



## Executive Director's Recommendation

Commission Meeting: February 4, 2021

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### PROJECT

#### **Vaccine Research Center Laboratory Expansion, Building 40A North Tower**

National Institutes of Health, Bethesda Campus  
9000 Rockville Pike  
Bethesda, Maryland

### SUBMITTED BY

United States Department of Health and Human Services, National Institutes of Health

### REVIEW AUTHORITY

Federal Projects in the Environs  
per 40 U.S.C. § 8722(b)(1)

### NCPC FILE NUMBER

8193

### NCPC MAP FILE NUMBER

3101.20(38.00)45259

### APPLICANT'S REQUEST

Approval of final site and building plans

### PROPOSED ACTION

Approve final site and building plans

### ACTION ITEM TYPE

Consent Calendar

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## PROJECT SUMMARY

The United States Department of Health and Human Services (DHHS) has submitted final site and building plans for a new six-level 79,000 gross square foot addition to Building 40, the Vaccine Research Center (VRC), on the National Institutes of Health (NIH) Bethesda Campus. The proposed new Building 40 addition is included in the current 2013 NIH Master Plan. The project would double the available laboratory space, including specialty laboratories, support space, administrative space, and conference/meeting rooms. The new addition would be constructed on the north side of the existing building and will be designed to complement the architectural aesthetics of the existing facility. Additional site improvements would include a new underground vault for the emergency generator fuel storage, a security gate arm at the entrance to the loading dock driveway, a bio-retention area for on-site stormwater management, lighting, reconfigured sidewalks, outside furniture, and new or relocated fire hydrants. The Commission approved the project as a consent item in September 2020 and requested the applicant provide additional information about new landscaping and other site features as part of the final submission.

## KEY INFORMATION

- The National Institutes of Health campus was established in Bethesda in 1938, with a mission “to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce the burdens of illness and disability.”
  - The proposed new Building 40 addition is included in the current 2013 NIH Master Plan.
  - The new addition design is informed by the 2016 Guiding Principles for Sustainable Federal Buildings, and the design goal is to achieve LEED Gold certification.
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## RECOMMENDATION

The Commission:

**Approves** the final site and building plans for a new 79,000 gross square foot addition (known as Building 40A North Tower) to Building 40 on the main National Institutes of Health (NIH) campus in Bethesda, Maryland.

**Notes** that NIH provided photo simulations of the new Building 40A addition's north and east-facing sides to include new landscaping consistent with the Commission's previous request.

## PROJECT REVIEW TIMELINE

|   |   |
|---|---|
| <b>Previous actions</b>                   | <b>September 2020</b> – Preliminary site and building plan review |
| <b>Remaining actions</b><br>(anticipated) | None  |

## PROJECT ANALYSIS

### Executive Summary

NCPC staff has reviewed the final submission for the construction of a new addition to Building 40 (Vaccine Research Center) to expand the building's operational capacity. The new addition is reflected in the current 2013 NIH Master Plan and is consistent with many of its planning principles. The project would add no new parking on campus and mitigate all tree removal through a net increase in new trees, which is consistent with NIH and NCPC policies. Therefore, staff recommends that the **Commission approve the final site and building plans for a new 79,000 gross square foot addition (known as Building 40A North Tower) to Building 40 on the main National Institutes of Health (NIH) campus in Bethesda, Maryland.**

### Description

The NIH submission describes the proposed new Building 40 addition (40A Tower) as necessary expansion space to the Vaccine Research Center. The new space would accommodate an employment increase of 189 research and administrative personnel on campus. The current 2013 NIH Master Plan, which includes the proposed 40A addition, articulates the necessity of on-site modern research space to continue to meet NIH's mission, as well as gradually shifting off-site research to on-campus facilities. The building design remains largely unchanged from NCPC's preliminary review with the exception of decorative aluminum panels which have been included on the addition's north façade, instead of projecting fins. The change would reduce building costs and eliminate the opportunity for the fins to be used as bird perches.

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The project encompasses approximately 52,000 square feet (1.2 acres) of property in the western part of the NIH campus, on a site with a sloping lawn, sidewalks, and several mature trees. The site is located between an existing loading dock/building service access drive (west), South Drive (north), Convent Drive (east), and the Building 40 tower to the south. The project site is near other research-oriented buildings (Buildings 37 and 49) and across the street from the new temporary NIAID Bioinformatics Facility (approved by NCPC in September 2019) and the proposed new Utility Vault site (Project # 8207).

The project consists of a new six-level 79,000 gross square foot tower addition, with space for offices, laboratories, conference rooms, storage, a break area, utilities, and showering/locker-room facilities. The project floorplan is designed to encourage interaction, collaboration, and communication between researchers in open, flexible, and multiuse rooms. Project plans show the new construction as a straight-lined, modern-looking, glass addition that matches the modern architectural style of the existing VRC building. The addition would be constructed on new cast-in-place concrete floor slabs that match the floor levels of the existing Building 40 to accommodate direct inter-building corridor connections. The design avoids the relocation of underground utilities or the installation of dewatering systems. Plans show addition measurements at approximately 50-feet in length (north-south), 30-feet wide (east-west), with a rooftop elevation of 110 feet above ground level.

Besides the building addition, site plans show new sidewalks, bioswale areas, lighting, outside furniture, permeable areas, landscaping, and stone strips adjacent to the east and north-sides of the new tower addition with accent rocks. Landscape plans show a total of seven new replacement trees along the north and east sides of the addition, with additional evergreen shrubs, deciduous shrubs, perennials, and ornamental grasses. NIH would also plant 14 additional trees near the site per NIH's new tree policy, which would increase the number of trees on the campus overall. The off-site planting locations (west along South Drive) are necessary to accommodate the balance of the tree replacement since the available open space on the project site would not be adequate once the new addition is constructed. Proposed new trees would include various species including American Holly, Princeton American Elm, American Yellowwood, and Kentucky Coffeetree. No new parking would be added as part of the project.

### **Analysis**

The current 2013 NIH Master Plan shows the project site as within one of the core development areas, within a 10-minute walk of the nearest Metrorail (Medical Center) station. The new building would be consistent with the campus's 120-foot height limit for the site and is outside of the established perimeter (250-foot wide) buffer zone. As such, the project is consistent with many campus planning principles, some of which, have been in effect since the 2005 Master Plan.

In terms of the site design, the final plans show 21 new trees (net increase of 10 trees) between the project site and other nearby off-site locations, which is consistent with NIH and NCPC one-for-one tree replacement policies. Tree replacement would exceed the number of trees removed to mitigate the removal of several more mature (larger caliper) trees. New bioswale areas would enable the project to meet required State and federal stormwater management standards.

As requested by NCPC during its preliminary review, NIH has developed and submitted computerized renderings of the new addition with on-site vegetation to demonstrate how new on-site trees, bio-swale vegetation, and other shrubbery would soften ground views of the project. Landscape plans shows three Autumn Brilliance Serviceberry (mature height and spread – 20-25' and 15') in the green area leading to the building entry, and four Witch Hazel (mature height and spread – 20-30' and 20-25') in the bioretention facility north of the building. The native tree species chosen for on-site placement were selected based on the constrained nature of the site, anticipated sunlight (with the new addition), and for their drought-resistant nature pursuant to NIH tree policies.

## **CONFORMANCE TO EXISTING PLANS, POLICIES AND RELATED GUIDANCE**

### **Comprehensive Plan for the National Capital**

The proposed project is generally consistent with the Comprehensive Plan for the National Capital in particular, the Transportation and Federal Environment Elements. Staff notes that the project would result in an employee increase (+189), with no additional parking. In addition, staff notes that the project would replace tree removal at a ratio that exceeds a one-to-one replacement, which is consistent with NCPC's 2016 tree replacement policy.

### **National Historic Preservation Act**

The NIH Federal Historic Preservation Officer issued a "no effect" determination to other historic properties on the campus and referred their finding to the Maryland Historic Trust (MHT) for review and concurrence pursuant to Section 106 of the National Historic Preservation Act. MHT issued its concurrence with the NIH determination on January 6, 2021. For projects in the Environs, outside of the District of Columbia, NCPC does not have a formal review responsibility under Section 106 of the NHPA.

### **National Environmental Policy Act**

The NIH determined that the project qualifies for a Categorical Exclusion, which is documented in a letter. The proposed action was viewed against Department of Health and Human Services (DHHS) "Categorical Criteria Checklist" and NIH's "Environmental Assessment Criteria". DHHS/NIH NEPA policies allow master plan projects to be categorically excluded if previously reviewed under NEPA. In the case of the new Building 40 addition, the project was previously reviewed through an Environmental Impact Statement (EIS) and Record of Decision (ROD) associated with the current NIH master plan. For projects in the Environs, outside of the District of Columbia, NCPC does not have a formal review responsibility under NEPA.

## **CONSULTATION**

The project is included in the current 2013 NIH Master Plan and therefore, NCPC did not refer the submission out for State or local agency review under Commission policies, which exempt projects included in a current master plan from outside agency referral. The project was also shared with the NIH Community Liaison Council – a local neighborhood coordination group - on July 14, 2020.

## **ONLINE REFERENCE**

The following supporting documents for this project are available online at [www.ncpc.gov](http://www.ncpc.gov):

- NCPC Project Summary Presentation
- Project Narrative

Prepared by Michael Weil  
01/22/2021

## **POWERPOINT (ATTACHED)**

# Vaccine Research Center Laboratory Expansion, Building 40A North Tower

National Institutes of Health  
Bethesda, Maryland

Final Review

United States Department of Health and Human Services, NIH

# Project Summary



**Commission Meeting Date:** February 4, 2021

**NCPC Review Authority:** Federal Projects in the Environs per 40 U.S.C. § 8722(b)(1)

**Applicant Request:** Approval of final site and building plans

**Session:** Consent Calendar

**NCPC Review Officer:** Michael Weil

**NCPC File Number:** 8193

## Project Summary:

The United States Department of Health and Human Services (DHHS) has submitted final site and building plans to construct a six-level, 79,000 gross square foot addition to the Building 40 NIAID Vaccine Research Center (VRC). The expansion is identified on the approved 2013 NIH Bethesda Comprehensive Master Plan. The Building 40 addition (Building 40A) will double the available laboratory space of the VRC, housing BSL-2 and specialty laboratories, laboratory support space, administrative support space, and conference/meeting rooms.

The new addition will connect to the north face of Building 40, situated within the allowable building footprint of the site, bordering the edge of the loading dock drive on its west face, within the site's 120' height limit. The new building entrance vestibule will replace the north entrance of Building 40 and occupy the footprint of the existing north entry tower, which will be demolished. The upper floors of Building 40A (floors 2 - 5) will cantilever outward approximately 11' from the face of the lower-level building footprint. The design of the new addition is informed by the 2016 Guiding Principles for Sustainable Federal Buildings, and the goal is to achieve LEED Gold certification. Building 40A will have an enhanced building envelope that complements the architectural aesthetics of the existing facility and includes aluminum curtainwall with a clear finish and laminated glazing, aluminum ribbed/perforated panel sun shading, and architectural precast concrete panels.

# Project Summary



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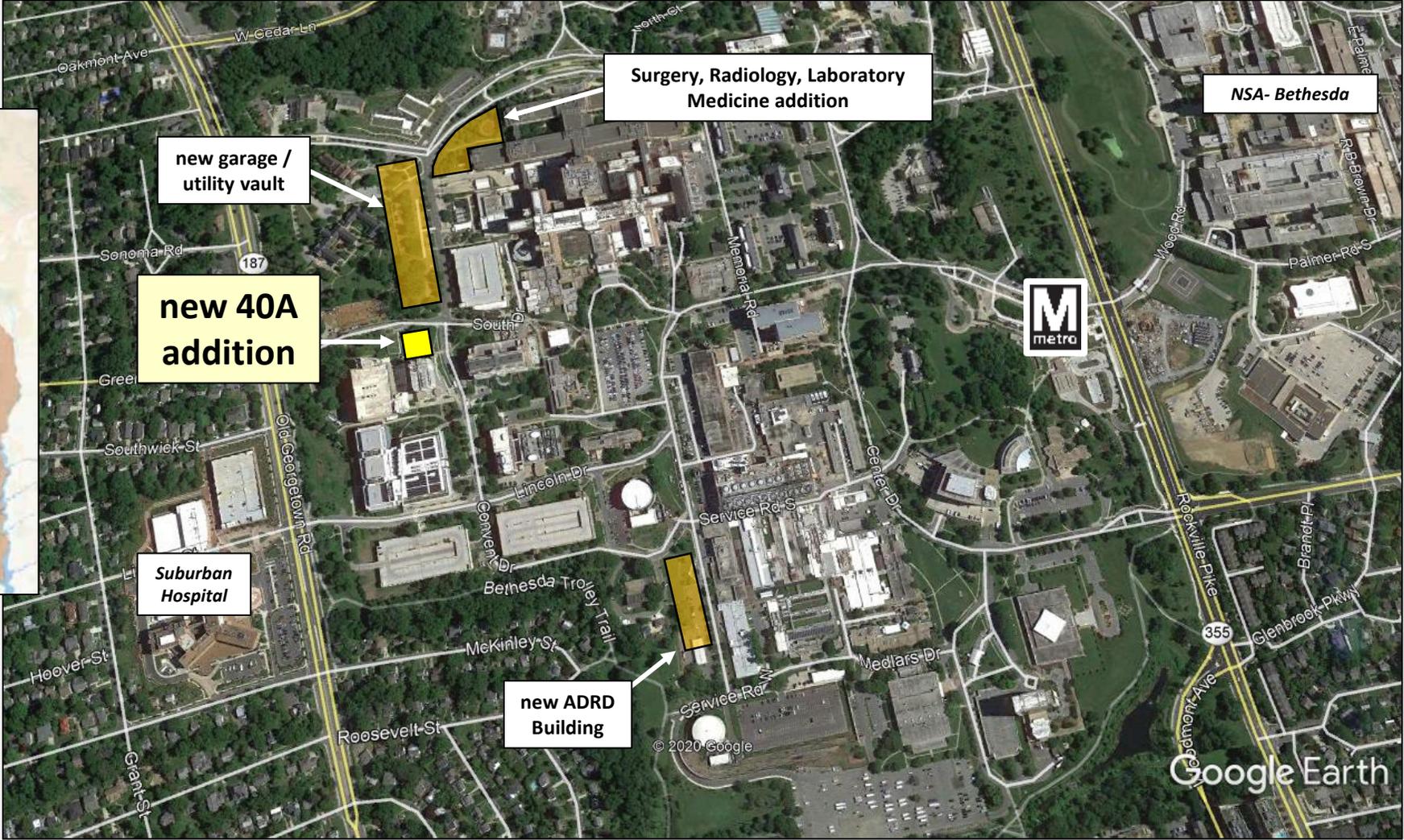
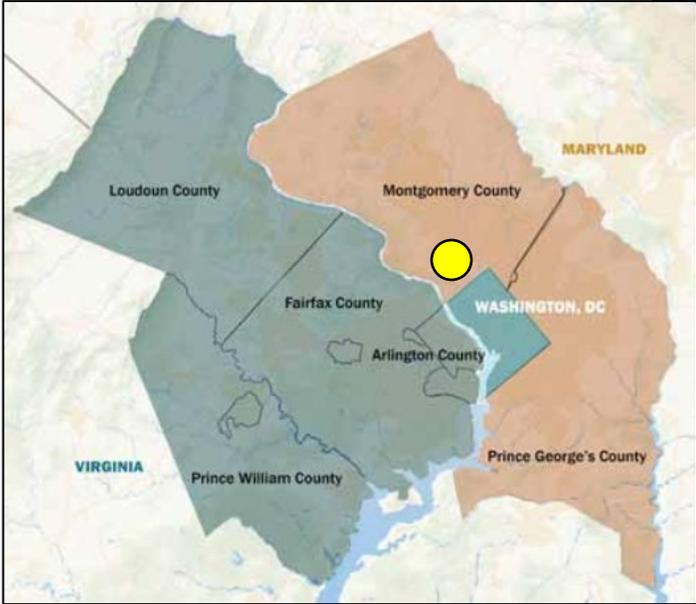
**NCPC File Number:** 8193

## **Project Summary:**

The location of the new building will require the removal of a total of 11 existing tulip poplars and other hardwood trees on the site; however, the project will meet the requirements of the NIH Design Requirements Manual (DRM) Section 3.5.3, with a greater than 1-to-1 tree replacement based on the size and condition of the existing trees to be removed, resulting in seven (7) new ornamental trees on-site and 14 new trees off-site. The new off-site trees would be planted across two areas directly to the west of the project site along South Drive.

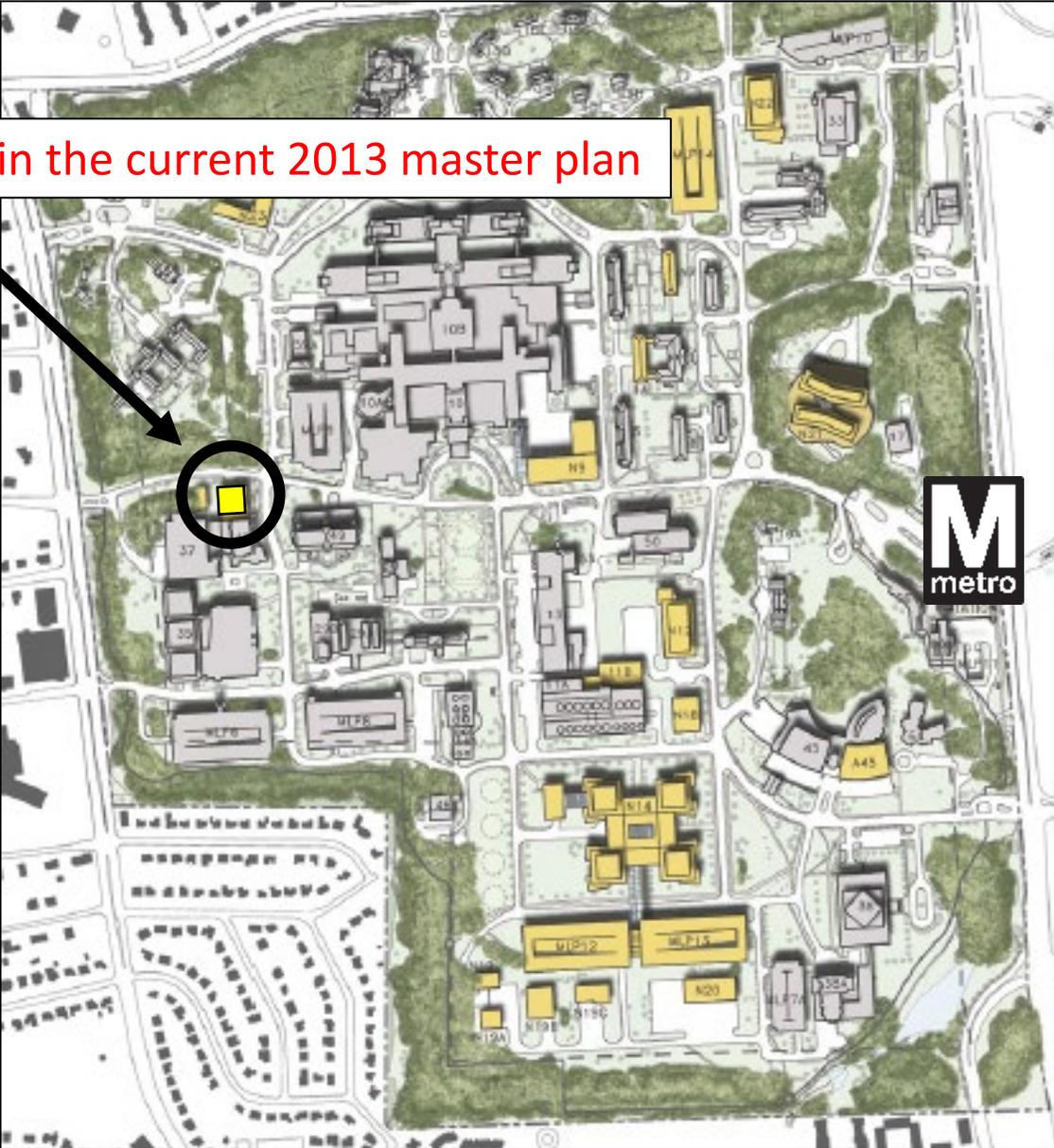
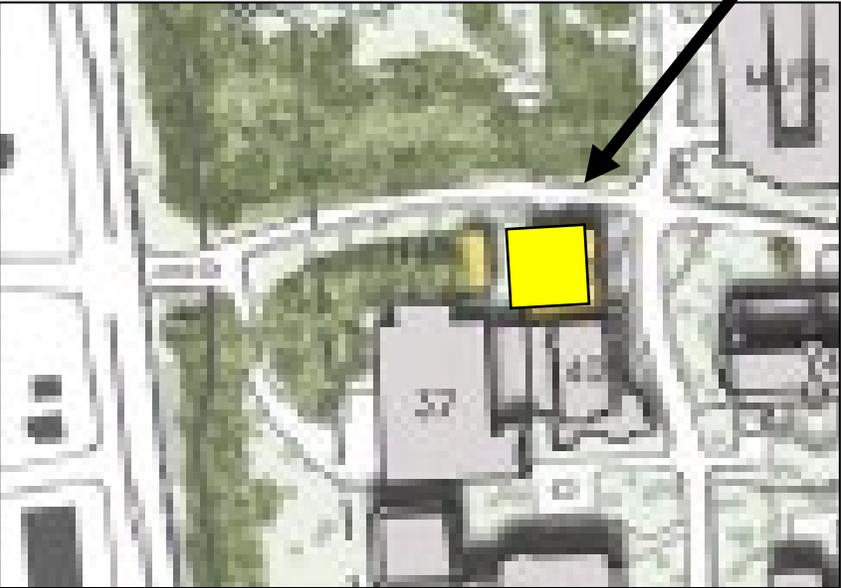
New support infrastructure shall be located on site and includes a new underground vault for the emergency generator fuel storage, a security gate arm at the entrance to the loading dock drive, and a bio-retention pond for on-site stormwater drainage and treatment. The existing retaining wall at the west side of the service drive will be removed and replaced with a new wall, allowing the entry to the service drive to be widened and create an easier turn from South Drive for service trucks. Additional infrastructure shall be designed and placed, including, but not limited to, lighting, revised sidewalks, exterior furniture, bike racks, seating wall, and new or relocated fire hydrants.

# Project Location

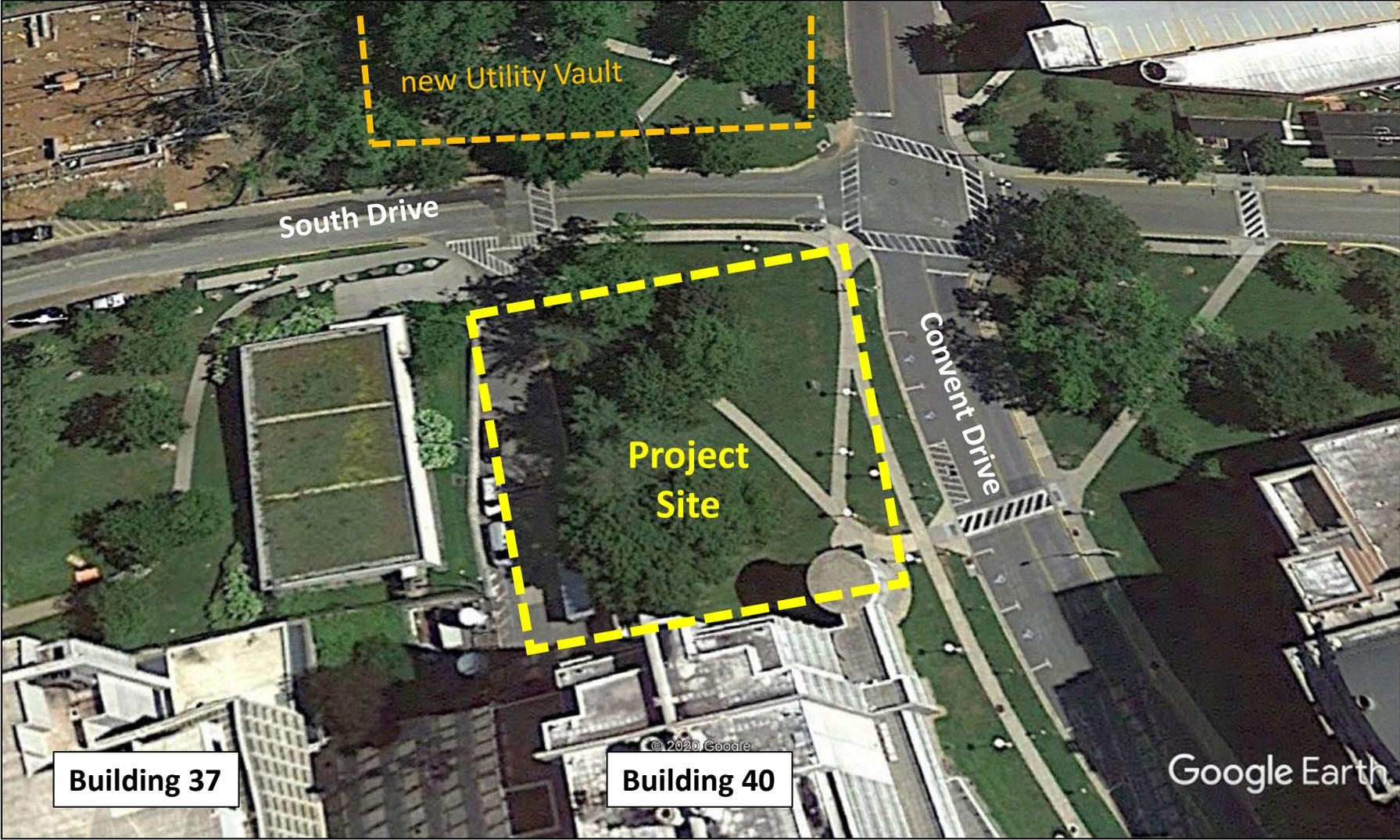


# 2013 NIH Master Plan

project is included in the current 2013 master plan



# Existing Site





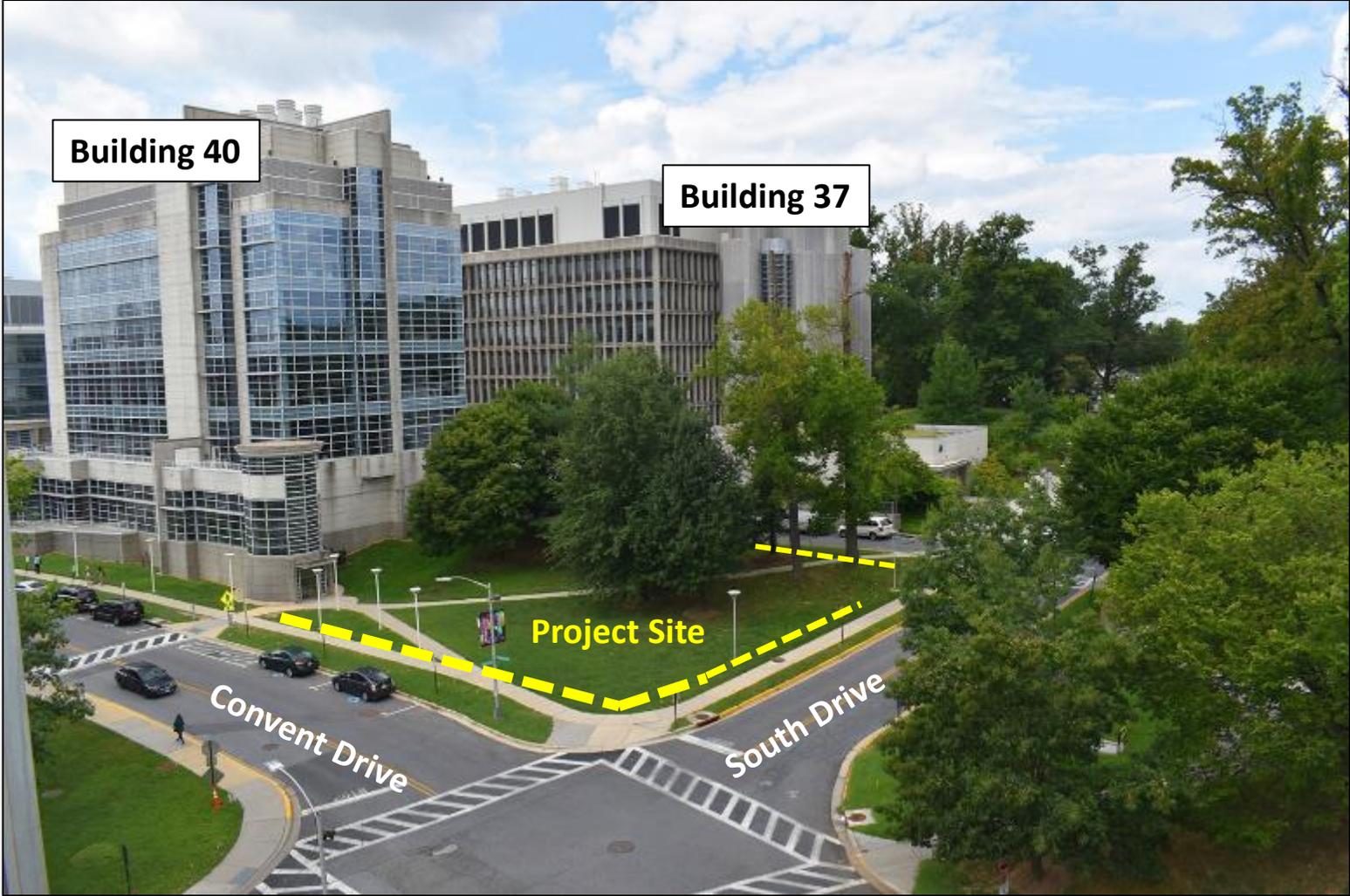
# Existing Tree Inventory

| Tree Inventory at NIH Building 40 Conducted May 16, 2019 |              |                                |           |                |                          |      |           |                     | Mitigation per NIH Tree Replacement Policy (DRM 3.5.4) |                               |
|--|--------------|--------------------------------|-----------|----------------|--------------------------|------|-----------|---------------------|--|-------------------------------|
| TREE_ID  | COMMON_NAME  | SCIENTIFIC_NAME                | DBH (IN.) | TREE_CONDITION | COMMENTS                 | FIRM | DATE      | CANOPY (RADIUS FT.) | REPLACEMENT TREES                                      | REPLACEMENT TREE CALIPER/SIZE |
| 2902   | Tulip poplar | <i>Liriodendron tulipifera</i> | 31.7      | Poor           | Dead branches, topped    | WSP  | 5/16/2019 | 8.9                 | 4  | 2 IN.                         |
| 2908   | Tulip poplar | <i>Liriodendron tulipifera</i> | 27.3      | Poor           | Dead branches, topped    | WSP  | 5/16/2019 | 20.9                | 4  | 2 IN.                         |
| 2907   | White ash    | <i>Fraxinus americana</i>      | 18.4      | Good           | Some dying branches      | WSP  | 5/16/2019 | 41.8                | 1  | 2 IN.                         |
| 2908   | White pine   | <i>Pinus strobus</i>           | 17        | Fair           | N/A                      | WSP  | 5/16/2019 | 15.6                | 1  | 8 FT. HEIGHT                  |
| 2906   | White ash    | <i>Fraxinus americana</i>      | 15        | Good           | N/A                      | WSP  | 5/16/2019 | 23.5                | 1  | 2 IN.                         |
| 2905   | Pin oak      | <i>Quercus palustris</i>       | 14.5      | Good           | N/A                      | WSP  | 5/16/2019 | 22.5                | 1  | 2 IN.                         |
| 2913   | White pine   | <i>Pinus strobus</i>           | 14        | Fair           | N/A                      | WSP  | 5/16/2019 | 11.5                | 1  | 8 FT. HEIGHT                  |
| 2910   | White pine   | <i>Pinus strobus</i>           | 13        | Fair           | Part of the tree is dead | WSP  | 5/16/2019 | 14.6                | 1  | 8 FT. HEIGHT                  |
| 2912   | Pin oak      | <i>Quercus palustris</i>       | 13        | Good           | N/A                      | WSP  | 5/16/2019 | 6.8                 | 1  | 2 IN.                         |
| 2909   | White pine   | <i>Pinus strobus</i>           | 12.5      | Fair           | N/A                      | WSP  | 5/16/2019 | 18.7                | 1  | 8 FT. HEIGHT                  |
| No Tree Tag  | Red oak      | <i>Quercus rubra</i>           | 10        | Good           | N/A                      | WSP  | 5/16/2019 | 13.6                | 1  | 2 IN.                         |

**NOTE:**

1. Native species are preferred over non-invasive species.
2. All new trees should be installed with deer protection for their trunks.
3. Plants shall be specified to be nursery grown and delivered in containers or balled and burlapped.
4. For replacement tree quantities over 20, no one tree species shall constitute more than 50% of the mix.
5. Ornamental or understory trees shall make up no more than 50% of the mix.

# Existing Site



# Future Site



# Future Site

New Landscaping



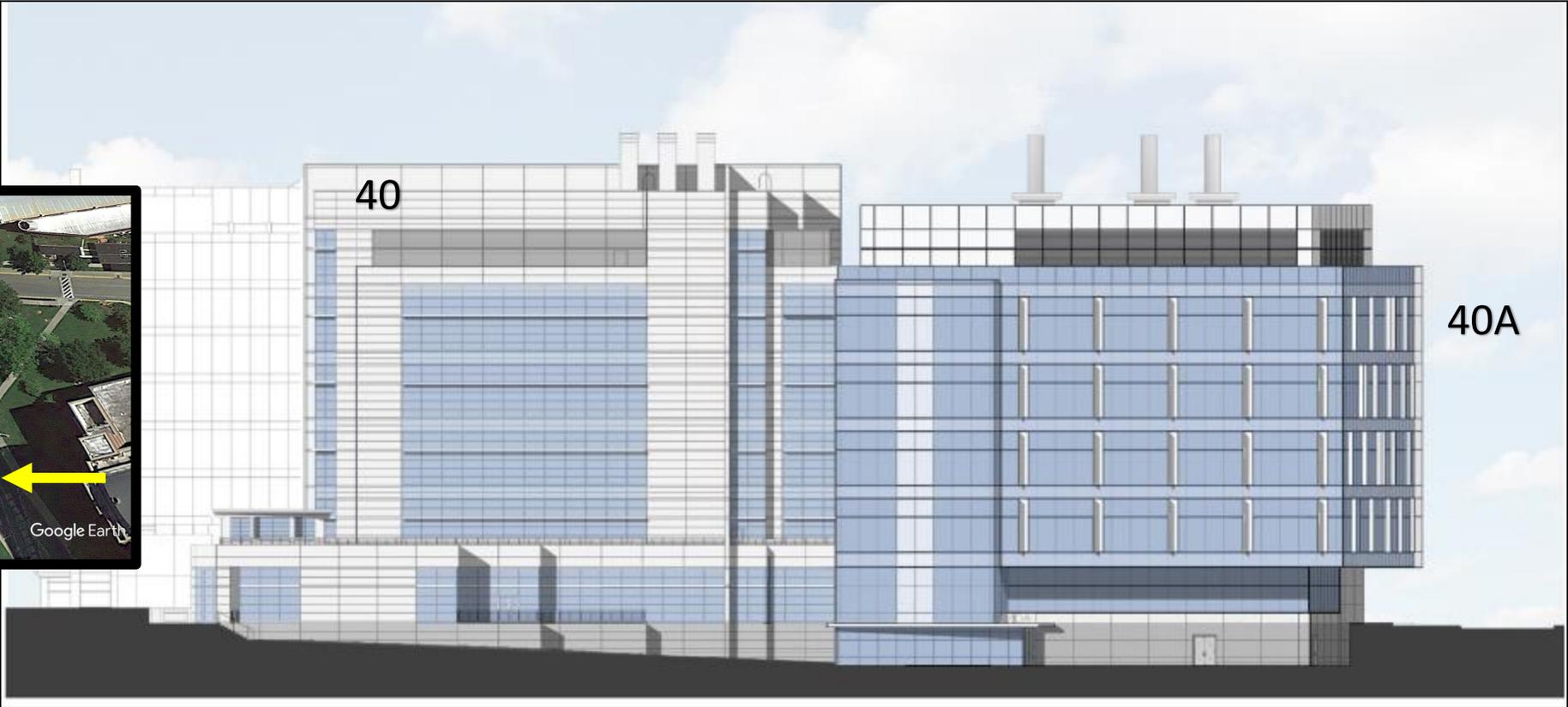
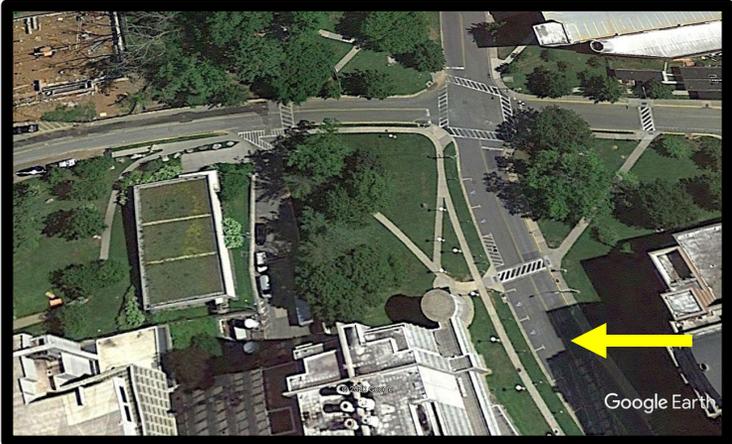


# Proposed Planting Schedule

| Master Plant Schedule                          |                                |   |                                |                         |                           |       |                              |
|--|--------------------------------|---|--------------------------------|-------------------------|---------------------------|-------|------------------------------|
| Qty  | Key                            | Botanical Name  | Common Name                    | Installed Size (Metric) | Installed Size (Imperial) | Stock | Comments                     |
| <b>Flowering Tree</b>                          |                                |   |                                |                         |                           |       |                              |
| 3  | AC                             | Amelanchier x grandiflora 'Autumn Brilliance'               | Autumn Brilliance Serviceberry | 50 mm Cal.              | 2" Cal.                   | B&B   | Tree form                    |
| 4  | HV                             | Hamamelis virginiana  | Common Witchhazel              | 2.44 m Ht.              | 8 ft. Ht.                 | B&B   | Multi-stem                   |
| <b>Shrubs</b>                                  |                                |   |                                |                         |                           |       |                              |
| 60   | CA                             | Clethra alnifolia 'Sixteen Candles'                         | Sixteen Candles Summersweet    | 61 cm Ht./Spr.          | 2 ft. Ht. x 2 ft. Spr.    | CONT. | 0.91 m (3 ft.) o.c. spacing  |
| 94   | FG                             | Fothergilla gardenii  | Dwarf Fothergilla              | 61 cm Ht./Spr.          | 2 ft. Ht. x 2 ft. Spr.    | CONT. | 0.61 m (3 ft.) o.c. spacing  |
| 43   | IG                             | Ilex glabra 'Shamrock'                                      | Shamrock Inkberry              | 61 cm Ht./Spr.          | 2 ft. Ht. x 2 ft. Spr.    | CONT. | 0.91 m (3 ft.) o.c. spacing  |
| 19   | IVR                            | Ilex verticillata 'Red Sprite'                              | Red Sprite Winterberry         | 61 cm Ht./Spr.          | 2 ft. Ht. x 2 ft. Spr.    | CONT. | 0.91 m (3 ft.) o.c. spacing  |
| 7  | IV                             | Itea virginica 'Merlot'                                     | Merlot Virginia Sweetspire     | 61 cm Ht./Spr.          | 2 ft. Ht. x 2 ft. Spr.    | CONT. | 0.91 m (3 ft.) o.c. spacing  |
| 31   | JC                             | Juniperus conferta 'Blue Pacific'                           | Shore Juniper                  | 61 cm Ht./Spr.          | 2 ft. Ht. x 2 ft. Spr.    | CONT. | 1.22 m (4 ft.) o.c. spacing  |
| 16   | JD                             | Juniperus davurica 'Parsoni'                                | Parsons Juniper                | 62 cm Ht./Spr.          | 3 ft. Ht. x 2 ft. Spr.    | CONT. | 1.22 m (4 ft.) o.c. spacing  |
| 14   | MP                             | Myrica pensylvanica   | Northern Bayberry              | 61 cm Ht./Spr.          | 2 ft. Ht. x 2 ft. Spr.    | CONT. | 1.22 m (4 ft.) o.c. spacing  |
| 12   | VD                             | Viburnum dentatum 'Blue Muffin'                             | Blue Muffin Arrowwood Viburnum | 61 cm Ht./Spr.          | 2 ft. Ht. x 2 ft. Spr.    | CONT. | 0.91 m (3 ft.) o.c. spacing  |
| <b>Herbaceous Perennials</b>                   |                                |   |                                |                         |                           |       |                              |
| 14   | EP                             | Eupatorium maculatum  | Spotted Joe Pye Weed           | 2492 cc Min.            | 1 GAL.                    | CONT. | 0.61 m (24 in.) o.c. spacing |
| 15   | PST                            | Phlox stolonifera   | Creeping Phlox                 | 2492 cc Min.            | 1 GAL.                    | CONT. | 0.30 m (12 in.) o.c. spacing |
| 31   | PSU                            | Phlox subulata  | Moss Phlox                     | 2492 cc Min.            | 1 GAL.                    | CONT. | 0.46 m (18 in.) o.c. spacing |
| 62   | RH                             | Rudbeckia fulgida 'Goldsturm'                               | Goldsturm Blackeyed Susan      | 2492 cc Min.            | 1 GAL.                    | CONT. | 0.46 m (18 in.) o.c. spacing |
| 18   | RL                             | Rudbeckia laciniata   | Cutleaf Coneflower             | 2492 cc Min.            | 1 GAL.                    | CONT. | 0.46 m (18 in.) o.c. spacing |
| <b>Native Grasses</b>                          |                                |   |                                |                         |                           |       |                              |
| 21   | AV                             | Andropogon virginicus                                       | Broom Sedge                    | 2492 cc Min.            | 1 GAL.                    | CONT. | 0.46 m (18 in.) o.c. spacing |
| 90   | PV                             | Panicum virgatum 'Shenandoah'                               | Shenandoah switch grass        | 2492 cc Min.            | 1 GAL.                    | CONT. | 0.61 m (24 in.) o.c. spacing |
| <b>Planting Schedule for Replacement Trees</b> |                                |   |                                |                         |                           |       |                              |
| 2  | CK                             | Cladrastus kentuckea  | American Yellowwood            | 50 mm Cal.              | 2" Cal.                   | B&B   |                              |
| 2  | GD                             | Gymnocladus dioicus   | Kentucky Coffeetree            | 50 mm Cal.              | 2" Cal.                   | B&B   |                              |
| 3  | IO                             | Ilex opaca  | American Holly                 | 2.44 m Ht.              | 8 ft. Ht.                 | B&B   |                              |
| 2  | DA                             | Oxydendrum arboreum   | Sourwood                       | 50 mm Cal.              | 2" Cal.                   | B&B   |                              |
| 2  | TD                             | Taxodium distichum 'Shawnee Brave'                          | Bald Cypress                   | 2.44 m Ht.              | 8 ft. Ht.                 | B&B   |                              |
| 2  | UA                             | Ulmus americana 'Princeton'                                 | Princeton American Elm         | 50 mm Cal.              | 2" Cal.                   | B&B   |                              |
| 4  | CCM                            | Cercis canadensis   | Eastern Redbud Multi-stem      | 2.44 m Ht.              | 8 ft. Ht.                 | B&B   | Multi-stem                   |
| 4  | HV                             | Hamamelis virginiana  | Common Witchhazel              | 2.44 m Ht.              | 8 ft. Ht.                 | B&B   | Multi-stem                   |
| 21   | <b>Total Replacement Trees</b> |   |                                |                         |                           |       |                              |
| <b>Mulch and Turf</b>                          |                                |   |                                |                         |                           |       |                              |
| X  |                                | Shredded Hardwood Bark Mulch sqm (SY) 7.62 cm (3 in.) depth |                                |                         |                           |       |                              |
| X  |                                | Turfgrass Sod sqm (SY)                                      |                                |                         |                           |       |                              |

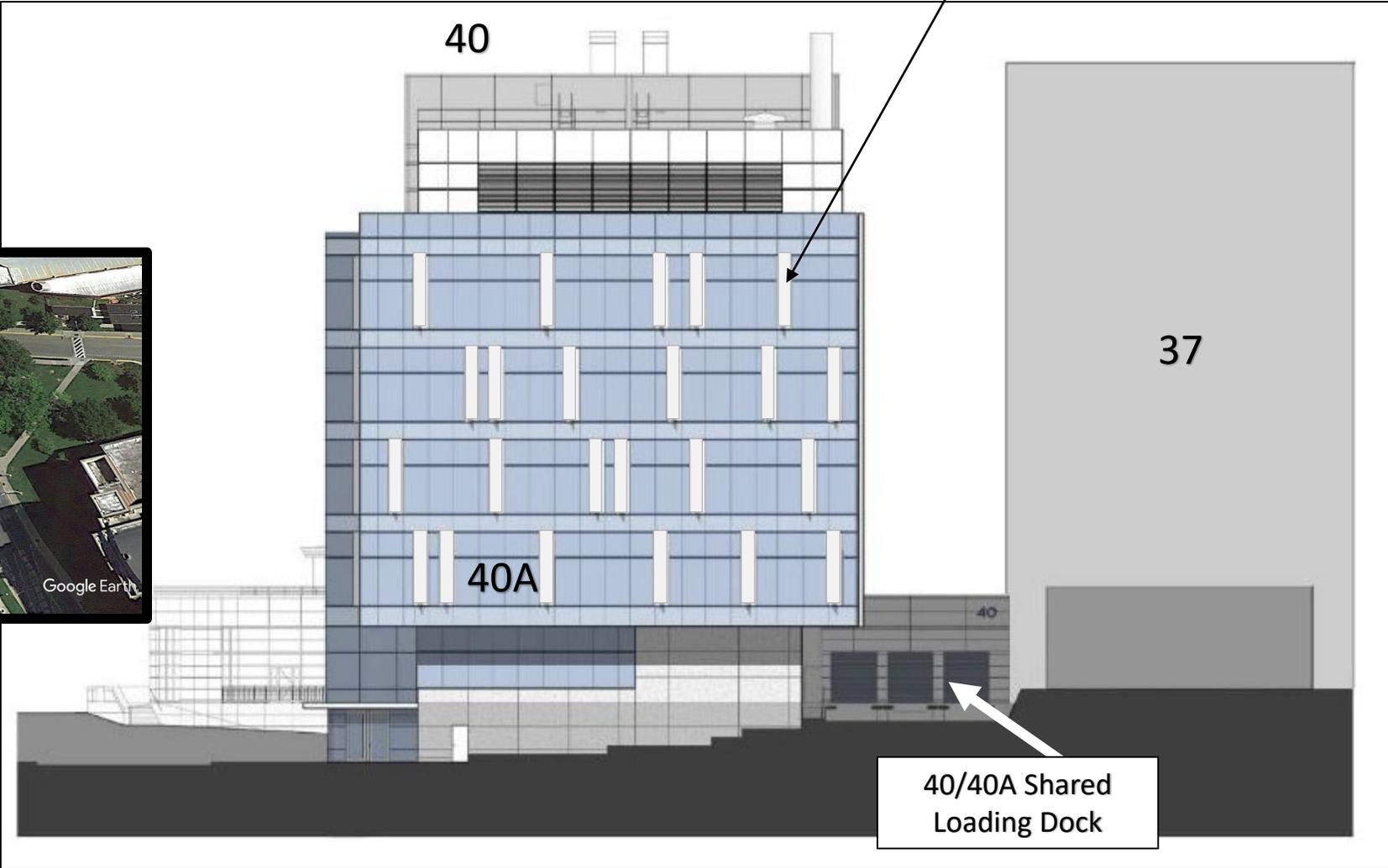
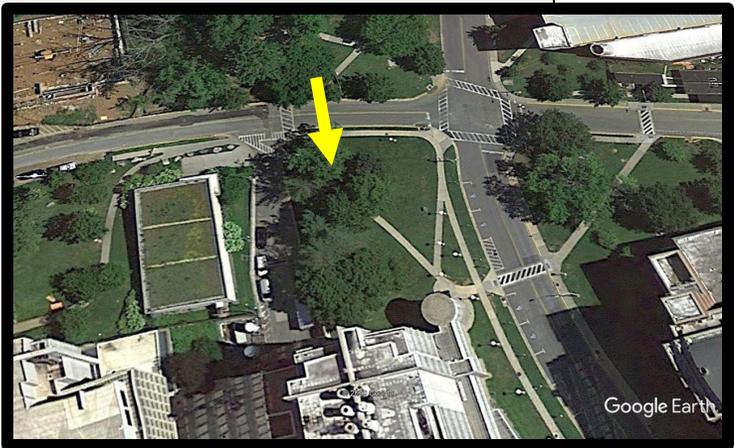
Note: Plant material selections for bioretention facilities shall comply with MDE Manual Appendix A: Landscaping Guidance for Stormwater BMPs "Table A.4 Commonly Used Species for Bioretention Areas".

# East Elevation

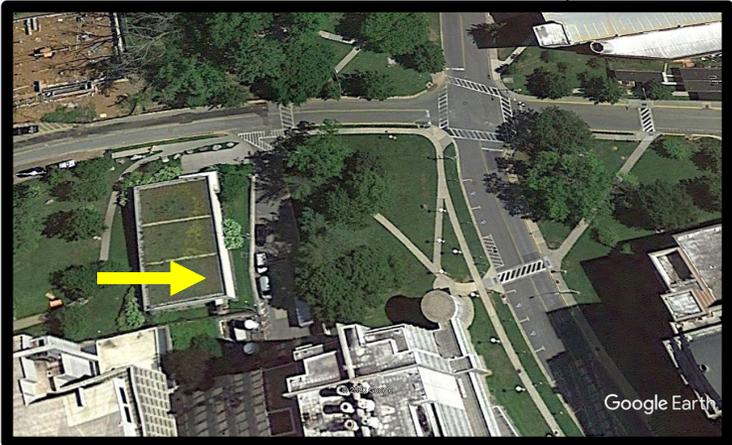


# North Elevation

Aluminum fins changed to panels since preliminary design



# West Elevation



# Architectural Context (*other existing nearby buildings*)



Building 40

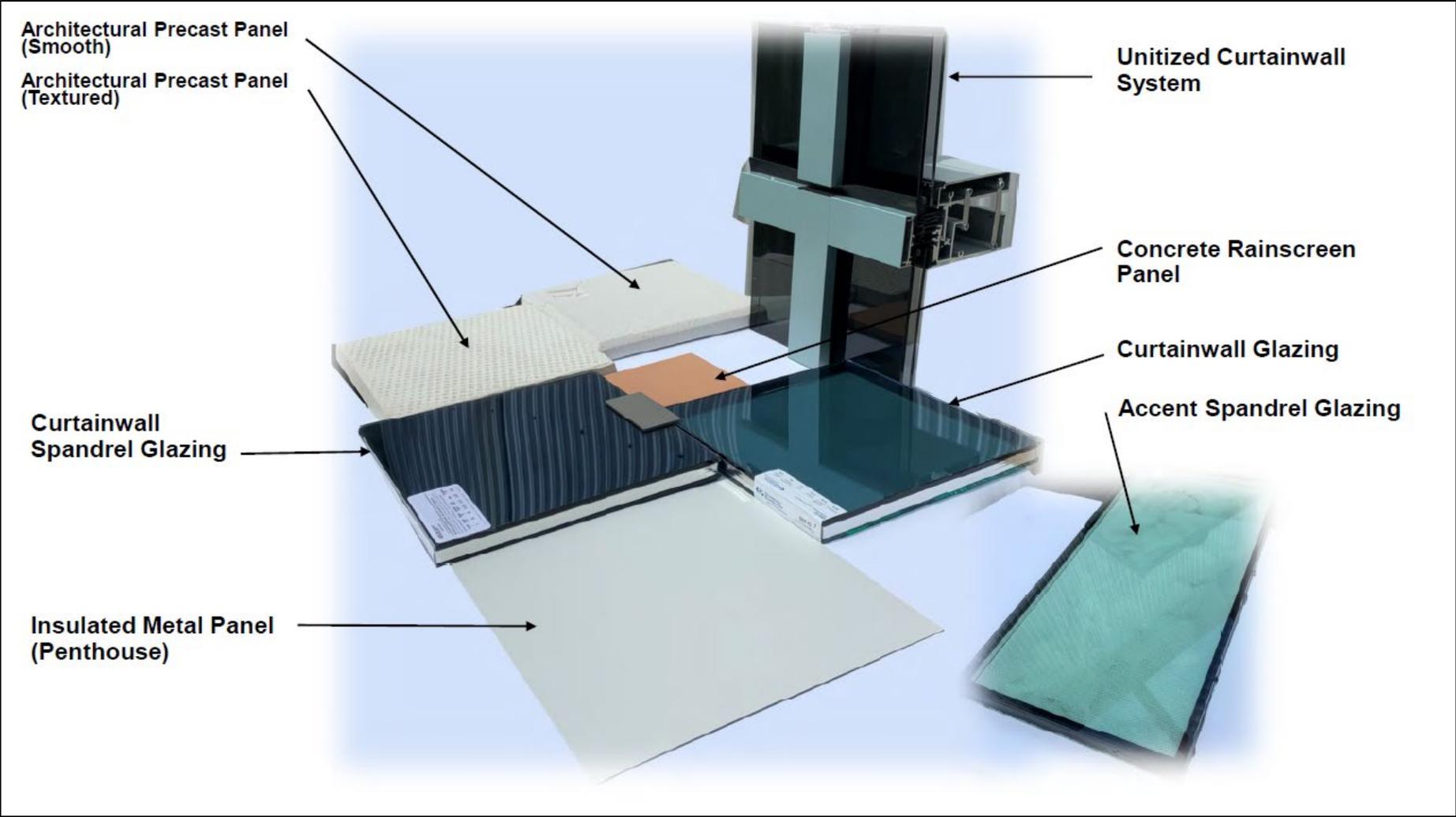


Building 35A



Buildings 48 & 37

# Exterior Envelope Materials and Components



# Exterior Envelope Materials and Components

APC1- SMOOTH

APC2- GRAPHIC/  
TEXTURE

APC1- SMOOTH  
(below)

APC1

APC2

Crumple

APC1- SMOOTH - light buff architectural precast medium sand blast finish

APC2- GRAPHIC - white architectural precast concrete light sand blast finish

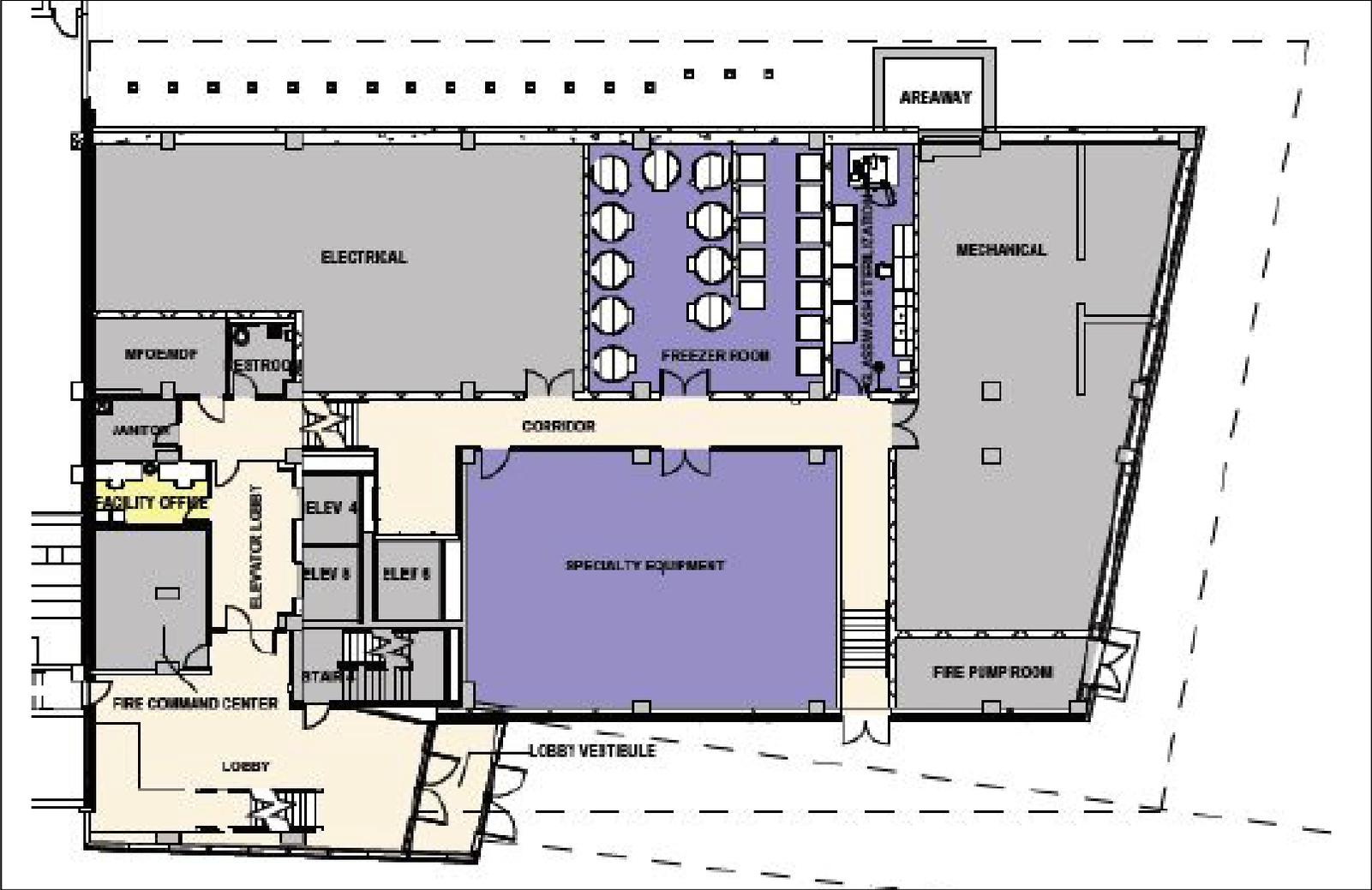
CW1- FIELD  
GLAZING

CW2- SPANDREL  
GLAZING

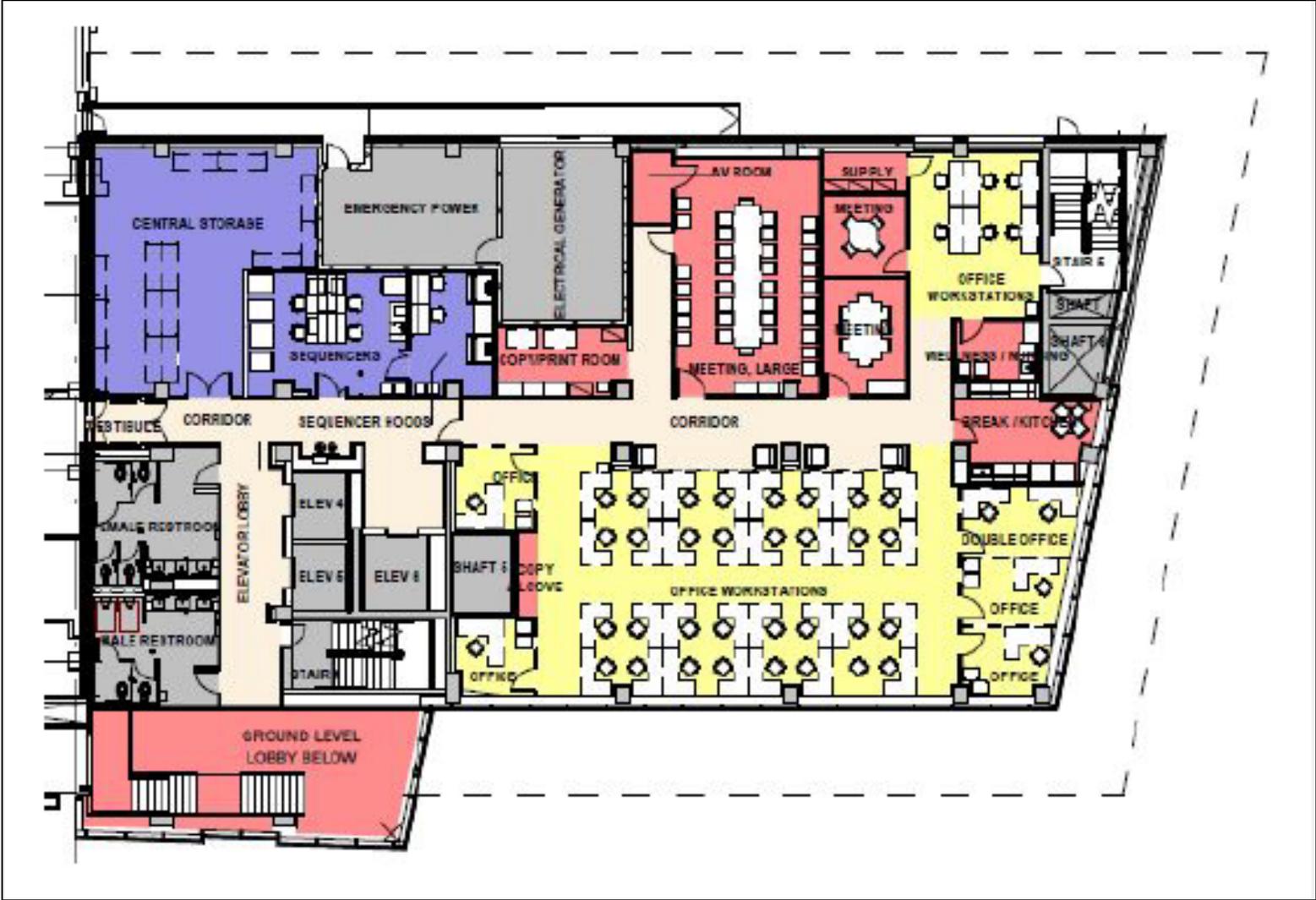
ACG1 –  
ACCENT  
GLAZING

ACG2 –  
ACCENT  
SPANDREL  
GLAZING

# Ground Floor Plan



# Floorplan – Level 1



# Floorplan – Levels 2-5

