

APPENDIX



WHAT CHANGED?

1. UNPRECEDENTED ESCALATION IN THE CONSTRUCTION MARKET

STEM + CYPRESS SAMPLING OF KEY TRADES

Trade	60% Estimate Value	RTA Value	Delta	% Delta	# Bidders Contacted	# of Bids Received
Sitework and Deep Foundations	\$ 5,176,108	\$ 7,121,042	\$ 1,944,934	38%	11	6
Concrete - Foundations & Flatwork	\$ 5,084,570	\$ 5,910,040	\$ 825,470	16%	12	4
Misc. and Ornamental Metals	\$ 1,742,224	\$ 3,352,185	\$ 1,609,961	92%	12 Pre-qual trades	6
HVAC	\$ 10,836,149	\$ 11,783,900	\$ 947,751	9%	15 Pre-qual trades	9
Architectural Millwork/Casework	\$ 1,522,419	\$ 2,411,887	\$ 889,468	58%	10	7
Waterproofing/Joint Sealant	\$ 670,335	\$ 1,200,660	\$ 530,325	79%	15 Pre-qual trades	7
Drywall	\$ 6,711,736	\$ 9,972,950	\$ 3,261,214	49%	18	4
Tile	\$ 988,176	\$ 1,471,062	\$ 482,886	49%	8 Pre-qual trades	5

WHAT CHANGED?

2. UNKNOWN CONDITIONS: ROBERTS WING WALL REINFORCING



WHAT CHANGED?

2. UNKNOWN CONDITIONS: UNSUITABLE SOILS ALONG MBTA TRACKS

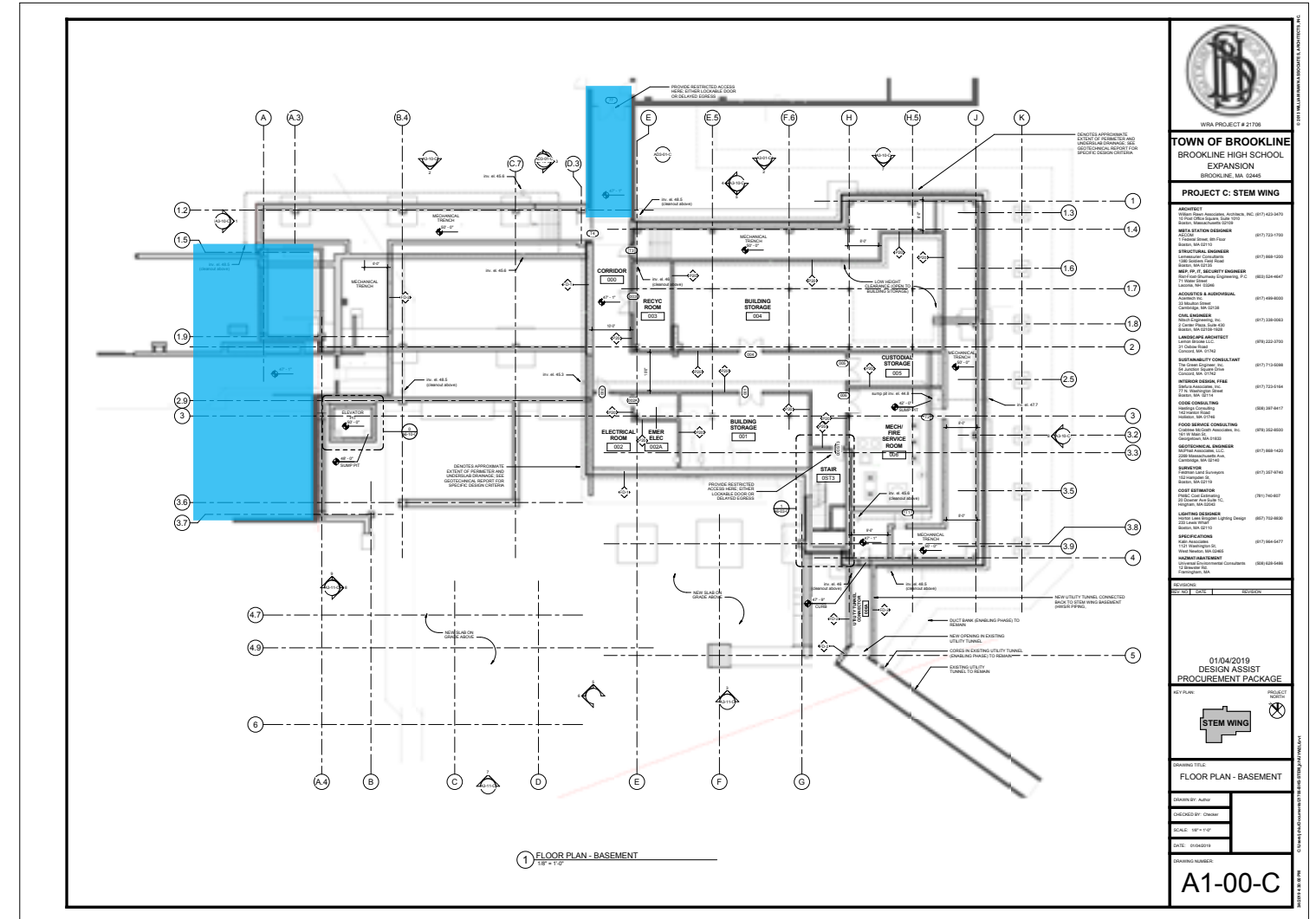
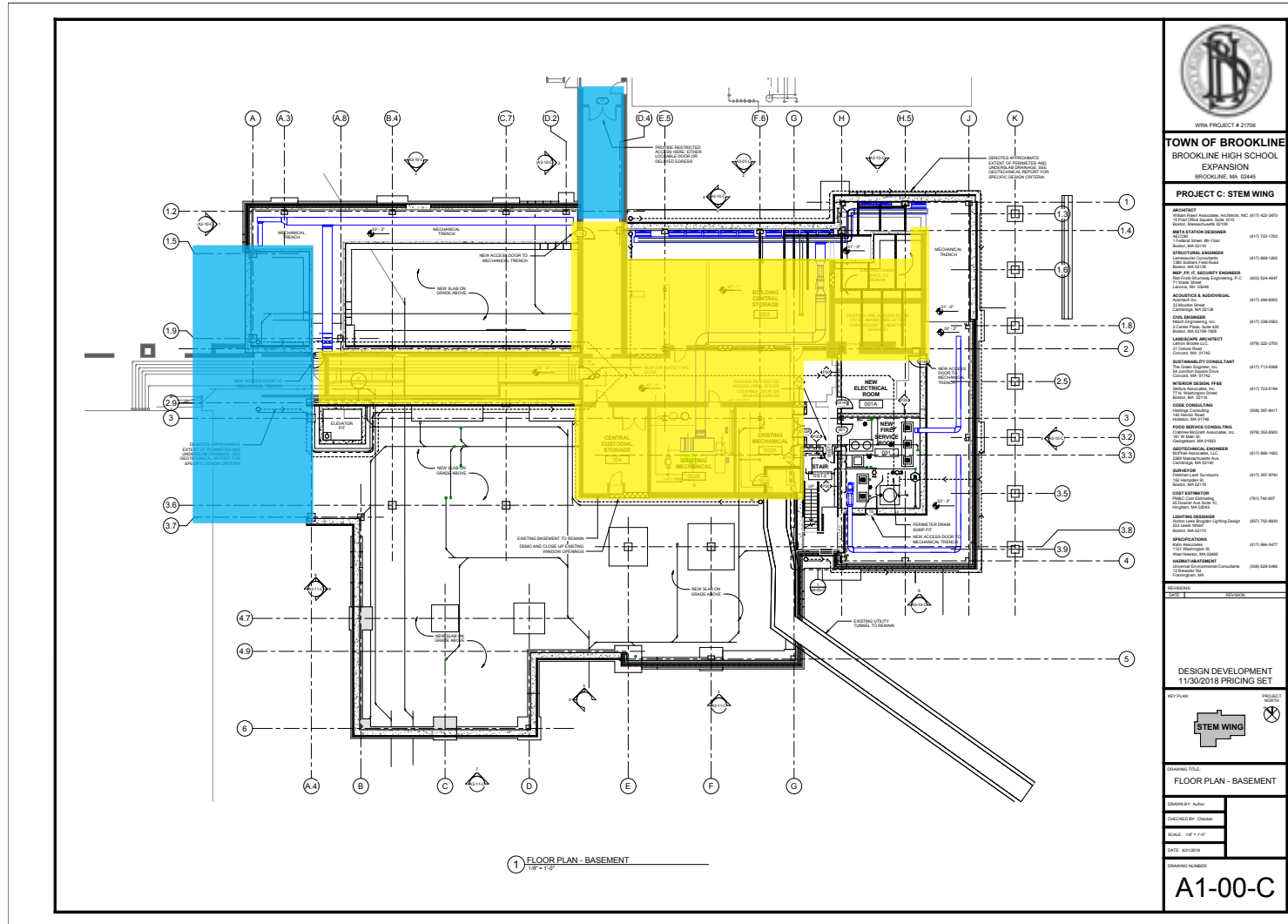


WHAT CHANGED?

3. STEM BASEMENT: EXISTING BASEMENT REMOVED TO AVOID CONSTRUCTION RISK

DD PHASE

CURRENT DESIGN



EXISTING BUILDING TO REMAIN



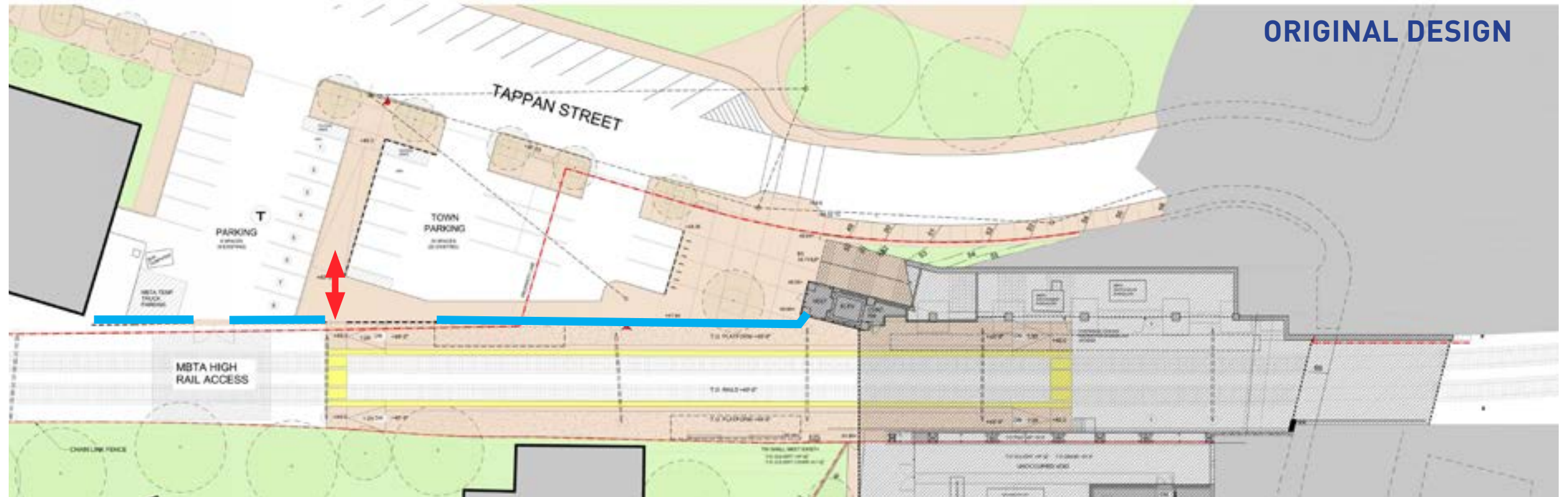
EXISTING BASEMENT TO REMAIN

WHAT CHANGED?

4. COMMUNITY MEETINGS: MBTA PLAZA

ORIGINAL DESIGN

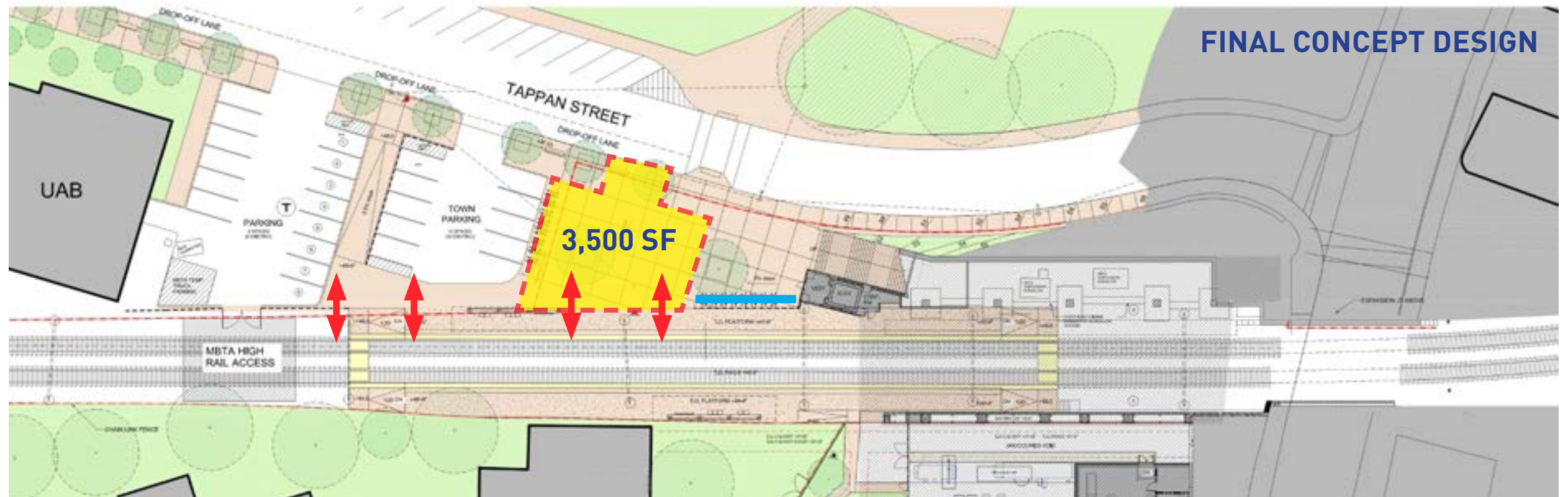
- 20 Town parking spaces



ORIGINAL DESIGN

FINAL CONCEPT DESIGN

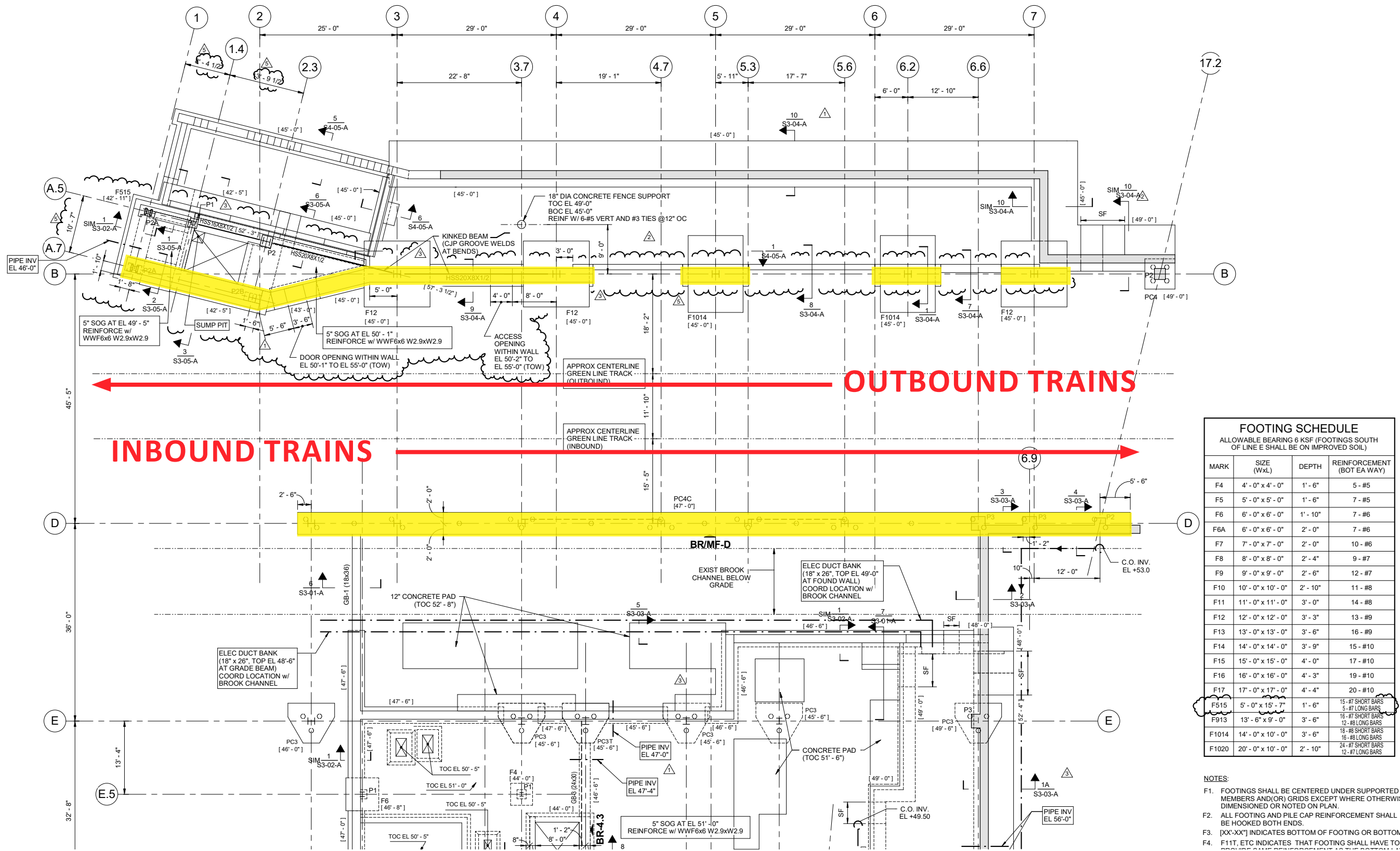
- 16 Town parking spaces
- Crosswalk moved to align with Cypress Field Path (3 parking spaces removed at north side of Tappan St)
- New drop-off lane
- Enlarged Plaza
- Fence, bike racks at level change at Cypress Building elevator
- ~80 feet of access to MBTA platform



FINAL CONCEPT DESIGN

WHAT CHANGED?

5. WORK AROUND AND FOR THE MBTA: BUILDING REQUIREMENTS



FOOTING SCHEDULE			
ALLOWABLE BEARING 6 KSF (FOOTINGS SOUTH OF LINE E SHALL BE ON IMPROVED SOIL)			
MARK	SIZE (WxL)	DEPTH	REINFORCEMENT (BOT EA WAY)
F4	4'-0" x 4'-0"	1'-6"	5-#5
F5	5'-0" x 5'-0"	1'-6"	7-#5
F6	6'-0" x 6'-0"	1'-10"	7-#6
F6A	6'-0" x 6'-0"	2'-0"	7-#6
F7	7'-0" x 7'-0"	2'-0"	10-#6
F8	8'-0" x 8'-0"	2'-4"	9-#7
F9	9'-0" x 9'-0"	2'-6"	12-#7
F10	10'-0" x 10'-0"	2'-10"	11-#8
F11	11'-0" x 11'-0"	3'-0"	14-#8
F12	12'-0" x 12'-0"	3'-3"	13-#9
F13	13'-0" x 13'-0"	3'-6"	16-#9
F14	14'-0" x 14'-0"	3'-9"	15-#10
F15	15'-0" x 15'-0"	4'-0"	17-#10
F16	16'-0" x 16'-0"	4'-3"	19-#10
F17	17'-0" x 17'-0"	4'-4"	20-#10
F155	5'-0" x 15'-7"	1'-6"	15-#7 SHORT BARS 5-#7 LONG BARS
F913	13'-6" x 9'-0"	3'-6"	16-#7 SHORT BARS 12-#8 LONG BARS
F1014	14'-0" x 10'-0"	3'-6"	18-#8 SHORT BARS 16-#8 LONG BARS
F1020	20'-0" x 10'-0"	2'-10"	24-#7 SHORT BARS 12-#7 LONG BARS

- NOTES:
- F1. FOOTINGS SHALL BE CENTERED UNDER SUPPORTED MEMBERS AND/OR GRIDS EXCEPT WHERE OTHERWISE DIMENSIONED OR NOTED ON PLAN.
 - F2. ALL FOOTING AND PILE CAP REINFORCEMENT SHALL BE HOOKED BOTH ENDS.
 - F3. [XX-XX] INDICATES BOTTOM OF FOOTING OR BOTTOM OF PILE CAP.
 - F4. F11T, ETC INDICATES THAT FOOTING SHALL HAVE TOP REINFORCEMENT.

WHAT CHANGED?

5. WORK AROUND AND FOR THE MBTA: **SITE ACCESS / DIVERSIONS**



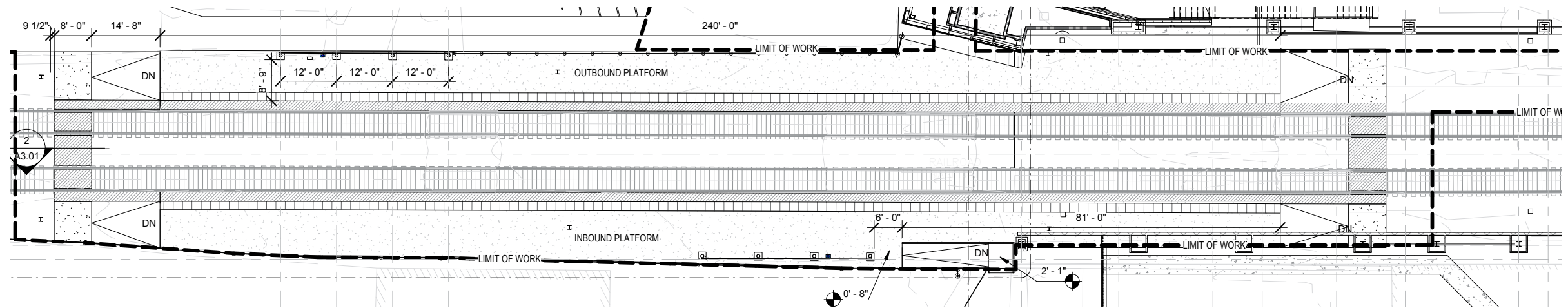
Shuttles will replace Green Line service during scheduled maintenance.



WHAT CHANGED?

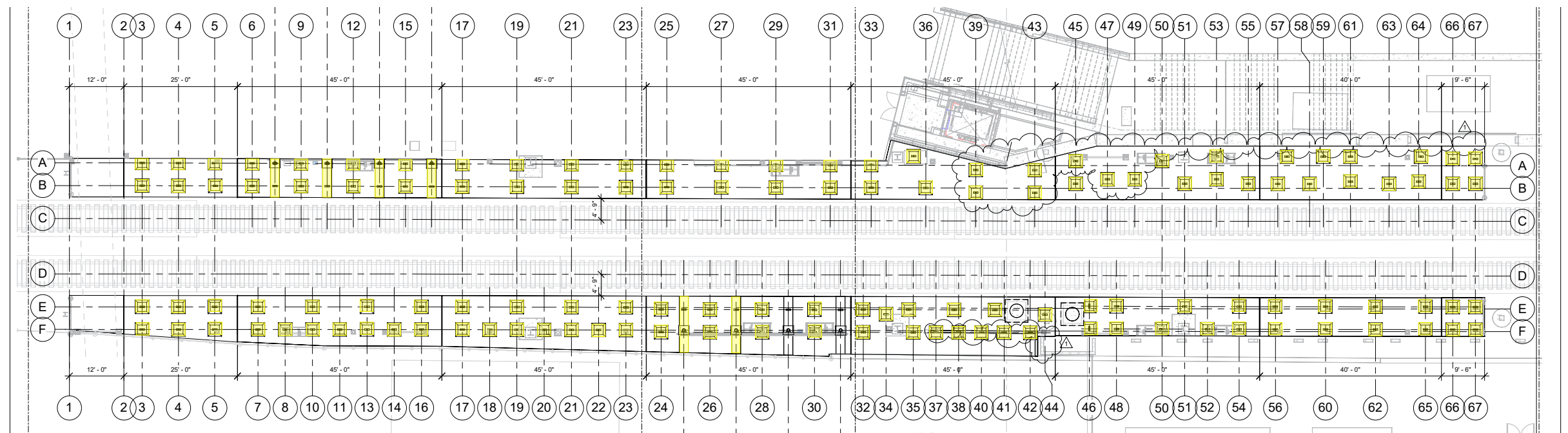
5. WORK AROUND AND FOR THE MBTA: PLATFORM DESIGN

ORIGINAL DESIGN - SLAB ON GRADE



ORIGINAL DESIGN BASED ON STATIONS SUCH AS BROOKLINE HILLS - SLAB ON GRADE WITH PAVERS

REVISED DESIGN - HELICAL PILES

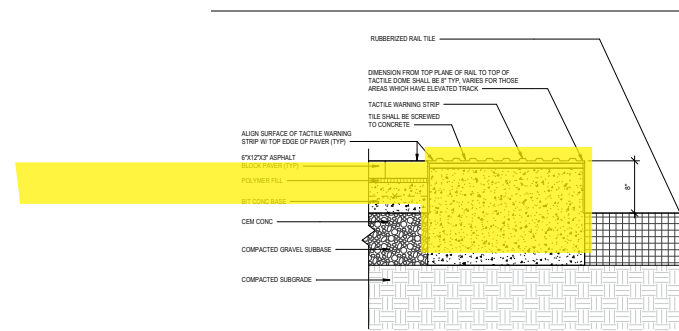


REVISED DESIGN REQUESTED BY MBTA ACCESSIBILITY GROUP - WILL ELIMINATE PLATFORM SETTLING DUE TO FROST

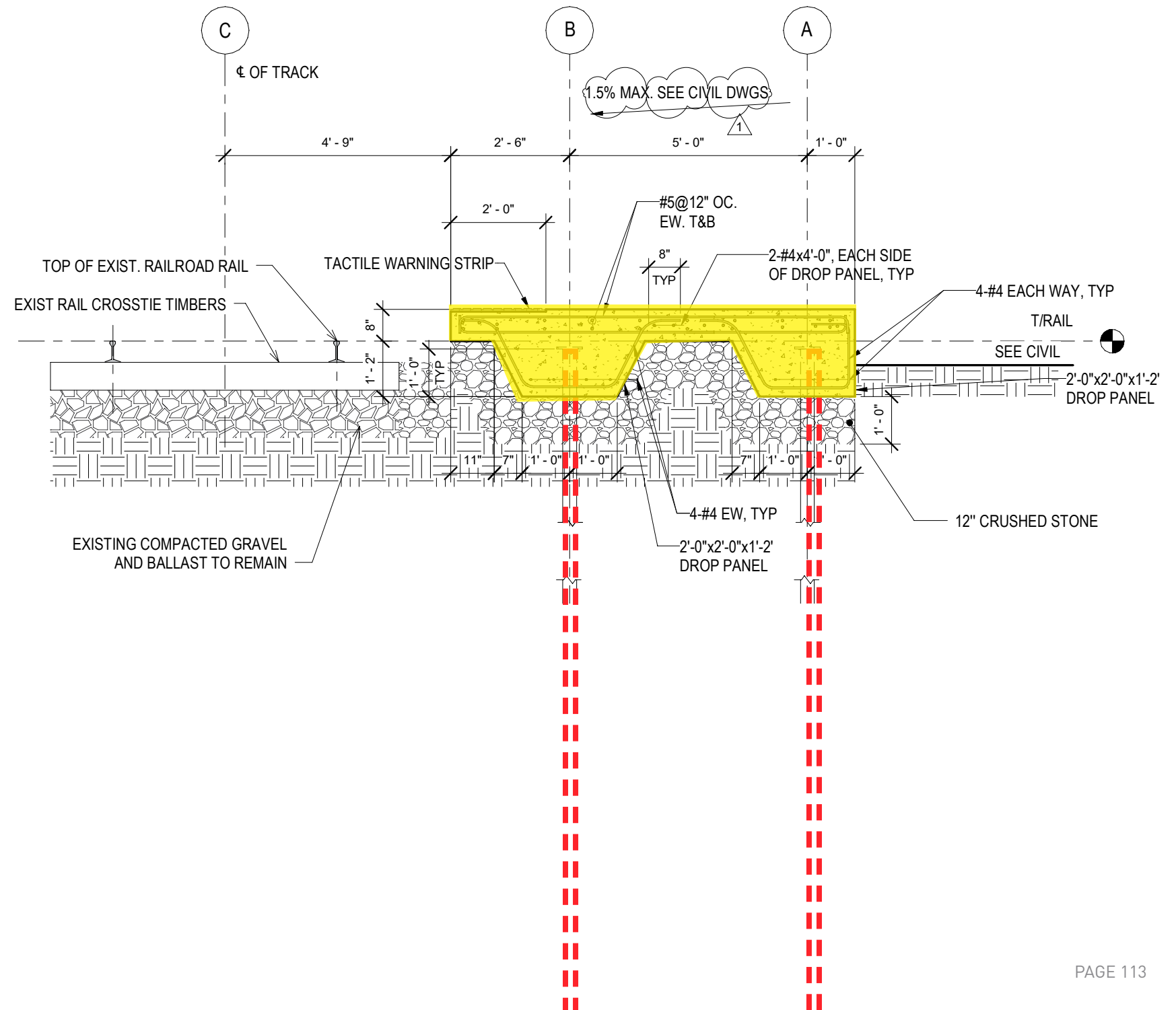
WHAT CHANGED?

5. WORK AROUND AND FOR THE MBTA: PLATFORM DESIGN

ORIGINAL DESIGN SLAB ON GRADE



CURRENT DESIGN HELICAL PILES



UNFORESEEN COST INCREASES

MARKET CONDITIONS

\$17M - \$19M

- SIGNIFICANT SPIKE IN COSTS BETWEEN MAY 2018 AND Q1 2020 *

**SIMILAR TO MSBA SCHOOL CONSTRUCTION COST INCREASES*

MBTA

\$8M - \$11M

- PLATFORM FOUNDATION DESIGN
- PLATFORM DESIGN CHANGES
- MBTA REQUIRED ADDITIONAL DIVERSIONS AND OTHER FORCE ACCOUNT COSTS

UNKNOWN CONDITIONS

\$1M - \$2M

- UNSUITABLE SOILS NORTH OF MBTA TRACKS
- EXISTING ROBERTS WING STRUCTURAL REINFORCING

TOTAL

\$26M - \$32M**

***NOT INCLUDED - UNKNOWN COVID 19 IMPACTS: MBTA TEMPORARILY SUSPENDING STAFF SUPPORT FOR PROJECT DIVERSION FOR 3 WEEKS*



IDP 4 (DEC 14 & 15, 2017): 111 CYPRESS

2 DAYS, 17 MEETINGS, 21 GROUPS

What we heard from BHS faculty and staff:

- Adult Presence distribution (location of Deans offices & Guidance Councilor Offices)
- Physics neighborhood: Labs on two floors organized around a double height collaboration space
- Collaboration space organization: Wider hallways preferred over individual collaboration rooms connected to classrooms
- Have classrooms near Nurse's Office



WRA & BHS Faculty and Staff during IDP sessions at BHS campus

IDP 4 (DEC 14 & 15, 2017): STEM WING

2 DAYS, 17 MEETINGS, 21 GROUPS

What we heard from BHS faculty and staff:

- STEM Wing interdisciplinary building organization: chemistry & biology share floors
- Importance of prep room between chemistry classrooms, central storage for biology department
- Collaboration space organization: Eddies along hallway preferred over individual collaboration rooms connected to classrooms
- Culinary Arts Cafe as community hub at front of building
- Makerspace more visible at center of plan on ground floor
- Science resource center as academic hub on second floor



WRA & BHS Faculty and Staff during IDP sessions at BHS campus

IDP 4 (DEC 14 & 15, 2017): MAIN BUILDING THIRD FLOOR

2 DAYS, 17 MEETINGS, 21 GROUPS

What we heard from BHS faculty and staff:

- Need for adult presence and collaboration spaces at main intersections
- Move ACE program to less isolated location



WRA & BHS Faculty and Staff during IDP sessions at BHS campus

IDP 4 (DEC 14 & 15, 2017): TAPPAN ATHLETIC COMPLEX

2 DAYS, 17 MEETINGS, 21 GROUPS

What we heard from BHS faculty and staff:

- Spin room on the first floor
- Change Coaches' Locker rooms to general use Locker Rooms



WRA & BHS Faculty and Staff during IDP sessions at BHS campus

INTERIOR MATERIALS PALETTE - EXISTING HIGH SCHOOL



- ACT TILE CEILINGS
- DRYWALL CEILINGS
- PAINTED DRYWALL
- CERAMIC WALL TILE
- PLASTIC LAMINATE CASEWORK
- EPOXY RESIN WORK SURFACES
- INTERIOR GLAZING
- BULLETIN BOARDS / DISPLAY CABINETS
- TERRAZZO FLOORING (MAIN ENTRY)
- VCT FLOORING (MOST CORRIDORS)

DURABLE AND BROOKLINE TESTED FINISHES

FLOORING: Terrazzo, Sheet linoleum w/ welded seams, carpet tile (limited use)

WALLS: Large format porcelain tile, metal lockers, glass, ceramic tile (bathrooms, stairs)

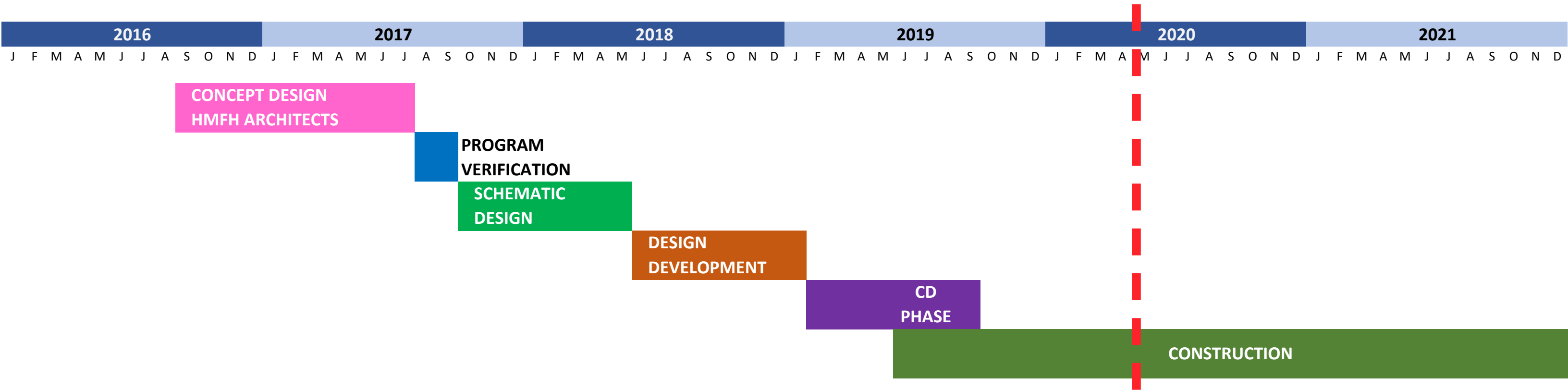
CEILINGS: ACT, gwb, specialty acoustic ceilings (cafeteria / STEM entry, Tappan entry)

LIGHTING: All LED (limited number of fixture types)

CYPRESS BUILDING



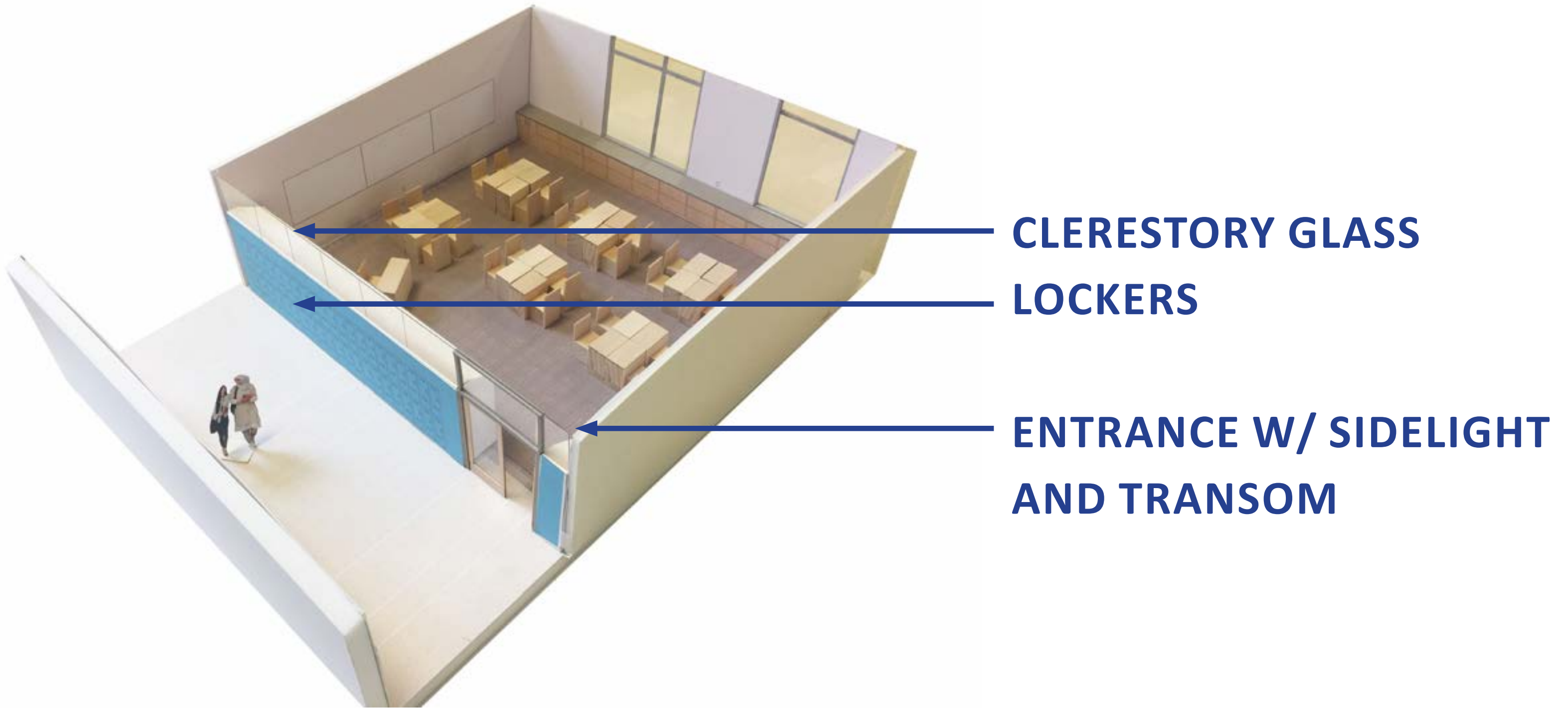
PROJECT SCHEDULE



- SCHEMATIC DESIGN COMPLETE MAR 2018
- TOWN ELECTION MAY 2018
- TOWN VOTE JUN 2018
- DESIGN DEVELOPMENT COMPLETE JAN 2019
- MBTA MOA SIGNED: JUL 2018
- EARLY PACKAGES FOR BID BEGINS JAN 2019
- CONSTRUCTION DOCUMENTS FOR BID AUG 2019
- DEMOLITION BEGINS AUG 2019



GENERAL USE CLASSROOM

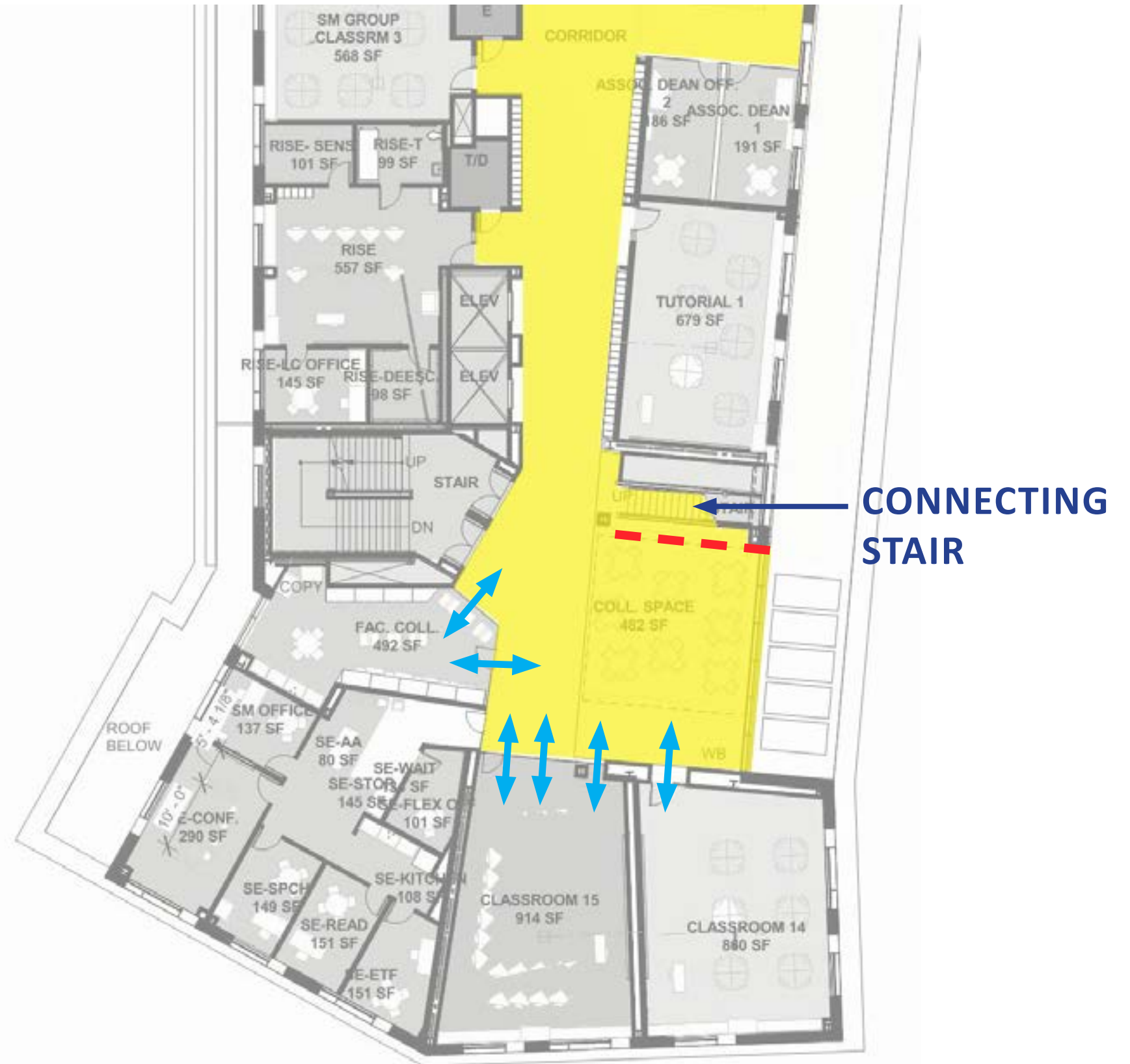


CLERESTORY GLASS

LOCKERS

**ENTRANCE W/ SIDELIGHT
AND TRANSOM**

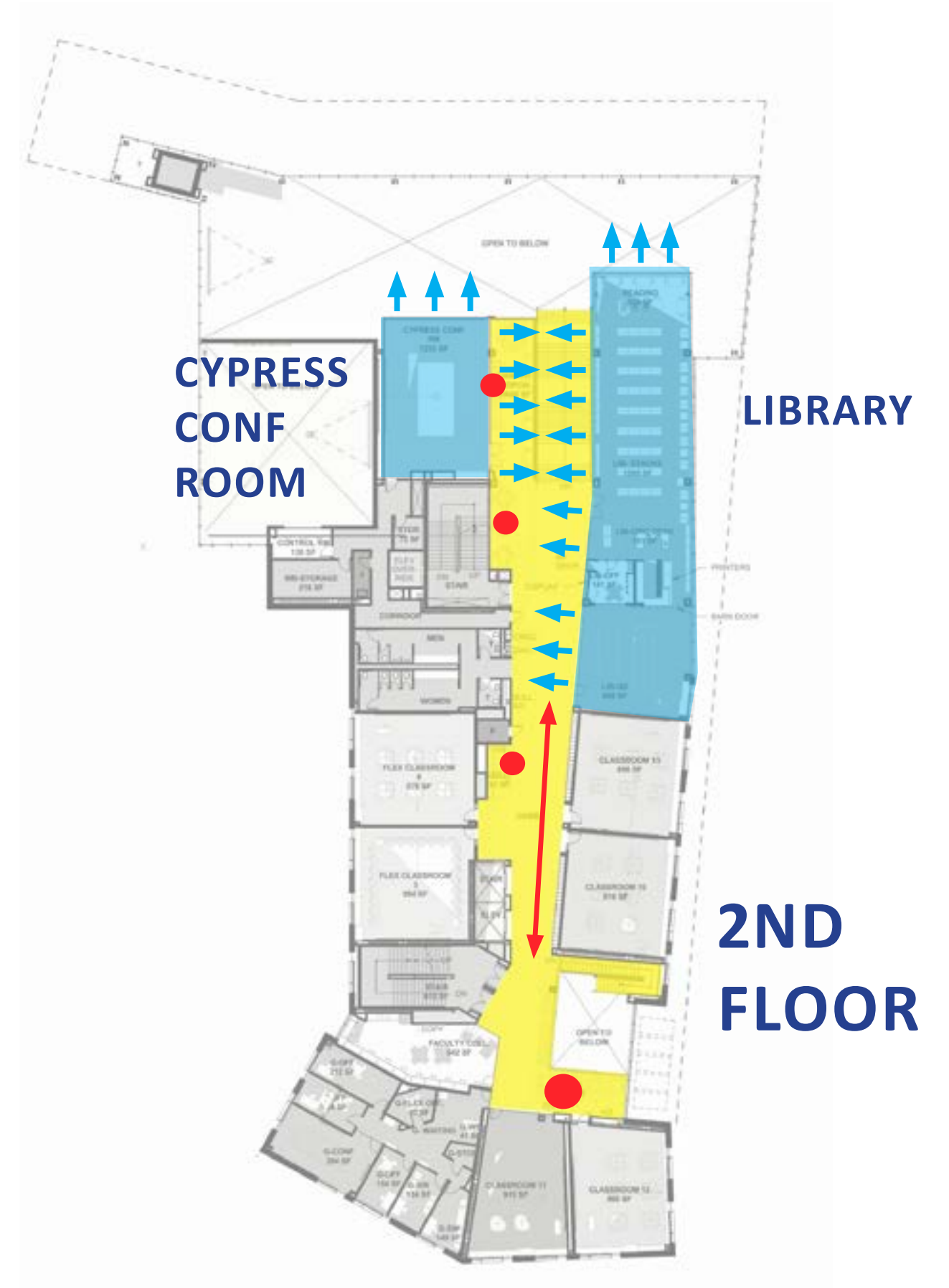
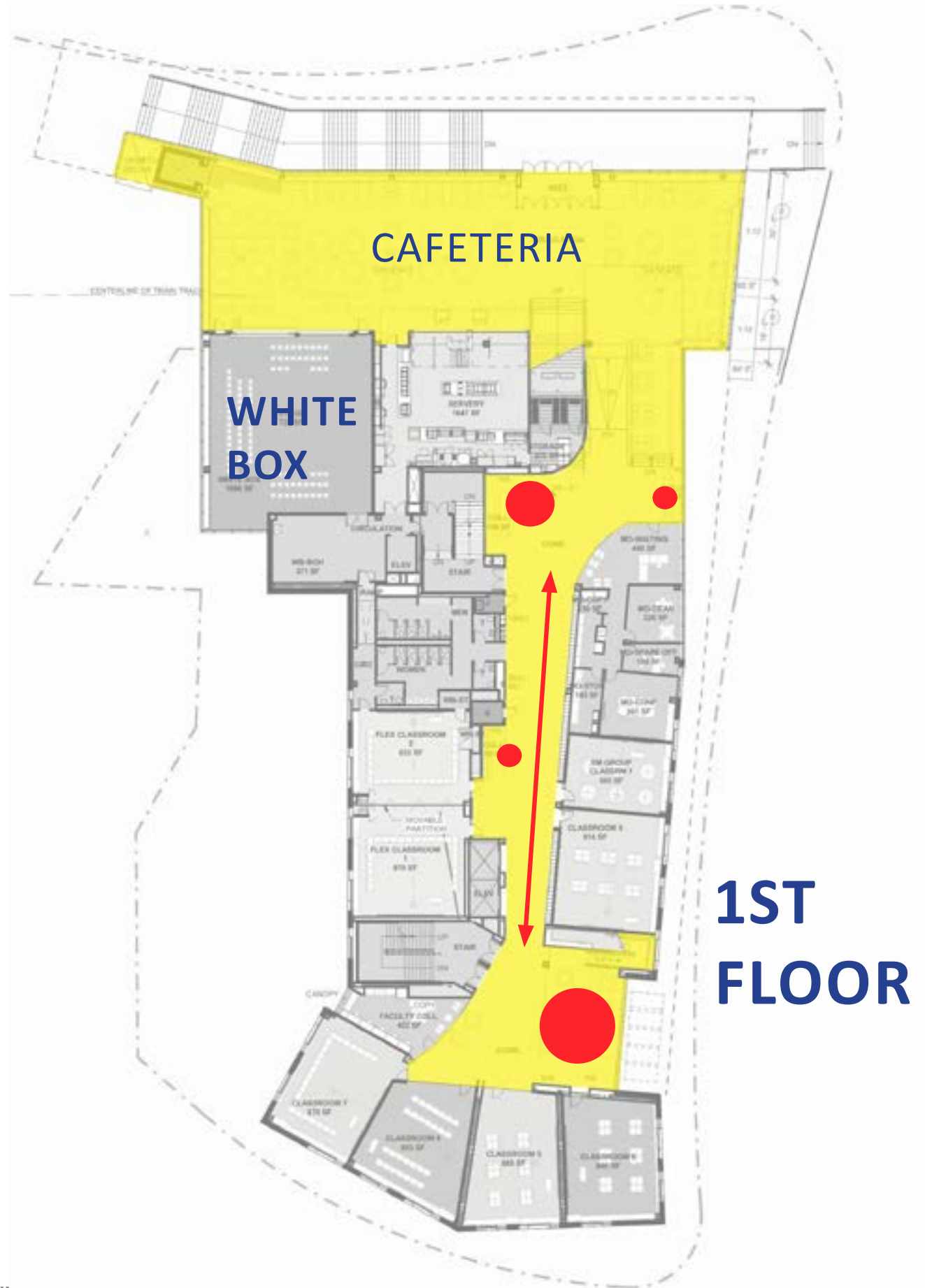
HALLWAY ORGANIZATION AND DESIGN: SOUTH COLLABORATION SPACE



HALLWAY ORGANIZATION AND DESIGN: COLLABORATION SPACES



HALLWAY ORGANIZATION AND DESIGN: COLLABORATION SPACES



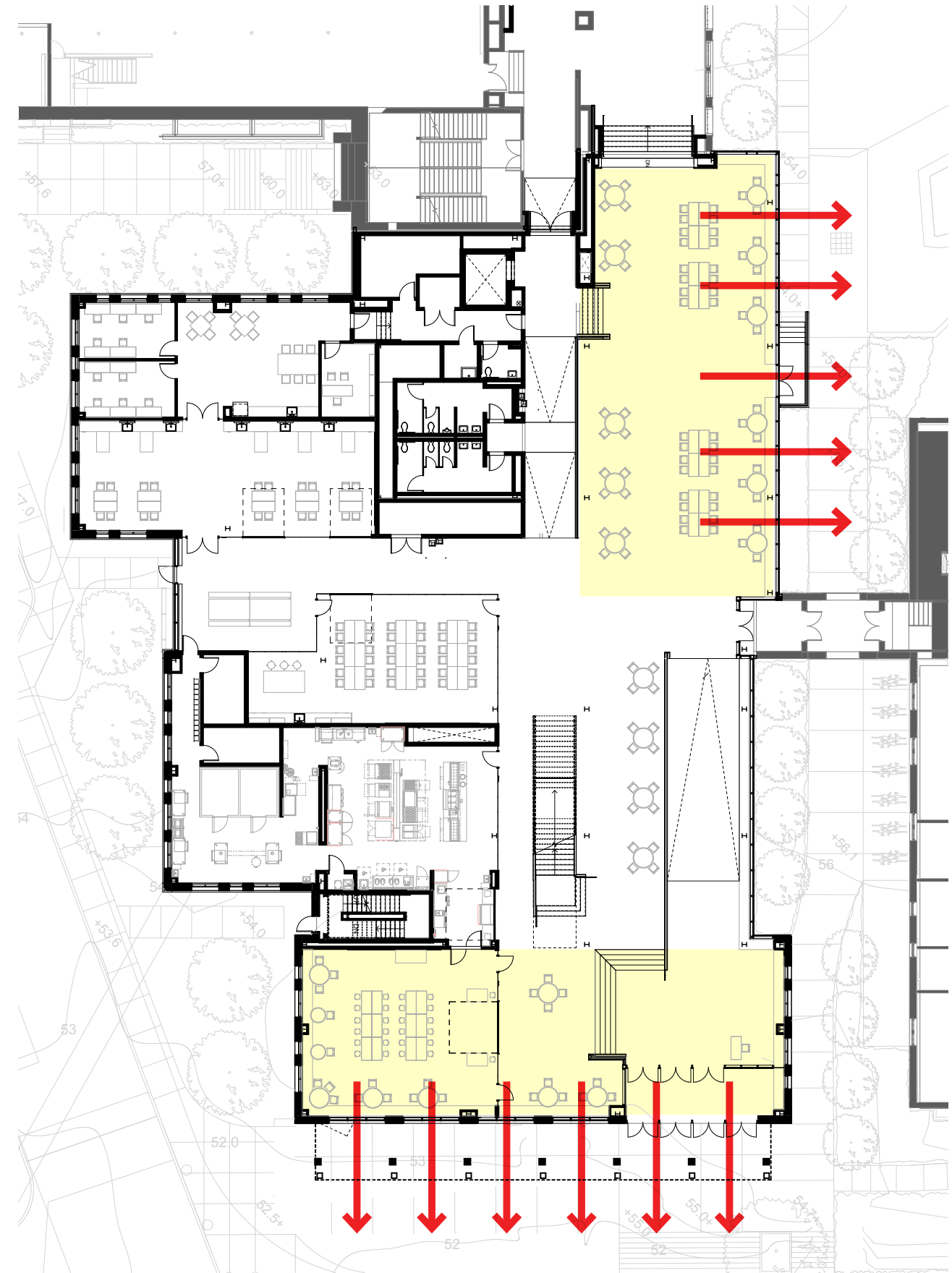
CAFETERIA



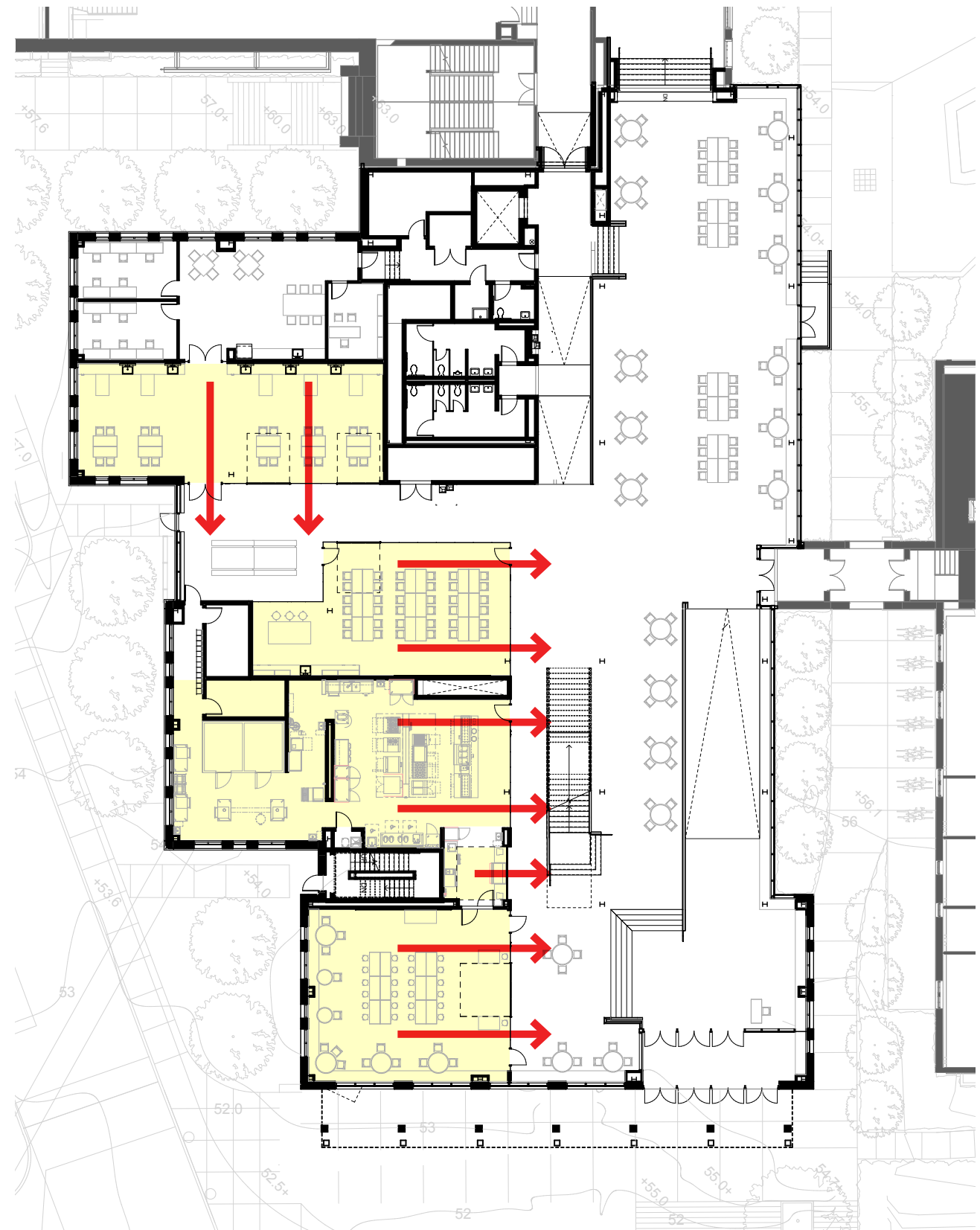
STEM WING



STEM WING - GROUND FLOOR 'PORCHES'



STEM WING - GROUND FLOOR MAKER SPACE VISIBILITY

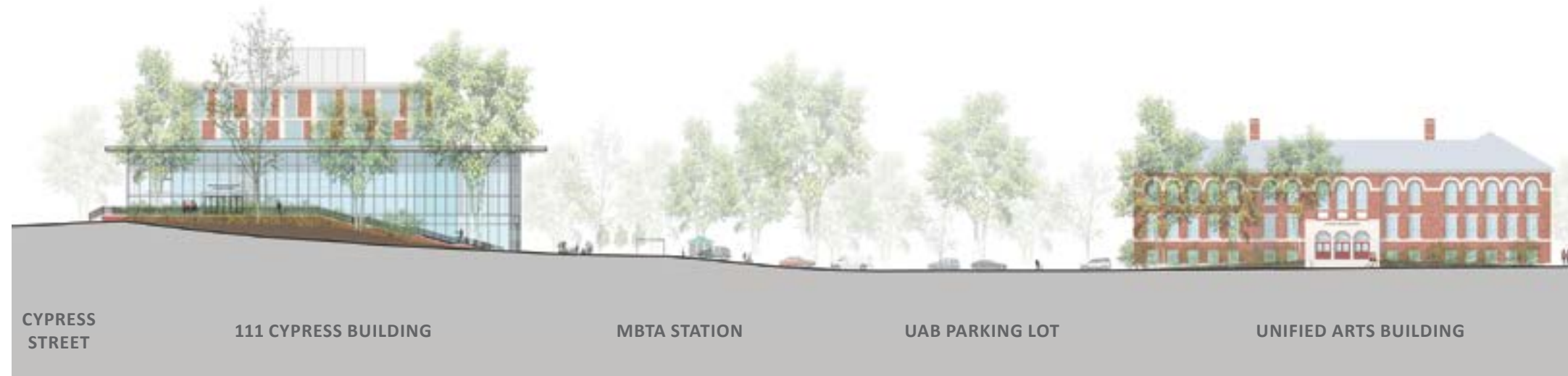


CYPRESS & STEM EXTERIOR ELEVATIONS



111 CYPRESS: ELEVATIONS

TAPPAN STREET ELEVATION



CYPRESS STREET ELEVATION

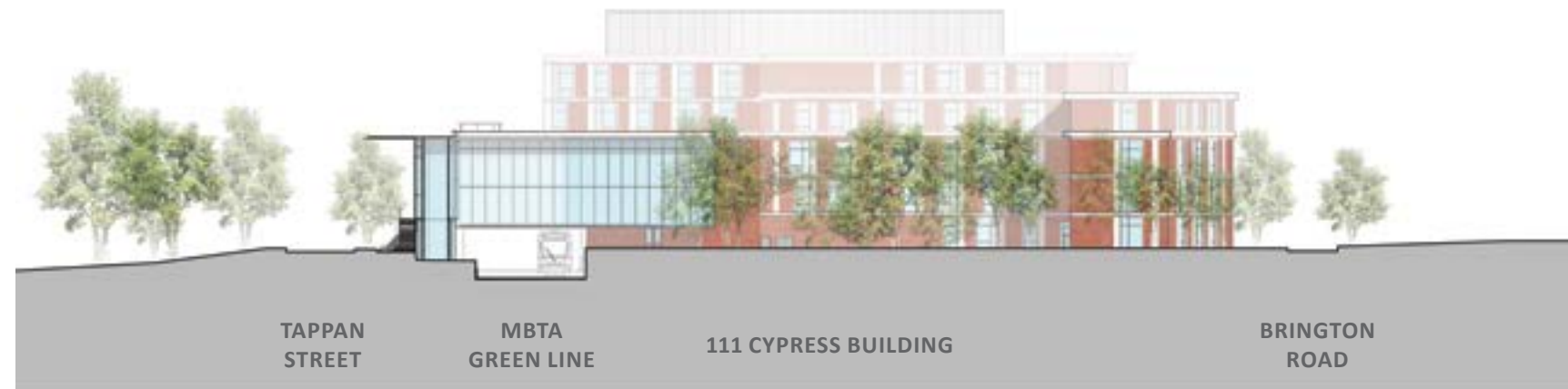


0' 20' 40' 80'



111 CYPRESS: ELEVATIONS

BRINGTON ROAD WEST ELEVATION



BRINGTON ROAD SOUTH ELEVATION



0' 20' 40' 80'



STEM WING: GREENOUGH STREET ELEVATION



0' 10' 20' 40'



STEM WING: TAPPAN STREET ELEVATION



1/32" = 1'



STEM WING: QUAD ELEVATION



1/32" = 1'



TAPPAN GYMNASIUM RENOVATION

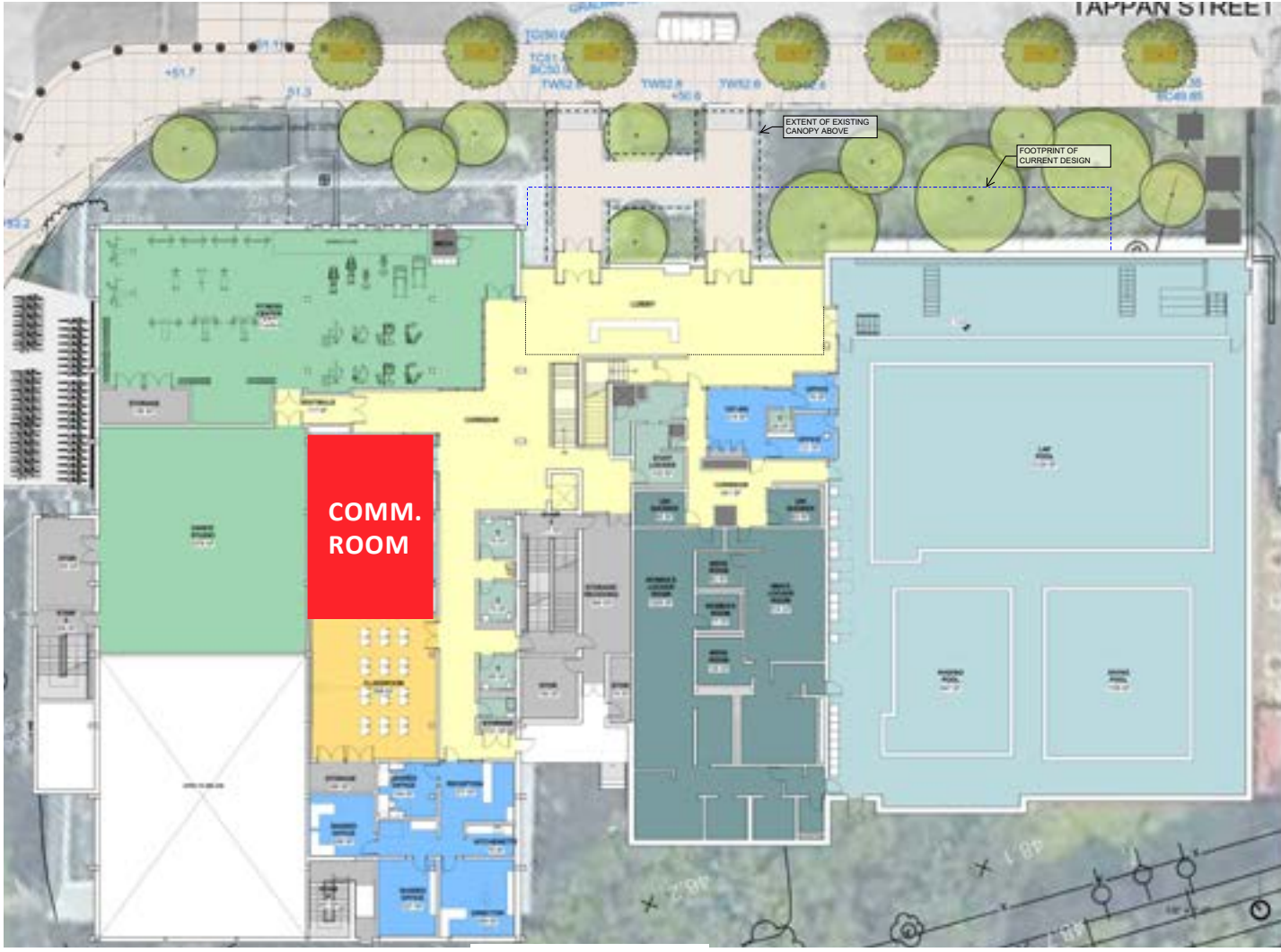


TAPPAN DESIGN UPDATE

ORIGINAL DESIGN



CURRENT DESIGN



VIEW FROM ENTRANCE TOWARDS COMMUNITY ROOM



MBTA / CYPRESS PLAZA



MBTA EGRESS PATHWAY: POSSIBLE DESIGN



5 KEY DESIGN ELEMENTS

- 1. STRAIGHTER ROUTE
- 2. LANDSCAPE BUFFER
- 3. CURB BULB OUT
- 4. ANGLED PARKING
- 5. LOW LIGHT LEVELS

PROJECT SUSTAINABILTY



BUILDING PROJECTS

Long-Term Capital Plan >

BHS Expansion Project ^

Upcoming Public Meetings >

Summaries of BHS Expansion Public Meetings >

Presentations and Materials - BHS >

BHS Building Committee >

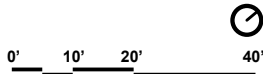
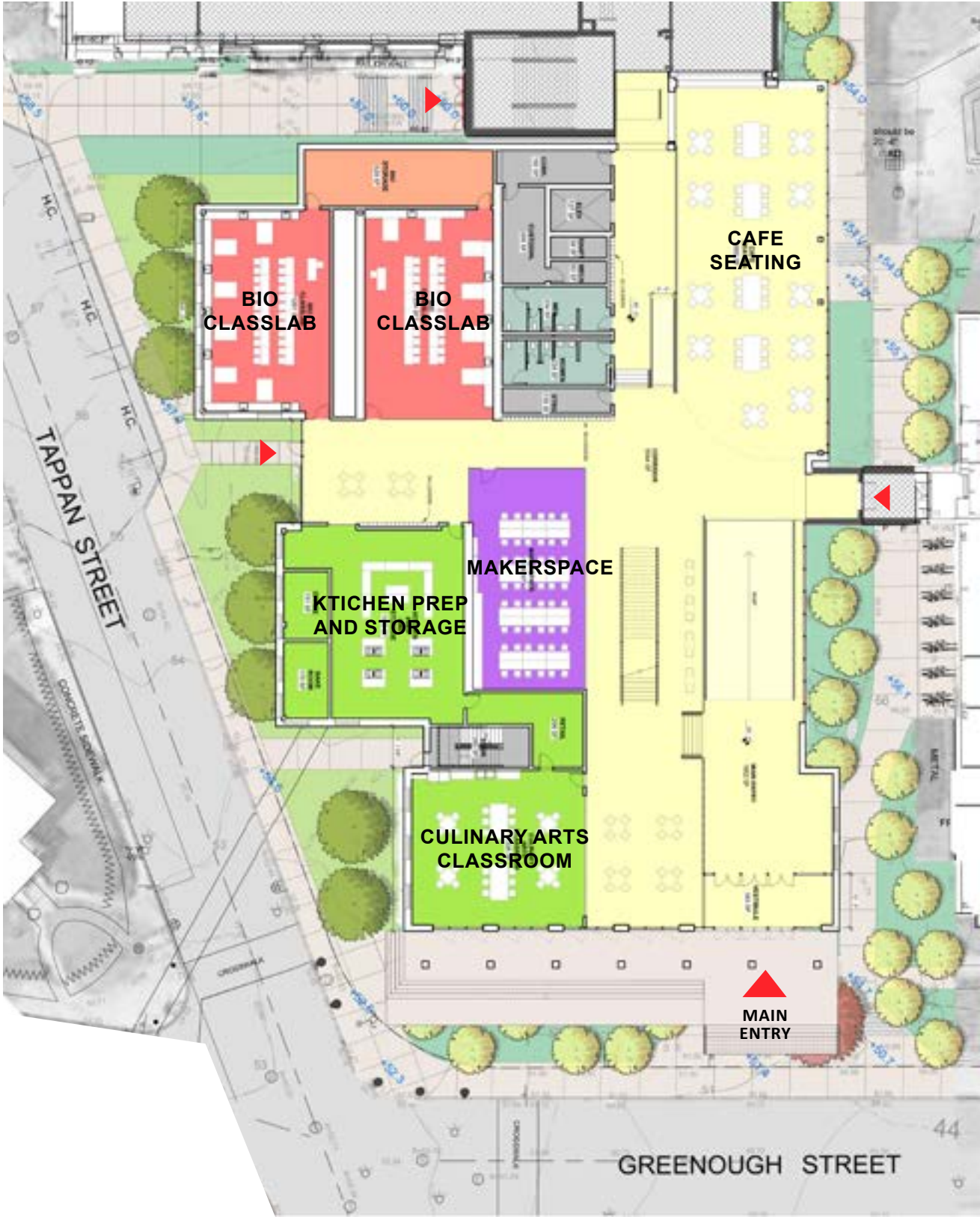
Driscoll School Building v

Presentations and Studies:

Please go to the links below for more information regarding the BHS expansion:

- [BHS Building Committee Presentation - March 26, 2020](#)
- [BHS Building Advisory Committee Presentation - January 22, 2020](#)
- [Transportation Board Presentation \(includes modifications to Brookline Hills MBTA Station\) - October 2, 2019](#)
- [BHS Building Committee Presentation - October 2, 2019](#)
- [BHS Building Committee Presentation \(includes 3-month look ahead of construction\) - June 12, 2019](#)
- [BHS Building Committee Presentation \(includes Presentation of Revised MBTA Platform and Streetscape\) - April 23, 2019](#)
- [Alternative MBTA and Tappan Streetscape Designs - Parks and Recreation Commission Presentation - April 9, 2019](#)
- [Sustainability Overview Presentation - April 3, 2019 \(Appendix and Design Development Energy Analysis Reports: STEM Wing/Cypress Building\)](#)
- [BHS Building Committee Presentation - March 27, 2019](#)
- [Old Lincoln School Transition Presentation for 7th/8th Grade Families - March 19-21, 2019](#)
- [BHS Building Committee Presentation - February 13, 2019](#)
- [BHS Building Committee Presentation - November 19, 2018](#)
- [Project Summary Presentation - October 23, 2018](#)
- [BHS Building Committee Presentation - September 26, 2018](#)
- [BHS Building Committee Presentation - June 14, 2018](#)
- [Public Hearing Presentation - February 26, 2018](#)
- [Preliminary Schematic Design Presentation \(Includes Detailed Photos of Campus model\) - February 8, 2018](#)

STEM WING: LANDSCAPE PLAN



CYPRESS BUILDING MODEL PHOTO: AERIAL VIEW FROM TAPPAN ST



CYPRESS BUILDING MODEL PHOTO: AERIAL VIEW FROM BRINGTON RD.



CYPRESS BUILDING MODEL PHOTO: AERIAL VIEW FROM CYPRESS ST



TAPPAN STREETScape: PREVIOUS VS. PROPOSED DESIGN

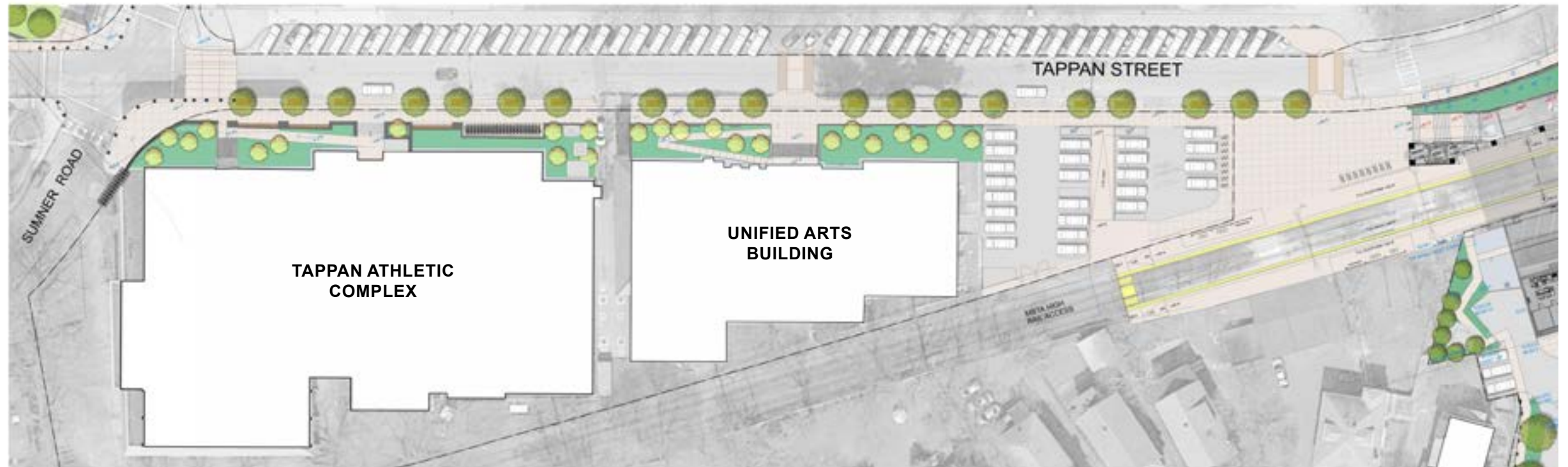
PREVIOUS DESIGN

- Benches at north edge of sidewalk
- 5' permeable paver strip adjacent to curb
- Compact plaza at Cypress Building



PROPOSED DESIGN

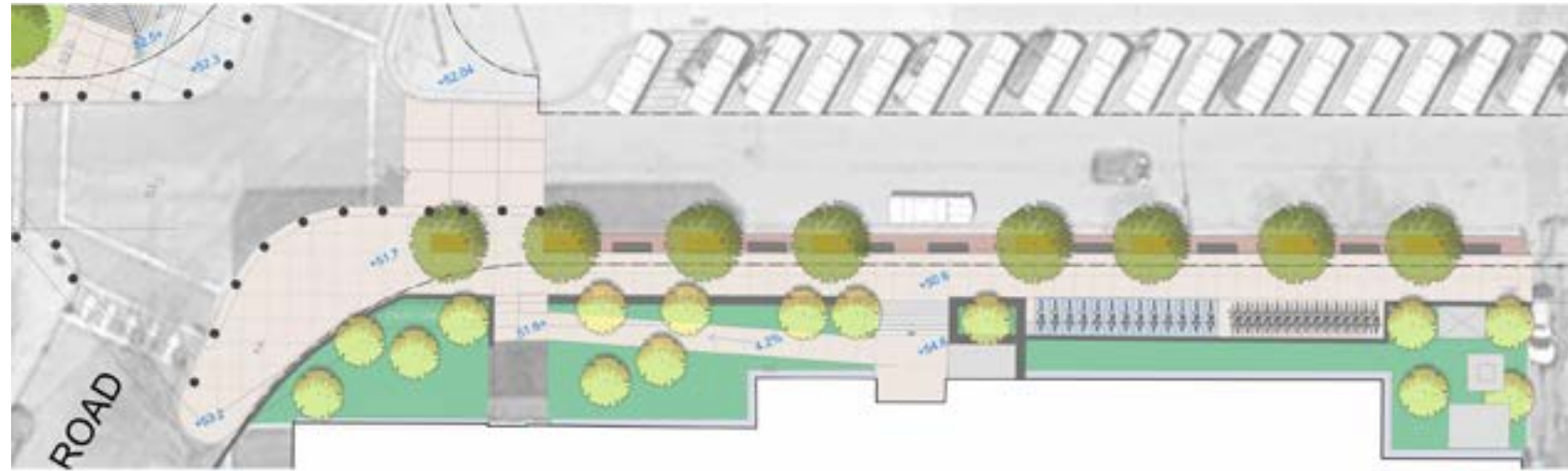
- Seat wall and benches at south side of sidewalk
- Elimination of permeable paver strip (difficult to maintain)
- Enlarged plaza at Cypress Building



STREETSCAPE AT TAPPAN GYM: PREVIOUS VS. PROPOSED DESIGN

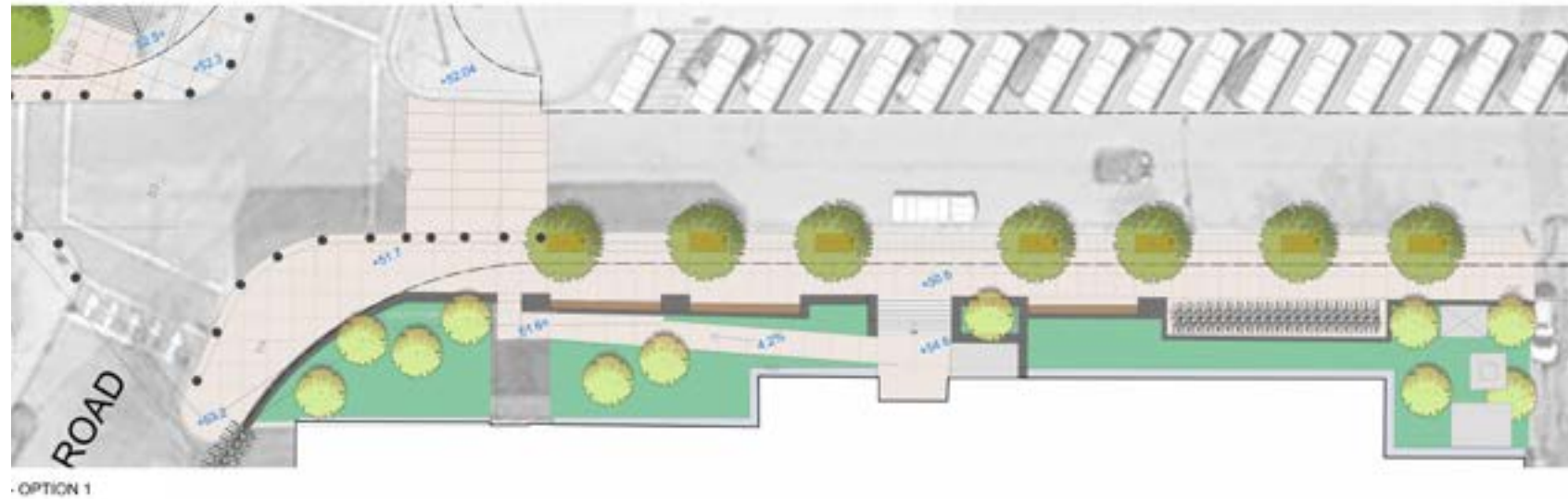
PREVIOUS DESIGN

- Short benches at north side of sidewalk



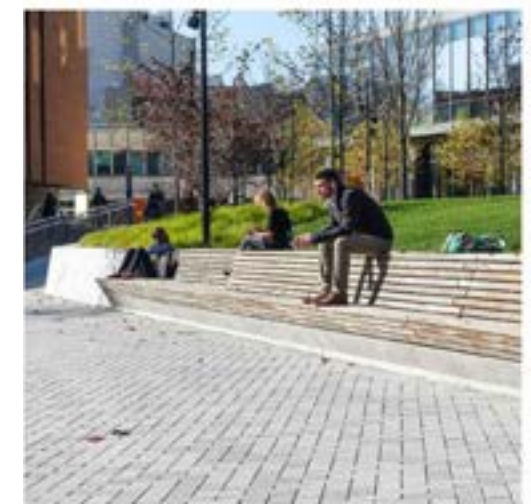
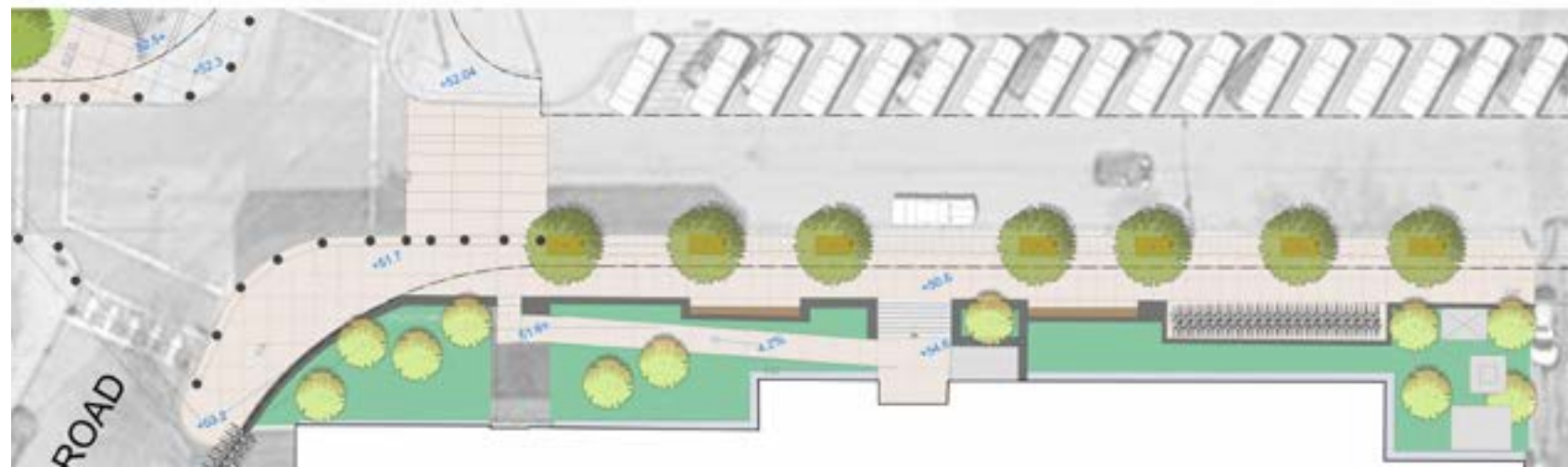
PROPOSED DESIGN OPTION 1

- 3 long benches integrated with seat wall
- Blue bikes moved to enlarged plaza by Brookline Hills MBTA station
- More bike racks



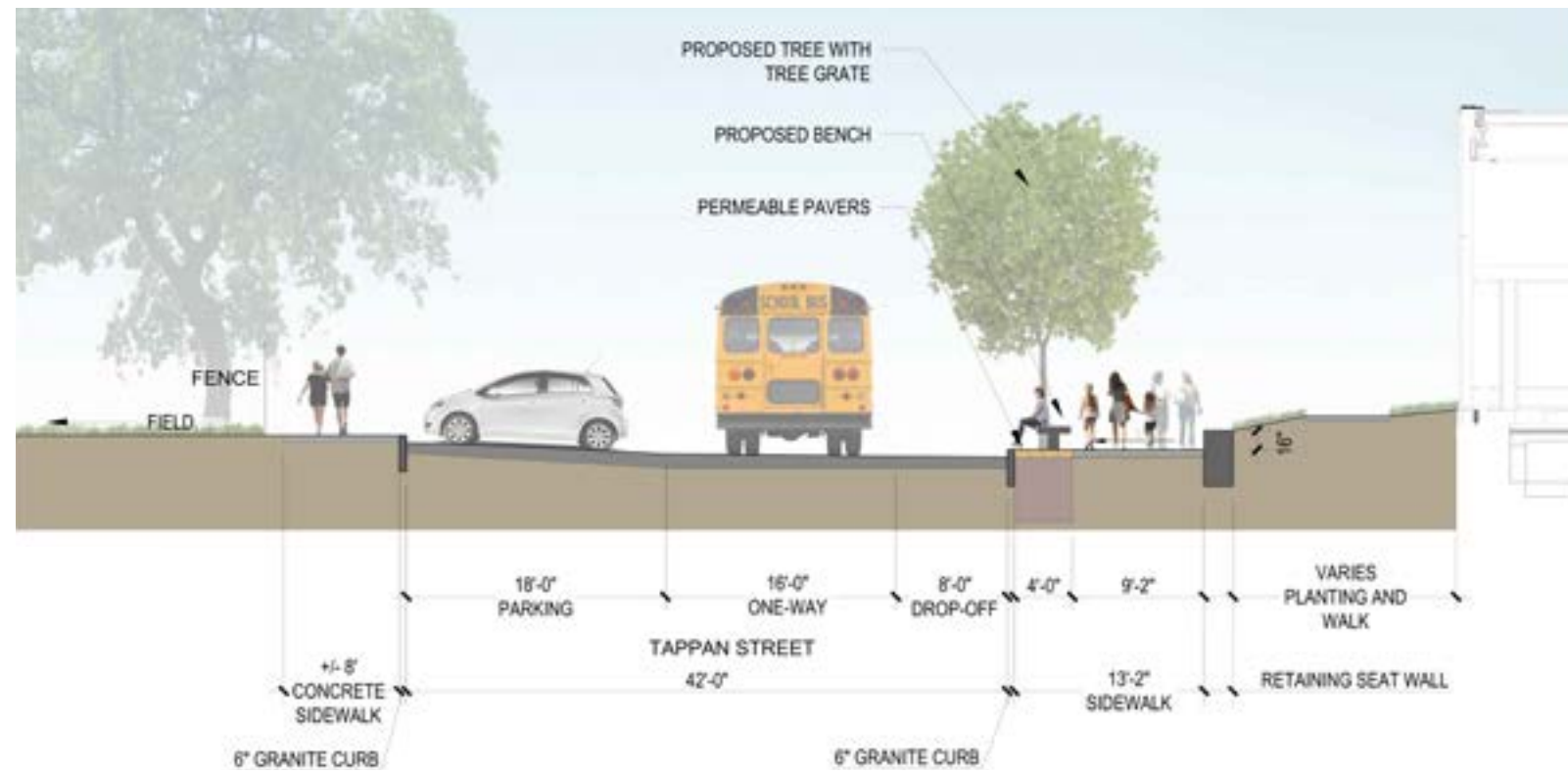
PROPOSED DESIGN OPTION 2

- 2 long benches integrated with seat wall
- Blue bikes moved to enlarged plaza by Brookline Hills MBTA station
- More bike racks

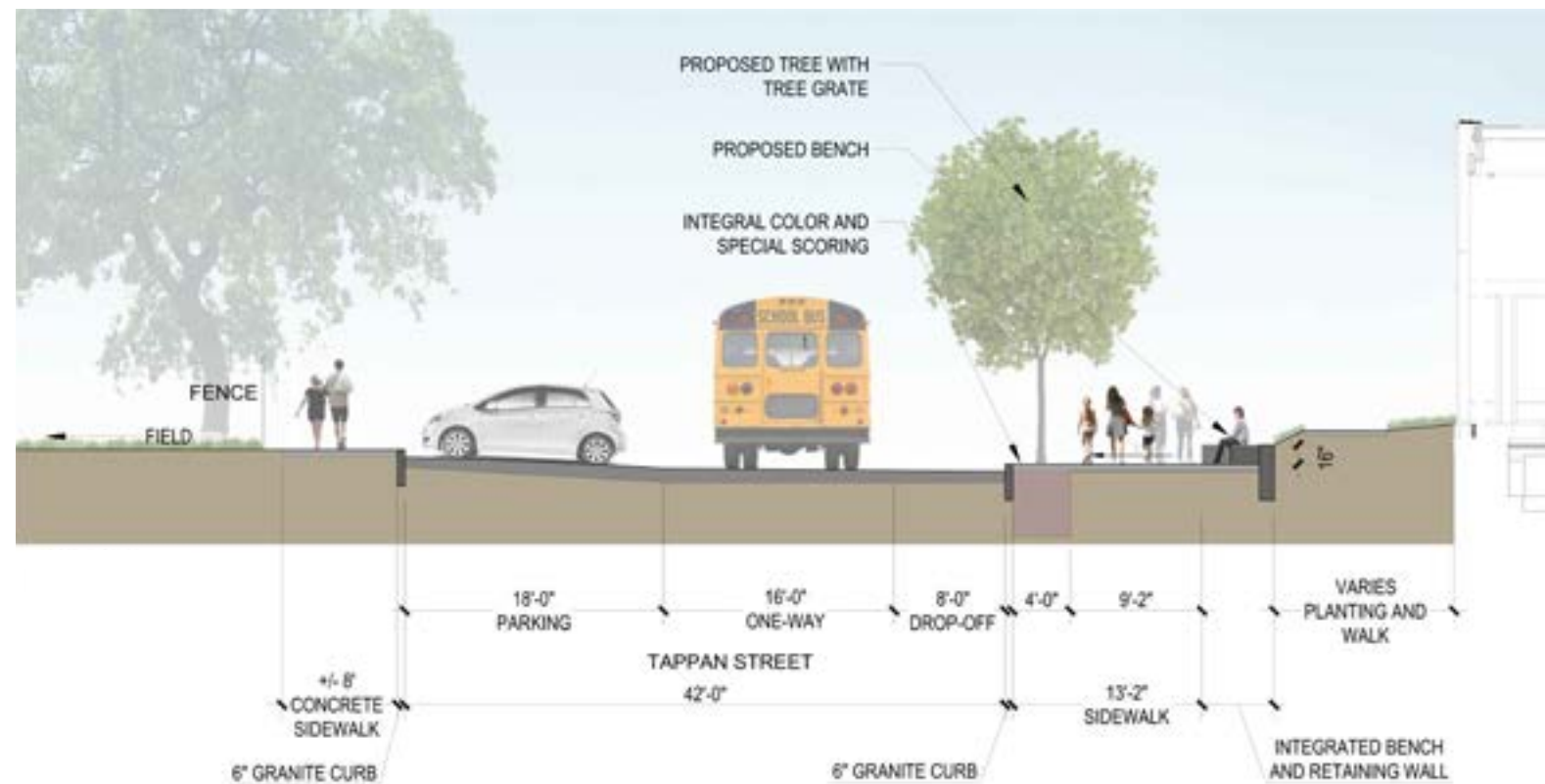


STREETSCAPE AT TAPPAN GYM: PREVIOUS VS. PROPOSED DESIGN

PREVIOUS DESIGN

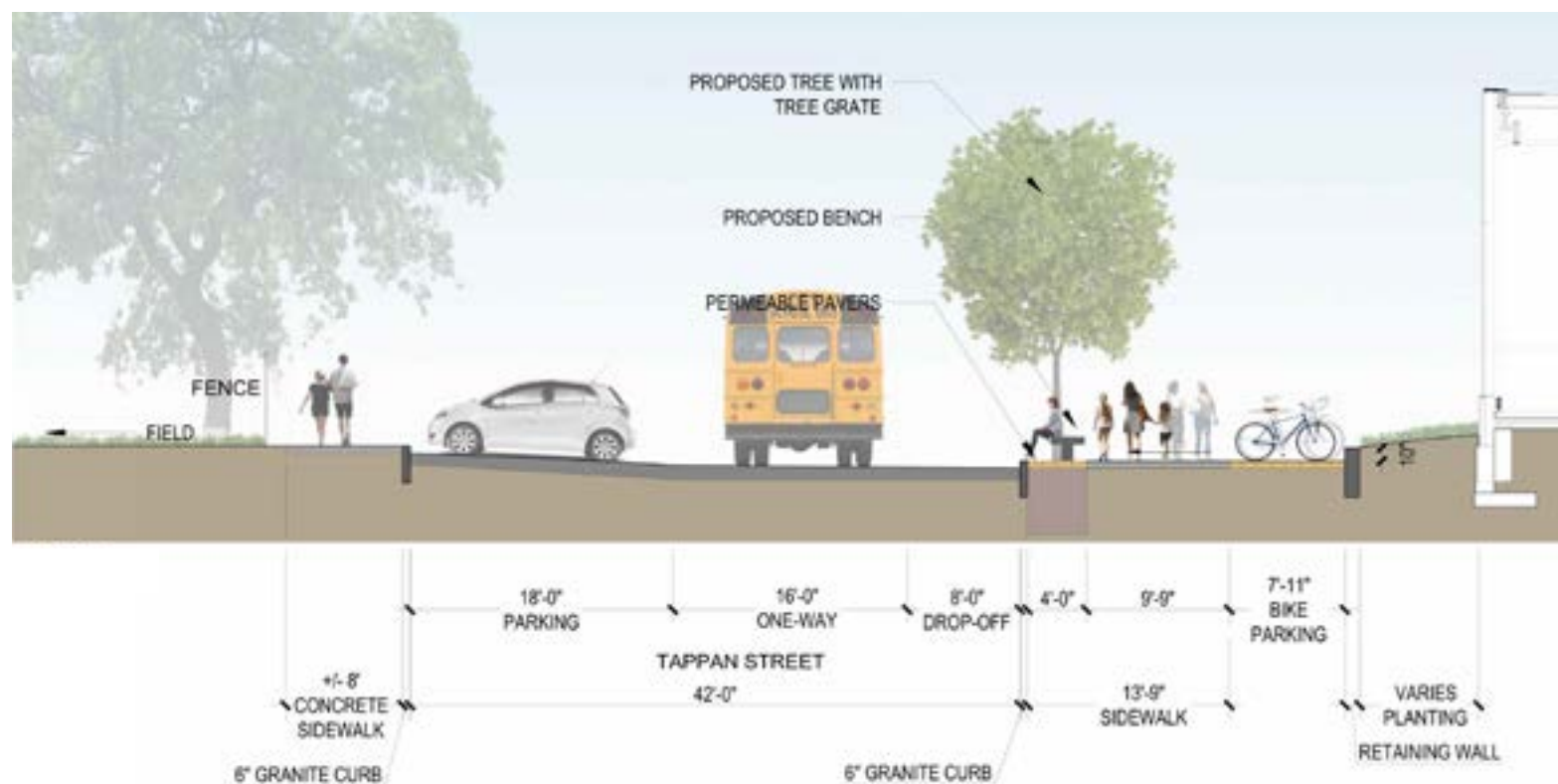


PROPOSED DESIGN

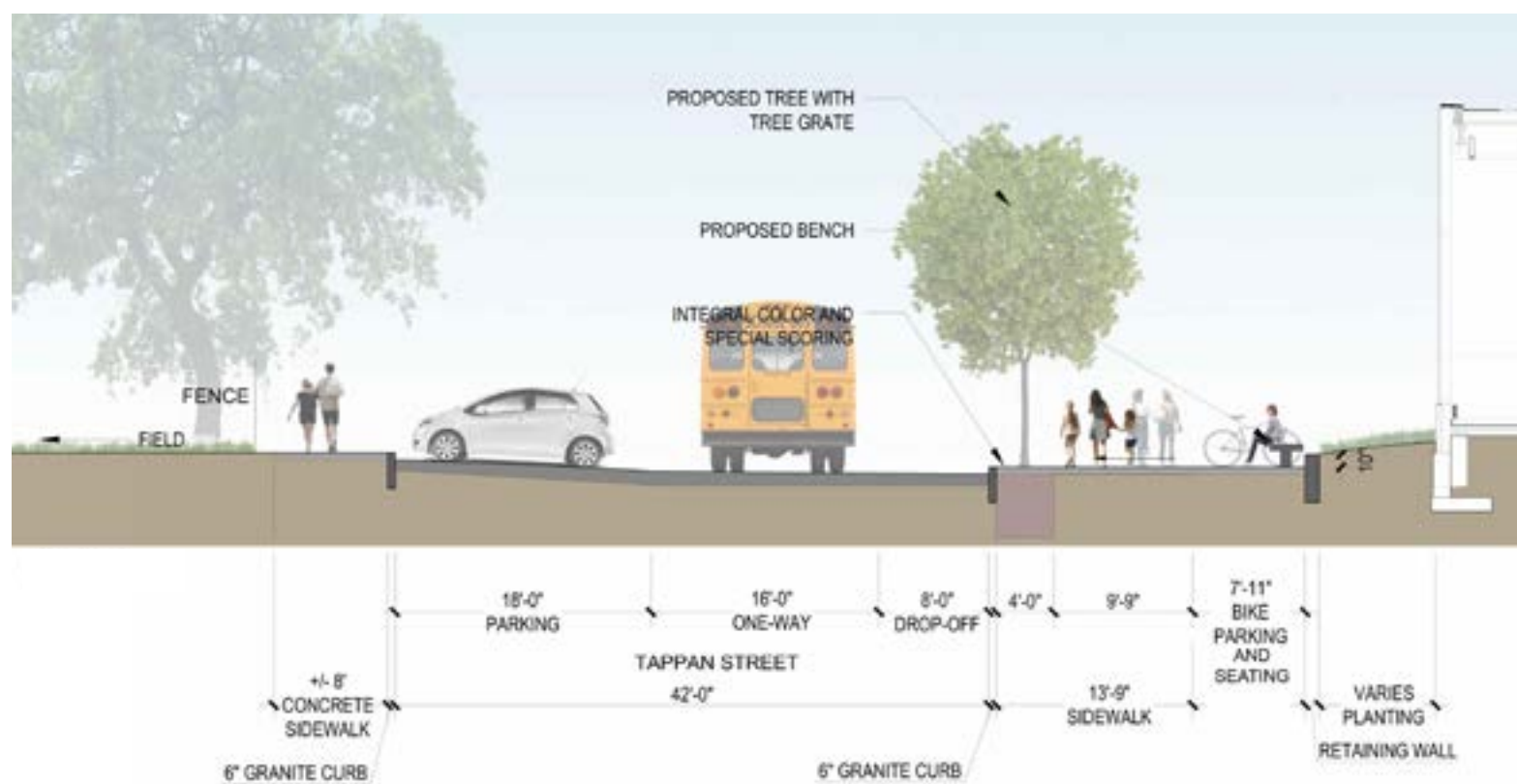


STREETSCAPE AT TAPPAN GYM: PREVIOUS VS. PROPOSED DESIGN

PREVIOUS DESIGN

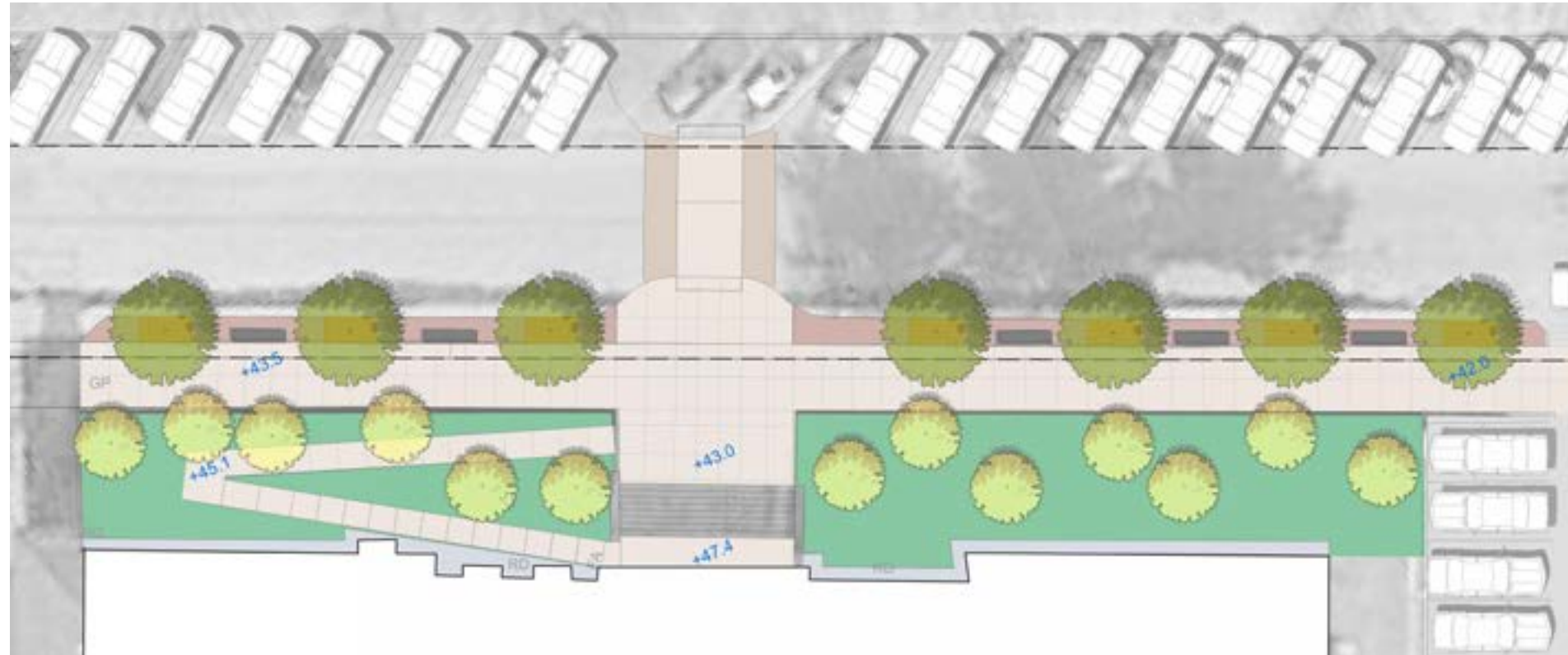


PROPOSED DESIGN

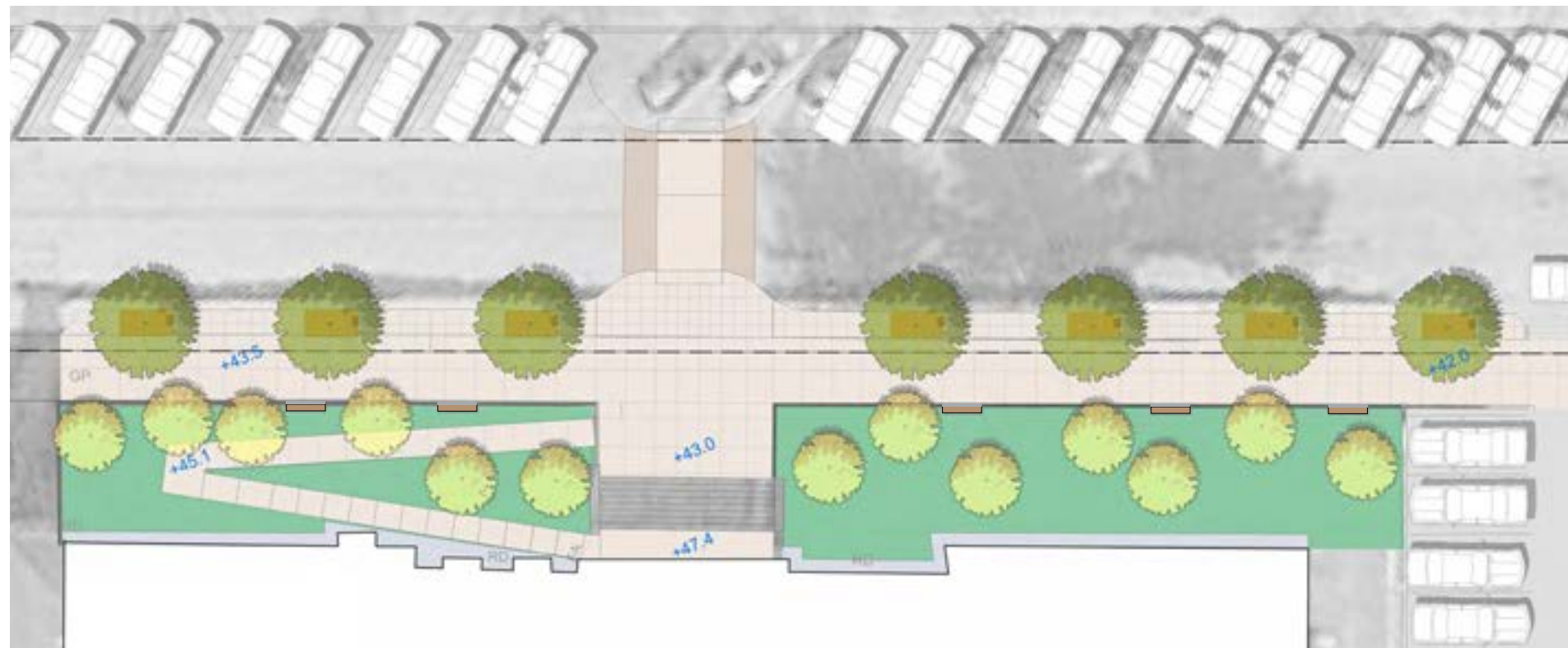


STREETSCAPE AT UAB: PREVIOUS VS. PROPOSED DESIGN

PREVIOUS DESIGN



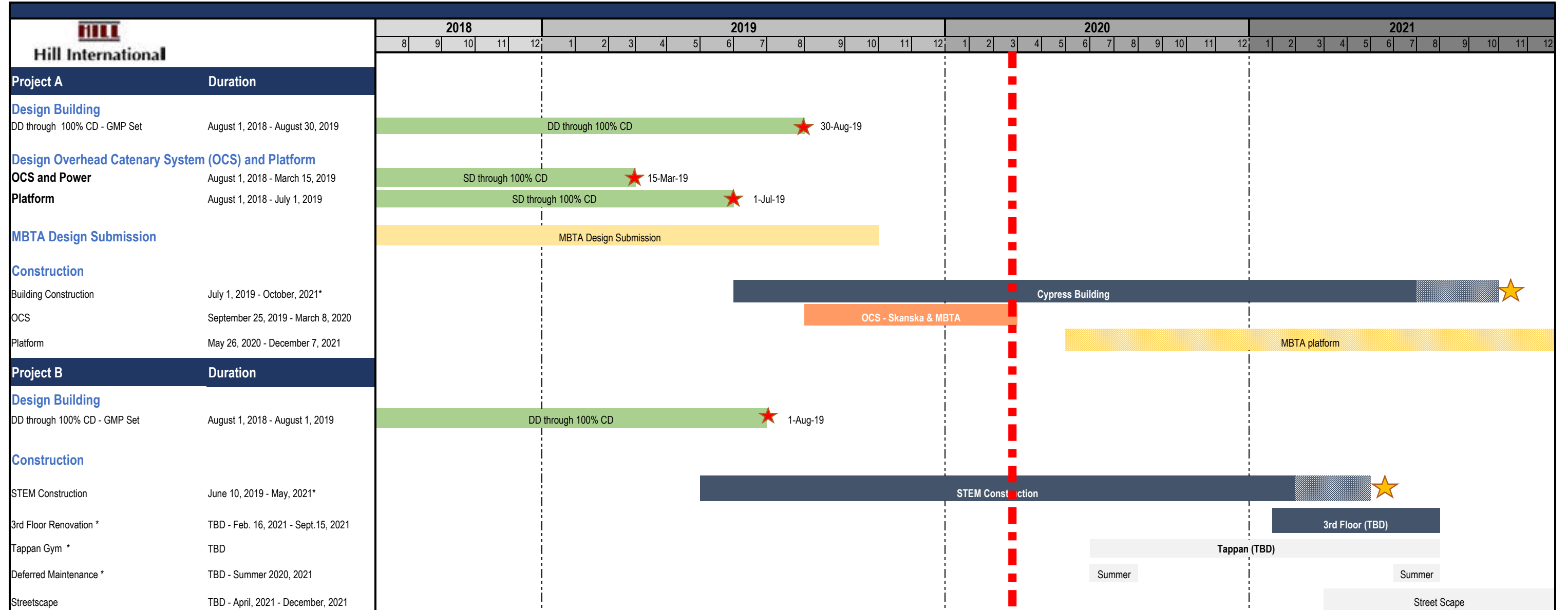
PROPOSED DESIGN



WHERE WE ARE NOW

March 24, 2020

Brookline High School Expansion Project DRAFT Summary Schedule



★ Ongoing review for mitigation options to schedule impact. However, subject to change once impacts due to COVID-19 is more clearly known.

Main Tenets of BHS Education Plan

1. Create a Unified Campus

- Big School; Small Feel
- Engage campus as a whole to serve educational mission

2. Engage Students Deeply

- Explore connections between fields and subjects
- Increase flexibility in scheduling, instruction, course offerings, and curriculum
- Foster faculty collaboration

3. Serve All Students

- Build connection between adults and students, and among classmates
- Intimate feel - find your niche