				T4M	16,432	4	0	4	120	17,702	4	0	4	129	17,926	4	0	4	131
				TFTM	16,857	4	0	4	123	18,159	4	0	4	133	18,389	4	0	4	134
				T5VS	16,975	4	0	1	124	18,287	4	0	1	133	18,518	4	0	1	135
				T5S	16,832	4	0	1	123	18,133	4	0	2	132	18,362	4	0	2	134
				T5M	16,828	4	0	2	123	18,128	4	0	2	132	18,358	4	0	2	134
				T5W	16,677	4	0	3	122	17,966	5	0	3	131	18,193	5	0	3	133
				BLC	13,845	3	0	3	101	14,915	3	0	3	109	15,103	3	0	3	110
				LCCO	9,888	1	0	3	72	10,652	2	0	3	78	10,787	2	0	3	79
				RCCO	9,875	4	0	4	72	10,638	4	0	4	78	10,773	4	0	4	79
60	1050	P12	207W	T1S	22,996	4	0	4	111	24,773	4	0	4	120	25,087	4	0	4	121
				T2S	22,864	4	0	4	110	24,631	5	0	5	119	24,943	5	0	5	120
				T2M	23,277	4	0	4	112	25,075	4	0	4	121	25,393	4	0	4	123
				T3S	22,509	4	0	4	109	24,248	5	0	5	117	24,555	5	0	5	119
				T3M	23,263	4	0	4	112	25,061	4	0	4	121	25,378	4	0	4	123
				T4M	22,824	5	0	5	110	24,588	5	0	5	119	24,899	5	0	5	120
				TFTM	23,414	5	0	5	113	25,223	5	0	5	122	25,543	5	0	5	123
				T5VS	23,579	5	0	1	114	25,401	5	0	1	123	25,722	5	0	1	124
				T5S	23,380	4	0	2	113	25,187	4	0	2	122	25,506	4	0	2	123
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123
				T5W	23,165	5	0	4	112	24,955	5	0	4	121	25,271	5	0	4	122
				BLC	19,231	4	0	4	93	20,717	4	0	4	100	20,979	4	0	4	101
				LCCO	13,734	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
				RCCO	13,716	4	0	4	66	14,776	4	0	4	71	14,963	4	0	4	72
60	1250	P13	231W	T1S	25,400	4	0	4	110	27,363	4	0	4	118	27,709	4	0	4	120
				T2S	25,254	5	0	5	109	27,205	5	0	5	118	27,550	5	0	5	119
				T2M	25,710	4	0	4	111	27,696	4	0	4	120	28,047	4	0	4	121
				T3S	24,862	5	0	5	108	26,783	5	0	5	116	27,122	5	0	5	117
				T3M	25,695	5	0	5	111	27,680	5	0	5	120	28,031	5	0	5	121
				T4M	25,210	5	0	5	109	27,158	5	0	5	118	27,502	5	0	5	119
				TFTM	25,861	5	0	5	112	27,860	5	0	5	121	28,212	5	0	5	122
				T5VS	26,043	5	0	1	113	28,056	5	0	1	121	28,411	5	0	1	123
				T5S	25,824	4	0	2	112	27,819	5	0	2	120	28,172	5	0	2	122
				T5M	25,818	5	0	3	112	27,813	5	0	3	120	28,165	5	0	3	122
				T5W	25,586	5	0	4	111	27,563	5	0	4	119	27,912	5	0	4	121
				BLC	21,241	4	0	4	92	22,882	4	0	4	99	23,172	4	0	4	100
				LCCO	15,170	2	0	4	66	16,342	2	0	4	71	16,549	2	0	4	72
				RCCO	15,150	5	0	5	66	16,321	5	0	5	71	16,527	5	0	5	72

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5W MVOLT SPA DDBXD Note: VERIFY FINISH ON ALL SITE LIGHTING	Type SA

FEATURES & SPECIFICATIONS

INTENDED USE
The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION
Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.01 ft^2) for optimized pole wind loading.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 3000 K, 4000 K and 5000 K (70 CRI) configurations. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The DSX1 LED area luminaire has a number of control options. DSX Size 1, comes standard with 0-10V dimming drivers. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensors with on-board photocells feature field-adjustable programing and are suitable for mounting heights up to 30 feet.

nLIGHT AIR CONTROLS
The DSX1 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 1 utilizes the AERIS™ series pole drilling pattern (template #8). NEMA photocontrol receptacle are also available.

LISTINGS
UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

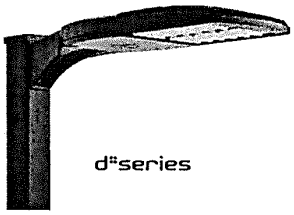
BUY AMERICAN
Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T4M MVOLT SPA DDBXD Note:	Type SB



D-Series Size 1
LED Area Luminaire

Buy American

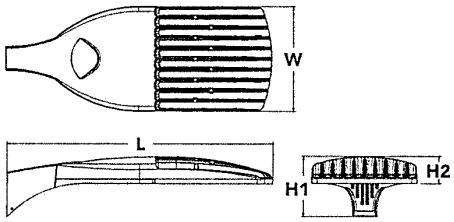
Catalog Number

Notes

Type

Specifications

EPA:	1.01 ft² (0.09 m²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height H1:	7-1/2" (19.0 cm)
Height H2:	3-1/2"
Weight (max):	27 lbs (12.2 kg)



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX1 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	**Forward optics** P1 P4[1] P7[1] P2 P5[1] P8 P3 P6[1] P9[1] **Rotated optics** P10[2] P12[2] P11[2] P13[1,2]	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short (Automotive) T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short[3] T5S Type V short[3] T5M Type V medium[3] T5W Type V wide[3] BLC Backlight control[4] LCCO Left corner cutoff[4] RCCO Right corner cutoff[4]	MVOLT[5] XVOLT (277V-480V)[6,7,8] 120[9] 208[9] 240[9] 277[9] 347[9] 480[9]	**Shipped included** SPA Square pole mounting RPA Round pole mounting[10] WBA Wall bracket[3] SPUMBA Square pole universal mounting adaptor[11] RPUMBA Round pole universal mounting adaptor[5] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[12]

Control options		Other options		Finish (required)	
Shipped installed		**Shipped installed**		DDBXD	Dark bronze
NLTAIR2	nLight AIR generation 2 enabled[14]	HS	House-side shield[24]	DBLXD	Black
PIRHN	Network, high/low motion/ambient sensor[14]	SF	Single fuse (120, 277, 347V)[9]	DNAXD	Natural aluminum
PER	NEMA twist-lock receptacle only (controls ordered separate)[15]	DF	Double fuse (208, 240, 480V)[9]	DWHXD	White
PER5	Five-pin receptacle only (controls ordered separate)[15,16]	L90	Left rotated optics[2]	DDBTXD	Textured dark bronze
PER7	Seven-pin receptacle only (controls ordered separate)[15,16]	R90	Right rotated optics[2]	DBLBXD	Textured black
DMG	0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[17]	HA	50°C ambient operations[3]	DNATXD	Textured natural aluminum
DS	Dual switching[18,19,20]	BAA	Buy America(n) Act Compliant	DWHGXD	Textured white
PIR	High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[20,21]	**Shipped separately**			
PIRH	High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[20,21]	BS	Bird spikes[24]		
PIR1FC3V	High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[20,21]	EGS	External glare shield		
PIRH1FC3V	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[20,21]				
FAO	Field adjustable output[20,21]				

PLEASE VERIFY FINISH

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T4M MVOLT SPA DDBXD Note:	Type SB

Ordering Information

Accessories

Ordered and shipped separately.

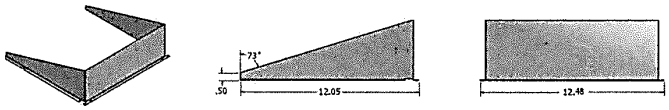
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [25]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [25]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [25]
DSHORT SBK U	Shorting cap [25]
DSX1HS 30C U	House-side shield for P1, P2, P3, P4 and P5 [27]
DSX1HS 40C U	House-side shield for P6 and P7 [27]
DSX1HS 60C U	House-side shield for P8, P9, P10, P11 and P12 [27]
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish) [24]
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) [12]
DSX1EGS (FINISH) U	External glare shield

For more control options, visit DTL and ROAM® online.

NOTES
1. HA not available with P4, P5, P6, P7, P9 and P13.
2. P10, P11, P12 or P13 and rotated optics (LV0, RV0) only available together.
3. Any Type 5 distribution with photocell, is not available with WBA.
4. Not available with HS.
5. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
6. XVOLT only suitable for use with P3, P5, P6, P7, P9 and P13.
7. XVOLT works with any voltage between 277V and 480V.
8. XVOLT not available with fusing (SF or DF) and not available with PIR, PIRH, PIR1FC3V, PIRH1FC3V.
9. Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V. XVOLT not available with fusing (SF or DF.
10. Suitable for mounting to round poles between 3.5" and 12" diameter.
11. Universal mounting brackets intended for retrofit on existing, pre-drilled poles only. 1.5 G vibration load rating per ANCI C136.31. Only usable when pole's drill pattern is NOT Lithonia template #8
12. Must order fixture with SPA option. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" diameter mast arm (not included).
13. Must be ordered with PIRHN. Sensor cover available only in dark bronze, black, white and natural aluminum colors.
14. Must be ordered with NLTAIR2. For more information on nLight Air 2 visit this link.
15. Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting cap included.
16. If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Node with integral dimming.
17. DMG not available with PIRHN, PER5, PER7, PIR, PIRH, PIR1FC3V or PIRH1FC3V, FAO.
18. Provides 50/50 fixture operation via (2) independent drivers. Not available with PER, PER5, PER7, PIR or PIRH. Not available P1, P2, P3, P4 or P5.
19. Requires (2) separately switched circuits with isolated neutral.
20. Reference Controls Option Default settings table on page 4.
21. Reference Motion Sensor table on page 4 to see functionality.
22. Not available with other dimming controls options.
23. Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
24. Must be ordered with fixture for factory pre-drilling.
25. Requires luminaire to be specified with PER, PER5 or PER7 option. See Control Option Table on page 4.
26. For retrofit use only. Only usable when pole's drill pattern is NOT Lithonia template #8.

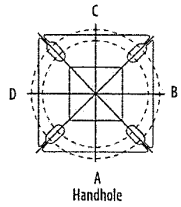
Options

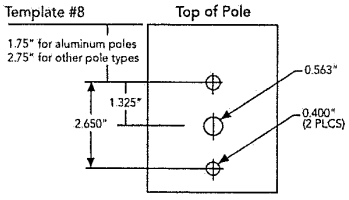
EGS - External Glare Shield



Drilling

HANDHOLE ORIENTATION





Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single Unit	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
2-3/8"	RPA	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 390	AS3-5 320	AS3-5 490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST35-190	AST35-280	AST35-290	AST35-390	AST35-320	AST35-490

Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS

DSX1 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration	Single DM19	2 @ 180 DM28	2 @ 90 DM29	3 @ 90 DM39	3 @ 120 DM32	4 @ 90 DM49
Mounting Type						
DSX1 LED	1.013	2.025	1.945	3.038	2.850	3.749

QUOTING BOTH OPTIONS

	Drilling Template	Minimum Acceptable Outside Pole Dimension					
SPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
RPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
SPUMBA	#5	2-7/8"	3"	4"	4"	3.5"	4"
RPUMBA	#5	2-7/8"	3.5"	5"	5"	3.5"	5"

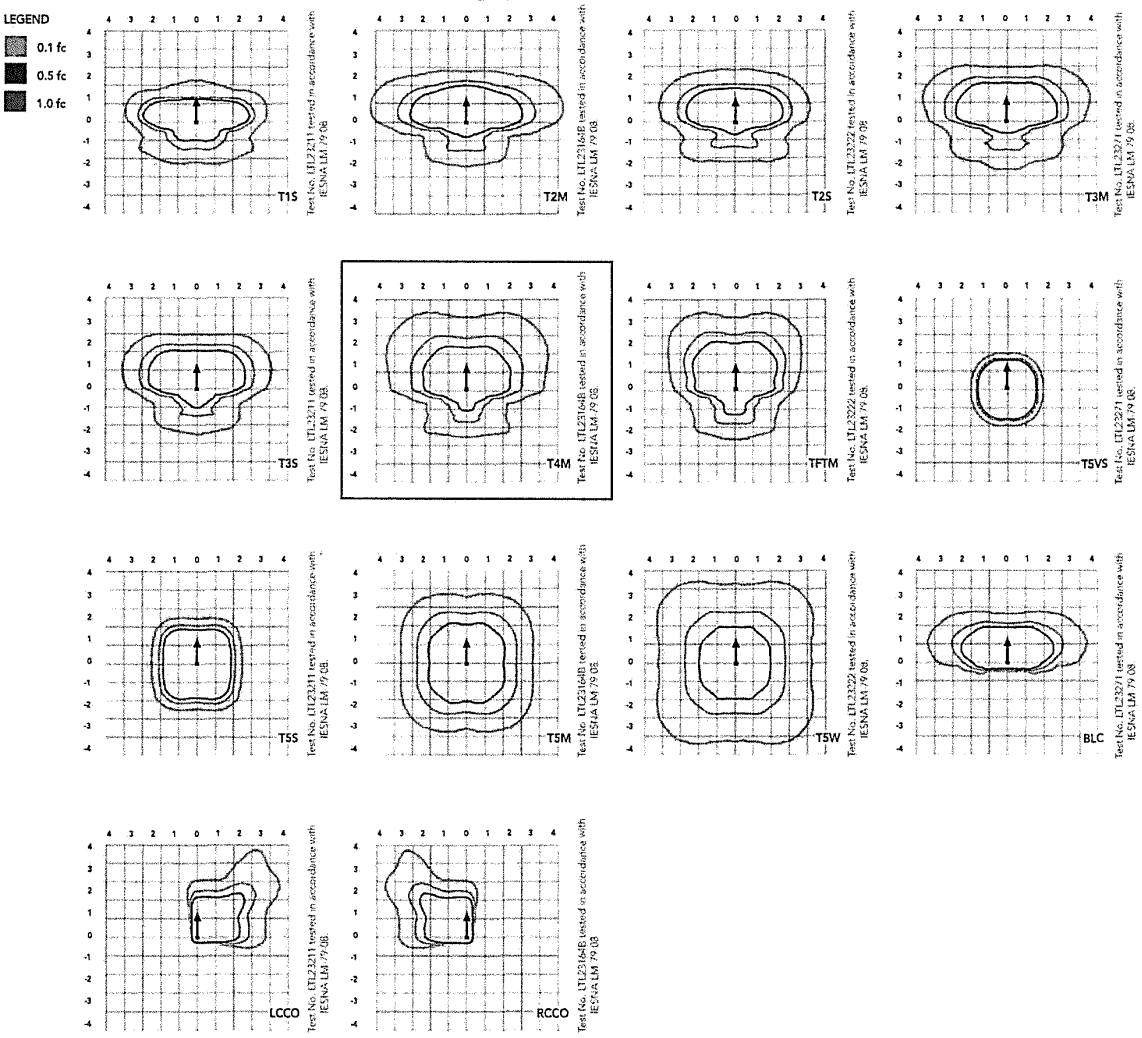
Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T4M MVOLT SPA DDBXD Note:	Type SB

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Area Size 1 homepage.

Isofootcandle plots for the DSX1 LED 60C 1000 40K. Distances are in units of mounting height (25').



Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T4M MVOLT SPA DDBXD Note:	Type SB

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°F**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
0	1.00
25,000	0.96
50,000	0.92
100,000	0.85

Motion Sensor Default Settings						
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min
*for use when motion sensor is used as dusk to dawn control.						

Electrical Load

					Current (A)					
	Performance Package	LED Count	Drive Current	Wattage	120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	30	530	54	0.45	0.26	0.23	0.19	0.10	0.12
	P2	30	700	70	0.59	0.34	0.30	0.25	0.20	0.16
	P3	30	1050	102	0.86	0.50	0.44	0.38	0.30	0.22
	P4	30	1250	125	1.06	0.60	0.52	0.46	0.37	0.27
	P5	30	1400	138	1.16	0.67	0.58	0.51	0.40	0.29
	P6	40	1250	163	1.36	0.78	0.68	0.59	0.47	0.34
	P7	40	1400	183	1.53	0.88	0.76	0.66	0.53	0.38
	P8	60	1050	207	1.74	0.98	0.87	0.76	0.64	0.49
	P9	60	1250	241	2.01	1.16	1.01	0.89	0.70	0.51
Rotated Optics (Requires L90 or R90)	P10	60	530	106	0.90	0.52	0.47	0.43	0.33	0.27
	P11	60	700	137	1.15	0.67	0.60	0.53	0.42	0.32
	P12	60	1050	207	1.74	0.99	0.87	0.76	0.60	0.46
	P13	60	1250	231	1.93	1.12	0.97	0.86	0.67	0.49

Controls Options				
Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PER5 or PER7	Twist-lock photocell recepticle	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire
PIR or PIRH	Motion sensors with integral photocell. PIR for 8-15' mounting; PIRH for 15-30' mounting	Luminaires dim when no occupancy is detected.	Acuity Controls SBGR	Also available with PIRH1FC3V when the sensor photocell is used for dusk-to-dawn operation.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclypse.	nLight Air rSDGR	nLight AIR sensors can be programmed and commissioned from the ground using the CLAIRity Pro app.

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T4M MVOLT SPA DDBXD Note:	Type SB

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30	530	P1	54W	T1S	6,457	2	0	2	120	6,956	2	0	2	129	7,044	2	0	2	130
				T2S	6,450	2	0	2	119	6,949	2	0	2	129	7,037	2	0	2	130
				T2M	6,483	1	0	1	120	6,984	2	0	2	129	7,073	2	0	2	131
				T3S	6,279	2	0	2	116	6,764	2	0	2	125	6,850	2	0	2	127
				T3M	6,468	1	0	2	120	6,967	1	0	2	129	7,056	1	0	2	131
				T4M	6,327	1	0	2	117	6,816	1	0	2	126	6,902	1	0	2	128
				TFTM	6,464	1	0	2	120	6,963	1	0	2	129	7,051	1	0	2	131
				T5VS	6,722	2	0	0	124	7,242	3	0	0	134	7,334	3	0	0	136
				T5S	6,728	2	0	1	125	7,248	2	0	1	134	7,340	2	0	1	136
				T5M	6,711	3	0	1	124	7,229	3	0	1	134	7,321	3	0	2	136
				T5W	6,667	3	0	2	123	7,182	3	0	2	133	7,273	3	0	2	135
				BLC	5,299	1	0	1	98	5,709	1	0	2	106	5,781	1	0	2	107
				LCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80
				RCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80
30	700	P2	70W	T1S	8,249	2	0	2	118	8,886	2	0	2	127	8,999	2	0	2	129
				T2S	8,240	2	0	2	118	8,877	2	0	2	127	8,989	2	0	2	128
				T2M	8,283	2	0	2	118	8,923	2	0	2	127	9,036	2	0	2	129
				T3S	8,021	2	0	2	115	8,641	2	0	2	123	8,751	2	0	2	125
				T3M	8,263	2	0	2	118	8,901	2	0	2	127	9,014	2	0	2	129
				T4M	8,083	2	0	2	115	8,708	2	0	2	124	8,818	2	0	2	126
				TFTM	8,257	2	0	2	118	8,896	2	0	2	127	9,008	2	0	2	129
				T5VS	8,588	3	0	0	123	9,252	3	0	0	132	9,369	3	0	0	134
				T5S	8,595	3	0	1	123	9,259	3	0	1	132	9,376	3	0	1	134
				T5M	8,573	3	0	2	122	9,236	3	0	2	132	9,353	3	0	2	134
				T5W	8,517	3	0	2	122	9,175	4	0	2	131	9,291	4	0	2	133
				BLC	6,770	1	0	2	97	7,293	1	0	2	104	7,386	1	0	2	106
				LCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79
				RCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79
30	1050	P3	102W	T1S	11,661	2	0	2	114	12,562	3	0	3	123	12,721	3	0	3	125
				T2S	11,648	2	0	2	114	12,548	3	0	3	123	12,707	3	0	3	125
				T2M	11,708	2	0	2	115	12,613	2	0	2	124	12,773	2	0	2	125
				T3S	11,339	2	0	2	111	12,215	3	0	3	120	12,370	3	0	3	121
				T3M	11,680	2	0	2	115	12,582	2	0	2	123	12,742	2	0	2	125
				T4M	11,426	2	0	3	112	12,309	2	0	3	121	12,465	2	0	3	122
				TFTM	11,673	2	0	2	114	12,575	2	0	3	123	12,734	2	0	3	125
				T5VS	12,140	3	0	1	119	13,078	3	0	1	128	13,244	3	0	1	130
				T5S	12,150	3	0	1	119	13,089	3	0	1	128	13,254	3	0	1	130
				T5M	12,119	4	0	2	119	13,056	4	0	2	128	13,221	4	0	2	130
				T5W	12,040	4	0	3	118	12,970	4	0	3	127	13,134	4	0	3	129
				BLC	9,570	1	0	2	94	10,310	1	0	2	101	10,440	1	0	2	102
				LCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76
				RCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76
30	1250	P4	125W	T1S	13,435	3	0	3	107	14,473	3	0	3	116	14,657	3	0	3	117
				T2S	13,421	3	0	3	107	14,458	3	0	3	116	14,641	3	0	3	117
				T2M	13,490	2	0	2	108	14,532	3	0	3	116	14,716	3	0	3	118
				T3S	13,064	3	0	3	105	14,074	3	0	3	113	14,252	3	0	3	114
				T3M	13,457	2	0	2	108	14,497	2	0	2	116	14,681	2	0	2	117
				T4M	13,165	2	0	3	105	14,182	2	0	3	113	14,362	2	0	3	115
				TFTM	13,449	2	0	3	108	14,488	2	0	3	116	14,672	2	0	3	117
				T5VS	13,987	4	0	1	112	15,068	4	0	1	121	15,259	4	0	1	122
				T5S	13,999	3	0	1	112	15,080	3	0	1	121	15,271	3	0	1	122
				T5M	13,963	4	0	2	112	15,042	4	0	2	120	15,233	4	0	2	122
				T5W	13,872	4	0	3	111	14,944	4	0	3	120	15,133	4	0	3	121
				BLC	11,027	1	0	2	88	11,879	1	0	2	95	12,029	1	0	2	96
				LCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72
				RCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72
30	1400	P5	138W	T1S	14,679	3	0	3	106	15,814	3	0	3	115	16,014	3	0	3	116
				T2S	14,664	3	0	3	106	15,797	3	0	3	114	15,997	3	0	3	116
				T2M	14,739	3	0	3	107	15,878	3	0	3	115	16,079	3	0	3	117
				T3S	14,274	3	0	3	103	15,377	3	0	3	111	15,572	3	0	3	113
				T3M	14,704	2	0	3	107	15,840	3	0	3	115	16,040	3	0	3	116
				T4M	14,384	2	0	3	104	15,496	3	0	3	112	15,692	3	0	3	114
				TFTM	14,695	2	0	3	106	15,830	3	0	3	115	16,030	3	0	3	116
				T5VS	15,283	4	0	1	111	16,464	4	0	1	119	16,672	4	0	1	121
				T5S	15,295	3	0	1	111	16,477	4	0	1	119	16,686	4	0	1	121
				T5M	15,257	4	0	2	111	16,435	4	0	2	119	16,644	4	0	2	121
				T5W	15,157	4	0	3	110	16,328	4	0	3	118	16,534	4	0	3	120
				BLC	12,048	1	0	2	87	12,979	1	0	2	94	13,143	1	0	2	95
				LCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71
				RCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T4M MVOLT SPA DDBXD Note:	Type SB

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40	1250	P6	163W	T1S	17,654	3	0	3	108	19,018	3	0	3	117	19,259	3	0	3	118
				T2S	17,635	3	0	3	108	18,998	3	0	3	117	19,238	3	0	3	118
				T2M	17,726	3	0	3	109	19,096	3	0	3	117	19,337	3	0	3	119
				T3S	17,167	3	0	3	105	18,493	3	0	3	113	18,727	3	0	3	115
				T3M	17,683	3	0	3	108	19,049	3	0	3	117	19,290	3	0	3	118
				T4M	17,299	3	0	3	106	18,635	3	0	4	114	18,871	3	0	4	116
				TFTM	17,672	3	0	3	108	19,038	3	0	4	117	19,279	3	0	4	118
				T5VS	18,379	4	0	1	113	19,800	4	0	1	121	20,050	4	0	1	123
				T5S	18,394	4	0	2	113	19,816	4	0	2	122	20,066	4	0	2	123
				T5M	18,348	4	0	2	113	19,766	4	0	2	121	20,016	4	0	2	123
				T5W	18,228	5	0	3	112	19,636	5	0	3	120	19,885	5	0	3	122
				BLC	14,489	2	0	2	89	15,609	2	0	3	96	15,806	2	0	3	97
				LCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72
				RCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72
40	1400	P7	183W	T1S	19,227	3	0	3	105	20,712	3	0	3	113	20,975	3	0	3	115
				T2S	19,206	3	0	3	105	20,690	3	0	3	113	20,952	3	0	3	114
				T2M	19,305	3	0	3	105	20,797	3	0	3	114	21,060	3	0	3	115
				T3S	18,696	3	0	3	102	20,141	3	0	3	110	20,396	3	0	4	111
				T3M	19,258	3	0	3	105	20,746	3	0	3	113	21,009	3	0	3	115
				T4M	18,840	3	0	4	103	20,296	3	0	4	111	20,553	3	0	4	112
				TFTM	19,246	3	0	4	105	20,734	3	0	4	113	20,996	3	0	4	115
				T5VS	20,017	4	0	1	109	21,564	4	0	1	118	21,837	4	0	1	119
				T5S	20,033	4	0	2	109	21,581	4	0	2	118	21,854	4	0	2	119
				T5M	19,983	4	0	2	109	21,527	5	0	3	118	21,799	5	0	3	119
				T5W	19,852	5	0	3	108	21,386	5	0	3	117	21,656	5	0	3	118
				BLC	15,780	2	0	3	86	16,999	2	0	3	93	17,214	2	0	3	94
				LCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70
				RCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70
60	1050	P8	207W	T1S	22,490	3	0	3	109	24,228	3	0	3	117	24,535	3	0	3	119
				T2S	22,466	3	0	4	109	24,202	3	0	4	117	24,509	3	0	4	118
				T2M	22,582	3	0	3	109	24,327	3	0	3	118	24,635	3	0	3	119
				T3S	21,870	3	0	4	106	23,560	3	0	4	114	23,858	3	0	4	115
				T3M	22,527	3	0	4	109	24,268	3	0	4	117	24,575	3	0	4	119
				T4M	22,038	3	0	4	106	23,741	3	0	4	115	24,041	3	0	4	116
				TFTM	22,513	3	0	4	109	24,253	3	0	4	117	24,560	3	0	4	119
				T5VS	23,415	5	0	1	113	25,224	5	0	1	122	25,543	5	0	1	123
				T5S	23,434	4	0	2	113	25,244	4	0	2	122	25,564	4	0	2	123
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123
				T5W	23,221	5	0	4	112	25,016	5	0	4	121	25,332	5	0	4	122
				BLC	18,458	2	0	3	89	19,885	2	0	3	96	20,136	2	0	3	97
				LCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
				RCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
60	1250	P9	241W	T1S	25,575	3	0	3	106	27,551	3	0	3	114	27,900	3	0	3	116
				T2S	25,548	3	0	4	106	27,522	3	0	4	114	27,871	3	0	4	116
				T2M	25,680	3	0	3	107	27,664	3	0	3	115	28,014	3	0	3	116
				T3S	24,870	3	0	4	103	26,791	3	0	4	111	27,130	3	0	4	113
				T3M	25,617	3	0	4	106	27,597	3	0	4	115	27,946	3	0	4	116
				T4M	25,061	3	0	4	104	26,997	3	0	4	112	27,339	3	0	4	113
				TFTM	25,602	3	0	4	106	27,580	3	0	4	114	27,929	3	0	4	116
				T5VS	26,626	5	0	1	110	28,684	5	0	1	119	29,047	5	0	1	121
				T5S	26,648	4	0	2	111	28,707	5	0	2	119	29,070	5	0	2	121
				T5M	26,581	5	0	3	110	28,635	5	0	3	119	28,997	5	0	3	120
				T5W	26,406	5	0	4	110	28,447	5	0	4	118	28,807	5	0	4	120
				BLC	20,990	2	0	3	87	22,612	2	0	3	94	22,898	2	0	3	95
				LCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71
				RCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T4M MVOLT SPA DDBXD Note:	Type SB

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
60	530	P10	106W	T1S	13,042	3	0	3	123	14,050	3	0	3	133	14,228	3	0	3	134
				T2S	12,967	4	0	4	122	13,969	4	0	4	132	14,146	4	0	4	133
				T2M	13,201	3	0	3	125	14,221	3	0	3	134	14,401	3	0	3	136
				T3S	12,766	4	0	4	120	13,752	4	0	4	130	13,926	4	0	4	131
				T3M	13,193	4	0	4	124	14,213	4	0	4	134	14,393	4	0	4	136
				T4M	12,944	4	0	4	122	13,945	4	0	4	132	14,121	4	0	4	133
				TFTM	13,279	4	0	4	125	14,305	4	0	4	135	14,486	4	0	4	137
				T5VS	13,372	3	0	1	126	14,405	4	0	1	136	14,588	4	0	1	138
				T5S	13,260	3	0	1	125	14,284	3	0	1	135	14,465	3	0	1	136
				T5M	13,256	4	0	2	125	14,281	4	0	2	135	14,462	4	0	2	136
				T5W	13,137	4	0	3	124	14,153	4	0	3	134	14,332	4	0	3	135
				BLC	10,906	3	0	3	103	11,749	3	0	3	111	11,898	3	0	3	112
				LCCO	7,789	1	0	3	73	8,391	1	0	3	79	8,497	1	0	3	80
				RCCO	7,779	4	0	4	73	8,380	4	0	4	79	8,486	4	0	4	80
60	700	P11	137W	T1S	16,556	3	0	3	121	17,835	3	0	3	130	18,061	4	0	4	132
				T2S	16,461	4	0	4	120	17,733	4	0	4	129	17,957	4	0	4	131
				T2M	16,758	4	0	4	122	18,053	4	0	4	132	18,281	4	0	4	133
				T3S	16,205	4	0	4	118	17,457	4	0	4	127	17,678	4	0	4	129
				T3M	16,748	4	0	4	122	18,042	4	0	4	132	18,271	4	0	4	133
				T4M	16,432	4	0	4	120	17,702	4	0	4	129	17,926	4	0	4	131
				TFTM	16,857	4	0	4	123	18,159	4	0	4	133	18,389	4	0	4	134
				T5VS	16,975	4	0	1	124	18,287	4	0	1	133	18,518	4	0	1	135
				T5S	16,832	4	0	1	123	18,133	4	0	2	132	18,362	4	0	2	134
				T5M	16,828	4	0	2	123	18,128	4	0	2	132	18,358	4	0	2	134
				T5W	16,677	4	0	3	122	17,966	5	0	3	131	18,193	5	0	3	133
				BLC	13,845	3	0	3	101	14,915	3	0	3	109	15,103	3	0	3	110
				LCCO	9,888	1	0	3	72	10,652	2	0	3	78	10,787	2	0	3	79
				RCCO	9,875	4	0	4	72	10,638	4	0	4	78	10,773	4	0	4	79
60	1050	P12	207W	T1S	22,996	4	0	4	111	24,773	4	0	4	120	25,087	4	0	4	121
				T2S	22,864	4	0	4	110	24,631	5	0	5	119	24,943	5	0	5	120
				T2M	23,277	4	0	4	112	25,075	4	0	4	121	25,393	4	0	4	123
				T3S	22,509	4	0	4	109	24,248	5	0	5	117	24,555	5	0	5	119
				T3M	23,263	4	0	4	112	25,061	4	0	4	121	25,378	4	0	4	123
				T4M	22,824	5	0	5	110	24,588	5	0	5	119	24,899	5	0	5	120
				TFTM	23,414	5	0	5	113	25,223	5	0	5	122	25,543	5	0	5	123
				T5VS	23,579	5	0	1	114	25,401	5	0	1	123	25,722	5	0	1	124
				T5S	23,380	4	0	2	113	25,187	4	0	2	122	25,506	4	0	2	123
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123
				T5W	23,165	5	0	4	112	24,955	5	0	4	121	25,271	5	0	4	122
				BLC	19,231	4	0	4	93	20,717	4	0	4	100	20,979	4	0	4	101
				LCCO	13,734	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
				RCCO	13,716	4	0	4	66	14,776	4	0	4	71	14,963	4	0	4	72
60	1250	P13	231W	T1S	25,400	4	0	4	110	27,363	4	0	4	118	27,709	4	0	4	120
				T2S	25,254	5	0	5	109	27,205	5	0	5	118	27,550	5	0	5	119
				T2M	25,710	4	0	4	111	27,696	4	0	4	120	28,047	4	0	4	121
				T3S	24,862	5	0	5	108	26,783	5	0	5	116	27,122	5	0	5	117
				T3M	25,695	5	0	5	111	27,680	5	0	5	120	28,031	5	0	5	121
				T4M	25,210	5	0	5	109	27,158	5	0	5	118	27,502	5	0	5	119
				TFTM	25,861	5	0	5	112	27,860	5	0	5	121	28,212	5	0	5	122
				T5VS	26,043	5	0	1	113	28,056	5	0	1	121	28,411	5	0	1	123
				T5S	25,824	4	0	2	112	27,819	5	0	2	120	28,172	5	0	2	122
				T5M	25,818	5	0	3	112	27,813	5	0	3	120	28,165	5	0	3	122
				T5W	25,586	5	0	4	111	27,563	5	0	4	119	27,912	5	0	4	121
				BLC	21,241	4	0	4	92	22,882	4	0	4	99	23,172	4	0	4	100
				LCCO	15,170	2	0	4	66	16,342	2	0	4	71	16,549	2	0	4	72
				RCCO	15,150	5	0	5	66	16,321	5	0	5	71	16,527	5	0	5	72

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T4M MVOLT SPA DDBXD Note:	Type SB

FEATURES & SPECIFICATIONS

INTENDED USE
The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION
Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.01 ft^2) for optimized pole wind loading.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 3000 K, 4000 K and 5000 K (70 CRI) configurations. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The DSX1 LED area luminaire has a number of control options. DSX Size 1, comes standard with 0-10V dimming drivers. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensors with on-board photocells feature field-adjustable programing and are suitable for mounting heights up to 30 feet.

nLIGHT AIR CONTROLS
The DSX1 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 1 utilizes the AERIS™ series pole drilling pattern (template #8). NEMA photocontrol receptacle are also available.

LISTINGS
UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

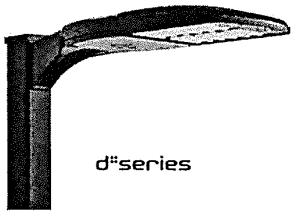
BUY AMERICAN
Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T3M MVOLT SPA DDBXD Note:	Type SC



D-Series Size 1

LED Area Luminaire

Buy American

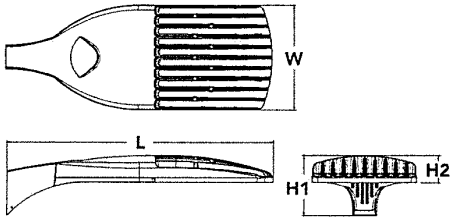
Catalog Number

Notes

Type

Specifications

EPA:	1.01 ft² (0.09 m²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height H1:	7-1/2" (19.0 cm)
Height H2:	3-1/2"
Weight (max):	27 lbs (12.2 kg)



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX1 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	**Forward optics** P1 P4[1] P7[1] P2 [P5[1]] P8 P3 P6[1] P9[1] **Rotated optics** P10[2] P12[2] P11[2] P13[1,2]	30K 3000 K [40K 4000 K] 50K 5000 K	T1S Type I short (Automotive) T2S Type II short T2M Type II medium T3S Type III short [T3M Type III medium] T4M Type IV medium TFTM Forward throw medium T5VS Type V very short[4] T5S Type V short[3] T5M Type V medium[3] T5W Type V wide[3] BLC Backlight control[4] LCCO Left corner cutoff[4] RCCO Right corner cutoff[4]	[MVOLT[5]] XVOLT (277V-480V)[6,7,8] 120[9] 208[9] 240[9] 277[9] 347[9] 480[9]	**Shipped included** [SPA Square pole mounting] RPA Round pole mounting[10] WBA Wall bracket[9] SPUMBA Square pole universal mounting adaptor[11] RPUMBA Round pole universal mounting adaptor[9] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[12]

Control options		Other options	Finish (required)
Shipped installed NLTAIR2 nLight AIR generation 2 enabled[13] PIRHN Network, high/low motion/ambient sensor[14] PER NEMA twist-lock receptacle only (controls ordered separate)[15] PER5 Five-pin receptacle only (controls ordered separate)[15,16] PER7 Seven-pin receptacle only (controls ordered separate)[15,16] DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[17] DS Dual switching[18,19,20] PIR High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[20,21] PIRH High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[20,21] PIR1FC3V High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[20,21] PIRH1FC3V Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[20,21] FAO Field adjustable output[20,21]	**Shipped installed** HS House-side shield[22] SF Single fuse (120, 277, 347V)[9] DF Double fuse (208, 240, 480V)[9] L90 Left rotated optics[2] R90 Right rotated optics[2] HA 50°C ambient operations[1] BAA Buy America(n) Act Compliant **Shipped separately** BS Bird spikes[24] EGS External glare shield	[DDBXD Dark bronze] DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

PLEASE VERIFY FINISH

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ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T3M MVOLT SPA DDBXD Note:	Type SC

Ordering Information

Accessories

Ordered and shipped separately.

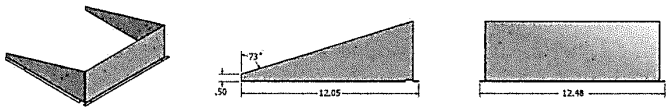
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [25]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [25]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [25]
DSHORT SBK U	Shorting cap [25]
DSX1HS 30C U	House-side shield for P1, P2, P3, P4 and P5 [23]
DSX1HS 40C U	House-side shield for P6 and P7 [23]
DSX1HS 60C U	House-side shield for P8, P9, P10, P11 and P12 [23]
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish) [24]
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) [12]
DSX1EGS (FINISH) U	External glare shield

For more control options, visit DTL and ROAM® online.

NOTES
1. HA not available with P4, P5, P6, P7, P9 and P13.
2. P10, P11, P12 or P13 and rotated optics (L90, R90) only available together.
3. Any Type 5 distribution with photocell, is not available with WBA.
4. Not available with HS.
5. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
6. XVOLT only suitable for use with P3, P5, P6, P7, P9 and P13.
7. XVOLT works with any voltage between 277V and 480V.
8. XVOLT not available with fusing (SF or DF) and not available with PIR, PIRH, PIR1FC3V, PIRH1FC3V.
9. Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V. XVOLT not available with fusing (SF or DF.
10. Suitable for mounting to round poles between 3.5" and 12" diameter.
11. Universal mounting brackets intended for retrofit on existing, pre-drilled poles only. 1.5 G vibration load rating per ANSI C136.31. Only usable when pole's drill pattern is NOT Lithonia template #8
12. Must order fixture with SPA option. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" diameter mast arm (not included).
13. Must be ordered with PIRHN. Sensor cover available only in dark bronze, black, white and natural aluminum colors.
14. Must be ordered with NLTAIR2. For more information on nLight Air 2 visit this link.
15. Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting cap included.
16. If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Node with integral dimming.
17. DMG not available with PIRHN, PER5, PER7, PIR, PIRH, PIR1FC3V or PIRH1FC3V, FAO.
18. Provides 50/50fixture operation via (2) independent drivers. Not available with PER, PER5, PER7, PIR or PIRH. Not available P1, P2, P3, P4 or P5.
19. Requires (2) separately switched circuits with isolated neutral.
20. Reference Controls Option Default settings table on page 4.
21. Reference Motion Sensor table on page 4 to see functionality.
22. Not available with other dimming controls options.
23. Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
24. Must be ordered with fixture for factory pre-drilling.
25. Requires luminaire to be specified with PER, PER5 or PER7 option. See Control Option Table on page 4.
26. For retrofit use only. Only usable when pole's drill pattern is NOT Lithonia template #8.

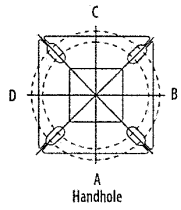
Options

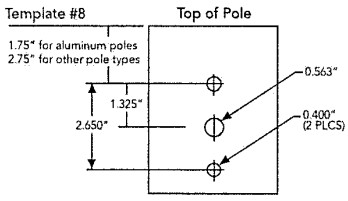
EGS - External Glare Shield



Drilling

HANDHOLE ORIENTATION





Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single Unit	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
2-3/8"	RPA	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 390	AS3-5 320	AS3-5 490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST35-190	AST35-280	AST35-290	AST35-390	AST35-320	AST35-490

Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS

DSX1 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration	Single DM19	2 @ 180 DM28	2 @ 90 DM29	3 @ 90 DM39	3 @ 120 DM32	4 @ 90 DM49
Mounting Type						
DSX1 LED	1.013	2.025	1.945	3.038	2.850	3.749

QUOTING BOTH OPTIONS

	Drilling Template	Minimum Acceptable Outside Pole Dimension					
SPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
RPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
SPUMBA	#5	2-7/8"	3"	4"	4"	3.5"	4"
RPUMBA	#5	2-7/8"	3.5"	5"	5"	3.5"	5"

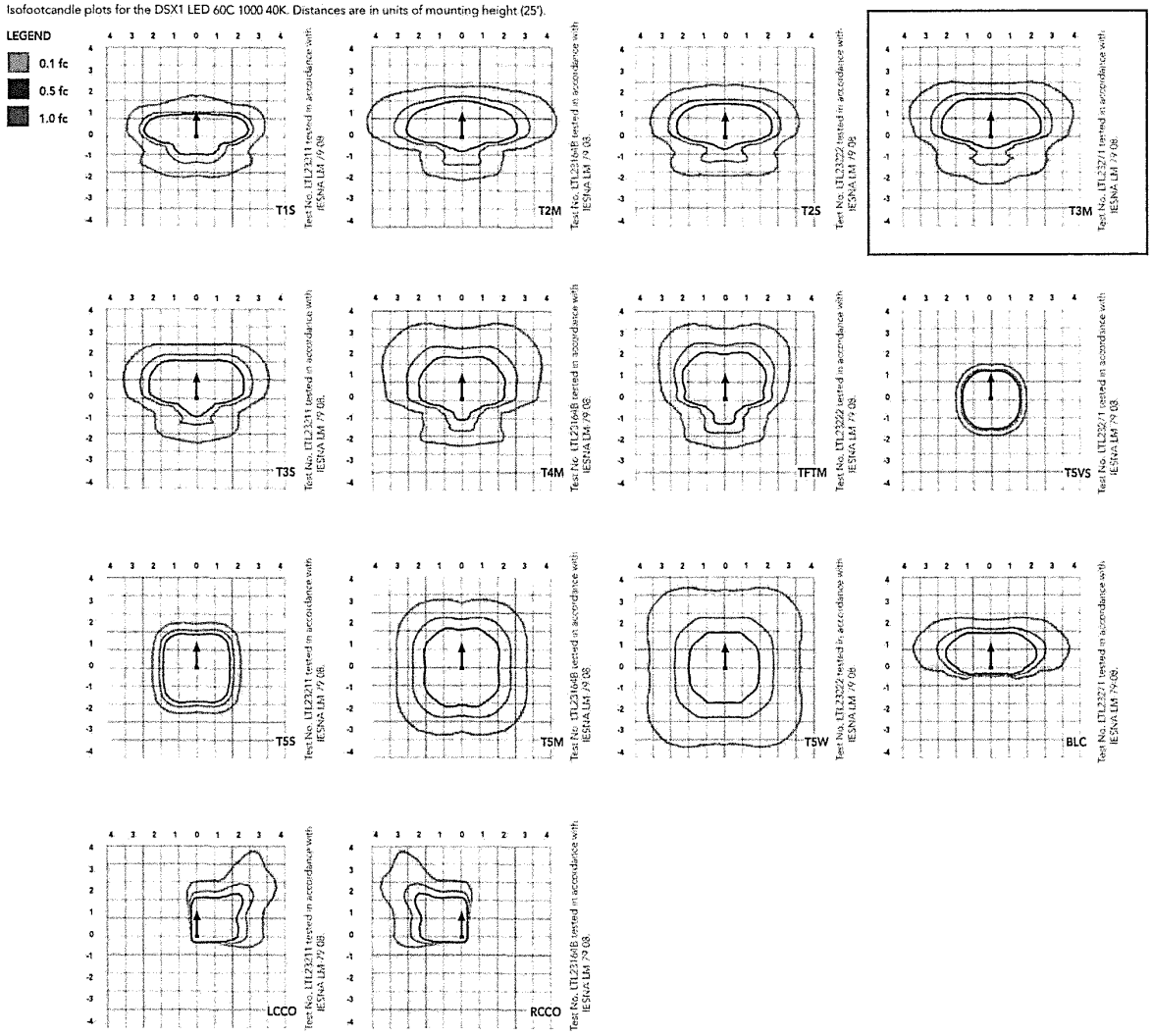
Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T3M MVOLT SPA DDBXD Note:	Type SC

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Area Size 1 homepage.

Isofootcandle plots for the DSX1 LED 60C 1000 40K. Distances are in units of mounting height (25').



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Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T3M MVOLT SPA DDBXD Note:	Type SC

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°F**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
0	1.00
25,000	0.96
50,000	0.92
100,000	0.85

Motion Sensor Default Settings						
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min
*for use when motion sensor is used as dusk to dawn control.						

Electrical Load

					Current (A)					
	Performance Package	LED Count	Drive Current	Wattage	120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	30	530	54	0.45	0.26	0.23	0.19	0.10	0.12
	P2	30	700	70	0.59	0.34	0.30	0.25	0.20	0.16
	P3	30	1050	102	0.86	0.50	0.44	0.38	0.30	0.22
	P4	30	1250	125	1.06	0.60	0.52	0.46	0.37	0.27
	P5	30	1400	138	1.16	0.67	0.58	0.51	0.40	0.29
	P6	40	1250	163	1.36	0.78	0.68	0.59	0.47	0.34
	P7	40	1400	183	1.53	0.88	0.76	0.66	0.53	0.38
	P8	60	1050	207	1.74	0.98	0.87	0.76	0.64	0.49
	P9	60	1250	241	2.01	1.16	1.01	0.89	0.70	0.51
Rotated Optics (Requires L90 or R90)	P10	60	530	106	0.90	0.52	0.47	0.43	0.33	0.27
	P11	60	700	137	1.15	0.67	0.60	0.53	0.42	0.32
	P12	60	1050	207	1.74	0.99	0.87	0.76	0.60	0.46
	P13	60	1250	231	1.93	1.12	0.97	0.86	0.67	0.49

Controls Options				
Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PER5 or PER7	Twist-lock photocell recepticle	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire
PIR or PIRH	Motion sensors with integral photocell. PIR for 8-15' mounting; PIRH for 15-30' mounting	Luminaires dim when no occupancy is detected.	Acuity Controls SBGR	Also available with PIRH1FC3V when the sensor photocell is used for dusk-to-dawn operation.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclypse.	nLight Air rSDGR	nLight AIR sensors can be programmed and commissioned from the ground using the CLAIRity Pro app.

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T3M MVOLT SPA DDBXD Note:	Type SC

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30	530	P1	54W	T1S	6,457	2	0	2	120	6,956	2	0	2	129	7,044	2	0	2	130
				T2S	6,450	2	0	2	119	6,949	2	0	2	129	7,037	2	0	2	130
				T2M	6,483	1	0	1	120	6,984	2	0	2	129	7,073	2	0	2	131
				T3S	6,279	2	0	2	116	6,764	2	0	2	125	6,850	2	0	2	127
				T3M	6,468	1	0	2	120	6,967	1	0	2	129	7,056	1	0	2	131
				T4M	6,327	1	0	2	117	6,816	1	0	2	126	6,902	1	0	2	128
				TFTM	6,464	1	0	2	120	6,963	1	0	2	129	7,051	1	0	2	131
				T5VS	6,722	2	0	0	124	7,242	3	0	0	134	7,334	3	0	0	136
				T5S	6,728	2	0	1	125	7,248	2	0	1	134	7,340	2	0	1	136
				T5M	6,711	3	0	1	124	7,229	3	0	1	134	7,321	3	0	2	136
				T5W	6,667	3	0	2	123	7,182	3	0	2	133	7,273	3	0	2	135
				BLC	5,299	1	0	1	98	5,709	1	0	2	106	5,781	1	0	2	107
				LCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80
				RCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80
30	700	P2	70W	T1S	8,249	2	0	2	118	8,886	2	0	2	127	8,999	2	0	2	129
				T2S	8,240	2	0	2	118	8,877	2	0	2	127	8,989	2	0	2	128
				T2M	8,283	2	0	2	118	8,923	2	0	2	127	9,036	2	0	2	129
				T3S	8,021	2	0	2	115	8,641	2	0	2	123	8,751	2	0	2	125
				T3M	8,263	2	0	2	118	8,901	2	0	2	127	9,014	2	0	2	129
				T4M	8,083	2	0	2	115	8,708	2	0	2	124	8,818	2	0	2	126
				TFTM	8,257	2	0	2	118	8,896	2	0	2	127	9,008	2	0	2	129
				T5VS	8,588	3	0	0	123	9,252	3	0	0	132	9,369	3	0	0	134
				T5S	8,595	3	0	1	123	9,259	3	0	1	132	9,376	3	0	1	134
				T5M	8,573	3	0	2	122	9,236	3	0	2	132	9,353	3	0	2	134
				T5W	8,517	3	0	2	122	9,175	4	0	2	131	9,291	4	0	2	133
				BLC	6,770	1	0	2	97	7,293	1	0	2	104	7,386	1	0	2	106
				LCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79
				RCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79
30	1050	P3	102W	T1S	11,661	2	0	2	114	12,562	3	0	3	123	12,721	3	0	3	125
				T2S	11,648	2	0	2	114	12,548	3	0	3	123	12,707	3	0	3	125
				T2M	11,708	2	0	2	115	12,613	2	0	2	124	12,773	2	0	2	125
				T3S	11,339	2	0	2	111	12,215	3	0	3	120	12,370	3	0	3	121
				T3M	11,680	2	0	2	115	12,582	2	0	2	123	12,742	2	0	2	125
				T4M	11,426	2	0	3	112	12,309	2	0	3	121	12,465	2	0	3	122
				TFTM	11,673	2	0	2	114	12,575	2	0	3	123	12,734	2	0	3	125
				T5VS	12,140	3	0	1	119	13,078	3	0	1	128	13,244	3	0	1	130
				T5S	12,150	3	0	1	119	13,089	3	0	1	128	13,254	3	0	1	130
				T5M	12,119	4	0	2	119	13,056	4	0	2	128	13,221	4	0	2	130
				T5W	12,040	4	0	3	118	12,970	4	0	3	127	13,134	4	0	3	129
				BLC	9,570	1	0	2	94	10,310	1	0	2	101	10,440	1	0	2	102
				LCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76
				RCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76
30	1250	P4	125W	T1S	13,435	3	0	3	107	14,473	3	0	3	116	14,657	3	0	3	117
				T2S	13,421	3	0	3	107	14,458	3	0	3	116	14,641	3	0	3	117
				T2M	13,490	2	0	2	108	14,532	3	0	3	116	14,716	3	0	3	118
				T3S	13,064	3	0	3	105	14,074	3	0	3	113	14,252	3	0	3	114
				T3M	13,457	2	0	2	108	14,497	2	0	2	116	14,681	2	0	2	117
				T4M	13,165	2	0	3	105	14,182	2	0	3	113	14,362	2	0	3	115
				TFTM	13,449	2	0	3	108	14,488	2	0	3	116	14,672	2	0	3	117
				T5VS	13,987	4	0	1	112	15,068	4	0	1	121	15,259	4	0	1	122
				T5S	13,999	3	0	1	112	15,080	3	0	1	121	15,271	3	0	1	122
				T5M	13,963	4	0	2	112	15,042	4	0	2	120	15,233	4	0	2	122
				T5W	13,872	4	0	3	111	14,944	4	0	3	120	15,133	4	0	3	121
				BLC	11,027	1	0	2	88	11,879	1	0	2	95	12,029	1	0	2	96
				LCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72
				RCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72
30	1400	P5	138W	T1S	14,679	3	0	3	106	15,814	3	0	3	115	16,014	3	0	3	116
				T2S	14,664	3	0	3	106	15,797	3	0	3	114	15,997	3	0	3	116
				T2M	14,739	3	0	3	107	15,878	3	0	3	115	16,079	3	0	3	117
				T3S	14,274	3	0	3	103	15,377	3	0	3	111	15,572	3	0	3	113
				T3M	14,704	2	0	3	107	15,840	3	0	3	115	16,040	3	0	3	116
				T4M	14,384	2	0	3	104	15,496	3	0	3	112	15,692	3	0	3	114
				TFTM	14,695	2	0	3	106	15,830	3	0	3	115	16,030	3	0	3	116
				T5VS	15,283	4	0	1	111	16,464	4	0	1	119	16,672	4	0	1	121
				T5S	15,295	3	0	1	111	16,477	4	0	1	119	16,686	4	0	1	121
				T5M	15,257	4	0	2	111	16,435	4	0	2	119	16,644	4	0	2	121
				T5W	15,157	4	0	3	110	16,328	4	0	3	118	16,534	4	0	3	120
				BLC	12,048	1	0	2	87	12,979	1	0	2	94	13,143	1	0	2	95
				LCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71
				RCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T3M MVOLT SPA DDBXD Note:	Type SC

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40	1250	P6	163W	T1S	17,654	3	0	3	108	19,018	3	0	3	117	19,259	3	0	3	118
				T2S	17,635	3	0	3	108	18,998	3	0	3	117	19,238	3	0	3	118
				T2M	17,726	3	0	3	109	19,096	3	0	3	117	19,337	3	0	3	119
				T3S	17,167	3	0	3	105	18,493	3	0	3	113	18,727	3	0	3	115
				T3M	17,683	3	0	3	108	19,049	3	0	3	117	19,290	3	0	3	118
				T4M	17,299	3	0	3	106	18,635	3	0	4	114	18,871	3	0	4	116
				TFTM	17,672	3	0	3	108	19,038	3	0	4	117	19,279	3	0	4	118
				T5VS	18,379	4	0	1	113	19,800	4	0	1	121	20,050	4	0	1	123
				T5S	18,394	4	0	2	113	19,816	4	0	2	122	20,066	4	0	2	123
				T5M	18,348	4	0	2	113	19,766	4	0	2	121	20,016	4	0	2	123
				T5W	18,228	5	0	3	112	19,636	5	0	3	120	19,885	5	0	3	122
				BLC	14,489	2	0	2	89	15,609	2	0	3	96	15,806	2	0	3	97
				LCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72
				RCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72
40	1400	P7	183W	T1S	19,227	3	0	3	105	20,712	3	0	3	113	20,975	3	0	3	115
				T2S	19,206	3	0	3	105	20,690	3	0	3	113	20,952	3	0	3	114
				T2M	19,305	3	0	3	105	20,797	3	0	3	114	21,060	3	0	3	115
				T3S	18,696	3	0	3	102	20,141	3	0	3	110	20,396	3	0	4	111
				T3M	19,258	3	0	3	105	20,746	3	0	3	113	21,009	3	0	3	115
				T4M	18,840	3	0	4	103	20,296	3	0	4	111	20,553	3	0	4	112
				TFTM	19,246	3	0	4	105	20,734	3	0	4	113	20,996	3	0	4	115
				T5VS	20,017	4	0	1	109	21,564	4	0	1	118	21,837	4	0	1	119
				T5S	20,033	4	0	2	109	21,581	4	0	2	118	21,854	4	0	2	119
				T5M	19,983	4	0	2	109	21,527	5	0	3	118	21,799	5	0	3	119
				T5W	19,852	5	0	3	108	21,386	5	0	3	117	21,656	5	0	3	118
				BLC	15,780	2	0	3	86	16,999	2	0	3	93	17,214	2	0	3	94
				LCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70
				RCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70
60	1050	P8	207W	T1S	22,490	3	0	3	109	24,228	3	0	3	117	24,535	3	0	3	119
				T2S	22,466	3	0	4	109	24,202	3	0	4	117	24,509	3	0	4	118
				T2M	22,582	3	0	3	109	24,327	3	0	3	118	24,635	3	0	3	119
				T3S	21,870	3	0	4	106	23,560	3	0	4	114	23,858	3	0	4	115
				T3M	22,527	3	0	4	109	24,268	3	0	4	117	24,575	3	0	4	119
				T4M	22,038	3	0	4	106	23,741	3	0	4	115	24,041	3	0	4	116
				TFTM	22,513	3	0	4	109	24,253	3	0	4	117	24,560	3	0	4	119
				T5VS	23,415	5	0	1	113	25,224	5	0	1	122	25,543	5	0	1	123
				T5S	23,434	4	0	2	113	25,244	4	0	2	122	25,564	4	0	2	123
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123
				T5W	23,221	5	0	4	112	25,016	5	0	4	121	25,332	5	0	4	122
				BLC	18,458	2	0	3	89	19,885	2	0	3	96	20,136	2	0	3	97
				LCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
				RCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
60	1250	P9	241W	T1S	25,575	3	0	3	106	27,551	3	0	3	114	27,900	3	0	3	116
				T2S	25,548	3	0	4	106	27,522	3	0	4	114	27,871	3	0	4	116
				T2M	25,680	3	0	3	107	27,664	3	0	3	115	28,014	3	0	3	116
				T3S	24,870	3	0	4	103	26,791	3	0	4	111	27,130	3	0	4	113
				T3M	25,617	3	0	4	106	27,597	3	0	4	115	27,946	3	0	4	116
				T4M	25,061	3	0	4	104	26,997	3	0	4	112	27,339	3	0	4	113
				TFTM	25,602	3	0	4	106	27,580	3	0	4	114	27,929	3	0	4	116
				T5VS	26,626	5	0	1	110	28,684	5	0	1	119	29,047	5	0	1	121
				T5S	26,648	4	0	2	111	28,707	5	0	2	119	29,070	5	0	2	121
				T5M	26,581	5	0	3	110	28,635	5	0	3	119	28,997	5	0	3	120
				T5W	26,406	5	0	4	110	28,447	5	0	4	118	28,807	5	0	4	120
				BLC	20,990	2	0	3	87	22,612	2	0	3	94	22,898	2	0	3	95
				LCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71
				RCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T3M MVOLT SPA DDBXD Note:	Type SC

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
60	530	P10	106W	T1S	13,042	3	0	3	123	14,050	3	0	3	133	14,228	3	0	3	134
				T2S	12,967	4	0	4	122	13,969	4	0	4	132	14,146	4	0	4	133
				T2M	13,201	3	0	3	125	14,221	3	0	3	134	14,401	3	0	3	136
				T3S	12,766	4	0	4	120	13,752	4	0	4	130	13,926	4	0	4	131
				T3M	13,193	4	0	4	124	14,213	4	0	4	134	14,393	4	0	4	136
				T4M	12,944	4	0	4	122	13,945	4	0	4	132	14,121	4	0	4	133
				TFTM	13,279	4	0	4	125	14,305	4	0	4	135	14,486	4	0	4	137
				T5VS	13,372	3	0	1	126	14,405	4	0	1	136	14,588	4	0	1	138
				T5S	13,260	3	0	1	125	14,284	3	0	1	135	14,465	3	0	1	136
				T5M	13,256	4	0	2	125	14,281	4	0	2	135	14,462	4	0	2	136
				T5W	13,137	4	0	3	124	14,153	4	0	3	134	14,332	4	0	3	135
				BLC	10,906	3	0	3	103	11,749	3	0	3	111	11,898	3	0	3	112
				LCCO	7,789	1	0	3	73	8,391	1	0	3	79	8,497	1	0	3	80
				RCCO	7,779	4	0	4	73	8,380	4	0	4	79	8,486	4	0	4	80
60	700	P11	137W	T1S	16,556	3	0	3	121	17,835	3	0	3	130	18,061	4	0	4	132
				T2S	16,461	4	0	4	120	17,733	4	0	4	129	17,957	4	0	4	131
				T2M	16,758	4	0	4	122	18,053	4	0	4	132	18,281	4	0	4	133
				T3S	16,205	4	0	4	118	17,457	4	0	4	127	17,678	4	0	4	129
				T3M	16,748	4	0	4	122	18,042	4	0	4	132	18,271	4	0	4	133
				T4M	16,432	4	0	4	120	17,702	4	0	4	129	17,926	4	0	4	131
				TFTM	16,857	4	0	4	123	18,159	4	0	4	133	18,389	4	0	4	134
				T5VS	16,975	4	0	1	124	18,287	4	0	1	133	18,518	4	0	1	135
				T5S	16,832	4	0	1	123	18,133	4	0	2	132	18,362	4	0	2	134
				T5M	16,828	4	0	2	123	18,128	4	0	2	132	18,358	4	0	2	134
				T5W	16,677	4	0	3	122	17,966	5	0	3	131	18,193	5	0	3	133
				BLC	13,845	3	0	3	101	14,915	3	0	3	109	15,103	3	0	3	110
				LCCO	9,888	1	0	3	72	10,652	2	0	3	78	10,787	2	0	3	79
				RCCO	9,875	4	0	4	72	10,638	4	0	4	78	10,773	4	0	4	79
60	1050	P12	207W	T1S	22,996	4	0	4	111	24,773	4	0	4	120	25,087	4	0	4	121
				T2S	22,864	4	0	4	110	24,631	5	0	5	119	24,943	5	0	5	120
				T2M	23,277	4	0	4	112	25,075	4	0	4	121	25,393	4	0	4	123
				T3S	22,509	4	0	4	109	24,248	5	0	5	117	24,555	5	0	5	119
				T3M	23,263	4	0	4	112	25,061	4	0	4	121	25,378	4	0	4	123
				T4M	22,824	5	0	5	110	24,588	5	0	5	119	24,899	5	0	5	120
				TFTM	23,414	5	0	5	113	25,223	5	0	5	122	25,543	5	0	5	123
				T5VS	23,579	5	0	1	114	25,401	5	0	1	123	25,722	5	0	1	124
				T5S	23,380	4	0	2	113	25,187	4	0	2	122	25,506	4	0	2	123
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123
				T5W	23,165	5	0	4	112	24,955	5	0	4	121	25,271	5	0	4	122
				BLC	19,231	4	0	4	93	20,717	4	0	4	100	20,979	4	0	4	101
				LCCO	13,734	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
				RCCO	13,716	4	0	4	66	14,776	4	0	4	71	14,963	4	0	4	72
60	1250	P13	231W	T1S	25,400	4	0	4	110	27,363	4	0	4	118	27,709	4	0	4	120
				T2S	25,254	5	0	5	109	27,205	5	0	5	118	27,550	5	0	5	119
				T2M	25,710	4	0	4	111	27,696	4	0	4	120	28,047	4	0	4	121
				T3S	24,862	5	0	5	108	26,783	5	0	5	116	27,122	5	0	5	117
				T3M	25,695	5	0	5	111	27,680	5	0	5	120	28,031	5	0	5	121
				T4M	25,210	5	0	5	109	27,158	5	0	5	118	27,502	5	0	5	119
				TFTM	25,861	5	0	5	112	27,860	5	0	5	121	28,212	5	0	5	122
				T5VS	26,043	5	0	1	113	28,056	5	0	1	121	28,411	5	0	1	123
				T5S	25,824	4	0	2	112	27,819	5	0	2	120	28,172	5	0	2	122
				T5M	25,818	5	0	3	112	27,813	5	0	3	120	28,165	5	0	3	122
				T5W	25,586	5	0	4	111	27,563	5	0	4	119	27,912	5	0	4	121
				BLC	21,241	4	0	4	92	22,882	4	0	4	99	23,172	4	0	4	100
				LCCO	15,170	2	0	4	66	16,342	2	0	4	71	16,549	2	0	4	72
				RCCO	15,150	5	0	5	66	16,321	5	0	5	71	16,527	5	0	5	72

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T3M MVOLT SPA DDBXD Note:	Type SC

FEATURES & SPECIFICATIONS

INTENDED USE
The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION
Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.01 ft^2) for optimized pole wind loading.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 3000 K, 4000 K and 5000 K (70 CRI) configurations. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The DSX1 LED area luminaire has a number of control options. DSX Size 1, comes standard with 0-10V dimming drivers. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensors with on-board photocells feature field-adjustable programing and are suitable for mounting heights up to 30 feet.

nLIGHT AIR CONTROLS
The DSX1 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 1 utilizes the AERIS™ series pole drilling pattern (template #8). NEMA photocontrol receptacle are also available.

LISTINGS
UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

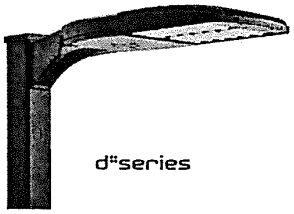
BUY AMERICAN
Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5M MVOLT SPA DDBXD Note:	Type SD



D-Series Size 1
LED Area Luminaire

Buy American

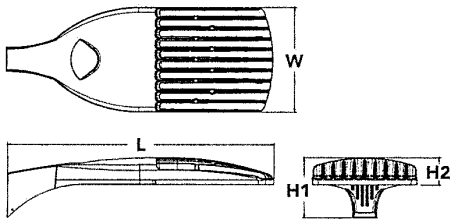
Catalog Number

Notes

Type

Specifications

EPA:	1.01 ft² (0.09 m²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height H1:	7-1/2" (19.0 cm)
Height H2:	3-1/2"
Weight (max):	27 lbs (12.2 kg)



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX1 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	**Forward optics** P1 P4[1] P7[1] P2 P5[1] P8 P3 P6[1] P9[1] **Rotated optics** P10[2] P12[2] P11[2] P13[3,2]	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short (Automotive) T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short[4] T5S Type V short[4] T5M Type V medium[4] T5W Type V wide[4] BLC Backlight control[4] LCCO Left corner cutoff[4] RCCO Right corner cutoff[4]	MVOLT[5] XVOLT (277V-480V)[6,7,8] 120[9] 208[9] 240[9] 277[9] 347[9] 480[9]	**Shipped included** SPA Square pole mounting RPA Round pole mounting[10] WBA Wall bracket[1] SPUMBA Square pole universal mounting adaptor[11] RPUMBA Round pole universal mounting adaptor[11] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[12]

Control options		Other options	Finish [required]
Shipped installed NLTAIR2 nLight AIR generation 2 enabled[13] PIRHN Network, high/low motion/ambient sensor[14] PER NEMA twist-lock receptacle only (controls ordered separately)[15] PER5 Five-pin receptacle only (controls ordered separately)[15,16] PER7 Seven-pin receptacle only (controls ordered separately)[15,16] DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[17] DS Dual switching[16,18,19] PIR High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[20,21] PIRH High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[20,21] PIR1FC3V High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[20,21] PIRH1FC3V Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[20,21] FAO Field adjustable output[20,21]	**Shipped installed** HS House-side shield[22] SF Single fuse (120, 277, 347V)[9] DF Double fuse (208, 240, 480V)[9] L90 Left rotated optics[2] R90 Right rotated optics[2] HA 50°C ambient operations[3] BAA Buy America(n) Act Compliant **Shipped separately** BS Bird spikes[24] EGS External glare shield	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

PLEASE VERIFY FINISH

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5M MVOLT SPA DDBXD Note:	Type SD

Ordering Information

Accessories

Ordered and shipped separately.

DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [25]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [25]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [25]
DSHORT SBK U	Shorting cap [25]
DSX1HS 30C U	House-side shield for P1, P2, P3, P4 and P5 [23]
DSX1HS 40C U	House-side shield for P6 and P7 [23]
DSX1HS 60C U	House-side shield for P8, P9, P10, P11 and P12 [23]
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish) [24]
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) [12]
DSX1EGS (FINISH) U	External glare shield

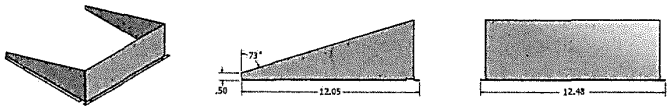
For more control options, visit ROAM and nLight online.

NOTES

1 HA not available with P4, P5, P6, P7, P9 and P13.
2 P10, P11, P12, P13, and rotated optics (R90, R270) only available together.
3 Any Type 5 distribution with photocell, is not available with WBA.
4 Not available with HS.
5 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
6 XVOLT only suitable for use with P3, P5, P6, P7, P9 and P13.
7 XVOLT works with any voltage between 277V and 480V.
8 XVOLT not available with fusing (SF or DF) and not available with PIR, PIRH, PIR1FC3V, PIRH1FC3V.
9 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V. XVOLT not available with fusing (SF or DF.
10 Suitable for mounting to round poles between 3.5" and 12" diameter.
11 Universal mounting brackets intended for retrofit on existing, pre-drilled poles only. 1.5 G vibration load rating per ANCI C136.31. Only usable when pole's drill pattern is NOT Lithonia template #8
12 Must order fixture with SPA option. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" diameter mast arm (not included).
13 Must be ordered with PIRHN. Sensor cover available only in dark bronze, black, white and natural aluminum colors.
14 Must be ordered with NLTAIR2. For more information on nLight Air 2 visit this link.
15 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting cap included.
16 If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Node with integral dimming.
17 DMG not available with PIRHN, PER5, PER7, PIR, PIRH, PIR1FC3V or PIRH1FC3V, FAO.
18 Provides 50/50fixture operation via (2) independent drivers. Not available with PER, PER5, PER7, PIR or PIRH. Not available P1, P2, P3, P4 or P5.
19 Requires (2) separately switched circuits with isolated neutral.
20 Reference Controls Option Default settings table on page 4.
21 Reference Motion Sensor table on page 4 to see functionality.
22 Not available with other dimming controls options.
23 Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
24 Must be ordered with fixture for factory pre-drilling.
25 Requires luminaire to be specified with PER, PER5 or PER7 option. See Control Option Table on page 4.
26 For retrofit use only. Only usable when pole's drill pattern is NOT Lithonia template #8.

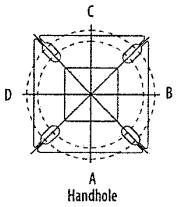
Options

EGS - External Glare Shield



Drilling

HANDHOLE ORIENTATION

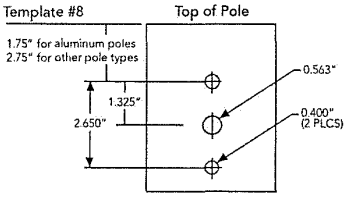


Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single Unit	2 @ 180°	2 @ 90°	3 @ 90°	3 @ 120°	4 @ 90°
2-3/8"	RPA	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 390	AS3-5 320	AS3-5 490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST35-190	AST35-280	AST35-290	AST35-390	AST35-320	AST35-490

Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS

Template #8 — Top of Pole



DSX1 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fitting Quantity & Mounting Configuration	Single DM19	2 @ 180 DM28	2 @ 90 DM29	3 @ 90 DM39	3 @ 120 DM32	4 @ 90 DM49
Mounting Type						
DSX1 LED	1.013	2.025	1.945	3.038	2.850	3.749

QUOTING BOTH OPTIONS

	Drilling Template	Minimum Acceptable Outside Pole Dimension					
SPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
RPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
SPUMBA	#5	2-7/8"	3"	4"	4"	3.5"	4"
RPUMBA	#5	2-7/8"	3.5"	5"	5"	3.5"	5"

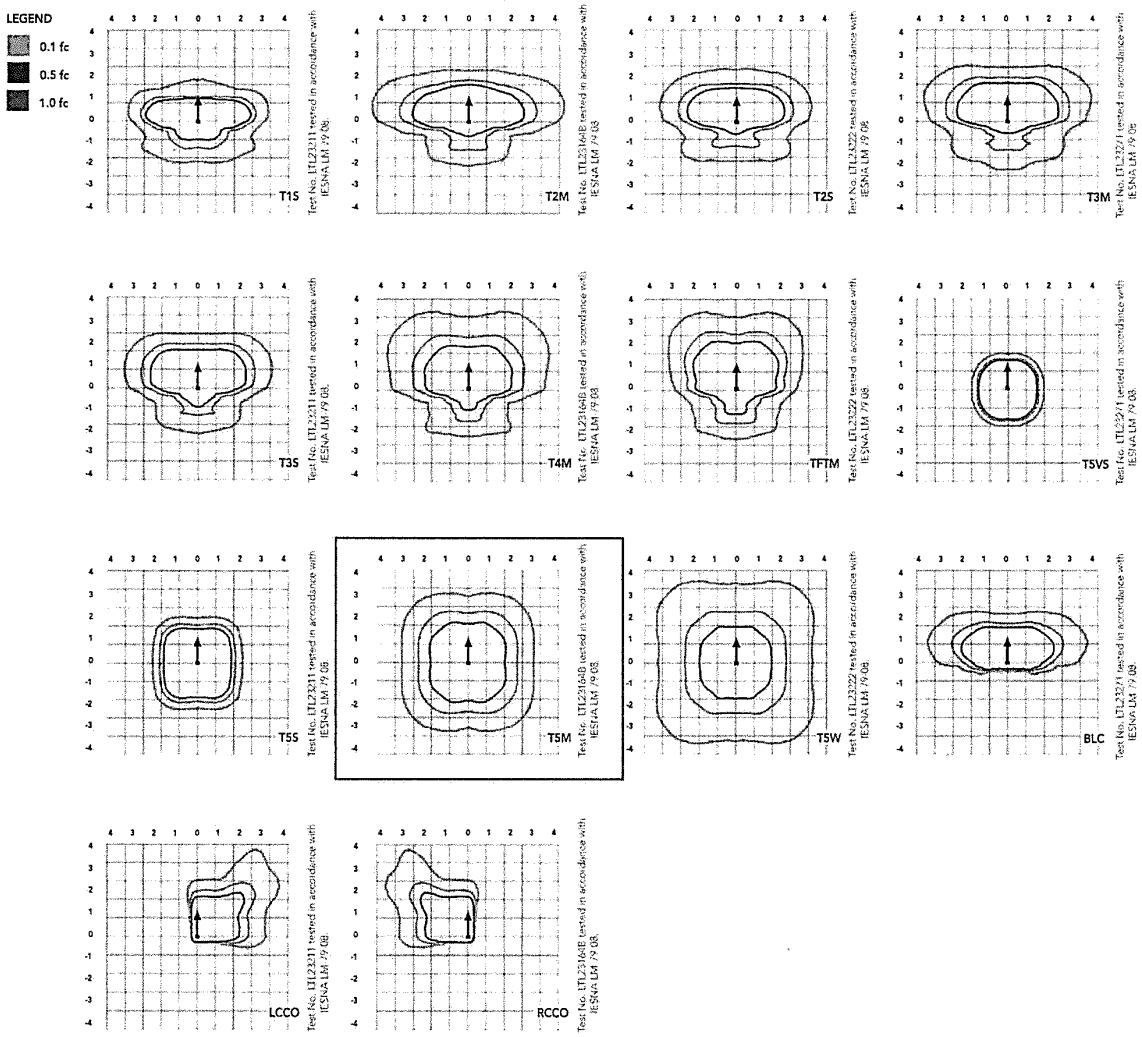
Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5M MVOLT SPA DDBXD Note:	Type SD

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Area Size 1 homepage.

Isofootcandle plots for the DSX1 LED 60C 1000 40K. Distances are in units of mounting height (25').



ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5M MVOLT SPA DDBXD Note:	Type SD

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°F**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
0	1.00
25,000	0.96
50,000	0.92
100,000	0.85

Motion Sensor Default Settings						
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min
*for use when motion sensor is used as dusk to dawn control.						

Electrical Load

					Current (A)					
	Performance Package	LED Count	Drive Current	Wattage	120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	30	530	54	0.45	0.26	0.23	0.19	0.10	0.12
	P2	30	700	70	0.59	0.34	0.30	0.25	0.20	0.16
	P3	30	1050	102	0.86	0.50	0.44	0.38	0.30	0.22
	P4	30	1250	125	1.06	0.60	0.52	0.46	0.37	0.27
	P5	30	1400	138	1.16	0.67	0.58	0.51	0.40	0.29
	P6	40	1250	163	1.36	0.78	0.68	0.59	0.47	0.34
	P7	40	1400	183	1.53	0.88	0.76	0.66	0.53	0.38
	P8	60	1050	207	1.74	0.98	0.87	0.76	0.64	0.49
	P9	60	1250	241	2.01	1.16	1.01	0.89	0.70	0.51
Rotated Optics (Requires L90 or R90)	P10	60	530	106	0.90	0.52	0.47	0.43	0.33	0.27
	P11	60	700	137	1.15	0.67	0.60	0.53	0.42	0.32
	P12	60	1050	207	1.74	0.99	0.87	0.76	0.60	0.46
	P13	60	1250	231	1.93	1.12	0.97	0.86	0.67	0.49

Controls Options				
Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PER5 or PER7	Twist-lock photocell recepticle	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire
PIR or PIRH	Motion sensors with integral photocell. PIR for 8-15' mounting; PIRH for 15-30' mounting	Luminaires dim when no occupancy is detected.	Acuity Controls SBGR	Also available with PIRH1FC3V when the sensor photocell is used for dusk-to-dawn operation.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclypse.	nLight Air rSDGR	nLight AIR sensors can be programmed and commissioned from the ground using the CLAIRity Pro app.

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5M MVOLT SPA DDBXD Note:	Type SD

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30	530	P1	54W	T1S	6,457	2	0	2	120	6,956	2	0	2	129	7,044	2	0	2	130
				T2S	6,450	2	0	2	119	6,949	2	0	2	129	7,037	2	0	2	130
				T2M	6,483	1	0	1	120	6,984	2	0	2	129	7,073	2	0	2	131
				T3S	6,279	2	0	2	116	6,764	2	0	2	125	6,850	2	0	2	127
				T3M	6,468	1	0	2	120	6,967	1	0	2	129	7,056	1	0	2	131
				T4M	6,327	1	0	2	117	6,816	1	0	2	126	6,902	1	0	2	128
				TFTM	6,464	1	0	2	120	6,963	1	0	2	129	7,051	1	0	2	131
				T5VS	6,722	2	0	0	124	7,242	3	0	0	134	7,334	3	0	0	136
				T5S	6,728	2	0	1	125	7,248	2	0	1	134	7,340	2	0	1	136
				T5M	6,711	3	0	1	124	7,229	3	0	1	134	7,321	3	0	2	136
				T5W	6,667	3	0	2	123	7,182	3	0	2	133	7,273	3	0	2	135
				BLC	5,299	1	0	1	98	5,709	1	0	2	106	5,781	1	0	2	107
				LCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80
				RCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80
30	700	P2	70W	T1S	8,249	2	0	2	118	8,886	2	0	2	127	8,999	2	0	2	129
				T2S	8,240	2	0	2	118	8,877	2	0	2	127	8,989	2	0	2	128
				T2M	8,283	2	0	2	118	8,923	2	0	2	127	9,036	2	0	2	129
				T3S	8,021	2	0	2	115	8,641	2	0	2	123	8,751	2	0	2	125
				T3M	8,263	2	0	2	118	8,901	2	0	2	127	9,014	2	0	2	129
				T4M	8,083	2	0	2	115	8,708	2	0	2	124	8,818	2	0	2	126
				TFTM	8,257	2	0	2	118	8,896	2	0	2	127	9,008	2	0	2	129
				T5VS	8,588	3	0	0	123	9,252	3	0	0	132	9,369	3	0	0	134
				T5S	8,595	3	0	1	123	9,259	3	0	1	132	9,376	3	0	1	134
				T5M	8,573	3	0	2	122	9,236	3	0	2	132	9,353	3	0	2	134
				T5W	8,517	3	0	2	122	9,175	4	0	2	131	9,291	4	0	2	133
				BLC	6,770	1	0	2	97	7,293	1	0	2	104	7,386	1	0	2	106
				LCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79
				RCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79
30	1050	P3	102W	T1S	11,661	2	0	2	114	12,562	3	0	3	123	12,721	3	0	3	125
				T2S	11,648	2	0	2	114	12,548	3	0	3	123	12,707	3	0	3	125
				T2M	11,708	2	0	2	115	12,613	2	0	2	124	12,773	2	0	2	125
				T3S	11,339	2	0	2	111	12,215	3	0	3	120	12,370	3	0	3	121
				T3M	11,680	2	0	2	115	12,582	2	0	2	123	12,742	2	0	2	125
				T4M	11,426	2	0	3	112	12,309	2	0	3	121	12,465	2	0	3	122
				TFTM	11,673	2	0	2	114	12,575	2	0	3	123	12,734	2	0	3	125
				T5VS	12,140	3	0	1	119	13,078	3	0	1	128	13,244	3	0	1	130
				T5S	12,150	3	0	1	119	13,089	3	0	1	128	13,254	3	0	1	130
				T5M	12,119	4	0	2	119	13,056	4	0	2	128	13,221	4	0	2	130
				T5W	12,040	4	0	3	118	12,970	4	0	3	127	13,134	4	0	3	129
				BLC	9,570	1	0	2	94	10,310	1	0	2	101	10,440	1	0	2	102
				LCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76
				RCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76
30	1250	P4	125W	T1S	13,435	3	0	3	107	14,473	3	0	3	116	14,657	3	0	3	117
				T2S	13,421	3	0	3	107	14,458	3	0	3	116	14,641	3	0	3	117
				T2M	13,490	2	0	2	108	14,532	3	0	3	116	14,716	3	0	3	118
				T3S	13,064	3	0	3	105	14,074	3	0	3	113	14,252	3	0	3	114
				T3M	13,457	2	0	2	108	14,497	2	0	2	116	14,681	2	0	2	117
				T4M	13,165	2	0	3	105	14,182	2	0	3	113	14,362	2	0	3	115
				TFTM	13,449	2	0	3	108	14,488	2	0	3	116	14,672	2	0	3	117
				T5VS	13,987	4	0	1	112	15,068	4	0	1	121	15,259	4	0	1	122
				T5S	13,999	3	0	1	112	15,080	3	0	1	121	15,271	3	0	1	122
				T5M	13,963	4	0	2	112	15,042	4	0	2	120	15,233	4	0	2	122
				T5W	13,872	4	0	3	111	14,944	4	0	3	120	15,133	4	0	3	121
				BLC	11,027	1	0	2	88	11,879	1	0	2	95	12,029	1	0	2	96
				LCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72
				RCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72
30	1400	P5	138W	T1S	14,679	3	0	3	106	15,814	3	0	3	115	16,014	3	0	3	116
				T2S	14,664	3	0	3	106	15,797	3	0	3	114	15,997	3	0	3	116
				T2M	14,739	3	0	3	107	15,878	3	0	3	115	16,079	3	0	3	117
				T3S	14,274	3	0	3	103	15,377	3	0	3	111	15,572	3	0	3	113
				T3M	14,704	2	0	3	107	15,840	3	0	3	115	16,040	3	0	3	116
				T4M	14,384	2	0	3	104	15,496	3	0	3	112	15,692	3	0	3	114
				TFTM	14,695	2	0	3	106	15,830	3	0	3	115	16,030	3	0	3	116
				T5VS	15,283	4	0	1	111	16,464	4	0	1	119	16,672	4	0	1	121
				T5S	15,295	3	0	1	111	16,477	4	0	1	119	16,686	4	0	1	121
				T5M	15,257	4	0	2	111	16,435	4	0	2	119	16,644	4	0	2	121
				T5W	15,157	4	0	3	110	16,328	4	0	3	118	16,534	4	0	3	120
				BLC	12,048	1	0	2	87	12,979	1	0	2	94	13,143	1	0	2	95
				LCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71
				RCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5M MVOLT SPA DDBXD Note:	Type SD

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40	1250	P6	163W	T1S	17,654	3	0	3	108	19,018	3	0	3	117	19,259	3	0	3	118
				T2S	17,635	3	0	3	108	18,998	3	0	3	117	19,238	3	0	3	118
				T2M	17,726	3	0	3	109	19,096	3	0	3	117	19,337	3	0	3	119
				T3S	17,167	3	0	3	105	18,493	3	0	3	113	18,727	3	0	3	115
				T3M	17,683	3	0	3	108	19,049	3	0	3	117	19,290	3	0	3	118
				T4M	17,299	3	0	3	106	18,635	3	0	4	114	18,871	3	0	4	116
				TFTM	17,672	3	0	3	108	19,038	3	0	4	117	19,279	3	0	4	118
				T5VS	18,379	4	0	1	113	19,800	4	0	1	121	20,050	4	0	1	123
				T5S	18,394	4	0	2	113	19,816	4	0	2	122	20,066	4	0	2	123
				T5M	18,348	4	0	2	113	19,766	4	0	2	121	20,016	4	0	2	123
				T5W	18,228	5	0	3	112	19,636	5	0	3	120	19,885	5	0	3	122
				BLC	14,489	2	0	2	89	15,609	2	0	3	96	15,806	2	0	3	97
				LCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72
				RCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72
40	1400	P7	183W	T1S	19,227	3	0	3	105	20,712	3	0	3	113	20,975	3	0	3	115
				T2S	19,206	3	0	3	105	20,690	3	0	3	113	20,952	3	0	3	114
				T2M	19,305	3	0	3	105	20,797	3	0	3	114	21,060	3	0	3	115
				T3S	18,696	3	0	3	102	20,141	3	0	3	110	20,396	3	0	4	111
				T3M	19,258	3	0	3	105	20,746	3	0	3	113	21,009	3	0	3	115
				T4M	18,840	3	0	4	103	20,296	3	0	4	111	20,553	3	0	4	112
				TFTM	19,246	3	0	4	105	20,734	3	0	4	113	20,996	3	0	4	115
				T5VS	20,017	4	0	1	109	21,564	4	0	1	118	21,837	4	0	1	119
				T5S	20,033	4	0	2	109	21,581	4	0	2	118	21,854	4	0	2	119
				T5M	19,983	4	0	2	109	21,527	5	0	3	118	21,799	5	0	3	119
				T5W	19,852	5	0	3	108	21,386	5	0	3	117	21,656	5	0	3	118
				BLC	15,780	2	0	3	86	16,999	2	0	3	93	17,214	2	0	3	94
				LCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70
				RCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70
60	1050	P8	207W	T1S	22,490	3	0	3	109	24,228	3	0	3	117	24,535	3	0	3	119
				T2S	22,466	3	0	4	109	24,202	3	0	4	117	24,509	3	0	4	118
				T2M	22,582	3	0	3	109	24,327	3	0	3	118	24,635	3	0	3	119
				T3S	21,870	3	0	4	106	23,560	3	0	4	114	23,858	3	0	4	115
				T3M	22,527	3	0	4	109	24,268	3	0	4	117	24,575	3	0	4	119
				T4M	22,038	3	0	4	106	23,741	3	0	4	115	24,041	3	0	4	116
				TFTM	22,513	3	0	4	109	24,253	3	0	4	117	24,560	3	0	4	119
				T5VS	23,415	5	0	1	113	25,224	5	0	1	122	25,543	5	0	1	123
				T5S	23,434	4	0	2	113	25,244	4	0	2	122	25,564	4	0	2	123
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123
				T5W	23,221	5	0	4	112	25,016	5	0	4	121	25,332	5	0	4	122
				BLC	18,458	2	0	3	89	19,885	2	0	3	96	20,136	2	0	3	97
				LCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
				RCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
60	1250	P9	241W	T1S	25,575	3	0	3	106	27,551	3	0	3	114	27,900	3	0	3	116
				T2S	25,548	3	0	4	106	27,522	3	0	4	114	27,871	3	0	4	116
				T2M	25,680	3	0	3	107	27,664	3	0	3	115	28,014	3	0	3	116
				T3S	24,870	3	0	4	103	26,791	3	0	4	111	27,130	3	0	4	113
				T3M	25,617	3	0	4	106	27,597	3	0	4	115	27,946	3	0	4	116
				T4M	25,061	3	0	4	104	26,997	3	0	4	112	27,339	3	0	4	113
				TFTM	25,602	3	0	4	106	27,580	3	0	4	114	27,929	3	0	4	116
				T5VS	26,626	5	0	1	110	28,684	5	0	1	119	29,047	5	0	1	121
				T5S	26,648	4	0	2	111	28,707	5	0	2	119	29,070	5	0	2	121
				T5M	26,581	5	0	3	110	28,635	5	0	3	119	28,997	5	0	3	120
				T5W	26,406	5	0	4	110	28,447	5	0	4	118	28,807	5	0	4	120
				BLC	20,990	2	0	3	87	22,612	2	0	3	94	22,898	2	0	3	95
				LCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71
				RCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5M MVOLT SPA DDBXD Note:	Type SD

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
60	530	P10	106W	T1S	13,042	3	0	3	123	14,050	3	0	3	133	14,228	3	0	3	134
				T2S	12,967	4	0	4	122	13,969	4	0	4	132	14,146	4	0	4	133
				T2M	13,201	3	0	3	125	14,221	3	0	3	134	14,401	3	0	3	136
				T3S	12,766	4	0	4	120	13,752	4	0	4	130	13,926	4	0	4	131
				T3M	13,193	4	0	4	124	14,213	4	0	4	134	14,393	4	0	4	136
				T4M	12,944	4	0	4	122	13,945	4	0	4	132	14,121	4	0	4	133
				TFTM	13,279	4	0	4	125	14,305	4	0	4	135	14,486	4	0	4	137
				T5VS	13,372	3	0	1	126	14,405	4	0	1	136	14,588	4	0	1	138
				T5S	13,260	3	0	1	125	14,284	3	0	1	135	14,465	3	0	1	136
				T5M	13,256	4	0	2	125	14,281	4	0	2	135	14,462	4	0	2	136
				T5W	13,137	4	0	3	124	14,153	4	0	3	134	14,332	4	0	3	135
				BLC	10,906	3	0	3	103	11,749	3	0	3	111	11,898	3	0	3	112
				LCCO	7,789	1	0	3	73	8,391	1	0	3	79	8,497	1	0	3	80
				RCCO	7,779	4	0	4	73	8,380	4	0	4	79	8,486	4	0	4	80
60	700	P11	137W	T1S	16,556	3	0	3	121	17,835	3	0	3	130	18,061	4	0	4	132
				T2S	16,461	4	0	4	120	17,733	4	0	4	129	17,957	4	0	4	131
				T2M	16,758	4	0	4	122	18,053	4	0	4	132	18,281	4	0	4	133
				T3S	16,205	4	0	4	118	17,457	4	0	4	127	17,678	4	0	4	129
				T3M	16,748	4	0	4	122	18,042	4	0	4	132	18,271	4	0	4	133
				T4M	16,432	4	0	4	120	17,702	4	0	4	129	17,926	4	0	4	131
				TFTM	16,857	4	0	4	123	18,159	4	0	4	133	18,389	4	0	4	134
				T5VS	16,975	4	0	1	124	18,287	4	0	1	133	18,518	4	0	1	135
				T5S	16,832	4	0	1	123	18,133	4	0	2	132	18,362	4	0	2	134
				T5M	16,828	4	0	2	123	18,128	4	0	2	132	18,358	4	0	2	134
				T5W	16,677	4	0	3	122	17,966	5	0	3	131	18,193	5	0	3	133
				BLC	13,845	3	0	3	101	14,915	3	0	3	109	15,103	3	0	3	110
				LCCO	9,888	1	0	3	72	10,652	2	0	3	78	10,787	2	0	3	79
				RCCO	9,875	4	0	4	72	10,638	4	0	4	78	10,773	4	0	4	79
60	1050	P12	207W	T1S	22,996	4	0	4	111	24,773	4	0	4	120	25,087	4	0	4	121
				T2S	22,864	4	0	4	110	24,631	5	0	5	119	24,943	5	0	5	120
				T2M	23,277	4	0	4	112	25,075	4	0	4	121	25,393	4	0	4	123
				T3S	22,509	4	0	4	109	24,248	5	0	5	117	24,555	5	0	5	119
				T3M	23,263	4	0	4	112	25,061	4	0	4	121	25,378	4	0	4	123
				T4M	22,824	5	0	5	110	24,588	5	0	5	119	24,899	5	0	5	120
				TFTM	23,414	5	0	5	113	25,223	5	0	5	122	25,543	5	0	5	123
				T5VS	23,579	5	0	1	114	25,401	5	0	1	123	25,722	5	0	1	124
				T5S	23,380	4	0	2	113	25,187	4	0	2	122	25,506	4	0	2	123
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123
				T5W	23,165	5	0	4	112	24,955	5	0	4	121	25,271	5	0	4	122
				BLC	19,231	4	0	4	93	20,717	4	0	4	100	20,979	4	0	4	101
				LCCO	13,734	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72
				RCCO	13,716	4	0	4	66	14,776	4	0	4	71	14,963	4	0	4	72
60	1250	P13	231W	T1S	25,400	4	0	4	110	27,363	4	0	4	118	27,709	4	0	4	120
				T2S	25,254	5	0	5	109	27,205	5	0	5	118	27,550	5	0	5	119
				T2M	25,710	4	0	4	111	27,696	4	0	4	120	28,047	4	0	4	121
				T3S	24,862	5	0	5	108	26,783	5	0	5	116	27,122	5	0	5	117
				T3M	25,695	5	0	5	111	27,680	5	0	5	120	28,031	5	0	5	121
				T4M	25,210	5	0	5	109	27,158	5	0	5	118	27,502	5	0	5	119
				TFTM	25,861	5	0	5	112	27,860	5	0	5	121	28,212	5	0	5	122
				T5VS	26,043	5	0	1	113	28,056	5	0	1	121	28,411	5	0	1	123
				T5S	25,824	4	0	2	112	27,819	5	0	2	120	28,172	5	0	2	122
				T5M	25,818	5	0	3	112	27,813	5	0	3	120	28,165	5	0	3	122
				T5W	25,586	5	0	4	111	27,563	5	0	4	119	27,912	5	0	4	121
				BLC	21,241	4	0	4	92	22,882	4	0	4	99	23,172	4	0	4	100
				LCCO	15,170	2	0	4	66	16,342	2	0	4	71	16,549	2	0	4	72
				RCCO	15,150	5	0	5	66	16,321	5	0	5	71	16,527	5	0	5	72

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: DSX1 LED P5 40K T5M MVOLT SPA DDBXD Note:	Type SD

FEATURES & SPECIFICATIONS

INTENDED USE
The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION
Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.01 ft²) for optimized pole wind loading.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 3000 K, 4000 K and 5000 K (70 CRI) configurations. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The DSX1 LED area luminaire has a number of control options. DSX Size 1, comes standard with 0-10V dimming drivers. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensors with on-board photocells feature field-adjustable programing and are suitable for mounting heights up to 30 feet.

nLIGHT AIR CONTROLS
The DSX1 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 1 utilizes the AERIS™ series pole drilling pattern (template #8). NEMA photocontrol receptacle are also available.

LISTINGS
UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

BUY AMERICAN
Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: SSS 30 4G DM19AS VD DBLXD Note:	Type P1

LITHONIA LIGHTING®

FEATURES & SPECIFICATIONS

INTENDED USE — These specifications are for USA standards only. Square Straight Steel is a general purpose light pole for up to 39-foot mounting heights. This pole provides a robust yet cost effective option for mounting area lights and floodlights.

CONSTRUCTION — Pole Shaft: The pole shaft is of uniform dimension and wall thickness and is made of a weldable-grade, hot-rolled, commercial-quality steel tubing with a minimum yield of 55 KSI (11-gauge, .1196"), or 50 KSI (7-gauge, .1793"). Shaft is one-piece with a full-length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4", 5" and 6".

Pole Top: A flush non-metalic black top cap is provided for all poles that will receive drilling patterns for side-mount luminaire arm assemblies or when ordered with PT option.

Handhole: A reinforced handhole with grounding provision is provided at 18" from the base on side A. Positioning the handhole lower may not be possible and requires engineering review; consult Tech Support-Outdoor for further information. Every handhole includes a cover and cover attachment hardware. The handhole has a nominal dimension of 2.5" x 5".

Base Cover: A durable ABS plastic two-piece full base cover, finished to match the pole, is provided with each pole assembly. Additional base cover options are available upon request.

Anchor Base/ Bolts: Anchor base is fabricated from steel that meets ASTM A36 standards and can be altered to match existing foundations; consult factory for modifications. Anchor bolts are manufactured to ASTM F1554 Standards grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Top threaded portion (nominal 12") is hot-dipped galvanized per ASTM A-153.

HARDWARE – All structural fasteners are high-strength galvanized carbon steel. All non-structural fasteners are galvanized or zinc-plated carbon steel or stainless steel.

FINISH – Extra durable standard powder-coat finishes include Dark Bronze, White, Black, Medium Bronze and Natural Aluminum colors. Classic finishes include Sandstone, Charcoal Gray, Tennis Green, Bright Red and Steel Blue colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Hot-dipped Galvanized, Paint over Hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes. Factory-applied primer paint finish is available for customer field-paint applications.

WARRANTY — 1-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

Catalog Number	
Notes	
Type	

Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

See footnotes next page.

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: SSS 30 4G DM19AS VD DBLXD Note:	Type P1

SSS Square Straight Steel Poles

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** SSS 20 5C DM19 DDB

SSS Series	Nominal fixture mounting height	Nominal shaft base size/wall thickness[1]	Mounting[2]	Options	Finish[10]
SSS	10'-39' (for 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.) See technical information table for complete ordering information.) 30'	4C 4" 11g (.1196") 4G 4" 7g (.1793") 5C 5" 11g (.1196") 5G 5" 7g (.1793") 6G 6" 7g (.1793") See technical information table for complete ordering information.)	Tenon mounting PT Open top (includes top cap) T20 2-3/8" O.D. (2" NPS) T25 2-7/8" O.D. (2-1/2" NPS) T30 3-1/2" O.D. (3" NPS) T35 4" O.D. (3-1/2" NPS) KAC/KAD/KSE/KSF/KVR/KVF Drill mounting[3] DM19 1 at 90° DM28 2 at 180° DM28 PL 2 at 180° with one side plugged DM29 2 at 90° DM39 3 at 90° DM49 4 at 90° CSX/DSX/RSX/AERIS™/OMERO™/ HLA/KAX Drill mounting[3] DM19AS 1 at 90° DM28AS 2 at 180° DM29AS 2 at 90° DM39AS 3 at 90° DM49AS 4 at 90° RAD drill mounting[3] DM19RAD 1 at 90° DM28RAD 2 at 180° DM29RAD 2 at 90° DM32RAD 3 at 120° DM39RAD 3 at 90° DM49RAD 4 at 90° ESX Drill mounting[3] DM19ESX 1 at 90° DM28ESX 2 at 180° DM29ESX 2 at 90° DM39ESX 3 at 90° DM49ESX 4 at 90° AERIS™ Suspend drill mounting[3,4] DM19AST_ 1 at 90° DM28AST_ 2 at 180° DM29AST_ 2 at 90° DM39AST_ 3 at 90° DM49AST_ 4 at 90° OMERO™ Suspend drill mounting[3,4] DM19MRT_ 1 at 90° DM28MRT_ 2 at 180° DM29MRT_ 2 at 90° DM39MRT_ 3 at 90° DM49MRT_ 4 at 90°	Shipped installed L/AB Less anchor bolts (Include when anchor bolts are not needed) VD Vibration damper TP Tamper resistant handhole cover fasteners HAxy Horizontal arm bracket (1 fixture)[5,6] FDLxy Festoon outlet less electrical[5] CPL12/xy 1/2" coupling[5] CPL34/xy 3/4" coupling[5] CPL1/xy 1" coupling[5] NPL12/xy 1/2" threaded nipple[5] NPL34/xy 3/4" threaded nipple[5] NPL1/xy 1" threaded nipple[5] EHHxy Extra handhole[5,7] MAEX Match existing[8] USPOM United States point of manufacture[9] IC Interior coating[10] UL UL listed with label (Includes NEC compliant cover) NEC NEC 410.30 compliant gasketed handhole (Not UL Labeled) Shipped separately (replacement kit available) (blank) FBC Full base cover (plastic) (blank) TC Top cap (blank) HHC Handhole cover	Standard colors DDBXD Dark bronze DWHXD White DBLXD Black DMBXD Medium bronze DNAXD Natural aluminum Classic colors DSS Sandstone DGC Charcoal gray DTG Tennis green DBR Bright red DSB Steel blue Architectural Colors and Special Finishes[11] Galvanized, Paint over Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes available.

NOTES:

1. Wall thickness will be signified with a "C" (11 Gauge) or a "G" (7-Gauge) in nomenclature. "C" - 0.1196" | "G" - 0.1793".
2. PT open top poles include top cap. When ordering tenon mounting and drill mounting for the same pole, follow this example: DM28/T20. The combination includes a required extra handhole.
3. Refer to the fixture spec sheet for the correct drilling template pattern and orientation compatibility.
4. Insert "1" or "2" to designate fixture size; e.g. DM19AST2.
5. Specify location and orientation when ordering option.
   For "x": Specify the height above the base of pole in feet or feet and inches; separate feet and inches with a "-".
   Example: 5ft = 5 and 20ft 3in = 20-3
   For "y": Specify orientation from handhole (A,B,C,D)
   Refer to the Handhole Orientation diagram below.
   Example: 1/2" coupling at 5'8", orientation C = CPL12/5-8C
6. Horizontal arm is 18" x 2-3/8" O.D. tenon standard, with radius curve providing 12" rise and 2-3/8" O.D. If ordering two horizontal arm at the same height, specify with HAxyy. Example: HA20BD.
7. Combination of tenon-top and drill mount includes extra handhole.
8. Must add original order number of existing pole(s).
9. Use when mill certifications are required.
10. Provides enhanced corrosion resistance.
11. Additional colors available; see www.lithonia.com/archcolors or Architectural Colors brochure (Form No. 794.3). Available by formal quote only, consult factory for details.

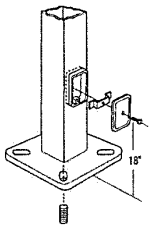
ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: SSS 30 4G DM19AS VD DBLXD Note:	Type P1

SSS Square Straight Steel Poles

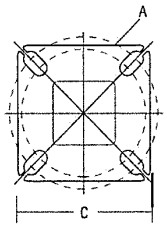
TECHNICAL INFORMATION — EPA (ft2) with 1.3 gust													
Catalog Number	Nominal Shaft Length (ft.)*	Pole Shaft Size (Base in. x Top in. x ft.)	Wall thick (in)	Gauge	EPA (ft^2) with 1.3 gust						Bolt circle (in)	Bolt size (in. x in. x in.)	Approximate ship weight (lbs.)
					80 MPH	Max. weight	90 MPH	Max. weight	100 MPH	Max. weight			
SSS 10 4C	10	4.0 x 10.0	0.1196	11	30.6	765	23.8	595	18.9	473	8--9	3/4 x 18 x 3	75
SSS 12 4C	12	4.0 x 12.0	0.1196	11	24.4	610	18.8	470	14.8	370	8--9	3/4 x 18 x 3	90
SSS 14 4C	14	4.0 x 14.0	0.1196	11	19.9	498	15.1	378	11.7	293	8--9	3/4 x 18 x 3	100
SSS 16 4C	16	4.0 x 16.0	0.1196	11	15.9	398	11.8	295	8.9	223	8--9	3/4 x 18 x 3	115
SSS 18 4C	18	4.0 x 18.0	0.1196	11	12.6	315	9.2	230	6.7	168	8--9	3/4 x 18 x 3	125
SSS 20 4C	20	4.0 x 20.0	0.1196	11	9.6	240	6.7	167	4.5	150	8--9	3/4 x 18 x 3	140
SSS 20 4G	20	4.0 x 20.0	0.1793	7	14	350	11	275	8	200	8--9	3/4 x 30 x 3	198
SSS 20 5C	20	5.0 x 20.0	0.1196	11	17.7	443	12.7	343	9.4	235	10--12	1 x 36 x 4	185
SSS 20 5G	20	5.0 x 20.0	0.1793	7	28.1	703	21.4	535	16.2	405	10--12	1 x 36 x 4	265
SSS 25 4C	25	4.0 x 25.0	0.1196	11	4.8	150	2.6	100	1	50	8--9	3/4 x 18 x 3	170
SSS 25 4G	25	4.0 x 25.0	0.1793	7	10.8	270	7.7	188	5.4	135	8--9	3/4 x 30 x 3	245
SSS 25 5C	25	5.0 x 25.0	0.1196	11	9.8	245	6.3	157	3.7	150	10--12	1 x 36 x 4	225
SSS 25 5G	25	5.0 x 25.0	0.1793	7	18.5	463	13.3	333	9.5	238	10--12	1 x 36 x 4	360
SSS 30 4G	30	4.0 x 30.0	0.1793	7	6.7	168	4.4	110	2.6	65	8--9	3/4 x 30 x 3	295
SSS 30 5C	30	5.0 x 30.0	0.1196	11	4.7	150	2	50	--	--	10--12	1 x 36 x 4	265
SSS 30 5G	30	5.0 x 30.0	0.1793	7	10.7	267	6.7	167	3.9	100	10--12	1 x 36 x 4	380
SSS 30 6G	30	6.0 x 30.0	0.1793	7	19	475	13.2	330	9	225	11--13	1 x 36 x 4	520
SSS 35 5G	35	5.0 x 35.0	0.1793	7	5.9	150	2.5	100	--	--	10--12	1 x 36 x 4	440
SSS 35 6G	35	6.0 x 35.0	0.1793	7	12.4	310	7.6	190	4.2	105	11--13	1 x 36 x 4	540
SSS 39 6G	39	6.0 x 39.0	0.1793	7	7.2	180	3	75	--	--	11--13	1 x 36 x 4	605

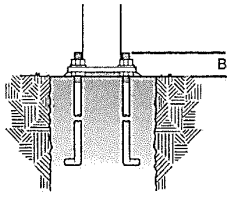
* EPA values are based ASCE 7-93 wind map. For 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.

BASE DETAIL

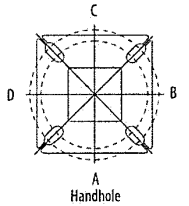


POLE DATA								
Shaft base size	Bolt circle A	Bolt projection B	Base diameter C	Base plate thickness	Template description	Anchor bolt description	Anchor bolt and template number	Anchor bolt description
4"C	8" – 9"	3.25"- 3.75"	8"- 8.25"	0.75"	ABTEMPLATE PJ50004	AB18-0	ABSSS-4C	3/4"x18"x3"
4"G	8" – 9"	3.38"- 3.75"	8"- 8.25"	0.875"	ABTEMPLATE PJ50004	AB30-0	ABSSS-4G	3/4"x30"x3"
5"	10" – 12"	3.5"- 4"	11"	1"	ABTEMPLATE PJ50010	AB36-0	ABSSS-5	1"x36"x4"
6"	11" – 13"	4"- 4.50"	12.5"	1"	ABTEMPLATE PJ50011	AB36-0	N/A	1"x36"x4"





HANDHOLE ORIENTATION



Default DM19 is on side B.

IMPORTANT INSTALLATION NOTES:

- **Do not** erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Lithonia Lighting is not responsible for the foundation design.

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: SSS 30 4G DM28AS VD DBLXD Note:	Type P2

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — These specifications are for USA standards only. Square Straight Steel is a general purpose light pole for up to 39-foot mounting heights. This pole provides a robust yet cost effective option for mounting area lights and floodlights.

CONSTRUCTION — Pole Shaft: The pole shaft is of uniform dimension and wall thickness and is made of a weldable-grade, hot-rolled, commercial-quality steel tubing with a minimum yield of 55 KSI (11-gauge, .1196"), or 50 KSI (7-gauge, .1793"). Shaft is one-piece with a full-length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4", 5" and 6".

Pole Top: A flush non-metalic black top cap is provided for all poles that will receive drilling patterns for side-mount luminaire arm assemblies or when ordered with PT option.

Handhole: A reinforced handhole with grounding provision is provided at 18" from the base on side A. Positioning the handhole lower may not be possible and requires engineering review; consult Tech Support-Outdoor for further information. Every handhole includes a cover and cover attachment hardware. The handhole has a nominal dimension of 2.5" x 5".

Base Cover: A durable ABS plastic two-piece full base cover, finished to match the pole, is provided with each pole assembly. Additional base cover options are available upon request.

Anchor Base/ Bolts: Anchor base is fabricated from steel that meets ASTM A36 standards and can be altered to match existing foundations; consult factory for modifications. Anchor bolts are manufactured to ASTM F1554 Standards grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Top threaded portion (nominal 12") is hot-dipped galvanized per ASTM A-153.

HARDWARE – All structural fasteners are high-strength galvanized carbon steel. All non-structural fasteners are galvanized or zinc-plated carbon steel or stainless steel.

FINISH – Extra durable standard powder-coat finishes include Dark Bronze, White, Black, Medium Bronze and Natural Aluminum colors. Classic finishes include Sandstone, Charcoal Gray, Tennis Green, Bright Red and Steel Blue colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Hot-dipped Galvanized, Paint over Hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes. Factory-applied primer paint finish is available for customer field-paint applications.

WARRANTY — 1-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

See footnotes next page.

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: SSS 30 4G DM28AS VD DBLXD Note:	Type P2

SSS Square Straight Steel Poles

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** SSS 20 5C DM19 DDB

SSS Series	Nominal fixture mounting height	Nominal shaft base size/wall thickness[1]	Mounting[2]				Options		Finish[10]	
SSS	10'-39' (for 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.) See technical information table for complete ordering information.) 30'	4C 4" 11g (.1196") 4G 4" 7g (.1793") 5C 5" 11g (.1196") 5G 5" 7g (.1793") 6G 6" 7g (.1793") See technical information table for complete ordering information.)	Tenon mounting PT Open top (includes top cap) T20 2-3/8" O.D. (2" NPS) T25 2-7/8" O.D. (2-1/2" NPS) T30 3-1/2" O.D. (3" NPS) T35 4" O.D. (3-1/2" NPS) KAC/KAD/KSE/KSF/KVR/KVF Drill mounting[3] DM19 1 at 90° DM28 2 at 180° DM28 PL 2 at 180° with one side plugged DM29 2 at 90° DM39 3 at 90° DM49 4 at 90° CSX/DSX/RSX/AERIS™/OMERO™/HLA/KAX Drill mounting[3] DM19AS 1 at 90° DM28AS 2 at 180° DM29AS 2 at 90° DM39AS 3 at 90° DM49AS 4 at 90° RAD drill mounting[3] DM19RAD 1 at 90° DM28RAD 2 at 180° DM29RAD 2 at 90° DM32RAD 3 at 120° DM39RAD 3 at 90° DM49RAD 4 at 90° ESX Drill mounting[3] DM19ESX 1 at 90° DM28ESX 2 at 180° DM29ESX 2 at 90° DM39ESX 3 at 90° DM49ESX 4 at 90°		AERIS™ Suspend drill mounting[3,4] DM19AST_ 1 at 90° DM28AST_ 2 at 180° DM29AST_ 2 at 90° DM39AST_ 3 at 90° DM49AST_ 4 at 90° OMERO™ Suspend drill mounting[3,4] DM19MRT_ 1 at 90° DM28MRT_ 2 at 180° DM29MRT_ 2 at 90° DM39MRT_ 3 at 90° DM49MRT_ 4 at 90°		Shipped installed L/AB Less anchor bolts (Include when anchor bolts are not needed) VD Vibration damper TP Tamper resistant handhole cover fasteners HAxy Horizontal arm bracket (1 fixture)[5,6] FDLxy Festoon outlet less electrical[5] CPL12/xy 1/2" coupling[5] CPL34/xy 3/4" coupling[5] CPL1/xy 1" coupling[5] NPL12/xy 1/2" threaded nipple[5] NPL34/xy 3/4" threaded nipple[5] NPL1/xy 1" threaded nipple[5] EHHxy Extra handhole[5,7] MAEX Match existing[8] USPOM United States point of manufacture[9] IC Interior coating[10] UL UL listed with label (Includes NEC compliant cover) NEC NEC 410.30 compliant gasketed handhole (Not UL Labeled) Shipped separately (replacement kit available) (blank) FBC Full base cover (plastic) (blank) TC Top cap (blank) HHC Handhole cover	Standard colors DDBXD Dark bronze DWHXD White DBLXD Black DMBXD Medium bronze DNAXD Natural aluminum Classic colors DSS Sandstone DGC Charcoal gray DTG Tennis green DBR Bright red DSB Steel blue Architectural Colors and Special Finishes[11] Galvanized, Paint over Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes available.

NOTES:

1. Wall thickness will be signified with a "C" (11 Gauge) or a "G" (7-Gauge) in nomenclature. "C" - 0.1196" | "G" - 0.1793".
2. PT open top poles include top cap. When ordering tenon mounting and drill mounting for the same pole, follow this example: DM28/T20. The combination includes a required extra handhole.
3. Refer to the fixture spec sheet for the correct drilling template pattern and orientation compatibility.
4. Insert "1" or "2" to designate fixture size; e.g. DM19AST2.
5. Specify location and orientation when ordering option.
   For "x": Specify the height above the base of pole in feet or feet and inches; separate feet and inches with a "-".
   Example: 5ft = 5 and 20ft 3in = 20-3
   For "y": Specify orientation from handhole (A,B,C,D)
   Refer to the Handhole Orientation diagram below.
   Example: 1/2" coupling at 5'8", orientation C = CPL12/5-8C
6. Horizontal arm is 18" x 2-3/8" O.D. tenon standard, with radius curve providing 12" rise and 2-3/8" O.D. If ordering two horizontal arm at the same height, specify with HAxyy. Example: HA20BD.
7. Combination of tenon-top and drill mount includes extra handhole.
8. Must add original order number of existing pole(s).
9. Use when mill certifications are required.
10. Provides enhanced corrosion resistance.
11. Additional colors available; see www.lithonia.com/archcolors or Architectural Colors brochure (Form No. 794.3). Available by formal quote only, consult factory for details.

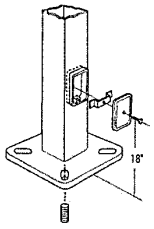
ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: SSS 30 4G DM28AS VD DBLXD Note:	Type P2

SSS Square Straight Steel Poles

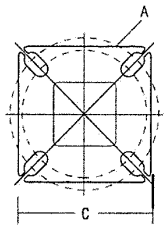
TECHNICAL INFORMATION — EPA (ft2) with 1.3 gust													
Catalog Number	Nominal Shaft Length (ft.)*	Pole Shaft Size (Base in. x Top in. x ft.)	Wall thick (in)	Gauge	EPA (ft^2) with 1.3 gust						Bolt circle (in)	Bolt size (in. x in. x in.)	Approximate ship weight (lbs.)
					80 MPH	Max. weight	90 MPH	Max. weight	100 MPH	Max. weight			
SSS 10 4C	10	4.0 x 10.0	0.1196	11	30.6	765	23.8	595	18.9	473	8--9	3/4 x 18 x 3	75
SSS 12 4C	12	4.0 x 12.0	0.1196	11	24.4	610	18.8	470	14.8	370	8--9	3/4 x 18 x 3	90
SSS 14 4C	14	4.0 x 14.0	0.1196	11	19.9	498	15.1	378	11.7	293	8--9	3/4 x 18 x 3	100
SSS 16 4C	16	4.0 x 16.0	0.1196	11	15.9	398	11.8	295	8.9	223	8--9	3/4 x 18 x 3	115
SSS 18 4C	18	4.0 x 18.0	0.1196	11	12.6	315	9.2	230	6.7	168	8--9	3/4 x 18 x 3	125
SSS 20 4C	20	4.0 x 20.0	0.1196	11	9.6	240	6.7	167	4.5	150	8--9	3/4 x 18 x 3	140
SSS 20 4G	20	4.0 x 20.0	0.1793	7	14	350	11	275	8	200	8--9	3/4 x 30 x 3	198
SSS 20 5C	20	5.0 x 20.0	0.1196	11	17.7	443	12.7	343	9.4	235	10--12	1 x 36 x 4	185
SSS 20 5G	20	5.0 x 20.0	0.1793	7	28.1	703	21.4	535	16.2	405	10--12	1 x 36 x 4	265
SSS 25 4C	25	4.0 x 25.0	0.1196	11	4.8	150	2.6	100	1	50	8--9	3/4 x 18 x 3	170
SSS 25 4G	25	4.0 x 25.0	0.1793	7	10.8	270	7.7	188	5.4	135	8--9	3/4 x 30 x 3	245
SSS 25 5C	25	5.0 x 25.0	0.1196	11	9.8	245	6.3	157	3.7	150	10--12	1 x 36 x 4	225
SSS 25 5G	25	5.0 x 25.0	0.1793	7	18.5	463	13.3	333	9.5	238	10--12	1 x 36 x 4	360
SSS 30 4G	30	4.0 x 30.0	0.1793	7	6.7	168	4.4	110	2.6	65	8--9	3/4 x 30 x 3	295
SSS 30 5C	30	5.0 x 30.0	0.1196	11	4.7	150	2	50	--	--	10--12	1 x 36 x 4	265
SSS 30 5G	30	5.0 x 30.0	0.1793	7	10.7	267	6.7	167	3.9	100	10--12	1 x 36 x 4	380
SSS 30 6G	30	6.0 x 30.0	0.1793	7	19	475	13.2	330	9	225	11--13	1 x 36 x 4	520
SSS 35 5G	35	5.0 x 35.0	0.1793	7	5.9	150	2.5	100	--	--	10--12	1 x 36 x 4	440
SSS 35 6G	35	6.0 x 35.0	0.1793	7	12.4	310	7.6	190	4.2	105	11--13	1 x 36 x 4	540
SSS 39 6G	39	6.0 x 39.0	0.1793	7	7.2	180	3	75	--	--	11--13	1 x 36 x 4	605

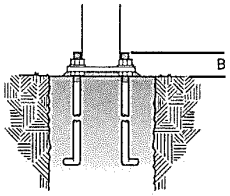
* EPA values are based ASCE 7-93 wind map. For 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.

BASE DETAIL

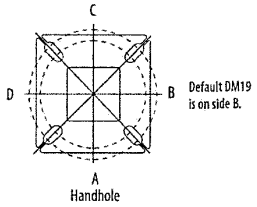


POLE DATA								
Shaft base size	Bolt circle A	Bolt projection B	Base diameter C	Base plate thickness	Template description	Anchor bolt description	Anchor bolt and template number	Anchor bolt description
4"C	8" – 9"	3.25"- 3.75"	8"- 8.25"	0.75"	ABTEMPLATE PJ50004	AB18-0	ABSSS-4C	3/4"x18"x3"
4"G	8" – 9"	3.38"- 3.75"	8"- 8.25"	0.875"	ABTEMPLATE PJ50004	AB30-0	ABSSS-4G	3/4"x30"x3"
5"	10" – 12"	3.5"- 4"	11"	1"	ABTEMPLATE PJ50010	AB36-0	ABSSS-5	1"x36"x4"
6"	11" – 13"	4"- 4.50"	12.5"	1"	ABTEMPLATE PJ50011	AB36-0	N/A	1"x36"x4"





HANDHOLE ORIENTATION



Default DM19 is on side B.

IMPORTANT INSTALLATION NOTES:

- **Do not** erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Lithonia Lighting is not responsible for the foundation design.

Core and Shell

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI WH Note:	Type A

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — Built on the compact, low-profile Z strip channel, this LED strip offers long maintenance-free life, several color temperatures, lumen outputs and lengths. Ideal for new construction and retrofit applications in T5 and T8 lengths. Ideal for uplight and downlight in commercial, retail, manufacturing, warehouse, cove and display applications. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate. Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.**

CONSTRUCTION — Compact-design channel and cover are formed from code-gauge cold-rolled steel. Easy to install row aligner included for continuous row mounting.

Finish: Paint options include high-gloss, baked white enamel (WH), galvanized (GALV), matte black (MB) and smoke gray (SKGY). After fabrication, five-stage iron phosphate pre-treatment ensures superior paint adhesion and rust resistance.

OPTICS — Standard diffuse snap on/snap off lens eliminates pixels, improves uniformity and minimizes glare. L/LENS option available.

ELECTRICAL — L70>60,000hours. Utilizes high-output LEDs integrated on a two-layer circuit board, ensuring cool-running operation. Optional internal pluggable wiring harness for reduced labor cost in row mounting applications. (See PLR_ ordering information on page 2.) Electronic LED driver is rated for 75 input watts maximum (see Operational Data on page 4 for actual wattage consumption), **multi-volt input and 0-10V dimming standard**. This fixture is designed to withstand a maximum line surge of 2.5kV at 0.75kA combination wave for indoor locations, for applications requiring higher level of protection additional surge protection must be provided.

LEDs provide nominal 80 CRI at 3000 K, 3500 K,4000 K, or 5000 K.

Lumen output up to 2,000 lumens per foot. In 86°F (30°C) ambient environments. Luminaire should be installed in applications where ambient temperatures do not exceed 86°F (30°C).

INSTALLATION — Tool-less channel cover for easy installation.

Fixture may be surface mounted (with or without ZSPRG hanger), pendant or stem mounted with appropriate mounting options. Three-point aligner locks in place for easy continuous row mounting.

LISTINGS — CSA certified to US and Canadian safety standards. For use in damp locations between -40°F (-40°C) and 86°F (30°C).

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

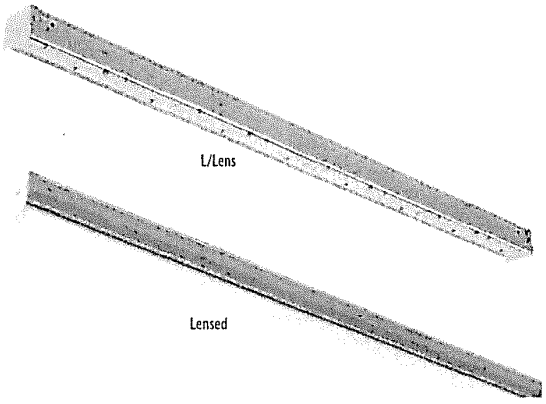
All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

LED Striplight

ZL1N

24", 48" and 96" Lengths



C US

Buy American

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI WH Note:	Type A

ZL1N LED Striplight

A+ Capable options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** ZL1N L48 3000LM FST MVOLT 40K 80CRI WH

Series		Length		Reflectors‡		Nominal lumens‡		Diffuser		Voltage	
ZL1N	LED striplight	L24	24" ‡	(blank)	Less reflector	1500LM	1,500 lumens	FST	Snap on frosted, diffuse	MVOLT	120-277V
				SMR	Symmetric	2500LM	2,500 lumens	L/LENS	No diffuser	120	120V
						3500LM	3,500 lumens	SBL FST	Straight blade louver with snap on frosted, diffuse	208	208V
		L46	46"	(blank)	Less reflector	3000LM	3,000 lumens			240	240V
		L48	48"	ASR	Asymmetric (L48 only)	5000LM	5,000 lumens			277	277V
				SMR	Symmetric	7000LM	7,000 lumens			347	347V ‡
TZL1N	LED striplight ‡	L92	92"	(blank)	Less reflector	6000LM	6,000 lumens			480	480V ‡
		L96	96"	SMR	Symmetric	10000LM	10,000 lumens				
						14000LM	14,000 lumens				

Color temperature		Color rendering index		Options		Paint finish	
30K	3000 K	80CRI	80 CRI	PLR__	Plug-in wiring‡	WH	White
35K	3500 K	90CRI	90 CRI	PLR1LVG	Plug-in wiring-low voltage‡	GALV	Galvanized
40K	4000 K			E7W	Power Sentry® PS750L, 7 watt emergency battery, CA Title 20 non-compliant (LINK)‡	MB	Matte black
50K	5000 K			2E7W	Two Power Sentry® PS750L, 7 watt emergency batteries, CA Title 20 non-compliant (LINK)‡	SKGY	Smoke gray
				E10WLCP	Power Sentry® PS1055LCP, 10 watt emergency battery, Certified in CA Title 20 MAEDBS (LINK)‡		
				2E10WLCP	Two Power Sentry® PS1055LCP, 10 watt emergency batteries, Certified in CA Title 20 MAEDBS (LINK)‡		
				E15WLCP	Power Sentry® PS1555LCP, 15 watt emergency battery, Certified in CA Title 20 MAEDBS (LINK)‡		
				OUTEND	Cord set to exit endplate of fixture		
				BAA	Buy America(n) Act Compliant		
				nLight® Wireless ‡			
				NLTAIR2 RLSXR10	nLight® Air Generation 2 enabled, 360° low mount sensor, (7 to 15' heights) (LINK)		
				NLTAIR2 RLSXR10EM	nLight® Air Generation 2 enabled, 360° low mount sensor, (7 to 15' heights), UL 924 Emergency Operation, via power interrupt detection (not available with battery pack) (LINK)‡		
				Individual Controls ‡			
				LBOZU	360° low mount LSXR PIR sensor, (7-15' mounting heights), ON/OFF occupancy, pre-wired (LINK)‡		
				LBH0SZU	360° low mount LSXR PIR sensor, (7-15' mounting heights), high/low occupancy dimming, pre-wired (LINK)‡		
				LBPZU	360° low mount LSXR PIR sensor, (7-15' mounting heights), ON/OFF photocell, pre-wired (LINK)‡		
				LBM0SZU	360° low mount LSXR PIR sensor, (7-15' mounting heights), dimming and switching photocell, pre-wired (LINK)‡		
				Cord sets:‡			
				CS1W	Cord with NEMA 5-15P, 120V straight blade plug, 18 gauge, 3 conductors, white, 6ft		
				CS3W	Cord with NEMA L5-15P, 120V twist lock plug, 18 gauge, 3 conductor, white, 6ft		
				CS7W	Cord with NEMA 7-15P, 277V straight blade plug, 18 gauge, 3 conductors, white, 6ft		
				CS11W	Cord with NEMA L7-15P, 277V twist lock plug, 18 gauge, 3 conductors, white, 6ft		
				CS25W	Cord with NEMA L24-20P, 347V twist lock plug, 18 gauge, 3 conductors, white, 6ft		
				CS97W	Cord with NEMA L8-20P, 480V twist lock plug, 18 gauge, 3 conductors, white, 6ft		
				CS93W	Cord only (no plug), 18 gauge, 3 conductors, white, 6ft		

Accessories: *Order as separate catalog number.*

HC36 M12	Hanger chain, 36" (1 pair)	ZLR L24 SYM UPL WH	24" symmetric reflector with uplight, white finish
ZACVH M100	Adjustable 10' aircraft cable with Y hanger (1 pair)	ZLR L24 SYM WH	24" symmetric reflector, white finish
ZLANGBKT	Luma-tilt™ angle bracket for shelf or ledge mounting only	ZLR L46 SYM UPL WH	46" symmetric reflector with uplight, white finish
SQ_	Swivel stem hanger (specify length in 2" increments up to 48")	ZLR L46 SYM WH	46" symmetric reflector, white finish
NPP16D	nLight® wired power/relay pack, 0-10VDC dimming output (LINK)	ZLR L48 ASY WH	48" asymmetric reflector, white finish
RPP20D	nLight® air Generation 2 enabled, power/relay pack, 0-10V dimming output (LINK)	ZLR L48 SYM UPL WH	48" symmetric reflector with uplight, white finish
LSXR	Sensor Switch® LSXR occupancy sensor (LINK)	ZLR L48 SYM WH	48" symmetric reflector, white finish
ZSPRGJ2	Tong and T-grid hanger, for 15/16" T-grid (Order quantity required in multiples of 2)	ZLR L92 SYM UPL WH	92" symmetric reflector with uplight, white finish
WGZ24	24" wireguard, white ‡	ZLR L92 SYM WH	92" symmetric reflector, white finish
WGZ48	48" wireguard, white ‡	ZLR L96 SYM UPL WH	96" symmetric reflector with uplight, white finish
		ZLR L96 SYM WH	96" symmetric reflector, white finish
		UNIVERSAL REFL ALIGNER	Universal reflector aligners, quantity 1

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI WH Note:	Type A

ZL1N LED Striplight

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
2E7W	MVOLT required. Available with L92 or L96 only. Not available with L24, L46, L48, L92 6000LM, L96 6000LM or any cordset that includes a plug.
2E10WLCP	MVOLT required. Available with L92 or L96 with 10,000LM or 14000LM only. Not available with L24, L46, L48, L92 6000LM, L96 6000LM or any cordset that includes a plug.
347, 480	Utilizes step down transformer.
Cord Sets	Must specify voltage when plug is inlcuded. Cordsets exit back of fixture unless OUTEND option is specified.
E7W	MVOLT required. Available with L46, L48, L92 or L96 with 10000LM or 14000LM only. Not available with L24 or any cordset that includes a plug.
E10WLCP	MVOLT required. Available with L46, L48, L92 or L96 only. Not available with L24 or any cordset that includes a plug.
E15WLCP	MVOLT required. Available with L92 or L96 only. Not available with L24, L46, L48 or any cordset that inlcudes a plug.
HTZL1N	Tandem fixture ships as two L46 or L48 fixtures.
Individual Controls	Available with MVOLT, 347 or 480 only. See ordering information on page 6 for more configurations. This sensor configuration is suitable for minimum ambient temperature of 14°F (-10°C). See page 5 for low temperature option providing -4°F (-20°C) minimum ambient. When choosing Sensor and PLR for same fixture, consult the factory. Sensors come prewired, they must be snapped into place at time of installation.
L24	Not available with 347V, 480V or emergency batteries.
nLight® Wireless	See LINK in sensor description to RLSXR specification sheet for more configurations. When choosing a sensor and PLR for same fixture, consult the factory. Sensors come prewired, they must be snapped into place at time of installation.
NLTAIR2 RLSXR10EM	Not available with 347 or 480. MVOLT required.
Nominal Lumens	See Operational Data on page 2 for actual lumens.
PLR__	Not available with cordset options. See ordering information on page 5. When choosing a sensor and PLR for the same fixture, consult the factory.
PLR1LVG	Not available with cordset options.
Reflectors	Optional. Reflectors ship separately.
WGHZ24	Not available with ASR or SMR reflector options.
WGHZ48	Not available with ASR or SMR reflector options. Order a Qty of 2 for L92 or L96 tandem fixtures.

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI WH Note:	Type A

ZL1N LED Striplight

OPERATIONAL DATA

	Nominal lumen package	Length (inches)	Delivered Lumens 3000 K CCT @ 77°F (25°C) ambient temperature		Delivered Lumens 3500 K CCT @ 77°F (25°C) ambient temperature		Delivered Lumens 4000 K CCT @ 77°F (25°C) ambient temperature		Delivered Lumens 5000 K CCT @ 77°F (25°C) ambient temperature		Wattage @ 120V/277V	Comparable Light Source
			80 CRI	90 CRI	80 CRI	90 CRI	80 CRI	90 CRI	80 CRI	90 CRI		
Lensed	1500LM	24	1738	1409	1777	1467	1804	1494	1871	1528	15	1-lamp 17W T8
	2500LM	24	2265	1846	2315	1900	2351	1947	2438	1991	19	1-lamp 17W T8
	3500LM	24	3586	2924	3666	3026	3723	3084	3860	3152	31	1-lamp 32W T8, 1-lamp 54W T5HO, 50W HID
	3000LM	46 or 48	3172	2586	3243	2677	3293	2728	3415	2788	25	1-lamp 32W T8, 1-lamp 54W T5HO, 50W HID
	5000LM	46 or 48	4417	3601	4515	3727	4585	3798	4754	3882	34	2-lamp 32W T8, 1-lamp 54W T5HO, 70W HID
	7000LM	46 or 48	6535	5328	6681	5515	6785	5619	7035	5744	52	3-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	6000LM	92 or 96	6561	5349	6708	5537	6812	5642	7063	5767	48	3-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	10000LM	92 or 96	8687	7082	8881	7331	9019	7470	9351	7636	68	4-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	14000LM	92 or 96	12457	10513	12735	10665	12933	10711	13409	10949	104	4-lamp 32W T8, 3-lamp 54W T5HO, 150W HID
Unlensed	1500LM	24	1881	1534	1923	1588	1953	1618	2025	1654	15	1-lamp 17W T8
	2500LM	24	2452	1999	2506	2069	2545	2108	2639	2155	19	1-lamp 17W T8
	3500LM	24	3882	3165	3969	3276	4031	3338	4179	3412	31	1-lamp 32W T8, 1-lamp 54W T5HO, 50W HID
	3000LM	46 or 48	3434	2800	3511	2898	3565	2953	3697	3019	25	1-lamp 32W T8, 1-lamp 54W T5HO, 50W HID
	5000LM	46 or 48	4781	3898	4888	4035	4964	4111	5147	4203	34	2-lamp 32W T8, 1-lamp 54W T5HO, 70W HID
	7000LM	46 or 48	7075	5768	7233	5971	7345	6083	7616	6219	52	3-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	6000LM	92 or 96	7103	5791	7261	5995	7374	6108	7646	6243	48	3-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	10000LM	92 or 96	9404	7667	9614	7937	9764	8087	10123	8266	68	4-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	14000LM	92 or 96	13485	10994	13786	11381	14001	11596	14516	11853	104	4-lamp 32W T8, 3-lamp 54W T5HO, 150W HID

PROJECTED LUMEN MAINTENANCE

Operating Hours	0	15,000	30,000	45,000	60,000	100,000
Lumen Maintenance Factor	1	0.94	0.89	0.83	0.79	0.67

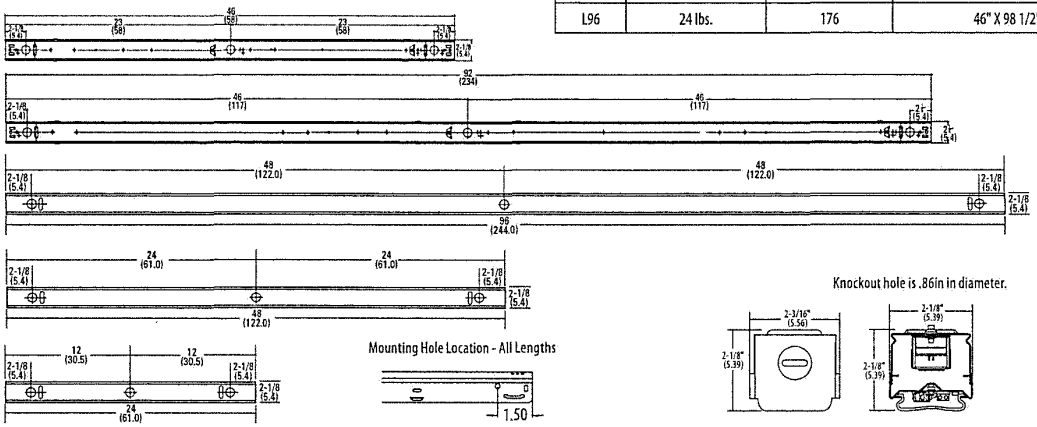
DIMENSIONS

All dimensions are shown in inches (centimeters) unless otherwise noted.

Specifications subject to change without notice.

PALLET DIMENSIONS

Length	Approximate weight	Fixtures per pallet	Approximate pallet dimensions (L x W x H)
L24	7 lbs.	408	46" X 51" X 32 11/16"
L46	11 lbs.	176	46" X 51" X 32 1/16"
L48	12 lbs.	176	46" X 51" X 31 3/8"
L92	22 lbs.	176	46" X 98 1/2" X 31 1/16"
L96	24 lbs.	176	46" X 98 1/2" X 31 1/16"



PHOTOMETRICS

Please see www.lithonia.com

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI WH Note:	Type A

ZL1N LED Striplight

REFLECTORS (Optional)

L24 Reflector

L48 Reflector

L96 Reflector

PHOTOMETRICS

Please see www.lithonia.com

PLUG-IN WIRING INFORMATION

Advanced plug-in system with two-circuit capability. Available on industrial and strip products and a variety of architectural products mounted in continuous. PLR22 (2-circuit) and crossover harness switches hot circuit serving next fixture in row. Reduces fixture types on job for alternating circuit applications (see example below.)

Easy one-step installation, saves up to 35% on labor costs. Expanded switching flexibility helps save energy.

Rows can be 50% longer with two-circuit systems. Polarized, lock-together nylon connectors prevent miswiring in the field. #12 THHN conductor, rated 600V, 90°C. White neutral wire included. Grounding accomplished by fixture in-row connectors.

CSA certified systems available with up to 2 circuits. G ground required.

Not for use with dedicated emergency circuits.

Note: Specifications subject to change without notice.

Wiring

PLR

Advanced 1 or 2-Circuit Plug-In

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Series	Number of hot wires		Branch circuits		Dimming	Ground
PLR	(blank)	Not required for PLR22	Circuits to which driver is connected	Battery charging circuit (must be unswitched)	LV Low-voltage dimming	G Ground (required)
PLR22	1	Black	(blank) Not required for PLR22 or PLR1	(blank) No battery charging circuit		
	2	Black and red	A Black wire	ELA Battery pack wired to black wire		
			B Red wire	ELB Battery pack wired to red wire		

Typical Applications

- Multiple-circuit and single-circuit for longer continuous rows
- Multiple-circuit with alternating fixtures on separate circuits, 2-circuit (PLR22)
- Multiple circuit with night-lights located along row as desired

ZL1N LED Striplight

LSXR – Fixture Mount Occupancy Sensor (see www.AcuityControls.com for additional information)

- Three interchangeable lens options to satisfy multiple mounting heights and coverage pattern requirements.
- Integrated mounting bracket drops lens down 3" from chase nipple.
- Single or dual relay versions — designed with robust protection from the harsh switching requirements of T5 and LED loads.
- Photocell and 0-10VDC dimming options.
- No PIR field calibration or sensitivity adjustments required.
- Sensor ambient temperature rating of 14°F (-10°C) to 131°F (55°C).

LSXR configuration	Comparable CMRB sensor	Old style sensor nomenclature
For shortest lead times use one of the following LSXR configurations		
LCOZU	CMRB 50	MSI
LCHOSZU	CMRB 50 D	MSID
LCPZU	CMRB 50 P	MSIPED
LAOZU	CMRB 6	MSI360
LAHOSZU	CMRB 6 D	MSI360D
LAPZU	CMRB 6 P	MSI360PED

SELECTIONS BELOW WILL EXTEND ORDER LEAD TIME. CONSULT YOUR SALES REPRESENTATIVE FOR DETAILS.

SINGLE RELAY

ORDERING INFORMATION — **Example:** LAHOSZU

Series	Lens option	Dimming/Photocell	Max. dim level	Min. dim level	Temp/Humidity	Default occupancy time delay
L LSXR passive infrared indoor occupancy sensor	A High mount, 360° B Low mount, 360° C High mount aisleway	O None[1] H High/low occupancy operation P Switching photocell (on/off)[1] M Dimming and switching photocell G Dimming and switching photocell with high/low occupancy operation	0 10 VDC 9 9 VDC 8 8 VDC 7 7 VDC	S Minimum dim level of ballast 1 1 VDC 2 2 VDC 3 3 VDC 4 4 VDC 5 5 VDC 6 6 VDC	Z None T Low temperature[2]	I 30 sec D 2.5 min X 5.0 min R 7.5 min U 10.0 min (with minimum 15 minute on time) V 15.0 min W 20.0 min Y 30.0 min

Notes
1 Max and min dim levels not applicable with this option.
2 Ambient temperature rating of -4°F (-20°C) to 131°F (55°C).

DUAL RELAY (Available with 120, 277, and 347V only)

ORDERING INFORMATION — **Example:** LA2KZU

Series	Lens option	Poles	Operating mode	Temp/Humidity	Default occupancy time delay
L LSXR passive infrared indoor occupancy sensor	A High mount, 360° B Low mount, 360° C High mount aisleway	2 Dual relay	J None K Alternating off relays (promotes even lamp wear) O Alternating off relays w/photocell P Switching photocell(on/off) E Photocell on/off (pole 1 only) F Photocell on/off - both poles (dual set-point)	Z None T Low temperature[1]	I 30 sec D 2.5 min X 5.0 min R 7.5 min U 10.0 min (with minimum 15 minute on time) V 15.0 min W 20.0 min Y 30.0 min

Notes
1 Ambient temperature rating of -4°F (-20°C) to 131°F (55°C).

Example: LENS 50 J100

Replacement lenses: *Order as separate catalog number.*

Series	Lens type		Package quantity	
LENS	6	High mount 360°	[blank]	Single Lens
	10	Low mount 360°	J10	10-pack
	50	High mount aisleway	J100	100-pack

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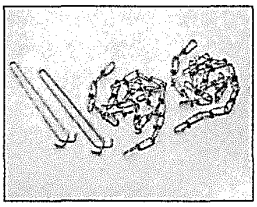
ZL1N LED Striplight

OPTIONS AND ACCESSORIES

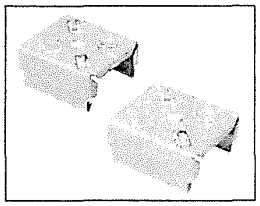
The Z Series fixture offers numerous options for almost every electrical and optical component, including a long list of field-installable accessories.



HANGER CHAIN

36" chain with Y hanger.

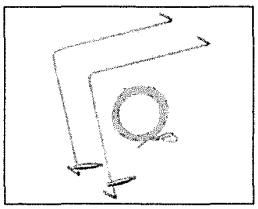
Order as:
HC36



Z SPRING HANGER

Snap 'n' lock design requires no fasteners and can be used on T-grid ceiling or universal mounting systems.

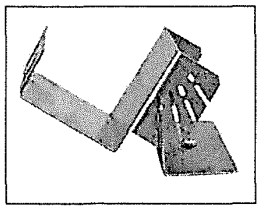
Order as:
ZSPRGJ2



ZACVH HANGER

10' Aircraft cable with Y hanger.

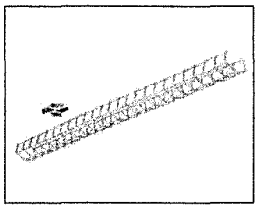
Order as:
ZACVH



ANGLE MOUNTING BRACKET

Luma-tilt™ angle bracket ships as a pair

Order as:
ZLANGBKT



WIRE GUARD

Order as:
WGZ24
WGZ48

COMMERCIAL INDOOR: One Lithonia Way, Conyers, GA 30012 Phone: 800-705-SERV (7378) techsupport-commercialindoor@acuitybrands.com www.lithonia.com

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI E10WLCP WH Note:	Type AE

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — Built on the compact, low-profile Z strip channel, this LED strip offers long maintenance-free life, several color temperatures, lumen outputs and lengths. Ideal for new construction and retrofit applications in T5 and T8 lengths. Ideal for uplight and downlight in commercial, retail, manufacturing, warehouse, cove and display applications. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate. Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.**

CONSTRUCTION — Compact-design channel and cover are formed from code-gauge cold-rolled steel. Easy to install row aligner included for continuous row mounting.

Finish: Paint options include high-gloss, baked white enamel (WH), galvanized (GALV), matte black (MB) and smoke gray (SKGY). After fabrication, five-stage iron phosphate pre-treatment ensures superior paint adhesion and rust resistance.

OPTICS — Standard diffuse snap on/snap off lens eliminates pixels, improves uniformity and minimizes glare. L/LENS option available.

ELECTRICAL — L70>60,000hours. Utilizes high-output LEDs integrated on a two-layer circuit board, ensuring cool-running operation. Optional internal pluggable wiring harness for reduced labor cost in row mounting applications. (See PLR_ ordering information on page 2.) Electronic LED driver is rated for 75 input watts maximum (see Operational Data on page 4 for actual wattage consumption), **multi-volt input and 0-10V dimming standard.** This fixture is designed to withstand a maximum line surge of 2.5kV at 0.75kA combination wave for indoor locations, for applications requiring higher level of protection additional surge protection must be provided.

LEDs provide nominal 80 CRI at 3000 K, 3500 K, 4000 K, or 5000 K.

Lumen output up to 2,000 lumens per foot. In 86°F (30°C) ambient environments. Luminaire should be installed in applications where ambient temperatures do not exceed 86°F (30°C).

INSTALLATION — Tool-less channel cover for easy installation.

Fixture may be surface mounted (with or without ZSPRG hanger), pendant or stem mounted with appropriate mounting options. Three-point aligner locks in place for easy continuous row mounting.

LISTINGS — CSA certified to US and Canadian safety standards. For use in damp locations between -40°F (-40°C) and 86°F (30°C).

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

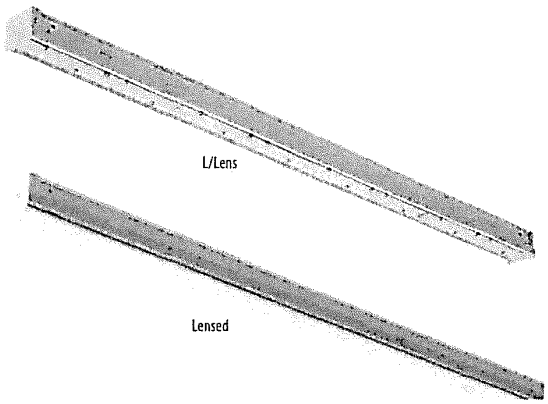
All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

LED Striplight

ZL1N

24", 48" and 96" Lengths



C US

Buy American

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI E10WLCP WH Note:	Type AE

ZL1N LED Striplight

A+ Capable options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: ZL1N L48 3000LM FST MVOLT 40K 80CRI WH

Series		Length		Reflectors‡		Nominal lumens‡		Diffuser		Voltage	
ZL1N	LED striplight	L24	24" ‡	(blank)	Less reflector	1500LM	1,500 lumens	FST	Snap on frosted, diffuse	MVOLT	120-277V
				SMR	Symmetric	2500LM	2,500 lumens	L/LENS	No diffuser	120	120V
						3500LM	3,500 lumens	SBL FST	Straight blade louver with snap on frosted, diffuse	208	208V
		L46	46"	(blank)	Less reflector	3000LM	3,000 lumens			240	240V
		L48	48"	ASR	Asymmetric (L48 only)	5000LM	5,000 lumens			277	277V
				SMR	Symmetric	7000LM	7,000 lumens			347	347V ‡
TZL1N	LED striplight‡	L92	92"	(blank)	Less reflector	6000LM	6,000 lumens			480	480V ‡
		L96	96"	SMR	Symmetric	10000LM	10,000 lumens				
						14000LM	14,000 lumens				

Color temperature		Color rendering index		Options		Paint finish	
30K	3000 K	80CRI	80 CRI	PLR___	Plug-in wiring‡	WH	White
35K	3500 K	90CRI	90 CRI	PLR1LVG	Plug-in wiring-low voltage‡	GALV	Galvanized
40K	4000 K			E7W	Power Sentry® PS750L, 7 watt emergency battery, CA Title 20 non-compliant (LINK)‡	MB	Matte black
50K	5000 K			2E7W	Two Power Sentry® PS750L, 7 watt emergency batteries, CA Title 20 non-compliant (LINK)‡	SKGY	Smoke gray
				E10WLCP	Power Sentry® PS1055LCP, 10 watt emergency battery, Certified in CA Title 20 MAEDBS (LINK)‡		
				2E10WLCP	Two Power Sentry® PS1055LCP, 10 watt emergency batteries, Certified in CA Title 20 MAEDBS (LINK)‡		
				E15WLCP	Power Sentry® PS1555LCP, 15 watt emergency battery, Certified in CA Title 20 MAEDBS (LINK)‡		
				OUTEND	Cord set to exit endplate of fixture		
				BAA	Buy America(n) Act Compliant		
				nLight® Wireless ‡			
				NLTAIR2 RLSXR10	nLight® Air Generation 2 enabled, 360° low mount sensor, (7 to 15' heights) (LINK)		
				NLTAIR2 RLSXR10EM	nLight® Air Generation 2 enabled, 360° low mount sensor, (7 to 15' heights),UL 924 Emergency Operation, via power interrupt detection (not available with battery pack) (LINK)‡		

Individual Controls‡		Cord sets:‡	
LBOZU	360° low mount LSXR PIR sensor, (7-15' mounting heights), ON/OFF occupancy, pre-wired (LINK)‡	CS1W	Cord with NEMA 5-15P, 120V straight blade plug, 18 gauge, 3 conductors, white, 6ft
LBHOSZU	360° low mount LSXR PIR sensor, (7-15' mounting heights), high/low occupancy dimming, pre-wired (LINK)‡	CS3W	Cord with NEMA L5-15P, 120V twist lock plug, 18 gauge, 3 conductor, white, 6ft
LBPZU	360° low mount LSXR PIR sensor, (7-15' mounting heights), ON/OFF photocell, pre-wired (LINK)‡	CS7W	Cord with NEMA 7-15P, 277V straight blade plug, 18 gauge, 3 conductors, white, 6ft
LBMOSZU	360° low mount LSXR PIR sensor, (7-15' mounting heights), dimming and switching photocell, pre-wired (LINK)‡	CS11W	Cord with NEMA L7-15P, 277V twist lock plug, 18 gauge, 3 conductors, white, 6ft
		CS25W	Cord with NEMA L24-20P, 347V twist lock plug, 18 gauge, 3 conductors, white, 6ft
		CS97W	Cord with NEMA L8-20P, 480V twist lock plug, 18 gauge, 3 conductors, white, 6ft
		CS93W	Cord only (no plug), 18 gauge, 3 conductors, white, 6ft

Accessories: *Order as separate catalog number.*

HC36 M12	Hanger chain, 36" (1 pair)	ZLR L24 SYM UPL WH	24" symmetric reflector with uplight, white finish
ZACVH M100	Adjustable 10' aircraft cable with Y hanger (1 pair)	ZLR L24 SYM WH	24" symmetric reflector, white finish
ZLANGBKT	Luma-tilt™ angle bracket for shelf or ledge mounting only	ZLR L46 SYM UPL WH	46" symmetric reflector with uplight, white finish
SQ_	Swivel stem hanger (specify length in 2" increments up to 48")	ZLR L46 SYM WH	46" symmetric reflector, white finish
NPP16D	nLight® wired power/relay pack, 0-10VDC dimming output (LINK)	ZLR L48 ASY WH	48" asymmetric reflector, white finish
RPP20D	nLight® air Generation 2 enabled, power/relay pack, 0-10V dimming output (LINK)	ZLR L48 SYM UPL WH	48" symmetric reflector with uplight, white finish
LSXR	Sensor Switch® LSXR occupancy sensor (LINK)	ZLR L48 SYM WH	48" symmetric reflector, white finish
ZSPRG J2	Tong and T-grid hanger, for 15/16" T-grid (Order quantity required in multiples of 2)	ZLR L92 SYM UPL WH	92" symmetric reflector with uplight, white finish
WGZ24	24" wireguard, white ‡	ZLR L92 SYM WH	92" symmetric reflector, white finish
WGZ48	48" wireguard, white ‡	ZLR L96 SYM UPL WH	96" symmetric reflector with uplight, white finish
		ZLR L96 SYM WH	96" symmetric reflector, white finish
		UNIVERSAL REFL ALIGNER	Universal reflector aligners, quantity 1

COMMERCIAL INDOOR: One Lithonia Way, Conyers, GA 30012 Phone: 800-705-SERV (7378) techsupport-commercialindoor@acuitybrands.com www.lithonia.com

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI E10WLCP WH Note:	Type AE

ZL1N LED Striplight

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
2E7W	MVOLT required. Available with L92 or L96 only. Not available with L24, L46, L48, L92 6000LM, L96 6000LM or any cordset that includes a plug.
2E10WLCP	MVOLT required. Available with L92 or L96 with 10,000LM or 14000LM only. Not available with L24, L46, L48, L92 6000LM, L96 6000LM or any cordset that includes a plug.
347, 480	Utilizes step down transformer.
Cord Sets	Must specify voltage when plug is inlcuded. Cordsets exit back of fixture unless OUTEND option is specified.
E7W	MVOLT required. Available with L46, L48, L92 or L96 with 10000LM or 14000LM only. Not available with L24 or any cordset that includes a plug.
E10WLCP	MVOLT required. Available with L46, L48, L92 or L96 only. Not available with L24 or any cordset that includes a plug.
E15WLCP	MVOLT required. Available with L92 or L96 only. Not available with L24, L46, L48 or any cordset that inlcudes a plug.
HTZL1N	Tandem fixture ships as two L46 or L48 fixtures.
Individual Controls	Available with MVOLT, 347 or 480 only. See ordering information on page 6 for more configurations. This sensor configuration is suitable for minimum ambient temperature of 14°F (-10°C). See page 5 for low temperature option providing -4°F (-20°C) minimum ambient. When choosing Sensor and PLR for same fixture, consult the factory. Sensors come prewired, they must be snapped into place at time of installation.
L24	Not available with 347V, 480V or emergency batteries.
nLight® Wireless	See LINK in sensor description to RLSXR specification sheet for more configurations. When choosing a sensor and PLR for same fixture, consult the factory. Sensors come prewired, they must be snapped into place at time of installation.
NLTAIR2 RLSXR10EM	Not available with 347 or 480. MVOLT required.
Nominal Lumens	See Operational Data on page 2 for actual lumens.
PLR__	Not available with cordset options. Not available with sensor options. See ordering information on page 5.
PLR1LVG	Not available with cordset options. Not available with sensor options.
Reflectors	Optional. Reflectors ship separately.
WGHZ24	Not available with ASR or SMR reflector options.
WGHZ48	Not available with ASR or SMR reflector options. Order a Qty of 2 for L92 or L96 tandem fixtures.

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI E10WLCP WH Note:	Type AE

ZL1N LED Striplight

OPERATIONAL DATA

	Nominal lumen package	Length (inches)	Delivered Lumens 3000 K CCT @ 77°F (25°C) ambient temperature		Delivered Lumens 3500 K CCT @ 77°F (25°C) ambient temperature		Delivered Lumens 4000 K CCT @ 77°F (25°C) ambient temperature		Delivered Lumens 5000 K CCT @ 77°F (25°C) ambient temperature		Wattage @ 120V/277V	Comparable Light Source
			80 CRI	90 CRI	80 CRI	90 CRI	80 CRI	90 CRI	80 CRI	90 CRI		
Lensed	1500LM	24	1738	1409	1777	1467	1804	1494	1871	1528	15	1-lamp 17W T8
	2500LM	24	2265	1846	2315	1900	2351	1947	2438	1991	19	1-lamp 17W T8
	3500LM	24	3586	2924	3666	3026	3723	3084	3860	3152	31	1-lamp 32W T8, 1-lamp 54W T5HO, 50W HID
	3000LM	46 or 48	3172	2586	3243	2677	3293	2728	3415	2788	25	1-lamp 32W T8, 1-lamp 54W T5HO, 50W HID
	5000LM	46 or 48	4417	3601	4515	3727	4585	3798	4754	3882	34	2-lamp 32W T8, 1-lamp 54W T5HO, 70W HID
	7000LM	46 or 48	6535	5328	6681	5515	6785	5619	7035	5744	52	3-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	6000LM	92 or 96	6561	5349	6708	5537	6812	5642	7063	5767	48	3-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	10000LM	92 or 96	8687	7082	8881	7331	9019	7470	9351	7636	68	4-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	14000LM	92 or 96	12457	10513	12735	10665	12933	10711	13409	10949	104	4-lamp 32W T8, 3-lamp 54W T5HO, 150W HID
Unlensed	1500LM	24	1881	1534	1923	1588	1953	1618	2025	1654	15	1-lamp 17W T8
	2500LM	24	2452	1999	2506	2069	2545	2108	2639	2155	19	1-lamp 17W T8
	3500LM	24	3882	3165	3969	3276	4031	3338	4179	3412	31	1-lamp 32W T8, 1-lamp 54W T5HO, 50W HID
	3000LM	46 or 48	3434	2800	3511	2898	3565	2953	3697	3019	25	1-lamp 32W T8, 1-lamp 54W T5HO, 50W HID
	5000LM	46 or 48	4781	3898	4888	4035	4964	4111	5147	4203	34	2-lamp 32W T8, 1-lamp 54W T5HO, 70W HID
	7000LM	46 or 48	7075	5768	7233	5971	7345	6083	7616	6219	52	3-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	6000LM	92 or 96	7103	5791	7261	5995	7374	6108	7646	6243	48	3-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	10000LM	92 or 96	9404	7667	9614	7937	9764	8087	10123	8266	68	4-lamp 32W T8, 2-lamp 54W T5HO, 100W HID
	14000LM	92 or 96	13485	10994	13786	11381	14001	11596	14516	11853	104	4-lamp 32W T8, 3-lamp 54W T5HO, 150W HID

PROJECTED LUMEN MAINTENANCE

Operating Hours	0	15,000	30,000	45,000	60,000	100,000
Lumen Maintenance Factor	1	0.94	0.89	0.83	0.79	0.67

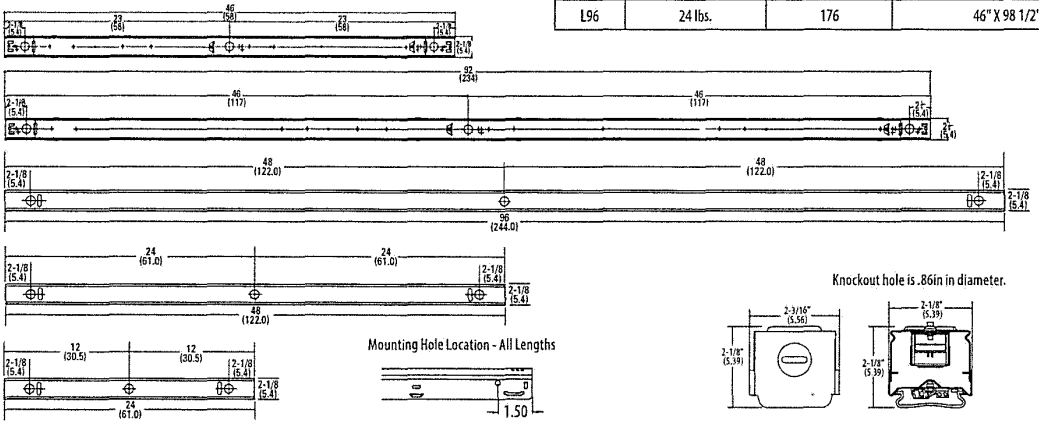
DIMENSIONS

All dimensions are shown in inches (centimeters) unless otherwise noted.

Specifications subject to change without notice.

PALLET DIMENSIONS

Length	Approximate weight	Fixtures per pallet	Approximate pallet dimensions (L x W x H)
L24	7 lbs.	408	46" X 51" X 32 11/16"
L46	11 lbs.	176	46" X 51" X 32 1/16"
L48	12 lbs.	176	46" X 51" X 31 3/8"
L92	22 lbs.	176	46" X 98 1/2" X 31 1/16"
L96	24 lbs.	176	46" X 98 1/2" X 31 1/16"



Mounting Hole Location - All Lengths

Knockout hole is .86in in diameter.

PHOTOMETRICS

Please see www.lithonia.com

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI E10WLCP WH Note:	Type AE

ZL1N LED Striplight

REFLECTORS (Optional)

L24 Reflector

L48 Reflector

L96 Reflector

PHOTOMETRICS

Please see www.lithonia.com

PLUG-IN WIRING INFORMATION

Advanced plug-in system with two-circuit capability. Available on industrial and strip products and a variety of architectural products mounted in continuous. PLR22 (2-circuit) and crossover harness switches hot circuit serving next fixture in row. Reduces fixture types on job for alternating circuit applications (see example below.)

Easy one-step installation, saves up to 35% on labor costs. Expanded switching flexibility helps save energy.

Rows can be 50% longer with two-circuit systems. Polarized, lock-together nylon connectors prevent miswiring in the field. #12 THHN conductor, rated 600V, 90°C. White neutral wire included. Grounding accomplished by fixture in-row connectors.

CSA certified systems available with up to 2 circuits. G ground required.

Not for use with dedicated emergency circuits.

Note: Specifications subject to change without notice.

Wiring

PLR

Advanced 1 or 2-Circuit Plug-In

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Series	Number of hot wires		Branch circuits		Battery charging circuit (must be unswitched)		Dimming		Ground	
PLR	(blank)	Not required for PLR22	Circuits to which driver is connected				LV	Low-voltage dimming	G	Ground (required)
PLR22	1	Black	(blank)	Not required for PLR22 or PLR1	(blank)	No battery charging circuit				
	2	Black and red	A	Black wire	ELA	Battery pack wired to black wire				
			B	Red wire	ELB	Battery pack wired to red wire				

Typical Applications

- Multiple-circuit and single-circuit for longer continuous rows
- Multiple-circuit with alternating fixtures on separate circuits, 2-circuit (PLR22)
- Multiple circuit with night-lights located along row as desired

COMMERCIAL INDOOR: One Lithonia Way, Conyers, GA 30012 Phone: 800-705-SERV (7378) techsupport-commercialindoor@acuitybrands.com www.lithonia.com

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: ZL1N L48 5000LM FST MVOLT 40K 80CRI E10WLCP WH Note:	Type AE

ZL1N LED Striplight

LSXR – Fixture Mount Occupancy Sensor (see www.AcuityControls.com for additional information)

- Three interchangeable lens options to satisfy multiple mounting heights and coverage pattern requirements.
- Integrated mounting bracket drops lens down 3" from chase nipple.
- Single or dual relay versions — designed with robust protection from the harsh switching requirements of T5 and LED loads.
- Photocell and 0-10VDC dimming options.
- No PIR field calibration or sensitivity adjustments required.
- Sensor ambient temperature rating of 14°F (-10°C) to 131°F (55°C).

LSXR configuration	Comparable CMRB sensor	Old style sensor nomenclature
For shortest lead times use one of the following LSXR configurations		
LCOZU	CMRB 50	MSI
LCHOSZU	CMRB 50 D	MSID
LCPZU	CMRB 50 P	MSIPED
LAOZU	CMRB 6	MSI360
LAHOSZU	CMRB 6 D	MSI360D
LAPZU	CMRB 6 P	MSI360PED

SELECTIONS BELOW WILL EXTEND ORDER LEAD TIME. CONSULT YOUR SALES REPRESENTATIVE FOR DETAILS.

SINGLE RELAY

ORDERING INFORMATION — **Example:** LAHOSZU

Series	Lens option	Dimming/Photocell	Max. dim level	Min. dim level	Temp/Humidity	Default occupancy time delay
L LSXR passive infrared indoor occupancy sensor	A High mount, 360° B Low mount, 360° C High mount aisleway	0 None[1] H High/low occupancy operation P Switching photocell (on/off)[1] M Dimming and switching photocell G Dimming and switching photocell with high/low occupancy operation	0 10 VDC 9 9 VDC 8 8 VDC 7 7 VDC	S Minimum dim level of ballast 1 1 VDC 2 2 VDC 3 3 VDC 4 4 VDC 5 5 VDC 6 6 VDC	Z None T Low temperature[2]	I 30 sec D 2.5 min X 5.0 min R 7.5 min U 10.0 min (with minimum 15 minute on time) V 15.0 min W 20.0 min Y 30.0 min

Notes
1. Max and min dim levels not applicable with this option.
2. Ambient temperature rating of -4°F (-20°C) to 131°F (55°C).

DUAL RELAY (Available with 120, 277, and 347V only)

ORDERING INFORMATION — **Example:** LA2KZU

Series	Lens option	Poles	Operating mode	Temp/Humidity	Default occupancy time delay
L LSXR passive infrared indoor occupancy sensor	A High mount, 360° B Low mount, 360° C High mount aisleway	2 Dual relay	J None K Alternating off relays (promotes even lamp wear) O Alternating off relays w/photocell P Switching photocell(on/off) E Photocell on/off (pole 1 only) F Photocell on/off - both poles (dual set-point)	Z None T Low temperature[1]	I 30 sec D 2.5 min X 5.0 min R 7.5 min U 10.0 min (with minimum 15 minute on time) V 15.0 min W 20.0 min Y 30.0 min

Notes
1. Ambient temperature rating of -4°F (-20°C) to 131°F (55°C).

Example: LENS 50 J100

Replacement lenses: *Order as separate catalog number.*

Series	Lens type	Package quantity
LENS	6 High mount 360°	[blank] Single Lens
	10 Low mount 360°	J10 10-pack
	50 High mount aisleway	J100 100-pack

Attachment A - Application Packet

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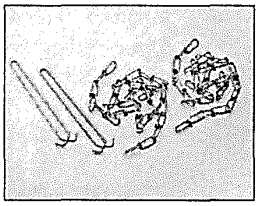
ZL1N LED Striplight

OPTIONS AND ACCESSORIES

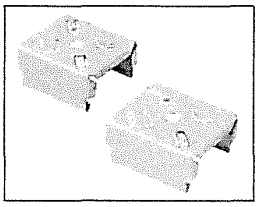
The Z Series fixture offers numerous options for almost every electrical and optical component, including a long list of field-installable accessories.



HANGER CHAIN

36" chain with Y hanger.

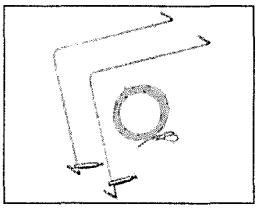
Order as:
HC36



Z SPRING HANGER

Snap'n'lock design requires no fasteners and can be used on T-grid ceiling or universal mounting systems.

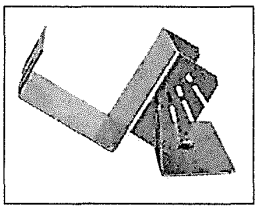
Order as:
ZSPRG J2



ZACVH HANGER

10' Aircraft cable with Y hanger.

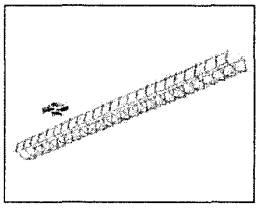
Order as:
ZACVH



ANGLE MOUNTING BRACKET

Luma-tilt™ angle bracket ships as a pair

Order as:
ZLANGBKT

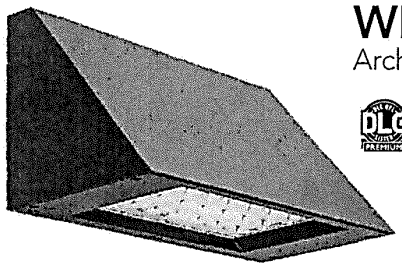


WIRE GUARD

Order as:
WGZ24
WGZ48

Attachment A - Application Packet

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: WDGE3 LED P2 40K 70CRI RFT MVOLT SRM DDBXD Note:	Type SE



WDGE3 LED

Architectural Wall Sconce

Buy American

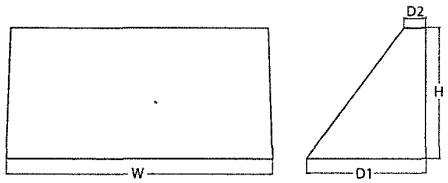
Catalog Number

Notes

Type

Specifications

Depth (D1): 8"
Depth (D2): 1.5"
Height: 9"
Width: 18"
Weight: (without options) 19.5 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE3 has been designed to deliver up to 12,000 lumens through a precision refractive lens with wide distribution, perfect for augmenting the lighting from pole mounted luminaires.

WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (4000K)					
				P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	--	--	1,200	2,000	--	--	--	--
WDGE2 LED	10W	18W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000	--
WDGE3 LED	15W	18W	Standalone / nLight	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	--	--	Standalone / nLight	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE3 LED P3 40K 70CRI R3 MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE3 LED	P1	30K 3000K	70CRI	R2 Type 2	MVOLT	**Shipped included**
	P2	40K 4000K	80CRI	R3 Type 3	347[1]	SRM Surface mounting bracket
	P3	50K 5000K		R4 Type 4	480[1]	ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[4]
	P4			RFT Forward Throw		**Shipped separately**
						AWS 3/8inch Architectural wall spacer
						PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available.

Options

E15WH	Emergency battery backup, Certified in CA Title 20 MAEDBS (15W, 5°C min)
E20WC	Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min)
PE[2]	Photocell, Button Type
DMG[3]	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)
BCE	Bottom conduit entry for back box (P8BW). Total of 4 entry points.
SPD10KV	10kV Surge pack
BAA	Buy America(n) Act Compliant

Standalone Sensors/Controls

PIR	Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.
PIRH	Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching
PIR1FC3V	Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation.
PIRH1FC3V	Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation.

Networked Sensors/Controls

NLTAIR2 PIR	nLightAIR Wireless enabled bi-level motion/ambient sensor for 8-15' mounting heights.
NLTAIR2 PIRH	nLightAIR Wireless enabled bi-level motion/ambient sensor for 15-30' mounting heights.

See page 4 for out of box functionality

Finish

DDBXD	Dark bronze
DBLXD	Black
DNAXD	Natural aluminum
DWHXD	White
DSSXD	Sandstone
DDBTXD	Textured dark bronze
DBLBXD	Textured black
DNATXD	Textured natural aluminum
DWHGXD	Textured white
DSSTXD	Textured sandstone

Accessories

Ordered and shipped separately.

WDGEAWS DDBXD	WDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE3PBBW DDBXD U	WDGE3 surface-mounted back box (specify finish)

NOTES

1. 347V and 480V not available with E15WH and E20WC.
2. PE not available in 480V and with sensors/controls.
3. DMG option not available with sensors/controls.
4. Not qualified for DLC. Not available with emergency battery backup or sensors/controls

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: WDGE3 LED P2 40K 70CRI RFT MVOLT SRM DDBXD Note:	Type SE

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P1	52W	R2	7,037	136	1	0	1	7,649	148	2	0	1	7,649	148	2	0	1
		R3	6,922	134	1	0	2	7,524	145	1	0	2	7,524	145	1	0	2
		R4	7,133	138	1	0	2	7,753	150	1	0	2	7,753	150	1	0	2
		RFT	6,985	135	1	0	2	7,592	147	1	0	2	7,592	147	1	0	2
P2	59W	R2	7,968	135	2	0	1	8,661	147	2	0	1	8,661	147	2	0	1
		R3	7,838	133	1	0	2	8,519	144	1	0	2	8,519	144	1	0	2
		R4	8,077	137	1	0	2	8,779	149	1	0	2	8,779	149	1	0	2
		RFT	7,909	134	1	0	2	8,597	146	2	0	2	8,597	146	2	0	2
P3	71W	R2	9,404	132	2	0	1	10,221	143	2	0	1	10,221	143	2	0	1
		R3	9,250	130	2	0	2	10,054	141	2	0	2	10,054	141	2	0	2
		R4	9,532	134	2	0	2	10,361	145	2	0	2	10,361	145	2	0	2
		RFT	9,334	131	2	0	2	10,146	142	2	0	2	10,146	142	2	0	2
P4	88W	R2	11,380	129	2	0	1	12,369	140	2	0	1	12,369	140	2	0	1
		R3	11,194	127	2	0	2	12,167	138	2	0	2	12,167	138	2	0	2
		R4	11,535	131	2	0	2	12,538	142	2	0	2	12,538	142	2	0	2
		RFT	11,295	128	2	0	2	12,277	139	2	0	2	12,277	139	2	0	2

Electrical Load

Performance Package	System Watts	Current (A)					
		120V	208V	240V	277V	347	480V
P1	52W	0.437	0.246	0.213	0.186	0.150	0.110
P2	59W	0.498	0.287	0.251	0.220	0.175	0.126
P3	71W	0.598	0.344	0.300	0.262	0.210	0.152
P4	88W	0.727	0.424	0.373	0.333	0.260	0.190

Lumen Output in Emergency Mode (4000K, 70 CRI)

Option	Dist. Type	Lumens
E15WH	R2	3,185
	R3	3,133
	R4	3,229
	RFT	3,162
E20WC	R2	3,669
	R3	3,609
	R4	3,719
	RFT	3,642

Lumen Multiplier for 80CRI

CCT	Multiplier
30K	0.891
40K	0.906
50K	0.906

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.05
10°C	50°F	1.03
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.98	>0.97	>0.92

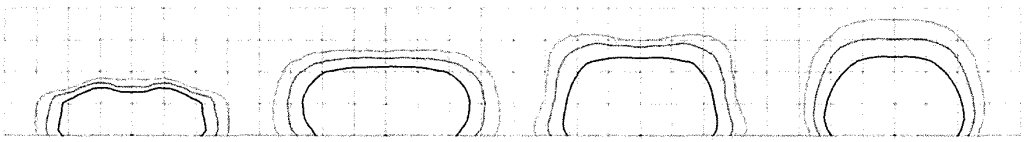
ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: WDGE3 LED P2 40K 70CRI RFT MVOLT SRM DDBXD Note:	Type SE

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting WDGE LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.

LEGEND
0.25 fc
0.5 fc
1.0 fc

MH = 15ft
Grid = 15ft x 15ft



WDGE3 LED P3 40K 70CRI R2 | WDGE3 LED P3 40K 70CRI R3 | WDGE3 LED P3 40K 70CRI R4 | WDGE3 LED P3 40K 70CRI RFT

Emergency Egress Options

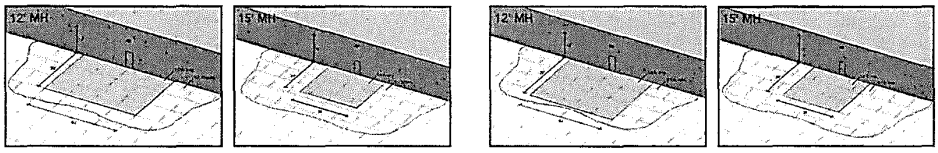
Emergency Battery Backup

The emergency battery backup is integral to the luminaire — no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All emergency battery backup configurations include an independent secondary driver with an integral relay to immediately detect loss of normal power and automatically energize the luminaire. The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time normal power is lost and maintain, minimum of 60% of the light output at the end of 90minutes.

Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9

The examples below show illuminance of 1 fc average and 0.1 fc minimum in emergency mode with E15WH or E20WC and R4 distribution.

Grid = 10ft x 10ft



WDGE3 LED xx 40K 70CRI R4 MVOLT E15WH | WDGE3 LED xx 40K 70CRI R4 MVOLT E20WC

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: WDGE3 LED P2 40K 70CRI RFT MVOLT SRM DDBXD Note:	Type SE

Control / Sensor Options

Motion/Ambient Sensor (PIR_, PIRH_)

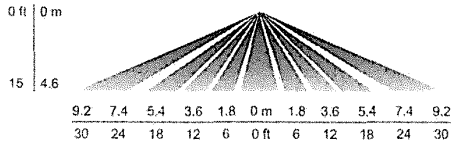
Motion/Ambeint sensor (Sensor Switch MSOD) is integrated into the the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The integrated photocell enables additional energy savings during daytime periods when there is sufficient daylight. Optimize sensor coverage by either selecting PIR or PIRH option. PIR option comes with a sensor lens that is optimized to provide maximum coverage for mounting heights between 8-15ft, while PIRH is optimized for 15-40ft mounting height.

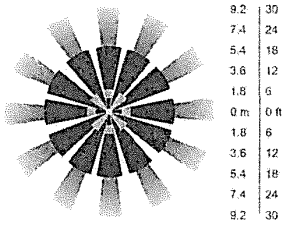
Networked Control (NLTAIR2)

nLight® AIR is a wireless lighting controls platform that allows for seamless integration of both indoor and outdoor luminaires. Five-tier security architecture, 900 MHz wireless communication and app (CLAIRITY™ Pro) based configurability combined together make nLight® AIR a secure, reliable and easy to use platform.

PIR

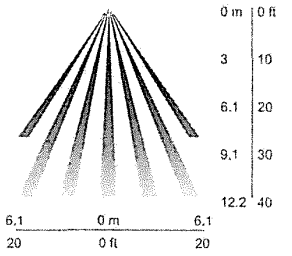
HIGH VIEW



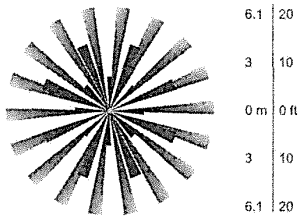


PIRH

SIDE VIEW



TOP VIEW

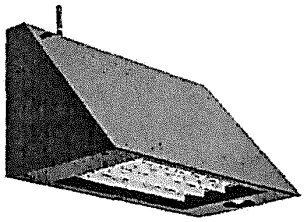


Motion/Ambient Sensor Default Settings

Option	Dim Level	High Level (when triggered)	Photocell Operation	Motion Time Delay	Ramp-down Time	Ramp-up Time
PIR or PIRH	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
PIR1FC3V, PIRH1FC3V	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 1fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
NLTAIR2 PIR, NLTAIR2 PIRH (out of box)	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	7.5 min	5 min	Motion - 3 sec Photocell - 45 sec

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: WDGE3 LED P2 40K 70CRI RFT MVOLT SRM DDBXD Note:	Type SE

Mounting, Options & Accessories

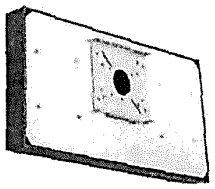


NLTAIR2 PIR – nLight AIR Motion/Ambient Sensor

D = 8"

H = 11"

W = 18"

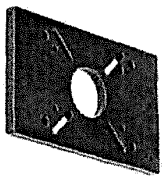


PBBW – Surface-Mounted Back Box
Use when there is no junction box available.

D = 1.75"

H = 9"

W = 18"



AWS – 3/8inch Architectural Wall Spacer

D = 0.38"

H = 4.4"

W = 7.5"

FEATURES & SPECIFICATIONS

INTENDED USE
Common architectural look, with clean rectilinear shape, of the WDGE LED was designed to blend with any type of construction, whether it be tilt-up, frame or brick. Applications include commercial offices, warehouses, hospitals, schools, malls, restaurants, and other commercial buildings.

CONSTRUCTION
The single-piece die-cast aluminum housing to optimize thermal transfer from the light engine and promote long life. The driver is mounted in direct contact with the casting for a low operating temperature and long life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP65 rating for the luminaire.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes.

OPTICS
Individually formed acrylic lenses are engineered for superior application efficiency which maximizes the light in the areas where it is most needed. Light engines are available in 3000 K, 4000 K or 5000 K configurations. The WDGE LED has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L92/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%. Luminaire comes with built in 6kV surge protection, which meets a minimum Category C low exposure (per ANSI/IEEE C62.41.2). Fixture ships standard with 0-10v dimmable driver.

INSTALLATION
A universal mounting plate with integral mounting support arms allows the fixture to hinge down for easy access while making wiring connections. The 3/8" Architectural Wall Spacer (AWS) can be used to create a floating appearance or to accommodate small imperfections in the wall surface. The ICW option can be used to mount the luminaire inverted for indirect lighting in dry and damp locations. Design can withstand up to a 1.5 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. Light engines are IP66 rated; luminaire is IP65 rated. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified. International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature and SRM mounting only.

BUY AMERICAN
Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.trusteedards.com/buy-american for additional information.

WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: 55 942-K4 Note:	Type SK

LED semi-recessed ceiling downlight - partially frosted crystal glass **BEGA**

Application
LED semi-recessed ceiling luminaire with partially frosted crystal glass and symmetrical wide beam light distribution designed for downlighting atriums, passages and other interior and exterior locations.

Materials
Luminaire housing constructed of die-cast marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
Stainless steel trim ring
Partially frosted crystal glass
Reflector made of pure anodized aluminum
High temperature silicone gasket
Stainless steel screw clamps
Galvanized steel rough in ceiling pan with through wiring box

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 65
Weight: 1.4 lbs

Electrical

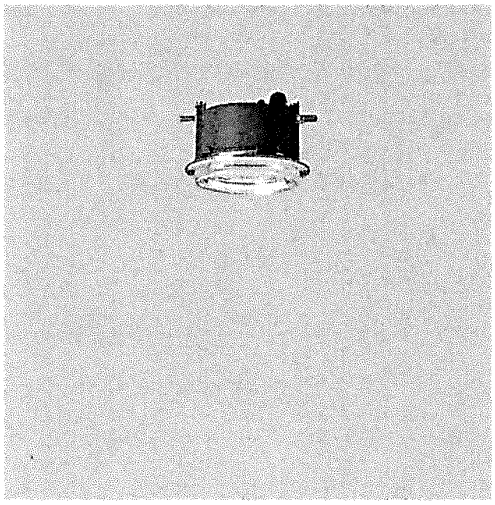
Operating voltage	120-277VAC
Minimum start temperature	-30° C
LED module wattage	8.7 W
System wattage	11 W
Controllability	0-10V dimming down to 0.1%
Color rendering index	Ra > 85
Luminaire lumens	744 lumens (3000K)
Lifetime at Ta = 15° C	420,000 h (L70)
Lifetime at Ta = 40° C	260,000 h (L70)

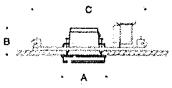
LED color temperature
☐ 4000K - Product number + **K4**
☐ 3500K - Product number + **K35**
☐ 3000K - Product number + **K3**
☐ 2700K - Product number + **K27**

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
#4 brushed stainless steel.
Custom colors are not available.
Stainless steel requires regular cleaning and maintenance, much like household appliances to maintain its luster and prevent tarnishing or the appearance of rust like stains.

Type:
BEGA Product:
Project:
Modified:





LED semi-recessed ceiling downlight · partially frosted crystal glass

	LED	A	B	C
55942	8.7 W	4 ½	2 ¾	18

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Updated 07/23/18

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: 55 942-K4 Note: USE INVERTER BELOW	Type SKE

LED semi-recessed ceiling downlight - partially frosted crystal glass **BEGA**

Type:
BEGA Product:
Project:
Modified:

Application
LED semi-recessed ceiling luminaire with partially frosted crystal glass and symmetrical wide beam light distribution designed for downlighting atriums, passages and other interior and exterior locations.

Materials
Luminaire housing constructed of die-cast marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
Stainless steel trim ring
Partially frosted crystal glass
Reflector made of pure anodized aluminum
High temperature silicone gasket
Stainless steel screw clamps
Galvanized steel rough in ceiling pan with through wiring box

NRTL listed to North American Standards, suitable for wet locations
Protection class IP65
Weight: 1.4 lbs

Electrical

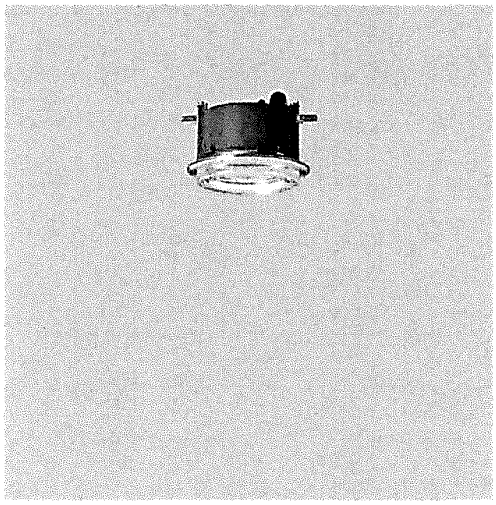
Operating voltage	120-277V AC
Minimum start temperature	-30° C
LED module wattage	8.7 W
System wattage	11 W
Controllability	0-10V dimming down to 0.1%
Color rendering index	Ra > 85
Luminaire lumens	744 lumens (3000K)
Lifetime at Ta = 15° C	420,000 h (L70)
Lifetime at Ta = 40° C	260,000 h (L70)

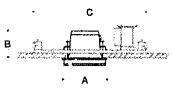
LED color temperature

☐ 4000K - Product number + **K4**
☐ 3500K - Product number + **K35**
☐ 3000K - Product number + **K3**
☐ 2700K - Product number + **K27**

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
#4 brushed stainless steel.
Custom colors are not available.
Stainless steel requires regular cleaning and maintenance, much like household appliances to maintain its luster and prevent tarnishing or the appearance of rust like stains.





LED semi-recessed ceiling downlight - partially frosted crystal glass

	LED	A	B	C
55942	8.7 W	4 ½	2¾	18

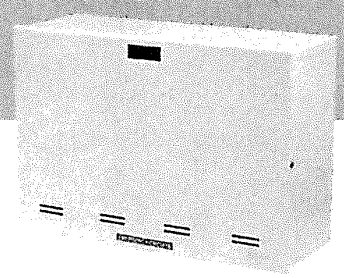
BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

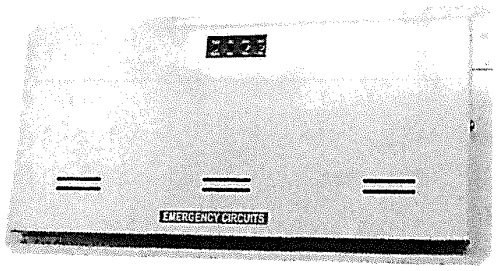
Updated 07/23/18

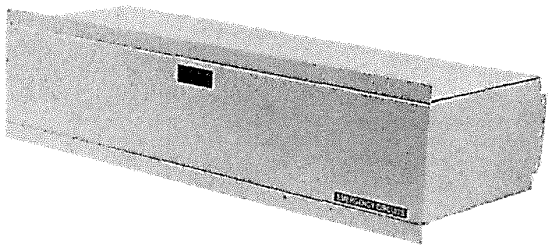
ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: EMS-55-LC-V3-S Note:	Type SKE

EMS

Emergency Micro Power Inverters







The EMS Series is designed to provide 20- to 55- Watts of emergency power to incandescent, fluorescent, and/or LED fixtures. The EMS unit provides clean, sinusoidal AC output power allowing it to be remotely mounted up to 1,000 feet away from the controlled fixture(s).

Unlike a ballast fluorescent emergency pack, the EMS provides power to the input side of the fixture, (including the ballast) eliminating any chance of incompatibility. EMS Series models are available for surface, recessed or ceiling T-Grid mounting if required. All EMS systems will provide emergency power output for a minimum of 90 minutes.

FEATURES

- For powering incandescent, fluorescent, and LED fixtures
- True sinusoidal AC pulse width modulated (PWM) design provides clean 60 Hz. emergency output
- Universal 120/277 VAC, 60Hz. input/output
- Unit capacities of 20 to 55 Watts
- "Soft Start" design reduces fixture inrush current
- Surface, recessed or T-Grid mount models
- Lumen output from fixture is 100% of nominal
- Unique design eliminates compatibility problems with LED drivers as well as fluorescent ballasts
- Normally ON, Normally OFF, or switched outputs
- Temperature compensated, dual-mode charger includes low voltage disconnect feature to provide protection against battery deep discharge
- Maintenance-free Lead-Calcium and premium grade Nickel-Cadmium battery models offered
- Control panel with momentary test switch, AC-ON, Charge-ON and Inverter-ON LED indicators
- Battery circuit fuse protected
- Reverse battery and AC lockout protection
- Knockouts in back
- White powder coat finish

UL LISTED

EVENLITE
LIFE SAFETY LIGHTING SOLUTIONS
2572 Metropolitan Drive, Trevose, PA 19053 USA
TEL: (800) 872 0879 • FAX:(215) 244 4208 • www.evenlite.com

Project name:	Approved By:
Catalog No:	Type No:

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: EMS-55-LC-V3-S Note:	Type SKE

EMS - Emergency Micro Power Inverters

Specifications

INPUT

Voltage:	120 or 277VAC ± 10%
Frequency:	120 or 277VAC ± 10%
Protection:	Provided by Service Panel, Rated 20A max.

OUTPUT

Voltage:	120 or 277VAC (60Hz)
Efficiency Rating:	98% at full rate load (line)
Waveform:	Sinusoidal (digitally controlled, PWM design)
Static Voltage:	± 5% during battery discharge. 0-100% linear load
Output Frequencies:	60 Hz ± 0.3Hz during emergency cycle
Output Distortion:	Less than 3% THD (linear load)
Transfer Time:	Less than 1.0 second
Load Power Factor Range:	0.44 Lead to 0.44 Lag
Minimum Loading:	0% of rated system capacity
Output Protection:	Inverter fuse
Power Consumtion (max):	9W

Housing

- Heavy duty steel cabinet has a white powder coat finish providing scratch and corrosion resistance.

Mounting

- Surface MountSurface mount models are designed for mounting to walls by means of keyhole slots provided in the back of the unit housing.
- Recess MountRecess models provide recess mounting holes on both sides of the enclosure.
- T-Grid Mount:Housing design allows simple drop-in installation between t-grid runs. Safety wires (supplied by others) are required for attachment to building structure.

Warranty / Listing

- Unit: 3 years limited coverage against defects in materials and workmanship from date of shipment.
- Battery:Lead-Acid 3 years, one full and two pro-rated
  Nickel cadmium 5 years one full and four pro-rated
- All models are UL924 Listed and meet NFPA 101 Life Safety Code, NEC, OSHA, Local and State Codes. Optional T-Grid models are plenum rated.

SYSTEM SPECIFICATIONS

Model	System Weight Lbs.	Battery Type	Temp. Range (°C)	DC Input Current (VDC)	Input Current		Thermal Output in BTUs	
					120VAC (max)	277VAC (max)	Standby	Emergency
EMS-32	14.0	Lead-Calc	20-30°	3.4	0.34A	0.15A	7	32
EMS-55	18.0	Lead-Calc	20-30°	5.7	0.54A	0.23A	7	47
EMS-20	11.0	NiCad	0-50°	2.1	0.25A	0.11A	31	22
EMS-35	12.0	NiCad	0-50°	3.8	0.37A	0.16A	31	35
*System weights show include installed batteries								

ORDERING GUIDE

EMS				
Model	VA Rating	Battery Type	Input/Output	Options
EMS	32	LC	V3 120/277	S Surface Mount
	55	LC		RE Recess Mount
	20	NiCad		TB T-Grid Mount
	35	NiCad		
*System weights show include installed batteries				

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ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: EMS-55-LC-V3-S Note:	Type SKE

EMS - Emergency Micro Power Inverters

Batteries and Charger

BATTERY

Battery: Choice of Maintenance Free Sealed Lead Calcium or Sealed Nickel-Cadmium

Battery Voltage: 12VDC for all EMS models

Runtime:90 minutes standard. Other runtimes available, consult factory.

Battery:Low Voltage Battery Disconnect protects the battery from being severely damaged by deep discharge during prolonged power failures.

DC Overload and Short Circuit Protection provided by a DC input fuse. Battery voltage (VDC) 12

CHARGER

Charger Type: Fully automatic, temperature compensated, dual-mode charger

Power Consumption: 9W max (All models)

Recharge Duty Cycle: Meets UL924 requirements

Controls:Momentary test switch, AC-On, Charge-On and inverter-On LED indicator lights

Safety Circuitry: AC lockout prevents battery discharge prior to initial unit power-up.

Brownout Protection automatically switches the unit to emergency mode when utility voltage is significantly reduced.

ENVIRONMENTAL

Altitude:< 10,000 feet (3,000m) above sea level without derating.

Operating Temperature Range:
Lead-Calcium Models: 68°F to 86°F (20°C to 30°C)
Nickel-Cadmium Models: 32°F to 122°F (0°C to 50°C)

NOTE: Optimum system performance between 20°C (68°F) and 30°C (86°F); temperatures outside of the range will affect battery performance and life.

Relative Humidity95% non-condensing

OPERATION

Upon failure of the normal utility power the EMS unit is automatically turned on by a solid state switching circuit and provides a minimum of 90 minutes of emergency power to the connected load. Lumen output will be maintained at 100% of the lamp's rating throughout the entire duration.

A solid state low voltage disconnect circuit is used to protect the battery from being severely damaged by a deep discharge. When normal utility power is restored, the unit switches the load back to normal utility operation and the fully automatic, temperature compensated, dual mode charger begins to restore the battery; bringing it to full charge within UL 924 specified parameters. A brownout sensing circuit insures proper operation during "low line" conditions.

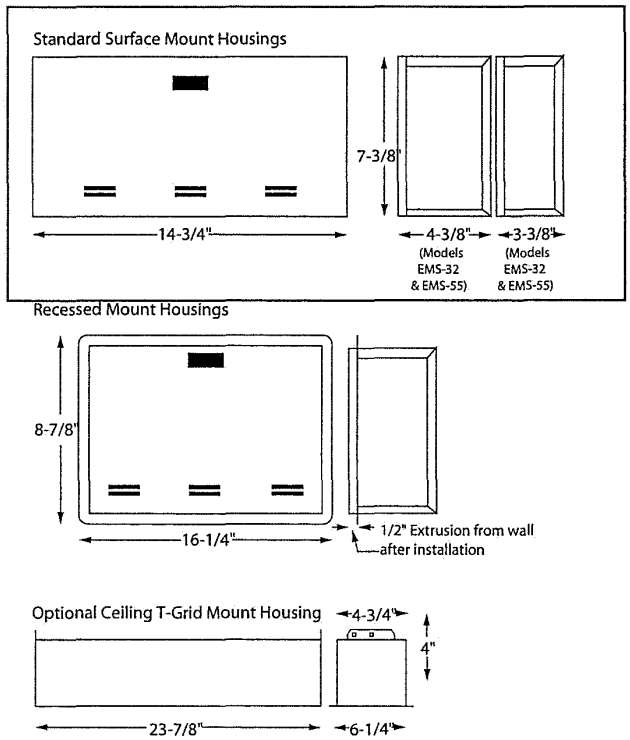
Improved Aesthetics

The EMS system's sinusoidal AC output design eliminates voltage drop and proximity concerns. This allows added flexibility in installation location as EMS units can be installed hundreds of feet from the units they power. This means EMS units to be located conveniently out of sight in closets or utility rooms without interrupting architectural aesthetics.

EMS System Advantages

Compared to traditional discrete emergency lighting units, the EMS Series provides emergency illumination from a single power source resulting in lower maintenance overhead and routine testing expenses. EMS units lower installation costs by powering existing lighting fixtures during emergencies. And because connected fixtures are driven at full brilliance, they provide far superior egress lighting and deliver improved occupant safety

Dimensions



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ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: EMS-55-LC-V3-S Note:	Type SKE

EMS - Emergency Micro Power Inverters

Suggested Specifications

An inverter system with sinusoidal output shall be supplied capable of powering any combination of lighting fixtures, including incandescent, fluorescent, induction and/or LED light sources without compatibility problems.

The system shall transfer in less than 1.0 second to reliably back up lighting fixtures without loss of illumination and operate any and all connected lighting fixtures at full lumen output during the complete 90 minute discharge cycle.

The input voltage shall be the same as the output voltage and shall be single phase 1201277 volts, 60 Hz. Output capacity will be 20 /35 VA with NiCad Batteries or 32/55 VA with lead Acid Batteries to order for a minimum duration of 90 minutes.

The design shall be a standby, off-line inverter with on-line efficiency of 98%; on-line double conversion UPS systems shall not be considered acceptable alternatives EMS system output shall be a PWM generated sine wave with less than 3% total harmonic distortion. The system shall also provide short circuit and overload protection as standard.

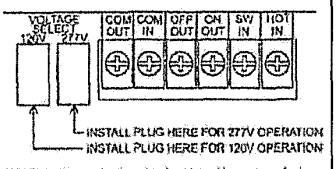
An intuitive three LED display shall provide system operational information at a glance and alert user to any malfunction in system performance. Authorized maintenance personnel shall have access to the system's controls while being protected from any live exposed connections.

Protective devices shall include DC input fuse, AC input overcurrent protection for live circuits to be provided by service panel rated 20A maximum. AC lockout, reverse battery connection, low voltage battery disconnect (LVD), short circuit and overload protection shall be provided standard on all models. The entire EMS system, including batteries, shall be provided in compact cabinetry which shall have provisions or (surface)(recessed)(T-Grid) mounting.

System shall utilize a (sealed lead calcium battery with a 10 year design life)(sealed Nickel-Cadmium battery with a 15 year design life). The charger shall be temperature compensated, dual mode type, and recharge the batteries as per UL 924 guidelines. Entire system shall be tested, approved, and labeled to UL924 Emergency Lighting and Power Systems standards. T-Grid models will be plenum rated.

AC Input Connection

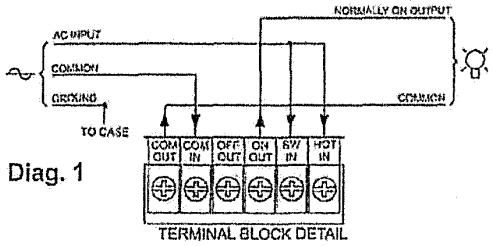
VOLTAGE SELECT DETAIL



NOTE: Voltage selection plug is shipped loose from factory. User installation required.

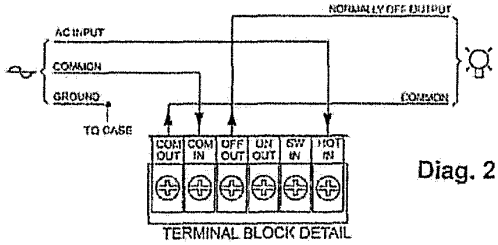
Wiring Diagrams

NORMALLY ON LOADS



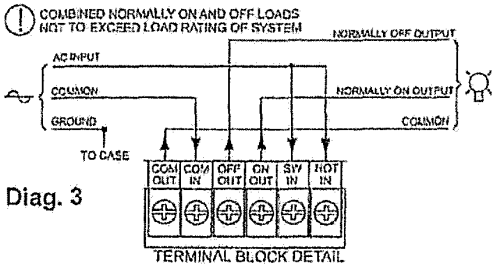
Diag. 1

NORMALLY OFF LOADS



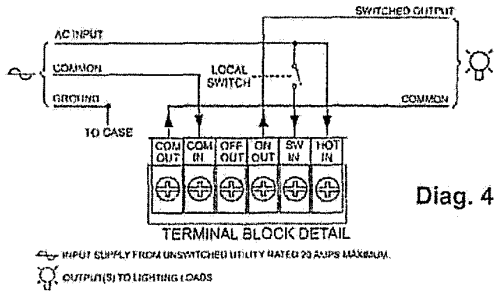
Diag. 2

NORMALLY ON & OFF LOADS



Diag. 3

SWITCHED LOADS



Diag. 4

INPUT SUPPLY FROM UNSWITCHED UTILITY RATED 20 AMPS MAXIMUM.

OUTPUT(S) TO LIGHTING LOADS

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ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: LE S 1 R EL N SD Note:	Type EXW

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

LE surface

LRE recessed

Signature®

Die-Cast Aluminum Exits

LE and LRE

LED NEMA Premium

FEATURES & SPECIFICATIONS

INTENDED USE — Ideal for applications requiring attractive die-cast aluminum signage, superior illumination and low energy consumption.

CONSTRUCTION — Precision-molded, die-cast aluminum construction — ultra-slim, compact housing. Fine-grain brushed aluminum faceplate with matte black electrostatic polymeric trim. Clear lacquer finish on brushed face inhibits fingerprints and other surface contaminants.

All electronics located inside housing.

Fully overlapping light seal prevents light leaks. Universal directional chevron knockouts are completely concealed and easily removed. Hinged faceplate and spring latches for easy lamp compartment access, no exposed hardware.

Letters 6" high with 3/4" stroke, with 100 ft viewing distance rating, based upon UL924 standards.

U.S. Patent No. 5,739,639, 5,954,423 and 6,502,044. Canada Patent No. 2,204,218. Other patents pending.

OPTICS — Lamp is constructed using new LED technology. Provides perfectly uniform illumination to meet 3/4" letter stroke required by code.

The typical life of the exit LED lamp is 10 years, based on continuous operation. Unique LED lamp platform accommodates both single-face and double-face exits.

Low energy consumption — red exit consumes std .81W, 1.3W (120V), green exit consumes std is 1W, 1.5W (120V). Universal input voltage capabilities (120V through 277V, 50 or 60 HZ).

ELECTRICAL — Solid-state electronic elements to eliminate risk of electromechanical failures.

Surge protection meets ANSI/IEEE C62.41 category B and IEC 1000 immunity standards for high voltage surges, electrostatic discharges, high frequency electrical fast transients and line voltage dips/swells.

Emergency Operation (for EL N option only): Battery: Sealed, maintenance-free nickel-cadmium battery delivers 90 minutes capacity to lamp.

Self-diagnostics (SD option only): Two-state constant-current charger maximizes battery life and automatically recharges after battery discharge. Test switch provided for manual testing.

Self-diagnostic testing for five minutes every 30 days, 30 minutes at 180-day interval, and 90 minutes annually.

Diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition.

Continuously monitors AC functionality.

Low voltage disconnect prevents excessive deep discharge that can permanently damage the battery.

Single-point microcomputer control for all electronic features.

Crystal oscillator timing system with watchdog protection for precision accuracy.

AC/LVD reset allows battery connection before AC power is applied and prevents battery damage from deep discharge.

Brownout protection is automatically switched to emergency mode when supply voltage drops below 80% of nominal.

Single multi-chromatic LED indicator to display two-state charging, test activation and three-state diagnostic status.

Test switch provides manual activation of 30-second diagnostic testing for on-demand visual inspection.

INSTALLATION — Universal mounting (top, end or back). Double face available with top or end mounting only. LRE: Trim ring has 3/4" depth adjustment to ensure a flush fit against the surface. Protrudes 1/10" from the surface. No exposed hardware.

Die-cast aluminum canopy provided for surface mount only.

LISTINGS — UL damp location listed 50°F - 104°F (10°C - 40°C). Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards. North Carolina Department of Insurance. NEMA Premium certified.

WARRANTY — 5-year limited warranty. (Battery is prorated.) Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions

Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Note: Specifications subject to change without notice.

ORDERING INFORMATION

For shortest lead times, configure products using **bolded options.**

Example: LE S 1 R EL N SD

Series	Face type	Housing color	Number of faces	Letter color	Input voltage	Operation	Options
LE LED, surface mount	S Stencil	(blank) Matte black, brushed aluminum face	1 Single face	R Red	(blank) Universal input voltage (120-277V, 50 or 60 HZ)	(blank) AC only	(blank) None
LRE LED, recessed	P Panel [1]	BZ Dark bronze	2 Double face [2]	G Green		EL N Nickel-cadmium battery back-up	TP Two tamper proof Torx-head screws
		W White				X2 Lamp wired on two separate AC circuits [3]	VR Vandal-resistant shield (1/8" thick polycarbonate) [4]
		B Matte black					FI FA Field selectable fire alarm interface or flashing emergency operation with intermittent audible alarm (one flash per minute) [5]
							FI Fire alarm flashing interface [6]
							FA Flashing emergency operation and intermittent audible alarm [7]
							SD Self-diagnostics [7]

Accessories: *Order as separate catalog number.*

ELA US12	12" stem kit (see spec sheet ELA-StemKits) [2,8]	ELA LEHO 120/277 N	Remote-capable exit with black canopy; provides 90 minutes of 11.1W capacity for remote head (see spec sheet ELA-LEHO) [2,8]
ELA WG1	Back-mount wire guard (see spec sheet ELA-WG) [2]	ELA ERK	Recess mounting rough-in kit for LRE only (see spec sheet ELA-ERK)
ELA WGEXT	Top-mount wire guard (see spec sheet ELA-WG) [2]		
ELA WGEXE	End-mount wire guard (see spec sheet ELA-WG) [2]		

Notes

1. Panel face available for special wording only (see Custom Signage spec sheet).
2. Not available with LRE models.
3. UL Listed as emergency lighting.
4. VR contains tamper proof screws.
5. Available with SD option only.
6. Available with AC only or EL N operation only.
7. Available with EL N option only.
8. Add W for white.

ALASKA ARCHITECTURAL LIGHTING	Project 22-28191-2 SEARHC Juneau Vintage Park Submitted By ALASKA ARCHITECTURAL LIGHTING	Catalog Number: LE S 1 R EL N SD Note:	Type EXW

LE-LRE LED, Signature

SPECIFICATIONS

ELECTRICAL				
Primary circuit				
Type	**Typical LED life[1]**	**Supply voltage**	**Input watts**	**Max. amps**
Red LED AC only	10 Years	120	0.81	0.05
		277	1.2	0.06
Green LED AC only	10 Years	120	1.05	0.05
		277	1.32	0.06
Red LED emergency	10 Years	120	1.3	0.06
		277	1.4	0.07
Green LED emergency	10 Years	120	1.5	0.07
		277	1.7	0.07

BATTERY			
Sealed Nickel-Cadmium			
Shelf life[2]	**Typical life[2]**	**Maintenance[3]**	**Optimum temperature[4]**
3 years	7-9 years	none	50°F – 104°F (10°C – 40°C)

Notes

1. The typical life of the exit LED lamp is 10 years, based on continuous operation.
2. At 77°F (25°C).
3. All life safety equipment, including emergency lighting for path of egress must be maintained, serviced, and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.
4. Optimum ambient temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity.

SELF-DIAGNOSTICS
(SD option only)

- Five-minute test every 30 days
- 30-minute test every six months
- 90-minute test annually
- Diagnostics evaluate the battery, lamp, charger and AC to DC transfer.

Condition	Indication
Normal mode	Steady green
Self-testing	Flashing green
Emergency mode	Off
Hi-charge	Steady red
Battery failure	Single-flash red
Lamp failure	Double-flash red
Circuit failure	Triple-flash red

KEY FEATURE

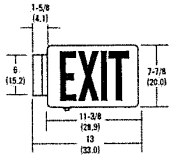
The typical life of the exit LED lamp is 10 years.

MOUNTING

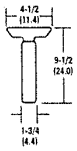
All dimensions are in inches (centimeters). For VR option, add 1/4" to height and width. Add 1/8" depth for single face; 1/4" depth for double face.

Shipping weight: LE - 4 lbs (1.8 kgs)
LE EL N- 5 lbs (2.3 kgs)
LRE - 4 lbs (1.8 kgs)
LRE EL N - 5 lbs (2.3 kgs)

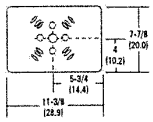
LE - End Mounting



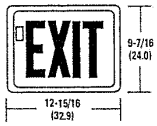
LE - Top Mounting

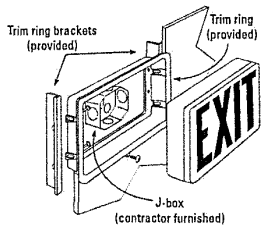


LE - Back Mounting



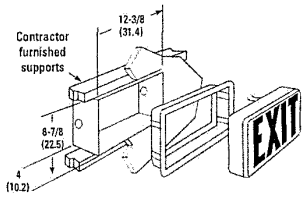
STANDARD MOUNTING





Wall opening dimensions: 8-3/4" H x 12-3/8" W x 1-3/4" D

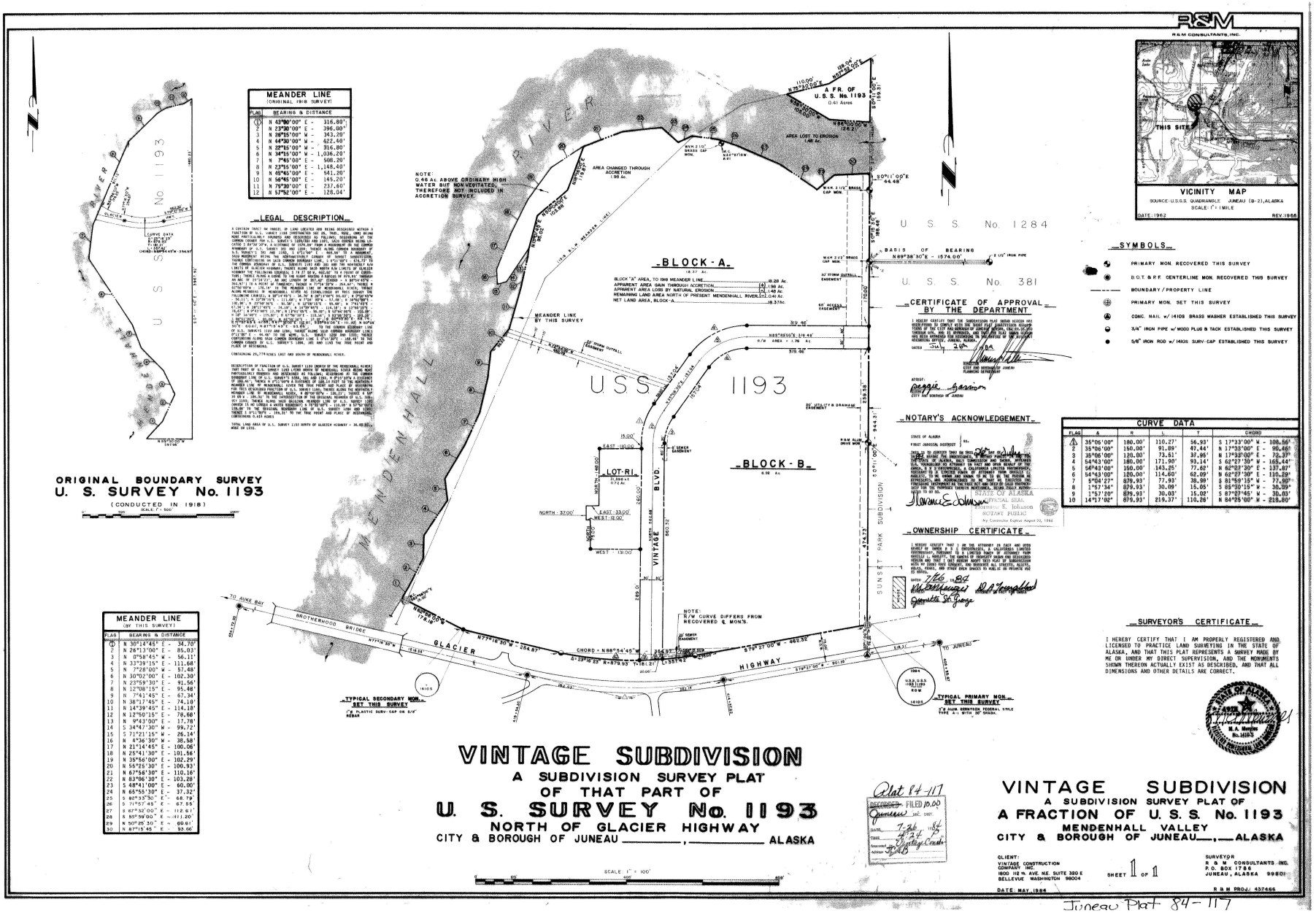
MOUNTING WITH OPTIONAL ROUGH-IN KIT (ELA ERK)



Wall opening dimensions: 8-7/8" H x 12-3/8" W x 4" D

EMERGENCY: One Lithonia Way, Conyers, GA 30012 Phone: 800-334-8694 www.lithonia.com

Attachment A - Application Packet



Attachment B - Plat 84-117 Vintage Subdivision

84-117

CERTIFICATION OF PAYMENT OF TAXES

AND SPECIAL ASSESSMENTS

I, the undersigned, being duly appointed, qualified Treasurer or Deputy Treasurer for the City and Borough of Juneau, First Judicial District, State of Alaska, do hereby certify that, according to the records of the City and Borough of Juneau, the following described property is carried on the tax records in the name of:

CQ Enterprises/ Vintage Construction Company

Description: Fraction of U.S. Survey 1193

Parcel Code Number: 5-2-022-000-00A-1193

and that, according to the records in my possession, all taxes and special assessments assessed against said lands and in favor of the City and Borough of Juneau are paid in full; that current taxes of the year 1985 will be due on or before 09-30-85, _____.

Deputy Treasurer or Treasurer
City and Borough of Juneau

84-007122

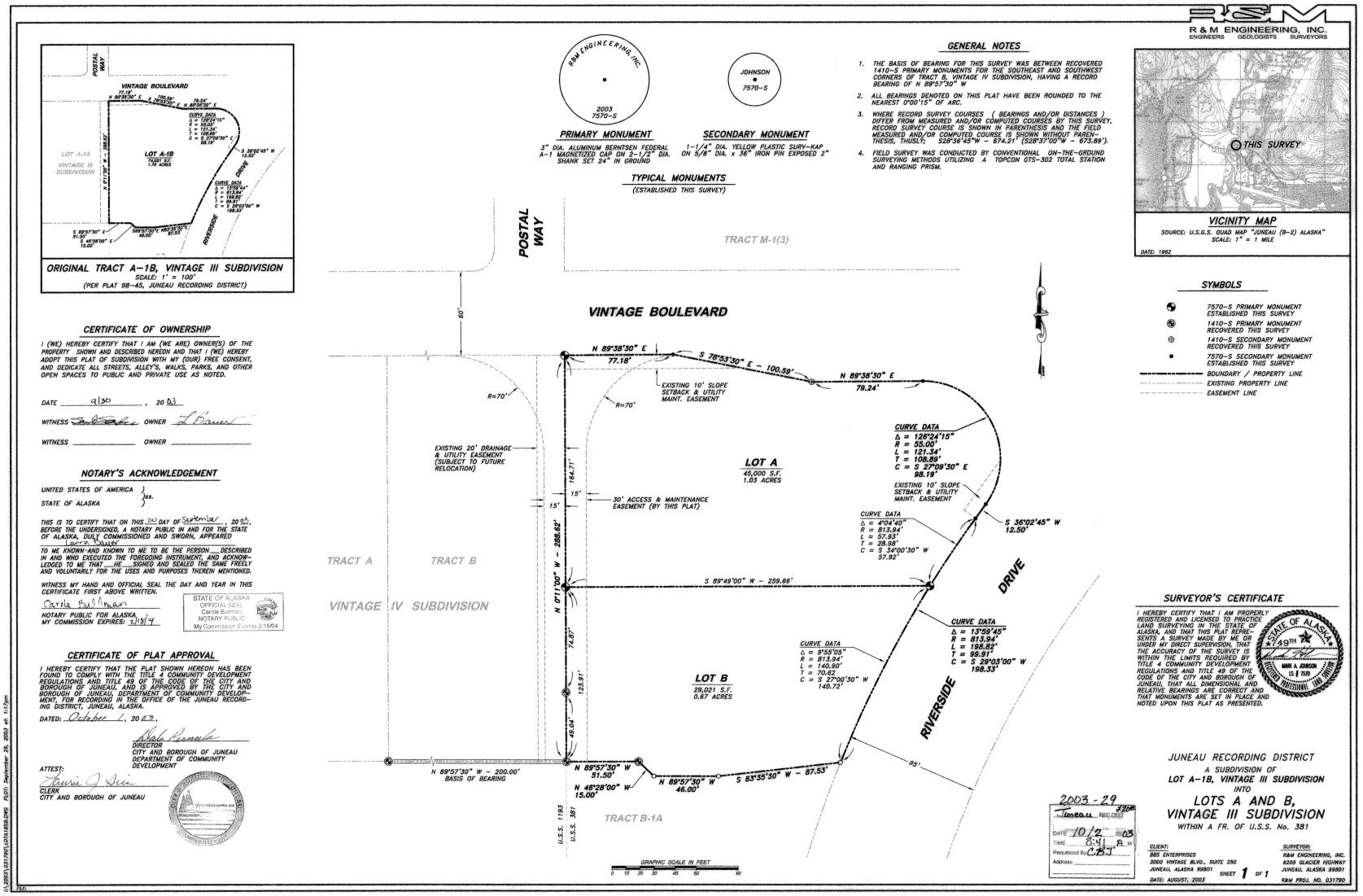
10.00

RECORDED-FILED
JUNEAU REC.
DISTRICT

JUL 26 4 24 PM '84

REQUESTED BY JC&B

ADDRESS _____



Attachment C - Plat 2003-29

Juneau 2003-29

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

CERTIFICATION OF PAYMENT OF TAXES

I, the undersigned, being duly appointed, qualified Treasurer for the City and Borough of Juneau, First Federal District, State of Alaska, do hereby certify that, according to the records of the City and Borough of Juneau, the following described property is carried on the tax records in the name of:

BBS Enterprises
Current Owner

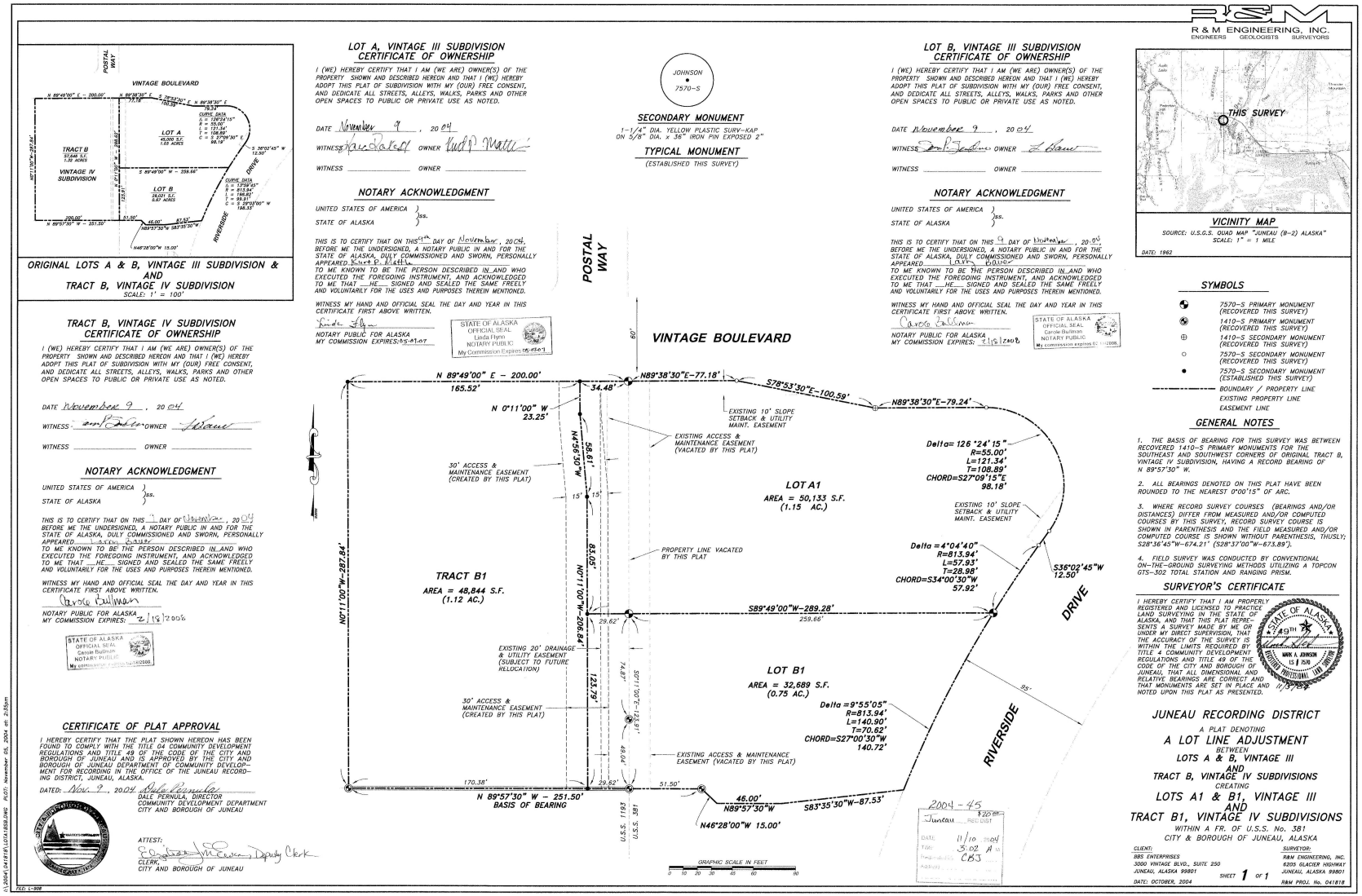
Vintage 3 L A-1B
Description

5-B16-0-143-001-2
Parcel Code Number

and that, according to the records in my possession, all taxes assessed against said lands and in favor of the City and Borough of Juneau are paid in full; that current 2003 taxes due on or before September 30, 2003, have been paid.

Barbara J. Rolfe
Barbara J. Rolfe, Treasurer

September 29, 2003
Date



Attachment D - Plat 2004-45

Juneau 2004-45

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

CERTIFICATION OF PAYMENT OF TAXES

I, the undersigned, being duly appointed, qualified Deputy Treasurer for the City and Borough of Juneau, First Federal District, State of Alaska, do hereby certify that, according to the records of the City and Borough of Juneau, the following described property is carried on the tax records in the name of:

BBS Enterprises
Current Owner

VINTAGE 3 L B
Description

5-B16-0-143-001-6
Parcel Code Number

and that, according to the records in my possession, all taxes assessed against said lands and in favor of the City and Borough of Juneau are paid in full; that current 2004 taxes due on or before September 30, 2004, have been paid.

Calvin L. Kubota

Calvin L. Kubota, Deputy Treasurer

November 8, 2004
Date

JUNEAU 2004-45

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

CERTIFICATION OF PAYMENT OF TAXES

I, the undersigned, being duly appointed, qualified Deputy Treasurer for the City and Borough of Juneau, First Federal District, State of Alaska, do hereby certify that, according to the records of the City and Borough of Juneau, the following described property is carried on the tax records in the name of:

Dock Street Building Corporation
Current Owner

VINTAGE 3 L A
Description

5-B16-0-143-001-5
Parcel Code Number

and that, according to the records in my possession, all taxes assessed against said lands and in favor of the City and Borough of Juneau are paid in full; that current 2004 taxes due on or before September 30, 2004, have been paid.

Calvin L. Kubota

Calvin L. Kubota, Deputy Treasurer

November 8, 2004
Date

Juneau 2004-45

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

CERTIFICATION OF PAYMENT OF TAXES

I, the undersigned, being duly appointed, qualified Deputy Treasurer for the City and Borough of Juneau, First Federal District, State of Alaska, do hereby certify that, according to the records of the City and Borough of Juneau, the following described property is carried on the tax records in the name of:

Vintage Enterprises
Current Owner

VINTAGE 4 TR B
Description

5-B16-0-143-001-4
Parcel Code Number

and that, according to the records in my possession, all taxes assessed against said lands and in favor of the City and Borough of Juneau are paid in full; that current 2004 taxes due on or before September 30, 2004, have been paid.

Calvin L. Kubota
Calvin L. Kubota, Deputy Treasurer

November 9, 2004
Date

KINNEY ENGINEERING, LLC

Juneau SEARHC Medical Office
Traffic Impact Analysis
Final Report

May 2022

STATE OF ALASKA
49TH
James R. Kinney
CE 8035
5-25-22
REGISTERED PROFESSIONAL ENGINEER

Prepared By:
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Kinney Engineering, LLC
3909 Arctic Blvd, Ste 400
Anchorage, AK 99503
907-346-2373
AECL1102

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Abbreviations

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ASCT	Adaptive Signal Control Technology
CBJ	City and Borough of Juneau
CCS	Continuous Count Station
DOT&PF	Alaska Department of Transportation and Public Facilities
HCM	Highway Capacity Manual
ISD	Intersection Sight Distance
ITE	Institution of Transportation Engineers
KE	Kinney Engineering
LOS	Level of Service (intersection performance grade)
mph	miles per hour
PHF	Peak hour factor
SSD	Stopping Sight Distance
ST	Short term station
RIRO	Right-in-right-out
TIA	Traffic Impact Analysis
V/C	Volume to capacity ratio

N, S, E, W are north, south, east, and west

NB, SB, EB, WB are northbound, southbound, eastbound, and westbound

R, L, T are right, left, through (thru)

RT and LT, right (-) turn(ing) and left (-) turn(ing)

Definition of Terms

Access: Ability to enter and exit a given location from a public roadway.

Actuated Pedestrian Signal: Signal, which is activated, usually with a button, by pedestrians and bicyclists.

Adaptive Signal Control: Type of traffic signal that uses sensors and algorithms to give green time in a continuous and equitable manner.

Annual Average Daily Traffic (AADT): Measurement of the number of vehicles traveling on a segment of highway each day, averaged over the year.

Capacity: Value of the maximum flow rate

Continental Style Cross Walk: Style of pedestrian crossing which enhances the visibility of pedestrians to drivers. A series of stripes are installed perpendicular to the intersection creating a pattern similar to a zebra or ladder.

Crash Rate: Number of crashes per a unit of exposure. Common units of exposure include million vehicle miles traveled for roadway segments and million entering vehicles for intersections.

Crash Severity: Scale of bodily harm up to and including death, suffered by the occupants of a vehicle involved in a crash. There are four level of crash severity used: property damage only non-incapacitating/possible injury, incapacitating injury, and fatal.

Daily Delay: Sum of delay all drivers undergo in a day, given in vehicle-hours per day.

Flow: Rate which describes how many vehicles pass a given point within a set amount of time, usually an hour.

Interchange: Set of ramps and intersections used to allow traffic to travel to and from a controlled access freeway facility.

Level of Service (LOS): Performance measure concept used to quantify the operational performance of a facility and present the information to users and operating agencies. The actual performance measure used varies by the type of facility; however, all use a scale of A (best conditions for individual users) to F (worst conditions). Often, LOS C or D in the most congested hours of the day will provide the optimal societal benefits for the required construction and maintenance costs

Mobility: Ability of people and goods to move from one place to another.

Off-peak: Any period of the day which is not the peak hour

Peak Hour: Hour long period in which the volume of a given road is the highest for the day or given period. Morning, evening, and noon peak hours are often used for analysis, although peak hours may occur at other times, such as school dismissals.

Peak Hour Factor: Measure of traffic variability over an hour period calculated by dividing the hourly flowrate by the peak 15-minute flowrate. PHF values can vary from 0.25 (all traffic for the hour arrives in the same 15-minute period) to 1.00 (traffic is spread evenly throughout the hour).

Permanent Traffic Recorder: Vehicle counting device that remains in the same place throughout the years.

Safety: Count of crashes by severity at a given location

Upper Control Limit (UCL): Statistical measure used in crash rate analysis to determine statistical significance. If the crash rate of the location in question is above the upper control limit for that location, the crash rate is above the average crash rate for similar facilities to a statistically significant level.

Volume to Capacity Ratio (v/c): Measure of how much of the available capacity of a facility is being used, calculated by dividing the demand volume by the capacity of a facility. Values of 0.85 or less indicate adequate capacity to serve the demand volume. When v/c is greater than 0.85, drivers begin to feel uncomfortably crowded.

Executive Summary

This final report, completed in May 2022, revised the draft report submitted in March 2022. The final report retains computations, calculations, and conclusions, as well as addresses the minor comments or observations resulting in reviews and as described in letter from PND Engineers, Inc. to City and Borough of Juneau Community Development. The final report also includes the most recent 65% site plan, updated from the draft report site plan.

This Traffic Impact Analysis (TIA) Report addresses the potential traffic impacts of the proposed SEARHC medical office building development to be located along Vintage Boulevard in an area of Juneau listed as Traditional Town Center in the City and Borough of Juneau 2013 Comprehensive Plan Update. The property, shown in Exhibit 1Figure 3, is located on an empty 2.9-acre lot north of Safeway and across the street from the Post Office. This TIA evaluates the following labeled intersections during the AM and PM peak time period for the build year of 2023.

1. Egan Drive and Vintage Boulevard/Glacier Highway
2. Riverside Drive and Vintage Boulevard/ Mendenhall Mall Road
3. Mendenhall Loop Road and Mendenhall Mall Road/Atlin Drive
4. Mendenhall Loop Road and Egan Drive
5. Riverside Drive and Egan Drive

Exhibit 1: TIA Study Area

Traffic counts taken in 2012, 2015 and 2016 were used to determine traffic movements for each of the studied intersections. These counts were factored to the peak month of May in 2023 as a base condition by using the Juneau-Riverside Drive TMAS 000807 continuous count station annual average daily traffic (AADT) and monthly average daily traffic (ADT) data to calculate the estimated annual traffic growth rate as well as factor the counts from the month they were

taken to the peak month. Also, there is a proposed 11 condominium complex with 11 commercial garages development with an estimated ADT of 108 at 3011 Clinton Drive as well as a proposed 98-bed senior housing development at 3041 Clinton Drive with an estimated ADT of 269, both of which are planned for construction in 2022. All traffic generated by these facilities will use Vintage Boulevard and flow through the study area. The Institute of Transportation (ITE) Trip Generation Manual 10th edition was used to determine the estimated traffic generated by the proposed medical office building.

The intersection of Egan Drive and Vintage Boulevard/Glacier Highway is a stop controlled, right-in, right-out intersection with minor differences in queue length in the PM peak hour, there is no change in the AM peak hour and no change to level of service (LOS) with the additional site traffic. No mitigation is required by the CBJ Code of Ordinances.

The intersection of Riverside Drive and Vintage Boulevard/ Mendenhall Mall Road is a four-way signalized intersection with one left, thru and right turn lane in each direction. There are pedestrian signals and crosswalks across all four approaches of the intersection. The left turns phases on all approaches are permissive-protected. With the additional site traffic, there is a slight increase in the queue lengths for some of the approach lanes and a one second delay increase in the AM and PM peak hours. There is no LOS change. No mitigation is required by the CBJ Code of Ordinances.

Mendenhall Loop Road and Mendenhall Mall Road/Atlin Drive is a four-way signalized intersection. The northbound approach has a thru lane, a thru/right turn lane and a left turn lane. The southbound approach has two thru lanes, a left turn lane and a right turn lane. The westbound approach has a shared thru/left turn lane and a right turn lane. The eastbound approach has a shared thru/left turn lane and a right turn lane. The northbound and southbound left turn phases are protected. The eastbound and westbound left turn phases are permissive. There are pedestrian signals and crossings across three of the four approaches. There is a 1 second delay change and no LOS change to the AM peak hour and a 6 second delay change and a LOS change from C to D for the entire intersection for the PM peak hour. No mitigation is required by the CBJ Code of Ordinances.

The intersection of Egan Drive and Mendenhall Loop Road is a four-way signalized intersection with left, thru and right turn lanes. The left turns are all protected split phase. There are pedestrian signals and crossings across all four approaches of the intersection. The LOS for this intersection is F for the AM peak hour and E for the PM peak hour both for pre-build and build conditions. The site traffic impact is minimal with a one second increase for both the AM and PM peak hours. There is no LOS change for the intersection with the additional traffic. The CBJ Code of Ordinances requires mitigation for this intersection because it is currently operating below a level of service of D. However, the site traffic has a negligible impact on the operations of the intersection and the CBJ Code of Ordinances provides conditions for mitigation waiver.

Riverside Drive and Egan Drive is a signalized T-intersection with two thru eastbound and westbound lanes, westbound left turn phasing, eastbound channelized right turn and two southbound left turn lanes and one right turn lane. There are pedestrian signals and crosswalks on two of the three approaches at this intersection. There are no changes to the LOS or queue delays for this intersection caused the proposed site traffic. No mitigation is required by the CBJ Code of Ordinances.

In addition to intersections, site impacts were evaluated for transit, pedestrians and bicycles, and traffic safety.

Mitigations for impacts include the following:

- CBJ Code of Ordinances would require mitigation of the Egan Drive and Mendenhall Loop Road intersection as it has a LOS less than D prior to the additional site traffic. Reconstruction would include require expansion of northbound and southbound approaches, and cost millions of dollars. However, the site traffic has only a negligible impact on operations, and a mitigation waiver may be granted due to the excessive cost. Moreover, the adaptive signal control at this intersection will provide optimization of timing and serve as a mitigation.

- There is a missing sidewalk segment on Vintage Boulevard directly fronting the SEARHC medical office site. Installation of the sidewalk improves pedestrian mobility and safety impacts and would promote walking and transit as alternative commuting modes, thus reducing site vehicular demand. Note that this improvement is now presented in the 65% Design Site Plan (May 2022).

- Demand management policies may promote mode changes from vehicles to active transportation modes (biking, walking, transit) or reducing demand by promoting carpools. These include:
  - Incentivize transit use (potential 4% to 5% vehicle trip reduction, see Section 3.4)
  - Incentivize carpooling (potential 14% to 15% vehicle trip reduction, see Section 3.4)
  - Provide bicycle racks. (Vehicle trip reduction isn't quantifiable).

DOT&PF and CBJ have reviewed this report when in draft. CBJ had no comments. DOT&PF's comments are addressed in a summary letter that is under Appendix G. CBJ and DOT&PF have concurred with the above stated mitigations.

1 Introduction and Development Background

This final report, completed in May 2022, revised the draft report submitted in March 2022. The final report retains computations, calculations, and conclusions, as well as addresses the minor comments or observations resulting in reviews and as described in letter from PND Engineers, Inc. to City and Borough of Juneau Community Development. The final report also includes the most recent 65% site plan, updated from the draft report site plan.

1.1 Development Description

Southeast Alaska Regional Health Consortium (SEARHC) proposes a 45,924 square-foot gross floor area (GFA, *area as of March 2022*) medical office facility located on Vintage Boulevard between the intersections with Riverside Drive and Egan Drive in Juneau, Alaska. The facility is located on a 2.9-acre empty tract with access only by Vintage Boulevard. The vicinity map is presented in the Figure 2.

Background Photo Source- Google Earth
Figure 2: SEARHC Medical Office Location Map

1.2 City and Borough of Juneau Traffic Impact Analysis Requirements

City and Borough of Juneau (CBJ) Code of Ordinances, 49.40.300 Applicability, states that a traffic impact analysis (TIA) shall be required when a development is projected to generate 500 or more average daily trips (ADT).

The proposed SEARHC medical office facility aligns with the Institute of Transportation Engineer's (ITE) Trip Generation Manual Land Use 720- Medical/Dental Office Building. Based on the gross floor area of 45,924 gross floor area, the Trip Generation Manual, and the companion Trip Generation Handbook 3rd Ed. estimates that the traffic generated upon full build out of the facility exceeds 1,600 ADT, as shown in Table 1, below. As such, a TIA for the facility is required.

Table 1: Weekday ADT for Proposed SEARHC Medical Offices

Land Use Classification	Gross Floor Area (1000 square feet)	Equation Type	Equation and Trip Computations	DD% (In/ Out)	Trips In	Trips Out
720 – Medical-Dental Office Building	X=45.924	Regression	T=38.42(X) – 87.62 T=38.42(45.924) – 87.62= **1,677**	50/50	838	838

The street system around the facility is urbanized with movements through intersections controlled by a signs or signals. As such, it is within an interrupted flow regime, and traffic operation quality is generally dependent upon intersection operations and performance. For this TIA, vehicular impact analyses are focused on intersections.

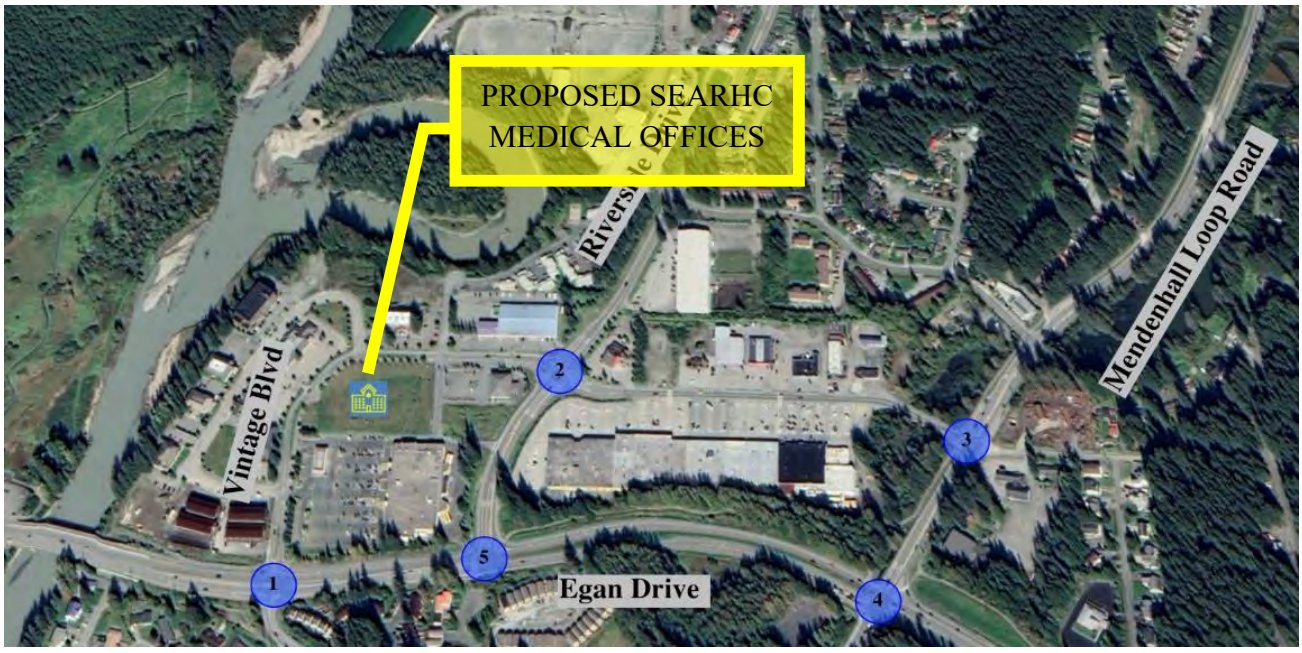
CBJ Code of Ordinances, 49.40.305 Traffic impact analysis (TIA) requirements indicates that the study area for the TIA shall include those intersections with approaches where the proposed development will increase ADT by five percent or more. Required mitigation for intersections within the study area is addressed by CBJ Code of Ordinances as follows:

- CBJ Code of Ordinances, 49.40.310 Traffic; minimum standards.
  (*a) The minimum acceptable (level of service) LOS for a roadway segment or intersection within the area affected by the development, on the projected opening date of the development, or full build out of the development, is LOS D*.
- CBJ Code of Ordinances, 49.40.340 Traffic impact mitigation.
  (*a) Except as provided in 49.40.340, an applicant shall make improvements to a roadway or intersection to achieve or maintain an acceptable LOS if a roadway or intersection has an:*
  (1) LOS D without traffic generated by the development; and would drop below LOS D with traffic generated by the development at the opening date of the development or full build out;
  (2) If a roadway has an LOS below D without traffic generated by the development at the opening date of the development; or

> *(3) If the intersection or roadway segment has a pattern of accidents resulting in personal injuries, and the development would aggravate this accident pattern, then mitigation shall be required regardless of the LOS.*

The term "level of service" or LOS is defined in Section 7.1 on page 39 and Table 14 on page 41.

In a July 2021 meeting between Randy Kinney, Kinney Engineering, LLC (KE) and Allison Eddins from CBJ's Community Development Department, the study area presented in Figure 3 was discussed. This study area was later presented in a second meeting focusing on traffic in January 2022 that included CBJ and the Department of Transportation and Public Facilities (DOT&PF) staff; and address a wider range of traffic impact issues. In addition, there have been two pre-application meetings with CBJ, but these meeting only addressed traffic issues in general.



Background Photo Source- Google Earth

Figure 3: TIA Study Area

As proposed in these meetings, an initial analysis of impacts would include the following intersections (numbered as shown in the figure):

1. Egan Drive and Vintage Boulevard/Glacier Highway
2. Riverside Drive and Vintage Boulevard/ Mendenhall Mall Road
3. Mendenhall Loop Road and Mendenhall Mall Road/Atlin Drive
4. Mendenhall Loop Road and Egan Drive
5. Riverside Drive and Egan Drive

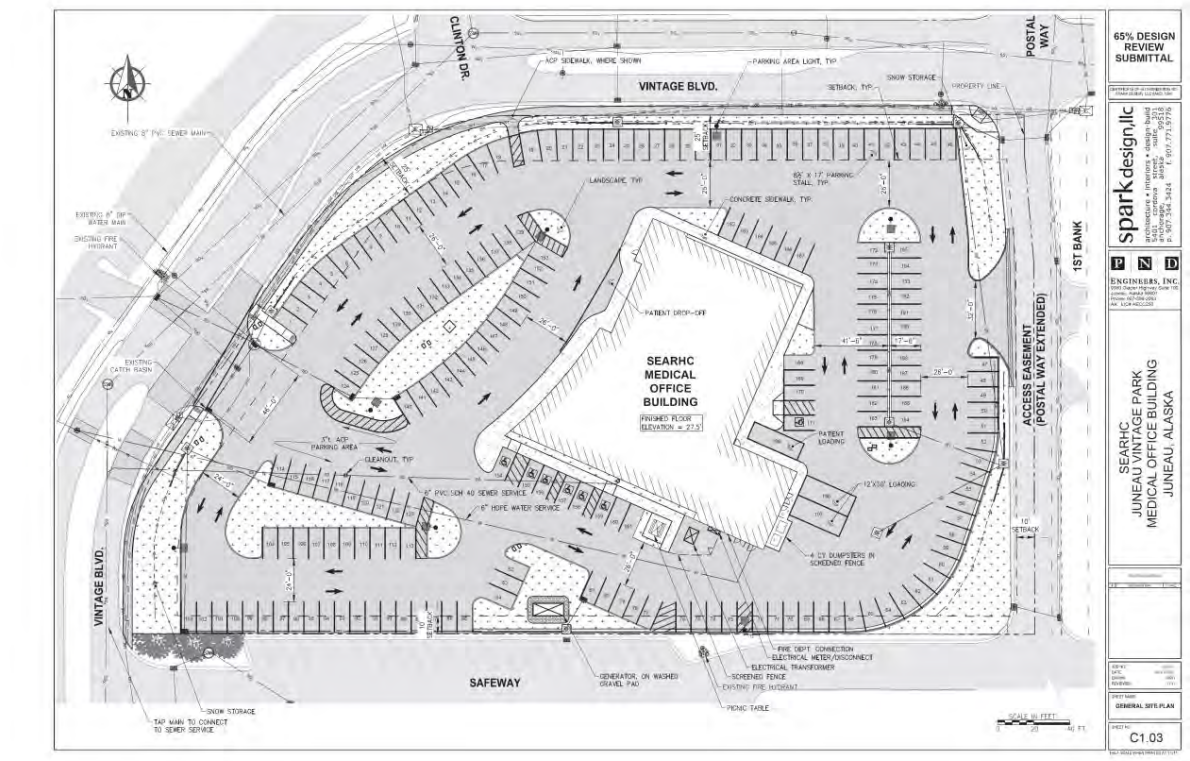
This starting point was deemed sufficient although it preceded the detail analysis that would form a final study area required by CBJ Code of Ordinances, 49.40.305. The process for trip generation and distribution of site traffic is an iterative process, and thus cannot be completed without a substantial effort. However, in meeting discussions, KE indicated that adding any intersections (expanding the study area) would occur as the analysis progressed to evaluate and confirm the link ADT thresholds in CBJ Code of Ordinances, 49.40.305.

The completion of the analyses of site traffic distribution to other intersection approaches outside of the study area found all others be under the 5% threshold discussed above. As such, the study area shown satisfies CBJ Code of Ordinances.

Ultimately, KE chose to prepare operational and safety analysis for all five of the listed intersections with and without site traffic, irrespective of the 5% ADT increase requirements in CBJ Code of Ordinances, 49.40.305.

1.3 Site Plan

Figure 4 below presents the conceptual site plan (current as of 2-22-22) showing parking layout, access aisle, and site access locations. There will be minor changes to this plan as the design develops.



Source- PND Engineers Inc.

Figure 4: Proposed Site Plan (revised May 2022)

The site plan presents two access points onto Vintage Boulevard, both of which are existing and established as shown in Figure 5 below. Both of these have auxiliary left-turn lanes, a significant benefit for crash prevention and roadway capacity by removing stopped or slowing left turn cars from the though lane.

Background Photo Source- Google Earth

Figure 5: Existing Site Conditions

1.4 Design Year and Design Hour

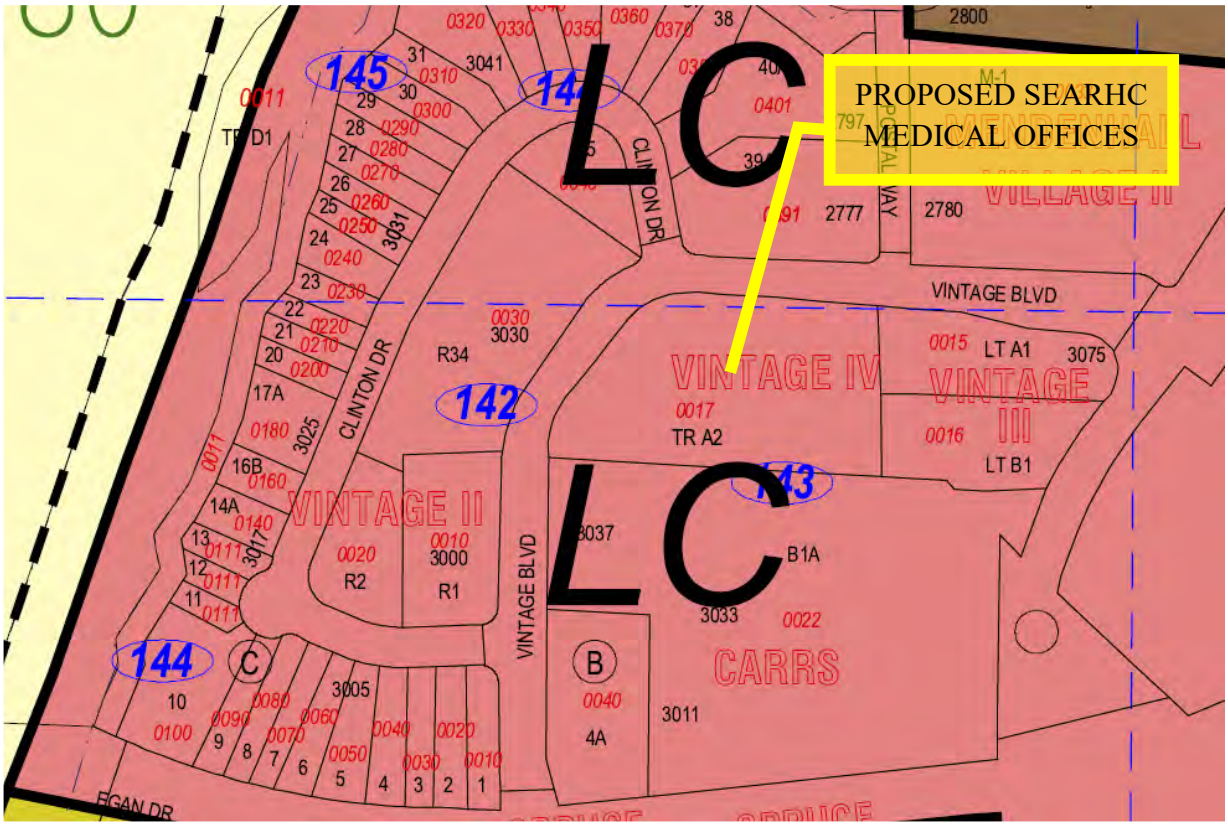
The SEARHC medical office facility will be completed in 2023. As agreed upon in the traffic meetings with CBJ and DOT&PF, 2023 will be considered the design year for the analysis. The design hours for the facility will include morning and evening commuting peak hours. Additional analyses period for weekend traffic was discussed and dismissed.

Because of seasonal traffic fluctuations, KE decided to further define the design hours as those expected during the summer season instead of an average condition.

2 Project Area Background

2.1 Surrounding Land Zoning

The proposed SEARHC medical office facility is located within areas zoned Light Commercial, or LC. The zoning in the immediate area is presented in the Figure 6.



Source-Zoning Atlas City and Borough of Juneau
Figure 6: Area Zoning

The CBJ Code of Ordinances, 49.25.230 - Commercial districts states:

> *"The LC, light commercial district, is intended to accommodate commercial development that is less intensive than that permitted in the general commercial district. Light commercial districts are primarily located adjacent to existing residential areas. Although many of the uses allowed in this district are also allowed in the GC, general commercial district, they are listed as conditional uses in this district and therefore require commission review to determine compatibility with surrounding land uses. A lower level of intensity of development is also achieved by stringent height and setback restrictions. Residential development is allowed in mixed- and single-use developments in the light commercial district."*

The proposed SEARHC medical office facility is consistent with the existing zoning. As such, no changes in zoning will be required.

2.2 Surrounding Land Uses And Site Land Use

The adjacent, existing development is largely commercial. A Safeway grocery store and related shopping center businesses, including an automotive fuel station, are located directly south of the site. Other immediate or nearby land uses include a bank, credit union, US Post Office, and numerous private and agency offices. Residential developments are also nearby.

The City and Borough of Juneau 2013 Comprehensive Plan Update indicates that the site is within a Traditional Town Center, described as follows:

> *"These lands are characterized by high density residential and non-residential land uses in downtown areas and around shopping centers, the University, major employment centers and public transit corridors, as well as other areas suitable for a mixture of retail, office, general commercial, and high-density residential uses at densities at 18 or more residential units per acre. Residential and non-residential uses could be combined within a single structure, including off-street parking. Ground floor retail space facing roads with parking behind the retail and housing above would be an appropriate and efficient use of the land."*

The proposed medical office facility is consistent with the adjoining development and Tradition Town Center land use.

2.3 Traffic Improvements Already Funded, Programmed, Or Planned

A survey of agency websites found the following committed or planning projects within the immediate area of the proposed facility.

2.3.1 CBJ Capital Improvement Program 2021 to 2026

This six-year plan shows a total of about $1.5 million planned for Vintage Boulevard Street Reconstruction in FY23. A scan of the document found no other CBJ projects planned for the immediate area.

2.3.2 DOT&PF State Transportation Improvement Program (STIP)

The April 2020 Original STIP and Amendment 3 issued in November 2021 have been scanned with no projects planned in the immediate area of the proposed facility.

2.3.3 Juneau Egan Drive & Riverside Intersection Improvements

KE completed this study in the spring of 2016 for the DOT&PF. The study focused on the Egan Drive and Riverside Intersection and prepared an analysis of several signalized and roundabout alternatives, including extending Riverside Drive to the south of Egan Drive. The proposed medical offices do not affect the recommendations of this study. Moreover, if any of the alternatives were to be implemented, site travel patterns and routes would not be changed over the current system travel patterns.

This traffic impact analysis uses morning and evening peak hour intersection traffic count data from this study. The 2020-2022 pandemic has depressed travel, meaning that current counts may be underrepresenting actual or future demands. As such the counts in the 2016 study were the base of this analysis and factored to estimate current and future demand conditions.

2.3.4 West Egan Drive Corridor Study

This study, completed in 2003 for DOT&PF, proposes grade separation interchanges for the Egan Drive intersections with Mendenhall Loop Road and with Riverside Drive. It is not clear if Vintage Drive inbound and outbound access from Egan Drive would be maintained as is now, because Vintage Boulevard connects to the Riverside Interchange westbound on-ramp.

Regardless of the Vintage Boulevard connection to Egan Drive, the proposed SEARHC medical offices would be compatible with the improvements proposed in the West Egan Drive Corridor Study.

2.4 Other Committed Projects

CBJ Community Development planners provided additional developments that are or will be completed prior to the design year 2023, but whose traffic was not captured during the intersection counts that provide the basis of background traffic (see Section 4.3 on page 23).

There is a proposed 11 condominium complex with 11 commercial garages development with an estimated ADT of 108 at 3011 Clinton Drive. Also, there is a proposed 98-bed senior housing development at 3041 Clinton Drive with an estimated ADT of 269 planned for construction by 2022. All traffic generated by these facilities will use Vintage Boulevard (Both ends of Clinton Drive connects to Vintage Boulevard) and flow through the study area.

3 Transportation System Elements

The traffic study area for this report, shown in Figure 3 on page 6, consist of five intersections and the connecting streets. The streets are discussed in more detail in Section 3.1. There are four signalized intersections (intersections 2-5) and one stop-controlled intersection (intersection 1), which are discussed further in Section 3.2.

3.1 Streets

Egan Drive is a principal arterial roadway which primarily serves to carry traffic between downtown Juneau, the Mendenhall Valley, Auke Bay, and other outlying areas of the CBJ. It is Route 4 on the National Highway System, connecting the Juneau International Airport and the Auke Bay Ferry Terminal to other areas of the CBJ. Between downtown Juneau and the Mendenhall Valley, Egan Drive is a four-lane divided highway with a posted speed limit of 50 mph.

Riverside Drive is a two-lane minor arterial roadway that connects Egan Drive with businesses, residences, schools, and community centers in the Mendenhall Valley. Riverside Drive is posted at 35 mph.

Mendenhall Loop Road is a minor arterial roadway with two lanes and a center turn lane south of Egan Drive, four lanes with a designated left turn lane between Egan Drive and Mendenhall Mall Road, and four lanes north of Mendenhall Mall Road to Nancy Street. Mendenhall Loop Road has a posted speed limit of 40 mph.

Mendenhall Mall Road is a two-lane local access roadway with no curbing connecting Riverside Drive and Mendenhall Loop Road, serving as access to the businesses on both sides of the roadway. Mendenhall Mall Road has a posted speed limit of 20 mph.

Atlin Drive is a two-lane local access roadway that provides access to a church and residential neighborhood with a posted speed limit of 20 mph.

Vintage Boulevard is a two-lane divided local access roadway connecting Egan Drive and Riverside Drive that provides access to businesses and residences. Vintage Boulevard posted speed limit is 20 mph.

Glacier Highway is a two-lane minor collector roadway from Egan Drive/Vintage Boulevard to Mendenhall Loop Road with a right turn only at the intersection with Egan Drive. Glacier Highway is posted at 35 mph.

3.1.1 Functional Classification

The three major functional classes include:

- **Local Road** - Local roads are oriented towards access to homes and businesses at the terminal ends of a trip.
- **Collector** - Collector roads gather and distribute trips between local streets and arterials.

- **Arterial** - Arterials emphasize mobility and are designed to carry large volumes at an efficient speed.

Table 2 presents the DOT&PF functional classifications for the roads in the study area.

Roadway	**Classification**
Egan Drive	Principal Arterial
Glacier Highway (Vintage Boulevard to Mendenhall Loop Road)	Minor Collector
Mendenhall Loop Road	Minor Arterial
Riverside Drive	Minor Arterial
Vintage Boulevard	Major Collector
Atlin Drive	Local Road
Mendenhall Mall Road	Local Road

Table 2: Functional Classifications

3.2 Intersections

The study area contains four signalized intersections and one stop-controlled intersection. The following four signals are coordinated:

- Egan Drive and Riverside Drive
- Egan Drive and Mendenhall Loop Road
- Riverside Drive and Vintage Boulevard/ Mendenhall Mall Road
- Mendenhall Loop Road and Mendenhall Mall Road/Atlin Drive

The intersections are discussed in the following sections. Most of the information presented in these sections, including the diagram with background aerial photography was extracted from the 2016 Juneau Egan Drive & Riverside Intersection Improvements Study.

3.2.1 Egan Drive / Riverside Drive

The intersection of Egan Drive with Riverside Drive is a signalized T-intersection (Figure 7). On westbound Egan Drive, the approach to the signal has two through lanes and a channelized right turn lane. For eastbound Egan Drive, the approach has two through lanes and a left turn lane/U-turn, with protected left turn phasing. The Riverside Drive approach has two left turn lanes and one right turn lane. There are also pedestrian signals and crosswalks across the inbound Egan Drive and Riverside Drive approaches; however, there are no pedestrian crossings of the outbound Egan Drive approach.

Figure 7: Egan Drive and Riverside Drive

3.2.2 Egan Drive / Mendenhall Loop Road

The intersection of Egan Drive and Mendenhall Loop Road (Figure 8) is a four-way signalized intersection. The southbound approach has a right turn, left turn and center shared left turn/through lane. The southbound approach consists of a left turn, a center shared left/through, and a right turn lane. The eastbound approach has two through lanes, a right turn lane and a left turn lane. The westbound approach also has two through lanes, a channelized right turn lane and a left turn lane. All left turns have protected left turn split phasing. There are pedestrian signals and crosswalks across all four approaches of the intersection.

Figure 8: Egan Drive and Mendenhall Loop Road

3.2.3 Riverside Drive / Vintage Boulevard / Mendenhall Mall Road

The intersection of Riverside Drive with Vintage Boulevard and Mendenhall Mall Road (Figure 9) is a four-way signalized intersection. Each approach has a left turn, a through lane and a separated right turn lane. The left turns phases on all approaches are permissive-protected. There are pedestrian signals and crosswalks across all four approaches of the intersection.

Figure 9: Riverside Drive and Vintage Boulevard/Mendenhall Mall Road

3.2.4 Mendenhall Loop Road / Mendenhall Mall Road / Atlin Road

The intersection of Mendenhall Loop Road with Mendenhall Mall Road and Atlin Road (

Figure 10) is a four-way signalized intersection. The northbound approach has two through lanes and a left turn lane. The southbound approach has two through lanes, a left turn lane and a right turn lane. The westbound approach from Atlin Road has a shared through/left turn lane and a right turn lane. The eastbound approach from Mendenhall Mall Road has a shared through/left turn lane and a right turn lane. The northbound and southbound left turn phases are protected. The eastbound and westbound left turn phases are signed as permissive. There are pedestrian signals and crosswalks across the southbound, eastbound, and westbound approaches to the intersection. There is no pedestrian crossing allowed on the northbound approach.

Figure 10: Mendenhall Loop Road and Mendenhall Mall Road/Atlin Drive

3.2.5 Egan Drive / Vintage Boulevard / Glacier Highway

The intersection of Egan Drive and Vintage Boulevard/Glacier Highway (Figure 11) is stop controlled with right-in-right-out restricted movements on the north and southbound approaches. The eastbound approach along Egan Drive has two through lanes and a right turn lane, while the westbound approach has two through lanes, a left turn lane and a right turn lane. There are unsignalized pedestrian crosswalks along the northbound and southbound approaches.

Figure 11: Egan Drive and Vintage Boulevard/Glacier Highway

3.3 Pedestrian and Bicycle Facilities

The CBJ has been named a bronze level bicycle friendly community since 2011 and has also received honorable mention as a walk friendly community.

3.3.1 Pedestrian Facilities

The pedestrian facilities for the main streets in the study area include:

- A separated multiuse pathway on the north side of Egan Drive;
- Continuous attached pavement pathways on both sides of Riverside Drive;
- Separated paved pathways on both sides of Mendenhall Loop Road, and;
- A separated sidewalk on the west and north sides of Vintage Boulevard and a discontinuous separated sidewalk on the east and south side of Vintage Boulevard.

There is no sidewalk immediately fronting the parcel that will contain the proposed SEARHC medical facilities. Also, there are no sidewalks on Mendenhall Mall Road and pedestrians are required to use the roadway shoulders or parking lots.

There are push-button actuated pedestrian signals and crosswalks at all the signalized intersections in the study area, with pedestrians prohibited from crossing the inbound approach of the intersection of Egan Drive and Glacier Highway intersection, the outbound approach of the Egan Drive/Riverside Drive intersection, and the northbound approach of the Atlin Road/Mendenhall Mall Road/Mendenhall Loop Road intersection.

3.3.2 Bicycle Facilities

Riverside Drive has bicycle lanes. On other streets, bicyclists ride in the travel lanes, on shoulders or on pathways where provided.

3.4 Transit

The proposed Medical Center will be located in close proximity to 10 CBJ Capitol Transit routes. Boarding and alighting for all routes would be within ¼- to ½-mile walking distance to and from the site, depending upon walking patterns of the transit patron. A survey of the state of the practice on acceptable walking distances indicate that most people are willing to walk ¼- to ½- miles to a transit stop (see FHWA's Pedestrian Safety Guide for Transit Agencies https://safety.fhwa.dot.gov/ped_bike/ped_transit/ped_transguide/index.cfm#toc).

Table 3 summarizes, in general, nearby Capital Transit routes and their service frequency daily and during commuting peak hours.

Table 3: Capital Transit Routes and Service Near Proposed SEARHC Medical Office Facility

Route	Service	Nearest Bus Stop	Morning Commute Peak (7 AM to 9 AM)		Evening Commute Peak (4 PM to 6 PM)	
			Headway	Buses	Headway	Buses
3 Mendenhall Loop Counterclockwise	Monday-Saturday, Early Commute to Late Evening Sunday 8 AM hour through 6 PM Hour	431-Mendenhall Mall Road and Riverside Drive	60 minutes	2	60 minutes	2
4 Mendenhall Loop Clockwise	Monday-Saturday, Early Commute to Late Evening Sunday 8 AM hour through 6 PM Hour	477-Mendenhall Mall Road at Mendenhall Mall	90-60 minutes	2	60 minutes	2
5 University Express	Monday-Friday, 7 AM Hour through 6 PM Hour	431-Mendenhall Mall and Riverside 477-Mendenhall Mall Road at Mendenhall Mall	60 minutes	4	60 minutes	4
6 Riverside Express	Monday-Friday, 8 AM Hour through 6 PM Hour	477-Mendenhall Mall Road at Mendenhall Mall	60 minutes	1	60 minutes	2
8 Valley Express	Monday-Friday, 2 PM Hour through 5 PM hour	431-Mendenhall	NA	NA	30 minutes	2

Route	Service	Nearest Bus Stop	Morning Commute Peak (7 AM to 9 AM)		Evening Commute Peak (4 PM to 6 PM)	
			Headway	Buses	Headway	Buses
		Mall Road and Riverside Drive				
9 Mendenhall Valley Express	Monday-Friday, 7 AM Hour	477-Mendenhall Mall Road at Mendenhall Mall	NA	1	NA	NA
10 Mendenhall Valley Commuter	Monday-Friday, 6 AM and 7 AM Hours	477-Mendenhall Mall Road at Mendenhall Mall	NA	1	NA	NA
14 Mendenhall Riverside Commuter	Monday-Friday, 6 AM Hour	On Street Riverside at Vintage	NA	1	NA	NA
15 Valley/UAS Express	Monday-Friday, 7 AM and 8 AM Hours	477-Mendenhall Mall Road at Mendenhall Mall	NA	1	NA	NA
16 Taku Express	Monday-Friday, 6 AM Hour	On Street Riverside at Vintage	NA	1	NA	NA
				14		12

Source: juneaucapitaltransit.org

As indicated in the table above, there are 14 buses providing morning commuting service and 12 buses providing evening commuting service, making public transit a viable work trip alternative for employees. In addition, there is consistent and continuous service during business hours and on weekends, with at least one bus per hour in each inbound and outbound direction for patients to use instead of driving individual cars.

The US Census Bureau American Community Survey *Table S0802 Means Of Transportation To Work By Selected Characteristics* for 2013 through 2019 (5 most recent years published) indicates that the average public transportation work trip mode share is about 4.6% of commuting trips. (Source of this data is: https://data.census.gov/cedsci/table?q=Juneau%20city%20and%20borough,%20Alaska&t=Commuting&tid=ACSST5Y2019.S0802). The margin of error for this estimate is 1.3% (meaning the actual mode share likely falls between 3.3% and 5.9%. The data indicates that public transportation users tend to be within lower income brackets as well.

The American Community Survey also provides data on carpooling for Juneau, indicating that carpools comprise about 14.6% of the 2013 to 2019 work trips with a margin of error of about 2%.

4 Traffic Data

4.1 Average Annual Daily Traffic

Average annual daily traffic (AADT) is obtained from the DOT&PF websites:

https://alaskatrafficdata.drakewell.com/publicmultinodemap.asp and

https://akdot.maps.arcgis.com/home/index.html

AADT will be used in computing crash rates in determining the study area for the TIA. Also, AADT will be used to finalize those intersections within the study area that require mitigation. CBJ Code of Ordinances, 49.40.305, indicates that the study area for the TIA shall include those intersections with approaches where the proposed development will increase ADT by five percent or more.

The following table presents street system AADT in the proximity of the proposed SEARHC medical office facility. The 2013-2017 average AADT will be applied to the crash rate computation.

Table 4: AADT for Streets Within Study Area

Street/Segment	2013	2014	2015	2016	2017	2018	2019	2020	2013-2017 average
Egan Drive									
Glacier-Mendenhall Loop	26,195	26,332	26,776	27,844	26,884	25,115	26,134	21,700	26,806
Between Mendenhall Loop Road & Riverside Drive	14,315	14,479	14,698	15,284	14,757	16,126	15,769	12,500	14,707
Between Riverside Drive and Vintage Blvd	13,500	13,654	13,861	14,514	16,904	13,524	15,752	13,200	14,364
Between Vintage Boulevard & Engineers Cutoff Road	11,715	11,850	12,030	15,480	15,709	13,524	16,454	13,200	13,357
Mendenhall Loop Rood									
Glacier Highway North-Egan Drive	8,655	-	8,655	9,192	9,095	8,410	9,334	-	8,890
Between Egan Drive/Glacier Highway & Atlin Drive	21,485	20,950	21,268	22,729	22,489	18,565	18,073	14,800	21,784
Mall Access-James Road	15,440	-	-	16,789	16,612	15,361	16,476	-	16,136
Glacier Highway North									
Glacier Highway North - Between Glacier Nugget & Del Rae Road	2,820	2,317	2,363	1,775	1,997	1,889	2,085	1,690	2,254

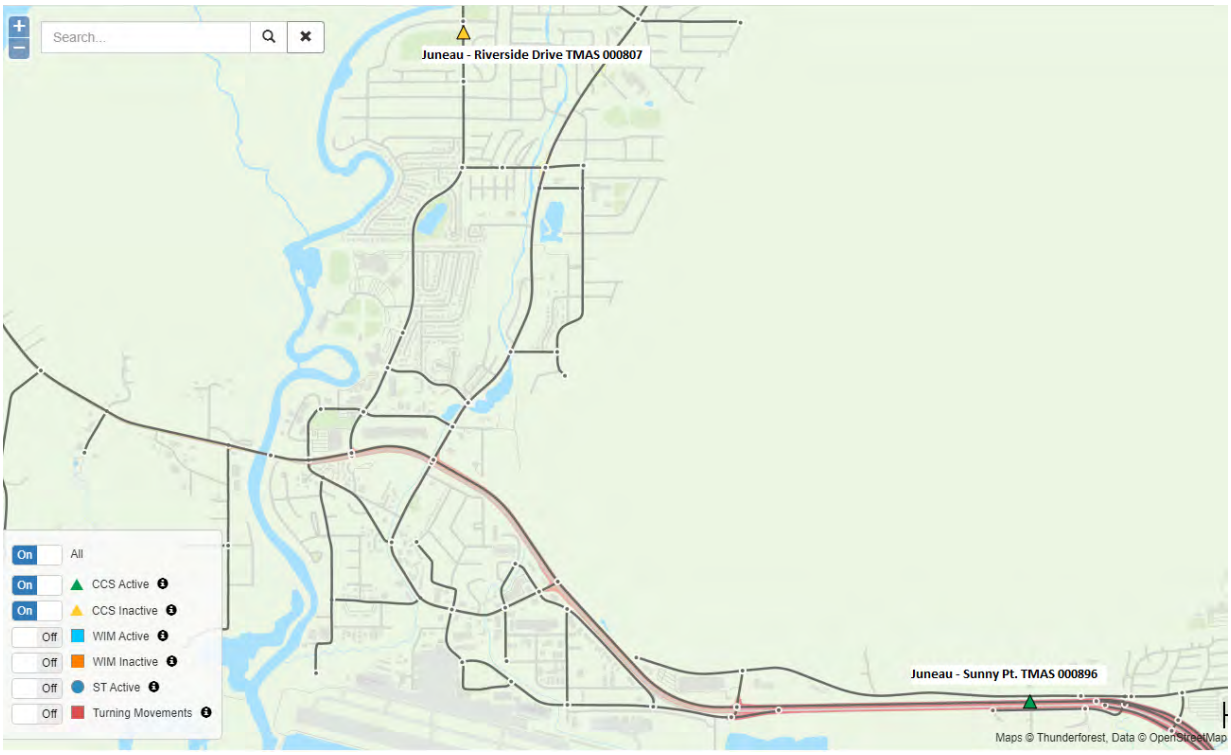
Street/Segment	2013	2014	2015	2016	2017	2018	2019	2020	2013-2017 average
Vintage Blvd									
Vintage Boulevard - Between Clinton Drive & Egan Drive/Glacier Highway	2,135	-	2,135	1,965	2,181	2,380	2,305	1,980	2,104
Vintage Boulevard - Near Junction with Riverside Drive	5,597	5,604	5,694	6,109	5,762	5,181	6,175	5,070	5,753
Mendenhall Mall Road									
Mendenhall Mall Access Road - Near Junction with Riverside Drive	6,445	6,217	6,340	6,498	7,153	4,502	4,700	3,860	6,531
Riverside Drive									
Egan Drive to Vintage Blvd	13,225	-	13,225	14,275	14,124	13,060	14,495	-	13,712
Riverside Drive - Between Vintage Boulevard & James Boulevard	8,110	7,962	7,961	10,074	9,967	8,449	8,619	7,080	8,815

4.2 Riverside Drive Continuous Count Station

Continuous count stations (CCS) provide continuous data that can be used to factor temporary counts collected at separate times to a count that represents a design year and hour condition. *Source: https://alaskatrafficdata.drakewell.com/publicmultinodemap.asp*

Figure 12 presents the two closest CCS to the project site.

The closest CCS, Juneau - Riverside Drive TMAS 000807, was used to convert past counts to a common year and month. In addition to being the closest in proximity to the project, it is also on the street system that is most alike to the local, collector, and minor arterial streets of the study area and probably shares similar seasonal and diurnal traffic patterns. Annual AADT for the Riverside Drive CCS is shown in Table 5, and the average annual growth rate is calculated as 1.30%.



Source: https://alaskatrafficdata.drakewell.com/publicmultinodemap.asp

Figure 12: Continuous Count Station Locations

Table 5: AADT by Year at CCS Juneau-Riverside Drive

Year	AADT
2012	3,920
2013	3,969
2014	3,967
2015	3,861
2016	3,915
2017	4,042
2018	4,045
2019	4,291
Estimated Annual Traffic Growth Rate= 1.30%	

To develop estimated base condition traffic volumes for each horizon year, the estimated annual traffic growth rate was applied to existing intersection traffic volume counts that were collected from 2012, 2015 and 2016. Because the intersection traffic flow counts were taken in non-peak months, the values were factored to the peak month of May using the ADT values in

Table 6. The cells highlighted in yellow represent the year and month that the counts were conducted. The cells highlighted in green are the corresponding May ADT values.

Table 6: Riverside Drive CCS Monthly ADT by Year

Juneau - Riverside Drive TMAS 000807								
Year➔ Month	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Jan	3,561	3,485	3,542	3,566	3,509	3,390	3,554	3,578
Feb	3,754	3,590	3,699	3,653	3,718	3,594	3,636	3,938
Mar	3,787	3,668	3,654	3,639	3,819	3,399	3,574	4,015
Apr	4,160	3,944	3,964	3,980	4,110	4,164	4,117	4,426
May	***4,312***	***4,441***	***4,608***	***4,547***	***4,445***	***4,479***	***4,563***	***4,740***
Jun	4,283	4,280	4,306	4,013	4,222	4,258	4,347	4,424
Jul	4,196	4,164	4,267	3,819	4,001	4,347	4,399	4,370
Aug	4,240	4,294	4,217	4,100	4,190	4,428	4,408	4,523
Sep	4,037	4,194	4,094	3,950	4,047	4,514	4,333	4,291
Oct	3,842	4,235	4,025	3,899	3,890	4,440	4,046	4,153
Nov	3,459	3,735	3,668	3,568	3,561	3,775	3,807	4,027
Dec	3,407	3,596	3,643	3,603	3,470	3,719	3,758	4,129
AADT➔	3,920	3,969	3,967	3,861	3,915	4,042	4,045	4,291

Source: https://alaskatrafficdata.drakewell.com/publicmultinodemap.asp

From the Riverside CCS data, the month of May experiences the highest monthly AADT. As such, the design hour for the TIA analyses is expected to follow the same monthly ADT patterns as occurred at the CCS, and intersection movements will be factored to a summer peak condition occurring in May.

4.3 Intersection Counts Used For Background Traffic Estimates

Turning movement counts were collected by DOT&PF Southcoast Region between 2012 and 2016 during different months for each of the intersections in the study area, as shown in Figure 13 and Figure 14. These intersection movements were presented in the Juneau Egan Drive & Riverside Intersection Improvements study prepared by KE in 2016. The 2020-2022 pandemic has depressed travel, meaning that conducting current counts may be underrepresenting actual or future demands. As such the counts in the 2016 study were the base of this analysis and factored to estimate current and future demand conditions.

The AM and PM commuting peak hours were found to occur, generally, between the hours of 7:15 to 8:15 in the morning and 4:30 to 5:30 in the evening. Traffic primarily travels inbound in the AM peak hour, and outbound during the PM peak hour.

These counts in Figure 13 and Figure 14 will be factored to represent a common design period for the summer peak of May and for 2023.

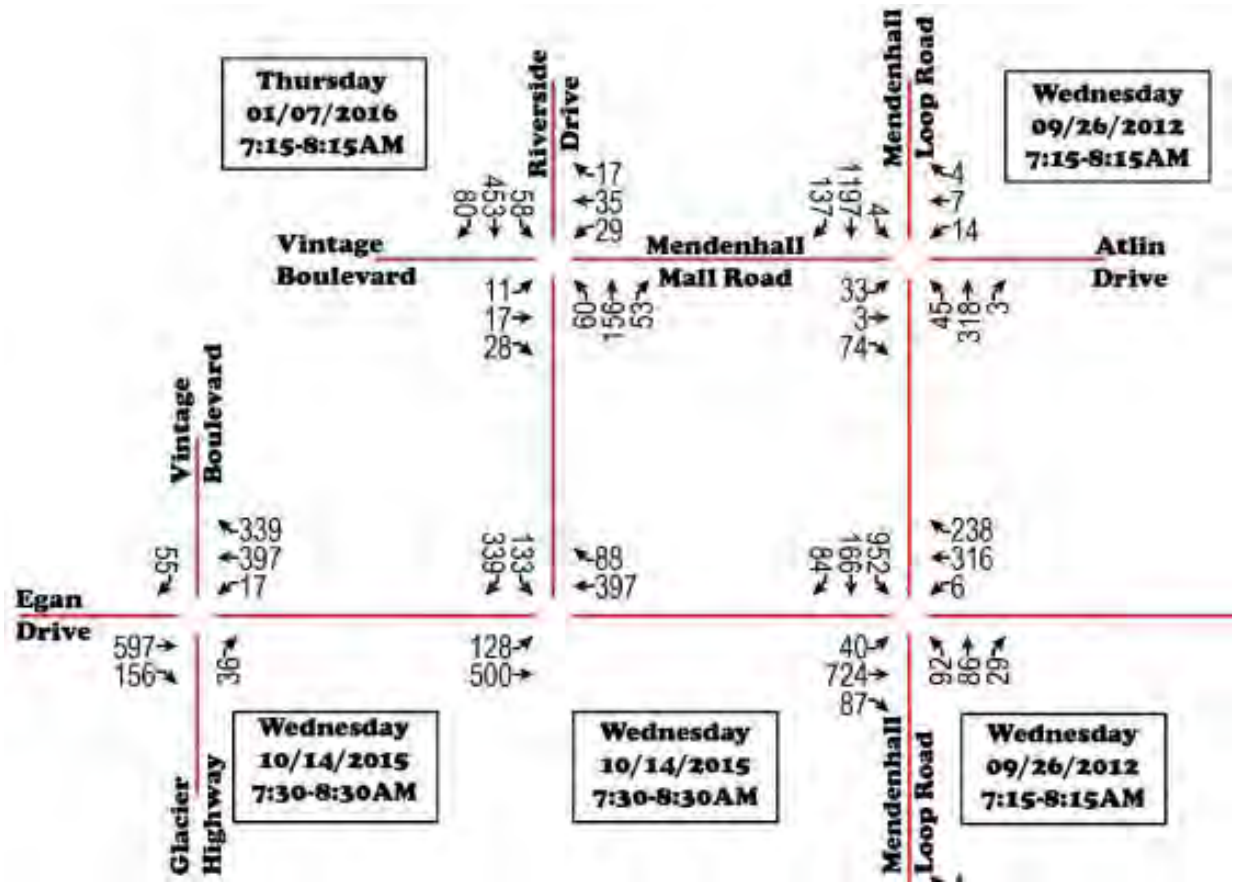


Figure 13: Observed AM Study Area Intersection Movement Traffic Volumes

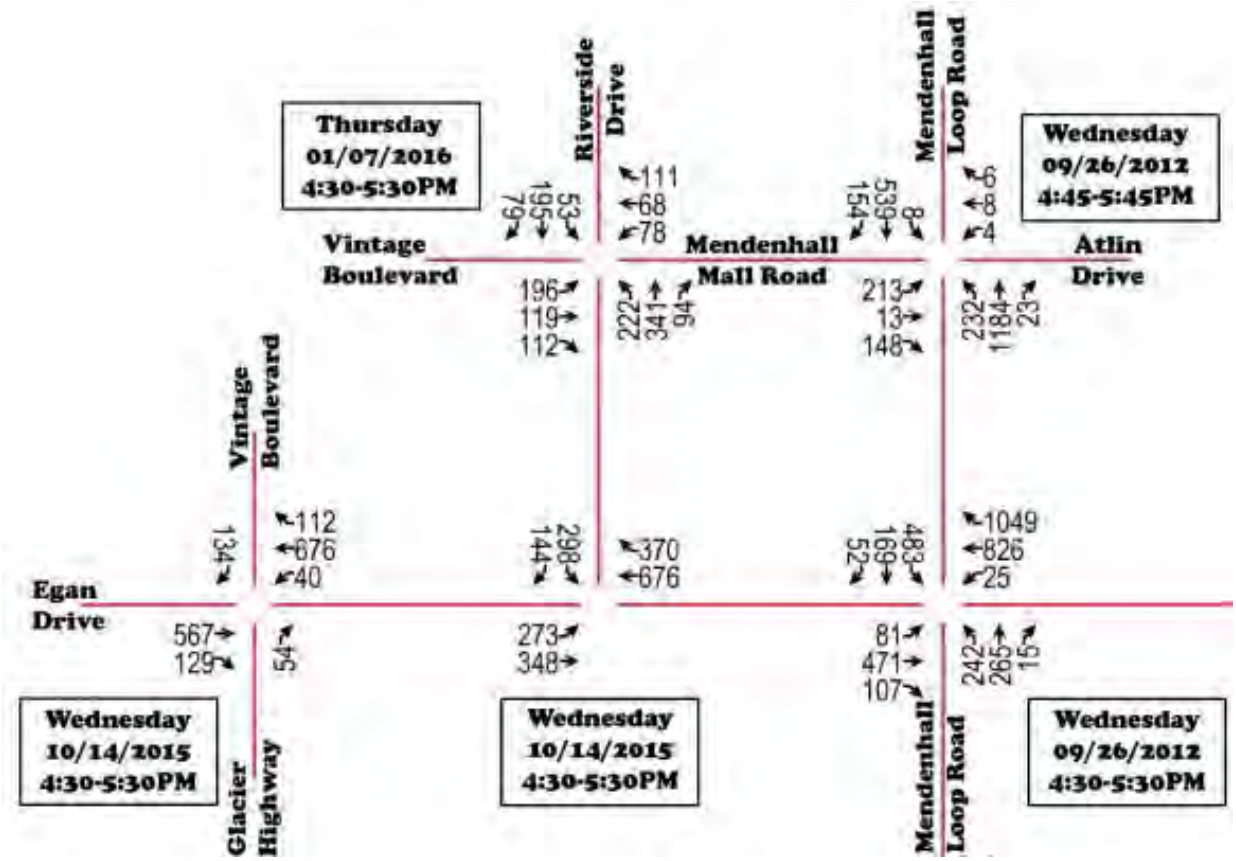


Figure 14: Observed PM Study Area Intersection Movement Traffic Volumes

5 Crash Analysis

DOT&PF provided crash data for the five individual intersections in the study area for the 5-year period from 2013 through 2017 (most recent years available). Crash types are summarized for each of the intersections in the study area in Table 7 below. The proportion of crash types, with majority as rear-end (front to rear) and angle are consistent with expectations for intersections.

Table 7: Intersections and Crash Types, 2013 to 2017

Crash Type	Egan Dr. and Mendenhall Loop Road	Egan Dr. and Riverside Dr.	Egan Dr. and Vintage Blvd.	Mendenhall Loop Road and Mall Access Road	Riverside Dr. and Vintage Blvd.	Grand Total
Angle	8	7		6	4	25
Front-To-Front	3	1			2	6
Front-To-Rear	34	5	4	10	3	56
Not a Collision with a Motor Vehicle In-Transport						
Ditch	1		1			2
Guardrail Face	1					1
Motor Vehicle In-Transport Strikes or is Struck by Cargo /Persons/ Objects Set-In-Motion From/ By Another Motor Vehicle In-Transport				1		1
Other Post/Other Pole/Other Support	1					1
Other Traffic Barrier		1				1
Pedalcycle	3					3
Traffic Sign Support			1			1
Utility Pole/Light Support	1				1	2
Other		2			2	4
Sideswipe - Opposite Direction	1			1		2
Sideswipe - Same Direction	1			1	1	3
Unknown	2	1				3
Grand Total	56	17	6	19	13	111

Table 8 summarizes crash severity for the intersections between 2013 and 2017. In general, this severity is low since there was only one major injury crash and no fatalities.

Table 8: Intersection Crash Severity, 2013 to 2017

Intersection Location		Property Damage Only	Minor Injury	Major Injury	Fatal
Street 1	Street 2				
Egan Drive	Vintage Boulevard	4	2		
Riverside Drive	Vintage Boulevard	9	4		
Mendenhall Loop Road	Mall Access Road	15	3	1	
Egan Drive	Mendenhall Loop Road	36	20		
Egan Drive	Riverside Drive	13	4		

KE calculated intersection crash rates based on the number of crashes, the number of years of analysis, and entering AADT. KE then compared the actual crash rates to average statewide crash rates for similar facilities and calculated upper control limits (UCLs) for each facility. The upper control limit, or critical limit, is a threshold above which the observed rate is considered statistically significant at a 95% confidence level.

Table 9: Intersection Crash Rates, 2013 to 2017

Intersection Location		Entering AADT 5 Year Average	Total Crashes	Millions of Entering Vehicles (MEV) in Study Period	Crash Rate (Crashes per MEV)	*State Average Crash Rate (Crashes per MEV)	Upper Control Limit Rate (Crashes per MEV)	Critical Rate Exceeded?
Street 1	Street 2							
Egan Drive	Vintage Boulevard	16,039	6	29.272	0.20	0.55	0.80	No, Actual is 26% of UCL
Riverside Drive	Vintage Boulevard	17,405	13	31.765	0.41	1.57	1.95	No, Actual is 21% of UCL
Mendenhall Loop Road	Mall Access Road	22,225	19	40.561	0.47	1.57	1.91	No, Actual is 25% of UCL
Egan Drive	Mendenhall Loop Road	36,094	56	65.871	0.85	1.57	1.83	No, Actual is 46% of UCL
Egan Drive	Riverside Drive	21,391	17	39.039	0.44	1.02	1.30	No, Actual is 33% of UCL

**Population rates are from the Intersection HSIP Handbook FY 18 Screening Process Spreadsheets*

In summary, traffic safety performance of the intersections is good. The crash rates for intersections are below upper critical limit by a significant margin, and actually are less than the average rates for similar intersections. Also, crash severities for the intersections are low.

6 Traffic Forecasting

6.1 Design Conditions

Of most concern regarding site traffic generation by the proposed SEARHC medical office facility is the impacts during peak hours of the street network, typically commuter peak periods. Operationally, these periods are the most congestive, and in fact are the design condition.

In order to estimate traffic impacts of the development, a no-build condition background traffic is determined. Since we are concerned with a future design year, the background traffic is expected to increase at an annual growth rate, which, for this project, is assumed to be similar to the recent past year's observed growth rate from the Riverside Drive CCS. Site-generated traffic is projected onto the background traffic to estimate the build condition and the incremental impacts of the new facility. Unlike background traffic, which is assumed to increase over time, site traffic levels are static and will remain the same for entire life of the facility absent of additions or renovations.

The anticipated build year for the proposed SEARHC medical office building is 2023. As previously discussed, intersection traffic counts were not performed in 2020-2022 because of pandemic depressed travel. Instead, historic traffic counts were for the peak AM and peak PM time periods, and past data from the Riverside CCS was used to factor past traffic to a design year and hour condition. Institute of Transportation Engineers Trip Generation (10th edition) website was used to calculate the ADT and peak hour traffic generated by the proposed development.

6.2 Background Traffic

6.2.1 Normalization to 2019

The traffic counts collected in 2012, 2015 and 2016, discussed in Section 4.3 on page 23, were used as a basis for the normalization of 2019 traffic flow counts, that were then used to calculate the 2023 base traffic flow counts. 2019 was used as the normalization year, as it is pre-pandemic and is the last year published for the CCS Juneau - Riverside Drive TMAS 000807, which is the closest CCS (see Section 4.2, on page 21). The CCS AADT between 2012 and 2019, shown in Table 5 on page 22, yields an average annual growth rate of 1.30%.

To develop the estimated traffic volumes for 2019, the estimated annual traffic growth rate of 1.30% was applied to existing traffic volumes gathered from 2012 through 2016 to derive the annual growth factor, which was then applied to the movement volumes presented in in Figure 13 and Figure 14. The factors are computed as:

Factor for converting 2012 counts to 2019 baseline: $F = (1.013)^{(2019-2012)} = 1.095$
Factor for converting 2015 counts to 2019 baseline: $F = (1.013)^{(2019-2015)} = 1.053$
Factor for converting 2016 counts to 2019 baseline: $F = (1.013)^{(2019-2016)} = 1.040$

To further explain, the turning movement volumes collected in 2012 would be factored to 2019 by multiplying the 2012 volume by 1.095.

An additional step is required to factor volumes collected during the year to a summer "peak" condition. The apex of the monthly ADT is May as is clearly exhibited in Table 6 on page 23. Table 10, below, shows how monthly factors are computed. The factored traffic flow counts for 2019 are shown in Figure 15 and Figure 16.

Table 10: Monthly Factor to Adjust 2019 Original Traffic Count Month to Peak Month

Intersection	Year	Original Traffic Count Month	CCS Count Month ADT	Design Summer Month	CCS May ADT	Monthly Factor
Riverside/Vintage	2016	January	3,509	May	4,445	4445/3509=1.267
Egan/Mendenhall Loop	2012	September	4,037	May	4,312	4312/4037=1.068
Egan/Riverside	2015	October	3,899	May	4,547	4547/3899=1.166
Egan/Vintage	2015	October	3,899	May	4,547	4547/3899=1.166
Mendenhall Loop/Mendenhall Mall/Atlin	2012	September	4,037	May	4,312	4312/4037=1.068

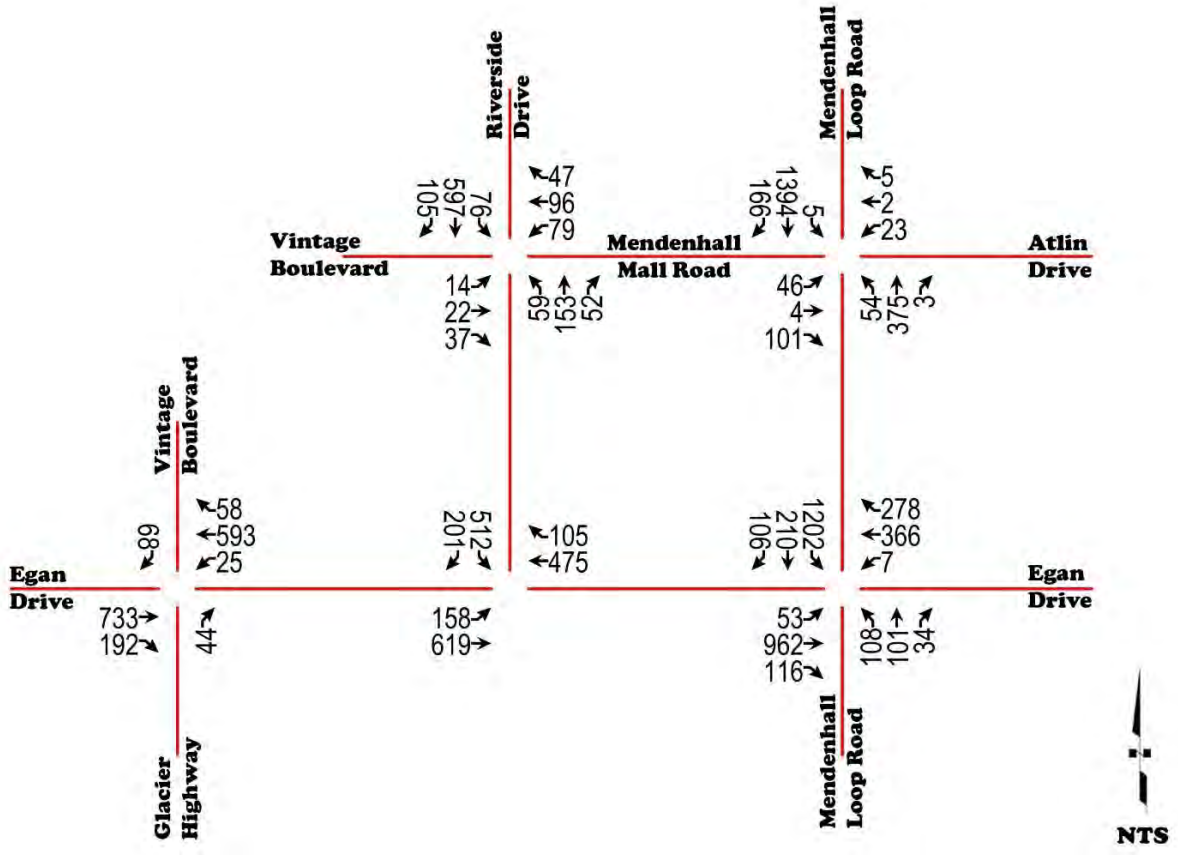


Figure 15: AM Peak TMVs – Factored Base Condition 2019

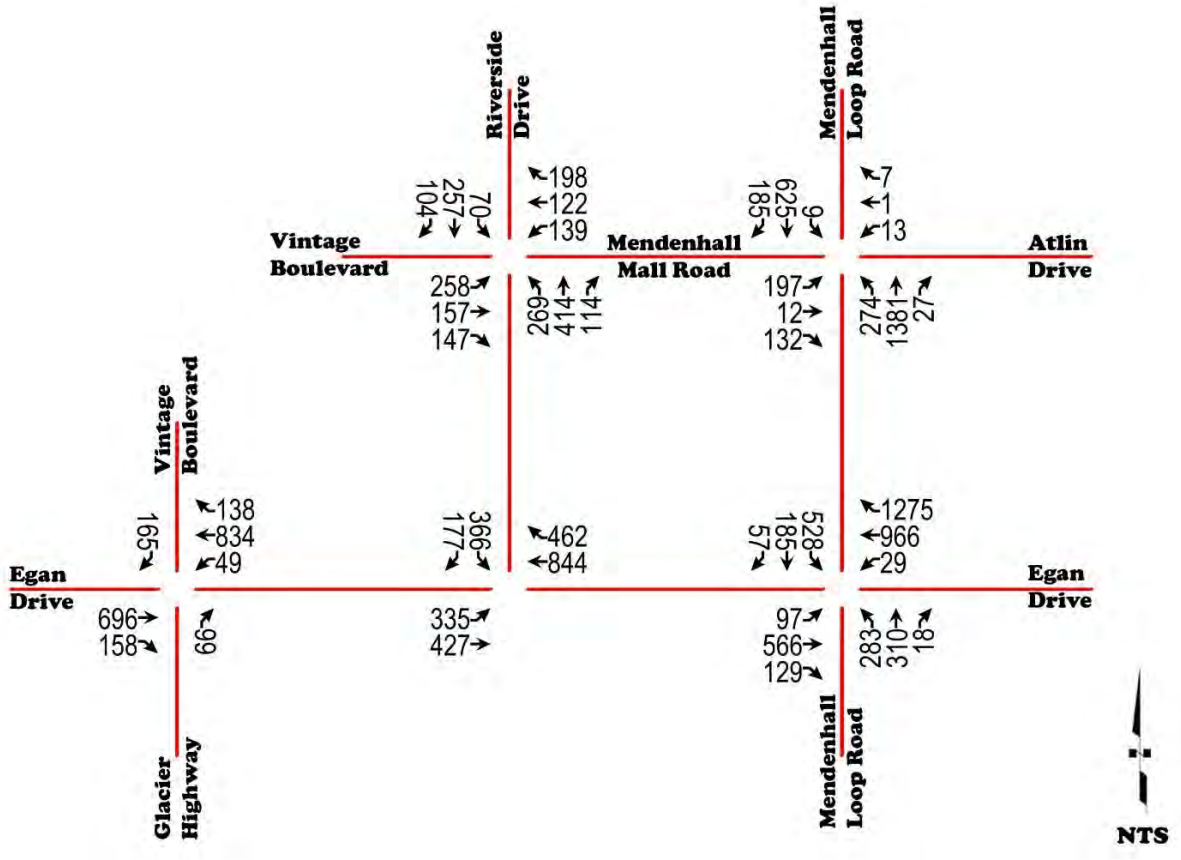


Figure 16: PM Peak TMVs – Factored Base Condition 2019

6.2.2 Estimated Background Traffic Growth for Design Year (2023)

The 2023 intersection movement volumes were calculated by growing the factored 2019 counts by the historical trend of 1.30%. The factor is computed as:

Factor for converting 2019 counts to 2023 counts: $F = (1.013)^{(2023-2019)} = 1.053$

6.2.3 Traffic Generated by Committed Developments

According to CBJ planners, there is a proposed 11 condominium complex with 11 commercial garages development with an estimated ADT of 108, and a proposed senior housing development with 98 beds and an estimated ADT of 269 planned for construction in 2022. Both facilities are located on Clinton drive, which exits on both ends to Vintage Boulevard. CBJ planners have requested that these facilities be added to the background traffic for intersection traffic movements occurring without the proposed SEARHC medical offices.

In order to develop AM and PM peak hour volumes to apply to the design hours, we need average rates or a function to which we would input independent variables to estimate trips.

However, CBJ did not provide weekday hourly traffic counts, nor did they provide independent variables for the developments that can be used to calculate peak hour traffic. As such, an alternative method was used to convert ADT volumes to the AM and PM hours that will be added to background traffic. Institute of Transportation Engineers Trip Generation (10th edition) website was used to find the weekday peak hour average rate and the weekday average rate based on the land use classification. These values were then used in the below formula to estimate the weekday AM and PM peak hour traffic trips:

Hourly Traffic = (Weekday Peak Hour Average Rate/Weekday Average Rate)/ADT

Table 11 and Table 12, below, show the calculated values for the trips in and out of the proposed developments based on the directional distribution (DD%) also found from the Institute of Transportation Engineers Trip Generation (10th edition) website. More information from ITE Trip Generation website can be found in Appendix B.

Table 11: 98 bed Senior Housing Trip Generation Calculation

Land Use Classification	ADT	Peak Hour	Equation	DD% (In/Out)	Trips In	Trips Out
252 - Senior Adult Housing	269	AM	(0.2 / 3.7) / 269 = 15	35/65	15*35% = 5	15*65% = 10
		PM	(0.26 / 3.7) / 269 = 19	55/45	19*55% = 10	19*45% = 9

Table 12: 11 Condos with 11 Commercial Garages Trip Generation Calculation

Land Use Classification	ADT	Peak Hour	Equation	DD% (In/Out)	Trips In	Trips Out
221 – Multifamily Housing (mid-rise)	108	AM	(0.36 / 5.44) / 108 = 7	26/74	7*26% = 2	7*74% = 5
		PM	(0.44 / 5.44) / 108 = 9	61/39	9*61% = 5	9*39% = 3

6.2.3.1 Trip Distribution for Condominiums and Senior Housing

The AM and PM peak hour traffic from these facilities are not accounting for the turning movement volumes presented in Figure 15 and Figure 16 shown above. The state of practice for site traffic trip distribution methodology is to assume the inbound and outbound trips will follow the existing background traffic travel patterns. As such, trip distribution for the proposed senior housing and condominiums was calculated assuming traffic divides at intersections in the inbound and outbound proportions exhibited in Figure 15 and Figure 16 would be similar to existing traffic flows throughout the traffic network. Figure 17 and Figure 18 presents the AM and PM trip distribution of the condominium and senior housing traffic for the intersections of Vintage Boulevard with Egan Drive and Riverside Drive, based on 2019 base traffic. The remaining three intersections in the study area used this methodology to overlay site trips on the base traffic movements.

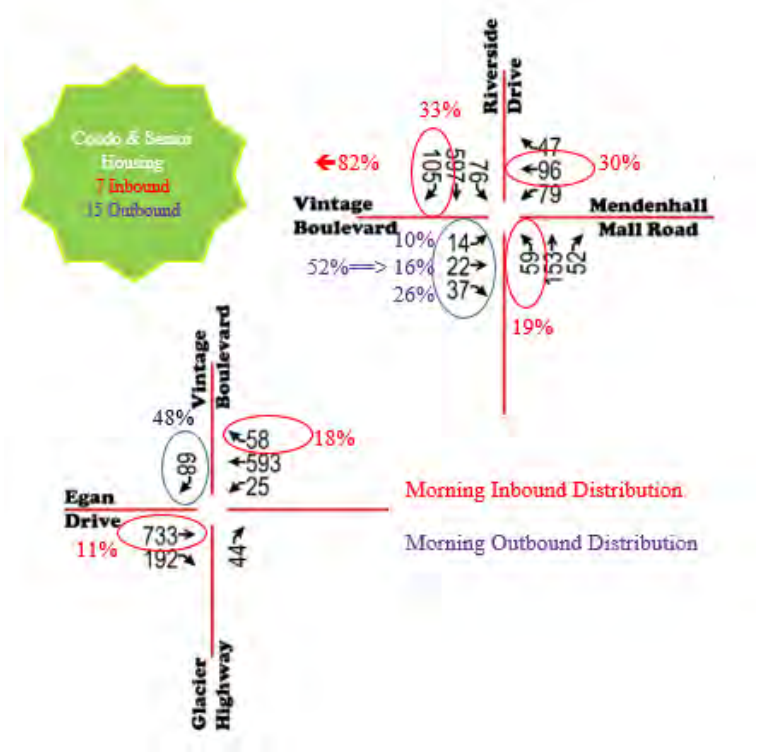


Figure 17: AM Condo and Senior Site Trip Distribution to Near Intersections

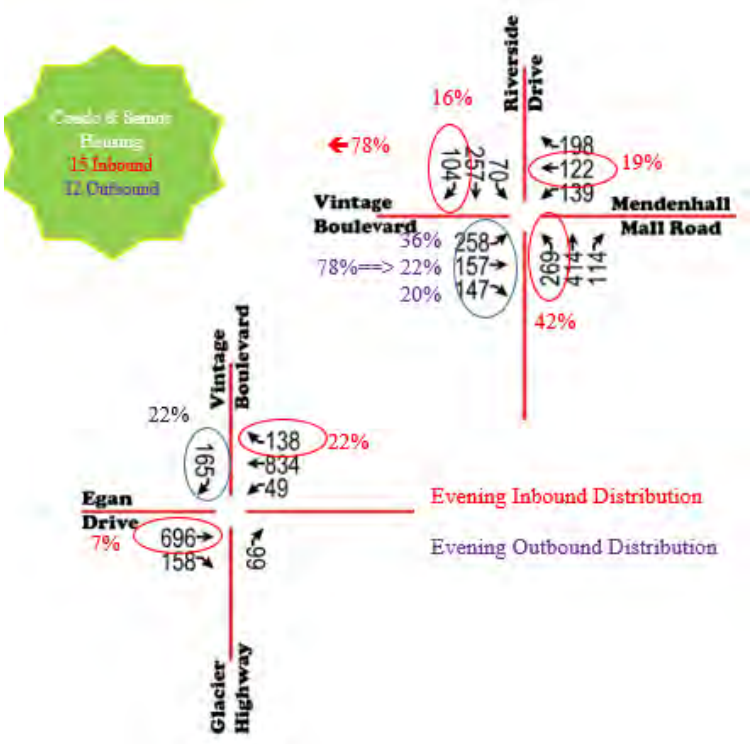


Figure 18: PM Condo and Senior Site Trip Distribution to Near Intersections

6.2.4 Composite Design Year 2023 without Medical Office

Opening year, 2023, base traffic conditions are presented as AM and PM peak hour turning movements in Figure 19 and Figure 20. As stated in previous sections, these turning movement counts were calculated by taking the original counts and projecting them to year 2019 using the historical AADT and then factoring the counts from the month they were taken to the peak month of 2019, which was May. The 2019 turning movement volumes were then factored to 2023 as discussed in Section 6.2.2 on page 31. The site traffic from the proposed condominiums and senior housing turning movements expected to be built before the medical offices are open was distributed to the intersections as discussed in Section 6.2.3.1 above.

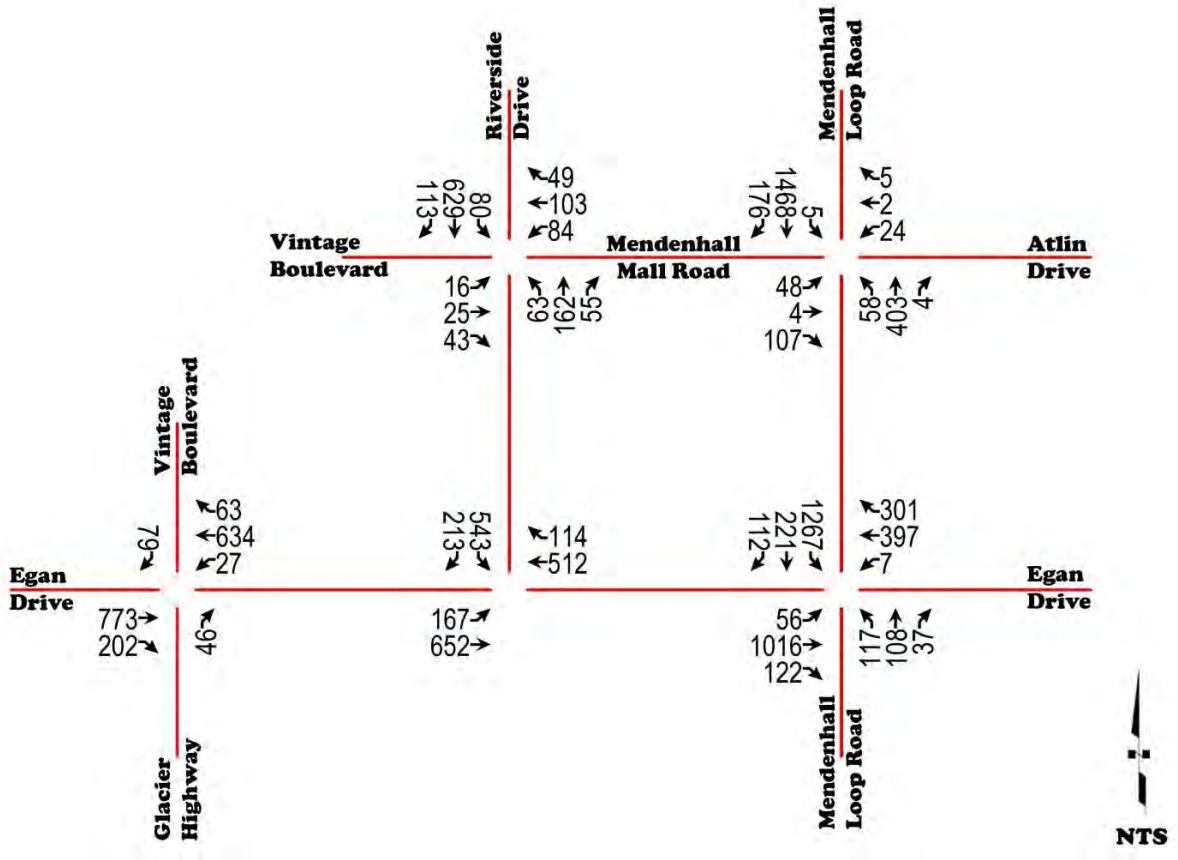


Figure 19: AM Peak TMVs – Base Condition 2023

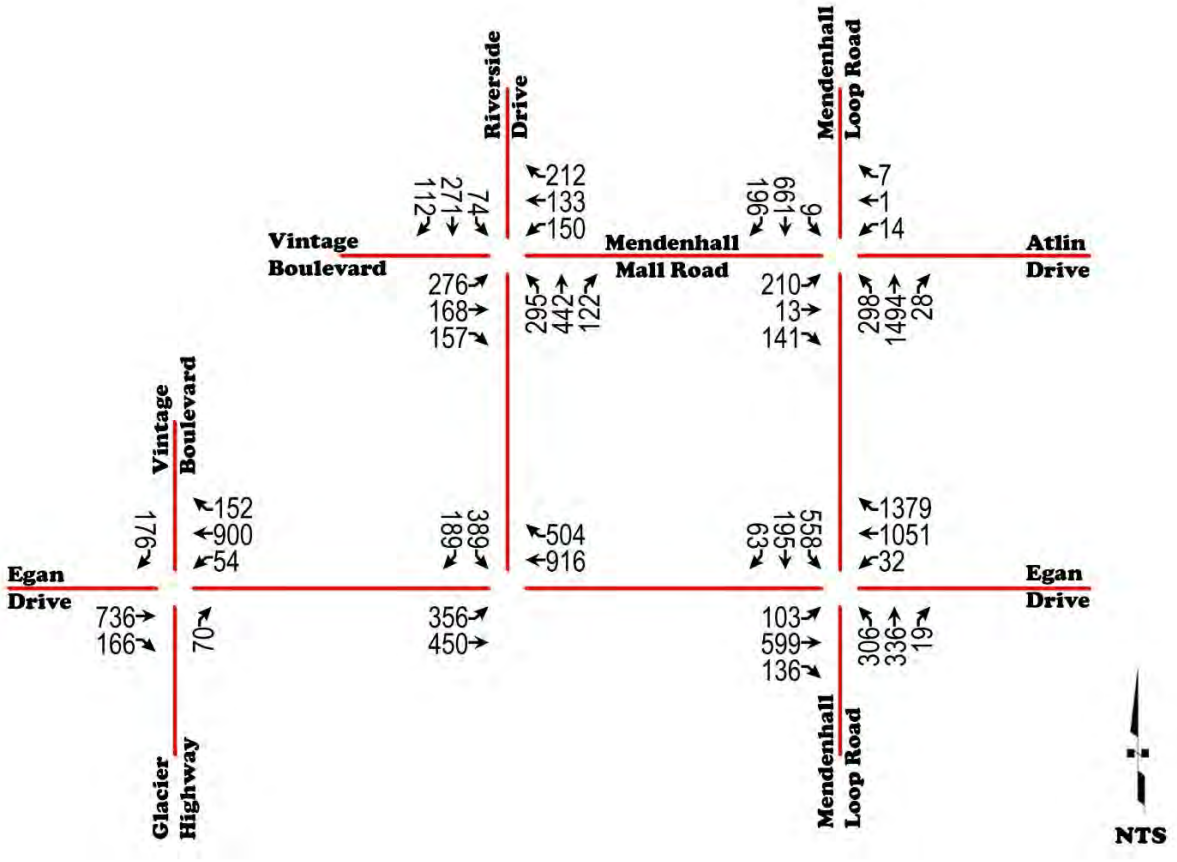


Figure 20: PM Peak TMVs – Base Condition 2023

6.3 Site Development Traffic

6.3.1 Trip Generation

The Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 10th Edition, provides trip generation for Land Use 720, Medical Dental Offices using gross floor area as the independent variable in an average trip rate or using a fitted curve. The methodology in the *Trip Generation Handbook*, 3rd Edition, was followed the fitted curve equation (regression) to calculate estimated trips. The trip generation time periods were the AM peak hour of the adjacent street (7AM to 9 AM) and the PM peak hour of adjacent street (4PM to 6PM) which would occur during the commuting peak and is the typical design condition for streets and intersections. Peak hour trip generation rates are presented in Table 13.

Table 13: 45,924 square foot Medical Office Building AM and PM Trip Generation Calculation

Land Use Classification	Gross Floor Area (1000 square feet)	Peak Hour	Equation Type	Equation and Trip Computations	DD% (In/ Out)	Trips In	Trips Out
720 – Medical-Dental Office Building	X=45.924	AM Peak (7AM - 9AM)	Regression	Ln(T)=0.89Ln(X)+1.31 Ln(T)=0.89Ln(45.924)+1.31 = **112**	78/22	87	25
		PM Peak (4PM - 6PM)	Regression	T=3.39(X)+2.02 T=3.39(45.924)+2.02 = **158**	28/72	44	114

6.3.1.1 Trip Distribution

Trip distribution for the proposed medical office building was calculated assuming the site traffic patterns are the same as the background base traffic flows throughout the traffic network. Distribution patterns and assignments are essentially the same as discussed for the condominium and senior housing traffic discussed in Section 6.2.3.1.

6.3.2 Composite Design Year 2023 with Medical Offices

Figure 21 and Figure 22, below, show the traffic flow counts at the adjacent five intersections for build year 2023 with the addition to the anticipated increase in traffic flow from the medical office building. These turning movement counts were calculated by taking the 2023 traffic count turn percentages and factoring the anticipated medical center trips accordingly.

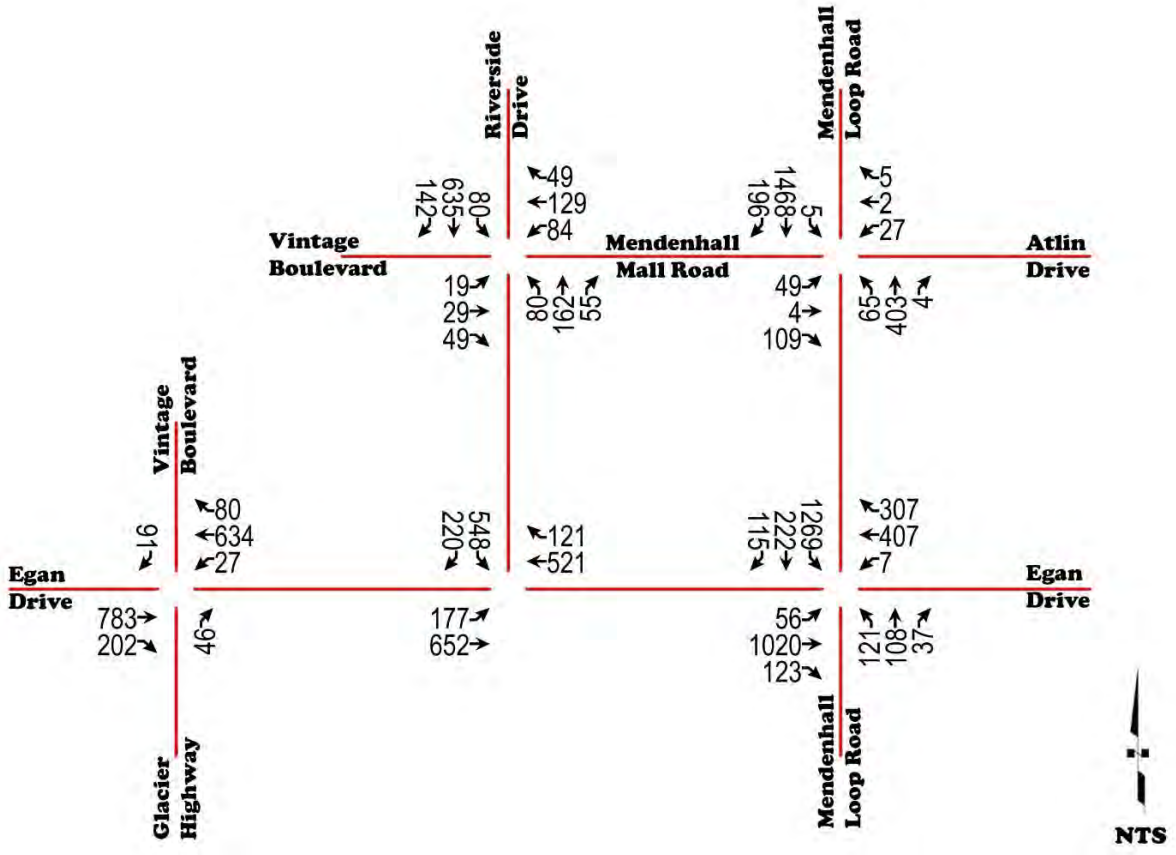


Figure 21: AM Peak TMVs – Build Condition 2023

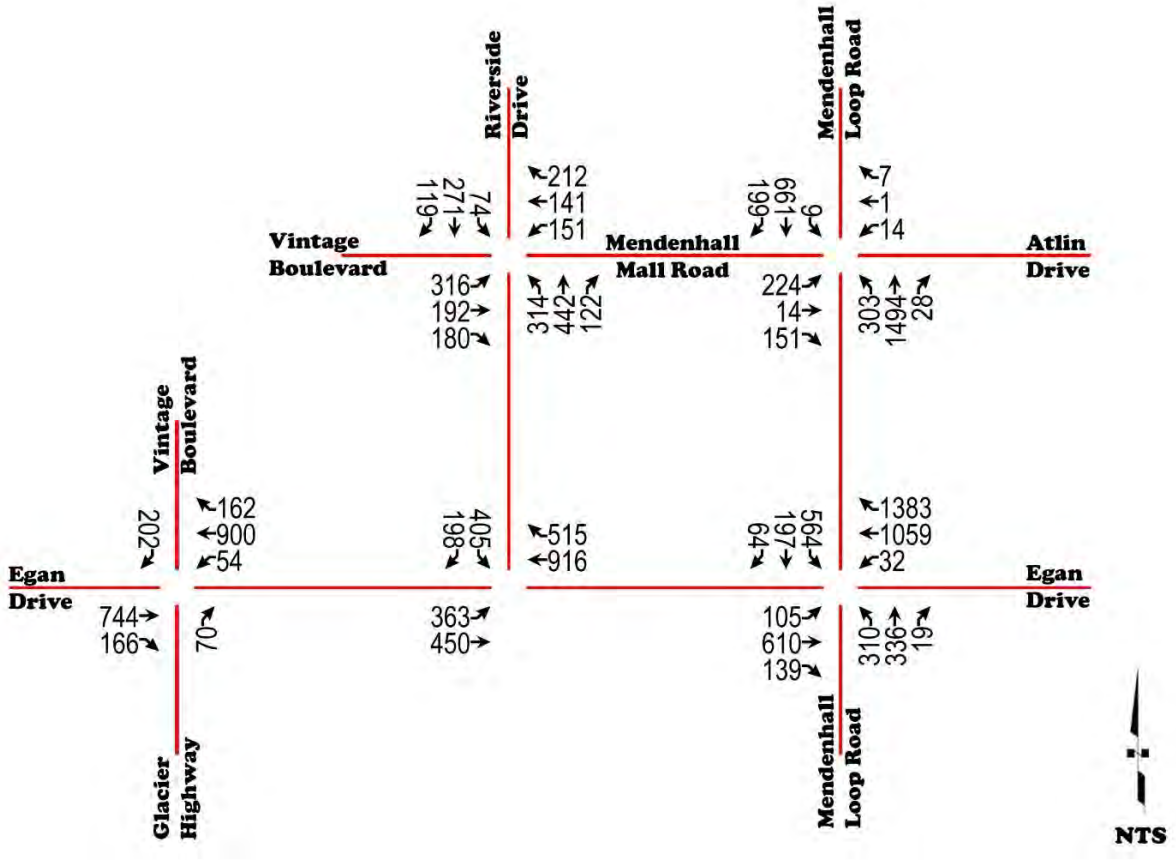


Figure 22: PM Peak TMVs – Build Condition 2023

7 Traffic and Safety Analysis

7.1 Intersection Operation Impacts

The 2023 base condition AM and PM peak hour traffic flow counts for the five adjacent intersections were analyzed using Synchro 11 software, using Highway Capacity Manual (HCM) 2000 methodologies for the signalized intersections and HCM 2010 methodologies for the unsignalized intersection. HCM 2010 requires National Electrical Manufacturers Association (NEMA) phasing to analyze signal operations. The Egan Drive and Mendenhall Loop Road intersection cannot be modeled as NEMA phasing because of the split-phased timing. Additionally, the Egan Drive and Riverside Drive intersection has an exclusive pedestrian phase which cannot be modeled as NEMA phasing. For equal comparison among the signalized intersections in the study area, HCM 2000 was used to analyze all signals.

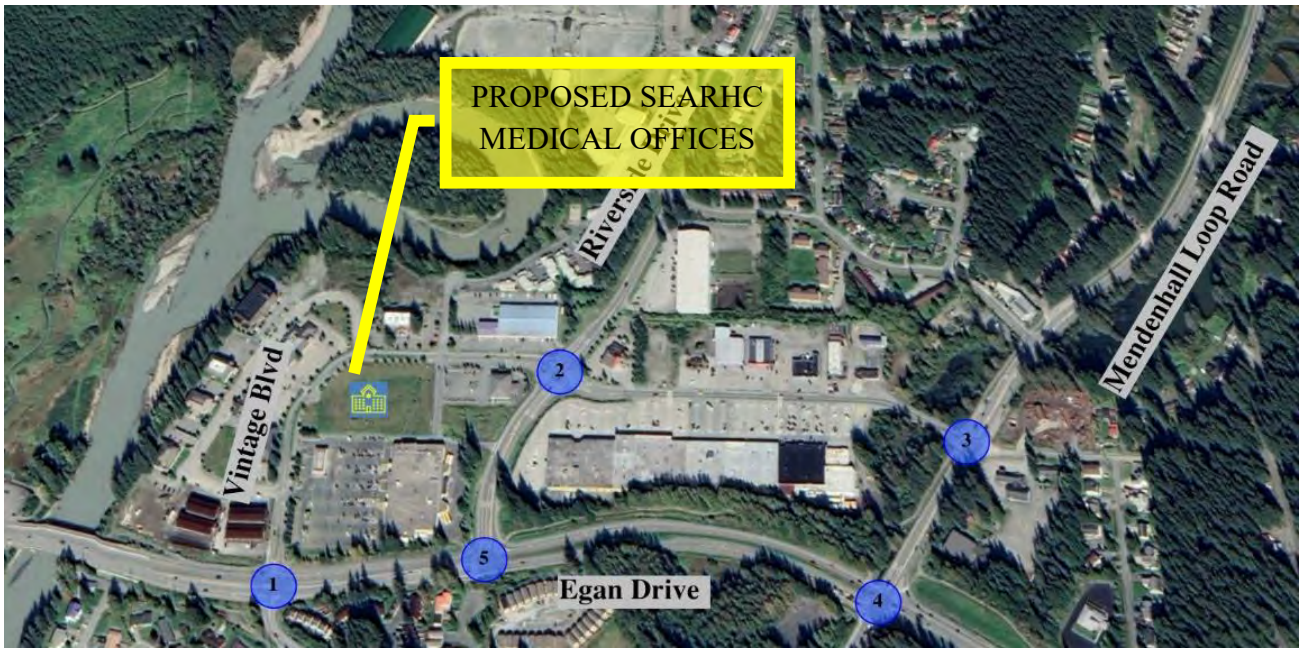
The signalized intersections were analyzed using existing signal timings provided by DOT&PF for the 2016 Juneau Egan Drive & Riverside Intersection Improvements project. The Egan Drive at Mendenhall Loop Road intersection and the Riverside Drive at Vintage Boulevard / Mendenhall Mall Road intersection are configured with at least one channelized right-turn movement. It was assumed that channelized right-turn movements at an intersection do not affect signal operations. Therefore, these right-turn movements were removed from the signal models at the Egan Drive and were analyzed separately as an unsignalized intersection. Approach and intersection delays at these intersections consider delays at the signal and delays for the channelized right-turn lanes.

It should be noted that this analysis may not be using the most current signal timing plans. DOT&PF stated in their review of this report that adaptive signal control is used at the study intersections. However, DOT&PF did not require revaluation of the signalized intersection operations since, as present in the sections below, the additional delay impact caused by the development is not significant. Moreover, adaptive signal control is a mitigation to decrease delay.

Observed intersection AM and PM peak hour factors (PHFs) from the collected turning movement counts discussed in Section 4.3 on page 23. PHFs ranged from 0.77 to 0.91 during the AM peak and 0.91 to 0.97 during the PM peak.

Average heavy vehicle percentages were estimated using continuous count stations and short-term stations with historical vehicle classification data gathered from the DOT&PF traffic data portal. Heavy vehicles made up approximately 5% of traffic on Egan Drive, 2% of traffic on Riverside Drive, and 7% of traffic on Vintage Boulevard. Roadways without vehicle classification data were given a default heavy vehicle percentage of 2%.

The intersections that are evaluated in this section are presented in Figure 23 and listed below.



Background Photo Source- Google Earth

Figure 23: TIA Study Area Intersections

The analyzed intersections (numbered as shown in the figure) include:

1. Egan Drive and Vintage Boulevard/Glacier Highway
2. Riverside Drive and Vintage Boulevard/ Mendenhall Mall Road
3. Mendenhall Loop Road and Mendenhall Mall Road/Atlin Drive
4. Mendenhall Loop Road and Egan Drive
5. Riverside Drive and Egan Drive

The site traffic distributed to other intersection approaches outside of the study area were found to be under the 5% threshold discussed in Section 1.2. As such, the study area shown satisfies CBJ Code of Ordinances.

Under each subsection below, the operation performance measures are presented for the 2023 AM and PM peak hours, for both cases of with and without the SEARHC medical offices. Operational performance measures include:

- Movement and intersection average control delay in seconds per vehicle (sec/veh);
- Movement and Overall Level of Service (LOS) based on control delay, and as presented in the HCM for signalized and unsignalized intersection;
- Volume to Capacity Ratio (v/c) for movements, where v/c > 1 indicates demand exceeds capacity, and;
- Queue Lengths in feet, 95th percentile queue is reported, signifying the approximate length exceeded by queues about 5% of the time.

Table 14 presents level of service (LOS) criteria for signalized and unsignalized intersections. Level of service for signals is applied to individual movements, approaches, and the intersection. Unsignalized LOS is applied only to movements and approaches that yield to other movements and unimpeded movements are not analyzed since they do not experience delay.

Table 14: Signalized and Unsignalized Intersection LOS Based on Control Delay

Level of Service	Signalized Intersection Control Delay (seconds/vehicle)	Unsignalized Intersection Control Delay (seconds/vehicle)
A	0-10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

Queue lengths (95th percentile) for controlled turning movements are evaluated to determine if the queues exceed available auxiliary lane storage lane. Signalized through movement queues are evaluated to determine if they block entrances to auxiliary lanes, denying turning vehicle access to the auxiliary lane. Queue storage for all movements may be limited by upstream intersections, which is whether they will spill back through an upstream intersection and interfere with the upstream intersection operations.

7.1.1 Egan Drive and Vintage Boulevard/Glacier Highway

This intersection, discussed in detail under Section 3.2.5, on page 16 and depicted below in Figure 24 is a two-way stop-controlled intersection.

Figure 24: Egan Drive and Vintage Boulevard/Glacier Highway

7.1.1.1 Egan-Vintage-Glacier AM Peak Hour

The following tables summarize intersection LOS performance measures for the AM peak hour in the design year without the SEARHC medical offices and with the medical offices.

Table 15: AM Peak at Egan Drive-Vintage Boulevard Intersection, Base Condition 2023

Existing Base Condition AM Peak	**WB**	**NB**	**SB**
	LT	*R*	*R*
Delay (sec/veh)	10	13	12
LOS	B	B	B
v/c Ratio	0.05	0.10	0.15
Queue Length (ft)	<25	<25	<25

Table 16: AM Peak at Egan Drive-Vintage Boulevard Intersection, Build Condition 2023

2023 Build Condition AM Peak	**WB**	**NB**	**SB**
	LT	*R*	*R*
Delay (sec/veh)	10	13	13
LOS	B	B	B
v/c Ratio	0.05	0.10	0.20
Queue Length (ft)	<25	<25	<25

There are only minor differences in performance measures for the AM intersection operations with and without the development. The following table summarizes queue impacts.

Table 17: AM Peak at Egan Drive-Vintage Boulevard Intersection Queue Lengths

2023 Build Condition AM Peak	WB			EB		SB
	LT	*Thru*	*R*	*Thru*	*R*	*R*
Available Storage Length (ft)	200	Free	400	Free	360	240
No-Build Queue Length (ft)	<25	Free	Free	Free	<25	<25
Build Queue Length (ft)	<25	Free	Free	Free	<25	<25

The are no queue impacts caused by the proposed development.

7.1.1.2 Egan-Vintage-Glacier PM Peak Hour

The following tables summarize intersection LOS performance measures for the PM peak hour in the design year without the SEARHC medical offices and with the medical offices.

Table 18: PM Peak at Egan Drive-Vintage Boulevard Intersection, Base Condition 2023

Existing Base Condition PM Peak	WB	NB	SB
	LT	*R*	*R*
Delay (sec/veh)	10	12	15
LOS	A	B	C
v/c Ratio	0.05	0.15	0.35
Queue Length (ft)	<25	<25	50

Table 19: PM Peak at Egan Drive-Vintage Boulevard Intersection, Build Condition 2023

2023 Build Condition PM Peak	WB	NB	SB
	LT	*R*	*R*
Delay (sec/veh)	10	12	17
LOS	A	B	C
v/c Ratio	0.05	0.15	0.40
Queue Length (ft)	<25	<25	50

There are only minor differences in performance measures for the PM intersection operations with and without the development. The following table summarizes queue impacts.

Table 20: PM Peak at Egan Drive-Vintage Boulevard Intersection Queue Lengths

	WB			EB		SB
	LT	*Thru*	*R*	*Thru*	*R*	*R*
Available Queue Length (ft)	200	Free	400	Free	360	240
No-Build Queue Length (ft)	<25	Free	Free	Free	<25	50

	WB			EB		SB
	LT	*Thru*	*R*	*Thru*	*R*	*R*
Build Queue Length (ft)	<25	Free	Free	Free	<25	50

The are no queue impacts caused by the proposed development.

7.1.1.3 Egan-Vintage-Glacier Summary

Intersection operation measures and queue lengths are not significantly impacted by the traffic generated by the proposed SEARHC medical office development. The operational performance measures with the development do not exceed CBJ Code of Ordinance thresholds requiring mitigations (see Section 1.2 on page 5 for discussion of requirements).

7.1.2 Riverside Drive and Vintage Boulevard/ Mendenhall Mall Road

This intersection, discussed in detail under Section 3.2.3 on page 15 and depicted below in Figure 25 is a signalized intersection.

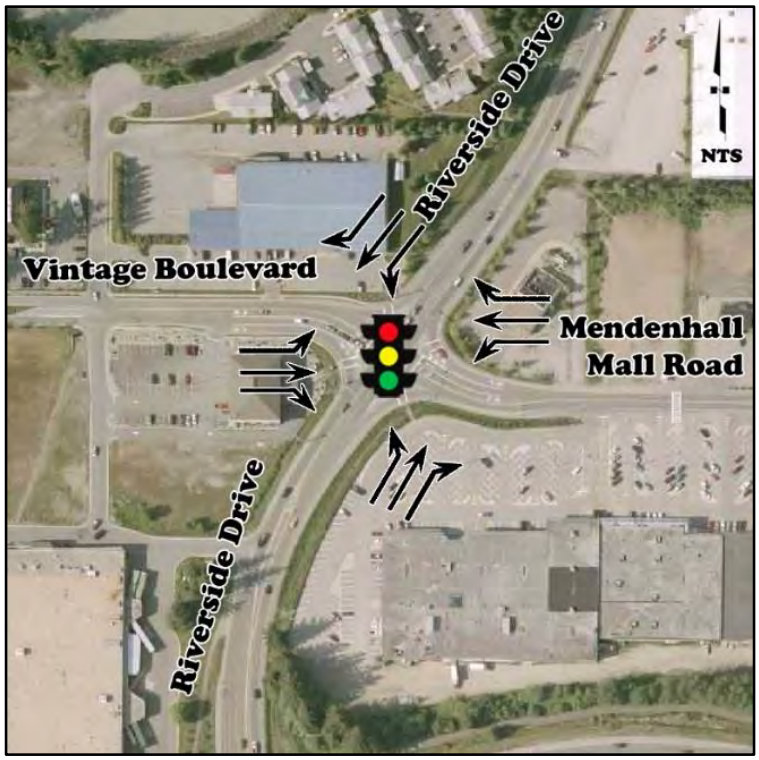


Figure 25: Riverside Drive and Vintage Boulevard/Mendenhall Mall Road

7.1.2.1 Riverside Drive and Vintage Boulevard/ Mendenhall Mall Road AM Peak Hour

The following tables summarize intersection LOS performance measures for the AM peak hour in the design year without the SEARHC medical offices and with the medical offices.

Table 21: AM Peak at Riverside Drive-Vintage Boulevard Intersection, Base Condition 2023

2023 Base Condition AM Peak	EB			WB			NB			SB		
	LT	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*
Delay (sec/veh)	36	38	18	29	36	10	12	10	9	7	23	10
LOS	D	D	C	C	D	A	B	A	A	A	C	B
v/c Ratio	0.15	0.25	0.15	0.45	0.55	0.10	0.30	0.20	0.10	0.15	0.85	0.20
Queue Length (ft)	25	50	25	100	125	< 25	50	100	< 25	50	575	25
Intersection	20 sec/veh											
	LOS B											

Table 22: AM Peak at Riverside Drive-Vintage Boulevard Intersection, Build Condition 2023

2023 Build Condition AM Peak	EB			WB			NB			SB		
	LT	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*
Delay (sec/veh)	36	38	19	29	37	10	14	10	9	8	26	11
LOS	D	D	C	C	D	A	B	B	A	A	C	B
v/c Ratio	0.15	0.25	0.20	0.40	0.60	0.10	0.40	0.20	0.10	0.15	0.85	0.25
Queue Length (ft)	50	50	25	100	150	< 25	50	125	< 25	50	625	25
Intersection	21 sec/veh											
	LOS C											

Although the intersection LOS is B without development traffic and C with it, the average delay only increases by one second in the build case. As such, individual movement and overall intersection performance measures will not change significantly with the additional traffic generated by the SEARHC medical offices. The following table summarizes queue impacts.

Table 23: AM Peak at Riverside Drive-Vintage Boulevard Intersection Queue Lengths

	EB			WB			NB			SB		
	LT	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*
Available Storage Length (ft)	260	190*	190	140	110*	110	170	140*	140	180	140*	140
No-Build Queue Length (ft)	25	50	25	100	125	< 25	50	100	< 25	50	575	25
Build Queue Length (ft)	50	50	25	100	150	< 25	50	125	< 25	50	625	25

**Through queue storage is unlimited, but the lengths presented in the table are the shortest length of the adjoining auxiliary lanes to address the likelihood of through queues blocking the auxiliary lane.*

With site development traffic the westbound 150-foot through queue will occasionally block the entrance of the westbound right turn lane. However, that is not a significant issue, since right-turns and throughs will proceed on the same signal phase. Right-turns on other phases may be impacted on occasion. The westbound left-turn lane is 140 feet, and the adjacent westbound through queue is 150 feet. However, the channelization is formed by striping, and vehicles may enter the auxiliary left-turn lane behind the through queue by driving over the painted taper.

The no-build southbound queues will block access to the adjacent auxiliary turn lanes. For the right-turn lane, this may not be a significant issue as discussed above, but the blockage to the left-turn lane may starve the left-turn phase during green indications. The build condition lengthens the southbound through queue by approximately 50 feet but does not create any additional impacts.

7.1.2.2 Riverside Drive and Vintage Boulevard/ Mendenhall Mall Road PM Peak Hour

The following tables summarize intersection LOS performance measures for the PM peak hour in the design year without the SEARHC medical offices and with the medical offices.

Table 24: PM Peak at Riverside Drive-Vintage Boulevard Intersection, Base Condition 2023

2023 Base Condition PM Peak	**EB**			**WB**			**NB**			**SB**		
	LT	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*
Delay (sec/veh)	22	30	13	21	30	25	15	23	11	18	27	13
LOS	C	C	B	C	C	D	B	C	B	B	C	B
v/c Ratio	0.65	0.60	0.30	0.40	0.50	0.55	0.65	0.70	0.15	0.25	0.65	0.20
Queue Length (ft)	225	175	50	125	150	100	175	375	25	50	250	25
Intersection	21 sec/veh											
	LOS C											

Table 25: PM Peak at Riverside Drive-Vintage Boulevard Intersection, Build Condition 2023

2023 Build Condition PM Peak	**EB**			**WB**			**NB**			**SB**		
	LT	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*
Delay (sec/veh)	23	30	14	22	32	28	17	25	11	19	28	13
LOS	C	C	B	C	C	D	B	C	B	B	C	B
v/c Ratio	0.70	0.60	0.30	0.40	0.55	0.60	0.70	0.70	0.15	0.25	0.65	0.20
Queue Length (ft)	250	200	50	125	150	100	200	375	25	50	250	25
Intersection	23 sec/veh											
	LOS C											

There are only minor differences of two seconds in vehicle delay in performance measures for the PM intersection operations with and without the development and the LOS remains C in both cases. The following table summarizes queue impacts.

Table 26: PM Peak at Riverside Drive-Vintage Boulevard Intersection Queue Lengths

	EB			WB			NB			SB		
	LT	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*
Available Storage Length (ft)	260	190*	190	140	110*	110	170	140*	140	180	140*	140
No-Build Queue Length (ft)	225	175	50	125	150	100	175	375	25	50	250	25
Build Queue Length (ft)	250	200	50	125	150	100	200	375	25	50	250	25

**Through queue storage is unlimited, but the lengths presented in the table are the shortest length of the adjoining auxiliary lanes to address the likelihood of through queues blocking the auxiliary lane.*

Upon opening of the development, the eastbound right-turn lane may be blocked on occasion by the through queue, but as mentioned previously it is not expected to be an issue. Similarly, the westbound left-turn may have to be accessed by vehicle entering the lane behind through queue over the painted channelization. Both northbound and southbound through queues block access to the adjoining acceleration lanes, but the additional site traffic does not worsen the queuing conditions.

7.1.2.3 Riverside Drive and Vintage Boulevard/ Mendenhall Mall Road Summary

Intersection operation measures and queue lengths are not significantly impacted by the traffic generated by the proposed SEARHC medical office development. The operational performance measures with the development do not exceed CBJ Code of Ordinance thresholds requiring mitigations (see Section 1.2 on page 5 for discussion of requirements).

7.1.3 Mendenhall Mall Road and Mendenhall Loop Road/Atlin Drive

This intersection, discussed in detail under Section 3.2.4 on page 15 and depicted below (Figure 26) is a signalized intersection.

Figure 26: Mendenhall Loop Road and Mendenhall Mall Road/Atlin Drive

7.1.3.1 Mendenhall Loop Road and Mendenhall Mall Road/Atlin Drive AM Peak Hour

The following tables summarize intersection LOS performance measures for the AM peak hour in the design year without the SEARHC medical offices and with the medical offices.

Table 27: AM Peak at Mendenhall Loop Road-Mendenhall Mall Road Intersection, Base Condition 2023

2023 Base Condition AM Peak	**EB**			**WB**			**NB**			**SB**		
	LT	*Thru*	*R)*	*LT*	*Thru*	*R*	*LT*	*Thru*	*R)*	*LT*	*Thru*	*R)*
Delay (sec/veh)	53		50	51		49	65		6	64	12	6
LOS	D		D	D		D	E		A	E	B	A
v/c Ratio	0.50		0.15	0.25		0.00	0.65		0.20	0.35	0.70	0.20
Queue Length (ft)	100		75	50		< 25	125		200	25	550	75
Intersection	15 sec/veh											
	LOS B											

Table 28: AM Peak at Mendenhall Loop Road-Mendenhall Mall Road Intersection, Build Condition 2023

2023 Build Condition AM Peak	EB			WB			NB			SB		
	LT	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*
Delay (sec/veh)	53		50	51		49	53	6		64	13	7
LOS	D		D	D		D	D	A		E	B	A
v/c Ratio	0.50		0.20	0.30		0.00	0.60	0.20		0.35	0.75	0.20
Queue Length (ft)	100		75	50		< 25	125	175		25	550	75
Intersection	16 sec/veh											
	LOS B											

There is only a minor difference of 1 second in vehicle delay in performance measures for the AM intersection operations with and without the development and the LOS is B in both cases. The following table summarizes queue impacts.

Table 29: AM Peak at Mendenhall Loop Road-Mendenhall Mall Road Intersection Queue Lengths

	EB			WB			NB			SB		
	LT	*Thru*	*R*	*LT*	*Thru*	*R)*	*LT*	*Thru*	*R*	*LT*	*Thru*	*R*
Available Storage Length (ft)	250		120	70		40	190	590		110	110*	130
No-Build Queue Length (ft)	100		75	50		< 25	125	200		25	550	75
Build Queue Length (ft)	100		75	50		< 25	125	175		25	550	75

**Through queue storage is unlimited, but the lengths presented in the table are the shortest length of the adjoining auxiliary lanes to address the likelihood of through queues blocking the auxiliary lane.*

With site development traffic the southbound 550-foot through queue will occasionally block the entrance of the southbound left and right turn lanes. However, the build condition does not lengthen the southbound through queue.

7.1.3.2 Mendenhall Loop Road-Mendenhall Mall Road/Atlin Drive PM Peak Hour

The following tables summarize intersection LOS performance measures for the PM peak hour in the design year without the SEARHC medical offices and with the medical offices.

Table 30: PM Peak at Riverside Drive-Vintage Boulevard Intersection, Base Condition 2023

2023 Base Condition AM Peak	EB			WB			NB			SB		
	LT	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*
Delay (sec/veh)	63		32	31		31	145		15	54	19	16

2023 Base Condition AM Peak	EB			WB			NB			SB		
	LT	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*
LOS	E		C	C		C	F		B	D	B	B
v/c Ratio	0.90		0.20	0.05		0.00	1.15		0.80	0.45	0.45	0.15
Queue Length (ft)	275		75	25		< 25	525		625	25	200	50
Intersection	33 sec/veh											
	LOS C											

Table 31: PM Peak at Riverside Drive-Vintage Boulevard Intersection, Build Condition 2023

2023 Build Condition AM Peak	EB			WB			NB			SB		
	LT	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R (Yield)*
Delay (sec/veh)	66		32	31		30	198		16	54	19	16
LOS	E		C	C		C	F		B	D	B	B
v/c Ratio	0.90		0.20	0.05		0.00	1.30		0.80	0.45	0.45	0.15
Queue Length (ft)	300		100	25		< 25	525		625	25	200	50
Intersection	39 sec/veh											
	LOS D											

For the PM peak hour, there is a six second vehicle delay increase between the 2023 no build and build conditions. The LOS changes from C to D, but does not exceed CBJ Code of Ordinances mitigation thresholds.

Table 32: PM Peak at Mendenhall Loop Road-Atlin Road Intersection Queue Lengths

	EB			WB			NB			SB		
	LT	*Thru*	*R*	*LT*	*Thru*	*R*	*LT*	*Thru*	*R*	*LT*	*Thru*	*R*
Available Storage Length (ft)	120*		120	70		40	190	590		110	110*	130
No-Build Queue Length (ft)	275		75	25		< 25	525	625		25	200	50
Build Queue Length (ft)	300		100	25		< 25	525	625		25	200	50

**Through queue storage is unlimited, but the lengths presented in the table are the shortest length of the adjoining auxiliary lanes to address the likelihood of through queues blocking the auxiliary lane.*

Upon opening of the development, the eastbound approach queue lengths are increased for the shared left turn/thru and right turn lanes. The eastbound right-turn lane may be blocked on occasion by the left turn/through queue. While the eastbound shared left turn/thru lane

anticipated queue length for no-build and build conditions is longer than the storage length to where it would impact the entrance for the right turn lane, the queue lengths for the eastbound lanes are only increased by 25 feet. This is mitigated in part because the right turn movements occur simultaneously with the shared left-through phase. Both northbound and southbound through queues block access to the adjoining acceleration lanes, but the additional site traffic does not worsen the queuing conditions. The eastbound, westbound, and southbound right turn lane available queue length storages are all longer than the expected no build and build queue lengths.

7.1.3.3 Mendenhall Loop Road-Mendenhall Mall Road/Atlin Drive Summary

The operational performance measures with the development do not exceed the CBJ Code of Ordinance thresholds requiring mitigations (see Section 1.2 on page 5 for discussion of requirements).

7.1.4 Egan Drive and Mendenhall Loop Road

This intersection, discussed in detail under Section 3.2.2 and depicted below in Figure 27 is a signalized intersection.

Figure 27: Egan Drive and Mendenhall Loop Road

7.1.4.1 Egan Drive and Mendenhall Loop Road AM Peak Hour

The following tables summarize intersection LOS performance measures for the AM peak hour in the design year without the SEARHC medical offices and with the medical offices.

Table 33: AM Peak at Egan Drive-Mendenhall Loop Road Intersection, Base Condition 2023

2023 Base Condition AM Peak	**EB**			**WB**			**NB**			**SB**		
	LT	*Thru*	*R*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R*	*LT*	*Thru*	*R*
Delay (sec/veh)	64	141	34	90	45	0	65	57	49	81	84	25
LOS	E	F	C	F	D	Free	E	E	D	F	F	C
v/c Ratio	0.65	1.20	0.10	0.55	0.55	-	0.75	0.65	0.05	1.10	1.10	0.10
Queue Length (ft)	100	800	75	25	250	-	175	150	< 25	950	975	50
Intersection	82 sec/veh											
	LOS F											

Table 34: AM Peak at Egan Drive-Mendenhall Loop Road Intersection, Build Condition 2023

2023 Build Condition AM Peak	**EB**			**WB**			**NB**			**SB**		
	LT	*Thru*	*R*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R*	*LT*	*Thru*	*R*
Delay (sec/veh)	64	147	34	90	46	0	66	57	48	80	83	24
LOS	E	F	C	F	D	Free	E	E	D	F	F	C
v/c Ratio	0.65	1.20	0.10	0.55	0.60	-	0.75	0.65	0.05	1.10	1.10	0.10
Queue Length (ft)	100	800	75	25	250	-	175	150	< 25	950	975	50
Intersection	83 sec/veh											
	LOS F											

The Mendenhall Loop and Mendenhall Mall Road/Atlin Drive intersection has a no-build intersection LOS of F. The build condition is also LOS F, with a 1 second increase in delay. The following table summarizes queue impacts.

Table 35: AM Peak at Egan Drive-Mendenhall Loop Road Intersection Queue Lengths

	EB			WB			NB			SB		
	LT	*Thru*	*R*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R*	*LT*	*Thru*	*R*
Available Storage Length (ft)	700	150*	150	720	720*	980	300	300*	470	960	280*	280
No-Build Queue Length (ft)	100	800	75	25	250	-	175	150	< 25	950	975	50
Build Queue Length (ft)	100	800	75	25	250	-	175	150	< 25	950	975	50

**Through queue storage is unlimited, but the lengths presented in the table are the shortest length of the adjoining auxiliary lanes to address the likelihood of through queues blocking the auxiliary lane.*

Queues are not increased with the additional site traffic.

7.1.4.2 Egan Drive and Mendenhall Loop Road PM Peak Hour

The following tables summarize intersection LOS performance measures for the PM peak hour in the design year without the SEARHC medical offices and with the medical offices.

Table 36: PM Peak at Egan Drive and Mendenhall Loop Road Intersection, Base Condition 2023

2023 Base Condition PM Peak	**EB**			**WB**			**NB**			**SB**		
	LT	*Thru*	*R*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R)*	*LT*	*Thru*	*R*
Delay (sec/veh)	42	24	19	49	168	Free	75	85	33	75	71	30
LOS	D	C	B	D	F	Free	E	F	C	E	E	C
v/c Ratio	0.65	0.60	0.10	0.50	1.25	Free	0.95	1.00	0.00	1.00	1.00	0.05
Queue Length (ft)	125	250	50	75	625	Free	375	425	< 25	475	475	< 25
Intersection	65 sec/veh											
	LOS E											

Table 37: PM Peak at Egan Drive and Mendenhall Loop Road Intersection, Build Condition 2023

2023 Build Condition PM Peak	EB			WB			NB			SB		
	LT	*Thru*	*R*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R*	*LT*	*Thru*	*R*
Delay (sec/veh)	43	24	18	49	172	Free	79	85	33	78	74	30
LOS	D	C	B	D	F	Free	E	F	C	E	E	C
v/c Ratio	0.65	0.60	0.10	0.50	1.30	Free	0.95	1.00	0.00	1.05	1.00	0.05
Queue Length (ft)	125	225	75	75	625	Free	375	425	< 25	500	500	< 25
Intersection	66 sec/veh											
	LOS E											

There is a one second vehicle delay increase at this intersection; however, the LOS remains E for both the no-build and build conditions. Through queue will occasionally block the entrance of the left and right turn lanes. The following table summarizes queue impacts.

Table 38: PM Peak at Egan Drive-Mendenhall Loop Road Queue Lengths

	EB			WB			NB			SB		
	LT	*Thru*	*R*	*LT*	*Thru*	*R (Yield)*	*LT*	*Thru*	*R*	*LT*	*Thru*	*R*
Available Storage Length (ft)	700	150*	150	720	720*	980	300	300*	470	960	280*	280
No-Build Queue Length (ft)	125	250	50	75	625	Free	375	425	< 25	475	475	< 25
Build Queue Length (ft)	125	225	75	75	625	Free	375	425	< 25	500	500	< 25

**Through queue storage is unlimited, but the lengths presented in the table are the shortest length of the adjoining auxiliary lanes to address the likelihood of through queues blocking the auxiliary lane.*

Upon opening of the development, the eastbound, northbound, and southbound right-turn lane may be blocked on occasion by the through queue, but the additional site traffic does not significantly worsen the queuing conditions. There is a 25-foot increase in southbound left and through turning movements as well as a 25-foot increase in length in the eastbound right turn queue.

7.1.4.3 Egan Drive and Mendenhall Loop Road Summary

If interpreted correctly, the operational performance measures with the development may exceed CBJ Code of Ordinance thresholds requiring mitigations (see Section 1.2 on page 5 for discussion of requirements) simply because the base condition without site traffic falls below

LOS D. However, intersection operation measures and queue lengths are not significantly impacted by the traffic generated by additional traffic from the proposed SEARHC medical office development.

7.1.5 Egan Drive and Riverside Drive

This intersection, discussed in detail under Section 3.2.1 on page 14 and depicted below in Figure 28, is a signalized intersection.

Figure 28: Egan Drive and Riverside Drive

7.1.5.1 Egan Drive and Riverside Drive AM Peak Hour

The following tables summarize intersection LOS performance measures for the AM peak hour in the design year without the SEARHC medical offices and with the medical offices.

Table 39: AM Peak at Egan Drive and Riverside Drive Intersection, Base Condition 2023

2023 Base Condition AM Peak	EB		WB		SB	
	LT	*Thru*	*Thru*	*R (Yield)*	*LT*	*R (Yield)*
Delay (sec/veh)	27	9	24	18	22	18
LOS	C	A	C	B	C	B
v/c Ratio	0.60	0.45	0.70	0.10	0.65	0.30
Queue Length (ft)	175	150	225	50	225	100
Intersection	19 sec/veh					
	LOS B					

Table 40: AM Peak at Egan Drive and Riverside Drive Road Intersection, Build Condition 2023

2023 Base Condition AM Peak	EB		WB		SB	
	LT	*Thru*	*Thru*	*R (Yield)*	*LT*	*R (Yield)*
Delay (sec/veh)	28	9	25	19	23	19
LOS	C	A	C	B	C	B
v/c Ratio	0.65	0.45	0.70	0.10	0.70	0.30
Queue Length (ft)	175	175	225	50	225	100
Intersection	19 sec/veh					
	LOS B					

The intersection LOS is B with both no-build and build conditions and no change in average delay. The following table summarizes queue impacts.

Table 41: AM Peak at Egan Drive and Riverside Drive Intersection Queue Lengths

	EB		WB		SB	
	LT	*Thru*	*Thru*	*R (Yield)*	*LT*	*R(Yield)*
Available Queue Length (ft)	370	370*	530*	530	460	230
Pre-Build	175	150	225	50	225	100
Post-Build	175	175	225	50	225	100

**Through queue storage is unlimited, but the lengths presented in the table are the shortest length of the adjoining auxiliary lanes to address the likelihood of through queues blocking the auxiliary lane.*

Through queue should not block the entrance of the left or right turn lanes. The build condition has insignificant impact on any of the left, right or through queues.

7.1.5.2 Egan Drive and Riverside Drive PM Peak Hour

The following tables summarize intersection LOS performance measures for the PM peak hour in the design year without the SEARHC medical offices and with the medical offices.

Table 42: PM Peak at Egan Drive and Riverside Drive Intersection, Base Condition 2023

2023 Base Condition AM Peak	**EB**		**WB**		**SB**	
	LT	*Thru*	*Thru*	*R (Yield)*	*LT*	*R (Yield)*
Delay (sec/veh)	38	5	15	34	44	36
LOS	D	A	B	C	D	D
v/c Ratio	0.75	0.20	0.75	0.35	0.75	0.15
Queue Length (ft)	325	75	175	< 25	175	75
Intersection	25 sec/veh					
	LOS C					

Table 43: PM Peak at Egan Drive and Riverside Drive Intersection, Build Condition 2023

2023 Base Condition AM Peak	**EB**		**WB**		**SB**	
	LT	*Thru*	*Thru*	*R (Yield)*	*LT*	*R (Yield)*
Delay (sec/veh)	38	5	15	38	44	35
LOS	D	A	B	D	D	D
v/c Ratio	0.75	0.20	0.80	0.35	0.75	0.15
Queue Length (ft)	350	75	175	< 25	175	75
Intersection	26 sec/veh					
	LOS C					

There are only minor differences in performance measures for the PM intersection operations with and without the development. The following table summarizes queue impacts.

Table 44: PM Peak at Egan Drive and Riverside Drive Queue Lengths

	EB		**WB**		**SB**	
	LT	*THRU*	*LT*	*R (Yield)*	*LT*	*R*
Available Queue Length (ft)	370	740	1200	530	460	230
Pre-Build	325	75	175	< 25	175	75
Post-Build	350	75	175	< 25	175	75

**Through queue storage is unlimited, but the lengths presented in the table are the shortest length of the adjoining auxiliary lanes to address the likelihood of through queues blocking the auxiliary lane.*

Through queue should not block the entrance of the left or right turn lanes. The build condition has insignificant impact on any of the left, right or through queues.

7.1.5.3 Egan Drive and Riverside Drive Summary

Intersection operation measures and queue lengths are not significantly impacted by the traffic generated by the proposed SEARHC medical office development. The operational performance measures with the development do not exceed CBJ Code of Ordinance thresholds requiring mitigations (see Section 1.2 on page 5 for discussion of requirements).

7.2 Safety Impacts

Crash experience is discussed under Section 5 on page 26. The crash rates and severity are low for the intersections within the study area. The site traffic may increase crash frequency (number per year) for the study intersections, but crash rates (crashes per volume exposure) is not expected to increase and in fact, may be reduced (rates tend to fall as traffic increases). Similarly, crash severity (major injuries and fatalities) are low, and would not be subject to an increase with the additional site traffic.

7.3 Transit System Impacts

Section 3.4 discusses transit service in the area. As a community, Juneau has an average public transportation work trip mode share is about 4.6% of commuting trips. As US Census Bureau American Community Survey *Table S0802* shows CBJ transit patrons tend to be lower income. As such, there is a potential and benefit of incentivizing transit so that all income levels employed by the medical office consider transit as alternative mode for commutes.. If so, and applying the community 4.6% usage, we would expect to see about 4 to 10 work trips use transit during the morning and evening commuting hours.

Moreover, about 70 to 80 trips daily (of 1677 total) would probably use transit if the mode share were applied to the total site traffic.

Section 3.4 indicates that the current transit system routes and schedules have adequate capacity to carry the patrons generated by the proposed SEARHC medical offices.

7.4 Pedestrian and Bicycle Impacts

The proposed SEARHC medical offices will generate additional pedestrian and bicycle use. In addition to the commuter and patient mode share (in place of automobiles), there will be short-trip opportunities for staff walkers or cyclists during the day to shop or visit restaurants.

The study area has pedestrian and bicycle facilities in place, as discussed under Section 3.3, although not every street has sidewalks or pathways. However, the study area pedestrian and bicycle network will accommodate walking or biking between the proposed medical offices and study area destinations study area or external origins/destinations.

Within the immediate area of the proposed offices, there is a missing sidewalk segment fronting the medical office parcel which, if left unimproved, impacts pedestrian circulation and affects the

quality of walking experience. Completion of this sidewalk would enhance the connectivity of the non-motorized network facilities for pedestrian staff and patients, reduce unsignalized mid-block street crossings, and provide an improved walking route for commuters or patients who walk between the offices and the Mendenhall Mall stops to board or alight transit buses. However, the walking route along Mendenhall Mall road is on shoulders or parking areas.

7.5 Driveway Impacts

7.5.1 Operational Impacts

Composite driveway volumes were estimated for the AM and PM peak hours in 2023 using data extracted and interpreted from Figure 21, Figure 22, and Table 13 (counts are not available). Of primary concerns are the left-turn queues for traffic entering the site be contained in the existing storage lanes, and that delay for the driveway egress traffic is not excessive, which if so, may result in drivers accepting inadequate gaps and increase the likelihood of crashes.

Figure 29, below, presents these performance measures. Queues will be contained in the left-turn storage lanes and delays for the outbound approach traffic onto Vintage will not be excessive.

AM Peak	WBL	WBR	SBL
Volume (vph)	10	10	40
Delay (s/veh)	10		8
LOS	A		A
v/c Ratio	0.05		0.05
95th Percentile Que	< 25		< 25
PM Peak	**WBL**	**WBR**	**SBL**
Volume (vph)	15	45	15
Delay (s/veh)	10		8
LOS	B		A
v/c Ratio	0.10		0.00
95th Percentile Que	< 25		< 25

AM Peak	WBL	NBL	NBT	NBR
Volume (vph)	40	10	0	10
Delay (s/veh)	7	11		
LOS	A	B		
v/c Ratio	0.05	0.05		
95th Percentile Queue L	< 25	< 25		
PM Peak	**WBL**	**NBL**	**NBT**	**NBR**
Volume (vph)	20	20	0	90
Delay (s/veh)	9	20		
LOS	A	C		
v/c Ratio	0.00	0.35		
95th Percentile Queue L	< 25	50		

Background Photo Source- Google Earth

Figure 29: Driveway Performance Measures

7.5.2 Driveway Sight Distance

Sight distance is required for main street left-turning vehicles and for driveway egress vehicles. The American Association of State Highway and Transportation Officials (AASHTO) *A Policy on the Geometric Design of Highways and Streets (GDHS)* provides guidance on intersection and driveway sight distance. The sight distance requirements are based upon Vintage Boulevard's posted speed limit of 20 mph.

Sight distance will have to be evaluated and incorporated during site design. The discussion below only presents the criteria that should be observed.

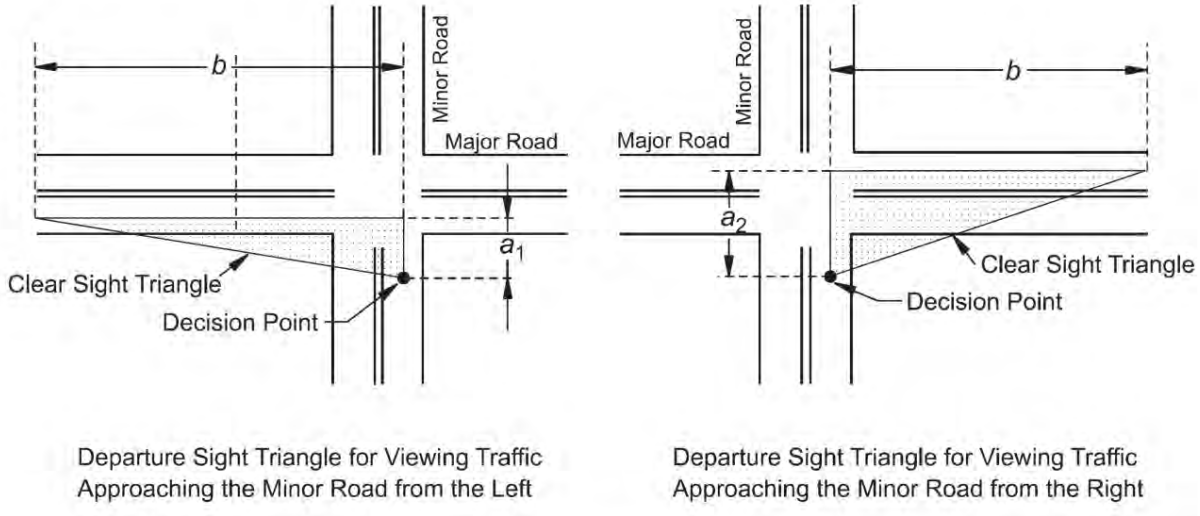
7.5.2.1 Vintage Boulevard Left-Turns Into Site

AASHTO requires 115 feet minimum for sight distance that will allow vehicles traveling in the opposing direction enough sight distance to come to a full stop from 20 mph, and avoid a left turning vehicle. However, a desirable sight distance is 165 feet, allowing the left-turning vehicle enough sight distance to judge oncoming gaps and complete the turn without impeding the opposite direction vehicle.

7.5.2.2 Driveway Departure Sight Distance

AASHTO requires 115 feet minimum for departure sight distance that will allow vehicles on Vintage Boulevard enough sight distance to come to a full stop from 20 mph, and avoid the driveway departure (egress) vehicle. The desirable sight distance is 225 feet.

Departure sight triangles are shown below.



Source: AASHTO GDHS Figure 9-17
Notes: The distance a_1 is distance from center of near lane to the decision point located 15 feet from edge of travel way. The distance a_2 is distance from center of far lane to the decision point located 15 feet from edge of travel way. The distance b is the sight distance, minimum 115 feet or desirable 225 feet.

Figure 30: Departure Sight Triangles

All objects within the clear sight triangle should be less than the plane formed by the driver's eye at 3.5 feet above the driveway surface and at the lane vertices, 3.5 above the roadway surfaces.

8 Mitigation and Recommendations

8.1 Egan Drive and Mendenhall Loop Road

Without site traffic, intersection AM average delay per vehicle is 82 seconds with a LOS F and the PM average delay per vehicle is 65 seconds with LOS E. Adding site traffic only increases delay be 1 second per vehicle in both AM and PM peak hours with no changes in LOS.

If interpreted correctly, the operational performance measures with the development may exceed CBJ Code of Ordinance thresholds requiring mitigations (see Section 1.2 on page 5 for discussion of requirements) simply because the base condition without site traffic falls below LOS D. However, intersection operation measures and queue lengths are not significantly impacted by the traffic generated by additional traffic from the proposed SEARHC medical office development. Furthermore, DOT&PF uses adaptive signal control at this intersection, and that capability to respond to changing demands is a mitigation.

A sketch-level evaluation of the intersection capacity analysis indicates that engineering and construction mitigation would likely require expanding the northbound and southbound approaches with additional left-turn and through capacity. This essentially involves an entire intersection and signal reconstruction, with likely unforeseen utility and right-of-way impacts, and would likely cost several million dollars. Moreover, the West Egan Drive Corridor Study, discussed in Section 2.3.4, indicates that the long-term solution for this intersection is a grade separated interchange. As such, any reconstruction efforts required by this project would eventually be superseded.

CBJ Code of Ordinances, 49.40.340 Mitigation waiver, discusses mitigation waivers:

(a) *The planning commission or community development department director may, in their discretion, waive or partially waive the requirements for mitigation under this section if the planning commission finds at a public hearing, or the director finds in writing after reviewing a permit which does not require planning commission approval, that either of the following circumstances is true:*

(1) (A) Existing roadway facilities are only marginally achieving an LOS D without the traffic generated by the development, and would likely fall below LOS D within five years;

(B) Traffic generated by the development would result in an LOS below D without mitigation; and

(C) The costs of mitigating the impacts outweighs the benefits; or

(2) (A) If the LOS is below D. before the development's opening date;

(B) If the operation of the roadway or intersection, within the affected area, would not deteriorate more than five percent in terms of delay time, a minimum LOS, LOS E may be acceptable;

(C) Does not result in an LOS below E; and

(D) The costs of mitigating the impacts outweighs the benefits.

The CBJ Code of Ordinances will allow mitigation to be waived, based on clause (D).

8.2 Completion of the Vintage Boulevard Sidewalk Fronting the SEARHC Medical Offices

As part of the site design and construction for the SEARHC medical offices, the missing sidewalk segment fronting this parcel could be completed, thus minimizing impacts to pedestrians generated by the facility. This segment completion enhances pedestrian mobility and safety and promotes transit use by improving the walking route between the bus stops and the medical offices. It should be noted that part of the transit walking route along Mendenhall Mall Road between the bus stops and the intersection of Riverside-Vintage-Mendenhall Mall is on roadway shoulders.

This improvement would mitigate the safety and mobility impacts caused by the missing sidewalk segment. It provides continuous and connecting pedestrian walking routes in the vicinity of the medical offices and reduce the need for mid-block unsignalized pedestrian crossings on Vintage Boulevard.

This improvement could also be a mitigation for the Egan Drive and Mendenhall Loop Road operational issues discussed above. The improvement may promote mode changes to walking and transit, and reduce vehicular demand generated by the site.

8.3 Demand Management Policies By SEARHC

Site vehicular traffic and parking demand may be reduced by SEARHC with the implementation of policies that promote changes to active the active transportation modes of transit, walking, or biking, and by encouraging car-pools. These include:

- Incentivize transit use (potential 4% to 5% vehicle trip reduction, see Section 3.4)
- Incentivize carpooling (potential 7% to 8% vehicle trip reduction, see Section 3.4)
- Provide bicycle racks. (Vehicle trip reduction isn't quantifiable).

8.4 Recommendations

Both DOT&PF and CBJ have reviewed the draft TIA and concur with the above discussed mitigations. Recommendations are as follows:

- Adaptive signal control capability at Egan Drive and Mendenhall Loop Road will be adequate to address the computed 1 second of delay increase at this intersection because of site traffic, and no other mitigation is required.
- Construct the missing segment of the Vintage Boulevard sidewalk that fronts the SEARHC Medical Offices (this has been adopted and shown in the May 2022 site plan).
- Include demand management policies that include incentivizing transit use and carpooling, and provide bicycle racks.

Appendix A- Excerpts from ITE Trip Generation Manual for Project Land Uses

Land Use: 720
Medical-Dental Office Building

Description

A medical-dental office building is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility. Clinic (Land Use 630) is a related use.

Additional Data

Time-of-day distribution data for this land use for a weekday, Saturday, and Sunday are presented in Appendix A. For the 19 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 9:30 and 10:30 a.m. and 2:15 and 3:15 p.m., respectively.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Connecticut, Kentucky, Maryland, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Dakota, Texas, Virginia, Washington, and Wisconsin.

Source Numbers

104, 109, 120, 157, 184, 209, 211, 253, 287, 294, 295, 304, 357, 384, 404, 407, 423, 444, 509, 601, 715, 867, 879, 901, 902, 908, 959, 972

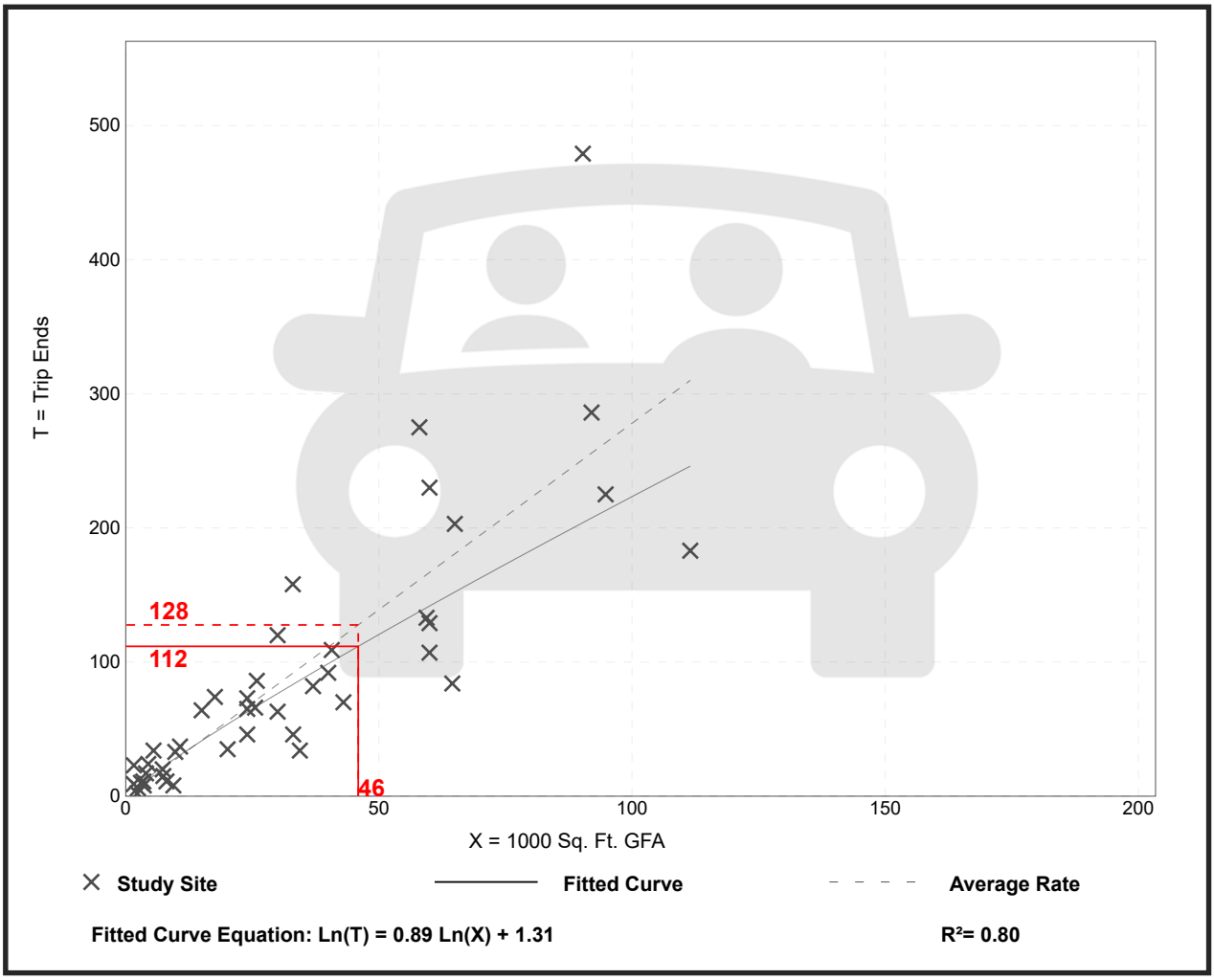
Medical-Dental Office Building
(720)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 44
Avg. 1000 Sq. Ft. GFA: 32
Directional Distribution: 78% entering, 22% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.78	0.85 - 14.30	1.28

Data Plot and Equation



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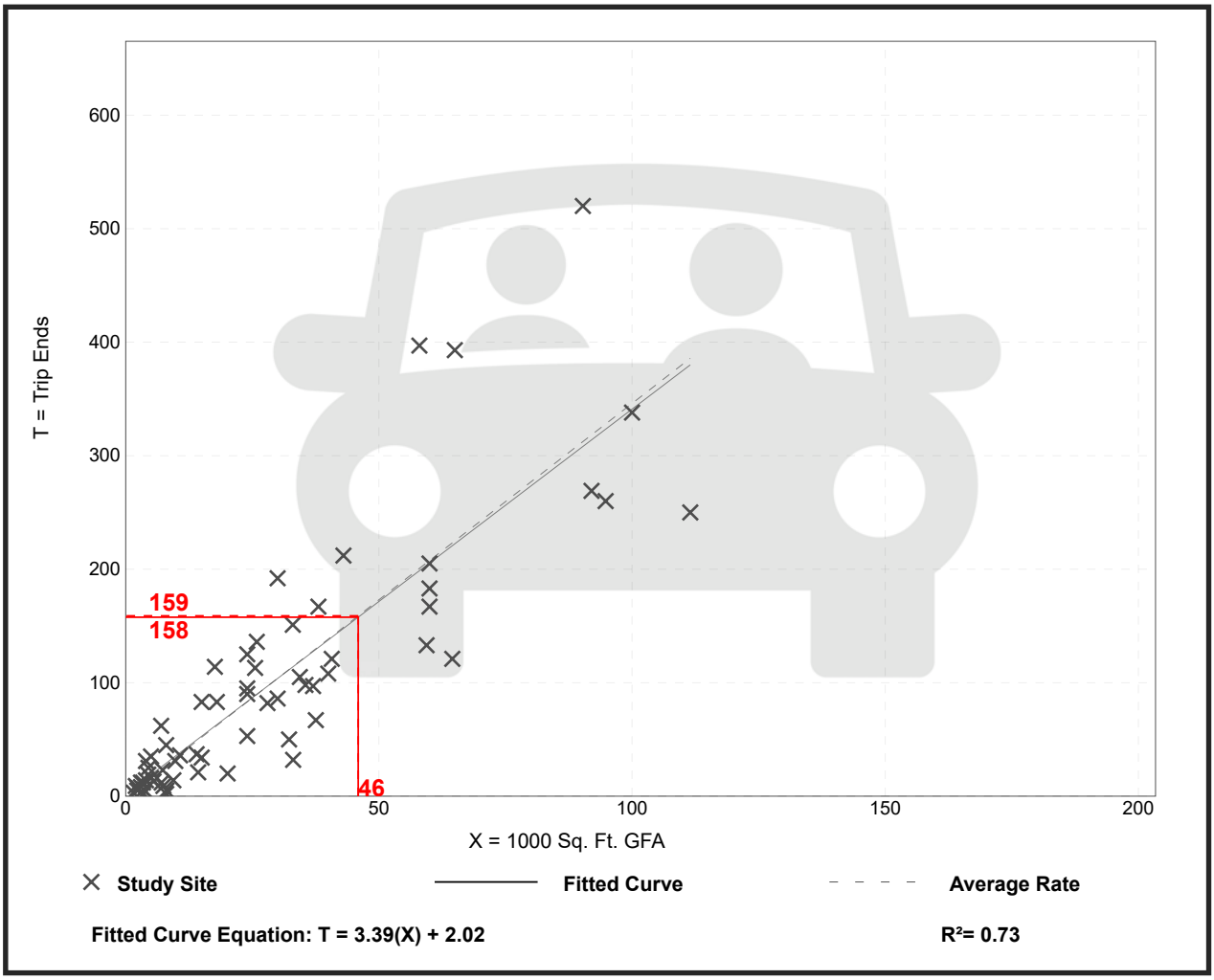
Medical-Dental Office Building
(720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	65
Avg. 1000 Sq. Ft. GFA:	28
Directional Distribution:	28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.46	0.25 - 8.86	1.58

Data Plot and Equation



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Medical-Dental Office Building
(720)

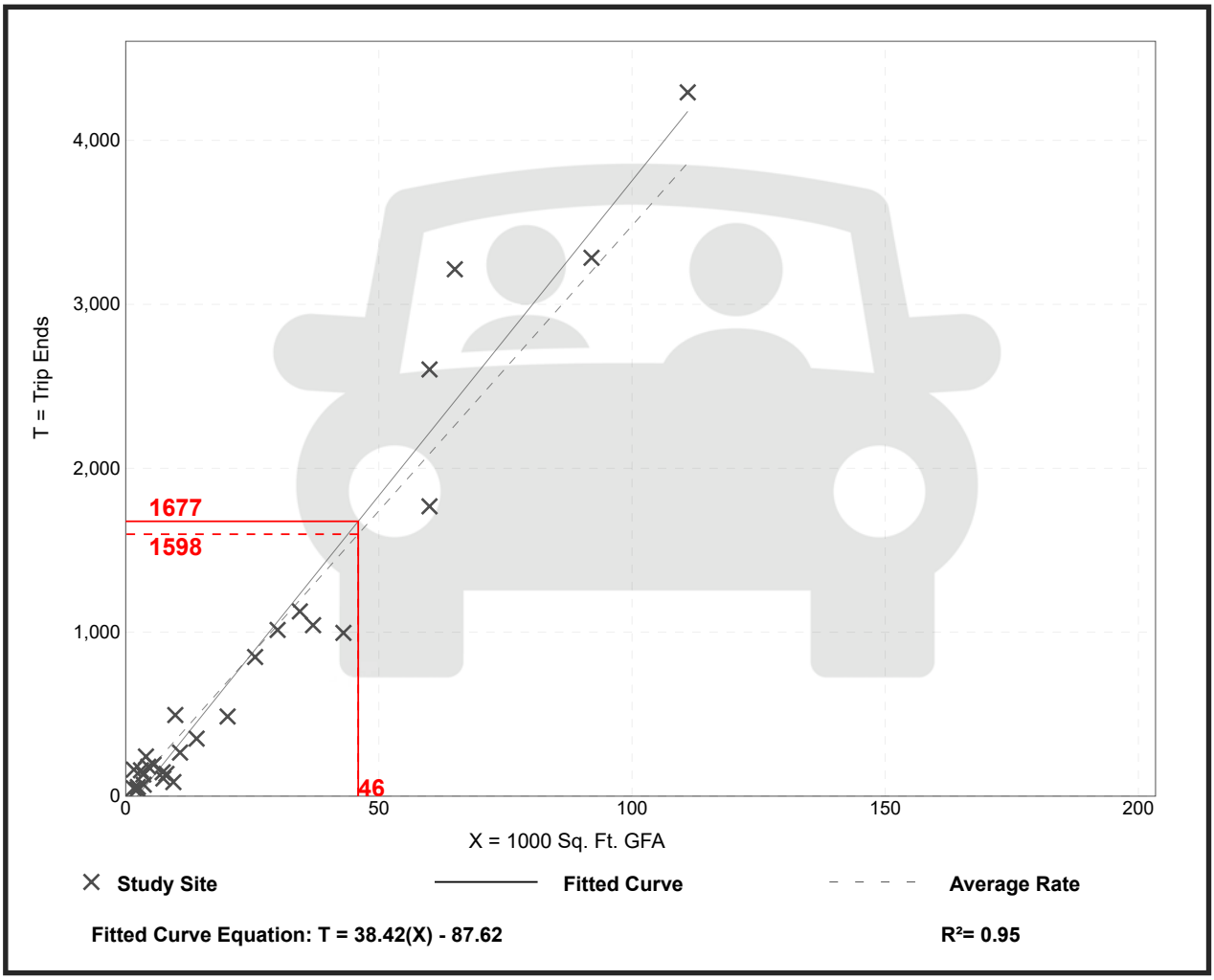
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 28
Avg. 1000 Sq. Ft. GFA: 24
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
34.80	9.14 - 100.75	9.79

Data Plot and Equation



Fitted Curve Equation: T = 38.42(X) - 87.62

R^2= 0.95

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Land Use: 221
Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the mid-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.46 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 95.7 percent of the total dwelling units were occupied.

Time-of-day distribution data for this land use are presented in Appendix A. For the eight general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 4:45 and 5:45 p.m., respectively.

For the four dense multi-use urban sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:15 and 5:15 p.m., respectively. For the three center city core sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 6:45 and 7:45 a.m. and 5:00 and 6:00 p.m., respectively.

For the six sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.46 residents per occupied dwelling unit.

For the five sites for which data were provided for both occupied dwelling units and total dwelling units, an average of 95.7 percent of the units were occupied.

The average numbers of person trips per vehicle trip at the five center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 1.84 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.94 during Weekday, AM Peak Hour of Generator
- 2.07 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.59 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 32 dense multi-use urban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.90 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.90 during Weekday, AM Peak Hour of Generator
- 2.00 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.08 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 13 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.56 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.88 during Weekday, AM Peak Hour of Generator
- 1.70 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.07 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Delaware, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ontario, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, Virginia, and Wisconsin.

Source Numbers

168, 188, 204, 305, 306, 321, 357, 390, 436, 525, 530, 579, 638, 818, 857, 866, 901, 904, 910, 912, 918, 934, 936, 939, 944, 947, 948, 949, 959, 963, 964, 966, 967, 969, 970

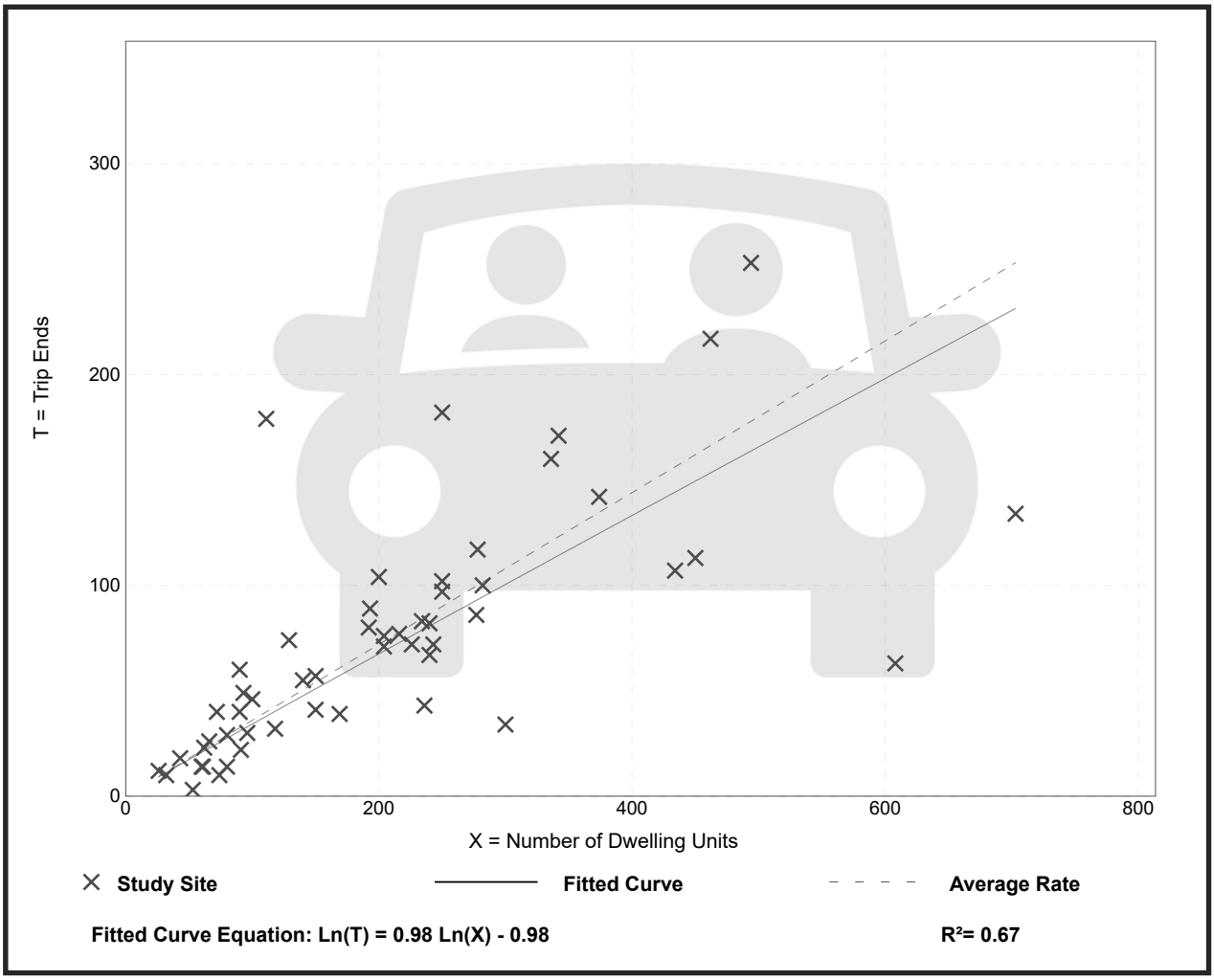
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 53
Avg. Num. of Dwelling Units: 207
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



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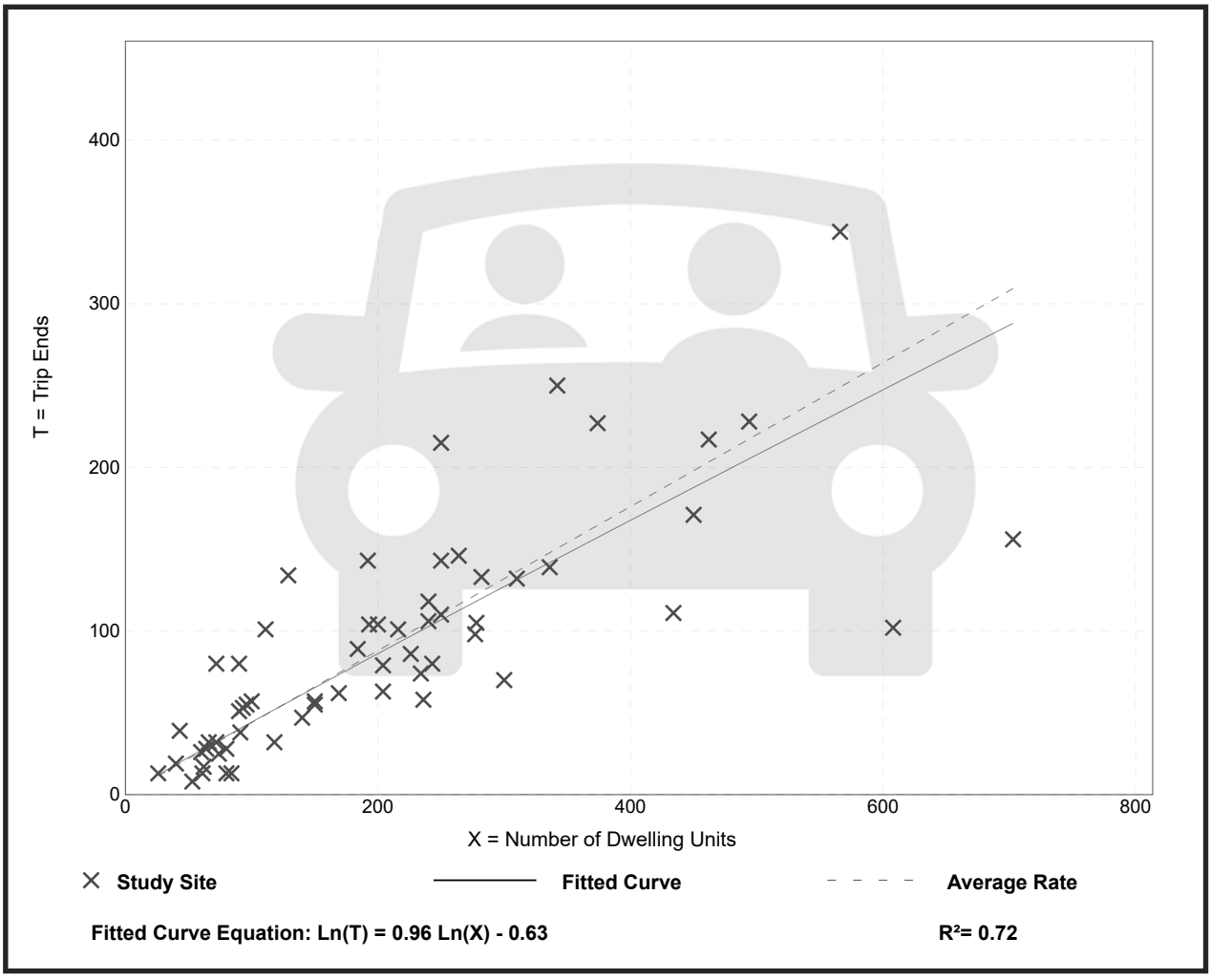
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 60
Avg. Num. of Dwelling Units: 208
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



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Multifamily Housing (Mid-Rise)
(221)

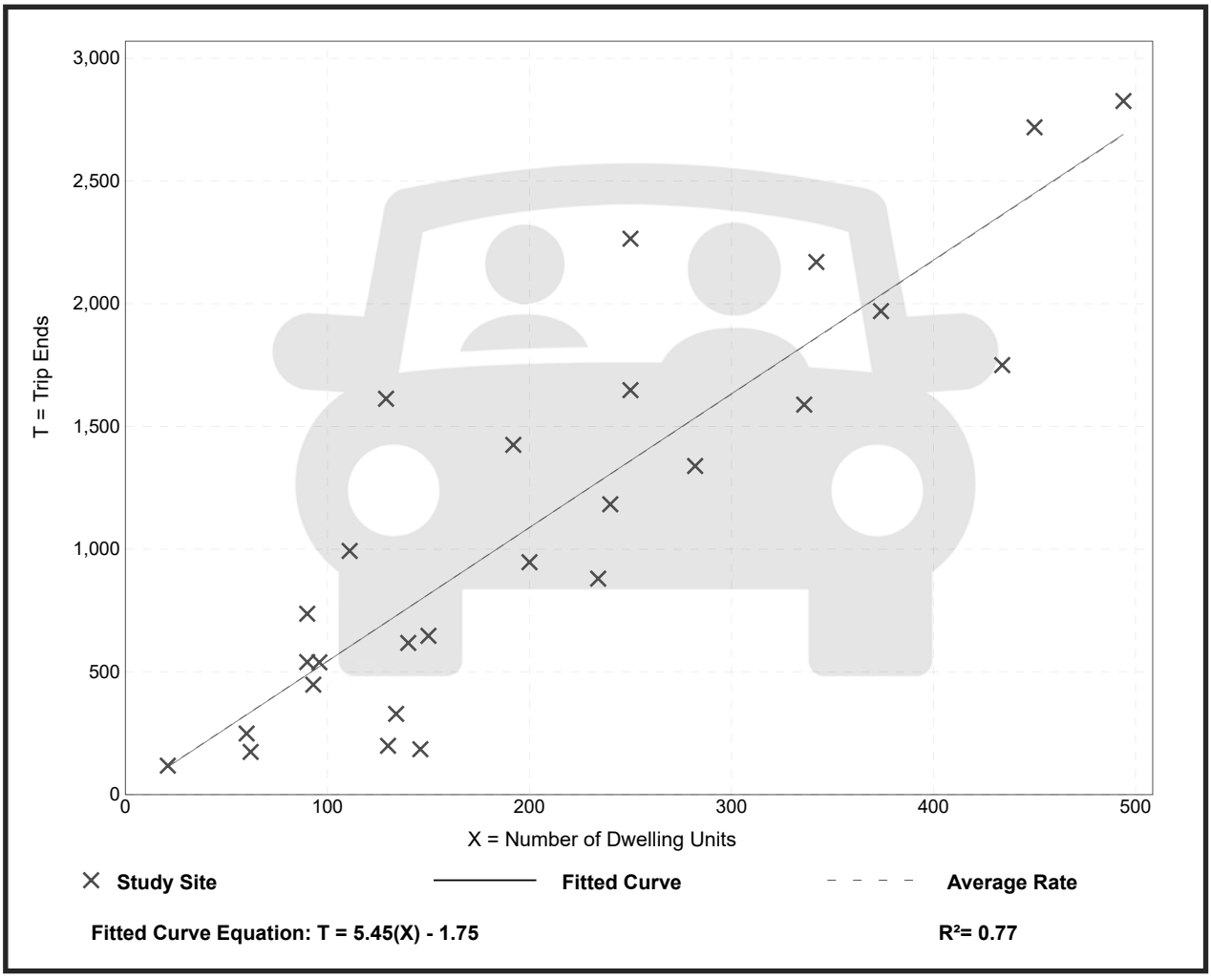
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 27
Avg. Num. of Dwelling Units: 205
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
5.44	1.27 - 12.50	2.03

Data Plot and Equation



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Land Use: 252
Senior Adult Housing—Attached

Description

Senior adult housing consists of attached independent living developments, including retirement communities, age-restricted housing, and active adult communities. These developments may include limited social or recreational services. However, they generally lack centralized dining and onsite medical facilities. Residents in these communities live independently, are typically active (requiring little to no medical supervision) and may or may not be retired. Senior adult housing—detached (Land Use 251), congregate care facility (Land Use 253), assisted living (Land Use 254), and continuing care retirement community (Land Use 255) are related uses.

Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the one general urban/suburban site with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 11:45 a.m. and 12:45 p.m. and 12:00 and 1:00 p.m., respectively.

The sites were surveyed in the 1980s, the 1990s, and the 2000s in Alberta (CAN), California, Illinois, New Hampshire, New Jersey, New York, and Pennsylvania.

Source Numbers

272, 501, 576, 602, 703, 734, 741, 902, 970

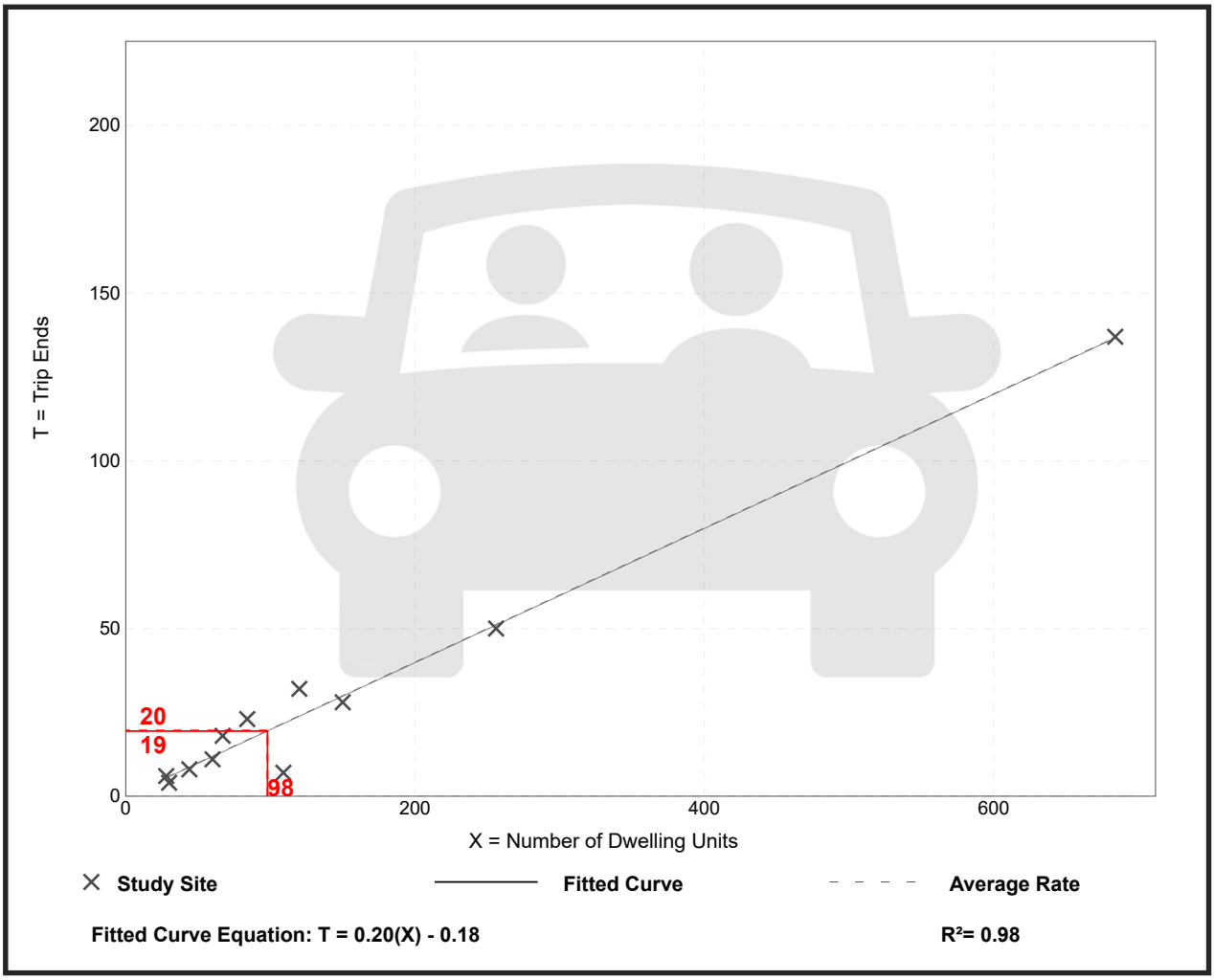
Senior Adult Housing - Attached
(252)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	11
Avg. Num. of Dwelling Units:	148
Directional Distribution:	35% entering, 65% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.20	0.06 - 0.27	0.05

Data Plot and Equation



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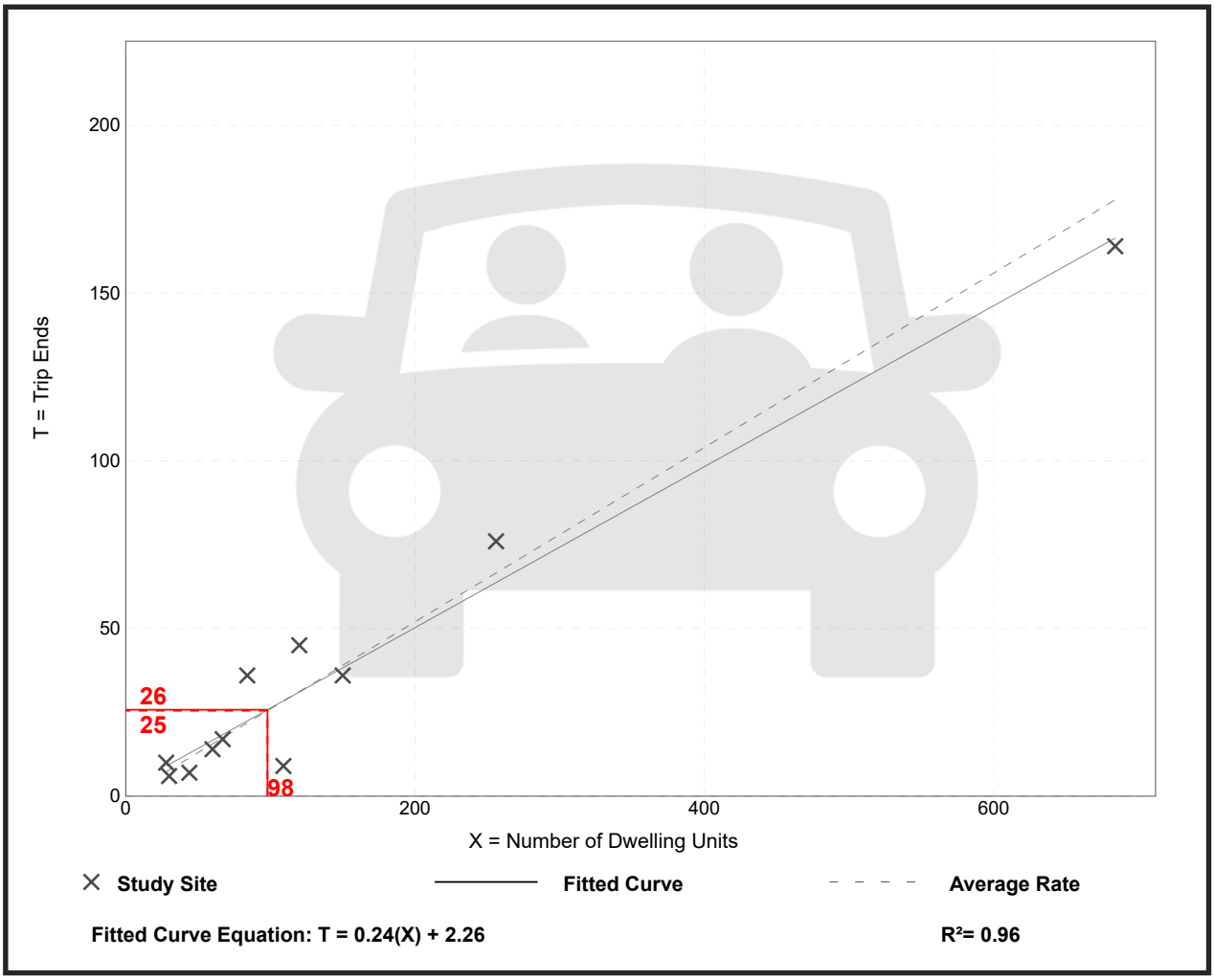
Senior Adult Housing - Attached
(252)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	11
Avg. Num. of Dwelling Units:	148
Directional Distribution:	55% entering, 45% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.26	0.08 - 0.43	0.08

Data Plot and Equation



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Senior Adult Housing - Attached
(252)

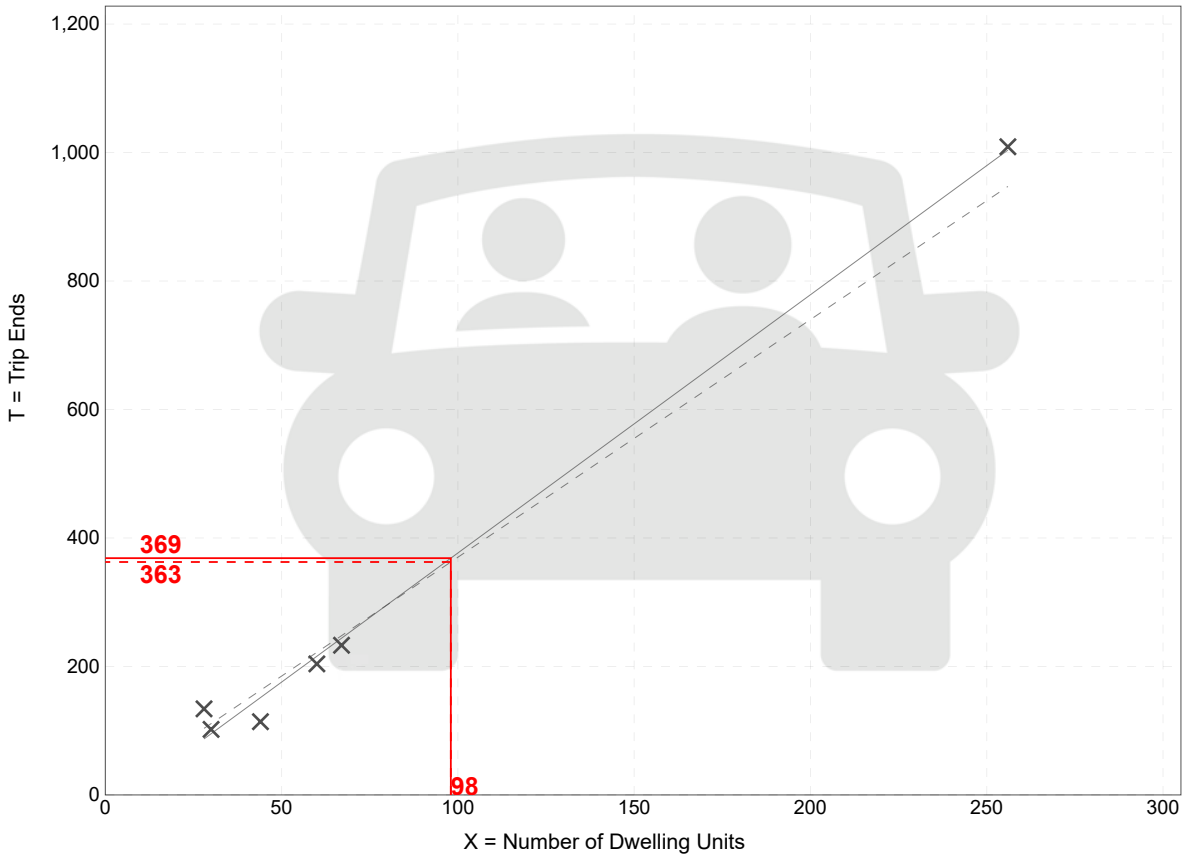
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. Num. of Dwelling Units: 81
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
3.70	2.59 - 4.79	0.53

Data Plot and Equation



Fitted Curve Equation: T = 4.02(X) - 25.37

R^2= 0.99

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Appendix B- AM Base Traffic Capacity Analysis Report

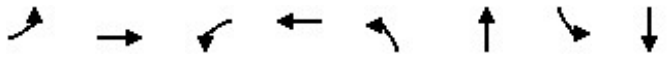
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑	↱			↱			↱
Traffic Vol, veh/h	0	773	202	27	634	63	0	0	46	0	0	79
Future Vol, veh/h	0	773	202	27	634	63	0	0	46	0	0	79
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	-	-	375	300	-	475	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	5	2	0	5	2	0	0	2	0	0	7
Mvmt Flow	0	966	253	34	793	79	0	0	58	0	0	99

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	-	971	0	0	-	-	493	-	-	402
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.1	-	-	-	-	6.94	-	-	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	-	-	3.32	-	-	3.37
Pot Cap-1 Maneuver	0	-	0	718	-	0	0	0	522	0	0	584
Stage 1	0	-	0	-	-	0	0	0	-	0	0	-
Stage 2	0	-	0	-	-	0	0	0	-	0	0	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	715	-	-	-	-	518	-	-	582
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	12.8	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT	SBLn1
Capacity (veh/h)	518	-	715	-	582
HCM Lane V/C Ratio	0.111	-	0.047	-	0.17
HCM Control Delay (s)	12.8	-	10.3	-	12.4
HCM Lane LOS	B	-	B	-	B
HCM 95th %tile Q(veh)	0.4	-	0.1	-	0.6



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	32	109	134	82	210	104	817
v/c Ratio	0.11	0.22	0.42	0.51	0.25	0.20	0.13	0.81
Control Delay	28.0	42.9	33.4	41.5	7.6	11.9	6.2	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	42.9	33.4	41.5	7.6	11.9	6.2	27.3
Queue Length 50th (ft)	9	17	49	61	14	58	17	382
Queue Length 95th (ft)	24	41	81	113	30	99	36	#573
Internal Link Dist (ft)		693		1080		707		271
Turn Bay Length (ft)	200		75		150		100	
Base Capacity (vph)	374	421	357	442	449	1030	890	1005
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.08	0.31	0.30	0.18	0.20	0.12	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

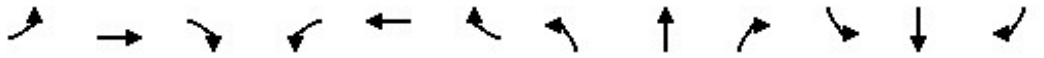
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	25	0	84	103	0	63	162	0	80	629	0
Future Volume (vph)	16	25	0	84	103	0	63	162	0	80	629	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Width	12	12	16	12	12	16	12	12	16	12	12	16
Total Lost time (s)	4.3	4.5		4.3	4.5		4.3	4.7		4.3	4.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1705	1729		1710	1814		1723	1762		1706	1762	
Flt Permitted	0.67	1.00		0.44	1.00		0.14	1.00		0.63	1.00	
Satd. Flow (perm)	1204	1729		798	1814		260	1762		1125	1762	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	21	32	0	109	134	0	82	210	0	104	817	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	21	32	0	109	134	0	82	210	0	104	817	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	7%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8		8	4		4	2		2	6		6
Actuated Green, G (s)	8.7	6.5		18.7	12.2		56.0	48.8		53.6	47.6	
Effective Green, g (s)	8.7	6.5		18.7	12.2		56.0	48.8		53.6	47.6	
Actuated g/C Ratio	0.10	0.07		0.21	0.14		0.64	0.56		0.62	0.55	
Clearance Time (s)	4.3	4.5		4.3	4.5		4.3	4.7		4.3	4.7	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	2.0		3.0	2.0	
Lane Grp Cap (vph)	133	129		254	254		288	988		733	964	
v/s Ratio Prot	0.00	0.02		c0.04	c0.07		c0.02	0.12		0.01	c0.46	
v/s Ratio Perm	0.01			0.05			0.16			0.08		
v/c Ratio	0.16	0.25		0.43	0.53		0.28	0.21		0.14	0.85	
Uniform Delay, d1	35.7	37.9		28.8	34.7		11.4	9.5		6.8	16.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.4		0.4	0.9		0.5	0.0		0.1	6.7	
Delay (s)	35.9	38.3		29.2	35.6		12.0	9.6		6.9	23.4	
Level of Service	D	D		C	D		B	A		A	C	
Approach Delay (s)		37.3			32.7			10.2			21.5	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	87.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	62	127	31	6	69	485	6	1748	210
v/c Ratio	0.51	0.52	0.26	0.03	0.57	0.18	0.07	0.70	0.19
Control Delay	64.1	18.1	53.1	0.2	68.8	6.5	56.2	13.2	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	64.1	18.2	53.1	0.2	68.8	6.5	56.2	13.4	4.8
Queue Length 50th (ft)	47	9	23	0	44	18	5	371	27
Queue Length 95th (ft)	78	52	46	0	#107	152	18	530	64
Internal Link Dist (ft)	362		281			230		391	
Turn Bay Length (ft)		75		50	150		75		90
Base Capacity (vph)	245	379	236	338	125	2750	100	2494	1079
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	6	0	0	0	0	0	203	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.34	0.13	0.02	0.55	0.18	0.06	0.76	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	4	107	24	2	5	58	403	4	5	1468	176
Future Volume (vph)	48	4	107	24	2	5	58	403	4	5	1468	176
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Total Lost time (s)		5.3	5.3		5.3	5.3	5.0	5.2		5.0	5.2	5.2
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.97		1.00	0.98	1.00	1.00		1.00	1.00	0.95
Flpb, ped/bikes		0.99	1.00		0.99	1.00	1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1722	1499		1721	1511	1723	3439		1723	3446	1460
Flt Permitted		0.72	1.00		0.69	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1298	1499		1251	1511	1723	3439		1723	3446	1460
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	57	5	127	29	2	6	69	480	5	6	1748	210
RTOR Reduction (vph)	0	0	104	0	0	5	0	0	0	0	0	24
Lane Group Flow (vph)	0	62	23	0	31	1	69	485	0	6	1748	186
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)		11.3	11.3		11.3	11.3	7.3	92.0		1.2	85.9	85.9
Effective Green, g (s)		11.3	11.3		11.3	11.3	7.3	92.0		1.2	85.9	85.9
Actuated g/C Ratio		0.09	0.09		0.09	0.09	0.06	0.77		0.01	0.72	0.72
Clearance Time (s)		5.3	5.3		5.3	5.3	5.0	5.2		5.0	5.2	5.2
Vehicle Extension (s)		1.5	1.5		1.5	1.5	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		122	141		117	142	104	2636		17	2466	1045
v/s Ratio Prot							c0.04	0.14		0.00	c0.51	
v/s Ratio Perm		c0.05	0.02		0.02	0.00						0.13
v/c Ratio		0.51	0.16		0.26	0.00	0.66	0.18		0.35	0.71	0.18
Uniform Delay, d1		51.7	50.0		50.5	49.3	55.1	3.8		59.0	9.8	5.6
Progression Factor		1.00	1.00		1.00	1.00	0.94	1.64		1.00	1.00	1.00
Incremental Delay, d2		1.2	0.2		0.4	0.0	11.6	0.2		4.5	1.8	0.4
Delay (s)		52.9	50.2		50.9	49.3	63.5	6.4		63.6	11.6	5.9
Level of Service		D	D		D	D	E	A		E	B	A
Approach Delay (s)		51.1			50.7			13.5			11.1	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

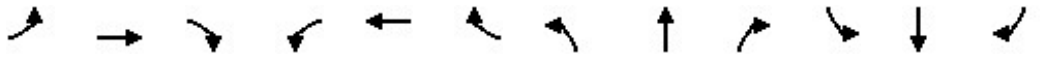
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	62	1116	134	8	436	129	119	41	807	828	123
v/c Ratio	0.55	1.06	0.25	0.11	0.55	0.73	0.64	0.15	1.08	1.09	0.17
Control Delay	72.1	84.3	9.3	58.9	46.4	74.6	66.3	1.2	81.6	84.6	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Total Delay	72.1	84.3	9.3	58.9	46.4	74.6	66.3	1.2	81.6	85.2	4.7
Queue Length 50th (ft)	47	428	5	6	154	99	90	0	~699	~724	15
Queue Length 95th (ft)	#100	#778	61	23	#238	156	144	0	#932	#954	m27
Internal Link Dist (ft)		1356			1654		696			316	
Turn Bay Length (ft)	540		120	550		290		390	280		
Base Capacity (vph)	123	1057	532	72	792	277	291	348	749	762	727
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	1	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	1.06	0.25	0.11	0.55	0.47	0.41	0.12	1.08	1.09	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

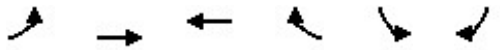
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	1016	122	7	397	0	117	108	37	1267	221	112
Future Volume (vph)	56	1016	122	7	397	0	117	108	37	1267	221	112
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Total Lost time (s)	5.2	5.9	5.9	5.2	5.9		5.7	5.7	5.7	5.8	5.8	5.8
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00		1.00	1.00	1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	1723	3524	1481	1723	3524		1723	1814	1509	1723	1752	1511
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	1723	3524	1481	1723	3524		1723	1814	1509	1723	1752	1511
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	62	1116	134	8	436	0	129	119	41	1392	243	123
RTOR Reduction (vph)	0	0	92	0	0	0	0	0	37	0	0	69
Lane Group Flow (vph)	62	1116	42	8	436	0	129	119	4	807	828	54
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			6			2			3			4
Actuated Green, G (s)	6.9	31.9	31.9	1.0	26.0		12.3	12.3	12.3	52.2	52.2	52.2
Effective Green, g (s)	6.9	31.9	31.9	1.0	26.0		12.3	12.3	12.3	52.2	52.2	52.2
Actuated g/C Ratio	0.06	0.27	0.27	0.01	0.22		0.10	0.10	0.10	0.44	0.44	0.44
Clearance Time (s)	5.2	5.9	5.9	5.2	5.9		5.7	5.7	5.7	5.8	5.8	5.8
Vehicle Extension (s)	2.0	0.5	0.5	2.0	0.5		0.5	0.5	0.5	2.0	2.0	2.0
Lane Grp Cap (vph)	99	936	393	14	763		176	185	154	749	762	657
v/s Ratio Prot	c0.04	c0.32		0.00	0.12		c0.07	0.07		0.47	c0.47	
v/s Ratio Perm			0.03						0.00			0.04
v/c Ratio	0.63	1.19	0.11	0.57	0.57		0.73	0.64	0.03	1.08	1.09	0.08
Uniform Delay, d1	55.3	44.0	33.3	59.3	42.0		52.3	51.7	48.5	33.9	33.9	19.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.88	0.88	1.26
Incremental Delay, d2	8.6	97.2	0.6	30.5	3.1		12.7	5.6	0.0	51.5	54.6	0.0
Delay (s)	63.9	141.2	33.8	89.8	45.1		65.0	57.4	48.5	81.2	84.3	24.9
Level of Service	E	F	C	F	D		E	E	D	F	F	C
Approach Delay (s)		126.6			45.9			59.5			78.7	
Approach LOS		F			D			E			E	

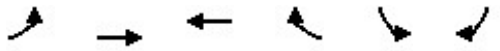
Intersection Summary			
HCM 2000 Control Delay	89.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	201	786	617	137	654	257
v/c Ratio	0.62	0.44	0.71	0.29	0.68	0.45
Control Delay	36.1	10.5	28.9	6.6	26.4	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.1	10.5	28.9	6.6	26.4	10.9
Queue Length 50th (ft)	73	90	115	0	116	24
Queue Length 95th (ft)	159	150	204	33	206	83
Internal Link Dist (ft)		694	1356		707	
Turn Bay Length (ft)	350			900	225	145
Base Capacity (vph)	793	3218	2115	960	2111	626
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.24	0.29	0.14	0.31	0.41

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	167	652	512	114	543	213
Future Volume (vph)	167	652	512	114	543	213
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850
Total Lost time (s)	5.3	5.8	5.8	5.8	5.3	5.3
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1674	3348	3348	1453	3343	1542
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1674	3348	3348	1453	3343	1542
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	201	786	617	137	654	257
RTOR Reduction (vph)	0	0	0	100	0	123
Lane Group Flow (vph)	201	786	617	37	654	134
Confl. Peds. (#/hr)	5			5	5	5
Heavy Vehicles (%)	5%	5%	5%	5%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	1	6	2		4	8
Permitted Phases				2		
Actuated Green, G (s)	13.0	36.0	17.7	17.7	19.3	19.3
Effective Green, g (s)	13.0	36.0	17.7	17.7	19.3	19.3
Actuated g/C Ratio	0.20	0.54	0.27	0.27	0.29	0.29
Clearance Time (s)	5.3	5.8	5.8	5.8	5.3	5.3
Vehicle Extension (s)	1.0	0.5	0.5	0.5	2.0	2.0
Lane Grp Cap (vph)	327	1815	892	387	971	448
v/s Ratio Prot	c0.12	0.23	c0.18		c0.20	0.09
v/s Ratio Perm				0.03		
v/c Ratio	0.61	0.43	0.69	0.09	0.67	0.30
Uniform Delay, d1	24.4	9.1	21.9	18.3	20.8	18.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.1	1.9	0.0	1.5	0.1
Delay (s)	26.8	9.2	23.8	18.4	22.2	18.4
Level of Service	C	A	C	B	C	B
Approach Delay (s)		12.8	22.8		21.2	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	18.4
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	43	0	0	713	0
Future Vol, veh/h	0	43	0	0	713	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	56	0	0	926	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	926		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	326		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	326		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	18.3	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	326	-
HCM Lane V/C Ratio	0.171	-
HCM Control Delay (s)	18.3	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	0.6	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	49	178	0	0	0
Future Vol, veh/h	0	49	178	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	64	231	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	231	0	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	808	-	0
Stage 1	0	-	-	0
Stage 2	0	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	808	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.8	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	WBLn1
Capacity (veh/h)	-	808
HCM Lane V/C Ratio	-	0.079
HCM Control Delay (s)	-	9.8
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	0.3

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	105	0	0	0	0	55
Future Vol, veh/h	105	0	0	0	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	0	0	0	0	71

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	-		-	136
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.22
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.318
Pot Cap-1 Maneuver	-	0		0	913
Stage 1	-	0		0	-
Stage 2	-	0		0	-
Platoon blocked, %	-				
Mov Cap-1 Maneuver	-	-		-	913
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	9.3
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBT
Capacity (veh/h)	913	-
HCM Lane V/C Ratio	0.078	-
HCM Control Delay (s)	9.3	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	0.3	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑			↱
Traffic Vol, veh/h	0	0	167	0	0	113
Future Vol, veh/h	0	0	167	0	0	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	7	405568	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	217	0	0	147

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	217
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	823
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	-	823
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	0	10.3
HCM LOS		B

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	823
HCM Lane V/C Ratio	-	0.178
HCM Control Delay (s)	-	10.3
HCM Lane LOS	-	B
HCM 95th %tile Q(veh)	-	0.6

Appendix C- PM Base Traffic Capacity Analysis Reports

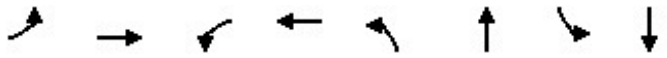
Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑	↱			↱			↱
Traffic Vol, veh/h	0	736	166	54	900	152	0	0	70	0	0	176
Future Vol, veh/h	0	736	166	54	900	152	0	0	70	0	0	176
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	-	-	375	300	-	475	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	5	2	2	5	2	2	2	2	0	0	7
Mvmt Flow	0	783	177	57	957	162	0	0	74	0	0	187

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	-	788	0	0	-	-	402	-	-	484
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	6.94	-	-	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	3.32	-	-	3.37
Pot Cap-1 Maneuver	0	-	0	827	-	0	0	0	598	0	0	516
Stage 1	0	-	0	-	-	0	0	0	-	0	0	-
Stage 2	0	-	0	-	-	0	0	0	-	0	0	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	824	-	-	-	-	593	-	-	514
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

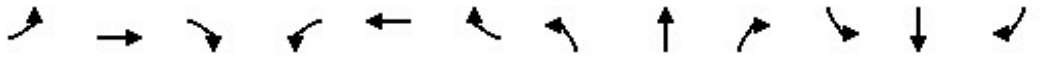
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	11.9	16
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT	SBLn1
Capacity (veh/h)	593	-	824	-	514
HCM Lane V/C Ratio	0.126	-	0.07	-	0.364
HCM Control Delay (s)	11.9	-	9.7	-	16
HCM Lane LOS	B	-	A	-	C
HCM 95th %tile Q(veh)	0.4	-	0.2	-	1.7



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	297	181	161	143	317	475	80	291
v/c Ratio	0.64	0.59	0.38	0.52	0.64	0.71	0.24	0.67
Control Delay	25.9	39.4	20.2	38.9	19.2	29.2	13.8	34.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	39.4	20.2	38.9	19.2	29.2	13.8	34.6
Queue Length 50th (ft)	97	76	48	62	86	192	19	124
Queue Length 95th (ft)	213	175	116	140	175	364	48	229
Internal Link Dist (ft)		693		1080		707		271
Turn Bay Length (ft)	200		75		150		100	
Base Capacity (vph)	515	490	526	514	528	1158	536	1158
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.37	0.31	0.28	0.60	0.41	0.15	0.25

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	168	0	150	133	0	295	442	0	74	271	0
Future Volume (vph)	276	168	0	150	133	0	295	442	0	74	271	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Width	12	12	16	12	12	16	12	12	16	12	12	16
Total Lost time (s)	4.3	4.5		4.3	4.5		4.3	4.7		4.3	4.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1713	1729		1707	1814		1723	1814		1718	1814	
Flt Permitted	0.52	1.00		0.62	1.00		0.33	1.00		0.39	1.00	
Satd. Flow (perm)	940	1729		1108	1814		591	1814		700	1814	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	297	181	0	161	143	0	317	475	0	80	291	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	297	181	0	161	143	0	317	475	0	80	291	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	7%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8		8	4		4	2		2	6		6
Actuated Green, G (s)	26.0	13.2		22.2	11.3		37.0	27.3		24.5	19.1	
Effective Green, g (s)	26.0	13.2		22.2	11.3		37.0	27.3		24.5	19.1	
Actuated g/C Ratio	0.35	0.18		0.30	0.15		0.50	0.37		0.33	0.26	
Clearance Time (s)	4.3	4.5		4.3	4.5		4.3	4.7		4.3	4.7	
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	460	305		417	274		499	663		303	464	
v/s Ratio Prot	c0.11	0.10		0.06	0.08		c0.12	c0.26		0.02	0.16	
v/s Ratio Perm	c0.11			0.06			0.20			0.07		
v/c Ratio	0.65	0.59		0.39	0.52		0.64	0.72		0.26	0.63	
Uniform Delay, d1	19.2	28.2		20.3	29.2		12.6	20.3		17.8	24.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	2.1		0.6	0.8		1.9	3.1		0.2	1.9	
Delay (s)	21.6	30.3		20.9	30.0		14.6	23.4		17.9	26.5	
Level of Service	C	C		C	C		B	C		B	C	
Approach Delay (s)		24.9			25.2			19.9			24.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	74.6	Sum of lost time (s)	17.8
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

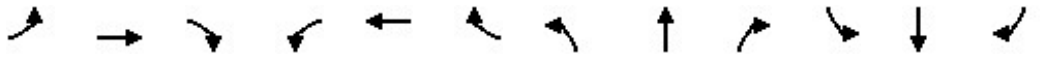
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	245	155	16	8	327	1673	10	726	215
v/c Ratio	0.88	0.37	0.06	0.02	1.16	0.74	0.10	0.45	0.27
Control Delay	68.1	11.9	29.8	0.1	145.1	13.9	46.4	18.3	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	68.1	11.9	29.8	0.1	145.1	14.4	46.4	18.3	3.2
Queue Length 50th (ft)	148	17	8	0	~347	262	6	138	5
Queue Length 95th (ft)	#263	68	25	0	m#508	m#623	23	181	40
Internal Link Dist (ft)	362		281			230		391	
Turn Bay Length (ft)		75		50	150		75		90
Base Capacity (vph)	323	465	325	433	283	2262	120	1819	868
Starvation Cap Reductn	0	0	0	0	0	203	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.33	0.05	0.02	1.16	0.81	0.08	0.40	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	13	141	14	1	7	298	1494	28	9	661	196
Future Volume (vph)	210	13	141	14	1	7	298	1494	28	9	661	196
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Total Lost time (s)		5.3	5.3		5.3	5.3	5.0	5.2		5.0	5.2	5.2
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	0.95
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1721	1513		1726	1513	1723	3434		1723	3446	1469
Flt Permitted		0.73	1.00		0.73	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1310	1513		1319	1513	1723	3434		1723	3446	1469
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	231	14	155	15	1	8	327	1642	31	10	726	215
RTOR Reduction (vph)	0	0	95	0	0	6	0	1	0	0	0	105
Lane Group Flow (vph)	0	245	60	0	16	2	327	1672	0	10	726	110
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)		21.3	21.3		21.3	21.3	16.5	61.9		1.3	46.7	46.7
Effective Green, g (s)		21.3	21.3		21.3	21.3	16.5	61.9		1.3	46.7	46.7
Actuated g/C Ratio		0.21	0.21		0.21	0.21	0.16	0.62		0.01	0.47	0.47
Clearance Time (s)		5.3	5.3		5.3	5.3	5.0	5.2		5.0	5.2	5.2
Vehicle Extension (s)		1.5	1.5		1.5	1.5	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		279	322		280	322	284	2125		22	1609	686
v/s Ratio Prot							c0.19	c0.49		0.01	0.21	
v/s Ratio Perm		c0.19	0.04		0.01	0.00						0.07
v/c Ratio		0.88	0.19		0.06	0.01	1.15	0.79		0.45	0.45	0.16
Uniform Delay, d1		38.1	32.2		31.4	31.0	41.8	14.1		49.0	18.0	15.4
Progression Factor		1.00	1.00		1.00	1.00	1.07	0.85		1.00	1.00	1.00
Incremental Delay, d2		24.6	0.1		0.0	0.0	100.5	3.0		5.3	0.9	0.5
Delay (s)		62.7	32.3		31.4	31.0	145.2	15.1		54.3	18.9	15.9
Level of Service		E	C		C	C	F	B		D	B	B
Approach Delay (s)		50.9			31.3			36.3			18.6	
Approach LOS		D			C			D			B	

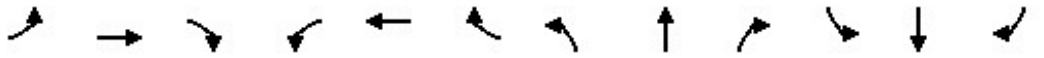
Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	106	618	140	33	1084	315	346	20	385	391	65
v/c Ratio	0.66	0.56	0.24	0.32	1.27	0.95	0.99	0.05	1.02	1.00	0.14
Control Delay	53.5	23.3	4.2	53.3	163.5	79.4	87.1	0.2	77.8	73.8	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	23.3	4.2	53.3	163.5	79.4	87.1	0.2	77.8	73.8	1.8
Queue Length 50th (ft)	47	204	20	21	~474	200	222	0	~267	~267	4
Queue Length 95th (ft)	#101	227	50	51	#606	#366	#403	0	#471	#471	11
Internal Link Dist (ft)		1356			1654		696			316	
Turn Bay Length (ft)	540		120	550		290		390	280		
Base Capacity (vph)	186	1104	590	117	854	332	350	414	379	390	466
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.56	0.24	0.28	1.27	0.95	0.99	0.05	1.02	1.00	0.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

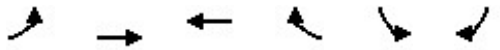
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	599	136	32	1051	0	306	336	19	558	195	63
Future Volume (vph)	103	599	136	32	1051	0	306	336	19	558	195	63
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Total Lost time (s)	5.2	5.9	5.9	5.2	5.9		5.7	5.7	5.7	5.8	5.8	5.8
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (prot)	1723	3348	1486	1723	3348		1723	1814	1511	1637	1682	1513
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (perm)	1723	3348	1486	1723	3348		1723	1814	1511	1637	1682	1513
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	106	618	140	33	1084	0	315	346	20	575	201	65
RTOR Reduction (vph)	0	0	97	0	0	0	0	0	16	0	0	50
Lane Group Flow (vph)	106	618	43	33	1084	0	315	346	4	385	391	15
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			6			2			3			4
Actuated Green, G (s)	9.4	30.9	30.9	4.0	25.5		19.3	19.3	19.3	23.2	23.2	23.2
Effective Green, g (s)	9.4	30.9	30.9	4.0	25.5		19.3	19.3	19.3	23.2	23.2	23.2
Actuated g/C Ratio	0.09	0.31	0.31	0.04	0.26		0.19	0.19	0.19	0.23	0.23	0.23
Clearance Time (s)	5.2	5.9	5.9	5.2	5.9		5.7	5.7	5.7	5.8	5.8	5.8
Vehicle Extension (s)	2.0	0.5	0.5	2.0	0.5		0.5	0.5	0.5	2.0	2.0	2.0
Lane Grp Cap (vph)	161	1034	459	68	853		332	350	291	379	390	351
v/s Ratio Prot	c0.06	0.18		0.02	c0.32		0.18	c0.19		c0.24	0.23	
v/s Ratio Perm			0.03						0.00			0.01
v/c Ratio	0.66	0.60	0.09	0.49	1.27		0.95	0.99	0.01	1.02	1.00	0.04
Uniform Delay, d1	43.7	29.3	24.6	47.0	37.2		39.9	40.2	32.6	38.4	38.4	29.8
Progression Factor	0.79	0.73	0.77	1.00	1.00		1.00	1.00	1.00	0.67	0.67	1.00
Incremental Delay, d2	7.0	2.5	0.4	2.0	131.1		35.4	44.5	0.0	48.9	44.8	0.0
Delay (s)	41.8	23.9	19.2	49.0	168.3		75.2	84.7	32.7	74.6	70.6	29.8
Level of Service	D	C	B	D	F		E	F	C	E	E	C
Approach Delay (s)		25.4			164.8			78.8			69.3	
Approach LOS		C			F			E			E	

Intersection Summary			
HCM 2000 Control Delay	90.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

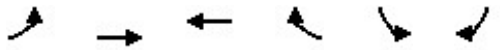
c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	371	469	954	525	405	197
v/c Ratio	0.76	0.19	0.75	0.60	0.73	0.47
Control Delay	43.2	5.0	16.5	4.2	47.4	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	5.0	16.5	4.2	47.4	9.0
Queue Length 50th (ft)	215	43	71	5	127	0
Queue Length 95th (ft)	316	72	m165	m0	169	57
Internal Link Dist (ft)		694	1356		707	
Turn Bay Length (ft)	350			900	225	145
Base Capacity (vph)	489	2420	1264	872	1026	420
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.19	0.75	0.60	0.39	0.47

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	356	450	916	504	389	189
Future Volume (vph)	356	450	916	504	389	189
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850
Total Lost time (s)	5.3	5.8	5.8	5.8	5.3	5.3
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1674	3348	3348	1446	3343	1542
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1674	3348	3348	1446	3343	1542
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	371	469	954	525	405	197
RTOR Reduction (vph)	0	0	0	327	0	164
Lane Group Flow (vph)	371	469	954	198	405	33
Confl. Peds. (#/hr)	5			5	5	5
Heavy Vehicles (%)	5%	5%	5%	5%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	1	6	2		4	8
Permitted Phases				2		
Actuated Green, G (s)	29.2	72.3	37.8	37.8	16.6	16.6
Effective Green, g (s)	29.2	72.3	37.8	37.8	16.6	16.6
Actuated g/C Ratio	0.29	0.72	0.38	0.38	0.17	0.17
Clearance Time (s)	5.3	5.8	5.8	5.8	5.3	5.3
Vehicle Extension (s)	1.0	0.5	0.5	0.5	2.0	2.0
Lane Grp Cap (vph)	488	2420	1265	546	554	255
v/s Ratio Prot	c0.22	0.14	c0.28		c0.12	0.02
v/s Ratio Perm				0.14		
v/c Ratio	0.76	0.19	0.75	0.36	0.73	0.13
Uniform Delay, d1	32.2	4.5	27.1	22.4	39.6	35.5
Progression Factor	1.00	1.00	0.53	1.50	1.00	1.00
Incremental Delay, d2	6.2	0.2	0.4	0.2	4.3	0.1
Delay (s)	38.4	4.6	14.7	33.9	43.8	35.6
Level of Service	D	A	B	C	D	D
Approach Delay (s)		19.6	21.5		41.2	
Approach LOS		B	C		D	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	157	0	0	420	0
Future Vol, veh/h	0	157	0	0	420	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	169	0	0	452	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	452		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	608		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	608		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	13.2	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	608	-
HCM Lane V/C Ratio	0.278	-
HCM Control Delay (s)	13.2	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	1.1	-

Intersection	
Int Delay, s/veh	5.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	212	718	0	0	0
Future Vol, veh/h	0	212	718	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	228	772	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	772	0	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	400	-	0
Stage 1	0	-	-	0
Stage 2	0	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	400	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	25.3	0
HCM LOS	D	

Minor Lane/Major Mvmt	NBT	WBLn1
Capacity (veh/h)	-	400
HCM Lane V/C Ratio	-	0.57
HCM Control Delay (s)	-	25.3
HCM Lane LOS	-	D
HCM 95th %tile Q(veh)	-	3.4

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	242	0	0	0	0	122
Future Vol, veh/h	242	0	0	0	0	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	260	0	0	0	0	131

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	-		-	260
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.22
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.318
Pot Cap-1 Maneuver	-	0		0	779
Stage 1	-	0		0	-
Stage 2	-	0		0	-
Platoon blocked, %	-				
Mov Cap-1 Maneuver	-	-		-	779
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	10.6
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT
Capacity (veh/h)	779	-
HCM Lane V/C Ratio	0.168	-
HCM Control Delay (s)	10.6	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.6	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑			↱
Traffic Vol, veh/h	0	0	428	0	0	112
Future Vol, veh/h	0	0	428	0	0	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	460	0	0	120

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	460
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	601
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	-	601
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	0	12.5
HCM LOS		B

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	601
HCM Lane V/C Ratio	-	0.2
HCM Control Delay (s)	-	12.5
HCM Lane LOS	-	B
HCM 95th %tile Q(veh)	-	0.7

Appendix D- AM Base + Site Traffic Capacity Analysis Report

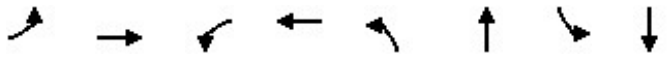
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑	↱			↱			↱
Traffic Vol, veh/h	0	783	202	27	634	80	0	0	46	0	0	91
Future Vol, veh/h	0	783	202	27	634	80	0	0	46	0	0	91
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	-	-	375	300	-	475	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	5	2	0	5	2	0	0	2	0	0	7
Mvmt Flow	0	979	253	34	793	100	0	0	58	0	0	114

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	-	984	0	0	-	-	500	-	-	402
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.1	-	-	-	-	6.94	-	-	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	-	-	3.32	-	-	3.37
Pot Cap-1 Maneuver	0	-	0	710	-	0	0	0	516	0	0	584
Stage 1	0	-	0	-	-	0	0	0	-	0	0	-
Stage 2	0	-	0	-	-	0	0	0	-	0	0	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	707	-	-	-	-	512	-	-	582
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	12.9	12.7
HCM LOS			B	B

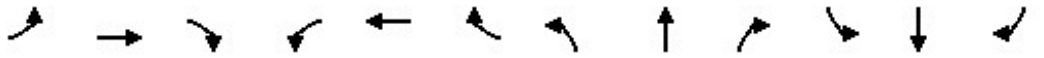
Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT	SBLn1
Capacity (veh/h)	512	-	707	-	582
HCM Lane V/C Ratio	0.112	-	0.048	-	0.195
HCM Control Delay (s)	12.9	-	10.3	-	12.7
HCM Lane LOS	B	-	B	-	B
HCM 95th %tile Q(veh)	0.4	-	0.1	-	0.7



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	25	38	109	168	104	210	104	825
v/c Ratio	0.12	0.22	0.40	0.58	0.33	0.20	0.14	0.83
Control Delay	28.4	42.6	32.7	43.4	9.0	12.6	6.9	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	42.6	32.7	43.4	9.0	12.6	6.9	29.6
Queue Length 50th (ft)	11	21	50	80	18	58	18	391
Queue Length 95th (ft)	27	46	83	140	39	105	39	#623
Internal Link Dist (ft)		693		1080		707		271
Turn Bay Length (ft)	200		75		150		100	
Base Capacity (vph)	379	416	364	436	419	1043	869	999
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.09	0.30	0.39	0.25	0.20	0.12	0.83

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



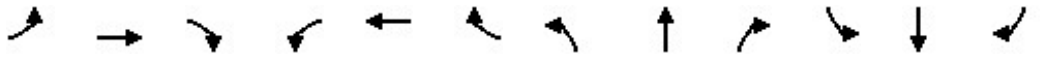
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	29	0	84	129	0	80	162	0	80	635	0
Future Volume (vph)	19	29	0	84	129	0	80	162	0	80	635	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Width	12	12	16	12	12	16	12	12	16	12	12	16
Total Lost time (s)	4.3	4.5		4.3	4.5		4.3	4.7		4.3	4.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1706	1729		1709	1814		1723	1814		1706	1814	
Flt Permitted	0.65	1.00		0.48	1.00		0.12	1.00		0.63	1.00	
Satd. Flow (perm)	1169	1729		857	1814		213	1814		1125	1814	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	25	38	0	109	168	0	104	210	0	104	825	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	25	38	0	109	168	0	104	210	0	104	825	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	7%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8		8	4		4	2		2	6		6
Actuated Green, G (s)	10.3	8.0		20.4	13.8		57.2	49.1		53.2	47.1	
Effective Green, g (s)	10.3	8.0		20.4	13.8		57.2	49.1		53.2	47.1	
Actuated g/C Ratio	0.12	0.09		0.23	0.15		0.64	0.55		0.60	0.53	
Clearance Time (s)	4.3	4.5		4.3	4.5		4.3	4.7		4.3	4.7	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	2.0		3.0	2.0	
Lane Grp Cap (vph)	148	155		273	280		274	999		711	958	
v/s Ratio Prot	0.00	0.02		c0.04	c0.09		c0.03	0.12		0.01	c0.45	
v/s Ratio Perm	0.02			0.05			0.21			0.08		
v/c Ratio	0.17	0.25		0.40	0.60		0.38	0.21		0.15	0.86	
Uniform Delay, d1	35.4	37.7		28.4	35.1		13.3	10.2		7.7	18.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		0.4	2.3		0.9	0.0		0.1	7.8	
Delay (s)	35.6	38.0		28.8	37.4		14.2	10.2		7.8	25.9	
Level of Service	D	D		C	D		B	B		A	C	
Approach Delay (s)		37.1			34.0			11.5			23.9	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	89.1	Sum of lost time (s)	17.8
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	63	130	34	6	77	485	6	1748	233
v/c Ratio	0.51	0.53	0.29	0.03	0.59	0.18	0.07	0.73	0.22
Control Delay	64.2	19.0	53.8	0.2	67.5	6.6	56.2	14.5	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	64.2	19.0	53.8	0.2	67.5	6.6	56.2	14.8	5.1
Queue Length 50th (ft)	48	11	25	0	46	18	5	387	32
Queue Length 95th (ft)	79	55	50	0	#124	151	18	530	71
Internal Link Dist (ft)	362		281			230		391	
Turn Bay Length (ft)		75		50	150		75		90
Base Capacity (vph)	244	379	236	338	133	2747	100	2409	1049
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	6	0	0	0	0	0	207	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.35	0.14	0.02	0.58	0.18	0.06	0.79	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	4	109	27	2	5	65	403	4	5	1468	196
Future Volume (vph)	49	4	109	27	2	5	65	403	4	5	1468	196
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Total Lost time (s)		5.3	5.3		5.3	5.3	5.0	5.2		5.0	5.2	5.2
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.97		1.00	0.98	1.00	1.00		1.00	1.00	0.95
Flpb, ped/bikes		0.99	1.00		0.99	1.00	1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1721	1499		1720	1511	1723	3439		1723	3446	1460
Flt Permitted		0.72	1.00		0.69	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1293	1499		1248	1511	1723	3439		1723	3446	1460
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	58	5	130	32	2	6	77	480	5	6	1748	233
RTOR Reduction (vph)	0	0	104	0	0	5	0	0	0	0	0	28
Lane Group Flow (vph)	0	63	26	0	34	1	77	485	0	6	1748	205
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)		11.4	11.4		11.4	11.4	9.2	91.9		1.2	83.9	83.9
Effective Green, g (s)		11.4	11.4		11.4	11.4	9.2	91.9		1.2	83.9	83.9
Actuated g/C Ratio		0.10	0.10		0.10	0.10	0.08	0.77		0.01	0.70	0.70
Clearance Time (s)		5.3	5.3		5.3	5.3	5.0	5.2		5.0	5.2	5.2
Vehicle Extension (s)		1.5	1.5		1.5	1.5	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		122	142		118	143	132	2633		17	2409	1020
v/s Ratio Prot							c0.04	0.14		0.00	c0.51	
v/s Ratio Perm		c0.05	0.02		0.03	0.00						0.14
v/c Ratio		0.52	0.18		0.29	0.00	0.58	0.18		0.35	0.73	0.20
Uniform Delay, d1		51.7	50.0		50.5	49.2	53.5	3.8		59.0	11.0	6.3
Progression Factor		1.00	1.00		1.00	1.00	0.92	1.64		1.00	1.00	1.00
Incremental Delay, d2		1.5	0.2		0.5	0.0	4.2	0.2		4.5	1.9	0.4
Delay (s)		53.2	50.2		51.0	49.2	53.2	6.4		63.6	13.0	6.8
Level of Service		D	D		D	D	D	A		E	B	A
Approach Delay (s)		51.2			50.7			12.8			12.4	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

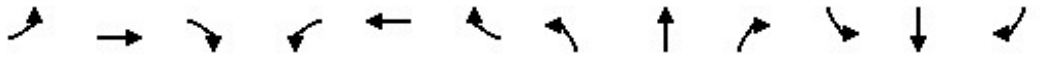
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	62	1121	135	8	447	133	119	41	809	830	126
v/c Ratio	0.55	1.07	0.26	0.11	0.57	0.74	0.63	0.15	1.08	1.09	0.17
Control Delay	72.1	87.6	9.5	58.9	46.9	75.1	65.4	1.2	80.9	83.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Total Delay	72.1	87.6	9.5	58.9	46.9	75.1	65.4	1.2	80.9	84.5	4.7
Queue Length 50th (ft)	47	432	5	6	159	102	90	0	~702	~727	13
Queue Length 95th (ft)	#100	#782	63	23	#247	160	144	0	#933	#959	m27
Internal Link Dist (ft)		1356			1654		696			316	
Turn Bay Length (ft)	540		120	550		290		390	280		
Base Capacity (vph)	123	1051	529	72	787	277	291	348	749	762	727
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	1	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	1.07	0.26	0.11	0.57	0.48	0.41	0.12	1.08	1.09	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

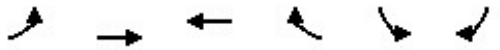
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	1020	123	7	407	0	121	108	37	1269	222	115
Future Volume (vph)	56	1020	123	7	407	0	121	108	37	1269	222	115
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Total Lost time (s)	5.2	5.9	5.9	5.2	5.9		5.7	5.7	5.7	5.8	5.8	5.8
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00		1.00	1.00	1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	1723	3524	1481	1723	3524		1723	1814	1509	1723	1752	1511
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	1723	3524	1481	1723	3524		1723	1814	1509	1723	1752	1511
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	62	1121	135	8	447	0	133	119	41	1395	244	126
RTOR Reduction (vph)	0	0	92	0	0	0	0	0	37	0	0	71
Lane Group Flow (vph)	62	1121	43	8	447	0	133	119	4	809	830	55
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			6			2			3			4
Actuated Green, G (s)	6.9	31.7	31.7	1.0	25.8		12.5	12.5	12.5	52.2	52.2	52.2
Effective Green, g (s)	6.9	31.7	31.7	1.0	25.8		12.5	12.5	12.5	52.2	52.2	52.2
Actuated g/C Ratio	0.06	0.26	0.26	0.01	0.22		0.10	0.10	0.10	0.44	0.44	0.44
Clearance Time (s)	5.2	5.9	5.9	5.2	5.9		5.7	5.7	5.7	5.8	5.8	5.8
Vehicle Extension (s)	2.0	0.5	0.5	2.0	0.5		0.5	0.5	0.5	2.0	2.0	2.0
Lane Grp Cap (vph)	99	930	391	14	757		179	188	157	749	762	657
v/s Ratio Prot	c0.04	c0.32		0.00	0.13		c0.08	0.07		0.47	c0.47	
v/s Ratio Perm			0.03						0.00			0.04
v/c Ratio	0.63	1.21	0.11	0.57	0.59		0.74	0.63	0.03	1.08	1.09	0.08
Uniform Delay, d1	55.3	44.1	33.5	59.3	42.4		52.2	51.6	48.3	33.9	33.9	19.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.83	0.83	1.19
Incremental Delay, d2	8.6	102.6	0.6	30.5	3.4		13.5	5.0	0.0	52.0	55.1	0.0
Delay (s)	63.9	146.8	34.0	89.8	45.7		65.7	56.6	48.3	80.2	83.4	23.6
Level of Service	E	F	C	F	D		E	E	D	F	F	C
Approach Delay (s)		131.3			46.5			59.6			77.6	
Approach LOS		F			D			E			E	

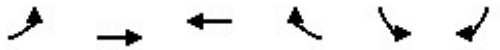
Intersection Summary			
HCM 2000 Control Delay	91.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	213	786	628	146	660	265
v/c Ratio	0.64	0.43	0.72	0.30	0.69	0.46
Control Delay	37.0	10.5	29.8	6.6	27.3	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	10.5	29.8	6.6	27.3	11.3
Queue Length 50th (ft)	80	91	122	0	121	27
Queue Length 95th (ft)	171	154	214	35	215	88
Internal Link Dist (ft)		694	1356		707	
Turn Bay Length (ft)	350			900	225	145
Base Capacity (vph)	772	3181	2060	942	2057	622
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.25	0.30	0.15	0.32	0.43

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	177	652	521	121	548	220
Future Volume (vph)	177	652	521	121	548	220
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850
Total Lost time (s)	5.3	5.8	5.8	5.8	5.3	5.3
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1674	3348	3348	1453	3343	1542
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1674	3348	3348	1453	3343	1542
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	213	786	628	146	660	265
RTOR Reduction (vph)	0	0	0	107	0	126
Lane Group Flow (vph)	213	786	628	39	660	139
Confl. Peds. (#/hr)	5			5	5	5
Heavy Vehicles (%)	5%	5%	5%	5%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	1	6	2		4	8
Permitted Phases				2		
Actuated Green, G (s)	13.8	37.4	18.3	18.3	19.9	19.9
Effective Green, g (s)	13.8	37.4	18.3	18.3	19.9	19.9
Actuated g/C Ratio	0.20	0.55	0.27	0.27	0.29	0.29
Clearance Time (s)	5.3	5.8	5.8	5.8	5.3	5.3
Vehicle Extension (s)	1.0	0.5	0.5	0.5	2.0	2.0
Lane Grp Cap (vph)	337	1830	895	388	972	448
v/s Ratio Prot	c0.13	0.23	c0.19		c0.20	0.09
v/s Ratio Perm				0.03		
v/c Ratio	0.63	0.43	0.70	0.10	0.68	0.31
Uniform Delay, d1	25.0	9.2	22.6	18.9	21.4	18.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.1	2.1	0.0	1.5	0.1
Delay (s)	27.8	9.2	24.6	18.9	22.9	19.0
Level of Service	C	A	C	B	C	B
Approach Delay (s)		13.2	23.6		21.8	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	68.4	Sum of lost time (s)	18.4
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	49	0	0	719	0
Future Vol, veh/h	0	49	0	0	719	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	64	0	0	934	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	934		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	322		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	322		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	18.9	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	322	-
HCM Lane V/C Ratio	0.198	-
HCM Control Delay (s)	18.9	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	0.7	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	49	181	0	0	0
Future Vol, veh/h	0	49	181	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	64	235	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	235	0	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	804	-	0
Stage 1	0	-	-	0
Stage 2	0	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	804	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.9	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	WBLn1
Capacity (veh/h)	-	804
HCM Lane V/C Ratio	-	0.079
HCM Control Delay (s)	-	9.9
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	0.3

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	109	0	0	0	0	55
Future Vol, veh/h	109	0	0	0	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	0	0	0	0	71

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	-		-	142
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.22
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.318
Pot Cap-1 Maneuver	-	0		0	906
Stage 1	-	0		0	-
Stage 2	-	0		0	-
Platoon blocked, %	-				
Mov Cap-1 Maneuver	-	-		-	906
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	9.3
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBT
Capacity (veh/h)	906	-
HCM Lane V/C Ratio	0.079	-
HCM Control Delay (s)	9.3	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	0.3	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑			↱
Traffic Vol, veh/h	0	0	209	0	0	142
Future Vol, veh/h	0	0	209	0	0	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	9	306	112	0	-	0
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	271	0	0	184

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	271
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	768
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	-	768
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	0	11.2
HCM LOS		B

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	768
HCM Lane V/C Ratio	-	0.24
HCM Control Delay (s)	-	11.2
HCM Lane LOS	-	B
HCM 95th %tile Q(veh)	-	0.9

Appendix E- PM Base + Site Traffic Capacity Analysis Report

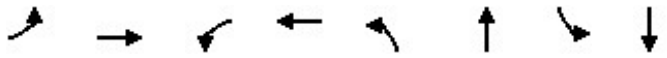
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑	↱			↱			↱
Traffic Vol, veh/h	0	744	166	54	900	162	0	0	70	0	0	202
Future Vol, veh/h	0	744	166	54	900	162	0	0	70	0	0	202
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	-	-	375	300	-	475	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	5	2	2	5	2	2	2	2	0	0	7
Mvmt Flow	0	791	177	57	957	172	0	0	74	0	0	215

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	-	796	0	0	-	-	406	-	-	484
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	6.94	-	-	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	3.32	-	-	3.37
Pot Cap-1 Maneuver	0	-	0	822	-	0	0	0	594	0	0	516
Stage 1	0	-	0	-	-	0	0	0	-	0	0	-
Stage 2	0	-	0	-	-	0	0	0	-	0	0	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	819	-	-	-	-	589	-	-	514
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	12	16.9
HCM LOS			B	C

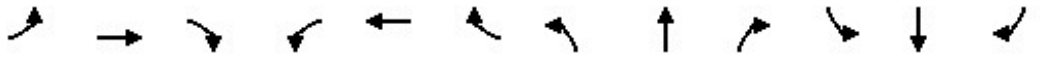
Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT	SBLn1
Capacity (veh/h)	589	-	819	-	514
HCM Lane V/C Ratio	0.126	-	0.07	-	0.418
HCM Control Delay (s)	12	-	9.7	-	16.9
HCM Lane LOS	B	-	A	-	C
HCM 95th %tile Q(veh)	0.4	-	0.2	-	2



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	340	206	162	152	338	475	80	291
v/c Ratio	0.71	0.60	0.39	0.54	0.70	0.72	0.25	0.68
Control Delay	29.5	38.9	20.3	39.9	22.3	30.2	14.4	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.5	38.9	20.3	39.9	22.3	30.2	14.4	35.8
Queue Length 50th (ft)	115	88	48	67	97	198	19	127
Queue Length 95th (ft)	#241	197	116	148	187	364	48	229
Internal Link Dist (ft)		693		1080		707		271
Turn Bay Length (ft)	200		75		150		100	
Base Capacity (vph)	494	467	525	490	507	1103	516	1103
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.44	0.31	0.31	0.67	0.43	0.16	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	316	192	0	151	141	0	314	442	0	74	271	0
Future Volume (vph)	316	192	0	151	141	0	314	442	0	74	271	0
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Lane Width	12	12	16	12	12	16	12	12	16	12	12	16
Total Lost time (s)	4.3	4.5		4.3	4.5		4.3	4.7		4.3	4.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1715	1729		1706	1814		1723	1814		1718	1814	
Flt Permitted	0.44	1.00		0.63	1.00		0.32	1.00		0.38	1.00	
Satd. Flow (perm)	801	1729		1126	1814		573	1814		690	1814	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	340	206	0	162	152	0	338	475	0	80	291	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	340	206	0	162	152	0	338	475	0	80	291	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	7%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8		8	4		4	2		2	6		6
Actuated Green, G (s)	29.8	15.4		22.8	11.9		37.8	28.1		24.8	19.4	
Effective Green, g (s)	29.8	15.4		22.8	11.9		37.8	28.1		24.8	19.4	
Actuated g/C Ratio	0.38	0.20		0.29	0.15		0.49	0.36		0.32	0.25	
Clearance Time (s)	4.3	4.5		4.3	4.5		4.3	4.7		4.3	4.7	
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	477	343		412	278		488	656		292	453	
v/s Ratio Prot	c0.13	0.12		0.06	0.08		c0.13	c0.26		0.02	0.16	
v/s Ratio Perm	c0.14			0.06			0.21			0.07		
v/c Ratio	0.71	0.60		0.39	0.55		0.69	0.72		0.27	0.64	
Uniform Delay, d1	18.6	28.3		21.4	30.4		13.8	21.4		19.0	26.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	2.0		0.6	1.2		3.4	3.4		0.2	2.3	
Delay (s)	22.8	30.3		22.0	31.5		17.2	24.8		19.2	28.3	
Level of Service	C	C		C	C		B	C		B	C	
Approach Delay (s)		25.6			26.6			21.6			26.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	77.6	Sum of lost time (s)	17.8
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

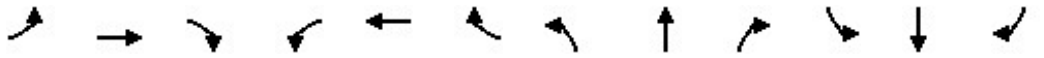
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	261	166	16	8	333	1673	10	726	219
v/c Ratio	0.90	0.39	0.05	0.02	1.28	0.75	0.10	0.45	0.27
Control Delay	70.6	12.8	29.5	0.1	192.2	14.5	46.4	18.0	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	70.6	12.8	29.5	0.1	192.2	14.9	46.4	18.0	3.2
Queue Length 50th (ft)	157	22	8	0	~372	274	6	138	5
Queue Length 95th (ft)	#288	77	25	0	m#518	m#623	23	181	40
Internal Link Dist (ft)	362		281			230		391	
Turn Bay Length (ft)		75		50	150		75		90
Base Capacity (vph)	323	465	325	433	260	2233	120	1819	870
Starvation Cap Reductn	0	0	0	0	0	183	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.36	0.05	0.02	1.28	0.82	0.08	0.40	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	14	151	14	1	7	303	1494	28	9	661	199
Future Volume (vph)	224	14	151	14	1	7	303	1494	28	9	661	199
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Total Lost time (s)		5.3	5.3		5.3	5.3	5.0	5.2		5.0	5.2	5.2
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	0.95
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1721	1513		1726	1513	1723	3434		1723	3446	1469
Flt Permitted		0.73	1.00		0.73	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1310	1513		1317	1513	1723	3434		1723	3446	1469
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	246	15	166	15	1	8	333	1642	31	10	726	219
RTOR Reduction (vph)	0	0	95	0	0	6	0	1	0	0	0	106
Lane Group Flow (vph)	0	261	71	0	16	2	333	1672	0	10	726	113
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)		22.2	22.2		22.2	22.2	15.1	61.0		1.3	47.2	47.2
Effective Green, g (s)		22.2	22.2		22.2	22.2	15.1	61.0		1.3	47.2	47.2
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.15	0.61		0.01	0.47	0.47
Clearance Time (s)		5.3	5.3		5.3	5.3	5.0	5.2		5.0	5.2	5.2
Vehicle Extension (s)		1.5	1.5		1.5	1.5	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		290	335		292	335	260	2094		22	1626	693
v/s Ratio Prot							c0.19	c0.49		0.01	0.21	
v/s Ratio Perm		c0.20	0.05		0.01	0.00						0.08
v/c Ratio		0.90	0.21		0.05	0.01	1.28	0.80		0.45	0.45	0.16
Uniform Delay, d1		37.8	31.8		30.6	30.3	42.5	14.8		49.0	17.7	15.1
Progression Factor		1.00	1.00		1.00	1.00	1.07	0.85		1.00	1.00	1.00
Incremental Delay, d2		28.2	0.1		0.0	0.0	152.3	3.3		5.3	0.9	0.5
Delay (s)		66.0	31.9		30.7	30.3	197.7	15.9		54.3	18.6	15.6
Level of Service		E	C		C	C	F	B		D	B	B
Approach Delay (s)		52.7			30.5			46.1			18.3	
Approach LOS		D			C			D			B	

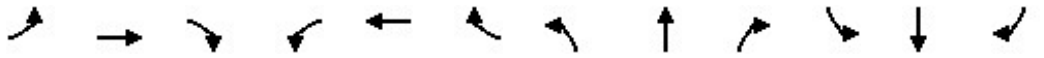
Intersection Summary			
HCM 2000 Control Delay	39.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	108	629	143	33	1092	320	346	20	389	395	66
v/c Ratio	0.67	0.57	0.24	0.32	1.28	0.96	0.99	0.05	1.03	1.01	0.14
Control Delay	53.9	23.2	4.2	53.3	168.1	82.6	87.1	0.2	80.9	76.7	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	23.2	4.2	53.3	168.1	82.6	87.1	0.2	80.9	76.7	1.8
Queue Length 50th (ft)	47	208	22	21	~481	204	222	0	~282	~273	4
Queue Length 95th (ft)	#106	225	53	51	#612	#375	#403	0	#477	#478	11
Internal Link Dist (ft)		1356			1654		696			316	
Turn Bay Length (ft)	540		120	550		290		390	280		
Base Capacity (vph)	186	1104	590	117	853	332	350	414	379	390	466
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.57	0.24	0.28	1.28	0.96	0.99	0.05	1.03	1.01	0.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

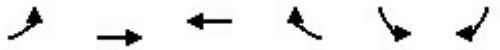
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	610	139	32	1059	0	310	336	19	564	197	64
Future Volume (vph)	105	610	139	32	1059	0	310	336	19	564	197	64
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Total Lost time (s)	5.2	5.9	5.9	5.2	5.9		5.7	5.7	5.7	5.8	5.8	5.8
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (prot)	1723	3348	1486	1723	3348		1723	1814	1511	1637	1682	1513
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (perm)	1723	3348	1486	1723	3348		1723	1814	1511	1637	1682	1513
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	108	629	143	33	1092	0	320	346	20	581	203	66
RTOR Reduction (vph)	0	0	99	0	0	0	0	0	16	0	0	51
Lane Group Flow (vph)	108	629	44	33	1092	0	320	346	4	389	395	15
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			6			2			3			4
Actuated Green, G (s)	9.4	30.9	30.9	4.0	25.5		19.3	19.3	19.3	23.2	23.2	23.2
Effective Green, g (s)	9.4	30.9	30.9	4.0	25.5		19.3	19.3	19.3	23.2	23.2	23.2
Actuated g/C Ratio	0.09	0.31	0.31	0.04	0.26		0.19	0.19	0.19	0.23	0.23	0.23
Clearance Time (s)	5.2	5.9	5.9	5.2	5.9		5.7	5.7	5.7	5.8	5.8	5.8
Vehicle Extension (s)	2.0	0.5	0.5	2.0	0.5		0.5	0.5	0.5	2.0	2.0	2.0
Lane Grp Cap (vph)	161	1034	459	68	853		332	350	291	379	390	351
v/s Ratio Prot	c0.06	0.19		0.02	c0.33		0.19	c0.19		c0.24	0.23	
v/s Ratio Perm			0.03						0.00			0.01
v/c Ratio	0.67	0.61	0.10	0.49	1.28		0.96	0.99	0.01	1.03	1.01	0.04
Uniform Delay, d1	43.8	29.4	24.6	47.0	37.2		40.0	40.2	32.6	38.4	38.4	29.8
Progression Factor	0.79	0.72	0.73	1.00	1.00		1.00	1.00	1.00	0.68	0.68	1.00
Incremental Delay, d2	8.1	2.6	0.4	2.0	135.1		39.3	44.5	0.0	51.7	47.4	0.0
Delay (s)	42.6	23.8	18.3	49.0	172.3		79.3	84.7	32.7	77.9	73.6	29.8
Level of Service	D	C	B	D	F		E	F	C	E	E	C
Approach Delay (s)		25.2			168.7			80.7			72.2	
Approach LOS		C			F			F			E	

Intersection Summary			
HCM 2000 Control Delay	92.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

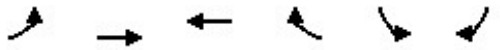
c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	378	469	954	536	422	206
v/c Ratio	0.75	0.20	0.78	0.62	0.74	0.47
Control Delay	42.6	5.2	17.1	4.6	47.1	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	5.2	17.1	4.6	47.1	8.7
Queue Length 50th (ft)	217	44	72	5	132	0
Queue Length 95th (ft)	#329	74	m157	m0	174	58
Internal Link Dist (ft)		694	1356		707	
Turn Bay Length (ft)	350			900	225	145
Base Capacity (vph)	501	2403	1223	868	1026	434
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.20	0.78	0.62	0.41	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	363	450	916	515	405	198
Future Volume (vph)	363	450	916	515	405	198
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850
Total Lost time (s)	5.3	5.8	5.8	5.8	5.3	5.3
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1674	3348	3348	1446	3343	1542
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1674	3348	3348	1446	3343	1542
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	378	469	954	536	422	206
RTOR Reduction (vph)	0	0	0	340	0	171
Lane Group Flow (vph)	378	469	954	196	422	35
Confl. Peds. (#/hr)	5			5	5	5
Heavy Vehicles (%)	5%	5%	5%	5%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	1	6	2		4	8
Permitted Phases				2		
Actuated Green, G (s)	29.9	71.8	36.6	36.6	17.1	17.1
Effective Green, g (s)	29.9	71.8	36.6	36.6	17.1	17.1
Actuated g/C Ratio	0.30	0.72	0.37	0.37	0.17	0.17
Clearance Time (s)	5.3	5.8	5.8	5.8	5.3	5.3
Vehicle Extension (s)	1.0	0.5	0.5	0.5	2.0	2.0
Lane Grp Cap (vph)	500	2403	1225	529	571	263
v/s Ratio Prot	c0.23	0.14	c0.28		c0.13	0.02
v/s Ratio Perm				0.14		
v/c Ratio	0.76	0.20	0.78	0.37	0.74	0.13
Uniform Delay, d1	31.7	4.6	28.1	23.3	39.3	35.2
Progression Factor	1.00	1.00	0.53	1.64	1.00	1.00
Incremental Delay, d2	5.7	0.2	0.5	0.2	4.3	0.1
Delay (s)	37.5	4.8	15.4	38.3	43.6	35.3
Level of Service	D	A	B	D	D	D
Approach Delay (s)		19.4	23.6		40.9	
Approach LOS		B	C		D	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	180	0	0	421	0
Future Vol, veh/h	0	180	0	0	421	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	194	0	0	453	0

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	453		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.22		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.318		-	-
Pot Cap-1 Maneuver	0	607		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %				-	
Mov Cap-1 Maneuver	-	607		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	13.7	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	607	-
HCM Lane V/C Ratio	0.319	-
HCM Control Delay (s)	13.7	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	1.4	-

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	212	758	0	0	0
Future Vol, veh/h	0	212	758	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	228	815	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	815	0	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	377	-	0
Stage 1	0	-	-	0
Stage 2	0	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	377	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	28.1	0
HCM LOS	D	

Minor Lane/Major Mvmt	NBT	WBLn1
Capacity (veh/h)	-	377
HCM Lane V/C Ratio	-	0.605
HCM Control Delay (s)	-	28.1
HCM Lane LOS	-	D
HCM 95th %tile Q(veh)	-	3.8

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	266	0	0	0	0	122
Future Vol, veh/h	266	0	0	0	0	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	286	0	0	0	0	131

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	-		-	286
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.22
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.318
Pot Cap-1 Maneuver	-	0		0	753
Stage 1	-	0		0	-
Stage 2	-	0		0	-
Platoon blocked, %	-				
Mov Cap-1 Maneuver	-	-		-	753
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	10.8
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT
Capacity (veh/h)	753	-
HCM Lane V/C Ratio	0.174	-
HCM Control Delay (s)	10.8	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.6	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑			↱
Traffic Vol, veh/h	0	0	455	0	0	119
Future Vol, veh/h	0	0	455	0	0	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	489	0	0	128

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	489
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	579
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	-	579
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	0	13
HCM LOS		B

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	579
HCM Lane V/C Ratio	-	0.221
HCM Control Delay (s)	-	13
HCM Lane LOS	-	B
HCM 95th %tile Q(veh)	-	0.8

Appendix F- Meeting Summary; CBJ and Kinney Engineering, LLC; July 27, 2021

KINNEY ENGINEERING, LLC

MEETING SUMMARY

Project: Juneau Medical Office Building

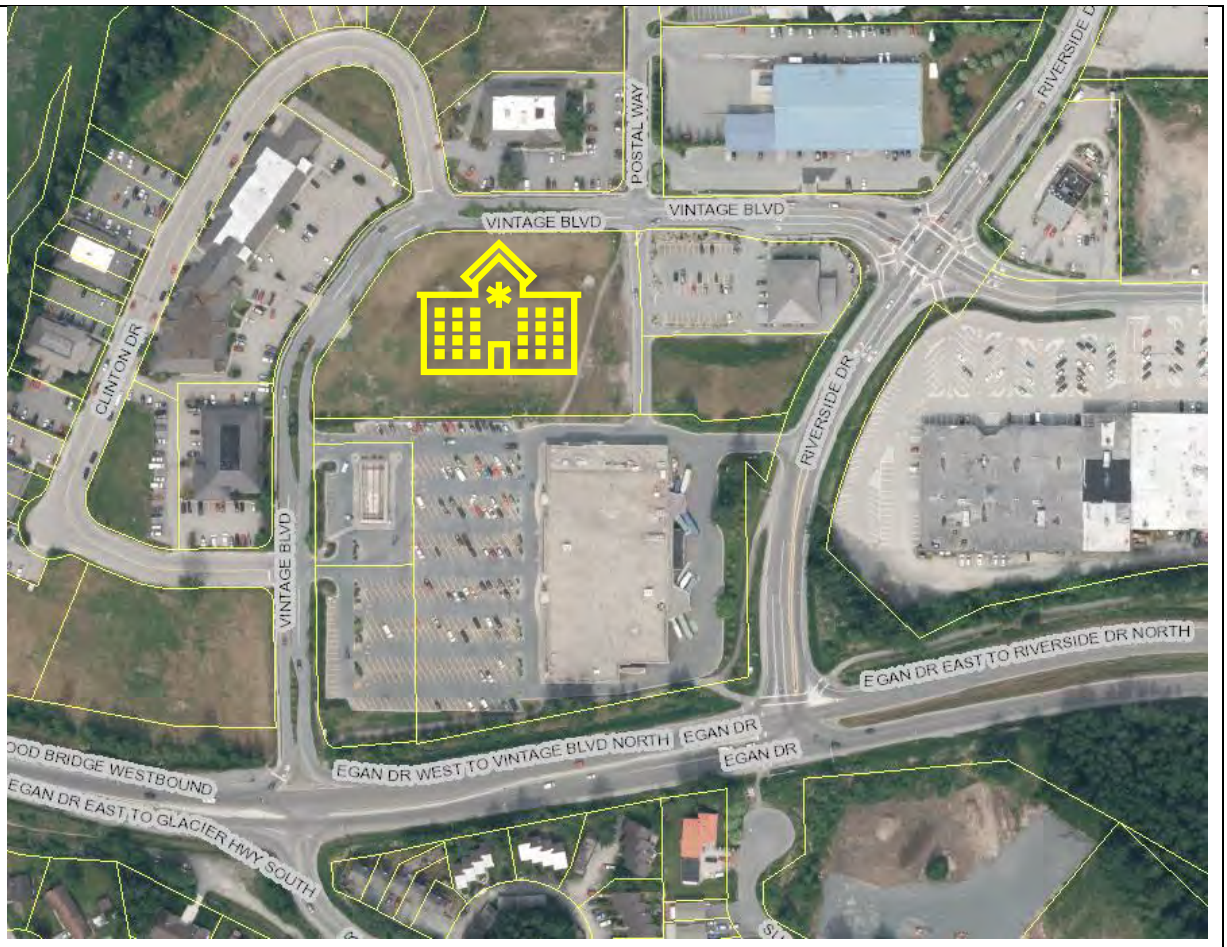
Meeting Purpose: Traffic Impact Analysis (TIA) Requirements

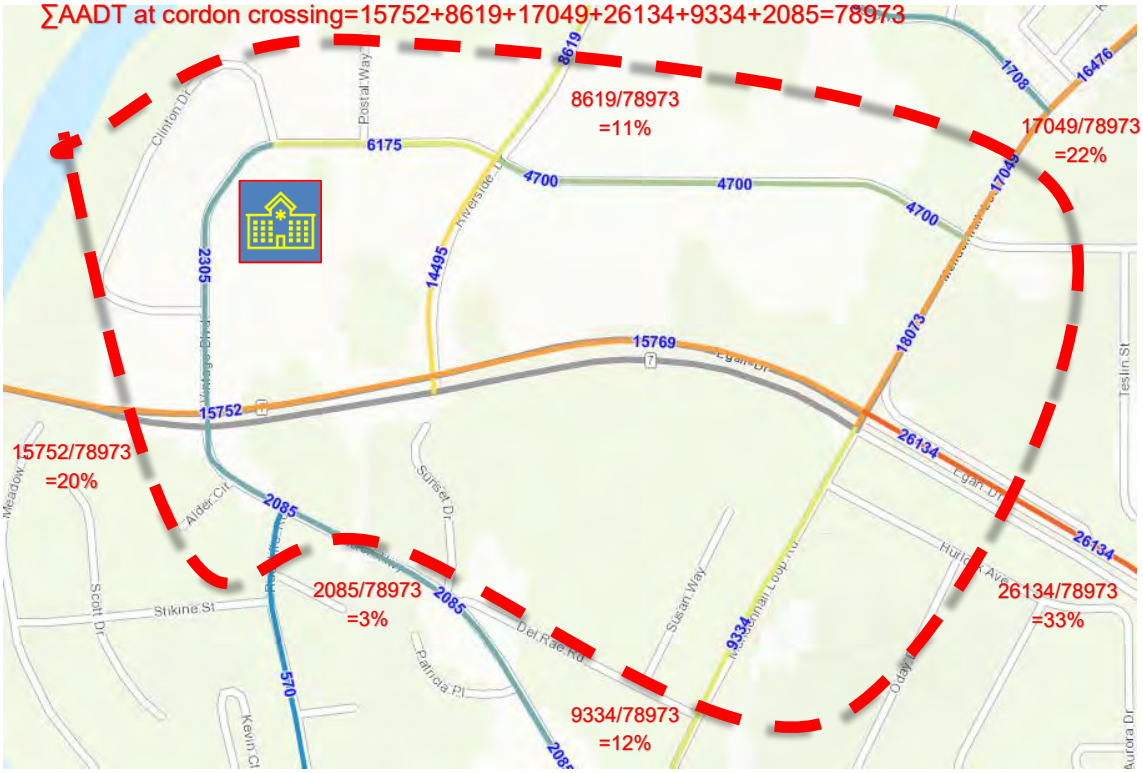
Date/Time: 10:30, July 27, 2021

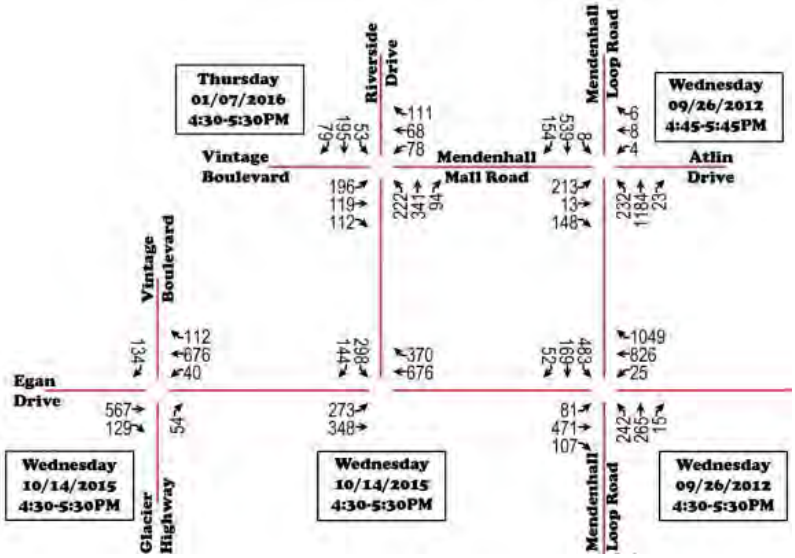
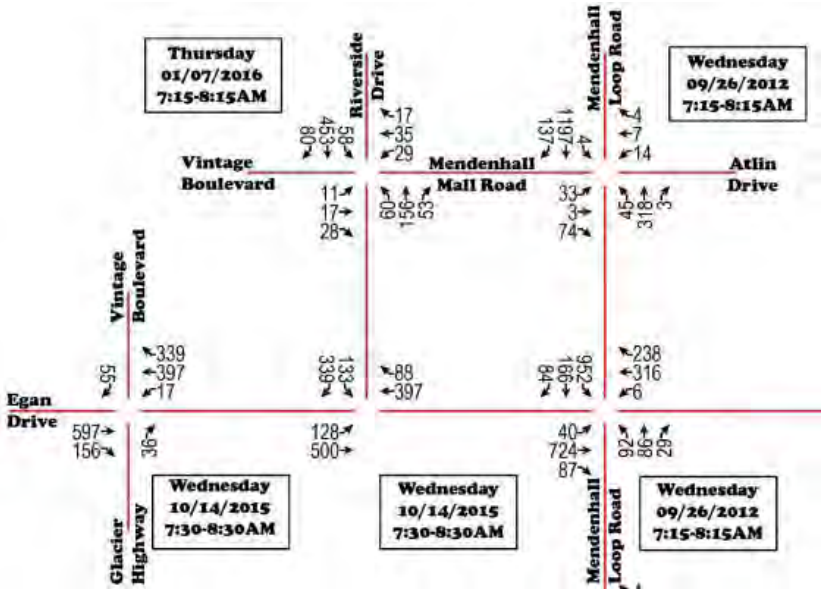
Location: Zoom

Attendees: **City & Borough of Juneau, AK (CBJ):** Allison Eddins Planner II Community Development Department
Kinney Engineering, LLC on behalf of JL Properties, Inc (Developer): Randy Kinney

Topic Discussed:	Is TIA required?
CBJ Requirements	• Discussions with DOT&PF (David Epstein) indicate that CBJ is primary approving agency for a TIA (if required) since proposed site fronts Vintage Boulevard. • In this meeting, Ms. Eddins indicates CBJ requires TIAs as part of a Conditional Use Permit or Building Permit if traffic thresholds are exceeded. TIA will be reviewed by CBJ staff, but approved by CBJ Planning Commission. • DOT&PF review will be coordinated by CBJ. • CBJ Code of Ordinances, 49.40.300 Applicability. (a) A traffic impact analysis (TIA) shall be required as follows: *(1) A development projected to generate 500 or more average daily trips (ADT) shall be required to have a traffic impact analysis.* *"(2) A development projected to generate fewer than 250 ADT shall not be required to have a traffic impact analysis.* *(3) A development projected to generate more than 250 ADT but fewer than 500 ADT shall be required to have a traffic impact analysis if the Community Development Department Director determines that an analysis is necessary based on the type of development, its location, the likelihood of future expansion, and other factors found relevant by the director.*
Proposed Site	• Legal Description: Vintage IV TR A2 • Tax ID: 5B1601430017 • 2.9 Acres, 127,336 SF • Zoning: (LC) Light Commercial • Street Fronting: Vintage Boulevard, CBJ owned, LOCATION below.

	
Development	3-level, 41,000 SF Medical Office Building (source: Sparks Design LLC plans)
Trip Generation	• ITE Trip Generation Manual Land Use: LU 720 (Medical-Dental Offices, see attached). • Choose trip estimation method for site generated weekday ADT (a. Line at Cluster, b. Average Rate, c. Fitted Curve Equation) per Trip Generation Manual, 3rd Ed: Result is Fitted Curve Equation. • Weekday ADT T=38.42(X)-87.62; for X=41, T=1,488 trips in and out per day. • 50%/50% entering/exiting.
Conclusion	• TIA will be required.
Topic Discussed:	**Design Year/Design Hour**
CBJ Requirements	• CBJ Code of Ordinances, 49.40.330 Traffic impact mitigation (a) (1) Summarized as: o Design Year: Opening year and at full build out (if phased). • Design Hour: Not discussed at meeting, but would likely be the morning and evening commuting peak hours.
Topic Discussed:	**Study Area**
CBJ Requirements	• CBJ Code of Ordinances, 49.40.305 Traffic impact analysis (TIA) requirements. *(a)The study area for the TIA shall be that area in which it is anticipated that the proposed development will increase ADT by five percent or more.* • CBJ Code of Ordinances, 49.40.305 (c)

	(1) Intersections and segments of roadways where the ADT on any approach to an intersection is anticipated to increase by five percent or more due to the proposed development…..
Study Area Methodology	• Not discussed at the meeting. • Propose to distribute traffic to/from site Juneau based on AADT weight. DOT&PF has an AADT map of area, https://akdot.maps.arcgis.com/apps/mapviewer/index.html?webmap=7c1e1029fdb64d7a86449d55ef05e21c. • We will cordon that map as shown and assign site inbound and outbound trips according to AADT weight were cordon line crosses major links. 
Topic Discussed:	**LOS Standards**
CBJ Requirements	• CBJ Code of Ordinances, 49.40.310 Traffic; minimum standards. (a)*The minimum acceptable LOS for a roadway segment or intersection within the area affected by the development, on the projected opening date of the development, or full build out of the development, is LOS D.* • CBJ Code of Ordinances, 49.40.340 Traffic impact mitigation. *(a) Except as provided in 49.40.340, an applicant shall make improvements to a roadway or intersection to achieve or maintain an acceptable LOS if a roadway or intersection has an:* *(1) LOS D without traffic generated by the development; and would drop below LOS D with traffic generated by the development at the opening date of the development or full build out;* *(2) If a roadway has an LOS below D without traffic generated by the development at the opening date of the development; or* *(3) If the intersection or roadway segment has a pattern of accidents resulting in personal injuries, and the development would aggravate this accident pattern, then mitigation shall be required regardless of the LOS.*

	• CBJ Code of Ordinances, 49.40.340 Mitigation waiver. Section indicates conditions in which the requirements above may be waived.
Topic Discussed:	**Material Provided by Ms. Eddins**
	• CBJ applicable Codes • Example TIA
Additional Topic:	Traffic Data for Intersections .
Discussion	• Because of pandemic, we will use the existing counts published in the Juneau Egan Drive and Riverside Intersection Improvements Traffic Analysis Report. Counts were conducted between 2012 and 2016. They will be factored to 2019 volumes using link AADTs for the respective years, and 2019 AADT. The volumes will then be expanded to the design year using 0.25% per year (DOT&PF recommendations). • Observed PM volumes are:  • Observed AM volumes are: 

Attachments

Land Use: 720
Medical-Dental Office Building

Description

A medical-dental office building is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility. Clinic (Land Use 630) is a related use.

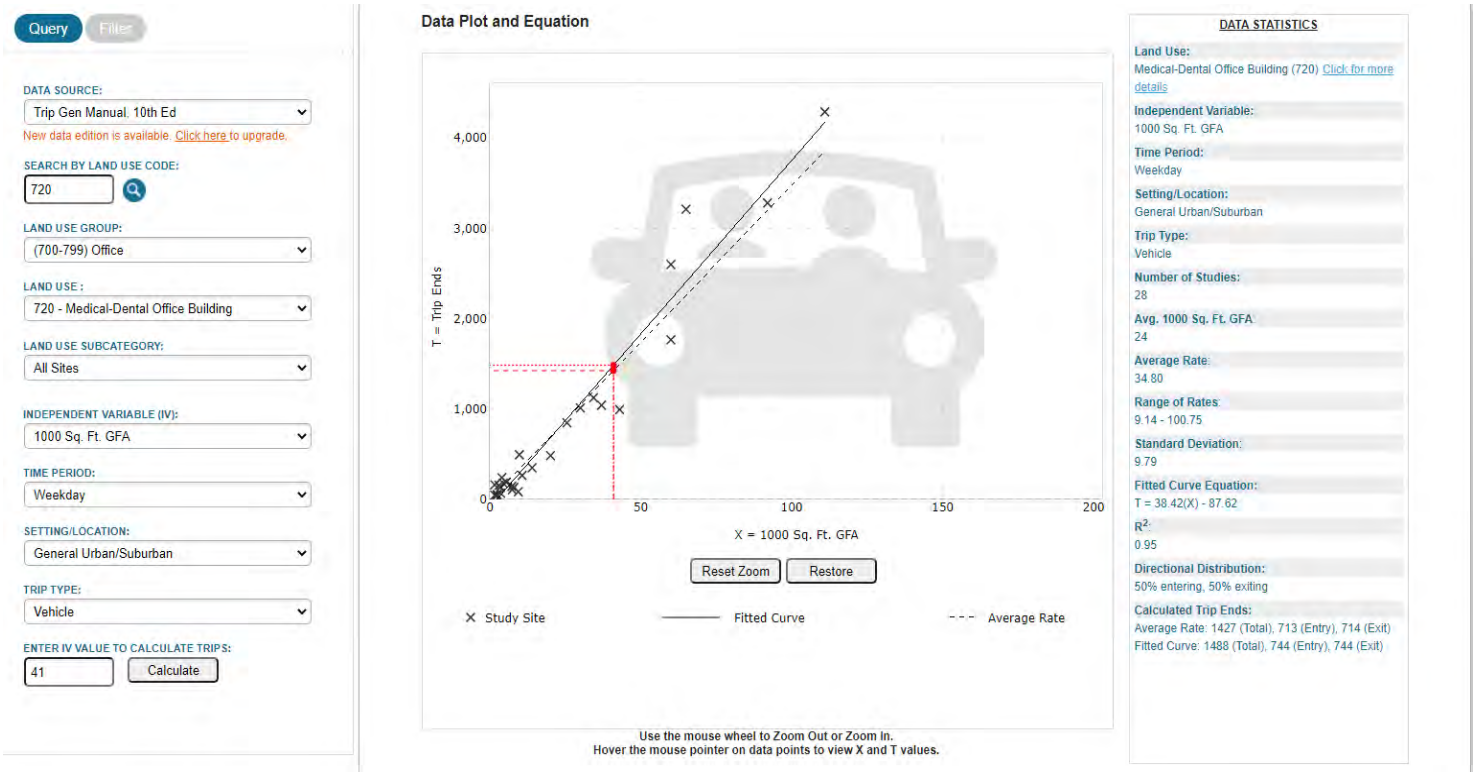
Additional Data

Time-of-day distribution data for this land use for a weekday, Saturday, and Sunday are presented in Appendix A. For the 19 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 9:30 and 10:30 a.m. and 2:15 and 3:15 p.m., respectively.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Connecticut, Kentucky, Maryland, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Dakota, Texas, Virginia, Washington, and Wisconsin.

Source Numbers

104, 109, 120, 157, 184, 209, 211, 253, 287, 294, 295, 304, 357, 384, 404, 407, 423, 444, 509, 601, 715, 867, 879, 901, 902, 908, 959, 972



Appendix G- Review Meeting Summary

April 7, 2022 PND No. 222016

Irene Gallion
Senior Planner
City and Borough of Juneau Community Development Dept.
230 S. Franklin St. Juneau, AK 99801

Re: SEARHC Vintage Park Medical Office Building, Conditional Use Permit Application – Additional Information on Traffic Impact Analysis

Dear Ms. Gallion,

On Thursday, March 31, 2022, PND submitted to CBJ a conditional use permit application package for the subject project. The permit package included a draft Traffic Impact Analysis, (TIA) developed by Kinney Engineering, (KE). It was noted in the application Project Narrative that the TIA is in draft form due to ongoing coordination with AKDOT. Previously, CBJ requested we review the draft with AKDOT prior to submitting the final TIA. On April 5th, KE and PND met with AKDOT stakeholders to review the TIA and discuss the results and potential traffic impact mitigations that may be warranted. You requested PND summarize the meeting discussion and provide the summary to CBJ as additional information to the CUP application.

PND and KE met with AKDOT on April 5, 2022. In attendance were myself, representing PND and the Owner, Randy Kinney and Jeanne Bowie from KE, and Nathan Purves, Steven Thater and Chrissy McNally from AKDOT.

The TIA was discussed with only minor comments and no objections to the method or results of the analysis. AKDOT voiced no objections to the proposed mitigations and indicated they would not request additional intersection improvements as a result of the proposed project. A main point of discussion was the intersection of Egan Drive and Mendenhall Loop Road. As noted in the TIA, this is the only intersection which may warrant impact mitigation in accordance with the CBJ municipal code, however, the level of service (LOS) under existing conditions is within the CBJ threshold for mitigation and the proposed traffic impact is minimal; there is no LOS change for the intersection with the additional proposed site traffic. As described in the TIA Section 8.1. "*Without site traffic, intersection AM average delay per vehicle is 82 seconds with a LOS F and the PM average delay per vehicle is 65 seconds with LOS E. Adding site traffic only increases delay by 1 second per vehicle in both AM and PM peak hours with no changes in LOS.*"

Mr. Thater observed that under AKDOT criteria as specified in 17 AAC 10.070, Traffic Impact Analysis, mitigation of impacts from the proposed SEARHC Medical Facility would likely not be required as the change in operational performance resulting from the site is minimal and appears to be beneath the AKDOT threshold triggering code required mitigation. He went on to make the additional points that, the existing traffic signals currently employ adaptive software technology, which will mitigate potential impacts proactively and the Department regularly reviews and updates signalization parameters, further minimizing project impacts.

Additional comments, included support for the proposed pedestrian mitigations, including the addition of the perimeter sidewalk along Vintage Boulevard.

During our telephone conversation on April 5th, you requested that the TIA remain in draft form until CBJ Engineering has reviewed the CUP application and draft TIA, then update and provide the final TIA prior to the Planning Commission meeting, yet to be scheduled. As requested, the final TIA is pending CBJ internal review.

Please contact me if you have any questions or require further information.

Sincerely,
PND Engineers, Inc. | Juneau Office

Tyler Bradshaw, P.E. | Senior Engineer

cc:
Ed Zernia, SEARHC Director of Construction, Facilities Admin
Deanna Wlad, AIA, Architect, Spark Design
Randy Kinney, PE, Kinney Engineering
Dick Somerville, PE, PND Engineers
Steven Thater, Alaska Department of Transportation
Nathan Purves, Alaska Department of Transportation
Chrissy McNally, Alaska Department of Transportation

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

(907) 586-0715
CDD_Admin@juneau.gov
www.juneau.org/community-development
155 Heritage Way • Juneau, AK 99801

COMMUNITY DEVELOPMENT DEPARTMENT - REQUEST FOR AGENCY COMMENT

DEPARTMENT:

STAFF PERSON/TITLE:

DATE:

APPLICANT: Dawson Construction on behalf of SEARHC

TYPE OF APPLICATION: Conditional Use Permit

PROJECT DESCRIPTION:

The applicant proposes to build a three-story, 19,635 sq. ft. dental clinic in the Vintage Park area between Safeway and First Bank.

LEGAL DESCRIPTION: VINTAGE III LT BL 1

PARCEL NUMBER(S): 5B1601430016

PHYSICAL ADDRESS: 3063 Vintage Blvd.

SPECIFIC QUESTIONS FROM PLANNER:

The site is not large enough to accommodate the minimum parking requirement for a facility of this size. The applicant intends to use Title 49 provisions for a shared parking agreement with SEARHC workforce housing located across Vintage Blvd off Postal Way (behind True North). Are there any concerns about pedestrian safety with clients potentially having to cross Vintage Blvd at the Postal Way intersection?

AGENCY COMMENTS:

AGENCY COMMENTS (CONTINUED):

Ilsa Lund

From: Theresa Ross
Sent: Tuesday, February 25, 2025 6:36 AM
To: Ilsa Lund
Subject: Re: Please comment- USE25-07 SEARHC dental clinic in Vintage Park

Good morning,

Just so you are in the loop, I am trying to work with the new program we are going to, Tyler Tech, to find a way to allow deferred submittals for fire systems. We are not there yet but I am pretty confident we will be able to find a way to track them so the applicants can submit projects without full fire systems plans like past practice. My concern is that projects are being approved with a deferred submittal and there is no way to track that those system come in for review and approval before installation.

I am just anticipating that concerns to come up with this project. You can send them my way if they have any questions.

Thank you,

Theresa Ross, Fire Marshal
Capital City Fire Rescue
820 Glacier Avenue
Juneau AK 99801
907-586-5322 ext. 4323
https://www.juneau.org/fire

From: Ilsa Lund <Ilsa.Lund@juneau.gov>
Sent: Monday, February 24, 2025 2:44 PM
To: Theresa Ross <Theresa.Ross@juneau.gov>
Subject: RE: Please comment- USE25-07 SEARHC dental clinic in Vintage Park

Thanks for your input from afar!

Gunalchéesh!

Ilsa Lund | Planner I
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0753 ext. 4128

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From: Theresa Ross <Theresa.Ross@juneau.gov>
Sent: Monday, February 24, 2025 1:43 PM
To: Ilsa Lund <Ilsa.Lund@juneau.gov>
Subject: Re: Please comment- USE25-07 SEARHC dental clinic in Vintage Park

Awesome. That worries me, we run over to the Riverview senior center frequently and the thought of people darting out across the road is a bit unnerving. Not to mention just regular traffic through that area.

Theresa Ross, Fire Marshal
Capital City Fire Rescue
820 Glacier Avenue
Juneau AK 99801
907-586-5322 ext. 4323
https://www.juneau.org/fire

From: Ilsa Lund <Ilsa.Lund@juneau.gov>
Sent: Monday, February 24, 2025 2:36 PM
To: Theresa Ross <Theresa.Ross@juneau.gov>
Subject: RE: Please comment- USE25-07 SEARHC dental clinic in Vintage Park

Hi Theresa!
I was wondering the same thing. There is nothing in the plans submitted that indicates they are. It will likely be a recommended condition of the conditional use permit.

Gunalchéesh!

Ilsa Lund | Planner I
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0753 ext. 4128

Fostering excellence in development for this generation and the next.

From: Theresa Ross <Theresa.Ross@juneau.gov>
Sent: Monday, February 24, 2025 1:28 PM
To: Ilsa Lund <Ilsa.Lund@juneau.gov>
Subject: Re: Please comment- USE25-07 SEARHC dental clinic in Vintage Park

Are they adding a crosswalk? I am just curious, it is really dark right there during winter months and the area is pretty busy.

Theresa Ross, Fire Marshal
Capital City Fire Rescue
820 Glacier Avenue
Juneau AK 99801
907-586-5322 ext. 4323
https://www.juneau.org/fire

From: Ilsa Lund <Ilsa.Lund@juneau.gov>
Sent: Monday, February 24, 2025 12:59 PM
Subject: Please comment- USE25-07 SEARHC dental clinic in Vintage Park

Hello CBJ Team,
We have received an application from Dawson Construction to build at three-story, 19,635 sq. ft. SEARHC dental clinic between Safeway and First Bank in the Vintage Park area. As part of the review

process, we are circulating the application amongst CBJ departments for input that will be provided to the Planning Commission for review.

Attached is the application. Later this week, you can also find information at the short-term planning web site: https://juneau.org/community-development/short-term-projects

We have the case scheduled for the Planning Commission meeting on March 25th. If you could provide feedback by **March 10, 2025**, that would be very helpful. I've attached an Agency Comment Form for your use.

Please let me know if you have any questions.
Warm regards,

Ilsa Lund | Planner I
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0753 ext. 4128

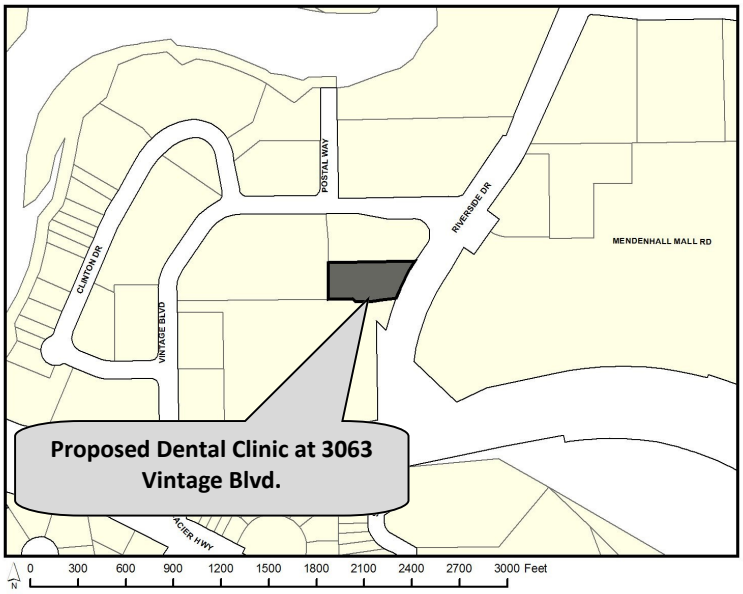
CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

Fostering excellence in development for this generation and the next.

Invitation to Comment

On a proposal to be heard by the CBJ Planning Commission

Your Community, Your Voice



CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT
155 Heritage Way Juneau, Alaska 99801

TO

A Conditional Use Permit application has been submitted for consideration and public hearing by the Planning Commission for **a three-story dental clinic** at **3063 Vintage Blvd.** in a **Light Commercial zoning district.**

PROJECT INFORMATION:
Project Information can be found at:
https://juneau.org/community-development/short-term-projects

PLANNING COMMISSION DOCUMENTS:
Staff Report expected to be posted Monday, March 17, 2025 at
https://juneau.org/community-development/planning-commission
Find hearing results, meeting minutes, and more here, as well.

Now through March 6	March 7— noon, March 21	HEARING DATE & TIME: 6:00 pm, March 25, 2025	March 26
Comments received during this period will be sent to the Planner, **Ilsa Lund,** to be included as an attachment in the staff report.	Comments received during this period will be sent to Commissioners to read in preparation for the hearing.	This meeting will be held in person and by remote participation. For remote participation: join the Webinar by visiting https://juneau.zoom.us/j/85421744892 and use the Webinar ID: 854 2174 4892 OR join by telephone, calling: 1-253-215-8782 and enter the Webinar ID (above). You may also participate in person in City Hall Assembly Chambers, 155 Heritage Way Juneau, Alaska.	The results of the hearing will be posted online.

FOR DETAILS OR QUESTIONS,

Phone: **(907)586-0753 ext. 4128**
Email: **pc_comments@juneau.gov or Ilsa.Lund@juneau.gov**
Mail: **Community Development, 155 Heritage Way, Juneau AK 99801**

Case No.: USE2025 0007
Parcel No.: 5B1601430016
CBJ Parcel Viewer: http://epv.juneau.org

Printed February 24, 2025

Attachment H - Public Notice Sign Photo

Attachment I - Site Photos

Attachment I - Site Photos

Attachment I - Site Photos

Attachment I - Site Photos

Attachment I - Site Photos

Attachment I - Site Photos

Attachment I - Site Photos