North Orange County Community College District

Fullerton College

STEM Vocational Center

Final Project Proposal 2025-2026

July 1st, 2023

Architectural Support by:

Cambridge West Partnership, LLC
2472 Chambers Road, Suite 210, Tustin, CA 92780
www.cambridgewestpartnership.com

Final Project Proposal

2025-2026

Community College Construction Act of 1980
Capital Outlay Budget Change Proposal

STEM Vocational Center
Proposal Name

North Orange County Community College District
Community College District

Fullerton College
College or Center

July 01, 2023
Date

2.1 FINAL PROJECT PROPOSAL CHECKLIST

District: North Orange County Community College District
College/Center: Fullerton College
Project: Fullerton College STEM Vocational Center FPP
Prepared By: Cambridge West Partnership, LLC Date: July 1st, 2023

Section	Description	Status	Date
1.1	Title Page	Complete	7/1/23
2.1	Final Project Proposal Checklist	Complete	7/1/23
3.1	Approval Page – Final Project Proposal (with original signatures)	Complete	7/1/23
3.2	Project Terms and Conditions	Complete	7/1/23
4.1	Analysis of Building Space Use and WSCH-JCAF 31	Complete	7/1/23
5.1	Cost Estimate Summary-JCAF 32	Complete	7/1/23
5.2	Quantities and Unit Costs supporting the JCAF 32	Complete	7/1/23
6.1	Board of Governors Energy and Sustainability Policy	Complete	7/1/23
7.1	Responses to Specific Requirements – State Administrative Manual	Complete	7/1/23
8.1	California Environmental Quality Act	Complete	7/1/23
9.1	Analysis of Future Costs	Complete	7/1/23
10.1	Campus Plot Plan	Complete	7/1/23
10.2	Site Plan	Complete	7/1/23
10.3	Floor Plans	Complete	7/1/23
10.4	Exterior Elevations	Complete	7/1/23
10.5	Electrical Plans (as needed)	N/A	7/1/23
10.6	Mechanical Plans (as needed)	N/A	7/1/23
11.1	Guideline-Based Group 2 Equipment Cost Estimates JCAF 33	Complete	7/1/23
12.1	Justification of Additional Costs exceeding Guidelines (as needed)	Complete	7/1/23
13.1	Detailed Equipment List [1]	Complete	7/1/23

[1] Traditional projects – To be submitted when the Plan Year for requesting for CE funding is due.

APPROVAL PAGE

Final Project Proposal

Budget Year
2025 -2026

District: North Orange County Community College District

Project Location: Fullerton College
(College or Center)

Project: STEM Vocational Center

The district proposes funds for inclusion in the state capital outlay budget (check items):
preliminary plans ☑, working drawings ☑, construction ☑, equipment ☑

District Certification

Contact Person: Fred Williams **Telephone**: (714)808-4746
(Facilities, Planning and Development)

E-Mail Address: fwilliams@nocccd.edu **Fax**: (714)808-4746

Approved for submission: _____ **Date**: _____
(Chancellor/President/Superintendent Signature)

District Board of Trustees Certification

The Governing Board of the District approves the submission of this application to the Board of Governors of the California Community Colleges and promises to fulfill the succeeding list of Project Terms and Conditions.

_____ _____
(President of the Board of Trustees Signature and Date) *(Secretary of the Board of Trustees Signature and Date)*

Attach a copy of the Board Resolution that substantiates approval of the application and promises to fulfill the Project Terms and Conditions.

Submit proposal to:
Facilities Planning and Utilization
Chancellor's Office
California Community Colleges
1102 Q Street, Suite 4550
Sacramento, CA 95811-6549

Chancellor's Office Certification

Reviewed by _____

Date Completed _____

3.2 PROJECT TERMS AND CONDITIONS

District: North Orange County Community College District **College/Center**: Fullerton College

Project: STEM Vocational Center **Budget Year**: 2025-2026

1. The applicant hereby requests state funds in the amount prescribed by law for the project named herein. All parts and exhibits contained in or referred to in this application are submitted with and made part of this application.
2. The applicant hereby assures the Board of Governors of the California Community Colleges that:
   a. Pursuant to the provisions of Section 57001.5 of Title 5 no part of this application includes a request for funding the planning or construction of dormitories, stadia, the improvement of sites for student or staff parking, single-purpose auditoriums, or student centers other than cafeterias. The facilities included in the proposed project will be used for one or more of the purposes authorized in 57001.5 of Title 5.
   b. Any state funds received pursuant to this application shall be used solely for defraying the development costs of the proposed project.

      If the application is approved, the construction covered by the application shall be undertaken in an economical manner and will not be of elaborate or extravagant design or materials.
   c. Pursuant to the provisions of Section 81837 of the *Education Code*, approval of the final plans and specifications for construction will be obtained from the Board of Governors of the California Community Colleges **before** any contract is let for the construction.
   d. No changes in construction plans or specifications made after approval of final plans which would alter the scope of work, function assignable and/or gross areas, utilities, or safety of the facility will be made without prior approval of the Chancellor's Office of the California Community Colleges and the Department of General Services, Division of the State Architects.
   e. Pursuant to the provisions of Section 57011 of Title 5, upon completion of a project the governing board shall submit to the Chancellor's Office, within 30 days after the closure of the current fiscal year, a final report on all expenditures in connection with the sources of the funds expended. The district shall be subject to a state post-audit review of fund claims for all such projects.
   f. Architectural or engineering supervision and inspection will be provided at the construction site to ensure that the work was completed in compliance with the provisions of Section 81130 of the *Education Code* and that it conforms to the approved plans and specifications.
   g. Pursuant to the provisions of Section 8 of the *Budget Act*, no contract will be awarded prior to the allocation of funds to the Board of Governors by the Public Works Board.

3. It is understood by the applicant that:

   a. No claim against any funds awarded on this application shall be approved which is for work or materials not a part of the project presented in this application as it will be finally allocated by the Public Works Board.

   b. The failure to abide by each of the assurances made herein entitles the Board of Governors of the California Community Colleges to withhold all or some portion of any funds awarded on this application.

   c. Any fraudulent statement which materially affects any substantial portion of the project presented in this application, as it may be finally approved, entitles the Board of Governors of the California Community Colleges to terminate this application or payment of any funds awarded on the project presented in this application.

4. It is further understood that:

   a. The appropriation which may be made for the project presented in this application does not make an absolute grant of that amount to the applicant.

   b. The appropriation is made only to fund the project presented in this application, as it is finally approved, regardless of whether the actual cost is less than or equals the appropriation.

   c. A reduction in the scope of the project or assignable areas shall result in a proportionate reduction in the funds available from the appropriation

North Orange County Community College District (860)

Fullerton College (862)

Project: STEM Vocational Center

Rm Type	Description	TOP Code	Department	ASF	Sec. ASF	Increase In Space
110	Classroom	0410	Anatomy and Physiology	720	0	720
110	Classroom	1306	Nutrition, Foods, and Culinary Arts	1,200	0	1,200
110	Classroom	1901	Physical Sciences, General	1,200	0	1,200
210	Class Lab	0100	Agriculture and Natural Resources	800	804	-4
210	Class Lab	0109	Horticulture	1,340	1,332	8
210	Class Lab	0109	Horticulture	1,610	886	724
210	Class Lab	0109	Horticulture	1,610	923	687
210	Class Lab	0403	Microbiology	1,320	0	1,320
210	Class Lab	0410	Anatomy and Physiology	3,300	0	3,300
210	Class Lab	0430	Biotechnology and Biomedical Technology	2,000	0	2,000
210	Class Lab	1306	Nutrition, Foods, and Culinary Arts	2,800	0	2,800
215	Class Lab Service	0100	Agriculture and Natural Resources	550	548	2
215	Class Lab Service	0109	Horticulture	400	204	196
215	Class Lab Service	0410	Anatomy and Physiology	300	0	300
215	Class Lab Service	0430	Biotechnology and Biomedical Technology	1,100	0	1,100
215	Class Lab Service	1306	Nutrition, Foods, and Culinary Arts	350	0	350
220	Spec Class Lab	0430	Biotechnology and Biomedical Technology	1,500	0	1,500
225	Special Class Lab Service	0410	Anatomy and Physiology	600	0	600
225	Special Class Lab Service	0430	Biotechnology and Biomedical Technology	1,800	0	1,800
310	Office	0109	Horticulture	420	446	-26
310	Office	0410	Anatomy and Physiology	420	0	420
310	Office	0430	Biotechnology and Biomedical Technology	420	0	420
310	Office	1306	Nutrition, Foods, and Culinary Arts	560	0	560
315	Office Service	0099	General Assignment	300	0	300
410	Read/Study Room	6110	Learning Center (Learning Resource Center)	1,250	0	1,250
580	Greenhouse	0109	Horticulture	2,845	2,845	0
650	Lounge	0099	General Assignment	250	0	250
680	Meeting Room	0099	General Assignment	275	0	275
680	Meeting Room	0099	General Assignment	275	0	275
710	Data Processing/Computer	0099	General Assignment	80	0	80
TOTAL	-	-		**31,595**	**7,988**	**23,607**

DISTRICT North Orange County Community College District **CAMPUS** Fullerton College

Project Name: STEM Vocational Center **Date Prepared:** 4/22/2022 **Estimate CCI:** 8823 **CFIS Ref. #:**

Prepared By: **Estimate EPI:** 5455 **Budget Ref. #:**

	Total Cost	State Funded	District Funded	
			Supportable	Non Supportable
1. SITE ACQUISITION (CCI: 8823)	**$0**	**$0**	**$0**	**$0**
2. PRELIMINARY PLANS (CCI: 8823)	**$1,635,657**	**$817,829**	**$817,829**	**$0**
2 - A. Architectural Fees for Preliminary Plans	$946,273			$0
2 - B. Project Management for Preliminary Plans	$337,955			$0
2 - C. Division of the State Architect Plan Check Fee	$256,430			$0
2 - D. Preliminary Test (Soils Test, Geotech Report, Hazardous Material, Etc.)	$40,000			$0
2 - E. Other Costs (Special Consultants, Printing, Legal, Etc.)	$55,000			$0
3. WORKING DRAWINGS (CCI: 8823)	**$1,288,013**	**$644,007**	**$644,007**	**$0**
3 - A. Architectural Fees for Working Drawings	$1,081,455			$0
3 - B. Project Management for Working Drawings	$0			$0
3 - C. Division of the State Architect Plan Check Fee	$0			$0
3 - D. Community Colleges Plan Check Fee	$96,558			$0
3 - E. Other Costs (Special Consultants, Printing, Legal, Etc.)	$110,000			$0
(Total PW may not exceed 13% of construction)	$0			$0
4. CONSTRUCTION - HARD COSTS (CCI: 8823)	**$33,795,463**	**$17,181,625**	**$16,613,839**	**$0**
4 - A. Utility Service	$427,238			$0
4 - B. Site Development - Service	$821,069			$0
4 - C. Site Development - General	$3,590,060			$0
4 - D. Site Development - Other	$0			$0
4 - E. Reconstruction	$0			$0
4 - F. New Construction (Building) (w/Group 1 equip)	$28,389,310			$0
4 - G. Board of Governor's Energy Policy Allowance (2% or 3%)	$567,786			$0
4 - H. Other	$0			$0
5. CONTINGENCY (CCI: 8823)	**$1,689,773**	**$844,887**	**$844,887**	**$0**
5. Contingency	$1,689,773			$0
6. ARCHITECTURAL AND ENGINEERING OVERSIGHT (CCI: 8823)	**$675,909**	**$337,955**	**$337,955**	**$0**
6. Architectural and Engineering Oversight	$675,909			$0
7. TESTS AND INSPECTIONS (CCI: 8823)	**$786,930**	**$393,465**	**$393,465**	**$0**
A. Tests	$337,955			$0
B. DSA Inspections	$448,975			$0
8. CONSTRUCTION MANAGEMENT (CCI: 8823)	**$675,909**	**$337,955**	**$337,955**	**$0**
8. Construction Management	$675,909			$0
9. TOTAL CONSTRUCTION (Items 4 through 8) (CCI: 8823)	**$37,623,985**	**$19,095,885**	**$18,528,099**	**$0**
Total Construction Costs	$37,623,985			$0
10. FURNITURE AND GROUP II EQUIPMENT (EPI: 5455)	**$2,188,609**	**$0**	**$2,188,609**	**$0**
10 - A. Furniture and Group II Equipment	$2,188,609			$0
11. Total Project Costs (Items 1, 2, 3, 9, and 10)	**$42,736,264**	**$20,557,721**	**$22,178,543**	**$0**

12. Project Data	Gross Square Feet	Assignable Square Feet	ASF:GSF Ratio	Unit Cost Per ASF	Unit Cost Per GSF
New Construction	43,703	31,595	72%	$898.54	$649.60
Reconstruction	0	0	0%	$0.00	$0.00

13. Anticipated Time Schedule

Start Preliminary Plans	7/1/2025	Advertise Bid for Construction	3/1/2027
Start Working Drawings	1/1/2026	Award Construction Contract	6/1/2027
Complete Working Drawings	7/1/2026	Advertise Bid for Equipment	6/1/2028
DSA Final Approval	1/1/2027	Complete Project and Notice of Completion	6/1/2029

14.	State Funded	District Funded		District Funded Total
		Supportable	Non Supportable	
Preliminary Plans	$817,829	$817,829	$0	$817,829
Working Drawings	$644,007	$644,007	$0	$644,007
Construction	$19,095,885	$18,528,099	$0	$18,528,099
Equipment	$0	$2,188,609	$0	$2,188,609
Total Costs	$20,557,721	$22,178,543	$0	$22,178,543
% of SS Costs	48.10%	51.90%	Project Total	$42,736,264
Points % Calc	47.40%	52.60%	SS Total	$42,736,264

Report Generated: 5/2/2023

DISTRICT North Orange County Community College District **CAMPUS** Fullerton College

Project Name: STEM Vocational Center **Date Prepared:** 4/22/2022 **Estimate CCI:** 8823 **CFIS Ref. #:**

Prepared By: **Estimate EPI:** 5455 **Budget Ref. #:**

	Total Cost	State Funded	District Funded	
			Supportable	Non Supportable
1. SITE ACQUISITION (CCI: 8823)	**$0**	**$0**	**$0**	**$0**
2. PRELIMINARY PLANS (CCI: 8823)	**$1,635,657**	**$817,829**	**$817,829**	**$0**
2 - A. Architectural Fees for Preliminary Plans	$946,273			$0
1. Architect fee for Schematic and Preliminary plans - New Construction NewConst x 8.0% x 35.0%	$946,273			$0
2. Architect fee for Schematic and Preliminary plans - ReConstruction ReConst x 10.0% x 35.0%	$0			$0
2 - B. Project Management for Preliminary Plans	$337,955			$0
1. Project Administration/Management TotalConst * 1.0%	$337,955			$0
2 - C. Division of the State Architect Plan Check Fee	$256,430			$0
1. Structural Safety Fee	$182,522			$0
2. Fire, Life Safety Fee	$35,192			$0
3. Access Compliance Fee	$35,957			$0
2 - D. Preliminary Test (Soils Test, Geotech Report, Hazardous Material, Etc.)	$40,000			$0
HAZMAT Report	$10,000			$0
Soils Tests and Geotechnical Report	$25,000			$0
CGS Survey	$5,000			$0
2 - E. Other Costs (Special Consultants, Printing, Legal, Etc.)	$55,000			$0
LEED Consultant	$25,000			$0
Constructability Review	$20,000			$0
SWPPP	$10,000			$0
3. WORKING DRAWINGS (CCI: 8823)	**$1,288,013**	**$644,007**	**$644,007**	**$0**
3 - A. Architectural Fees for Working Drawings	$1,081,455			$0
1. Architect fee for Schematic and Working Drawings- New Construction NewConst x 8.0% x 40.0%	$1,081,455			$0
2. Architect fee for Schematic and Working Drawings - ReConstruction ReConst x 10.0% x 40.0%	$0			$0
3 - B. Project Management for Working Drawings	$0			$0
1. Project Administration/Management TotalConst * 1.0%	$0			$0
3 - C. Division of the State Architect Plan Check Fee	$0			$0

1. Structural Safety Fee	$0			$0
2. Fire, Life Safety Fee	$0			$0
3. Access Compliance Fee	$0			$0
3 - D. Community Colleges Plan Check Fee	$96,558			$0
1. Community Colleges Plan Check Fee (2/7 of 1% of Construction Cost) 2/7 of 1% of Construction Cost	$96,558			$0
3 - E. Other Costs (Special Consultants, Printing, Legal, Etc.)	$110,000			$0
Legal Services	$30,000			$0
Printing BID Documents	$20,000			$0
Advertising	$10,000			$0
STEM Consultant	$25,000			$0
Culinary Art Consultant	$25,000			$0
(Total PW may not exceed 13% of construction)	$0			$0
4. CONSTRUCTION - HARD COSTS (CCI: 8823)	**$33,795,463**	**$17,181,625**	**$16,613,839**	**$0**
4 - A. Utility Service	$427,238			$0
Coaxial cable, fire rated, 50 ohm, RG A/U #58 cable	$35,224			$0
Electrical Underground Ducts and Manholes, hand holes, precast concrete, with concrete cover, 4' x 4' x 4' deep, excludes excavation, backfill and cast in place concrete	$15,832			$0
Electrical Underground Ducts and Manholes, elbows, PVC, schedule 80, 4" diameter, installed by direct burial in slab or duct bank	$1,038			$0
Temporary electrical power equipment (pro-rated per job), connections, office trailer, 100 amp	$1,051			$0
Temporary Power, lighting, incl. service lamps, wiring and outlets, max	$24,463			$0
Temporary Fencing, chain link, rented up to 12 months, 6' high, 11 ga, to 1000'	$9,001			$0
Mobilization or demobilization, scraper, self-propelled, 24 C.Y. capacity, up to 50 miles	$1,681			$0
Mobilization or demobilization, dozer, loader, backhoe or excavator, above 150 H.P., up to 50 miles	$3,376			$0
Mobilization or demobilization, delivery charge for equipment, on flatbed trailer behind pickup truck	$1,276			$0
Concrete Culverts, steel, plain oval arch culverts, plain, 42" x 29", 36" equivalent, 12 ga., excludes excavation and backfill	$27,452			$0
Utilities - Storm Water Piping	$573			$0
Utilities - Domestic Water Piping	$7,263			$0
Utilities - Natural GasLine	$66,262			$0

Utilities - Sanitary Sewer Piping	$5,607			$0
Utilities - Central Plant Hydronic Line	$216,816			$0
Utilities - Fire Water Piping	$10,322			$0
4 - B. Site Development - Service	$821,069			$0
Demolition Elect., Fire, Gas Utilities	$12,743			$0
Minor site demolition, remove existing catch basin or manhole, masonry, excludes hauling	$1,089			$0
Minor site demolition, pipe, sewer/water, 12" diameter, remove, excludes excavation, hauling	$2,008			$0
Minor site demolition, masonry walls, block, solid, excludes hauling	$62,633			$0
Minor site demolition, for disposal up to 5 miles, excludes hauling, add	$245,092			$0
Minor site demolition, abandon existing catch basin or manhole, excludes hauling	$628			$0
Fencing demolition, remove chain link posts & fabric, 8' to 10' high	$5,918			$0
Demolish, remove pavement & curb, remove concrete, mesh reinforced, to 6" thick, hydraulic hammer, excludes hauling and disposal fees	$148,892			$0
Building demolition, single family single story wood frame house, 3200 S.F., includes 20 mile haul, excludes salvage, foundation demolition or dump fees	$25,961			$0
Building demolition, single family single story wood frame house, 1600 S.F., includes 20 mile haul, excludes salvage, foundation demolition or dump fees	$77,882			$0
Bldg. footings and foundations demolition, floors, concrete slab on grade, concrete, rod reinforced, 6" thick, excludes disposal costs and dump fees	$238,224			$0
4 - C. Site Development - General	$3,590,060			$0
METAL - Utility Enclosure Gates	$25,485			$0
METAL - Metal Stairs (3)	$191,140			$0
METAL - Roll-up Overhead Doors/Mech	$83,847			$0
METAL - Mechanical Access Hatch/Ladders	$31,857			$0
Railing, pipe, aluminum, satin finish, 2 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	$23,745			$0
Concrete block, decorative, scored ground face, 2000 psi, 2 to 5 scores, 8" x 16" x 12" thick, includes mortar and horizontal joint reinforcing every other course, excludes scaffolding, grout and vertical reinforcing	$15,538			$0
Concrete block, decorative, ground face, 2000 psi, 8" x 8" x 16", includes mortar and horizontal joint reinforcing every other course, excludes scaffolding, grout and vertical reinforcing	$13,989			$0
Structural concrete, ready mix, normal weight, 2500 psi, includes local aggregate, sand, Portland cement and water, delivered, excludes all additives and treatments	$880,296			$0
Structural concrete, ready mix, normal weight, 2000 psi, includes local aggregate, sand, Portland cement and water, delivered, excludes all additives and treatments	$46,217			$0
Structural concrete, in place, handicap access ramp (4000 psi), railing both sides, 3' wide, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	$8,238			$0

Backfill, 6" layers, compaction in layers, hand tamp, add	$532,555			$0
Backfill, 12" layers, compaction in layers, hand tamp, add to above	$156,989			$0
Aggregate for earthwork, sand, washed, for concrete, spread with 200 H.P. dozer, includes load at pit and haul, 2 miles round trip, excludes compaction	$24,302			$0
Electrical - Tree Accent Lighting	$4,778			$0
Electrical - Parking Lot Light Fixtures	$19,114			$0
Electrical - Underground Lighting Wiring	$13,380			$0
Electrical - Arch. Outdoor Pole Lights	$27,524			$0
Cable terminations, outdoor systems, 35 kV, 2/0 solid to 350 kcmil stranded	$2,621			$0
Buck-boost transformer, 3 phase 240 V primary 208/120 V secondary, 300 kVA	$31,891			$0
Bollard light, exterior, high w/ polycarbonate lens, incandescent, 150 watt, 42" high, incl lamp	$20,400			$0
Automatic voltage regulators, standard grade, three phase, 460 V, 79.7 kVA	$44,513			$0
Planters, precast concrete, fluted, 7' diameter, 36" high	$102,006			$0
Equipment - Elevator - 2 Stop Ped/Service	$267,595			$0
Signs, 12'-0", add to above for steel posts, galvanized, upright, bolted	$1,064			$0
Directory boards, outdoor, weatherproof, black plastic, 36" x 24"	$6,800			$0
Underground sprinklers irrigation system, for lawns, electromechanical control, dual program, 23 station, excludes piping, excavation and backfill	$24,983			$0
Subsurface drip irrigation, vinyl tubing, material only, 1/4"	$5,156			$0
Plant and bulb transplanting, moving trees on site, 36" ball	$17,555			$0
Fence, chain link industrial, gate, aluminized steel, 4' wide, 5' high, 2" frame, includes excavation, in concrete	$10,688			$0
Fence, chain link industrial, double swing gates, 5' high, 12' opening, includes excavation, posts & hardware in concrete	$262			$0
Tree guying, guy wire and wrap, 3" to 6" caliper, 4" anchors, includes arrowhead anchor, cable, turnbuckles and wrap	$7,483			$0
Soil preparation, mulching, aged barks, 3" deep, hand spread	$52,907			$0
Shrubs, privet, bare root, 18" - 24", planted in prepared beds	$4,799			$0
Shrubs, dogwood, B & B, 3' - 4', planted in prepared beds	$2,633			$0
Shrubs and trees, evergreen, in prepared beds, yew, hicksi, B & B, 2' - 2-1/2', in prepared beds	$26,966			$0

Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 4" thick, no hauling included	$131,469			$0
Planting beds preparation, backfill planting pit, prepared planting mix, by hand	$38,177			$0
Pavement markings, street letters and numbers	$558			$0
Pavement markings, parking stall, paint, white, small quantities, 4" wide	$433			$0
Painted pavement markings, acrylic waterborne, white or yellow, 8" wide, less than 3000 L.F.	$2,005			$0
Fence, chain link industrial, galvanized steel, add for braces, 6 ga. wire, 2-1/2" posts @ 10' OC, add for corner posts	$127,589			$0
Fence, chain link industrial, aluminized steel, add for braces, 6 ga. wire, 2-1/2" posts @ 10' OC, add for braces	$17,936			$0
Fence, chain link industrial, add for, vinyl coated fabric, per SF	$13,599			$0
Deciduous trees, magnolia, balled & burlapped (B&B), 4' - 5', in prepared beds	$2,325			$0
Deciduous trees, hawthorn, balled & burlapped (B&B), 8' - 10', 1" caliper, in prepared beds	$2,151			$0
Deciduous trees, beech, balled & burlapped (B&B), 5' - 6', in prepared beds	$1,780			$0
Deciduous trees, ash, balled & burlapped (B&B), 2" caliper, in prepared beds	$1,237			$0
Concrete paving surface treatment, welded wire fabric,sheets for rigid paving, 6 x 6 - W1.4 x W1.4 (10 x 10) 2.33 lbs. per SY, A185	$182,614			$0
Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per L.F., 6" high curb, 6" thick gutter, 30" wide, includes concrete	$18,919			$0
Concrete paving surface treatment, finishing, small areas, broom finish	$97,927			$0
Asphaltic concrete, parking lots & driveways, 6" stone base, 4" binder course, 2" topping, no asphalt hauling included	$98,418			$0
Exterior Improvements - Stone Curb	$10,480			$0
Exterior Improvements - Base Paving	$30,302			$0
Exterior Improvements - Decorative Metal Pedestrian Gates	$6,371			$0
Exterior Improvements - Decorative Metal Large Gates	$25,485			$0
Exterior Improvements - Decorative Metal Fencing	$50,971			$0
4 - D. Site Development - Other	$0			$0
4 - E. Reconstruction	$0			$0
Reconstruction from JCAF31 Reconstruction from JCAF31	$0			$0
4 - F. New Construction (Building) (w/Group 1 equip)	$28,389,310			$0
New Construction from JCAF31 New construction from JCAF31	$28,389,310			$0

4 - G. Board of Governor's Energy Policy Allowance (2% or 3%)	$567,786			$0
Energy Incentive (2% of New Building Costs) NewConstruction x 2.0%	$567,786			$0
Energy Incentive (3% of Renovated Building Costs) ReConstruction x2 .0%	$0			$0
4 - H. Other	$0			$0
	$0			$0
5. CONTINGENCY (CCI: 8823)	**$1,689,773**	**$844,887**	**$844,887**	**$0**
5. Contingency	$1,689,773			$0
A. Contingency - New Construction TotalConst * 5.0%	$1,689,773			$0
B. Contingency - Reconstruction ReConst * 7.0%	$0			$0
6. ARCHITECTURAL AND ENGINEERING OVERSIGHT (CCI: 8823)	**$675,909**	**$337,955**	**$337,955**	**$0**
6. Architectural and Engineering Oversight	$675,909			$0
A. New Construction TotalConst * 8.0% * 25.0%	$675,909			$0
B. Reconstruction ReConst * 10.0% * 25.0%	$0			$0
7. TESTS AND INSPECTIONS (CCI: 8823)	**$786,930**	**$393,465**	**$393,465**	**$0**
7. Tests and Inspections	$786,930			$0
A. Tests TotalConst * 1.0%	$337,955			$0
B. DSA Inspections ( )	$448,975			$0
8. CONSTRUCTION MANAGEMENT (CCI: 8823)	**$675,909**	**$337,955**	**$337,955**	**$0**
8. Construction Management	$675,909			$0
A. Construction Management TotalConst * 2.0%	$675,909			$0
9. TOTAL CONSTRUCTION (Items 4 through 8) (CCI: 8823)	**$37,623,985**	**$19,095,885**	**$18,528,099**	**$0**
Total Construction Costs	$37,623,985			$0
10. FURNITURE AND GROUP II EQUIPMENT (EPI: 5455)	**$2,188,609**	**$0**	**$2,188,609**	**$0**
10 - A. Furniture and Group II Equipment	$2,188,609			$0
11. Total Project Costs (Items 1, 2, 3, 9, and 10)	**$42,736,264**	**$20,557,721**	**$22,178,543**	**$0**

12. Project Data	**Gross Square Feet**	**Assignable Square Feet**	**ASF:GSF Ratio**	**Unit Cost Per ASF**	**Unit Cost Per GSF**
New Construction	43,703	31,595	72%	$898.54	$649.60
Reconstruction	0	0	0%	$0.00	$0.00

13. Anticipated Time Schedule

Start Preliminary Plans	7/1/2025	Advertise Bid for Construction	3/1/2027
Start Working Drawings	1/1/2026	Award Construction Contract	6/1/2027
Complete Working Drawings	7/1/2026	Advertise Bid for Equipment	6/1/2028
DSA Final Approval	1/1/2027	Complete Project and Notice of Completion	6/1/2029
		District Funded	

FUSION **JCAF32 Cost Estimate Summary QUC**

14.	State Funded	Supportable	Non Supportable	District Funded Total
Preliminary Plans	$817,829	$817,829	$0	$817,829
Working Drawings	$644,007	$644,007	$0	$644,007
Construction	$19,095,885	$18,528,099	$0	$18,528,099
Equipment	$0	$2,188,609	$0	$2,188,609
Total Costs	$20,557,721	$22,178,543	$0	$22,178,543
% of SS Costs	48.10%	51.90%	Project Total	$42,736,264
Points % Calc	47.40%	52.60%	SS Total	$42,736,264

Report Generated: 5/2/2023

6.1 Board of Governors Energy and Sustainability Policy

Project: Fullerton College STEM Vocational Center

The Energy (Climate Change) and Sustainability Policy of the Board of Governors of the California Community Colleges (CCC) provides goals and guidance for districts to achieve energy conservation, sustainable building, and physical plant management best practices necessary to reduce energy consumption. All major capital outlay projects starting design should at a minimum outperform by at least 15% the current Title 24 Standards (California Energy Code) for new construction and should at a minimum outperform the current Title 24 Standards by at least 10% for all major renovation projects. The following elements should be considered in the design of all buildings for the CCCs:

- Reduction of greenhouse gas emission to 30% below 1990 levels
- New buildings constructed as Zero Net Energy
- Design new buildings or major renovations to achieve at least Leadership in Energy and Environmental (LEED) "Silver" or equivalent rating.
- Increase procurement of sustainable products and services
- Reduce municipal waste
- Site and design considerations to optimize location to environment.
- Durable systems and finishes with long-life cycles to minimize maintenance.
- Optimization of indoor environmental quality for occupants
- Utilization of environmentally preferred products and processes such as recycled-content materials and recyclable materials
- Procedures that monitor, trend and report operational performance
- Provide space in each building to support an active program for recycling and reuse of materials.

Fullerton College STEM Vocational Building

This project is the replacement of a portion of the old Horticulture complex with a new STEM Vocational Building. This project will be designed to be consistent with current Board of Governor's Energy (Climate Change) and Sustainability policy. The design will incorporate sustainable goals for the site, energy efficiency, water-use reduction, storm water management, occupant health as well as minimizing the building's impact on the environment both by design and construction. Strategies will consider the following design criteria:

- Concrete walkways will be minimized to reduce storm water runoff and promote natural filtration into the soil as well as a reduction in the heat island effect;
- Overhangs will be incorporated to shade glazing;
- Low E dual glazing will be incorporated to reduce heat gain;
- Roofing will incorporate cool roofing to reduce the heat island effect and heat gain;
- Heating and cooling will be provided by a highly energy efficient HVAC system;
- Independent HVAC controls will be provided and maintained by a campus system;
- New buildings & major renovations will be constructed as Zero Net Energy

- Incorporate daylighting design to conserve energy
- Natural lighting will be incorporated whenever possible in the design;
- Energy saving lighting with automatic lighting controls and sensors will be used;
- Interior materials will be low in volatile organic compounds, high in recycled content;
- Water efficient fixtures, faucets and devices will be incorporated;
- A strict recycling program will be required during construction and will be monitored by the College;
- The college will participate in the local utility's energy incentive programs
- Photovoltaic panels will be incorporated where appropriate.
- Design to reduce greenhouse gas emission
- New buildings and major renovations will design to meet LEED Silver facilities.
- Incorporate building commissioning by a third party to ensure optimal building performance.
- Design to reduce college operating costs

North Orange County Community College District

Fullerton College STEM Vocational Center

A. Purpose of the Project:

1. Problem Statement

The purpose of this project is to request Category G - Growth funding for the North Orange County Community College District Fullerton College STEM Vocational Center. The STEM Vocational Center will include a new facility for Fullerton College's STEM science programs including Health Sciences (Anatomy, Physiology & Microbiology), Biotechnology, the Nutrition & Foods Department, and the Horticulture Department. Each of these departments is part of the Natural Science Division. The project would include demolishing the existing 82-year-old Horticulture complex to provide the footprint for the new building. The STEM science programs (Health Sciences, Biotechnology, Nutrition & Food program, and Horticulture) are each currently housed in separate locations on the Fullerton campus. The Horticulture instructional building does not meet current building codes nor ADA compliance codes. The Health Science Department (APM) and Biotechnology programs share space with other general education science labs which severely limits the number of sections that can be offered and, equally important, the current facilities do not allow for the specialized equipment and storage areas needed for these STEM vocational science programs. The Nutrition & Food main instructional space is 50 years old and lacks space needed for the number of students in the program nor meet ADA code compliance in the instructional lab areas. The Horticulture Department classroom/lab building was built in 1939 has never been renovated, has asbestos flooring, is not ADA compliant and four of the greenhouses will not accommodate wheelchairs. The U.S. Department of Education has stated "STEM is a centerpiece of the department's comprehensive education agenda to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access." To do this Fullerton College needs to have an accessible facility with specialized equipment, temperature-controlled labs with adequate chemical fume hoods, clean rooms for student safety, storage rooms for science materials and reagents, larger food preparation labs with ventilation hoods, active learning classrooms, tutoring space, horticulture science labs and accessible greenhouses to accommodate the growing number of students seeking careers in the sciences.

2. Executive Summary

North Orange County Community College District (NOCCCD) includes two of the state's premiere colleges and one of the state's most extensive continuing education programs combined to provide quality educational programming. Nearly 52,000 students (33,258 full-time) enroll annually at Cypress College, Fullerton College, and the Anaheim campus for North Orange Continuing Education. These three higher education institutions allow students to shape their futures in programs leading to associate degrees, vocational certificates, and transfer opportunities. Life-long learning-possibilities are available with continuing education programs that range from high school completion and basic skills mastery through an array of vocational training and self-development courses. The NOCCCD campuses serve an area of over one million diverse people - each pursuing their own, unique ambitions.

The District encompasses approximately 155 square miles. Boundaries extend to the Riverside County line on the east and the Los Angeles County line on the west and north. A portion of Los Angeles County, on the north and west boundary, is included in the District's service area. The District serves eighteen (18) cities and fourteen (14) school districts. NOCCCD total assessed capital valuation is $156,859,050,327.

Fullerton College is the oldest community college in continuous operation in California. Fullerton College has the largest student population for the North Orange County Community College District at 32,000 enrolled students with 17,396 FTES in 2019. Fifty-five percent of the student population is Hispanic, or Latino and seventy-three percent of Fullerton students are working towards a degree or transfer. Seventy-eight percent of Fullerton College students qualified as low-income in 2019-2020 with a total of 22,628 students meeting the Perkins economically disadvantaged definition including 5,052 Pell, 10,852 Promise and 596 AB540 students. More Fullerton College students transfer to the California State University system than any other community college in California. Fullerton College also has a high rate of transfers to UC's, private universities, and other four-year universities.

The Fullerton College mission statement parallels the California Community Colleges Vision for Success statement. Fullerton's goal is to advance student learning and achievement by developing flexible pathways for students from their diverse communities who seek educational and career growth, certificates, associate degrees, and transfer. Fullerton College fosters a supportive and inclusive environment for students to be successful learners, responsible leaders, and engaged community members. The college's core values incorporate community, diversity, equity, excellence, growth, inclusivity, innovation, integrity, partnership, respect, and responsibility into the educational experience for all students.

The Fullerton College STEM Vocational Center's instructional programs align with the California Community College Promise requirements (AB-19). The NOCCD and Fullerton College Promise Grant Program provide two years of free tuition to all eligible first-time college students. The Fullerton College program provides recommendations to ensure that the promise extends to the most vulnerable groups of students to help in closing equity gaps in college degree and completion in the California Community College system. In addition, Fullerton College is a part of Project Raise, an alliance with Cal State Fullerton to increase the number of Hispanic and low-income students to successfully complete certificates/degrees in the STEM programs. The STEM Vocational Center will provide counseling and tutoring support for students as they prepare for major/career pathways in anatomy, physiology, microbiology, biotechnology, nutrition, food, dietetics, and horticulture.

Need to Increase Instructional and Institutional Support Space for Fullerton College:

The space analysis for the STEM Vocational Center shows the cap/load projections for this project are capacity-load eligible for the proposed new facility.

Cap/Load Ratio

Type	Lecture	Lab	Office	Library	AV/TV	Other	Total
Primary ASF	3,120	21,380	2,120	1,250	0	3,725	31,595
Secondary ASF	0	-4,697	-446	0	0	-2,845	-7,988
Net ASF Change	3,120	16,683	1,674	1,250	0	880	23,607
Initial Cap/Load FY2025 - 2026	92%	76%	78%	78%	35%	N/A	71%
Final Cap/Load FY2028 - 2029	81%	64%	80%	79%	52%	N/A	71%

Orange County is a proven global leader of innovation with a competitive edge, housing many pioneering high-tech and biomedical industries plus a uniquely high concentration of research centers. The Orange County Department of Education (OCDE) recognizes the importance of STEM programs in education and has created a STEM Department with the vision to lead the nation and the state in college and career readiness in the STEM fields with the goal to build an inclusive STEM community that empowers all learners to better their world. The OC STEM Initiative fosters Orange County's economic competitiveness and sustainability through promoting STEM competencies across the educational continuum through the creation of strategic partnerships between community stakeholders including families, business, government, and education. Fullerton College participates in this dynamic initiative as well as other participants such as UC Irvine and Cal State Fullerton. Fullerton College STEM program is part of the Cal State Fullerton STEM Majors & Technological Entrepreneurship, Undergraduate Mentorship Program and tutoring program, ASSIST. Fullerton College also participates in Project RAISE and offers students research opportunities in programs across the country. Fullerton College's STEM programs all offer transferrable class units to both California State College system and University of California system.

Orange County's drive to provide a high-quality STEM education for all students has led to eighty-one local high schools participating in STEM programs with forty-eight of those schools within twenty miles of Fullerton College. Sixteen of the best STEM high schools are within seven miles of Fullerton College giving the college the opportunity to provide a competitive and high-quality STEM education to a great number of Orange County students. In order to accommodate the increased number of STEM students, Fullerton College needs a new classroom/lab facility with the necessary technical equipment and lab space to enable students to succeed in their STEM career paths.

Fullerton College STEM program has steadily seen a growth in students corresponding to the job growth in the United States' science and technology industries. Studies show 3.5 million STEM jobs are projected to go unfilled by 2025. The Bureau of Labor Statistics projects that by 2022, STEM employment will account for 13% of the total projected jobs in the United States, with California having the largest STEM workforce in the nation. According to the Public Policy Institute of California (2015), the state would need to add more than one million bachelor's degree graduates by 2030 to meet the increasing demand for high-tech workers in the diverse science related industries. Additionally, the state is likely to face a shortage of nearly 1.5 million workers to fill positions that require less than a bachelor's degree (Public Policy Institute of California 2014). The Fullerton STEM program offers students those two-year certificates for the 20% of American STEM related positions open to individuals who do not hold a four-year degree and degrees designed to transfer students to four-year universities. The college STEM program serves

the community by offering career certificates and transfer to four-year institutions in the science and health profession fields.

The U.S. Bureau of Labor Statistics show the fastest growing occupations in table below. Almost all of these careers are attainable with a community college STEM education background. A life science and biotechnology education are considered "recession-proof" since statistics has shown employment increased during the last recession in these fields. California leads the world in life science innovations and has over 311,000 direct jobs and 958,000 total jobs, including direct, indirect and induced jobs in health science careers.

OCCUPATION	GROWTH RATE, 2019-29	2020 MEDIAN PAY
Wind turbine service technicians	61%	$56,230 per year
Nurse practitioners	52%	$111,680 per year
Solar photovoltaic installers	51%	$46,470 per year
Occupational therapy assistants	35%	$62,940 per year
Statisticians	35%	$92,270 per year
Home health and personal care aides	34%	$27,080 per year
Physical therapist assistants	33%	$59,770 per year
Medical and health services managers	32%	$104,280 per year
Physician assistants	31%	$115,390 per year
Information security analysts	31%	$103,590 per year
Data scientists and mathematical science occupations, all other	31%	$98,230 per year
Derrick operators, oil and gas	31%	$47,920 per year
Rotary drill operators, oil and gas	27%	$53,820 per year
Roustabouts, oil and gas	25%	$39,420 per year
Speech-language pathologists	25%	$80,480 per year
Operations research analysts	25%	$86,200 per year
Substance abuse, behavioral disorder, and mental health counselors	25%	$47,660 per year
Forest fire inspectors and prevention specialists	24%	$42,150 per year
Cooks, restaurant	23%	$28,800 per year
Animal caretakers	23%	$26,080 per year

Source: U. S. Bureau of Labor Statistics, Last Modified Date**:** Friday, April 9, 2021

Fullerton College Nutrition & Food program has seen an increase in students as the U.S. Bureau of Labor Statistics 2019-2029 projections show an 8% increase for dietitians and nutritionists and a 4% increase for all nutrition and food occupations. This is a much faster average growth over all occupations. Interest in the role of food and nutrition in promoting health and wellness has

increased, particularly in the preventative healthcare setting. According to the Centers for Disease Control, more than one-third of U.S. adults are obese. Many diseases, such as diabetes and heart disease, are associated with obesity. The importance of diet in preventing and treating illnesses is now well known. More dietitians and nutritionists will be needed to provide care for people with these conditions. Moreover, as the baby-boom generation grows older and looks for ways to stay healthy, there will be more demand for dietetic and nutrition services. In addition, there will be demand for dietitians and nutritionists in grocery stores to help consumers make healthy food choices. Fullerton College's Nutrition & Food programs all offer transferrable class units to both California State College system and University of California system.

Occupational Title	SOC Code	Employment, 2019	Projected Employment, 2029	Change, 2019-29	
				Percent	Numeric
Dietitians and nutritionists	29-1031	74,200	80,100	8	5,900

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

Fullerton College Horticulture program will have the ability to expand with a new assessable instructional environment. There are seven high schools within seven miles of Fullerton College that have horticulture/agriculture programs. Horticulture is an important science for providing stable career opportunities. The Bureau of Labor Statistics (BLS) predicts an average of 12% job growth in the horticultural industry between 2010 and 2020. Job opportunities for landscapers, groundskeepers, and nursery workers are expected to grow 18% while plant scientists can expect about 16% more jobs by 2025. A horticulture career can take you almost anywhere you want to go. California has the highest concentrated number of jobs in the horticulture industry. The Orange County Farm Bureau has reported the $133 million sales in horticulture and agriculture products in 2017 has created thousands of jobs in local nurseries, farms, transportation, and food processing plants. The Fullerton College Horticulture program offers instruction on growing the top crops for Orange County including ornamental trees, shrubs, berries, and vegetables.

Fullerton College's Horticulture program offers eight academic options for students. These certificates and degrees represent proficiency in theory and practice in specific areas. They can be acquired as vocational training, in conjunction with the pursuit of an AA Degree, or while satisfying requirements for transferring to a 4-year degree program in the California State College system and University of California system.

Occupational Title	SOC Code	Employment, 2019	Projected Employment, 2029	Change, 2019-29	
				Percent	Numeric
Agricultural and food scientists	19-1010	34,800	36,800	6	2,000
Animal scientists	19-1011	2,800	3,000	6	200
Food scientists and technologists	19-1012	14,200	14,900	4	600
Soil and plant scientists	19-1013	17,800	19,000	7	1,200

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

Occupational Title	SOC Code	Employment, 2019	Projected Employment, 2029	Change, 2019-29	
				Percent	Numeric
Grounds maintenance workers	37-3000	1,305,300	1,436,100	10	130,800
Landscaping and groundskeeping workers	37-3011	1,188,000	1,307,900	10	119,900
Pesticide handlers, sprayers, and applicators, vegetation	37-3012	38,100	41,200	8	3,200
Tree trimmers and pruners	37-3013	62,000	68,600	11	6,600
Grounds maintenance workers, all other	37-3019	17,400	18,500	7	1,100

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

3. What has been done to mitigate the problem:

Fullerton College reviewed the three instructional programs and the existing space allocated to the programs as part of the Fullerton College 2020 Educational Master Plan and Facilities Master Plan. The EMP and FMP support the STEM Health Science programs and Nutrition & Food program relocating to the existing Horticulture area to be housed in one two-story building. The existing Horticulture facility is 82 years old and is not building code nor ADA compliant. The Horticulture buildings are in such poor condition that reconstruction of a building over 80 years old would not be financially sustainable. Any work on the building, whether construction or demolition, will require removal of asbestos. Fullerton College upgraded the non-ADA compliant restroom facility at Horticulture in 2020. Over the last few years, the Horticulture program has replaced four of the greenhouses to ensure they are accessible to students. Those four greenhouses will remain in place and are not part of this project. The Nutrition & Food preparation lab was last remodeled in the 1970s and six years ago they received funding to replace the kitchen stoves and countertop coating. To rectify accessibility issues in the food preparation lab, one of the food preparation units would need to be removed, reducing the number of students able to use the lab to fifteen students per section. The STEM science programs are housed in the South Science Building (400) built in 2011. At the time this building was designed and built, Fullerton College did not have a STEM program. Currently the STEM science program shares lab space with general education science classes. The labs are not designed for the STEM science program's specialized equipment and lacks space for the number of students that could be enrolled in each STEM class section.

The proposed new building would provide adequate space for the science lab and lab service areas as well as code compliant space for the Nutrition & Food program and Horticulture program. This new building would bring all the science related vocational programs into one location allowing for shared classroom space and tutoring space but also for providing specialized lab space for each vocational program.

Programmatic Issues/Impact on programs:

- STEM Science program issues: The goal of the STEM Science programs is to provide instruction of real-world training for employment in the bio-tech industry with specialized and state-of-the-art labs and equipment. The STEM Science programs are currently located in the South Science Building (Building 400) sharing space with three general education science labs. The South Science building is a newer campus facility but was designed before Fullerton College launched its STEM science programs, so the existing labs do not meet the requirements of the STEM programs. With dedicated labs and classrooms, the

STEM program could grow from 450 students to 650 students. In spring 2020, the Health Sciences Department had a waiting list capped at 130 students. The classes and waitlist filled within the first few days of the opening of registration, with dozen more students showing up on the first day of class hoping for a seat. This department has very specialized equipment and ventilation needs that are not available in general science labs. Demand for biotechnology courses has grown to the point that all available enrollment spots for all classes are routinely filled, and further increased demand is anticipated due to our county's status as a biotechnology hotspot, the potential for strong wages, and recent high-profile global events that have increased awareness of the field among the community. Biotechnology requires special equipment, culture rooms and clean rooms for students to change into personal protective gear also not available in existing labs. Biotechnology also requires additional ventilation, large surface areas for raw materials, and special storage areas with larger entry/exit points for bulky equipment and reagents or scientific instruments. Over the last four years the shared space with general education science classes is no longer adequate for the needs of the STEM program and has greatly limited the number of sections the STEM programs can offer. The current shared labs were designed for 24 stations, but STEM classes could effectively be taught for 28 students. Currently there is no space for a tutoring room where STEM students would have access to microscopes, bones, etc. The proposed tutoring space could be utilized by all programs in the STEM Vocational Center.

- Nutrition and Food program issues: Nutrition and Food instructional labs are housed in a 50-year-old building with the support staff located in three different locations on campus. Having all the staff near the instructional area would improve efficiency and communication. The Nutrition & Food program has two needs, food preparation/lecture and non-food lecture space. The current food laboratory is lacking space for the number of students in the program and is not ADA compliant in all instructional areas. The Nutrition & Food program could fill twenty-four (24) stations in every section, but the existing food lab was designed for 18 stations. The current food lab has six small food preparation lab units, lecture tables for twenty-four (24) students and a demonstration/instructor station. The California Retail Food Code (1/1/2020), Article 6-Hygienic Practices-113977 (a) and (b) and 2-401-11 Food Contamination Prevention Sections A and B requires all students in food preparation instruction to remain in the food lab/classroom during all segments of the instruction mandating both lab space and lecture space in one room. The Code does not allow this food lab to be used for any other purposes. The existing food lab units were designed for three (3) students but are now used by four (4) students, significantly limiting the space to prepare the food. The existing food lab has no accommodation for students in wheelchairs and to make the room compliant, the number of lab modules would have to be reduced, limiting the number of students in each section. As food preparation curriculum has evolved over the years, the existing service area and storage space is not adequate for the program needs, i.e., laundry area, walk-in freezer, large equipment storage. Currently, Food & Nutrition does not have a dedicated classroom for non-food instruction. The non-food programs need an active learning classroom where students could have access to equipment, models, and other required instructional materials. The non-food program offers 16-20 sections of forty (40) students per section each semester. The Nutrition & Food program has shown growth over the last several years and recently added another certificate to the instructional program. In addition to current programs, the college is in the planning phase to create a Certified Dietary Manager program which will provide students with a job-ready certification in the

food service industry. As the program grows, it is essential to build an instructional facility that meets industry standards and is accessible to all students.

- Horticulture program issues: The existing Horticulture main building with two classrooms/labs is over 82 years old and is in poor condition. The building structure concerns include not being up to current building codes, asbestos in the flooring and not accessible or ADA compliant. The current Policy on Utilization and Space Standards allows for 115 asf per student station and currently the two existing labs have 40 and 44 asf per student station. The two storage/lab metal buildings are 54 years old and serve as both equipment storage and demonstration space. Both structures have limited space for demonstration and instruction. The three (3) greenhouses included in this project were built in 1976-1980 and have very narrow entrances that do not allow for wheelchair access and are in poor condition. The fourth greenhouse is in the footprint of the new building. A new horticulture facility will allow the horticulture program to expand its hands-on programs in their eight career courses. Horticulture and the STEM Biotechnology program are working together where students are required to take horticulture classes to earn a biotechnology vocational certificate. Horticulture is a vibrant part of the Fullerton community and has many visitors to the facility each year. The students and the community need safe and accessible facilities.

B. Solution Criteria

To mitigate the lack of adequate instructional space for growth in the science vocational programs and correct ADA accessibility issues and building code issues, the college seeks a solution that meets the following criteria that:

- Cost: Is the least cost permanent solution for growing career programs, adequate instructional space for its programs and a building that is code-complaint allowing all students access to the vocational training proposed for the STEM Vocational Center.
- Educational Impact: Provide a safe environment for the instructional program that provides adequate space and building systems for the STEM science labs, Nutrition & Food programs and Horticulture programs.
- Deliver Time: Provide a solution in the shortest amount of time.
- Campus integration and cohesiveness: Provide the adequate space needed for vocational science related instructional programs in one location.
- Security: Provide a solution that will ensure appropriate campus security systems are provided for the instructional programs.
- Energy efficiency and environmental sustainability: Improve energy efficiency by meeting or exceeding the 2020 Board of Governor's Climate Change & Sustainability Policy.
- Long Term Solution: Provide a permanent solution for providing safe, accessible, and adequate instructional space for the growth in the STEM science programs, Nutrition & Food programs and Horticulture programs.

B. Relationship to the Strategic Plan

The mission of the North Orange County Community College District is to serve and enrich diverse communities by providing a comprehensive program of educational opportunities that are accessible, relevant, and academically excellent. To meet this mission for the Fullerton College students, it is critical that the college ensures students and staff have a safe environment and adequate space for instruction. The Fullerton College strategic plan incorporates investing state resources from the Vision for Success, Promise, Strong Workforce, Student Equity and Achievement, and Guided Pathway initiatives. The Strategic Plan committee has reviewed the campus planning structure to support planning and decision-making using data analysis and input from staff on institutional effectiveness, race and equity, and data informed decision making to provide the Fullerton College students with the educational community they deserve. The STEM Vocational Center addresses the needs identified in the College's institution-set standards. The standards identify demographics and background characteristics, trends in enrolled student population, institutional effectiveness measures, student enrollment, course success rate, degree and certificate completion and transfer outcomes. The STEM Vocational Center's programs will offer students dedicated, code compliant, and high technology instructional space to earn the fourteen (14) program certificates and twelve (12) AA degrees provided by the STEM Science, Nutrition & Food and Horticulture programs.

C. Alternates:

1. Replace existing Horticulture complex with a new STEM Vocational Center building

2. Purchase space off campus to (A) construct a new building to provide a classroom and lab buildings for student growth in the STEM science vocational programs and (B) (on campus) reconstruct existing non-code compliant Horticulture structures with new classroom/lab building, two storage/demonstration buildings and four greenhouses.

3. Lease space off campus for (A) Nutrition & Food Department and STEM Science programs and (B) reconstruct the non-code compliant Horticulture structures with a classroom/lab building, two storage/demonstration buildings and four greenhouses on the existing campus site with new construction.

<u>Alternate No. 1:</u> Replace the existing Horticulture complex with a new STEM Vocational Center Building

<u>Scope</u>: In accordance with the Fullerton College Educational and Facilities Master Plans and to better serve the growth of the college's vocational programs, Alternative No. 1 would be to construct a new two-story vocational complex of 31,595 asf/43,703 gsf. The new two-story building would include classrooms, labs, lab service, offices, office service, tutoring/study room, meeting room and lounge. Outside the building, the project would include the construction of one horticulture lab building, one agriculture lab building and four greenhouses. The placement of a new STEM Vocational Center would require the demolition of most of the existing Horticulture buildings: Bldg. 1600 (Classroom/lab building), Bldg. 1607 (agriculture metal building for

equipment/lab service/demonstration), Bldg. 1608 Horticulture lab metal building (equipment/lab service/demonstration), Bldg. 1690 (Restroom), Bldg. 1609 (Greenhouse), Bldg. 1610 (Greenhouse), Bldg. 1611 (Greenhouse), and Bldg. 1612 (Lath Greenhouse). There are four newer existing greenhouses on the site that are not in the footprint of the new building and will stay in place.

Cost: The cost for this alternative is estimated to be $42,736,264 for construction of the two-story vocational building, two outdoor lab buildings and four greenhouses. Non-supportable costs: Furnishings: ($2,188,609); swing space for Horticulture ($1.8 M) to be funded by local funds.

Funding Source: The cost of the new construction for the STEM Vocational Center for preliminary plans, working drawings and construction would be divided between the State and the North Orange County Community College District in an 50% to 50% match, respectively. In addition, the district will provide 100% funding for the Group 2 equipment. The district will be using capital outlay/Bond Measure J funds.

Educational Impacts: This project would move the science-related vocational programs into one location. The new building would provide modern and appropriately sized laboratory space for the expected growth for STEM science programs, Nutrition & Food programs and Horticulture programs. All the departments could share lecture classrooms, meeting rooms, and tutoring rooms. The new vocational facility is needed to provide adequate space for the growing Health Science programs and a safe learning environment for all students.

Delivery Timeline: Forty-seven (47) months from design to project completion with notice of completion.

Campus Integrity & Cohesiveness: The new STEM Vocational Center would provide a space for all the science-based vocational programs to be in one location which would allow for sharing lecture and tutoring space. The proposed location of the existing Horticulture complex is near two campuses entrances allowing for direct delivery of the materials required by the programs without interfering with other instructional programs. Students will have direct access to parking lots and will be located a short distance from the main campus facilities including library, food services and student services.

Security: The proposed building would be connected to the campus fire alarm system, POE access control door system with card readers, video cameras, Informa cast the campus emergency broadcast system, Cisco VolP phone system, carousel display signage system for emergency messages and the district-wide Rave system to send text messages to students.

Energy Efficiency: Fullerton College will follow the Board of Governor's 2020 Climate Change and Sustainability Policy as well as designing the facility to meet LEEDS Silver criteria.

Long-term Solution: This solution would be a permanent solution to the need to bring all the vocational instructional space up to code and provide for the growth in the vocational programs.

Key Considerations:

Pros:
(1) A new efficiently designed classroom/lab facility would meet:

- Title III American with Disabilities Act;
- California Building Code Standards (Title 24) as revised in 2019;
- Title 5, California Code of Regulations;
- Energy efficient design to meet or exceeds the Board of Governor's 2020 Climate Change and Sustainability Policy as well as be designed to meet LEEDS silver criteria;
- Federal, state and local statutory requirements for structure, fire and public safety;
- The need for adequate electrical power distribution for current and future industry-required equipment for the STEM vocational programs;
- The need for proper ventilation and fume hoods in the laboratories;
- The needs for modern technological infrastructure for wired and wireless networks;
- The needs for security for the safety of students
- The need for additional laboratory stations for growth in the vocational programs;

(2) Educational Master Plan and Facility Master Plan:

- The facility would comply with the 2020 EMP and FMP
- The facility would address accessibility issues in existing Horticulture and Nutrition & Food instructional space.
- The facility would be located adjacent to the campus cored academic zone.

(3) Long-term Solution

(4) A facility that is cost effective for the outcome produced

Cons:

(1) Would require Horticulture classroom/lab and office space to be relocated to temporary modular building during construction.

(2) Growth in the STEM vocational programs would increase college operating costs for instructional and classified personnel although additional costs may be mitigated by additional FTES.

Alternate No. 2: Purchase space off campus to (A) construct a new building to provide a classroom and lab buildings for student growth in the STEM science vocational programs and (B) (On campus) reconstruct existing non-code compliant Horticulture structures with new classroom/lab building, two storage/demonstration buildings and four greenhouses.

Scope: To meet the growth/space needs of the Nutrition & Food Department, STEM science programs and resolve the code/accessibility issues of the Nutrition & Food and Horticulture programs, the college would need to purchase land off the college campus to provide for classrooms, labs, lab services, storage areas and instructor offices. Fullerton College is an older campus located in the downtown section of the City of Fullerton with no unused acreage available on campus. The only land space available at the campus are student parking lots or athletic fields. Currently, parking spaces are extremely limited at the college so taking away any more space is not a viable option. This option would not be in line with the 2020 Educational Master Plan and Facility Master Plan. The only viable solution would be to purchase land near the college for a new building to meet the needs of the growth of the STEM Vocational Science Departments and Nutrition & Food Department and correct the code and accessibility issues for Horticulture by replacing buildings with new construction on the existing horticulture site. To provide space for a new facility, the college would need approximately one and one-half acres of land for STEM health science programs and Nutrition & Food programs. The Horticulture program could stay in its existing campus location with the demolition of eight existing non-code compliant buildings and replacement with new construction for the classroom/lab building, two metal structures and four greenhouses.

Cost: The cost for this alternative is estimated to be $55,130,000. The cost for Alternate No. 2 would include:

(A) STEM Health Science programs and Nutrition & Food Program

- Purchase of property (average cost per acre for land near or in Fullerton, CA is $3,480,000), The project would need 1 ½ acres for building and parking area. Total: $5,220,000
- New construction for off-campus property: Preliminary Plans/Working Drawings: (includes EIR, Soil Report, DSA, Consultants, CM, Legal, Bid) - $3,000,000
- Construction: Infrastructure Utilities ($2,430,000); Site development ($2,200,000); Site Development General ($755,000) Site Development-Other ($550,000), Construction of labs, lab services, classrooms, meeting room, tutoring room, storage areas and offices (A) $26,928,000.
- Soft Costs: Contingency ($1,911,000); A&E Oversight ($695,000), Test/Inspections ($790,000) Construction Management/Labor Compliance ($751,000)
- **Non-Supportable** – District Cost: ADA/Handicap Parking and Access ($160,000), Off-Campus Security System ($50,000), Exterior Lighting ($25,000) Furnishings ($1,333,899)

(B) Reconstruct Horticulture Facility:

- Preliminary Plans/Working Drawings: ($2,070,000) (Includes DSA, Consultants, Soil Report, CM, Legal, Bid)
- Infrastructure development ($350,000); Site development ($950,000); Site Dev. -Other (Demo) $550,000, Construction of classroom/lab building with restrooms, two metal buildings for equipment and demonstrations and four greenhouses ($5,450,000);
- Soft Costs: Contingency ($300,000); A&E Oversight: ($180,000); Tests/Inspections ($325,000); Construction Management/Labor Compliance ($125,000)
- **Non-Supportable** – District Cost: Exterior Lighting ($225,000); Swing Space ($1.8 M) Furnishings ($140,550)
- **Total Project cost of A & B: $55,130,000** (does not include District non-supportable costs)

Funding Source: The District would need to use state funding and campus capital outlay funds to purchase land, build a STEM vocational building and replace Horticulture structures.

Educational Impacts: This alternative would impact the students in the science vocational programs by not providing direct access to the student support services provided on the college campus. Students using off-campus facilities would have to drive to the campus to access health care, library services, career center, academic support center, admissions and records, bookstore, dining services, disability support, veteran's center, EOPS, and Campus Safety Department.

Delivery Timeline: The minimum time to procure property for schools is six months but could take up to a year. Once the property is purchased, the timeline would need to be extended for a CEQA filing, six months for Preliminary Plans, six months for Working Drawings, six months for DSA approval, three months for bidding/approval and nineteen months for construction. Total: 55 Months/4.5 years

Campus Integrity & Cohesiveness: This alternative would not improve the Fullerton College campus's integrity and cohesiveness. Currently, STEM Health Science programs share campus

services such as counseling and STEM club support with other STEM programs. This alternative would not allow students easy access to campus student support services.

Security: The proposed off campus site would need stand-alone security systems (fire, access control, and video cameras) limiting connectivity to the Fullerton Safety Department for monitoring. Any off-campus site would not have access to campus emergency system but would still be part of the district emergency text messaging system.

Energy Efficiency: Fullerton College will follow the Board of Governor's 2020 Climate Change and Sustainability Policy as much as possible, but this alternate would not allow the same energy benefits of a building on the campus where it would share energy resources.

Key Considerations:

Pros:

(1) A new classroom/lab facility would meet:
- Title III American with Disabilities Act.
- California Building Code Standards (Title 24) as revised in 2019.
- Title 5, California Code of Regulations.
- Federal, state and local statutory requirements for structure, fire and public safety.
- The need for proper ventilation and fume hoods in the laboratories.

(2) Would provide additional laboratory stations for growth in the vocational programs.

Cons:

(1) Does not minimize the displacement or replacement of other existing college resources for students.
(2) For growth, this alternative would impact the College's operating budget by the need for additional instructional and classified staff.
(3) For off-campus STEM vocational building location, this alternative would impact the College's operating budget by not being able to share campus resources for utility service, custodial services, maintenance services, safety department services, and IT services.
(4) Does not meet the goals of the 2020 Educational and Facilities Master Plans.
(5) Extremely limited amount of acreage is available within twenty miles of the college.
(6) The STEM health science/Nutrition & Food programs and Horticulture program would not be able to share lecture, tutoring and meeting space.
(7) Is not a permanent least-cost solution.

Alternate No. 3: Lease space off campus for (A) Nutrition & Food Department and STEM Science programs and (B) (on campus) reconstruct non-code compliant Horticulture structures with a classroom/lab building, two storage/demonstration buildings and four greenhouses with new construction.

Scope: To meet the growth/space needs of the Nutrition & Food Department, STEM science programs and Horticulture programs and the building code/accessibility issues of the Nutrition & Food and Horticulture programs, the college would need to lease space for (A) STEM health science programs and Nutrition and Food Department for classroom, lab, lab service, storage and instructor offices and (B) (On campus) Reconstruct the non-code compliant horticulture structures with a new classroom/lab building, two storage/demonstration buildings and four greenhouses with new construction. Fullerton College is an older campus located in the downtown section of

the City of Fullerton, so it has limited acreage. To provide space for buildings on the campus, the college would need approximately one and half (1 ½) acres of land for STEM health science programs and Nutrition & Food programs. The Horticulture program could stay in its campus location but with eight existing buildings demolished and replaced with new construction. The college campus has no unused open space so the only space available is student parking lots and parking spaces are extremely limited at the college.

Cost: The cost of this alternative is estimated to be $45,726,000. The cost for Alternate No. 3 would include:

(A) STEM Health Science programs and Nutrition & Food Program

- Lease of property (average cost per gsf leased property in Fullerton, CA is $33 per sq. ft. per year) – 22,000 asf x $33 = $726,000 x 15 Years = $10,890,000
- Retrofit of leased property to be DSA approved: Preliminary Plans/Working Drawings: $1,950,000 (includes, DSA, consultants, CM, legal, bid)
- Construction: Infrastructure Utilities($1,950,000); Site Dev.-Service ($1,400,000), Site Dev.-General ($400,000) Renovation of labs, lab services, classrooms, meeting room, tutoring room, storage areas and offices ($14,977,000); Soft Costs: Contingency ($1,748,000); A&E Oversight ($601,000), Test/Inspections ($691,000) Construction Management/Labor Compliance ($669,000)
- **Non-Supportable** – District Costs, Off-Campus Security System ($75,000), Furnishings ($1,633,900)

(B) Reconstruct Horticulture Facility:

- Preliminary Plans/Working Drawings: ($2,070,000) (Includes DSA, Consultants, Soil Report, CM, Legal, Bid)
- Infrastructure development ($350,000); Site development ($950,000); Site Dev.-Other (Demo) $550,000, Construction of classroom/lab building with restrooms, two metal buildings for equipment and demonstrations and four greenhouses ($5,450,000);
- Soft Costs: Contingency ($300,000); A&E Oversight: ($180,000); Tests/Inspections ($325,000); Construction Management/Labor Compliance ($125,000)
- **Non-Supportable** – District Cost: Exterior Lighting ($225,000); Swing Space ($1.8 M) Furnishings ($140,550)
- **Total Project Cost of A & B: $45,726,000** (does not include District non-supportable costs)

Funding Source: The District would need to use campus capital outlay funds to support new Horticulture buildings and for upgrading leased property to be a DSA facility for the needs of the STEM vocational programs.

Educational Impacts: This alternative would impact the students in the science vocational programs by not providing direct access to the student support services provided on the college campus. Students using off-campus facilities would have to drive to the campus to access health care, library services, career center, academic support center, admissions and records, bookstore, dining services, disability support, veteran's center, EOPS, and Campus Safety Department. This option would not be in line with the 2020 Educational Master Plan and Facility Master Plan.

Delivery Timeline: The minimum time to procure property for schools is six months but could take up to a year. Once the property is leased, the timeline for CEQA filing, architectural design,

DSA approval, retrofit construction and demolition of horticulture structures and replacement with new buildings would be forty-five to fifty-one (45-51) months.

Campus Integrity & Cohesiveness: This alternative would not improve the Fullerton College campus's integrity and cohesiveness. The Fullerton STEM health science programs and Nutrition & Food programs would no longer have easy access to student support services, library, and other campus shared resources. Currently the STEM health science programs share tutoring and meeting space on campus with other STEM programs. This alternative would not provide students with the same campus integrity and cohesiveness as Alternate No. 1.

Security: The proposed off campus site would need stand-alone security systems (fire, access control, and video cameras) limiting connectivity to the Fullerton Safety Department for monitoring. Any off-campus site would not have access to the campus emergency system but would still be part of the district's emergency text messaging system.

Energy Efficiency: Fullerton College will follow the Board of Governor's 2020 Climate Change and Sustainability Policy as much as possible in the interior renovations, but this alternate would not allow the same energy benefits of a building on the campus. The additional cost of monthly utilities would increase the college's operating budget.

Key Considerations:

Pros:

(1) A new classroom/lab facility would meet:
- Title III American with Disabilities Act;
- California Building Code Standards (Title 24) as revised in 2019;
- Title 5, California Code of Regulations;
- Federal, state and local statutory requirements for structure, fire and public safety;
- The need for proper ventilation and fume hoods in the laboratories;

(2) Would provide additional laboratory stations for growth in the vocational programs for at least fifteen (15) years (depending on lease terms).

Cons:

(1) Does not minimize the displacement or replacement of other existing college resources for students.

(2) For growth: Impacts the College's operating budget by need for additional instructional and classified staff.

(3) For off-campus location: Impacts the College's operating budget by not being able to share campus resources for utility service, custodial services, maintenance services, safety department services, and IT services.

(4) Does not meet the goals of the 2020 Educational and Facilities Master Plans.

(5) Extremely limited amount of leasing space is available with ten miles of the college which may affect the average cost of leasing office space.

(6) Leasing a property for more than seven years is not cost efficient and realtors recommend purchasing property over long-term leasing.

(7) Leasing space is not a permanent least-cost solution.

Solution Criteria Matrix:

Criteria	**Alternate No. 1**	**Alternate No. 2**	**Alternate No. 3**
	New STEM Vocational Center	**Purchase Site for STEM Center & Reconstruct Horticulture**	**Lease Site for STEM Center & Reconstruct Horticulture**
Cost: Is the least cost solution for a permanent solution to program growth & ADA issues	Yes	No	No
Ed. Impact: Provide a safe, building code and ADA compliance environment	Yes	Yes	Yes
Delivery Time: Provide a permanent solution in the shortest amount of time	Yes	No	No
Campus Integration: Supported by the District Master Plan	Yes	No	No
Security: Provide a solution that will ensure campus security systems	Yes	No	No
Energy Efficiency: Improve energy efficiency by replacing damaged bldg. system with current code materials	Yes	No	No
Operational Budget: Provide a solution that will not adversely impact the College operational budget	Yes	No	No

Economic Analysis Matrix:

	Alt. No. 1: New STEM Voc. Ctr. On Campus	**Alt. No. 2: (A)Purchase Site for New STEM Bldg. (B)Reconstruct Hort. Bldg. on Campus**	**Alt. No. 3: (A) Lease site for STEM Bldg. (B) Reconstruct Hort. On Campus**
Site Acquisition	$ 0	$5,220,000	$10,890,000*
Preliminary Plans & Working Drawings	$2,923,670	$3,000,000	$1,950,000
Construction Costs:			
A. Utility Service	$427,238	$2,430,000	$1,950,000
B. Site Development-Service	$821,069	$2,200,000	$1,400,000
C. Site Development-General	$3,590,060	$755,000	$400,000
D. Other Site Development (Demo Hort.)	$ 0	$550,000	$550,000
E. Reconstruction	$ 0	$9,900,000(B)	$9,900,000(B)
F. New Construction	$28,389,310	$26,928,000(A)	$14,977,000(A)
G. Board Of Governors Energy Policy	$567,786	0	0
H. Other Construction	0	0	0
Contingency:	$1,689,773	$1,911,000	$1,748,000
Arch. & Eng. Oversight	$675,909	$695,000	$601,000
Test & Inspection	$786,930	$790,000	$691,000
Construction Management/Labor Compliance	$675,909	$751,000	$669,000
Furniture/Group II Equip. (Dist. Funds)	$2,188,609		
TOTAL PROJECT COST: Cost is based on CCI 8823 & EPI 5455	**$42,736,264 State=47.40% Dist.=52.60%**	**$55,130,000**	**$45,726,000 *15-Yr. Lease**

D. Recommended Solution:

1. Which alternative and why?

Alternative No. 1: **Replace the existing Horticulture complex with a new STEM Vocational Center building.**

Alternative No. 1 is the only alternative that effectively meets all the needs established in the solution criteria. This is consistent with the strategies of the District's Educational and Facilities Master Plans; it can be completed in a reasonable timeframe and allows the vocational instructional programs the use of this building for at least another fifty years. This alternative includes building

a new structure for the STEM vocational programs and Nutrition & Food programs and replacing all the non-code compliant structures in the horticulture area. This new instructional space will share lecture classrooms, tutoring rooms, meeting rooms for four vocational programs and will save on energy usage, security needs and preserve campus integrity and cohesiveness. Alternate No. 1 is the clearly the most beneficial alternative investigated from both a functional, code compliant and cost-to-benefit perspective and meets the needs of Vision for Success in providing Fullerton College students with the best learning facility to foster their education.

2. Detailed Scope Description:

The Fullerton College STEM Vocational Center project is a G-Growth project. The STEM health science programs at the college are growing each year with waiting lists for most of the vocational programs. The current STEM health science classrooms and labs are not adequate for the number of students in the current program as well as the number of students anticipated to be coming from the local high school STEM programs in Orange County. For the Nutrition & Food programs and Horticulture programs, the current classroom and lab space is either not code compliant or is not adequate to expand for growth in the student population for these programs. The new building would be designed to meet the specialized needs of the health science STEM programs which includes adequate space for specialized instructional lab equipment, ventilated storage areas, cold rooms, autoclaves, transfer hoods, larger prep spaces, materials/chemical storage areas, tissue culture room, cleanroom with suiting area where personal protective equipment can be donned, provisions for natural gas and deionized water, vacuum connections, and industry-standard airflow in all instructional areas. The Food & Nutrition labs would include food preparation labs that include ventilation hoods, food demonstration areas, laundry room, storage area with walk-in refrigerator/freezer, and modern kitchen equipment. Horticulture labs would include proper ventilation, modern student stations, lab service space with storage. The STEM Vocational Center would offer shared active learning classroom space, tutoring space, and meeting rooms for all four vocational programs.

Alternative No. 1 would be to construct a new two-story vocational complex of 31,595 asf/43,703 gsf. The new two-story building would include classrooms, labs, lab service, offices, office service, tutoring/study room, meeting room and lounge. Outside the building, the project would include the construction of one horticulture lab building, one agriculture lab building with lab service area and four greenhouses. The placement of a new STEM Vocational Center would require the demolition of most of the existing Horticulture structures: Bldg. 1600 (Classroom/lab building), Bldg. 1607 (agriculture metal building for equipment/lab service/demonstration), Bldg. 1608 Horticulture lab metal building (equipment/lab service/demonstration), Bldg. 1690 (Restroom), Bldg. 1609 (Greenhouse), Bldg. 1610 (Greenhouse), Bldg. 1611 (Greenhouse), and Bldg. 1612 (Lath Greenhouse). There are four newer existing greenhouses on the site that are not in the footprint of the new building and will stay in place. The proposed building location is adjacent to Student Parking Lot 5.

The project would entail removing an 82-year-old class/room lab building and several non-code compliant structures in the Horticulture complex. With removal of these buildings, the College could adhere to the Facilities Master Plan's approved replacement of the structures with a new two-story vocational building at the far northern area of the campus. Upon completion of the

project, the capacity-load ratio for the Fullerton College campus would be 77% for lectures, 88% for lab space, 73% for office space and 50% AV/TV space. The shared use of lecture classrooms will reduce the lecture cap/load ratio and the addition of health science labs for student growth will only increase the cap/load ratio for lab space by 4%. This increase of lab space will accommodate the anticipated growth in the STEM health sciences programs, Food & Nutrition programs and Horticulture while still staying under 100% capacity/load.

Space Analysis

Type	Lecture	Lab	Office	Library	AV/TV	Other	Total
Primary ASF	3,120	21,380	2,120	1,250	0	3,725	31,595
Secondary ASF	0	-4,697	-446	0	0	-2,845	-7,988
Net ASF Change	3,120	16,683	1,674	1,250	0	880	23,607
Initial Cap/Load FY2025 - 2026	92%	76%	78%	78%	35%	N/A	71%
Final Cap/Load FY2028 - 2029	81%	64%	80%	79%	52%	N/A	71%

3. **Basis for Cost Information**

Credits for the Board of Governor's Energy Incentive Program were included in the costs for new construction, as part of element 4-G, Construction, Other on the JCAF32 document. These costs were predicated on using Savings by Design (SBD) to achieve a reduction in energy usage that will equate to at least 15% for new construction.

Information for cost projections, otherwise, was derived from the following sources:

a) Chancellor's Office Construction Cost Index Schedule 8823 (current) and EPI 5455
b) Leasing in Fullerton, CA – Tenant Base and LoopNet Leasing Firms – Average leasing rate for office buildings is $33 per square foot for a 10-year lease.
c) Purchasing property in Fullerton, CA – Commercial Orange County Real Estate – Average cost is $314 per square foot
d) Parking Lot – Asphalt Professionals, Inc. - $7 per square foot
e) Westberg White Architects
f) The Cambridge West Partnership, LLC database, which contains current information for building projects in more than 30 California community colleges.

4. Factors/benefits of the recommended alternative other than the least expensive alternative?

Alternate No. 1 conforms with the 2020 Fullerton College Educational and Facilities Master Plans as the STEM Vocational Center being a priority project for the college. Each project in the master plan's framework has been established based on the educational and facility's needs, sequencing considerations, and potential funding opportunities. Alternative No. 1 will strengthen the connectivity between all the vocational programs and create the space needed for the growth in

these programs. This project enhances the college's plan for campus cohesiveness with the vocational programs at one site and but still allowing the students to have connectivity to the campus support services. The building design will be based on LEED's silver standards providing additional energy savings. This project best serves the needs of the growing Fullerton College STEM vocational programs.

5. Complete Description of impact on support budget

It is anticipated with the new vocational center, there will be a growth in the number of students and class sections offered for STEM Health Science, Nutrition & Food and Horticulture programs. As the programs grow, there will be a need for additional instructional support staff. Any additional certificated or support staff that is required, however, would be in direct correlation with an increase in the number of full-time equivalent students (FTES) produced. As such, any expense for additional staffing would be offset within the College's annual operating budget.

From a Maintenance & Operations standpoint, the project will include the replacement of the Horticulture antiquated mechanical and utility systems. The introduction of new energy efficient systems is anticipated to result in cost reductions to the College's operating budget. There will be an increase to the overall horticulture building space requiring additional custodial hours which may be covered by the decrease in the need for maintenance repairs for a new facility.

6. Identify and explain any project risks

There are no known risks or limitations identified for this project. An assessment will be done at the time of Preliminary Planning to ascertain if any limitations or site conditions exist, but none are known or anticipated. The college has a plan for any need for temporary swing space and has a report identifying any hazardous materials at the site.

7. List requested interdepartmental coordination and/or special project approvals.

Internal coordination will be ongoing and will include interface with students, faculty, staff, department heads as well as the Vice President of Administrative Services, the College president, District Vice Chancellor of Administrative Services, District Chancellor and Board of Trustees. Except for the normal State requirements (e.g., California Environmental Quality Act, Department of State Architect approval and State Board of Public Works) addressed as part of the planning process, there are no special approvals required for this Project.

E. <u>Consistency with Government Code Section 65041.1:</u>

Consistent with the provisions of Government Code Section 65041.1 - 65042, the California Community Colleges are exempt from these provisions of this government code section.

8.1 California Environmental Quality Act

Environmental Impact Report

This EIR has been prepared pursuant to the California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code Section 21000 et seq., and the CEQA Guidelines in the California Code of Regulations, Title 14, Section 15000 et seq. for the college full facilities master plan in November 2018.

Fullerton College approved a Final Fullerton College Facilities Master Plan Program in July 2020. The Final Facilities Master Plan included an updated CEQA report for the Fullerton College STEM Vocational Center. This report can be found at the college website: https://www.nocccd.edu/files/nocccd_fullerton_booklet_76246.pdf

Below is the link for all the CEQA report for the North Orange County Community College District.

https://www.nocccd.edu/files/nocccd_fullerton_booklet_76246.pdf

https://www.nocccd.edu/files/appendix-a-pdf_13164.pdf

https://www.nocccd.edu/files/appendix-b-2_13671.pdf

9.1 ANALYSIS OF FUTURE COSTS

Project: Fullerton College STEM Vocational Center

This project will not have a significant impact on the future operating budget of the College if Alternate No. 1 is selected. If Alternate No. 2 or Alternate No. 3 are chosen, these projects could have a significant impact on the operating costs. A summary overview of anticipated impacts is provided below:

Personnel Cost:

Certificated Staff:

With Alternate No. 1: The proposed project will affect certificated staff if STEM science programs and Food & Nutrition programs continue to grow. Enrollment projections show these programs will have significant growth in the next ten years. A new facility would accommodate additional students and class sections for the STEM science, Nutrition & Food, and Horticulture programs increasing certificated staff by two positions in the future.

With Alternate No. 2 or 3: The proposed project the same as in Alternate No. 1 but may require even more staff as the facility will not be located on campus where programs can share staffing.

Classified Staff:

The proposed new STEM Vocational Center would increase classified maintenance staff by ½ position.

Impact on Operating Budget of the College:

With Alternate No. 1:

Certificated Staffing: As the programs grow, two additional positions will be needed but the cost should be offset by the additional FTES.

Maintenance & Operations:

This project will increase Maintenance & Operations custodial staffing for the new complex. Since the current Horticulture facility has part-time custodial staff, the custodial staffing would be increase to ¾ time custodial staff. A new STEM Vocational Center will not have a negative impact for other Maintenance & Operations staffing as a new building will require less maintenance and repair than the eighty-one-year-old Horticulture Building and the new facility will be built to Leed's silver standards. The new, modern building systems will be more efficient and will be easier to control, operate and maintain. The new reduced environmental footprint will not only reduce fossil fuel dependence, energy use and pollution, it will lower operating costs, improves the reliability of the building, and reduce the long-term costs of educational facility ownership.

With Alternate 2 or Alternate 3:

Maintenance & Operations and security personnel costs would increase as the facility would not be on the college campus and college staff would have to be assigned permanently to the new facility or must commute to the facility to provide services.

Depreciation:

Community colleges are not required to depreciate the value of their buildings.

Program/Course/Service Approvals

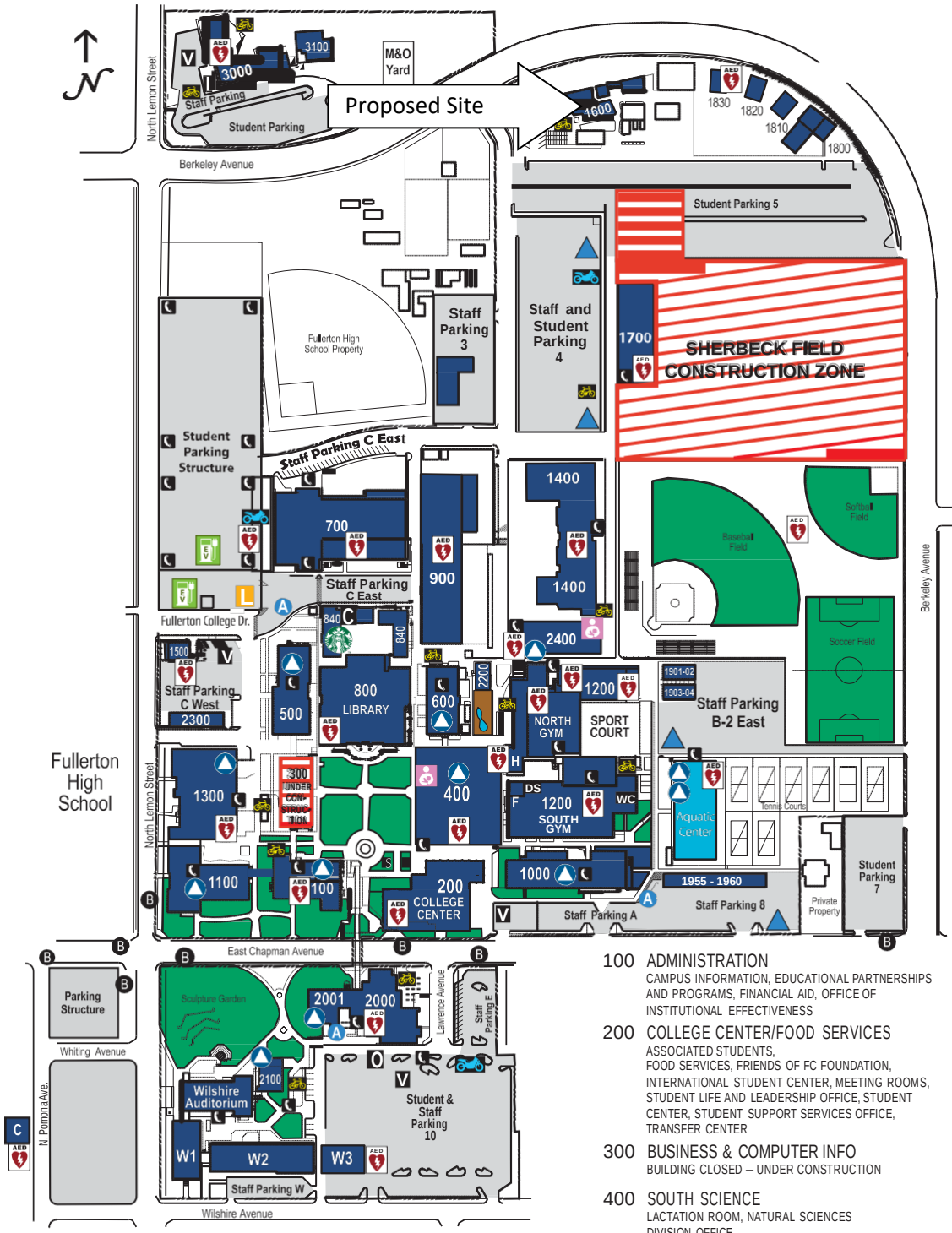
List all new programs/courses/services to be housed in this project or its secondary effects and give the date of approval. If there are no new programs/courses/services for which approval is required, please so state. This is not required for equipment-only projects.

Name of New Program/Course/Service	Date of Approval
N/A	

Fullerton College

321 East Chapman Avenue, Fullerton, California 92832-2095 • (714) 992-7000 • www.fullcoll.edu

SPRING 2023



DIRECTIONS FROM FREEWAYS

TO FULLERTON COLLEGE:

From 57 Fwy: Exit at Chapman Ave., West to Lemon St.

From 91 Fwy: Exit at Lemon St., North to Chapman Ave.

700 TECHNOLOGY & ENGINEERING
TECHNOLOGY & ENGINEERING DIVISION OFFICE

800 LIBRARY-LEARNING RESOURCE CENTER
ACADEMIC SUPPORT CENTER, ADAPTIVE COMPUTER LAB, LIBRARY, MATH LAB, STAFF DEVELOPMENT, STUDY ABROAD

840 DISABILITY SUPPORT SERVICES/ MAILROOM/STARBUCKS CLASSIFIED LOUNGE, DISABILITY SUPPORT SERVICES, MAILROOM, STARBUCKS

900 AUTO/MACHINING/PRINTING

1000 FINE ARTS/ART GALLERY BUSINESS, CIS, AND ECONOMIC AND WORKFORCE DEVELOPMENT DIVISION OFFICE

1100 MUSIC
FINE ARTS DIVISION OFFICE

1200 PHYSICAL EDUCATION DANCE STUDIO, FACULTY LOUNGE, HEALTH SERVICES, NORTH/SOUTH GYMS, PHYSICAL EDUCATION DIVISION OFFICE, WELLNESS CENTER

1300 THEATRE ARTS
BOX OFFICE, CAMPUS THEATRE

1400 SOCIAL SCIENCES
SOCIAL SCIENCES DIVISION OFFICE

1500 CAMPUS SAFETY

1600 HORTICULTURE CENTER

1700 FIELD HOUSE

1800 CHILD DEVELOPMENT/ PE CLASSROOMS
1801 SPINNING, 1803 PILATES
1820-1830 CHILD DEVELOPMENT

1900 CLASSROOMS & FOOD BANK
1901 – 1902 VETERANS RESOURCE CENTER
1903-1904 UMOJA COMMUNITY PROGRAMS
1955 FOOD BANK, 1956 – 1960 CLASSROOMS

2000 STUDENT SERVICES/T.V.
ADMISSIONS & RECORDS, BOOKSTORE, BURSAR, CAREER & LIFE PLANNING CENTER, COUNSELING, DISTANCE EDUCATION, EOPS/CARE

2001 PROMISE CENTER

2100 SCULPTURE/3D ARTS

2200

2300 M&O SHOPS

2400 HUMANITIES
HUMANITIES DIVISION OFFICE, LACTATION ROOM

3000 BERKELEY CENTER
ASSESSMENT CENTER, CAMPUS CAPITAL PROJECTS OFFICE, FACILITIES, HIGH SCHOOL OUTREACH OFFICE, MAINTENANCE & OPERATIONS

3100 ACADEMIC COMPUTING TECHNOLOGY

100 ADMINISTRATION
CAMPUS INFORMATION, EDUCATIONAL PARTNERSHIPS AND PROGRAMS, FINANCIAL AID, OFFICE OF INSTITUTIONAL EFFECTIVENESS

200 COLLEGE CENTER/FOOD SERVICES
ASSOCIATED STUDENTS, FOOD SERVICES, FRIENDS OF FC FOUNDATION, INTERNATIONAL STUDENT CENTER, MEETING ROOMS, STUDENT LIFE AND LEADERSHIP OFFICE, STUDENT CENTER, STUDENT SUPPORT SERVICES OFFICE, TRANSFER CENTER

300 BUSINESS & COMPUTER INFO
BUILDING CLOSED – UNDER CONSTRUCTION

400 SOUTH SCIENCE
LACTATION ROOM, NATURAL SCIENCES DIVISION OFFICE

500 APPLIED ARTS
CADENA CULTURAL CENTER/GRADS TO BE PROGRAM/ LGBTQIA2S+ STUDENT SUPPORT, COMPUTER LABS, WALK-UP ACT HELP DESK

600 NORTH SCIENCE
MATHEMATICS & COMPUTER SCIENCE DIVISION OFFICE

AED AUTOMATED EXTERNAL DEFIBRILLATOR

BIKE RACKS

C CALWORKS
BEN FRANKLIN HOUSE
315 N. POMONA AVENUE

C CLASSIFIED LOUNGE

EMERGENCY PHONE

EV CHARGING STATIONS

F FACULTY LOUNGE

S FREE SPEECH LOCATION

GENDER INCLUSIVE BATHROOM

H HEALTH CENTER

LACTATION ROOM

L LIBRARY BOOK DROP

MOTORCYCLE PARKING

A OCTA ACCESS BUS STOPS

B OCTA BUS STOPS

STARBUCKS

STUDENT DROP-OFF AREA

V VISITOR PARKING

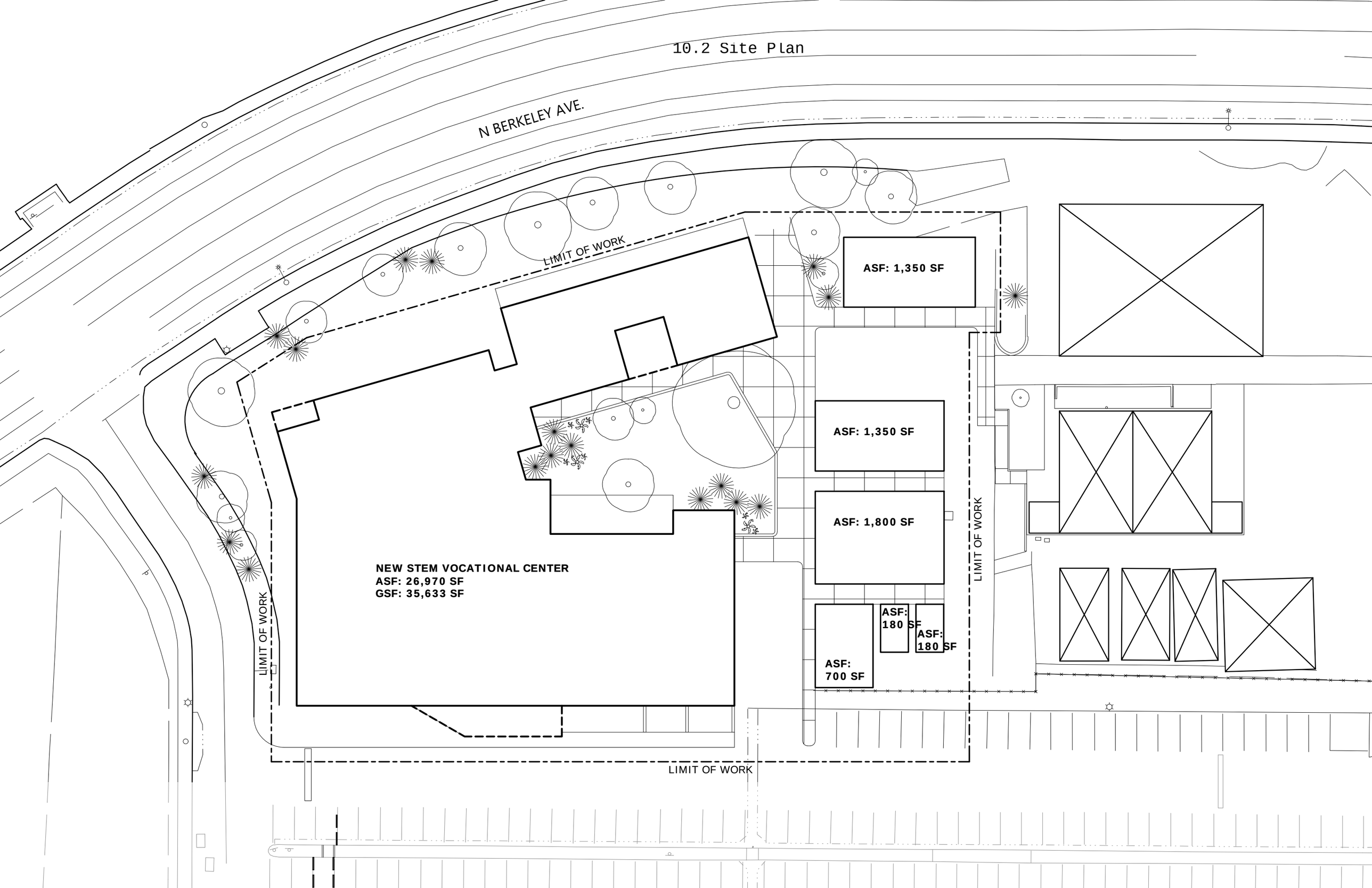
WC WELLNESS CENTER

W1-W2-W3 NORTH ORANGE CONTINUING EDUCATION WILSHIRE CENTER

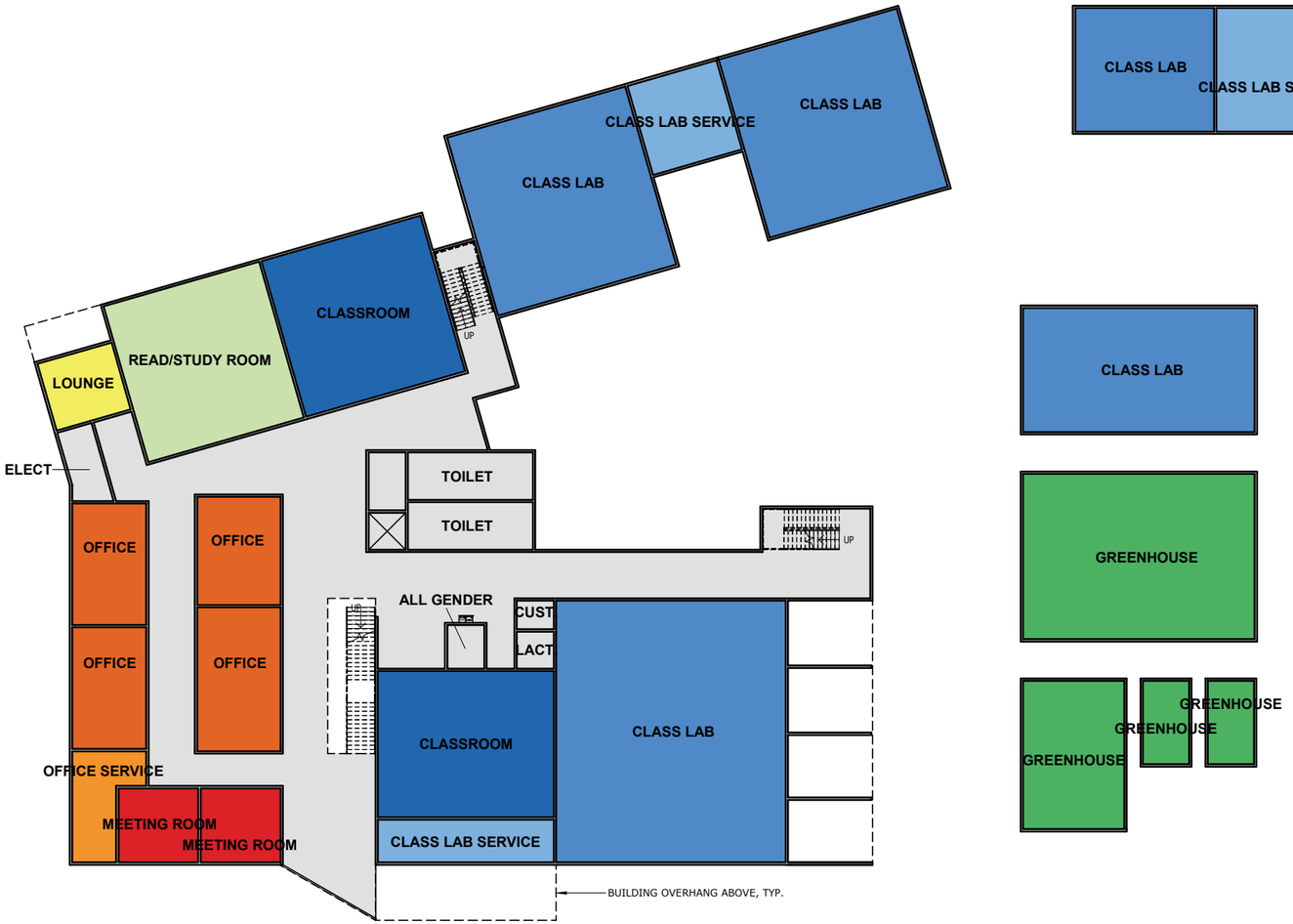
O OFF-SITE PARKING SHUTTLE PICKUP & DROP-OFF. OFF-SITE PARKING LOT IS LOCATED AT MARKED LOT NEAR SE CORNER OF CHAPMAN AND RAYMOND

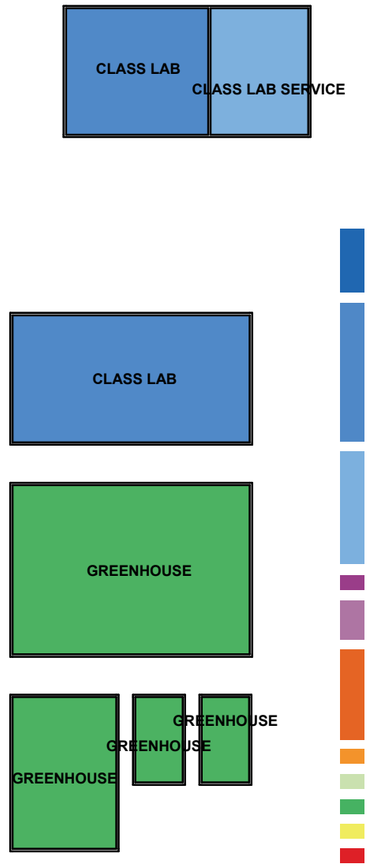
Updated: SEPTEMBER 16, 2022 RG

10.2 Site Plan

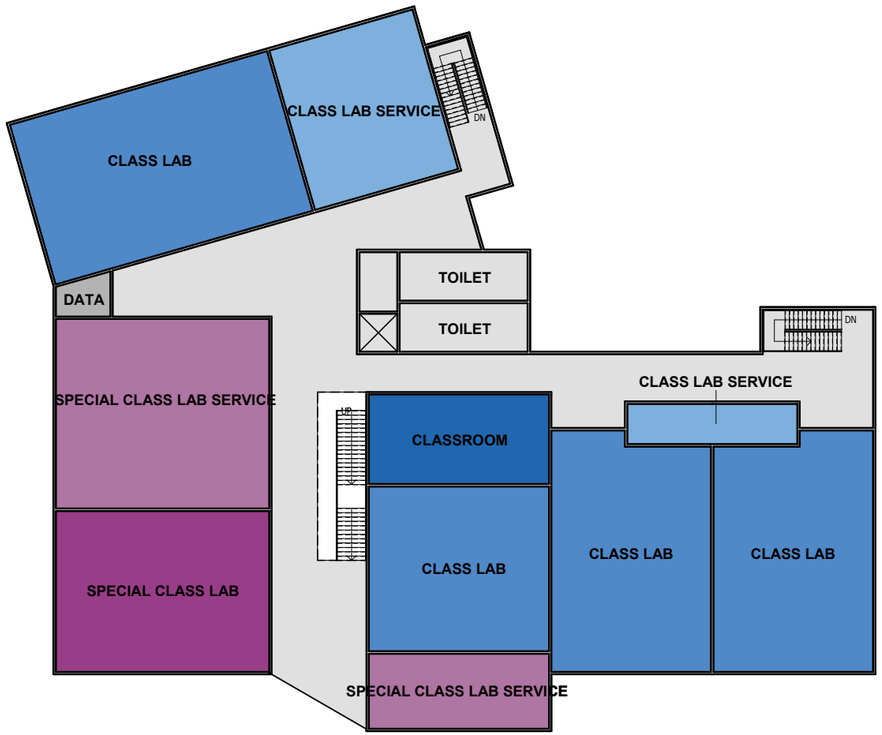


10.3 Floor Plan



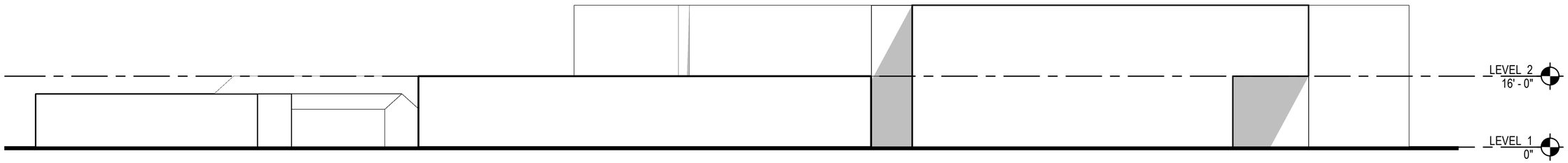


ROOM TYPE	TOP	DESCRIPTION	DEPARTMENT	LEVEL 1	LEVEL 2
110	0410	CLASSROOM	ANATOMY & PHYSIOLOGY		720 SF
110	1306	CLASSROOM	NUTRITION, FOODS, & CULINARY ARTS	1200 SF	
110	1901	CLASSROOM	PHYSICAL SCIENCES, GENERAL	1200 SF	
210	0100	CLASS LAB	AGRICULTURE & NATURAL RESOURCES	800 SF	
210	0109	CLASS LAB	HORTICULTURE	4,560 SF	
210	0403	CLASS LAB	MICROBIOLOGY		1,320 SF
210	0410	CLASS LAB	ANATOMY & PHYSIOLOGY		3,300 SF
210	0430	CLASS LAB	BIOTECHNOLOGY & BIOMEDICAL TECH.		2,000 SF
210	1306	CLASS LAB	NUTRITION, FOODS, & CULINARY ARTS	2,800 SF	
215	0100	CLASS LAB SERVICE	AGRICULTURE & NATURAL RESOURCES	550 SF	
215	0109	CLASS LAB SERVICE	HORTICULTURE	400 SF	
215	0410	CLASS LAB SERVICE	ANATOMY & PHYSIOLOGY		300 SF
215	0430	CLASS LAB SERVICE	BIOTECHNOLOGY & BIOMEDICAL TECH.		1,100 SF
215	1306	CLASS LAB SERVICE	NUTRITION, FOODS, & CULINARY ARTS	350 SF	
220	0430	SPEC. CLASS LAB	BIOTECHNOLOGY & BIOMEDICAL TECH.		1,500 SF
225	0410	SPEC. CLASS LAB SERV.	ANATOMY & PHYSIOLOGY		600 SF
225	0430	SPEC. CLASS LAB SERV.	BIOTECHNOLOGY & BIOMEDICAL TECH.		1,800 SF
310	1306	OFFICE	NUTRITION, FOODS, & CULINARY ARTS	560 SF	
310	0109	OFFICE	HORTICULTURE	420 SF	
310	0410	OFFICE	ANATOMY & PHYSIOLOGY	420 SF	
310	0430	OFFICE	BIOTECHNOLOGY & BIOMEDICAL TECH.	420 SF	
315	0099	OFFICE SERVICE	GENERAL ASSIGNMENT	300 SF	
410	6110	READ/STUDY ROOM	LEARNING CENTER (LRC)	1,250 SF	
580	0109	GREENHOUSE	HORTICULTURE	2,845 SF	
650	0099	LOUNGE	GENERAL ASSIGNMENT	250 SF	
680	0099	MEETING ROOM	GENERAL ASSIGNMENT	550 SF	
710	0000	DATA PROCESSING/ COMPUTER	GENERAL	80 SF	
		TOTAL PER LEVEL		**18,875 SF**	**12,720 SF**
		GRAND TOTAL			**31,595 SF**

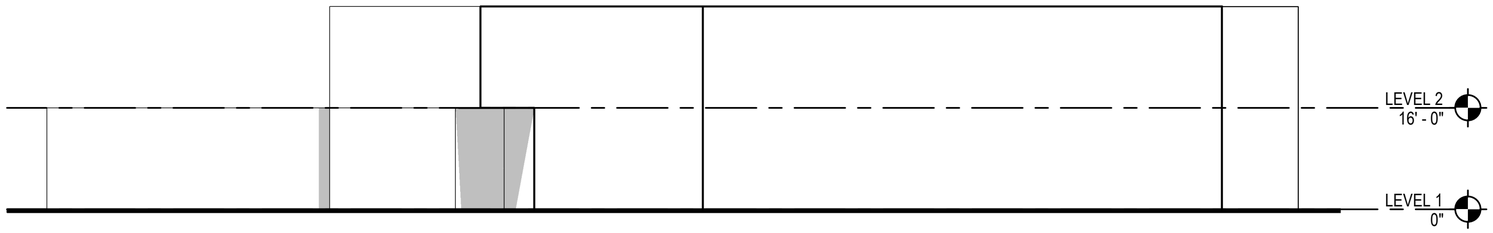


ROOM TYPE	TOP	DESCRIPTION	DEPARTMENT	LEVEL 1	LEVEL 2
110	0410	CLASSROOM	ANATOMY & PHYSIOLOGY		720 SF
110	1306	CLASSROOM	NUTRITION, FOODS, & CULINARY ARTS	1200 SF	
110	1901	CLASSROOM	PHYSICAL SCIENCES, GENERAL	1200 SF	
210	0100	CLASS LAB	AGRICULTURE & NATURAL RESOURCES	800 SF	
210	0109	CLASS LAB	HORTICULTURE	4,560 SF	
210	0403	CLASS LAB	MICROBIOLOGY		1,320 SF
210	0410	CLASS LAB	ANATOMY & PHYSIOLOGY		3,300 SF
210	0430	CLASS LAB	BIOTECHNOLOGY & BIOMEDICAL TECH.		2,000 SF
210	1306	CLASS LAB	NUTRITION, FOODS, & CULINARY ARTS	2,800 SF	
215	0100	CLASS LAB SERVICE	AGRICULTURE & NATURAL RESOURCES	550 SF	
215	0109	CLASS LAB SERVICE	HORTICULTURE	400 SF	
215	0410	CLASS LAB SERVICE	ANATOMY & PHYSIOLOGY		300 SF
215	0430	CLASS LAB SERVICE	BIOTECHNOLOGY & BIOMEDICAL TECH.		1,100 SF
215	1306	CLASS LAB SERVICE	NUTRITION, FOODS, & CULINARY ARTS	350 SF	
220	0430	SPEC. CLASS LAB	BIOTECHNOLOGY & BIOMEDICAL TECH.		1,500 SF
225	0410	SPEC. CLASS LAB SERV.	ANATOMY & PHYSIOLOGY		600 SF
225	0430	SPEC. CLASS LAB SERV.	BIOTECHNOLOGY & BIOMEDICAL TECH.		1,800 SF
310	1306	OFFICE	NUTRITION, FOODS, & CULINARY ARTS	560 SF	
310	0109	OFFICE	HORTICULTURE	420 SF	
310	0410	OFFICE	ANATOMY & PHYSIOLOGY	420 SF	
310	0430	OFFICE	BIOTECHNOLOGY & BIOMEDICAL TECH.	420 SF	
315	0099	OFFICE SERVICE	GENERAL ASSIGNMENT	300 SF	
410	6110	READ/STUDY ROOM	LEARNING CENTER (LRC)	1,250 SF	
580	0109	GREENHOUSE	HORTICULTURE	2,845 SF	
650	0099	LOUNGE	GENERAL ASSIGNMENT	250 SF	
680	0099	MEETING ROOM	GENERAL ASSIGNMENT	550 SF	
710	0000	DATA PROCESSING/ COMPUTER	GENERAL	80 SF	
		TOTAL PER LEVEL		**18,875 SF**	**12,720 SF**
		GRAND TOTAL			**31,595 SF**

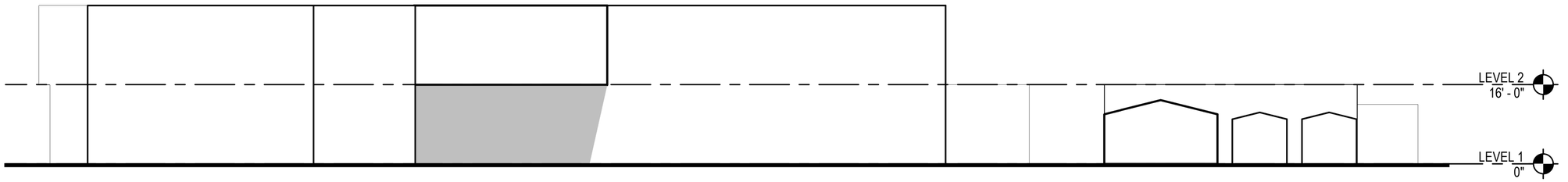
10.4 Exterior Elevations



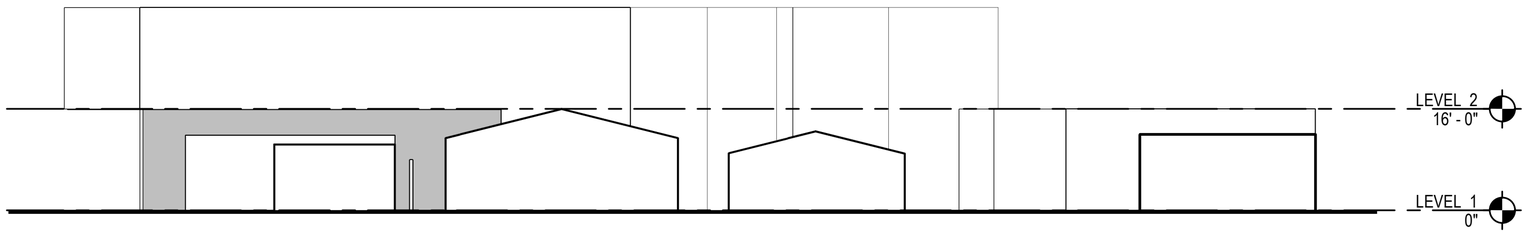
NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION

10.5 Electrical Plans (as needed)

Not Applicable

10.6 Mechanical Plans (as needed)

Not Applicable

North Orange County Community College District (860)

Fullerton College (862)

Project: STEM Vocational Center – **EPI :** 5455

Rm Type	Description	TOP Code	Department	ASF	Sec. ASF	Increase In Space	Equip. Cost/ASF	Total Allowable Cost
110	Classroom	0410	Anatomy and Physiology	720	0	720	$25.51	$18,367
110	Classroom	1306	Nutrition, Foods, and Culinary Arts	1,200	0	1,200	$25.51	$30,612
110	Classroom	1901	Physical Sciences, General	1,200	0	1,200	$25.51	$30,612
210	Class Lab	0100	Agriculture and Natural Resources	800	804	-4	$129.66	$0
210	Class Lab	0109	Horticulture	1,340	1,332	8	$129.66	$1,037
210	Class Lab	0109	Horticulture	1,610	886	724	$129.66	$93,874
210	Class Lab	0109	Horticulture	1,610	923	687	$129.66	$89,076
210	Class Lab	0403	Microbiology	1,320	0	1,320	$129.66	$171,151
210	Class Lab	0410	Anatomy and Physiology	3,300	0	3,300	$129.66	$427,878
210	Class Lab	0430	Biotechnology and Biomedical Technology	2,000	0	2,000	$129.66	$259,320
210	Class Lab	1306	Nutrition, Foods, and Culinary Arts	2,800	0	2,800	$47.13	$131,964
215	Class Lab Service	0100	Agriculture and Natural Resources	550	548	2	$129.66	$259
215	Class Lab Service	0109	Horticulture	400	204	196	$129.66	$25,413
215	Class Lab Service	0410	Anatomy and Physiology	300	0	300	$129.66	$38,898
215	Class Lab Service	0430	Biotechnology and Biomedical Technology	1,100	0	1,100	$129.66	$142,626
215	Class Lab Service	1306	Nutrition, Foods, and Culinary Arts	350	0	350	$47.13	$16,496
220	Spec Class Lab	0430	Biotechnology and Biomedical Technology	1,500	0	1,500	$129.66	$194,490
225	Special Class Lab Service	0410	Anatomy and Physiology	600	0	600	$129.66	$77,796
225	Special Class Lab Service	0430	Biotechnology and Biomedical Technology	1,800	0	1,800	$129.66	$233,388
310	Office	0109	Horticulture	420	446	-26	$39.88	$0
310	Office	0410	Anatomy and Physiology	420	0	420	$39.88	$16,750
310	Office	0430	Biotechnology and Biomedical Technology	420	0	420	$39.88	$16,750
310	Office	1306	Nutrition, Foods, and Culinary Arts	560	0	560	$39.88	$22,333
315	Office Service	0099	General Assignment	300	0	300	$39.88	$11,964
410	Read/Study Room	6110	Learning Center (Learning Resource Center)	1,250	0	1,250	$59.86	$74,825

580	Greenhouse	0109	Horticulture	2,845	2,845	0	$0	$0
650	Lounge	0099	General Assignment	250	0	250	$41.33	$10,333
680	Meeting Room	0099	General Assignment	275	0	275	$41.33	$11,366
680	Meeting Room	0099	General Assignment	275	0	275	$41.33	$11,366
710	Data Processing/Computer	0099	General Assignment	80	0	80	$370.82	$29,666
TOTAL		-	-	31,595	7,988	23,607	-	$2,188,609

12.1 JUSTIFICATION FOR ADDITIONAL COSTS EXCEEDING GUIDELINES

___ Construction (including Group 1 equipment)

___ Equipment (Group 2 and Furniture)

District: North Orange County Community College District

College: Fullerton College

Project: STEM Vocational Center

Cost estimates for determining allowable space were calculated using the State Chancellor's Office guidelines by using the current California Construction Cost Index CCCI 8823. The construction cost presented in this Final Project Proposal is not more than these guidelines.

The cost for Group II equipment was projected per the allowable rates specified by the State Chancellor's Office using Equipment Price Index EPI 5455. North Orange County Community College District will be 100% responsible for all Group II equipment and furniture costs.

13.1 DETAILED EQUIPMENT LIST

DISTRICT: **North Orange County Community College District**

COLLEGE: **Fullerton College**

PROJECT: **STEM Vocational Center**

Item #	Item Name	Units	Cost Per Unit	Total Cost
	Detailed Equipment List will not be required for this project. North Orange County Community College District will be 100% responsible for funds for Group II Equipment and will report all equipment/furniture purchases in Project Quarterly Reports and final costs in the Closeout JCAF32 Report.			