



Gale Associates, Inc.

163 Libbey Parkway | Weymouth, MA 02189

P 781.335.6465 F 781.335.6467

[www.galeassociates.com](http://www.galeassociates.com)

December 11, 2018

Mr. Jared Stanton  
Director of Finance and Operations  
Concord Public Schools  
120 Meriam Road  
Concord, MA 01742  
[jstanton@concordps.org](mailto:jstanton@concordps.org)

Re: Concord-Carlisle Regional High School  
Feasibility Study  
Gale JN 717870

Dear Mr. Stanton:

Pursuant to the overall campus feasibility study Gale Associates, Inc. (Gale) is pleased to provide three (3) preliminary conceptual plans and order of magnitude cost estimates for campus upgrades at Concord-Carlisle Regional High School. We understand that these preliminary plans and cost estimates have been requested for discussion at tonight's school committee meeting and that Gale will subsequently coordinate with Concord Carlisle to finalize the concept plans and issue a report by January 31, 2019.

As you can see, all options provided include the renovation of the access drive and the construction of an amenities building for the synthetic turf playing field and grandstands. The access drive construction which includes full depth pulverization, import of dense grade crushed stone to relevel and fix low spots, 4 inches of new pavement, adjusting utilities, new lighting and striping. The amenities building is 1,809SF and includes a concession area, a 7 fixture men's restroom, a 15 fixture women's restroom, a family restroom, a janitor's closet and a utility room. The fixture count assumes a 50 percent waiver from the MA Plumbing Board. Option A also includes a 6-lane track with an 8-lane straightaway and natural grass field in the existing land fill area, Option B indicates a building with one (1) sheet of ice and an indoor court space, Option C includes a building with two (2) sheets of ice.

We understand that the Concord Groundwater Conservancy District allows by right 15% impervious cover over the entire parcel. However, the former high school site consisted of 22% impervious cover and the new high school site was intended to have approximately 19% impervious cover. Through aerial imagery and as-built plans, Gale quantified the existing impervious area on site which totals approximately 20.23%. Each concept plan shown contains greater than existing impervious cover but less than the previous 22% impervious.

Below is a summary of the options including a description of the proposed scope and the total approximate resulting impervious area on site assuming all scope options were constructed at some point. Conceptual plans showing the scope, floor plans of the buildings and building descriptions are enclosed. An itemized quantification of impervious area for each option are also enclosed.



Option	Description	Total Impervious Area
A	Option A includes the renovation of the access drive, a 115' radius 6 lane track with an 8-lane straightaway, the construction of an amenities building and a 125-space parking lot. This option also requires relocating the skatepark to another location on campus. New irrigation well and irrigation of green space around school perimeter.	21.99%
B	Option B includes the renovation of the access drive, the construction of an amenities building, a one (1) sheet of ice rink with multipurpose fieldhouse and an 80-space parking lot. This option maintains the skatepark in its existing location on campus. New irrigation well and irrigation of green space around school perimeter.	20.92%
C	Option C includes the renovation of the access drive, the construction of an amenities building, a two (2) sheets of rink ice arena and an 80-space parking lot. This option maintains the skatepark in its existing location on campus. New irrigation well and irrigation of green space around school perimeter.	21.04%

Below is the total preliminary cost for estimate each individual scope item included in the various options. A more detailed and itemized cost estimate is enclosed.

Scope Options		Cost
1	Access Road Reconstruction (Included in Option A, B, C)	\$ 1,065,054.71
2	Amenities Building (Included in Option A, B, C)	\$ 1,108,478.25
3	6/8 Lane Track with Natural Turf Field (Included in Option A)	\$ 1,620,913.70
4a	Parking Lot- 125 Space Lot (Included in Option A)	\$ 486,750.00
4b	Parking Lot- 80 Space Lot (Included in Options B, C)	\$ 323,400.00
5	Site Irrigation (Included in Options A, B, C)	\$ 256,850.00
6	Field House (Included in Option B)	\$ 19,144,310.00
7	Field House (Included in Option C)	\$ 22,321,940.00
8	Outdoor Learning Center	\$ 275,000.00

It should be noted that the cost estimates provided are based on our experience with previous similar projects, they are not based on engineering design documents and could be subject to change upon final design.

Mr. Jarod Stanton  
Director of Finance and Operations  
Concord Public Schools  
December 11, 2018  
Page 3



Please contact John M. Perry at [jmp@gainc.com](mailto:jmp@gainc.com) or call (781) 335-6465 with any questions.

Best regards,

GALE ASSOCIATES, INC.

A blue ink signature of Margaret J. Laracy, written in a cursive style.

Margaret J. Laracy  
Senior Staff Engineer

A blue ink signature of John M. Perry, P.E., written in a cursive style.

John M. Perry, P.E.  
Chief Civil Engineer

MJL/JMP/lad

Enclosures:      Conceptual Plans A, B & C  
                         Building Floor Plans  
                         Building Program Descriptions  
                         Detailed Cost Estimates A, B & C  
                         Impervious Area Spreadsheets A, B & C



F:\717870\plots\02-Concept-Master Plan\717870\_C101\_A.dwg, 12/11/2018 2:16:27 PM, nrf, Bluebeam PDF



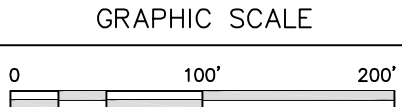
Gale Associates, Inc.  
Engineers and Planners  
163 LIBBEY PARKWAY | WEYMOUTH, MA 02189  
P 781.335.6465 F 781.335.6467  
www.galeinc.com  
Boston Baltimore Orlando Connecticut

This drawing and the design and construction features disclosed are proprietary to Gale Associates, Inc. and shall not be altered or reused in whole or part without the express written permission of Gale Associates, Inc. Copyright©2018

PROJECT  
CONCORD CARLISLE REGIONAL HS  
SITE FEASIBILITY STUDY  
500 WALDEN STREET  
CONCORD, MASSACHUSETTS 01742  
OWNER  
CONCORD CARLISLE SCHOOL DISTRICT  
120 MERIAM ROAD  
CONCORD, MA 01742

REVISIONS		
NO.	DATE	DESCRIPTION

CADD FILE	717870_C101_A
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DATE	
DRAWING SCALE	1"=100'



SHEET TITLE

SCHEMATIC  
LAYOUT  
OPTION A

DRAWING NO.

C101A

PROJECT NO. 717870



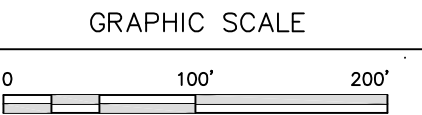
his drawing and the design and construction features disclosed are proprietary to Gale Associates, Inc. and shall not be altered or reused in whole or part without the express written permission of Gale Associates, Inc.  
Copyright©2018

CONCORD CARLISLE REGIONAL HS  
SITE FEASIBILITY STUDY  
500 WALDEN STREET  
CONCORD, MASSACHUSETTS 01742

CONCORD CARLISLE SCHOOL DISTRICT  
120 MERIAM ROAD  
CONCORD, MA 01742

[illegible]

CADD FILE	717870_C101_B
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DATE	
DRAWING SCALE	1"=100'



SHEET TITLE

SCHEMATIC  
LAYOUT  
OPTION B

DRAWING NO.

C101B

PROJECT NO. 717870



F:\717870\plots\02-Concept-Master Plan\717870\_C101\_C.dwg, 12/11/2018 2:21:19 PM, nrfj, Bluebeam PDF



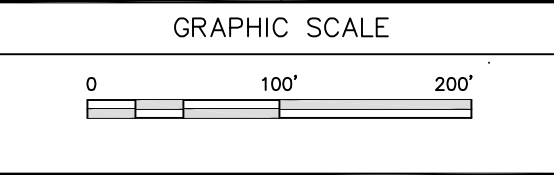
Gale Associates, Inc.  
Engineers and Planners  
163 LIBBEY PARKWAY | WEYMOUTH, MA 02189  
P 781.335.6465 F 781.335.6467  
www.galeinc.com  
Boston Baltimore Orlando Connecticut

This drawing and the design and construction features disclosed are proprietary to Gale Associates, Inc. and shall not be altered or reused in whole or part without the express written permission of Gale Associates, Inc. Copyright © 2018

PROJECT	CONCORD CARLISLE REGIONAL HS SITE FEASIBILITY STUDY 500 WALDEN STREET CONCORD, MASSACHUSETTS 01742
	OWNER CONCORD CARLISLE SCHOOL DISTRICT 120 MERIAM ROAD CONCORD, MA 01742

REVISIONS		
NO.	DATE	DESCRIPTION

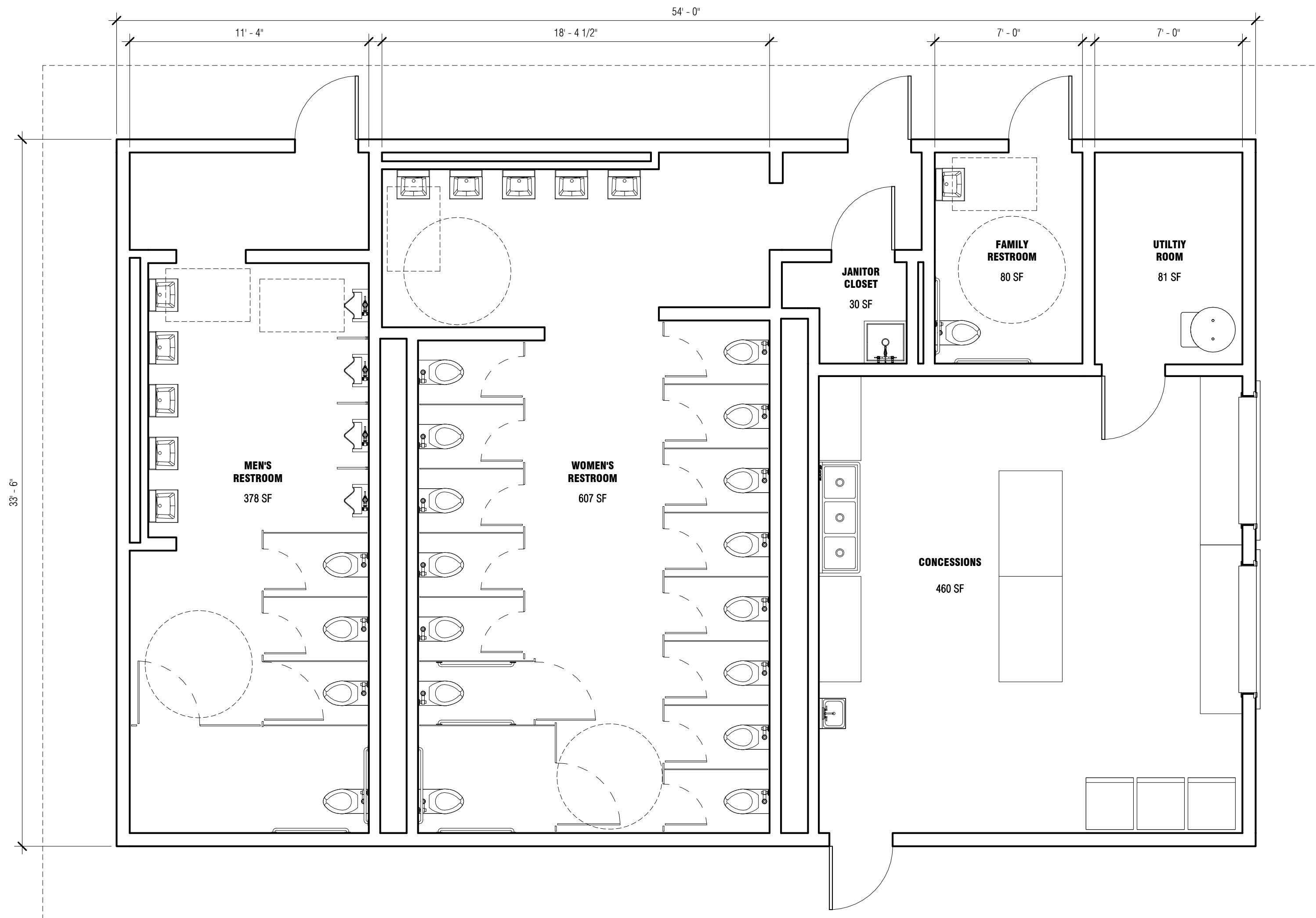
CADD FILE	717870_C101_C
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DATE	
DRAWING SCALE	1"=100'



SHEET TITLE	
SCHEMATIC LAYOUT OPTION C	

DRAWING NO.	C101C
	PROJECT NO. 717870





1 PROPOSED CONCESSIONS BUILDING  
SCALE: 1/4" = 1'-0"



S3 Design, Inc.  
S3 Design Architecture, Inc.  
150 Wood Road, Suite 1000  
Braintree, Massachusetts 02184  
781.848.8804  
[www.s3design-inc.com](http://www.s3design-inc.com)

## CONCORD-CARLISE FEASIBILITY STUDY

500 Walden Street  
Concord, MA 01742

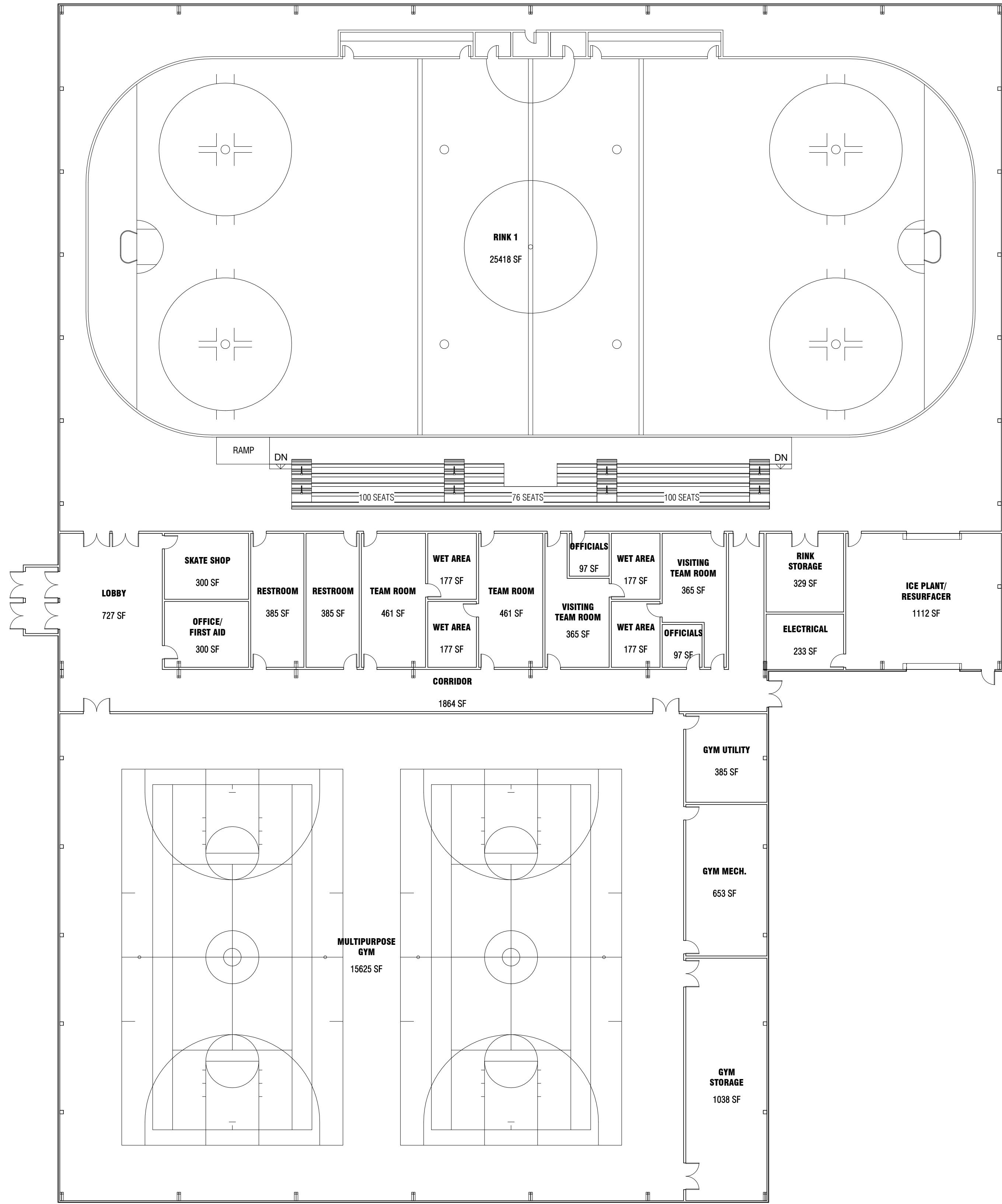


# Concord-Carlise High School Feasibility Study

## Program: Concessions Building

CATEGORY		FUNCTION	NASF	QTY	TOTAL NASF	NOTES
1	Building Spaces	Concessions	460	1	460	
		Men's Restroom	378	1	378	
		Women's Restroom	607	1	607	
		Family Restroom	80	1	80	
		Janitor Closet	30	1	30	
		Utility Room	81	1	81	
SUBTOTAL PROGRAM NSF					1,636	
TOTAL GSF					1,809	





1 PLAN OPTION - ONE ICE RINK & MULTIPURPOSE FIELDHOUSE  
SCALE: 1/16" = 1'-0"



S3 Design, Inc.  
S3 Design Architecture, Inc.  
150 Wood Road, Suite 1000  
Braintree, Massachusetts 02184  
781.848.8804  
[www.s3design-inc.com](http://www.s3design-inc.com)

# CONCORD-CARLISE FEASIBILITY STUDY

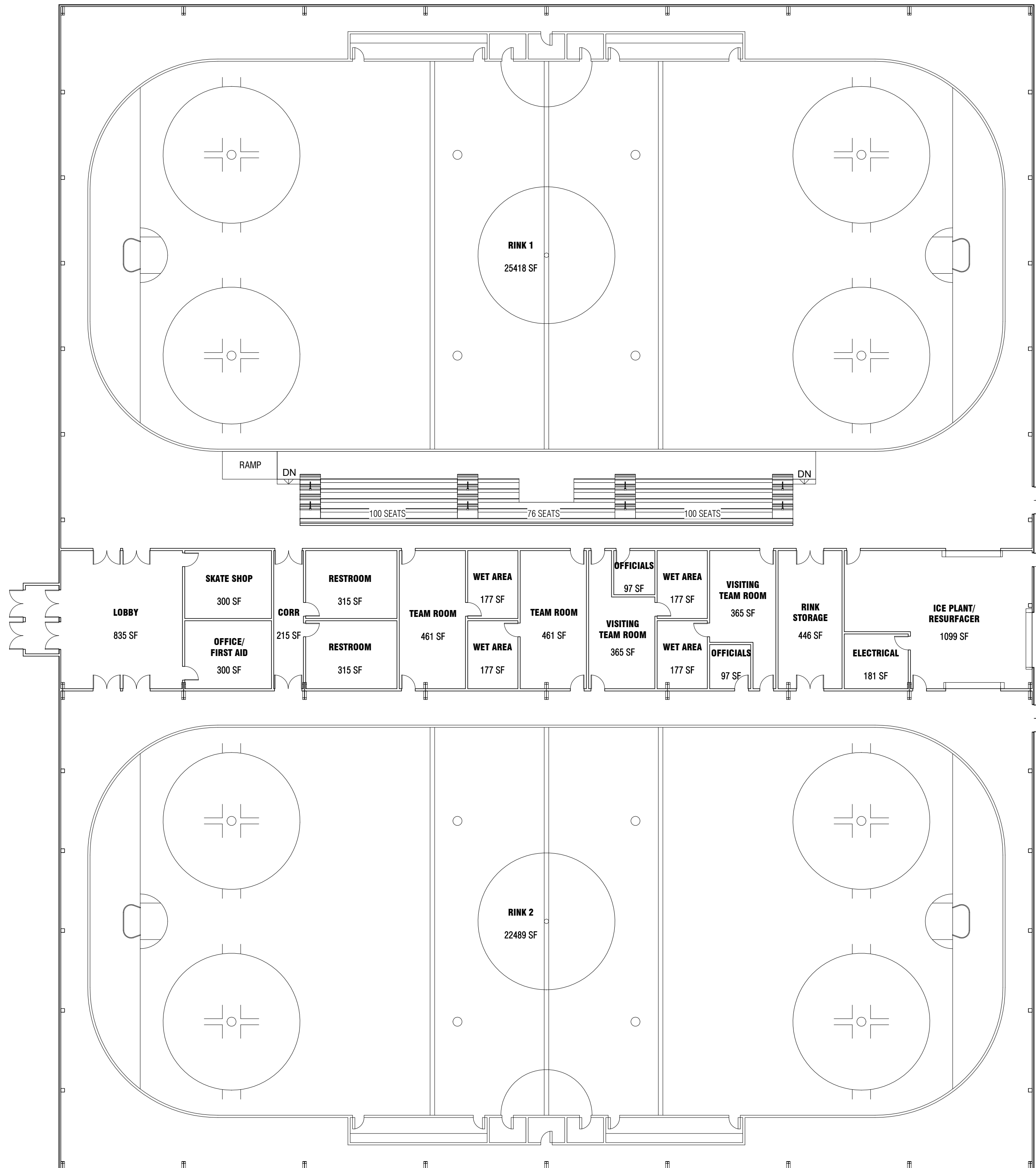
500 Walden Street  
Concord, MA 01742

# Concord-Carlise High School Feasibility Study

## Program: One Ice Rink w/ Multipurpose Fieldhouse

CATEGORY		FUNCTION	NASF	QTY	TOTAL NASF	NOTES
1	Activity Spaces	Ice Rink 1	25,418	1	25,418	
		Multipurpose Court	15,625	1	15,625	
		Subtotal Activity Spaces NSF			41,043	
2	Building Support Spaces	Lobby	727	1	727	
		Restroom - Men's	385	1	385	
		Restroom - Women's	385	1	385	
		Office/ First Aid	300	1	300	
		Skate Shop	300	1	300	
		Ice Plant/ Resurfacer	1,112	1	1,112	
		Electrical	233	1	233	
		Circulation	1,864	1	1,864	
		Rink Storage	329	1	329	
		Gym Utility	385	1	385	
		Gym Mechanical	653	1	653	
		Gym Storage	1,038	1	1,038	
		Mechanical	-	-	-	On Mezzanine above team rooms/wet areas
		Subtotal Building Support Spaces			7,711	
3	Team Locker Rooms	Team Room	461	2	922	
		Visiting Team Room	365	2	730	
		Officials	97	2	194	
		Team Wet Area	177	4	708	
		Subtotal Team Locker NSF			2,554	
SUBTOTAL PROGRAM NSF					51,308	
TOTAL GSF					51,508	





1

## PLAN OPTION - TWO RINKS

SCALE: 1/16" = 1'-0"



S3 Design, Inc.  
S3 Design Architecture, Inc.  
150 Wood Road, Suite 1000  
Braintree, Massachusetts 02184  
781.848.8804  
[www.s3design-inc.com](http://www.s3design-inc.com)

## CONCORD-CARLISE FEASIBILITY STUDY

500 Walden Street  
Concord, MA 01742

Scale: 1/16" = 1'-0"

Date: 11/30/18

# Concord-Carlise High School Feasibility Study

## Program: Two Ice Rinks

CATEGORY		FUNCTION	NASF	QTY	TOTAL NASF	NOTES
1	Activity Spaces	Ice Rink 1	25,418	1	25,418	
		Ice Rink 2	22,489	1	22,489	
		Subtotal Activity Spaces NSF			47,907	
2	Building Support Spaces	Lobby	835	1	835	
		Restroom - Men's	315	1	315	
		Restroom - Women's	315	1	315	
		Office/ First Aid	300	1	300	
		Skate Shop	300	1	300	
		Ice Plant/ Resurfacer	1,099	1	1,099	
		Electrical	181	1	181	
		Circulation	215	1	215	
		Rink Storage	446	1	446	
		Mechancial	-	-	-	On Mezzanine above team rooms/wet areas
		Subtotal Building Support Spaces			4,006	
3	Team Locker Rooms	Team Room	461	2	922	
		Visiting Team Room	365	2	730	
		Officials	97	2	194	
		Team Wet Area	177	4	708	
		Subtotal Team Locker NSF			2,554	
SUBTOTAL PROGRAM NSF					54,467	
TOTAL GSF					54,633	



### Conceptual Order of Magnitude Cost Estimate

Item	Description	Unit	Quantity	Unit Cost	Cost	Total Cost
<b>1</b>	<b>Access Road Reconstruction (Included in Option A, B, C)</b>					<b>\$ 1,065,054.71</b>
a	Bonds, Insurance, Contractor Overhead & Profit (10%)	LS	1	\$ 85,293.78	\$ 85,293.78	
b	Mobilization/Demobilization	LS	1	\$ 30,000.00	\$ 30,000.00	
a	Pulverize & Reclaim Existing Pavement	SY	8793	\$ 12.00	\$ 105,520.00	
b	Prepare sub-base, shape and compact	SY	8,793	\$ 2.00	\$ 17,586.67	
c	Place and compact processed gravel (4")	CY	2,931	\$ 70.00	\$ 205,177.78	
d	Pavement (2 1/2" Binder Course and 1 1/2" Top Course)	SY	8,793	\$ 28.00	\$ 246,213.33	
e	Striping	LS	1	\$ 2,000.00	\$ 2,000.00	
f	Install new paved sidewalks	SY	444	\$ 10.00	\$ 4,440.00	
g	Misc. drainage repairs	LS	1	\$ 20,000.00	\$ 20,000.00	
h	New timber guardrail	LF	0	\$ 17.00	\$ -	
i	Replace bit curbing with cape cod berm	LF	800	\$ 40.00	\$ 32,000.00	
j	Replace bit curbing with granite curb	LF	0	\$ 50.00	\$ -	
k	Lights along Access Drive- Installed with Power	EA	22	\$ 10,000.00	\$ 220,000.00	
	10% Contingency				\$ 96,823.16	
<b>2</b>	<b>Amenities Building (Included in Option A, B, C)</b>					<b>\$ 1,108,478.25</b>
a	Bonds, Insurance, Contractor Overhead & Profit (10%)	LS	1	\$ 88,882.50	\$ 88,882.50	
b	Mobilization/Demobilization	LS	1	\$ 30,000.00	\$ 30,000.00	
c	Concessions, Restrooms, Storage	SF	1809	\$ 425.00	\$ 768,825.00	
d	Utility Connections	LS	1	\$ 120,000.00	\$ 120,000.00	
	10% Contingency				\$ 100,770.75	
<b>3</b>	<b>6/8 Lane Track (Included in Option A)</b>					<b>\$ 1,620,913.70</b>
a	Bonds, Insurance, Contractor Overhead & Profit (10%)	LS	1	\$ 131,232.54	\$ 131,232.54	
b	Mobilization/Demobilization	LS	1	\$ 30,000.00	\$ 30,000.00	
a	Aggregate Base for Track area	Ton	2,165	\$ 32.00	\$ 69,280.00	
b	Prepare sub-base, shape, compact and fine grade	SY	6,230	\$ 1.50	\$ 9,345.00	
c	Import Fill to Level	CY	7,500	\$ 25.00	\$ 187,500.00	
d	Pavement (1.5" Binder course and 1.5" Wearing course)	SY	6,230	\$ 26.00	\$ 161,980.00	
e	Track Surfacing (BSS-100) with Waterborn Spray	SY	6,230	\$ 45.00	\$ 280,350.00	
f	Retaining Wall	SF	1,500	\$ 45.00	\$ 67,500.00	
g	Soil Management	LS	1	\$ 100,000.00	\$ 100,000.00	
h	Relocation of Skatepark	LS	1	\$ 100,000.00	\$ 100,000.00	
	Natural Turf Field (within Track)					
a	Prepare Sub-base, Shape, and Compact	SY	9472	\$ 2.25	\$ 21,312.50	
b	Gravel Drainage Base Under Field (4")	TON	1,579	\$ 30.00	\$ 47,361.11	
c	Place and Amend Root Zone Materials (8")	CY	3,157	\$ 35.00	\$ 110,509.26	
d	Sod Athletic Field and Fine Grade	SF	85,250	\$ 1.25	\$ 106,562.50	
e	Turf Establishment Requirements	LS	1	\$ 8,000.00	\$ 8,000.00	
f	Irrigation for Field	SF	85,250	\$ 0.50	\$ 42,625.00	
	10% Contingency				\$ 147,355.79	

<b>4a</b>	<b>Parking Lot- 125 Space Lot (Included in Option A)</b>					<b>\$ 486,750.00</b>
a	Bonds, Insurance, Contractor Overhead & Profit (10%)	LS	1	\$ 37,500.00	\$ 37,500.00	
b	Mobilization/Demobilization	LS	1	\$ 30,000.00	\$ 30,000.00	
c	Additional Student Parking (Paved)	Space	125	\$ 3,000.00	\$ 375,000.00	
	10% Contingency				\$ 44,250.00	
<b>4b</b>	<b>Parking Lot- 80 Space Lot (Included in Options B, C)</b>					<b>\$ 323,400.00</b>
a	Bonds, Insurance, Contractor Overhead & Profit (10%)	LS	1	\$ 24,000.00	\$ 24,000.00	
b	Mobilization/Demobilization	LS	1	\$ 30,000.00	\$ 30,000.00	
c	Additional Student Parking (Paved)	Space	80	\$ 3,000.00	\$ 240,000.00	
	10% Contingency				\$ 29,400.00	
<b>5</b>	<b>Site Irrigation (Included in Options A, B, C)</b>					<b>\$ 256,850.00</b>
a	Bonds, Insurance, Contractor Overhead & Profit (10%)	LS	1	\$ 18,500.00	\$ 18,500.00	
b	Mobilization/Demobilization	LS	1	\$ 30,000.00	\$ 30,000.00	
a	Well/Pump/Testing	Ea	1	\$ 50,000.00	\$ 50,000.00	
b	Site Irrigation	SF	90,000	\$ 1.50	\$ 135,000.00	
	10% Contingency				\$ 23,350.00	
<b>6</b>	<b>Field House (Included in Option B)</b>					<b>\$ 19,144,310.00</b>
a	Bonds, Insurance, Contractor Overhead & Profit (10%)	LS	1	\$ 1,575,942.50	\$ 1,575,942.50	
b	Mobilization/Demobilization	LS	1	\$ 30,000.00	\$ 30,000.00	
c	Ice Rink (one sheet of ice)	SF	25,418	\$ 350.00	\$ 8,896,300.00	
d	Multipurpose field house	SF	15,625	\$ 275.00	\$ 4,296,875.00	
e	Support Spaces/Locker Rooms	SF	10,265	\$ 250.00	\$ 2,566,250.00	
f	Soil Management	LS	1	\$ 200,000.00	\$ 200,000.00	
	10% Contingency				\$ 1,578,942.50	
<b>7</b>	<b>Field House (Included in Option C)</b>					<b>\$ 22,321,940.00</b>
a	Bonds, Insurance, Contractor Overhead & Profit (10%)	LS	1	\$ 1,840,745.00	\$ 1,840,745.00	
b	Mobilization/Demobilization	LS	1	\$ 30,000.00	\$ 30,000.00	
c	Ice Rink (2 Sheets of Ice)	SF	47,907	\$ 350.00	\$ 16,767,450.00	
d	Support Spaces/Locker Rooms	SF	6,560	\$ 250.00	\$ 1,640,000.00	
e	Soil Management	LS	1	\$ 200,000.00	\$ 200,000.00	
	10% Contingency				\$ 1,843,745.00	
<b>8</b>	<b>Outdoor Learning Center(Included in Options A, B, C)</b>					<b>\$ 275,000.00</b>
a	Bonds, Insurance, Contractor Overhead & Profit (10%)	LS	1	\$ 20,000.00	\$ 20,000.00	
b	Mobilization/Demobilization	LS	1	\$ 30,000.00	\$ 30,000.00	
c	Budget	LS	1	\$ 200,000.00	\$ 200,000.00	
	10% Contingency				\$ 25,000.00	

Concord Carlisle Regional High School  
Gale JN 717870  
December 11, 2018



Total Parcel Area (SF)	4,114,474
Concord Bylaw Allowed Impervious	15%

	Impervious (SF)	Impervious (ac)	Impervious (%)
Permitted July 9, 2012	778,842	17.88	18.93%
Existing November 29, 2018	832,298	19.11	20.23%





**Option A**

*Includes the renovation of the access drive, a 115' radius 6 lane track with an 8 lane straightaway, the construction of an amenities building and a 125 space parking lot. This option also requires reocating the skatepark to another location on campus.*

Project Components	New Impervious (SF)
6/8 Track with Paved D-Areas	32,384
Concessions building	2,470
Skatepark to grass	(7,104)
New Skatepark	13,010
Parking Lot (125 Spaces)	31,609
Total New Imp (SF)	72,369
Total Imp (SF)	904,667
Total Imp (%)	21.99%



**Option B**

*Includes the renovation of the access drive, the construction of an amenities building, a one rink with multipurpose fieldhouse and an 80 space parking lot. This option maintains the skatepark in its existing location on campus.*

Project Components	New Impervious (SF)
Fieldhouse	11,582
Concessions building	2,470
Parking Lot (80 Spaces)	14,572
Total New Imp (SF)	28,624
Total Imp (SF)	860,922
Total Imp (%)	20.92%



### Option C

*Includes the renovation of the access drive, the construction of an amenities building, a two (2) rink ice arena and an 80 space parking lot. This option maintains the skatepark in its existing location on campus.*

Project Components	New Impervious (SF)
Ice Arena	16,385
Concessions building	2,470
Parking Lot (80 Spaces)	14,572
Total New Imp (SF)	33,427
Total Imp (SF)	865,725
Total Imp (%)	21.04%