



Municipality of Anchorage, Alaska
Parks & Recreation Department

632 W. 6th Avenue, Suite 630
P.O. Box 196650
Anchorage, AK 99519
Tel 907-343-4355

URL www.muni.org/departments/parks



March 24, 2020

Community Development Department
Planning Division
4700 Elmore Road
PO Box 196650
Anchorage, Alaska 99519-6650

Re: Application for Major Site Plan Review
Elderberry Park (Parcel No. 001-031-22-000)

I hereby authorize The Boutet Company (TBC) to act as Owner's Representative in the application for the Major Site Plan Review required for the above described properties.

Sincerely,

Joshua Durand, Parks Director
Municipality of Anchorage
Parks and Recreation Department
PO Box 196650
Anchorage, AK 99519

cc: Maeve Nevins-Lavtar, Senior Park Planner

Application for Major Site Plan Review

Municipality of Anchorage
Planning Department
PO Box 196650
Anchorage, AK 99519-6650



PETITIONER*		PETITIONER REPRESENTATIVE (if any)	
Name (last name first) MOA Parks and Recreation - Maeve Nevins-Lavtar, Senior Park Planner		Name (last name first) Hickok, Tanya - The Boutet Company Inc (TBC)	
Mailing Address PO Box 196650		Mailing Address 601 E. 57th Place, Suite 102	
Anchorage, AK 99519		Anchorage, AK 99518	
Contact Phone: Day (907) 343-4586	Evening	Contact Phone: Day (907) 522-6776	Evening
Fax		Fax	
E-mail maeve.nevinslavtar@anchorageak.gov		E-mail thickok@tbcak.com	

*Report additional petitioners or disclose other co-owners on supplemental form. Failure to divulge other beneficial interest owners may delay processing of this application.

PROPERTY INFORMATION			
Property Tax # (000-000-00-000): 001-031-22-000			
Site Street Address: 1297 W. 5th Avenue			
Current legal description: (use additional sheet if necessary) All of Block 35, L Street Slide			
Zoning: R3	Acreage: 1.35	Grid #: SW1229	Underlying plat #: 67-30

SITE PLAN APPROVAL REQUESTED	
Use: Park	
☒ New SPR	☐ Amendment to approved site plan Original Case #:

I hereby certify that (I am)(I have been authorized to act for) owner of the property described above and that I petition for a major site plan review in conformance with Title 21 of the Anchorage Municipal, Code of Ordinances. I understand that payment of the application fee is nonrefundable and is to cover the costs associated with processing this application, and that it does not assure approval of the site plan. I also understand that assigned hearing dates are tentative and may have to be postponed by Planning Department staff, the Planning and Zoning Commission, or Urban Design Commission for administrative reasons.

Signature ☐ Owner ☒ Representative (Agents must provide written proof of authorization)

Date

Tanya S. Hickok, P.E.

Print Name

Accepted by: 	Poster & Affidavit: 2/1	Fee: 4248.75 5665.07 COVID-19 25% discount	Case Number: 2020-0076	Requested Meeting Date: 6/10/20
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COMPREHENSIVE PLAN INFORMATION**Anchorage 2020 Urban/Rural Services:** ☒ Urban ☐ Rural**Anchorage 2040 Land Use Designation(s):**

- | | | |
|---|--|--|
| ☐ Large Lot Residential | ☐ Single and Two-family Residential | ☐ Compact Mixed Residential – low |
| ☐ Compact Mixed Residential–Medium | ☐ Urban Residential – High | ☐ Neighborhood Center |
| ☐ Town Center | ☐ Regional Commercial Center | ☐ City Center |
| ☐ Commercial Corridor | ☐ Main Street Corridor | ☒ Open Space |
| ☐ Facilities and Institutions | ☐ Industrial | |

Anchorage 2040 Growth Supporting Features:

- | | |
|--|---|
| ☒ Transit-supportive Development | ☐ Residential Mixed-use Development |
| ☒ Greenway-supported Development | ☐ Traditional Neighborhood Development |

Chugiak-Eagle River Land Use Classification:

- | | | | |
|---|--|---|--|
| ☐ Commercial | ☐ Industrial | ☐ Parks | ☐ Community Facility |
| ☐ Town Center | ☐ Transportation facility | ☐ Special study area | ☐ Development reserve |
| ☐ Residential at _____ dwelling units per acre | | | |

Girdwood- Turnagain Arm Land Use Classification:

- | | | | |
|---|--|---|--|
| ☐ Commercial | ☐ Industrial | ☐ Parks/open space | ☐ Public lands/institutions |
| ☐ Resort | ☐ Transportation facility | ☐ Special study area | ☐ Reserve |
| ☐ Commercial/Residential | ☐ Commercial Recreation | | |
| ☐ Residential at _____ dwelling units per acre | | | |

Neighborhood, District or Other Area-Specific Plan: _____**ENVIRONMENTAL INFORMATION** (All or portion of site affected)

- | | | | | |
|---|---|------------------------------------|-----------------------------------|---|
| Wetland Classification: | ☒ None | ☐ "C" | ☐ "B" | ☐ "A" |
| Avalanche Zone: | ☒ None | ☐ Blue Zone | ☐ Red Zone | |
| Floodplain: | ☒ None | ☐ 100 year | ☐ 500 year | |
| Seismic Zone (Harding/Lawson): | ☐ "1" | ☐ "2" | ☐ "3" | ☐ "4" |
| ☐ Steep Slope > _____% | ☐ Riparian Stream Setback Area | | | ☒ "5" |

RECENT REGULATORY INFORMATION (Events that have occurred in last 5 years for all or portion of site)

- | | |
|---|--|
| ☐ Rezoning - Case Number: | |
| ☐ Preliminary Plat ☐ Final Plat - Case Number(s): | |
| ☐ Conditional Use - Case Number(s): | ☒ OTHER: Admin Site Plan Review for Park Master Plan |
| ☐ Zoning variance - Case Number(s): | Resolution 2016-0078 |
| ☐ Land Use Enforcement Action for | |
| ☐ Building or Land Use Permit for | |
| ☐ Wetland permit: ☐ Army Corp of Engineers ☐ Municipality of Anchorage | |

APPLICATION REQUIREMENTS (Only one copy of applicable items is required for initial submittal)

- 1 copy required:**
- ☒ Signed application (original)
 - ☒ Watershed sign off form, completed
 - ☒ 8 ½" by 11" copy of site plan/building plans submittal

35 copies required:

- ☒ Signed application (copies)
- ☒ Project narrative explaining:
 - ☐ the project
 - ☐ planning objectives
 - ☐ addressing the site plan review criteria on page 3 of this application
- ☒ Site plan to scale depicting, with dimensions:
 - ☐ building footprints
 - ☐ parking areas
 - ☐ vehicle circulation and driveways
 - ☐ pedestrian facilities
 - ☐ lighting
 - ☐ grading
 - ☐ landscaping
 - ☐ loading facilities
 - ☐ freestanding sign location(s)
 - ☐ required open space
 - ☐ drainage
 - ☐ snow storage area or alternative strategy
 - ☐ trash receptacle location and screening detail
 - ☐ fences
 - ☐ significant natural features
 - ☐ easements
 - ☐ project location
- ☐ Building plans to scale depicting, with dimensions:
 - ☐ building elevations
 - ☐ floor plans
 - ☐ exterior colors and textures
- ☐ Assembly Ordinance enacting zoning special limitations, if applicable
- ☒ Summary of community meeting(s)

(Additional information may be required.)

GENERAL SITE PLAN REVIEW STANDARDS (AMC 21.03.180F.)

The Urban Design Commission or the Planning and Zoning Commission shall review the proposed site plan governed by the general site plan approval criteria for consistency with conformity to the requirements of this title, and the effects of the proposal on the area surrounding the site. Each standard must have a response in as much detail as it takes to explain how your project satisfies the standard. The burden of proof rests with you.

1. The site plan is consistent with any previously approved subdivision plat, planned development master plan, or any other precedent plan or land use approval;
2. The site plan complies with all applicable development and design standards set forth in this title, including but not limited to the provisions in chapter 21.04, *Zoning Districts*, chapter 21.05, *Use Regulations*, chapter 21.06, *Dimensional Standards and Measurements*, and chapter 21.07, *Development and Design Standards*;
3. The site plan addresses any significant adverse impacts that can reasonably be anticipated to result from the use, by mitigating or offsetting those impacts to the maximum extent feasible; and
4. The development proposed in the site plan is consistent with the goals, objectives, and policies of the comprehensive plan.

SPECIAL LIMITATION STANDARDS (if applicable)

The applicable commission shall review the proposed site plan governed by special limitation for consistency with the special limitations, goals, policies and land use designations of the comprehensive development plan and other municipal plans adopted by the assembly, conformity to the requirements of this title, and the effects of the proposal on the area surrounding the site. Each special limitation standard must have a response in as much detail as it takes to explain how your project satisfies the standard. The burden of proof rests with you.

1. Project Overview

Elderberry Park is one of Anchorage's oldest and most loved parks. In 2015-16, the Municipality of Anchorage (MOA) Parks and Recreation Department worked with community members to develop the *Elderberry Park Master Plan, December 2015*, which will guide development at the park over the next 20 years.

The Parks and Recreation Department proposes to implement several of the master plan's priorities, including the following:

- Improve circulation within the park to minimize conflicts between park and trail users;
- Provide a park that encourages positive uses and discourages undesirable activities;
- Improve interpretive and wayfinding signage; and
- Provide amenities that meet the needs of a wide range of park users.

2. Background, History, and Existing Conditions

Background

Elderberry Park is a 1.46 acre neighborhood use park located in the Bootlegger Cove neighborhood in downtown Anchorage. The park serves both the local neighborhood as well as the larger community and is a popular tourist destination and access point to the Tony Knowles Coastal Trail. The park features outstanding views of the Cook Inlet, a 2-5 and 5-12 play area, a small parking lot, walkways and a central plaza. Elderberry Park is also the home of the historic Oscar Anderson House. Despite Elderberry Park's relatively small size, the park is one of Anchorage's busiest and most popular public spaces. The park's proximity to Downtown combined with outstanding views of the Cook Inlet, the Oscar Anderson House Museum and access to the Tony Knowles Coastal Trail draw a large number of visitors to the park. The park also provides valuable greenspace for neighborhood residents who enjoy the play area and open space.

History

Elderberry Park is one of Anchorage's oldest public spaces. Located in Block 35 of the original townsite, Elderberry Park was acquired from the U.S. Government in 1917. In 1976, the

Oscar Anderson house (originally constructed in 1915) was donated to the Municipality and moved to its current location in the park, where it now operates as a museum.

Elderberry Park has evolved through the years. In 1980, the restroom building and central plaza was first constructed followed by the construction of the Tony Knowles Coastal Trail in 1986. With the development of the Coastal Trail, the character of Elderberry Park changed. A significant portion of the park's western edge was regraded to a 3:1 slope to accommodate a tunnel under the railroad. Along with this construction a 10 foot wide path was built through the middle of park to provide access to the Coastal Trail.

In 2017, Anchorage Parks and Recreation with funds from the Anchorage Park Foundation made improvements to the area around the Oscar Anderson House. Upgrades included improved visibility and ADA access as well as a small plaza and heritage garden intended to reflect early life in Anchorage.

Existing Conditions

Elderberry Park lies at the foot of a bluff that defines the western commercial edge of the Anchorage Central Business District and the northern edge of the residential neighborhood of Bootlegger Cove. Cook Inlet and Knik Arm are directly west of the site, separated from the park by the Alaska Railroad tracks and Tony Knowles Coastal Trail. The site is bounded on the south by 5th Avenue and on the east by M Street. 5th Avenue is lined by single and multi-family residences. M Street is lined by parking lots, single family homes, and the Elderberry Condominium complex.

The site is triangular in shape, with the southern (5th Avenue) side approximately 320 feet long and the eastern (M Street) side being 420 feet long. The Alaska Railroad tracks and Tony Knowles Coastal Trail cut diagonally from the southwest to the north on the western side of the site and roughly represent the western boundary. The northern 100 feet of the park are not dedicated parkland, but the property, occupied by the Oscar Anderson House Museum, is owned by the Municipality of Anchorage. The Tony Knowles Coastal Trail lies partially within the park and partially on Alaska Railroad Corporation owned property. The trail crosses under the railroad tracks near the park's southwestern corner and provides trail access to approximately 11 miles of trail along the coast, with access to many other trails along its length. As such, Elderberry Park offers one of the few trail heads in the downtown area for the Tony Knowles Coastal Trail.

3. Proposed Project

In 2019, voters within the Municipality of Anchorage approved the Parks and Recreation bond that included funding for improvements at Elderberry Park. The April 2020 ballot also includes additional funding proposed for the project. Those funds will be used to implement the master plan priorities, including improved ADA access and renovation of the existing plaza and playground at this historic neighborhood park.

Project Funding:

- 2019 Municipal Park Bond: \$500,000
- 2020 Municipal Park Bond: \$250,000

The MOA Parks and Recreation Department led a community planning process to identify and prioritize the proposed improvements at Elderberry Park. This process included one open house, and one formal presentation at the South Addition Community Council. (See Appendix A – Public Involvement Materials).

The first community meeting was a public open house held on December 4, 2019 located at the Copper Whale Inn (within walking distance of the park) and was attended by members of the general public. This meeting focused on identifying and prioritizing the future improvements, as well as providing input on design themes and play features.

The Parks and Recreation Department then presented the proposed project at the February 27, 2020 South Additional Community Council meeting (see Community Meeting Summary in Appendix A) and received support for the concept site plan and priorities as outlined from those in attendance.

The Parks and Recreation Department will also present the proposed project at the next scheduled MOA Parks and Recreation Commission (originally scheduled for April 9, 2020, however due to Covid-19, PRC meetings are to be rescheduled and will be on the next agenda as an Action Item).

4. General Site Plan Review Standards

1. The site plan is consistent with any previously approved subdivision plat, planned development master plan, or any other precedent plan or land use approval.

In keeping with the Elderberry Master Plan, improvements proposed in the Project include the following:

- Inclusive Playground:
 - A new upgraded inclusive playground/plaza will be located at the northwest corner of 5th Avenue and M Street, including the following amenities:
 - Kids play for 2-5 year olds (Sand Pit and Hex Jump);
 - Kids play for 5-12 year olds (Globe Climber);
 - Cord swing (all ages);
 - Climbing wall (all ages);
 - Slide (5-12 year olds); and
 - Unitary safety surfacing;
- Improved pedestrian circulation between park users;
- LED Site Lighting;
- Site and Visual Enhancement landscaping;
- Plaza Overlook with interpretive/wayfinding signage; and
- Amenities such as Trash receptacles, Bike Racks, Picnic tables; and Benches.

2. The site plan complies with all applicable development and design standards set forth in this title, including but not limited to the provisions in chapter 21.04, Zoning Districts, Chapter 21.05, Use Regulations, chapter 21.06, Dimensional Standards and Measurements, and chapter 21.07, Development and Design Standards.

21.04 Zoning Districts: This site is zoned R-3 Mixed Residential District. This zoning district is intended primarily for multifamily and townhouse dwellings characterized by low-rise multistory buildings. The R-3 zoning district permits community gardens and parks as a by-right land use.

21.05 Use Regulations: Parks (Public or Private) are a permitted land use in accordance with Table 21.05-1, subject to major site plan review and the park complies with the requirements of Chapter 21.05.040, G.2, Park, Public or Private: Definitions and Use Specific Standards.

21.06 Dimensional Standards and Measurements: There are no structures proposed within the 20-foot front yard setback; 10-foot side yard setback; or 20-foot rear yard setback. The proposed improvements will not impact the existing lot coverage for the site.

21.07 Development and Design Standards:

21.07.040 Drainage, Storm Water Treatment, Erosion Control, and Prohibited Discharges

The site topography in the proposed development areas will include two levels of play, separated by a 4-foot tall climbing wall with a play slide. The site improvements will be graded to encourage positive drainage away via drainage swales, bioretention areas, and general sheet drainage, as required by the latest edition of the MOA Design Criteria Manual. Currently there are no underground storm drain systems within or adjacent to the site, but rather general sheet drainage/infiltration. There have been no reports of drainage issues onsite.

21.070.060 Transportation and Connectivity

The on-site pedestrian walkways are a key element to the park's circulation. One key priority of the master plan, includes minimizing conflicts between park and trail users. To this end, the proposed site plan eliminates the diagonal coast trail connection from the existing plaza. The new coastal trail connection will be part of the MOA Project Management and Engineering (PM&E) M Street project, slated for phased construction in the near future. Additionally, the proposed Plaza Overlook adds landscape islands and furniture amenities to discourage bike users riding directly through the park.

The playground's circulation paid special attention to typical children play patterns. The proposed playground circulation proposes ADA site access from the parking lot on 5th Avenue to the lower-level play area, including a less than 5% ramp up to the upper play area. Additionally, a diagonal sidewalk from the M Street intersection with steps will provide direct access to the Plaza Overlook,

creating complete pedestrian circulation through the play and plaza areas. All playground and plaza areas receiving improvements will be ADA compliant and have finished surfaces that are stabilized with either safety surfacing, asphalt pavement, or Portland cement concrete.

21.07.080 Landscaping, Screening, and Fences

The landscaping for this project falls into two categories.

1. Visual Enhancement Landscaping as required for Title 21 along 5th Avenue and
2. Site Enhancement landscaping for the rest of the project area.

The goal of the plantings is to maintain the character of Elderberry Park - large grassy open space punctuated with large, mature trees while at the same time introducing a contemporary palette of Paper Birches, Grasses, Boulders and Dwarf Shrubs (such as red-twig dogwoods and viburnums) with a few special interest plants to complement the specialty paving and salvaged rail themed site furnishings.

Our proposed Visual Enhancement plantings along 5th Avenue integrate the mature tall spruce and existing large lilac at the corner of M and 5th. A more typical, rhythmic planting bed of birch trees, shrubs, and grasses fills the sloped area between the fence and sidewalk area, with a 5' wide grass strip along the narrow sidewalk to facilitate snow storage, lawn maintenance, and to work around the existing Planet Walk, electrical boxes, and other road signs. There is one length fence proposed that serves as a barricade between the playground and 5th avenue. It will share the same color palette of the play equipment – that is galvanized steel and wood.

21.07.090 Off-Street Parking and Loading

There are no additional requirements for off-street parking for the playground areas, per Table 21.07-4. The existing parking lot to the southwest of the Park will remain in its current configuration.

21.07.100 Exterior Lighting

The existing site lighting for the site will be upgraded to LED light fixtures, improving the visibility of the outdoor playground areas.

3. *The site plan addresses any significant adverse impacts that can reasonably be anticipated to result from the use, by mitigating or offsetting those impacts to the maximum extent feasible.*

There are no known significant adverse impacts raised during any of the public meetings requiring any mitigating or offsetting. The design team paid special attention to the circulation of the park in conjunction with the Tony Knowles Coastal Trail access.

4. *The development proposed in the site plan is consistent with goals, objectives and policies of the comprehensive plan.*

The table below presents key policies and strategies promulgated in Anchorage 2020, Anchorage Comprehensive Plan and the 2040 Land Use Plan, as well as the additional Adopted Elements per Anchorage Municipal Code (AMC) 21.01.080, and describes how the proposed Project fulfills these policies and strategies.

Comprehensive Plan Elements Policies and Strategies

Comprehensive Plan Element	#	Policy	Discussion of Consistency
<u>Anchorage Bowl Park, Natural Resources, and Recreation Facility Plan, 2006</u>		<i>Park Classification: Neighborhood Use. These are close-to-home recreation areas that serve one neighborhood as a focal point for residents and include areas for informal play and family and community building.</i>	Elderberry Park is a downtown park, serving the South Addition neighborhood.
<u>Anchorage 2020, Anchorage Bowl Comprehensive Plan</u>	44	<i>Design and build public improvements for long-term use.</i>	Elderberry Park is designed to meet ADA standards, as well as meeting MOA Design Criteria standards.
	47	<i>Provide distinctive public landmarks</i>	The design elements of the inclusive playground - circular playground areas, unique play features, rail theme, with a definitive Alaskan "feel".
	63	<i>Natural open space protection</i>	The large expanse of open space grass lawn area will remain to the north of the playground/plaza areas.
	86	<i>Encourage public/private collaboration</i>	Funding for project improvements were developed through strong advocacy by the local Rotary, the Alaska Railroad (donation of materials), the Anchorage Parks Foundation, and other Downtown private agencies.
Anchorage 2040 Land Use Plan	8.1	<i>Ensure all neighborhoods and communities have access to nearby parks and recreational opportunities that support well-being.</i>	Elderberry Park is located along Turnagain Arm and provides both park play and access to the Tony Knowles Coastal Trail.

5. Special Limitation Standards

The property has no Special Limitations and this section is not applicable.

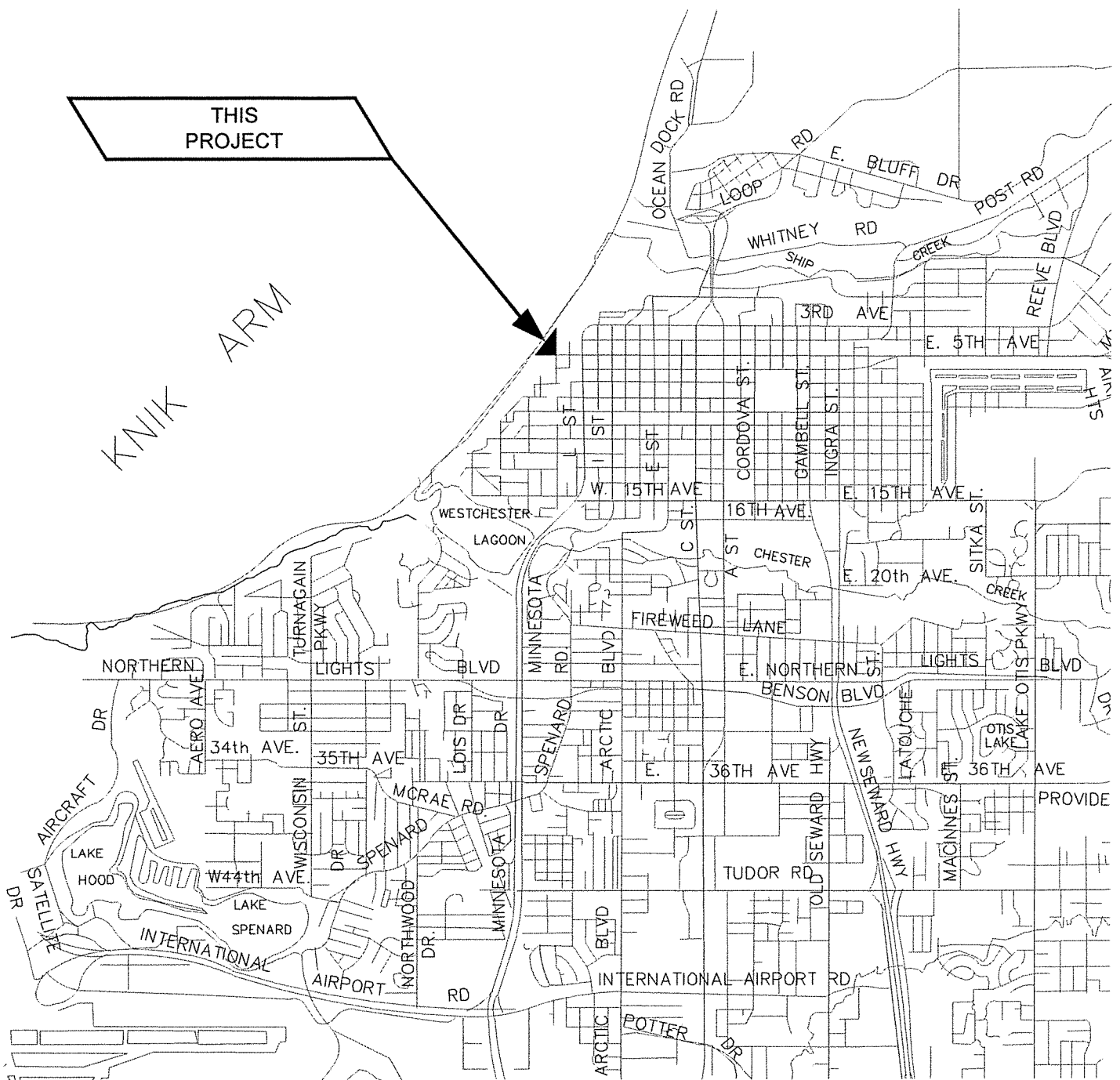
6. Phase 1 Development Schedule

Task	Activity Milestone	Completion Date
Design	Preliminary Design	February, 2020
	Construction Documents	May, 2020
Construction	Contract Award	July, 2020
	Substantial Completion	June, 2021
	Final Completion	August, 2021

7. Community Meeting Summary

Summary of Community Meetings	
<u>Date</u>	<u>Community Group</u>
December 4, 2019	Open House
February 27, 2020	South Addition Community Council
April 9, 2020 (TBD)	Parks and Recreation Commission

Reference Appendix A for Public Involvement documents, including announcements, meeting minutes, summaries, and mailer distribution list.



VICINITY MAP ANCHORAGE, ALASKA

UNOFFICIAL
GRAPHIC SCALE
0 1/4 1/2 MILE

VERIFY SCALES

BAR IS ONE INCH ON
ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALES ACCORDINGLY



St

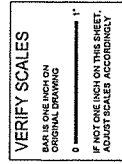
C1
C2
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2020 ELDERBERRY PARK PLAYGROUND IMPROVEMENTS

VICINITY MAP
ANCHORAGE, ALASKA

UNOFFICIAL
GRAPHIC SCALE
0 1/4 1/2 MILE



C1		TITLE SHEET
C2		NOTES, ABBREVIATIONS, AND LEGEND
C3		EXISTING CONDITIONS AND SURVEY CONTROL
C4		DEMOLITION PLAN
C5		SITE PLAN
C6		PLAYGROUND EQUIPMENT FOOTING LOCATIONS
C7		GRADING AND DRAINAGE PLAN
C8		CROSS SECTIONS
C9		DETAILS
L1		LANDSCAPE PLAN
L2		LANDSCAPE DETAILS



SITE PLAN
PLAYGROUND EQUIPMENT FOOTING LOCATIONS
GRADING AND DRAINAGE PLAN
CROSS SECTIONS
DETAILS
LANDSCAPE PLAN
LANDSCAPE DETAILS

1. CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE MUNICIPALITY OF ANCHORAGE STANDARD SPECIFICATIONS, STREETS-DRAINAGE-UTILITIES-PARKS, DATED 2015 HEREIN REFERRED TO AS M.A.S.S. (OR WASS), AS CURRENTLY AMENDED BY THE SPECIAL PROVISIONS AND THESE CONSTRUCTION DRAWINGS.
2. DRAWING SCALES ON SHEETS WITHIN THESE PLANS, IF ANY, SHOULD BE PRIOR TO USE. THESE PLANS WERE CREATED FOR 11x17 PAPER SET AND AT A SPECIFIC DRAWING SCALE. ANY REPRODUCTION OR PUBLISHING OF THESE PLANS MAY RESULT IN DISTORTION OF SCALE AND WILL BE VIEWED PRIOR TO USE.

3. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO BEGINNING CONSTRUCTION. THE PERMITS SHALL BE MAINTAINED AT THE JOB SITE.
4. FURNISH AND INSTALL 6' HEIGHT TEMPORARY CHAIN LINK FENCE AROUND THE PROJECT BOUNDARY AND STAGING AREAS DURING CONSTRUCTION. THE FENCE SHALL BE LOCKED SECURELY EVERY DAY AT THE END OF OPERATIONS. TEMPORARY FENCING SHALL BE CONSIDERED INCIDENTAL TO THIS CONTRACT AND NO SEPARATE PAYMENT SHALL BE MADE.
5. CONTRACTOR SHALL MAINTAIN "REDLINE" RECORD DRAWINGS ON A CLEAN SET OF CONSTRUCTION DRAWINGS IN ACCORDANCE WITH M.A.S.S. DIVISION 55.00 CONSTRUCTION SPECIFICATIONS FOR CONSTRUCTION SURVEY. THE "REDLINES" SHALL BE KEPT CURRENT ON A DAILY BASIS AND SHALL BE AVAILABLE TO THE ENGINEER FOR INSPECTION ON THE JOBSITE.
6. CONTRACTOR SHALL RECORD SURVEY NOTES FOR SUBMITTAL WITH AS-BUILT PLANS/DRAWINGS INCLUDING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD. CONTRACTOR SHALL RECORD ALL DEVIATIONS FROM THE DESIGN.
7. THESE NOTES CONTAIN INFORMATION NECESSARY FOR THE PROPER EXECUTION OF THE WORK CONTAINED ON THESE IMPROVEMENT DRAWINGS. THESE NOTES APPLY COMPLY WITH ALL NOTES SHOWN ON THE DRAWINGS. THE TERM "CONTRACTOR" AS USED IN THESE NOTES IS RESPONSIBLE TO THE CONTRACTOR'S SUPERVISOR. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS AND INDIVIDUALS AUTHORIZED TO PERFORM WORK SHOWN ON THESE IMPROVEMENT DRAWINGS. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL NOTES APPLICABLE TO THE WORK. ALL CONTRACTORS ARE DIRECTED TO CONTACT THE ENGINEER FOR ANY QUESTIONS REGARDING THE STATE'D OR IMPLIED MEANING OF ANY NOTE OR OTHER INFORMATION CONTAINED ON THESE IMPROVEMENT DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT THEIR CONTRACT FOR SERVICES INCLUDES THE RESPONSIBILITIES DEFINED BY THE APPLICABLE NOTES.
8. ALL QUANTITIES SHOWN HEREIN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL QUANTITIES.
9. IMPORT HAUL ROUTE: ANCHORAGE SAND AND GRAVEL: O'VALLEY ROAD - WEST DIAMOND BOULEVARD - JEWEL LAKE ROAD - WEST 88TH AVENUE.
10. EXPORT HAUL ROUTE: ANCHORAGE SAND AND GRAVEL: SAND LAKE PIKE: WEST 88TH AVENUE - JEWEL LAKE ROAD - WEST DIAMOND BOULEVARD - SAND LAKE ROAD - SAND LAKE PIT.
11. HOURS OF OPERATION: MONDAY-SATURDAY: 7AM-7PM, IN COMPLIANCE WITH THE MUNICIPAL NOISE AND HOURS OF OPERATION REQUIREMENTS DURING CONSTRUCTION IN AMC 15.02.060.B.3.

12. LOCATIONS IDENTIFIED FOR THE UTILITIES AND OTHER EXISTING FEATURES ARE APPROXIMATE. SOME UTILITIES HAVE BEEN LOCATED FROM AS-BUILT DRAWINGS AND SOME FROM UTILITIES COMPANY LOCATIONS. LOCATIONS SHOWN ON THESE DRAWINGS ARE NOT GUARANTEED TO BE CORRECT. THE CONTRACTOR SHALL DOCUMENT THE AREA, UPON DISCOVERY OF UNDOCUMENTED UTILITIES THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER. THE CONTRACTOR SHALL DOCUMENT THE LOCATION, DEPTH, AND TYPE OF UTILITY AND PROVIDE THIS INFORMATION TO THE ENGINEER.

13. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING ALL UTILITIES AND PERFORMING ANY NECESSARY VERIFICATION PRIOR TO CONSTRUCTION.
14. (UNDERGROUND) OVERHEAD ELECTRICAL AND TELECOMMUNICATION LINES (AND POLES) OCCUR NEAR THE PROJECT AREA. CONTRACTOR SHALL COORDINATE WORK (INCLUDING) ALL WORK IN CLOSE PROXIMITY TO EXISTING (OVERHEAD) UNDERGROUND (LINES AND POLES) SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, AND LOCAL STATUTES, CODES AND GUIDELINES, AND THE ELECTRICAL FACILITY CLEARANCE REQUIREMENTS OF THE GOVERNING UTILITY.
15. HAND DIGGING IS REQUIRED WITHIN TWO FEET OF BURIED ELECTRICAL CABLE. SOME UTILITIES HAVE BEEN LOCATED FROM AS-BUILT DRAWINGS AND MAY NOT BE VISIBLE.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL EXISTING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION. WHETHER OR NOT SAID UTILITIES ARE SHOWN ON THE PLANS, THIS RESPONSIBILITY INCLUDES CONTACTING THE UTILITY COMPANIES FOR RECORDS AND FOR OBTAINING ANY CONTROLLING PARTY TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR.

17. EXACT LOCATION OF EXCAVATION AND BACKFILL SHALL BE AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.

18. ORGANIC MATERIAL SHALL BE REMOVED FROM THE SUBGRADE TO A DEPTH TO BE DETERMINED BY THE ENGINEER. NO ORGANIC MATERIAL OR OTHER DELETERIOUS MATERIAL SHALL BE UTILIZED FOR BACKFILL.

19. DEWATERING IS NOT ANTICIPATED FOR THIS PROJECT. IF DEWATERING IS REQUIRED, REFER TO MASS. ANY SUCH DEWATERING EFFORTS SHALL BE CONSIDERED INCIDENTAL TO THIS CONTRACT.

20. CLASSIFIED FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 12-INCHES IN DEPTH AND SHALL BE COMPACTED TO 95% M.D.O.
21. NO FROZEN SOILS CAN BE USED IN FILLS. NO FILL CAN BE PLACED OVER FROZEN GROUND
22. ALL AREAS TO BE FILLED SHALL BE CLEARED OF VEGETATION AND ROOT MAT.
23. FINISH GRADE (FG) REPRESENTS THE ELEVATION OF THE FINISHED SURFACE INCLUDING WORK (W/C). THIS INCLUDES LANDSCAPE AREAS, PAVED OR CONCRETE SURFACES, ROCK RIP-RAP SURFACE AND ELEVATION AT EXTERIOR OF STRUCTURE FOUNDATION, UNLESS OTHERWISE DENOTED ON DETAIL OR SPECIAL LABEL. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST SUBGRADE OR TOPSOIL TO ALLOW FOR FINISHED SURFACE MATERIAL DIMENSIONS.

24. WORK AND MATERIALS REQUIRED FOR REMOVING LITTER OR DEBRIS THAT EXISTS WITHIN THE PROJECT LIMITS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT SHALL BE MADE.

25. CONTRACTOR SHALL RESTORE DISTURBED PROPERTY, INCLUDING STAGING AREAS, TO PRE-CONSTRUCTION CONDITION(S), UNLESS OTHERWISE DIRECTED BY THE PROJECT MANAGER. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING UTILITIES AND SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO SEPARATE PAYMENT SHALL BE MADE UNLESS THESE AREAS HAVE BEEN IDENTIFIED ON THE PLAN AS AREAS ASSOCIATED WITH SCHEDULED BIO ITEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL RESTORED AREAS UNTIL ACCEPTED BY THE OWNER.

AMERICAN WITH DISABILITIES ACT OF 1990
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION
ASPHALTIC CONCRETE

- [illegible]

EXISTING CMP CULVERT
EXISTING WATER KEY
EXISTING FIRE HYDRANT
EXISTING SEWER MANHOLE
EXISTING STORM DRAIN MANHOLE
EXISTING STORM DRAIN LINE

- EXISTING SIGN
EXISTING BOLLARD
EXISTING VEHICLE GATE
EXISTING SANITARY SEWER
EXISTING WATER
EXISTING IRRIGATION LINE
EXISTING EDGE OF PAVEMENT
EXISTING PROPERTY LINE
EXISTING FENCE LINE
EXISTING VEGETATION
EXISTING ASPHALT TO BE REMOVED
EXISTING CONCRETE SURFACE
PROPOSED ASPHALT SURFACE
EXISTING PAVED SURFACE
PROPOSED ENGINEERED WOOD
SOF -FALL SURFACE
PROPOSED CONTOUR LINE
EXISTING CONTOUR LINE
PROPOSED SWALE
SLOPE PERCENT
SLOPE INDICATOR



Know what's **below**.
Call before you dig.

[illegible]

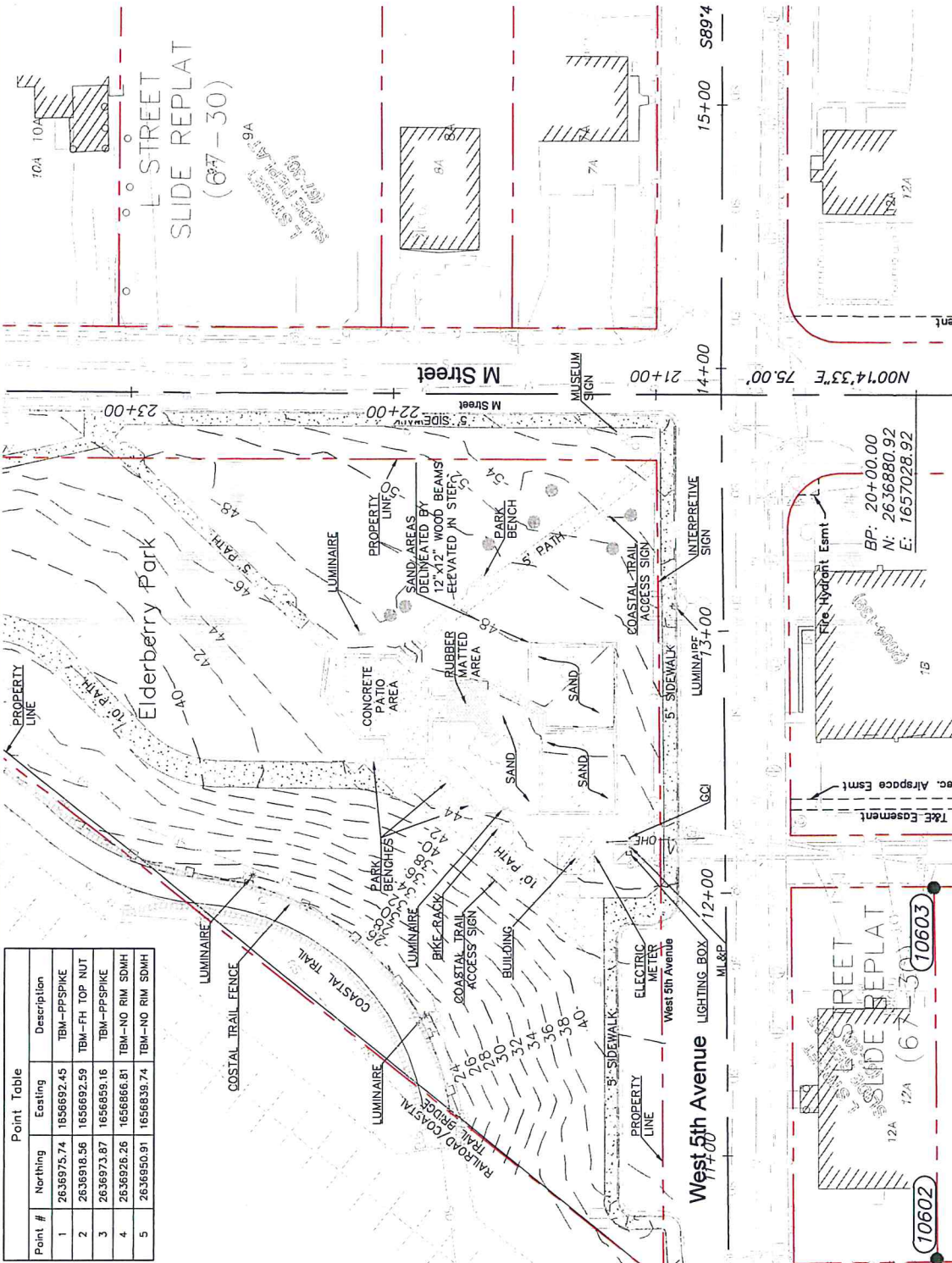
SURVEY NOTES:

- The field survey was performed by The Boutet Company, Inc. October, 2019. Field survey information for this project is located in the Boutet Company MOA field book, page ____.
- A title search was not performed. Easements of record other than those shown on the recorded plats are not shown herein.
- All disturbed property corners shall be replaced by the contractor in accordance with Special Provision 55.02, Article 21 Project Control.
- The Basis of Bearings and coordinates is NAD83(2011) (EPOCH 2010) Alaska State Plane Zone 4 grid from GPS observations from operating real time control networks (see note 7).
- Coordinates are NAD83(2011) (EPOCH 2010) Alaska State Plane Zone 4, expressed in U.S. Survey Feet.
- To convert from NAD83(2011) (EPOCH 2010) Alaska State Plane Zone 4 coordinates to NAD83(2011) (EPOCH 2010) Alaska State Plane Zone 4, 1,000,000,000.00 and Translating using -2,296,868.6878 N, -1,312,317.4904 E.
- Elevations are expressed in NAVD83 (North American Vertical Datum, 1985 adjustment) in feet. The control and much of this survey was performed utilizing various operating Real Time Control Networks (RTN) performed utilizing various operating Real Time Control Networks (RTN) the ellipsoid elevations. Static GPS data was submitted for various control stations to the NGS OPUS (Online Positioning User System) for verification.
- Property lines, imagery and other information are per MOA GIS data; Subdivision Plats and other recorded data should be referred to before construction activities begin.
- Refer to civil plans for alignment data.

LEGEND

SET CONTROL AS NOTED

Point #	Northing	Easting	Description
1	2636975.74	1656692.45	TBM-PPSPIKE
2	2636918.56	1656692.59	TBM-FH TOP NUT
3	2636973.87	1656693.16	TBM-PPSPIKE
4	2636926.26	1656686.81	TBM-NO RIM SDMH
5	2636950.91	1656639.74	TBM-NO RIM SDMH



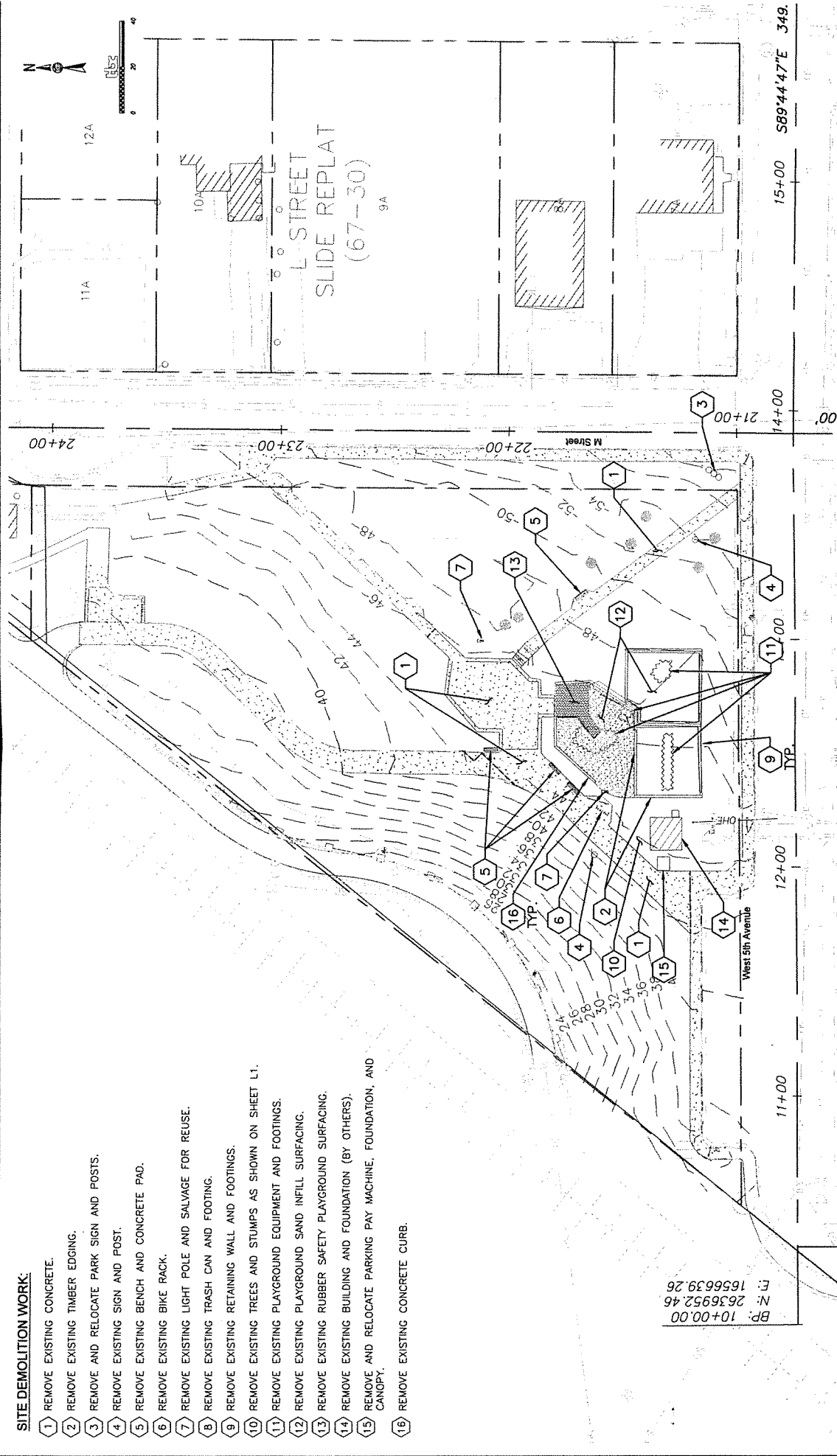
BP: 10+00.00
N: 2636952.46
E: 1656639.26



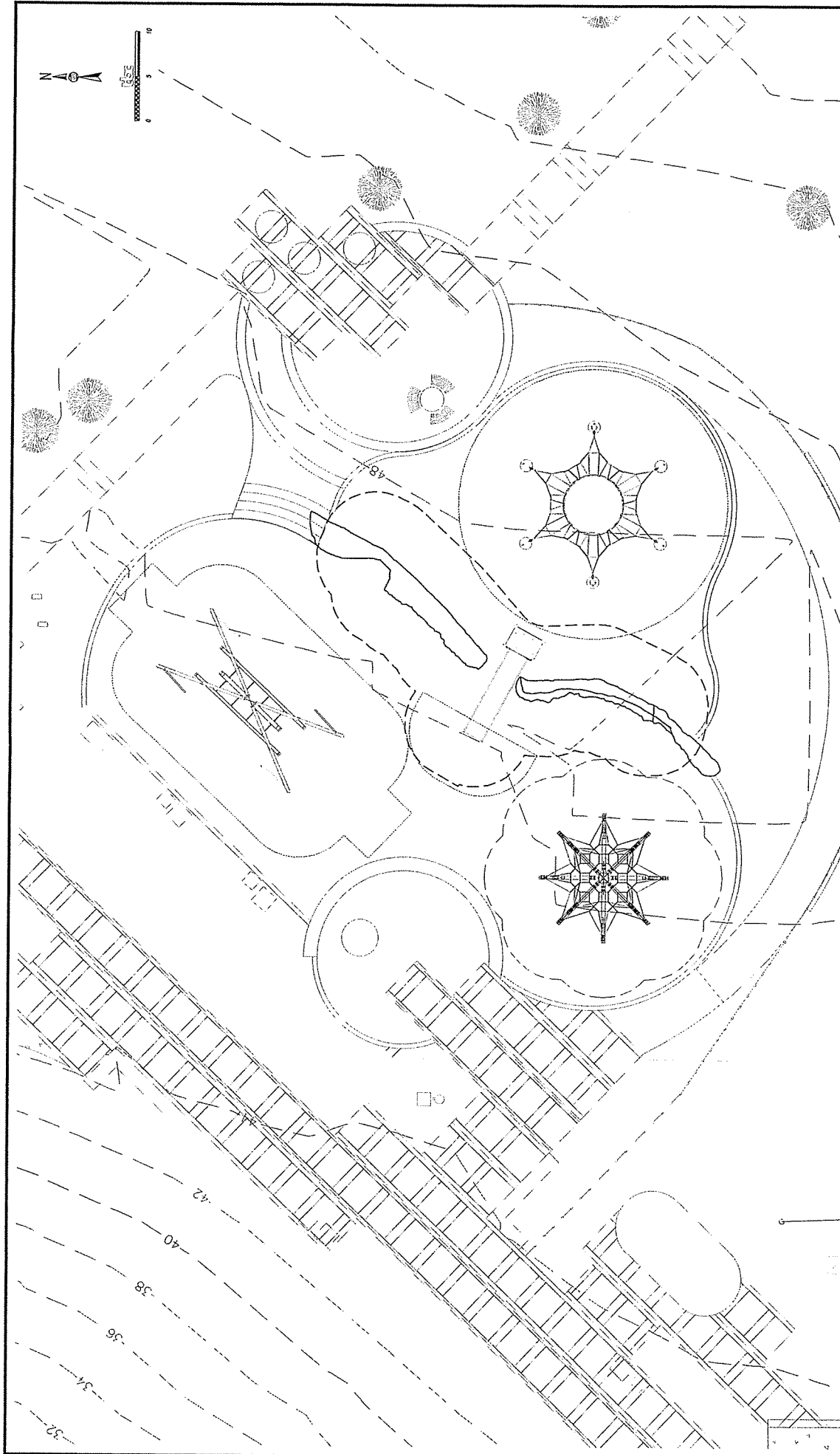
		PARKS AND RECREATION DEPARTMENT ELDERBERRY PARK & PLAYGROUND ANCHORAGE, ALASKA 99508 EXISTING CONDITIONS AND SURVEY CONTROL	
Healthy Parks Healthy People		DATE: 10/20/20 SCALE: HOR. 1"=40' VERT. 1"=10'	SHEET: C3 TOTAL SHEETS: C9
Department of Parks and Recreation Municipality of Anchorage		CONSULTANT:	

SITE DEMOLITION WORK:

- 1 REMOVE EXISTING CONCRETE.
- 2 REMOVE EXISTING TIMBER EDGING.
- 3 REMOVE AND RELOCATE PARK SIGN AND POSTS.
- 4 REMOVE EXISTING SIGN AND POST.
- 5 REMOVE EXISTING BENCH AND CONCRETE PAD.
- 6 REMOVE EXISTING BIKE RACK.
- 7 REMOVE EXISTING LIGHT POLE AND SALVAGE FOR REUSE.
- 8 REMOVE EXISTING TRASH CAN AND FOOTING.
- 9 REMOVE EXISTING RETAINING WALL AND FOOTINGS.
- 10 REMOVE EXISTING TREES AND STUMPS AS SHOWN ON SHEET L1.
- 11 REMOVE EXISTING PLAYGROUND EQUIPMENT AND FOOTINGS.
- 12 REMOVE EXISTING PLAYGROUND SAND INFILL SURFACING.
- 13 REMOVE EXISTING RUBBER SAFETY PLAYGROUND SURFACING.
- 14 REMOVE EXISTING BUILDING AND FOUNDATION (BY OTHERS).
- 15 REMOVE AND RELOCATE PARKING PAY MACHINE, FOUNDATION, AND CANOPY.
- 16 REMOVE EXISTING CONCRETE CURB.



		PARKS AND RECREATION DEPARTMENT ELDERBERRY PARK & PLAYGROUND ANCHORAGE, ALASKA 99506	
		DEMOLITION PLAN	
SCALE: 1" = 40' SHEET: C4	DATE: 10/20/20 DESIGNED: [blank] DRAWN: [blank]	SCALE: 1" = 40' SHEET: C9	DATE: 10/20/20 DESIGNED: [blank] DRAWN: [blank]



HC
 The H&C Company, Inc.
 4000 S. 10th Ave.
 Anchorage, AK 99508
 P: 907.552.8773
 F: 907.552.8773
 U: 907.552.8773

SEAL

Department of
Parks and
Recreation
Municipality of
Anchorage



Healthy
Parks
Healthy
People



CITY OF ANCHORAGE

PARKS AND RECREATION DEPARTMENT

ELDERBERRY PARK & PLAYGROUND

ANCHORAGE, ALASKA 99508

PLAYGROUND EQUIPMENT FOOTING LOCATIONS

SCALE: 1" = 20'

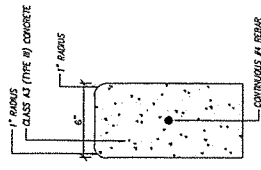
DATE: 10/20/2010

DRAWN: JWS

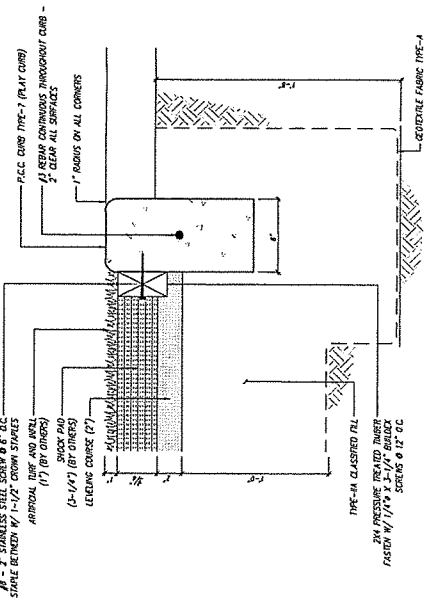
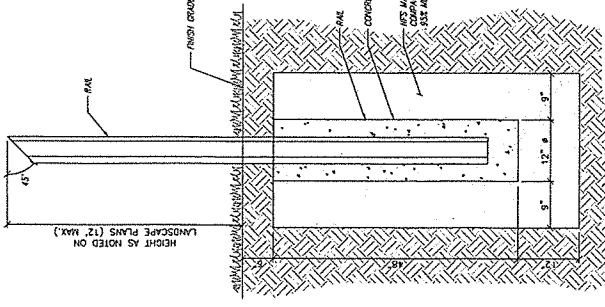
CHECKED: JWS

STATUS: NOT FOR CONSTRUCTION

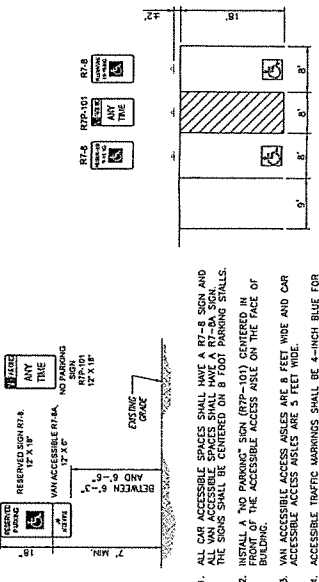
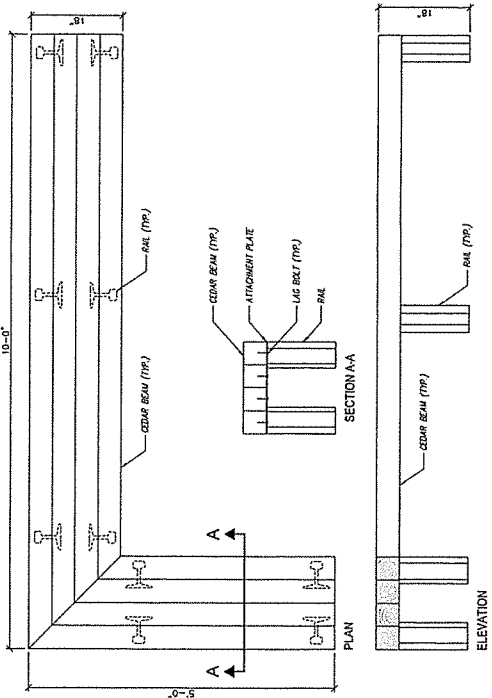
SHEET: C6 OF C9



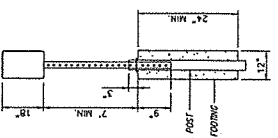
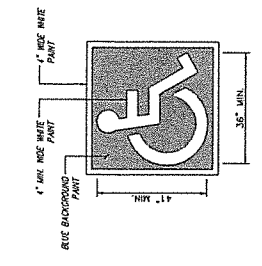
1. EXPANSION JOINT SHALL BE PLACED BEHIND CURBING ADJACENT TO OTHER PROPOSED CONCRETE SURFACES.
2. TRANSVERSE CONTRACTION JOINTS SHALL BE CUT TO A DEPTH OF 1-INCH PRIOR TO THE FINAL SET OF CONCRETE AT INTERVALS OF 10 FEET.



- NTS
1. EXPANSION JOINT SHALL BE PLACED BEHIND CURBING ADJACENT TO OTHER PROPOSED CONCRETE SURFACES.
 2. TRANSVERSE CONTRACTION JOINTS SHALL BE CUT TO A DEPTH OF 1-INCH PRIOR TO THE FINAL SET OF CONCRETE AT INTERVALS OF 10 FEET.



1. ALL CAR ACCESSIBLE SPACES SHALL HAVE A R7-8 SIGN AND ALL VAN ACCESSIBLE SPACES SHALL HAVE A R7-9 SIGN. THE SIGNS SHALL BE CENTERED ON 8 FOOT PARKING STALLS.
2. INSTALL A "NO PARKING" SIGN (R7P-101) CENTERED IN FRONT OF THE ACCESSIBLE ACCESS ASILE ON THE FACE OF BUILDING.
3. VAN ACCESSIBLE ACCESS ASILES ARE 8 FEET WIDE AND CAR ACCESSIBLE ACCESS ASILES ARE 5 FEET WIDE.
4. ACCESSIBLE TRAFFIC MARKINGS SHALL BE 4-INCH BLUE FOR SPACES/ ASILE STRIPING, AND INCLUDE FACE OF CURB.



PLANTING SCHEDULE

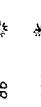
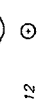
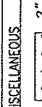
QTY.	SYMBOL	LABEL	LATIN NAME	COMMON NAME	SIZE	FURNISHED
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2		LS	LARIX SIBIRICA	SIBERIAN LARCH	6' HT.	B&B
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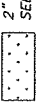
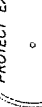
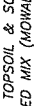
DECIDUOUS TREES

6		BP	BETULA Papyrifera	PAPER BIRCH	2" CAL.	B&B
2		MBP	BETULA Papyrifera	MULTISTEM PAPER BIRCH	2" CAL.	B&B
1		PM	AMELANCHIER X GRANDIFLORA	AMELANCHIER X AUTUMN BRILLIANCE	2" CAL.	B&B

SHRUBS, GRASSES & PERENNIALS

16		CS	CORNUS SANGUINEA	'Ardic, Fire' DWARF REDTIDING DOGWOOD	30" HT.	POTTED
70		GF	CALAMAGROSIS X ACUTIFOLIA	'ELDORADO' GOLDEN FEATHER REED GRASS	14" HT.	POTTED
86		KF	CALAMAGROSIS X ACUTIFOLIA	'KARL FORSTER' GOLDEN FEATHER REED GRASS	14" HT.	POTTED
144		DC	DESCHAMPSIA CESPIOSA	'BRONZESCHLEIER' BRONZE VEIL TUFTED HAIR GRASS	14" HT.	POTTED
3		DC	FORSTYTHIA	'MEADOWLARK' MEADOWLARK FORSTYTHIA	36" HT.	POTTED
12		SB	SPIREA BETULIFOLIA	BIRCH LEAVED SPIREA	18" HT.	POTTED
25		SS	SEDUM SPECTABILE	'AUTUMN FIRE' STONECROP	12" HT.	POTTED
20		VT	VIBURNUM TRILOBUM	'BAILEY COMPACT' CRANBERRY	36" HT.	POTTED

MISCELLANEOUS

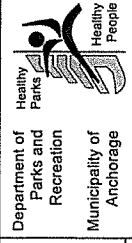
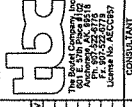
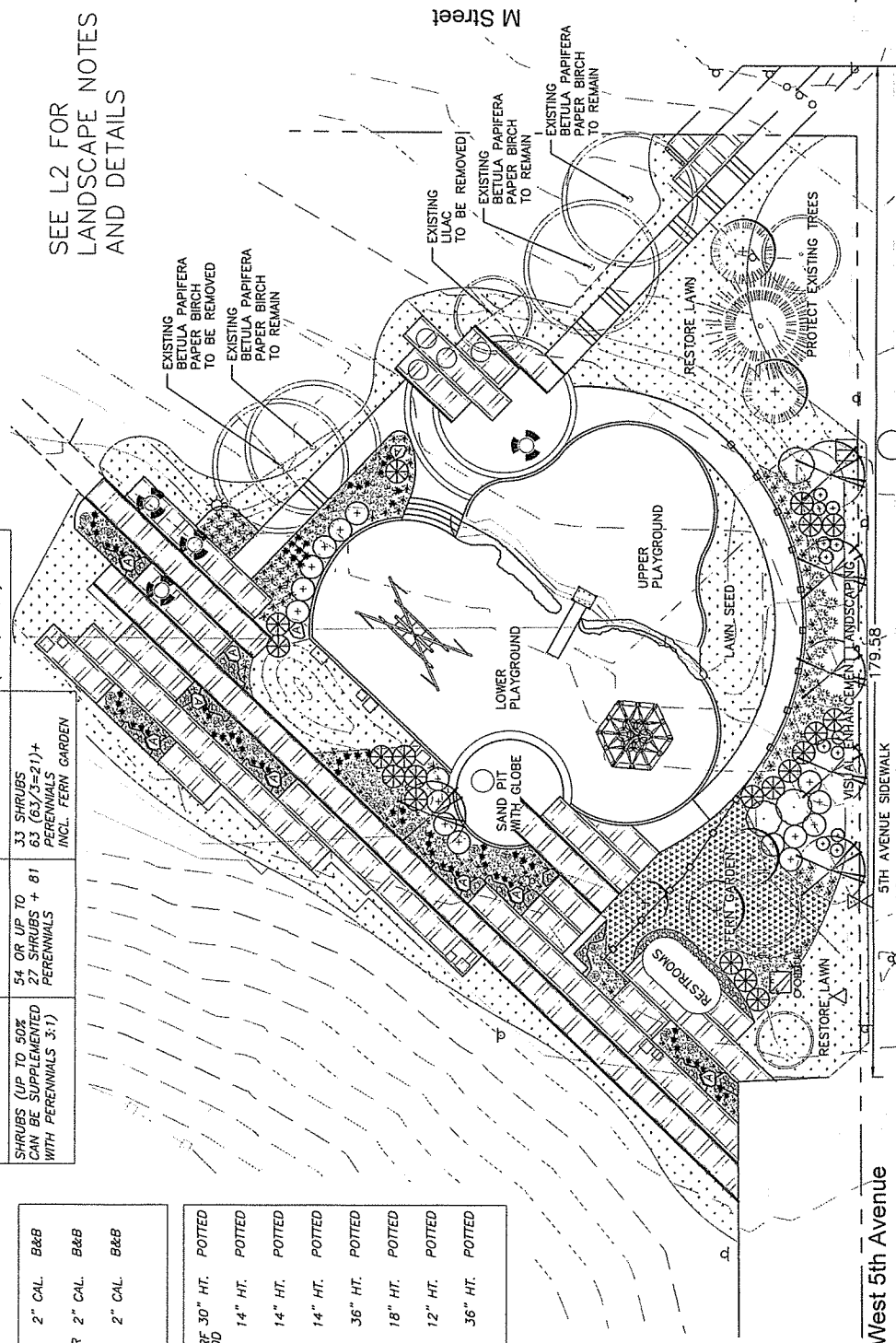
	2" TOPSOIL & SCHEDULE-A SEED MIX (MOVABLE)
	3" GRAVEL MULCH OVER FABRIC
	ALL OTHER AREAS TO RECEIVE BARK MULCH
	12" TOPSOIL & FERN PLANTING MATRIX MIX
	Matteuccia struthiopteris Ostrich Fern
	Athyrium filix-femina ssp. cyclosorum Lady Fern
	Ligularia stenocephala 'The Rocket'
	1 plant per 1.5 sq (73sq = 48 plants)
	10 BOULDER-A
	PROTECT EXISTING VEGETATION
	EXISTING VEGETATION TO BE REMOVED

VISUAL ENHANCEMENT LANDSCAPING (180LF)

LANDSCAPE ELEMENT	REQUIRED	PROPOSED	EXISTING
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TREES CAN INCLUDE EXISTING MATURE TREES	9	5 SINGLE STEM BIRCH 2 MULTI STEM BIRCH 2 LARCH	1 EX. 50"+ SPRUCE 1 EX. 12" LILAC 2 EX. MOUNTAIN ASH (1 12', 1 20')
SHRUBS (UP TO 50% CAN BE SUPPLEMENTED WITH PERENNIALS 3:1)	54 OR UP TO 27 SHRUBS + 81 PERENNIALS	33 SHRUBS 63 (G3/3=21)+ PERENNIALS INCL. FERN GARDEN	

SEE L2 FOR
LANDSCAPE NOTES
AND DETAILS



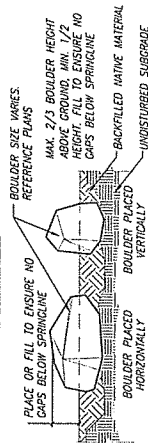
Department of
Parks and
Recreation
Municipality of
Anchorage

PARKS AND RECREATION DEPARTMENT
ELDERBERRY PARK & PLAYGROUND
ANCHORAGE, ALASKA 99501

LANDSCAPE PLAN

DATE: 4/20/00
SHEET: 12
SCALE: 1/8" = 1'-0"

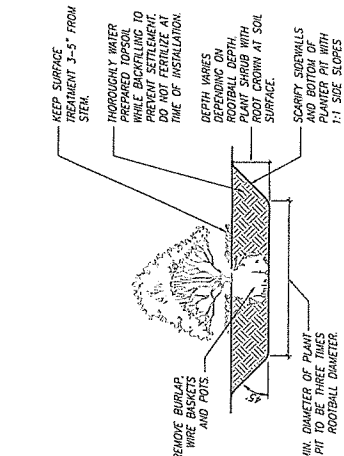
LANDSCAPE BOULDER SIZING SCHEDULE			
BOULDER CIRCUMFERENCE HEIGHT SYMBOL	(± 2 FT.)	(± 0.5 FT.)	
Ⓐ	12 FT.	4'	
Ⓑ	9 FT.	3'	



NOTES:
1) LOCATION AND ORIENTATION OF PLACED ROCKS SHALL BE FIELD VERIFIED BY OWNER'S REPRESENTATIVE.
2) ROCKS SHOULD BE NO HIGHER THAN 24" ABOVE ANY ADJACENT GRADE.
3) HEIGHT IS MEASURED PERPENDICULAR TO AXIS USED FOR DETERMINING CIRCUMFERENCE.

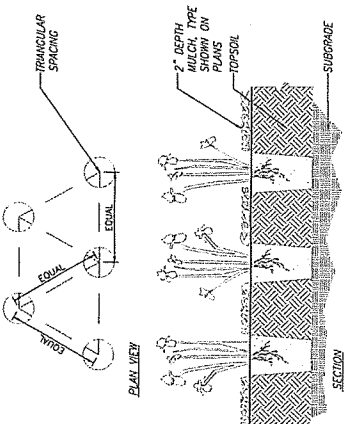
5 LANDSCAPE BOULDERS

SCALE: 1/2" = 1'-0"



1 SHRUB PLANTING

SCALE: 1/2" = 1'-0"

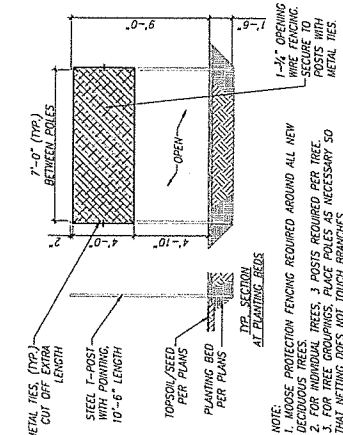


2 PERENNIAL PLANTING

SCALE: 1/2" = 1'-0"

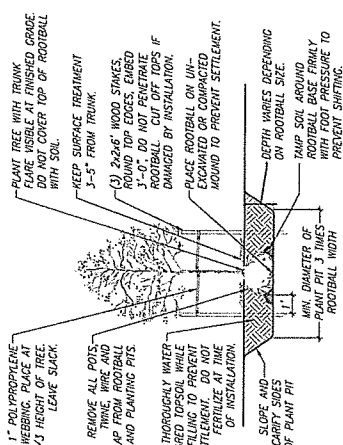
LANDSCAPING NOTES

- LANDSCAPE PLANTING DETAILS AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST CURRENT VERSION OF THE MUNICIPALITY OF ANCHORAGE STANDARD SPECIFICATIONS (M.A.S.S.) UNLESS OTHERWISE NOTED.
- ALL PLANT MATERIAL SHALL CONFORM TO AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-2014.
- RESTORE AREAS DISTURBED BY CONSTRUCTION WITH 2" TOPSOIL AND SEED UNLESS OTHERWISE INDICATED ON PLANS.
- CONTRACTOR TO GUARANTEE PLANT ESTABLISHMENT THROUGH MAINTENANCE. WARRANTY PERIOD SHALL BE ONE GROWING SEASON FROM DATE OF INSTALLATION, IN ACCORDANCE WITH M.A.S.S.
- PLANTING BEDS, UNLESS OTHERWISE IDENTIFIED ON THE PLAN, SHALL RECEIVE MIN 18" DEPTH TOPSOIL AND MIN. 3" DEPTH SHREDDED BARK MULCH.
- DO NOT APPLY HYDROSEEDING PRODUCT OR SEED MIX IN THE MULCHED AREA AROUND STEM OR TRUNK OF NEW PLANTINGS.
- REFER TO SHEET L2 FOR LANDSCAPE PLANTING DETAILS.
- ALL DECIDUOUS TREES SHALL RECEIVE MOOSE PROTECTION FENCING PER 3/L2.



3 MOOSE PROTECTION

SCALE: 1/2" = 1'-0"



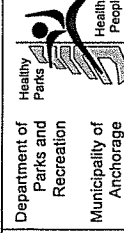
4 DECIDUOUS TREE PLANTING-STAKED

SCALE: 1/2" = 1'-0"



CONSULTANT

SEAL



PARKS AND RECREATION DEPARTMENT
ELDERBERRY PARK & PLAYGROUND
ANCHORAGE, ALASKA 99508
LANDSCAPE DETAILS

DATE: 4-2022
SCALE: 1/2" = 1'-0"
SHEET: 12
L2

LUMINAIRE SCHEDULE											
CALLOUT	SYMBOL	MODEL	DESCRIPTION	MOUNTING	LAMP	BALLAST	INPUT WATTS	VOLTS	TOTAL LUMENS	QUANTITY	NOTE 1
D25W		LITVONIA LIGHTING, DS52 LED P1 40K 15W INVOLT	AREA LIGHT TYPE 75W OPTIC 1945B LUMENS 40K	POLE	(1) LED,	ELECTRONIC	140	MULTIPLE	0	3	25' MOUNTING HEIGHT

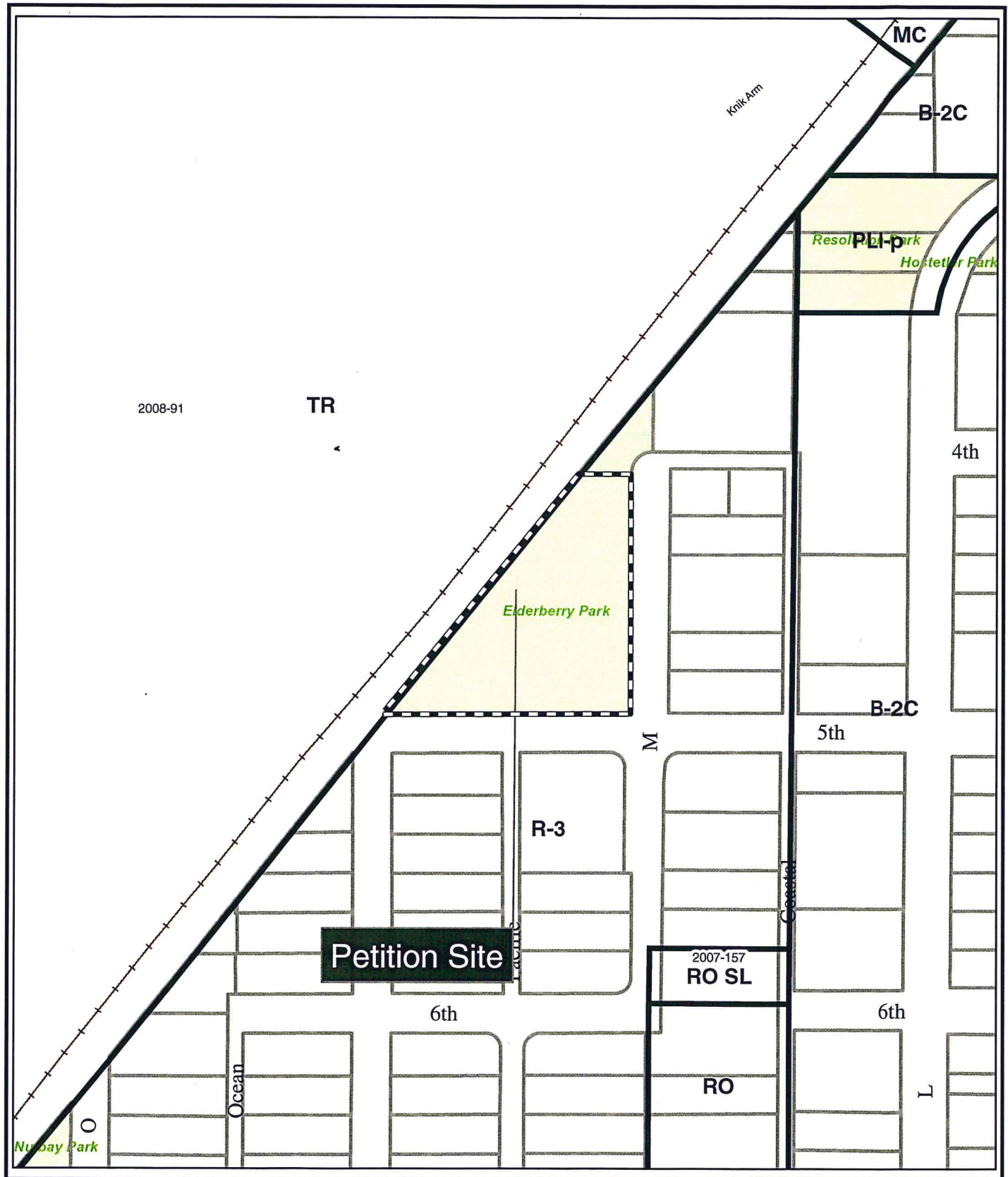
CONTRACTOR TO VERIFY FIXTURE COUNT

- NOTES:

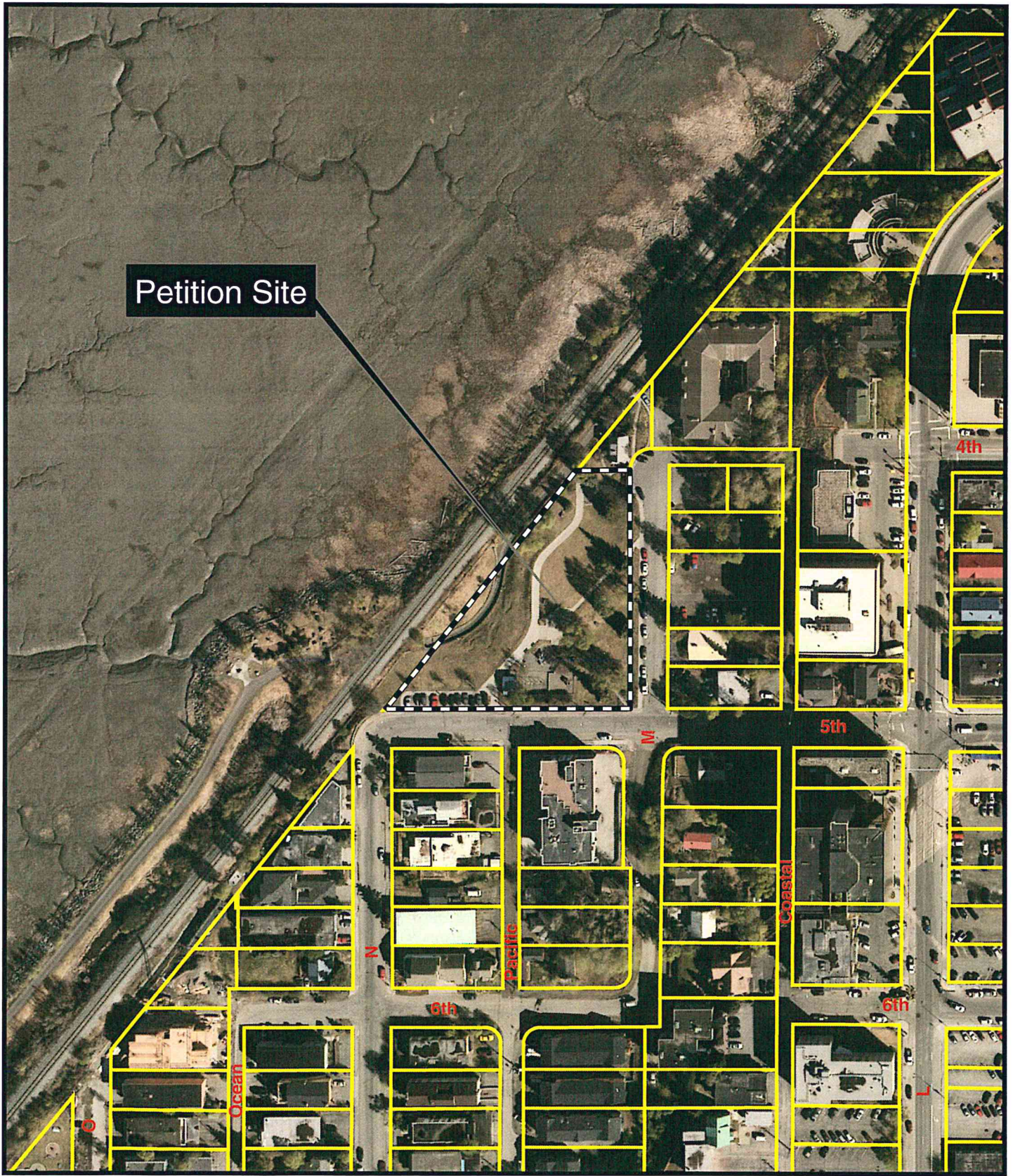
PARK ILLUMINATION SCHEDULE	
AVERAGE FOOT-CANDELES	1.29
MAXIMUM FOOT-CANDELES	2.58
MINIMUM FOOT-CANDELES	0.24
MINIMUM TO MAXIMUM FC RATIO	0.09
MAXIMUM TO MINIMUM FC RATIO	10.89
AVERAGE TO MINIMUM FC RATIO	5.32

LUMINAIRE STATIONING SCHEDULE					
POLE #	LUMINAIRE MOUNTING HEIGHT	MAST ARM LENGTH	NORTHING	EASTING	NOTES
1	25	1			
2	25		1		
3	25	1			

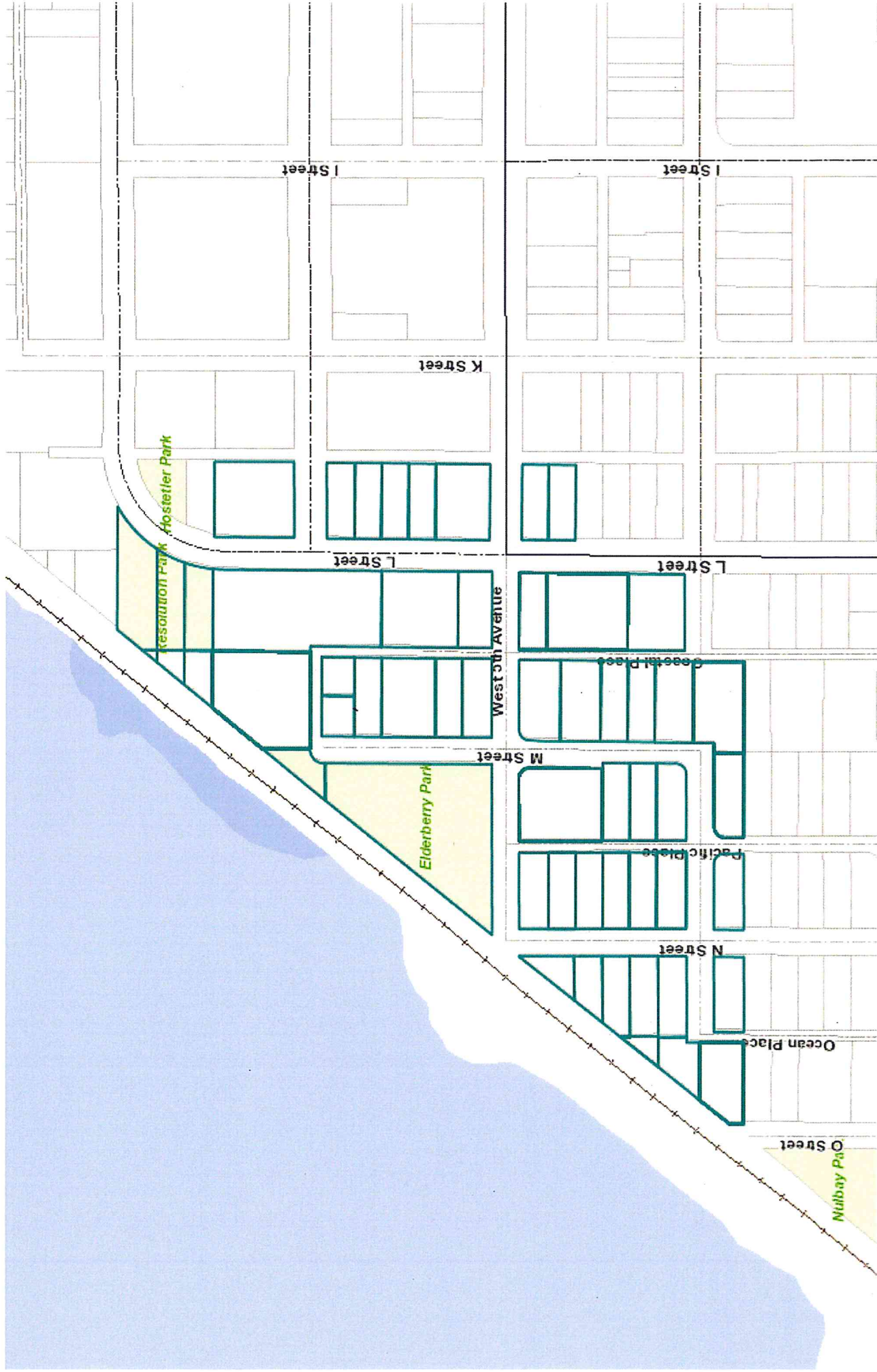
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2020-0076



Anchorage



2020-0076 PHN map
Distance = 900' (54 parcels)

APPENDIX A

PUBLIC
INVOLVEMENT
MATERIALS



**Municipality of Anchorage Parks and
Recreation welcomes you to...**

Elderberry Park Open House

PARK MAKEOVER COMING SOON!

**SHARE YOUR IDEAS &
SELECT A PLAY THEME!**



**DEC. 4, 2019
6 PM TO 8 PM
COPPER WHALE INN**

Light snacks provided, all are welcome!



BETTISWORTH NORTH



MASTER PLAN

ELDERBERRY PARK

ANCHORAGE, AK
ALTERNATIVE 2

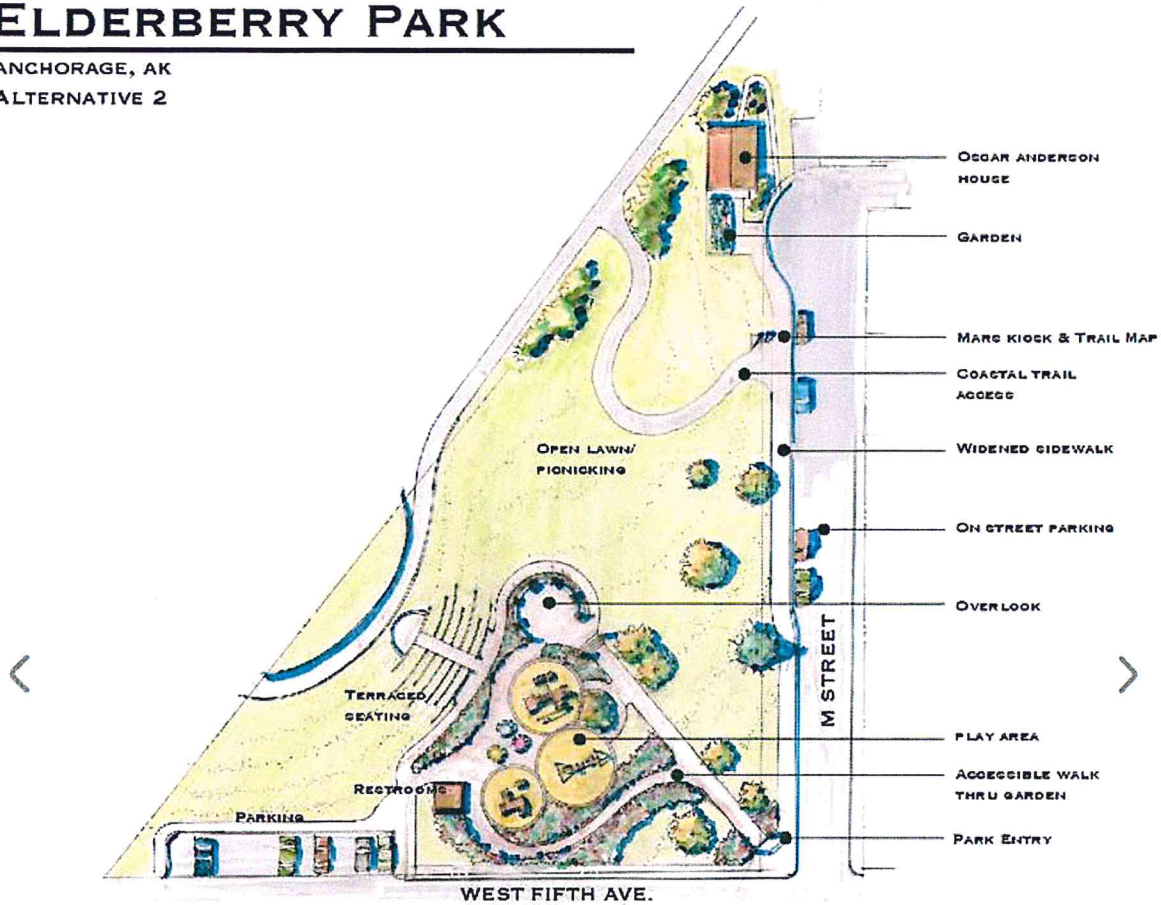
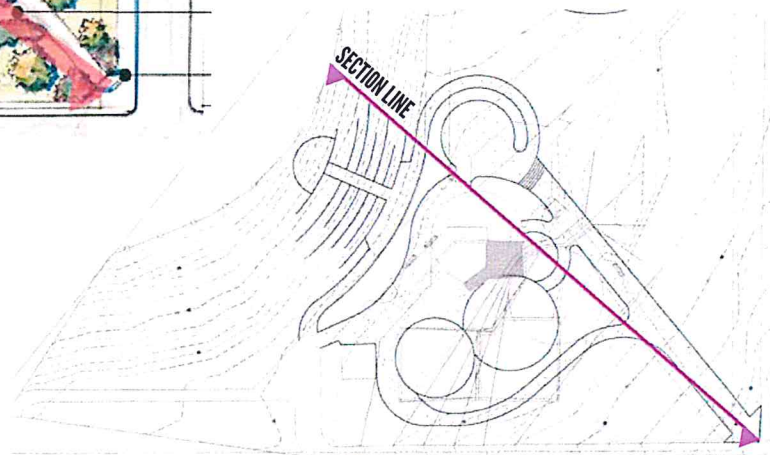
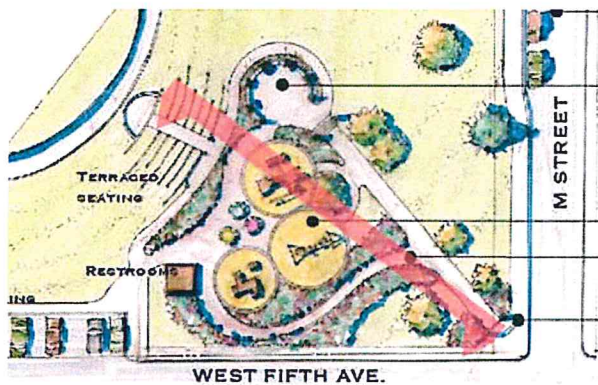
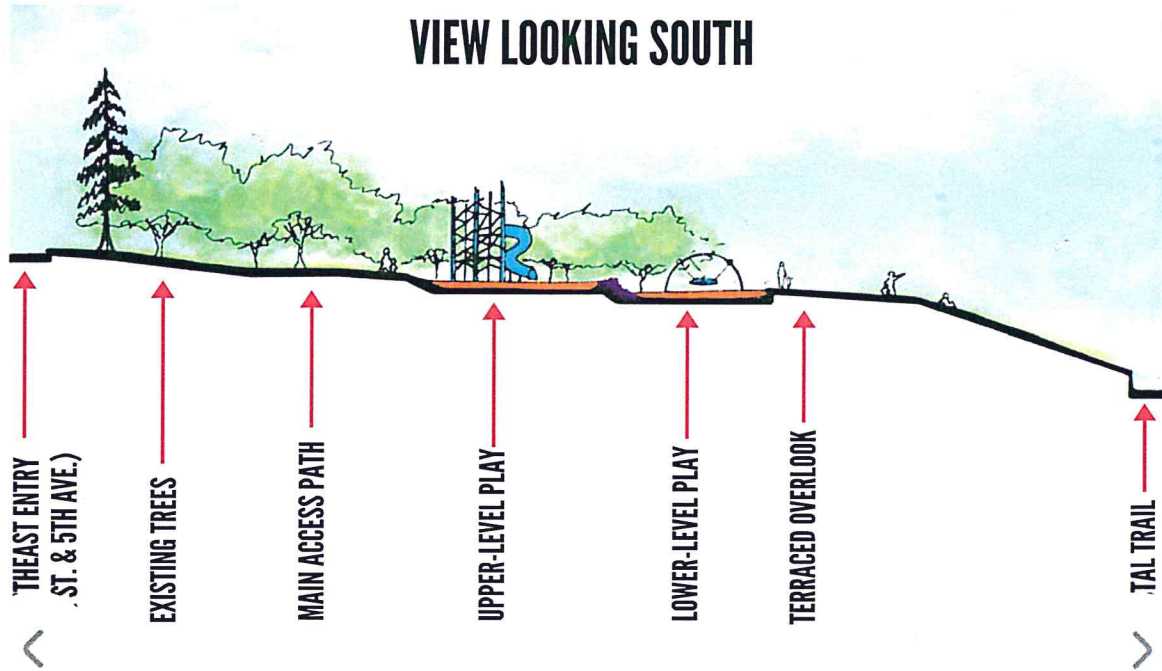


Figure 30: Alternative 2 showing access to the Coastal Trail inside the Park

PLAY AREA (ENLARGED)



PLAY AREA SECTION



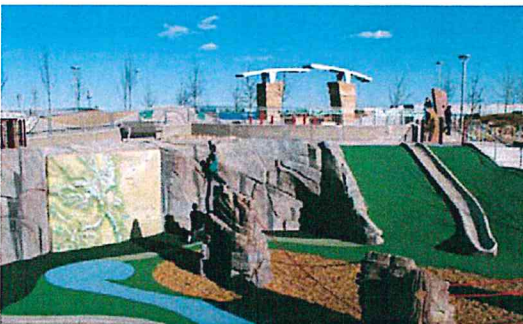
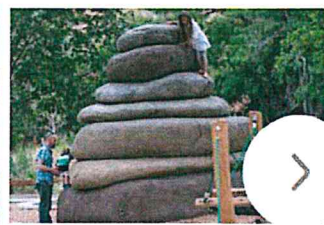
PLAY THEMES

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PLAY FEATURES

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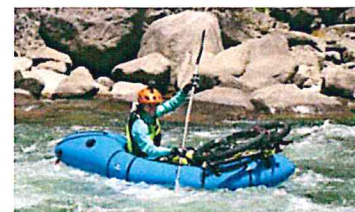
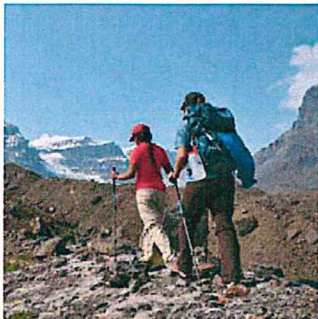
PLAY FEATURES

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PLAY THEMES

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PLAY FEATURES

TRAVEL: HOW DO YOU LIKE TO EXPLORE?

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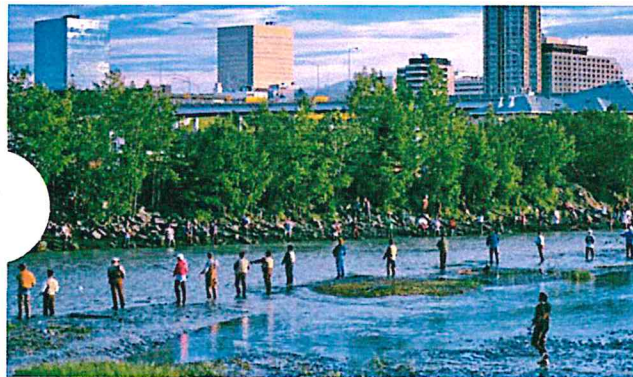


PLAY THEMES

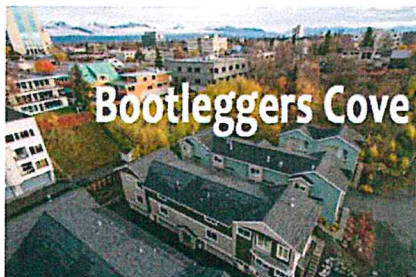
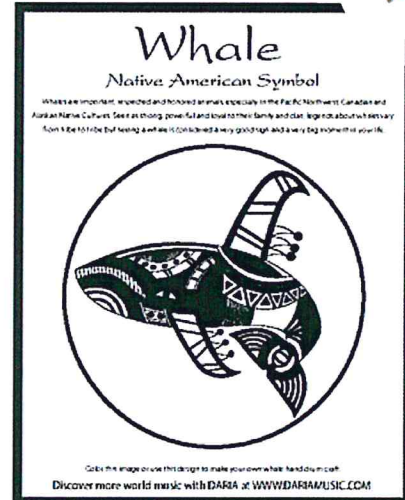
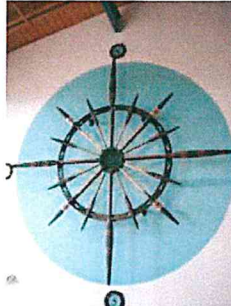
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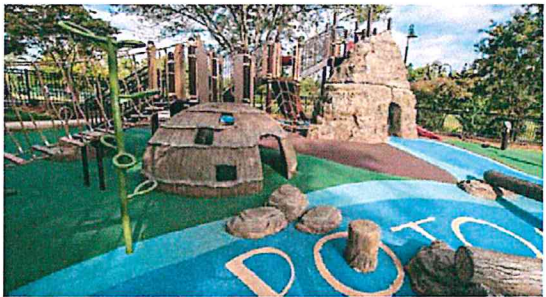
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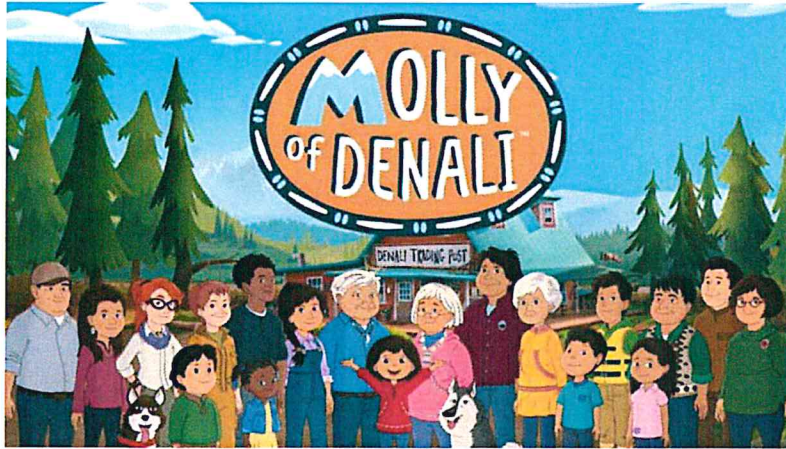
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INSPIRATION

ALASKA NATIVE VALUES (CREDIT: MOLLY OF DENALI)

<https://pbskids.org/molly>



- < Showing Respect to Others – Each Person Has a Special Gift >
2. Sharing What You Have – Giving Makes You Richer
 3. Knowing Who You Are – You Are an Extension of Your Family
 4. Accepting What Life Brings – You Cannot Control Many Things
 5. Having Patience – Some Things Cannot Be Rushed
 6. Living Carefully – Your Actions Have Consequences
 7. Taking Care of Others – You Cannot Live Without Them
 8. Honoring Your Elders – They Show You the Way in Life
 9. Seeing Connections – All Things are Related

INSPIRATION

WELCOME TO ANCHORAGE, ALASKA

How do you welcome your guests?



Boutet Company
601 East 57th Place, #102
Anchorage, AK., 99518

PRSR STD
US POSTAGE
PAID
PERMIT 845
ANCHORAGE AK

FEB 06 REC'D

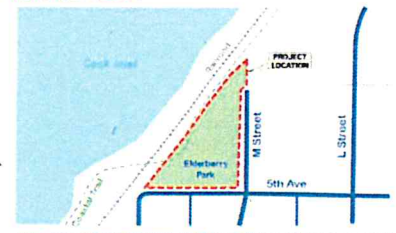


ALL FOR AADC 995*****0000407*****000002

The Boutet Company
601 E 57th Pl Ste 102
Anchorage AK 99518-1311

Public Meeting Announcement

You are invited to attend the South Addition Community Council meeting to discuss the proposed **Elderberry Park Improvements**. The parcel ID is #001-031-22-000 and the site address is 1297 5th Avenue. The purpose of the meeting is to discuss the preferred concept alternative for this MOA Parks and Recreation Project, as well as discuss the upcoming Urban Design Commission public hearing for a Major Site Plan Review.



www.muni.org/Departments/parks/Pages/ElderberryParkImprovements

If you have any questions,
please contact:
Maeve Nevins-Lavtar
Project Manager
(907) 343-4135

Event: Community Meeting
Date: Thursday, February 27th, 2020
Time: 7:00 P.M.
Location: 1420 N Street
Anchorage, AK 99508
Anchorage Lutheran Church (15th Ave & N St)

105234020 29TH STREET PROPERTY LLC	670 E PRIMROSE CIR #3A	PALMER	AK	99645
103310000 415 L STREET LLC	415 L STREET	ANCHORAGE	AK	99501
103307000 5L PROPERTY LLC	PO BOX 242263	ANCHORAGE	AK	99524
105240009 7TH & K STREET LLC	1130 W 6TH AVE #5	ANCHORAGE	AK	99501
105232007 AGUIAR LUISA FONTES	609 PACIFIC PLACE	ANCHORAGE	AK	99501
103108001 ALASKA INNS INC	2706 W COLFAX AVENUE	DENVER	CO	80204-2346
ALASKA PACIFIC UNIVERSITY ATTN BUSINESS				
103246022 MANAGER	4101 UNIVERSITY DR	ANCHORAGE	AK	99508-4672
105234003 ALBATROSS DIVERSIFIED LLC	PO BOX 921207	DUTCH HARBOR	AK	99692
AMON JANINE OROS 50% & FREDRICKSON SCOTT				
105143001 50%	610 N STREET #1	ANCHORAGE	AK	99501-3261
105234021 AMSDEN MATTHEW ERIN	PO BOX 3750	PALMER	AK	99645
105234041 ANDERSEN JOAN E	1110 W 6TH AVENUE #503	ANCHORAGE	AK	99501-1955
103124000 ARR	PO BOX 107500	ANCHORAGE	AK	99510-7500
105234043 ARTURO ANTHONY	3876 LINCOLN ELLSWORTH COURT	ANCHORAGE	AK	99517
103248011 AURORA POWER RESOURCES INC	4665 SWEETWATER BLVD STE 103	SUGAR LAND	TX	77479-3554
AVEY FAMILY TRUST AVEY JAMES D & DONNA A /				
103111000 TTES	521 N STREET APT A/C	ANCHORAGE	AK	99501
103246024 BARNES FAMILY TRUST	510 L ST APT 1005	ANCHORAGE	AK	99501
105240001 BEAM LAURA & DAVID FAMILY TRUST	PO BOX 297	GIRDWOOD	AK	99587-0297
103105000 BECKWITH MARTHA	522 N STREET	ANCHORAGE	AK	99501-1916
105218000 BELMAN ROGER PJ	605 N ST #1	ANCHORAGE	AK	99501-3224
103248012 BINKLEY JUDY	5325 CHENA SMALL TRACTS RD	FAIRBANKS	AK	99709-3332
103246009 BLAKESLEE ALASKA COMMUNITY PROPERTY TRUST	510 L ST #802	ANCHORAGE	AK	99501-1960
103308000 BOMBECK GREGORY J & CYNTHIA S	18016 KAMKOFF AVE	EAGLE RIVER	AK	99577-9323
103108002 BRADLEY THOMAS C C/O PARAGON PROPERTIES	240 E TUDOR RD STE 210	ANCHORAGE	AK	99503
105234024 BRATTAIN OLIVIA	821 N STREET #101	ANCHORAGE	AK	99501
105234012 BROWN JESSICAA M 50% & JANZEN DAVID J 50%	1110 W 6TH AVENUE #204	ANCHORAGE	AK	99501-1947
105141007 BUCKNER REVOCABLE TRUST THE	200 W 34TH AVE #784	ANCHORAGE	AK	99503
CARR-GOTTSTEIN PROP LP 50% & GOTTSTEIN FAM				
103328000 CGP LLC 24.75% & CARR FAM CGP LLC 24.75% & ETAL	4000 W DIMOND BLVD #240	ANCHORAGE	AK	99502
105240007 CAUDLE JENIFER	PO BOX 874161	WASILLA	AK	99687
103110001 CHURCH EMILY C	527 N ST #1	ANCHORAGE	AK	99501
103238000 COPPER WHALE INN LLC	440 L STREET	ANCHORAGE	AK	99501
103248018 COTTON WILLIAM T	2054 SARATOGA AVE	ANCHORAGE	AK	99517
105142000 COVE LLC THE % RICHARD MYSTROM	PO BOX 91653	ANCHORAGE	AK	99509-1653
105234016 CRAIG JOSEPH A	1110 W 6TH AVE APT 208	ANCHORAGE	AK	99501-1947
CRAWFORD LOUISE J TRUST CRAWFORD LOUISE				
103248013 J/TRUSTEE	333 M ST	ANCHORAGE	AK	99501
103246016 D & L LLC	510 L ST #903	ANCHORAGE	AK	99501-1959
105240002 DANIELS REGINA L & DAVIS SCOTT E	PO BOX 3852	SOLDOTNA	AK	99669
DART CHRISTINE 1/3 & MILLER MICHAEL 1/3 &				
103248004 MILLER ROBERT 1/3	PO BOX 57007	NORTH POLE	AK	99705
103248001 DAVIDSON MICHAEL	333 M ST #101	ANCHORAGE	AK	99501-1973
103246019 DEFUSCO RUSSELL P & DONNA C	5010 LANAGAN ST	COLORADO SPRINGS	CO	80919-3598
DICKINSON LEWIS & JACQUELINE JOINT REVOCABLE				
103126203 TRUST DICKINSON L E & J M/CO-TTEES	500 M ST #203	ANCHORAGE	AK	99501-1970
105234010 DONAHUE CLAIRE A	PO BOX 808	STERLING	AK	99672
103112003 DOZZO JOSEPH A & SANDRA	515 N ST #3	ANCHORAGE	AK	99501-1940
105234055 DUBBINS JULIE A	1110 W 6TH AVENUE #608	ANCHORAGE	AK	99501
105234027 EGGLESTON KENNETH W	1110 W 6TH AVE #309	ANCHORAGE	AK	99501
105234025 EGGLESTON KENNETH W	PO BOX 1045	BETHEL	AK	99559-1045
105141004 ERIKSSON LORRAINE REVOC TRUST	604 OCEAN PLACE #201	ANCHORAGE	AK	99501
103112004 ERNOUF WILLIAM S	515 N STREET #4	ANCHORAGE	AK	99501-1916
103203000 EVANS AROM J & DESRUISSEAU JENNIFER E	200 2ND AVE S #489	SAINT PETERSBURG	FL	33701
FELLAND ROBERT W REVOC TRUST FELLAND ROBERT				
103126201 W/TRUSTEE	500 M STREET #201	ANCHORAGE	AK	99501-1970
FHW TRUST BLANKENSHIP MICHAEL WILLIAM &				
103246012 ELIZABETH SUSAN/TRUSTEES	510 L STREET APT 805	ANCHORAGE	AK	99501
FIGUEROA WILLIAM STEPHEN & ROBIN ANN TRUST				
103246021 FIGUEROA ROBIN ANN / TTE	700 M ST	ANCHORAGE	AK	99501
105240006 FIREPROOF HOLDINGS II LLC	PO BOX 109	ESTER	AK	99725
103112001 FOSTER JAMES K	PO BOX 191001	ANCHORAGE	AK	99519-1001
103126103 FRIEDMAN JILL R	500 M ST #103	ANCHORAGE	AK	99501-1967
105234006 GAGE HOPE	2463 OAK DRIVE	ANCHORAGE	AK	99508
103126101 GAGNON BRUCE E & SHARON D	500 M ST UNIT #101	ANCHORAGE	AK	99501-1914
103211000 GOTTLIEB KEVIN L 50% & ACREE BOB 50%	PO BOX 241826	ANCHORAGE	AK	99524-1826
103239002 GROUND FLOOR LLC	500 L ST #200	ANCHORAGE	AK	99501-5910
105240004 HALPIN MARK D & BERENICE ISABEL	PO BOX 2483	HOMER	AK	99603-2483
103246025 HANSON INGRID	PO BOX 91516	ANCHORAGE	AK	99509
HARMON JERRY & BEVERLY LIVING TRUST HARMON J				
103109000 J & B A / TRUSTEES	4322 CONE PLACE	JUNEAU	AK	99801
105234009 HARRIS HOWARD A SR REVOCABLE TRUST	540 L ST APT 500	ANCHORAGE	AK	99501
105141006 HARTMAN TOM & SHIRLEY	604 OCEAN PLACE #301	ANCHORAGE	AK	99501
105234035 HO CHRISTOPHER YAN-TAK	1110 W 6TH AVE #407	ANCHORAGE	AK	99501-1953
HOPPER BILL & CECILIA TRUST HOPPER W L JR & C				
103248017 M/TRUSTEES	PO BOX 244373	ANCHORAGE	AK	99524
105234040 HUBBARD DARREN T	1110 W 6TH AVENUE #501	ANCHORAGE	AK	99501-1955
105234044 HUBBARD DENNIS	PO BOX 244202	ANCHORAGE	AK	99524-4202
105234053 HUBBARD GEORGE E	4170 ALLAN PL	ANCHORAGE	AK	99508
103204000 HULTQUIST HOMES INC	12570 OLD SEWARD HIGHWAY #204	ANCHORAGE	AK	99515
105234017 JOHNSON ANN L	2167 OLD STEESE HWY NORTH	FAIRBANKS	AK	99712
103248021 JONES CAROLYN ETHEL	333 M STREET #407	ANCHORAGE	AK	99501-1902
105234049 KAERCHER INVESTMENTS LLC	3061 AMBER BAY LOOP	ANCHORAGE	AK	99515-2303

103112002 KELLY MARION C	515 N STREET #2	ANCHORAGE	AK	99501-1940
105234022 KERNS FAMILY TRUST	1315 W 12TH AVE	ANCHORAGE	AK	99501
KERNS FAMILY TRUST KERNS RICHARD P & JANE/CO-				
105234032 TRUSTEES	1315 W 12TH AVENUE	ANCHORAGE	AK	99501
103209000 KUIK PROPERTIES LLC	11541 BARR RD	ANCHORAGE	AK	99516
KIM LIVING TRUST KIM CHUCK MO & PEACE HWA FKA				
103246013 KIM HWA JUNG / TRUSTEES	510 L STREET #806	ANCHORAGE	AK	99501-1960
103246015 KLEIN MYRON W	3264 PIONEER AVE	JUNEAU	AK	99801-1964
103103000 KOZIOL FRANK S & HALEY PAULA M	500 N STREET	ANCHORAGE	AK	99501-1916
103239004 KP LLC	500 L STREET SUITE 400	ANCHORAGE	AK	99501-5911
103248006 KUMIN LINDA L	333 M ST APT 205	ANCHORAGE	AK	99501-1973
105234037 KWOK PATRICIA SUKKIN	1110 W 6TH AVE #409	ANCHORAGE	AK	99501
103208000 L STREET INVESTMENTS	2525 BLUEBERRY RD STE 204	ANCHORAGE	AK	99503
105234019 LAMBERT MARIE A LIFE ESTATE	1110 W 6TH AVENUE #301	ANCHORAGE	AK	99501
103126303 LANG MICHAEL H	500 M ST #303	ANCHORAGE	AK	99501-1974
103248009 LATHROP ROBERT L	333 M ST #208	ANCHORAGE	AK	99501-1902
105234014 LEE ERNEST G	1110 W 6TH AVE UNIT 206	ANCHORAGE	AK	99501
LEE EUN YONG REVOCABLE TRST LEE EUN				
103246017 YONG/TRUSTEE	510 L ST #904	ANCHORAGE	AK	99501
105240008 LEE SUNNY S	7491 LABRADOR CIR	ANCHORAGE	AK	99502
103248005 LEWIS JOSHUA C & BECWAR-LEWIS VICTORIA	1120 HUFFMAN ROAD STE #24-466	ANCHORAGE	AK	99515
103255000 LONO LLC 50% & NEESER GERALD 50%	2501 BLUEBERRY ROAD	ANCHORAGE	AK	99503-2621
105234004 MARIN JOSE M & MARTA E	1110 W 6TH AVE APT 310	ANCHORAGE	AK	99501-1950
105234028 MARIN JOSE N & MARTA E	1110 W 6TH AVE #310	ANCHORAGE	AK	99501
103239005 MARINERS VIEW LTD PARTNERSHIP	500 L ST STE 100	ANCHORAGE	AK	99501-5910
MASSIE FAMILY TRUST MASSIE THOMAS H &				
103126102 CYNTHIA A / TRUSTEES	500 M ST #102	ANCHORAGE	AK	99501-1967
103248020 MCCAFFREY MARK A & NEWCOMB ERIC	3900 BOWSER AVE	DALLAS	TX	75219
MCGOWND TUCKER FREDERICK 50% & TOMSEN TINA				
105234026 50%	2227 DOUGLAS DR	ANCHORAGE	AK	99517
105234023 MCGUIRE REBECCA & JOHN	1110 W 6TH AVE APT 305	ANCHORAGE	AK	99501-1950
103303000 MCKINLEY PROPERTIES INC ATTN: #5232.14	605 FIRST AVE STE 600	SEATTLE	WA	98104-2224
105234005 MEDLEY MIKE	1110 WEST 6TH #106	ANCHORAGE	AK	99501
103126202 MEIER ERIC A	500 M ST UNIT 202	ANCHORAGE	AK	99501-1970
105240005 MENDEL ALLISON & KAISER MARJORIE	1130 W 6TH AVE #5	ANCHORAGE	AK	99501
MICHAEL NAFLA A IRREVOC TRUST ESTABROOK				
103311000 GERALDINE & MICHAEL LOTTIE M TRUSTEES	2525 GAMBELL ST #307	ANCHORAGE	AK	99503
103229000 MOA PARKS & RECREATION ADMIN	PO BOX 196650	ANCHORAGE	AK	99519-6650
105234015 MOLYNEUX SANDRA	1110 W 6TH AVE UNIT 207	ANCHORAGE	AK	99501
103246014 MONTGOMERY VERONICA C	510 L STREET #901	ANCHORAGE	AK	99501
105143002 MOORE CARLA M	610 N ST APT 2	ANCHORAGE	AK	99501-3261
MORAN M E LIVING TRUST MORAN MARY E /				
103119000 TRUSTEE % JADCO PROPERTY MANAGEMENT	823 W 53RD AVENUE	ANCHORAGE	AK	99518
105143004 MUEGGE-VAUGHAN CAROLYN	610 N STREET #4	ANCHORAGE	AK	99501-3261
105141001 MYSTROM RICHARD E	604 OCEAN PLACE UNIT 101	ANCHORAGE	AK	99501
105234057 NASH GEORGE % JEMS REAL ESTATE	PO BOX 190530	ANCHORAGE	AK	99519-0530
NOLIN LADD M DECLARATION OF TRUST NOLAN				
105232009 LADD M / TRUSTEE	613 PACIFIC PLACE	ANCHORAGE	AK	99501
103202000 OLSON DANIEL K NKA PAZ DANIEL K	540 COASTAL PLACE	ANCHORAGE	AK	99501
105234033 O'QUINN BRIAN PATRICK & LUCY FLYNN	1110 W 6TH AVENUE UNIT 405	ANCHORAGE	AK	99501
103248023 O'ROURKE RUTH E	333 M ST #409	ANCHORAGE	AK	99501-1902
105141002 OSG LLC 1001 YAKIMA AVE	SUITE 2	TACOMA	WA	98405
103248008 PANZARELLA MARIUS H & SYLVIA L	7022 TAHAINA DR	ANCHORAGE	AK	99502
103248014 PARRISH EUGENE A & ANN T	333 M ST #302	ANCHORAGE	AK	99501
105234034 PEN'S FAMILY TRUST	1110 WEST 6TH AVENUE #406	ANCHORAGE	AK	99501-1953
105234018 PEREIRA JUAN R & ANA M	1110 W 6TH AVE #210	ANCHORAGE	AK	99501-1947
103120000 PHELPS GREGORY L & PEPE JULIE A	8501 SKYHILLS DR	ANCHORAGE	AK	99502-3993
105234048 PRINCE WANDA	1110 W 6TH AVENUE #510	ANCHORAGE	AK	99501-1955
105234051 PROTZMAN MATTHEW	PO BOX 669	WHITTIER	AK	99693-0669
RAINWATER JEAN L DEC OF TRUST RAINWATER JEAN				
103248007 L/TRUSTEE	333 M ST #206	ANCHORAGE	AK	99501-1902
105234029 RAMSTAD WENDY E SURVIVORS TRST	PO BOX 879385	WASILLA	AK	99687
105234002 RANA IMTIAZ A	1121 W 77TH AVE	ANCHORAGE	AK	99518-2469
103248019 REEVES DEANNA F	333 M ST #405	ANCHORAGE	AK	99501-1902
103103000 Resident	500 N ST	ANCHORAGE	AK	99501
103104000 Resident	520 N ST	ANCHORAGE	AK	99501
103105000 Resident	522 N ST	ANCHORAGE	AK	99501
103107000 Resident	530 N ST	ANCHORAGE	AK	99501
103108001 Resident	1233 W 6TH AVE	ANCHORAGE	AK	99501
103108001 Resident	545 N ST COND 1	ANCHORAGE	AK	99501
103108002 Resident	1229 W 6TH AVE	ANCHORAGE	AK	99501
103109000 Resident	535 N ST APT 1	ANCHORAGE	AK	99501
103109000 Resident	535 N ST APT 2	ANCHORAGE	AK	99501
103109000 Resident	535 N ST APT 3	ANCHORAGE	AK	99501
103109000 Resident	535 N ST APT 4	ANCHORAGE	AK	99501
103109000 Resident	535 N ST APT 5	ANCHORAGE	AK	99501
103109000 Resident	535 N ST APT 6	ANCHORAGE	AK	99501
103109000 Resident	535 N ST APT 7	ANCHORAGE	AK	99501
103110001 Resident	527 N ST	ANCHORAGE	AK	99501
103110002 Resident	529 N ST	ANCHORAGE	AK	99501
103111000 Resident	521 N ST APT A	ANCHORAGE	AK	99501
103111000 Resident	521 N ST APT B	ANCHORAGE	AK	99501
103112001 Resident	515 N ST COND 1	ANCHORAGE	AK	99501
103112002 Resident	515 N ST COND 2	ANCHORAGE	AK	99501
103112003 Resident	515 N ST COND 3	ANCHORAGE	AK	99501
103112004 Resident	515 N ST COND 4	ANCHORAGE	AK	99501
103113000 Resident	1236 W 5TH AVE APT 1	ANCHORAGE	AK	99501

103113000 Resident	1236 W 5TH AVE APT 18	ANCHORAGE	AK	99501
103113000 Resident	1236 W 5TH AVE APT 2	ANCHORAGE	AK	99501
103113000 Resident	1236 W 5TH AVE APT 3	ANCHORAGE	AK	99501
103113000 Resident	1236 W 5TH AVE APT 4	ANCHORAGE	AK	99501
103119000 Resident	526 M ST	ANCHORAGE	AK	99501
103119000 Resident	527 PACIFIC PL	ANCHORAGE	AK	99501
103120000 Resident	539 PACIFIC PL	ANCHORAGE	AK	99501
103121000 Resident	1217 W 6TH AVE	ANCHORAGE	AK	99501
103121000 Resident	1219 W 6TH AVE	ANCHORAGE	AK	99501
103122000 Resident	1297 W 5TH AVE	ANCHORAGE	AK	99501
103123000 Resident	420 M ST	ANCHORAGE	AK	99501
103126101 Resident	500 M ST COND 101	ANCHORAGE	AK	99501
103126102 Resident	500 M ST COND 102	ANCHORAGE	AK	99501
103126103 Resident	500 M ST COND 103	ANCHORAGE	AK	99501
103126201 Resident	500 M ST COND 201	ANCHORAGE	AK	99501
103126202 Resident	500 M ST COND 202	ANCHORAGE	AK	99501
103126203 Resident	500 M ST COND 203	ANCHORAGE	AK	99501
103126301 Resident	500 M ST COND 301	ANCHORAGE	AK	99501
103126302 Resident	500 M ST COND 302	ANCHORAGE	AK	99501
103126303 Resident	500 M ST COND 303	ANCHORAGE	AK	99501
103126304 Resident	500 M ST COND 304	ANCHORAGE	AK	99501
103127000 Resident	528 N ST	ANCHORAGE	AK	99501
103201000 Resident	548 COASTAL PL	ANCHORAGE	AK	99501
103202000 Resident	540 COASTAL PL	ANCHORAGE	AK	99501
103203000 Resident	532 COASTAL PL	ANCHORAGE	AK	99501
103204000 Resident	528 COASTAL PL 1	ANCHORAGE	AK	99501
103204000 Resident	528 COASTAL PL 2	ANCHORAGE	AK	99501
103204000 Resident	528 COASTAL PL 3	ANCHORAGE	AK	99501
103204000 Resident	528 COASTAL PL 4	ANCHORAGE	AK	99501
103204000 Resident	528 COASTAL PL 5	ANCHORAGE	AK	99501
103204000 Resident	528 COASTAL PL 6	ANCHORAGE	AK	99501
103205000 Resident	510 COASTAL PL	ANCHORAGE	AK	99501
103206000 Resident	1131 W 5TH AVE APT 1	ANCHORAGE	AK	99501
103206000 Resident	1131 W 5TH AVE APT 2	ANCHORAGE	AK	99501
103207000 Resident	433 M ST	ANCHORAGE	AK	99501
103209000 Resident	417 M ST	ANCHORAGE	AK	99501
103211000 Resident	1130 W 4TH AVE	ANCHORAGE	AK	99501
103216000 Resident	325 M ST	ANCHORAGE	AK	99501
103230000 Resident	320 L ST	ANCHORAGE	AK	99501
103238000 Resident	440 L ST	ANCHORAGE	AK	99501
103238000 Resident	442 L ST	ANCHORAGE	AK	99501
103239001 Resident	500 L ST STE 100	ANCHORAGE	AK	99501
103239002 Resident	500 L ST STE 200	ANCHORAGE	AK	99501
103239003 Resident	500 L ST STE 300	ANCHORAGE	AK	99501
103239004 Resident	500 L ST STE 400	ANCHORAGE	AK	99501
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103302000 RESOLUTION TOWER	4000 W DIMOND BLVD #240	ANCHORAGE	AK	99502
105234030 RINGSTAD ANN T & JOHN C	1110 WEST 6TH AVENUE #402	ANCHORAGE	AK	99501
105240003 RIVERA EDELMIRO III	1130 W 6TH AVENUE #3	ANCHORAGE	AK	99501
103246010 ROBBINS MARGARET & LARRY FAMILY TRUST	PO BOX 1239	LA VERNIA	TX	78121
105234054 ROBERTSON ERIN S	UNIT 5460 BOX 0308	DPO		09707-9997
RODANN TRUST MCCOY ANN HARTER & STEVEN				
105234050 RODERICK / TRUSTEES	7749 OLD HARBOR AVE	ANCHORAGE	AK	99504
105234007 ROJAS JULIAN A	10862 REFUGE CIRCLE	ANCHORAGE	AK	99515
105143003 ROSE DAVID A III	610 N ST UNIT 3	ANCHORAGE	AK	99501
103104000 RUSKIN DAVID B 50% & RUSKIN BERNADINE E 50%	520 N STREET	ANCHORAGE	AK	99501-1916
RUUD-MJOS FAMILY TRUST MJOS P O & RUUD K				
105234001 E/TRUSTEES	1725 E 24TH AVE	ANCHORAGE	AK	99508-4006
105141003 SCHLUETER CHRISTOPHER D & LAURIE A	8671 KUSHTAKA CIRCLE	ANCHORAGE	AK	99504
103110002 SCHWAMM LIVING TRUST	529 N STREET #2	ANCHORAGE	AK	99501
105141005 SEA JAZZ INLET LLC	604 OCEAN PLACE #202	ANCHORAGE	AK	99501
103248024 SHILANSKI MICAH & KELLY REVOCABLE LIVING TRUST	333 M ST #410	ANCHORAGE	AK	99501-1902
SLH REVOCABLE TRUST HARPER SANDRA				
105234060 LYNN/TRUSTEE	413 D ST	ANCHORAGE	AK	99501
105233012 SMART JOHN C & KATHY J	PO BOX 243	MOOSE PASS	AK	99631
103246008 SMITH RONALD E & ROMANOVA NATALIA V	P O BOX 3103	PALMER	AK	99645
SNEAD KAREN S REVOCABLE TRUST SNEAD KAREN S /				
103246018 TRUSTEE	510 L ST #905	ANCHORAGE	AK	99501-3969
103205000 SPARAVALO THOMAS W	510 COASTAL PL	ANCHORAGE	AK	99501
105232008 SPINELL HOMES INC	1900 W NORTHERN LTS BLVD #200	ANCHORAGE	AK	99517-3342
103248022 SPITZFADEN ROBERT S & ALARIO TOMA A	PO BOX 33259	JUNEAU	AK	99803-3259
103248003 SPURLOCK JOHN N & CYNTHIA E	333 M ST #202	ANCHORAGE	AK	99501
103248002 STRANG ALISA A (REVOCABLE TOD DEED)	333 M STREET #201	ANCHORAGE	AK	99501-1973
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103248016 TALLMAN LAWRENCE P	333 M STREET #402	ANCHORAGE	AK	99501
103125001 TREADWELL L MEAD & CAROL	528 N STREET	ANCHORAGE	AK	99501-1916
TWENTY-FIRST CENTURY TRUST BROTHERTON JOSEPH				
103249001 L/TRUSTEE	2410 BOYER AVE E STE 1	SEATTLE	WA	98112
105241000 WALSTON 2006 TRUST	616 COASTAL PL #4	ANCHORAGE	AK	99501-3368
103246020 WELLS CONNER V & JUDITH P	6716 EASTSIDE DRIVE NE	TACOMA	WA	98422
103113000 WELLS PENELOPE-ANN	PO BOX 240454	ANCHORAGE	AK	99524-0454
105234031 WESTON MICHELLE R	PO BOX 725	GIRDWOOD	AK	99587-0725
WHITE JON & COLLEEN FAMILY TRUST WHITE JON C &				
105234038 COLLEEN E / TTES	16952 W GLENN HIGHWAY	SUTTON	AK	99674
WHITE ROBERT G & ELVERSON- WHITE LURA P REV				
103126304 TRUSTS WHITE R G & L P/TRUSTEES	500 M ST #304	ANCHORAGE	AK	99501
WILCOX D & D TRUST WILCOX DONALD GLEN &				
103207000 DOROTHY DONAHUE / CO TTES	2084 LINK LN	GRAND JUNCTION	CO	81507
105234036 WILSON PLESAH M 50% & WILSON CATHERINE 50%	1110 W 6TH AVE # 408	ANCHORAGE	AK	99501-1953
WINCHESTER ALASKA INC 401K PROFIT SHARING				
105217000 PLAN	645 G STREET STE 100-613	ANCHORAGE	AK	99501
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103201000 WONG GARRET S & BARBARA K	548 COASTAL PL	ANCHORAGE	AK	99501-1964
105234052 WOOD BARBARA J C/O WOODFARM FAMILY TRUST	1110 W 6TH AVE	ANCHORAGE	AK	99501
103309000 WOOLEVER JAMES W	12435 TOILSOME HILL DR	ANCHORAGE	AK	99516-3353
WORTHINGTON PACIFIC PROPERTIES LLC %				
103246001 FRAMPTON & OPINSKY LLC	2525 BLUEBERRY RD STE 204	ANCHORAGE	AK	99503
103246011 ZIEMIAK THADDEUS	510 L ST #804	ANCHORAGE	AK	99501

Elderberry Park

FEB. 27, 2020
SOUTH ADDITION COMMUNITY COUNCIL



Concept Presentation: Phase 1 Improvements

MASTER PLAN

ELDERBERRY PARK

ANCHORAGE, AK
ALTERNATIVE 2

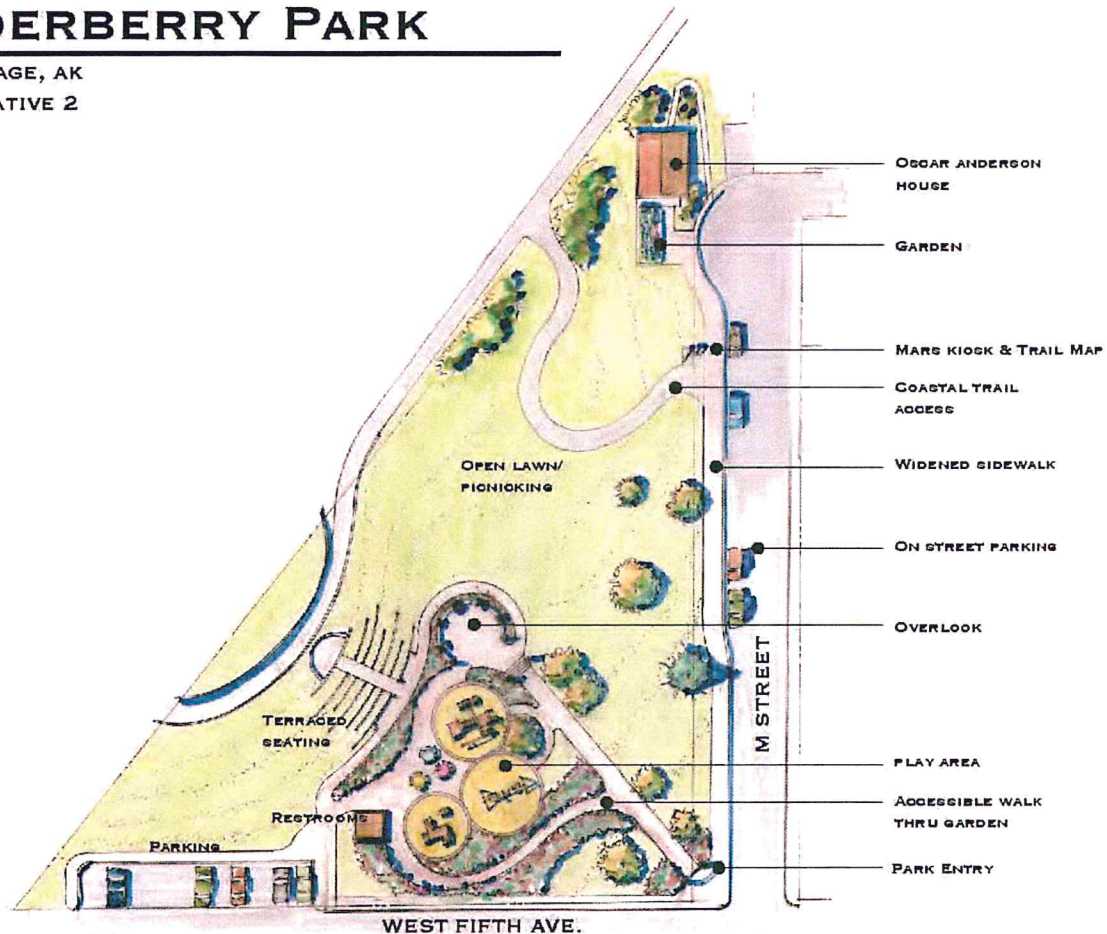


Figure 30: Alternative 2 showing access to the Coastal Trail inside the Park

PRIORITIES

- PLAYGROUND UPGRADED
- ADA COMPLIANT PATHS
- PLAZA/OVERLOOK
- TERRACED SEATING AREA
- NEW M ST. PATH TO COASTAL TRAIL
- IMPROVED VISIBILITY OF OSCAR ANDERSON HOUSE

TIMELINE

- PLANNING AND DESIGN: WINTER/SPRING 2020
- PARK COMMISSION HEARING: MARCH 12, 2020
- CONSTRUCTION PHASE 1: LATE AUGUST 2020-2021

CONTACT: Maeve Nevins-Lavtar, Sr. Park Planner
343-4135/ maeve.nevinslavtar@anchorageak.gov



BETTISWORTH NORTH

PROPOSED SITE PLAN

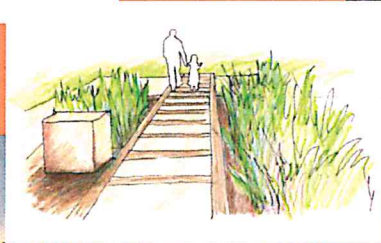
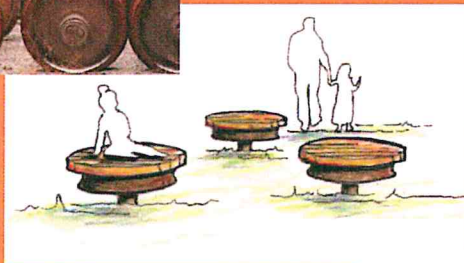
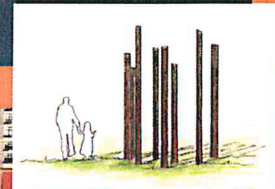
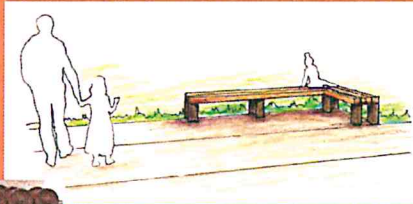


BETTISWORTH NORTH

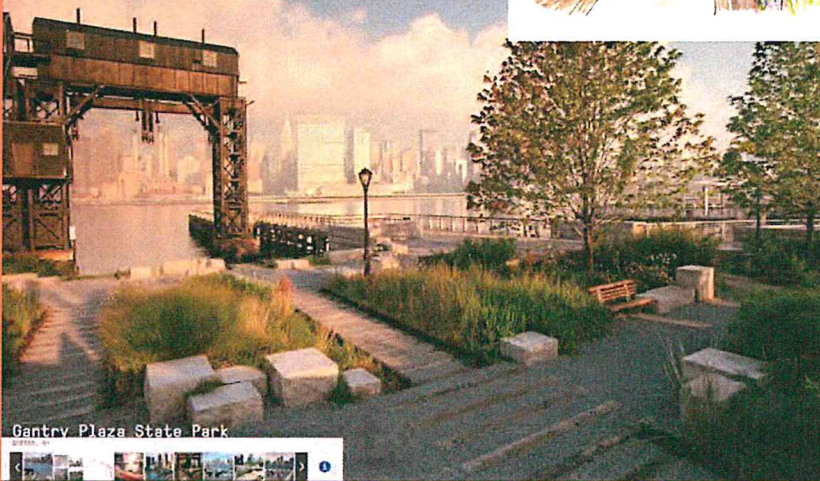


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swa/balsley
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 CHAIRMAN: David Balsley
 PRESIDENT: David Balsley
 VICE PRESIDENT: David Balsley
 SECRETARY: David Balsley
 TREASURER: David Balsley
 BOARD OF DIRECTORS: David Balsley



PLAY THEMES

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POTENTIAL "ICE"
COLOR THEMES

FROZEN WATERFALL
ON CLIFF



TURNAGAIN ARM
GEOLOGY SAMPLE

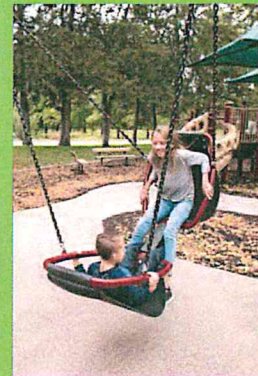
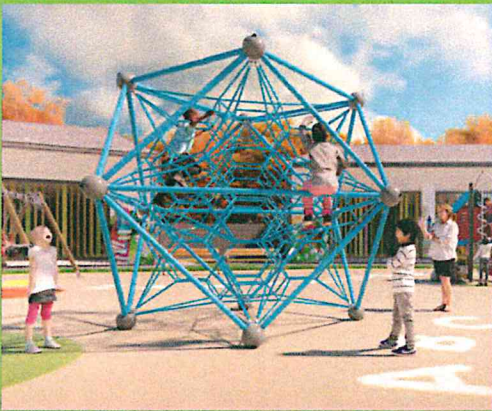
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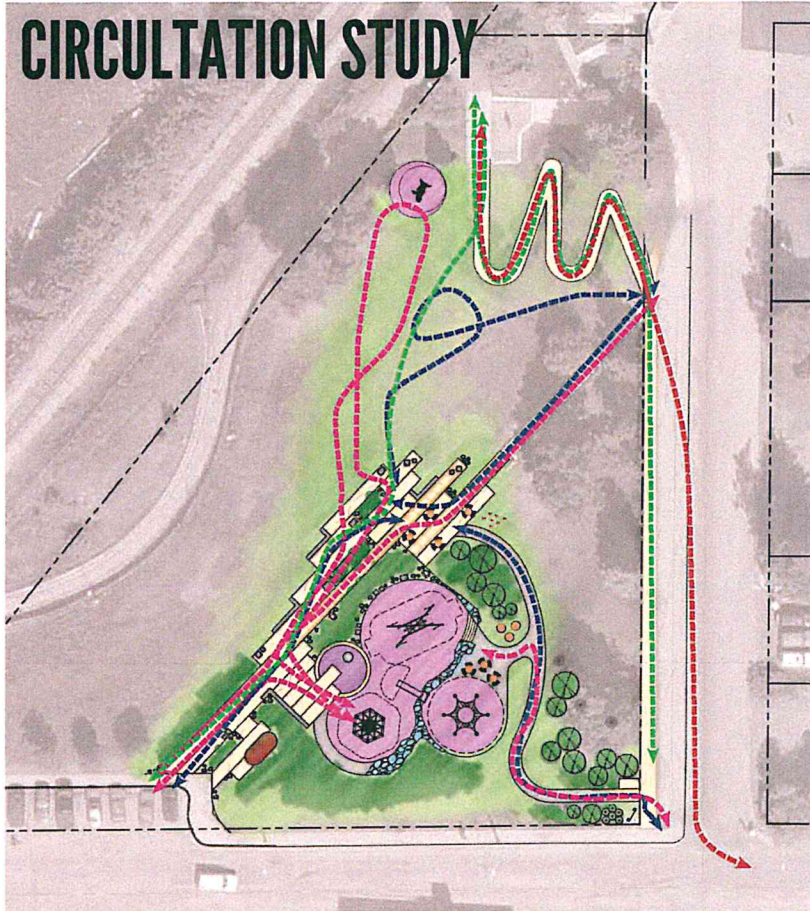
PLAY SELECTION

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5TH AVE. & M STREET

CIRCULATION STUDY



User Destination:

- Playground
- Picnic Tables, View of Inlet
- Coastal Trail (Bikes and Pedestrians)
- Coastal Trail (Pedestrians)

5TH AVE. ACCESS

GOALS:

- REDIRECT BIKE TRAFFIC AWAY FROM PLAZA/PLAY AREAS
- OPTIMIZE VIEWS
- IMPROVE SAFETY





The Boutet Company, Inc.
601 E. 57th Place, Suite 102
Anchorage, Alaska 99518

Phone 907.522.6776
Fax 907.522.6779

April 1, 2020

Ms. Michelle McNulty, AICP
Municipality of Anchorage
Planning Director
PO Box 196650
Anchorage, AK 99519

Subject: Elderberry Park, Major Site Plan Review
Parcel Nos. 001-031-22-000
Community Meeting Minutes

Dear Ms. McNulty:

This letter will serve as the written summary of the Community Meeting, as required by Title 21, for the Major Site Plan Review application for the proposed improvements for Elderberry Park. The municipal parcel number is 001-031-22-000. Currently, this parcels are designated R-3. We understand that due to the development cost of the proposed project (more than \$500,000), the project will be required to be processed as a Major Site Plan Review as a public hearing through the Urban Design Commission AMC 21.05.040.G.2.b.ii.(C).

The petitioner for this action is the Municipality of Anchorage (MOA) Parks and Recreation Department (Parks & Rec). The Parks & Rec Senior Park Planner, Maeve Nevins-Lavtar and Mélisa Babb the project's Landscape Architect, made a presentation to the community members at the South Addition Community Council meeting at the Anchorage Lutheran Church located at 1420 N Street on February 27, 2020 at 7pm. Public notice was provided to residents per AMC 21.03.020.

Questions and concerns voiced by attendees included:

- Question: How flammable is the playground equipment, specifically the wooden playground equipment?
 - Response: Parks and Recreation mitigates vandalism in several ways, the first mitigation technique we will employ is to thin the vegetation around the playground, opening site lines and improving views from adjacent residences into the area. Second, this design will include uniform play safety-surfacing, it will likely be artificial turf, which includes a sand infill material that covers the turf, this infill is highly fire retardant. If it does ignite, it will put itself out in a small area, which is easy to remove and replace by maintenance staff. Finally, the equipment shown in the concept all includes concrete footers with steel posts, except for the "Globe" net climber and climbing wall. The "Globe" is a 3-dimensional net climber, constructed of a glued laminate larch timber frame attached to concrete footers. The ropes are constructed of a strand of galvanized steel covered wires, covered with non-abrasive UV-resistant Polyester-yard. The "climbing wall" is constructed of a reinforced concrete and fiberglass material affixed to concrete foundation.

Overall, the playground has a low-flammability risk. For more equipment details reference attached specification sheets.

- Comment: There is concern about bikers accessing the Coastal Trail from the park.
 - Response: Per the updated master plan, a primary priority of the community was to reduce user conflict. The master plan identifies a new circulation route, including re-routing the access to the Coastal Trail from M Street. This new access route will be installed during the PM&E M Street improvement project, tentatively scheduled in the next few years. Until then, the new improvements include adding ADA access from the existing parking lot to the inner viewing areas, plazas and playground, while discouraging bike traffic with non-direct access and textured surface treatments. The railroad themed paths/plazas will have textured concrete imbedded with reclaimed steel rails that are intended to replicate a railroad line, while still maintaining ADA access. A portion of the existing park path to the coastal trail will remain in place until the M Street connection is complete, however the new portion of this path is indirect and include obstacles such as planter beds, benches and tables.
- Question: Where did the ice climbing wall theme come from?
 - Response: The design is a geological reference representative of the Alaskan mountains with ice walls and glaciers meeting the ocean. The railroad represents the interface of human and nature in our regional landscape vernacular.

In summary, of those present, there was unanimous support for the project as presented.

Thank you for allowing us the opportunity to present the project, and do not hesitate to contact either Maeve Nevins-Lavtar or myself should you have any questions.

Sincerely,



Tanya Hickok, P.E.
The Boutet Company
Senior Civil Engineer

cc. Maeve Nevins-Lavtar, Senior Park Planner

The Globe – Product Specification



The Joe Brown Collection – Natural Play

In memory of and homage to the pioneer of rope play equipment, the Berliner Seilfabrik is releasing a new range of equipment called “the Joe Brown Collection” in autumn 2014.

Climbing in a three-dimensional net helps children to develop their psychomotor skills. Now Berliner Seilfabrik presents the classic play idea of a three-dimensional net climber in a new surrounding. The outer frame of the Joe Brown Collection is made from timber: glued laminated timber.

The Globe - At a glance.

Product Family:	Joe Brown Collection	Number of Foundations:	8 pc.
Item Number:	90.100.04.31	Concrete Volume C20/C25:	2.4 m³ (85 ft³)
Children's Age:	5+	Number of skilled installers required:	3 persons
Fall Height (DIN EN 1176):	1.59 m (5'-3")	Installation Time without foundation:	8 hours
Length x Width x Height:	4.4 m x 4.4 m x 3.8 m (14'-4" x 14'-4" x 12'-4")	Dimensions of largest part:	2.9 x 0.8 x 0.2 m (9'-7" x 2'-8" x 0'-8")
Protective Surfacing Area (DIN EN 1176):	7.5 m x 7.5 m	Weight of heaviest part:	80 kg (177 lbs)
Protective Surfacing Area (ASTM 1487):	8.0 m x 8.0 m (26'-4" x 26'-4")	Shipping Volume:	8 m³ (283 ft³)
Minimum space required DIN EN 1176:	41.38 m²	Spare part guarantee:	Lifelong
Minimum space required ASTM 1487:	48.03 m² (517 ft²)		

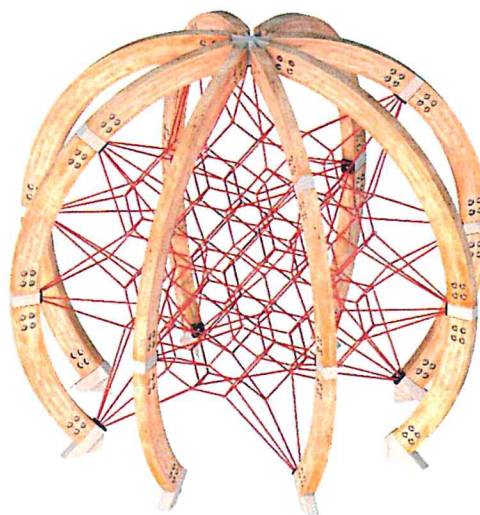
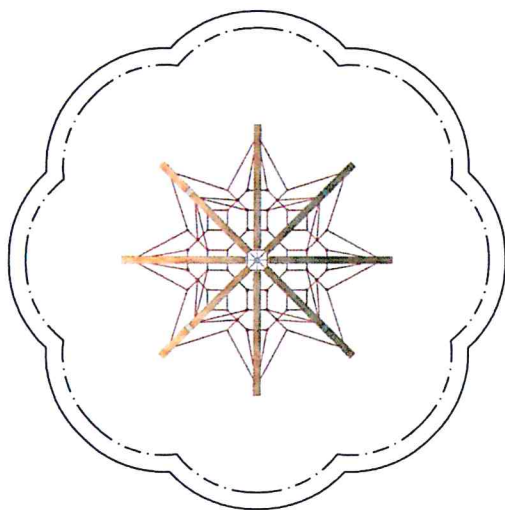

Berliner
 Berliner Seilfabrik GmbH & Co.
 Lengeder Straße 2/4
 D-13407 Berlin

Tel. +49.(0)30.41 47 24-0
 Fax +49.(0)30.41 47 24-33

info@berliner-seilfabrik.com
 www.berliner-seilfabrik.com



The Globe – Product Specification



Technical Data.

The following text can also be used for tenders.

Climbing Ball "The Globe" from the Joe Brown Collection, consisting of a larch timber structure with a 17-fold Spatial net, equipped with the ASTEM TT tension system concealed in the containers for clamping the spatial net. The foundation parts made of powder-coated steel, fitted into the wood elements, ensure the installation of the support members without direct involvement of the bottom timber carrier with the ground.

Ropes:

U-Rope®-round strand ropes with galvanized and covered wires; external strands with non-abrasive UV-resistant Polyester-yarn (no Polypropylene); Ø 18 mm (11/16")

Spatial netting:

Rope crossing points are localized with durable, forged aluminum-alloy cloverleaf rings and forged aluminum-alloy ballknots (no plastic connections); in situ-replaceable rope strands (no special tools required)

Net tensioning system:

Framework® clamping points; 120 x 120 x 230 mm; anti-corrosion treatment and color finish: sandblasting and solvent-free zinc-/epoxy-/polyester-process; connected to wooden girders with bolts on connection flanges, incorporating an Astem TT net tensioning system; securely closed with durable EPDM-caps

Structural:

Elements of glued laminated-larch timber, connected through Framework® clamping points, connection flanges




Berliner
Berliner Seilfabrik GmbH & Co.
Lengeder Straße 2/4
D-13407 Berlin

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Fax +49.(0)30.41 47 24-33

info@berliner-seilfabrik.com
www.berliner-seilfabrik.com

Revision: April 2016

Page 2

PART 1 - GENERAL**1.01 WORK INCLUDED**

Design, engineer, fabricate, and install outdoor, thematic Glass Fiber Reinforced concrete playground equipment and attach to a structural foundation, in accordance with the drawings and all requirements specified herein and as required to complete the work. The climbing playground sculpture is intended to be a creative play feature for public playgrounds.

1.02 RELATED SECTIONS AND DOCUMENTS

- A. Drawings and general provisions of the Construction Contract.
- B. ASTM C 150 – Standard Specifications for Portland Cement; 1999a.
- C. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials; 1999.
- D. ASTM F1487-17 – Standard Consumer Safety Performance Specification for Playground Equipment for Public Use
- E. Consumer Product Safety Council (CPSC) Handbook for Public Playground Safety

1.03 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Not less than ten years experience in the manufacture of custom sculptures for use in Public Playgrounds of the type proposed for the Work. Minimum of 10 references.
- B. Installer's Qualifications: Not less than five years experience in the assembly and installation of playground equipment of the type proposed for the work, or be supervised in the field by a representative of the manufacturer. Not less than 10 years of experience in route setting at specified difficulties for sculptural concrete climbing apparatus. Installation personnel to be supervised by a Certified Playground Safety Inspector as per the Consumer Product Safety Council (CPSC) Handbook for Public Playground Safety.
- C. Drawings: complete shop drawings, including installation details, dimensions, interface or attachment to adjacent work, fastening and anchoring methods of all system components, detail and location of joints, and notation or identification of finishes for work specified herein.
- D. SAMPLES: Submit one sample: Minimum 6" X 6" sample of playground climbing sculpture / wall system.
- E. The Contractor shall notify Owner's Representative of any discrepancies of site dimensions, obstructions, etc. that are not shown on the drawings and that might not have been known during preparation of drawings. If such notification is not made, Contractor shall assume all expenses and responsibility for any revisions necessary. Work called for on the drawings by notes or on details shall be furnished and installed whether or not specifically mentioned in the specifications.

1.04 SUBMITTALS

- A. Drawings: Complete design drawings illustrating concept and structural design. 3 dimensional perspective drawings, complete shop drawings, including installation details, dimensions, interface or attachment to adjacent work, fastening and anchoring methods of all system components, detail and location of joints, and notation or identification of finishes for work specified herein.

- B. Quality Control Submittals: Any deviations from the proposed climbing sculpture design must be approved by the Landscape Architect prior to construction. Submit drawings of design deviations before commencing any work.

1.06 GUARANTEE

- A. Guarantee: During the period of ten full years after the final payment of work, make all necessary repairs or replacements due to defective workmanship or materials within thirty (30) calendar days of receipt of notice of malfunction by the Owner.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer: ID Sculpture; 591 South Boulevard, Gunnison, CO, 81230. 970 641 1747, www.idsculpture.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.02 Play Equipment

- A. Manufacturer: ID Sculpture
 - a. "PRODUCT NAME"-DESCRIPTION
 - i. Model #: XXXX
 - ii. Rope color: XXX

2.03 MATERIALS AND METHODS

- A. GFRC Acrylic Concrete Shell: Two layer cementitious shell completely encapsulating the structural foam, acrylic bolstered GFRC designed for increased flexural, adhesive and tensile properties and high strength Portland cement based finish plaster. The total thickness of both layers varies from 5/8" to 2" dependent upon the need for more material in specific locations to achieve realistic texture and contour. Waterproof shell with a minimum strength of 7000 psi. Color to be achieved through playground safe, siliconized acrylic, hand-applied concrete stain in conjunction with integral concrete pigments.
- B. Structural Foam Armature: Structural foam blocks formed with computer numerical control tooling into specific shapes that form the underlying structure of the approved design. Foam used to conform to industry standards for 1 lb EPS. Class A rated fire retardant is molded integrally into the foam.
- C. Surface texture: Hand finished to design specification.
- D. Prosoco BlockGuard S sealant and graffiti anti-fouling coating
- E. Accurate method of emulating geologic textures and composition.

END OF SECTION

From: Moira Gallagher
To: NevinsLaytar, Maeve; Ruth Ann Jennings
Subject: Letter in support of Elderberry Park plan
Date: Tuesday, March 31, 2020 4:29:40 PM

To the Parks and Recreation Commission and Urban Design Commission,

This letter is in support of the Parks and Recreation Department's proposed improvements at Elderberry Park as presented to the South Addition Community Council (SACC) on February 27. The proposed improvements reflect community identified priorities for investments and safety upgrades, and is consistent with the 2017 Elderberry Park Master Plan.

Since work began on the master plan in 2015, the Parks Department has worked closely with neighbors, user groups, and our community council to ensure that these improvements reflect the community's vision for a vibrant and safe hub for the neighborhood, as well as for our many visitors. We appreciate the active solicitation of feedback and creative ideas for the new park design.

Members of the SACC voted in support of the proposed improvements and we appreciate the Municipality's efforts to actively engage residents in the future of their parks.

Please let me know if you have any comments or questions.

Sincerely,

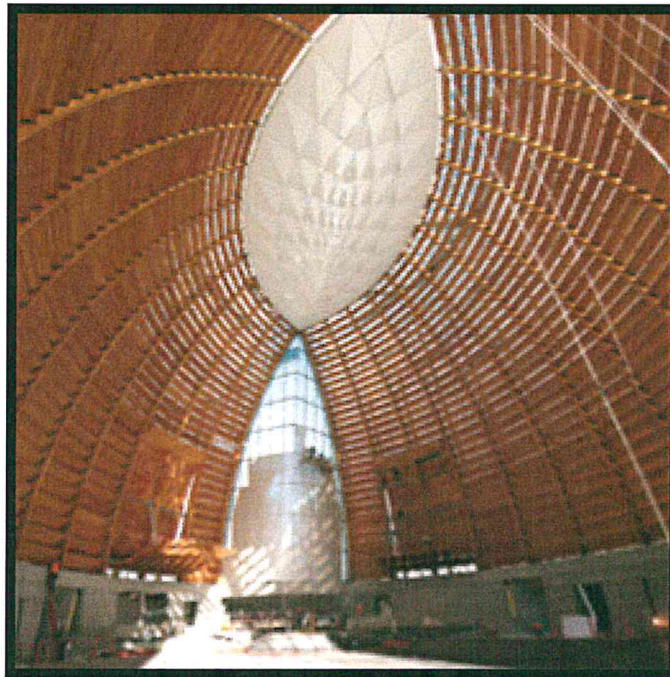
Moira Gallagher

President

South Addition Community Council

Glulam

PRODUCT GUIDE



APA

WOOD

The Natural Choice



Engineered wood products are a good choice for the environment.

They are manufactured for years of trouble-free, dependable use. They help reduce waste by decreasing disposal costs and product damage. Wood is a renewable, recyclable, biodegradable resource that is easily manufactured into a variety of viable products.

A few facts about wood.

■ **We're growing more wood every day.** Forests fully cover one-third of the United States' and one-half of Canada's land mass. American landowners plant more than two billion trees every year. In addition, millions of trees seed naturally. The forest products industry, which comprises about 15 percent of forestland ownership, is responsible for 41 percent of replanted forest acreage. That works out to more than one billion trees a year, or about three million trees planted every day. This high rate of replanting accounts for the fact that each year, 27 percent more timber is grown than is harvested. Canada's replanting record shows a fourfold increase in the number of trees planted between 1975 and 1990.



■ **Life Cycle Assessment shows wood is the greenest building product.**

A 2004 Consortium for Research on Renewable Industrial Materials (CORRIM) study gave scientific validation to the strength of wood as a green building product. In examining building products' life cycles – from extraction of the raw material to demolition of the building at the end of its long lifespan – CORRIM found that wood was better for the environment than steel or concrete in terms of embodied energy, global warming potential, air emissions, water emissions and solid waste production. For the complete details of the report, visit www.CORRIM.org.

■ **Manufacturing wood is energy efficient.**

Wood products made up 47 percent of all industrial raw materials manufactured in the United States, yet consumed only 4 percent of the energy needed to manufacture all industrial raw materials, according to a 1987 study.

Material	Percent of Production	Percent of Energy Use
Wood	47	4
Steel	23	48
Aluminum	2	8



■ **Good news for a healthy planet.** For every ton of wood grown, a young forest produces 1.07 tons of oxygen and absorbs 1.47 tons of carbon dioxide.

Wood: It's the natural choice for the environment, for design and for strong, lasting construction.

Glued laminated timber (glulam) redefines the possibilities for engineered wood construction. Glulam is an engineered wood product that optimizes the structural values of a renewable resource – wood. Glulam members are composed of individual pieces of dimension lumber. The pieces are end-jointed together to produce long lengths which are then bonded together with adhesives to create the required beam dimensions. Because of their composition, large glulam members can be manufactured from smaller trees harvested from second- and third-growth forests and plantations. A variety of species is used. With glulam, builders and specifiers can continue to enjoy the strength and versatility of large wood members without relying on the old growth-dependent solid-sawn timbers.

Glulam has greater strength and stiffness than comparable dimensional lumber. Pound for pound, it's stronger than steel. That means glulam beams can span long distances with minimal need for intermediate supports. It also means that designers and builders have virtually unlimited design flexibility when using glulam, whether the application is home construction, a commercial warehouse roof or a highway bridge.

This brochure describes APA EWS trademarked glulam, addresses important design considerations, and includes a guide of recommended specifications. It also highlights just a few of the many applications where glulam is used in construction.

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On the Cover: Cathedral of
Christ the Light in Oakland, Calif.
© John Blaustein 2008

100 Plus Years of Glulam

In terms of current needs to optimize products from a carefully managed timber resource, glulam is one of the most resource-efficient approaches to wood building products. It is an engineered product manufactured to meet the most demanding structural requirements. But glued laminated timber is not a new product.

Glulam was first used in Europe in the early 1890s. A 1901 patent from Switzerland signaled the true beginning of glued laminated timber construction. One of the first glulam structures erected in the U.S. was a research laboratory at the USDA Forest Products Laboratory in Madison, Wisconsin. The structure was erected in 1934 and is still in service today.

A significant development in the glulam industry was the introduction of fully water-resistant phenol-resorcinol adhesives in 1942. This allowed glulam to be used in exposed exterior environments without concern of glueline degradation.

The first U.S. manufacturing standard for glulam was Commercial Standard CS253-63, which was published by the Department of Commerce in 1963. The most recent standard is ANSI/AITC Standard A190.1-02, which took effect in 2002.

ANATOMY OF GLULAM

Glulam is made up of wood laminations, or "lams," that are bonded together with adhesives. The grain of all laminations runs parallel with the length of the member. Individual lams typically are 1-3/8 inches thick for southern pine and 1-1/2 inches thick for Western species, although other thicknesses may also be used. Glulam products typically range in net widths from 2-1/2 to 10-3/4 inches, although virtually any member width can be custom produced.

Because they are engineered products, glued laminated timbers are manufactured to meet a range of design stresses. Beams are manufactured with the strongest lams on the bottom and top of the beam, where maximum tension and compression stresses occur. This concept allows the lumber resource to be used more efficiently by placing higher grade lumber in zones that have the maximum stresses and lumber with less structural quality in lower stressed zones.

Balanced and Unbalanced Beams

Glulam may be manufactured as unbalanced or balanced members.

The most critical zone of a glulam bending member with respect to controlling strength is the outermost tension zone. In unbalanced beams, the quality of lumber used on the tension side of the beam is higher than the lumber used on the corresponding compression side, allowing a more efficient use of the timber resource. Therefore,



unbalanced beams have different bending stresses assigned to the compression and tension zones and must be installed accordingly. To ensure proper installation of unbalanced beams, the top of the beam is clearly stamped with the word "TOP." Unbalanced beams are primarily intended for simple span applications.

Balanced members are symmetrical in lumber quality about the mid-height. Balanced beams are used in applications, such as cantilevers or continuous spans, where either the top or bottom of the member may be stressed in tension due to service loads. They can also be used in single span applications, although an unbalanced beam is more efficient for this use.

Allowable Design Properties

Allowable design properties are a key factor in specifying glulam. Bending members are typically specified on the basis of the maximum allowable bending stress of the member. For example, a 24F designation indicates a member with an allowable bending stress of 2,400 psi. Similarly, a 26F designation refers to a member with an allowable bending stress of 2,600 psi. These different stress levels are achieved by varying the percentages and grade of higher quality lumber in the beam layup. Use of different species may also result in different stress designations.

To identify whether the lumber used in the beam is visually or mechanically graded, the stress combination also includes a second set of designations. For example, for an unbalanced 24F layup using visually graded Douglas-fir lumber, the layup designation is identified as a 24F-V4. The “V” indicates that the layup uses visually graded lumber. (“E” is used for mechanically graded lumber.) The number “4” further identifies a specific combination of lumber used to which a full set of design stresses, such as horizontal shear, MOE, etc., are assigned. Some of the most common glulam beam layups with their corresponding allowable stresses are shown in Table 1.

APA *Glulam Design Specification*, Form EWS Y117, and ICC-ES report ESR-1940 (www.icc-es.org) provide design stresses for all glulam produced by APA members.

TABLE 1

ALLOWABLE STRESSES (psi)

Combination	F _{bx}		F _{vx}	E _x	F _{c//}	F _{c⊥}	F _t
	ten.	comp.					
Unbalanced Layups							
EWS 24F-1.8E	2,400	1,600	215	1.8 × 10 ⁶	1,200	500	950
EWS 24F-V4/DF	2,400	1,850	265	1.8 × 10 ⁶	1,650	650	1,100
EWS 24F-V3/SP	2,400	1,950	300	1.8 × 10 ⁶	1,650	740	1,150
EWS 24F-E/ES1	2,400	1,700	215	1.7 × 10 ⁶	1,150	560	1,050
Balanced Layups							
EWS 24F-V8/DF	2,400	2,400	265	1.8 × 10 ⁶	1,650	650	1,100
EWS 24F-V5/SP	2,400	2,400	300	1.8 × 10 ⁶	1,650	740	1,150
EWS 24F-E/ES1M1	2,400	2,400	215	1.8 × 10 ⁶	1,150	560	1,050

Axis Orientation

Glulam beams are typically installed with the wide face of the laminations perpendicular to the applied load, as shown in Figure 1. These are commonly referred to as horizontally laminated members. If this same member is rotated 90 degrees, such that the load is applied parallel to the wide face of the laminations, it is considered to be a vertically laminated member. Glulam members have different tabulated stress properties depending on whether the member is used in a horizontal or vertical orientation. For more information, refer to APA *Glulam Design Specification*, Form EWS Y117, or ICC-ES report ESR-1940.

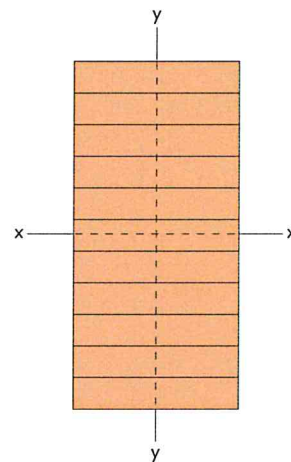
Sizes

Glulam is available in both custom and stock sizes. Stock beams are manufactured in commonly used dimensions and cut to length when the beams are ordered from a distributor or dealer. Typical stock beam widths include: 3-1/8, 3-1/2, 5-1/8, 5-1/2 and 6-3/4 inches, which meet the requirements for most residential construction applications.

Where long spans, unusually heavy loads or other circumstances control design, custom members are typically specified. Custom members are available in virtually any size and shape that may be required to meet the design conditions.

Some of the common custom shapes that are available include curved beams, pitched and curved beams, radial arches and tudor arches.

FIGURE 1

BEAM CROSS SECTION

Appearance Classification

Glulam is available in a range of appearances, all looking different but having the same structural characteristics for a given strength grade. Glulam appearance classifications are:

Framing. This classification is intended only for use in concealed applications. Beams with this appearance classification are provided in widths designed to fit flush with 2x4 and 2x6 wall framing.

Framing-L. The same as Framing classification except that LVL laminations are used on the outermost surfaces.

Industrial. Used for concealed applications or where appearance is not of primary importance.

Industrial-L. The same as Industrial classification except that LVL laminations are used on the outermost surfaces.

Architectural. The appearance of choice in applications where members are exposed to view, because they have a smooth, attractive finish. Stock beams are often supplied with this appearance so they may be exposed to view in the finished structure.

Premium. Available only as a custom order where finished appearance is of primary importance.

All appearance classifications permit natural growth characteristics with varying degrees of open voids permitted. Voids are filled as required by the appearance grade specified using inserts and wood fillers. The appearance classification is not related to lumber layout requirements and thus does not affect design values for the beam.

Section Properties and Capacities

When selecting a glulam member, the builder, designer or specifier must use a member with the required section properties to satisfy the load-carrying requirements. Different load capacities are possible for different stress level combinations of glulam. Tables giving the load-carrying capacities for glulam are included in the APA Data File: *Glued Laminated Beam Design Tables*, Form EWS S475. These beam capacities are based on loading perpendicular to the wide faces of the laminations; that is, bending about the x-x axis of the beam, as shown in Figure 1.

Camber

One of the most important design considerations for wood framing is deflection. For longer spans, deflection is often the controlling design factor. While any wood bending member can be designed to minimize deflection, glulam is the only engineered wood product that can be easily cambered to reduce the aesthetic effect of in-service deflections. Camber is curvature built into a fabricated member (see Figure 2) which is opposite in direction and magnitude to the calculated deflection that occurs under gravity loads.

The glulam industry recommends that roof beams be cambered for 1-1/2 times the calculated dead load deflection. This will generally be sufficient to assure that the beam will not exhibit a sag over a period of many years of loading, as may occur with non-cambered wood products. To achieve a level profile, it is recommended that floor beams be only cambered for 1.0 times the calculated dead load deflection.

FIGURE 2

BEAM CAMBER PARAMETERS

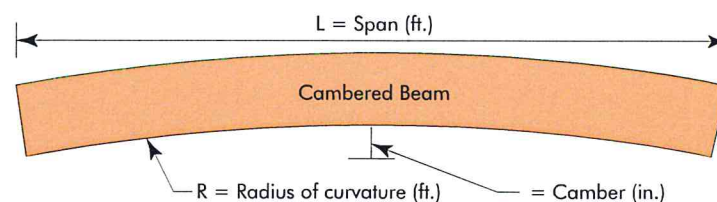


TABLE 2

CAMBER FOR 3500-FOOT RADIUS

Span in feet:	10	12	14	16	18	20	22	24	26	28
Camber in inches:	.04	.06	.08	.11	.14	.17	.21	.25	.29	.34

Camber for glulam beams is specified as either “inches of camber” or as a radius of curvature that is to be used in the manufacturing process. Commonly used curvature radii for commercial applications are 1,600 and 2,000 feet, although any camber may be specified.

Most residential applications require very little or no camber which, in turn, makes glulam the ideal choice. Stock beams are typically supplied with a relatively flat camber radius of 3,500 feet as shown in Table 2 or zero camber; thus, they have just the right camber for residential construction. If, however, more camber is required, such as for a long-span roof beam, custom beams are available through manufacturers to meet the most exacting specifications.

For additional information on cambering glulam beams, refer to APA Technical Note: *Glulam Beam Camber*, Form EWS S550, which provides a camber table for various beam spans and radii of curvature.

Hybrid Beams Offer New Design Options

In response to market demands for increased structural performance, APA worked with its member manufacturers to develop a new high strength “hybrid” glulam beam. This beam uses laminated veneer lumber (LVL) as the outermost top and bottom laminations. The beam has a balanced layup, eliminating the concern about losing structural value if the beam is inadvertently installed upside down. The hybrid glulam is rated at 30F – 2.1E as compared to the traditional 24F – 1.8E glulam. These beam layups have been incorporated in APA *Glulam Design Specification*, Form EWS Y117, and ICC-ES report ESR-1940.

Since these high-strength hybrid beams are often used to support wood I-joist floor framing, they are typically supplied in I-joist compatible (IJC) sizes. This means the depths match the typical residential I-joist depths of 9-1/2, 11-7/8, 14 and 16 inches, and the widths match conventional 2x4 and 2x6 wall framing. Beam depths greater than 16 inches are available up to 30 inches.

Hybrid glulam beams are only available in Framing-L and Industrial-L appearance classifications and will typically have “hit or miss” surfacing of the wide faces.



Formaldehyde Emissions

Formaldehyde emissions from glulam manufactured to the ANSI/AITC A190.1-07 Standard are extremely low. ANSI/AITC A190.1 compliant glulam meets or is exempt from the most stringent formaldehyde emission standards and regulations, including the California Air Resources Board (CARB) Air Toxic Control Measure for Composite Wood Products and the Japanese Agricultural Standards (JAS).

Trademarks and Acceptances

Glulam beams manufactured by APA members are certified with the APA EWS trademark. The mark signifies that the manufacturer is committed to a rigorous program of quality verification and testing and that products are manufactured in conformance with ANSI/AITC Standard A190.1-07, American National Standard for Structural Glued Laminated Timber.

Typical information included in an APA EWS trademark is shown on the sample trademark on page 28. This information may vary depending on whether the member is supplied as a custom or stock product. The APA EWS trademark is recognized by all major model building codes for the certification of glued laminated timber produced by APA members.

APA also issues APA Product Reports to specific glulam manufacturers whose proprietary products are meeting the code requirements and suitable for use in building construction. For more information on APA Product Reports, please visit the APA web site, www.apawood.org/ProductReports.

GLULAM IN NONRESIDENTIAL APPLICATIONS

Visible Beauty, Hidden Strength

Glulam has a reputation for being used in striking applications, such as vaulted ceilings and other designs with soaring open spaces. In churches, schools, restaurants and other commercial buildings, glulam is often specified for its beauty, as well as its strength, for good reason. Glulam has the classic natural wood appearance that holds a timeless appeal.

Aesthetics aside, there are many other applications where the strength and durability of glulam beams make them the ideal structural choice. Typical uses range from simple purlins, ridge beams, floor beams and cantilevered beams to complete commercial roof systems. In some instances, warehouse and distribution centers with roof areas exceeding 1 million square feet have been constructed using glulam framing. In large open spaces, glulam beams can span more than 100 feet.

One of the greatest advantages of glulam is that it can be manufactured in a wide range of shapes, sizes and configurations. In addition to straight prismatic sections, beams can also be produced in a variety of tapered configurations, such as single tapered, double tapered and off-centered ridges. Curved shapes range from a simple curved beam to a pitched and tapered curved beam to a complex arch configuration. Spans using glulam arches are virtually unlimited. For example, in reticulated glulam framed dome structures, arches span more than 500 feet.

Glulam Trusses Add Design Options for Long Spans

Glulam trusses also take many shapes, including simple pitched trusses, complicated scissor configurations and long span bowstring trusses with curved upper chords. When designed as space frames, glulam truss systems can create great clear spans for auditoriums, gymnasiums and other applications requiring large, open floor areas.

Exposed Applications

When manufactured with waterproof adhesives, glulam products can be fully exposed to the environment provided they are properly pressure-preservative treated. Exposed applications include utility poles and crossarms, marinas, docks and other waterfront structures and bridges.

Bridges represent a growing market for glulam in pedestrian and light vehicular applications for stream and roadway crossings. Glulam is also used in secondary highway bridge designs ranging from straight girders to soaring arches.

The railroads are finding glulam to be a viable structural product for use in their heavily loaded bridge structures. As loads increase on the main lines, it is necessary to upgrade bridge capacities. Adding glulam “helper” stringers is a viable solution for increasing capacities.

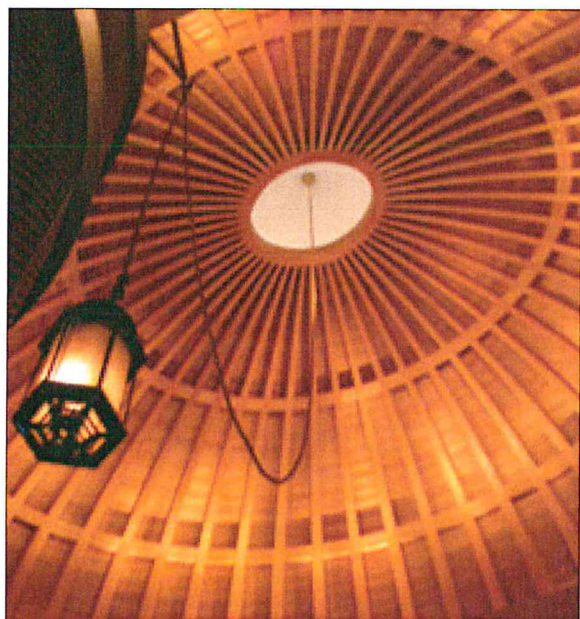
In all of these uses, the strength and stiffness of glulam give builders and designers more design versatility than they have with other structural products. And, these advantages come at a cost that is competitive with other structural systems.



The Tar River trail bridge in Rocky Mount, North Carolina features glued laminated arches.



The Disney ICE rink in Anaheim, California features glulam arches curved to a 75-foot radius to form the ice center's roof system.



The dome of this synagogue is constructed with 54 Douglas-fir glulam beams covered with a veneer of white oak.



The architect achieved cost savings and energy savings with the wood design of Gunter Primary School in Gunter, Texas.



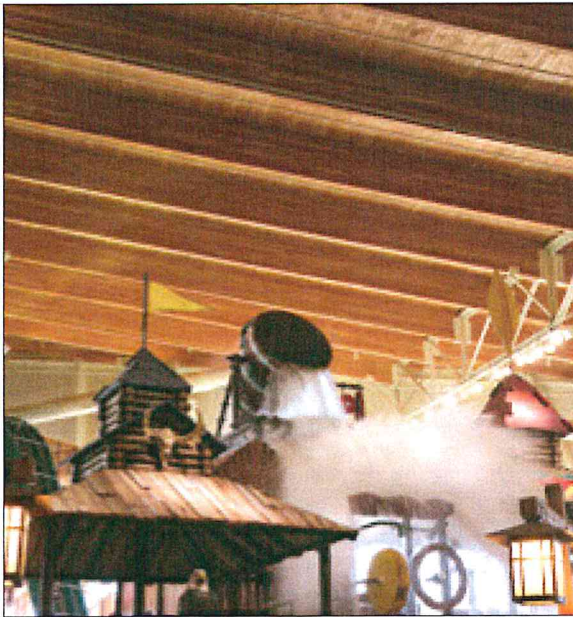
Architectural-grade glulam supports the atrium in the Garfield Commons building at Pacific Lutheran University in Tacoma, Wash.



This glulam bridge connects the Sheshan Golf Course with a nearby luxury residential community, providing both style and functionality. The project prompted new interest in using glulam for golf course bridges in China.



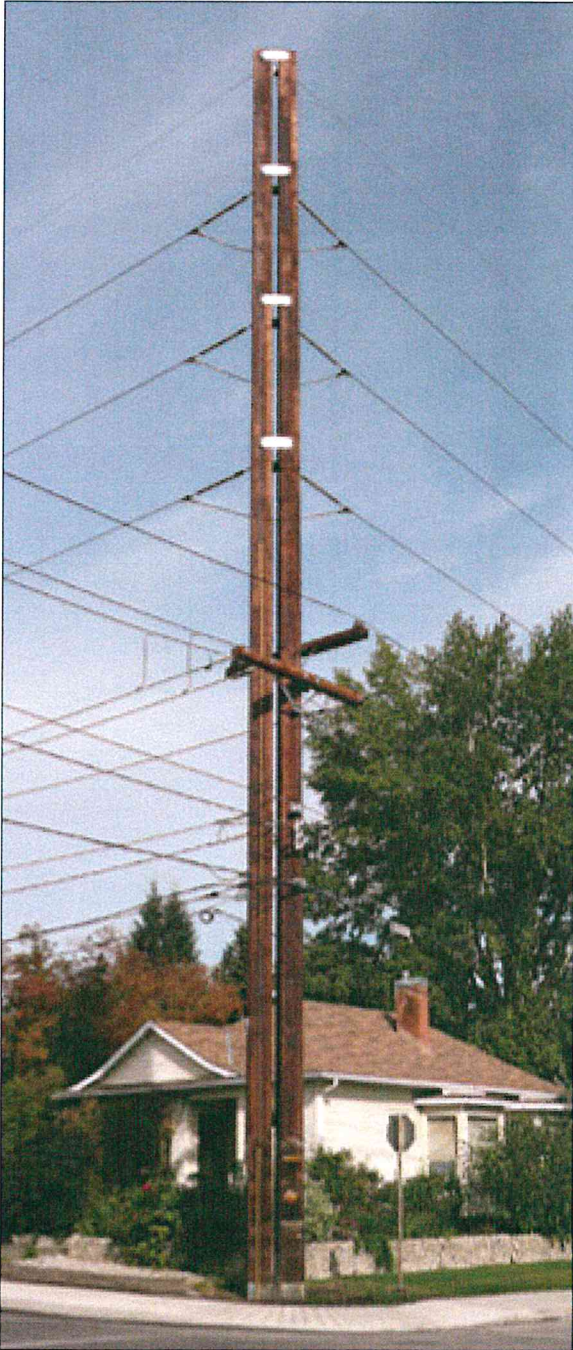
Campbell Basin Lodge at Crystal Mountain, Wash. This 12,500-square-foot ski lodge includes an upscale food court and plenty of seating.



The Great Wolf Lodge in Grand Mound, Wash. features 65-foot glulam beams over the enclosed water park.



Durable glulam forms a resilient stair tread.



Two 107-foot poles are bolted together in this unique utility pole design. Photo courtesy of Western Archrib.



Glulam arches support the roof of the Chicago Bears practice facility in Lake Forest, Illinois.



This 236,000-square-foot potash storage building in Portland, Oregon features APA EWS glulam arches.

GLULAM IN RESIDENTIAL APPLICATIONS

In residential construction, APA EWS trade-marked glulam beams are often chosen for their beauty in exposed designs, such as rafters in vaulted ceilings or long clear-span ridge beams. They're also ideal for hidden structural applications, such as floor beams and headers. No other product combines the strength and natural beauty of wood like glulam, and nothing provides builders and designers with the design flexibility demanded by today's homeowner.

Stock Beams and Custom Beams

For most residential applications, stock beams are the product of choice. Stock beams, readily available from distributors throughout North America, are manufactured in widths of 3-1/8, 3-1/2, 5-1/8, 5-1/2 and 6-3/4 inches with depths ranging from 9 to 36 inches. Often, stock beams are supplied as an architectural appearance classification making them suitable for exposed applications. These are typically a 24F-1.8E stress combination.

Custom glulam beams are also readily available in most market areas and are used when a larger cross-section, longer length, curved shape or different appearance classification is needed. Examples of curved custom applications include curved fascia members and arches over clear span areas, such as great rooms and interior pool enclosures.

Hybrid beams, described on page 7, are also an option for residential construction. These are typically used when higher design properties have been specified by the designer.

Floor Beams

The superior strength of glulam allows longer clear spans than solid-sawn lumber. Because glulam is manufactured from kiln-dried lumber, shrinkage and warping are minimized. In addition, glulam beams have excellent fastener-holding capability, which means a firm subfloor with minimal nail popping or squeaks.

Glulam floor beams offer several advantages over steel beams. They are lighter in weight, easy to install with typical residential construction equipment, and are a better value on an installed cost basis. When attaching glulam to other framing members, construction crews can use standard tools and fasteners because they are making wood-to-wood connections. If necessary, a glulam beam can be cut to length at the job site, while cutting a steel beam requires a torch and a second trade crew.

Glulam is available in I-joist compatible depths to easily permit flush framing without special furring, as shown in the photo above. I-joist compatible beams (IJC), are supplied in depths of 9-1/2, 11-7/8, 14 and 16 inches to match the depths of I-joists used in residential construction. In the application shown at the top of page 14, a glulam supports the second floor I-joist framing. The glulam beam was chosen for its size, strength, cost competitiveness and availability.

Ridge and Rafter Beams

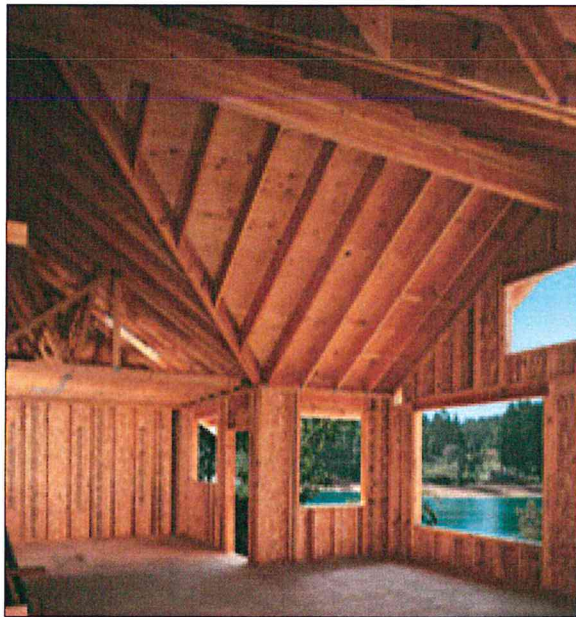
The open, airy designs and high ceilings common in residential construction today make glulam the perfect choice for ridge beam applications as shown on page 14. They can span long distances and carry virtually any design load. Sloping glulam rafter beams are the perfect complement to ridge beams in exposed applications.



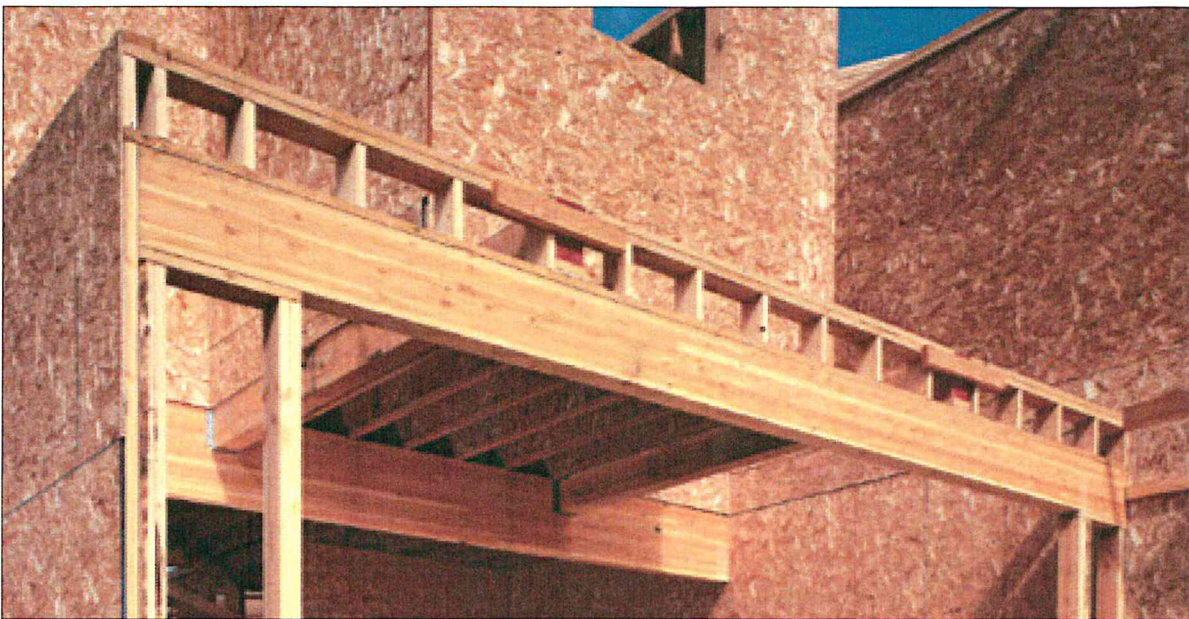
I-joist compatible (IJC) glulam beams are supplied in depths of 9-1/2, 11-7/8, 14 and 16 inches.



Exposed glulam beams in the ridge and intermediate supports for this condominium residence provide both visual drama and structural integrity.



A glulam ridge beam supports the dramatic roof lines in this Western Washington home, shown under construction, left, and finished, right.



Glulam garage door header extends over adjacent narrow shear wall. (See Figure 4 for further details.)



This test in the APA research center simulates seismic lateral loads over dozens of cycles to the same wall line. APA researchers can then determine the suitability of various bracing details for seismic performance, such as extending the glulam header over the narrow end wall.



Glulam columns and headers provide primary support in this condominium construction.

Garage Door Headers

Glulam headers can easily span distances long enough to allow garage door openings for two or three cars. And because they are cut to length when you buy them, you pay only for the length you need – nothing is wasted. A common width of glulam garage door header is 3-1/2 inches, which fits conventional 2x4 wall construction. For 2x6 wall construction, a 5-1/2-inch-wide glulam provides the perfect fit. Beams with widths of 3-1/8 inches and 5-1/8 inches are also used for these applications, but may require shimming.

FIGURE 3

GLULAM GARAGE DOOR HEADERS – DESIGN EXAMPLE

The 16'-3" beam span in this figure supports roof trusses on a 28-foot-wide house with 2' overhangs, under a 15 psf design dead load and 25 psf design snow load. According to the data in Tables 3A and 3B (pages 18-19), four different sizes of glulam beams could be selected: 3-1/8" by 15", 3-1/2" by 13-1/2", 5-1/8" by 12" and 5-1/2" by 12", all suitable to carry the required design loads with the final choice being based on local availability, cost, framing compatibility and designer preference.

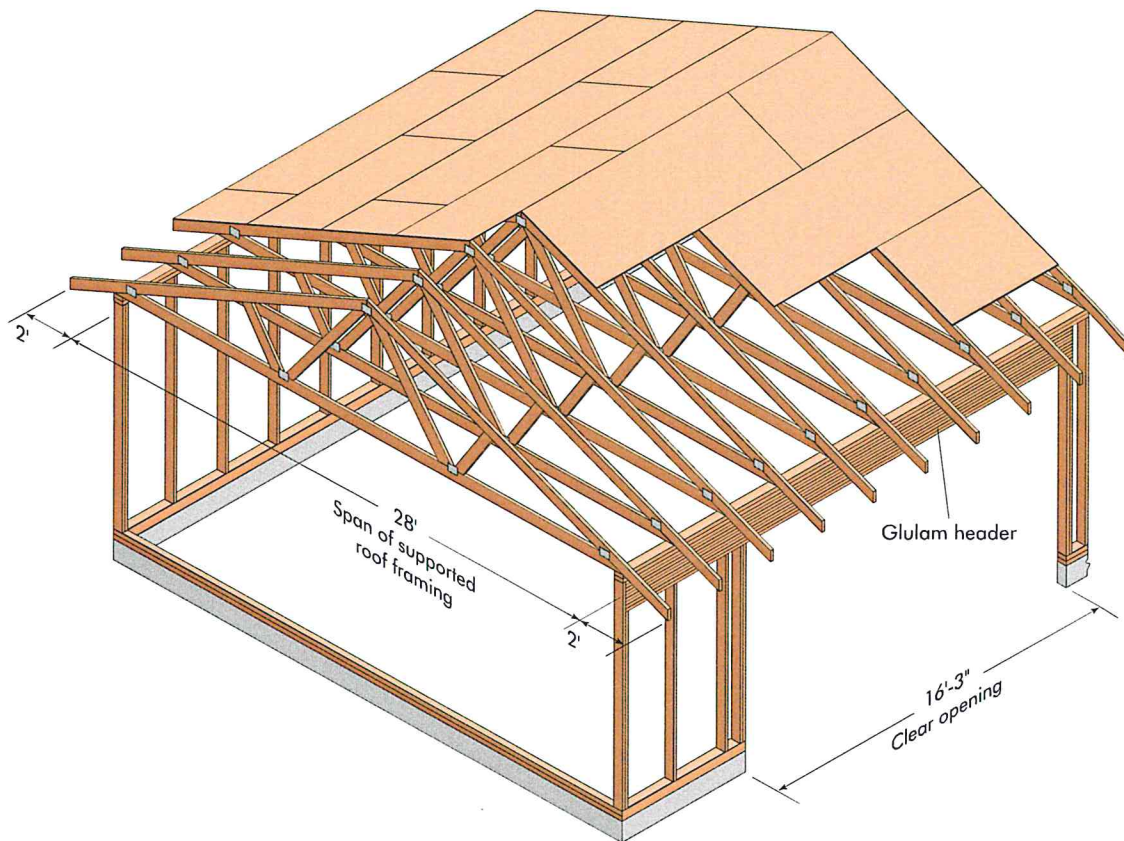
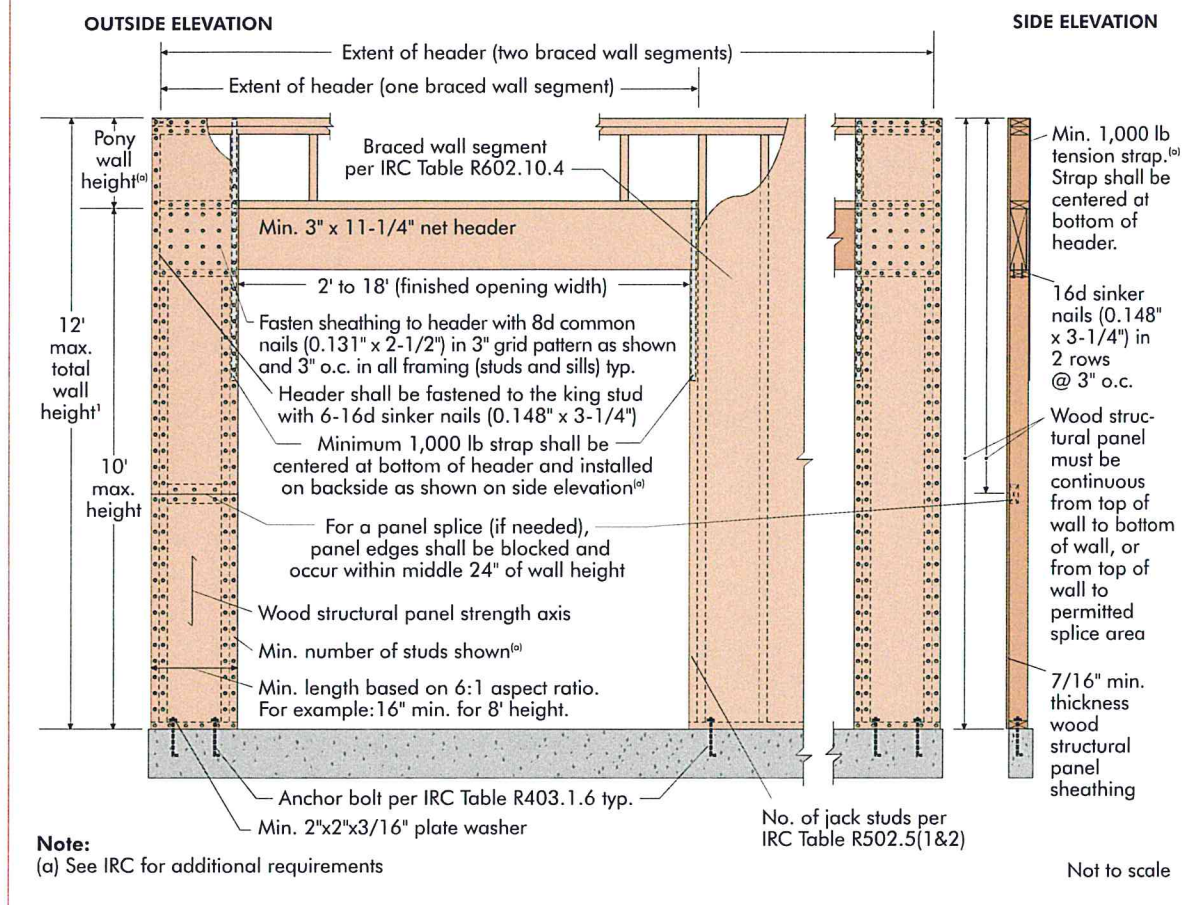


FIGURE 4

WALLS WITH 6:1 ASPECT RATIO USED WITH CONTINUOUS WOOD STRUCTURAL PANEL SHEATHING Over Concrete or Masonry Block Foundation



Full-length glulam headers at an end-wall provide an excellent nailing surface for structural wood panels, which help tie the beam to wall framing members on either side of the garage door opening to improve bracing. The APA Narrow Wall Bracing Method (as shown above) addresses such applications, where narrow wall sections must withstand the same lateral forces that bear on other larger wall and roof sections of the home. The connections in the frame add rigidity and improve resistance to wind and earthquake loads by effectively creating a narrow shear wall, as shown in Figure 4.

For more information on the Narrow Wall Bracing Method, refer to www.wallbracing.org.

Columns

Glulam columns are straight and dimensionally true, making framing an easy task. Because glulam columns are available in long lengths, the members don't have to be spliced together, as is often necessary with sawn lumber. And, glulam columns can be exposed to view as a unique architectural feature of the framing system. Reference APA Data File: *Design of Structural Glued Laminated Timber Columns*, Form EWS Y240.

TABLE 3A

APA EWS 24F-1.8E GRADE GLULAM GARAGE DOOR HEADERS FOR SINGLE-STORY APPLICATIONS
Rough Door Opening = 9'-3" (Beam depths based on 1-1/2" laminations.)

Span of supported roof trusses (ft)								
	22	24	26	28	30	32	34	36
Non-Snow Load (125%)	3-1/8 x 7-1/2	3-1/8 x 7-1/2	3-1/8 x 7-1/2	3-1/8 x 7-1/2	3-1/8 x 7-1/2	3-1/8 x 9	3-1/8 x 9	3-1/8 x 9
15 psf Dead	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 7-1/2
20 psf Live	5-1/8 x 6	5-1/8 x 6	5-1/8 x 6	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2
	5-1/2 x 6	5-1/2 x 6	5-1/2 x 6	5-1/2 x 6	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2
Snow Load (115%)	3-1/8 x 7-1/2	3-1/8 x 9	3-1/8 x 9	3-1/8 x 9	3-1/8 x 9	3-1/8 x 9	3-1/8 x 9	3-1/8 x 10-1/2
15 psf Dead	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 9	3-1/2 x 9	3-1/2 x 9
25 psf Live	5-1/8 x 6	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2
	5-1/2 x 6	5-1/2 x 6	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2
Snow Load (115%)	3-1/8 x 9	3-1/8 x 9	3-1/8 x 9	3-1/8 x 9	3-1/8 x 9	3-1/8 x 10-1/2	3-1/8 x 10-1/2	3-1/8 x 10-1/2
15 psf Dead	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 7-1/2	3-1/2 x 9	3-1/2 x 9	3-1/2 x 9	3-1/2 x 9	3-1/2 x 9
30 psf Live	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2
	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2
Snow Load (115%)	3-1/8 x 9	3-1/8 x 9	3-1/8 x 10-1/2	3-1/8 x 10-1/2	3-1/8 x 10-1/2	3-1/8 x 10-1/2	3-1/8 x 10-1/2	3-1/8 x 12
15 psf Dead	3-1/2 x 9	3-1/2 x 9	3-1/2 x 9	3-1/2 x 9	3-1/2 x 10-1/2	3-1/2 x 10-1/2	3-1/2 x 10-1/2	3-1/2 x 10-1/2
40 psf Live	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 7-1/2	5-1/8 x 9	5-1/8 x 9	5-1/8 x 9	5-1/8 x 9
	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 7-1/2	5-1/2 x 9	5-1/2 x 9

Rough Door Opening = 16'-3" (Beam depths based on 1-1/2" laminations.)

Span of supported roof trusses (ft)								
	22	24	26	28	30	32	34	36
Non-Snow Load (125%)	3-1/8 x 12	3-1/8 x 12	3-1/8 x 13-1/2	3-1/8 x 13-1/2	3-1/8 x 13-1/2	3-1/8 x 13-1/2	3-1/8 x 15	3-1/8 x 15
15 psf Dead	3-1/2 x 12	3-1/2 x 12	3-1/2 x 12	3-1/2 x 12	3-1/2 x 13-1/2	3-1/2 x 13-1/2	3-1/2 x 13-1/2	3-1/2 x 13-1/2
20 psf Live	5-1/8 x 10-1/2	5-1/8 x 10-1/2	5-1/8 x 10-1/2	5-1/8 x 12	5-1/8 x 12	5-1/8 x 12	5-1/8 x 12	5-1/8 x 12
	5-1/2 x 10-1/2	5-1/2 x 10-1/2	5-1/2 x 10-1/2	5-1/2 x 10-1/2	5-1/2 x 10-1/2	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12
Snow Load (115%)	3-1/8 x 13-1/2	3-1/8 x 13-1/2	3-1/8 x 15	3-1/8 x 15	3-1/8 x 15	3-1/8 x 15	3-1/8 x 16-1/2	3-1/8 x 16-1/2
15 psf Dead	3-1/2 x 12	3-1/2 x 13-1/2	3-1/2 x 13-1/2	3-1/2 x 13-1/2	3-1/2 x 13-1/2	3-1/2 x 15	3-1/2 x 15	3-1/2 x 15
25 psf Live	5-1/8 x 10-1/2	5-1/8 x 12	5-1/8 x 12	5-1/8 x 12	5-1/8 x 12	5-1/8 x 12	5-1/8 x 12	5-1/8 x 13-1/2
	5-1/2 x 10-1/2	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12
Snow Load (115%)	3-1/8 x 13-1/2	3-1/8 x 15	3-1/8 x 15	3-1/8 x 15	3-1/8 x 16-1/2	3-1/8 x 16-1/2	3-1/8 x 16-1/2	3-1/8 x 18
15 psf Dead	3-1/2 x 13-1/2	3-1/2 x 13-1/2	3-1/2 x 13-1/2	3-1/2 x 15	3-1/2 x 15	3-1/2 x 15	3-1/2 x 15	3-1/2 x 16-1/2
30 psf Live	5-1/8 x 12	5-1/8 x 12	5-1/8 x 12	5-1/8 x 12	5-1/8 x 12	5-1/8 x 13-1/2	5-1/8 x 13-1/2	5-1/8 x 13-1/2
	5-1/2 x 10-1/2	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12	5-1/2 x 13-1/2
Snow Load (115%)	3-1/8 x 15	3-1/8 x 16-1/2	3-1/8 x 16-1/2	3-1/8 x 16-1/2	3-1/8 x 18	3-1/8 x 18	3-1/8 x 18	3-1/8 x 19-1/2
15 psf Dead	3-1/2 x 15	3-1/2 x 15	3-1/2 x 15	3-1/2 x 16-1/2	3-1/2 x 16-1/2	3-1/2 x 16-1/2	3-1/2 x 18	3-1/2 x 18
40 psf Live	5-1/8 x 12	5-1/8 x 12	5-1/8 x 13-1/2	5-1/8 x 13-1/2	5-1/8 x 13-1/2	5-1/8 x 13-1/2	5-1/8 x 15	5-1/8 x 15
	5-1/2 x 12	5-1/2 x 12	5-1/2 x 12	5-1/2 x 13-1/2	5-1/2 x 13-1/2	5-1/2 x 13-1/2	5-1/2 x 13-1/2	5-1/2 x 15

Notes:

- (1) This table is for preliminary design use only. Final design should include a complete analysis, including bearing stresses and lateral stability.
- (2) Service condition = dry.
- (3) Maximum deflection under live load = span/240.
- (4) Maximum deflection under total load = span/180.
- (5) Maximum 2' roof truss overhangs.
- (6) Beam weight = 36 pcf.
- (7) Assumes a maximum bearing length of 4-1/2".
- (8) Design properties at normal load duration and dry service conditions $F_b = 2,400$ psi, $F_v = 215$ psi, $E_x = 1.8 \times 10^6$ psi.
- (9) Beam widths of 3" and 5" may be substituted for 3-1/8" and 5-1/8", respectively, at the same tabulated depth.

TABLE 3B

APA EWS 24F-1.8E GRADE GLULAM GARAGE DOOR HEADERS FOR SINGLE-STORY APPLICATIONS
Rough Door Opening = 9'-3" (Beam depths based on 1-3/8" laminations.)

Span of supported roof trusses (ft)								
	22	24	26	28	30	32	34	36
Non-Snow Load (125%)	3-1/8 x 6-7/8	3-1/8 x 8-1/4	3-1/8 x 8-1/4	3-1/8 x 8-1/4	3-1/8 x 8-1/4	3-1/8 x 8-1/4	3-1/8 x 8-1/4	3-1/8 x 8-1/4
15 psf Dead	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8
20 psf Live	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8
Snow Load (115%)	3-1/8 x 8-1/4	3-1/8 x 8-1/4	3-1/8 x 8-1/4	3-1/8 x 8-1/4	3-1/8 x 9-5/8	3-1/8 x 9-5/8	3-1/8 x 9-5/8	3-1/8 x 9-5/8
15 psf Dead	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 8-1/4
25 psf Live	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8
Snow Load (115%)	3-1/8 x 8-1/4	3-1/8 x 8-1/4	3-1/8 x 9-5/8	3-1/8 x 9-5/8	3-1/8 x 9-5/8	3-1/8 x 9-5/8	3-1/8 x 9-5/8	3-1/8 x 9-5/8
15 psf Dead	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 8-1/4	5-1/8 x 8-1/4	5-1/8 x 8-1/4
30 psf Live	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 8-1/4	5-1/2 x 8-1/4
Snow Load (115%)	3-1/8 x 9-5/8	3-1/8 x 9-5/8	3-1/8 x 9-5/8	3-1/8 x 9-5/8	3-1/8 x 11	3-1/8 x 11	3-1/8 x 11	3-1/8 x 11
15 psf Dead	5-1/8 x 6-7/8	5-1/8 x 6-7/8	5-1/8 x 8-1/4	5-1/8 x 8-1/4	5-1/8 x 8-1/4	5-1/8 x 8-1/4	5-1/8 x 8-1/4	5-1/8 x 8-1/4
40 psf Live	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 6-7/8	5-1/2 x 8-1/4	5-1/2 x 8-1/4	5-1/2 x 8-1/4	5-1/2 x 8-1/4	5-1/2 x 8-1/4

Rough Door Opening = 16'-3" (Beam depths based on 1-3/8" laminations.)

Span of supported roof trusses (ft)								
	22	24	26	28	30	32	34	36
Non-Snow Load (125%)	3-1/8 x 12-3/8	3-1/8 x 12-3/8	3-1/8 x 12-3/8	3-1/8 x 13-3/4	3-1/8 x 13-3/4	3-1/8 x 13-3/4	3-1/8 x 13-3/4	3-1/8 x 15-1/8
15 psf Dead	5-1/8 x 11	5-1/8 x 11	5-1/8 x 11	5-1/8 x 11	5-1/8 x 11	5-1/8 x 12-3/8	5-1/8 x 12-3/8	5-1/8 x 12-3/8
20 psf Live	5-1/2 x 9-5/8	5-1/2 x 11	5-1/2 x 11	5-1/2 x 11	5-1/2 x 11	5-1/2 x 11	5-1/2 x 11	5-1/2 x 12-3/8
Snow Load (115%)	3-1/8 x 13-3/4	3-1/8 x 13-3/4	3-1/8 x 13-3/4	3-1/8 x 15-1/8	3-1/8 x 15-1/8	3-1/8 x 15-1/8	3-1/8 x 16-1/2	3-1/8 x 16-1/2
15 psf Dead	5-1/8 x 11	5-1/8 x 11	5-1/8 x 11	5-1/8 x 12-3/8	5-1/8 x 12-3/8	5-1/8 x 12-3/8	5-1/8 x 12-3/8	5-1/8 x 12-3/8
25 psf Live	5-1/2 x 11	5-1/2 x 11	5-1/2 x 11	5-1/2 x 12-3/8	5-1/2 x 12-3/8	5-1/2 x 12-3/8	5-1/2 x 12-3/8	5-1/2 x 12-3/8
Snow Load (115%)	3-1/8 x 13-3/4	3-1/8 x 15-1/8	3-1/8 x 15-1/8	3-1/8 x 15-1/8	3-1/8 x 16-1/2	3-1/8 x 16-1/2	3-1/8 x 16-1/2	3-1/8 x 17-7/8
15 psf Dead	5-1/8 x 11	5-1/8 x 12-3/8	5-1/8 x 12-3/8	5-1/8 x 12-3/8	5-1/8 x 12-3/8	5-1/8 x 12-3/8	5-1/8 x 13-3/4	5-1/8 x 13-3/4
30 psf Live	5-1/2 x 11	5-1/2 x 11	5-1/2 x 11	5-1/2 x 12-3/8	5-1/2 x 12-3/8	5-1/2 x 12-3/8	5-1/2 x 12-3/8	5-1/2 x 12-3/8
Snow Load (115%)	3-1/8 x 15-1/8	3-1/8 x 16-1/2	3-1/8 x 16-1/2	3-1/8 x 16-1/2	3-1/8 x 17-7/8	3-1/8 x 17-7/8	3-1/8 x 17-7/8	3-1/8 x 19-1/4
15 psf Dead	5-1/8 x 12-3/8	5-1/8 x 12-3/8	5-1/8 x 12-3/8	5-1/8 x 13-3/4	5-1/8 x 13-3/4	5-1/8 x 13-3/4	5-1/8 x 15-1/8	5-1/8 x 15-1/8
40 psf Live	5-1/2 x 12-3/8	5-1/2 x 12-3/8	5-1/2 x 12-3/8	5-1/2 x 12-3/8	5-1/2 x 13-3/4	5-1/2 x 13-3/4	5-1/2 x 13-3/4	5-1/2 x 13-3/4

Notes:

- (1) This table is for preliminary design use only. Final design should include a complete analysis, including bearing stresses and lateral stability.
- (2) Service condition = dry.
- (3) Maximum deflection under live load = span/240.
- (4) Maximum deflection under total load = span/180.
- (5) Maximum 2' roof truss overhangs.
- (6) Beam weight = 36 pcf.
- (7) Assumes a maximum bearing length of 4-1/2" and minimum bearing length of 3".
- (8) Design properties at normal load duration and dry service conditions $F_b = 2,400$ psi, $F_v = 215$ psi, $E_x = 1.8 \times 10^6$ psi.
- (9) Beam widths of 3" and 5" may be substituted for 3-1/8" and 5-1/8", respectively, at the same tabulated depth.

DESIGNING FOR FIRE RESISTANCE

Fire Performance of Wood Construction

The truly fireproof building does not exist. In nearly all buildings, the contents are flammable and are the critical factor in a fire. The smoke and heat generated by the burning contents can cause extensive damage and loss of life long before the structural components of the building are affected.

The primary objective in any fire-rated construction is protection of human life. The combination of a variety of products and construction methods can slow flame spread and make a building fire-safe. In addition to the structural materials used, the variables involved in creating a fire-safe environment include the use of sprinkler systems, gypsum wallboard, acoustical tiles and separation walls. Sprinkler systems may be used to increase allowable floor areas for most occupancies and in some instances, sprinklers may be substituted for one-hour fire-resistive construction in certain sections of a building. Building codes vary widely, so it is important to review the codes for the geographic area in which the building is being constructed to determine fire safety requirements.

Glulam Performance in Fire

Glulam performs very well in the intense heat of a fire, where temperatures can achieve 1,650° F or higher. Unprotected steel members typically buckle and twist in such high temperatures, causing catastrophic collapse of both the roof and supporting walls.

Wood ignites at about 450-500° F, but charring may begin as low as 300° F. Wood typically chars at a rate of 1/40 inch per minute. Thus, after 30 minutes of fire exposure, only the outer 3/4 inch of the glulam will be damaged. It is important to note that the adhesives used in the manufacture of a glulam beam burn at about the same rate as the wood and do not affect the overall fire performance of the member. The char that develops insulates the glulam member and, hence, raises the temperatures it can withstand. Most of the cross section of a large glulam will remain intact when exposed to fire, and the member will continue to support load.

Thus, depending on the severity of the fire and after a structural re-analysis by a qualified design professional, it is often possible to salvage the glulam members by merely removing the fire-damaged material and refinishing the surface of the member.

One-hour Fire Resistance

To assure a safe structure in the event of a fire, authorities base fire and building code requirements on research and testing, as well as fire histories. Based on these and other considerations, the model building codes, including the International Building Code (IBC), classify Heavy Timber as a specific type of construction and set minimum sizes for roof and floor beams to assure fire performance.

Procedures are also available to determine the minimum glulam size for projects in which one-hour fire resistance of components is required. Tables 4 and 5 on page 21 illustrate this principle for glulam timber. Additional details are provided in EWS Y245, *Calculating Fire Resistance of Glulam Beams and Columns*.

A structural member's fire resistance is measured by the time it can support its design load during a fire. An exposed beam or column sized for a minimum one-hour fire resistance will support a design load for at least one hour during standard fire test conditions which simulate an actual fire. The IBC provide a methodology for calculating the minimum size of glulam to provide a one-hour fire rating under given design conditions. An alternate procedure is given in Chapter 16 of the *2005 National Design Specifications*.

TABLE 4

MINIMUM DEPTHS AT WHICH 6-3/4" AND 8-3/4" WIDE BEAMS CAN BE ADAPTED FOR ONE-HOUR FIRE RATINGS

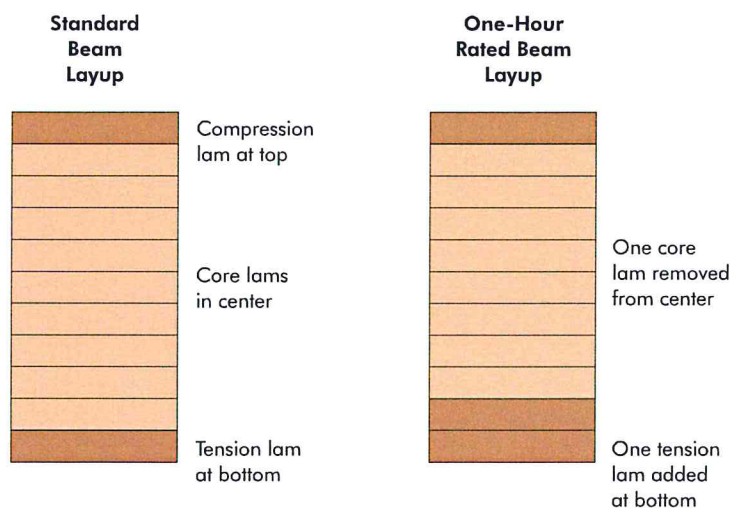
Beam Width (in.)	Depth 3 Sides Exposed (in.)	Depth 4 Sides Exposed (in.)
6-3/4	13-1/2	27
8-3/4	7-1/2	13-1/2

TABLE 5

MINIMUM DEPTHS AT WHICH 8-3/4" AND 10-3/4" COLUMN WIDTHS QUALIFY FOR ONE-HOUR RATING FOR GIVEN ℓ/D

ℓ/d Criteria	Column Width (in.)	Depth 3 Sides Exposed (in.)	Depth 4 Sides Exposed (in.)
$\ell/d > 11$	10-3/4	10-1/2	13-1/2
$\ell/d \leq 11$	8-3/4	7-1/2	12
	10-3/4	7-1/2	10-1/2

FIGURE 5

SIMPLE SPAN UNBALANCED LAYUP

It is important to note that to qualify for a one-hour fire rating for a glulam member, it is necessary to replace one core lamination with one tension lamination, as illustrated by Figure 5.

As with all other structural framing, specifications of members designed to have one-hour fire resistance should be carefully checked by a professional engineer or architect to assure compliance with all local building codes.

Fire Treatments

While pressure impregnated fire retardant chemicals are often used to reduce flame spread of some wood products, they are not recommended for use with glulam. If a fire retardant treatment is used, it is the responsibility of the design professional to determine the effects of the treatment on the strength of the glulam by consulting the manufacturer of the fire retardant treatment. Another option for reducing flame spread is to apply an intumescent paint to the surface of the glulam, which does not affect the structural integrity of the member.

For more information on fire-rated construction systems and one-hour rated glulam, refer to the *APA Fire-Rated Systems* guide, Form W305.

MOISTURE EFFECTS

Moisture Control in Wood Systems

Wood is a natural, porous material which always contains some degree of moisture. Wood moisture content is a measure of the total weight of moisture in the wood as a percentage of the oven-dried weight of the wood. Wood production processes generally involve some drying. At the time of production, glulam beams typically have an average moisture content of about 12 percent. As a comparison, the moisture content of green lumber can range from 20 to 50 percent, with kiln-dried lumber at 16 percent.

Once installed, glulam beams in interior applications will equilibrate to approximately 8 to 12 percent moisture content. Exact equilibrium moisture content is primarily a function of interior relative humidity and temperature. The time it takes for the moisture content of a wood member to equilibrate with its environment is a function of the beam size and interior humidity levels and can be substantial for large glulam beams.

Model building codes specify minimum requirements for ventilation of floor and roof spaces. These ventilation requirements vary depending on whether or not vapor retarders are used. Consult with local codes to assure compliance.

Glulam can be protected from surface moisture intrusion during transit and the construction cycle by the use of protective plastic wrapping or sealers. Surface sealants, which can be applied to the top, bottom and sides of beams, resist dirt and moisture and help control checking and grain raising. Use of a penetrating sealant is recommended if beams are to be stained or given a natural finish. Sealants can be applied to the beams before they leave the mill or they can be field applied by the contractor. The application of sealants must be part of the specification if they are to be applied at the mill.

Sealants applied to the ends of beams also help guard against moisture penetration and excessive end grain checking. A coat of sealant should be field applied to the ends of beams if they are trimmed to length or otherwise field cut.

For more information on moisture control in wood construction, refer to APA *Build A Better Home: Mold and Mildew* publication, Form A525, and Technical Notes: *Controlling Decay in Wood Construction*, Form EWS R495, and *Moisture Control in Low Slope Roofs*, Form EWS R525.

Effect of Mold and Mildew Growth on Wood Components

As an organic material, mold and mildew readily grow on wood if excessive moisture is present. Mold grows on wood if exposed to water or prolonged humidity in excess of 70 percent.

Mold and mildew are of a different type of fungi than those that cause wood to rot. Unlike wood decay fungi, molds do not cause significant loss of the strength of wood products. Nonetheless, mold and mildew on wood may raise a health concern and indicate high moisture conditions are present. Prolonged periods of high moisture may also support the growth of wood decay fungi, which is another reason why it is important to follow proper methods of design, handling, installation and maintenance that will control moisture and inhibit the growth of mold and mildew.

Checking

A common moisture-related phenomenon in wood is checking. Checking occurs naturally to wood in service. Checks are openings that occur on the surface of the wood and follow parallel to the natural grain direction of the piece. A close visual evaluation of a check will always reveal torn wood fibers. The cause of checking is shrinkage of the wood fibers as moisture is lost to the surrounding environment. Rapid drying increases this differential moisture content between the inner and outer fibers and increases the chance for checking to occur.

Glulam beams typically exhibit fewer and less severe checks than comparable size sawn timbers due to their relatively low moisture content at time of manufacture. It is often difficult, however, to control the exposure of glulam to the elements during shipping, storage and erection. Glulam may pick up surface moisture during any of these stages of the construction process.

Checks are often observed near a glue line in a glulam member where differential drying stresses are greatest. This most often occurs near the outermost glue line where the amount of surface exposed by the outermost lamination is greatest. Checks are a natural characteristic of wood and are not considered to have a detrimental effect on the strength of the member unless they develop into a full width split.

For additional information on checking and the effects of checking on the strength of glulam, refer to publications, *Owner's Guide to Understanding Checks in Glued Laminated Timber*, Form EWS F450, and Technical Note: *Evaluation of Check Size in Glued Laminated Timber Beams*, Form EWS R475.

Preservative Treatments

Decay growth in wood occurs when the wood moisture content exceeds 20–25 percent for a prolonged time. Proper detailing and maintenance can help control moisture content and prevent decay fungi growth; however, in many applications directly exposed to the elements, or other high humidity environments, this is not possible. In these cases, it is necessary to specify the use of an appropriate pressure impregnated preservative treatment to eliminate decay and insect hazards or to specify the use of heartwood of a naturally durable species, such as Alaska Yellow Cedar, Western Red Cedar or Port Orford Cedar.

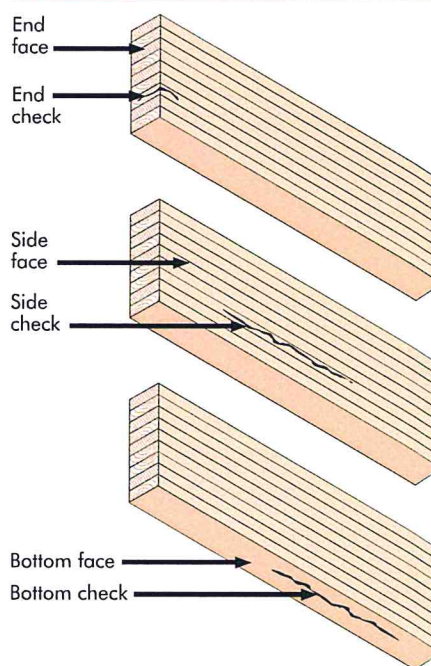
Glulam may be treated after gluing and fabrication or the individual laminations may be treated prior to gluing, depending on the species of wood used and the treatment specified. The availability of preservative-treated glulam varies from one geographic area to another, so check with your supplier before specifying a particular treatment.

When glulam beams are to be preservative-treated after gluing, members should be ordered to exact dimensions with all hole drilling and fabrication done prior to the treatment process. This will eliminate penetrating the treatment envelope by post-treatment cutting and drilling and help insure a long life for the member. Glulam beams that are pressure-preservative treated must be bonded with wet-use adhesives.

For further information on this subject, refer to APA Technical Note: *Preservative Treatment of Glued Laminated Timber*, Form EWS S580.

FIGURE 6

CHECKING

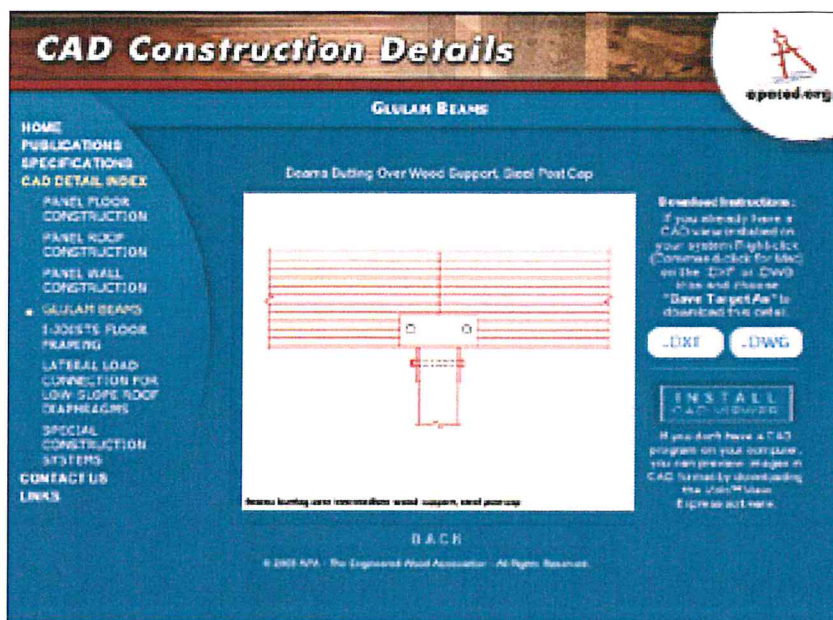


In bending members (beams, rafters, girders, etc.), checks are commonly observed in the face of the bottom lamination, in the side of the members, and at the end of the members.

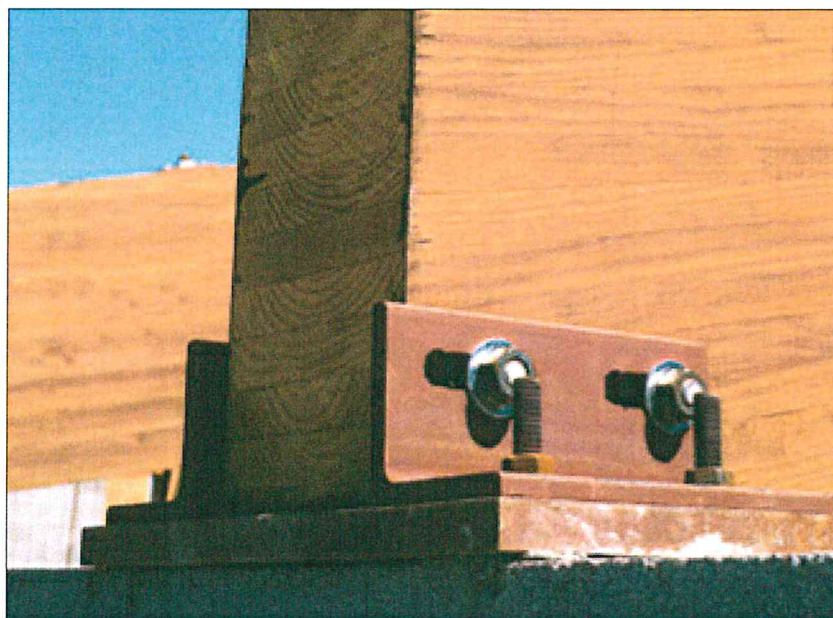
Connection Detailing

As with any structural material, proper connection detailing is essential to assure the structural performance of the member. This is also true with glulam since an improperly designed and installed connection detail may lead to a serious failure. The designer must consider the effects of moisture changes in the glulam member, proper positioning of the mechanical fasteners and the number of fasteners required to carry the loads to develop an adequate connection detail.

Based on many years of experience, the glulam industry has developed details for typical connection situations. These details illustrate the right and wrong way to make these connections and indicate the consequences of an incorrect detail. The details are illustrated and described in APA Technical Note: *Glulam Connection Details*, Form EWS T300. Additional connection recommendations are illustrated in the Data File: *Lateral Load Connections for Low-Slope Roof Diaphragms*, Form Z350. The connection details shown in the Data File may be downloaded in CAD format from APA's CAD web site, located at www.apacad.org.



Connection details for glulam framing are available in CAD format at www.apacad.org.



Slotted bolt holes permit horizontal movement of pitched and curved glulam beam.

Notching and Drilling of Glulam

Closely related to connection details is notching and drilling of glulam. Since glulam timbers are highly engineered components manufactured from specially selected and positioned lumber laminations, an improperly cut notch or a hole drilled in the wrong place can seriously affect the load-carrying capacity of the member. Only holes, notches and tapered cuts approved by the design professional of record and detailed on shop drawings should be made in a glulam member.

Field notching, cutting or drilling of a glulam beam, particularly on the tension side of the member, should be avoided. Field conditions may require making a cut, notch or hole that was not originally anticipated. In some instances, these can be made in areas of the glulam which are not highly stressed and will thus have minimal effect on the structural capacity of the member. To address these specific conditions, APA has published Technical Note: *Field Notching and Drilling of Glued Laminated Timber Beams*, Form EWS S560.



Holes and notches must be precisely located and detailed for architectural appearance and accounted for in the design of beam connections and column capacity.



Structurlam photo

These glulam members use notches and hidden connectors, resulting in a clean, uncluttered design.

DESIGN AND SPECIFICATION CONSIDERATIONS

Beam and Column Design

To determine the load capacity and recommended size for a glulam beam, consult the following APA publications:

Data File: *Glued Laminated Beam Design Tables*, Form EWS S475

Data File: *Substitution of Glulam Beams for Steel and Solid-Sawn Lumber*, Form EWS S570

Data File: *Design of Structural Glued Laminated Timber Columns*, Form EWS Y240

WoodUniversity.org

Wood University is a free online training center designed for architects, builders and building designers. Accredited for continuing education by the American Institute of Architects and the American Institute of Building Designers, Wood University offers both introductory and advanced learning modules on engineered wood products and wood design. Log on at www.wooduniversity.org.



Proper Specification

In many residential and light commercial applications, stock glulam beams meet the requirements for the job. Other residential applications and many commercial designs require custom members. In either case, the member capacity and size specified must be verified by a design professional.

To properly specify a glulam member, use the Specification Guide on pages 27-28. While all possible design considerations cannot be covered by a general specification of this type, most of the common specification concerns are incorporated.

GLULAM SPECIFICATION GUIDE

The following is a guide for preparing specifications for structural glued laminated timber used for bending members such as purlins, beams, girders or for axially loaded members, such as columns or truss chords.

A. General

1. Structural glued laminated timber shall be furnished as shown on the plans and in accordance with the following specifications. (Where other uses or requirements are applicable, modify specifications accordingly.)
2. For custom-designed members, shop drawings and details shall be furnished by the (manufacturer) and (seller) and approval obtained from the (architect) (engineer) (general contractor) and (buyer) before fabrication begins.
3. The (manufacturer) (seller) (general contractor) shall furnish connection steel and hardware for joining structural glued laminated timber members to each other and to their supports, exclusive of anchorage embedded in masonry or concrete, setting plates and items field-welded to structural steel. Steel connections shall be finished with one coat of rust-inhibiting paint.

B. Manufacture

1. **Materials, Manufacture and Quality Assurance** – Structural glued laminated timber of softwood species shall be in conformance with ANSI/AITC Standard A190.1, *American National Standard for Structural Glued Laminated Timber*, or other code-approved design, manufacturing and/or quality assurance procedures.
2. **End-Use Application** – Structural glued laminated timber members shall be manufactured for the following structural uses as applicable: (Simple span bending member – B) (Continuous or cantilever span bending member – CB) (Compression member – C) (Tension member – T).

3. **Design Values** – Structural glued laminated timber shall provide design values for normal load duration and dry-use condition.⁽¹⁾⁽²⁾ The design should specify a layout combination from Form EWS Y117, or specify a stress combination from Table 6.

4. **Appearance Grade** – Glulam shall be (framing) (framing-L) (industrial) (industrial-L) (architectural) or (premium) grade⁽³⁾ in accordance with ANSI/AITC Standard A190.1.

5. **Laminating Adhesives** – Adhesives used in the manufacture of structural glued laminated timber shall meet requirements for (wet-use) and (dry-use) service conditions.⁽¹⁾

TABLE 6

GLULAM STRESS CLASSES

Stress Class	F_{bx}^{+} (psi)	$F_{bx}^{-(1)}$ (psi)	F_{cLx} (psi)	$F_{vx}^{(3)}$ (psi)	E_x (10^6 psi)
SC 16F-1.3E	1,600	925	315	195	1.3
SC 20F-1.5E	2,000	1,100	425	210	1.5 ⁽⁵⁾
SC 24F-1.7E	2,400	1,450	500	210	1.7
SC 24F-1.8E	2,400	1,450 ⁽²⁾	650	265 ⁽⁴⁾	1.8
SC 26F-1.9E	2,600	1,950	650	265 ⁽⁴⁾	1.9
SC 28F-2.1E SP	2,800	2,300	805	300	2.1 ⁽⁶⁾
SC 30F-2.1E SP ⁽⁷⁾	3,000	2,400	805 ⁽⁸⁾	300	2.1 ⁽⁶⁾

Footnotes

- (1) For balanced layouts, F_{bx}^{-} shall be equal to F_{bx}^{+} for the stress class. Designer shall specify when balanced layout is required.
- (2) Negative bending stress, F_{bx}^{-} , is permitted to be increased to 1,850 psi for Douglas-fir and to 1,950 psi for southern pine for specific combinations. Designer shall specify when these increased stresses are required.
- (3) For non-prismatic members, notched members, and members subject to impact or cyclic loading, the design value for shear shall be multiplied by a factor of 0.72.
- (4) F_{vx} = 300 psi for glulam made of southern pine.
- (5) E_x may be increased to 1.8×10^6 psi for glulam made of Canadian Spruce-Pine-Fir or Eastern Spruce.
- (6) E_x = 2.0×10^6 psi for members with more than 15 laminations except for hybrid glulam (see page 7).
- (7) Limited to maximum width of 6 inches except for hybrid glulam (see page 7).
- (8) F_{cLx} = 650 psi for hybrid glulam (see page 7).

Design values in this table represent design values for groups of similar glued laminated timber combinations. Higher design values for some properties may be obtained by specifying a particular combination listed in *Glulam Design Specification*, APA Form EWS Y117 or ICC-ES report ESR-1940. Design values are for members with 4 or more laminations. Some stress classes are not available in all species. Contact glulam manufacturer for availability.

6. Camber (when applicable) – Structural glued laminated timber (shall) (shall not) be manufactured with a built-in camber.

7. Preservative Treatment (when applicable) – Glulam shall be pressure treated after manufacture in accordance with American Wood-Preservers' Association (AWPA) Standard U1 with (creosote or creosote/coal tar solution) (pentachlorophenol in oil) (pentachlorophenol in light solvent) preservatives as required for (soil contact) (above ground) exposure.

8. Fire Resistance (when applicable) – Glulam shall be sized and manufactured for one-hour fire resistance.⁽⁴⁾

9. Protective Sealers and Finishes – Unless otherwise specified, sealer shall be applied to the ends of all members. Surfaces of members shall be (not sealed) (sealed with penetrating sealer) (sealed with primer/sealer coating).⁽⁵⁾

10. Trademarks – Members shall be marked with the APA EWS trademark indicating conformance with the manufacturing, quality assurance and marking provisions of ANSI/AITC Standard A190.1.

11. Certificates (when applicable) – A Certificate of Conformance may be provided by the (manufacturer) (seller) to indicate conformance with ANSI/AITC Standard A190.1 if requested.

12. Protection for Shipment – Members shall be (not wrapped) (load wrapped) (bundle wrapped) (individually wrapped) with a water-resistant covering for shipment.



1	B IND	EWS Y117	4
7	EWS 24F-1.8E HEADER	WW	6
2	MILL 0000	ANSI/AITC A190.1-2007	5
			3

(1) Indicates structural use: B-Simple span bending member. C-Compression member. T-Tension member. CB-Continuous or cantilevered span bending member.

(2) Mill number.

(3) Identification of ANSI/AITC Standard A190.1, Structural Glued Laminated Timber. ANSI/AITC A190.1 is the American National Standard for glulam beams.

(4) Applicable APA Glulam Design Specification.

(5) Western woods (see note 6).

(6) Structural grade designation. The APA EWS 24F-1.8E designation is a glulam grade commonly used in residential applications. Combining a group of six layup combinations made with Douglas-fir-Larch, Spruce-Pine-Fir, southern pine, and/or Hem fir, this grade provides strength (allowable bending stress of 2,400 psi and allowable shear stress of 215 psi) and stiffness (modulus of elasticity of 1.8×10^6 psi) needed for typical residential applications, while greatly simplifying the design specification.

(7) Designation of appearance grade. FRAMING, FRAMING-L, INDUSTRIAL, INDUSTRIAL-L, ARCHITECTURAL, or PREMIUM.

Notes to Specifiers:

(1) Dry service condition – moisture content of the member will be below 16% in service; wet service condition – moisture content of the member will be at or above 16% in service. When structural glued laminated timber members are to be preservative treated, wet-use adhesives must be specified.

(2) An alternative to specifying a layup combination or stress combination is to specify the required allowable design stresses for the specific design application.

(3) Appearance classifications are described in APA Technical Note: *Glued Laminated Timber Appearance Classifications for Construction Applications*, Form EWS Y110.

(4) When structural glued laminated timber with one-hour fire resistance is specified, minimum size limitations and additional lamination requirements are applicable. Supporting steel connectors and fasteners also must be protected to achieve a one-hour fire rating. Cover with fire-rated (Type X) gypsum wallboard or sheathing, or 1-1/2" wood, to provide the needed protection. See page 20.

(5) Specify a penetrating sealer when the finish will be natural or a semitransparent stain. Primer/sealer coatings have a higher solids content and provide greater moisture protection, and are suitable for use with opaque or solid-color finishes.

STORAGE, HANDLING AND INSTALLATION

APA EWS trademarked glulam beams must be stored properly and handled with care to assure optimum performance. Beams may be protected with sealants, primers or paper wrap when they leave the manufacturing plant. Sealants on the ends of beams help guard against moisture penetration and checking. A coat of sealant should be applied to the ends of any beams trimmed or otherwise cut in the field. Surface sealants, which can be applied to the top, bottom and sides of beams, resist dirt and moisture and help control checking and grain raising. Use a penetrating sealant if beams will be stained or given a natural finish.

A primer coat also protects beams from moisture and dirt and provides a paintable surface. Water-resistant wrappings are another way to protect beams from exposure to moisture, dirt and scratches during transit, storage and erection. Because sunlight can discolor beams, opaque wrappings are recommended. Beams can be wrapped individually, by the bundle or by the load. If it is necessary to remove portions of the wrapping during the erection sequence to facilitate making connections, remove all of the wrapping to avoid uneven discoloration due to exposure to the sun.

Glulam beams are commonly loaded and unloaded with a fork lift. For greater stability, the sides of the beams, rather than the bottoms, should rest on the forks. Supporting extremely long beams on their sides, however, can cause them to flex excessively, increasing the risk of damage. Use multiple forklifts to lift long glulam members. If a crane with slings is used to load or unload beams, provide adequate blocking between the cable and the member. Use wooden cleats or blocking to protect corners. Only non-marring fabric slings should be used to lift glulams. Using spreader bars can reduce the likelihood of damage when lifting especially long beams with a crane.

When transporting beams, stack them on lumber blocking or skids when loading them on rail cars or trucks. Beams can rest on their sides or bottoms. Secure the load with straps to keep it from shifting. Protect beam corners with “softeners” when strapping down the load.

In the distribution yard and on the job site, a well-drained covered storage site is recommended. Keep glulam members off the ground with lumber blocking, skids or rack systems. Beams should remain wrapped to protect them from moisture, dirt, sunlight and scratches. Cut slits in the bottom of the wrapping to allow ventilation and water drainage. At the job site, use similar storage provisions when possible.

One of the advantages of the high strength-to-weight ratio of glulam beams is that in many residential and light commercial applications they can be installed with forklifts, front-end loaders and other commonly available construction equipment. That eliminates the time and cost required to have a crane on the job site.

Additional information can be found in APA Builder Tip: *Minimize Glulam Checking Through Proper Storage and Handling*, Form EWS F455.



GLOSSARY OF TERMS

Appearance Classification: Defines the surface finish of the beam. Architectural and Industrial are the most common appearance classifications. Premium appearance beams are available as custom orders. The structural quality of glulam has no relation to the appearance grade specified.

Beam: Normally a horizontal or sloping member that is designed to carry vertical loads:

- **Simple Span:** A member that is supported at both ends.
- **Continuous:** A single member that is supported at more than two bearing locations.
- **Cantilever:** A member that has one or both supports away from the ends; one of which overhangs its support.

Camber: The curvature built into a beam (in a direction opposite to the expected deflection) to prevent it from appearing to sag under a loaded condition.

Column: Normally a vertical member that is designed to carry loads from a beam:

- **Concentrically Loaded:** When the resultant load acts parallel to the axis of the member and is applied at its centerline.
- **Eccentrically Loaded:** When the resultant load acts parallel to the axis of the member but is applied away from its centerline.

Combination Number: The identification used to describe the type of lamination layup in the glulam member, the associated allowable design stresses, and if the lumber used was visually or mechanically graded.

Deflection: The vertical displacement that occurs when a beam is loaded, generally measured at positions between supports or at the end of a cantilever.

Deflection Limit: The maximum amount the beam is permitted to deflect under load. Different deflection limits are normally established for live load and total load.

Design Values: Allowable stress values as they are established for each glulam beam, described in terms of Bending (F_b), Horizontal Shear (F_v), Modulus of Elasticity (E) and other stresses.

Equilibrium Moisture Content: Any piece of wood will give off or take on moisture from the surrounding atmosphere until the moisture in the wood comes to equilibrium with that in the atmosphere. The moisture content of wood at the point of balance is called the equilibrium moisture content and is expressed as a percentage of the weight of the oven-dried wood.

Header: A beam that is used to support walls and/or floor and roof joists that run perpendicular to it.

Laminations: Individual pieces of lumber that are glued together end to end for use in the manufacture of glued laminated timber. These end-jointed laminations are then face-bonded together to create the desired member shape and size.

Lamination Layup: The physical arrangement of different grades of laminations throughout the depth of a glulam member.

Moisture Content: The amount of water contained in the wood, usually expressed as a percentage of the weight of oven-dry wood.

Purlin: A secondary structural framing member, such as a joist or rafter, that is normally supported by walls or primary beams.

Radius of Curvature: A dimension that is commonly used as a means of describing the camber requirements in a glulam beam.

“Stock” Glulams: Glulams that are manufactured to common, standard dimensions and characteristics, and kept in inventory by distributors or dealers for immediate job site delivery. (May be cut to customer-specified lengths.)

ABOUT APA

APA is a nonprofit trade association of and for structural wood panel, glulam timber, wood I-joist, laminated veneer lumber and other engineered wood product manufacturers. Based in Tacoma, Washington, APA represents approximately 150 mills throughout North America, ranging from small, independently owned and operated companies to large integrated corporations.

Always insist on engineered wood products bearing the mark of quality – the APA or APA EWS trademark. Your APA engineered wood purchase is not only your highest possible assurance of product quality, but an investment in the many trade services that APA provides on your behalf. The Association's trademark appears only on products manufactured by member mills and is the manufacturer's assurance that the product conforms to the standard shown on the trademark.

For panels, that standard may be an APA performance standard, the Voluntary Product Standard PS 1-07 – Structural Plywood or Voluntary Product Standard PS 2-04, Performance Standards for Wood-Based Structural-Use Panels. Panel quality of all APA trademarked products is subject to verification through APA audit.

APA's services go far beyond quality testing and inspection. Research and promotion programs play important roles in developing and improving plywood and other panel construction systems, and in helping users and specifiers to better understand and apply engineered wood products. For more information on wood construction systems, contact APA, 7011 S. 19th St., Tacoma, Washington 98466, or visit the Association's web site at www.apawood.org.



Glulam Product Guide

We have field representatives in many major U.S. cities and in Canada who can help answer questions involving APA and APA EWS trademarked products. For additional assistance in specifying engineered wood products, contact us:

APA HEADQUARTERS

7011 So. 19th St. • Tacoma, Washington 98466 • (253) 565-6600 • Fax: (253) 565-7265

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(253) 620-7400 • E-mail Address: help@apawood.org

DISCLAIMER

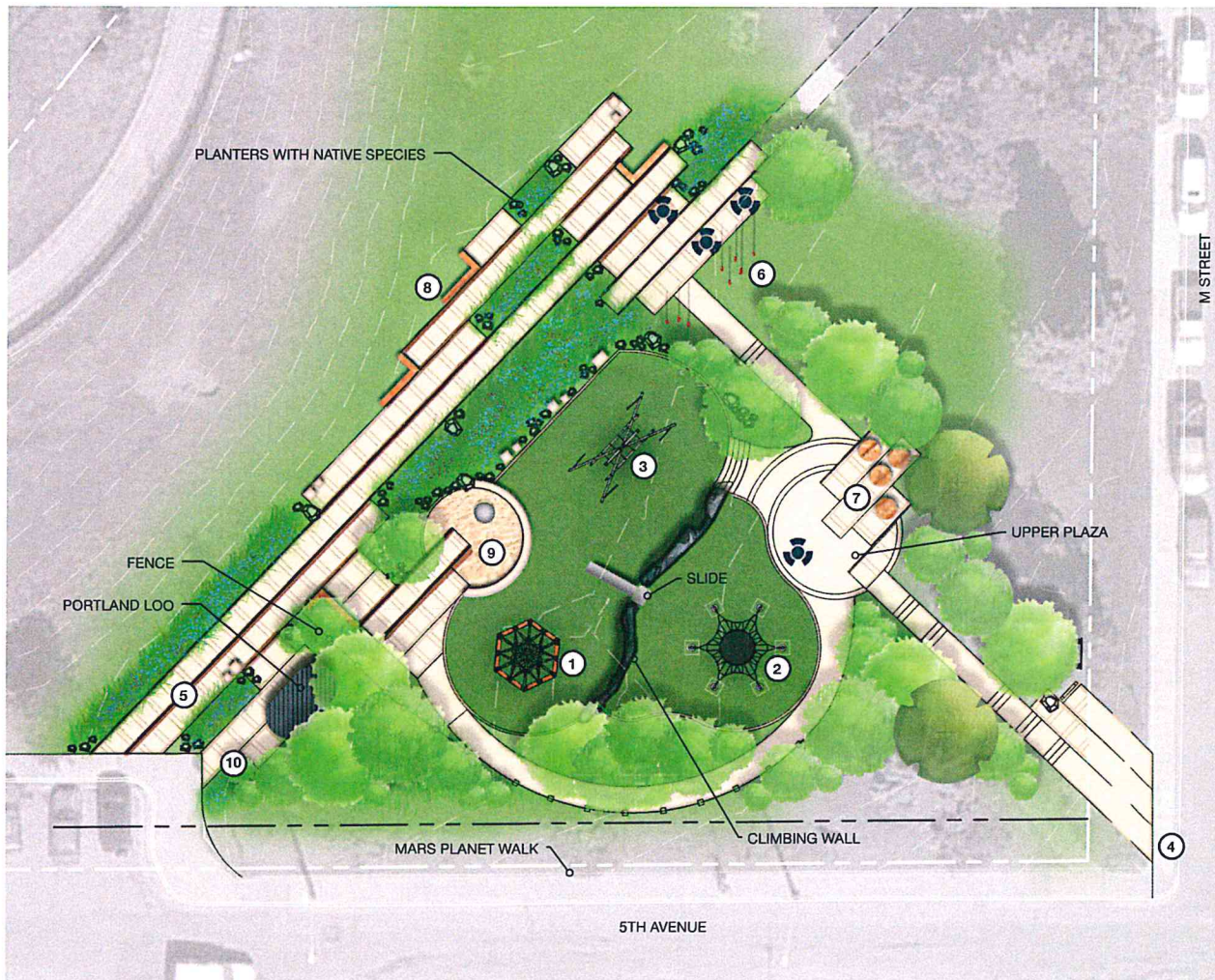
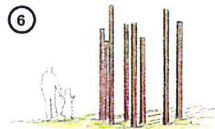
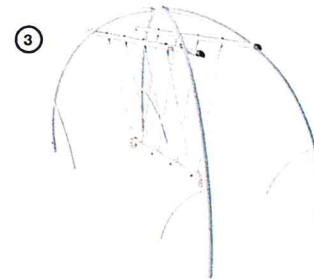
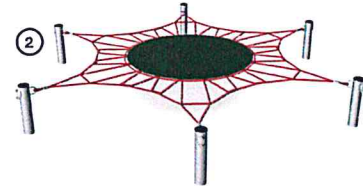
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Form No. EWS X440D/Revised November 2008/0300





- ① THE GLOBE NET CLIMBER
- ② BLANKET TOSS HEX JUMPER
- ③ ROPE SWING
- ④ PARK ENTRY
- ⑤ WALKWAYS
- ⑥ FOREST OF RAILS
- ⑦ TRAIN WHEEL BENCHES
- ⑧ TRAIN RAIL BENCHES
- ⑨ SAND PIT WITH STEEL DOME COMPASS ROSE
- ⑩ BIKE RACK



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