

Lexington High School

School Building Committee Meeting

03/10/2025

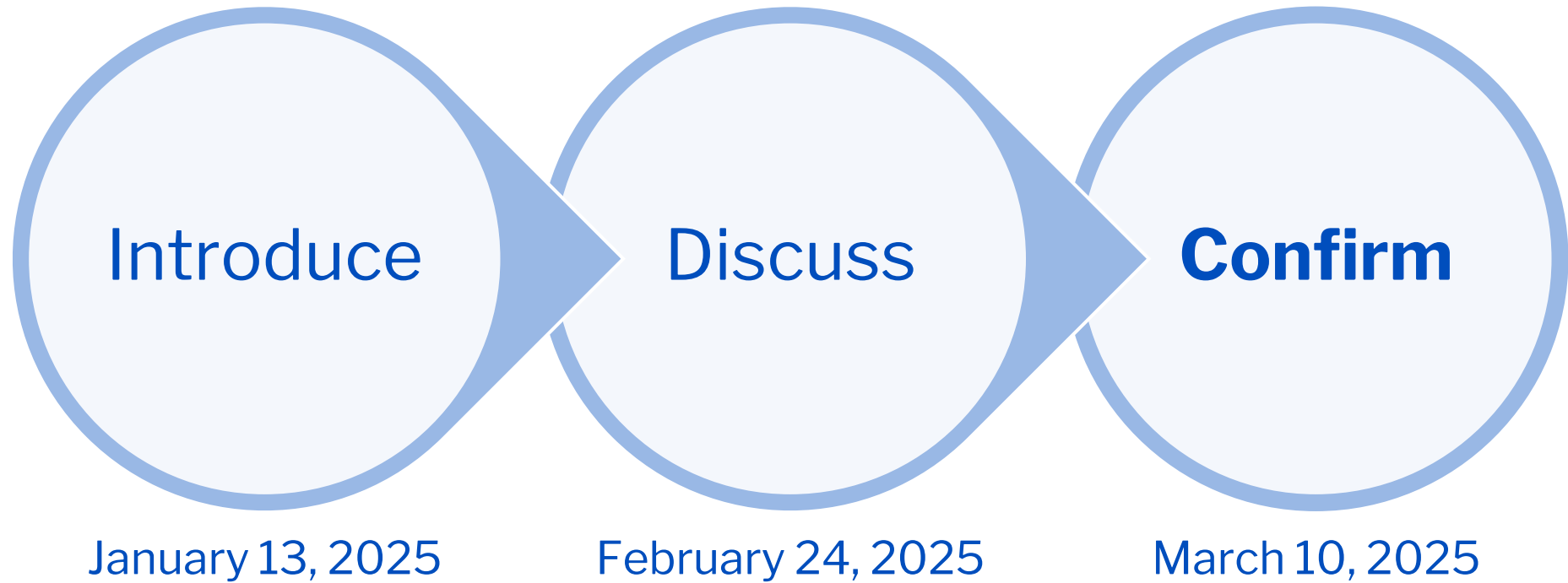


- 1 Call to Order
- 2 Vote on Previous Meeting Minutes 12:00 – 12:05
- 3 Add Reno Field House Scope and Constructability 12:05 – 1:00
- 4 Square Foot/Student Discussion 1:00 – 1:15
- 5 Double Height and Learning Stair Discussion 1:40 – 1:50
- 6 Public Comment 1:40 – 1:50
- 7 Reflections & Action Items 1:50 – 2:00
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Add/Reno Field House Scope & Constructability



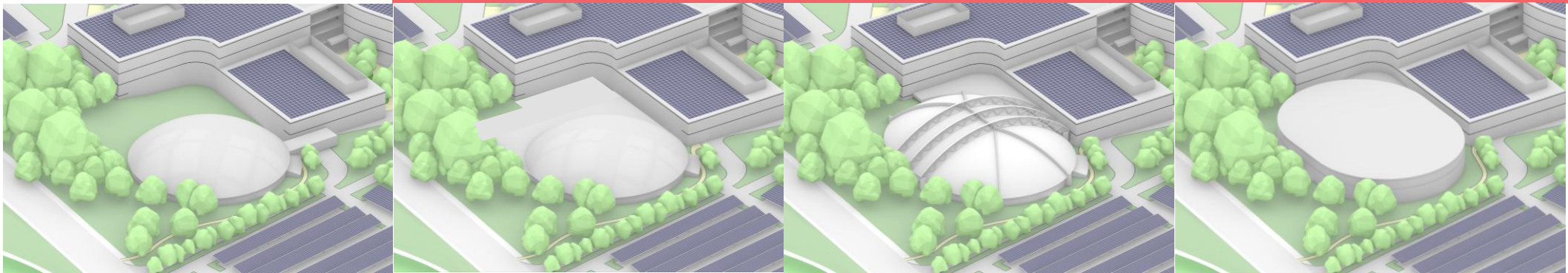
Field House Programming Meeting Takeaways:

1. Safety is a major concern and should be considered as part of every decision
2. Equity: Providing space for programs that don't have sufficient space in the existing field house (i.e. trainers, weight room, cheer, etc.) is a priority
3. Flexibility of space to accommodate the number of different groups utilizing the field house is a priority
4. Strong preference for 146-meter track from athletics coaches and trainers. Track coaches still preferred a 200m track.
5. Unanimous preference for 146-meter track among athletic director, principal, PE coordinator, and recreation dept.
6. Track coach requested consideration of a banked track if 146-meter track is pursued.
7. A few individuals expressed a preference for Option B (trainers and AD) as it would compartmentalize uses in a way that would enhance safety, scheduling and monitoring.

Field House Scope & Constructability / Option Summary

As voted on by the SBC on Nov. 12th

	Option A	Option B	Option C	Option D
Project Cost	\$26,625,000	\$42,625,000	\$57,191,000	\$54,338,000
PSR Cost Δ	-\$14,375,000	\$1,625,000	\$16,191,000	\$13,338,000
Footprint	34,400 GSF	48,000 GSF	48,000 GSF	48,000 GSF
Approach	Renovation	Reno + Addition	Reno + Addition	Reno + Addition



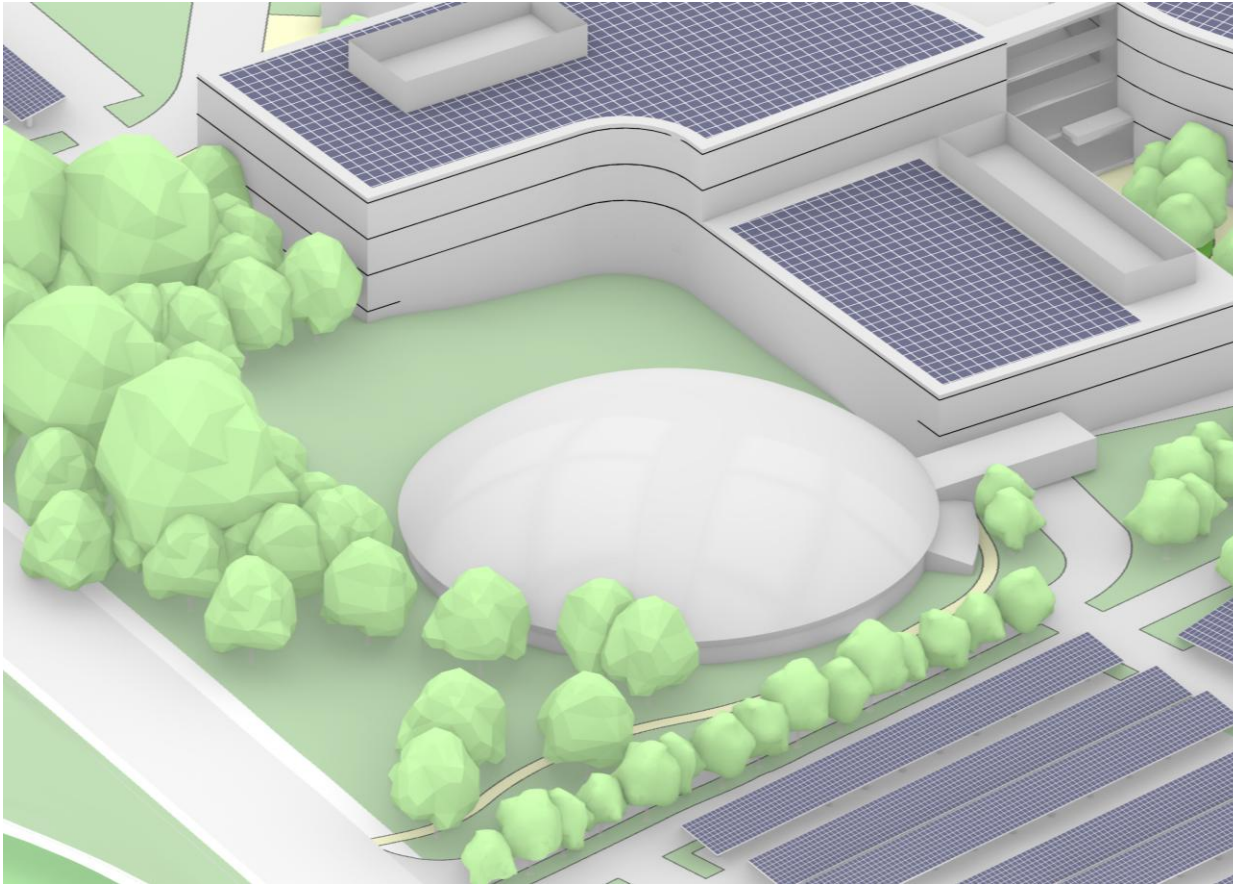
SMMA recommends Option B

- Cost in range of PSR estimate
- Expands programmatic uses
- Increases safety
- Able to be constructed in phases
- Some PV capacity

PSR Field House Cost: \$41,000,000

Field House Scope & Constructability

▪ Option A: Renovation Only (34,400 GFA)

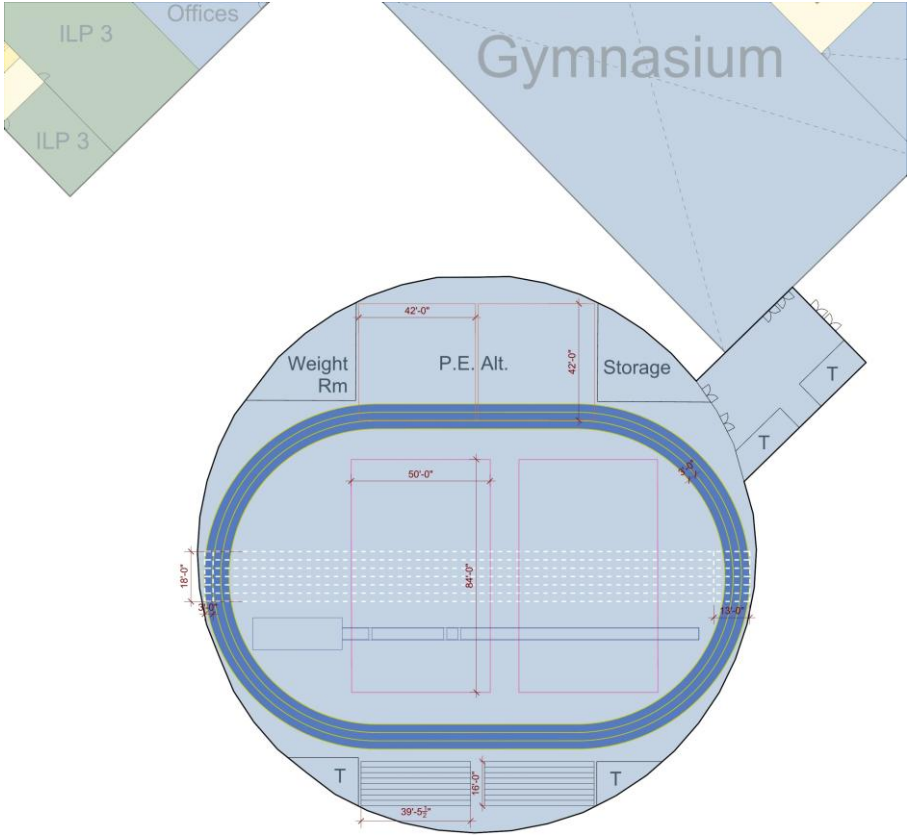


Renovation Scope:

- New slab on grade
- New exterior enclosure:
 - Brick veneer cavity wall
 - 8" Mineral Wool Insulation
 - AVB on existing concrete walls
 - Triple-pane clerestory glazing
 - New HM doors
 - Membrane roofing on 10" insulation
- New MEP systems
- New lighting and PA systems
- (2) new scoreboards
- Retractable bleachers for 400 seats
- Interior finishes: Resilient athletic flooring, rubber flooring at PE Alt and Weight Room, wall paint and wall pads

Option A.1 / Renovation Only

	Option A.1
Project Cost	\$26,625,000
Footprint	34,400 GSF
Track Size	146m
Lane Count	3
Straightaway Length	55m*
Multipurpose Courts	2-3
Bleacher Count	400 shown
Weight Room	679 sf
PE Alternative	3,300 sf



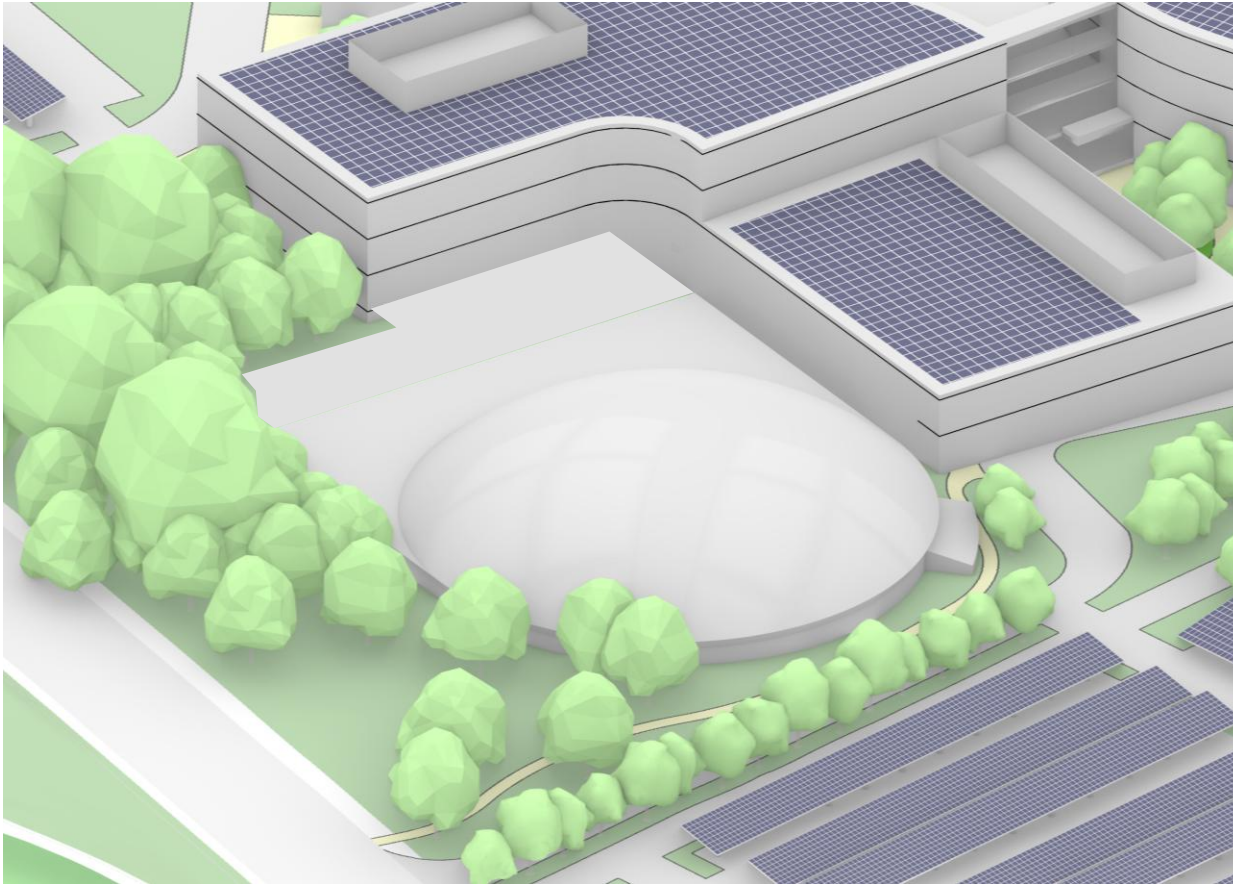
Additional Program:

- Toilets
- Storage

1. Minimum safe run-out length to be determined. Drawing shows only 13' with 55m straight track*
2. 4 lanes possible if using less than regulation radius.
3. 3 courts possible if overlapping track and portable long jump pit
4. PE Alt room does not accommodate (2) regulation 42'x42' wrestling mats
5. Existing roof structure does not allow for goals, wrestling mats, batting cage, etc. to be hung from rafters
6. Slight increase of storage and toilet space possible

Field House Scope & Constructability

- **Option B: Renovation + Addition (48,000 GFA)**
 - Renovate existing 34,400 GFA Field House
 - Add 13,600 GFA New Construction Addition on Grade with Flat Roof



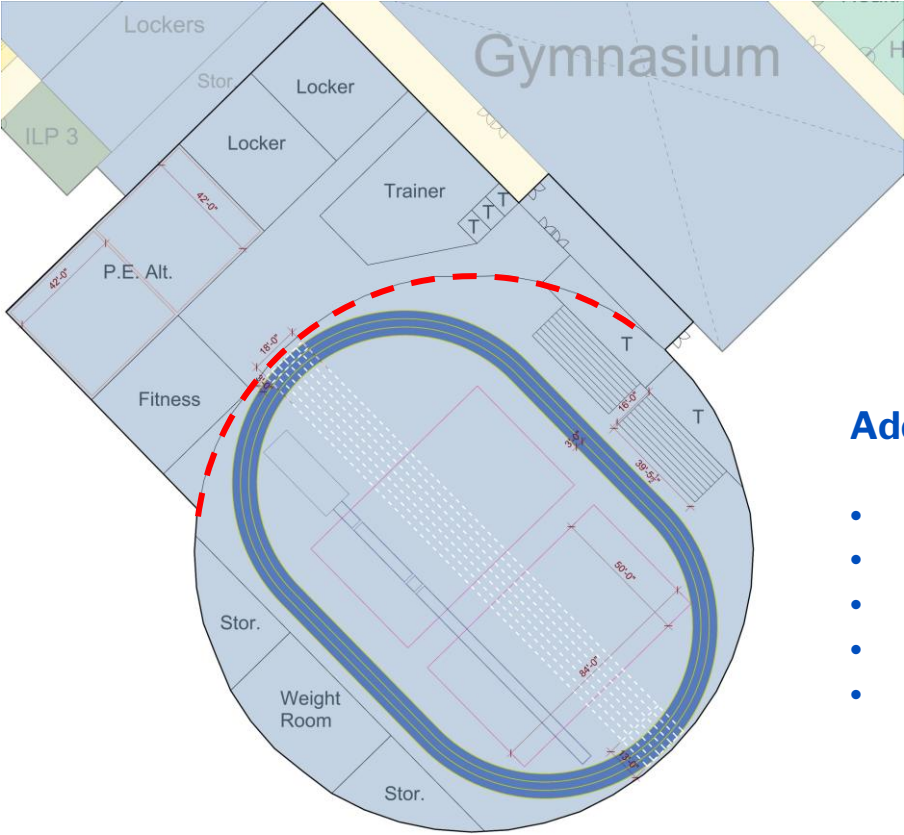
Renovation + Addition Scope:

- New slab on grade
- New exterior enclosure on existing Field House same as Option A.
- Addition to be steel framing with same exterior enclosure on 6" metal studs and sheathing.
- Expansion joint between Field House and Addition
- New MEP systems
- New lighting and PA systems
- (2) new scoreboards
- Retractable bleachers for 400 seats
- Interior finishes: Resilient athletic flooring, rubber flooring at PE Alt and Weight Room, wall paint and wall pads

Option B / Renovation + Addition

- Renovate existing 34,400 GFA Field House
- Add 13,600 GFA New Construction Addition on Grade with Flat Roof

	Option B
Project Cost	\$42,625,000
Footprint	48,000 GSF
Track Size	146m
Lane Count	3
Straightaway Length	55m
Multipurpose Courts	2-3
Bleacher Count	400
Weight Room	1,600 sf
PE Alternative	3,500 sf



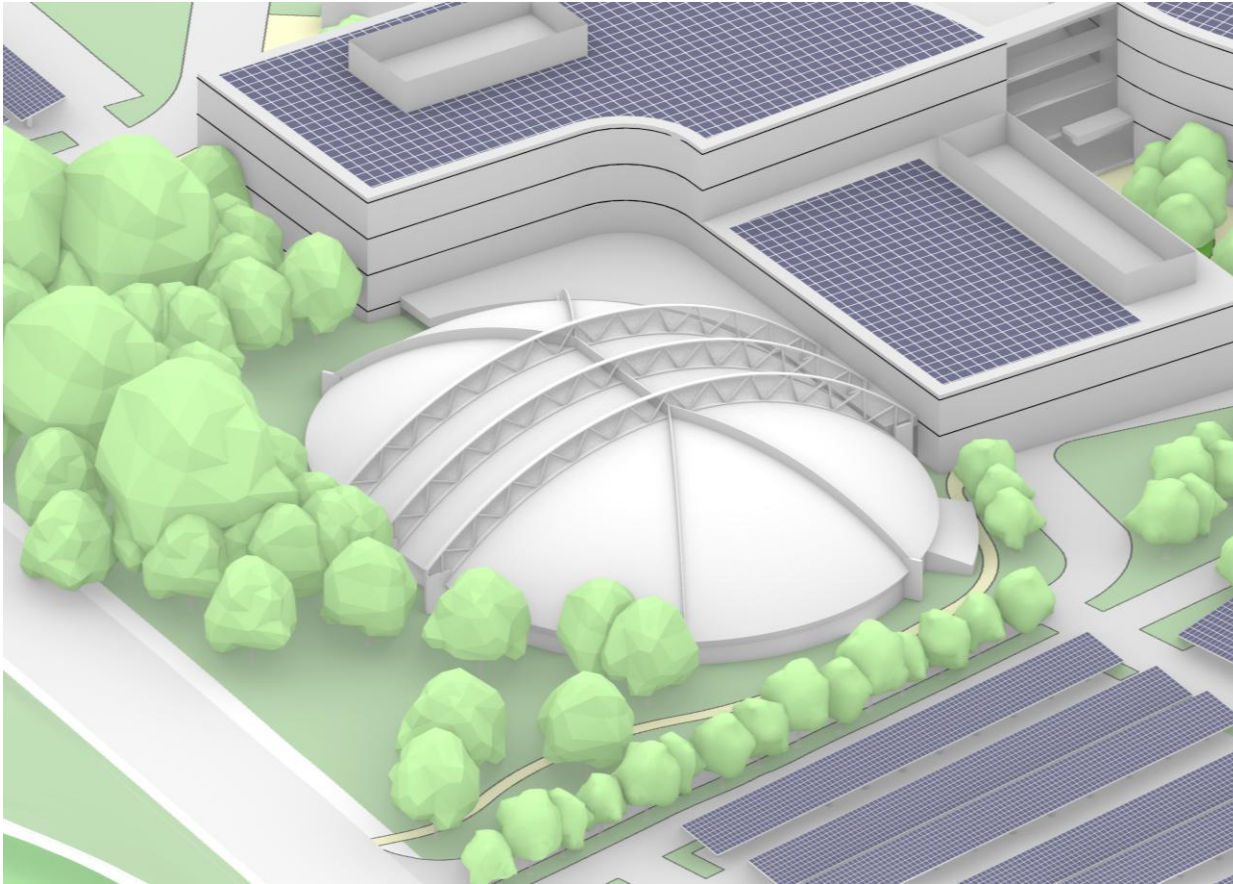
Additional Program:

- Fitness Room – 1,600 sf
- Locker Rooms - (2) 1,500 sf
- Trainer’s Room – 1,900 sf
- Toilets – 1,000 sf
- Storage – 1,700 sf

1. Minimum safe run-out length to be determined. Drawing shows only 13’ with 55m straight track*
2. 3 courts possible if overlapping track and portable long jump pit
3. Increased PE Alt. size from 3,300 sf existing
4. Increased Weight room size from 679 sf existing
5. Existing roof structure does not allow for goals, wrestling mats, batting cage, etc. to be hung from rafters

Field House Scope & Constructability

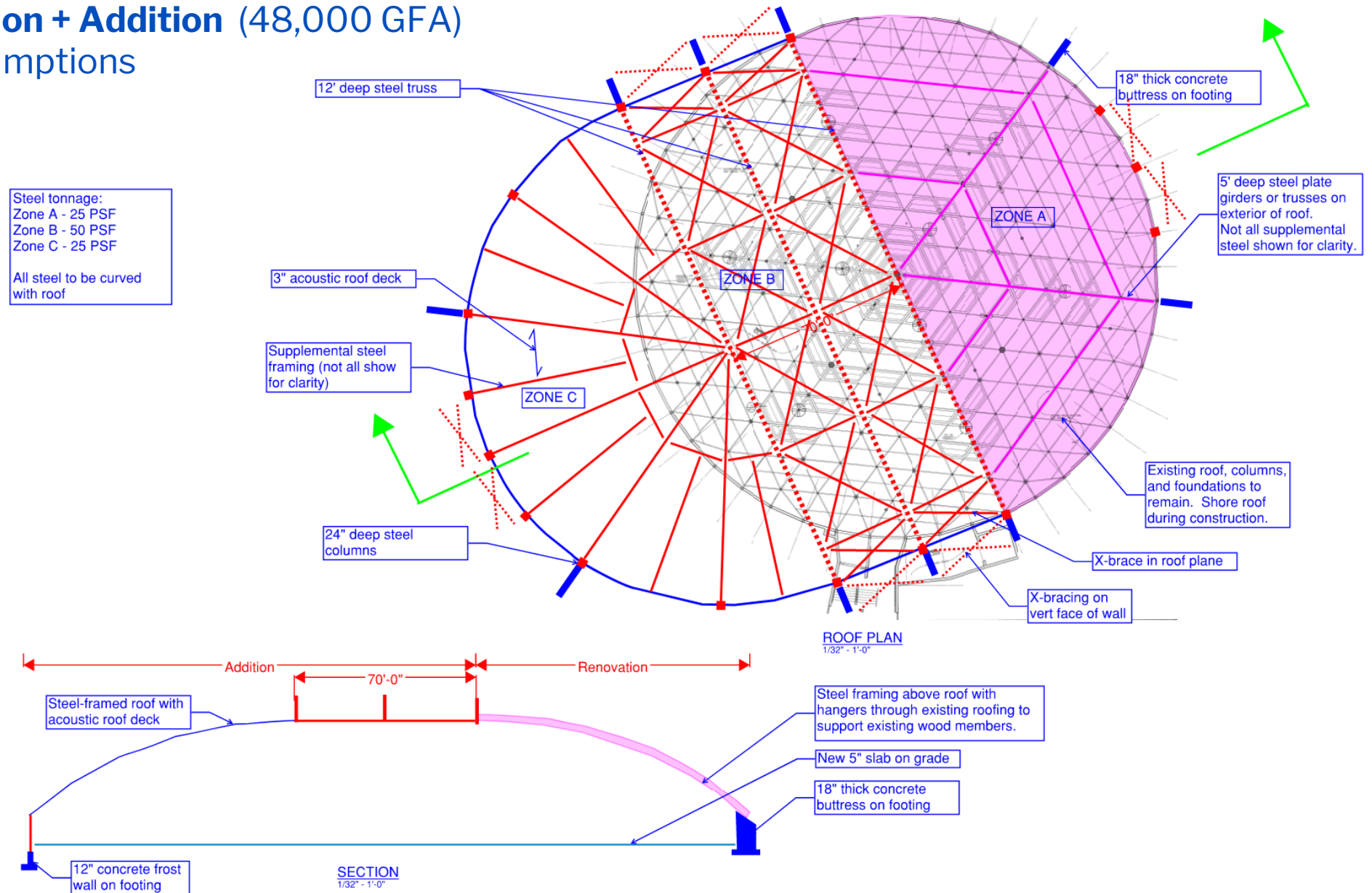
- **Option C: Renovation + Addition** (48,000 GFA)
 - Renovate half of existing 34,400 GFA Field House
 - Add 30,800 GFA New Construction Addition to Extend Domed Roof



- New slab on grade
- New exterior enclosure on existing Field House similar to Option A. Backup wall at expanded areas to be 8" CMU.
- New roof structure
- Existing dome structure requires temporary shoring
- Expansion joint between Field House and School
- See following slide for Structural assumptions

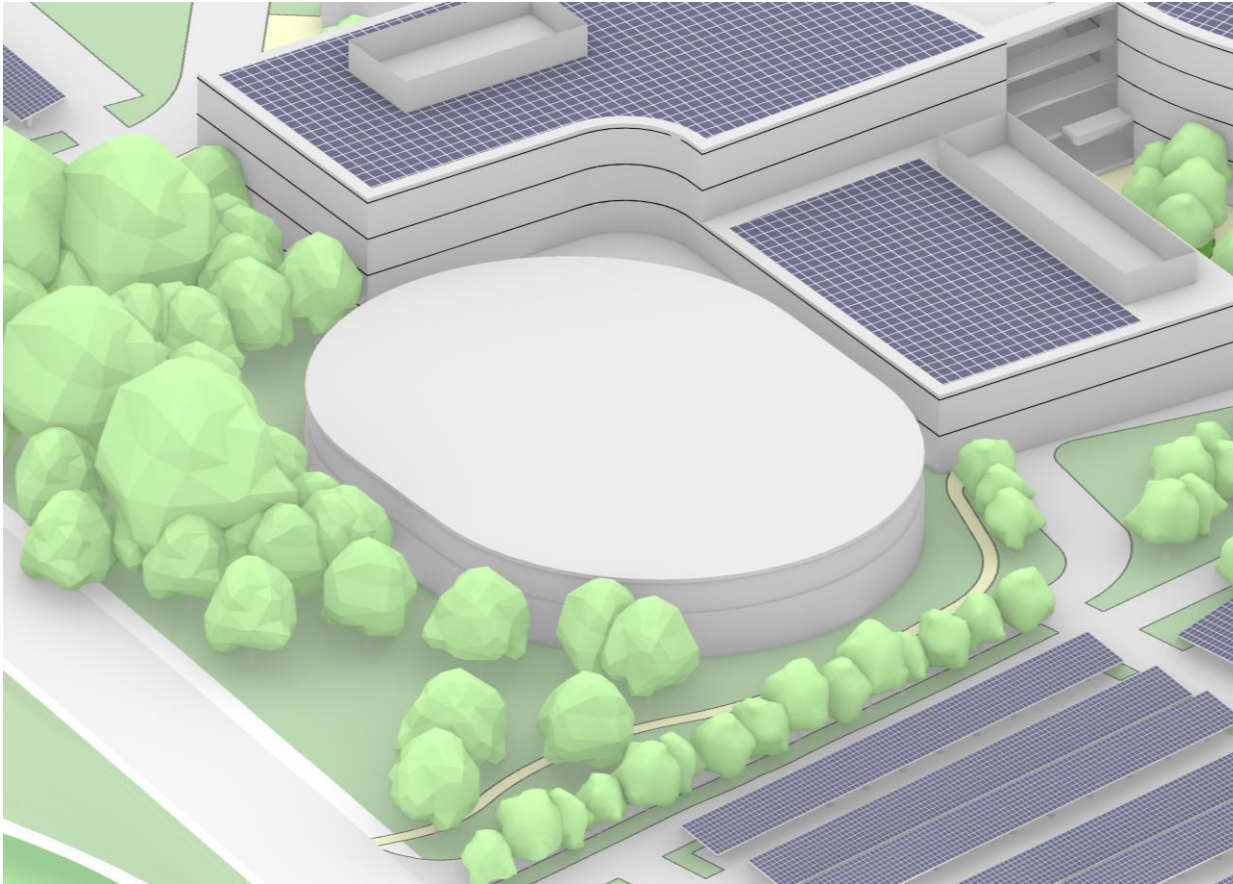
Field House Scope & Constructability

- **Option C: Renovation + Addition (48,000 GFA)**
 - Structural Assumptions



Field House Scope & Constructability

- **Option D: Renovation + Addition** (48,000 GFA)
 - Retain half of existing Field House foundations
 - Extend Building to enclose 48,000 GFA, similar to Option C, but with Flat Roof

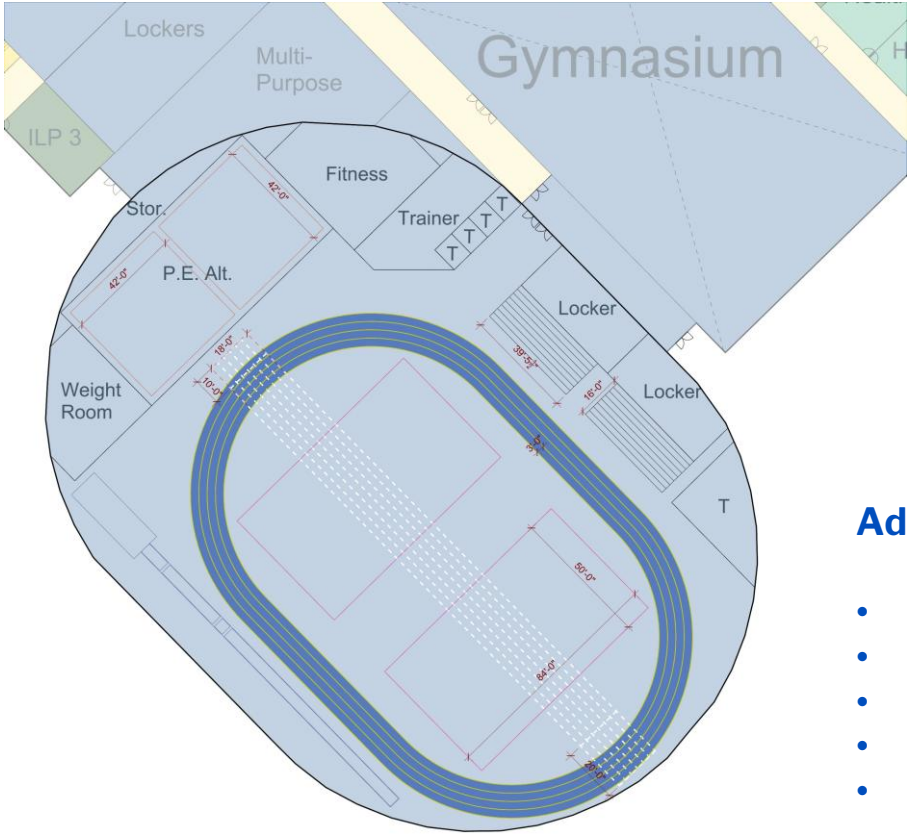


- New slab on grade
- New exterior enclosure same as Option A, with 8" CMU backup at new walls
- New roof structure with 10' deep steel trusses spaced at 12' o.c.
- Existing dome structure requires temporary shoring
- Expansion joint between Field House and School
- See following slide for Structural assumptions

Option C.1 & D.1 / Renovation + Addition

- Retain half of existing Field House foundations
- Extend Building to enclose 48,000 GFA, Option D similar to Option C, but with Flat Roof

	Option C.1/D.1
Project Cost Option C Option D	\$57,191,000/ \$54,338,000
Footprint	48,000 GSF
Track Size	146m
Lane Count	4
Straightaway Length	55m
Multipurpose Courts	2-3
Bleacher Count	400
Weight Room	1,200 sf
PE Alternative	3,500 sf



Additional Program:

- Fitness Room – 1,600 sf
- Locker Rooms - (2) 900 sf
- Trainer’s Room – 1,000 sf
- Toilets – 800 sf
- Storage – 700 sf

1. 3 courts possible if overlapping track
2. Increased PE Alt. size from 3,300 sf existing
3. Increased Weight room size from 679 sf existing
4. All new roof structure allows for goals, wrestling mats, batting cage, etc. to be hung from rafters

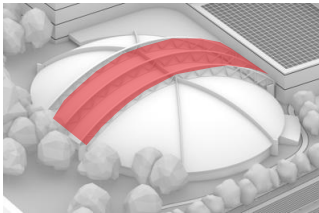
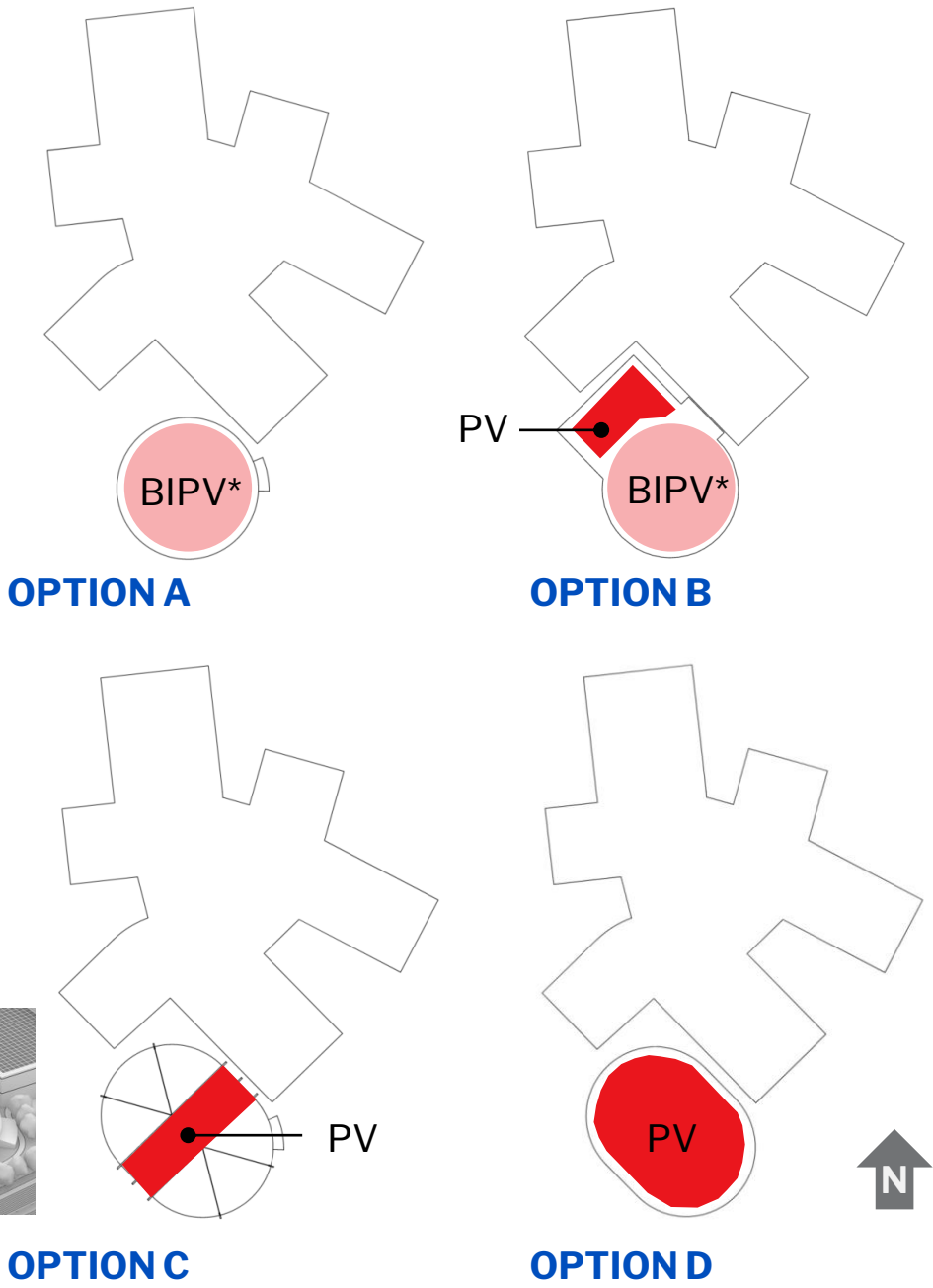
Field House Scope & Constructability

PV Capacity

Estimated Total Annual Solar PV Production			
	PV Capacity (kWh)	% of Field House Energy Use	% of NZE School
Option A BIPV*	345,305	98%	10%
Option B			
PV + BIPV*	571,182	162%	17%
PV only	225,878	64%	7%
Option C	309,544	88%	9%
Option D	734,261	209%	22%

Notes:

- The Estimated Total Annual Production values are PRELIMINARY and represent an optimal yield of the modeled system. Values are subject to change per design layout, stringing, shading, roof equipment screens, etc.
- A 10% margin of error must be accounted for.
- * Option A and Option B Existing curved roof consists of a BIPV roof membrane, which is **not recommended**:
 - Provides for approx. ½ of a conventional panel efficiency
 - Procurement is limited.
 - Require additional maintenance
 - Maintenance & replacement access across the dome is difficult
 - Shorter Life Cycle costs.



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Square Foot Per Student Discussion

Table 3: Gross Square Feet per Student - Academic High Schools

Projected Enrollment	GSF per Student	Projected Enrollment	GSF per Student
Less than 600	To Be Determined	Between 1300 and 1319	184
Between 600 and 619	228	Between 1320 and 1339	183
Between 620 and 639	227	Between 1340 and 1359	183
Between 640 and 659	224	Between 1360 and 1379	182
Between 660 and 679	220	Between 1380 and 1399	181
Between 680 and 699	218	Between 1400 and 1419	181
Between 700 and 719	216	Between 1420 and 1439	181
Between 720 and 739	214	Between 1440 and 1459	180
Between 740 and 759	213	Between 1460 and 1479	179
Between 760 and 779	211	Between 1480 and 1499	178
Between 780 and 799	209	Between 1500 and 1519	178
Between 800 and 819	207	Between 1520 and 1539	179
Between 820 and 839	206	Between 1540 and 1559	178
Between 840 and 859	205	Between 1560 and 1579	177
Between 860 and 879	203	Between 1580 and 1599	176
Between 880 and 899	202	Between 1600 and 1619	176
Between 900 and 919	201	Between 1620 and 1639	175
Between 920 and 939	201	Between 1640 and 1659	175
Between 940 and 959	200	Between 1660 and 1679	175
Between 960 and 979	198	Between 1680 and 1699	174
Between 980 and 999	197	Between 1700 and 1719	173
Between 1000 and 1019	197	Between 1720 and 1739	173
Between 1020 and 1039	197	Between 1740 and 1759	172
Between 1040 and 1059	196	Between 1760 and 1779	172

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Between 1060 and 1079	196	Between 1780 and 1799	172
Between 1080 and 1099	194	Between 1800 and 1819	173
Between 1100 and 1119	193	Between 1820 and 1839	173
Between 1120 and 1139	192	Between 1840 and 1859	172
Between 1140 and 1159	191	Between 1860 and 1879	172
Between 1160 and 1179	190	Between 1880 and 1899	171
Between 1180 and 1199	189	Between 1900 and 1919	171
Between 1200 and 1219	188	Between 1920 and 1939	170
Between 1220 and 1239	188	Between 1940 and 1959	170
Between 1240 and 1259	187	Between 1960 and 1979	170
Between 1260 and 1279	186	Between 1980 and 1999	169
Between 1280 and 1299	185	Greater than 2000	To Be Determined

Square Foot Per Student Discussion

To arrive at the correct SF per student you must remove exceptions from overall SF.

These include:

- Field house
- Central Office
- LABBB
- CTE Shops
- Pools
- Gym space over MSBA requirements
- Other non-ed program
- Auditorium over 750 seats



LHS Existing SF/Student: **132**

Square Foot Per Student Discussion

	Town	Year	Enrollment	GSF	SF/ Student	MSBA Reg	Exceptions
New	Lexington	2025	2,395	509,516	213	TBD	34,000 SF Field House 20,000 GSF Central Office 20,000 GSF for 100 LABBB Students 15,750 GSF Auditorium 1,000 Seats (Assume 11,250 for equivalent)
			2,295	417,016	182		Exceptions Removed
New	Waltham	2021	1,830	414,850	227	172	94,000 SF of CTE shops for 135 students FTE 15,750 GSF Auditorium 1,000 Seats (Assume 11,250 for equivalent)
			1,695	316,350	187		Exceptions Removed
Add/Reno	Somerville	2020	1,590	369,496	232	176	13,200 GSF Alternative MS & HS for 75 Students; 77,000 SK of CTE shops for 128 students FTE Existing 28,000 GSF Field House (carry 18K for gym equivalent) 4,800 GSF in City Cable, District IT Office, CHA Health Suite
			1,387	264,496	191		Exceptions Removed
Add/Reno	Winchester	2014	1,370	288,840	211	182	30,000 GSF Existing Field House (carry 18K for Gym equivalent) 2,850 GSF Town CATV space
			1,370	273,990	200		Exceptions Removed
Add/Reno	Belmont	2020	2,215	445,100	201	TBD	40,000 Existing Field House & Small Gym (Assume 18K for equivalent) 13,600 GSF Existing Pool 4,600 GSF in District Offices
			2,215	404,900	183		Exceptions Removed
New	Arlington	2020	1,755	408,590	233	172	10,215 GSF for LABBB program for 21 Students 34,500 GSF of Gym space (carry 18K for Gym equivalent) 13,500 GSF Auditorium (Assume 11,250 for equivalent) 55,300 GSF in Preschool and District offices
			1,734	313,075	181		Exceptions Removed

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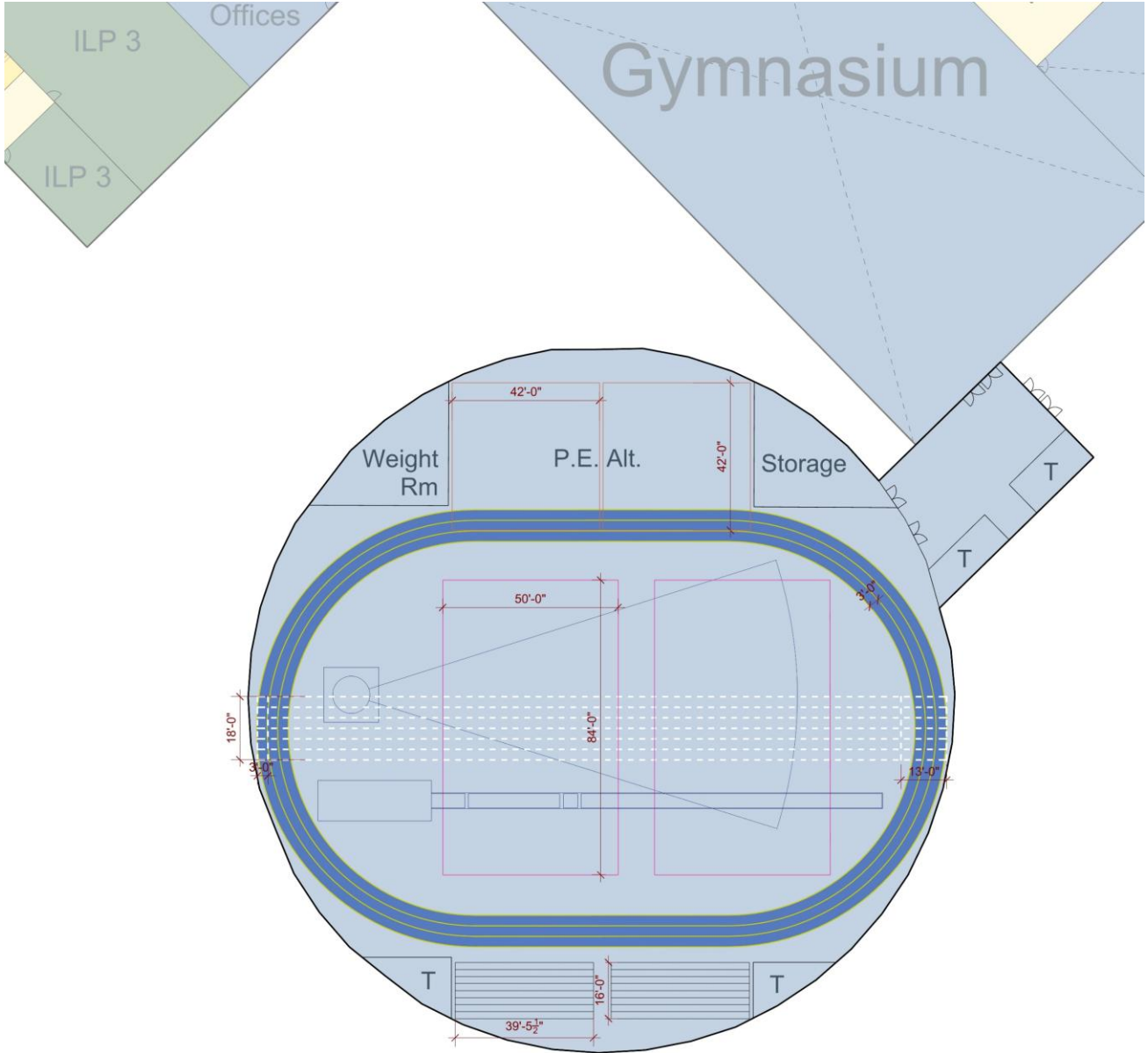
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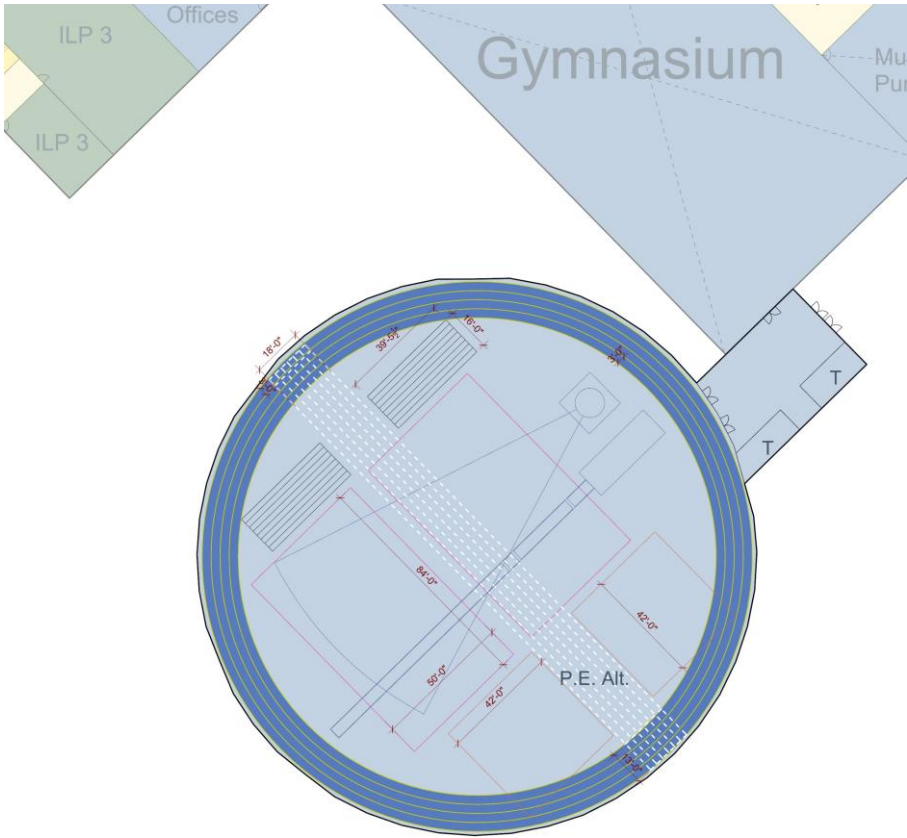
Thank you

Option A.1 / Renovation Only



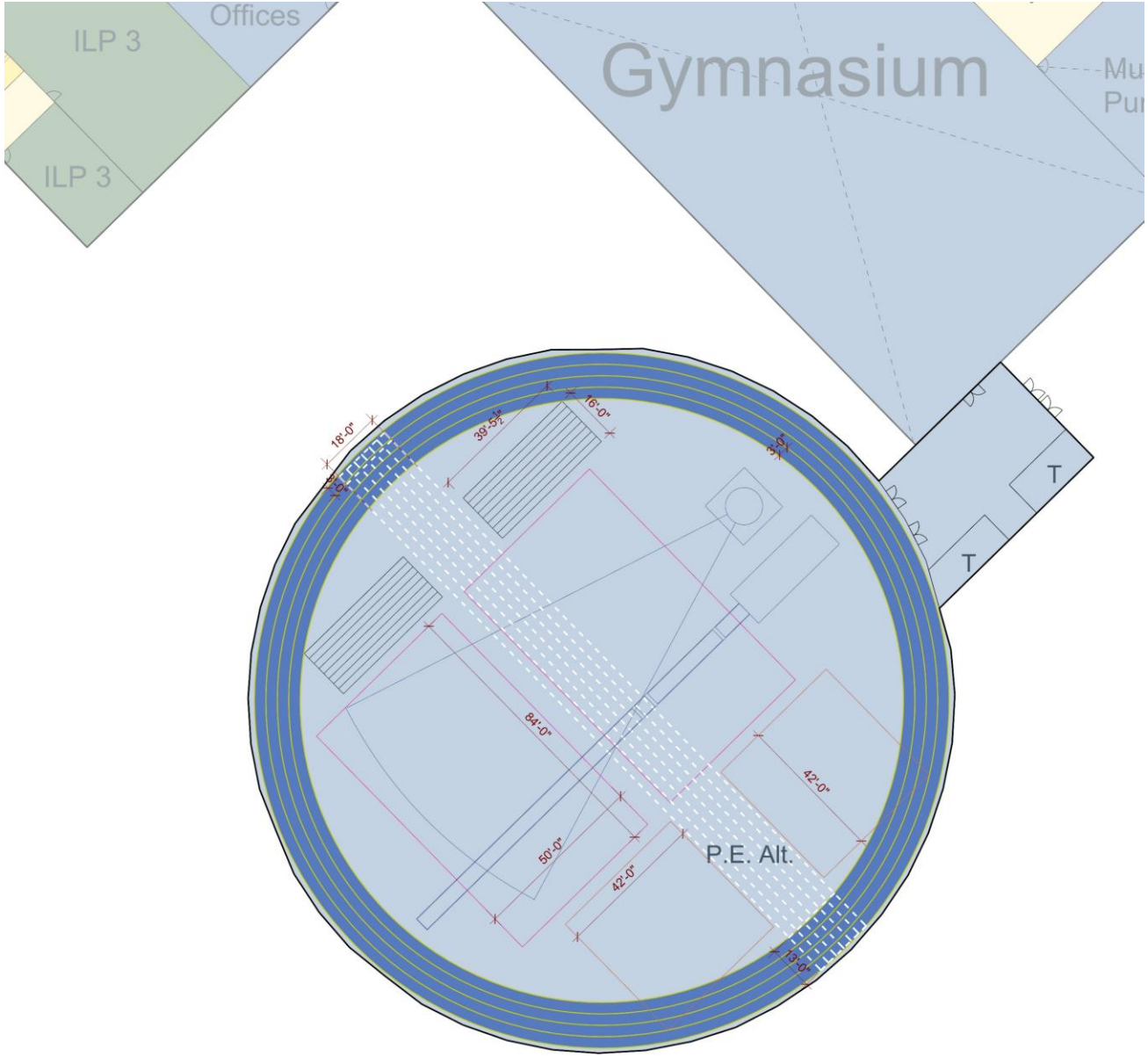
Option A.2 / Renovation Only

	Option A.2
Construction Cost	\$21,300,000
Footprint	34,400 GSF
Track Size	165m
Lane Count	4
Straightaway Length	55m*
Multipurpose Courts	2-3
Bleacher Count	400
Weight Room	None
PE Alternative	Area within track

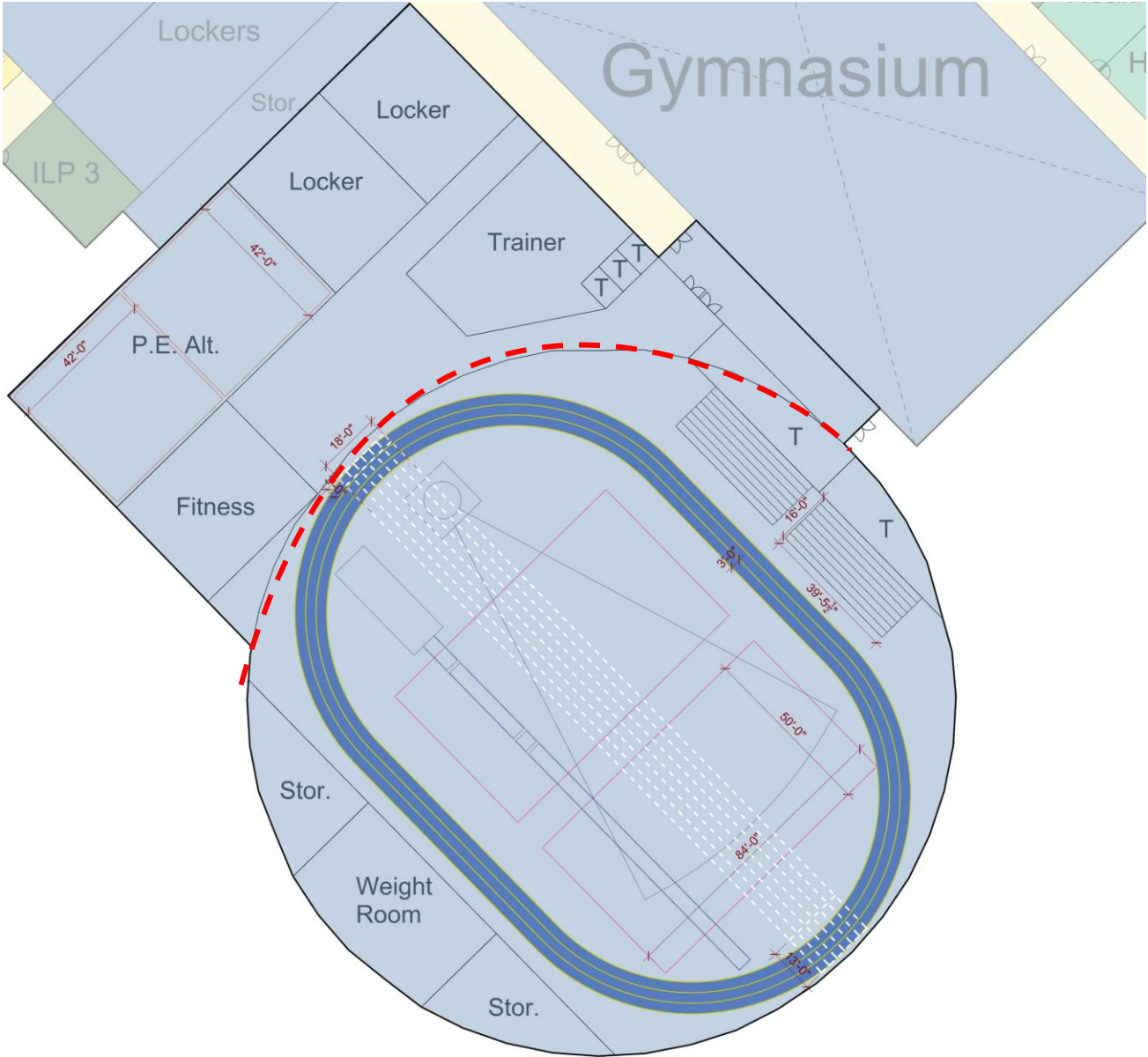


- 1. Minimum safe run-out length to be determined. Drawing shows only 13' with 55m straight track*
- 2. 3 courts possible if overlapping track and portable long jump pit
- 3. PE Alt. located within track footprint shows overlay of (2) regulation 42'x42' wrestling mats
- 4. Existing roof structure does not allow for goals, wrestling mats, batting cage, etc. to be hung from rafters

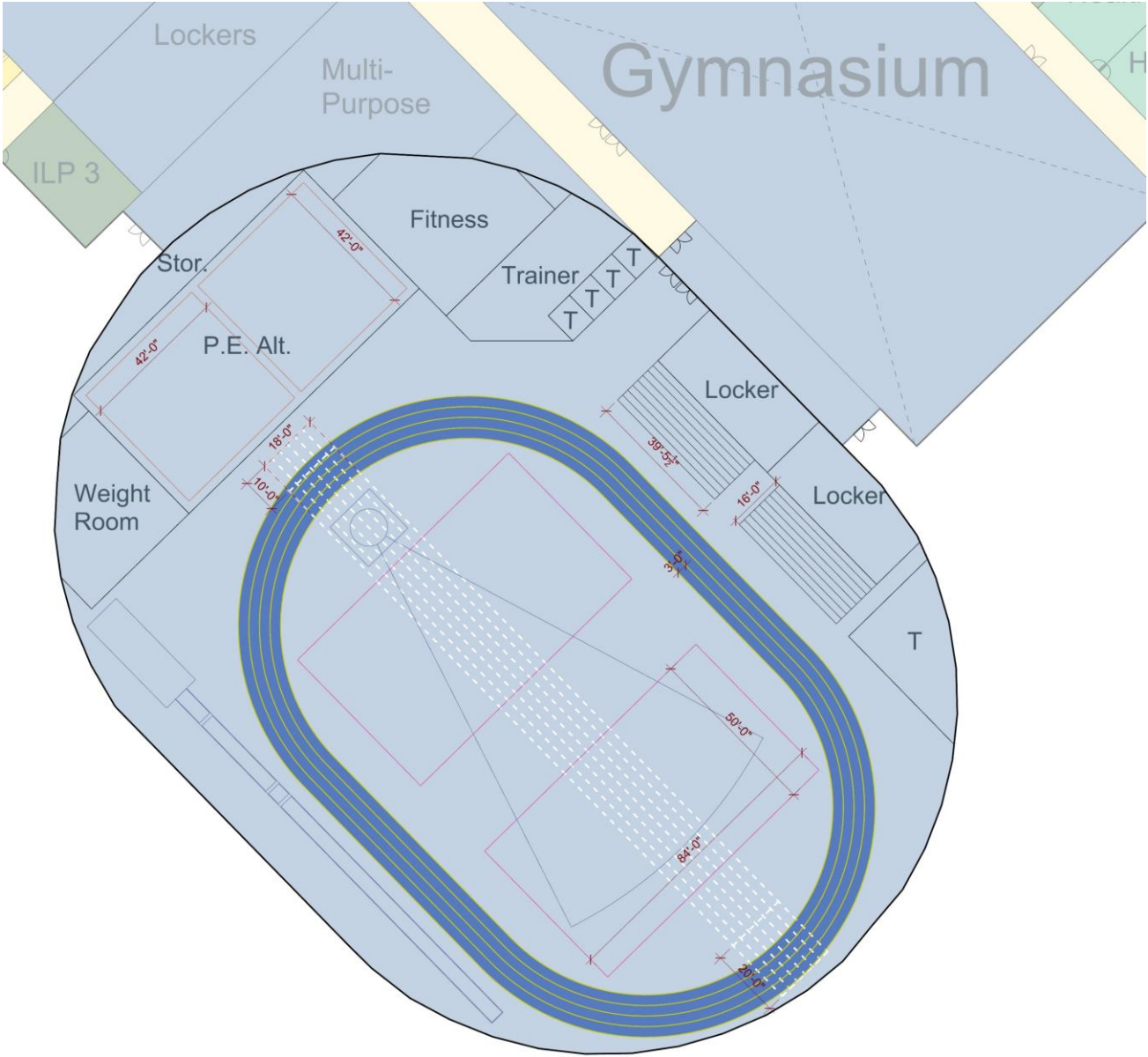
Option A.2 / Renovation Only



Option B / Renovation + Addition



Option C.1 & D.1 / Renovation + Addition



Option C.2 & D.2 / Renovation + Addition

