

ABINGDON ELEMENTARY SCHOOL



GLEBE ELEMENTARY SCHOOL



NOTTINGHAM ELEMENTARY SCHOOL

EXECUTIVE SUMMARY

Project Team:

Architect: Quinn Evans Architects

Civil Engineer: William H. Gordon Associates

MEP Engineer: 2RW Consultants

Cost Consultant: Forella Group

The team conducted a feasibility study to determine opportunities to add classroom capacity, as well as replace existing relocatable classrooms for three Arlington County elementary schools. The sites studied by this team were:

Abingdon Elementary School

3035 South Abingdon Street, Arlington, VA 22206-1699

Principal: Joanne Uyeda

Glebe Elementary School

1770 N Glebe Rd Arlington, VA 22207-2038

Principal: Jaime Borg

Nottingham Elementary School

5900 Little Falls Rd, Arlington, VA

Principal: Mary Beth Pelosky

The study also evaluated the need and opportunity to expand core spaces in support of increased enrollment as a result of added classroom capacity. The main spaces that were evaluated were the gymnasias and cafeterias. Existing and potential additional parking spaces are also identified for each of the sites.

The approach to adding classroom capacity was to build two or three story additions, siting them in such a way to maintain as much open space as possible. Where land was available but not conducive to tying into the circulation patterns of the existing school, stand alone early childhood centers were proposed for the site. In the instance of Abingdon Elementary School, a new school is proposed as an alternative approach to renovating the existing school.

For the Abingdon and Nottingham sites, parking spaces were added to the site. An effort was made to provide distinct routes for staff parking and parent and bus drop off to improve the existing vehicular circulation patterns. The Glebe site could support no additional parking due to the constraints of the site.

Massing models were generated for each of the sites to study the relationship of the building additions to the existing schools and the surrounding context. Interventions within the existing buildings are also identified. They also show proposed locations for play areas, athletic fields, and additional driveways and parking.

AREA CALCULATIONS

School Name	Addition GSF	Addition gym GSF	Addition cafeteria GSF	Addition media center GSF	Other Ed Spec space added - GSF	Renovation GSF	Total addition cost	Site work cost	Bldg cost	Bldg system renovation cost	# of classrooms added	# of parking added
Abingdon ES New	92,000	5,600	6,000	3,900	76,500	0	34,337,022	3,380,802	19,832,632	6,557,000	36	24
Abingdon Early Childhood Center	39,000						16,347,963	1,258,756	7,826,173	2,950,000	16	24
Abingdon ES Addition and Renovation	21,000	0	0	3,900	17,100	52,000	20,360,641	1,105,271	12,659,475	5,233,000	0	0
Glebe ES Addition and Renovation	38,000	5,100	1,060	0	31,840	5,200	14,977,934	747,299	9,378,486	2,891,300	19	0
Nottingham ES Addition and Renovation	22,000	0	3,200	0	18,800	6,700	9,490,664	466,248	5,949,885	1,730,925	19	0
Nottingham Early Childhood Center	30,000						13,078,540	981,565	6,285,673	2,275,000	16	35



EXISTING SITE PLAN



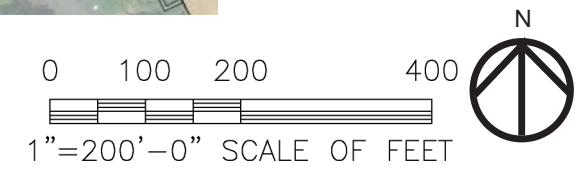
PROPOSED SITE PLAN

LEGEND

- EXISTING
- RENOVATION
- NEW WORK
- PROPERTY LINE
- SETBACK

KEY

- A. EXISTING SCHOOL
- B. PLAYGROUND
- C. KINDERGARTEN PLAYGROUND
- D. EXISTING PARKING
- E. SOCCER FIELD
- F. BLACKTOP PLAY AREA
- G. PROPOSED NEW SCHOOL
- H. PROPOSED EARLY CHILD HOOD CENTER





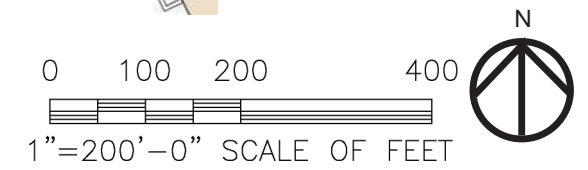
SITE ACCESS



NATURAL FEATURES

LEGEND

- PARENT DROP-OFF
- BUS DROP-OFF
- PEDESTRIAN
- TREES
- ▨ STEEP GRADE

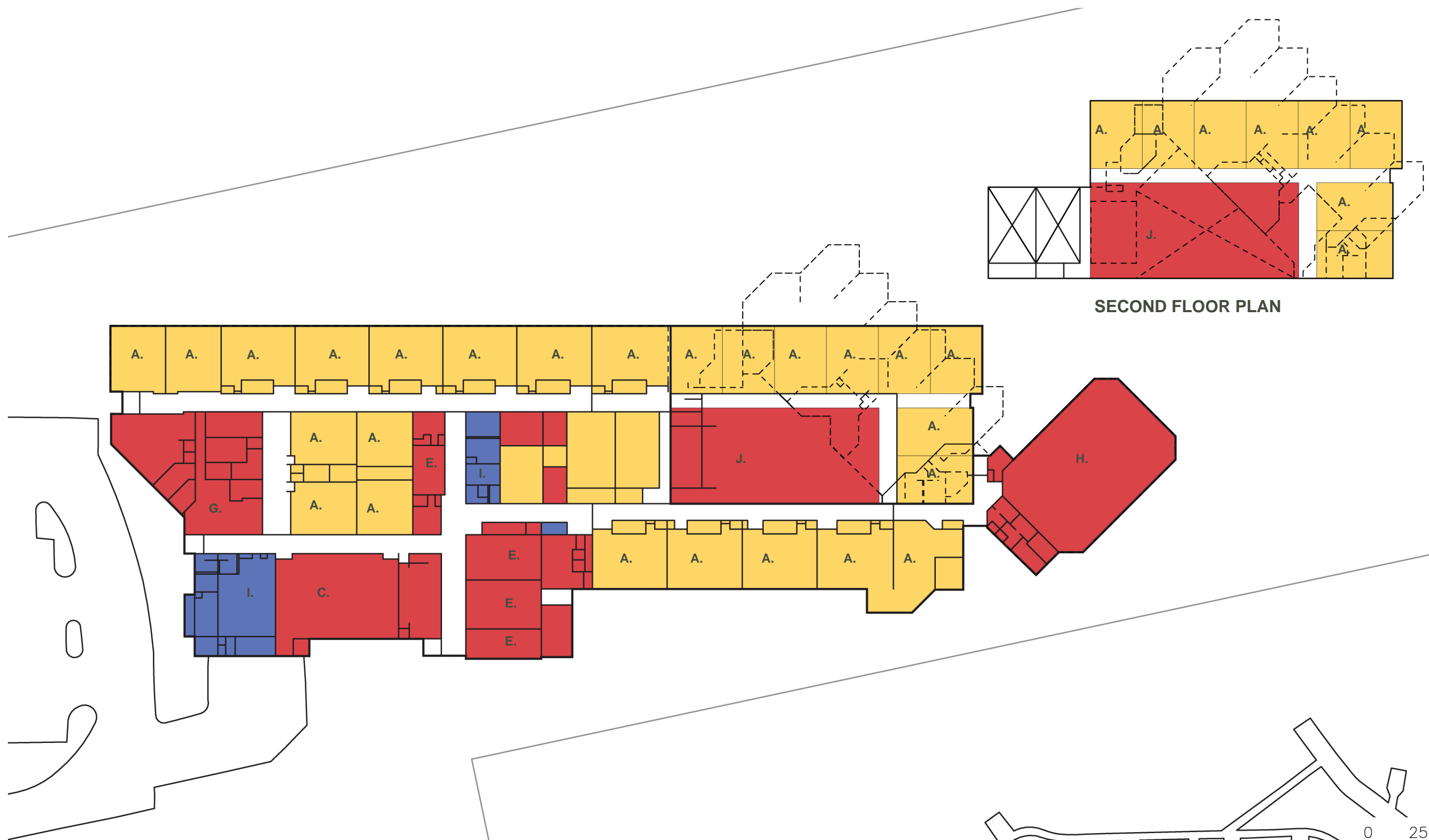




LEGEND

- PARENT DROP-OFF
- BUS DROP-OFF
- PEDESTRIAN



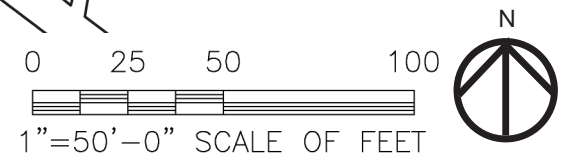


LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT

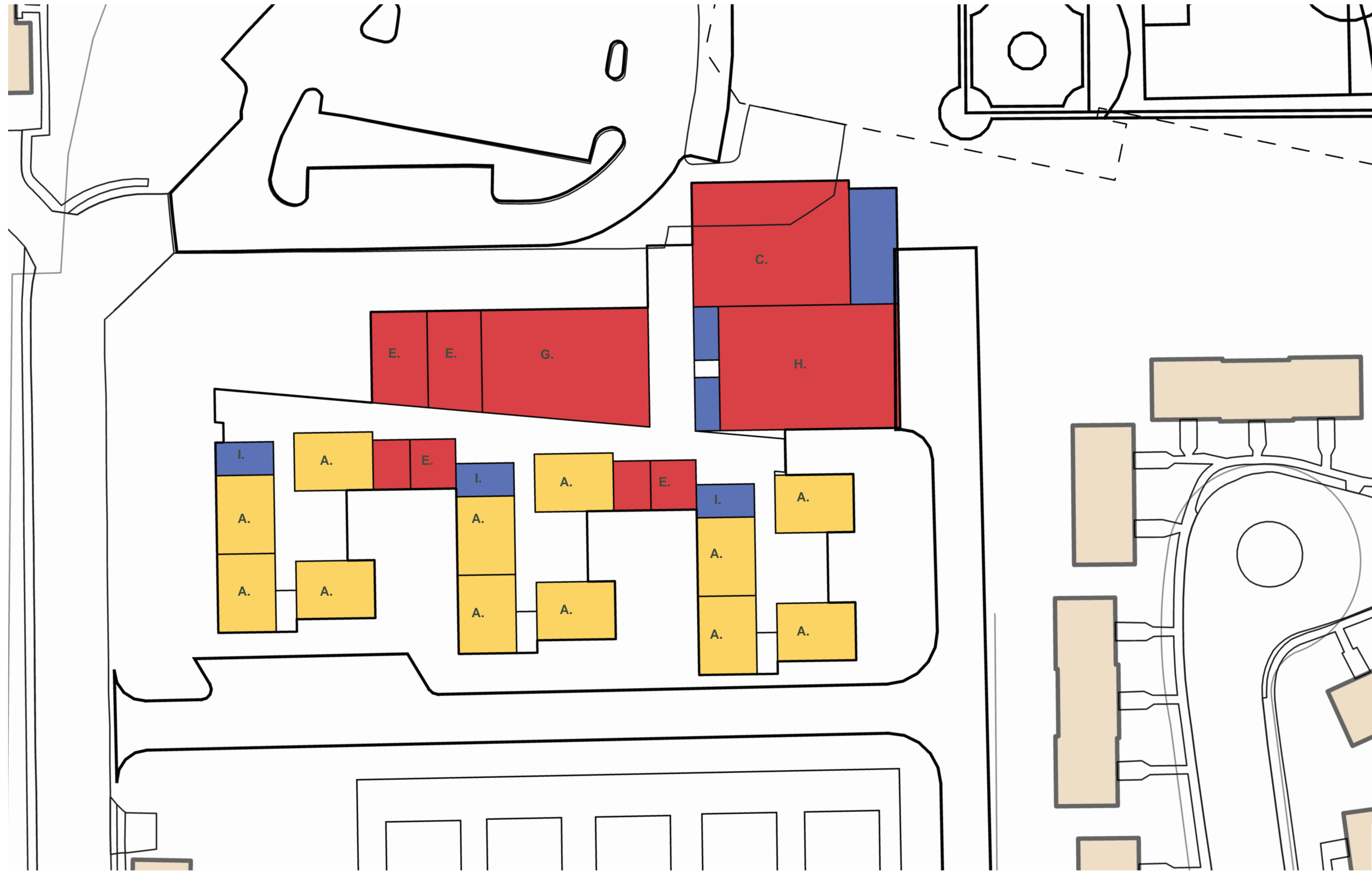
KEY

- A. CLASSROOM
- B. RESTROOMS
- C. CAFETERIA
- D. ENTRY LOBBY
- E. RESOURCE
- F. STAIR
- G. ADMINISTRATION
- H. GYMNASIUM
- I. SERVICES
- J. MEDIA CENTER



FIRST FLOOR PLAN

SECOND FLOOR PLAN

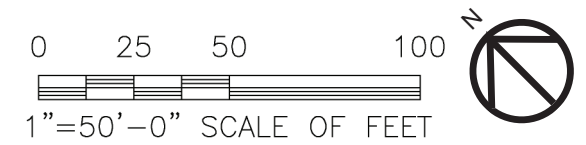


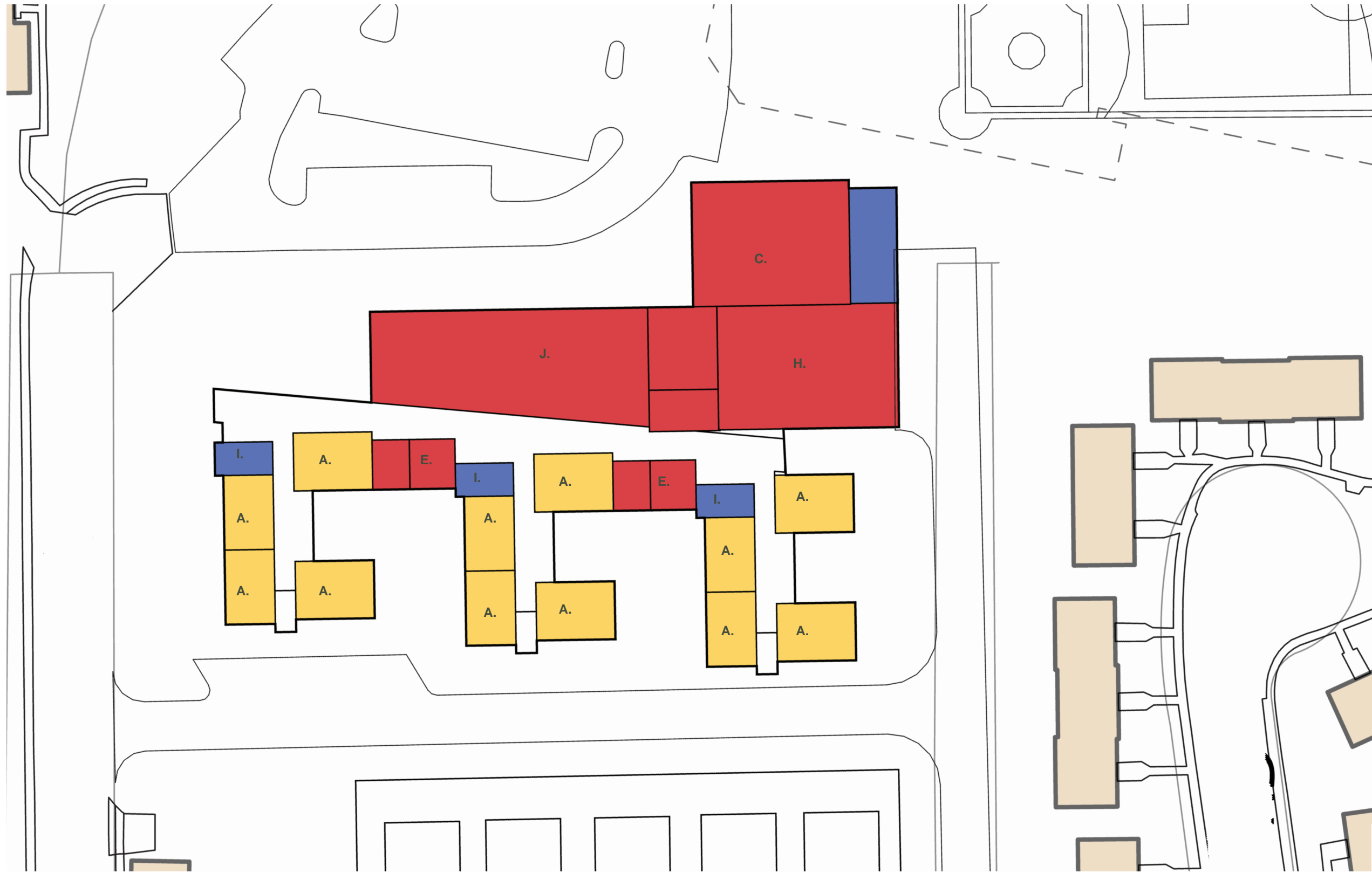
LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT

KEY

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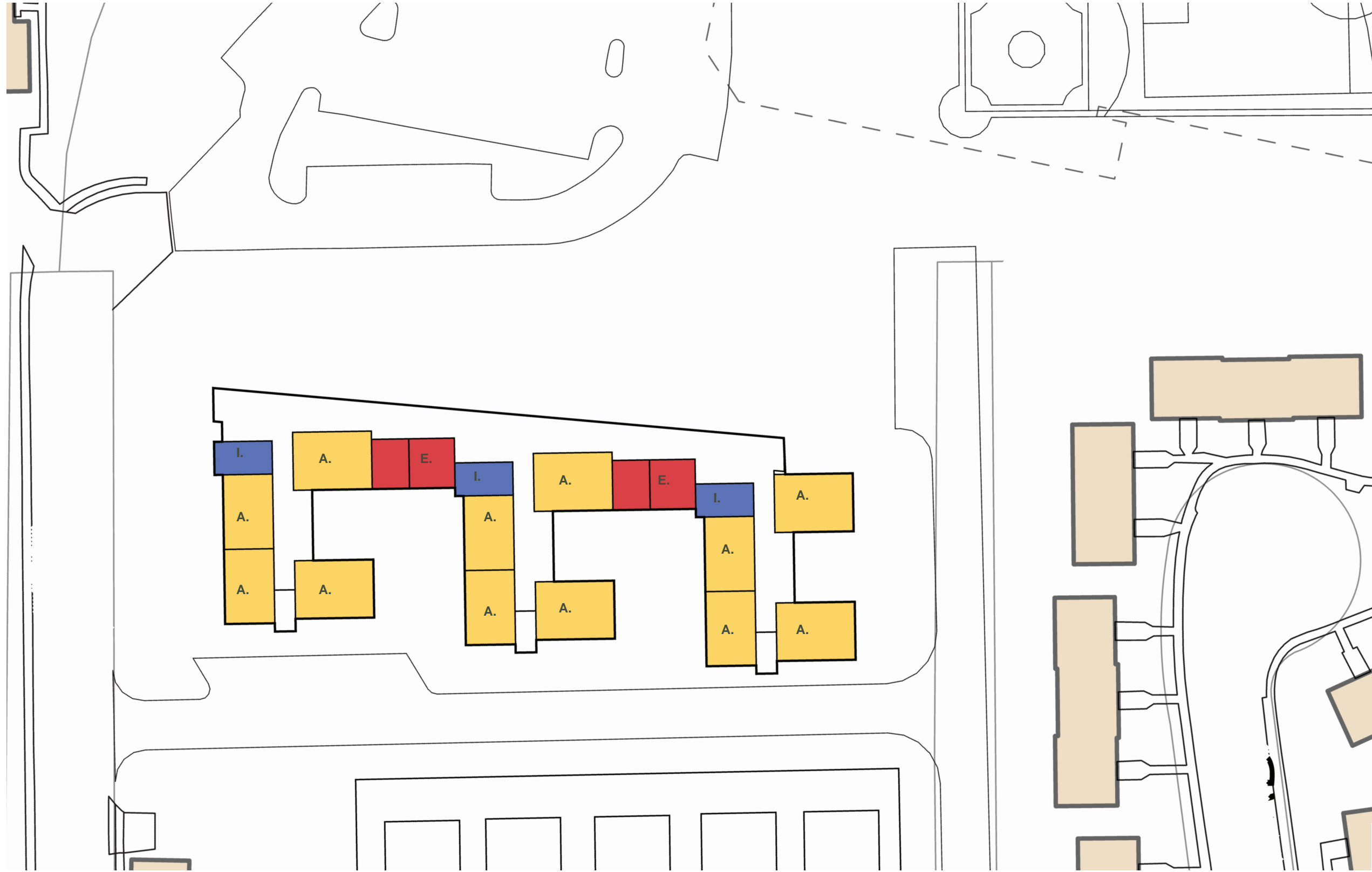
LEGEND

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- CORE SPACES
- SERVICE/SUPPORT

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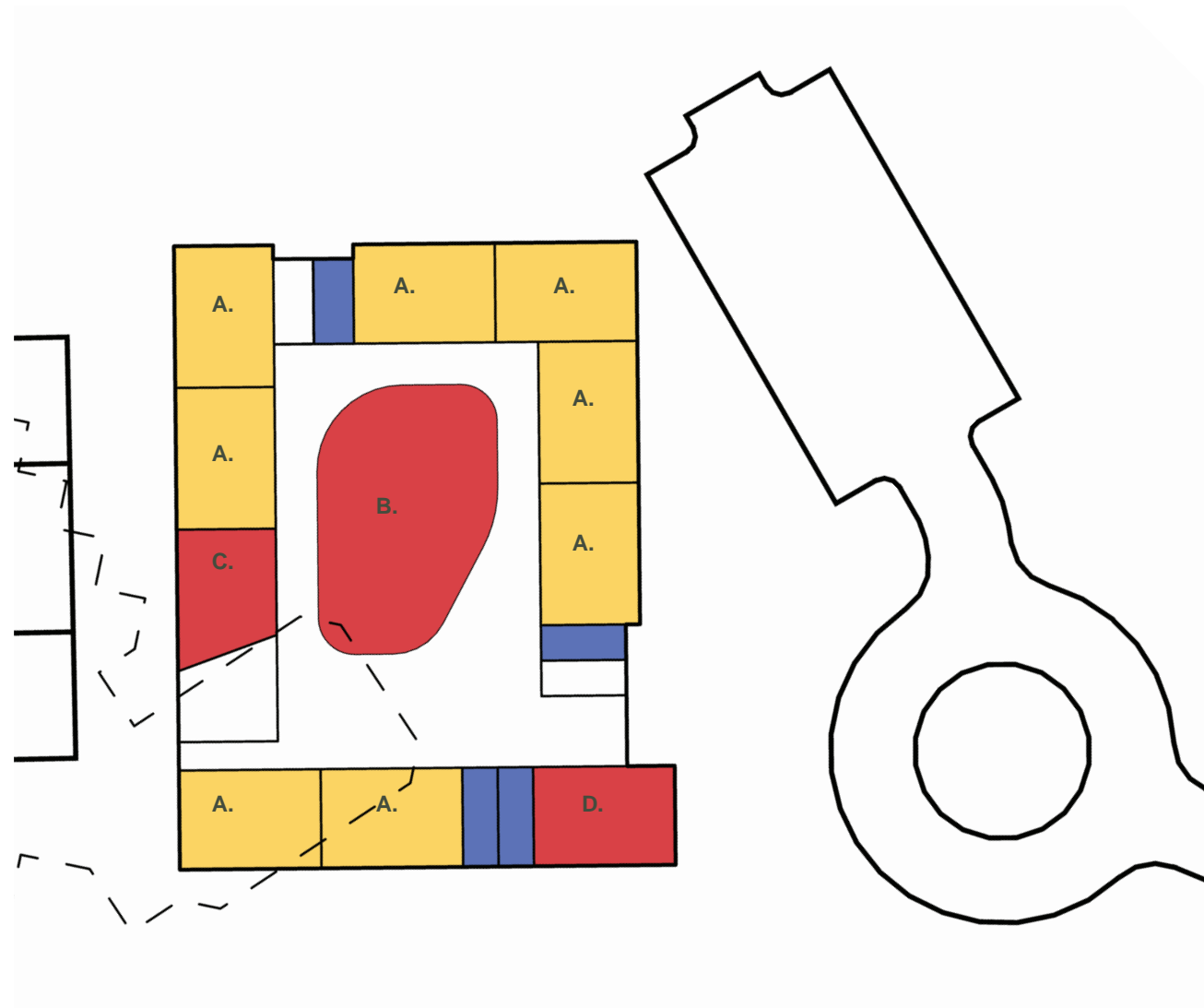
LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT

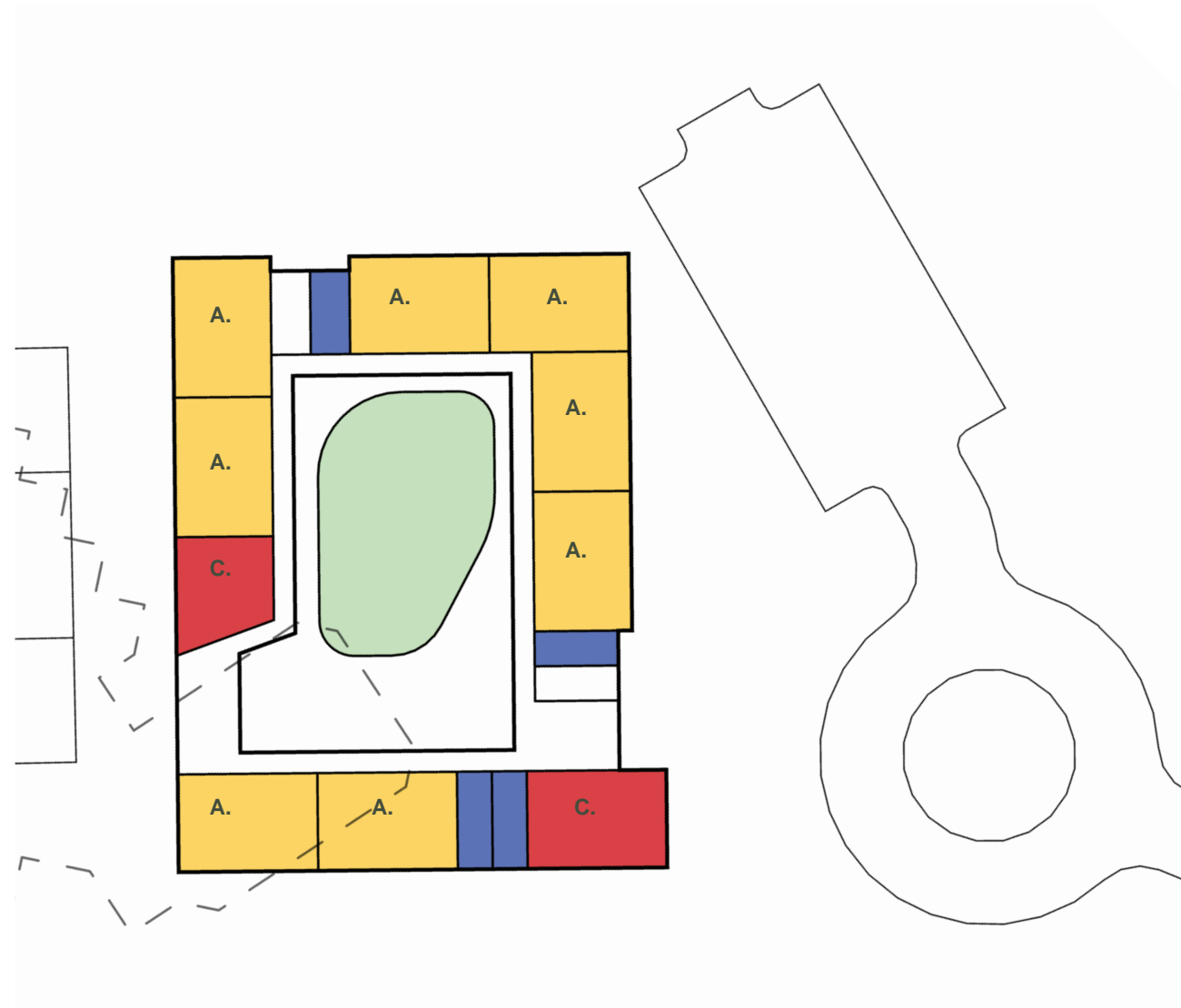
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FIRST FLOOR



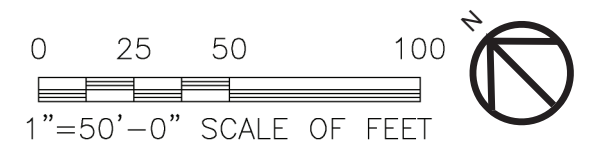
SECOND FLOOR

LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT

KEY

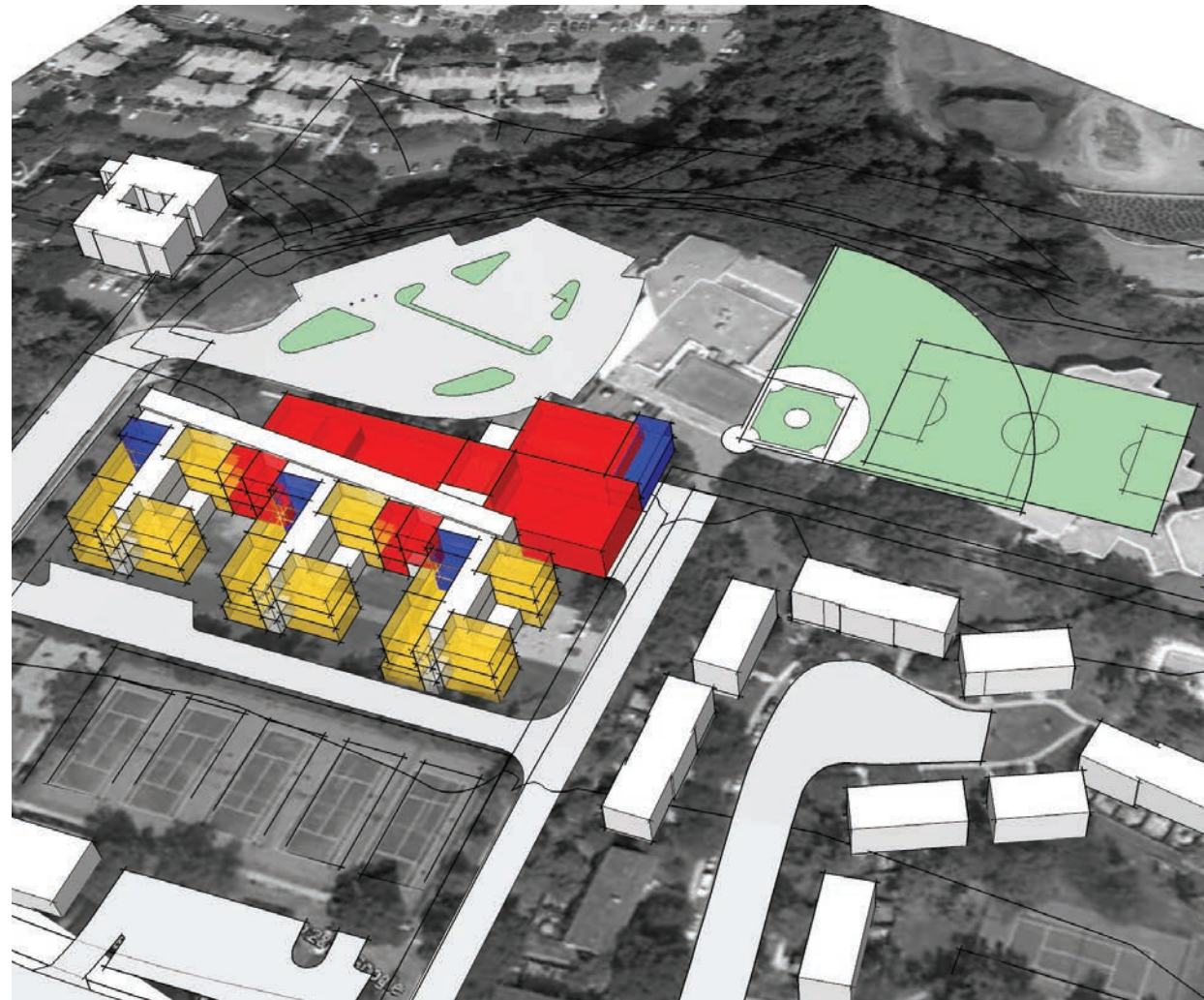
- A. CLASSROOM
- B. MULTIPURPOSE
- C. RESOURCE
- D. ADMINISTRATION
- E. SERVICES





LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT
- RENOVATION AREA



LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT
- RENOVATION AREA

SUMMARY OF EXISTING ABINGDON ELEMENTARY SCHOOL

Abingdon Elementary School was originally constructed in 1950, with major additions completed in 1960, 1970, and 1990. The school currently contains grades Kindergarten through Fifth Grade, with no Pre-K programs. Current enrollment is approximately 505 students. All classrooms in the building are filled, with some special programs accommodated.

Abingdon Elementary sits at the rear of a lot that stretches from Abingdon Street along 29th Street and behind 30th Street. The frontage along Abingdon Street contains tennis courts and a support building. Behind the tennis court is a small asphalt track and play field. Parking and vehicular access is via 29th Street. The school itself sits behind existing apartment communities set far back from the street. To the north of the school, the heavily wooded grade drops steeply to an Arlington County maintenance facility. To the east of the school, playgrounds and a blacktop play area are provided. There is an existing right-of-way off of 31st St that is currently unused, but serves as a buffer between the playground and adjacent apartments. Parking is challenged on the site, but is able to be accommodated with overflow on side streets.

The arrangement of the school on the lot make it impossible to site a large addition adjacent to the building. Adding on to the east would eliminate already crowded outdoor play space and create classrooms a very long distance from the school entry. The existing interior classroom layouts are not favorable, with several classrooms without natural light, and a large number of open-area classrooms that are acoustically deficient. There is currently no fire suppression system. The mechanical system is not providing adequate human comfort to many spaces, and occupants have complained of poor air quality. Accessibility is not provided to many spaces, due to narrow doors, multiple levels without elevator service, and outdated door hardware, among other deficiencies. The roof has been scheduled for replacement in 2012-2013.

PROPOSED RENOVATION

A full renovation of Abingdon Elementary School is required to bring all existing systems up to code and bring the learning environments up to the quality expected. A renovation would require the school to vacate the building for at least one year, or the development of a phased renovation plan that might entail relocatable classrooms placed on site temporarily as swing space. This renovation would consist of complete replacement of all building systems, including mechanical, electrical, fire alarm, and plumbing system. A fire suppression system should be added. New modern window systems and improvements to the exterior envelope should be included to improve energy performance and comfort.

PROPOSED NEW SCHOOL

It is recommended that Arlington Public Schools pursue constructing an entirely new Abingdon Elementary School on the adjacent track site. The numerous problems encountered in the existing building, as well as the difficulties involved in renovation and finding swing space, make a renovation logistically difficult. Ultimately, a renovated existing building would not result in significantly more classroom space, which would not meet the goals of this study.

A new 600 student, three story school has been proposed on the site of the track. This will allow construction to occur while students remain in the existing school, provide convenient construction access, and raise the profile of the school in the neighborhood by making it more visible from Abingdon Street. After completion of the new school, the existing school would be demolished and replaced with playing fields.

EARLY CHILDHOOD CENTER

The unused right-of-way off of 31st Street offers the opportunity to construct an Early Childhood Center on the east side of the site, with separate access and parking. Use of the ball fields could be shared between the two schools



EXISTING SITE PLAN



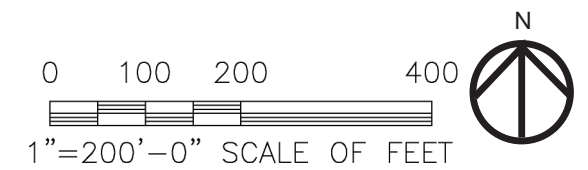
PROPOSED SITE PLAN

LEGEND

- EXISTING
- RENOVATION
- NEW WORK
- PROPERTY LINE
- SETBACK

KEY

- A. EXISTING SCHOOL
- B. PLAYGROUND
- C. KINDERGARTEN PLAYGROUND
- D. EXISTING RELOCATABLES
- E. EXISTING PARKING
- F. SOCCER FIELD
- G. CHURCH
- H. NURSERY PROPERTY
- I. BLACKTOP PLAY AREA
- J. PROPOSED AREA OF RENOVATION
- K. PROPOSED ADDITION





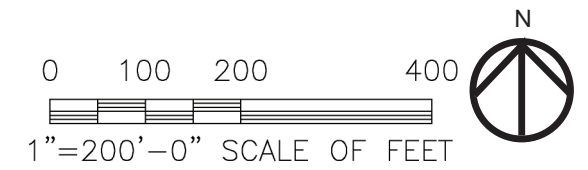
SITE ACCESS



NATURAL FEATURES

LEGEND

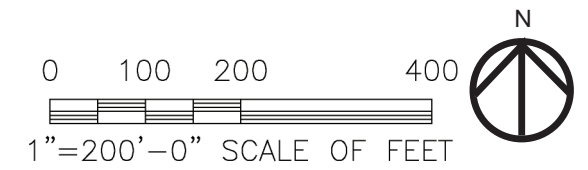
- PARENT DROP-OFF
- BUS DROP-OFF
- PEDESTRIAN
- TREES
- ▨ STEEP GRADE

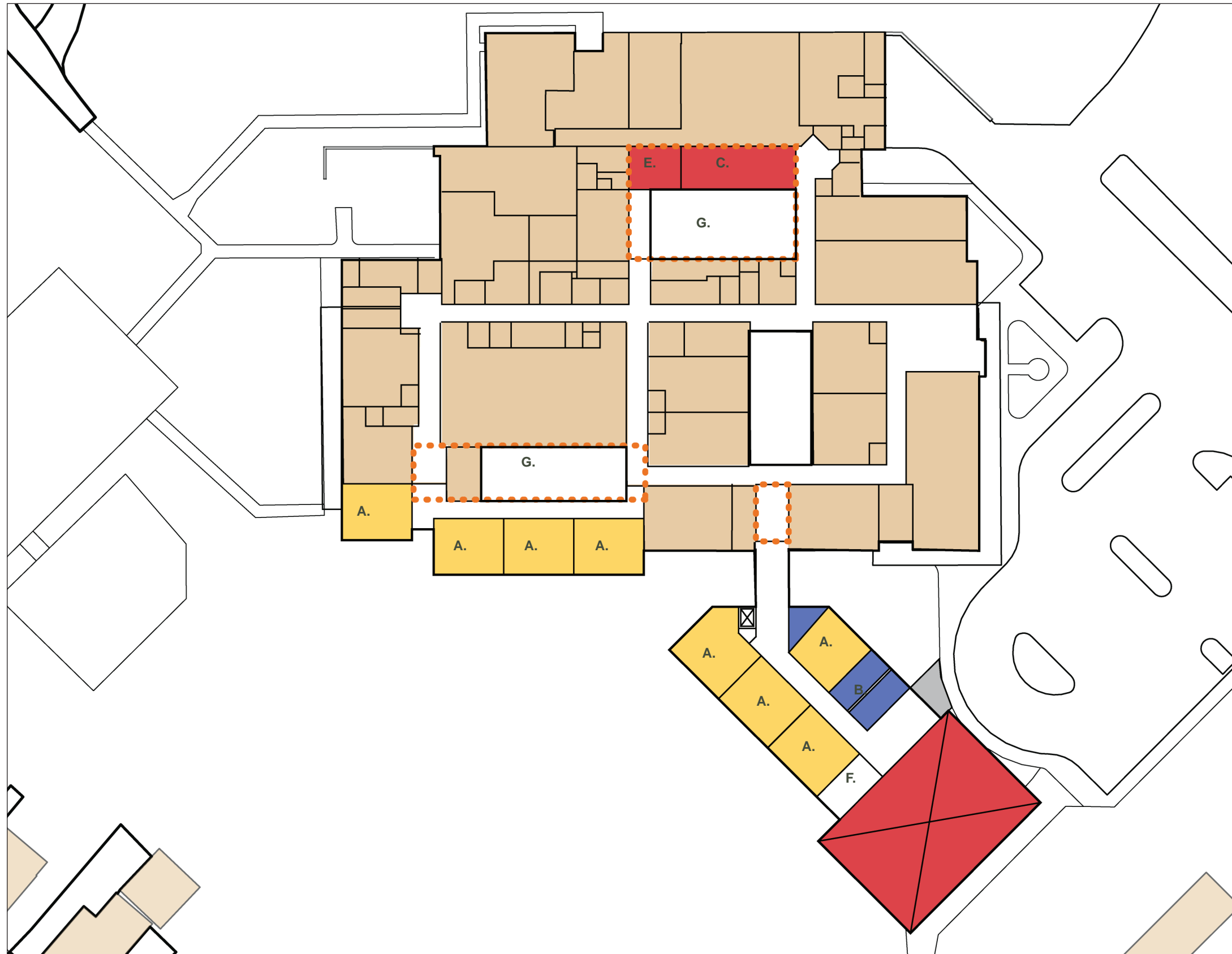




LEGEND

- PARENT DROP-OFF
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- PEDESTRIAN



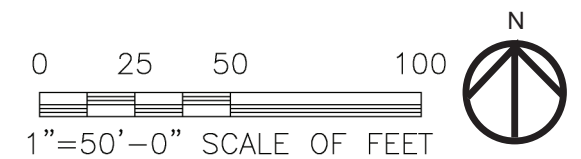


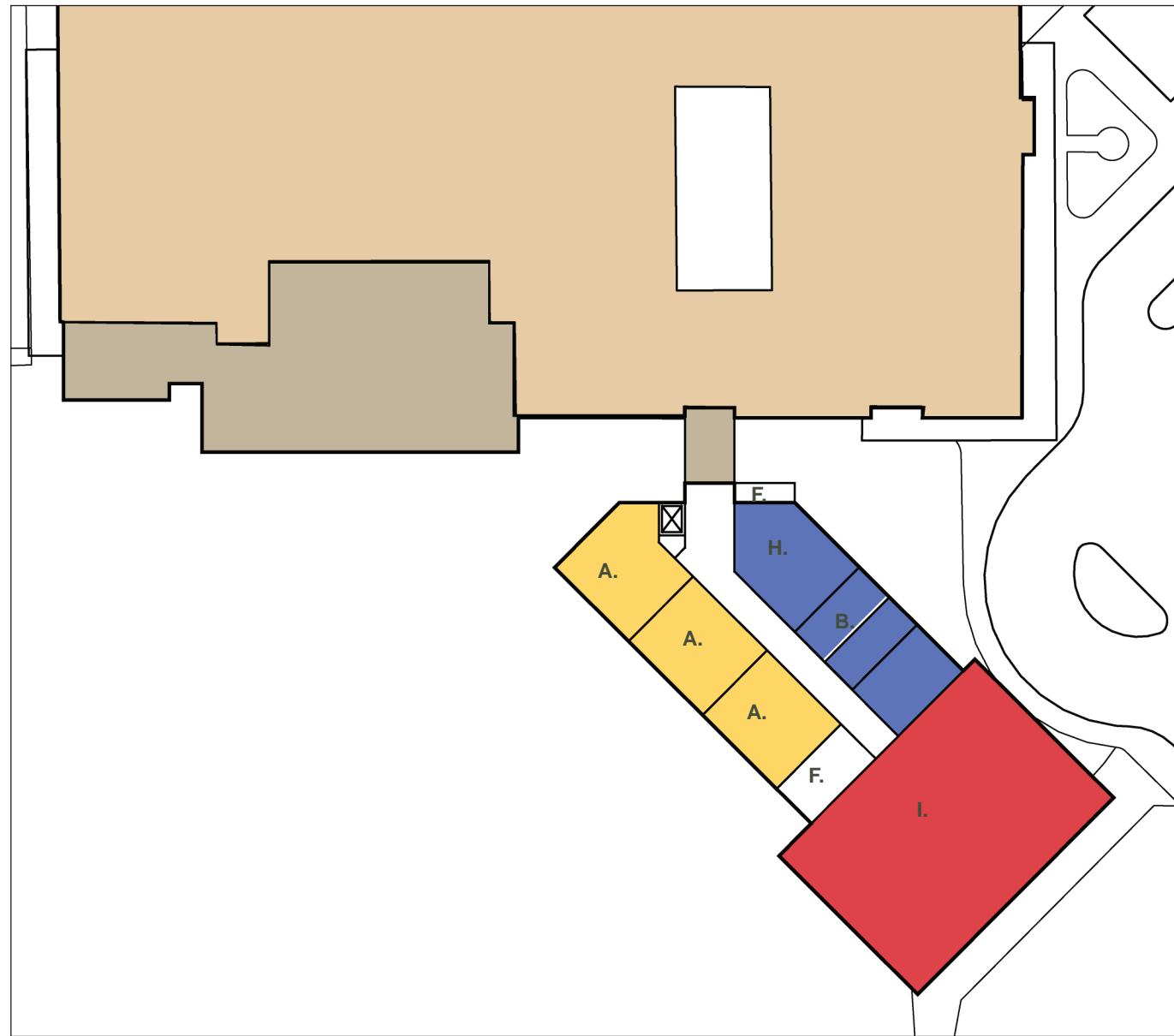
LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT
- RENOVATION AREA

KEY

- A. CLASSROOM
- B. RESTROOMS
- C. CAFETERIA ADDITION
- D. ENTRY LOBBY
- E. WORKROOM
- F. STAIR
- G. COURTYARD





LOWER LEVEL



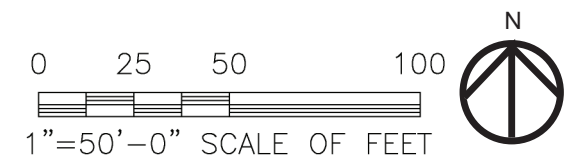
SECOND FLOOR

LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT
- RENOVATION AREA





KEY

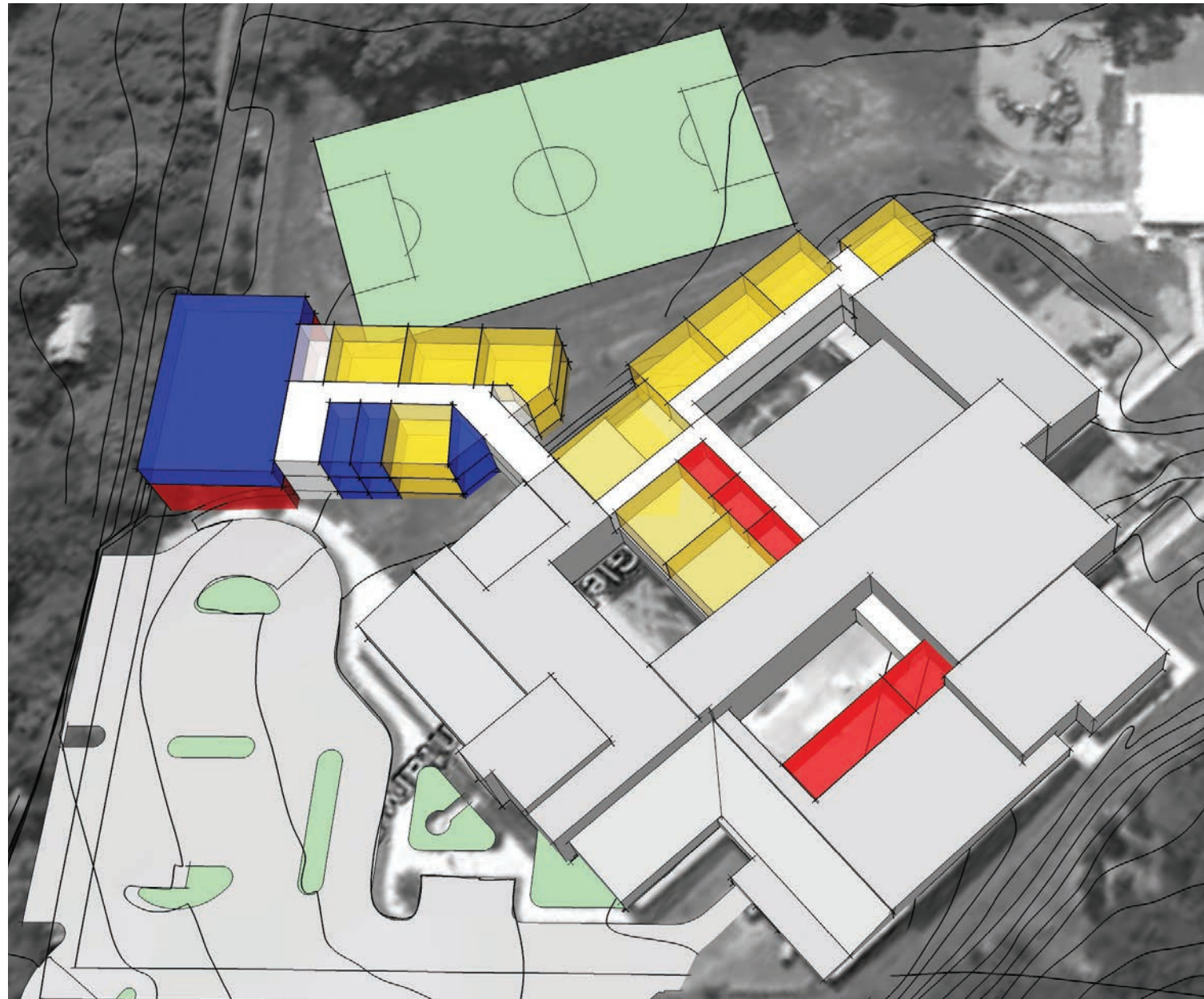
- A. CLASSROOM
- B. RESTROOMS
- C. CAFETERIA ADDITION
- D. ENTRY LOBBY
- E. WORKROOM
- F. STAIR
- G. COURTYARD
- H. MECHANICAL
- I. GYMNASIUM





LEGEND

-  CLASSROOM
-  CORE SPACES
-  SERVICE/SUPPORT
-  RENOVATION AREA



LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT
- RENOVATION AREA

SUMMARY OF EXISTING GLEBE ELEMENTARY SCHOOL

Glebe Elementary School was originally constructed in 1970, with a major addition and renovation completed in 2005. The school currently contains grades Kindergarten through Fifth Grade, with several Special Education programs in the school. Current enrollment is approximately 527 students. Enrollment when the addition opened in 2004 was about 375. Growth has been accommodated by eliminating computer labs and other common spaces, and by adding four relocatable classrooms to the site.

Glebe Elementary’s lot does not front on a public right-of way. Access to the site is via a 37-foot wide easement on church property to the east. This access allows vehicle traffic into and out of the site via a signaled intersection on Glebe Road. Pedestrian access to Culpepper St. to the south and 20th St. to the north is possible via small rights-of-way. The site generally rises from south to north, with the northern part of the site heavily wooded and inaccessible for development. Parking occurs on the east side of the school near the Glebe Road access, with overflow parking accommodated on the church site to the east and the nursery property to the south via informal agreement.

The first floor of the school is about 8-10 feet above the play fields and playgrounds to the south and west. There is a blacktop basketball court play area that is currently unusable as it is the site of the relocatable classrooms.

PROPOSED ADDITION

After studying the constrained site, potential additions are feasible to the south of the existing building. This location is favorable because it interferes least with the play fields, allows better integration with existing internal circulation, and facilitates construction access. The proposed addition consists of two elements:

First, a two-story, eight classroom addition that encloses the landscaped area outside the media center within a courtyard. This shape ties into existing corridors and does not require new vertical circulation. At the second floor of the existing building, a few classrooms will have to be rearranged to create access to the east at the new wing. The revised classrooms are an improvement, as the existing layout has poorly proportioned classrooms with poor or no natural light.

A second three story addition is connected to the existing building via a two-story hyphen corridor. Taking advantage of the grade the lowest level is at the elevation of the play fields, with the upper two levels aligning with the existing building. A new gym will be at the level of the outdoor play space, along with three classrooms. Four classrooms are possible at the first and second levels. It is proposed that the roof of the existing gym is removed, and within the perimeter, a new cafeteria addition is built along with one additional meeting/ classroom. Windows could also be cut in the gym walls to allow natural light in second floor classrooms that are currently served only by skylights.

The addition of nineteen classrooms will be demanding on the school’s currently undersized cafeteria and gymnasium. The new gymnasium is meant to alleviate this crowding, as well as provide better public access in after-school hours. The cafeteria addition will increase seating capacity. No changes are proposed to the media center.

The proposed addition will avoid impacting the major soccer field on the site, and should improve outdoor play space by removing relocatables off of the basketball courts. The site currently parks 57 cars, with need for parking 100 staff. Agreements with the adjacent church and nursery could be formalized to secure additional parking, or those properties could be purchased by the county to develop dedicated surface parking.



EXISTING SITE PLAN



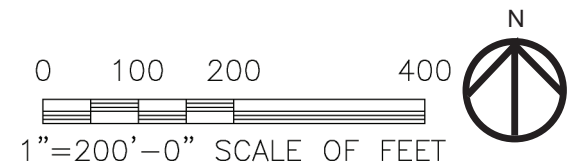
PROPOSED SITE PLAN

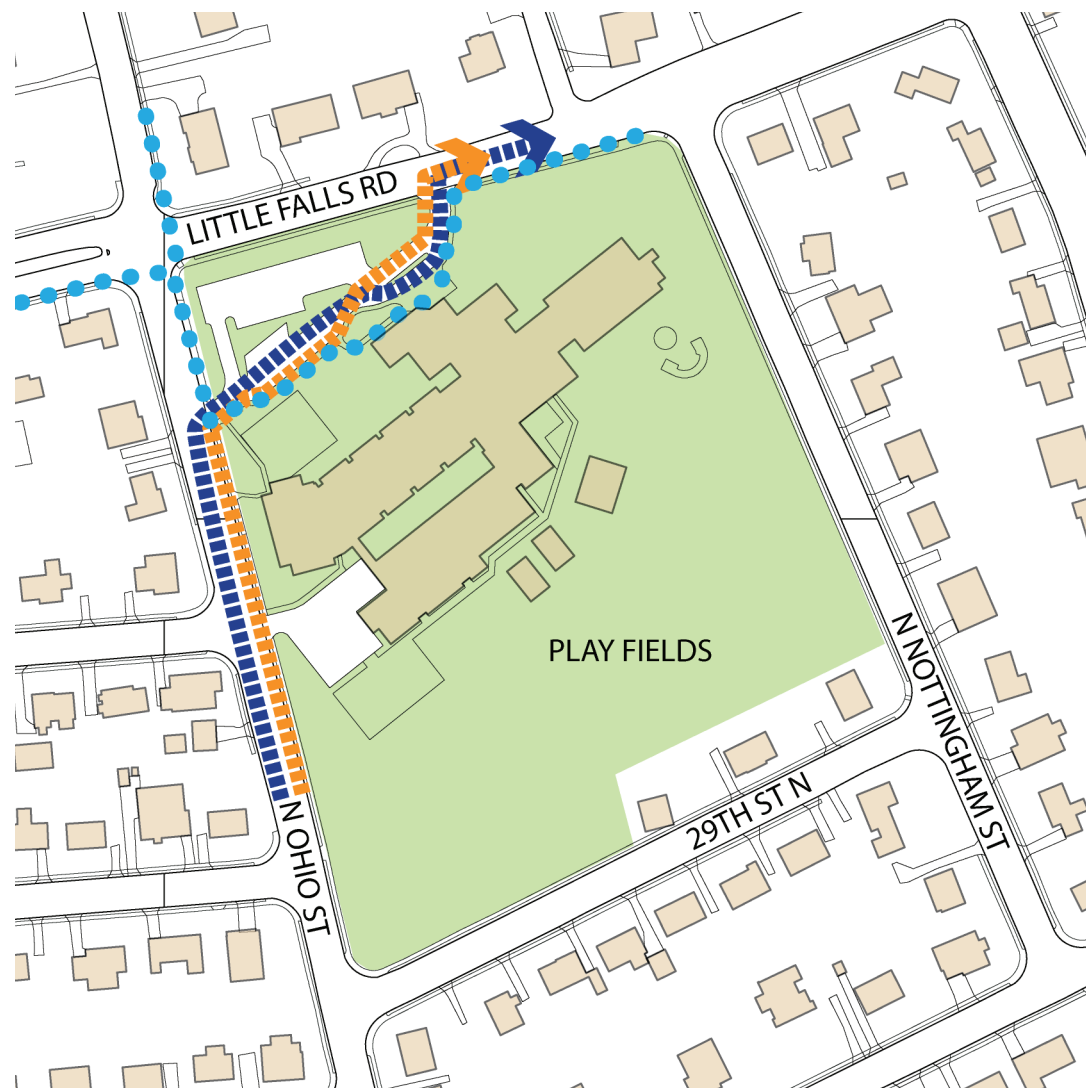
LEGEND

- EXISTING
- RENOVATION
- NEW WORK
- PROPERTY LINE
- SETBACK

KEY

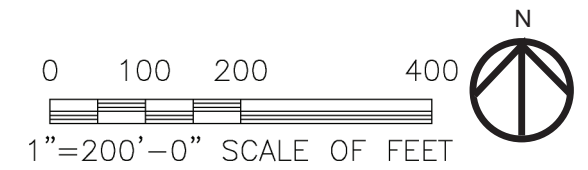
- A. EXISTING SCHOOL
- B. PLAYGROUND
- C. KINDERGARTEN PLAYGROUND
- D. EXISTING RELOCATABLES
- E. EXISTING PARKING
- F. SOCCER FIELD
- G. BLACKTOP PLAY AREA
- H. PROPOSED AREA OF RENOVATION
- I. PROPOSED ADDITION
- J. AMPHITHEATRE
- K. NEW PARKING
- L. EARLY CHILDHOOD CENTER





LEGEND

- PARENT DROP-OFF
- BUS DROP-OFF
- PEDESTRIAN
- TREES
- ||| STEEP GRADE



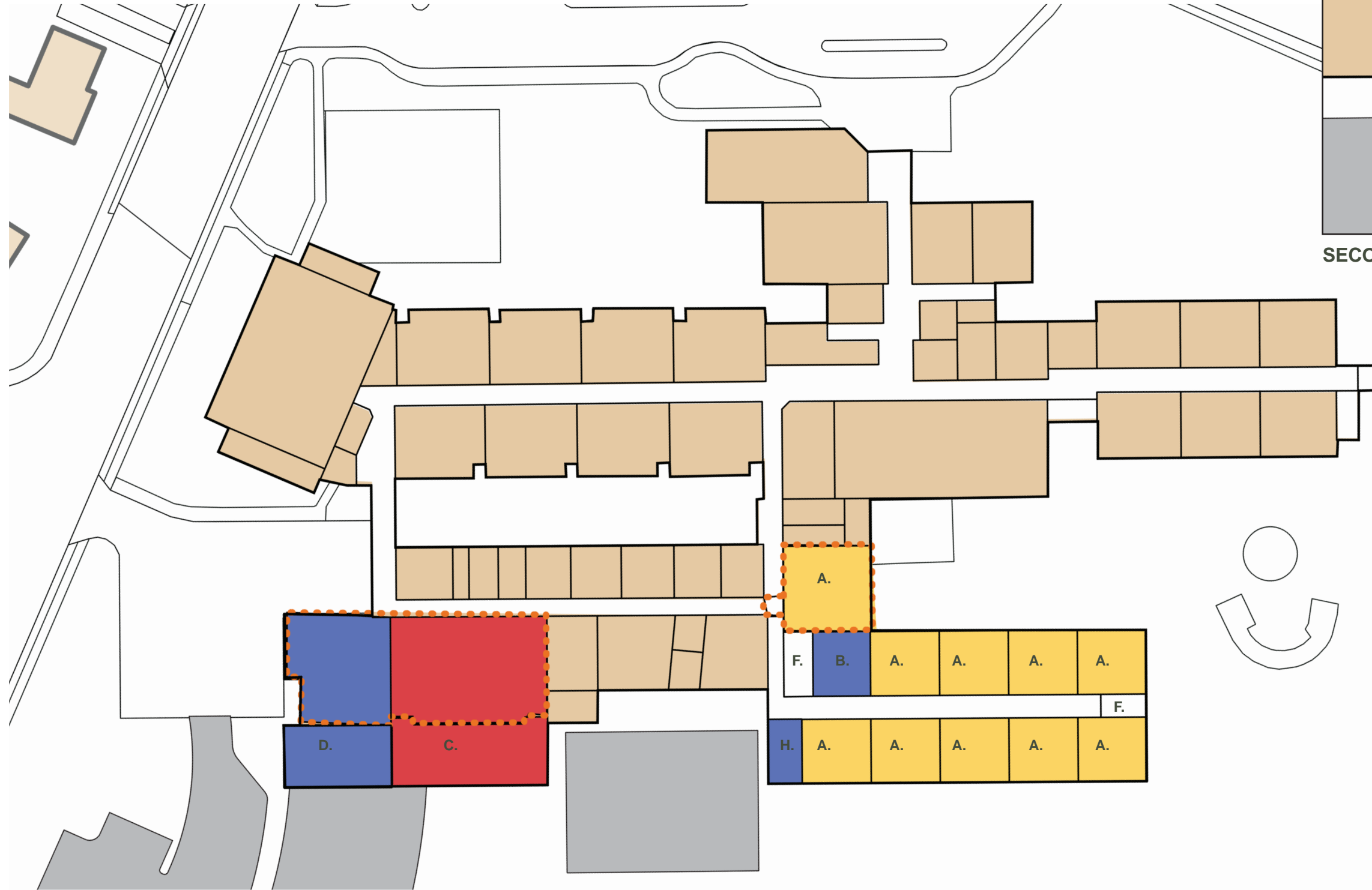


SITE ACCESS

LEGEND

- PARENT DROP-OFF
- BUS DROP-OFF
- PEDESTRIAN





SECOND FLOOR PLAN

FIRST FLOOR PLAN

LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT
- RENOVATION AREA

KEY

- A. CLASSROOM
- B. RESTROOMS
- C. CAFETERIA ADDITION
- D. KITCHEN ADDITION
- E. WORKROOM
- F. STAIR
- G. COURTYARD
- H. MECHANICAL
- I. GYMNASIUM

0 25 50 100
 1"=50'-0" SCALE OF FEET





FIRST FLOOR PLAN



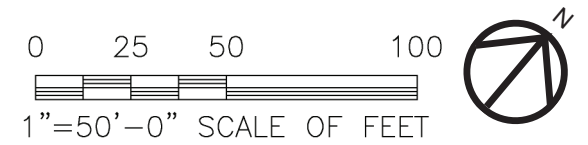
SECOND FLOOR PLAN

LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT

KEY

- A. CLASSROOM
- B. ADMINISTRATION
- C. MULTIPURPOSE ROOM
- D. MECHANICAL





LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT
- RENOVATION AREA



LEGEND

- CLASSROOM
- CORE SPACES
- SERVICE/SUPPORT
- RENOVATION AREA

SUMMARY OF EXISTING NOTTINGHAM ELEMENTARY SCHOOL

Nottingham Elementary School was originally constructed in 1951, with additions completed in 1962, 1991 and 1997. A major addition and renovation was completed in 2005, creating a projected enrollment size of 475 students. The school currently houses grades Kindergarten through Fifth Grade, with no Pre-K programs, and has approximately 600 students enrolled. Growth has been accommodated by eliminating computer labs and other work spaces, and by adding four relocatable classrooms to the rear of the school.

Nottingham Elementary occupies nearly an entire block, with street frontage on all four sides. Bus and car drop-off, as well as parking, are to the north side off of Little Falls Road, with ball fields to the south. The south part of the lot has a steep grade change up to 29th Street from the ball fields. The ball fields contain a blacktop basketball court and two roughly groomed softball fields. To the north and east of the site, steep grades and large trees inhibit potential for development. Parking on the site is inadequate for the demands of the staff at the school, but street parking along the neighboring streets is plentiful.

PROPOSED ADDITION

The design team has proposed a two-story addition to the south and east of the existing additions. This addition consists of 18 classrooms accessed near the existing art room. The location works with existing internal circulation patterns and takes advantage of the relatively flat grades at the edge of the ball fields. Two new stairways and an elevator will be required to serve this addition, as well as restrooms.

The addition of new classrooms will require attention to the cafeteria, which already requires a long lunch period and has only one serving line. The design team has proposed an addition to the cafeteria dining space as well as kitchen area in order to facilitate shorter lunch wait times and to accommodate the additional student population.

EARLY CHILDHOOD CENTER

The Nottingham site is large enough that it could accommodate additional development. We have proposed that a two-story, 16 classroom, 35,000 SF early childhood education center could be constructed at the southwest corner of the site. A new parking lot will allow for independent drop-off and provide additional off-street parking.

SITE IMPACTS

The proposed additions would affect the layout of the existing ball fields. The southwest softball field would be lost, as well as the existing paved play area. A new paved area would be built to the east of the early childhood center, and a new softball configuration would be pursued. The new additions are designed to provide some enclosure to the outdoor fields, which staff had noted are currently vast and thus difficult to supervise.