

3.3.3 FINAL EVALUATION OF ALTERNATIVES

C. Preliminary Design Options

6. Option B.1 New
Construction on Foley Site
 - a. Narrative
 - b. Site Plan
 - c. Floor Plans
 - d. Massing

SUMMARY: This New Construction Option is based on a new building located on the 50 Abbott Street site with significant frontage on Chandler Street. This 14-acre flat, developed, site is owned by the Worcester Public School district and currently houses district's General Foley Stadium, Commerce Bank Field, several practice fields and storage, all of which are utilized by the entire school district.

The existing facilities consists of:

- Stadium seating for 2500 spectators (typical capacity 1500 spectators)
- Locker rooms for coaches & staff
- Locker rooms for visiting and home teams
- Office & medical area
- Maintenance and storage facilities (6000sf)
- Synthetic track, artificial turf football/soccer/field hockey field and amenities (shot put, jump etc.), w/ outdoor lighting
- Full baseball field, w/ dugouts, bleachers (flat field overlay at outfield)
- Two flat fields, lacrosse, field/hockey/soccer
- Practice fields, athletic events area
- Parking for 60 staff, bus parking, outdoor storage/maintenance facilities
 - 150 parking spaces across the street and 27 spaces on Mayfield street are jointly used with Beaver Brook Park

Track and field upgrades and building painting upgrades were completed by the district in 2018, totaling an investment of approximately \$685,000.

The Foley Stadium facilities are used district-wide by all of the high schools as well as other schools in the city. Thirty-eight teams with over 1,000 participants practice and compete at the fields annually. During the outdoor athletic season, the facility and fields are heavily scheduled after school and evenings as well as weekends. Foley Stadium has the only competitive track in the entire district at this time. Due to the facility's significant use, any new construction option would need to take into consideration replacement of the existing amenities.

Maintained and operated by the Worcester Parks Department, the adjacent Beaver Brook fields are used by WPS and by various community leagues use, and are also extensively scheduled in the afternoons, nights and weekends.

The existing Beaver Brook Park consists of:

- Street Hockey Rink with bleachers

6. Option B.1 New Construction on Foley Stadium Site

a. Narrative

- Youth football field with bleachers
- Regulation softball field with dugouts and bleachers
- Little league baseball field with dugouts and bleachers
- Little league baseball field with dugouts and bleachers
- Softball with flat field overlay (grass infield) with dugouts and bleachers
- Lighting at all the fields
- 150 parking spaces, jointly used by Foley Stadium
- 27 parking spaces on Mayfield Street, jointly used by Foley Stadium
- Basketball courts,
- Playground
- Dog park
- Parking
- A network of trails, accessways and landscaping
- All fields were updated in 2005 (\$5.6 Million Construction Cost)
- All the fields and items have been designed to be as close to each other as practical, there is little to no availability to expand

Relocation of all the Foley facilities to Beaver Brook is not a viable option for many reasons. First the area is in a flood zone, which is suitable for general fields, but not recommended for expensive synthetic fields, a urethane track, or extensively used fields that require extensive underdrains allowing for tightly scheduled usage. Second, the received soils test borings indicate extensive peat, silt and unsuitable subgrade material, that is suitable for general fields, but is also not suitable for expensive synthetic fields or tracks due to potential uneven settlement. Third, the Beaver Brook fields suitable for High School use are presently jointly used with the school district. The smaller fields are dedicated to the Little Leagues, and not suitable for high school use, but desirable for community group use. The Parks Department considers the fields as an important community resource, and are open to any joint expansion schemes, or joint scheduling options, that would work with the community park purpose.

BUILDING ORGANIZATION:

Option B.1 is organized with a central circulation spine with academic pods to the North toward Chandler Street, and core academic areas to the South toward the residential areas. The building is organized into a total of 5 levels. As the Foley Stadium site is a flat, previously developed site, grade access is provided at the Main Entrance, the Gymnasium, and the receiving area. The academic pods are flexible to allow Academic departments to be organized on two floors vertically (with opportunities for vertical common rooms) or in two adjacent pods on the same floor. Given this organization, access control between community and academic would be developed at the pod entrances. The pod

configuration provides great opportunities for daylight to each classroom. The prominent two-story entrance lobby intersects the strong circulation spine, providing clarity of circulation and organization. The massing along Chandler Street would feature the main entrance as well as the active core and community use spaces.

OPTION ANALYSIS:

Proposed SF areas for this option are approximately as follows:

- **New Construction** = 420,000 GSF
- **Demolition (existing toilets/lockers, grandstand and storage)** = 187,136 GSF

ABILITY TO MEET BUILDING PROGRAM:

This New Construction Option satisfies most if not all Educational Program/Space Summary objectives. Compared to the other options, Option B.1 provides similar opportunities for daylighting as Option A.1 Pods on Park. The building layout features clear and understandable pod organization off of a two-story lobby/entrance. As this option is located on a flat, developed site, the Gymnasium, Cafeteria, Auditorium and Black Box are all located on the same level as the main entrance.

ACQUISITION ISSUES:

The Site is owned by Worcester Public schools, however the site plan for this option includes the acquisition of rear land from three parcels. Acquisition of this added land would be required in order to meet the desired parking requirements, and would allow for a connection to the site via Norman Avenue.

COMPARATIVE STAFF AND STUDENT IMPACT:

Because a new building can be constructed on a site entirely separate from the existing building (which can remain fully occupied), the New Construction on Alternate Site options will have the least impact to Doherty students than on any option on the existing site, and all without the need for “swing space”. The biggest impacts include the following:

- Loss of existing building and site features unique to the alternate site (in this case, the Foley Stadium and associated practice fields). As a District wide facility, it would be important to have a replacement for the facility prior to construction of the new school facility.

ABILITY TO MEET SITE ATHLETICS PROGRAM:

While the program ideally would have all the desired fields on the same site, limited field development is anticipated for this option. The site plan for this option shows that the athletic fields proposed on this site plan would be limited to a single practice soccer/field hockey field. While this field could be

designed with synthetic turf and lighting for extended use, the district would lose the facilities that are currently located at the Foley stadium site. According to the district, these amenities (including a turf football field with track, bleachers and support building, a field hockey field, a soccer field, two rectangular practice fields, a baseball field, parking and storage) would need to be re-constructed (a significant cost to the City) at an alternative site prior to construction of DMHS in order to avoid major disruption of the district’s athletics programs.

CENTRAL TO DISTRICT/QUADRANT:

The Foley Stadium site is relatively central to the district, especially with access to major feeder routes.

SITE DEVELOPMENT COSTS:

The Soils logs provided as reported under the Geotechnical review noted that the parcel is filled with a mix of urban fill, and coal ash. A system of piles foundations at a premium cost would be anticipated to support any structure on the site.

TRAFFIC IMPACTS & ACCESS:

This option would include several curb cuts along Chandler Street, as well as a potential access to Abbott Street or Coombs Road. Initial studies of traffic data indicate that constructing the new Doherty Memorial High School on this site would result in “significant additional vehicular congestion at Chandler Street.” Refer to Section 3.3.3.D.1 for an updated traffic analysis. Should this option be selected, further studies would be required to determine mitigating measures required to address. The team has discussed with the district and budgets were suggested for potential measures that are to be considered with their overall reviews of the options.

BUS & PARENT VEHICULAR CIRCULATION & PARKING:

Bus and parent circulation are separated in this option. The desired number of parking spaces may be accomplished with the acquisition of additional land from Abbot Street abutters. Refer to the Civil Basis of Design Narrative

CONSTRUCTION SCHEDULE IMPACT:

One advantage of New Construction on an Alternative site is that it doesn’t have the limitations, in terms of work area, as any option on the existing school site. The entire site is free for development. More workers can be productive because there is a greater area to work in. Consequently, the duration of the project can be less than a project which has numerous phases, relocations, and temporary

support facilities. There will be more efficiency realized when compared against building on an active school site.

ADJACENT USES & NEIGHBORHOOD IMPACT:

Foley Stadium is a long-standing public facility, the parcel backs up to the surrounding residential neighborhood. The building would be positioned fronting Chandler Street, and parking and fields would be adjacent to the residences. Buffers could be established to minimize the impact to the neighbors. The hours of operation for a high school also differ from those of a stadium, the impact of which would need to be evaluated further if selected as the preferred solution.

UTILITIES & DEVELOPMENT ISSUES:

Beaver Brook runs in a conduit through the site, and is assumed to be original to the site development in the 1920's. This 84" conduit would have to be relocated around the building, and also be supported on ground improvements or piles. Additionally, a significant stormwater management system would be required to address the increased impervious site cover. Refer to the Civil Basis of Design narrative in Section 3.3.3.D.1.

ADDITIONAL CITY COSTS (NOT ELIGIBLE FOR MSBA REIMBURSEMENT):

If the Foley Stadium site was chosen as the location for the new Doherty Memorial High School, the City and school district would need to invest in a capital project that would replace Foley Stadium and the associated buildings and fields, prior to the start of construction. Initial cost estimates indicate that the cost to purchase land and build a replacement stadium would be approximately \$35-40 Million.

The site plan indicates acquisition of rear land from three parcels along Abbott Street. If this option was selected the City would utilize the Eminent Domain process to acquire the added land indicated on the site plan. The cost of the added land is estimated at \$682,500.

At project completion, existing Doherty school facility would be vacant, and the City would need to fund the required next steps to either renovate or demolish the existing Doherty High School Building. The approximate budget for demolition of the existing building is \$5 million.

Optional costs may include improvements for traffic management and pedestrian crosswalks. In order to replicate the number of practice and game fields eliminated, the City may also consider Beaver Brook drainage improvements, and the development of additional flat fields behind Chandler Manet School.

The total added City costs for this Option would range between \$50–60 Million. Refer to Section 3.3.3.D.3 Offsite Improvements for more information.

NEW CONSTRUCTION SCOPE OF WORK:

Site:

Provide full site accessibility to comply with 521 CMR including:

- Provide an accessible route, via new sidewalks ramps, and curb cuts, from Highland Street
- Refer to Civil and Traffic Basis of Design narratives in Section 3.3.3.D.1.

Building Exterior/Interior:

- Refer to the Architectural Basis of Design Narrative in Section 3.3.3.D.1.

Sustainability / Net Zero Energy Goal:

- Provide infrastructure required for sustainable building project, and net zero energy goals
- The City / School Facilities departments have developed a list of preferred systems and equipment choices that are maintainable, durable and efficient, and updates their list with newer equipment as systems come on the market.
- A design charrette will be scheduled early in the design process to solicit input and priorities in an effort to determine the best strategies for this project. The Sustainable Design consultant and MEP consultants will attend and present new energy saving strategies for consideration.
- One approach used in the past that would be continued on this project are to maximize the R value of the building envelope, including components such as windows and doors.
- Refer to the MEP narratives for additional information.

Fixtures, Furnishings & Equipment (FF&E)/Technology:

- Provide new FF&E throughout including furnishings, equipment, maintenance items, etc.
- Provide new Technology throughout including student/teacher computers, mobile device charging carts, interactive projectors, servers, etc.

Hazardous Materials:

- Abate entire existing building prior to demolition
- Provide radon mitigation system at Lower Level slab-on-grade areas

Structural:

- Refer to the Structural Basis of Design narrative in Section 3.3.3.D.1.

Fire Protection:

- Refer to the Fire Protection Basis of Design narrative in Section 3.3.3.D.1.

Plumbing:

- Refer to the HVAC/Plumbing Basis of Design narrative in Section 3.3.3.D.1.

HVAC:

- Refer to the HVAC/Plumbing Basis of Design narrative in Section 3.3.3.D.1.

Electrical:

- Refer to the Electrical Basis of Design narrative in Section 3.3.3.D.1.

Food Services:

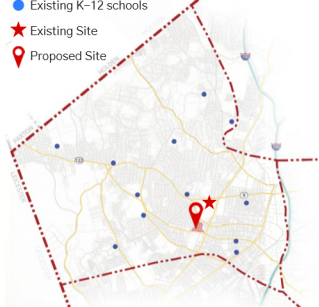
- Refer to the Food Service Basis of Design narrative in Section 3.3.3.D.1.



3.3.3 Final Evaluation of Alternatives
 C. Preliminary Design Options
 6. Option B.1 New Construction on Foley Stadium Site
 b. Existing Site Plan

- NOTES:**
- Flat, developed site
 - Unsuitable soil conditions
 - Beaver Brook culvert
 - Beaver Brook Park, not regulation size fields
 - Recently refurbished Foley Stadium is heavily used by the district and community

QUADRANT KEY PLAN:



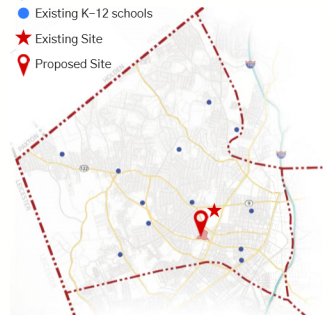
LEGEND:

- | | |
|-----------------------|--------------------|
| Parcel Property Line | New Roadway |
| Potential acquisition | Bus Circulation |
| New Construction | Parent Circulation |
| New Athletic Field | Connection |
| Existing Building | Utility |
| Flood Plain | North |
| Wetland | 0' 50' 100' 200' |
| Retaining Wall | LPA A |
| Steep Topography | |
| Entrance | |



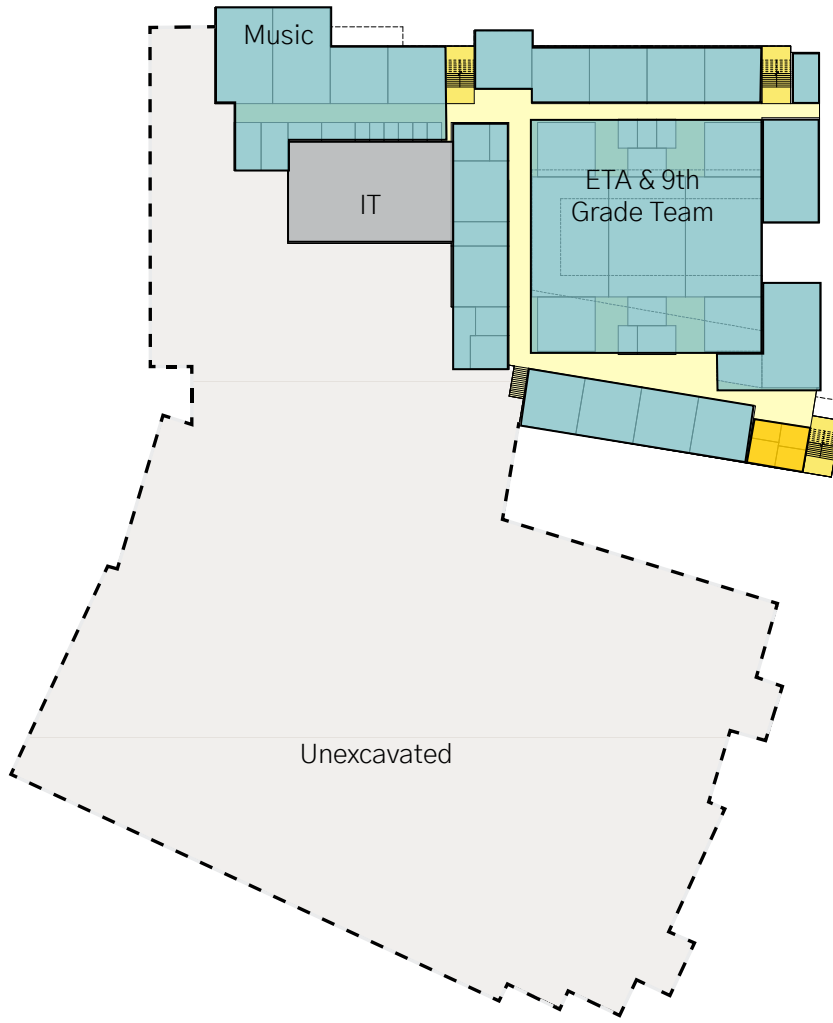
- NOTES:**
- Building will require pile foundations
 - Optional Land Acquisition to add 50 parking spaces and access via Norman Ave.
 - Loss of Foley Stadium would impact district athletics
 - Traffic and neighborhood impacts
 - Relocation of Beaver Brook Culvert

QUADRANT KEY PLAN:



LEGEND:







Parcel Property Line	New Roadway
Potential acquisition	Bus Circulation
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New Athletic Field	Connection
Existing Building	Utility
Flood Plain	North
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Retaining Wall	LPA A
Steep Topography	
Entrance	



FIRST FLOOR

1"=100'

LEGEND

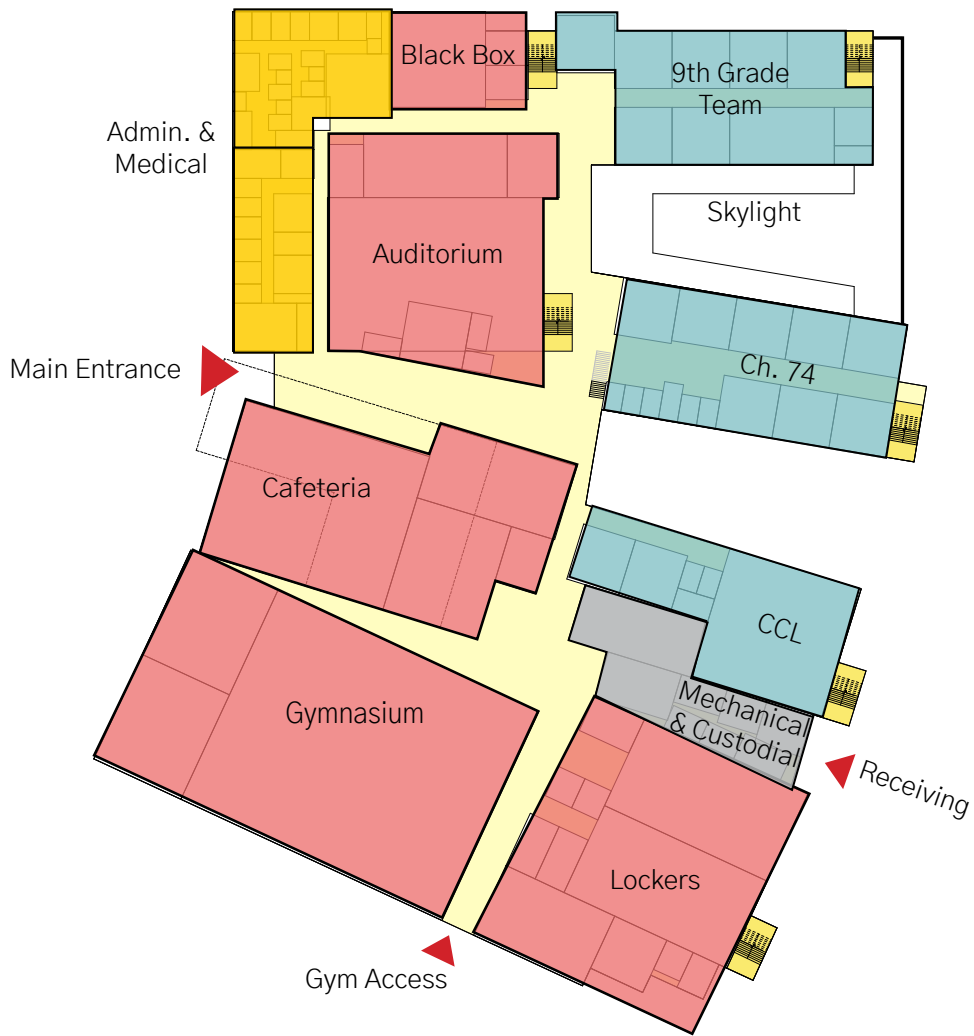
	CORE FACILITY	
	ACADEMIC	
	ADMINISTRATION	
	BUILDING SERVICE	
	CIRCULATION	



Doherty Memorial High School

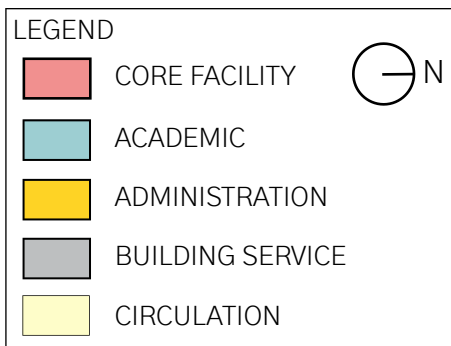
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SECOND FLOOR

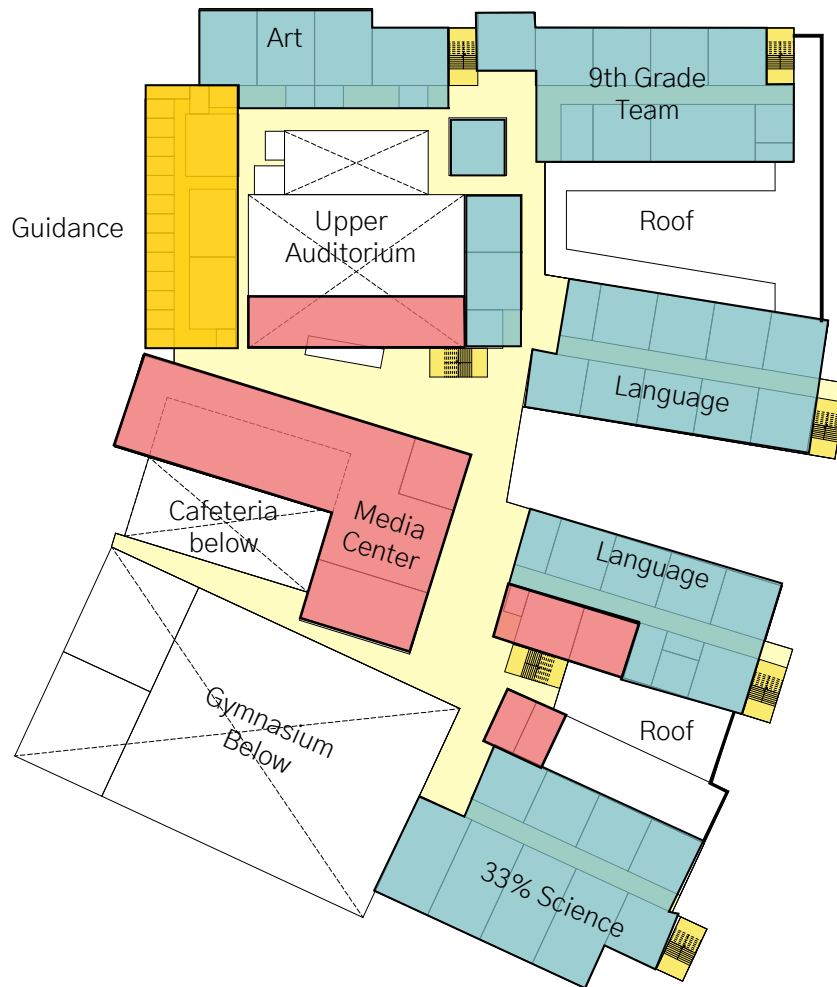
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Doherty Memorial High School

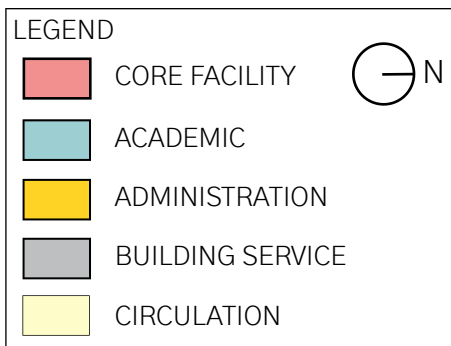
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THIRD FLOOR

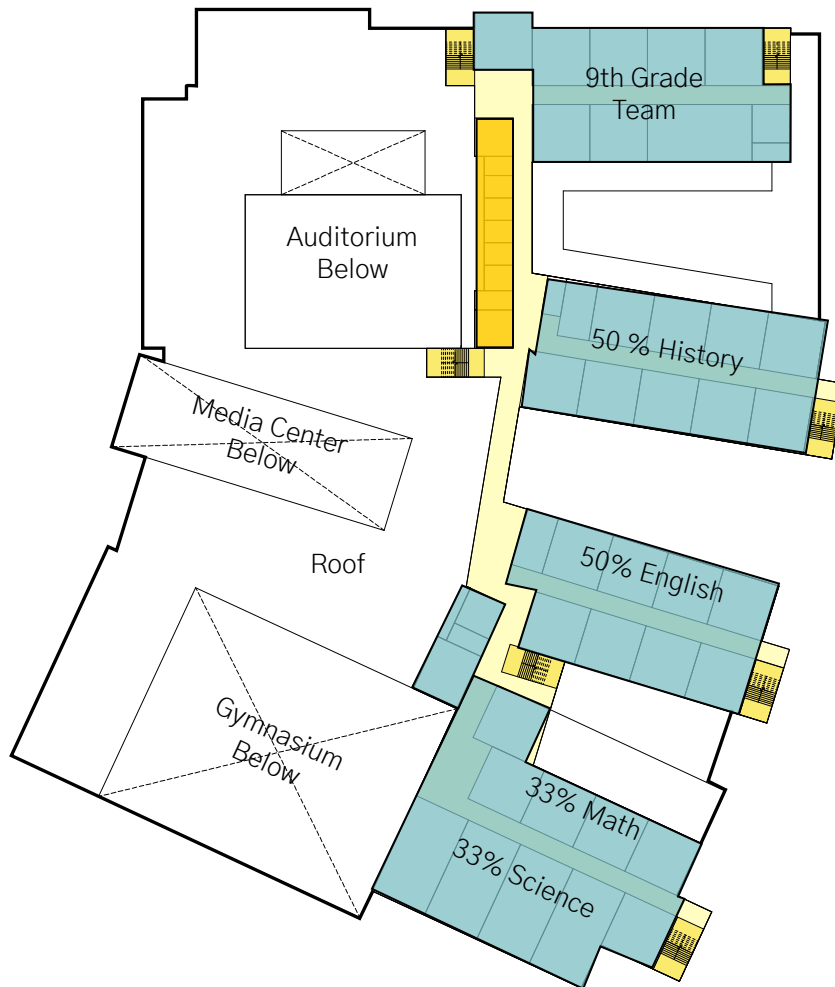
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Doherty Memorial High School

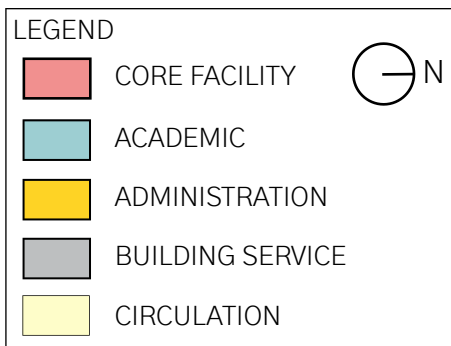
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FOURTH FLOOR

1"=100'



Doherty Memorial High School

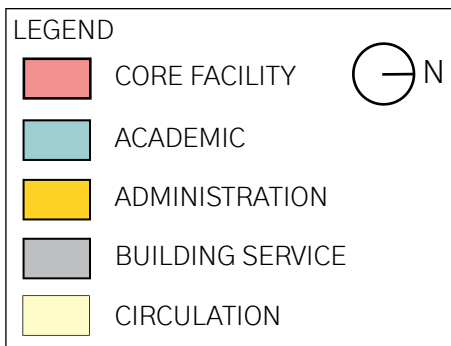
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FIFTH FLOOR

1"=100'



Doherty Memorial High School

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FEASIBILITY STUDY

3.3.3 Final Evaluation of Alternatives
C. Preliminary Design Options
6. Option B.1 New Construction on Foley Stadium Site
d. Massing View



Doherty Memorial High School
299 Highland Street, Worcester MA

