

BDP. Quadrangle

31 January 2025

Mr. Jaspreet Sidhu
City of Mississauga
300 City Centre Drive, Sixth floor
Mississauga, ON L5B 3C1

Re: 1470 Williamsport Drive, Mississauga, Ontario

Dear Mr. Sidhu:

Please find enclosed the sun/shadow study for the proposed redevelopment located at 1470 Williamsport Drive, which is included as part of the Official Plan Amendment and Zoning Bylaw Amendment applications for this site.

The subject site is bounded by Williamsport Drive to the north and private properties to the east, west and south. The proposed redevelopment will add 283 new rental units in a new 12-storey building that will replace the existing six-storeys building with 53 units, which is to be demolished. The proposed gross floor area (GFA) of the new building is 19,241 sm.

The sun/shadow study for this development illustrates shadow conditions in the Eastern Time Zone of the following at hourly intervals:

- between 7:07 am and 7:33 pm on 21 June;
- between 8:35 am and 5:48 pm on 21 September;
- between 9:19 am and 3:15 pm on 21 December.

The following elements have been identified in the study:

Communal Outdoor Amenity Areas:

- Outdoor amenity at Level 7;
- Outdoor amenity at Level 2;
- Outdoor amenity at grade;
- Outdoor amenity at 3480 Havenwood Drive and 1485 Williamsport Drive;
- Rooftop outdoor amenity at 3480 Havenwood Drive and 1485 Williamsport Drive;
- Outdoor Amenity at 1395 Williamsport Drive.

Public Realm:

- Opposite boulevard of Williamsport Drive.



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1470 Williamsport Drive
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All the above elements have been modelled and included in the sun/shadow study in conformance with the City of Mississauga standards for a sun/shadow study.

We trust that the enclosed study and its findings will satisfy the City's requirements for this application. Should you have any questions or require anything further, please do not hesitate to contact us.

Yours sincerely,

Quadrangle Architects Limited

Per: 
Leslie M. Klein

230571-001



1470 Williamsport Drive

Shadow Study
10 February 2025

1470 Williamsport Holdings Inc.

t 416 598 1240
www.bdpquadrangle.com

BDPQuadrangle Architects Limited
The Well, 8 Spadina Avenue, Suite 2100
Toronto, ON M5V 0S8

1.0 Introduction

This shadow study report was prepared by BDP Quadrangle Architects Limited to demonstrate the shadow impacts of the proposed project, the development on 1470 Williamsport Drive to be included in the Zoning By Law submission. The study is based on Criteria 3.1 to 3.5 as outlined in the City of Mississauga “Urban Design Terms of Reference - Standards for Shadow Studies” dated July 2024.

1.1 Site Latitude and Longitude, Astronomic North, Source of Base Plan

The latitude and longitude location of the Subject Site was defined by Google Earth Pro as:
Latitude: 43° 37’08” N
Longitude: 79° 35’36” W
Astronomic north was determined by geolocating the 3D model in Autodesk Revit using the built-in ‘Internet Mapping Service’ tool. All shadow study imagery and responding area calculations were done in Autodesk Revit. The base plan utilized for the study was obtained from the City of Mississauga

1.2 Time Zone

Eastern Time Zone (ET)
Standard Time: UTC - 5 hours - applies on December 21st
Daylight Time: UTC - 4 hours - applies on June 21st and September 21st

1.3 Identified Areas

As per Mississauga’s Urban Design Terms of Reference, the study identifies potential key areas surrounding the proposed development that includes:

- Residential Private Outdoor Amenity Spaces, including private rear yards, decks, patios and pools of surrounding residential dwellings;

No identified residential private outdoor amenity spaces are affected by the shadow of proposed building.

- Communal Outdoor Amenity Areas, including public amenity areas and common outdoor amenity areas that are part of proposed or existing development. The identified areas in this study are as follows:

- 1 - Outdoor Amenity on 7th Floor
- 2 - Outdoor Amenity on Ground Floor
- 3 - Outdoor Amenity at 2nd Floor
- 4 - Outdoor Amenity at 3480 Havenwood Drive and 1485 Williamsport Drive
- 5 - Rooftop Outdoor Amenity at 3480 Havenwood Drive and 1485 Williamsport Drive
- 6 - Outdoor Amenity at 3480 Havenwood Drive and 1485 Williamsport Drive
- 7 - Outdoor Amenity at 1395 Williamsport Drive

- Public Realm, including sidewalks, open spaces, parks and plazas. The identified areas in this study are as follows:

Opposite boulevard of Williamsport Drive

- Turf and Flower Gardens in public parks within the public realm, and;

No identified public parks are affected by the shadow of proposed building.

- Building Faces to Allow for Possible Use of Solar Energy.

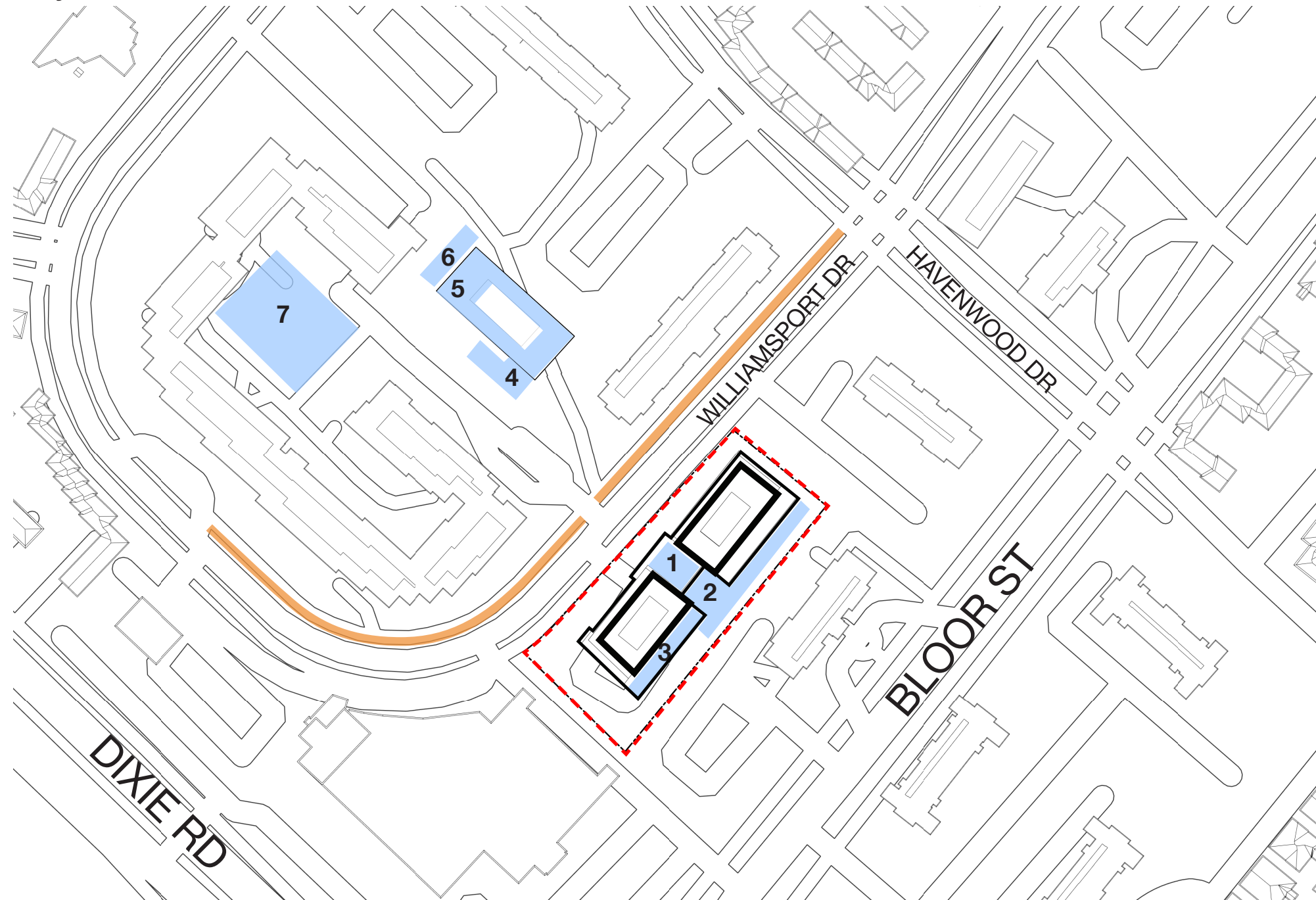
No identified building faces allow for solar energy useage as no areas are affected by the shadow of proposed building.

*The Key Plan, identifies all potential areas, as per the criteria above, impacted by shadow(s).

1.4 Sun/Shadow Mitigation in the Building's Design

- The building design reduces the shadow impact by stepping back the massing on the upper levels along the north and on the east and west sides of the building
- The massing also mitigates shadows by introducing a 15m break in the building volume on the upper levels.

Key Plan



0 25 50 100m



Legend

--- Net Property Line

— Sidewalk

■ Communal Outdoor Amenity Areas

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2.0 Summary of Findings by Criteria Category

The shadow study illustrates that the Sun Access Factor minimums are mostly met and with there is minimal shadow impact on the surrounding areas and public realm.

The following are summary of findings based on the criteria outlined under the Urban Design Terms of Reference: Standards for Shadow Studies:

2.1 Communal Outdoor Amenity Areas

The required Sun Access Factor minimums (minimum 0.5As) on the identified communal outdoor amenity areas are not met the following:

September 21st - Areas 1(0.46As), Areas 2(0.45As)

December 21st - Areas 1(0.29As), Areas 2(0.48As), Areas 4(0.49As), Areas 6(0.35As)

The criterion for communal outdoor amenity area is met all other times.

2.2 Public Realm

The opposite boulevard of Williamsport Drive has full sunlight on September 21st between 1:12pm and 4:12pm.

There is an incremental shadow on the opposite boulevard of Williamsport Drive between 8:35am and 12:12pm on September 21st, the criterion is met all other times.

3.0 Sun Access Factor Calculations

3.1 Communal Outdoor Amenity Areas

Calculations have been generated out for communal outdoor areas affected by shadow from the proposed development only.

Communal Outdoor Amenity Area			
Test Time	Areas in sunshine, As (sm)		
Location	Areas within Subject Site		
	1	2	3
June 21st	228	513	279
7:07am	10	214	279
7:20am	13	220	279
8:20am	35	364	279
9:20am	61	479	279
10:20am	135	496	279
11:20am	210	508	279
12:20pm	215	506	279
1:20pm	156	490	279
2:20pm	128	433	279
3:20pm	115	247	75
4:20pm	124	6	32
5:20pm	153	0	21
6:20pm	172	0	14.6
7:20pm	198	0	9
7:33pm	203	0	8.5
Average of Areas in Sunshine, As (sm)	129	264	178
Sun Access Factor	0.56	0.52	0.64
Areas in Shadows	0.44	0.48	0.36

Communal Outdoor Amenity Area				
Test Time	Areas in sunshine, As (sm)			
Location	Areas within Subject Site			Other Properties
	1	2	3	4
September 21st	228	513	279	232
8:35am	134	0	170	1
9:12am	169	42	275	12
10:12am	223	210	279	214
11:12am	200	503	279	232
12:12pm	113	490	279	232
1:12pm	22	474	279	232
2:12pm	10	444	279	232
3:12pm	43	383	252	232
4:12pm	60	13	78	232
5:12pm	85	0	41	232
5:48pm	102	0	32	147
Average of Areas in Sunshine, As (sm)	106	233	204	182
Sun Access Factor	0.46	0.45	0.73	0.78
Areas in Shadows	0.54	0.55	0.27	0.22

Communal Outdoor Amenity Area							
Test Time	Areas in sunshine, As (sm)						
Location	Areas within Subject Site			Other Properties			
	1	2	3	4	5	6	7
December 21st	228	513	279	232	861	187	1465
9:19am	202	80	279	22	664	3	686
10:17am	139	249	279	0	598	11	1258
11:17am	63	275	279	232	592	22	1400
12:17pm	19.5	351	279	232	623	37.5	1328
1:17pm	1	404	279	232	649	65	1017
2:17pm	0	352	279	78	675	136	589
3:15pm	37	0	0	0	701	187	0
Average of Areas in Sunshine, As (sm)	66	244	239	114	643	66	897
Sun Access Factor	0.29	0.48	0.86	0.49	0.75	0.35	0.61
Areas in Shadows	0.71	0.52	0.14	0.51	0.25	0.65	0.39

*The Areas in Shadows noted in the tables also includes the shadows cast by existing building massings resulting in lower Sun Access Factors. The shadows cast by the proposed development are highlighted in color in the following pages of this study which show partial, if any, shadowing.



Legend

- Property Line
- Sidewalk
- Shadows Cast by Proposed Development
- Shadows Cast by Existing Context
- Communal Outdoor Amenity Areas
- Proposed Building

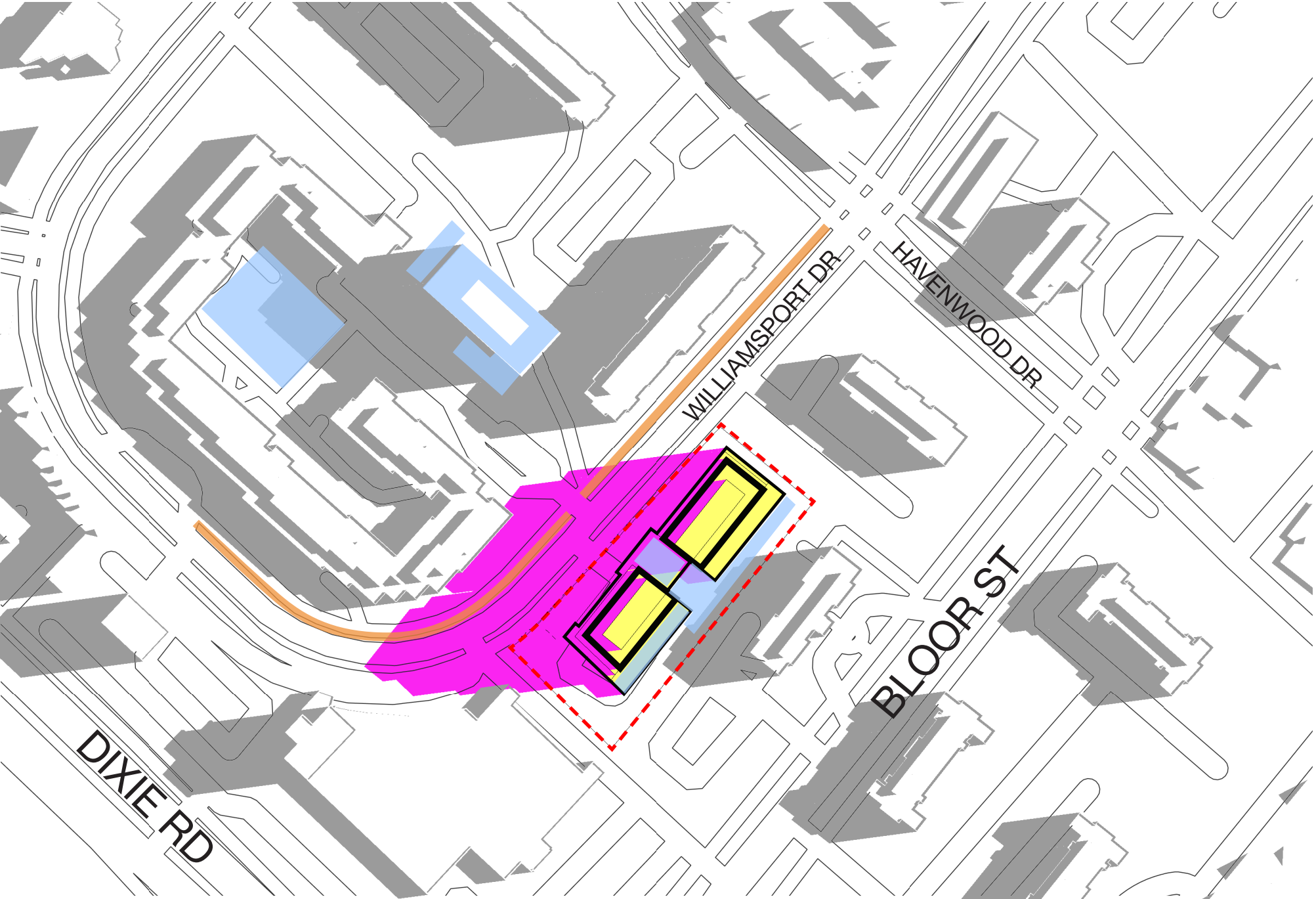
June 21 at 07:20 AM



Legend

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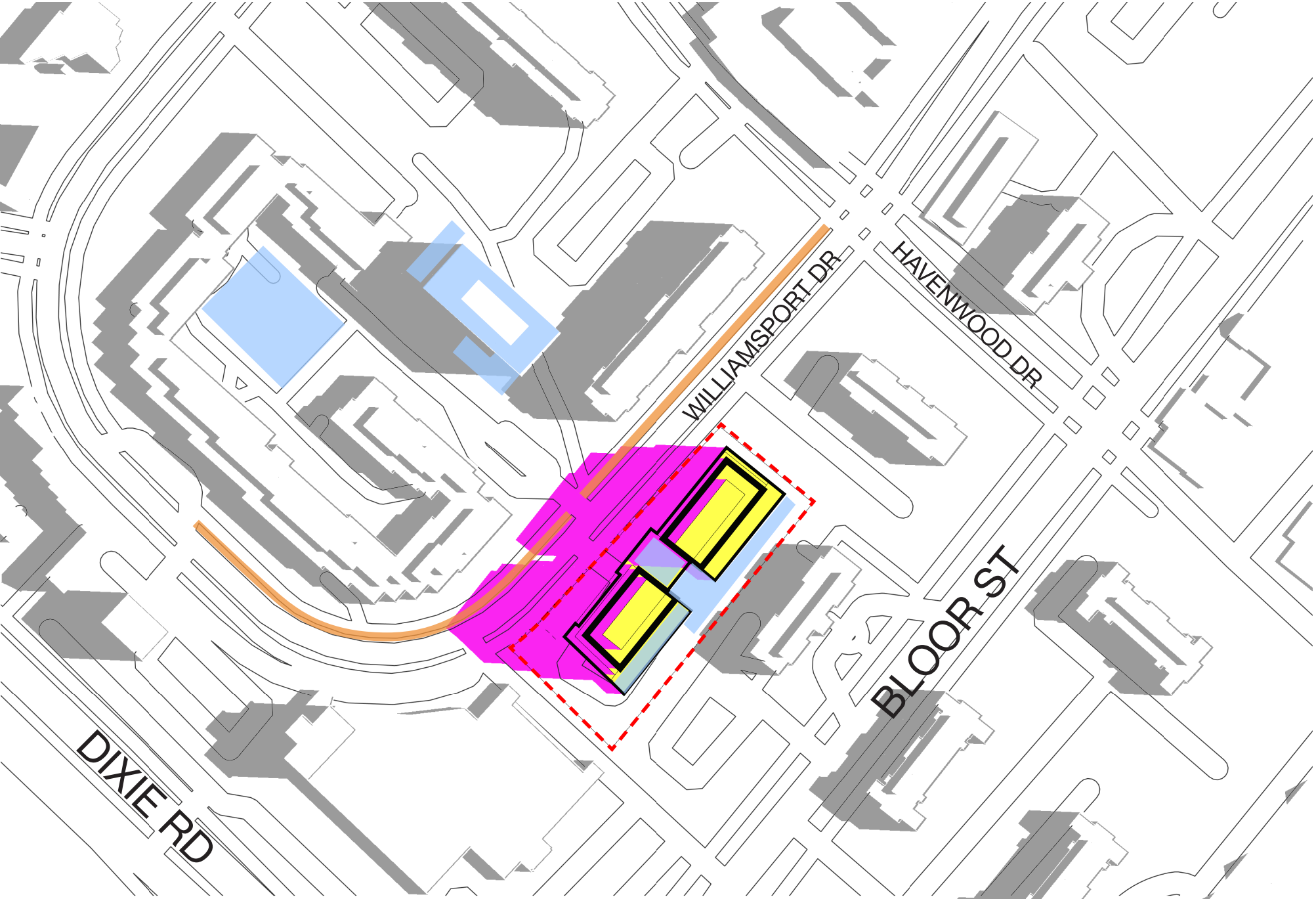
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Legend

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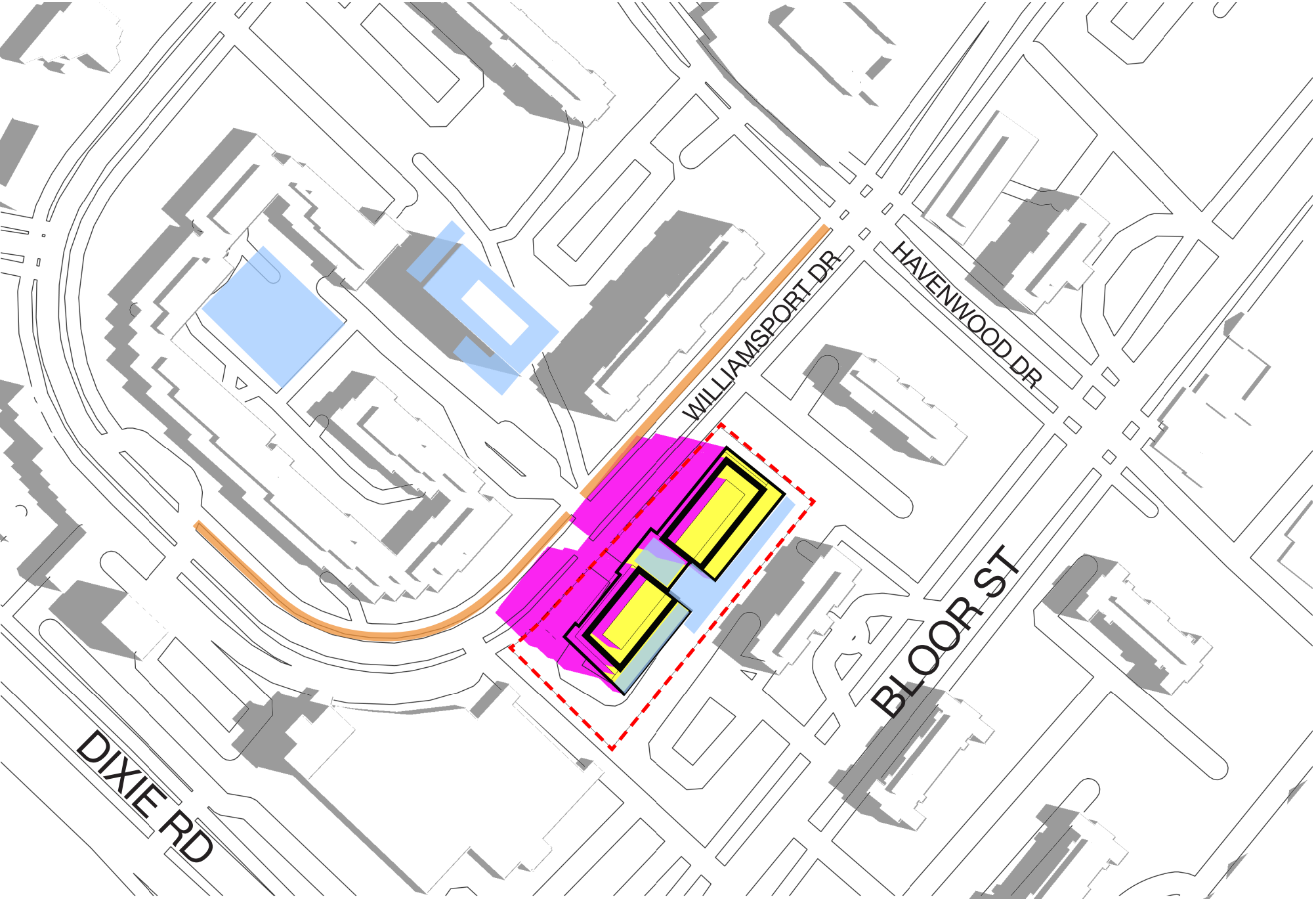
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Legend

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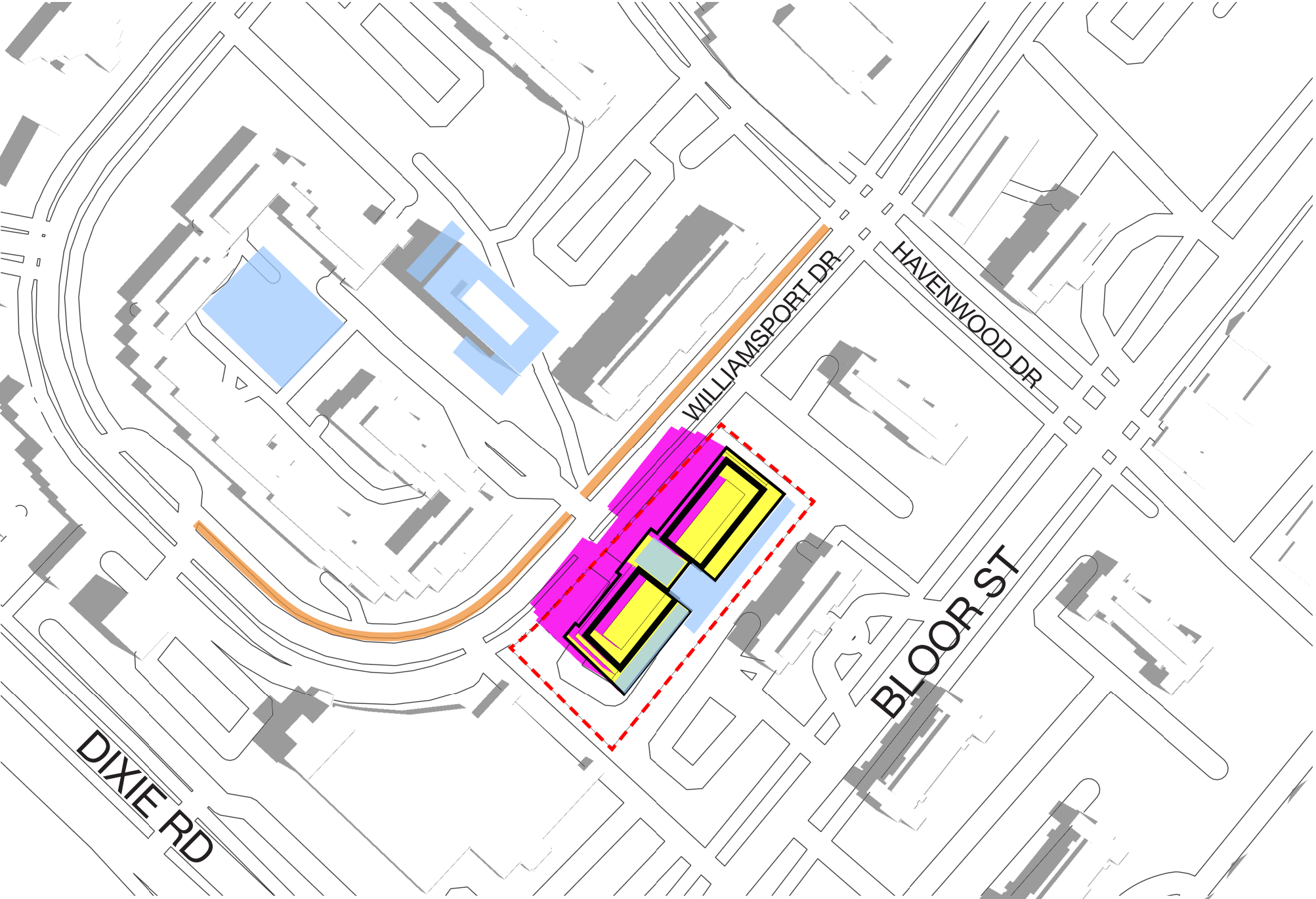
June 21 at 10:20 AM



Legend

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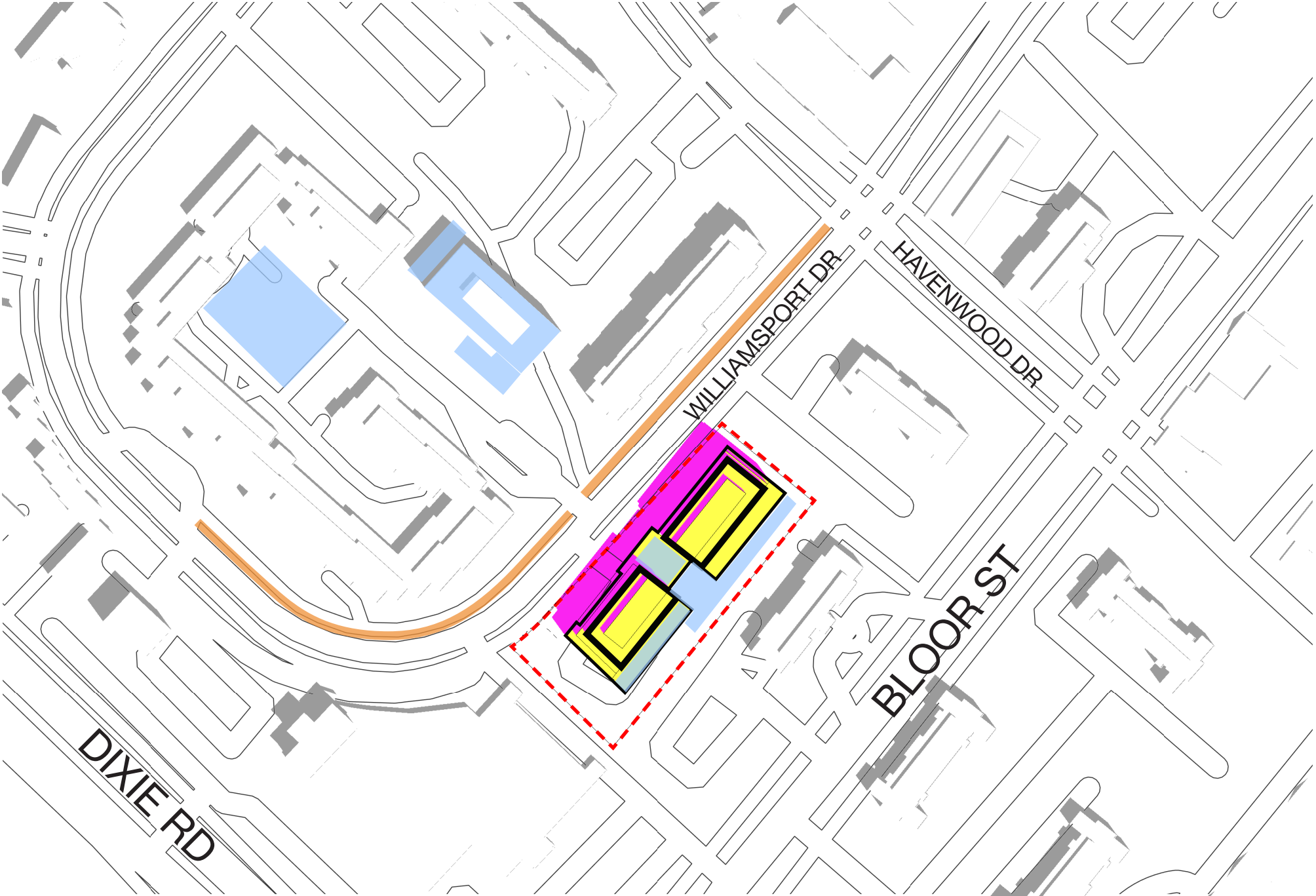
June 21 at 11:20 AM



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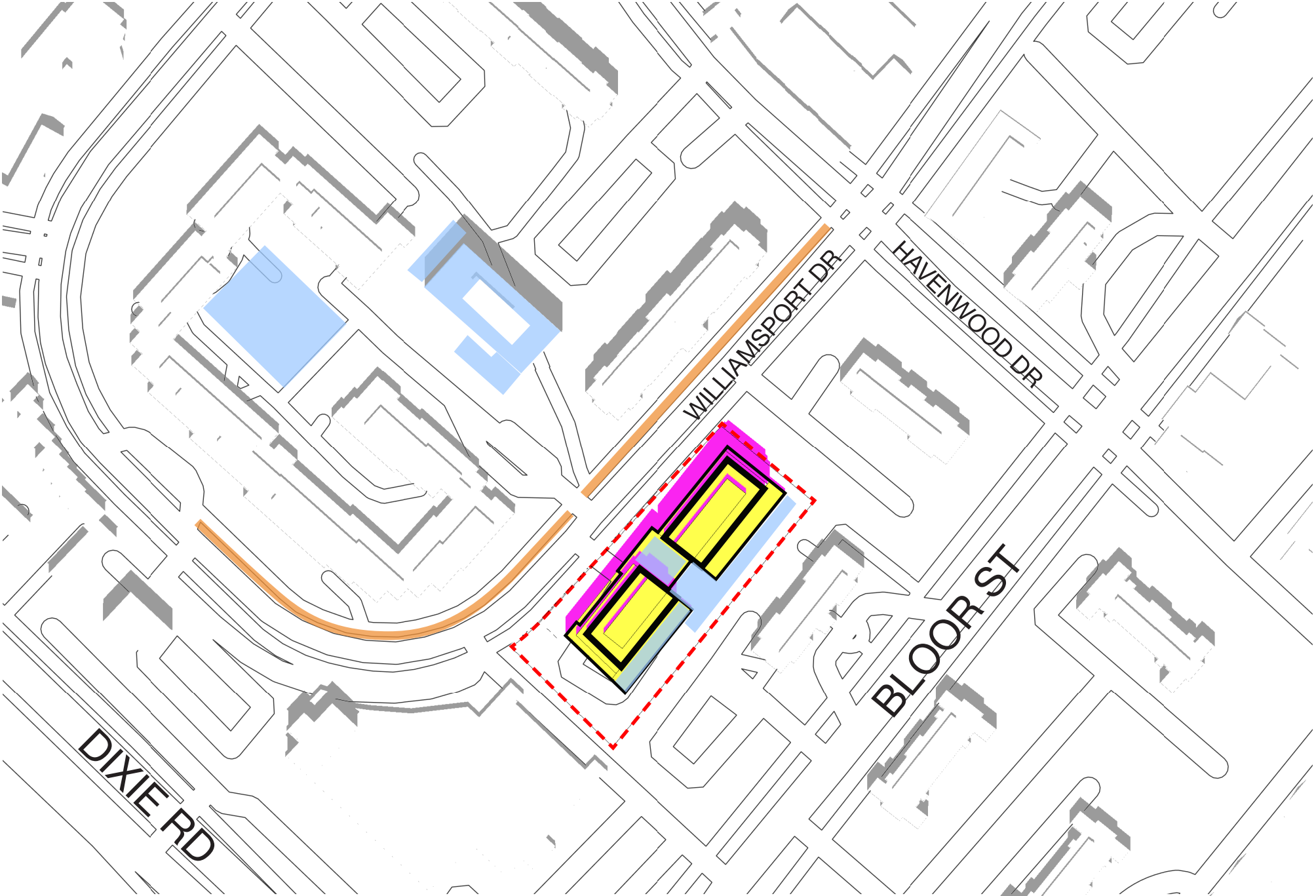
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June 21 at 12:20 PM



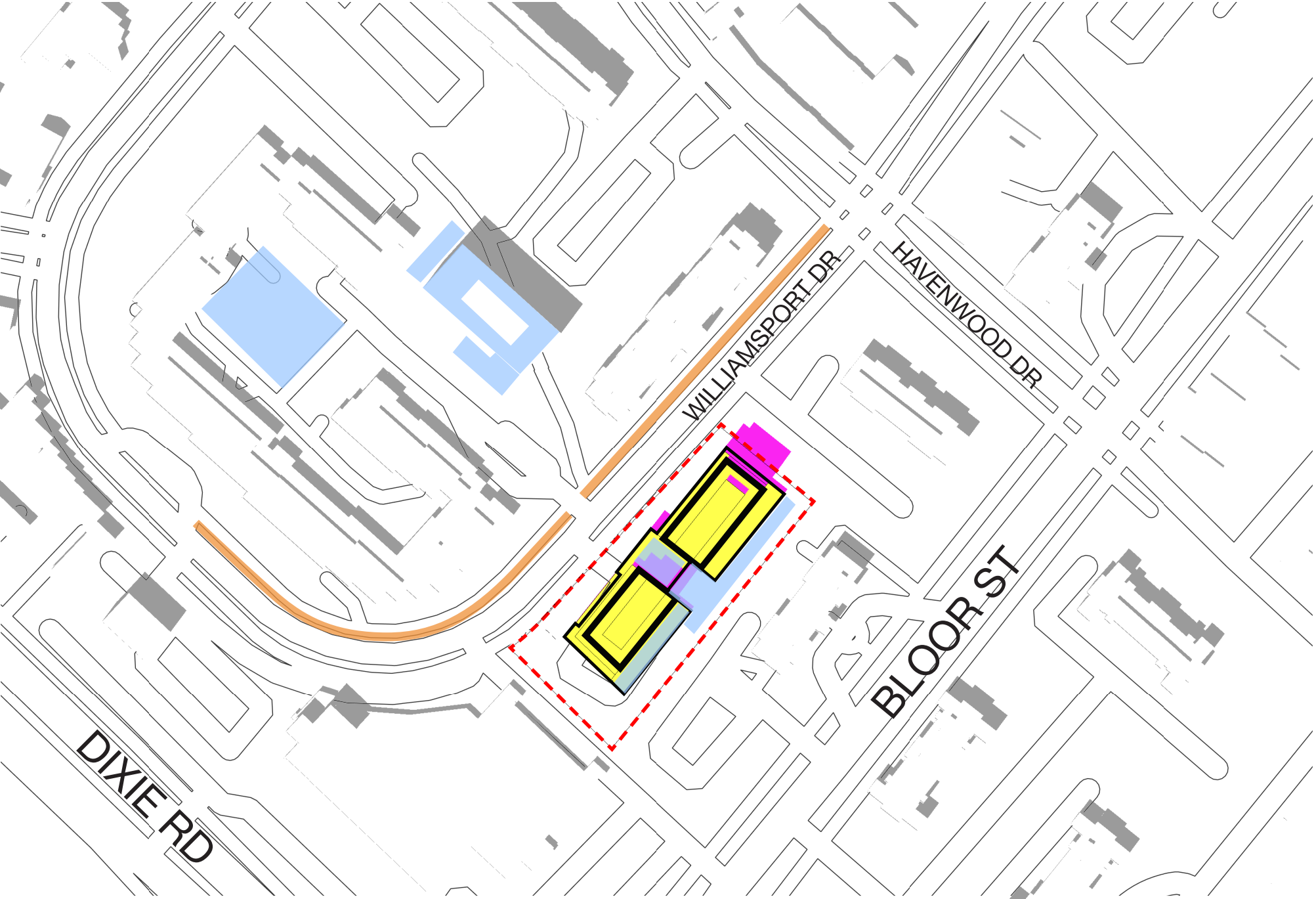
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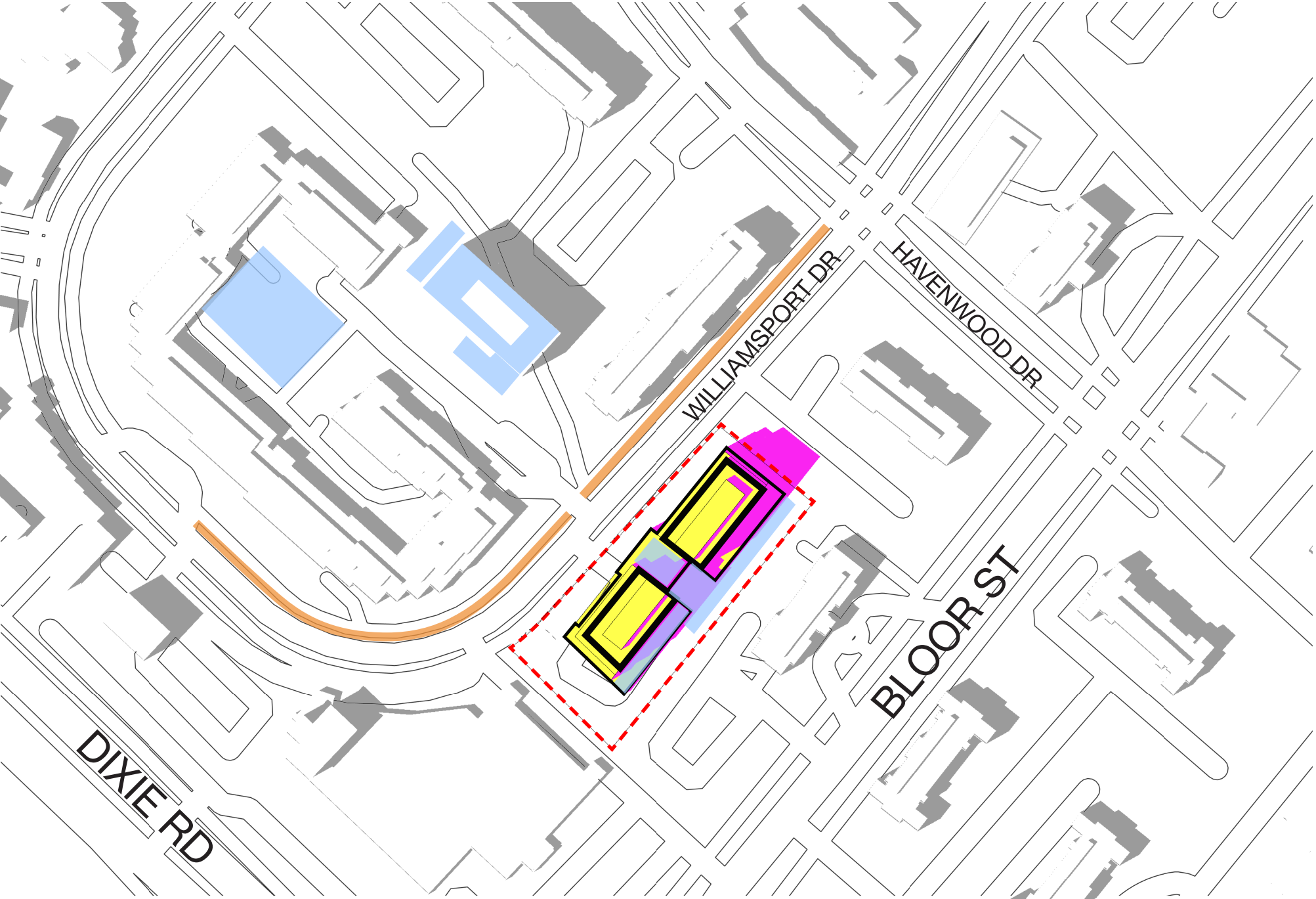
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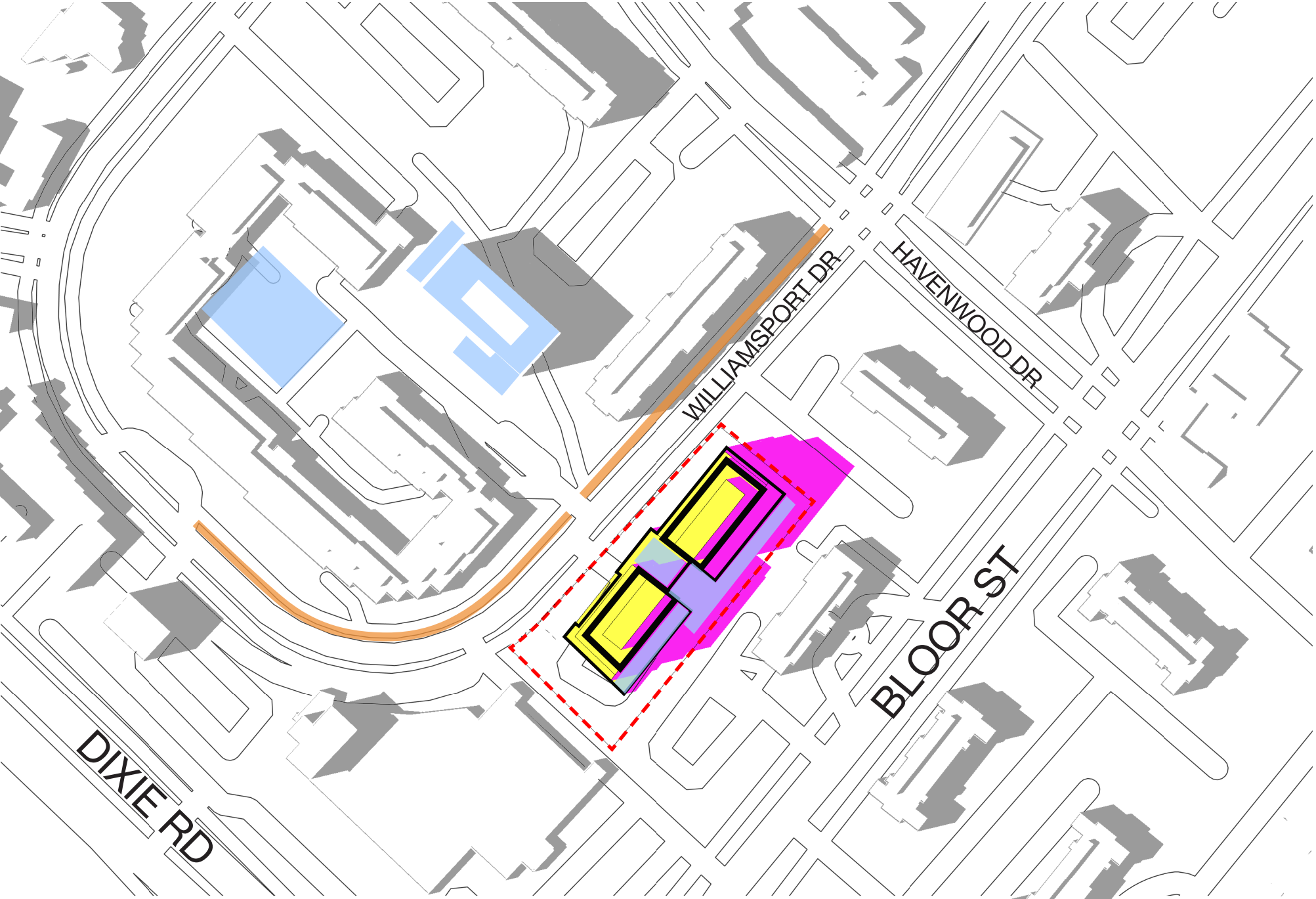
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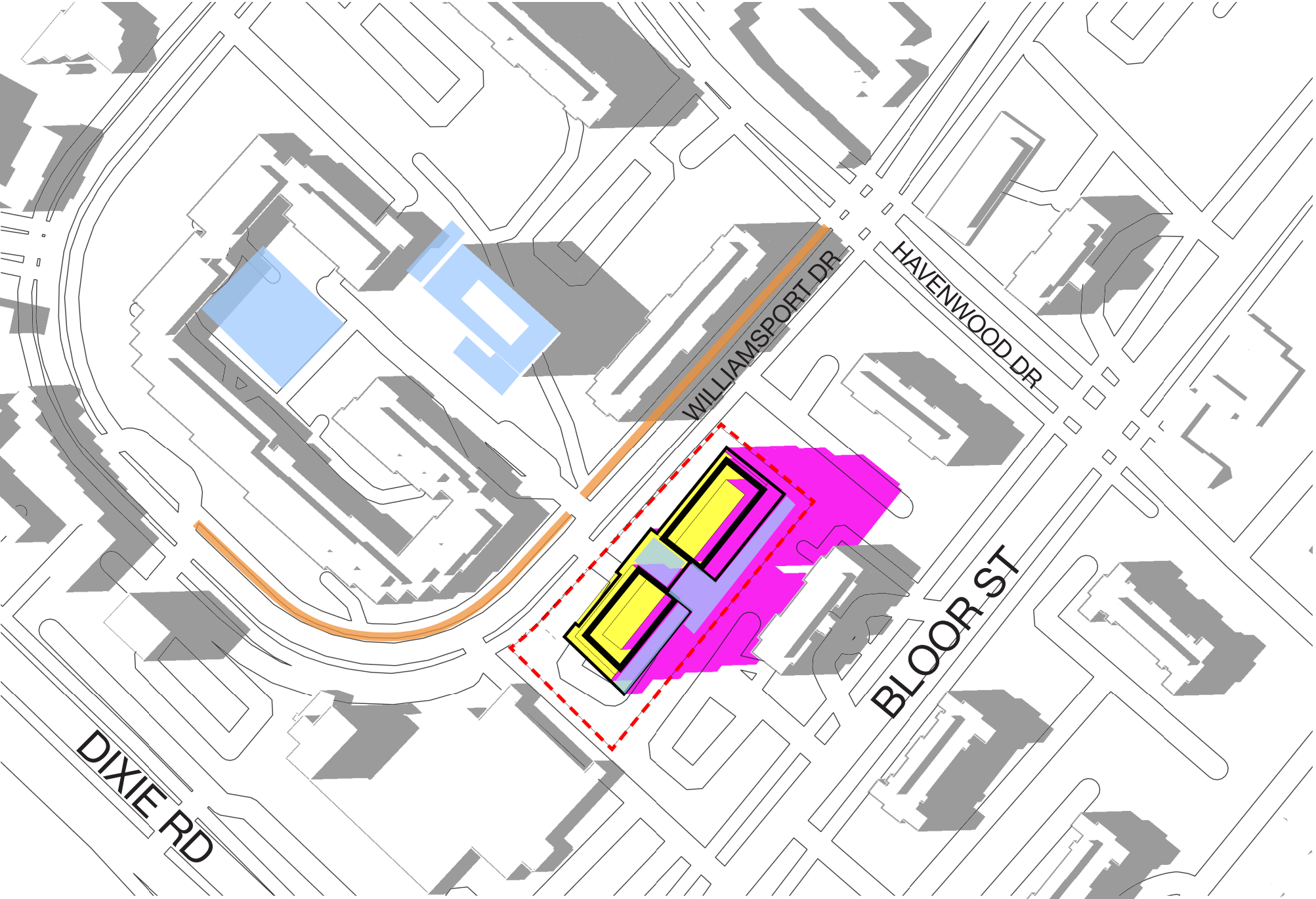
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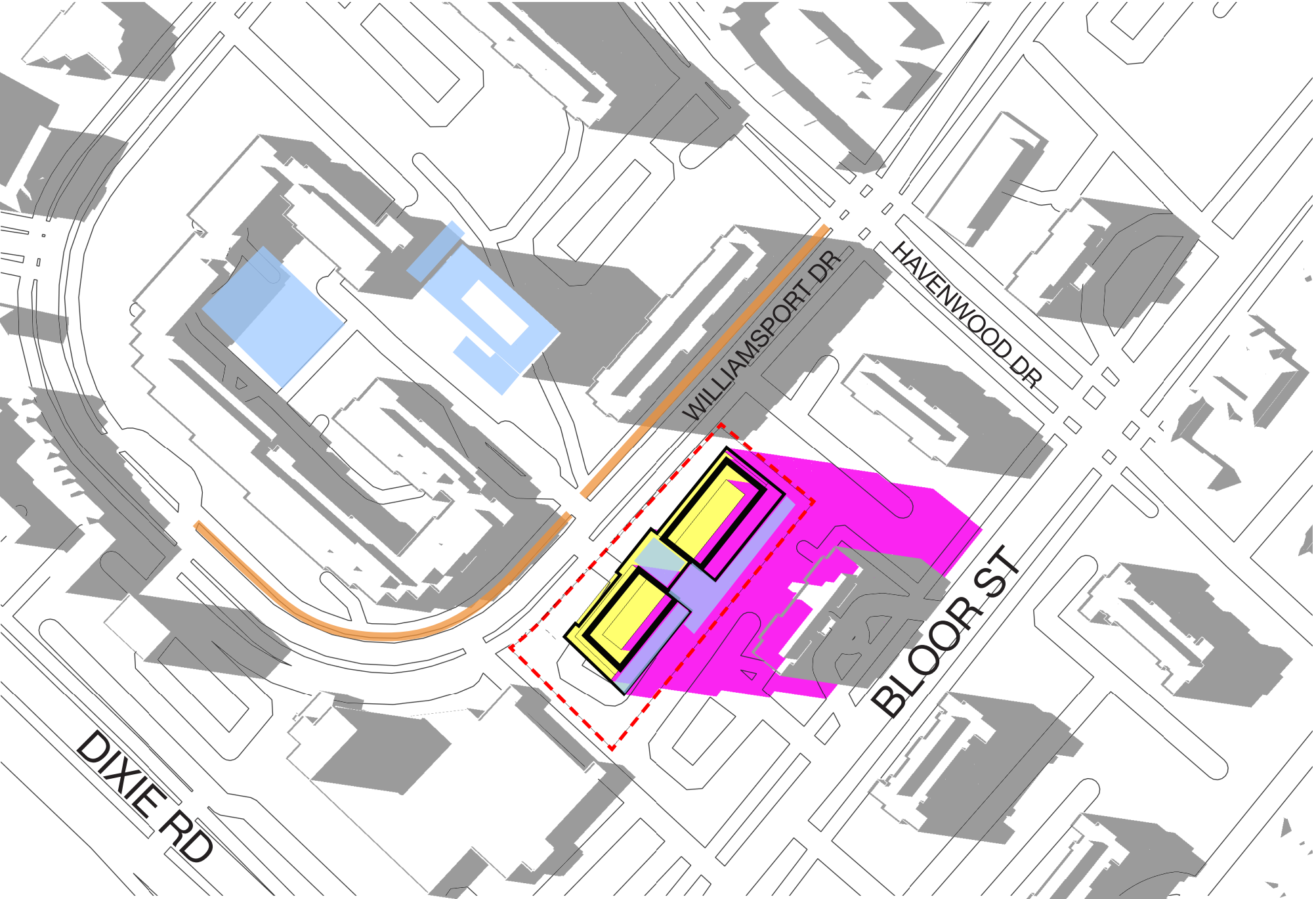
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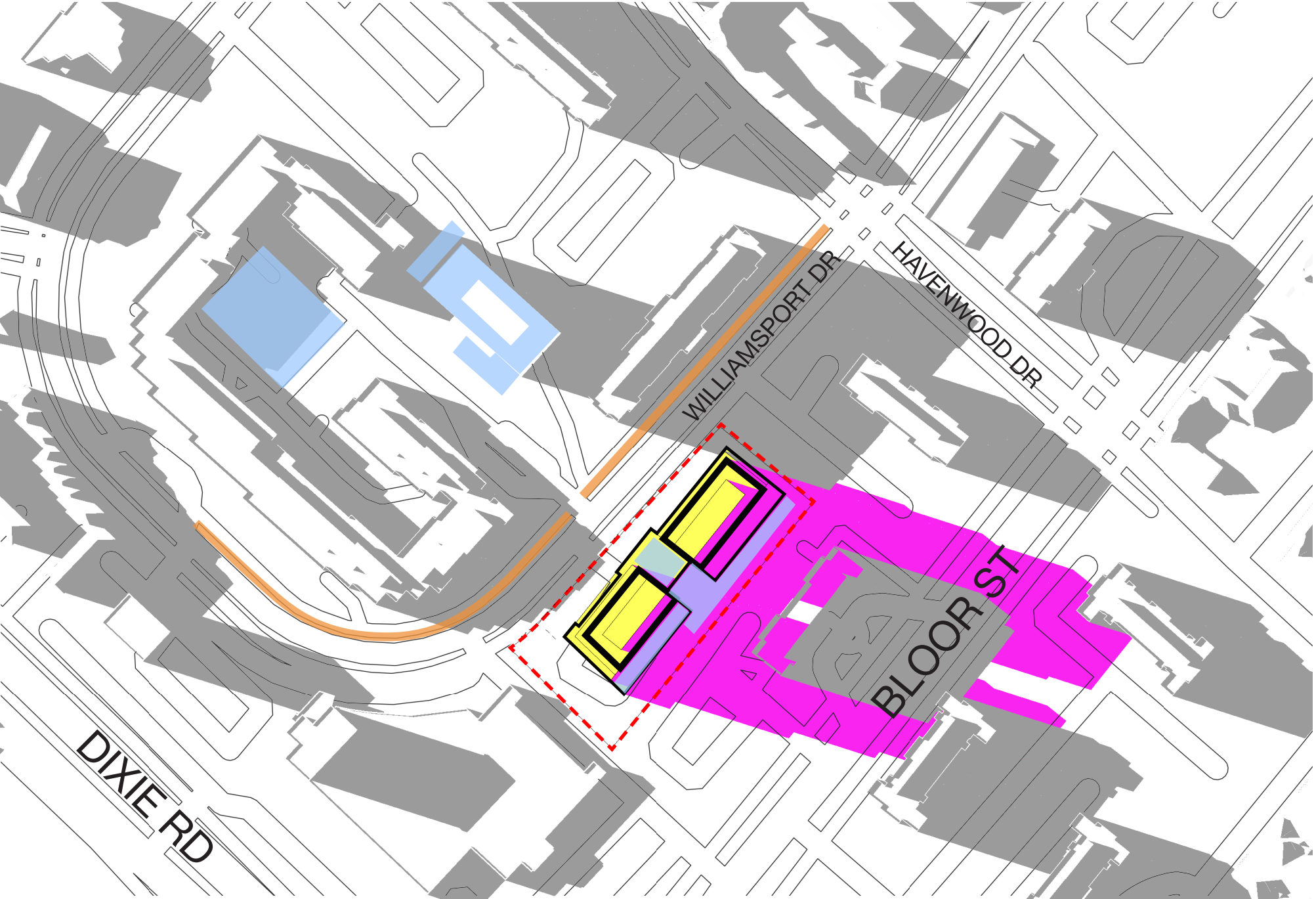
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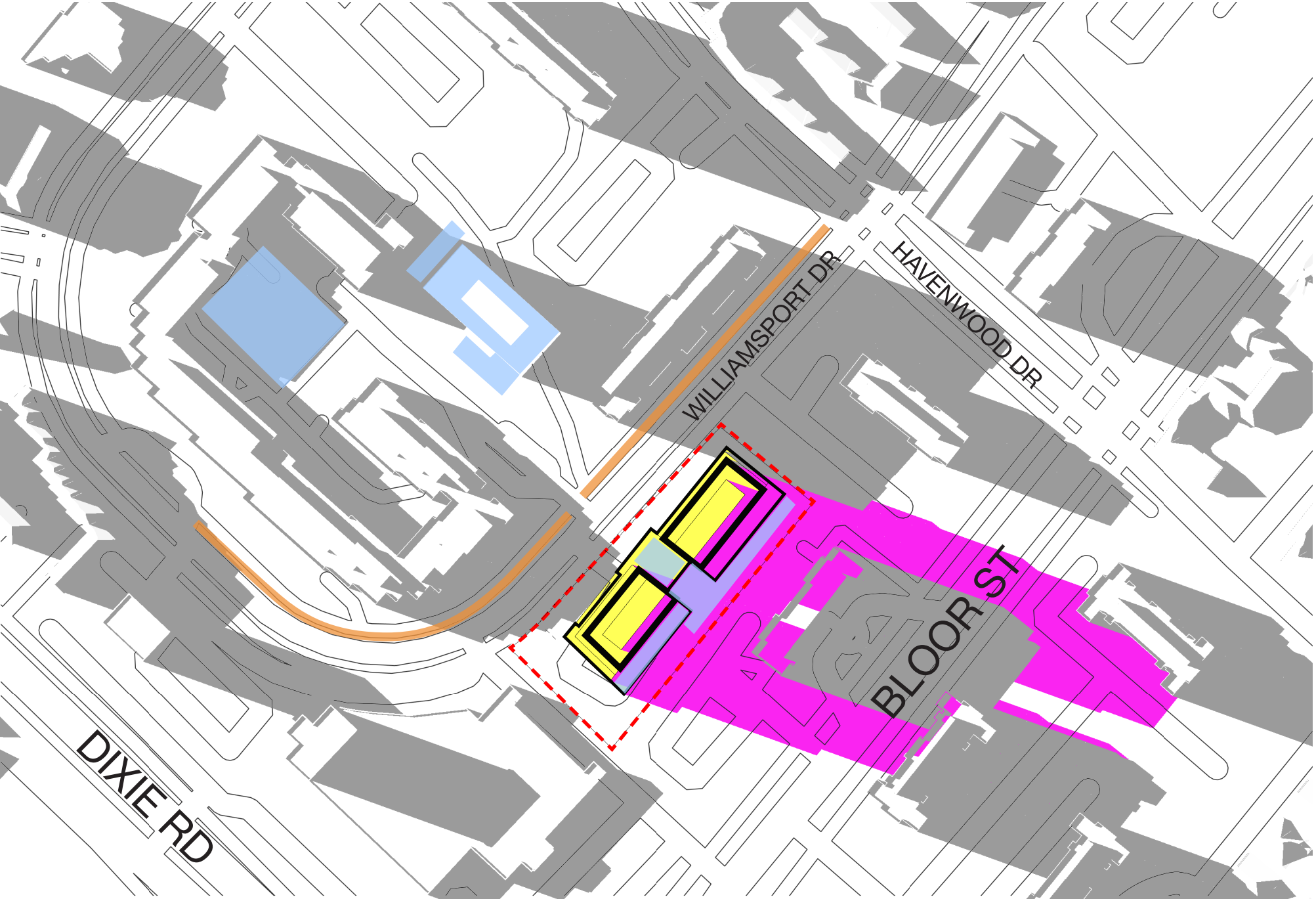
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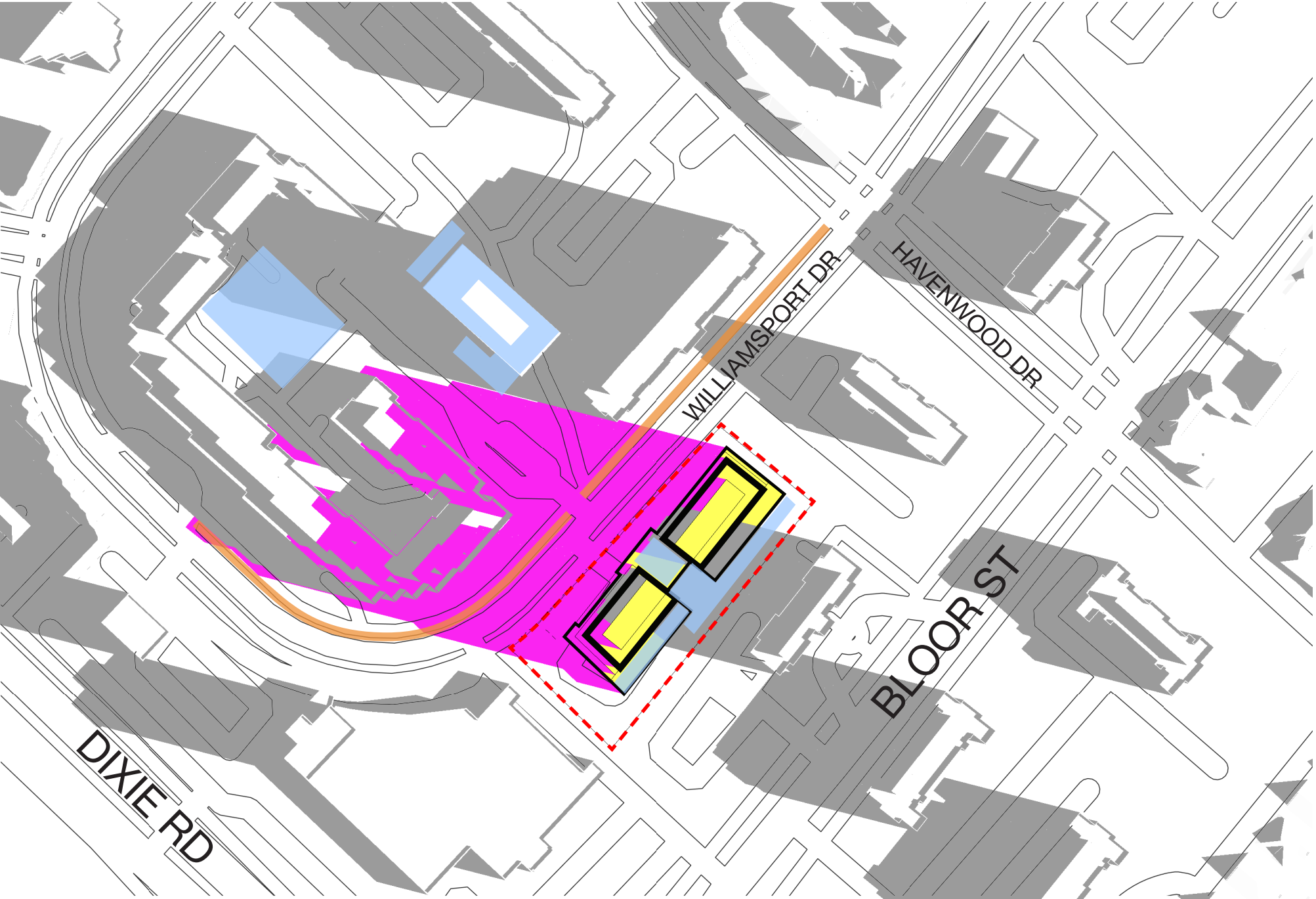
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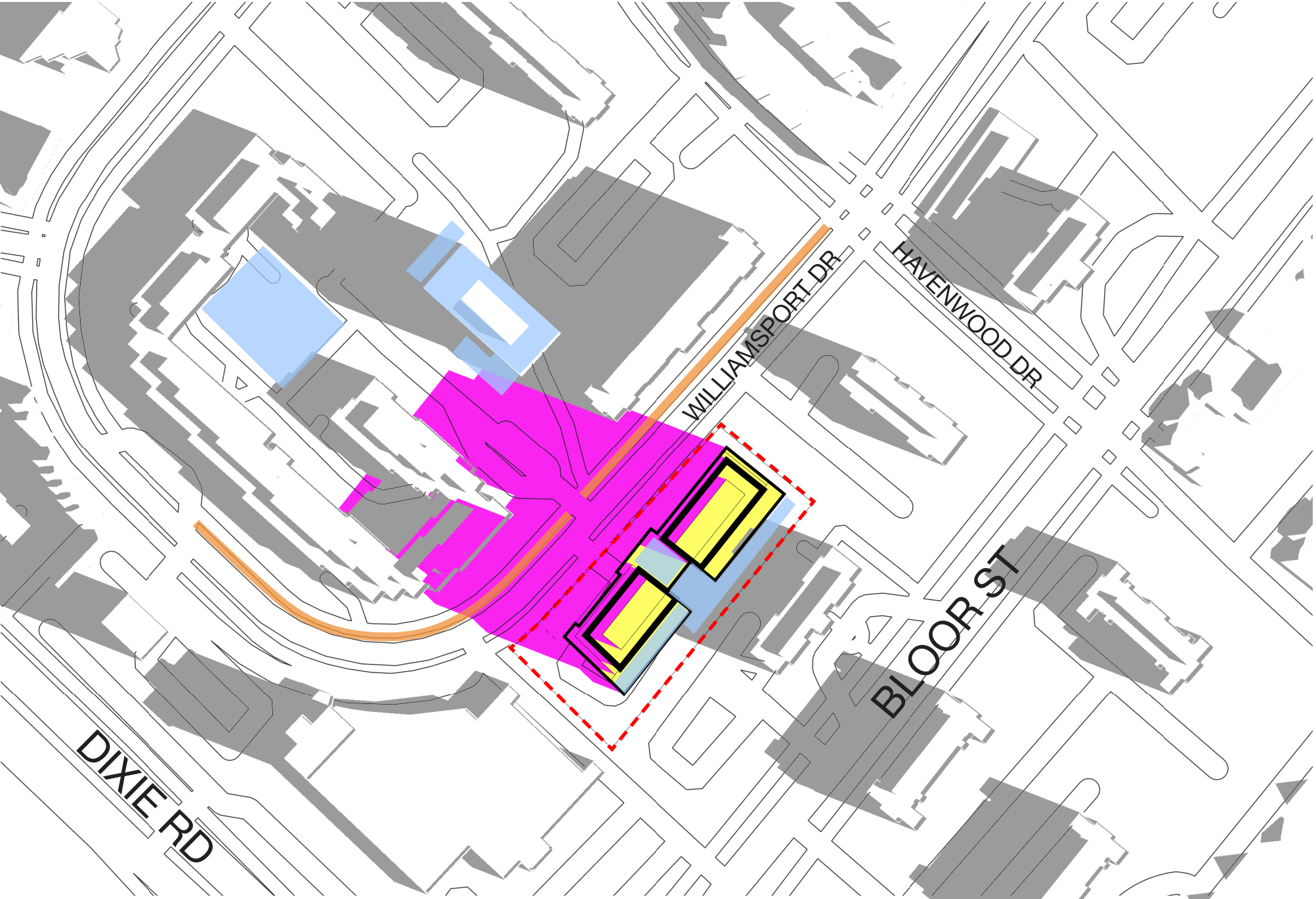
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September 21/ March 21 at 08:35 AM



Legend

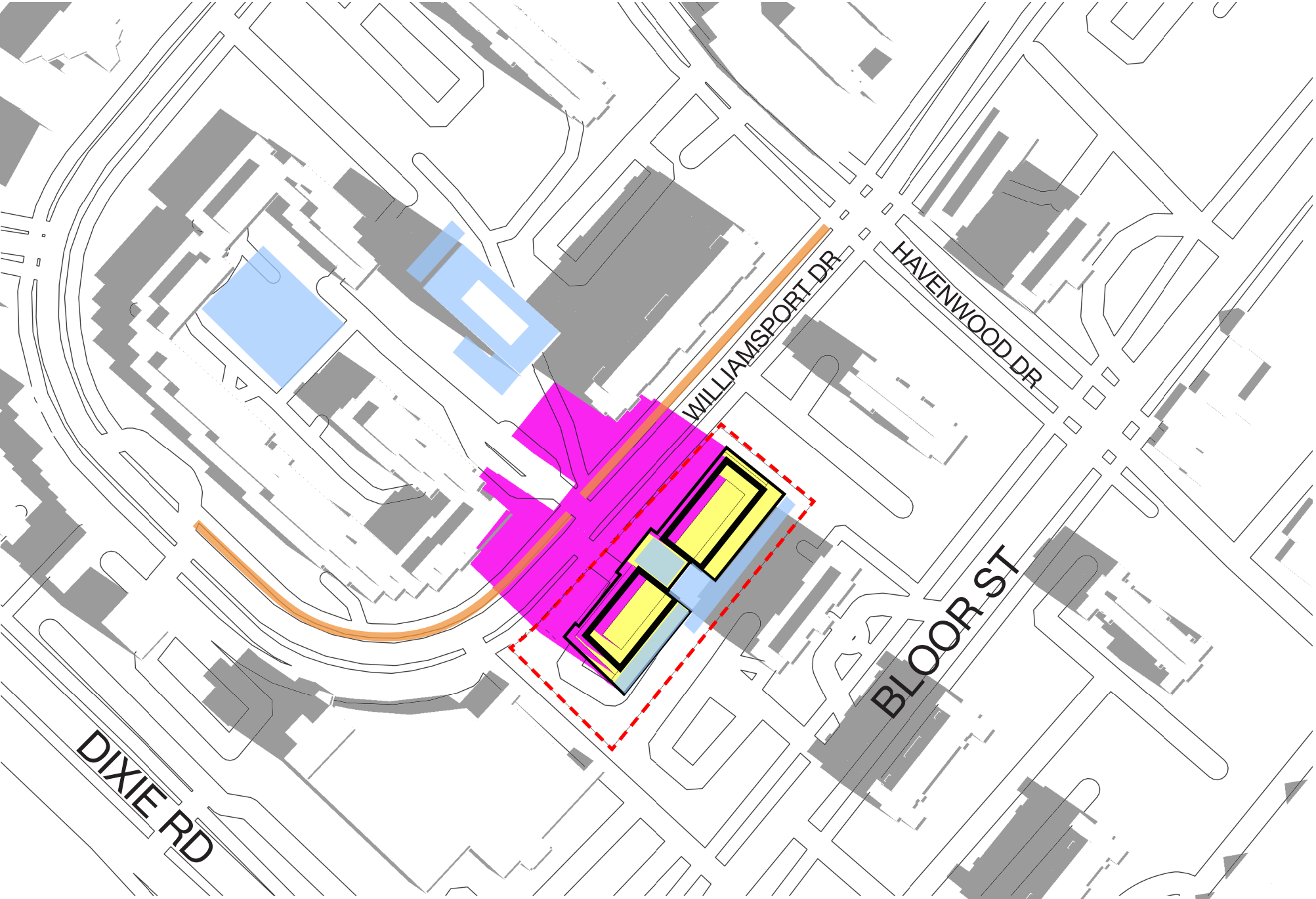
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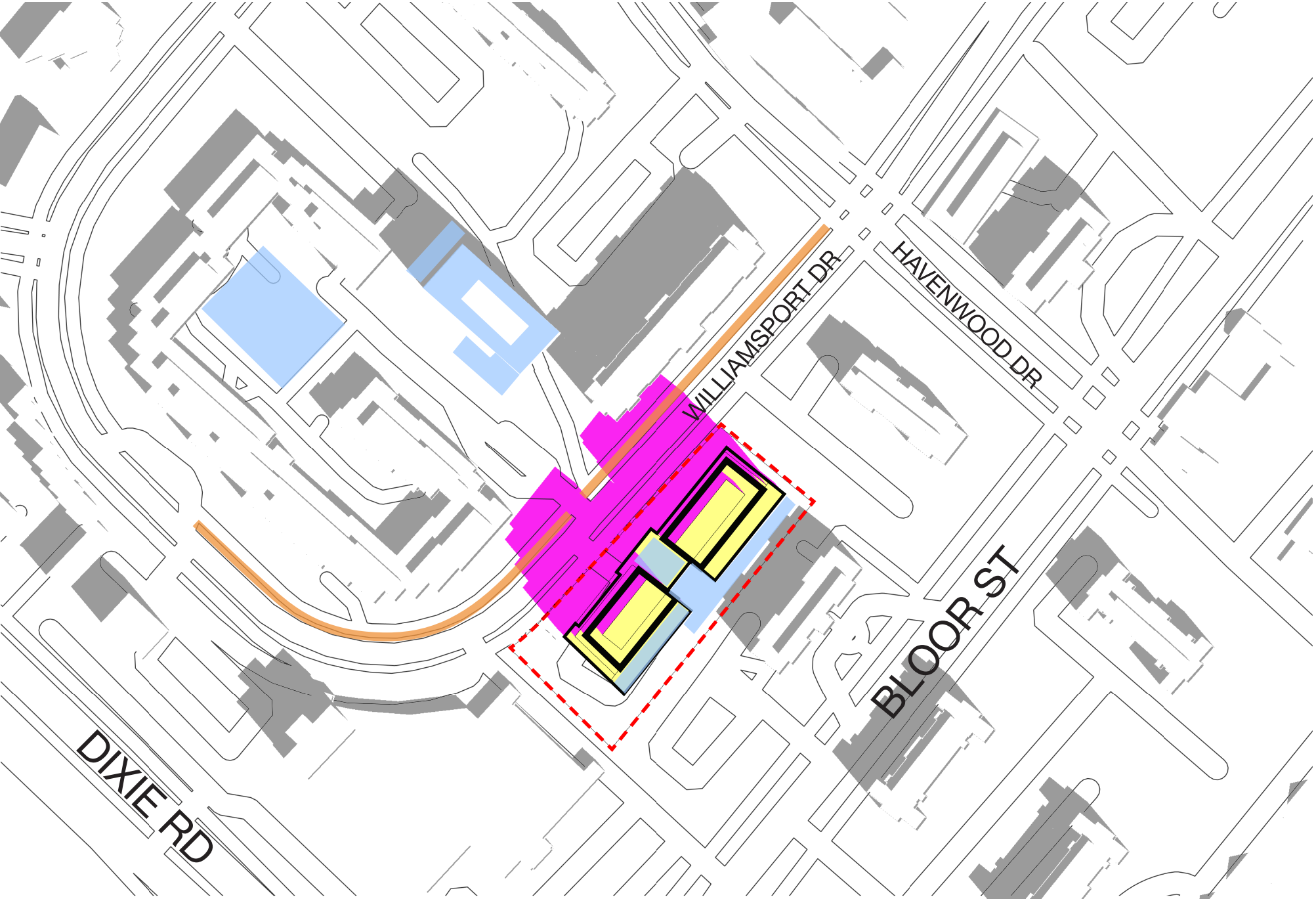
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September 21/ March 21 at 10:12 AM



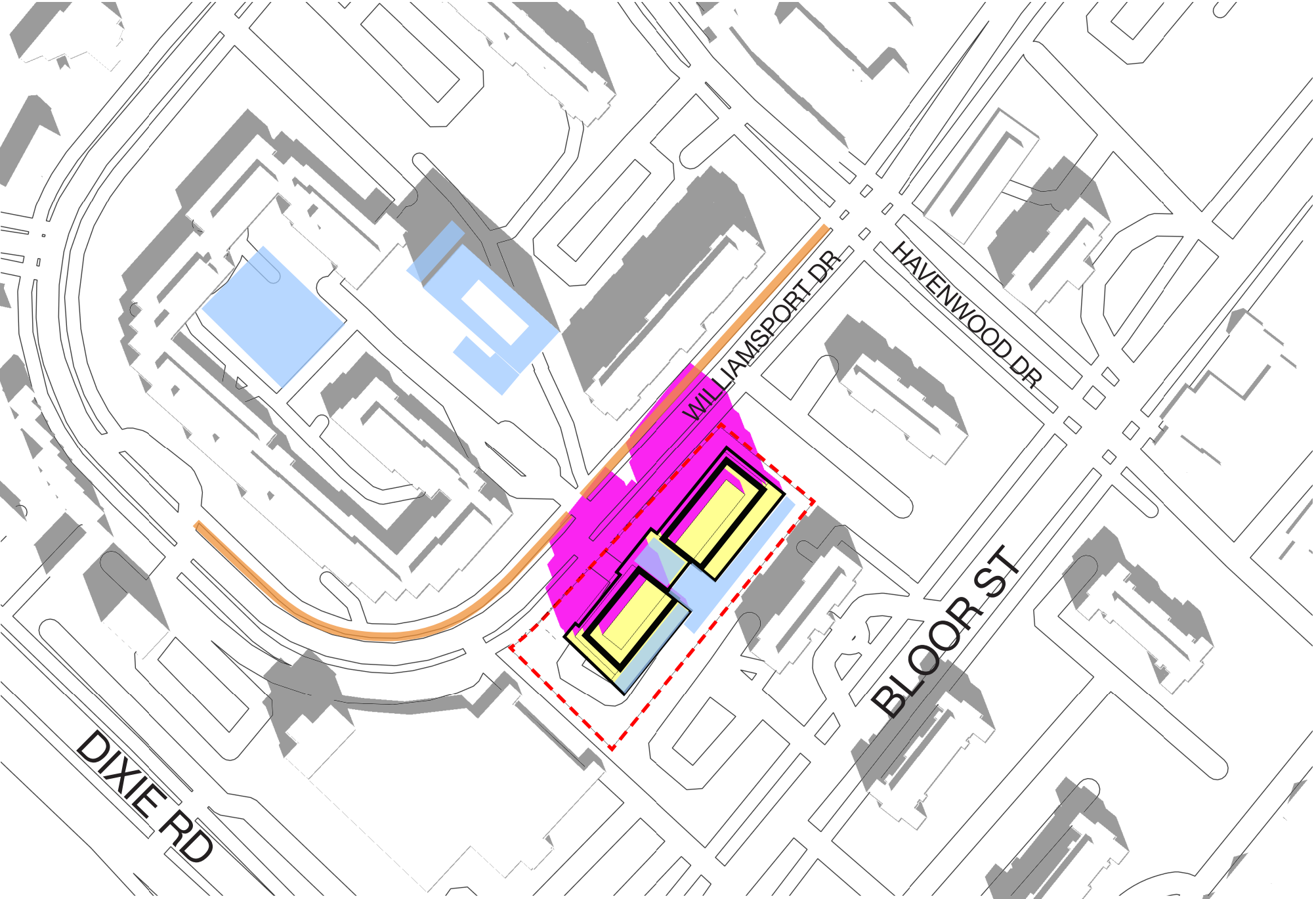
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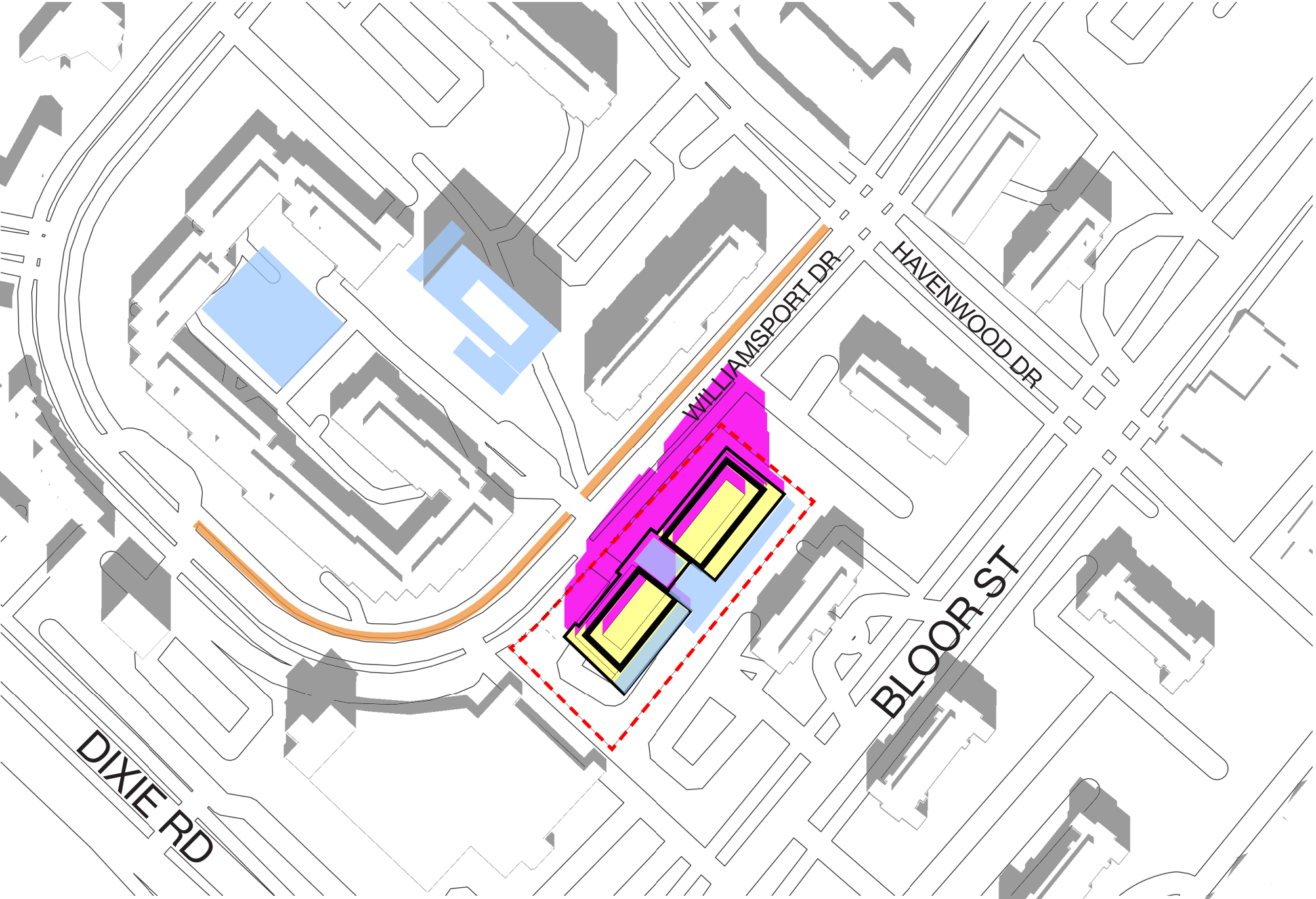
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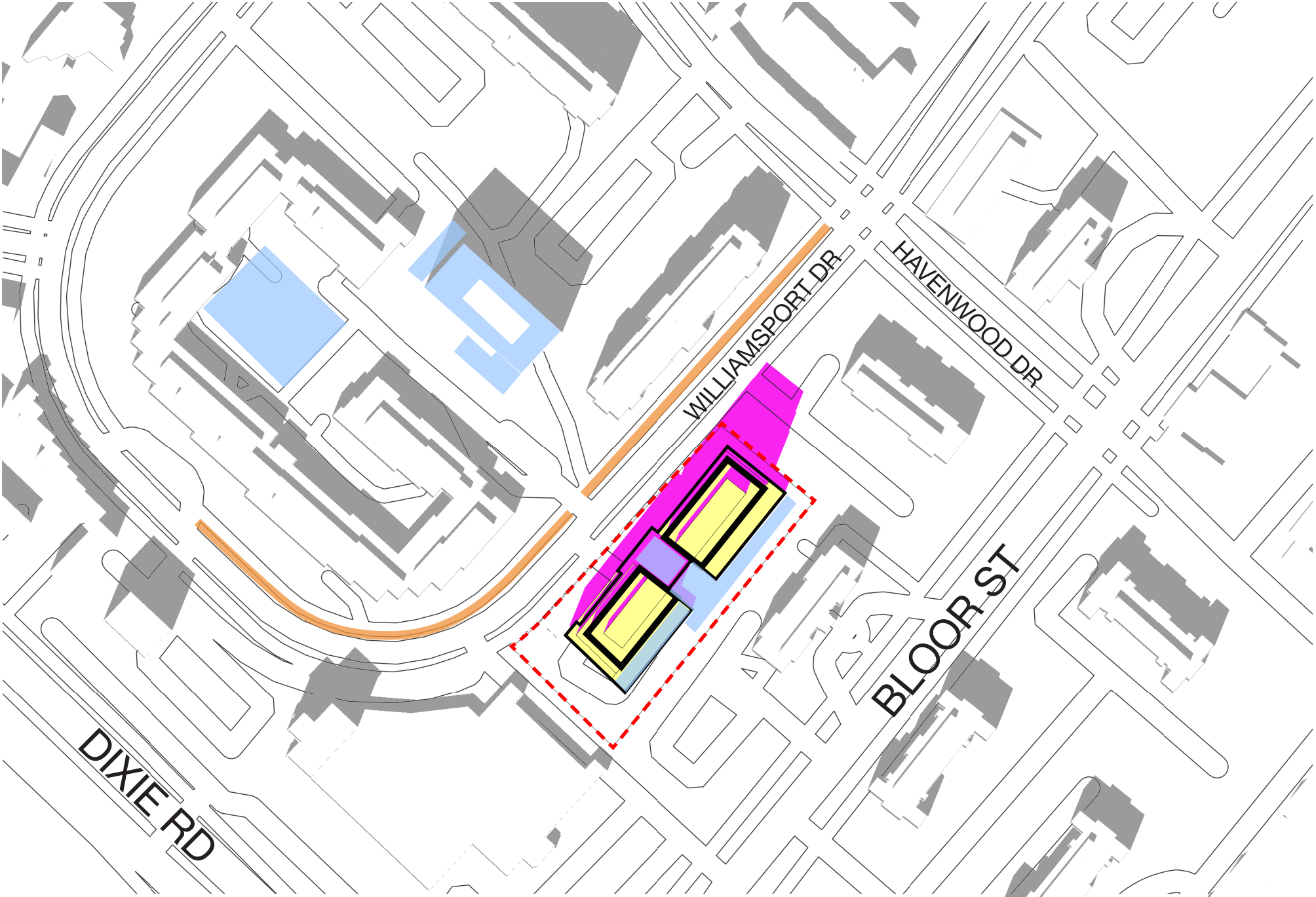
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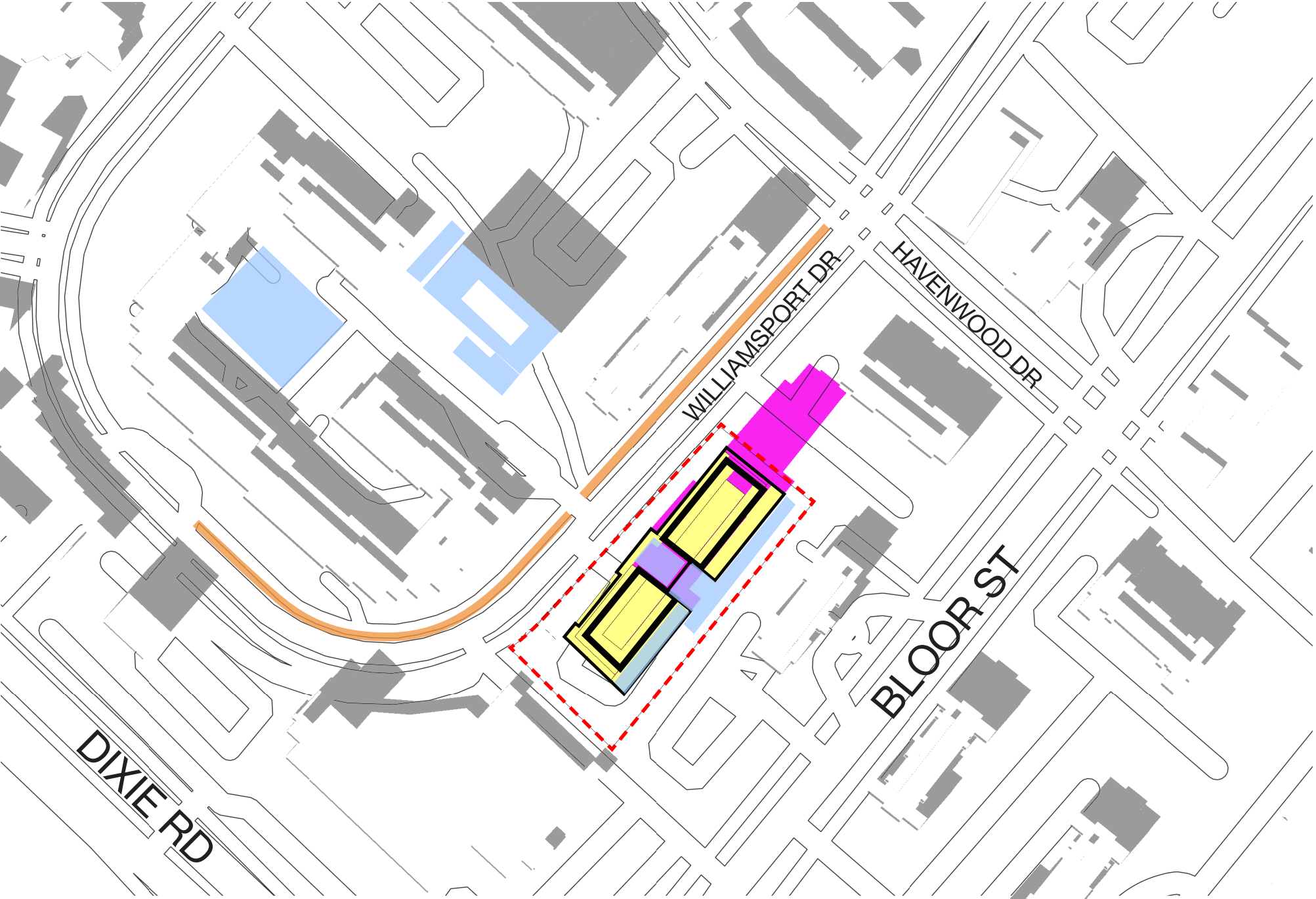
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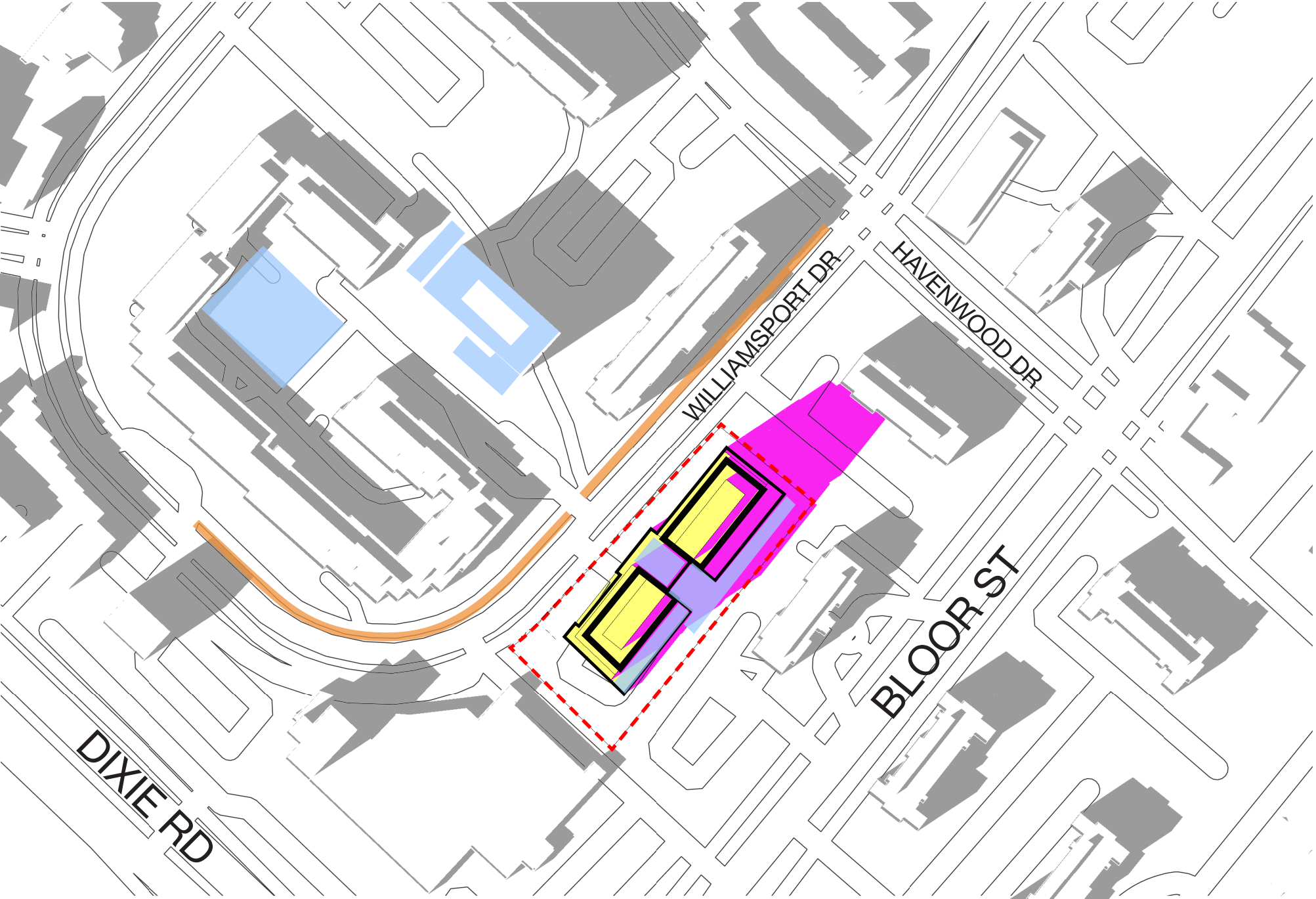
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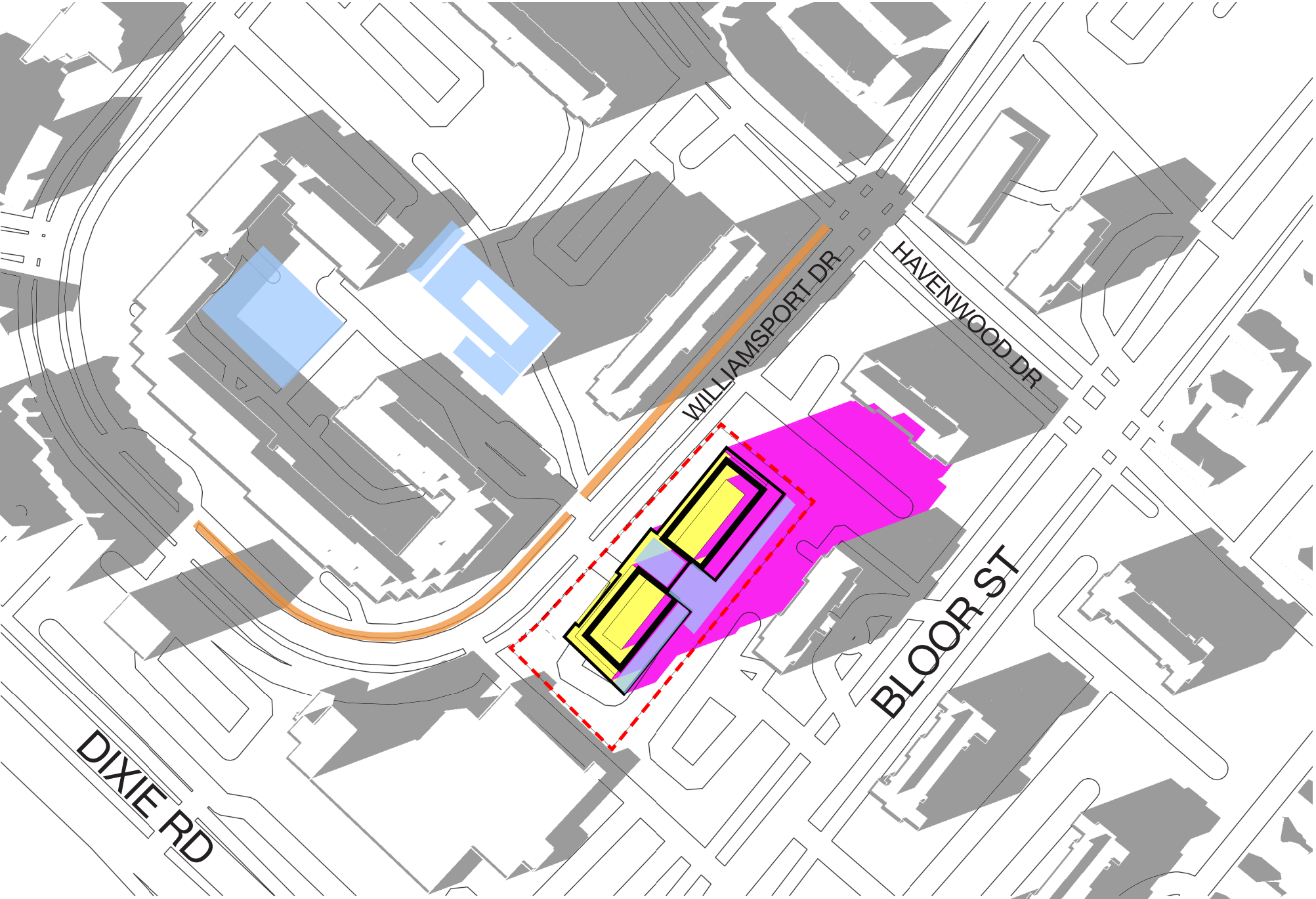
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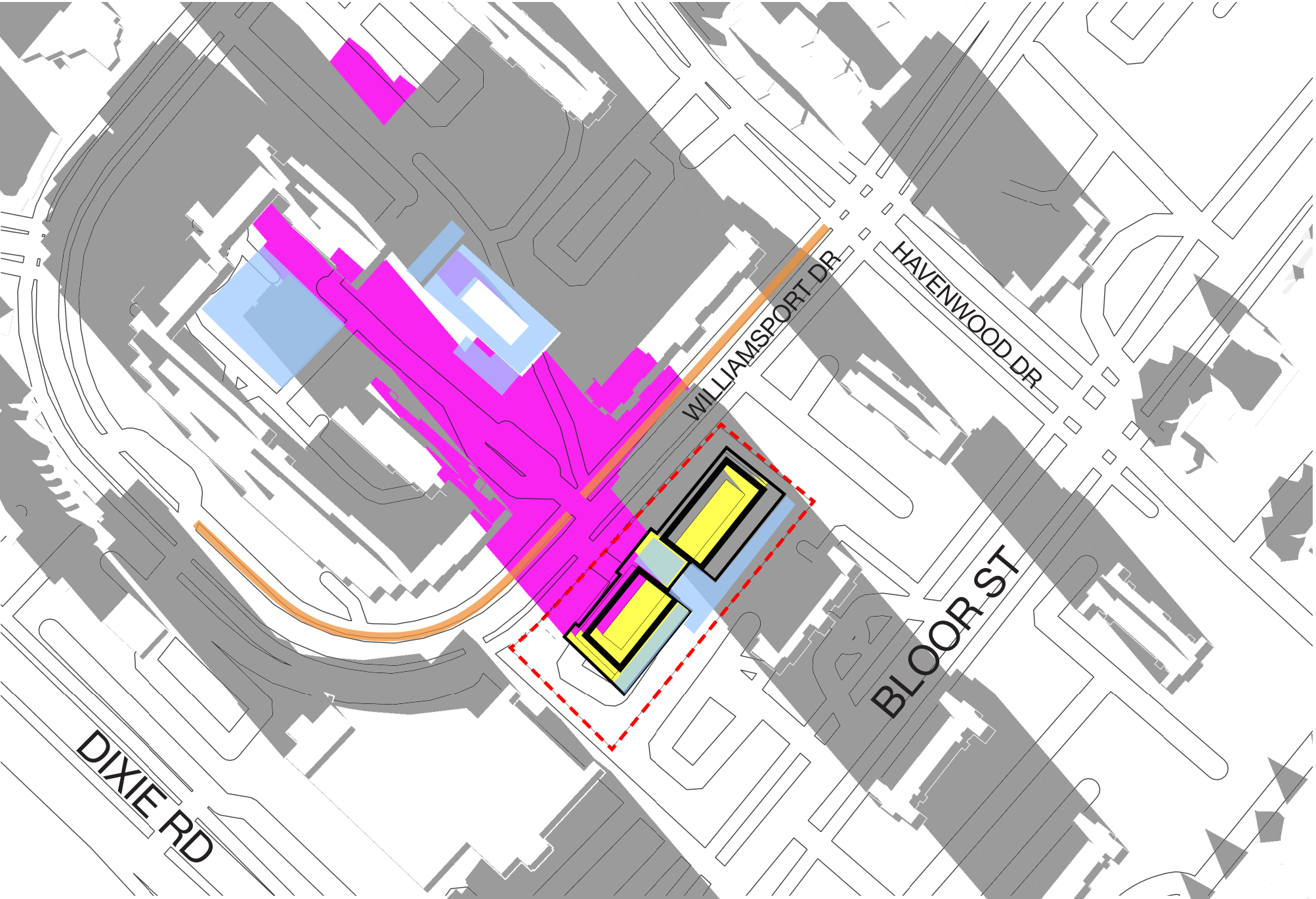
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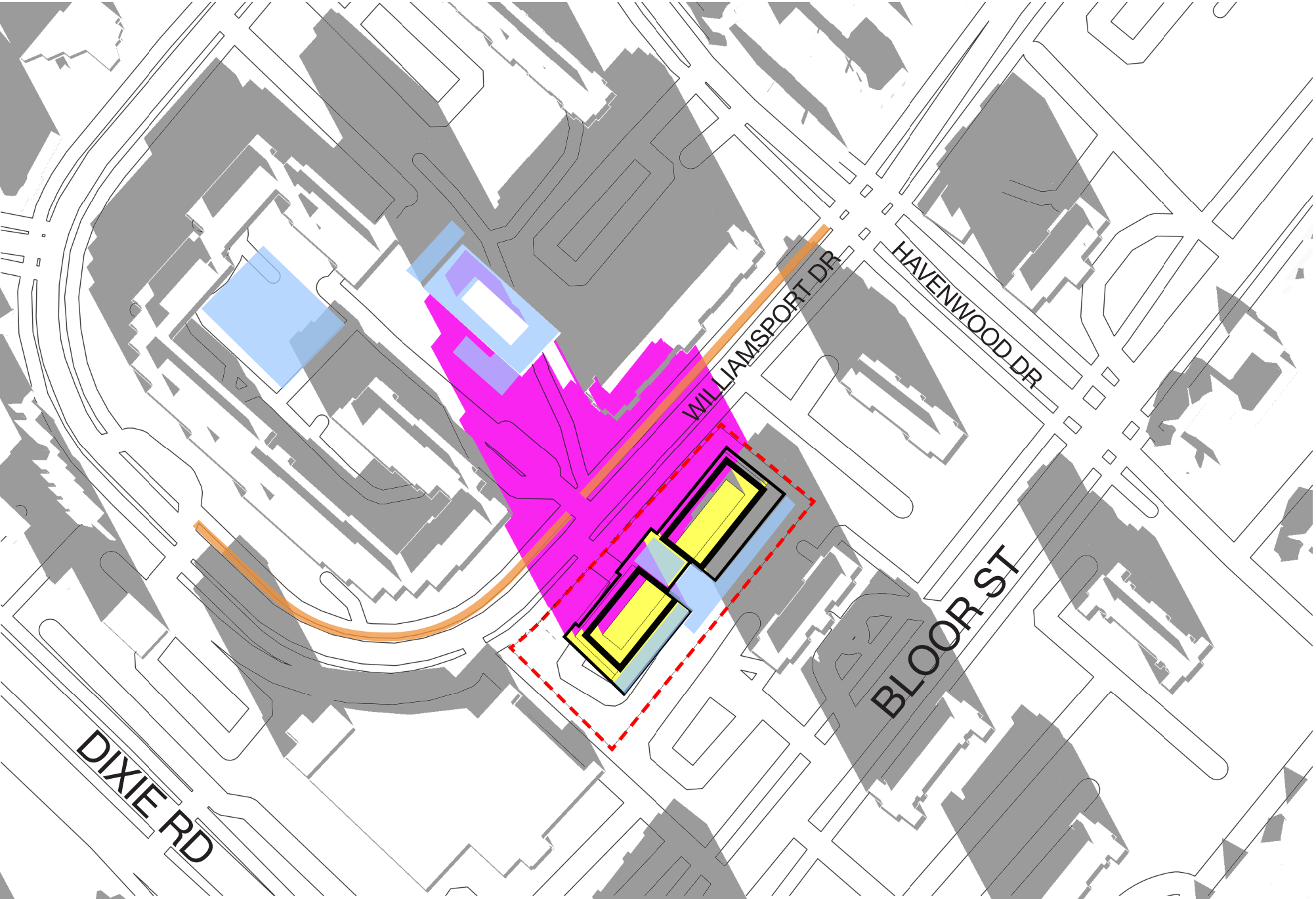
December 21 at 09:19 AM



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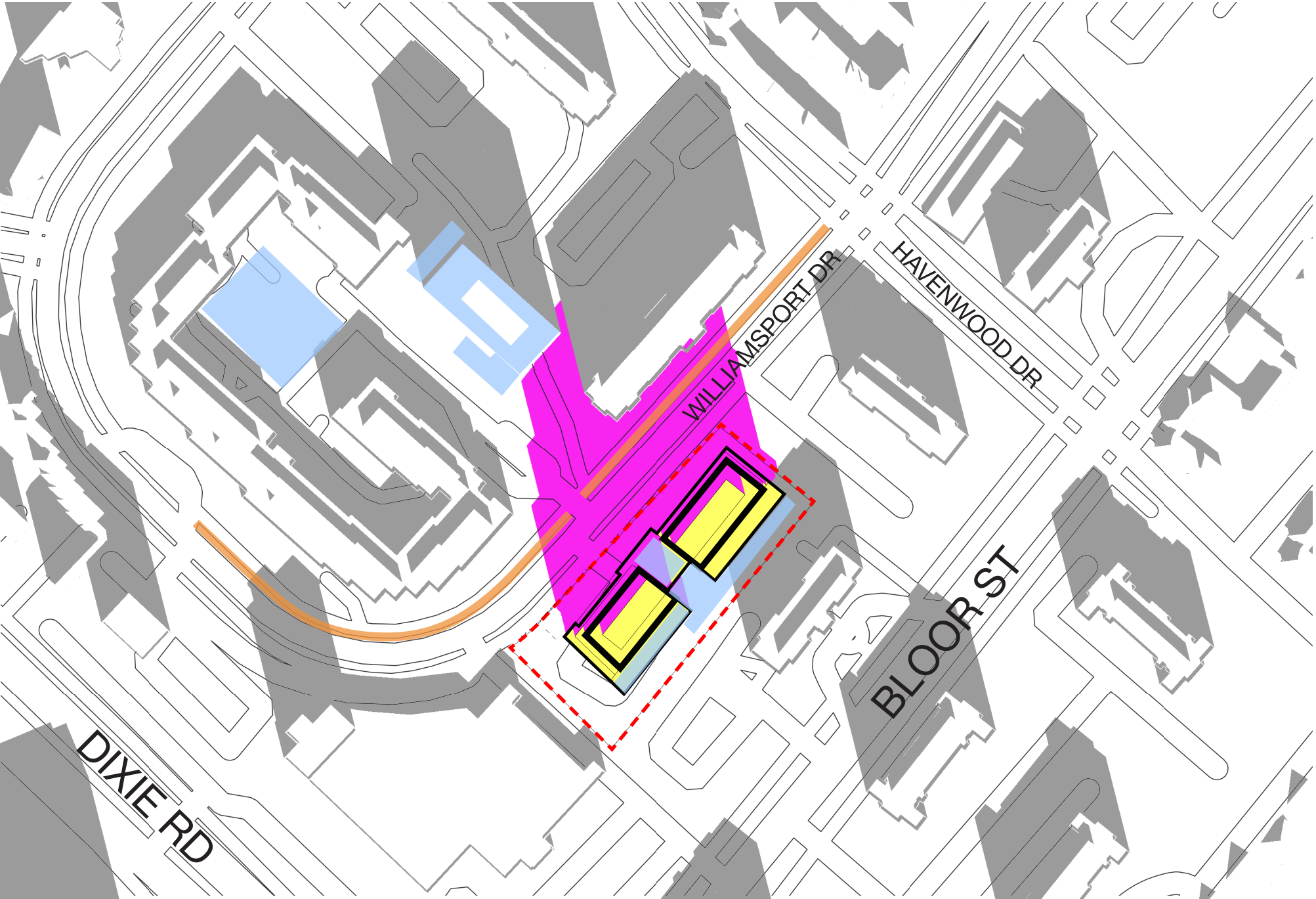
December 21 at 10:17 AM



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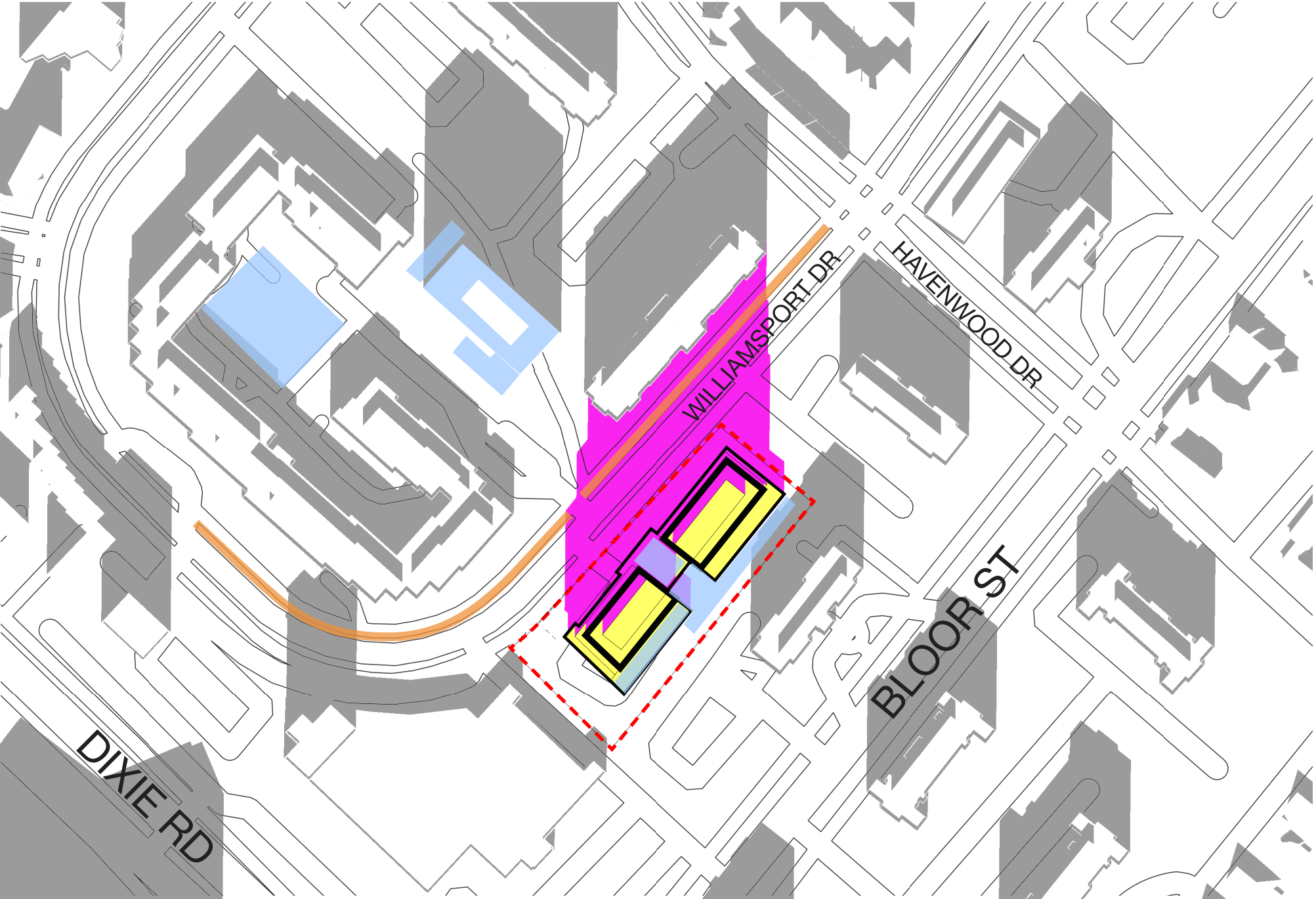
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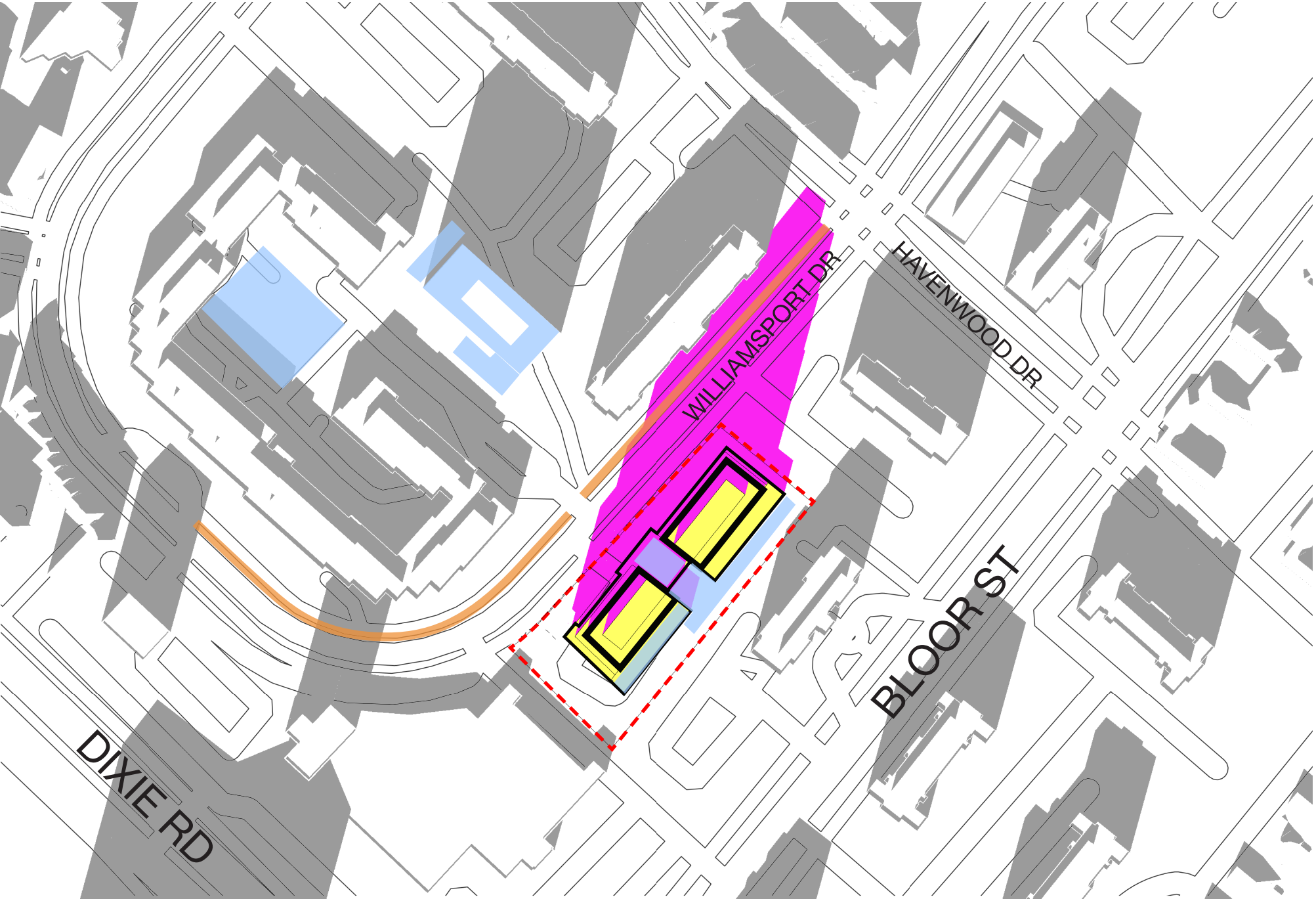
December 21 at 12:17 PM



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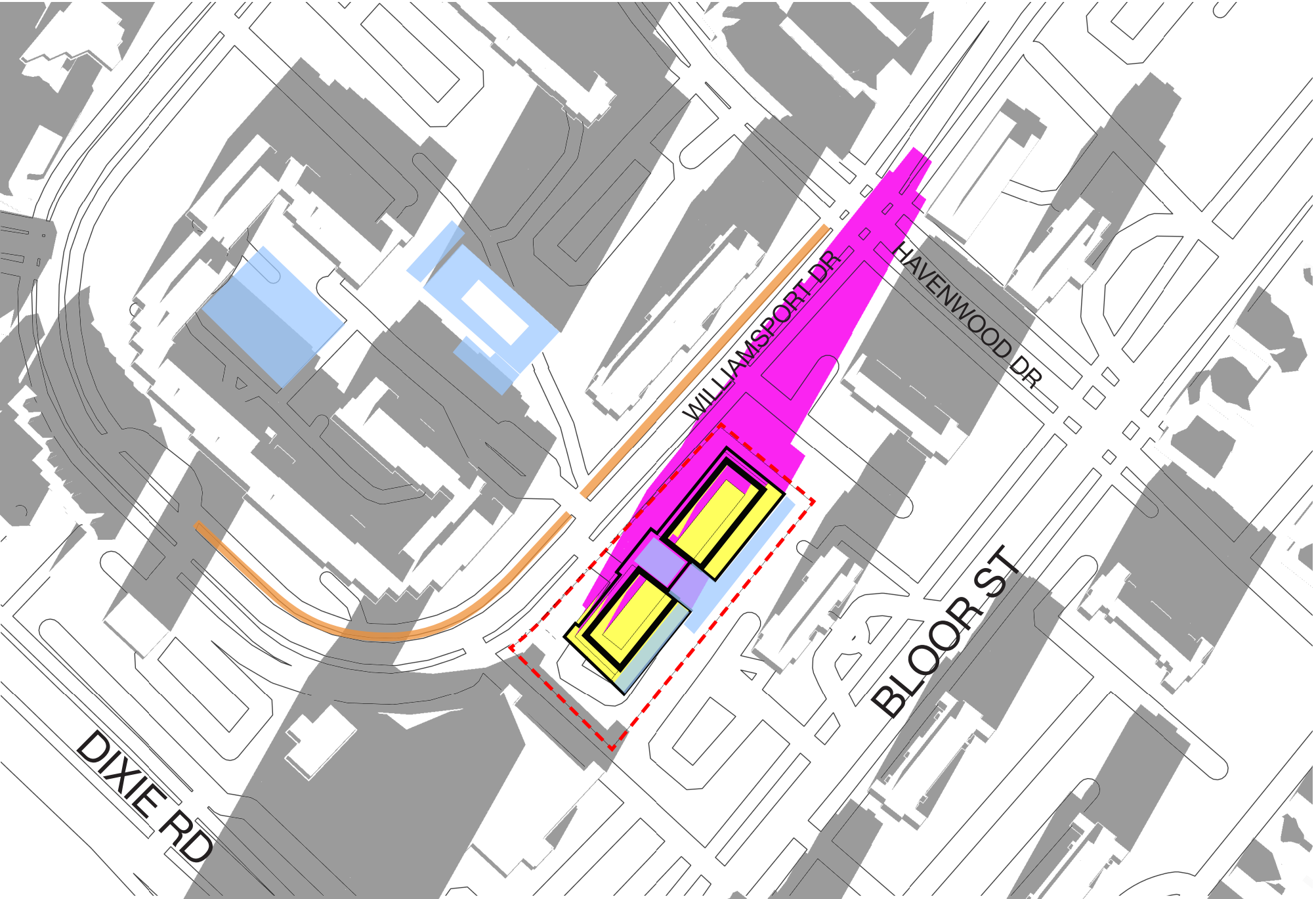
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December 21 at 01:17 PM



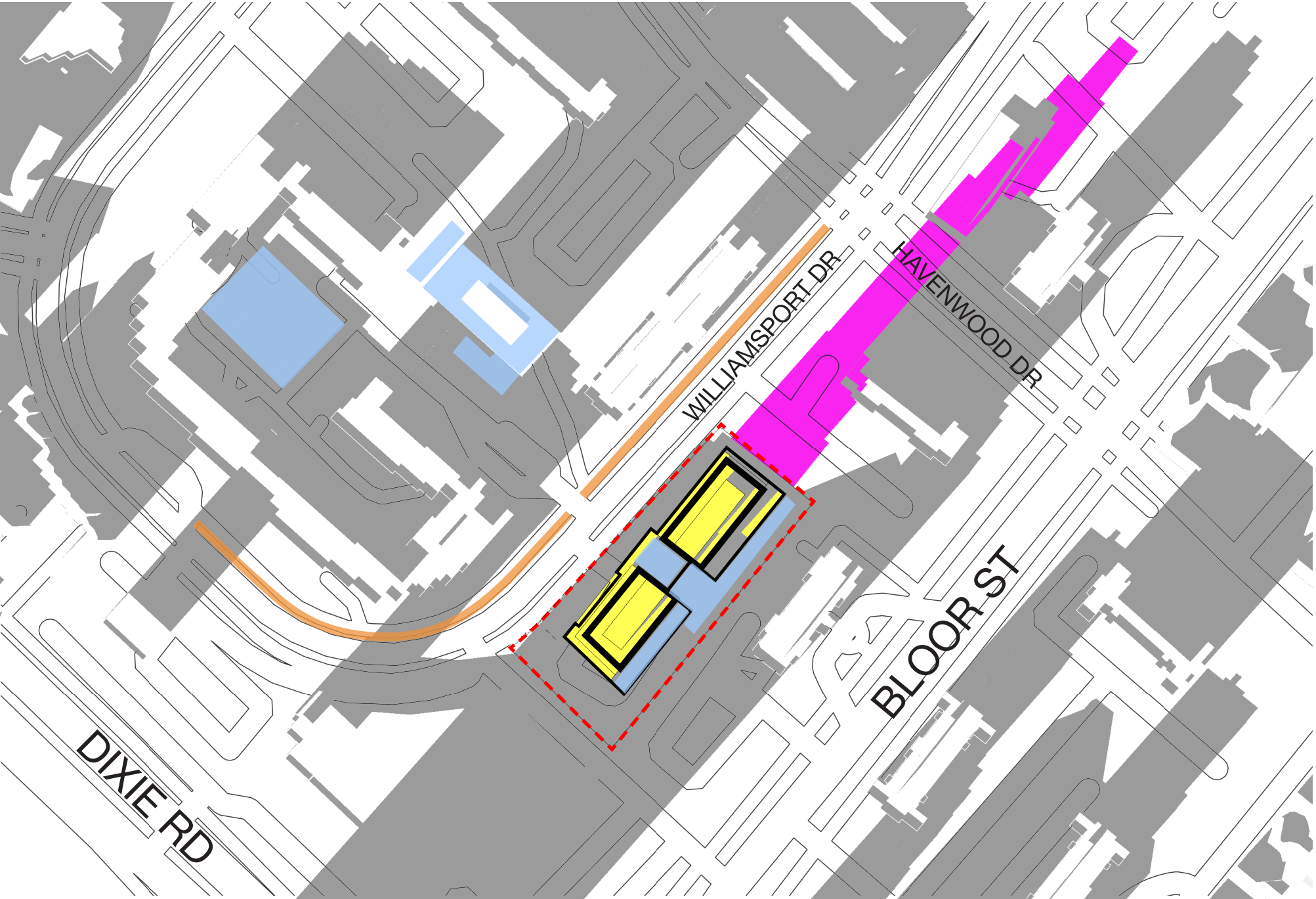
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