



“Science is a way of thinking much more than it is a body of knowledge.”

Carl Sagan

High School Science Labs Design Committee Meeting #3

Lake Oswego School District

December 01, 2023

Agenda

What We've Heard
Meeting 2 Takeaways

Design Development
Review & Options



What We've Heard

What We've Heard: November 2 Meeting Takeaways

- Clarified zoning for classrooms
- Discussed equipment needs in prep rooms
- Staff room has good layout, no visibility to hall but borrow light from adjacent room
- Classroom of the future- add sinks and consolidate furniture
- Discussed features teachers currently use- lighting, exhaust, etc.



What We've Heard: Chemistry Lab Inspiration





142-16

142-15

BIOFIT

Waste

Waste

Waste

WASTE

Waste







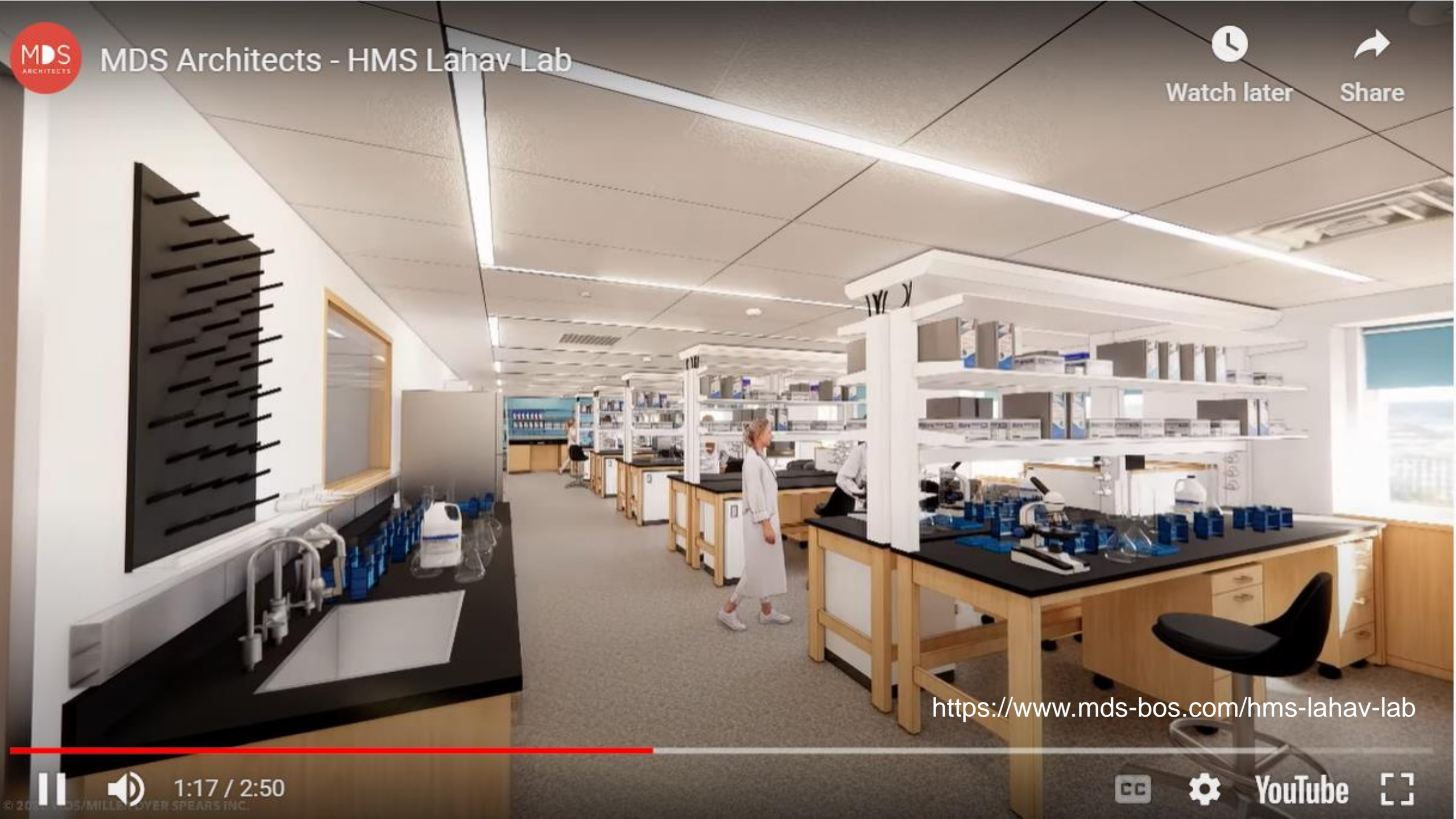
MDS Architects - HMS Lahav Lab



Watch later



Share



<https://www.mds-bos.com/hms-lahav-lab>



1:17 / 2:50



YouTube









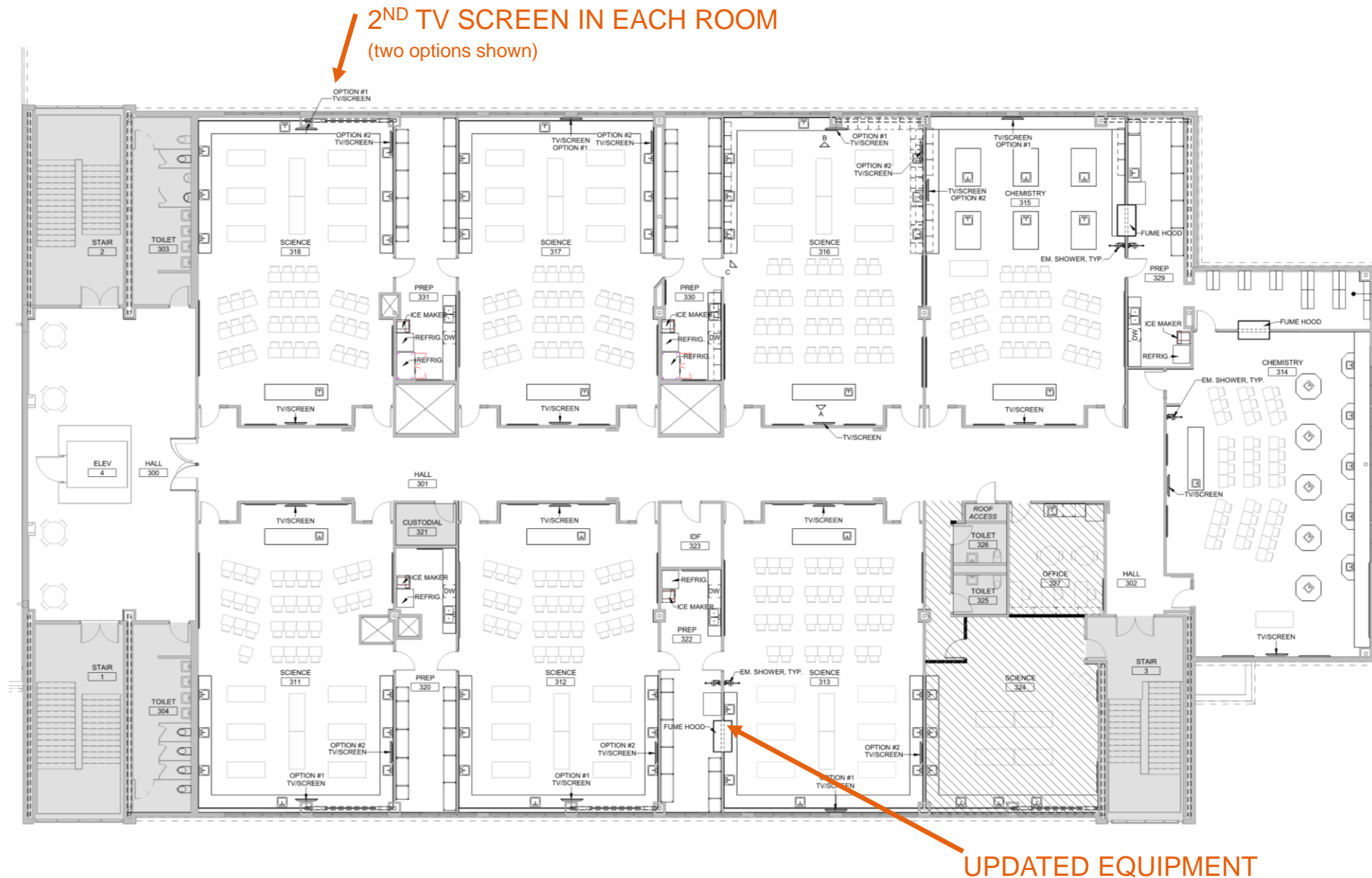


Design Development

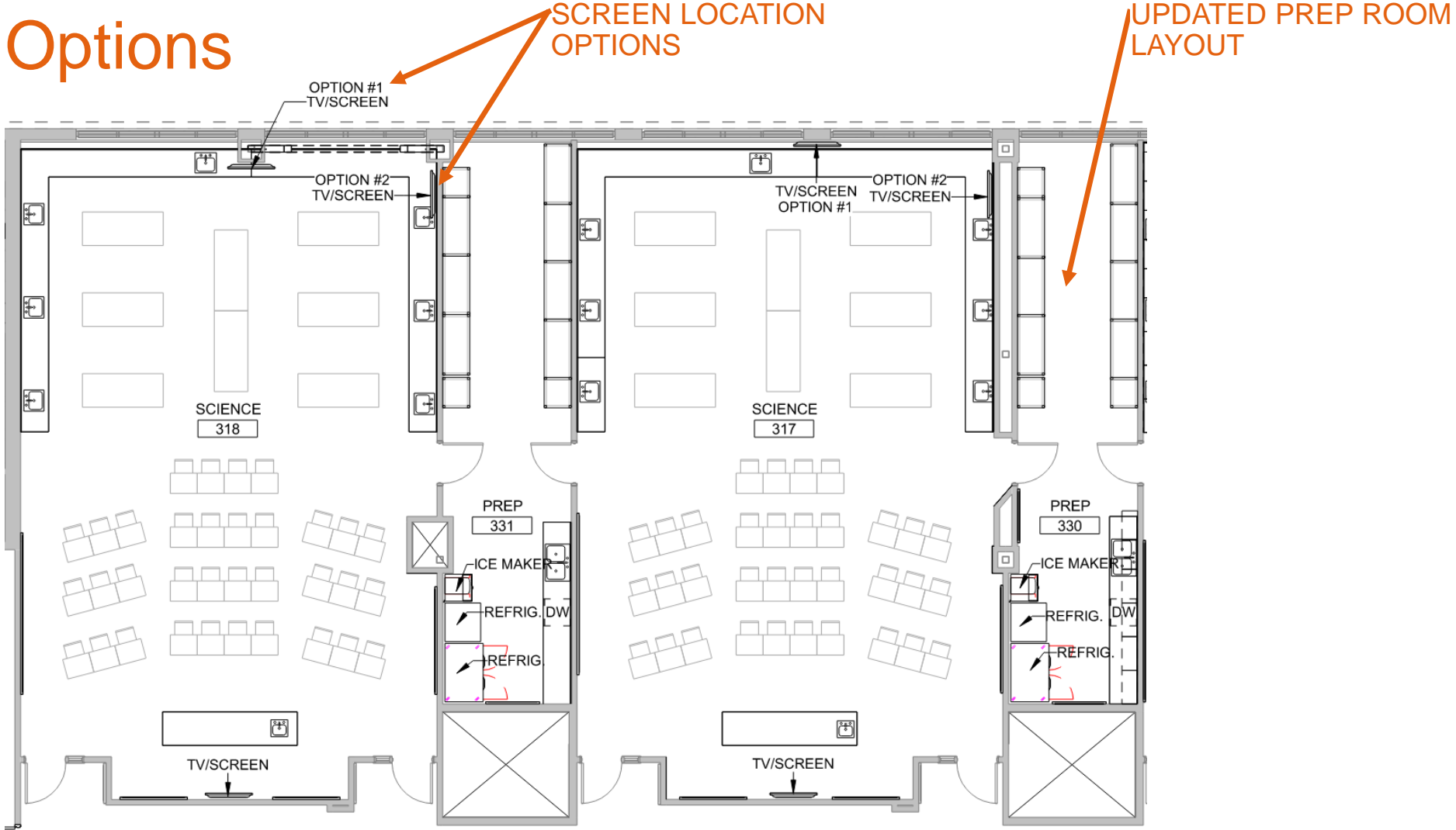
Design Development Overview

GENERAL UPGRADES:

- *NEW LIGHTING, CEILINGS, FLOORING AND WALL FINISHES.*
- *ADDITIONAL MARKERBOARDS AND TWO FLAT SCREENS PER ROOM.*
- *NEW SINKS AND COUNTERS, SALVAGE CABINETS WHERE POSSIBLE*
- *UPGRADES TO PLUMBING, GAS, VENTILATION, SYSTEMS INCLUDING FUME HOODS.*
- *ACCESS TO GAS ALONG THE PERIMETER COUNTERS IN EVERY ROOM.*
- *REPLACE AGING EQUIPMENT AND FURNITURE*



Design Development General Lab Options



NEW LAB LAYOUTS

PREVIOUS LAB LAYOUTS

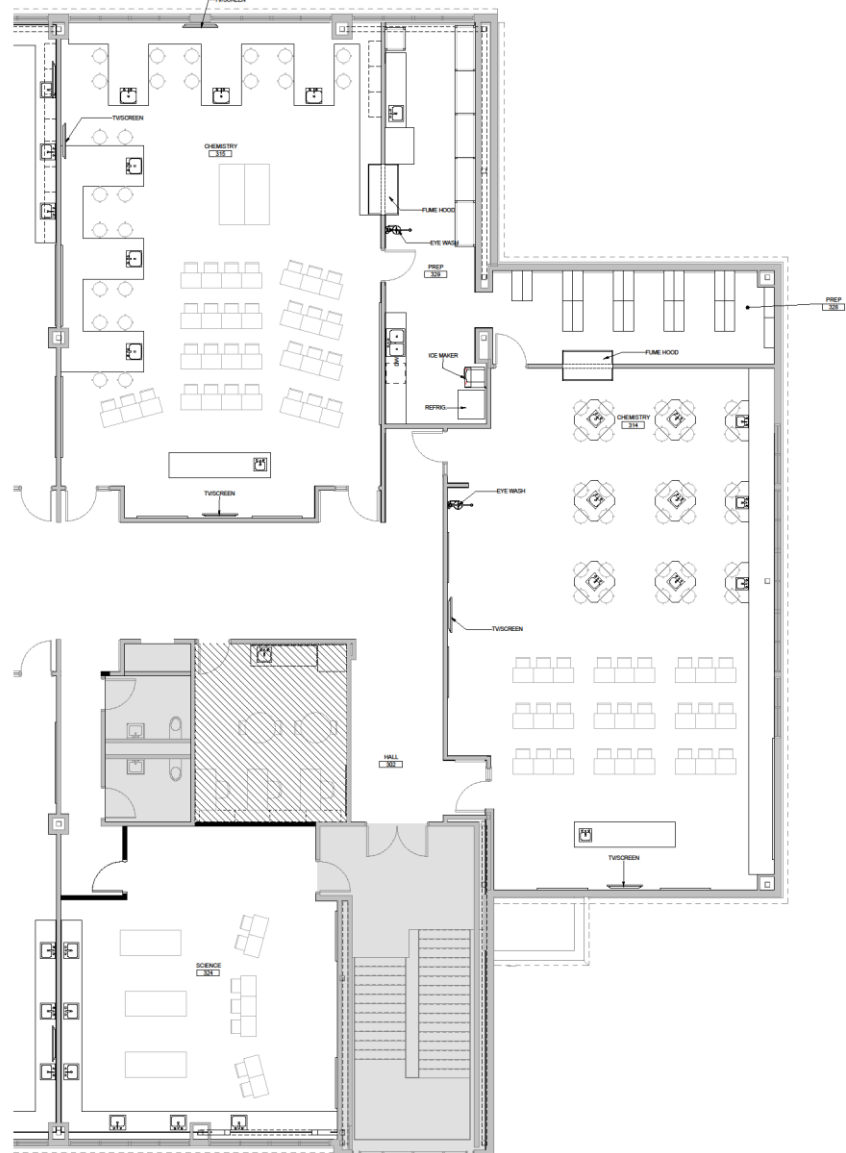
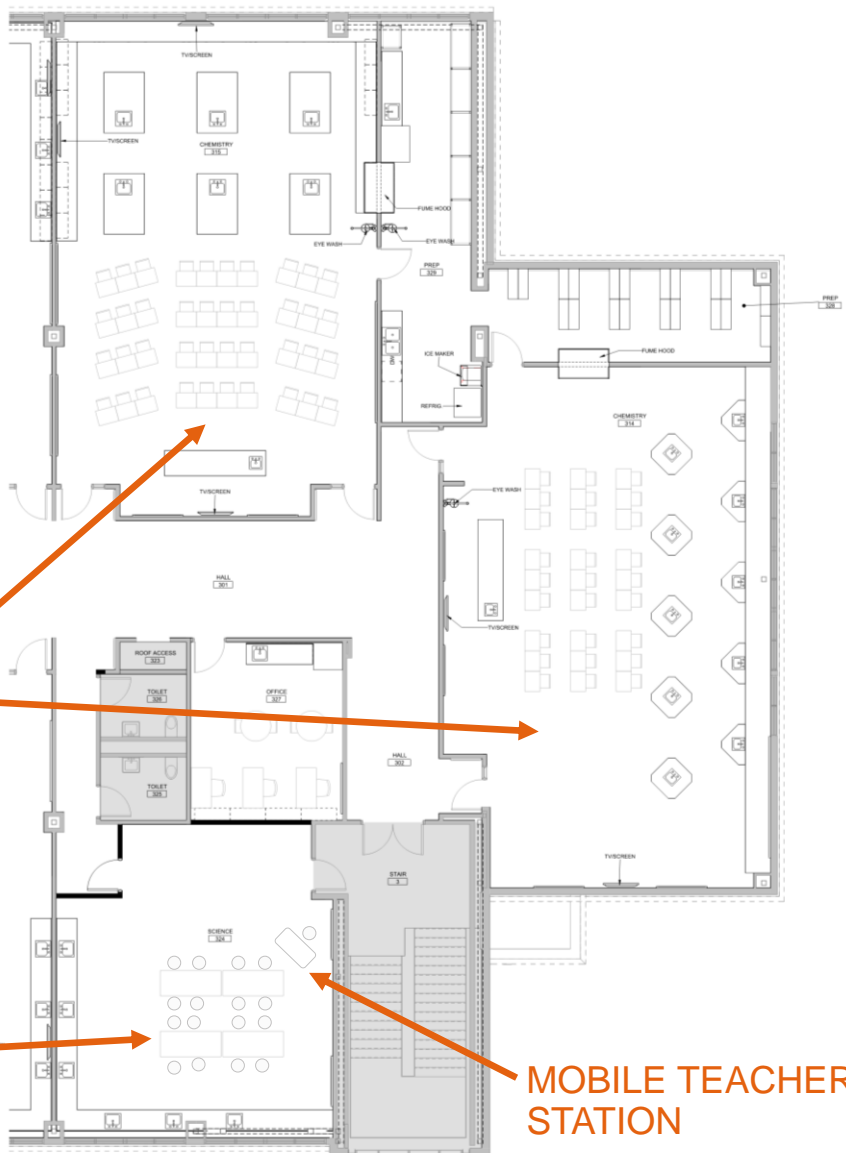
Design Development

Chemistry (side-by-side comparison from last meeting design), Teacher Office, & Classroom of the Future

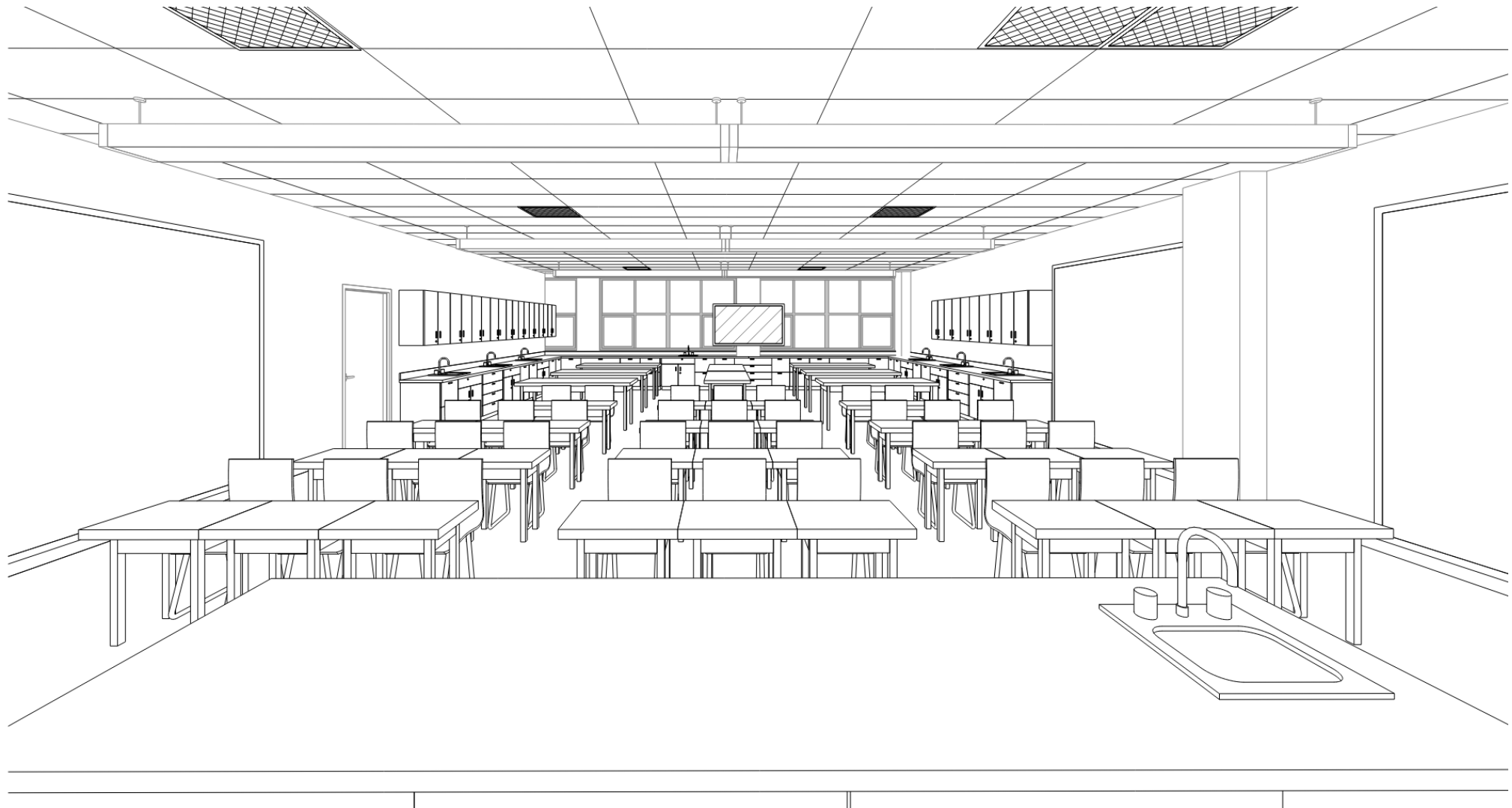
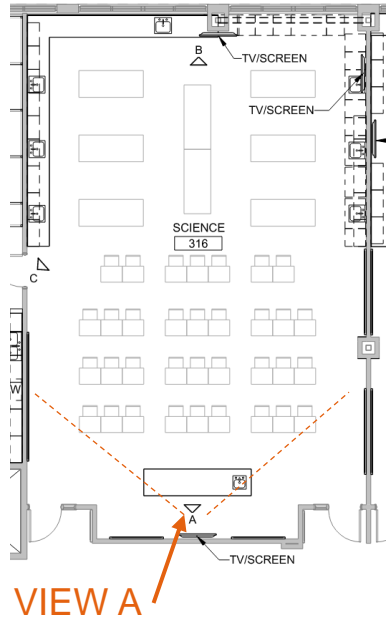
ALT LAB LAYOUTS

TALL TABLES AND STOOLS

MOBILE TEACHER STATION

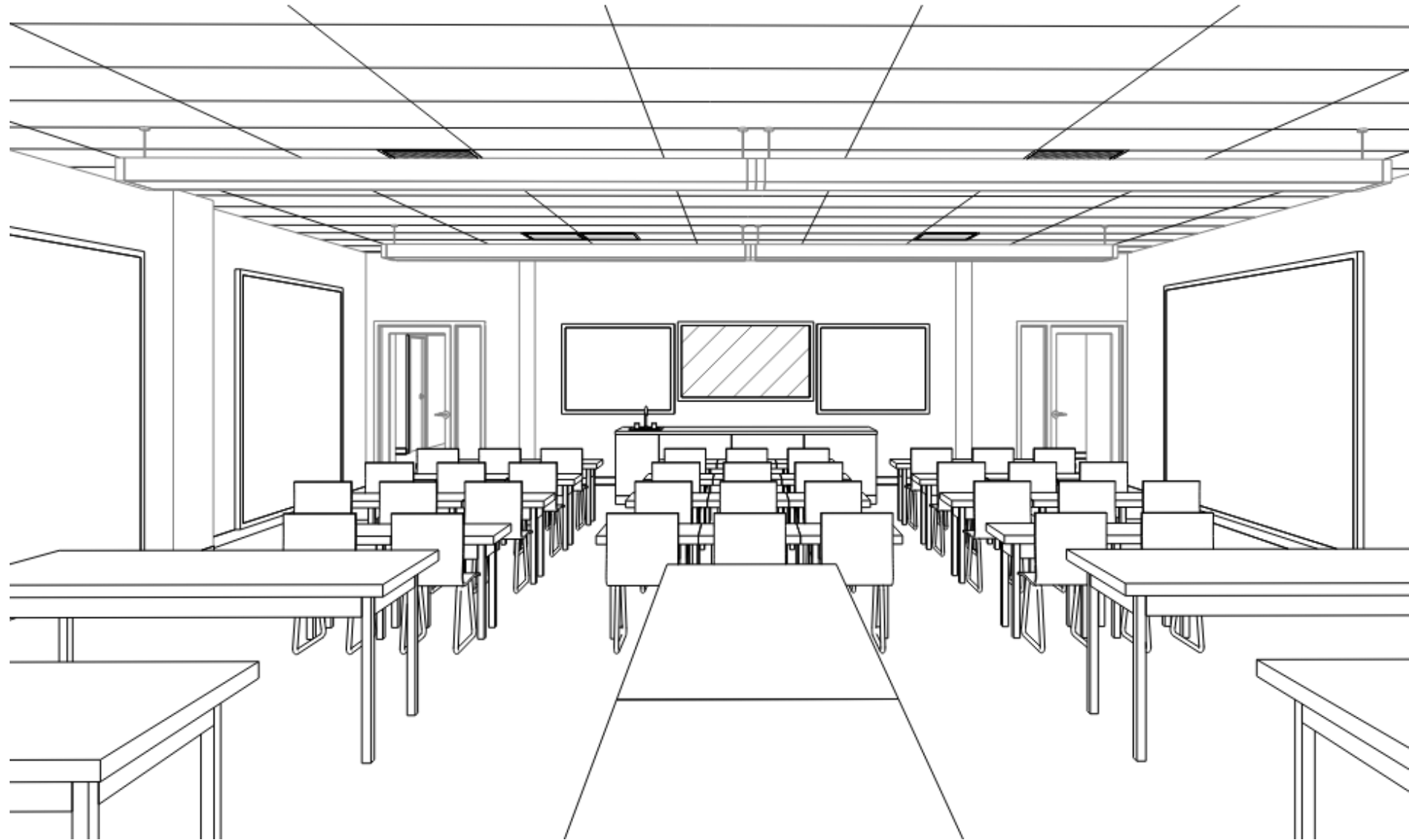
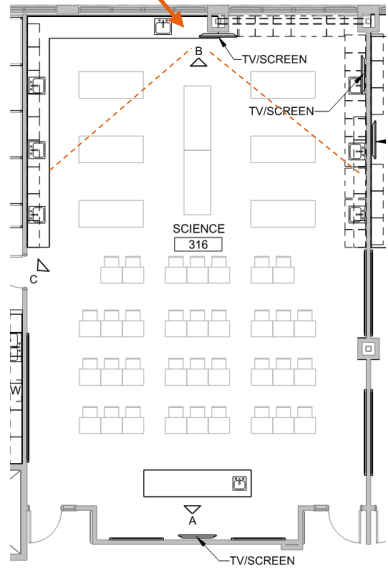


Design Development 3D Views

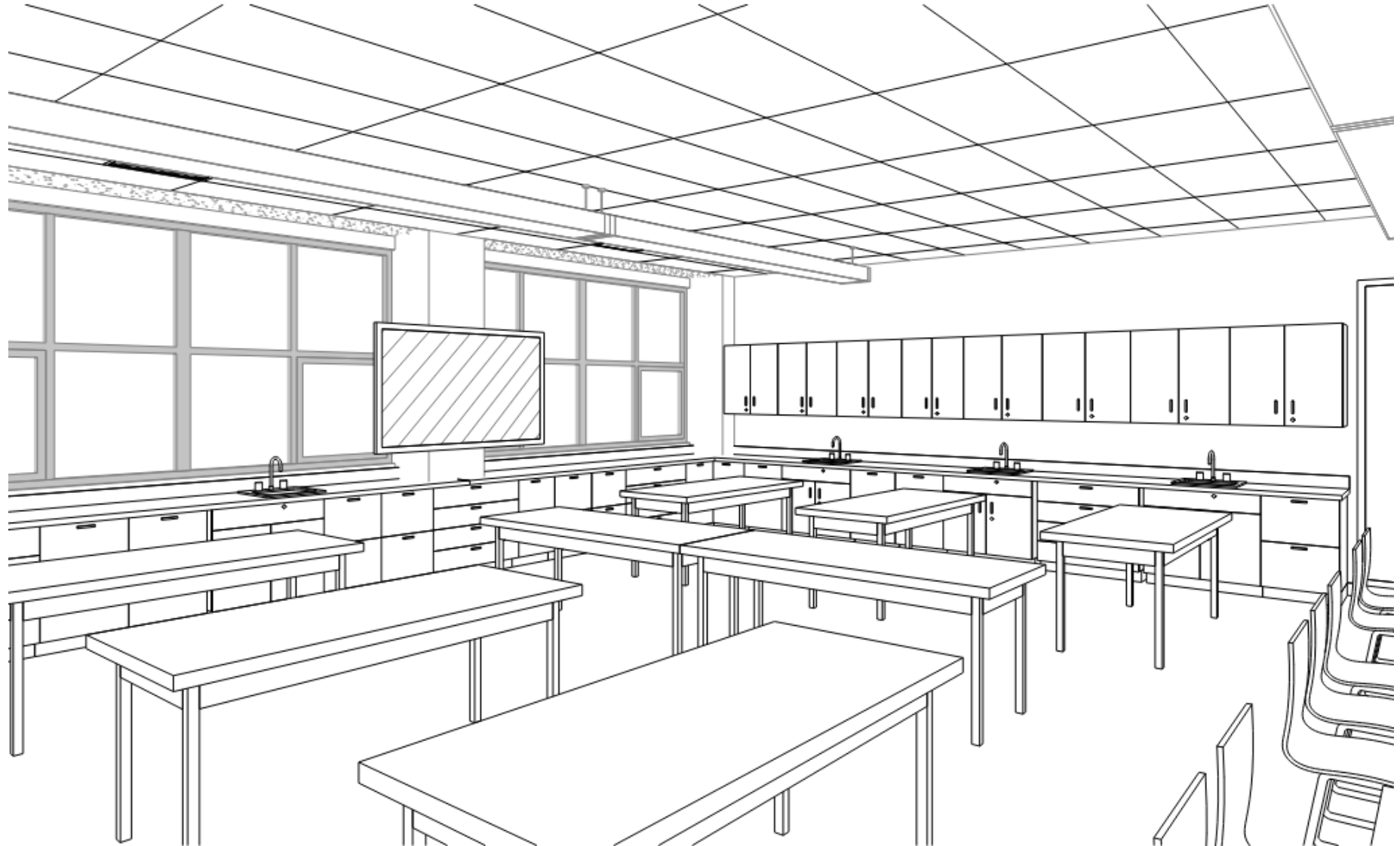
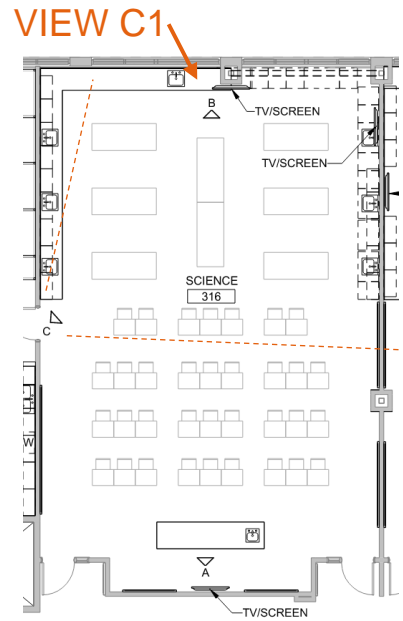


Design Development 3D Views

VIEW B

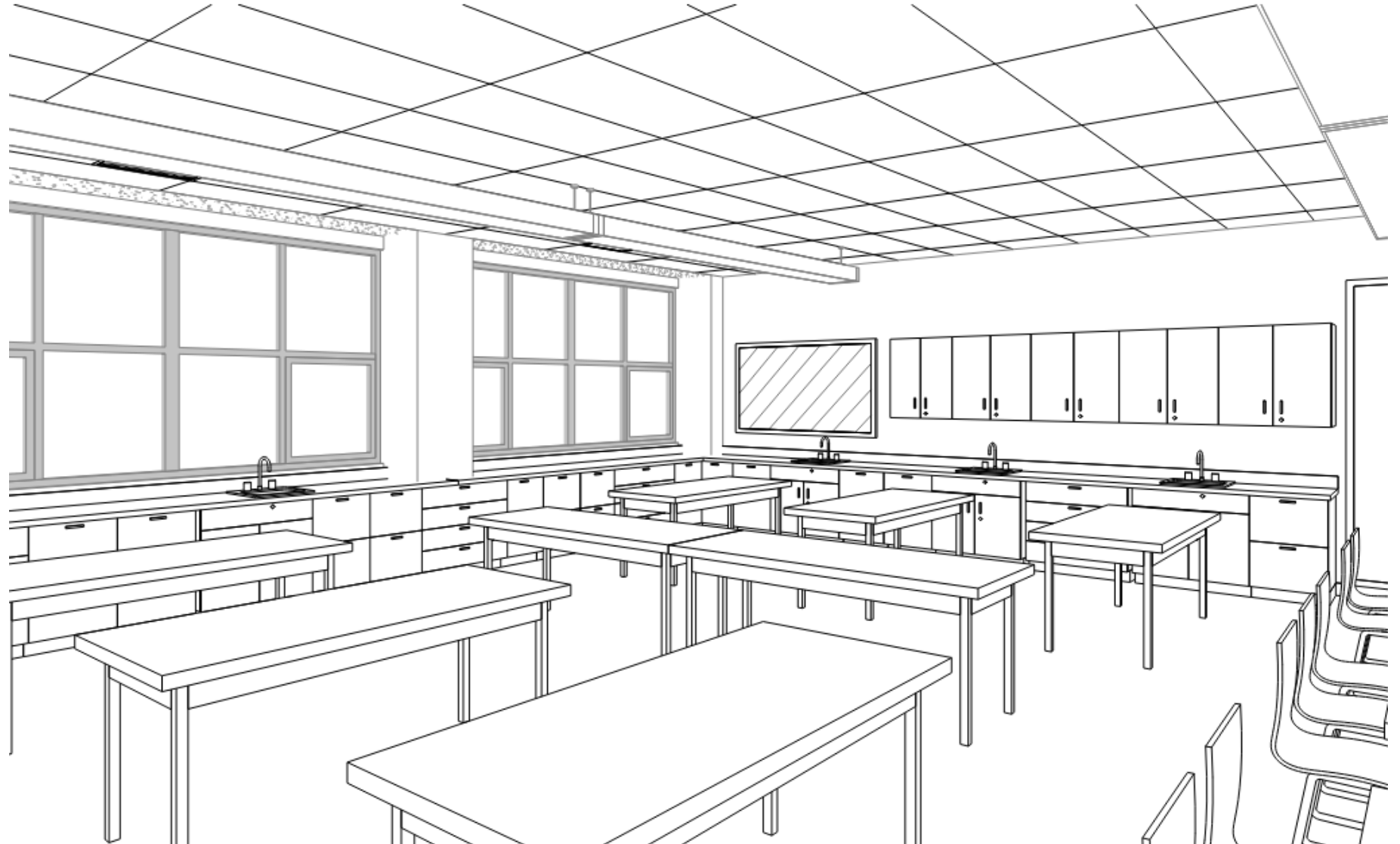
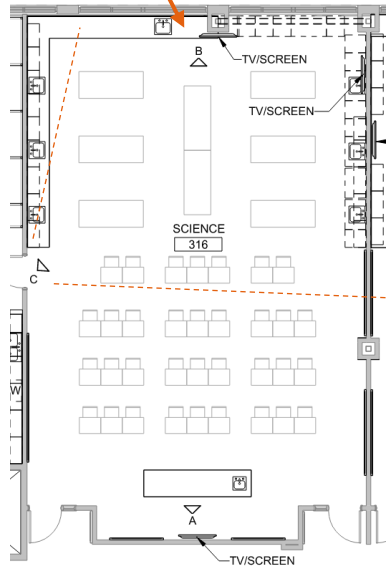


Design Development 3D Views



Design Development 3D Views

VIEW C2



Next Steps

Design Development 3D Views

EQUIPMENT LIST Section 1

Lake Oswego High School - Science Classroom and Prep Room Equipment								
Equipment	Quantity	Utility connections	Room(s)	New or existing	In contract/OFCI/OFOI	sole sourced/ BOD /	Displine	Notes:
Fume Hood - Single Side	1 per room	Electrical, Mech, Gas, Water	314, 315	New	In Contract		M,E,P	Emergency Shut Off Switch
Fume Hood - Double	1 per room	Electrical, Mech, Gas, Water	314 & 328, 315 & 329, 313 & 322	New	In Contract		M,E,P	Emergency Shut Off Switch
Fire blank and extinguisher	1 per room	N/A	311, 312, 313, 316, 317, 318, 314, 315	New	In Contract		N/A	Let us know if LOSD will be reusing the blanket or extinguisher
Emergency Shower / Eyewash	1 per room	Plumbing	311, 312, 313, 316, 317, 318, 314, 315	New	In Contract	Basis of Design	P	Note this is a comb shower and eyewash, if we switch to just eyewash in certain rooms add to the row below.
See notes above Eyewash								
Dishwasher	1 per room	Electrical and Plumbing	Prep 320, Prep 322, Prep 329, Prep 330, Prep 331	New	OFCI	N/A	A,E,P	Commercial-grade dishwasher
Indoor Plant Growing Station	1	Electrical	Room 313	New	In Contract	Basis of Design	A,E	Tower Garden, Green Bronx Machine, verify connection/power with electrical
Retractable Drop Down P&D	?	Electrical and Tech	311, 312, 313, 316, 317, 318, 314, 315	New	In Contract	?	E,T	Retractable Drop-Down Power And Data, See Electrical & Technology.J15
Refrigerator / Freezer	1 per room	Electrical	Prep 320, Prep 322, Prep 329, Prep 330, Prep 331	New	OFCI	N/A	E	
Heavy Duty Freezer	1 per room	Electrical	Prep 330, Prep 331	New	OFCI	N/A	E	

NOTES/Info Needed from LOSD
Only doubled sided now at LOHS, see Revit model
Only doubled sided now at LOHS, see Revit model. (3) units?
Need to confirm approach with LOSD
Emergency Showers at (3) Chemistry classes + (2) assoc. Prep rooms 322 + 329 only = (5) total. Single eyewash, sink integrated at each classroom and Prep (without a shower).
Confirm OFCI. Confirm size + number. Teachers requested Science-grade dishwasher.
Verify type with Teachers/LOSD Currently showing locations per student lab tables and in approx locations. Confirm number/type with District. Confirm they like drops used at 2nd Floor Maker Space.
Confirm this is a residential refrigerator and if OFCI.
Confirm OFCI. Confirm size + type.

Design Development 3D Views

EQUIPMENT LIST Section 2

Ice Machine	1 per room	Electrical, Plumbing	Prep 320, Prep 322, Prep 329, Prep 330, Prep 331	New	OFCI	N/A	E, P	Ice Machine with floor sink
Chemical Storage Cabinets / Flammable Storage Cabinet	1 per room	Mech?	Prep 320, Prep 322, Prep 329, Prep 330, Prep 331	New	In Contract	?	M	In the drawings they are not listed as the items: are they separate or the same item: Chemical Storage Cabinets / Flammable Storage Cabinet
Duplicated from above see notes Flammable Storage Cabinet	1 per room							See this same as a chemical storage I believe flammable needs venting
Sink with Sand Traps	Ref to Drawings	Plumbing	Prep, Science, and Chemistry	New	In Contract	?	P	Sink and all components related to it
Incubator Unit	1	Electrical	Prep, Science, and Chemistry	New	OFCI	?	E	ThermoFisher SHKE6000 (120 V, shaker, no refrigeration)* Thermo Scientific™ Heratherm™ General Protocol Microbiological Incubator, 194 L, Stainless Steel, EMD
Goggle Sanitizer	NEED INFO							
Lab Coat Rack	NEED INFO							
Peg Board	NEED INFO							
Gas Piping Gas Fitting Nozzles	NEED INFO							
TV / Monitor					OFCI			
4'x4' MB								
4'x8' MB								
4'x4' TB								

Would (1) ice maker work for the Department? Confirm OFCI. Confirm size, number, + type.
Confirm size, number, location + type.
Confirm size, number, location + type.
Located at every sink.
*From 11/02 Design Meeting request for this unit. Confirm locations and if OFCI.
Confirm need with LOSD/teachers. If needed, confirm size, locations, OFCI, etc.
Confirm need with LOSD/teachers. If needed, confirm size, locations, OFCI, etc.
Confirm need with LOSD/teachers. If needed, confirm size, locations, OFCI, etc.
Confirm number and location. Confirm function with other existing monitor. Match existing monitor?
Review with teachers.
Review with teachers.
Review with teachers.

Design Development 3D Views

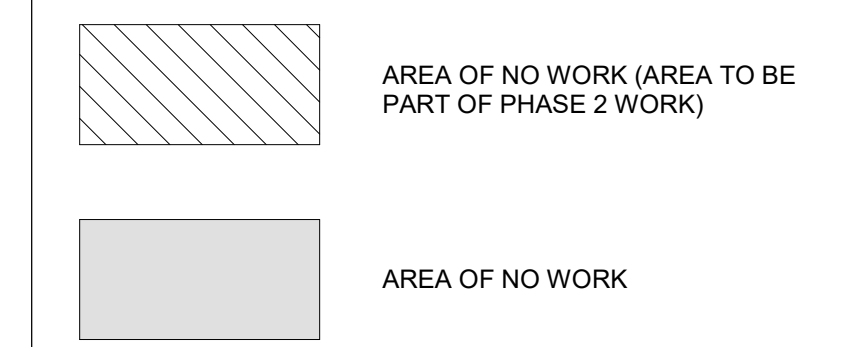
EQUIPMENT LIST

Section 3

Ceiling Mounted Camera		Electrical and Tech	311, 312, 313, 316, 317, 318, 314, 315		In Contract	Basis of Design	T	Basis of design is Vaddio DocCAM 20 HDBT OneLink
Card Reader								
Utility Sink								
Clock								
Autoclave								
Abbreviations					OFCI = Owner Furnished/Contractor Installed OFOI = Owner Furnished/Owner Installed	BOD = Basis of Design	M = Mechanical P = Plumbing E = Electrical T = Technology	

Confirm need with LOSD/teachers. If needed, confirm size, locations, in contract, etc.
For Prep room doors only. Confirm function with LOSD/teachers.
Confirm this is needed at any classroom or prep rooms? Deeper/utility sink
Confirm existing to remain
Confirm if needed, function, type, and exhaust.

FLOOR PLAN LEGEND:



CLIENT
Lake Oswego School District

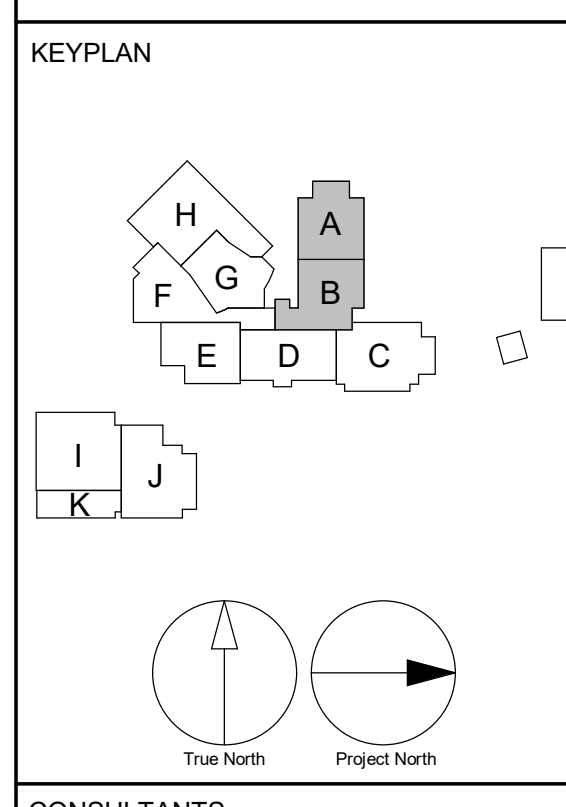
 2501 Country Club Rd. Lake Oswego, OR 97034

COPYRIGHT
 This drawing has been prepared solely for the intended use. Any reproduction or distribution for any purpose other than authorized by Arcadis is prohibited. Further distribution shall remain the responsibility of the user. Contractors shall verify and be responsible for all dimensions and conditions on the job, and Arcadis shall be informed of any variations from the dimensions and conditions shown on the drawing. Shop drawings shall be submitted to Arcadis for general confirmation before proceeding with fabrication.
 Arcadis Architects (USA) Inc.
 Arcadis is formerly BE Group Architects (USA) Inc.

ISSUES

No.	DESCRIPTION	DATE
1	50% DESIGN DEVELOPMENT	2023-11-15

NOT FOR CONSTRUCTION



SEAL

PRIME CONSULTANT

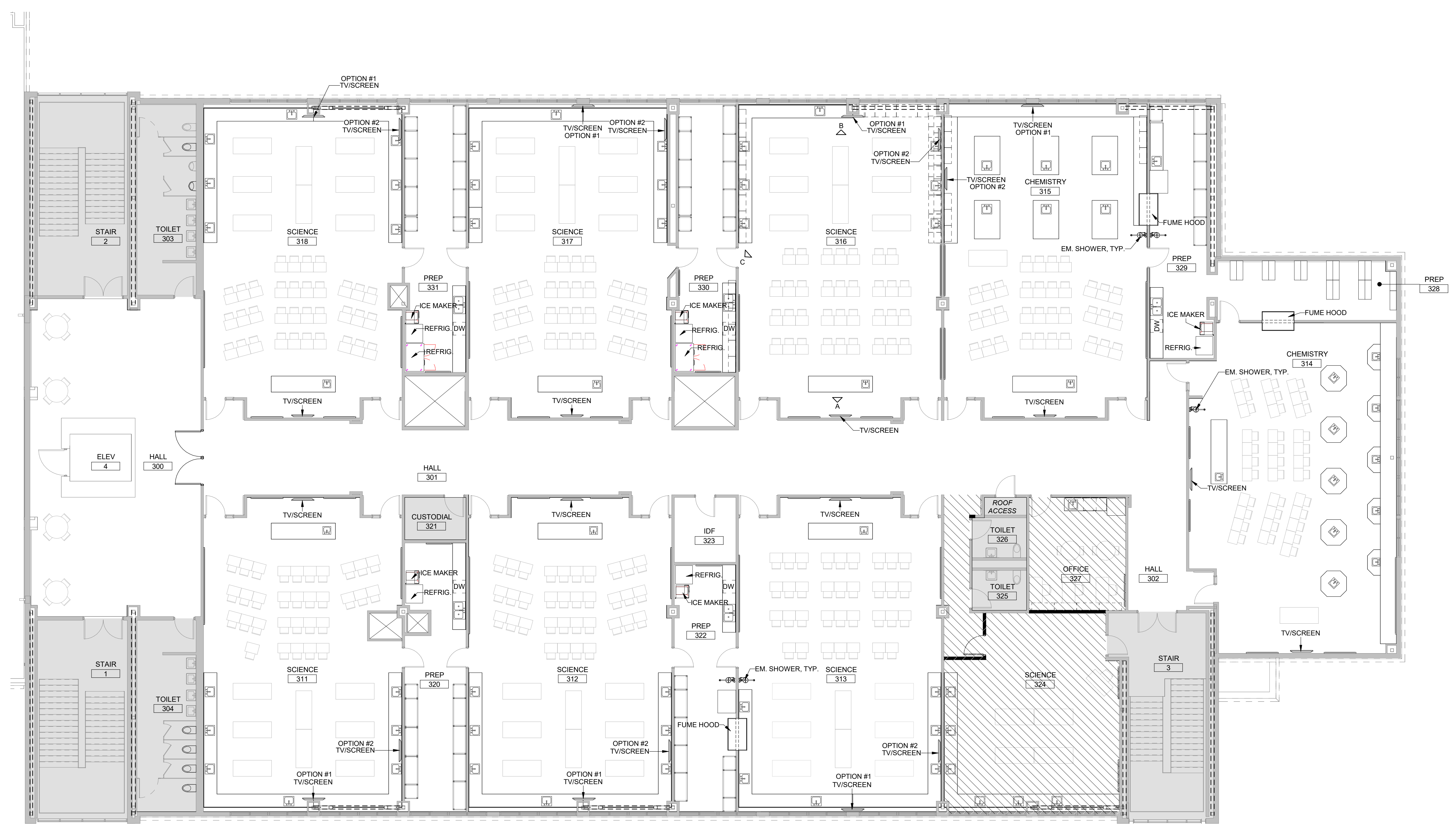
 830 NE Holladay Street
 Portland, OR 97232, USA
 tel 503 226 6950 fax 503 273 9192

PROJECT
Lake Oswego HS Science Lab Remodel
 2501 Country Club Rd
 Lake Oswego, OR 97034

PROJECT NO:
 143246

SHEET TITLE
FLOOR PLAN - LEVEL 03

SHEET NUMBER
A1404



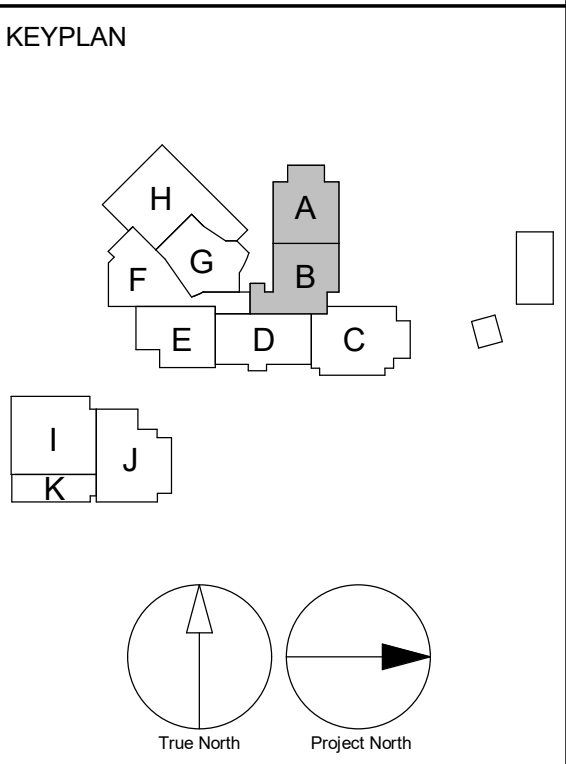
1 ENLARGED FLOOR PLAN - LEVEL 03
 SCALE: 1/8" = 1'-0"

2023-12-01 10:57:35 AM

AluBark Docu\F143246-LOHS-US_HS_ScienLab_R02023143246_LakeOswego\Level_03_R022.rvt
 11/15/23 10:57:35 AM
 User: j...

No.	DESCRIPTION	DATE
1	50% DESIGN DEVELOPMENT	2023-11-15

NOT FOR CONSTRUCTION



CONSULTANTS

SEAL

PRIME CONSULTANT

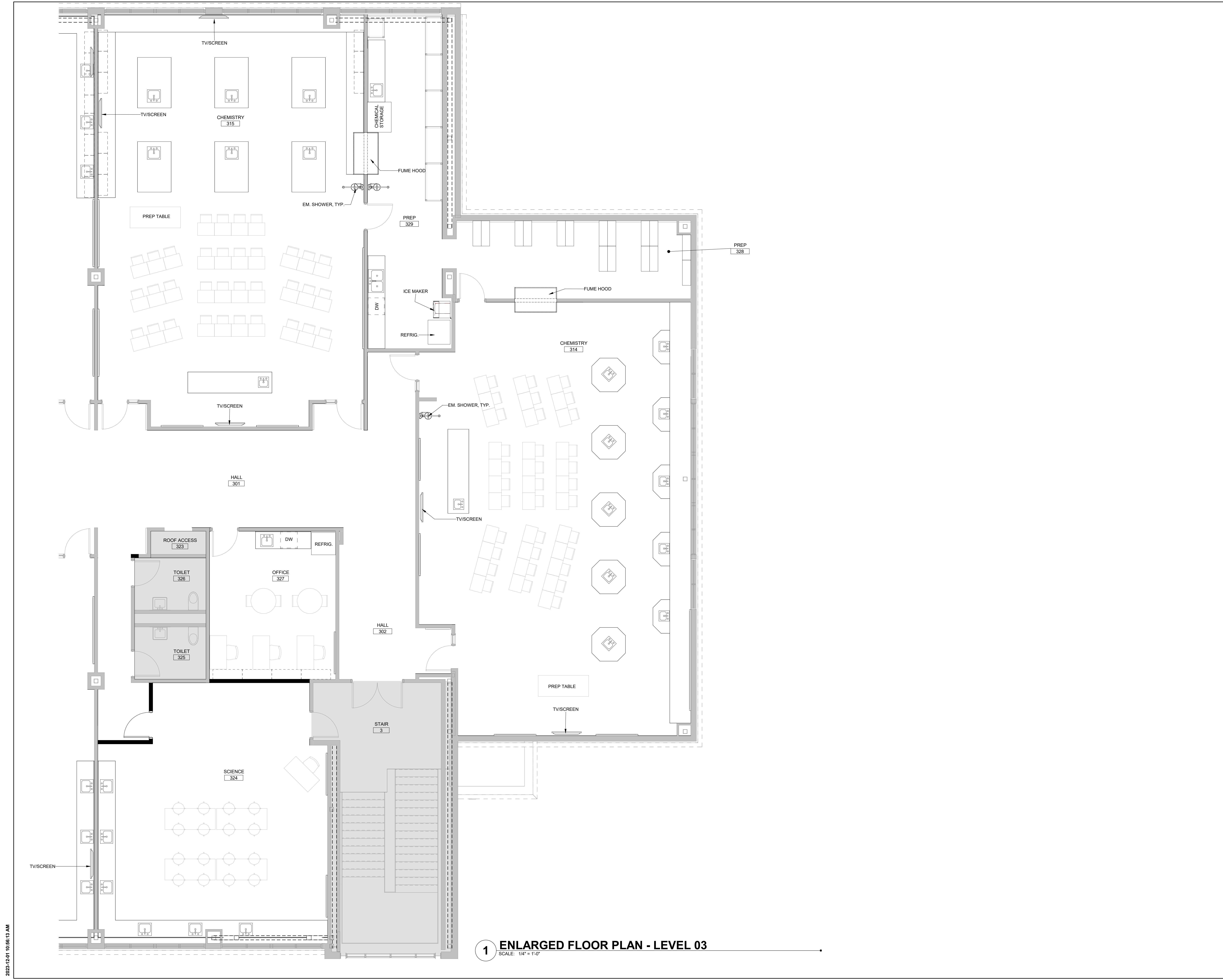
 830 NE Holladay Street
 Portland, OR 97232, USA
 tel 503 226 6950 fax 503 273 9192

PROJECT
 Lake Oswego HS Science Lab Remodel
 2501 Country Club Rd
 Lake Oswego, OR 97034

PROJECT NO:
 143246

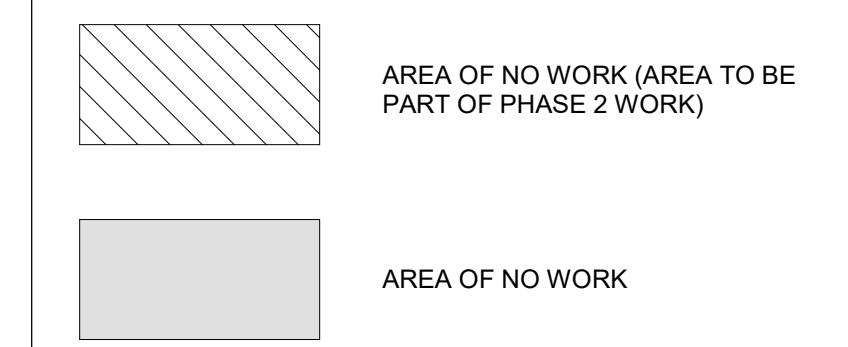
SHEET TITLE
 ENLARGED FLOOR PLAN - LEVEL 03

SHEET NUMBER
 A1406



1 ENLARGED FLOOR PLAN - LEVEL 03
 SCALE: 1/4" = 1'-0"

FLOOR PLAN LEGEND:



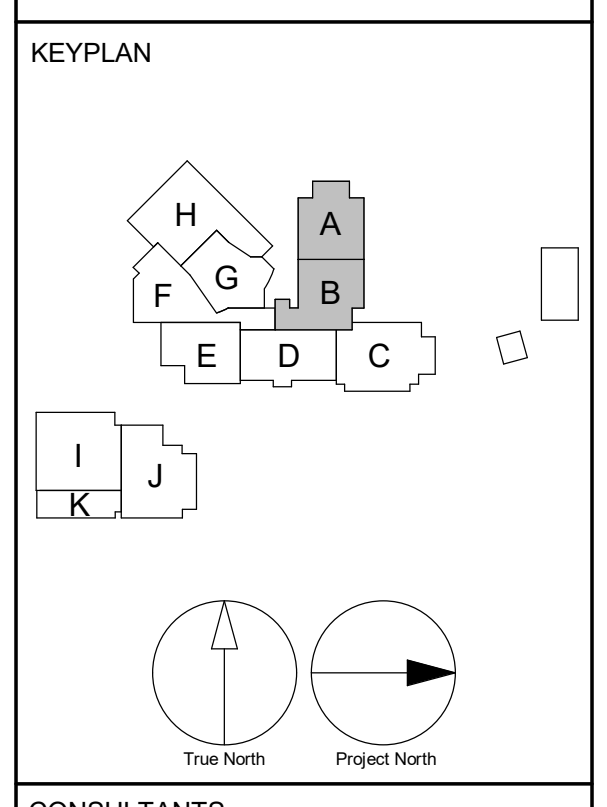
CLIENT
Lake Oswego School District

 2501 Country Club Rd. Lake Oswego, OR 97034

COPYRIGHT
 This drawing has been prepared solely for the intended use. Any reproduction or distribution for any purpose other than authorized by Arcadis is prohibited. Arcadis Architects (USA) Inc. shall be responsible for all dimensions and conditions on the job, and Arcadis shall be informed of any variations from the dimensions and conditions shown on the drawing. Shop drawings shall be submitted to Arcadis for general confirmation before proceeding with fabrication.
 Arcadis Architects (USA) Inc.
 Arcadis is formerly BE Group Architects (USA) Inc.

No.	DESCRIPTION	DATE
1	50% DESIGN DEVELOPMENT	2023-11-15

NOT FOR CONSTRUCTION



SEAL

PRIME CONSULTANT

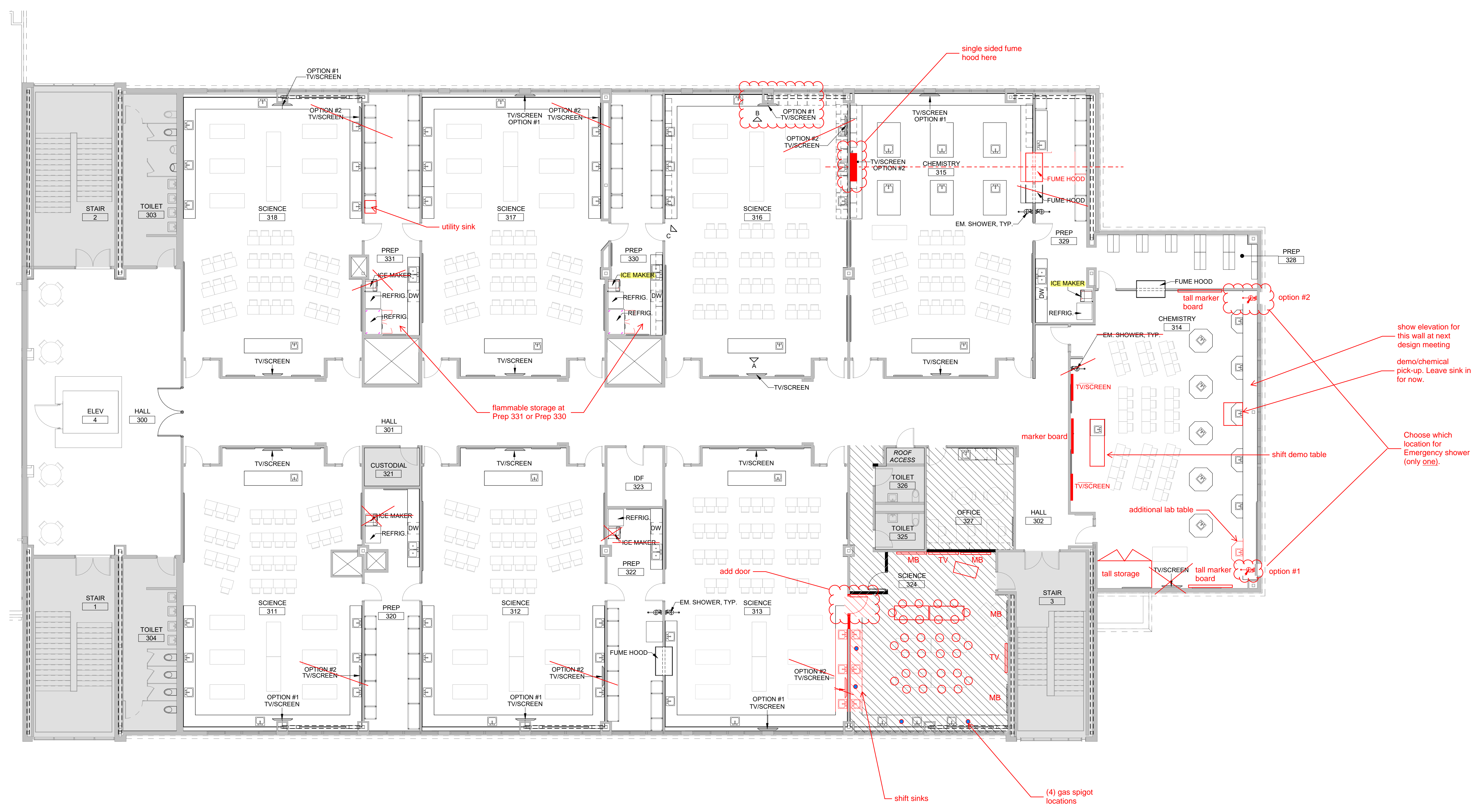
 830 NE Holladay Street
 Portland, OR 97232, USA
 tel 503 226 6950 fax 503 273 9192

PROJECT
Lake Oswego HS Science Lab Remodel
 2501 Country Club Rd
 Lake Oswego, OR 97034

PROJECT NO:
 143246

SHEET TITLE
FLOOR PLAN - LEVEL 03

SHEET NUMBER
A1404



1 ENLARGED FLOOR PLAN - LEVEL 03
 SCALE: 1/8" = 1'-0"

2023-12-01 10:57:35 AM

A:\work\Docu\143246\03HS-US_HS_Schematic\030221\A1404_LakeOswegoScienceLab_R0221.rvt
 11/15/23 10:57:35 AM
 User: j...