

Belmont Ice Rink

Feasibility Study

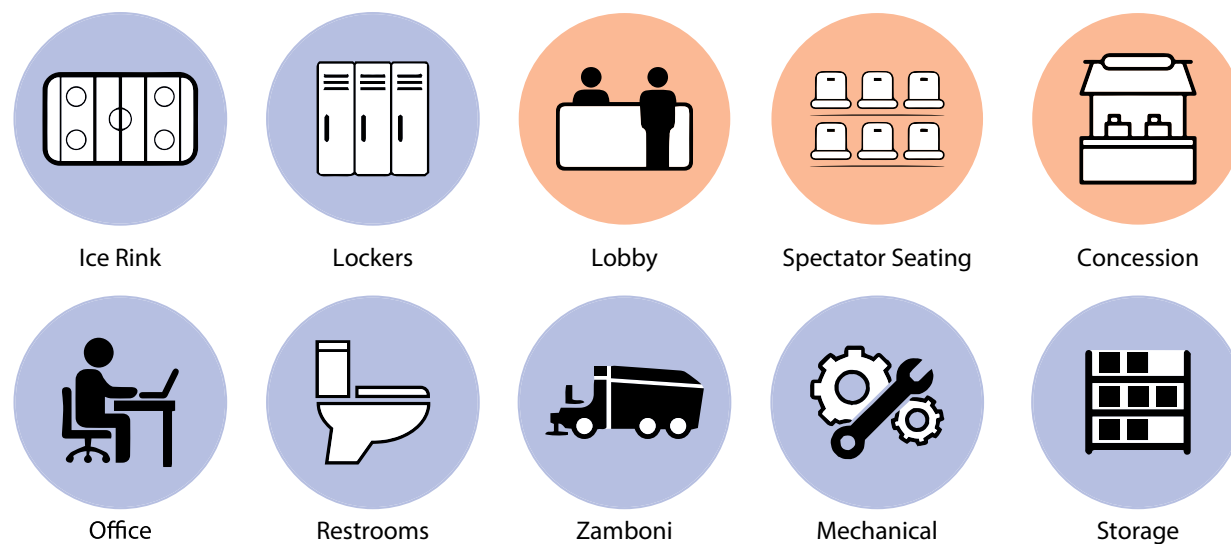
June 22nd, 2022

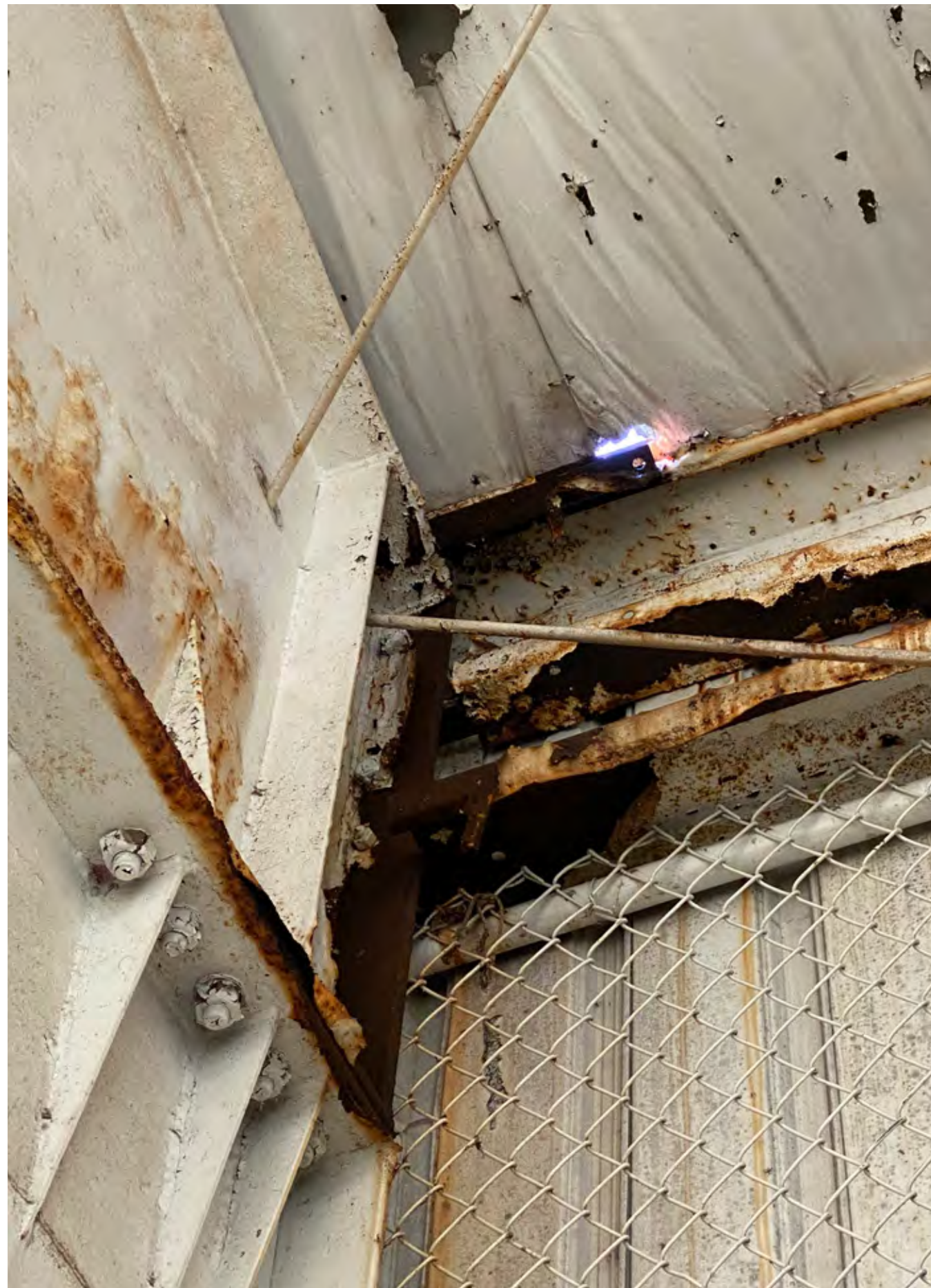


Skip Viglirolo Skating Rink

Built in 1969
Completed in 1971

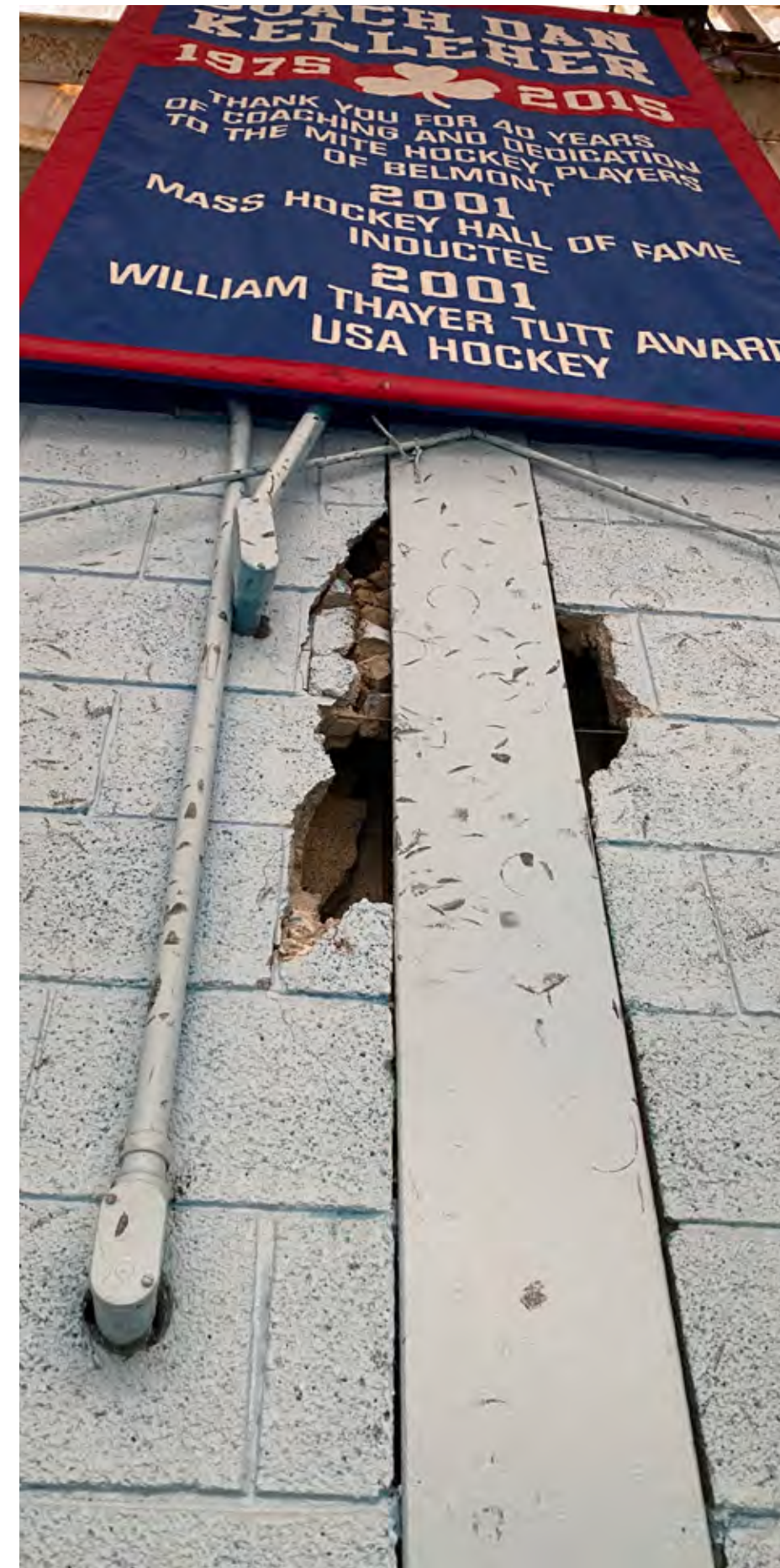
Thousands of young people participate in Youth
Hockey programs
High School Varsity and JV Hockey programs
Middlesex League titles
Appearances at MIAA Division I state tournaments
Champions 2020





Deficiencies

- Building not insulated
- Roof leaks
- Rusted structure



Deficiencies

- Envelope compromised
- Energy inefficiency
- Non-ADA compliant
- Non-MAAB compliant
- Walls crumbling

James White Memorial Field House

Built in 1932

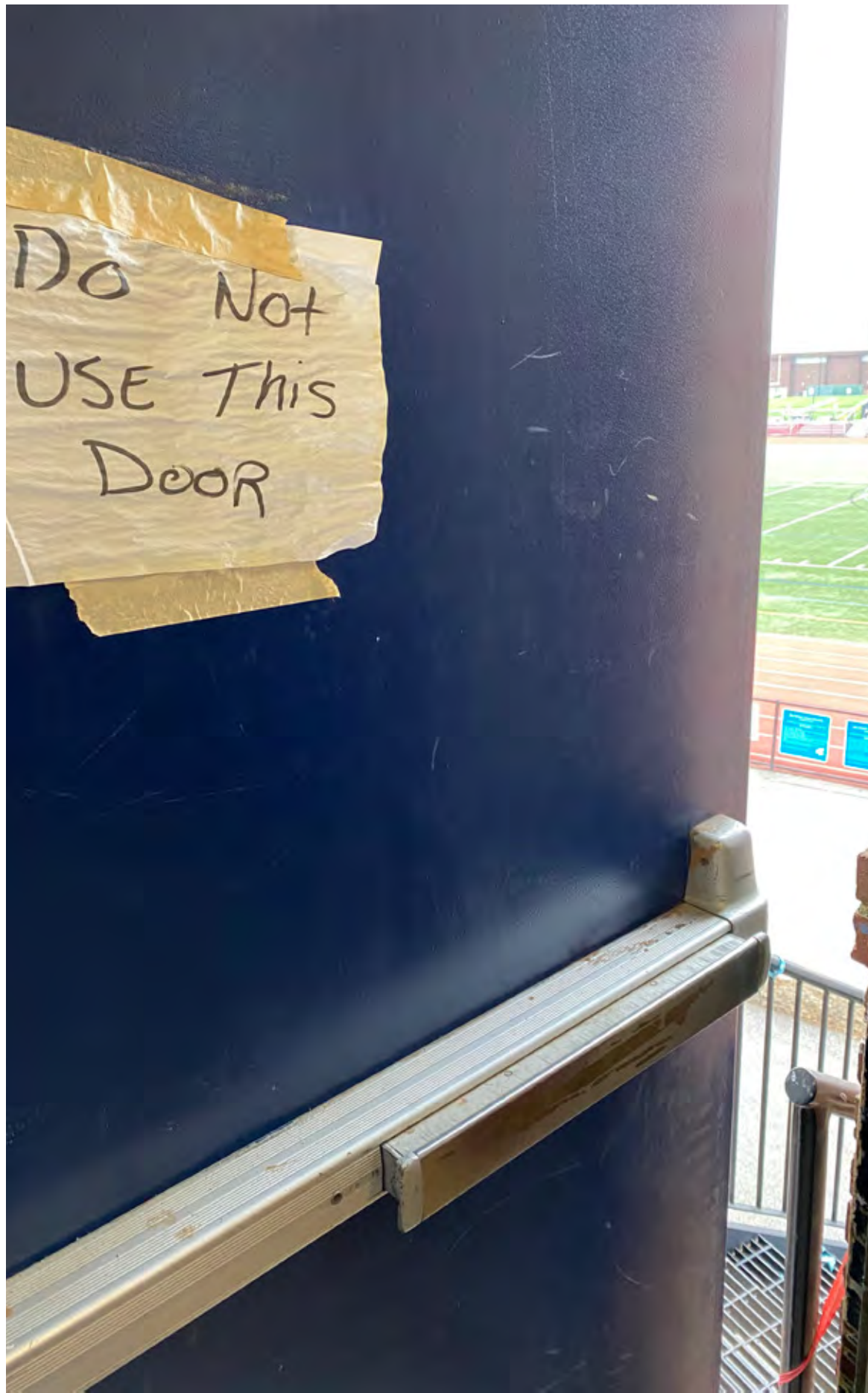




Deficiencies

- Extensive cracked masonry
- Roof failure
- Broken glass windows
- Non-ADA compliant
- Hazardous entry





Deficiencies

- Compromised egress
- Non-ADA compliant
- Equipment obsolete

Program Overview

EXISTING PROGRAM

SKIP VIGLIROLO ICE RINK



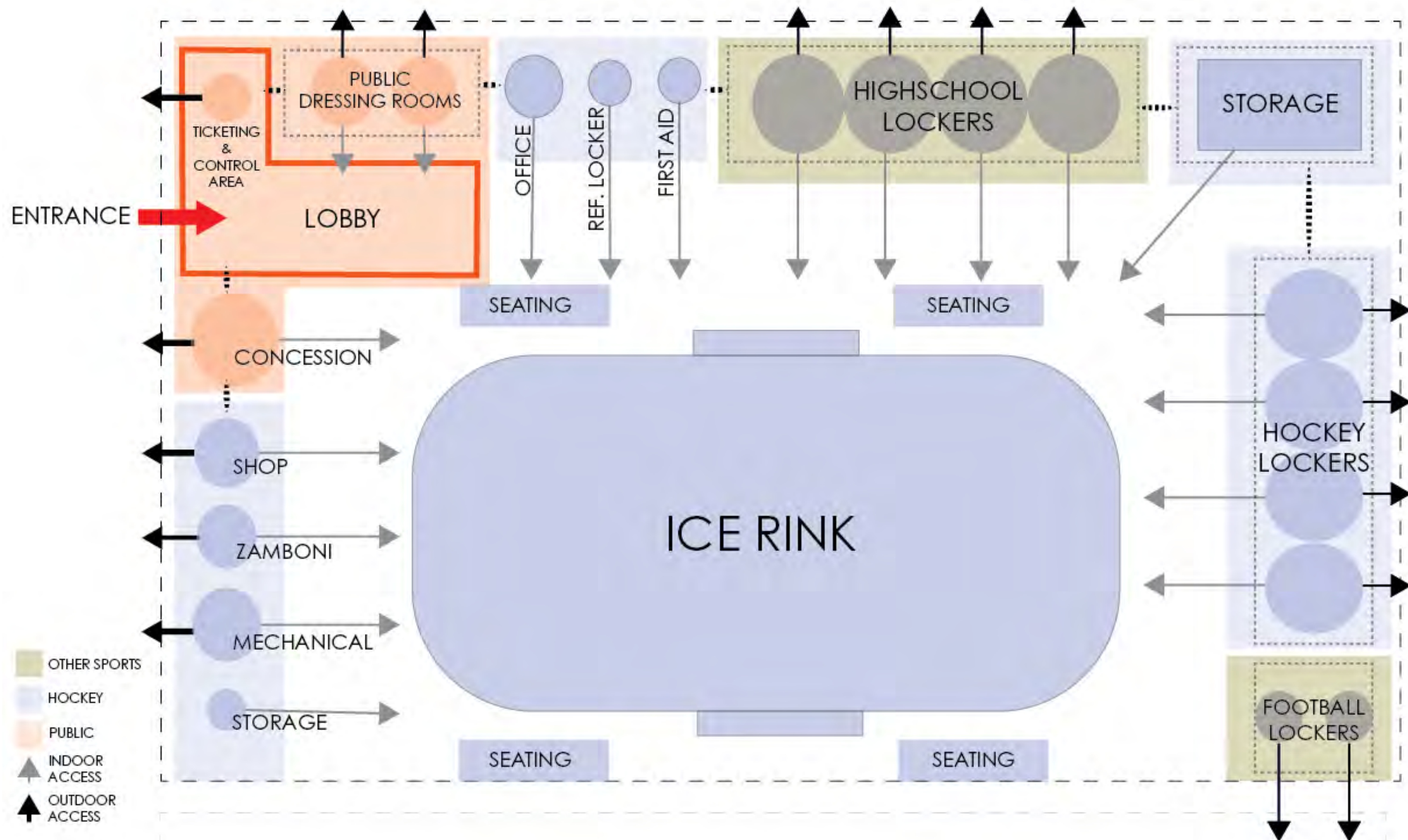
WHITE FIELD HOUSE



NEW PROGRAM

OPTIONAL



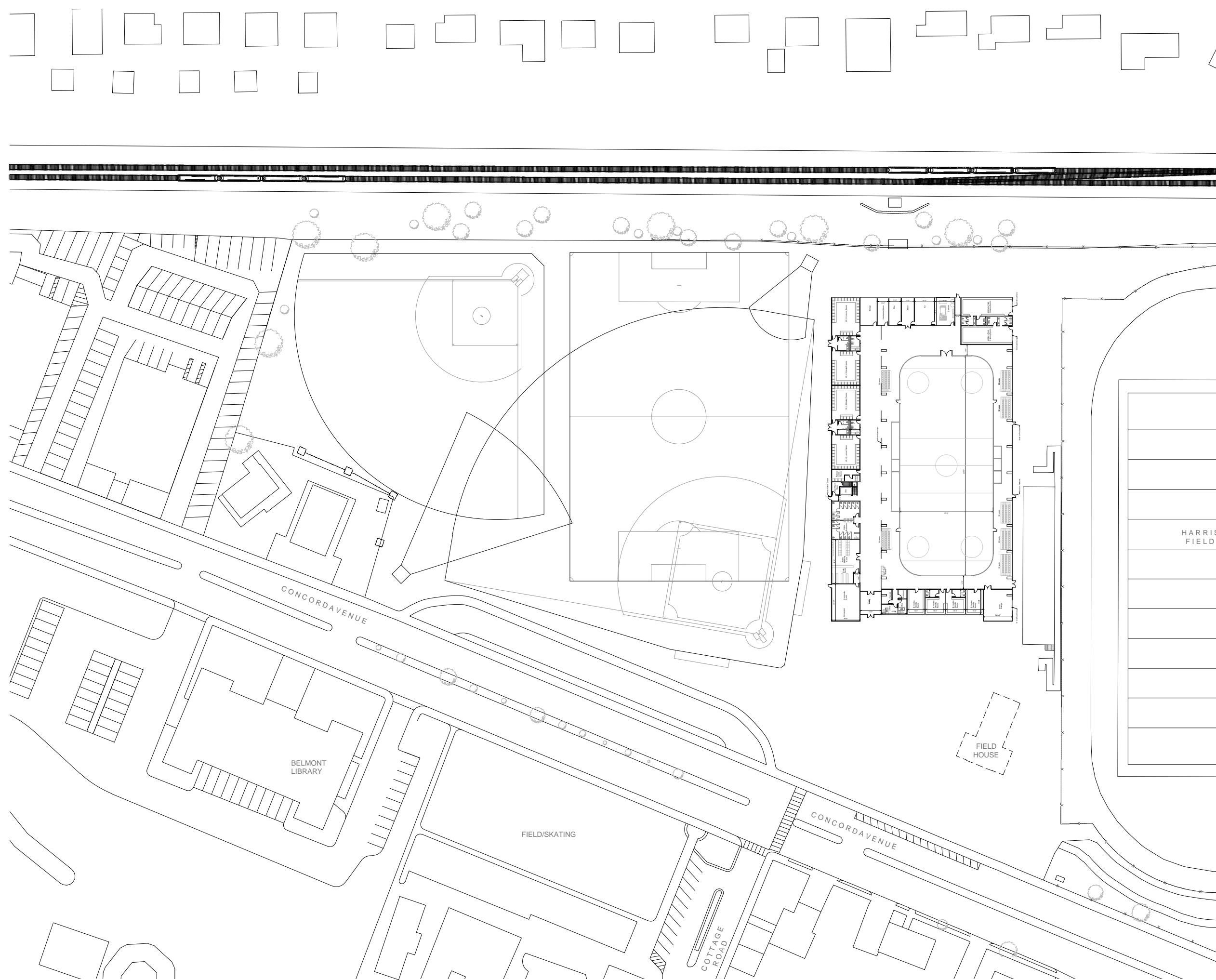


SUMMARY

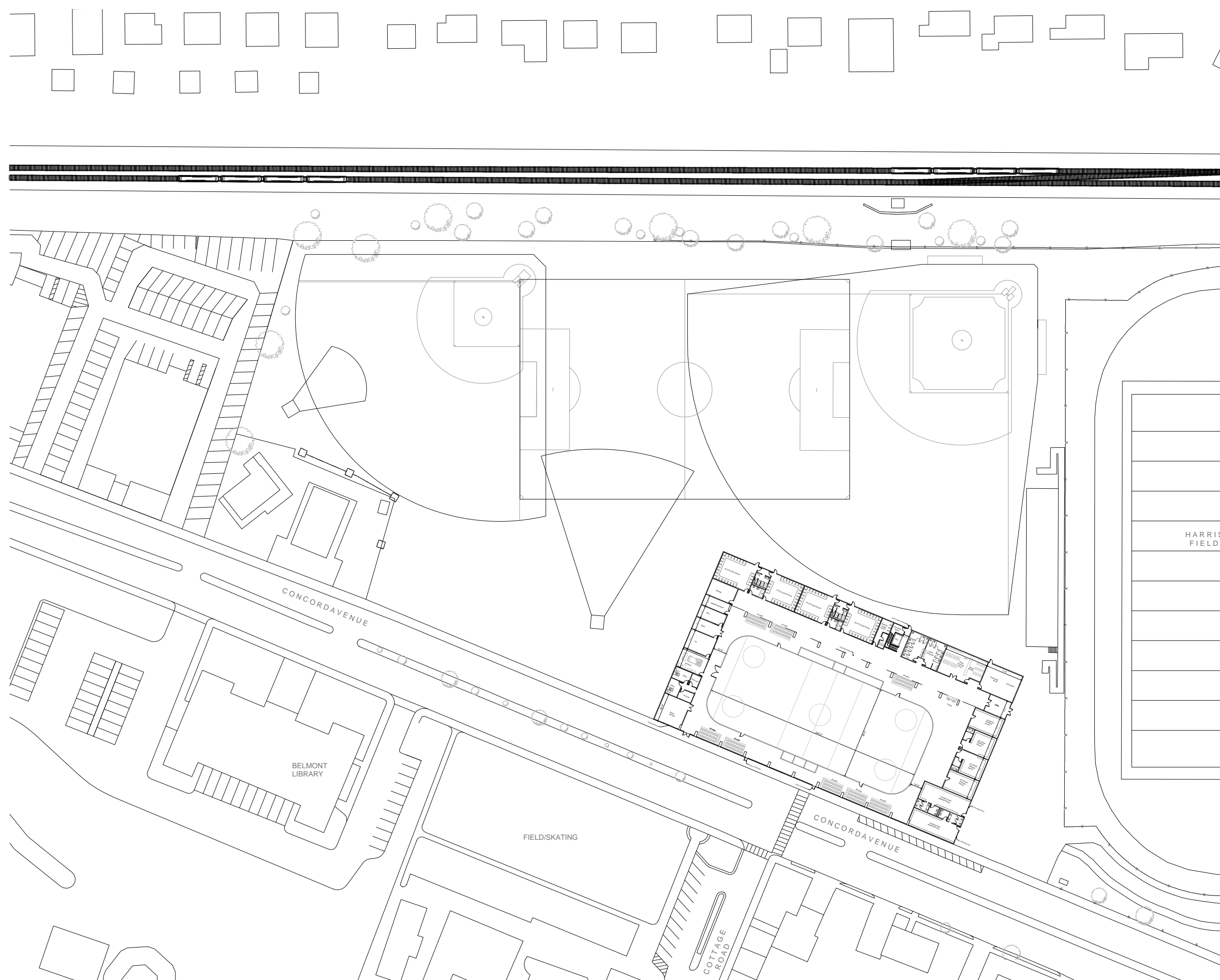
Program



Site and Field Layout Options

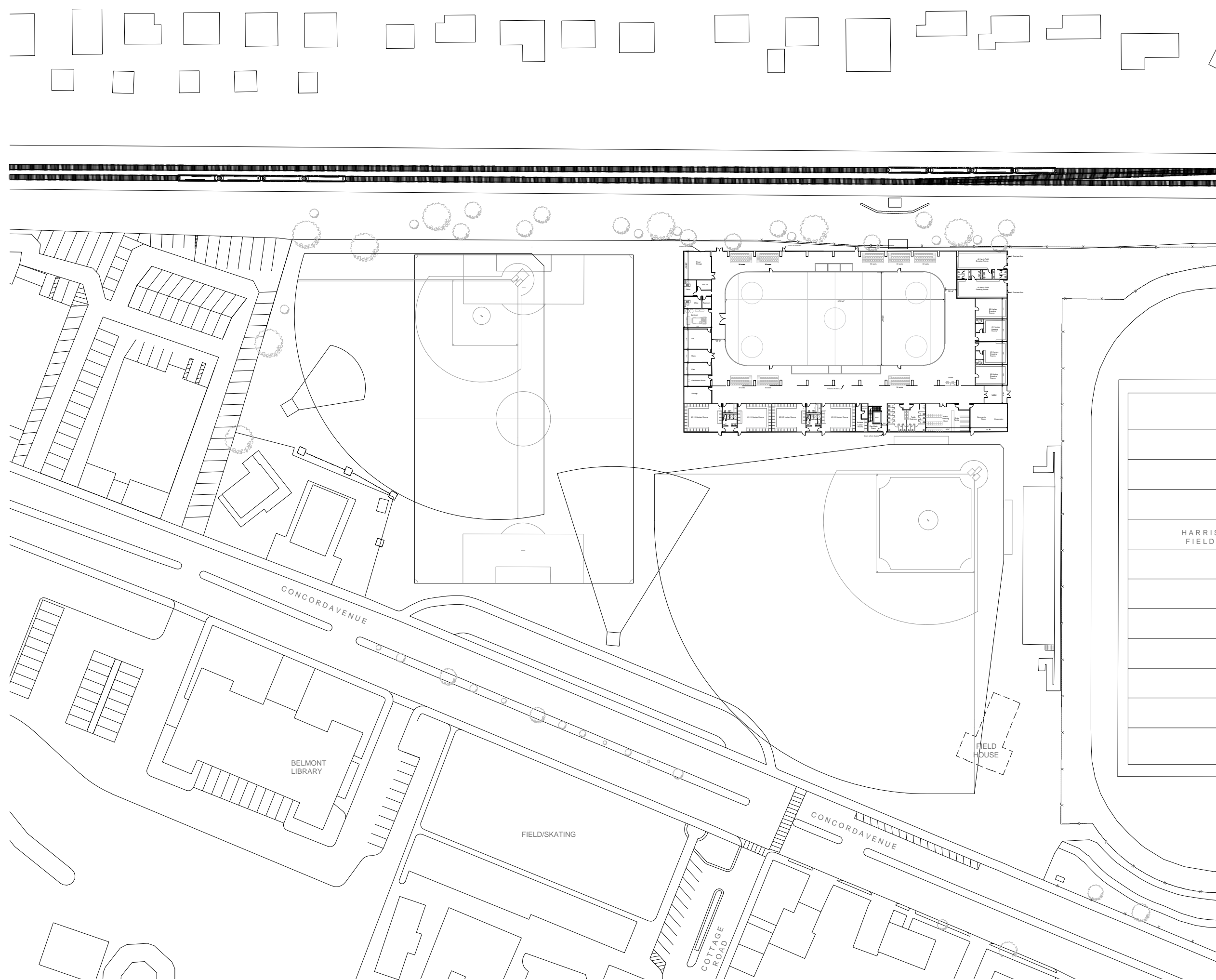


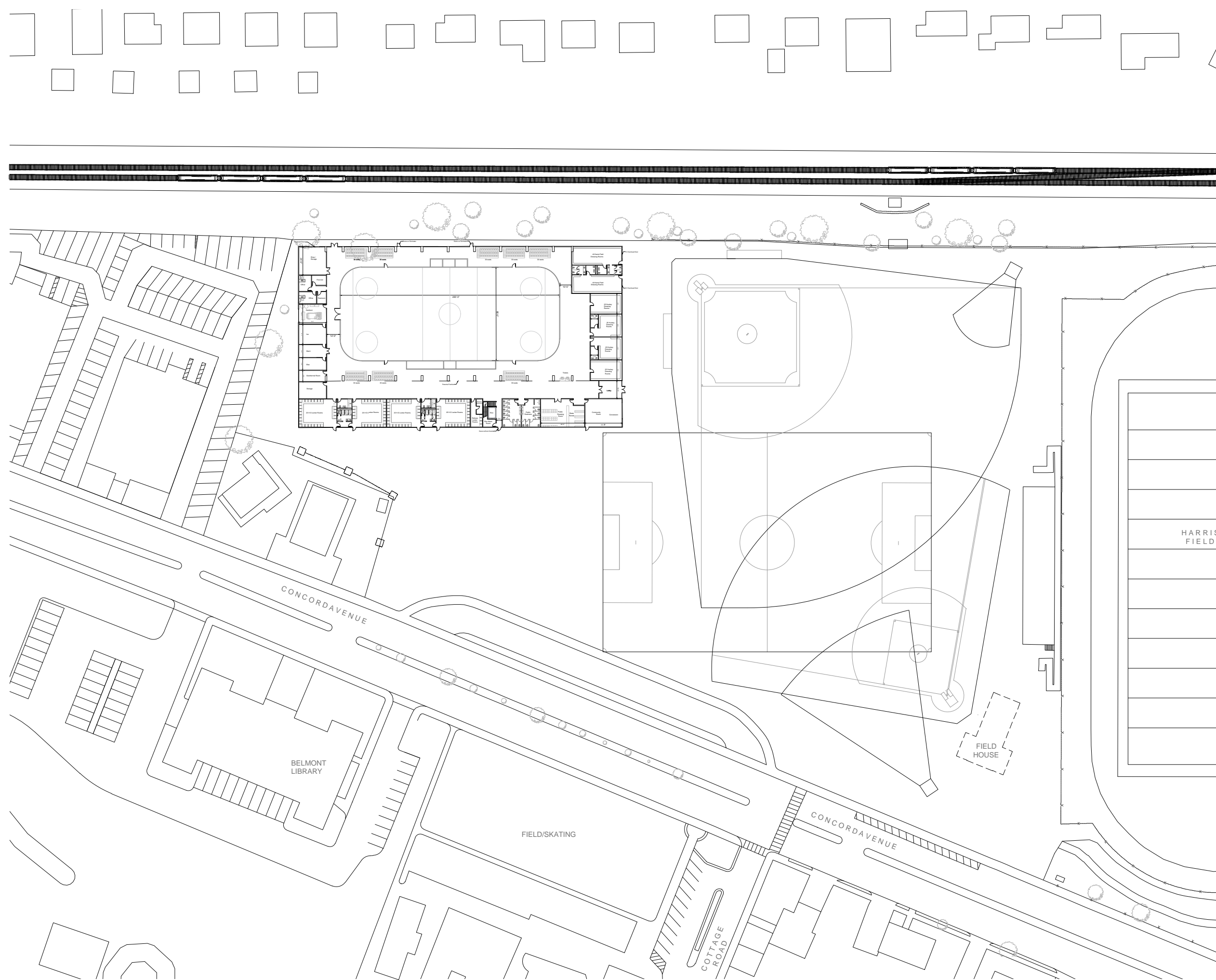
Renovate and Expand

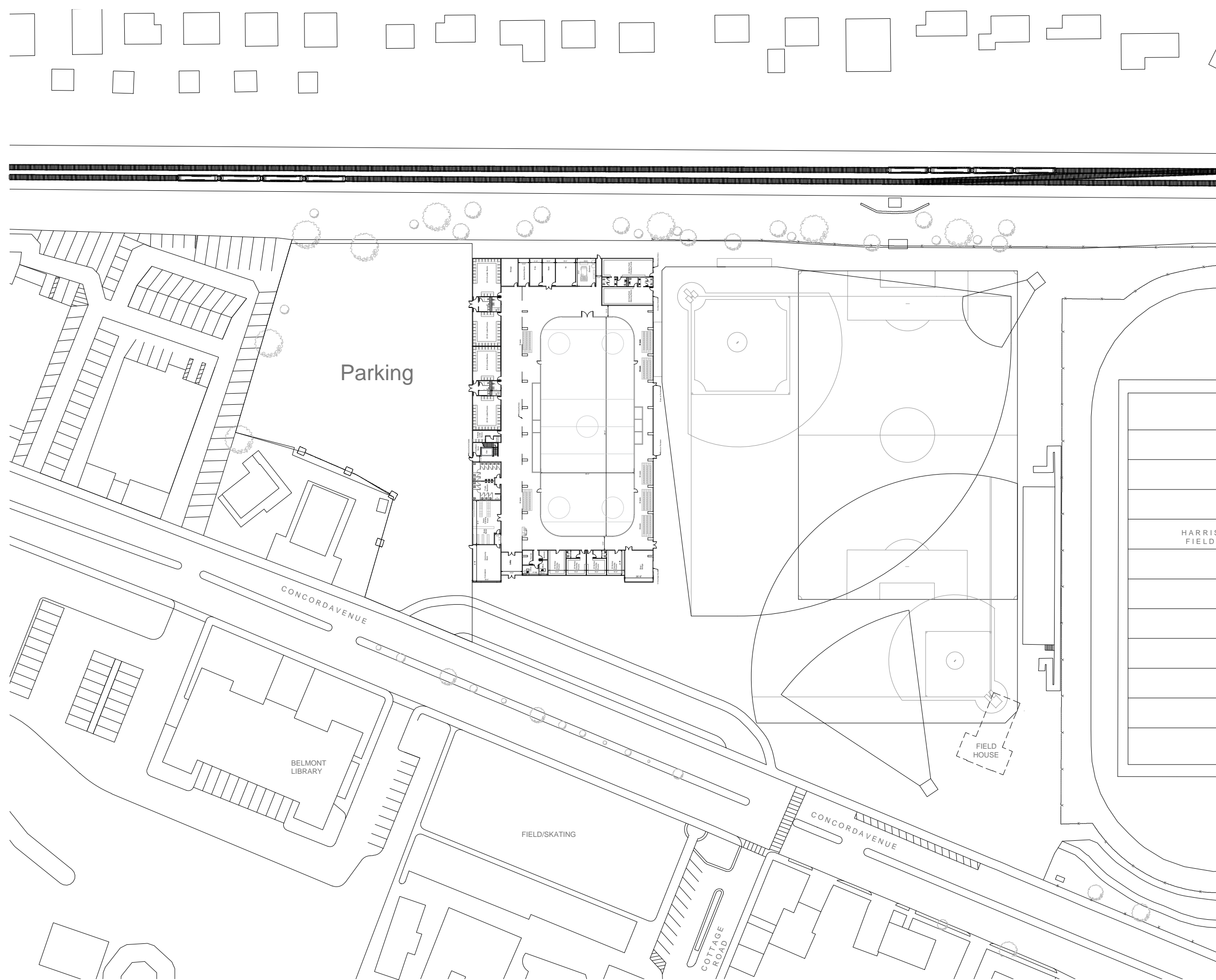


Parallel to Concord Avenue









Parallel to Current Rink

SITE DESIGN STUDIES

Overview



SCHEME 01: Renovation

The first concept required expanding the existing rink to the west and north while splitting parking lots located to the south and to the north connected by a service drive. The softball and baseball fields are positioned to the edge of the remaining site with the soccer field overlapping the two outfields.



SCHEME 02: New Construction (East)
PREFERRED SCHEME

The second concept located a new rink to the north-east corner of the site allowing for a single parking lot while maximizing the available field area. Similar to Scheme 01, The softball and baseball fields are positioned to the edge of the remaining site with the soccer field overlapping the two outfields, but in a north-south orientation.



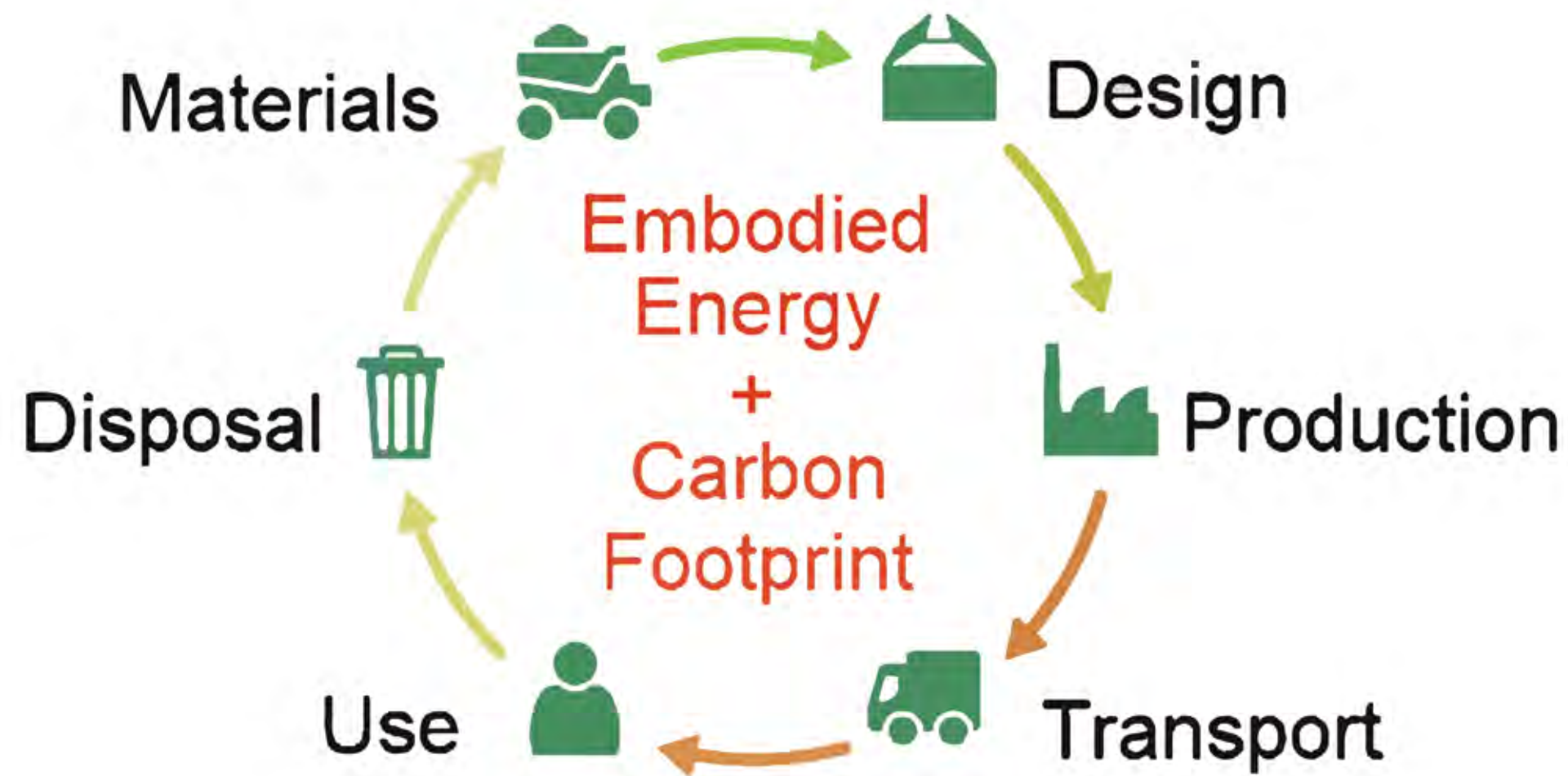
SCHEME 03: New Construction (West)

The third concept located a new rink to the north-west corner of the site and required splitting parking lots to the south and to the north connected by a service drive. The softball and baseball fields are positioned to the edge of the remaining site with the soccer field overlapping the two outfields.



Net-Zero Energy Goal

Potential for Town Wide Net Zero Approach



NET-ZERO ENERGY

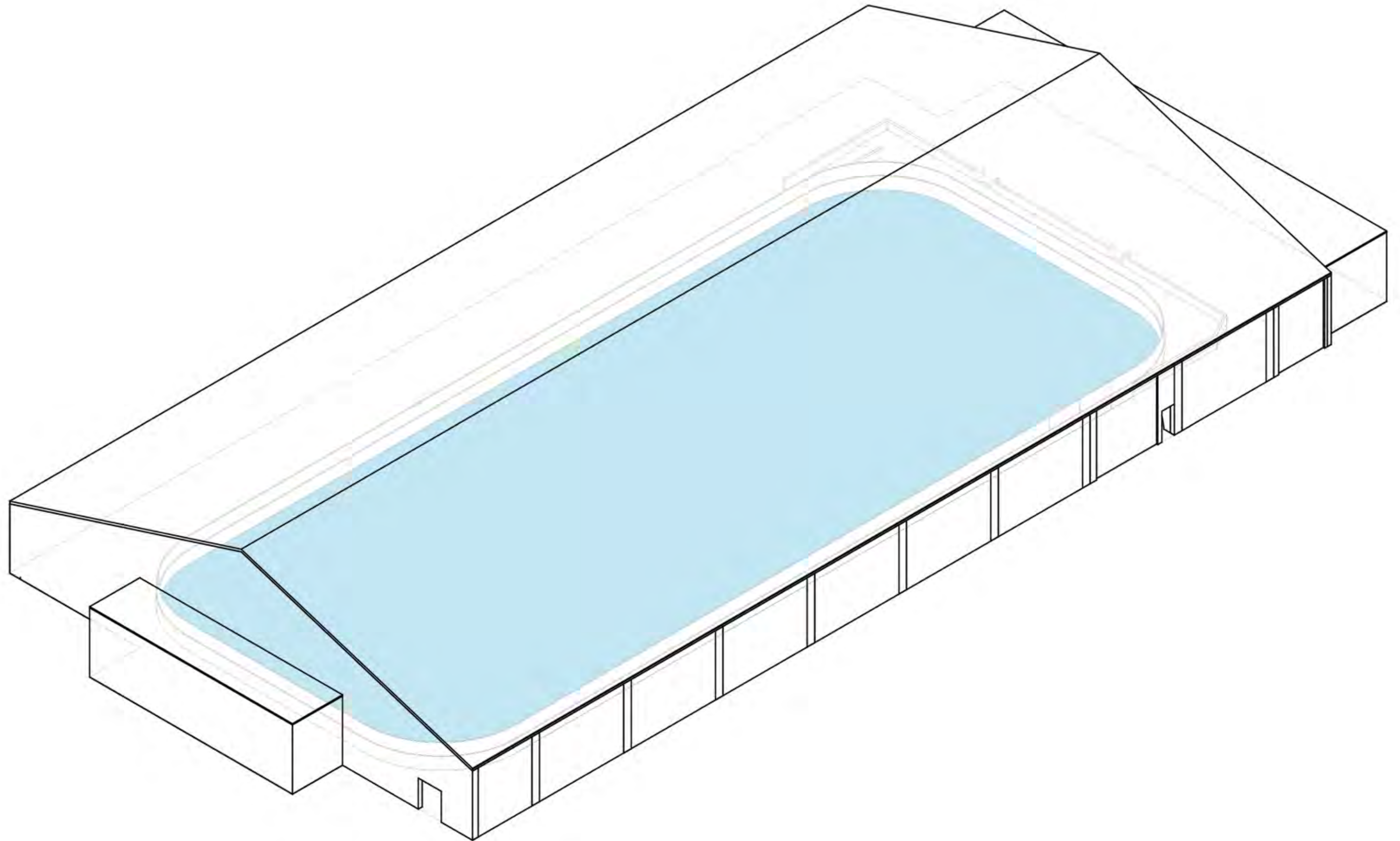
Energy

Embodied Energy

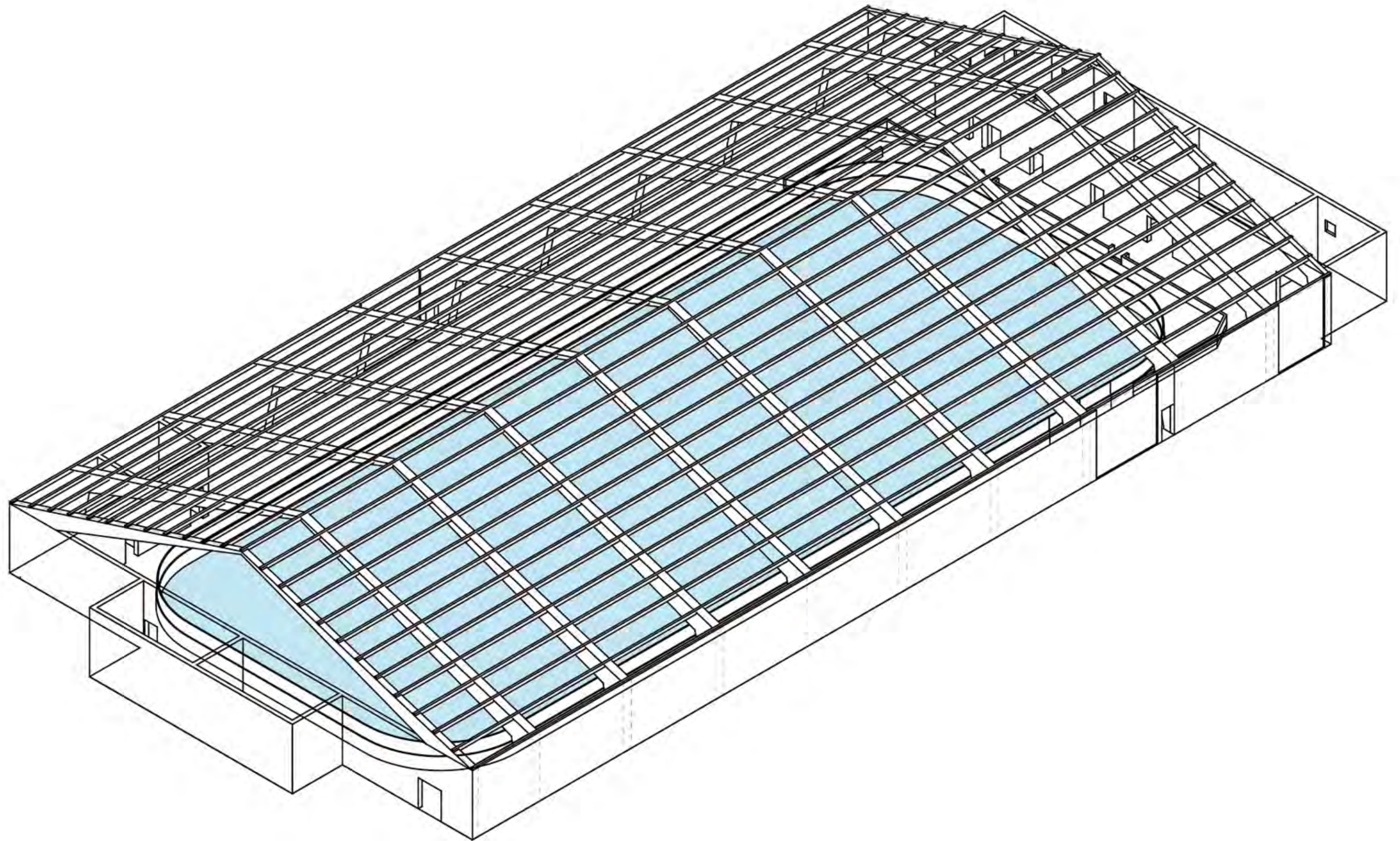




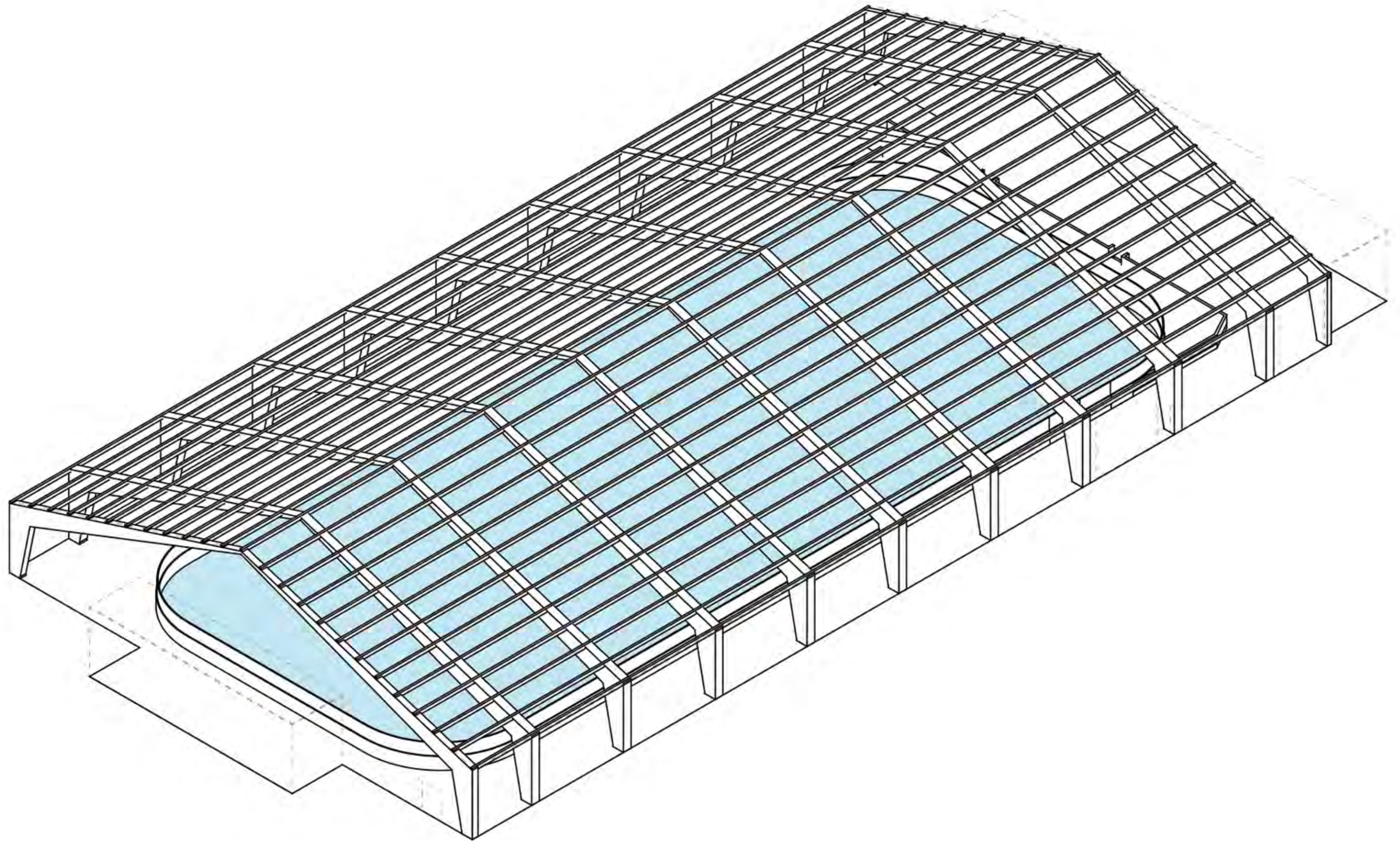




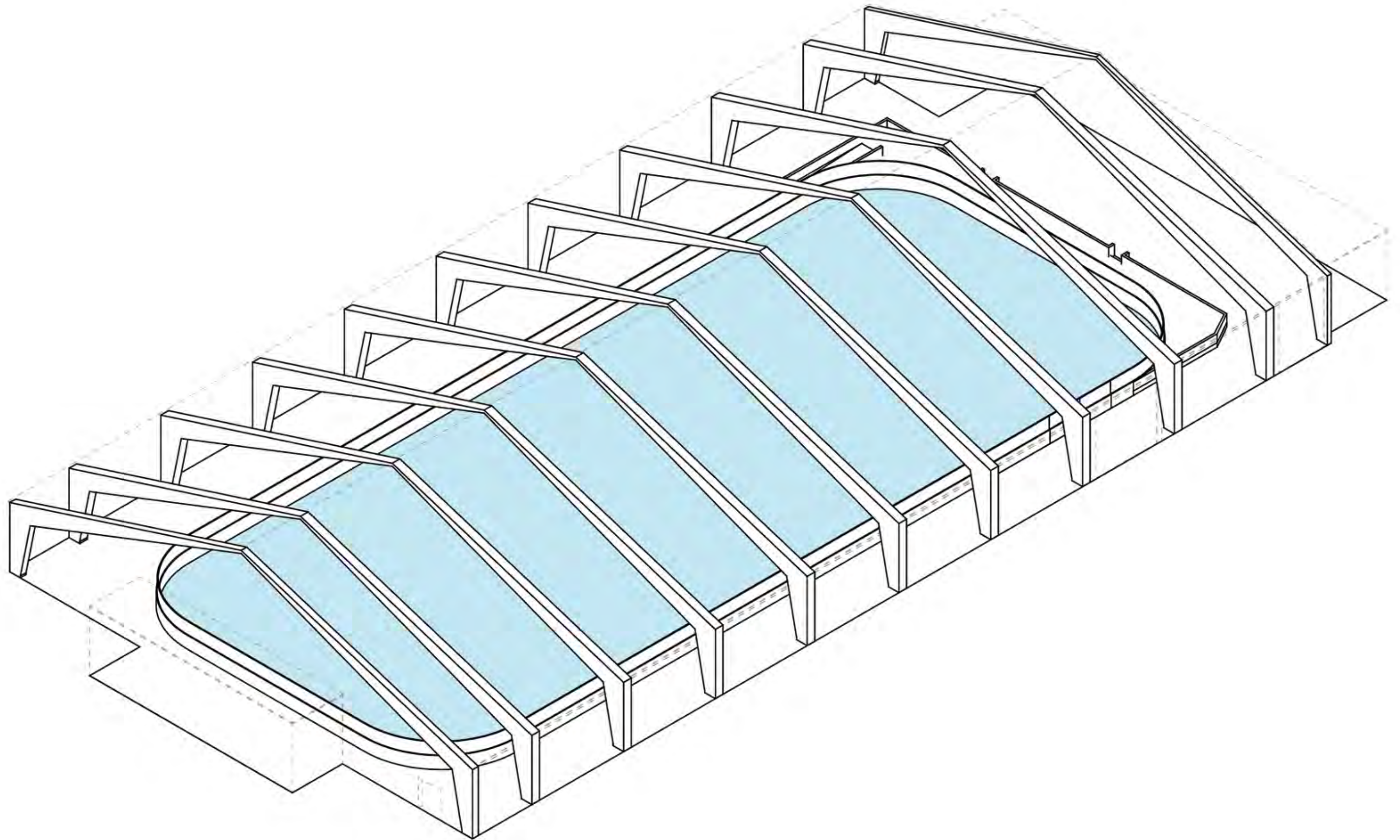
Roof



Wall Envelope

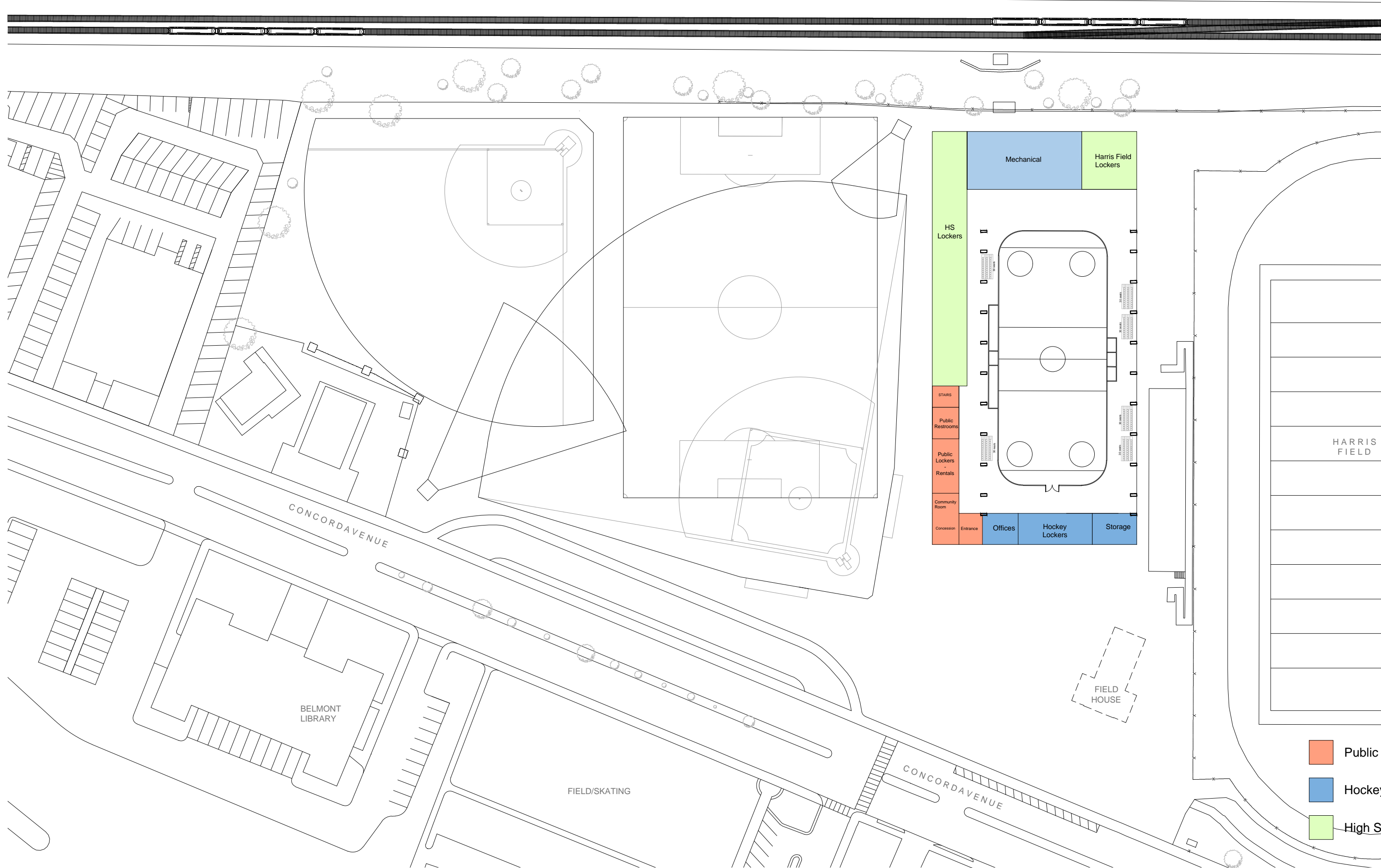


Purlins

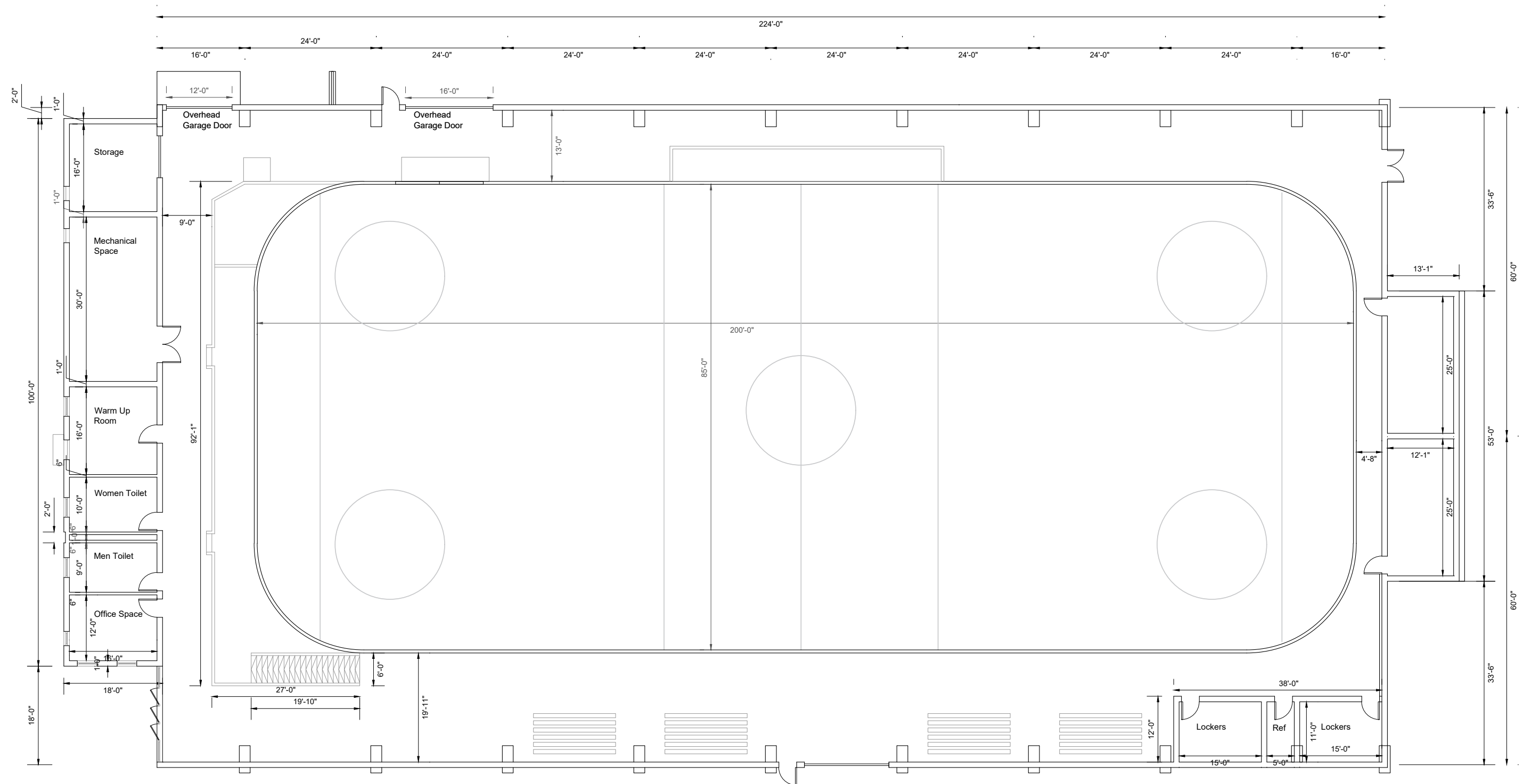


Bents

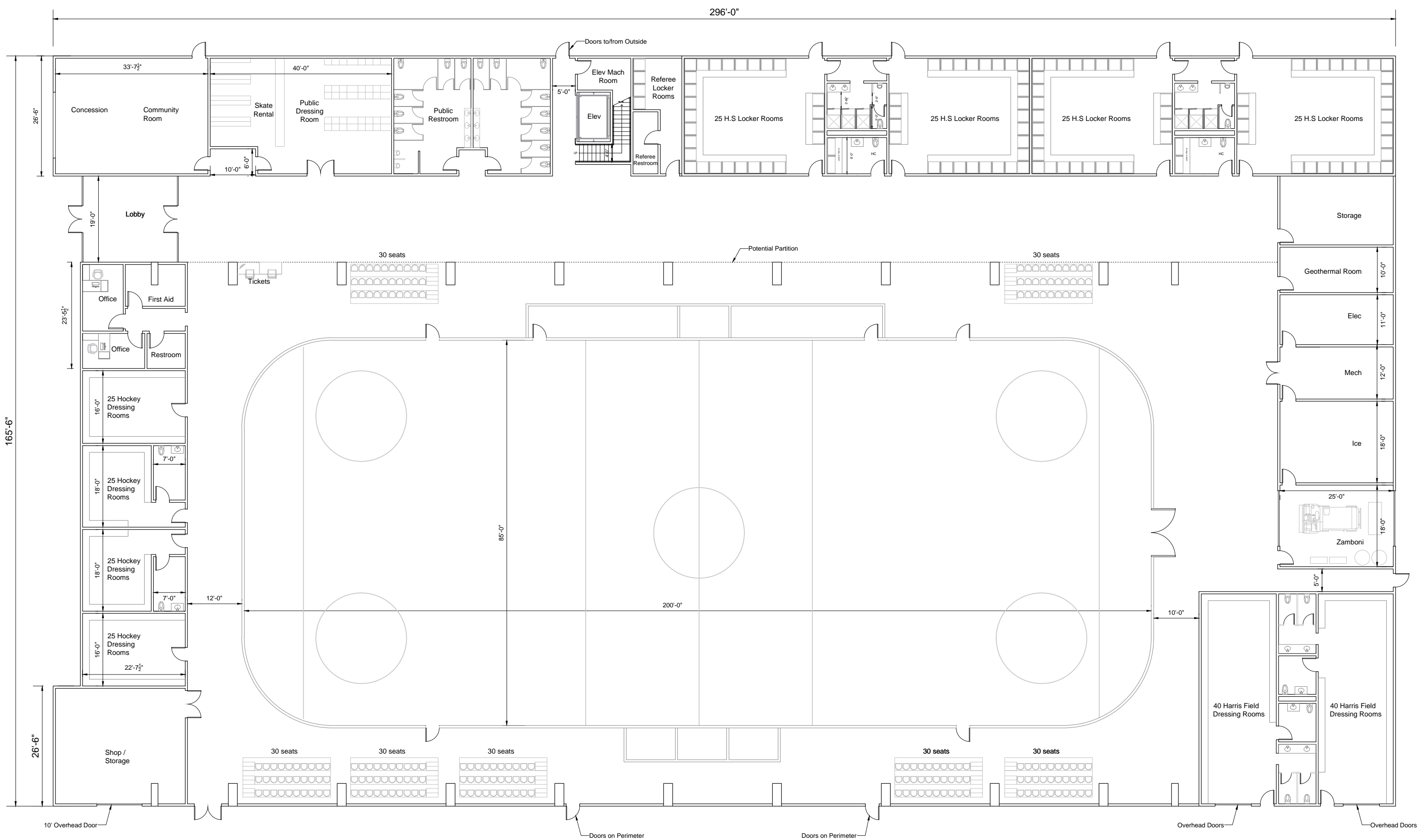
Renovate and Expand



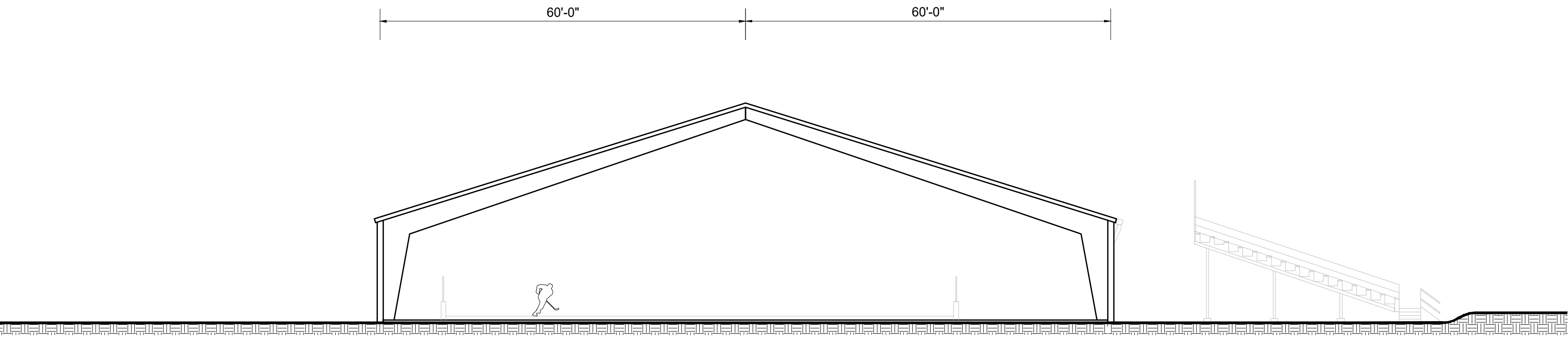
Renovate and Expand - Conceptual Site Plan



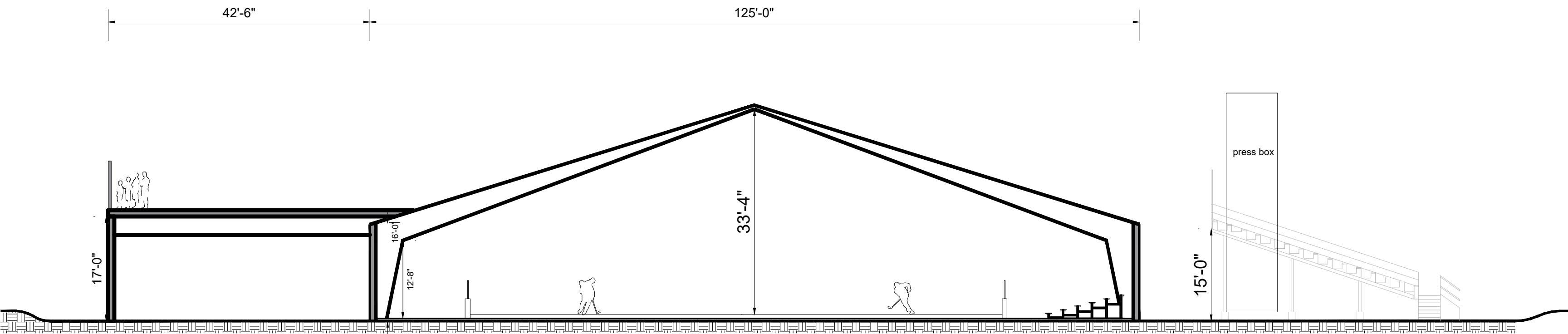
Existing Floor Plan



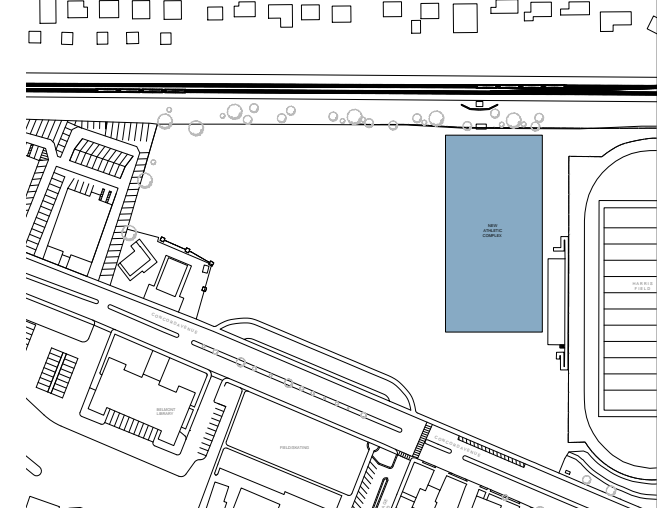
Renovate and Expand - Conceptual Ground Floor Plan



CURRENT STATE



Renovate and Expand - Conceptual Section

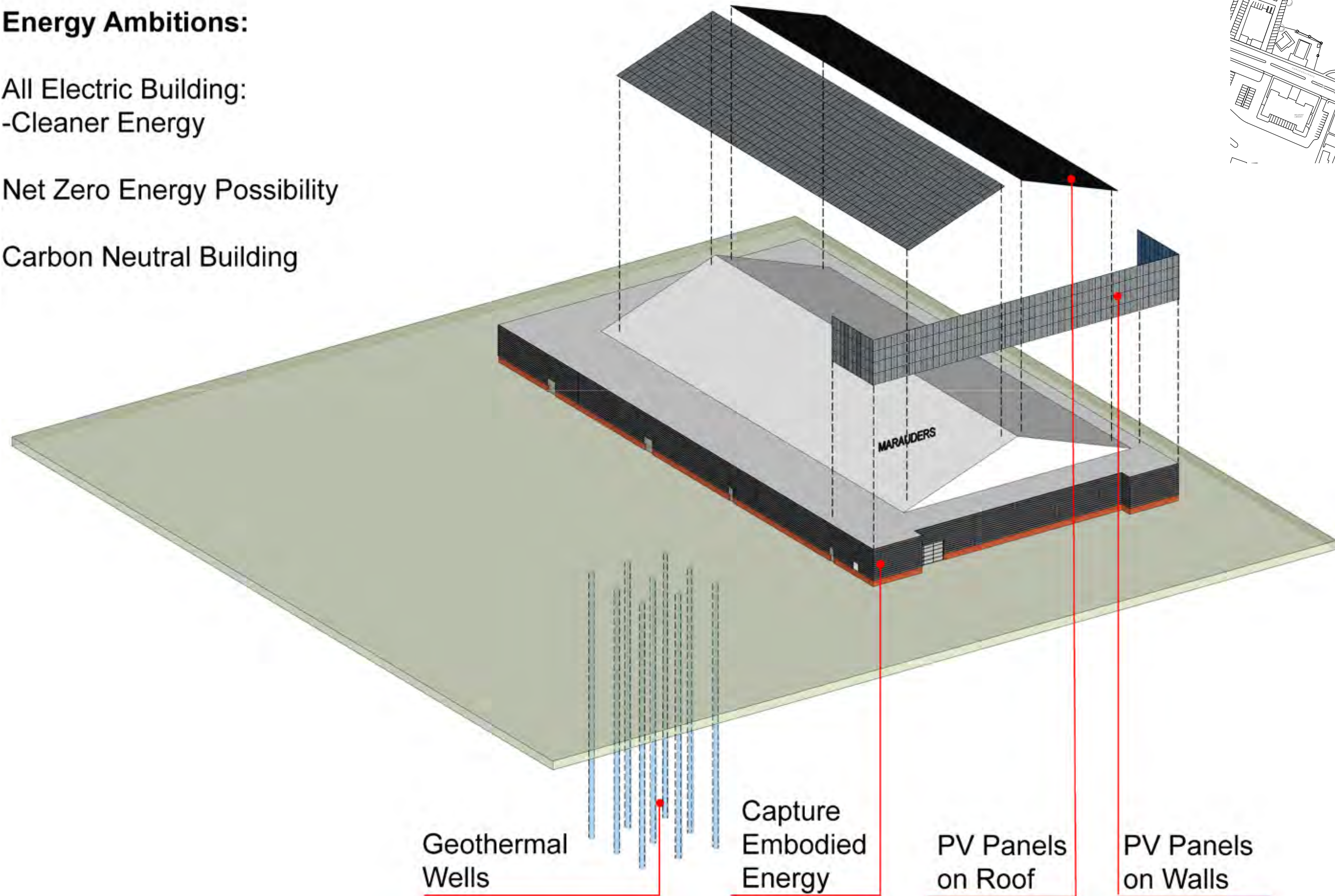


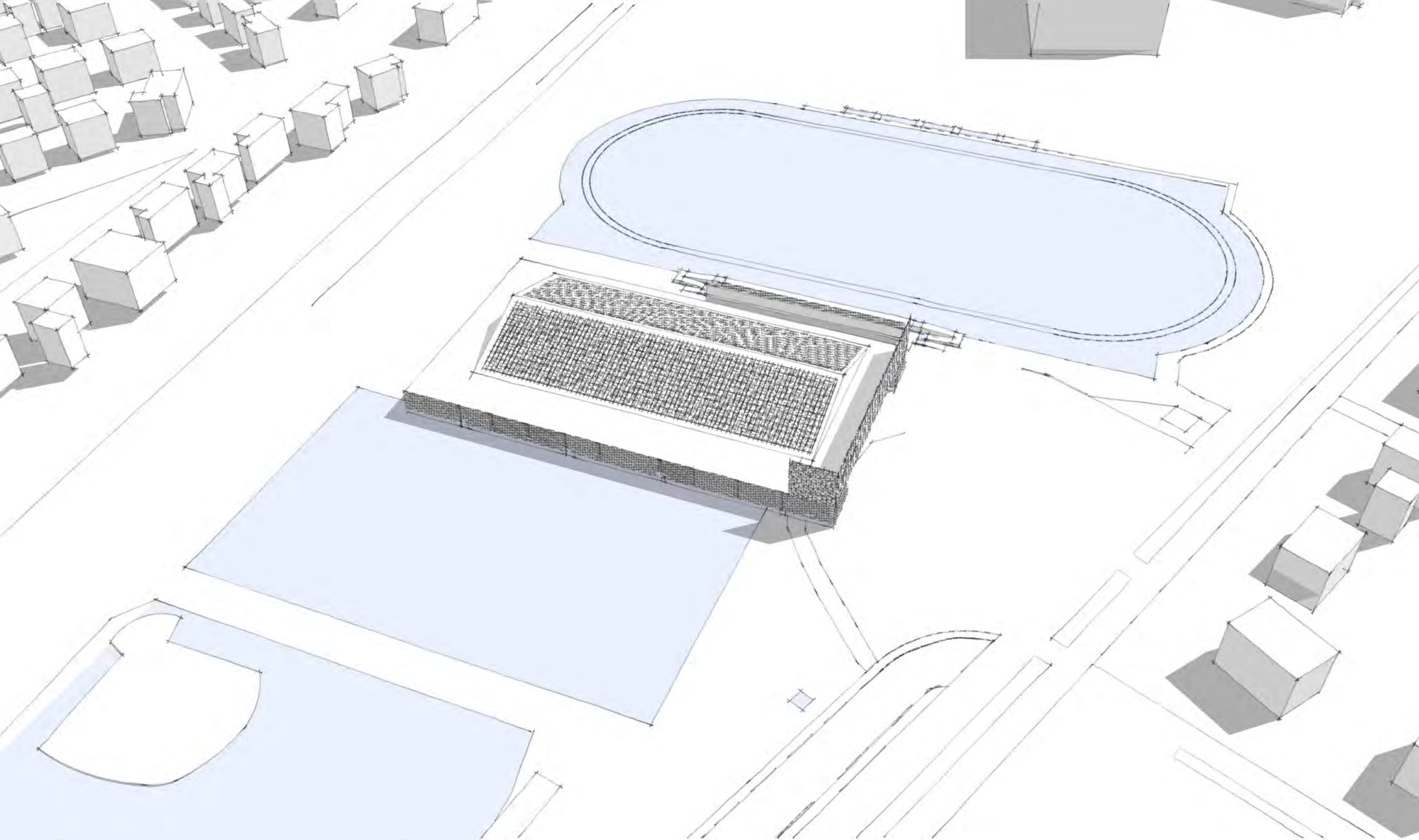
Energy Ambitions:

All Electric Building:
-Cleaner Energy

Net Zero Energy Possibility

Carbon Neutral Building



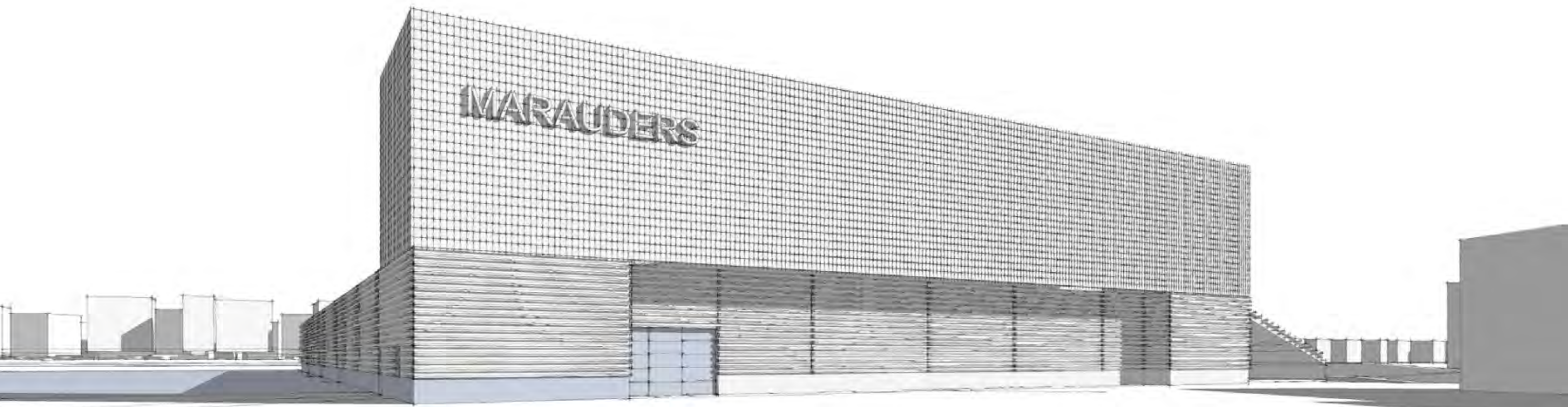


TGAS
THE GALANTE ARCHITECTURE STUDIO

CONCEPTUAL

Renovate and Expand





TGAS
THE GALANTE ARCHITECTURE STUDIO

CONCEPTUAL

Renovate and Expand

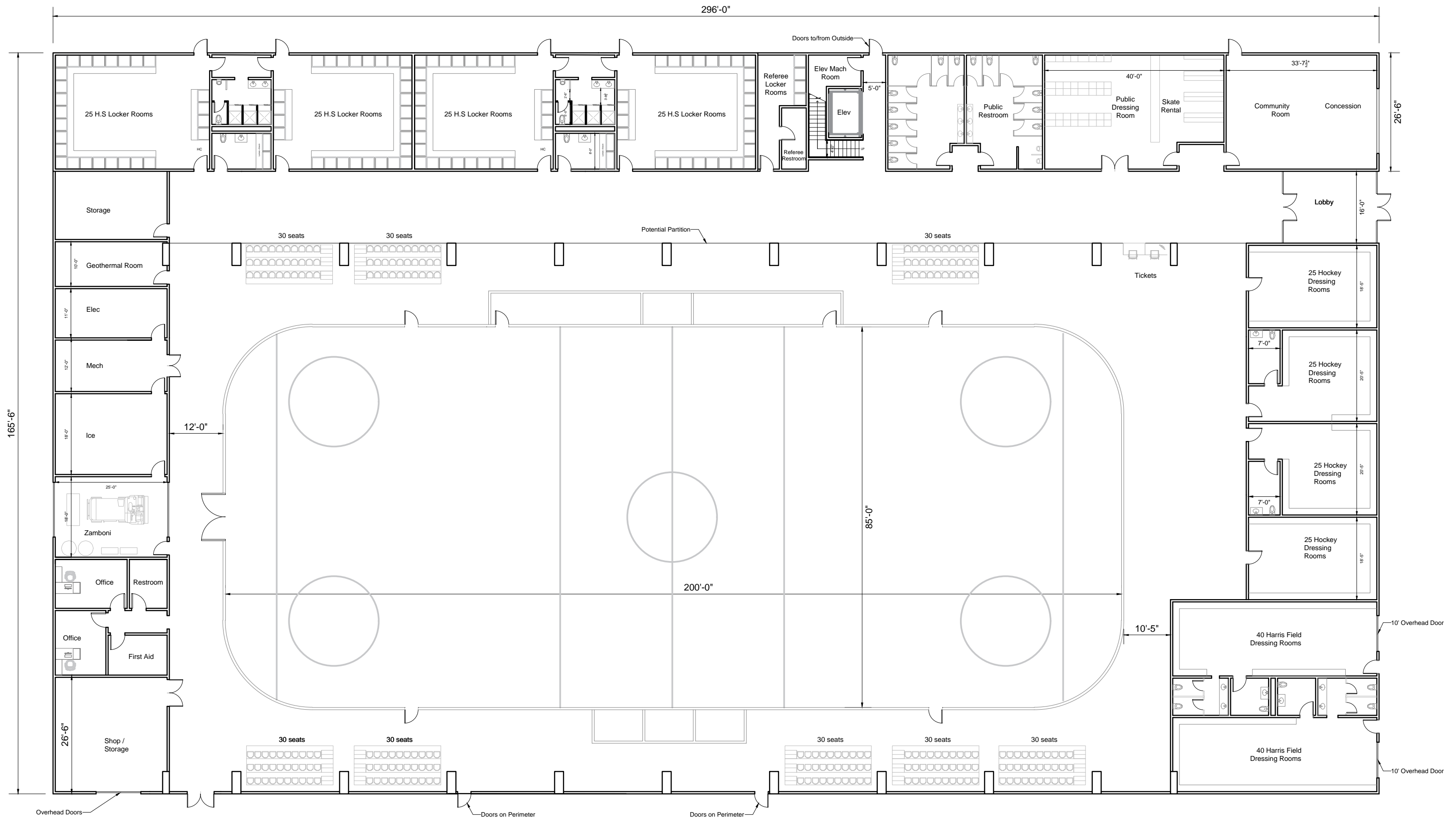


SITE OPTION

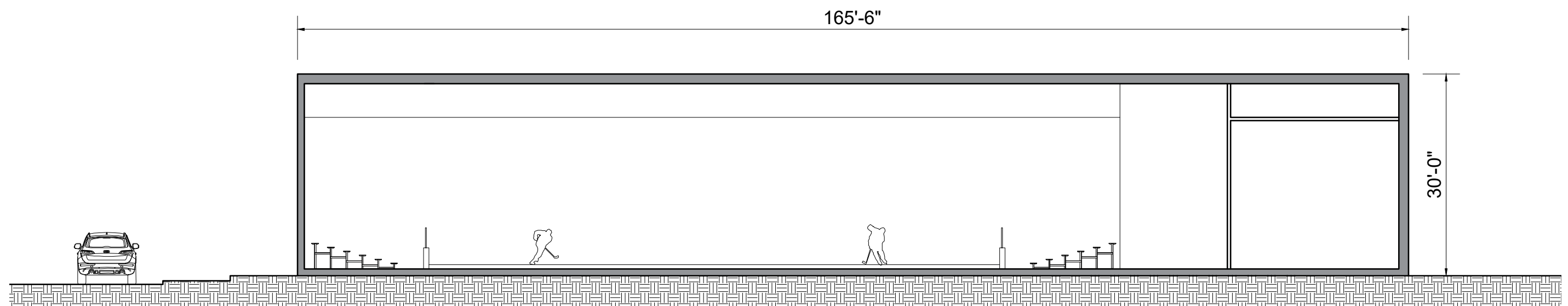
New Building
Parallel to Concord Ave



Parallel to Concord Avenue - Conceptual Site Plan



Parallel to Concord Avenue - Conceptual Ground Floor Plan



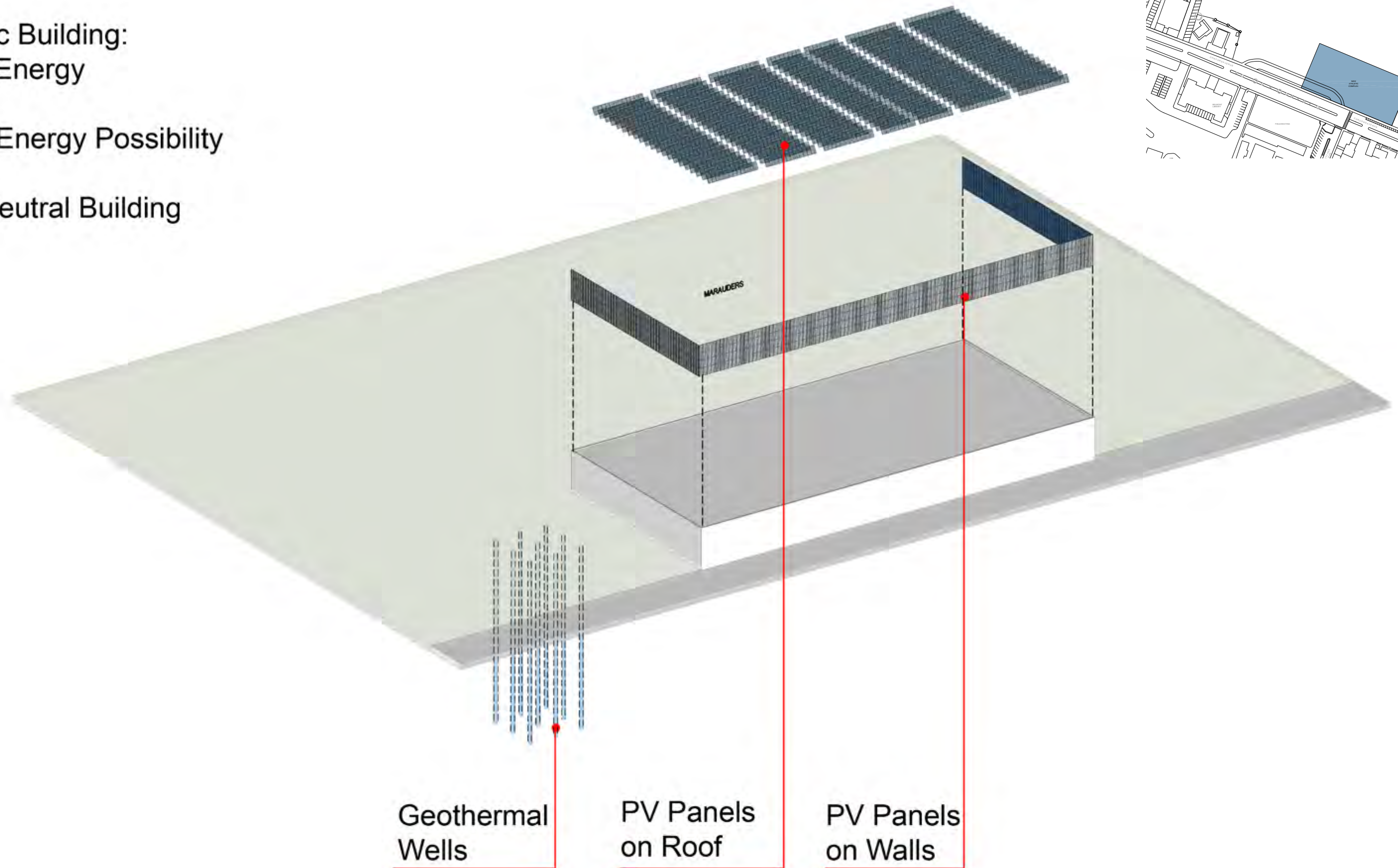
Parallel to Concord Avenue - Conceptual Section

Energy Ambitions:

All Electric Building:
-Cleaner Energy

Net Zero Energy Possibility

Carbon Neutral Building

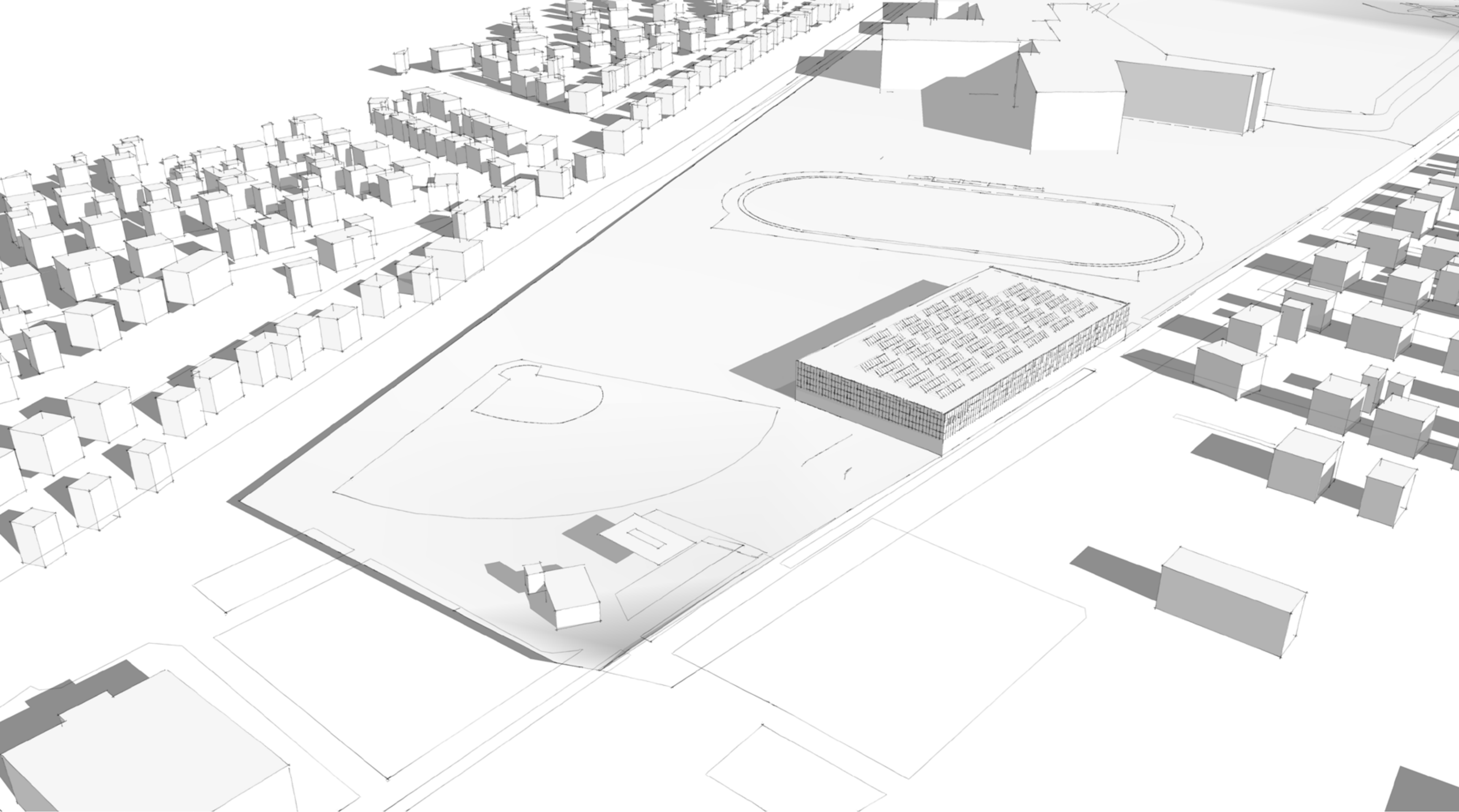


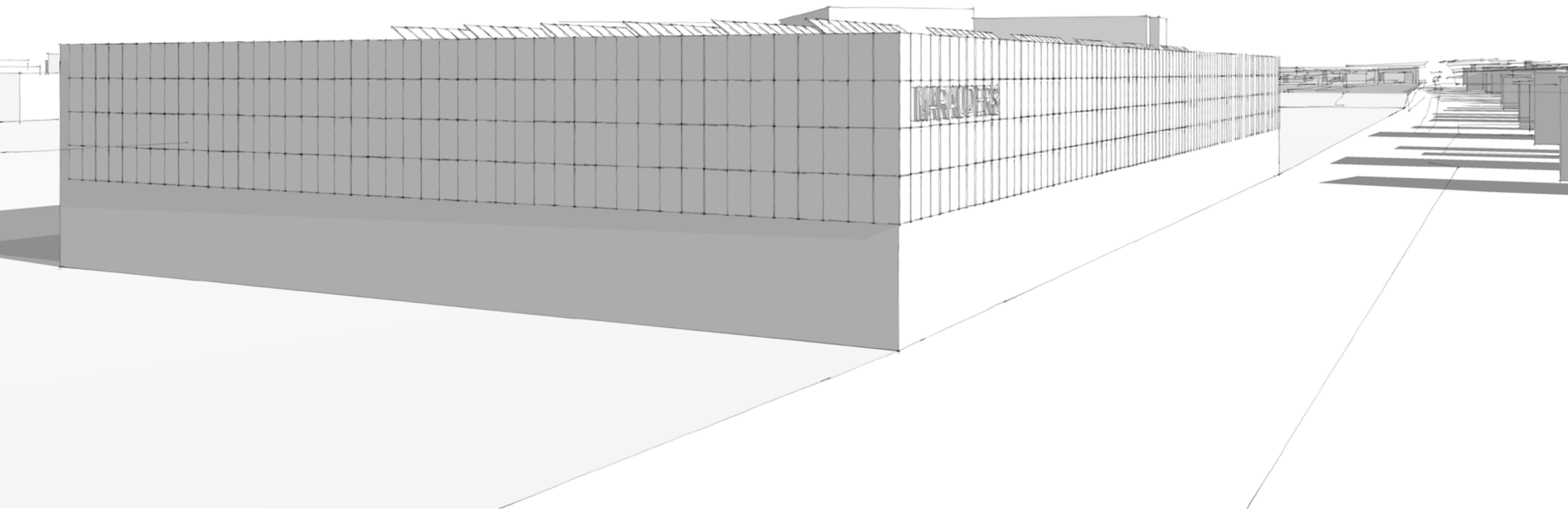
Geothermal
Wells

PV Panels
on Roof

PV Panels
on Walls

Parallel to Concord Avenue





TGAS
THE GALANTE ARCHITECTURE STUDIO

CONCEPTUAL

Parallel to Concord Avenue



Parking Regulations

Analysis and Site Layout

1. Parking per Hockey Game

a. Players:

18 Players / team x 2 teams = 36 Players

Per code: 1 parking space per 2 person participant capacity

$$\frac{36 \text{ players}}{2 \text{ per each}} = \mathbf{18 \text{ Player Parking Spaces}}$$

b. Administration

2 Referees + 2 Coaches + 2 Office = 6 Officials

Per code: 1 parking space per 2 person participant capacity

$$\frac{6 \text{ officials}}{2 \text{ per each}} = \mathbf{3 \text{ Administration Parking Spaces}}$$

c. Spectators

200 Spectators

Per Code: 1 parking space per 3 person spectator capacity

$$\frac{200 \text{ spectators}}{3 \text{ per each}} = \mathbf{67 \text{ Spectator Parking Spaces / Game}}$$

d. Total (a + b + c)

18 Player Parking Spaces + 3 Administration Parking Spaces + 67 Spectator Parking Spaces

= 88 Required Parking Spaces / Hockey Game

2. Parking per High School Games - ASSUMED

- i. Baseball or Softball: 2 teams of 9 players each. The number of players may vary from **15-20 players (per team) + total 3 umpires and 2 coaches**
- ii. Soccer: 2 teams of **11 players (per team) + 4 referees**, the head referee, two assistant referees and a fourth official.
- iv. Shot put: ?
- v. Discus: ?

Assuming the biggest number of people per game is Baseball:

a. Players:

20 Players / team x 2 teams = 40 Players

Per code: 1 parking space per 2 person participant capacity

$$\frac{40 \text{ players}}{2 \text{ per each}} = \mathbf{20 \text{ Player Parking Spaces}}$$

b. Administration

3 Umpires + 2 Coaches = 5 Officials

Per code: 1 parking space per 2 person participant capacity

$$\frac{5 \text{ officials}}{2 \text{ per each}} = \mathbf{3 \text{ Administration}}$$

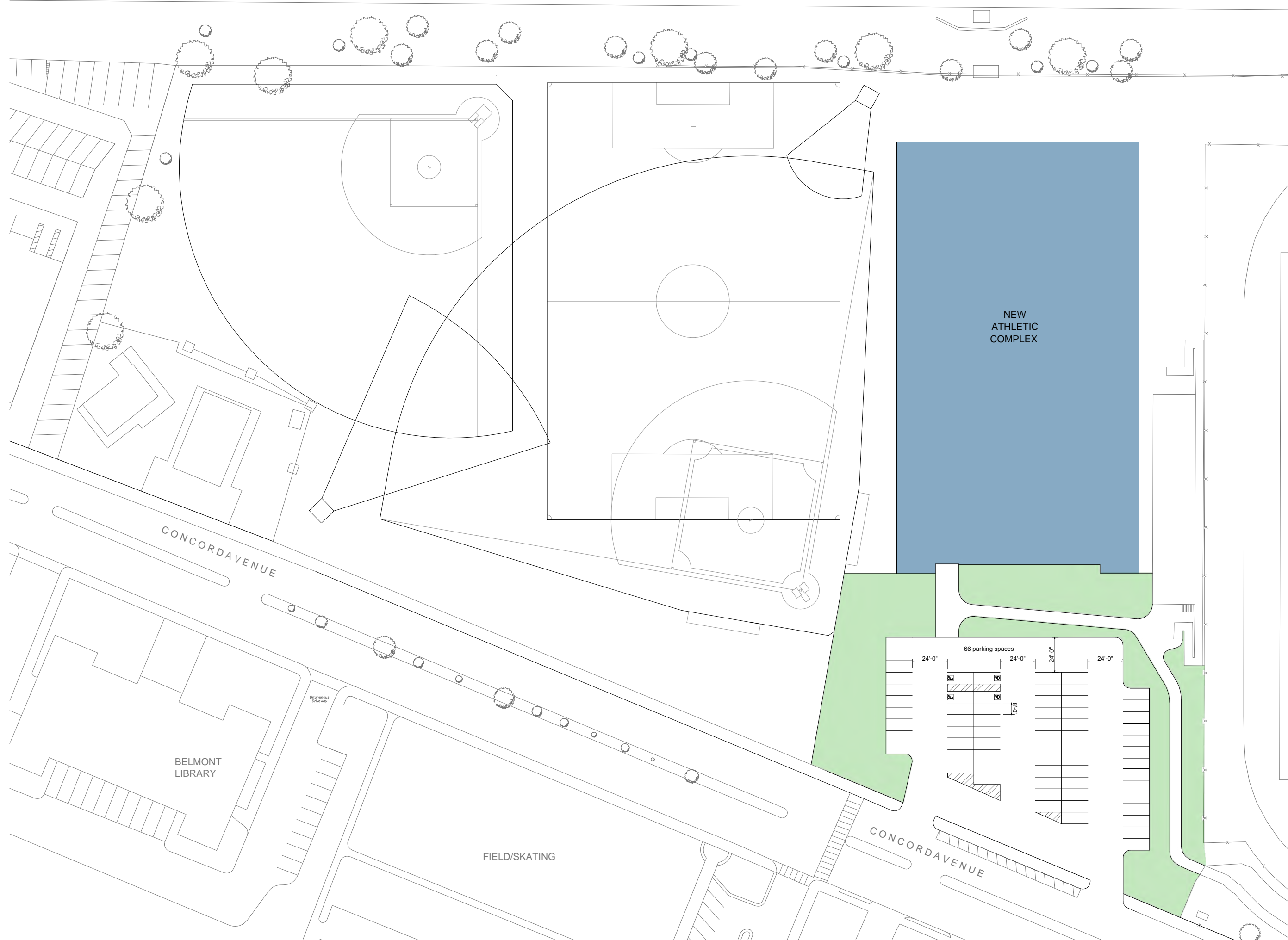
c. Spectators

??

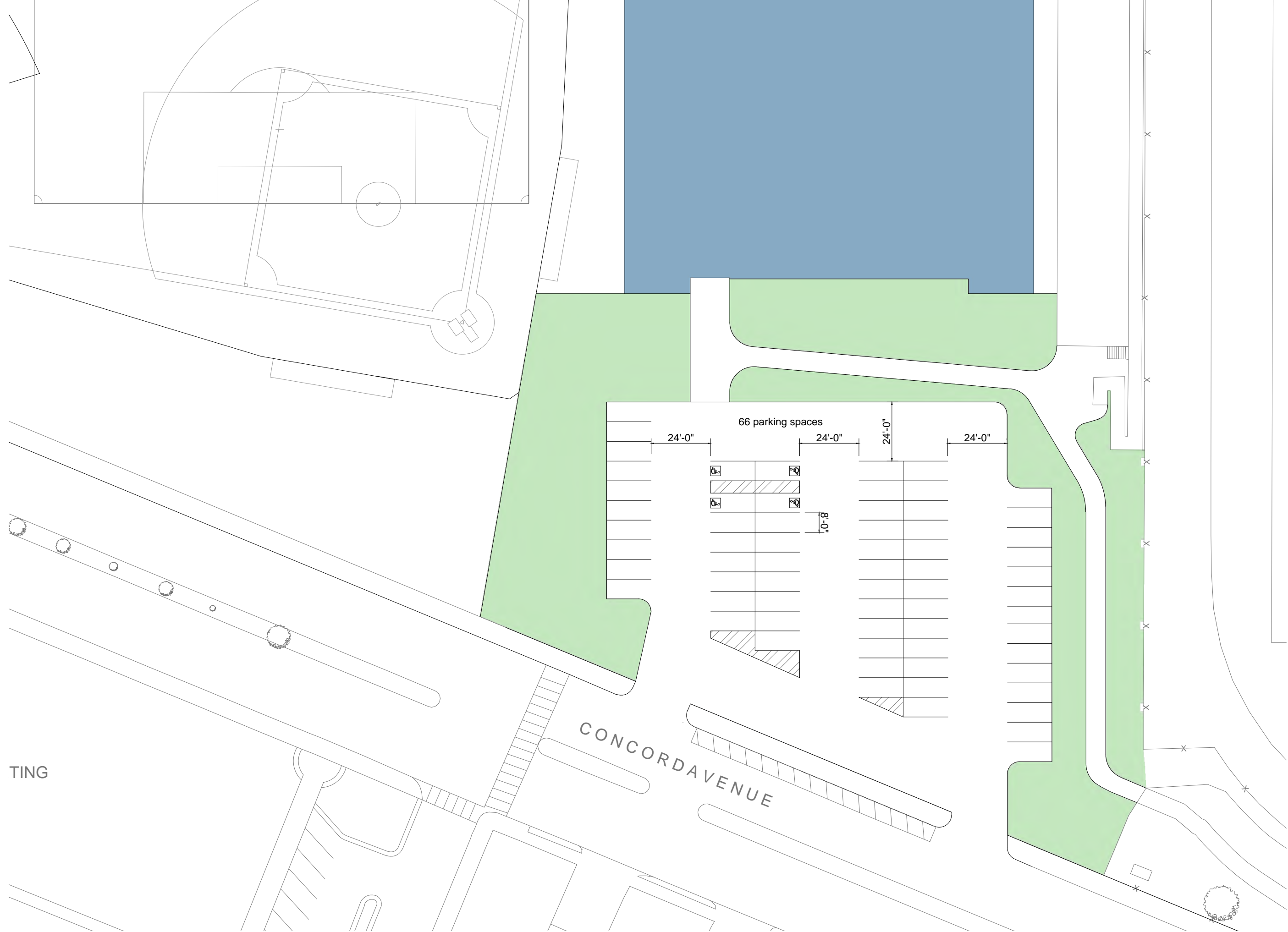
d. Total (a + b + c)

20 Player Parking Spaces + 3 Administration Parking Spaces

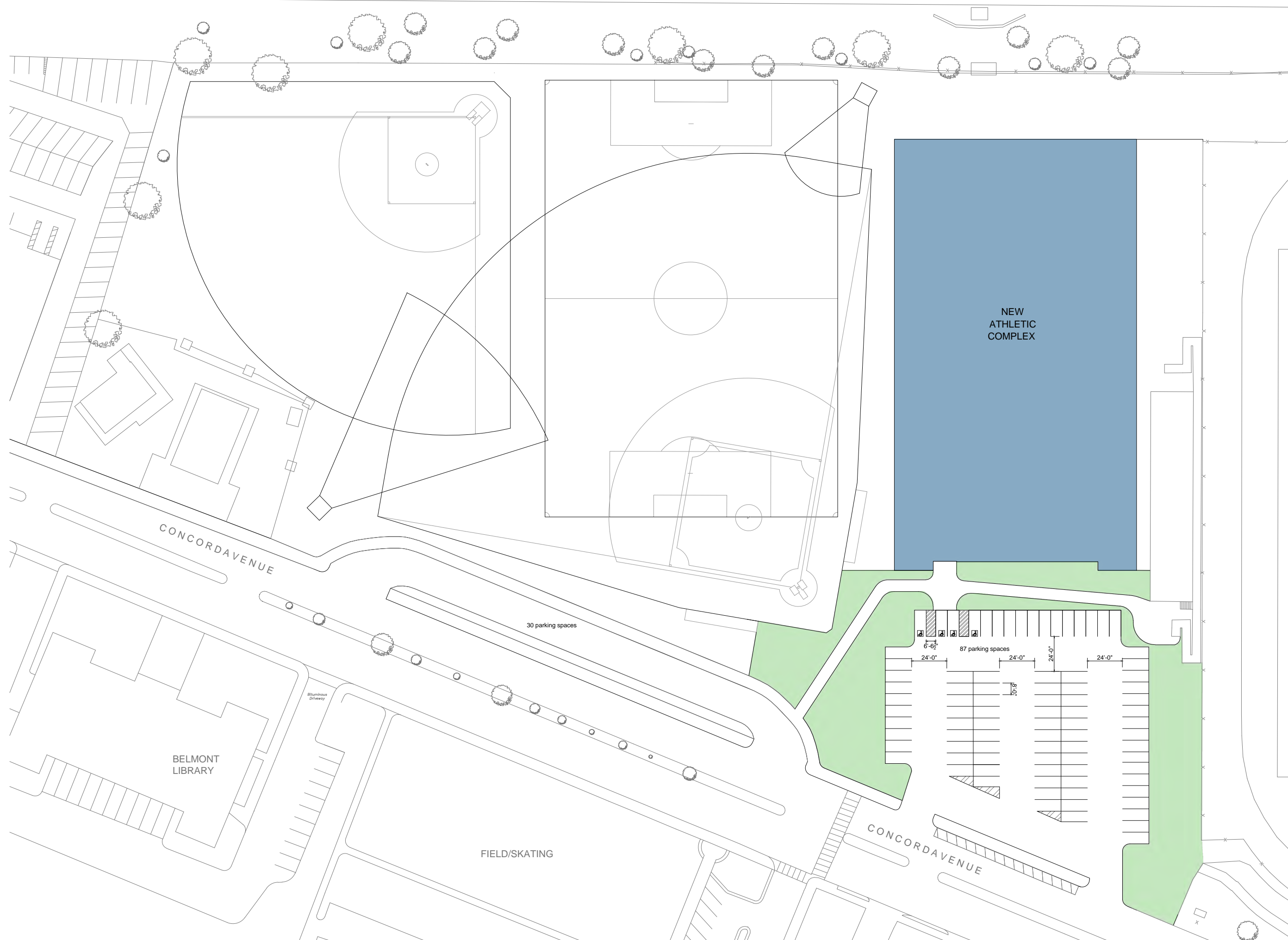
= 23 Required Parking Spaces / High School Game

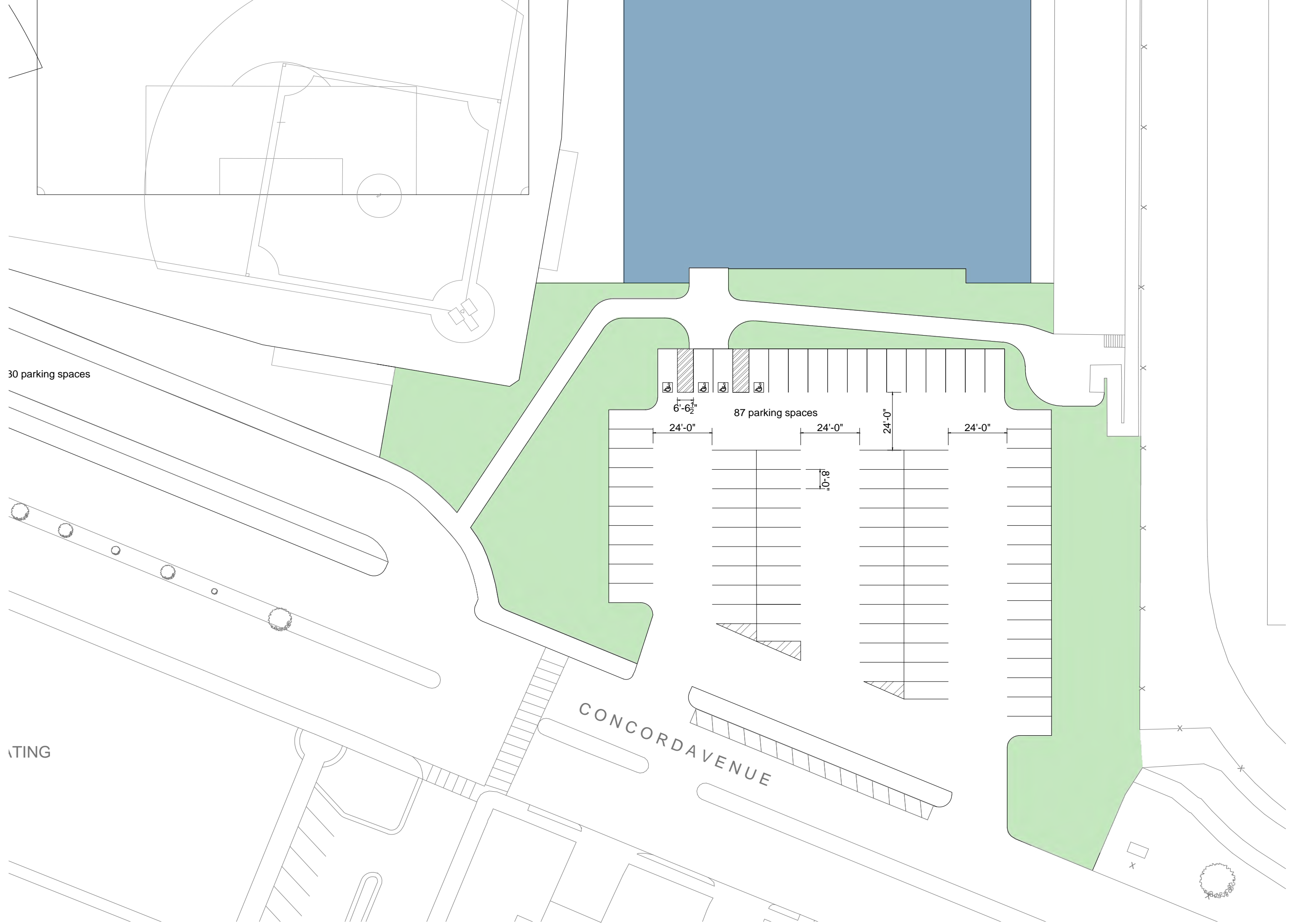


Renovate and Expand - No Jughandle - 66 Parking Spaces

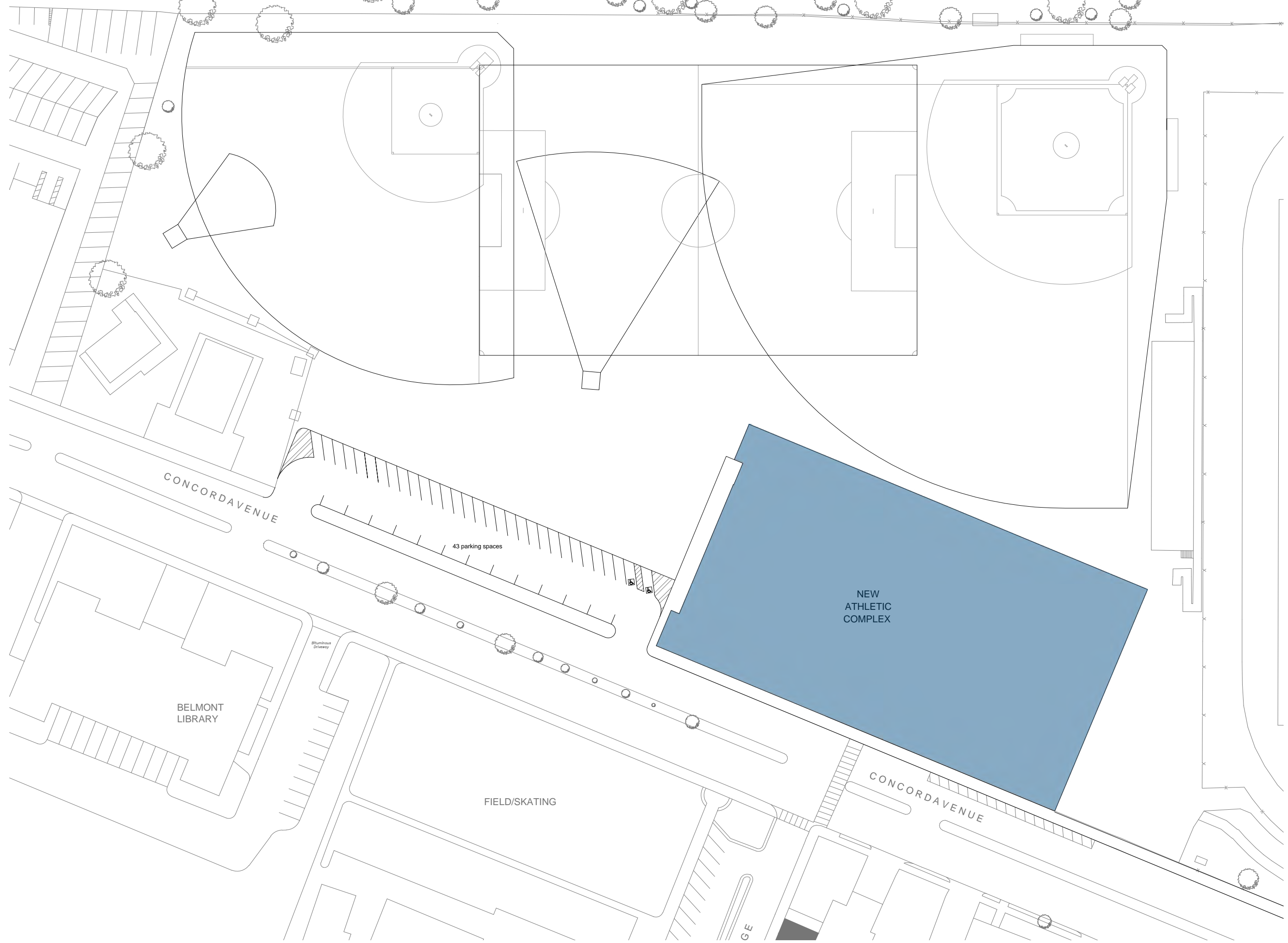


Renovate and Expand - No Jughandle - 66 Parking Spaces

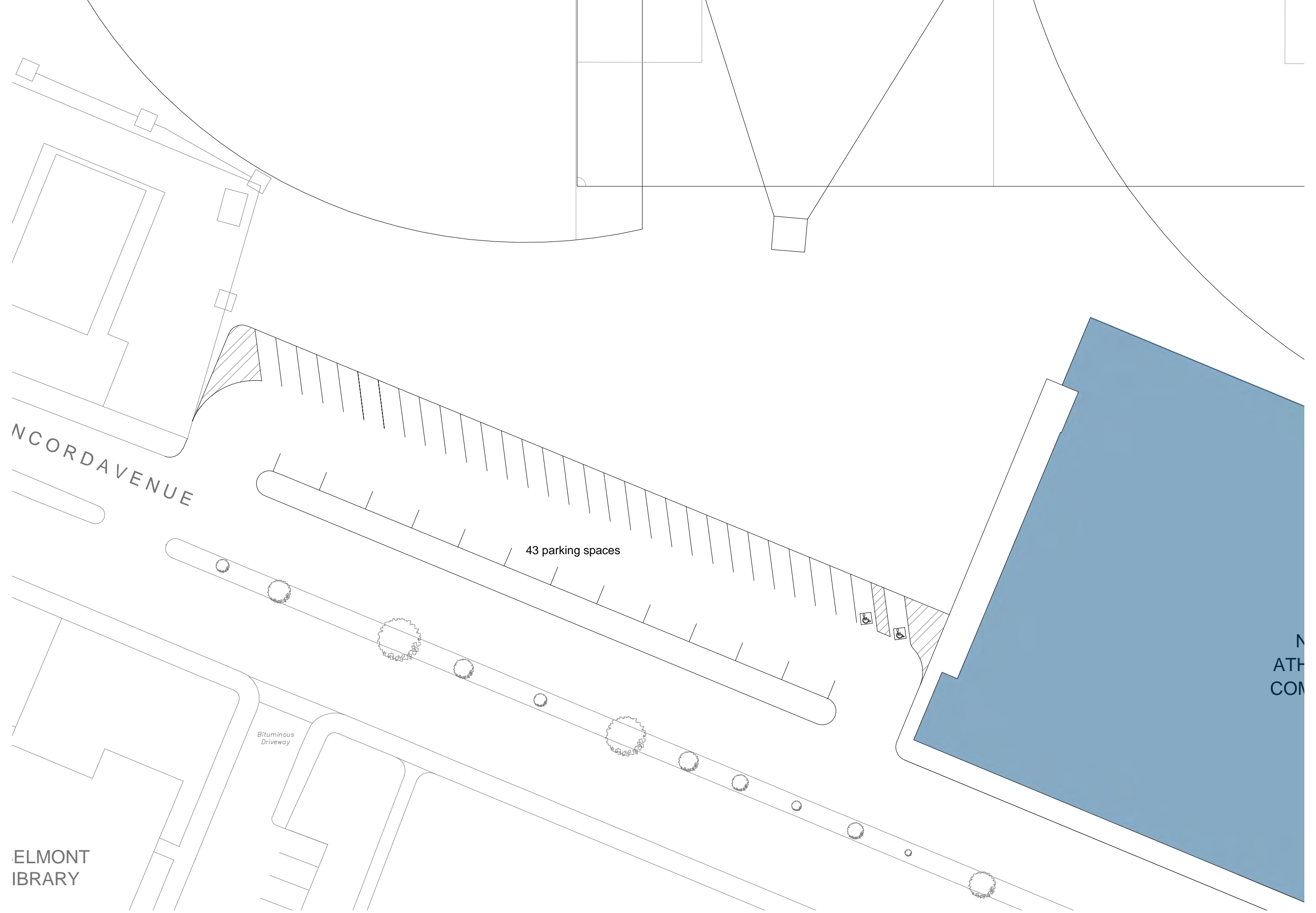




Renovate and Expand - With Jughandle - 117 Parking Spaces



Parallel to Concord Ave - Expand Jughandle - 43 Parking Spaces



ELMONT
LIBRARY

NATHAN
COM

43 parking spaces

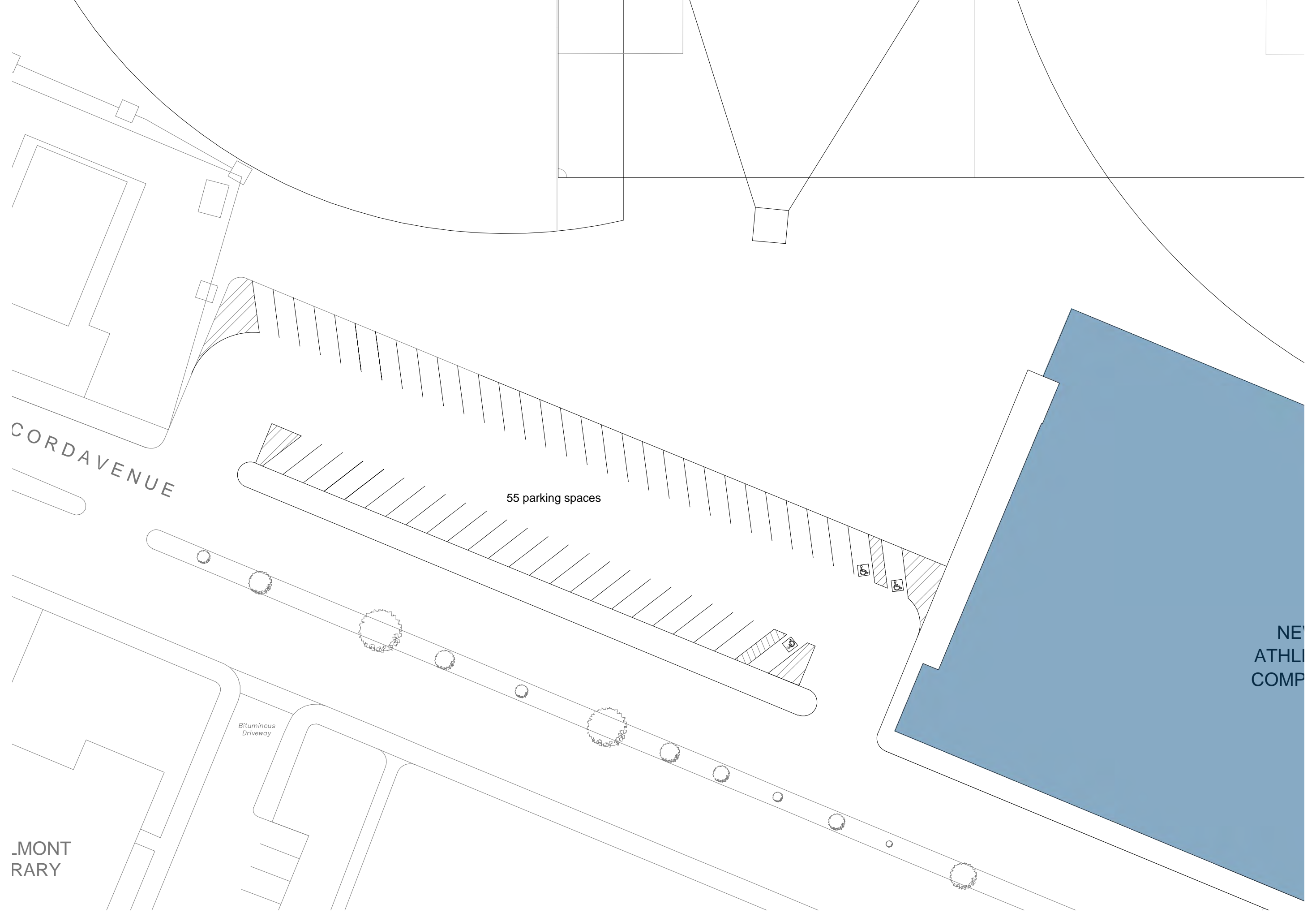
Bituminous
Driveway

Parallel to Concord Ave - Expand Jughandle - 43 Parking Spaces





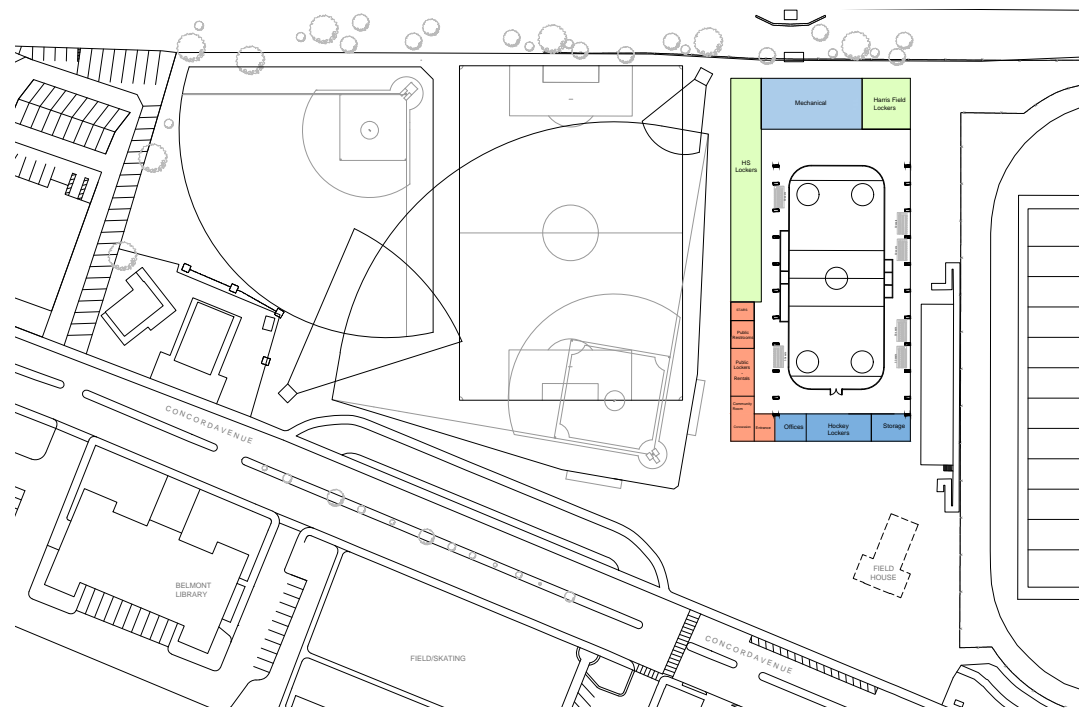
Parallel to Concord Ave - Expand Jughandle - 55 Parking Spaces



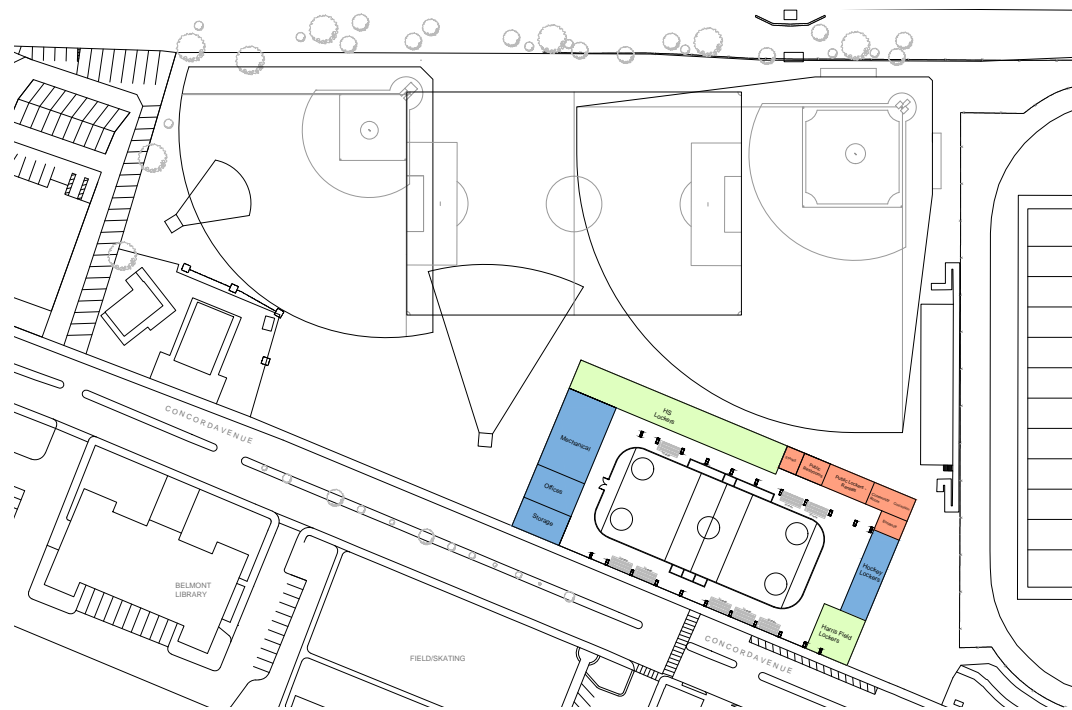
Parallel to Concord Ave - Expand Jughandle - 55 Parking Spaces

Schedule

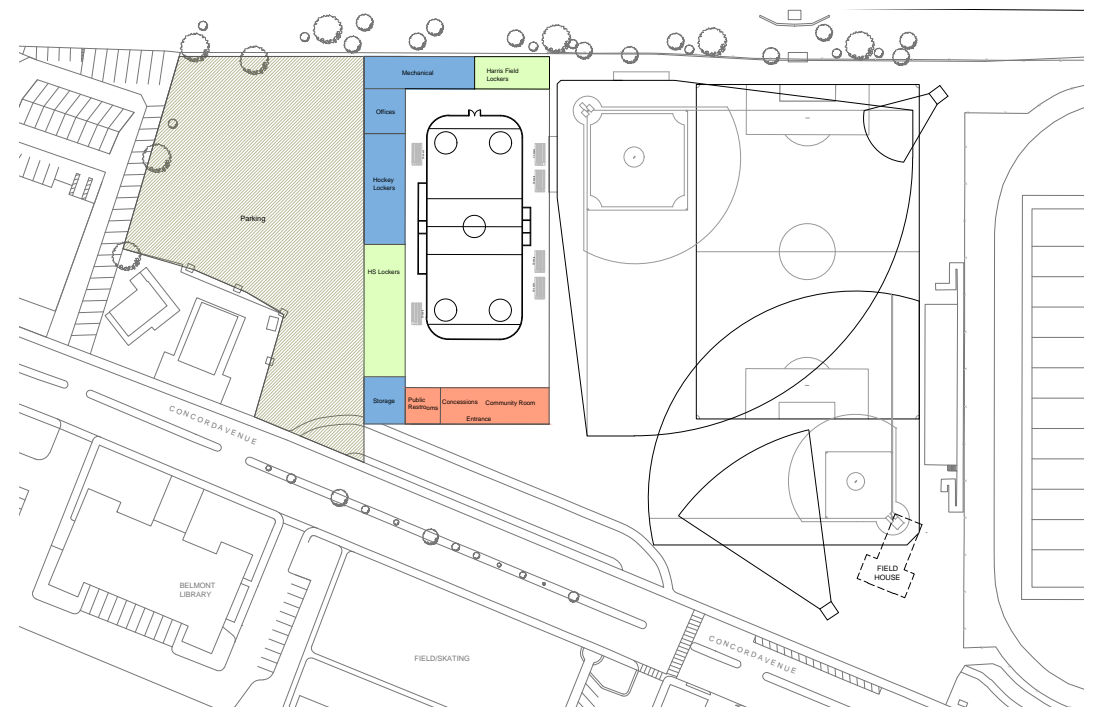
5/17/2022



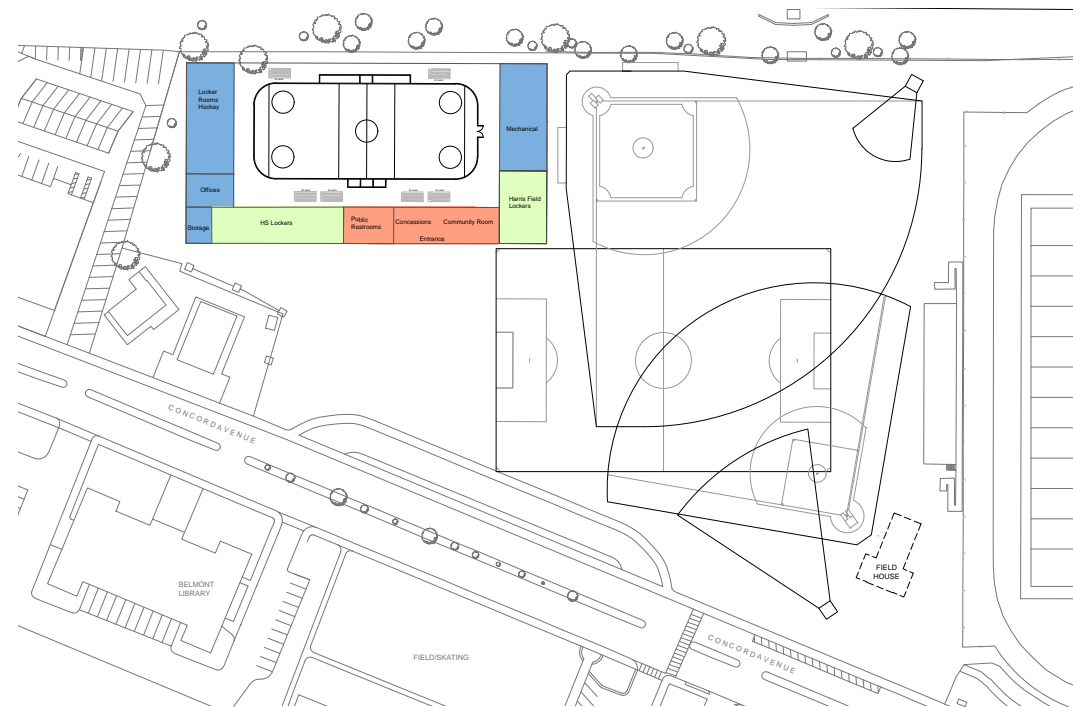
Renovate and Expand



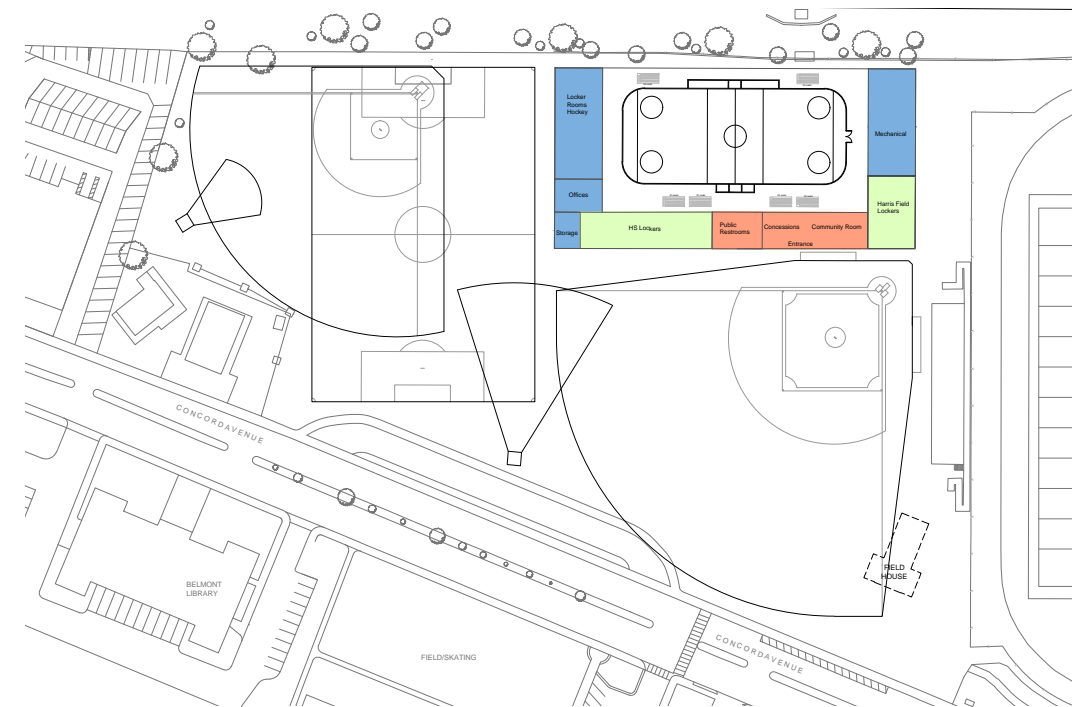
Parallel to Concord Avenue



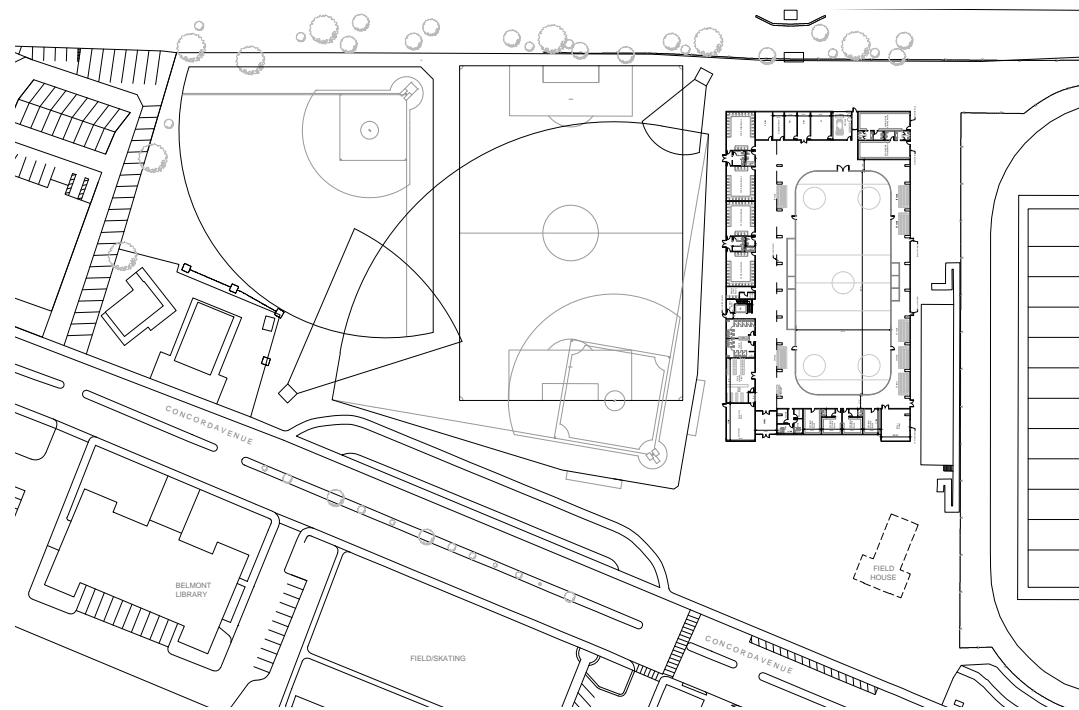
Parallel to Current Rink



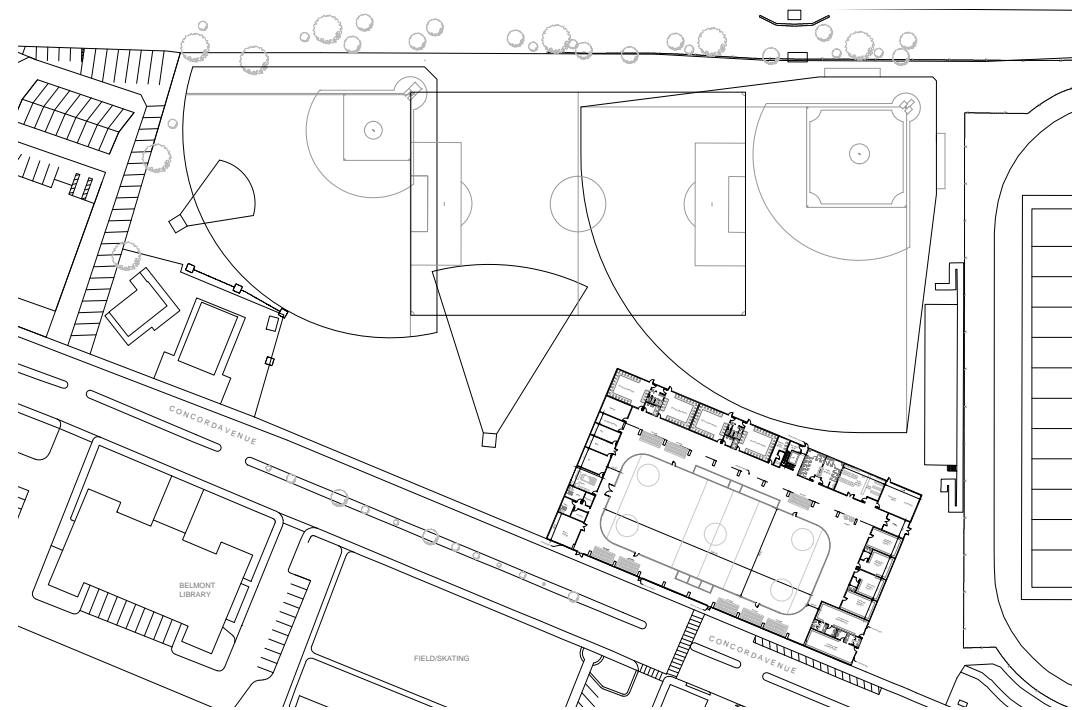
Behind Mobil Station



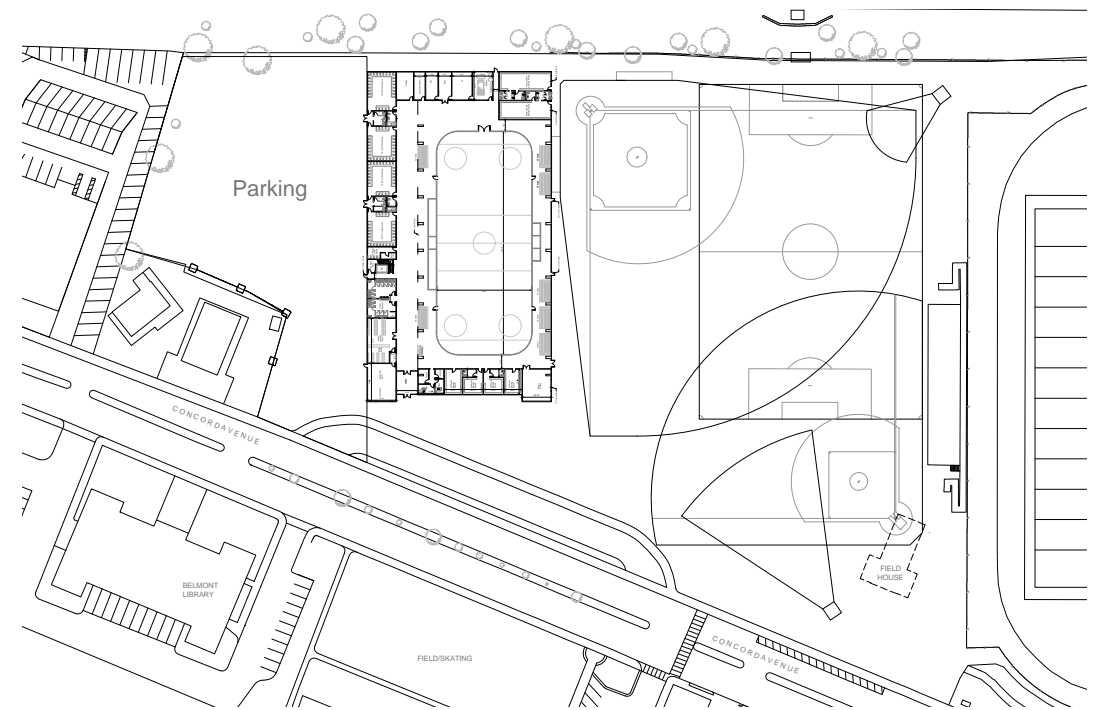
Perpendicular to Current Rink



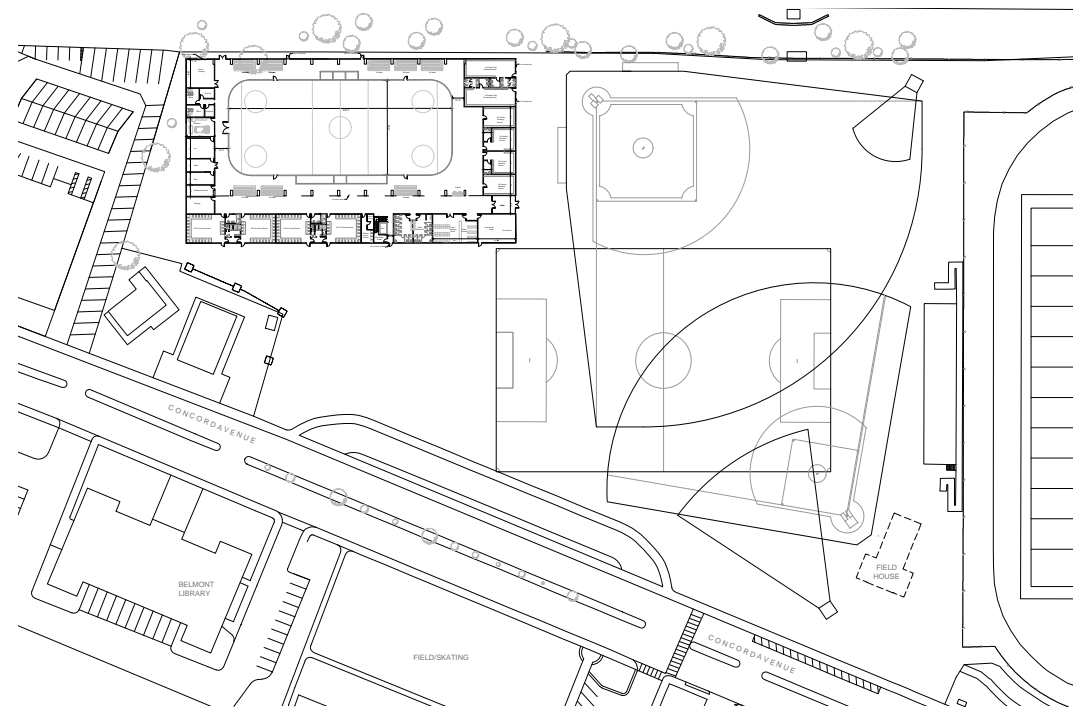
Renovate and Expand



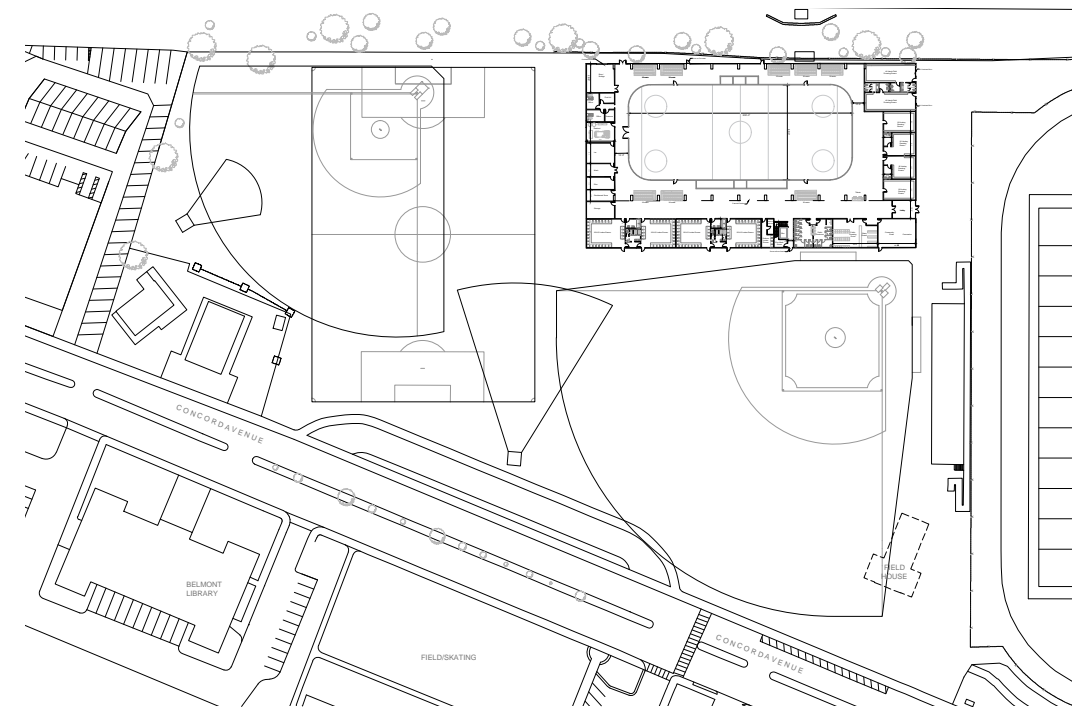
Parallel to Concord Avenue



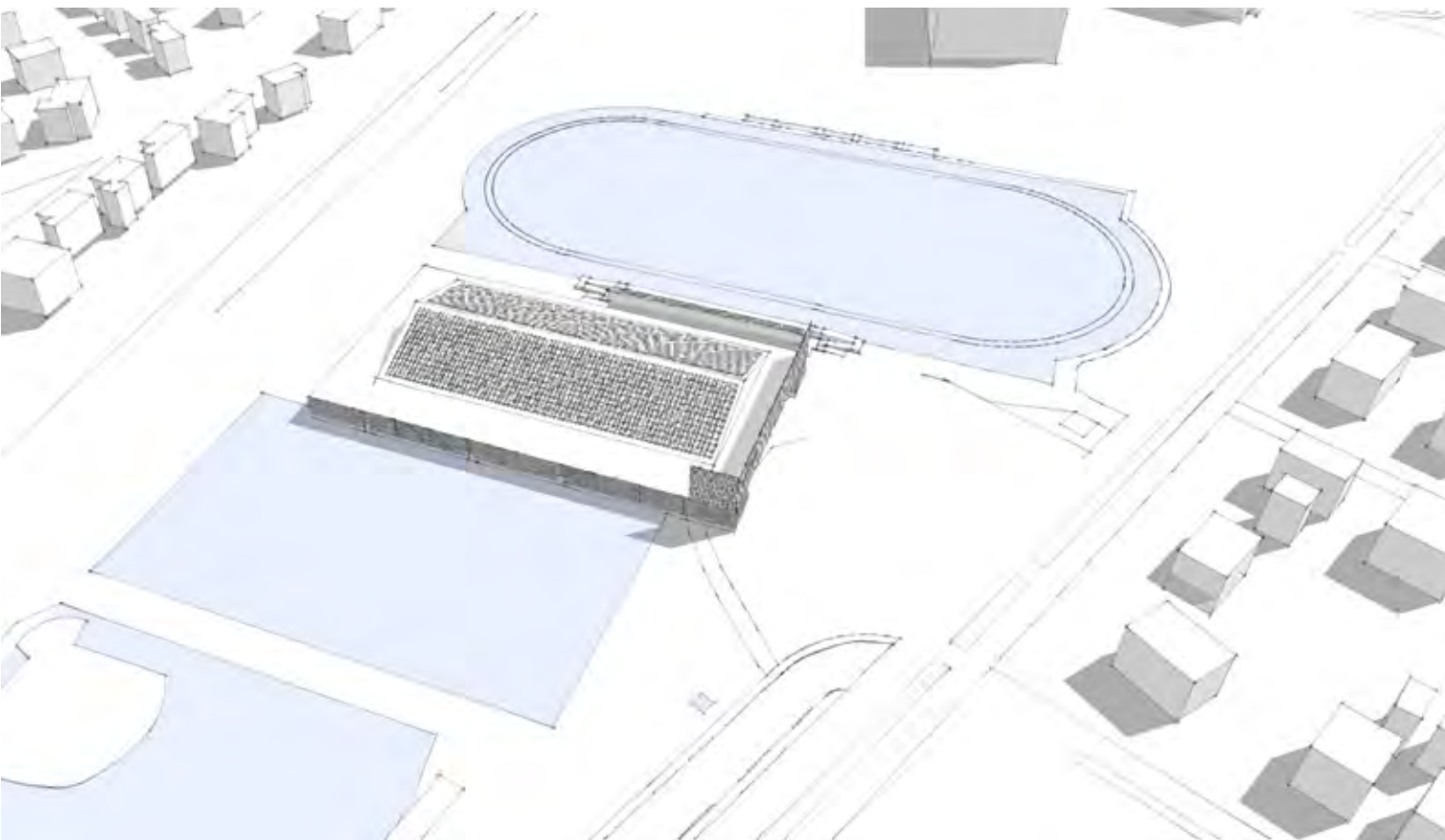
Parallel to Current Rink



Behind Mobil Station

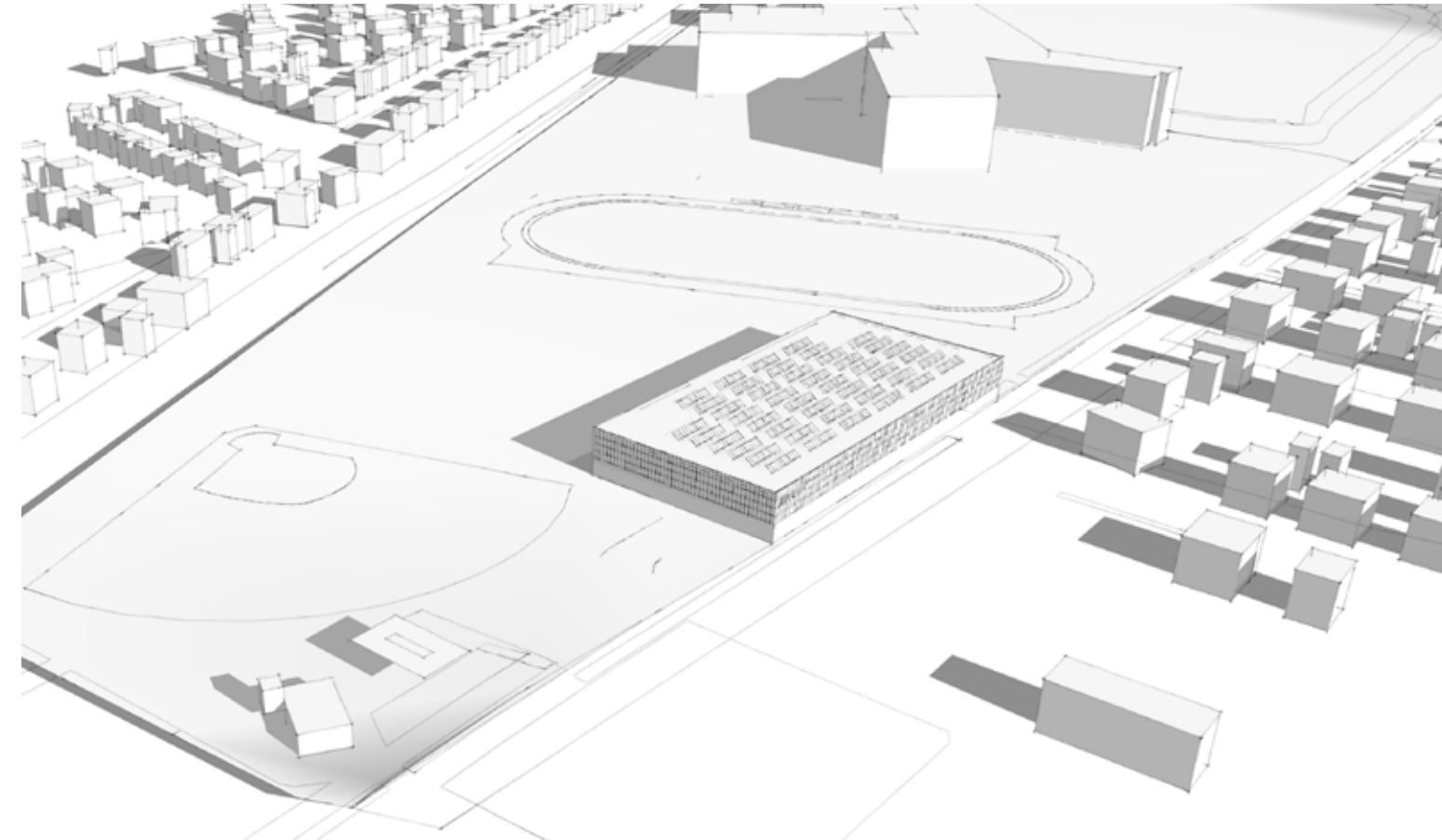


Perpendicular to Current Rink



Renovate and Expand

OR



Parallel to Concord Avenue

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THE GALANTE ARCHITECTURE STUDIO

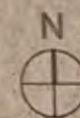
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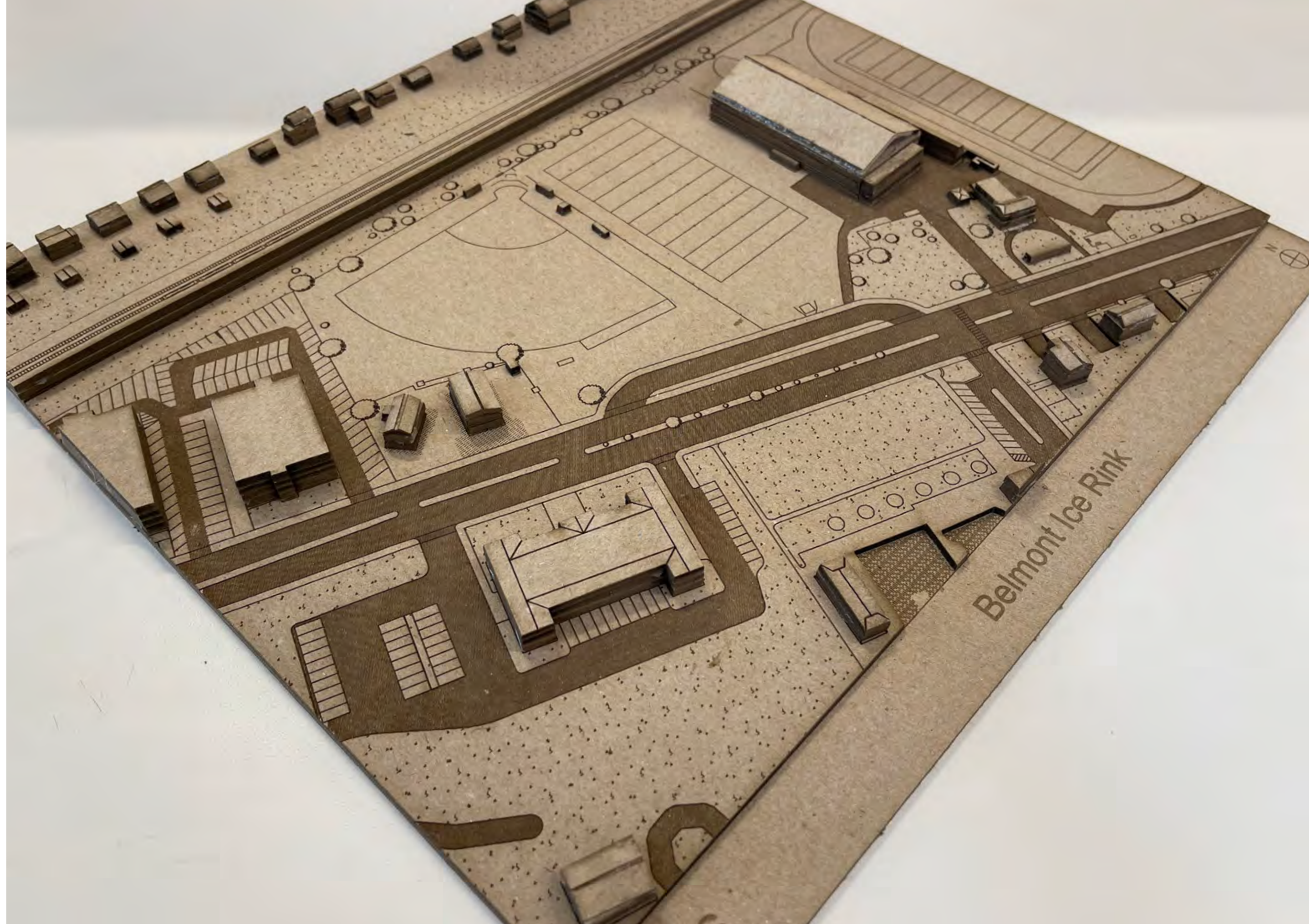


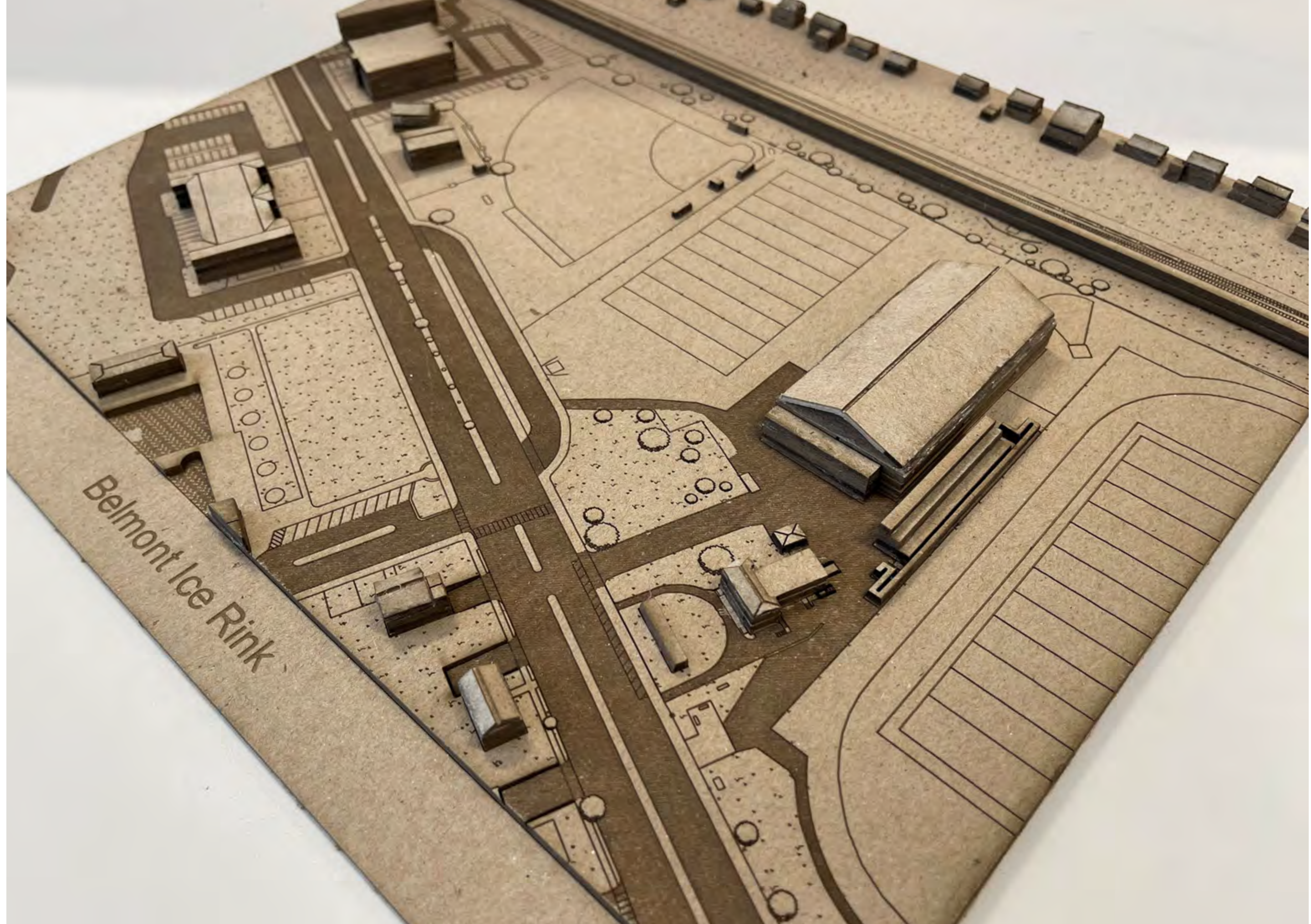


TGAS

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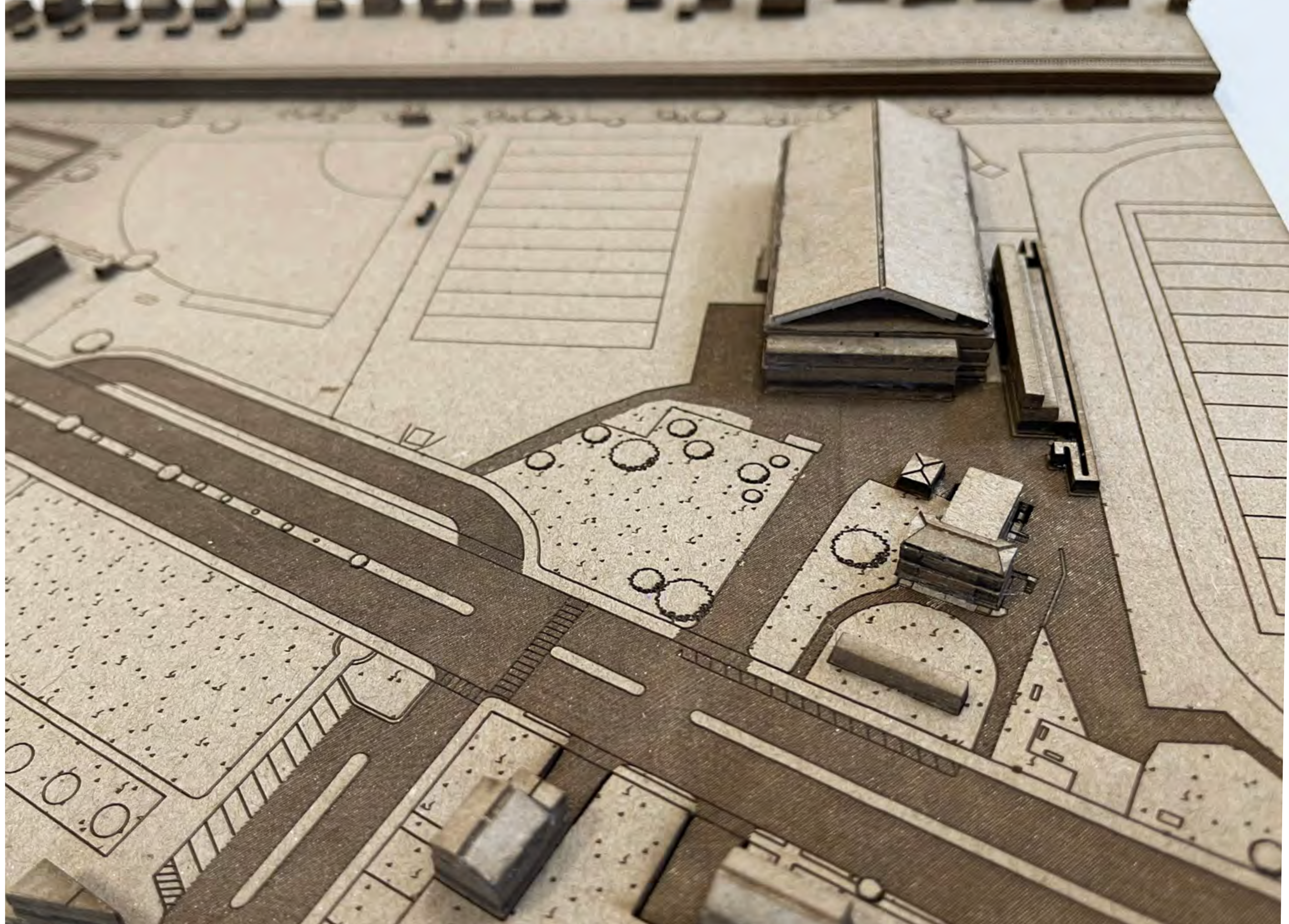






PHYSICAL MODEL

Existing Conditions



PHYSICAL MODEL

Existing Conditions



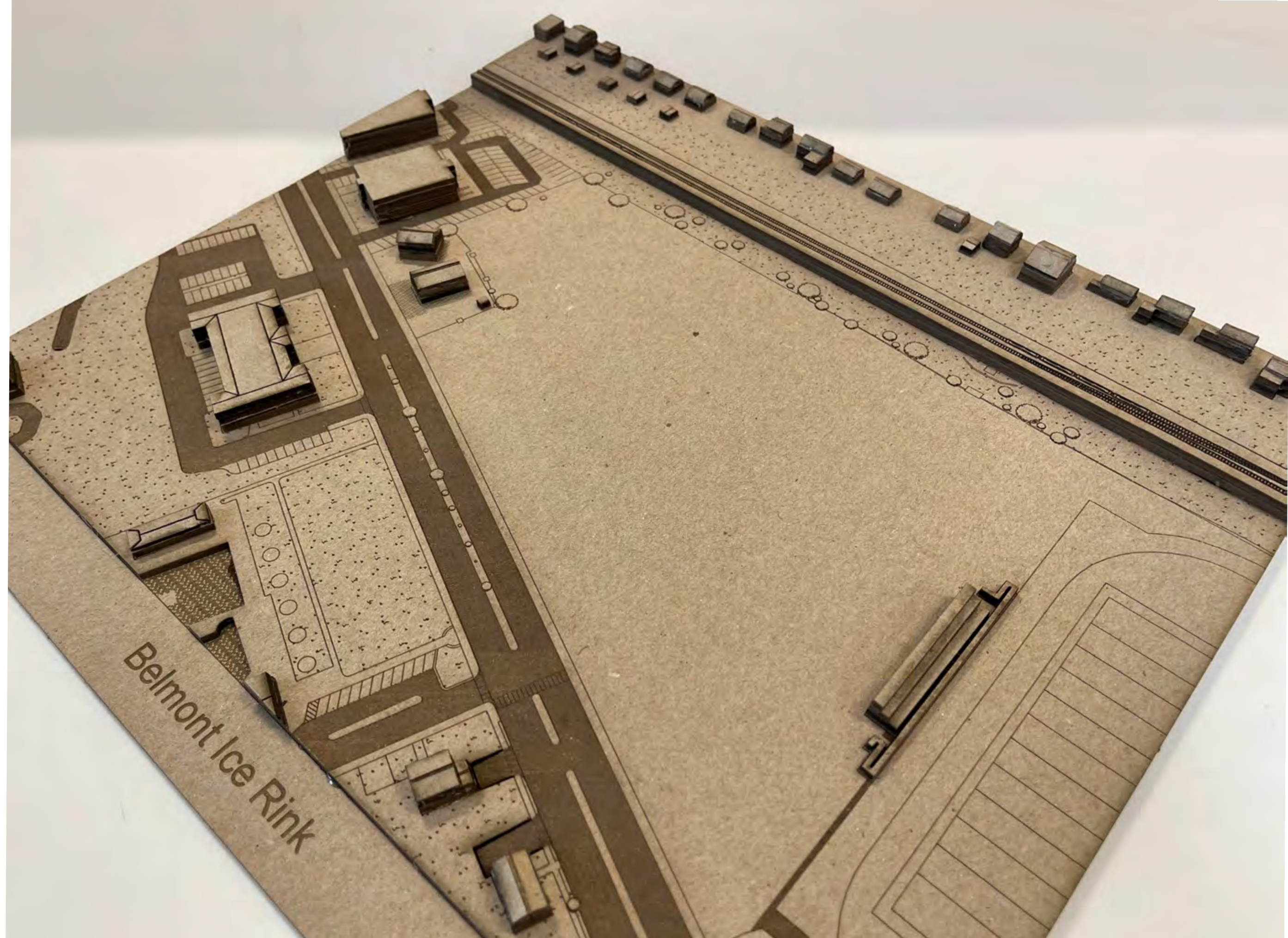
PHYSICAL MODEL

Existing Conditions



PHYSICAL MODEL

Empty Plot



Empty Plot



Empty Plot