

FINAL DRAFT

# Soldotna Sports Center

## Facility Condition Assessment + Master Plan Concept

City of Soldotna | September 5, 2013



**CASEY PLANNING & DESIGN**  
*Landscape Architecture on the Kenai Peninsula*

**BETTISWORTH** NORTH

ARCHITECTURE PLANNING LANDSCAPE INTERIORS



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## Acknowledgements

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## Executive Summary

### What is Needed

The City of Soldotna retained Casey Planning & Design to prepare a Soldotna Sports Center Master Plan. The Sports Center is the most frequented recreation facility in Soldotna. It sees significant year round use and been operational in the City for over thirty years.

Community input shows that the Sports Center no longer meets recreational or conference needs for the greater Soldotna area. Additionally, the aged facility needs repairs, upgrades and expansion to adapt to growth and changing demographics.

With an increase in competitive sports and healthier, more active lifestyles, places for indoor recreation are in high demand, especially during the long winter months. Young families, older residents, adults, athletes and teens are all looking for places and facilities to help them stay active.

Soldotna is growing with emphasis on the hospital/medical district, the Kenai Peninsula College, and senior citizens retirement and care. These all indicate a change in demographics – increases in the young adult and senior age groups, and an increase in highly educated professionals. Year-round recreation opportunities are critical to supporting the health and economy of a small community.

A successful regional recreation facility requires many partners. The City of Soldotna will need to build cooperative relationships for the funding and operations of the Sports Center with agencies and organizations such as the Kenai Peninsula Borough School District, the Kenai Peninsula Borough, Kenai Peninsula College, the Boys & Girls Club, local Chambers of Commerce, and many others.

### What Has Been Done

To complete the Master Plan Casey Planning & Design assembled a design team that conducted an initial condition assessment with the findings included in this document. At an assessment site meeting and in public discussions with the community, the design team heard recommendations and considerations for the master plan. The input focused on; 1) needs of the existing facility, 2) functional concerns, to either correct or maintain performance of the sports center, and 3) identification of lacking program elements to meet current and future needs. The team determined the community's needs through recent community input on recreation needs, previous recreation facility studies and proposals, and trends in our local economy, employment, demographics, and recreation.

This document is a “Final Draft” of the Soldotna Sports Center Renovation and Expansion Master Plan. It includes:

- Functional Assessment that summarizes the conditions of the existing facility
- Community Needs Assessment that outlines the community input we have received to date.
- Facility Program which outlines the types and sizes of spaces needed in the upgraded facility
- Conceptual Plan of the renovated and expanded building and its layout on the site.



## What is Next

The team will present the final concept to the Client and to the project stakeholders. We will collect all comments generated during the review process, make final adjustments to the Master Plan to include:

- Final conceptual building plans and site layout
- Rough cost estimate for construction of the final conceptual plan

We hope this document adequately describes the Central Peninsula community's needs for the Sports Center and provides the detailed program considerations, building concept and associated development costs necessary to set the foundation for ongoing project support and enthusiasm.

## Project Description

The City of Soldotna is developing a master plan to renovate and expand the 30-year old Soldotna Sports Center. The planning effort will include recommendations for upgrading the existing structure as well as expanding to include new spaces and amenities that are required to meet the needs of the Soldotna community today and for the next 20-years.

The condition of the facility is quite good considering its age and level of community use. The Sports Center was constructed in the early 1980's and remains operational today, over 30-years later.

Casey Planning & Design, Wince Corthell Bryson, MBA Consulting Engineers, and Bettisworth North Architects and Planners performed a facility assessment of the Soldotna Sports Center in Soldotna, Alaska. The focus of the assessment was the facility condition, identification of deficiencies effecting function, and compliance with building codes.

The Soldotna Sports Center Master Plan is organized into three parts. The first part is the assessment of the current facility; functionality of the existing building and the identification of necessary improvements and opportunities or issues pertaining to expansion. The second portion is the assessment of community needs; new program spaces and amenities required to meet the needs of the Soldotna community today and for the next twenty years. The third portion is the creation of concept designs and construction costs. This portion will be undertaken following review by the City of Soldotna of our initial efforts.

The initial effort started with travel to the Sports Center on June 11th, 2013. We met with City representatives, toured the facility, and heard firsthand the goals and community needs associated with planning the Sports Center's future.

## Project Description Continued

The Sports Center sits on an 8-acre parcel within a 200-plus acre City of Soldotna recreation area bounded on the north, northeast, and west by the Kenai River with the southern boundary fronting Kalifornsky Beach Road. A significant elevation change exists across the north edge of the site with approximately 65-70 percent of the tract at the elevation of the Kenai River. This lower area contains Centennial Park Campground while the upper area contains the sports center, ball fields, a rodeo rounds and undeveloped woods.

The Sports Center was designed for multi-purpose use with its primary use as an ice arena and conference center. The building is a two story structure with masonry bearing walls, steel joists and long-span trusses, and an aging built up roof membrane slated for replacement. The exterior walls are sided with diagonal cedar boards. The ground level and structure is founded on cast-in place concrete slabs and continuous footings.

The interior finishes of the center are a straight forward palette of sensible, durable materials supporting the wide range of uses. The majority of walls are painted masonry. Flooring varies from carpet to ceramic tile to sports flooring. Ceilings are suspended acoustic ceiling tiles, painted gypsum board or open structure. The arena has an acoustical metal decking with a sheet coating to control condensation.

Casework, plumbing fixtures, and lighting have seen some modifications through the centers' life but for the most part are from the era of original construction.

Interior and exterior doors are hollow metal. The doors have received extensive use and abuse. We understand there is a separate project to replace the majority of exterior doors.

The facility is fully sprinklered and for the code identified type of construction within the permitted height and area, both for the original design code and current adopted code.



## Facility Floor Plan Diagram

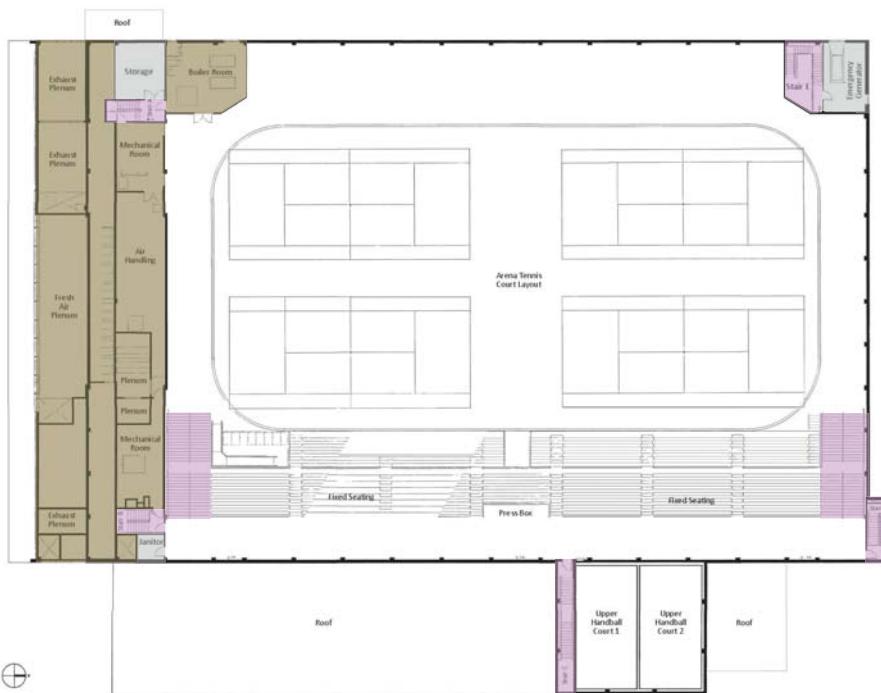
The following diagrams show the layout and types of uses within the existing sports facility.



Soldotna Sports Center  
First Floor Plan

### Legend

<span style="background-color: #FFFF99; border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	Arena/Recreation
<span style="background-color: #6699CC; border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	Office
<span style="background-color: #66CC99; border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	Kitchen/Vending
<span style="background-color: #66CC66; border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	Conference
<span style="background-color: #999966; border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	Mech/Elec
<span style="background-color: #FF9999; border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	Lockers/Restrooms
<span style="background-color: #9966CC; border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	Stairs
<span style="background-color: #CCCCCC; border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	Building Support/ Storage
<span style="background-color: #CC6666; border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	Retail



Soldotna Sports Center  
Mezzanine Floor Plan

## Soldotna Sports Center Goals

This is a list of facility goals to take into consideration for any facility improvements or new additions to the Sports Center facility.

1. Provide a safe and secure environment for public spectators, athletes, conference attendees, campers and staff.
2. Increase amount of storage space adjacent to the conference area.
3. Sky boxes or standing room observation for arena, connected to mezzanine level at the west side. An additional exit stair will be needed for exiting.
4. Concessions area serving the upper (mezzanine) level.
5. Integrated accessible seating options on both the floor and mezzanine levels.
6. Handicap accessible access to the mezzanine level or elevated seating area (elevator or accessible lift).
7. Separation of common shared areas (hallways and restrooms) for conflicting uses (hockey and conferencing)
8. Additional restrooms desired adjacent conference spaces (existing restroom facilities are less than required under current codes).
9. The addition of new convention/conference break out rooms and shared gathering, display area serving conference/banquet functions.
10. Improve staff observation and sight lines from main office into the rink entrance area.
11. Large events often have overlapping schedules; a secondary interior multi-use venue for large events is desired (conventions, sporting events, banquets, weddings, fundraisers). Currently, school gymnasiums are not an option for events that would like to serve alcohol.
12. Improve design of arctic entry at side entrance to conference hallway to minimize cold air drafts in the wintertime into the conference room.
13. Expand and redesign kitchen area to mitigate crowding of prep areas, oven, refrigerator and freezer.
14. An indoor walking track, turf, basketball and volleyball courts, and other recreation spaces areas needed during inclement weather as well as during the spring months. Possible use of a portable turf system is preferred to allow for more versatility.
15. After school activities or programs are needed for Soldotna teens, with a one-way shuttle bus from school to the sports center. Popular activities include; game rooms, TV lounge, concessions, basketball, disc golf (currently provided at school venues), rock climbing gym (currently provided at school venues), indoor skate park, karaoke, and weight lifting (duplicated in school and private operations).
16. Provide space for active adults (young and old) as well as moms with young children to work out and play in during the day.
17. The outdoor ice rink needs a cover and walls to improve its function and reliability.



## Community Needs Assessment

Local leaders agree that the central peninsula area needs more indoor recreation opportunities to provide the quality of life necessary for a strong economy and healthy community. As the City of Soldotna makes plans to repair and improve to the Soldotna Sports Center, it wishes to add any necessary amenities that are logical at that location.

### Project Goal

The Soldotna Sports Center serves all of the Central Peninsula communities: Sterling, Soldotna, Kasilof, Kenai, Nikiski. The goal for this facility is to provide a large, multi-purpose indoor recreation and conference facility for the Kenai Peninsula to enjoy a wide range of sports activities and community events as well as for individuals of all ages, interests and abilities.

### Growth and Economy

Growing industries in Soldotna include the hospital/medical district, Kenai Peninsula College, and the population of senior citizens. These all affect local demographics; the area will see increases in the young adult and senior age groups as well as an increase in educated professionals. Tourism will begin to diversify and expand into other seasons as new recreation facilities and events continue to emerge. Cultural trends show a growing interest in recreation at all ages; therefore, year-round opportunities are critical to supporting the health and economy of a small community.

### Partnerships

Cooperative relationships for funding and on-going operations are essential to the success of this regional project. The City of Soldotna will work with KPBSD, the Kenai Peninsula Borough, Kenai Peninsula College, ACC, the Boys & Girls Club, local Chambers of Commerce, CIA, local city governments, the State of Alaska, and others to complete this important project.

### Assessing Local Needs

Prior to developing a new building program for the Soldotna Sports Center, the team assessed the community's needs for additional amenities at the Soldotna Sports Center through a combination of historic and new sources of information. They analyzed past surveys, proposals and feasibility studies for local recreation or conferencing projects, reviewed recent input on recreational needs in the Soldotna area, evaluated local employment, demographic and health trends, and gathered additional public input on indoor recreation and teen center needs.

### Contributing Sources

DATE	SOURCE	NOTES	CONCLUSION
2013	Teen Center Survey, by Casey Planning & Design	Provides ranked preferences for each teen center amenity, and an indication of use times and quantities.	Teens need access to indoor recreation and hang-out space, especially the younger teenagers.



2013	Soldotna Recreation & Trails Survey, by Casey Planning & Design	Detailed recreation user group information pertaining to needs and preferences. Indicates the recreational needs and level of interest in the Soldotna area.	Indoor recreation space is badly needed for many activities, age groups and abilities, in addition to standard (high school aged) sports teams. When recreation opportunities are available, the community increases their activity.
2011	Teen Survey, by City of Soldotna	Specific teen center interests, needs and preferences.	Additional validation that teens need a place to go in Soldotna.
2012	Envision Soldotna 2030, Soldotna Comprehensive Plan	Provides an overview of the Soldotna's goals and vision for future growth and development.	The community has goals for improved quality of life through recreation and health.
2009	Central Peninsula Multi-Use Facility Feasibility Study, by USKH Inc.	Provides detailed sports user group information and costs associated with building a very large indoor turf facility.	A smaller turf facility, along with a variety of other recreation amenities, would more effectively address the needs of the broader community.
2009	Feasibility Study, by The McDowell Group	Illustrates the need for a medium (<400) conference facility in the area.	Conference rooms are in demand, but the sports center is not the prime location
2001	Soldotna Conference and Banquet Facility	Design for a separated conference building near the existing Sports Center.	A full conference facility needs close proximity to services (hotel / food). A separate facility requires its own staffing.
2000	Conceptual Plan and Cost Estimate for a Recreational Complex, by Raven Contractors, Inc.	Master Plan and feasibility study for indoor and outdoor recreation facilities	The sports center is part of a larger recreation area. Circulation and other functional relationships are very important. Employment and recreation trends have changed since 2000.

## Public and User Group Input

As a part of this master plan process, the team contacted many individuals, user groups and partnership organizations to discuss specific indoor recreation, conferencing, and teen center ideas pertaining to the sports center. The need for a large multi-purpose indoor facility for a wide variety of activities and age groups is widely supported in the community. For maximum efficiency and effectiveness, the sports center needs to include the ice arena, conference rooms and additional recreation space in a facility viewed and operated as one, inclusive destination.



## Potential Partner Organizations and User Groups:

Boys & Girls Club of the Kenai Peninsula  
Central Peninsula Hospital  
City of Kenai  
Comp Soccer  
Day Care Facilities  
Kenai Chamber of Commerce  
Kenai Little League  
Kenai Peninsula Borough  
Kenai Peninsula Borough School District  
Kenai Peninsula College  
Visitors and Residents of Kenai, Homer, Sterling, Nikiski, Cooper Landing, and Kasilof

Kenai Peninsula Hockey Association  
Kenai River Brown Bears Hockey  
Lacross Club  
Other Adult Athletic Organizations  
Peninsula Oilers Baseball  
Peninsula Winter Games  
Soldotna Chamber of Commerce  
Soldotna Little League  
Soldotna Senior Center  
The Tribe  
Tsalteshi Trails Association

## Community Meeting Notes

As part of the Sports Center Master Planning process for renovation and expansion, the City of Soldotna has been seeking community input regarding the facility's use, amenities, and additional needs. The City hosted two public discussions in early August to obtain comments regarding indoor athletic and sports needs, conference room needs and teen center needs at the Soldotna Sports Center. The following summary is the input received.

### Sports Center

Indoor sport space is limited in the central peninsula area. There is a serious need for non-school related space to accommodate the needs of toddlers, teens, adults and seniors year round, but especially during the winter and spring.

#### INDOOR TURF

A large indoor turf facility (dome) was investigated and debated in the community a few years ago, but disagreements about the size, location and costs all prevented its construction. There is still a lot of support and a documented need for indoor turf for the central peninsula as well as possible user groups from Homer:

- Soccer: winter leagues for teens and adults, spring practice for HS
- Baseball: spring practice area
- Other: open turf for toddler fun and sports practice year round
- A large facility is still desired by some people, although it seems that a smaller turf area would do the trick (100 x 200) for an 85 x 185 field.

## ICE

Hockey user groups would like a second sheet of covered or indoor ice to accommodate tournaments and the growing need for ice time in the community. The Kenai rink is not large enough for 'official' games, although they use it anyway.

## GYMNASIUM

Indoors basketball and general court space is badly needed in the community; especially during the day and during peak HS sports times (spring).

- Toddlers need a place to run around during the day
- Volleyball players (non-school teams such as Midnight Sun) need practice area
- College students and other adults need indoor basketball courts for casual and league play.
- Teen open gym – dodge ball, laser tag, etc.
- Dance – seniors, kids, or community dance events

## OTHER

Indoor multi-purpose space would accommodate many other user groups.

- Batting Cage – for Soldotna Little League and American Legion
- Skate park equipment / events / clinics
- Parties with inflatable jump toys, or other equipment
- Track – running / walking surface; elevated.
- Fitness equipment (to be reconfirmed with existence of other community resources).
- Portable stage and dance floor area for bands / music.
- Walleyball – this is a popular sport, but the layout of the courts and the "feel" of the sports center are not attractive to the users, so work is needed.

## Teen Center

The Soldotna community has needed a teen center and has worked on finding a location for nearly 10 years, with no success. Teen attractions can be divided into three facility categories: sports, games/lounge, skate park. Ideally, they would all be co-located, but this is not critical. The sports (recreation) component is shared with the rest of the community and works very well as a "team" with the teen center in Kenai.

## LOCATION

The Sports Center is not necessarily the ideal location for a teen center, but having tried for so long to find a central location, the consensus is that it's better than no teen center at all. And, the proximity to the other recreation facilities is a benefit.

## COMPONENTS

A general lounge, game room, concession / food area is essential. A theatre would be great, and is very popular with the Kenai Teen Center attendants.

## DESIGNATED SPACE VS DESIGNATED TIME

Teens like to have "their" space, so a separate area is ideal, but if a lounge / game room were available, designated "teen" times would also work.

## RECREATION

Teens don't mind if the recreation areas are mixed ages.



## ACCESS

Shuttle busses would be critical to the success of the teen center if located at the sports center.

## SKATE PARK

an indoor space with minimal equipment is good enough for winter time use, but perhaps special events or clinics could include bigger equipment. It is important for their safety that they have opportunity.

## BOYS & GIRLS CLUB

there may be 250K available to help build the teen center as a Boys & Girls Club facility.

## Community Center

### RECREATION

The community needs a variety of recreation facilities / amenities at a non-school location to provide family fun time, senior dance events, festivals, etc.

### CONFERENCE ROOMS

Research and community input shows the need for classes, meetings, parties, fund-raisers, and other medium-sized events. The sports center does not need to be the only location for this, but some space is certainly required in conjunction with the recreation components.

### KITCHEN

The existing kitchen is not adequate for many events.

### LARGE EVENT SPACE

The community needs a large indoor space to host weddings, conferences and fund-raisers that attract 250-500 people. This space is not necessarily needed at the sports center. And, it needs to have a certain level of acoustic and aesthetic quality, so it may not be achievable within a large "recreation" space.

## Functional Assessment

Prior to the detailed review of the original construction documents and walk through of the building the planning team met with the City of Soldotna User Group. At this meeting we heard specific details regarding what performs well with the current facility and what is underperforming or lacking. We have summarized these discussions under the heading of 'Functional Assessment'. The facility program and draft concepts we have generated attempt to appropriately address the following user group's assessments.

### SITE ACCESS AND PARKING

The current configuration of the entry drive does not optimally allow for safe and efficient entrance and exiting of both vehicular and pedestrian traffic during large events.

### SCHEDULED ICE RINK TIME

Ice time is popular during peak periods on the weekends and weekday evenings. Wintertime use of an exterior rink helps to supplement this demand. More ice is a constant request from the users. Providing a cover over the existing outdoor rink would further ease scheduling conflicts during busy times and allow for casual ice time after hours, a valuable asset to the community.

## OFFICE SPACE

Offices have been created from a former weight room and storage rooms. The front office does not have visual access to the interior rink entrance doors and arcade area, which is a safety and security issue. All offices need visual access to the main entry of the facility. The staff lounge is located too close to working areas and needs separation to function as a break room.

## TICKET AND RENTAL SALES

The size, access and locations of the current facilities need to be evaluated for better function. Provide a larger ticketing area for events in the ice arena.

## STORAGE

The conversion of storage rooms into office space has amplified the shortage of storage space. Locker rooms, when not in use, double as table and chair storage for events in both the rink area and conference areas.

## MEETING/BANQUET SPACE

The meeting rooms are used by a variety of groups, from sports teams, to conventioneers, to wedding parties and fundraiser groups. The size of the meeting rooms will accommodate approximately 300 patrons but lacks gathering spaces supporting large group functions and break out rooms for convention or meetings.

- The entry to the meeting /banquet space needs its own recognized entry.
- The current restroom locations and quantities can serve the ice rink and banquet events at the same time.
- More restroom facilities are needed.

## KITCHEN/FOOD PREP

The kitchen space is tight for large events, and only allows for heating of pre-cooked meals. There is little elbow room for prepping and storing food. The oven and dishwashing areas are circulation bottlenecks. No grease interceptor exists for the dishwasher/sink waste.

## CONCESSIONS

The current concession stand is located outside of the ice rink ticketing area. Patrons need to exit and reenter the rink to purchase food items. Additional concession facilities need to be located at the upper mezzanine level of the ice arena, if possible.

## EXERCISE WALKING & JOGGING

The current mezzanine and perimeter surrounding the ice rink serve this function. A more defined and useable track needs to be developed.

## CAMPER USE

A campground is located in close proximity to the sports center. When the fish are running the sports center parking lot is full of campers and motor homes. Campers use the locker rooms located at the north end of the building for showering. Visitors have requested provisions for smaller family use facilities in addition to female/male only shower rooms.



## Facility Program

### Soldotna Sports Center Masterplan Program - FINAL DRAFT

Updated September 05, 2013

Space Name	Qty	Existing NSF	Existing Subtotal	Retained NSF	New NSF	New NSF Subtotal	Retained + New NSF	Remarks/Description
<b>Expanded Sports Center Spaces</b>								
Entry Area Subtotal		2,367	1,861		1,500	3,732		
Lobby	1	1,028		1,028			1,028	Entry to SSC will be open during ice arena events only
Lobby Vestibule	1	125		125			125	
Rental Office	1	125		-			-	
Front Office	1	381		-				
Skater Lounge	1	708		708			708	
New Vestibule/Lobby	1				1,000	1,000	1,000	Main entrance and lobby
Ticket Sales Office	1						371	Repurposed from the existing Concession / Serving areas
New Building Entry / Vestibule	1				500	500	500	Arctic Entry at new main entrance
<b>Administration Area Subtotal</b>								
Admin Office	1	379		-			-	Repurposed as Skate Rental / Office
Admin Office Storage Room	1	159		159			159	Kept for use as Staff Lounge / Break Room
Manager's Office	1	241		-				Repurposed as Brown Bears Office
Office Storage Room	1	66		66			66	Kept as Storage
Office Break Room	1	186		186			186	Kept as a Staff Lounge / Break Room
Director's Office	1				200	200	200	
Assistant Director's Office	1				180	180	180	
Open Office	1				400	400	400	
Conference / Storage Room	1				300	300	300	
Skate Rental / Office	1			379			379	
Team Office (Brown Bears)	1			241			241	
<b>Conference Area Subtotal</b>								
Conference Vestibule	1	96		-			-	
Conference Corridor	1	1,030		-			-	Now used only for access to Locker Rooms and Team Areas
Conference 1	1	1,550		1,550			1,550	Remove existing and rebuild into new conference area
Conference 2	1	1,793		1,793			1,793	Remove existing and rebuild into new conference area
Conference 3	1	1,111		1,111			1,111	Remove existing and rebuild into new conference area
Conference Storage Room	1	123		-			-	
Additional Conference Room Space	1				1800	1,800	1,800	As larger conference rooms or as break out rooms
Gathering/Display Space	1				600	600	600	Design utilizes the lobby for this function
<b>Concessions subtotal</b>								
Concessions	1	264		-			-	Location is poor; access requires exit and reentry to ice rink venue. This space to be repurposed as a ticket/sales windows
Serving Area	1	107		-			-	Location is poor; access requires exit and reentry to ice rink venue. This space to be repurposed as a ticket/sales windows
Vending Area	1	38		38			38	Increase area (see below)
Field House Vending (first floor)	1						200	
Field House Concession (first floor)	1				500	500	500	
Mezzanine Concession Area	1				2,500	2,500	2,500	Ice rink mezzanine level over existing conference rooms.
<b>Food Service Subtotal</b>								
Kitchen	1	364		364			364	
Kitchen Storage Room	1	59		59			59	
Kitchen Hallway	1	160		160			160	
Double size of current facility	1				583	583	583	
<b>Locker / Team Rooms Subtotal</b>								
Team Locker Room 1	1	551		551			551	
Team Locker Room 2	1	527		527			527	
Team Locker Room 3	1	519		519			519	
Team Locker Room 4	1	551		551			551	
Team Locker Rooms 1-3 Hallways	1	417		417			417	
Men's Locker Room	1	312		312			312	Facilities used by campers
Women's Locker Room	1	303		303			303	Facilities used by campers
First Aid	1	76		76			76	
Referee Room	1	79		79			79	
Team Room	1	895		895			895	
Team Room Corridor	1	883		883			883	
Team Corridor Vestibule	1	139		139			139	



## Facility Program

### Soldotna Sports Center Masterplan Program - FINAL DRAFT

Updated September 05, 2013

Space Name	Qty	Existing NSF	Existing Subtotal	Retained NSF	New NSF	New NSF Subtotal	Retained + New NSF	Remarks/Description
<b>Recreation Area Subtotal</b>			<b>21,016</b>	<b>21,016</b>		<b>45,424</b>	<b>66,440</b>	
Handball Court 1	1	817		817			817	Wallyball / Racketball
Handball Court 2	1	803		803			803	Wallyball / Racketball
Ice Rink	1	19,120		19,120			19,120	
Hockey Team/Penalty Boxes	1	276		276			276	
Exercise/Running		-	-	-			-	Area around ice rink, stairs, and mezzanine used for walking exercise. Moved to fieldhouse program; two lane track.
Turf	1				20,000	20,000	20,000	Turf is to be fully removable; storage needed. 100' x 200' maximum field; program target is 85' x 185'
Basketball Courts	1				6,240	6,240	6,240	60' x 104' footprint w/ 50' x 84' court. (1) Full-court available year round, (1) Underlaying removable turf area, Dividing nets as needed.
Volleyball Courts	1				3,024	3,024	3,024	42'W x 72'L, court is 30'x60', min clear zone of 6'-6" all sides, (1) Court year round, (1) Overlaps with Basketball year round full-court and (1) Overlaps with Perimeter Multipurpose Space, (1) underlaying removable turf area, Dividing nets as needed
Running Track	1				9,000	9,000	9,000	Area based on 2-lane adjoining perimeter of turf, 3-lane would be approximately 14,000 sf. If track were elevated and stacked over other program areas the square footage could be reduced.
Batting Cage	1				1,260	1,260	1,260	Portable, 70'L x 18'W x 12'H.
Skateboard Area	1				1,400	1,400	1,400	
Perimeter Multipurpose Space	1				4,500	4,500	4,500	Sized to simultaneously allow (1) Volleyball Court (3,024 sf) and spectator area (1,476 sf).
<b>Restrooms Subtotal</b>		<b>762</b>	-		<b>5,330</b>	<b>5,330</b>		
Men's Restroom (by concessions)	1	67		-			-	
Women's Restroom (by concessions)	1	67		-			-	
Women's Restroom (main RR)	1	337		-			-	
Men's Restroom (main RR)	1	291		-			-	
Men's Restroom - Arena	1				500	500	500	Adjacent Sports/Rec areas. Fixture count based on recreation subtotal (minus running track) used as exhibit hall or gymnasium, (8) wcs + (4) lavs
Women's Restroom - Arena	1				1,200	1,200	1,200	Adjacent Sports/Rec areas. Fixture count based on recreation subtotal (minus running track) used as exhibit hall or gymnasium, (21) wcs + (12) lavs
Men's Restroom - Conferencing	1				200	200	200	For conference user groups. (5) wcs + (5) lavs each restroom
Women's Restroom - Conferencing	1				200	200	200	For conference user groups. (5) wcs + (5) lavs each restroom
Staff Toilets	2				80	160	160	
Men's Restrooms	1				500	500	500	Fixture count based on recreation subtotal (minus running track) used as exhibit hall or gymnasium, (8) wcs + (4) lavs
Women's Restrooms	1				1,200	1,200	1,200	Fixture count based on recreation subtotal (minus running track) used as exhibit hall or gymnasium, (21) wcs + (12) lavs
Family Restroom	2				120	240	240	with toilet, lavatory, baby changing station, bench seat, shower
Dressing/Locker Rooms	2				525	1,050	1,050	For sporting events and shows
Janitor Closet	1				80	80	80	
<b>Seating/Viewing Areas Subtotal</b>		<b>10,025</b>	<b>10,025</b>		<b>3,024</b>	<b>13,049</b>		
Mezzanine / Press Box	1	3,248		3,248			3,248	
Bleachers (fixed - east side)	1	3,013		3,013			3,013	
Bleachers (folding - east side)	1	2,308		2,308			2,308	
Bleachers (folding - west side)	1	1,456		1,456			1,456	
Standing Room Observation Area	1				3,024	3,024	3,024	Requires double stair egress making it difficult to justify in the available space



## Facility Program

### Soldotna Sports Center Masterplan Program - FINAL DRAFT

Updated September 05, 2013

Space Name	Qty	Existing NSF	Existing Subtotal	Retained NSF	New NSF	New NSF Subtotal	Retained + New NSF	Remarks/Description
<b>Service Areas Subtotal</b>		1,217	1,217		325	325	1,542	
Resurfacer Room	1	488	488				488	
Workroom/Storage	1	515	515				515	
Janitor (main RR, 1st Flr)	1	44	44				44	
Janitor (2nd Flr)	1	61	61				61	
Laundry	1	59	59				59	
Trash Room (under Stair C)	1	50	50				50	
Janitor (for added restrooms)	1				150	150	150	
Elevator	1				100	100	100	
Elevator Machine Room	1				75	75	75	
<b>Storage Subtotal</b>		517	517		2,400	2,400	2,917	
Storage Room (under Stair C)	1	34	34				34	
Storage Room (under bleachers)	1	180	180				180	
Storage Room (next to Boiler Rm)	1	292	292				292	
Storage Closet (opposite main RR)	1	11	11				11	
Storage - Sports related	1				800	800	800	
Storage - Conference related	1				800	800	800	
Storage	1				800	800	800	Accessible to Arena/Field House program spaces
<b>Tenant Space Subtotal</b>		982	929		1,200	1,200	2,182	
Instant Replay Hockey Pro Shop	1	929	929				929	
Arcade Area	1	53	-				53	
<b>Total Tenant Space Area</b>	2				600	1,200	1,200	No alcohol. Make one area 'wet' plumbed. Drinks served would be similar to a coffee shop.
<b>Proposed Teen Center</b>					3,800	3,800		
<b>Entry Area Subtotal</b>					430	430		
Vestibule	1				80	80		
Lobby/Front Desk	1				150	150		Check-in area with locking cabinet
Office	1				200	200		Desk with small meeting table
<b>Food Area Subtotal</b>					340	340		
Food/Vending	1				40	40		Dry/Packaged Food for sale, Beverage and Snack Machines, Kitchenette with Microwave and sink
Kitchen	1				300	300		Warming Kitchen
<b>Recreation Area Subtotal</b>					2,400	2,400		
Theater/Seating Lounge	1				900	900		Moveable/Reconfigurable seating for 30 people; mixture of couches/sofas, additional room for stacking side chairs for overflow seating
Game Area	1				1,500	1,500		(1) Ping-pong table 5'x9', (1) Foosball table 30"x56", (1) Air-hockey table 50"x96", (1) Pool Table 4'x8', (2) 36x36 bar height tables with stools for cards/board games, (3) 15d"x36" w x 72" h shelving for books/games, Television and (1) 8'L couch for video games, (6) moveable comfy chairs for reading and socializing, (2) 24" d side tables
<b>Support Spaces Subtotal</b>					630	630		
Restrooms	2				200	400		
Janitor Closet	1				80	80		
Storage Room	1				150	150		
<b>Net Area Program Subtotal</b>		49,864	46,923		70,066	70,066	113,813	



## Facility Program

### Soldotna Sports Center Masterplan Program - FINAL DRAFT

Updated September 05, 2013

Space Name	Qty	Existing NSF	Existing Subtotal	Retained NSF	New NSF	New NSF Subtotal	Retained + New NSF	Remarks/Description
<b>Electrical Space Subtotal</b>		528	528		1,050	1,050	1,578	
Electrical Room	1	222	222			222		
Emergency Generator	1	306	306			306		
Electrical Room	1				150	150	150	Serving north end of Arena
Data/Lan Room	3				180	540	540	Includes one for Proposed Teen Center
Lan Wiring Closet	4				90	360	360	(2) for existing facility and (2) for new areas
<b>Mechanical Spaces Subtotal</b>		2,971	2,971		-	2,971	2,971	
Boiler Room	1	515	515			515		
Compressor Room	1	835	835			835		
Mechanical Room (by Boiler Rm)	1	352	352			352		
Mechanical Room (by Stair B)	1	436	436			436		
Air Handling Room	1	833	833			833		
<b>Net Area Program Subtotal</b>		53,363	50,422		71,116	118,362	118,362	
Mech/Elec (8% Allow) - New Area	0.08		-	-	5,689	5,689	5,689	M+E support area calculated for new NSF only.
<b>Subtotal: Program + Support</b>					76,805	124,051	124,051	
Building Grossing Factor (25%) - New Area	0.25		-	-	19,201	19,201	19,201	Building grossing factor calculated for new NSF only.
<b>Gross Building Area</b>		65,103	*		96,007	143,253	143,253	(*) Walls, circulation and mechanical plenum; based on actual building size (65,103 GSF; 55,256 sf + 9,847 sf)

### Site Amenities

#### Proposed Teen Center - Outdoor Space

##### Subtotal

Patio	1	400	-	
Lawn	1	3,000	-	
Sports Center Outdoor Storage			3,000	Paved, fenced area partially covered with paved access to Field House/Ice Arena. Portable bleachers for fieldhouse.
Parking		tbd		Vehicle Parking for enlarged Sports and Teen Center
Oversize Vehicle Access		tbd		Deliveries; mail, catering, and concessions. Staging and loading zones. Fire department and emergency vehicle access and turn-around.
Signage		tbd		Entry, Wayfinding, Interpretive
Miscellaneous Amenities		tbd		Considerations to be finalized; Covered Bicycle Rack (near entry). Fish Cleaning Station for campers (fish headed and gutted before reaching station). Picnic/BBQ Pavilion with Bonfire area, open courtyard. Pedestrian nodes and connectivity to trails, trailhead station, Outdoor Playing Fields Wayfinding Station
Dumpster(s)		tbd		
Storm water retention, snow storage		tbd		
Landscape irrigation + plantings		tbd		



## Existing Facility Deficiencies + Recommendations

The following list includes deficiencies found during the facility assessment. Each deficiency has a corresponding recommended solution that would address the issue from a liability standpoint, or upgrade the issue to conform to current code. If the facility was renovated, each of these deficiencies would need to be resolved.

### Landscape Deficiencies

1. Overall site circulation and safety issues.
2. Site circulation re-design and any proposed building expansions will require additional land.
3. Existing lawn area limited to small areas on two sides of the facility. Parking lot landscaping does not meet code.

### Architectural Deficiencies

1. Roof membrane deterioration and leakage.
2. Damaged and poorly performing hollow metal doors and frames due to air leakage and metal deterioration.
3. Accessibility and access issues exist throughout the facility due to the adoption of updated codes with further requirements since the building was constructed.
4. Existing boiler flue penetration open to air

### Civil Deficiencies

1. The drywell for the resurfacer room sump may be reaching the end of its useful life.

### Structural Deficiencies

1. None

### Landscape Recommendations

1. Change site entry, site circulation, building entrance circulation and parking. The City of Soldotna plans to conduct a circulation study and develop a circulation master plan for the larger recreation area including: the Sports Center, Ball Fields, Rodeo Grounds, Historical Society and Centennial Campground. Improvements will likely include: primary ingress /egress via a controlled intersection at Sports Center Road and Kalifornsky Beach Road, a new access road to Centennial Campground, a revised driveway and parking lot layout, designated pedestrian routes, and 1-2 secondary access drives to K-Beach Road.
2. Utilize property that is available to the east and to the west of the existing parking lot, as needed to provide for a new, expanded facility.
3. Upgrade parking lot landscaping to be code compliant by integrating additional interior and perimeter landscaping.

### Architectural Recommendations

1. Full roof replacement. Consider additional thermal insulation as part of re-roofing effort.
2. Repair/replacement of doors, frames and weather seals.
3. Conduct an evaluation of benefits to the community to advance accessibility modifications at this point in time. Relocation of walls and doors along with enlargement of restrooms would be required. Majority of walls are reinforced masonry.
4. Install thermal safety insulation be installed.

### Civil Recommendations

1. Construct new drywell.

### Structural Recommendations

1. None

## Existing Facility Deficiencies + Recommendations

### Mechanical Deficiencies Cont.

1. Vibration isolators for AHU-1 appear bottomed out and may contribute to system noise.
2. Grilles in locker/shower rooms appear to be steel and are corroding due to humid environment.
3. The existing exercise room was renovated into two offices leaving one without proper ventilation. One office has supply and the other has return.
4. Heating boiler B-1B section leak.
5. Existing glycol tank level controls are disconnected. There is a cold water supply for mixing with the glycol. Adding domestic water to system will diminish corrosion inhibitors of the glycol. Do not use water fill for mixing.
6. Heating coils are piped to floor drain in AHU-1. Fluid is ethylene glycol and is toxic and should not be drained to sewer system.
7. Circulation pumps CP-1A and 1B are running with no load in the building. Pumps are not required for duty.
8. Quarter turn drain valve for AHU-1 three way valve is not capped and could spill if turned by unauthorized person.
9. There appears to be excessive air in the heating water supply to shell and tube heat exchangers.
10. Hot water and waste piping from ADA accessible sinks are exposed.
11. Metered lavatory faucet in men's public restroom is broken.
12. Faucets for lavatories in restrooms 107 and 108 are not self shut off.
13. Drain valve for domestic water tank is ball valve type and is located such that it could be easily bumped and spill over floor.

### Mechanical Recommendations Cont.

1. Provide housed isolators and thrust restraints sized properly for weight of fan.
2. Replace with aluminum grilles.
3. Provide supply air ventilation for both offices off of System AHU-2.
4. Provide new section for continued service of existing boiler, replace boiler with in kind model, or replace boiler plant to accommodate current and future loads.
5. Replacing glycol tank with packaged unit including pump, level alarm and pressure controls. Use premix glycol solution.
6. Repipe drain using hose end connection and air fitting to capture glycol if draining is necessary.
7. Control pumps to shut off at 60 degrees and above. Domestic water heater has its own circulation pump for hot water generation. If additional flow is required through the boiler, isolate CP-1A&1B and run Pumps PMP-2/PMP-8 through the shell and tube heat exchangers.
8. Provide cap on drain valve.
9. Bleed air before placing system in service.
10. Provide anti-scald insulation covers in accordance with Uniform Plumbing Code.
11. Repair or replace faucet.
12. Provide metered faucets.
13. Provide threaded cap on valve.



## Existing Facility Deficiencies + Recommendations

### Mechanical Deficiencies Cont.

14. Kitchen three compartment sink does not drain through grease interceptor in accordance with Uniform Plumbing Code.
15. Dishwasher drain piping is not code compliant.
16. Fire protection supply line off of 4 inch domestic water service entry is undersized at two inch to the storage tank.
17. Sprinkler piping is not provided with appropriate backflow prevention to protect domestic water supply.
18. Building area appears to exceed 52,000 sq. ft. with only one sprinkler zone and alarm valve.

### Electrical Deficiencies

1. Service Transformer.
2. Egress doors from Electrical Room are not equipped with panic bars. Door swing to arena not in direction of egress.
3. Locker room with T-12 fluorescent lights.
4. Emergency generator sizing.
5. No identification of emergency equipment.
6. No periodic test schedule for emergency systems.
7. Fire Alarm and Freon Detection Systems are obsolete.
8. Code required working space not being observed.
9. PA systems cabinets in disarray.
10. Telephone board inside needs refurbishing.

### Mechanical Recommendations Cont.

14. Provide grease inceptor.
15. Repipe drains with proper drainage fittings and direction flow.
16. Replace piping with 4 inch sprinkler supply.
17. Provide double check valve on sprinkler riser piping.
18. Provide second sprinkler zone and alarm valve per NFPA 13.

### Electrical Recommendations

1. Transformer belongs to HEA. The utility will size it to meet the needs of any expansion.
2. Change door swing and add panic bars to doors.
3. Complete T-5 retrofit throughout the facility.
4. Verify classification of motorloads on panel EPP (Emergency, standby or normal). Size generator to match load.
5. Permanently mark emergency equipment per NEC.
6. Initiate a periodic test schedule.
7. Replace both systems.
8. Signage and, where practical, paint delineation on the floor would bring awareness of NEC requirements to occupants.
9. Task Contractor to provide cable management and identification.
10. Provide new backboard. Utility will probably want to terminate their equipment.

## Current Site Plan

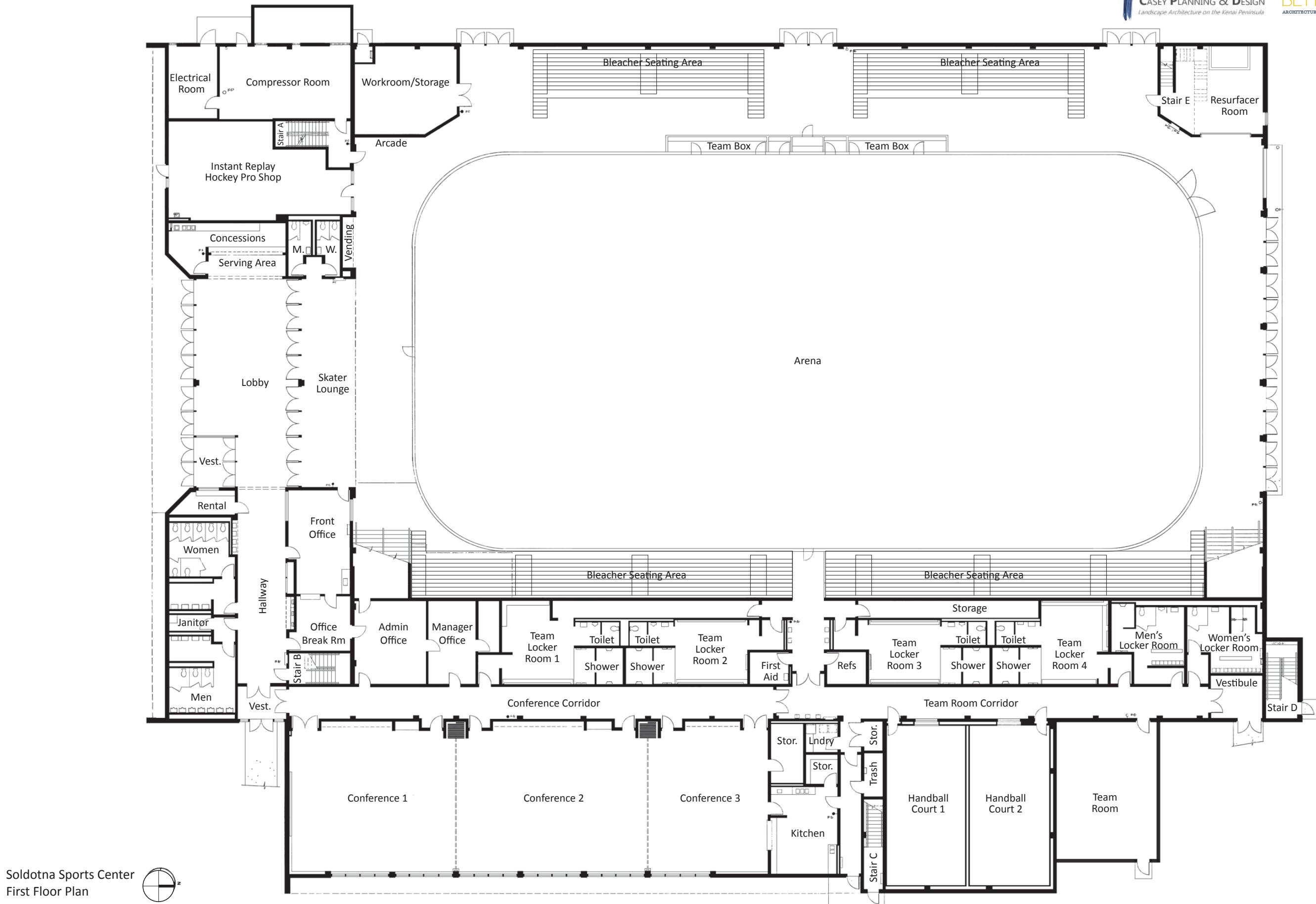




## Current First Floor Plan

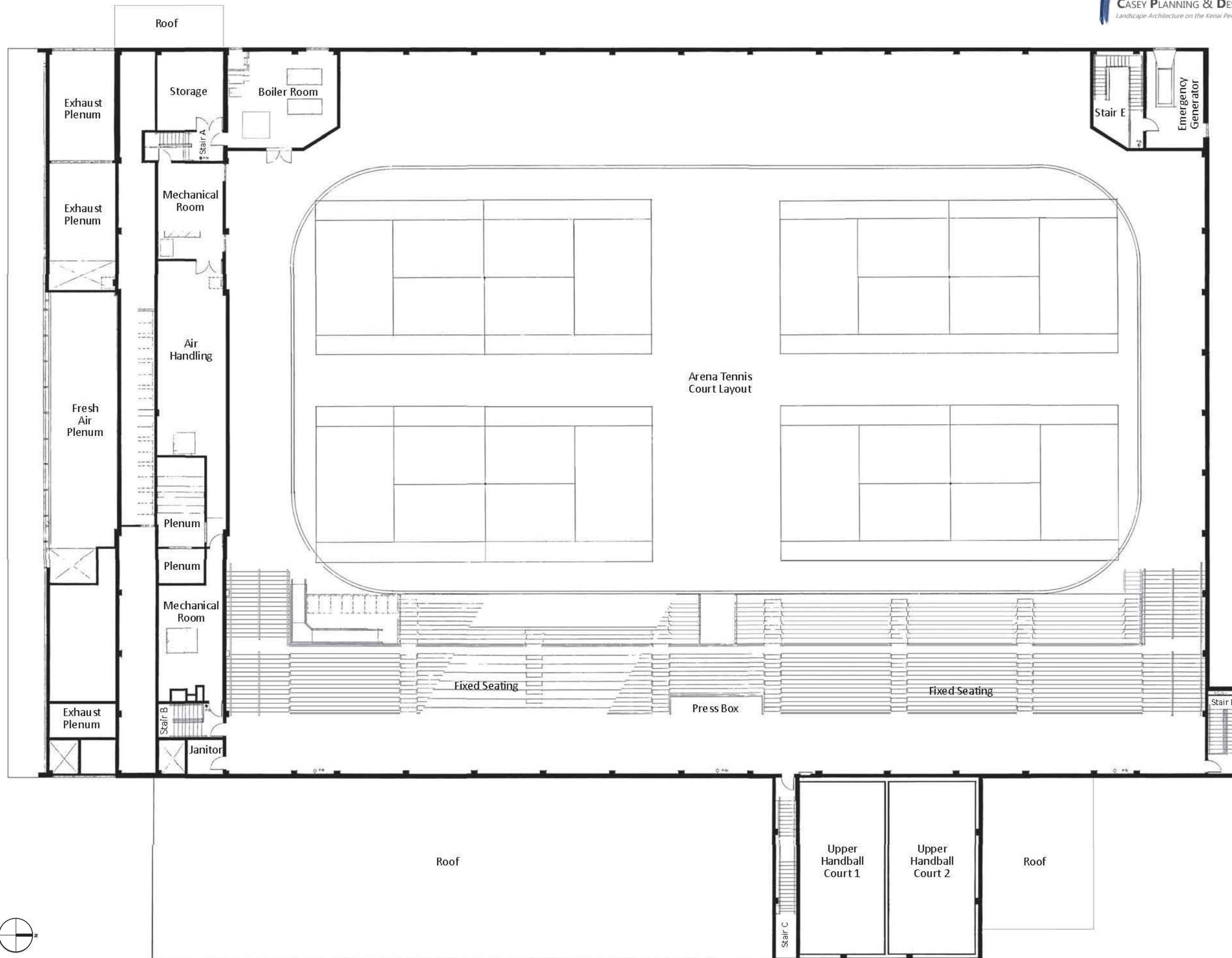


BETTISWORTH NORTH  
ARCHITECTURE PLANNING LANDSCAPE INTERIORS





## Current Second Floor Plan



Soldotna Sports Center  
Mezzanine Floor Plan







L-1 Site Access Road and Parking Lot



L-2 Unpaved Northeast Corner Of Site



L-3 Landscaped Lawn Adjacent Main Entry

## Landscape Assessment

### Entrance

There is one main public entrance to the arena and a secondary public entrance near the conference rooms.

### Parking

The current parking lot contains approximately 540 parking spaces, including 7 accessible spaces at the main entrance. The parking lot is paved and striped, except the northeast corner. Most of the parking is located to the east and southeast of the facility, with 90 spaces located at the front. The parking lot is more than adequate for current needs, but may require expansion to accommodate additional spaces and uses within the building.

### Landscaping

There is a landscaped lawn area on two sides of the facility with 2 crabapples in the front courtyard entrance area. A few planters containing trees are located along the edge of the parking lot.



L-4 Landscaped Lawn Adjacent New Team Room



## Architectural Assessment



A-1 Roof Deterioration Around Drain



A-2 Roof



A-3 Roof Drain



A-4 Roof Deterioration

For the age of the facility, it is in fair condition. Many of the finishes in the conferencing area (paint, carpet, ceiling tile) were added or replaced in recent remodeling efforts and are in good condition. From the facilities condition it is evident the facility has been receiving regular, good maintenance.

### Roof System

The roof is 30 years old and has received topping systems to extend its life. The toppings overlay the original built-up roof assembly. There are major leaks, especially at locations of roof penetrations. The City of Soldotna has scheduled a roof replacement for the near future.

The roof insulation is relatively thin and of low insulation value in current times. We suggest the re-roofing project review the value of increasing the thermal value for long term savings with operational costs. Also the elimination of roof vents, damaged with snow removal efforts, should be reviewed. Due to the size of the arena pressure differentials may have suggested the vents original purpose.

### Drainage and Snow Drift

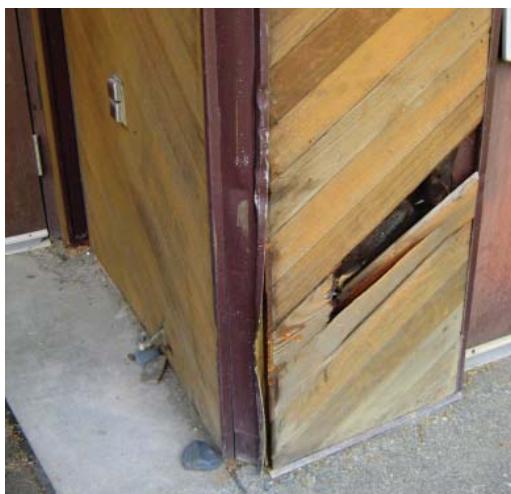
The roof areas are flat and have interior drains, with no downspouts and gutters or snow guards needed with the exception of the new team room addition which has a sloping metal roof that sheds water and snow towards an exit door. Most entrances do not have canopies but there is no rain or snow being directed to these areas since the roof that covers most of the facility is flat. The water being drained off of the team room has stained and bleached the exterior siding of the wall below.

The roof drains are an old three piece construction type. The flanges are a point of leaks. There is significant deterioration of the drains as well as the roofing material at the roof penetrations.

Snow drift is a major problem on the west side of the facility. Due to the prevailing winds, the stairs leading up to the emergency exit doors on the west side completely fill with snow making it difficult to keep these doors operable.



A-5 Bleached Siding Adjacent Doorway



A-6 Damaged Exterior Corner



A-7 Bird Punctured Holes In Siding

## Exterior Wall System

The wood siding on this facility is in good condition; however, there are a couple of issues that should be addressed. Water is being shed off of the new team room addition and damaging the exterior wood siding both at the upper soffit (white streaking marks) and the base of the wall near the door. Water is splashing off of the concrete apron and onto the wall (white bleached area to either side of the door). There is damage at an exterior corner by the central stair on the west elevation. Where the lawn areas meet the wood siding there is damage to the wood from a weed whacker. An exterior horizontal metal reveal member has paint that is flaking off. Woodpeckers have punctured holes into a section of the wood siding, primarily at the back side of the building.



A-8 White Streaking Marks At New Team Room Soffit



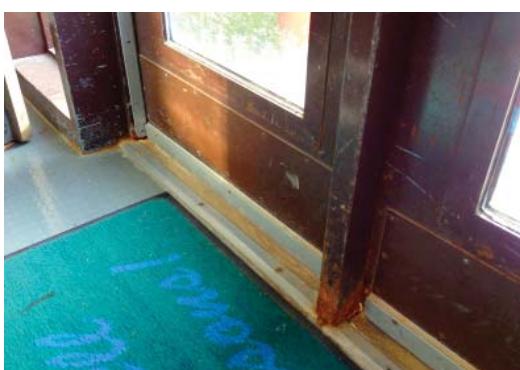
A-9 Weed Whacker Damage At Grade



A-10 Paint Flaking



A-11 Window At Conference Room



A-12 Vestibule Door



A-13 Arena Exit Doors



A-14 Locker Room Used For Storage

The use of wood for the exterior of the building is not possible under the current building codes. Also the rigid insulation directly under the wood siding may have compliance problems with code approval. We suggest the existing siding and insulation be reviewed with the City of Soldotna Building Official to determine options for renovation and additions that will be code compliant.

Also the wall insulation is 3.5-inches of foam plastic insulation. This is the extent of added insulation to the wall assembly. The effectiveness and efficiency of increasing the thermal value may be appropriate as the project moves forward.

### Overhead Garage Doors

The exterior garage door appears to be in good working order and new condition. The overhead door into the ice resurfacing equipment storage room looks like it is the original door.

### Exterior Windows

The amount of fixed and operable glazing in the Sport Center is minimal. At the main entry is a skylight the full width of the lobby. The skylight appears to be weather tight and brings in a significant amount of natural light. The area of the skylight is approximately 350 sf.

The second area of windows is the west wall of the conference rooms. All are fitted with double glazed insulated glass. The windows in the conference rooms have operable push type awning windows. Most seem to be in working order.

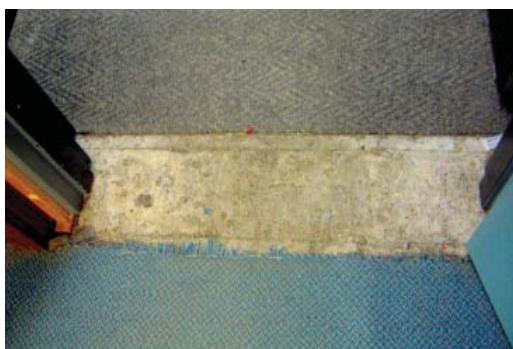
The natural light is somewhat controlled by the roof overhang and building orientation. All of the windows have blinds for further light control. The windows in the conference room were fairly warm to the touch. There may be economic value with replacing the insulated units with ones having an improved thermal shading coefficient.

### Exterior/Interior Doors

The exterior doors on the facility are thermal break hollow metal frames and hollow metal doors. All exterior doors have seen high levels of use. Many do not seal properly which contributes to heat loss. Light is visible between the door bottom and threshold in many locations. Also corrosion of the door and frame bottoms is occurring. Extensive signs of rust exist.



A-15 Office Area Kitchenette



A-16 Carpet At New Office Door Opening



A-17 Cramped Kitchen Space



A-18 Conference Room With Storage

The majority of exterior and interior doors exhibit the need for replacement or as an interim solution repainting.

### Interior Finishes

Most of the interior walls are reinforced concrete masonry (CMU), a highly durable material. The masonry has done its job and is in reasonable condition. Repainting will refresh the walls and extend their life. One down side to the CMU is the flexibility associated with renovation and remodel. Most of the walls are structural and provide the required lateral resistance for sheer forces. Modifications to walls and openings will need to be judicious to improve function and avoid higher construction costs.

The interior finishes show significant wear. This can be expected and replacement will again refresh the spaces. One element that received significant comment is the acoustical treatment for the ceiling above the mezzanine. This product serves an important role in improving acoustics in the arena. Installing a new acoustical product will improve the look and retain the performance value.

### Code Deficiencies

The original facility was designed and constructed utilizing the 1979 Edition of the Uniform Building Code. The original design code analysis information is limited. Our evaluation utilizes the currently adopted building code for the City of Soldotna, the 2009 Edition of the International Building Code as amended by the State of Alaska.

- As-built drawings dated October 9th, 1985 are being used for our analysis.
- The State of Alaska has not adopted the International Existing Building Code. The IBC Chapter 34 –Existing Structures would be used to evaluate the existing building and conditions permitted to remain unchanged.

### Existing Structures (Chapter 34 of the IBC)

Additions to the Sports Center must comply with the requirements of the currently adopted code for new construction. Alterations to the existing building or structure are to ensure the existing together with the addition are not less conforming with the provisions of the current code than the existing building prior to any addition.



The existing Sports Center building together with additions shall comply with the height and area provisions of the 2009 Edition of the IBC, Chapter 5.

## Facility Size

The gross building area is 66,103 gross square feet; the ground floor area is 55,256 GSF and the second level is 9,847 GSF. Under the 1979 Edition of the UBC the building area was within the permitted area for both occupancy and construction types.

The existing Sports Center together with additions shall comply with the height and area provisions of the 2009 Edition of the IBC, Chapter 5.

### Building Area Comparisons

1979 Edition - UBC		2009 Edition - IBC	
13,500 sf	A2.1 Occupancy Group / Type II, One-hour Construction Type	15,500 sf	A2 & A4 Occupancy Groups / Type II-A Construction Type
13,500 sf	Increase for separation on 4-sides, 100%	11,625 sf	Increase for frontage all sides
27,000 sf Building	Increase for Fully-Sprinklered Building	31,000 sf	Increase for Fully-Sprinklered
54,000 sf	Increase for Multi-Story Building	58,125 sf	Increase for Multi-Story Building
108,000 sf	Total Allowable Area	116,250 sf	Total Allowable Area

The maximum number of stories and height of the Sports Center is limited as follows:

1979 Edition - UBC		2009 Edition - IBC	
2 Stories / 65-feet *		4 Stories / 85-feet **	

(\*) No increase permitted if sprinklers are used for building area increase.

(\*\*) Number of stories and height increased with buildings equipped with an approved automatic sprinkler system

## Occupancy and Internal Fire Separations

The original design classified the Sports Center as an A2.1 Occupancy Group. An A2.1 is an assembly occupancy housing more than 300 occupants and without a built-in stage. Under the current codes the primary occupancy classification for an expanded sports/recreation facility would remain an assembly use. The current code has differing classifications for assembly use.

The Teen Center might be able to be considered as a B Occupancy Group (Business Group). All the spaces within the center would have to have occupant loads of less than 50.

Also there are miscellaneous areas used for building storage that could be classified other than an assembly occupancy.

### Group Description

B	Business; administration/office areas
A-2	Assembly uses intended for food and/or drink consumption (banquet halls)
A-4	Ice Rink (Indoor Sports Viewing); arenas and skating rinks
M	Mercantile; retail shops
S-2	Storage; low hazard (includes parking garages).

Differing occupancy groups may require separation by fire-resistance rated construction. The intended occupancies housed in the expanded sports center would not require rated separations. The developed program could all be housed within an A occupancy group classification without any required separations. As more detailed designs are developed the need for separations should be reevaluated.

## Americans with Disabilities Act (ADA) Compliance

### Accessible Entry + Parking

The facility design appears compliant with the accessibility considerations at the time of design. We have seen numerous provisions added to accessibility guidelines along with enacted legislation, Americans with Disabilities Act. As designs for renovation and expansion to the Sports Center are started the accessibility provisions should be fully addressed, serving the City of Soldotna and the wide range of user needs.

### Mezzanine Level Access

Access to the mezzanine levels is by stair only. An elevator would be needed to provide access. Also exiting from the mezzanine level is not provided with areas of refuge, an area where persons unable to use stairs can temporarily wait for instructions or assistance during an emergency. Grab bars

### Rest Room Facilities

The rest rooms are compliant with the period of design and construction. The access provisions of the current code are not met. These include floor area and clearances for fixture access, grab bar provisioning, and mounting heights of toilet and bath accessories.

### Locker Room Facilities

The lockers lack compliance with ADA provisions for location, quantity and access. Also ADA accessible bench facilities do not exist. Shower controls, heights and access provisions also are lacking.

### Stairs

The existing stairs are compliant with the period of design and construction. The width of stairs appears compliant with the exit loading. The tread heights exceed the current building code maximum of 7-inches. The handrails are compliant with mounting height and extension beyond top and bottom stair risers. The current guards are not compliant with current code, height and openness.

### Door Swing Clearance

Many doors are not provided with the required clear floor area on either side. Adequate room for approach to the door and side clearance for opening is not compliant.

### Door Hardware

Several doors have round knobs that need to be replaced. ADA requires handles, pulls, latches, locks, and other operating devices on accessible doors to have a shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist to operate. Lever-operated mechanisms, push-type mechanisms and U-shaped handles are acceptable designs.

### Ticket Sales, Rentals and Cabinetry

The sill height of transaction windows is too high. Office break room and storage counters are inaccessible at 36-inch height. ADA requires the tops of accessible tables and counters to be from 28 to 34-inches. Counter mounted sinks do not meet the side or front approach requirements for; clear floor space, and knee and toe clearances. Countertops at workrooms and kitchen areas need to be lowered to 34-inches above the floor.

### Civil Assessment

#### Utilities

The Sports Center is connected to the City of Soldotna public water and sewer systems. A 10" diameter water main extends from Kalifornsky Beach Road and serves the Sports Center. It ties into



S-3 Steel Roof Joists



S-4 Doorway Cut Into Existing CMU Wall



S-5 Wood Framed Locker Room Addition

the old well house near the southwest corner of the building. The Sports Center has a 6" diameter sewer service that ties into the building near the northeast corner. It discharges to an 8" diameter sewer main on the east side of the building that runs south to Kalfornsky Beach Road.

The as-built plans indicate that roof drains discharge into three drywells located near the northwest, northeast, and southeast corners of the Sports Center. In addition, the sump in the resurferacer room discharges to another drywell near the northwest corner of the building. The Parks & Recreation Director indicated that the sump has backed up in the past and overflowed into an adjacent floor drain. The drywells are buried underground and the condition of them could not be verified.

## Structural Assessment

### Structural Systems

The existing Sports Center building is constructed with reinforced concrete masonry unit (cmu) walls, concrete floors, and steel roof joists supporting metal roof decking. The building consists primarily of the 168' x 228' arena, 168' x 46' southern portion consisting of the entry, offices, restrooms, and mechanical and electrical rooms, and the 42' x 192' east portion consisting of conference rooms, kitchen, and handball courts.

The arena portion of the Sports Center has 96" deep steel roof joists spaced at nominally 6.5' on center that span 168' in the east - west direction. The joists support 1.5" deep, 16 and 18 gauge metal roof decking. The joists are supported by nominal 8"x8"x16" cmu walls that extend 35'-4" above the finished floor. Integral to the walls are 16"x16" pilasters spaced at 16' on center. The north wall of the arena is of similar construction with 16"x16" pilasters spaced at 14' on center. The south wall of the arena is a combination of 8" and 12" thick cmu that also supports second story floor and roof loads from the southern portion of the building. The seating and mezzanine area on the east side of the arena is reinforced concrete supported by cmu walls below

The southern portion of the Sports Center has a combination of 14", 16", and 22" deep steel roof joists at 6' to 8' spacing, spanning 12' to 17' in the north - south direction. The joists support 1.5" deep, 18



C-1 Old Well House at Southwest Corner



S-1 CMU Walls



S-2 Steel Roof Joists

gauge metal roof decking. Second level floors are constructed with 16" deep steel joists spaced at 4' on center, spanning 16' in the north – south direction, that support a 3" thick composite concrete and metal pan deck. Walls are a combination of 8" and 12" thick cmu. Over open areas, roof and floor joists are supported by 16" to 21" deep steel I-beams.

The eastern portion of the Sports Center has 24" deep steel roof joists spaced at 6' on center. Over the conference rooms and kitchen, joists span 38' in the east - west direction and over the handball courts, they span 48' in the north – south direction. Walls are 8" thick cmu that vary in height from 13'-4" above finished floor in the conference rooms to 26'-0" above finished floor around the handball courts.

The at grade floor, with the exception of the rink area, is a reinforced 4" concrete slab-on-grade. Exterior walls, for the most part, extend approximately 4' below grade and bear on concrete strip footings of varying width while interior columns and walls extend just below slab grade and bear on spread and strip footings.

### Variations From As-Built Drawings

Where verified, the structure generally agrees with the as-built drawings that were provided. Minor modifications were made in the original exercise room and adjacent storage room to turn them into office space. Walls were added and a doorway cut through an existing cmu wall. In addition, an approximately 25' x 36' wood frame locker room was added near the northeast corner of the Sports Center. A doorway was cut through an existing exterior cmu wall to provide access to this room. Plans were not made available for the addition.

### Bearing & Shear Walls

All exterior walls are a combination of bearing and/or shear walls. In addition, with the exception of a few partition walls, the majority of the interior walls also act as bearing and/or shear walls. These reinforced 8" and 12" thick cmu walls from the original construction are all detailed in the as-built drawings. The wood frame walls of the addition would also appear to be bearing and/or shear walls.



M-1 AHU-1 Bottomed out isolation



M-2.1 Grille Corrosion



M-2.2 Grille Corrosion



M-4 Failed Boiler

## Live Loads

According to the as-built drawings, the structure was designed in accordance with the 1979 edition of the Uniform Building Code (UBC). The seismic design criteria listed appears correct for that edition of the code. The wind load was listed as 25 psf. Floor live loads were listed as 100 psf for corridors, seating, and stairs, 75 psf for the mechanical room, and 125 psf for the storage room. The upper roof, over the arena, was designed for a roof snow load of 60 psf. The lower flat roofs over the southern and eastern portions of the building were designed for a roof snow load of 52 psf. The sloped roof in the southern portion of the Sports Center was designed for a snow drift load over a 40 psf base snow load.

Seismic and wind load analysis have undergone major changes since the 1979 UBC. It is likely that the current code, the 2009 edition of the International Building Code (IBC), would require the building to be designed to withstand larger wind and seismic loads. The floor live loads are consistent with the current code. The design roof snow load for the upper roof is larger than the 54 psf that the current code would require. The design roof snow load for the lower flat roofs was approximately the same as the 54 psf base snow load that the current code would require, however, it does not appear that snow drift loads were taken into account on the lower flat roofs.

## Structural Condition

The overall structural condition of the building is very good. All steel joists and roof decking that was inspected is in good condition and at the joist bearing points, no cracks or displacement were observed in the cmu. No cracks were found in any cmu walls and all walls appeared plumb. Minor cracks were observed in the concrete slab-on-grade floor, but that is not unusual. No differential movement of the building was noted.

## Mechanical Assessment

### General

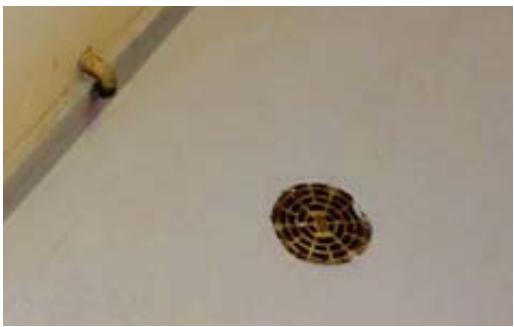
The Central Peninsula Sports Center Located in Soldotna, Alaska was constructed in 1983 under the 1979 Uniform Code Body. The facility includes a hockey rink with associated locker rooms, a conference area with small commercial kitchen, two handball courts, and staff office space. A 1,536 sq. ft. hockey locker room was added after the original construction and total facility area is approximately 54,577 sq. ft.



M-5.1 Glycol Tank



M-5.2 Glycol Tank



M-6 AHU-1 Coil Drain



M-7 CP-1A, CP-1B Running

## Ventilation System

There are three original supply air ventilation systems for the facility. AHU-1 is a 30,000 CFM built-up system including variable pitch in-line propeller fan, filter rack, and heating coil. The system also includes a large centrifugal return/relief fan with inlet vanes. The system serves the hockey rink and bleachers. There are six supply air trunks out to the zones served. The variable pitch supply fan and inlet vanes for the return fan have been locked in place and replaced by variable frequency drives. The original purpose for variable volume operation is to reduce capacity by closing off the supply ducts over the ice.

AHU-2 is a 15,360 CFM variable volume system that serves the meeting rooms, offices, lobby, concessions work room, and handball courts. The system includes a heating coil, and filter section. Fan inlet vanes were replaced by a variable frequency drive. The system is plenum return with two propeller exhaust fans for relief in the fan room.

AHU-3 is a 4,700 CFM dedicated make up air unit for the locker rooms. The unit discharges above the open ceiling of the spectator seating access aisle with transfer grilles in the face of the bleacher benches.

All three systems share an outside air plenum with intake louvers on the South face of the building above the entry lobby.

Exhaust ventilation systems are provided for the locker rooms, toilet rooms, zamboni room, compressor room, and janitors closets. There is also a Type 1 kitchen hood exhaust system that was added after the original construction.

A new locker room was constructed to the North of the handball courts on the East side of the building. The space is heated and ventilated with a gas/electric rooftop unit. None of the air systems were in operation during the site investigation.

## Heating System

The building is hydraulically heated with two 2,260 MBH output gas fired cast iron sectional boilers. Each boiler is sized for 50 percent of the heating load. The boilers are piped in parallel. Boiler B-1B is shut down with a leak and the repair was not approved by the State Boiler Inspector according to the Building Manager. 180 degree hot water flows through the boilers.



M-8 AHU-1 3-Way Valve Drain



M-1- Uninsulated Waste, Hot Water



M-12 Faucet 107, 108

Distribution loops include a 142 GPM hot-water system to serve building heating terminals including baseboard radiation, fan coils, unit heaters, and cabinet unit heaters, 220 GPM and 88 GPM loops to water to glycol shell and tube heat exchangers that serve air handling unit heating coils, and a circulation pump for an indirect fired tank type domestic water heater.

Heating fluid through the air handling unit heating coils is 50 percent ethylene glycol. Each coil is provided with its own circulator pump on the cold side of the heat exchanger.

The rink is heated with fan coils. Shower and locker rooms are also heated with fan coils. Cabinet unit heaters are provided at vestibules. Toilet rooms have ceiling mounted cabinet unit heaters. Unit heaters are provided in utility spaces. The meeting rooms have perimeter baseboard radiation.

### Temperature Controls System

The original temperature control system was analog/pneumatic based on Barber Colman devices. A retrofit was recently completed with a new Siemens DDC system. Room thermostats appear to remain unchanged pneumatic devices, however, control valves and damper operators are electronic/DDC type. Variable frequency drives were added for fan and pump modulation. The work was done as part of an energy conservation project.

### Plumbing Assessment

#### Potable Water System

The building water supply is located in the basement sprinkler tank vault at the Southwest corner of the building. The original water supply was from a well on the West side of the building. It has since been converted over to city water. There is still a sand filter and pressure tank associated with the system.

#### Domestic Hot Water

The original water heater was specified as a 1,400 MBH gas fired unit with 750 gallons of storage and 950 gallon recovery rate, 140 degrees F. The system is now a storage type indirect fired unit with the boilers as the heating source.

#### Fire Protection

The building has a wet pipe sprinkler system. There is a large storage tank in the vault room which was



M-13 Domestic Water Tank Drain



M-14 Three Compartment Sink, No Grease Interceptor



M-15.1 Dishwasher Drain

originally pressurized as part of the well water on site supply system. The compressor has been removed and the sprinkler now connected to city water. Sprinkler system supply is restricted to two inch on the supply side of the storage tank. Back flow prevention is a single check valve along with a single zone alarm valve located in the rink chilled water system pump room above.

### Sanitary Sewer

Sanitary sewer is piped to the Northeast corner of the building. Reference Civil for point of disposal.

### Storage Drain

The building is provided with roof drains and overflow roof drains on the flat roofs. Design drawings indicate discharge to drywells located next to the building although we could not verify as there were no manhole covers at the locations indicated.

### Gas

The building is provided with two gas meters. The larger meter on the Southwest side of the building supplies the building boilers. A smaller meter located on the East side of the building serves the kitchen and also a rooftop unit that was added as part of the locker room addition.

### Fuel Oil

The building generator is supplied by a fuel oil day tank located in the room. There is no longer an exterior buried or above grade fuel tank according to the Building Manager.

### Master Plan Considerations

Existing ventilation systems are not suitable for a building expansion but could be modified to accommodate a building alteration. It would be preferable to provide a new ventilation system or systems as part of an expansion.

Immediate consideration should be given to a new heating plant or replace the failed boiler section in time for winter operation. The single boiler is less than 50 percent of connected load considering the domestic water load is now also on the boiler system. The new heating plant could be located in the same space as existing and be sized to accommodate an addition or at least be piped to allow installation of another boiler in the future.



M-15.2 Dishwasher Drain



M-15.3 Dishwasher Drain



M-16 Undersized Sprinkler Line



M-17 Sprinkler Check Valve

The building sprinkler system does not appear to be NFPA 13 compliant after connection to the city water system. The existing system supply should be increased from 2 inch to 4 inch with code compliant double check valve backflow protection and the system should have two alarm zones.

## Electrical Assessment

### Service Entrance

The Sport Center is served by Homer Electric Association. A 750KVA, 277/480 volt, 3 phase WYE transformer provides electricity to the facility. HEA is currently engaged in a program to reduce transformer loss by matching transformers closer to the actual load.

The Utility plans to change the transformer out to a 300 KVA to match historical peak demand. Additional expansion at the facility would require them to change out to a larger transformer.

Service Entrance equipment, owned by the city, consists of a Main Distribution Panel rated for 1200A. It houses a 1200A main disconnect and 5 subfeed fused disconnects, one of which is a spare. There are ample spares in panel boards DP-1 and DP-2 for expansion.

The electrical equipment room has two doors. One coming from the arena swings into the electrical room. Neither doors are equipped with "panic bars".

### Lighting

The vast majority of indoor lighting has been retrofitted to T-5 fluorescent or CFL's. One locker room still has original fixtures. No deficiencies in lighting were noted.

### Emergency Lighting

A Kohler 277/480 V., 3 phase 30 KW generator provides emergency lighting in the event of utility outage. Power to egress lights and exit lights is through an automatic transfer switch.

A second circuit off of the generator is routed through a manual transfer switch. It's padlock in the "normal power" position. A placard with



E-1 Electrical Transformer



E-4 Emergency Generator



E-9 PA System Cabinets

protocol directions was specified. It was not present. The second circuit consists mainly of motor loads. If added to the lighting load, the generator would be overloaded.

None of the emergency equipment was identified as such.

It was impossible to verify that emergency circuits had been kept entirely independent of all the other wiring and equipment.

A periodic testing schedule had not been implemented to ensure the systems are in proper working condition.

### Fire Alarm and Freon Detection

The facility is protected by two systems of the same manufacturer. Cerbevus Pyrotronics model System 3.

Frontier Fire Protection (Contractor) was on site conducting periodic test on the fire alarm and Freon detection systems. In conversation with the technician it was discovered the System 3 product line had been discontinued and replacement components were no longer manufactured.

### Public Address Systems

There are two PA systems in the facility. One serves the ice rink arena the second system serves the conference room. Dedicated equipment working space was not being observed. Cabling was in disarray.

### Telecommunications

Alaska Communication provides telephone service to the Sport center. A 25 pair copper cable is currently utilized at 60%. The telephone board inside the building is in disarray.

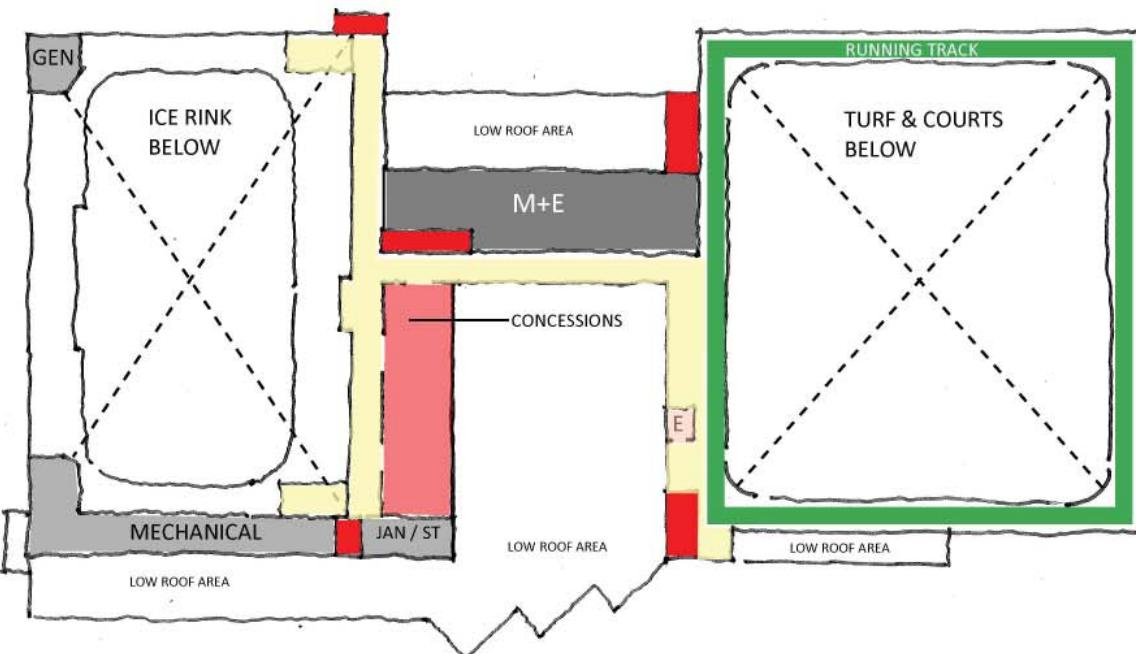


## Master Plan Final Draft Concept

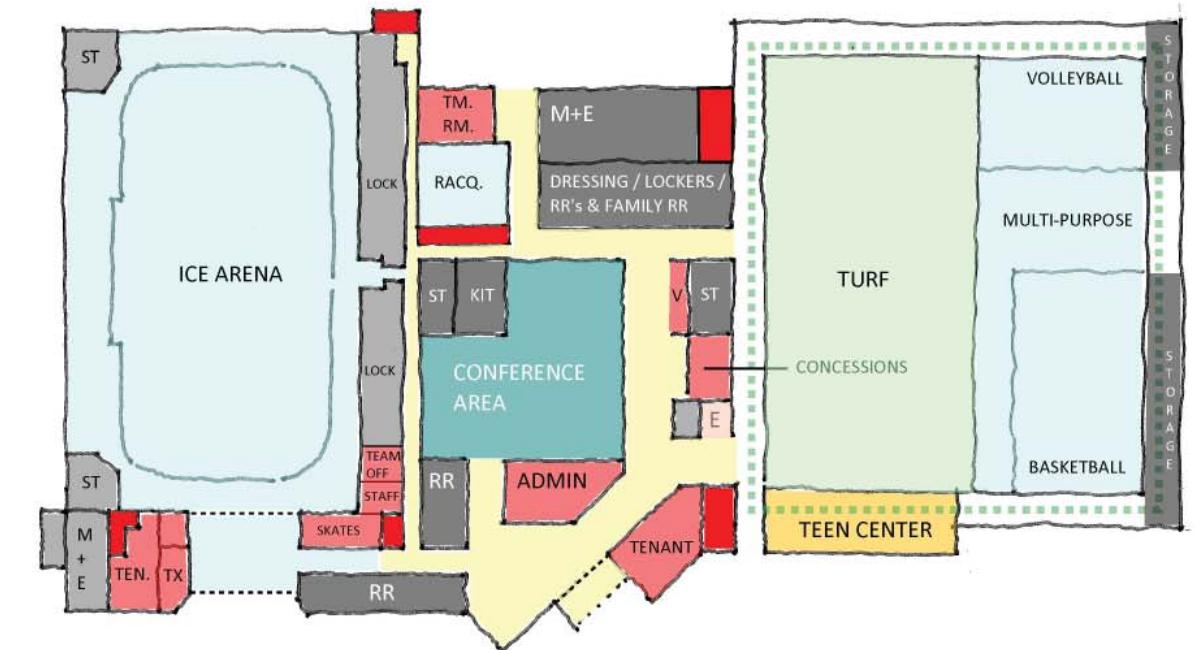
### Summary

The planning team has generated a final draft concept plan. This plan is a refinement of multiple concept diagrams presented to the user groups and planning committees in August 2013. The five concepts are included in the report's appendix along with pro and con summaries received for each diagram. The refined concept reflects the comments and priorities of the user groups and presents a layout that optimizes budget, site circulation, internal circulation, facility management, and appearance.

The planning team is submitting this final draft concept plan along with an updated facility program for review, comment and approval by the City of Soldotna Parks and Recreation Board. Following the board's action the document will be updated along with a more detailed presentation of probable construction costs. This document will be submitted for presentation to the City Council at the end of the month.



UPPER FLOOR PLAN (MEZZANINE)



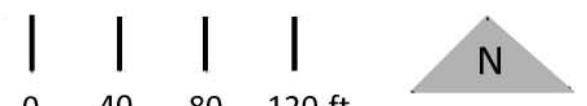
GROUND FLOOR PLAN



CONCEPT MASSING DIAGRAM

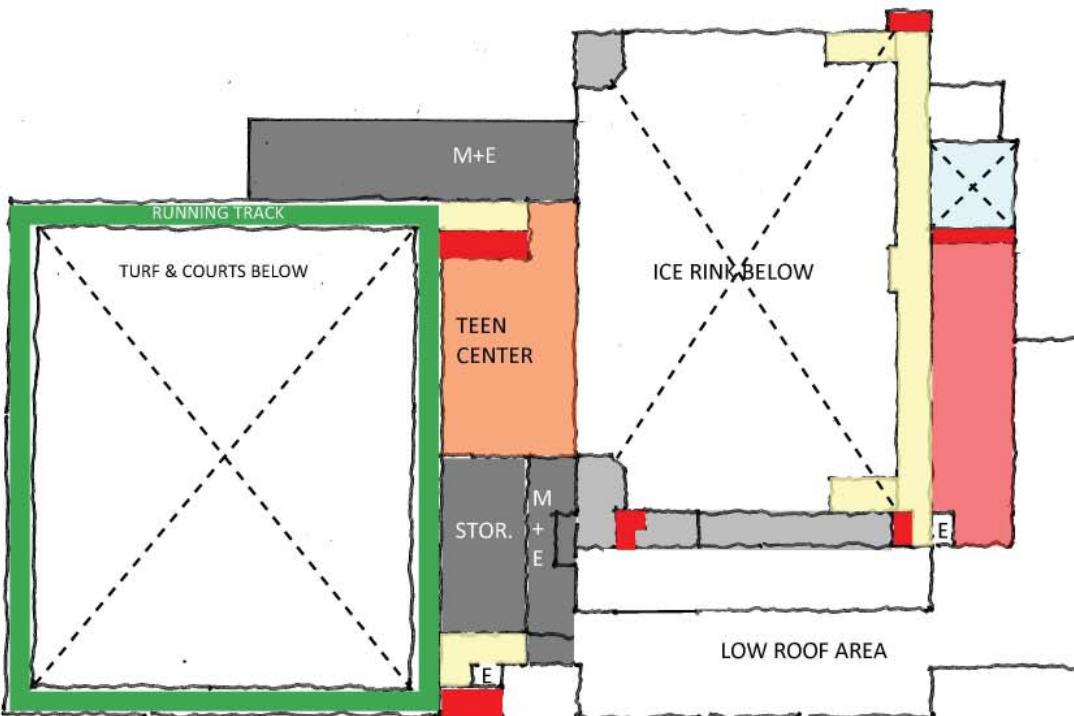


CONCEPT SITE DIAGRAM

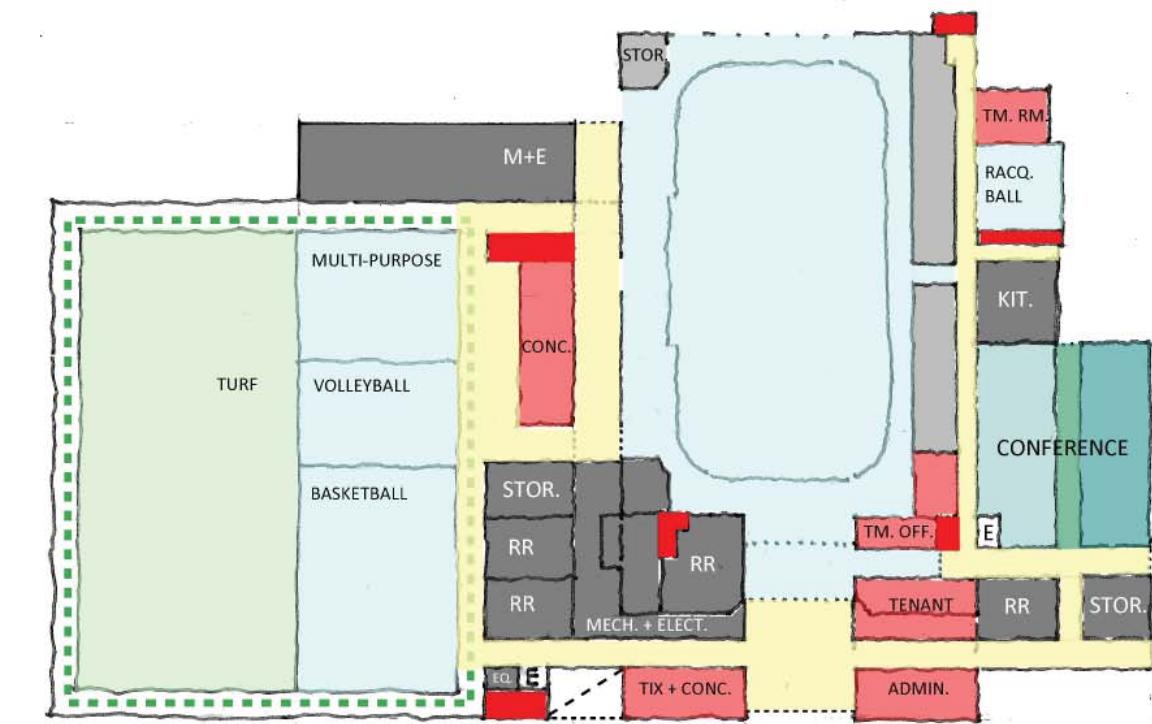

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**SOLDOTNA SPORTS CENTER**  
**Master Plan Draft Concept**  
**05 SEPTEMBER 2013** **Final**


**BETTISWORTH** NORTH  
 ARCHITECTS AND PLANNERS





UPPER FLOOR PLAN (MEZZANINE)



GROUND FLOOR PLAN



CONCEPT MASSING DIAGRAM



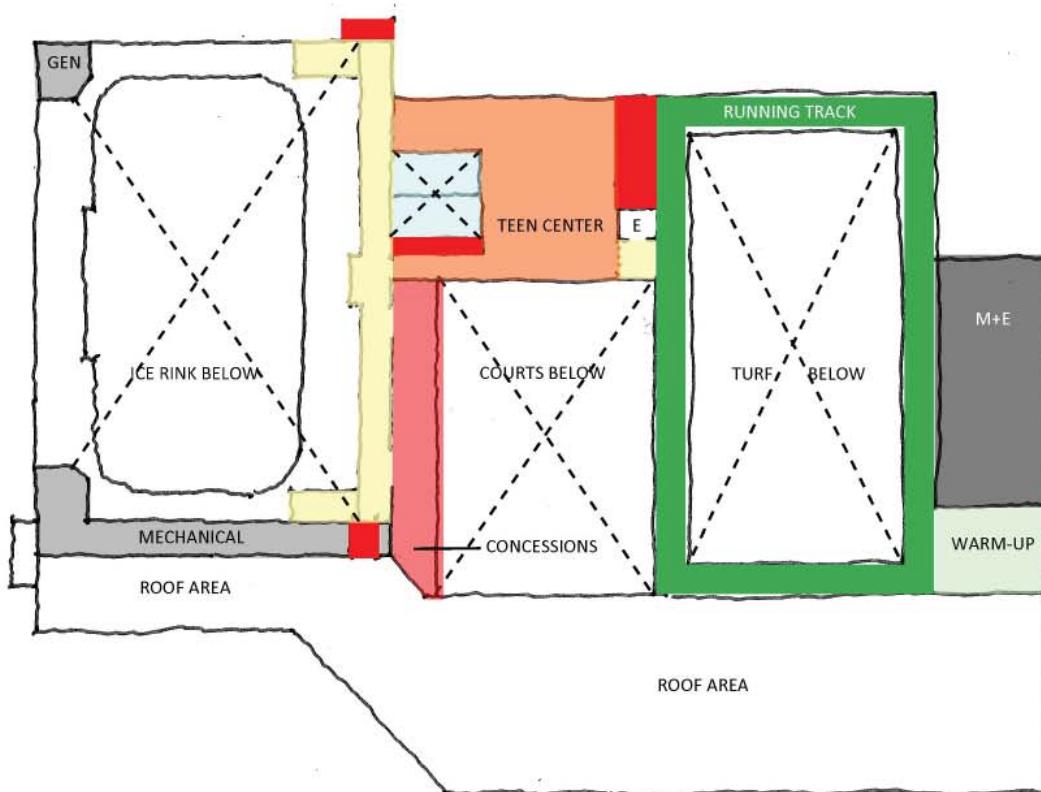
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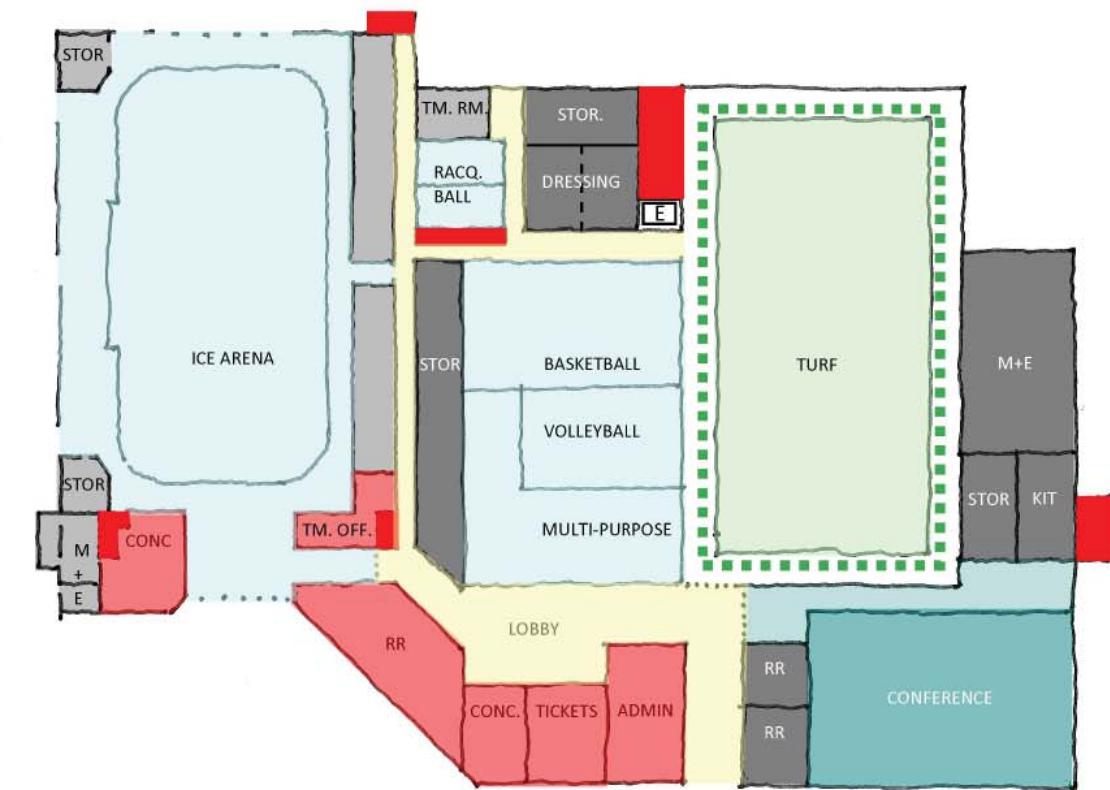
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**Master Plan Draft Concepts**  
 20 AUGUST 2013

**#1** 
**BETTISWORTH** NORTH  
 ARCHITECTS AND PLANNERS





UPPER FLOOR PLAN (MEZZANINE)



GROUND FLOOR PLAN



CONCEPT MASSING DIAGRAM



CONCEPT SITE DIAGRAM



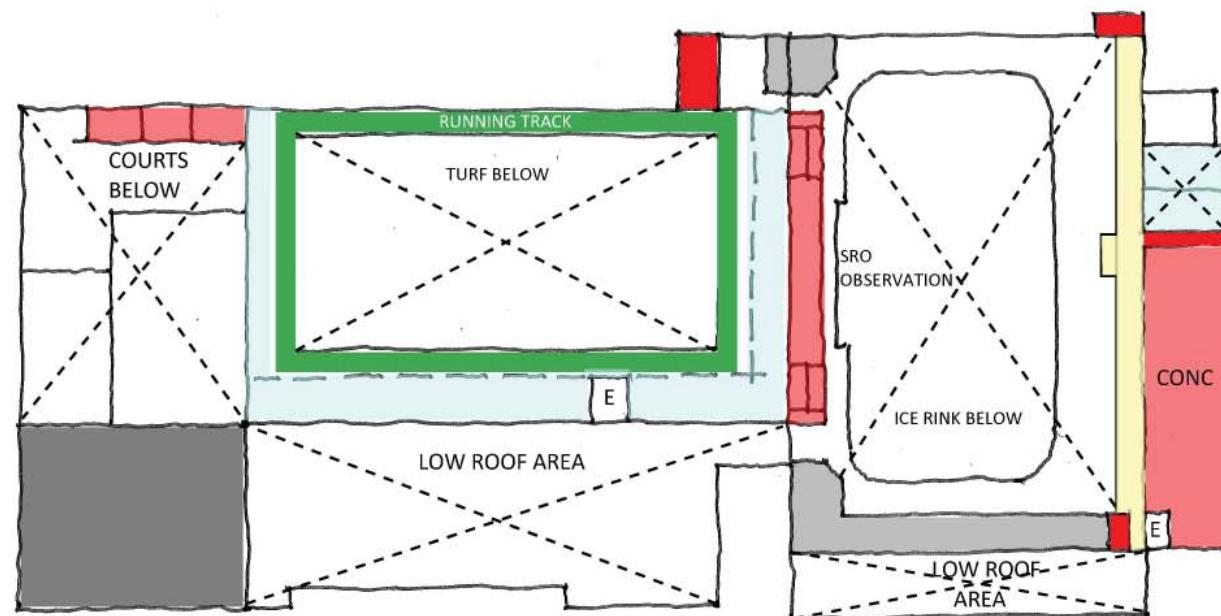
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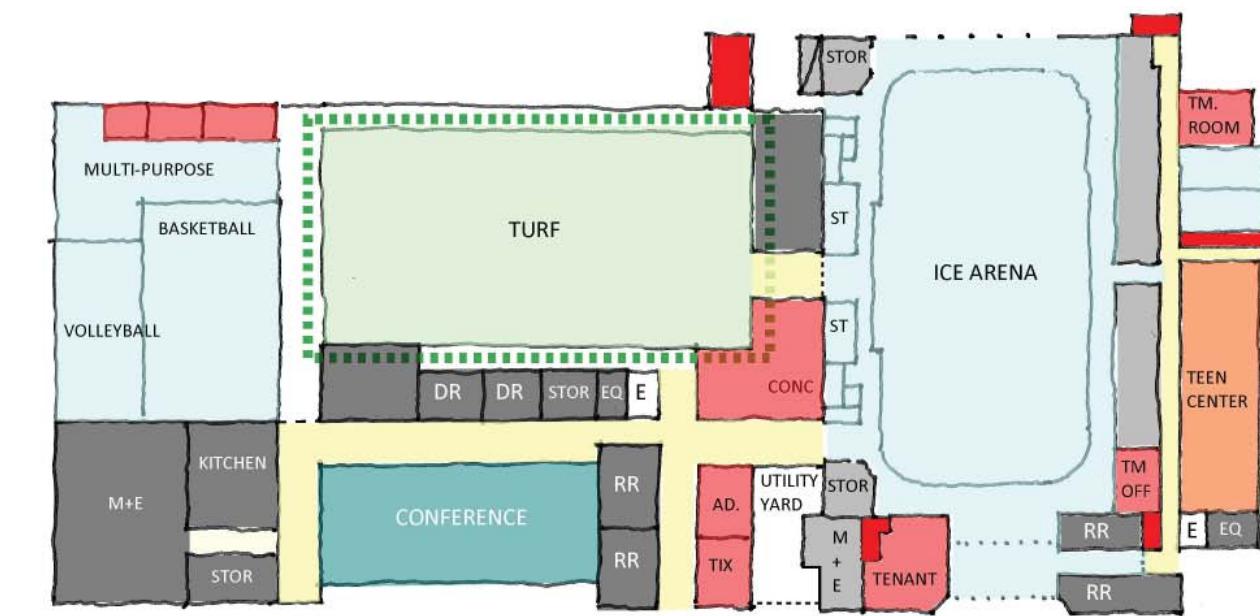
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**BETTISWORTH** NORTH  
 ARCHITECTS AND PLANNERS





UPPER FLOOR PLAN (MEZZANINE)



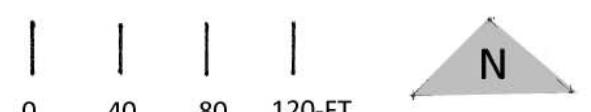
GROUND FLOOR PLAN



CONCEPT MASSING DIAGRAM



CONCEPT SITE DIAGRAM



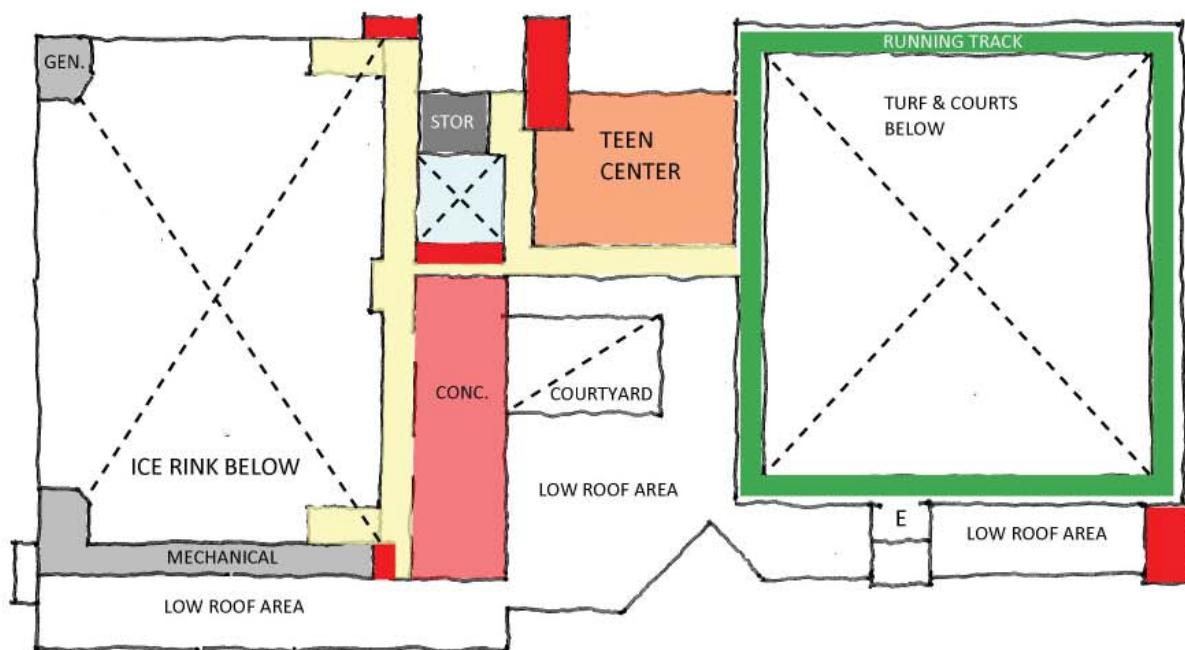
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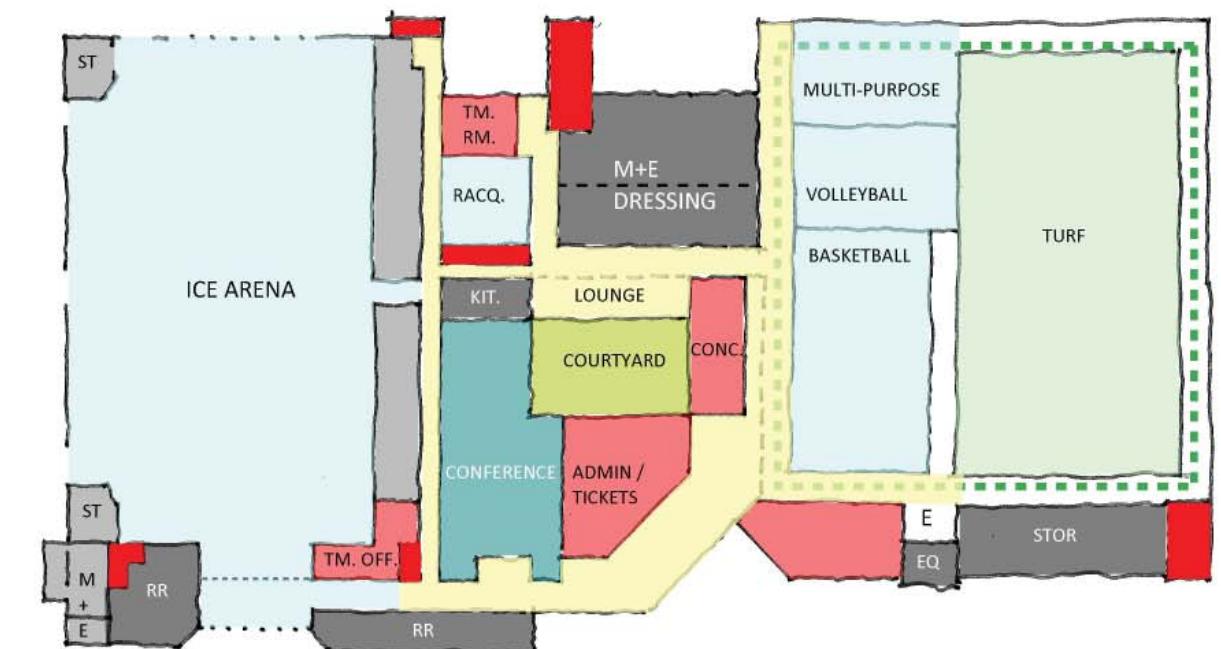




## Master Plan Draft Concept Diagrams



UPPER FLOOR PLAN (MEZZANINE)



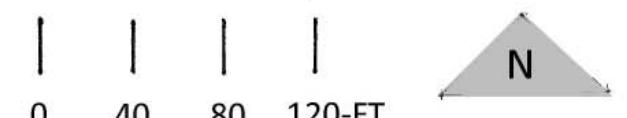
GROUND FLOOR PLAN



CONCEPT MASSING DIAGRAM



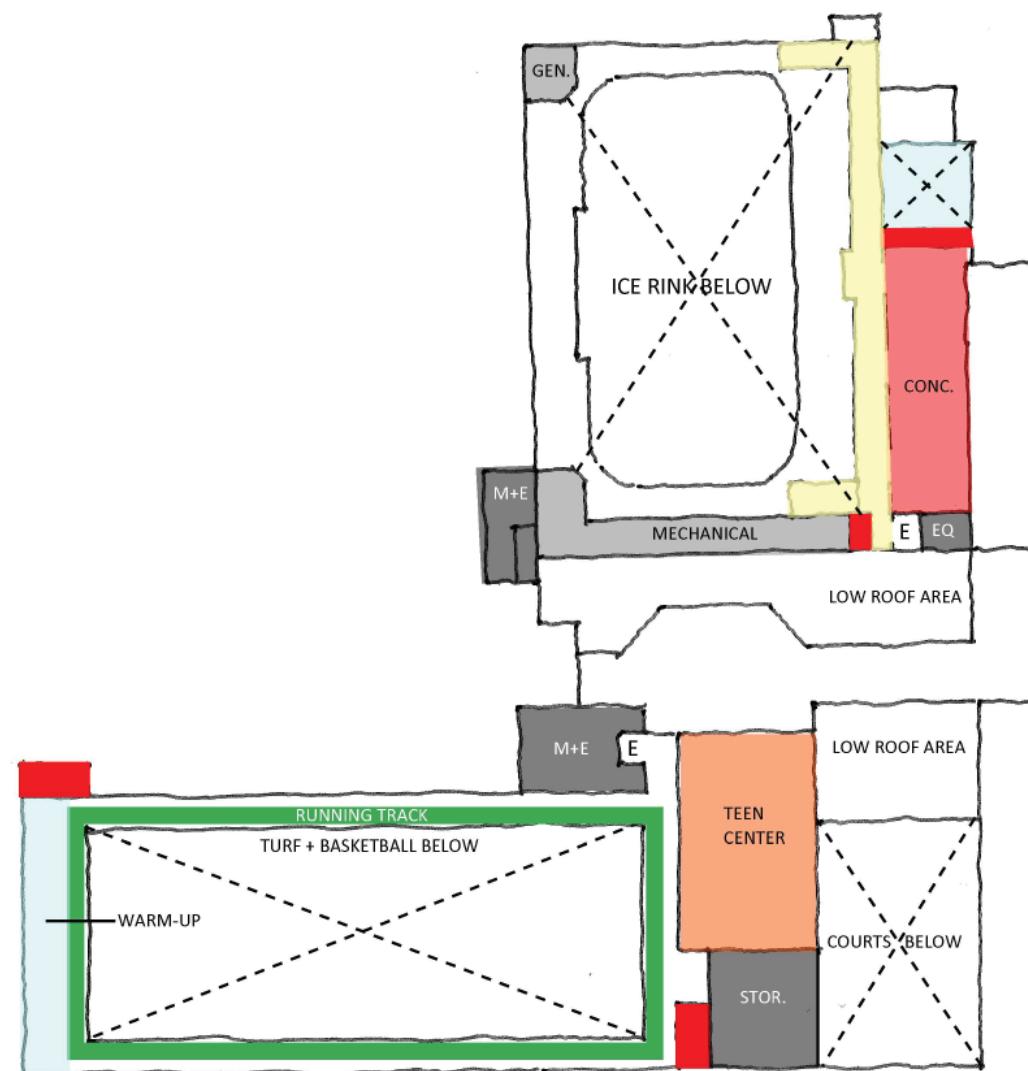
CONCEPT SITE DIAGRAM



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**20 AUGUST 2013**



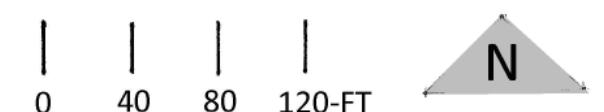




UPPER FLOOR PLAN (MEZZANINE)



GROUND FLOOR PLAN



**SOLDOTNA SPORTS CENTER**  
**Master Plan Draft Concepts**

20 AUGUST 2013



CONCEPT MASSING DIAGRAM

CONCEPT SITE DIAGRAM

