GENERAL NOTES

INTENT OF THE DRAWINGS

The intent of the drawings is to provide information for construction. It is important for the contractor to verify field dimensions and conditions before execution of the work. Contact the architect should discrepancies exist.

CONTRACTOR'S RESPONSIBILITY

Contractor and subcontractors shall provide all labor, materials, and equipment to complete all work shown on plans, called for in specifications, or reasonably implied for complete installation even though neither shown on plans or called out in specifications.

DIMENSIONS

Dimensions are from face of existing wall finish, or face of new stud unless otherwise indicated.

EXISTING WALLS

Existing walls to remain unless noted otherwise. Patch existing wall as required to match original finish following removal of existing wall or addition of new chase walls. See room finish schedule for new finish required.

DUST CONTROL

Dust control required during construction and demolition.

SYMBOLS LEGEND

ROOM NAME

- Indicates room name
- Indicates room number
- Indicates room area

EXISTING WALLS OR ELEMENTS TO BE DEMOLISHED

- Indicates similar
- Indicates detail number
- Indicates sheet number

EXISTING WALLS OR ELEMENTS TO REMAIN

- Indicates similar
- Indicates detail number
- Indicates sheet number

KEY NOTES

- Indicates detail number
- Indicates sheet number

DOOR TAG, SEE SHEET A? FOR DOOR SCHEDULE

- Indicates similar
- Indicates detail number
- Indicates sheet number

WINDOW TAG, SEE SHEET A? FOR WINDOW SCHEDULE

- Indicates similar
- Indicates detail number
- Indicates sheet number

WALL TYPE, SEE SHEET A?

- Indicates detail number
- Indicates sheet number

MATERIAL TYPE, SEE SHEET A?

- Indicates detail number
- Indicates sheet number

CALLOUT TAG

- Indicates similar
- Indicates detail number
- Indicates sheet number

SHEET INDEX

SHEET INDEX, GENERAL SHEETS

G101 GENERAL NOTES

SHEET INDEX, ARCHITECTURAL

A101 Science Demo Floor Plan
A201 Science Floor Plan
A301 Science Reflected Ceiling Plan
A401 Science Interior Elevations
A402 Science Interior Elevations

SHEET INDEX, MECHANICAL

P000 Plumbing Cover Sheet
P100 Plumbing Demolition Plan
P200 Plumbing Floor Plan
P300 Plumbing Specs

SHEET INDEX, ELECTRICAL

E000 Electrical Cover Sheet
E100 Electrical Demolition Plan
E200 Electrical Floor Plan
E300 Electrical Specs
E301 Electrical Specs

SYMBOLS LEGEND

1/4" = 1'-0"
**DEMOGRAPHY**

**DEMO NOTES**

D15 REMOVE EXISTING 12' MARKER BOARD AND SALVAGE TO OWNER FOR REUSE.

D16 REMOVE EXISTING COAT RACK AND SHELVING AND SALVAGE TO OWNER FOR REUSE.

D17 REMOVE AND RELOCATE EXISTING SCIENCE CABINETS.

D18 REMOVE EXISTING SCIENCE LAB CABINETS AND SALVAGE TO OWNER FOR REUSE. SAWCUT AND REMOVE EXISTING CONCRETE SLAB ON GRADE AS NECESSARY TO CAP PLUMBING, SEE MECHANICAL.

D19 REMOVE EXISTING VINYL WALL COVERING FROM SCIENCE CLASSROOM WALLS. REPAIR WALL SURFACE AND TEXTURE AS NECESSARY, PAINT.

D20 REMOVE EXISTING RUBBER BASE, ENTIRE WALL.

D21 DISCONNECT PLUMBING AND REMOVE EXISTING SCIENCE CABINETS AND COUNTER TOP. MAINTAIN PLUMBING FOR RECONNECTION OF NEW CASEWORK AND PLUMBING.

D22 REMOVE EXISTING COUNTER TOP.

D23 EXISTING CEILING AND LIGHT FIXTURES TO REMAIN. PROTECT FROM DAMAGE DURING REMODEL.

D24 EXISTING WALL HUNG MIRROR AND PAPER TOWEL DISPENSER TO REMAIN.

D27 EXISTING CASEWORK TO REMAIN.

D28 REMOVE EXISTING SUSPENDED ACOUSTICAL CEILING TILES AS NECESSARY FOR NEW DATA CABLING INSTALLATION ABOVE CEILING, SEE ELECTRICAL. REINSTALL REMOVED EXISTING CEILING TILE AFTER COMPLETION OF ELECTRICAL WORK. ANY TILES BROKEN BY CONTRACTOR ARE TO BE MATCHED AND REPLACED.

D29 EXISTING FUME HOODS TO REMAIN.

**GENERAL NOTES**

1. CONTRACTOR SHALL PROTECT ALL EXISTING CONSTRUCTION ITEMS TO REMAIN FROM DAMAGE DURING DEMOLITION AND RENOVATIONS. ANY DAMAGE THAT OCCURS SHALL BE REPAIRED TO THE FULL SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.

2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONSTRUCTION PRIOR TO THE START OF DEMOLITION. NOTIFY ARCHITECT OF ANY DISCREPANCY BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS IMMEDIATELY.
8. EXISTING CASEWORK AND STAINLESS STEEL LAB SINK/COUNTERTOP TO REMAIN.
9. EXISTING FUME HOODS TO REMAIN.
14. SCARIFY EXISTING URETHANE FLOORING AND RECOAT AT CONCRETE PATCHES AND RELOCATED CASEWORK TO MATCH EXISTING, TYPICAL (8) LOCATIONS. SEE ALTERNATE #1 FOR OVERLAY OF ALL THE EXISTING URETHANE FLOOR IN MICROBIOLOGY 158.
15. NEW RUBBER BASE.
16. NEW PLASTIC LAMINATE COUNTERTOP.
17. PATCH CONCRETE SLAB ON GRADE AT ABANDON PLUMBING CAPPED BELOW SLAB ON GRADE.
18. REPAIR DRYWALL FINISH AT REMOVED WALL COVERING AS NECESSARY.
19. 6'-0" X 4'-0" MARKER BOARD PROVIDED BY OWNER, CONTRACTOR TO INSTALL.
20. EXISTING FIRST AID CABINET TO REMAIN. REMOVE AND REINSTALL AS NECESSARY FOR WALL COVERING REMOVAL.
21. INTERACTIVE TOUCH SCREEN MONITOR PROVIDED BY OWNER, CONTRACTOR TO INSTALL.
22. EXISTING CASEWORK RELOCATED TO NEW LOCATION.
23. TABLES AND CHAIRS NOT IN CONTRACT, OWNER FURNISHED.
24. NEW DATA CONNECTION TO SMART BOARD, ABOVE COUNTER HEIGHT.
25. PATCH CONCRETE SLAB ON GRADE AT ABANDON PLUMBING CAPPED BELOW SLAB ON GRADE.
26. REPAIR DRYWALL FINISH AT REMOVED WALL COVERING AS NECESSARY.
27. EXISTING WALL HUNG MIRROR TO REMAIN.
28. EXISTING PAPER TOWEL DISPENSER TO REMAIN.
30. NEW 1'-0" X 2'-6" X 1" CLOSURE PANELS AT INTERSECTION OF OPEN WALL CASEWORK.
35. PATCH AND REPAIR GYPSUM BOARD WALL AT EXISTING ELECTRICAL SWITCH COVER PLATE.

GENERAL NOTES
1. DO NOT SCALE DRAWINGS. FIELD VERIFY ALL DIMENSIONS ON DRAWINGS. NOTIFY ARCHITECT IMMEDIATELY WHEN DISCREPANCIES ARE DISCOVERED.
2. CONTRACTOR SHALL SEAL ALL NEW THROUGH WALL PENETRATIONS AS NECESSARY TO MAINTAIN EXISTING WALL CONSTRUCTION RATING.
3. CONTRACTOR SHALL COORDINATE LOCATIONS AND ELEVATIONS OF ELECTRICAL OUTLETS, SWITCHES AND ANY OTHER WALL MOUNTED EQUIPMENT WITH CASEWORK, FURNISHINGS AND OTHER EQUIPMENT SHOWN ON DRAWINGS.
4. CONTRACTOR SHALL COORDINATE AND PROVIDE BLOCKING AT LOCATIONS WHERE WALL MOUNTED EQUIPMENT IS TO BE INSTALLED.
5. PROTECT EXISTING CONSTRUCTION DURING DEMOLITION AND RENOVATION ACTIVITIES. CONTRACTOR SHALL REPAIR OR REPLACE ANY PORTION OF EXISTING BUILDING DAMAGED DURING THESE ACTIVITIES AT NO ADDITIONAL COST TO OWNER.
6. AREAS OUTSIDE THE RENOVATION AREA WILL BE OCCUPIED DURING RENOVATIONS. CONTRACTOR SHALL PROTECT AREAS OUTSIDE OF RENOVATION FROM DEBRIS AND DUST DURING DEMOLITION AND CONSTRUCTION.
7. ALL NEW INTERIOR WALLS SHALL BE 3 5/8" 20 GA. METAL STUD FRAMING AT 16" OC. WITH ONE LAYER OF 5/8" TYPE X GYPSUM BOARD EACH FACE. UNLESS NOTED OTHERWISE, STUD FRAMING SHALL EXTEND 6" ABOVE CEILING. TAPE, FINISH AND PAINT TO MATCH EXISTING.
GENERAL NOTES

1. Do not scale drawings; field verify all dimensions on drawings. Notify architect immediately when discrepancies are discovered.

2. Contractor shall seal all new through wall penetrations, as necessary, to maintain existing wall construction rating.

3. Coordinate all mechanical, electrical, and fire protection systems that are supported by or interface with ceiling and softfit systems. See electrical, drawings for light fixtures, alarms, smoke detection, speakers, and other miscellaneous ceiling mounted equipment. See mechanical drawings for HVAC grilles and diffusers.

4. Protect existing construction during demolition and renovation activities. Contractor shall repair or replace any portion of existing building damaged during these activities at no additional cost to owner.

DEMOLITION NOTES & KEYNOTES

33. New 3 5/8" stud framed column/wall, covered with 5/8" moisture resistant gypsum board for new plumbing chase, see mechanical. Top of wall to extend 6" above ceiling height. Support top of column/wall to structure above as necessary.

D28. Remove existing suspended acoustical ceiling tiles as necessary for new data cabling installation above ceiling, see electrical. Reinstall removed existing ceiling tiles after completion of electrical work. Any tiles broken by contractor are to be matched and replaced.
8 EXISTING CASEWORK AND STAINLESS STEEL LAB SINK/COUNTERTOP, SCIENCE CASEWORK AND PLASTIC LAMINATE COUNTERTOP TO REMAIN.

15 NEW RUBBER BASE.

16 NEW PLASTIC LAMINATE COUNTER TOP.

19 6'−0" X 4"−0" MARKER BOARD PROVIDED BY OWNER, CONTRACTOR TO INSTALL.

21 INTERACTIVE TOUCH SCREEN MONITOR PROVIDED BY OWNER, CONTRACTOR TO INSTALL.

22 EXISTING CASEWORK RELOCATED TO NEW LOCATION.

25 NEW FILLER PANEL TO MATCH CASEWORK FINISH, TYPICAL.

26 NEW PLASTIC LAMINATE BACK SPLASH AND END CAP, TYPICAL.

27 EXISTING CEILING TO REMAIN, PROTECT FROM DAMAGE DURING REMODEL. REPLACE ANY TILES DAMAGED DURING RENOVATIONS.

28 EXISTING LIGHT FIXTURES TO REMAIN, PROTECT FROM DAMAGE DURING REMODEL.

29 EXISTING WALL HUNG MIRROR TO REMAIN.

30 EXISTING PAPER TOWEL DISPENSER TO REMAIN.

32 1/4" GAP BETWEEN EXISTING STAINLESS STEEL COUNTER TOP AND NEW PLASTIC LAMINATE COUNTER TOP. FILL GAP WITH BACKER ROD AND SEALANT.

36 PROVIDE FINISHED END PANEL TO MATCH EXISTING CASEWORK FINISH AS NECESSARY FOR NEWLY EXPOSED END PANEL.

GENERAL NOTES

1. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR RELATED WORK. COORDINATE AS REQUIRED. NOTIFY ARCHITECT OF CONFLICTS BETWEEN MECHANICAL AND ELECTRICAL ITEMS AND ARCHITECTURAL ITEMS.

2. CONTRACTOR SHALL COORDINATE LOCATIONS THAT REQUIRE BLOCKING IN NEW WALLS, FOR ALL CASEWORK AND WALL HUNG ITEMS AND PROVIDE BLOCKING. LOCATE AND ATTACH CASEWORK TO STUDS IN EXISTING WALLS.
GENERAL NOTES

1. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR RELATED WORK. COORDINATE AS REQUIRED. NOTIFY ARCHITECT OF CONFLICTS BETWEEN MECHANICAL AND ELECTRICAL ITEMS AND ARCHITECTURAL ITEMS.

2. CONTRACTOR SHALL COORDINATE LOCATIONS THAT REQUIRE BLOCKING IN NEW WALLS, FOR ALL CASEWORK AND WALL HUNG ITEMS AND PROVIDE BLOCKING. LOCATE AND ATTACH CASEWORK TO STUDS IN EXISTING WALLS.

KEYNOTES

9 EXISTING FUME HOODS TO REMAIN.
15 NEW RUBBER BASE.
16 NEW PLASTIC LAMINATE COUNTER TOP.
22 EXISTING CASEWORK RELOCATED TO NEW LOCATION.
24 NEW DATA CONNECTION TO SMART BOARD, ABOVE COUNTER HEIGHT. SEE ELECTRICAL.
25 NEW FILLER PANEL TO MATCH CASEWORK FINISH, TYPICAL.
26 NEW PLASTIC LAMINATE BACK SPLASH AND END CAP, TYPICAL.
27 EXISTING CEILING TO REMAIN. PROTECT FROM DAMAGE DURING REMODEL. REPLACE ANY TILES DAMAGED DURING RENOVATIONS.
28 EXISTING LIGHT FIXTURES TO REMAIN. PROTECT FROM DAMAGE DURING REMODEL.
33 NEW 3 5/8" STUD FRAMED COLUMN/WALL COVERED WITH 5/8" MOISTURE RESISTANT GYPSUM BOARD FOR NEW PLUMBING CHASE. SEE MECHANICAL. TOP OF WALL TO EXTEND 6" ABOVE CEILING HEIGHT. SUPPORT TOP OF COLUMN/WALL TO STRUCTURE ABOVE AS NECESSARY.
34 NEW 1'−0" X 2'−6" X 1" CLOSURE PANELS AT INTERSECTION OF OPEN WALL CASEWORK.
37 NEW PLASTIC LAMINATE FACED ARCHITECTURAL WOOD CASEWORK. SEE SPECIFICATIONS. SEE ALTERNATE #2 AND SPECIFICATION SECTION 12−3653.19 FOR WOOD LABORATORY CASEWORK, TO MATCH EXISTING.
### VALVES AND SPECIALTIES

- Shut-off Valve
- Check Valve
- Ball Valve
- Pipe Union
- Pipe Cap

### PLUMBING SYMBOLS

- **DOMESTIC COLD WATER**
- **DOMESTIC HOT WATER**
- **NG** NATURAL GAS
- **V** PLUMBING VENT PIPE
- **W/V** COMBINATION WASTE AND VENT PIPE
- **SAN** SANITARY SEWER
- **ST** STORM DRAIN/ BUILDING STORM SEWER PIPE
- **H** HORIZONTAL CLEANOUT
- **V** VERTICAL CLEANOUT

### INDEX OF DRAWINGS

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### GENERAL NOTES

1. **GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO DRAWINGS MARKED M AND P.**

2. **INFORMATION ON THE DRAWINGS HAS BEEN ASCERTAINED FROM EXISTING DRAWINGS AND FIELD OBSERVATIONS. THIS INFORMATION IS AS ACCURATE AS CONDITIONS WOULD ALLOW. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE PRIOR TO BID, AND BECOME FAMILIAR WITH THE EXTENT OF THE REMODEL WORK REQUIRED. NO EXTRAS WILL BE ALLOWED FOR ALTERATIONS OF A FORESEEABLE NATURE REQUIRED TO ACHIEVE THE END RESULT AS INDICATED BY CONTRACT DOCUMENTS.**

3. **ALL PIPING INDICATED TO BE REMOVED UNDER THIS CONTRACT SHALL BE REMOVED COMPLETELY TO POINTS OF CONNECTION AT THE MAINS OR BRANCHES AND CAPPED. DO NOT LEAVE ANY DEAD LEGS UNLESS NOTE OTHERWISE.**

4. **THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE EXISTING EQUIPMENT LOCATIONS, EXISTING PIPING ROUTING AND EXISTING DUCT ROUTING. CONTRACTOR IS TO INSTALL NEW EQUIPMENT, DUCTS, AND PIPING IN LOCATIONS REQUIRED TO AVOID INTERFERENCE WITH EXISTING FACILITIES, EQUIPMENT, DUCTS AND PIPING. CONTRACTOR IS RESPONSIBLE FOR RAISING AND LOWERING EXISTING EQUIPMENT AND MAKING PROPER OFFSETS IN DUCTS AND PIPING TO AVOID CONFLICTS.**

5. **CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING BID, AND VERIFY DIMENSIONS AND EXISTING CONDITIONS RELATED TO THE WORK.**

6. **ALL EXISTING EQUIPMENT AND MATERIALS CALLED TO BE REMOVED UNDER THIS CONTRACT SHALL BE REMOVED FROM OCCUPIED SPACES DAILY.**

7. **GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO DRAWINGS MARKED M AND P.**

8. **DRAWINGS ARE DIAGRAMMATIC. DETERMINE LOCATIONS OF SYSTEMS AND COMPONENTS IN FIELD.**

9. **WORK SHALL BE CoORDINATED WITH TRADES INVOLVED. OFFSETS IN PIPING AND DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.**

10. **INSULATE PIPING AS SPECIFIED, PERFORM TESTS SPECIFIED BEFORE INSULATING.**

11. **PROVIDE CLAMPS, OFFSETS, EXPANSION JOINTS, ANCHORS AND GUIDES AS NECESSARY TO PREVENT STRESS ON PIPING.**

12. **RUN PIPING LEVEL AND PARALLEL TO WALLS OR AS INDICATED IN SPECIFICATIONS.**
1. Existing sink to be removed. Remove associated vent, and water piping and permanently cap and seal below finished floor level to allow for floor to be repaired. Waste piping for this sink to be reused and reconnected in new construction. Temporarily cover until completed connection.

2. Existing sink to be removed. Remove associated vent, waste, and water piping and permanently cap and seal below finished finished floor level to allow for floor to be repaired. See architectural floor plans for notes on floor.

3. Cap domestic cold water line in ceiling prior to dropping in wall.
1. Route piping through sink chase. See architectural.

2. Relocate existing diffuser 24" in any direction as needed for installation of new cabinets. Install additional flexible duct as needed.

3. Connect new vent into existing vent riser in wall. Vent riser is located behind gypsum board. Verify in field location of existing riser above ceiling, make connection, then patch and repair wall to maintain existing fire rating.

4. S-1 single bowl counter mounted stainless steel sink. Sink to be Elkay Lustertone LR2522 with 8" depth and LK35 drain or approved equal. Faucet shall be Chicago 786-GNBVB with stops or approved equivalent. See isometric on this sheet for connections.

KEYED NOTES:

GENERAL NOTE:

1. Abandoned underground piping not shown for clarity.
SECTION 1080 - GENERAL MECHANICAL REQUIREMENTS

1.1 SCOPE OF WORK
A. WORK SHALL CONSIST OF FURNISHING ALL LABOR AND MATERIALS NECESSARY FOR THE INSTALLATION OF COMPLETE AND OPERATING MECHANICAL SYSTEMS.

1.2 CODES AND REQUIREMENTS
A. ALL WORK PERFORMED UNDER THE CONTRACT SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
1. All mechanical, plumbing, and electrical work shall comply with the building codes where they apply. The International Plumbing Code, the International Fuel Gas Code, the International Fire Code, the International Building Code, and the International Electrical Code are the applicable codes. The National Fire Protection Association (NFPA) standards for the installation and maintenance of heating, ventilating, and air conditioning systems also apply.
2. This contract is subject to the security plan of the Architect/Planners as approved by the Architect/Planners, and the Architect/Planners reserves the right to modify the plan.

1.3 DRAWINGS AND SPECIFICATIONS
A. DRAWINGS AND SPECIFICATIONS ARE TO BE USED FOR THE INSTALLATION OF THE MECHANICAL SYSTEMS.
B. CONTRACTOR SHALL REFER TO THE DRAWINGS FOR ALL SPECIFICATIONS AND REQUIREMENTS.

1.4 WORKMANSHIP
A. GOOD WORKMANSHIP AND MATERIALS ARE CONSIDERED ESSENTIAL TO PROPER OPERATION.

1.5 DELIVERY AND STORAGE
A. ALL MATERIALS WILL BE DELIVERED AND STORED AT A LOCATION CONVENIENT TO THE SITE.

1.6 SUBCONTRACTORS
A. ALL SUBCONTRACTORS USED TO PERFORM WORK UNDER THIS CONTRACT MUST COMPLY WITH THE SAME REQUIREMENTS AS SPECIFIED FOR THE CONTRACTOR.

1.7 TESTS AND ACCEPTANCE
A. ALL SYSTEMS TESTED IN ACCORDANCE WITH ASTM E-814 AND CLASSIFIED BY WALROCK HERSEY.

1.8 CONTRACTOR'S RESPONSIBILITY
A. CONTRACTOR IS RESPONSIBLE FOR INSTALLING, TESTING, INSPECTING, AND Certificate that the work is completed in accordance with the drawings and specifications.

1.9 COMPLETION
A. CONTRACTOR SHALL COMPLETE THE WORK IN A TIMELY MANNER.

SECTION 1400 - PLUMBING

PART 2 - PRODUCTS

2.1 WATER-FITTING MATERIALS
A. PIPE IN ALL BUILDING
1. ALL PIPE AND FITTINGS, EXCEPT LEAD ITEMS, SHALL BE DIE-CAST COPPER.
2. LEAD ITEMS, SUCH AS STOP VALVES, MAY BE USED, PROVIDED THEY MEET THE REQUIREMENTS OF THE LOCAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS FOR THE INSTALLATION AND MAINTENANCE OF HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS.

2.2 SANITARY WASTE AND DRAIN MATERIALS
A. MATERIALS USED
1. SANITARY行って
2. VENTS

PART 3 - EXECUTION

3.1 CLEANING AND WAXING
A. ALL WORK SHALL BE CLEANED AND WAXED TO THE SATISFACTION OF THE ARCHITECT/PLANNERS.

3.2 INSTALLATION
A. INSTALL ALL FIXTURES AND ROUGH IN ACCORDING TO THE FIXTURES ACCEPTED.

3.3 INSPECTION
A. CONTRACTOR SHALL SUBMIT A COMPLETED INSPECTION FORM TO THE ARCHITECT/PLANNERS PRIOR TO THE COMPLETION PROCESS.

3.4 COMPLETION
A. CONTRACTOR SHALL NOTIFY THE ARCHITECT/PLANNERS THAT THE WORK IS COMPLETE, AND THE ARCHITECT/PLANNERS SHALL PERFORM THE COMPLETION INSPECTION.

END OF SECTION
GENERAL NOTES

1. ALL GENERAL NOTES, SYMBOL LISTS AND DETAILS SHALL BE CONSIDERED AS APPLICABLE TO ALL ELECTRICAL DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION IN THE DESIGN.

2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA-70, NATIONAL ELECTRICAL CODE (NEC)(LATEST EDITION).

3. ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN THE RATING OF SEPARATION.

4. ALL ENCLOSURES, CONDUIT BODIES AND THEIR COVERS CONTAINING FIRE ALARM SYSTEM CONDUCTORS SHALL BE PAINTED RED.

5. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITH EVERY FEEDER AND BRANCH CIRCUIT.

6. UNLESS OTHERWISE NOTED WIRING SHALL BE #12 AWG CONDUCTORS AND #12 GND. HOME RUNS FED FROM 20A-1P CIRCUITS IN EXCESS OF 100 FEET SHALL BE #10 AWG.

7. CONVENIENCE RECEPTACLES SHALL BE COMMERCIAL SPECIFICATION Grade grounding type NEMA 5-20R, SIDE WIRE, LEVITON, PASS AND SEYMOUR OR APPROVED EQUAL. COORDINATE COLOR WITH ARCHITECT.

8. PROVIDE WALL PLATES FOR ALL WIRING DEVICES, NYLON SMOOTH TYPE IN FINISHED AREAS AND GALVANIZED IN UNFINISHED AREAS.

9. ALL WIRING SHALL BE 600V, COPPER WITH THHN/THWN INSULATION. SERVICE ENTRANCE CONDUCTORS SHALL HAVE THHW INSULATION.

10. PROVIDE TYPED, UPDATED PANEL SCHEDULES FOR ALL PANELS AFFECTED BY THIS REMODEL WORK.
GENERAL NOTES:

A. Electrical panels serving this area are located in Room SC-154, approximately 70° west and 30° south of the north doorway to this room.

KEYED NOTES:

1. Existing horn/strobe to be removed and protected for re-use. Test fire alarm system prior to demolition work; document and report any deficiencies to owner immediately.

2. Remove receptacle and associated conductors back to nearest device/junction box. Protect circuit continuity for remaining devices on circuit and new devices to be added in this area. See Sheet E100.

3. Remove lab table receptacles and associated conductors back to panel "eaz" in electric room 5c-154. Cut off conduits below floor level.

4. Remove faceplate from back box, and abandon.

5. Remove existing data and projector cables back to source. Remove faceplate from back box and abandon.
GENERAL NOTES:
A. ELECTRICAL PANELS SERVING THIS AREA ARE LOCATED IN ROOM SC-154, APPROXIMATELY 70' WEST AND 30' SOUTH OF THE NORTH DOORWAY TO THIS ROOM.

KEYED NOTES:
1. PROVIDE NEW RECEPTACLE TO SERVE TOUCHSCREEN. COORDINATE WITH EQUIPMENT CUTOUTS FOR EXACT MOUNTING LOCATION. CONNECT NEW RECEPTACLE WITH (2#12+'120V)/270 TO EXISTING RECEPTACLE CIRCUIT ON THIS WALL.

2. PROVIDE NEW 2-PORT DATA OUTLET WITH TWO (2) 8-45 JACKS TO SERVE NEW TOUCHSCREEN. COORDINATE WITH EQUIPMENT CUTOUTS FOR EXACT MOUNTING LOCATION.

3. PROVIDE NEW ABOVE-COUNTER DUPLEX RECEPTACLE. CONNECT NEW RECEPTACLE WITH (2#12+'120V)/270 TO RECEPTACLE CIRCUIT PREVIOUSLY SERVING RECEPTACLES ON THIS WALL. COORDINATE WITH ARCHITECTURAL CASONWORK ELEVATIONS FOR EXACT MOUNTING HEIGHT.

4. PROVIDE NEW TWO-GANG DATA OUTLET WITH FOUR (4) 8-45 JACKS, PROVIDE NEW CAT 6 CABLES AS FOLLOWS: TWO (2) CABLES ROUTED TO DATA OUTLET AT NEW TOUCHSCREEN (NOTE 2), AND TWO (2) CAT 6 CABLES ROUTED BACK TO EXISTING IT RACK IN SC-154. TERMINATE AND TEST ALL CABLES.

5. PROVIDE NEW RECEPTACLE IN CASWORK, BELOW COUNTER. ROUTE (2#12+'120V)/270 THROUGH CASWORK TO WALL, AND HOME RUN TO ROOM SC-154, PANEL LA2, POSITION 1. REMOVE EXISTING CIRCUIT BREAKER AND PROVIDE NEW GFI CIRCUIT BREAKER IN PANEL TO SERVE CIRCUIT.

6. PROVIDE NEW RECEPTACLE AT 15' AFH. TO SERVE REFRIGERATOR. ROUTE (2#12+'120V)/270 TO ROOM SC-154, PANEL LA2, POSITION 3. UTILIZE EXISTING CIRCUIT BREAKER.

7. RELOCATE HORN STROBE TO 6" BELOW CEILING TO ALLOW FOR NEW MARKER BOARD. RE-TEST FIRE ALARM SYSTEM AFTER INSTALLATION.

8. INSTALL NEW ABOVE-COUNTER DUPLEX RECEPTACLE CONNECT TO GFI CIRCUIT SERVING RECEPTACLES IN NEW LAB CASWORK.

9. PROVIDE NEW ABOVE-COUNTER, 2-PORT DATA OUTLET WITH TWO (2) 8-45 JACKS. PROVIDE TWO (2) CAT 6 CABLES BACK TO EXISTING IT RACK IN ROOM SC-154. TERMINATE AND TEST CABLES.
DIVISION 26 - ELECTRICAL SPECIFICATION

SECTION 26 0000 - BASIC ELECTRICAL REQUIREMENTS.

1. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS FOR COMPLETION OF ALL ELECTRICAL SYSTEMS DESCRIBED HEREIN. ALL ELECTRICAL EQUIPMENT AND MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS, GOVERNING AUTHORITIES, AND IN A NEAT AND WORKMANLIKE MANNER BY SKILLED AND COMPETENT ELECTRICIANS IN CONFORMITY WITH THE STANDARDS PRACTICES OF THE ELECTRICAL INDUSTRY. ALL ELECTRICAL SYSTEMS SHALL BE COMPLETE AND OPERATIONAL TO THE BENEFIT OF THE OWNER.

A. GOOD WORKMANSHIP AND APPEARANCE ARE CONSIDERED EQUAL TO PROPER OPERATION.

B. THE CONTRACTOR SHALL PROVIDE ALL FORCED AIR ELECTRICAL EQUIPMENT AND ACCESSORIES NECESSARY, WHETHER SPECIFCALLY STATED OR NOT, TO MAKE THE REQUIRED ELECTRICAL SYSTEMS COMPLETE AND OPERATIONAL.

2. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE GENERAL CONDITIONS, SUPPLEMENTAL GENERAL CONDITIONS OF THE PROJECT SPECIFICATIONS, ANY BASE BUILDING SPECIFICATIONS AND BUILDING CODES, AND ALL CONTRACT SPECIFICATIONS AND DOCUMENTS.

3. DEFINITIONS AND STANDARDS:

A. "PROVIDE" MEANS CONTRACTOR IS RESPONSIBLE FOR THE FURNISHING AND INSTALLATION OF.

B. "EXPOSED" MEANS WHERE IT CAN BE SEEN AFTER THE BUILDING IS COMPLETED SUCH AS IN EQUIPMENT ROOMS, UNFINISHED AREAS, ACCESSIBLE TUNNELS, ETC. WHERE CONDUIT/EQUIPMENT IS ACCESSIBLE.

C. "CONCEALED" MEANS WHERE IT CANNOT BE SEEN AFTER THE BUILDING IS COMPLETED SUCH AS IN SPACES AS CHASES, TRENCHES, ABOVE CEILINGS, IN WALLS AND BURIED WHERE CONDUIT/WIRE IS INACCESSIBLE WHEN BUILDING IS COMPLETE.

D. STANDARDS FOR MATERIALS: ALL MATERIALS SHALL BE NEW, UNLESS OTHERWISE STATED, AND SHALL CONFORM TO THE CURRENT APPLICABLE INDUSTRY STANDARDS, NEMA STANDARDS AND UNDERWRITERS' LABORATORIES STANDARDS.

4. COORDINATE AND ORDER THE PROGRESS OF ELECTRICAL WORK TO CONFORM TO THE OWNER'S SCHEDULE AND THE PROGRESS OF THE WORK OF THE OTHER TRades.

5. APPLY FOR AND PAY FOR ALL PERMITS, FEES, LICENSES AND INSPECTIONS FOR THIS DIVISION OF WORK.

6. PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED.

7. VISIT THE PROJECT BEFORE SUBMITTING A BID AS NO EXTRA WILL BE ALLOWED FOR LACK OF KNOWLEDGE OF OBVIOUS EXISTING CONDITIONS.

8. DRAWINGS ARE DIAGRAMATIC IN NATURE. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS, AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK.

9. COMPLY WITH THE LATEST FEDERAL, STATE AND LOCAL CODES, REQUIREMENTS, AND ORDINANCES, WITH THE NATIONAL ELECTRICAL CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION, AND WITH REQUIREMENTS OF THE APPROPRIATE TELEPHONE COMPANIES, FURNISHING SERVICES TO THE PROJECT. THE FOLLOWING IS A BRIEF LIST OF APPLICABLE CODES:

A. NFPA NO. 70 - NATIONAL ELECTRICAL CODE, LATEST EDITION

B. NFPA NO. 72 - FIRE ALARM, LATEST EDITION

C. NFPA NO. 101 - LIFE SAFETY CODE, LATEST EDITION

D. NEC, LATEST EDITION

E. LOCAL BUILDING CODES, LATEST EDITION

10. ALL EQUIPMENT AND MATERIALS SHALL BE NEW UNLESS NOTED OTHERWISE AND ACCEPTABLE FOR INSTALLATION ONLY IF LABELED OR LISTED AS DEFINED IN NFPA 70, ARTICLE 100, BY UL OR BY A RECOGNIZED TESTING LABORATORY WHERE STANDARDS HAVE BEEN ESTABLISHED AND ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. LABELED OR LISTED EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ANY INSTRUCTIONS OR LABELING PROVIDED WITH THE EQUIPMENT.

11. PROVIDE ALL CORE DRILLING, CHANNELING, CUTTING, PATCHING, SLEEVES, ETC. AS REQUIRED FOR INSTALLATION OF ELECTRICAL EQUIPMENT. SEAL HOLES, FIREPROOFING WHERE NECESSARY, AND REFRESH ALL REPAIR WORK TO ORIGINAL CONDITION WHERE DAMAGED BY ELECTRICAL WORK.

12. MAKE PROVISIONS FOR SAFE DELIVERY AND SECURE STORAGE OF ALL MATERIALS.

13. WARRANTIES: PROVIDE A WRITTEN WARRANT TO THE OWNER CoverING THE ENTIRE ELECTRICAL WORK EXCLUDING INCANDESCENT AND FLUORESCENT LAMPS, TO BE FREE FROM DEFECTIVE MATERIALS, EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE. ALL DEFECTIVE MATERIAL OR MATERIALS WHICH APPEAR DURING THE WARRANTY PERIOD SHALL BE REPLACED OR REPAIRED BY THE ELECTRICAL CONTRACTOR IN A TIMELY MANNER AT NO COST TO THE OWNER.

14. PROJECT RECORD DRAWINGS: AT COMPLETION OF WORK, DELIVER COMPLETED RECORD DOCUMENTS TO ARCHITECT/ENGINEER.

SECTION 26 0500 - GROUNDING AND BONDING

1. CONDUIT SYSTEMS, SUPPORTS, CABINETS, EQUIPMENT, TRANSFORMERS, FIXTURES, THE GROUNDING CIRCUIT CONDUCTOR, ETC. SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE CURRENT ISSUE OF THE NATIONAL ELECTRICAL CODE. PROVIDE ALL BOXING JUMPERS AND WIRE, GROUNDING BUSHINGS, CLIPS, ETC. AS REQUIRED FOR COMPLETE GROUNDING.

A. CONNECTIONS SHALL BE EITHER BOLTED-PRESSURE-TYPE, COMPRESSION TYPE OR ELECTRODE-WELDED TYPE.

2. PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUITS AND ALL FLEXIBLE AND NONMETALLIC RACEWAYS.

3. GROUNDING CONDUCTOR MATERIAL: COPPER.

SECTION 26 0510 - HANGERS AND SUPPORTS

1. PROVIDE HANGERS AND SUPPORTS FOR EQUIPMENT, RACEWAYS AND CABLES, INCLUDING WEIGHT OF WIRE IN RACEWAYS. ALL SYSTEMS CABLES SHALL BE SUPPORTED BY BRIDGE RINGS OR SIMILAR MEANS.

2. STEEL MATERIAL SHALL BE USED FOR DRY LOCATIONS.

SECTION 26 0550 - ELECTRICAL IDENTIFICATION

1. PROVIDE LABELING FOR RACEWAYS AND CABLES.

SECTION 26 0580 - ELECTRICAL TESTING

1. PROVIDE TESTING OF ALL ELECTRICAL SYSTEMS AND COMPONENTS AS REQUIRED BY ALL APPLICABLE BUILDING CODES AND ORDINANCES, UL, NEMA, ANSI, IEE, NEC, ETC., AND AS RECOMMENDED BY THE ELECTRICAL EQUIPMENT MANUFACTURERS.
DIVISION 26 - ELECTRICAL SPECIFICATION

SECTION 26 0903 - DEMOLITION FOR REMODELING

1. FIELD CHECK ALL EXISTING CONDITIONS PRIOR TO BIDDING AND INCLUDE AN ALLOWANCE FOR THE REMOVAL AND RELOCATION OF EXISTING CONDUITS, WIRES, DEVICES, FIXTURES, OR OTHER EQUIPMENT AS INDICATED OR AS REQUIRED TO COORDINATE AND ADAPT NEW AND EXISTING ELECTRICAL SYSTEMS TO ALL OTHER WORK REQUIRED ON THIS PROJECT. NO EXTRA WILL BE ALLOWED FOR ALTERATIONS OF A FORESEEABLE NATURE REQUIRED TO ACHIEVE THE END RESULT AS INDICATED ON THE DRAWINGS.

2. WHERE THE REUSE OF EXISTING CONDUITS, OUTLETS, JUNCTION BOXES, ETC., IS PERMISSIBLE MAKE CERTAIN THAT THE WIRING FOR THEM IS CONTINUOUS FROM OUTLET TO OUTLET AND THAT ALL SPlices AND INSULATIONS ARE IN GOOD CONDITION. PROVIDE MODIFICATIONS TO ASSURE THAT CIRCUITS, OR SYSTEM SHALL NOT PASS THROUGH OUTLETS OR JUNCTION BOXES WHICH MAY BE RENDERED INACCESSIBLE BY CHANGES TO BE MADE TO THE PROJECT. EXISTING CONDUITS, WIRES, DEVICES, ETC., WHICH SHALL BE REMOVED SHALL BECOME THE PROPERTY OF THE OWNER UNLESS OTHERWISE NOTED.

3. CONNECT NEW WORK TO EXISTING IN A MANNER THAT WILL ASSURE PROPER RACEWAY GROUNDING THROUGHOUT IN CONFORMITY WITH THE NATIONAL ELECTRICAL CODE.

4. REMOVE WORK, CUTTING AND PATCHING: THE CONTRACTOR SHALL PERFORM ALL CUTTING, CHANNELING, CHASING, DRILLING, ETC., AS REQUIRED TO INSTALL OR REPLACE ELECTRICAL EQUIPMENT IN AREAS OF REMODELING. THIS WORK SHALL BE PERFORMED SO AS TO MINIMIZE DAMAGE TO PORTIONS OF ALL FINISHES, SURFACES, PLASTERING, OR THE STRUCTURES WHICH ARE TO BE REUSED, RESURFACED, PLASTERED, OR PAINTED UNDER OTHER OMISSIONS OF THESE SPECIFICATIONS.

5. CAREFULLY COORDINATE WITH THE REQUIRED REMODELING WORK, CUTTING AND PATCHING ETC., PERFORMED BY OTHER TRADERS: REMOVE OR RELOCATE EXISTING ELECTRICAL CONDUITS, WIRES, DEVICES, FIXTURES AND OTHER EQUIPMENT AS NEEDED.

6. ALL OUTAGES ON PORTIONS OF EXISTING ELECTRICAL SYSTEMS SHALL BE MINIMIZED AND SHALL BE AT A TIME AND OF A DURATION AS ACCEPTED BY THE OWNER.

SECTION 26 0519 - CONDUCTORS AND CABLES 600-V AND LESS

1. MINIMUM SIZE NO. 12 EXCEPT FOR CONTROL OR SIGNAL CIRCUITS, WHICH MAY BE NO. 14 OR SMALLER. INCREASE CONDUCTOR SIZE AS NECESSARY TO UNIT BRANCH CIRCUIT VOLTAGE DROP TO 3 PERCENT AND SERVICE/FEEDER VOLTAGE DROP TO 5 PERCENT.

2. ALL WIRING SHALL BE AS FOLLOWS:
   A. BRANCH CIRCUITS CONCEALED IN CEILINGS, WALLS, AND PARTITIONS, AND CONCEALED IN CONCRETE OR BELOW SLABS-ON-GRADE: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY.
   B. FIRE ALARM CIRCUITS: TYPE THHN-THWN, IN RACEWAY OR POWER-LIMITED, FIRE-PROTECTIVE, SIGNALING CIRCUIT CABLE. TYPE NMLP OR LP.
   C. ALL CONDUCTORS SHALL BE COPPER; SQDF CONDUCTOR FOR NO.12 AWG AND SMALLER, STRANDED FOR NO. 10 AWG AND LARGER.
   D. SPACERS FOR NO. 6 AWG AND SMALLER SHALL BE MADE WITH TWIST-ON WIRE CONNECTORS.
   E. INSTALL CONDUCTOR AT EACH OUTLET, WITH AT LEAST 6 INCHES OF SLACK TO ALLOW FOR CONNECTION TO DEVICE.
   F. TESTING: PERFORM THE FOLLOWING FIELD QUALITY-CONTROL TESTING:
      A. TORQUE TEST CONDUCTOR CONNECTIONS AND TERMINATIONS TO MANUFACTURER'S RECOMMENDED VALUES.
      B. PERFORM CONTINUITY TEST ON ALL POWER AND EQUIPMENT BRANCH CIRCUIT CONDUCTORS. VERIFY PROPER WIRING CONNECTIONS.
      C. INSULATION TEST: MEASURE THE INSULATION OF FEEDER CONDUCTORS. MEASUREMENTS SHALL BE TAKEN BETWEEN CONDUCTORS, AND CONDUCTORS AND GROUND. RESISTANCE SHALL BE 1,000,000 OHMS OR MORE WHEN TESTED AT 500 VOLTS BY MEANS WITHOUT CIRCUIT LOADS.

SECTION 26 0533.1 - RACEWAYS

1. ALL CONDUCTORS SHALL BE ENCLOSED BY CONDUIT SIZED IN ACCORDANCE WITH CHAPTER 9, TABLE 4 OF THE NATIONAL ELECTRICAL CODE. MINIMUM SIZE 1/2 INCH. ALL CONDUITS SHALL BE CONCEALED IN FINISHED AREAS.

2. ELECTRICAL METALLIC TUBING (EMT) SHALL BE UTILIZED FOR ALL DRY, ABOVE GRADE OR ABOVE FLOOR FEEDERS AND BRANCH CIRCUIT MERCURY APPLICATIONS IN ACCORDANCE WITH ARTICLE 350 OF THE NATIONAL ELECTRICAL CODE. COUPLINGS SHALL BE STEEL SET SCREW TYPE.

3. METAL-CLAD CABLE (MC) WITH SEPARATE GROUND CONDUCTOR SHALL BE PERMITTED FOR ALL CONCEALED, ABOVE GRADE OR ABOVE FLOOR BRANCH CIRCUIT APPLICATIONS EXCLUDING MERCURY, IN ACCORDANCE WITH ARTICLE 330 OF THE NATIONAL ELECTRICAL CODE. CONNECTORS SHALL BE LISTED FOR APPLICATION OF SERVICE INDICATED.

4. ALL CONDUITS EXPOSED OR CONCEALED SHALL BE ROUTED PARALLEL OR PERPENDICULAR TO THE BUILDING WALLS. SUPPORT CONDUIT AS REQUIRED BY THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.

5. PROVIDE EXPANSION TYPE FITTINGS FOR ALL CONDUITS, WHICH CROSS EXPANSION JOINTS.

SECTION 26 0533.2 - BOXES, ENCLOSURES AND CABINETS

1. OUTLET BOXES:
   A. FOUR INCH SQUARE OR OCTAGONAL, ZINC-COATED SHEET STEEL TYPE.
   B. OUTLET BOXES SHALL BE SIZE THAT TRANSMISSION OF SOUND THROUGH COMMON WALLS WILL NOT OCCUR.

2. PROVIDE COVERS SET TO COME FLUSH WITH FINISHED WALLS.

3. PULL BOXES AND JUNCTION BOXES: JUNCTION BOXES AND PULL BOXES WILL BE PROVIDED AS REQUIRED. SIZE OF BOXES SHALL BE IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE REQUIREMENTS.
   A. ENCLOSURES SHALL BE NEMA TYPE SUITABLE FOR THE SURROUNDING AREA AND CONDITIONS.

SECTION 26 2725 - WIRING DEVICES

1. RECEPTACLES SHALL BE 20 AMP HUBBELL HBL352 SERIES SPECIFICATION GRADE, OR ACCEPTABLE. GREY RECEPTACLES SHALL BE HUBBELL DESCR SERIES, OR ACCEPTABLE. PROVIDE DEVICE COVER AS DIRECTED BY THE ARCHITECT, TO MATCH BASE BUILDING STANDARDS, WHICHER IS APPLICABLE.

2. DEVICE PLATES SHALL BE HIGH ABRAISIVE NYLON, COLOR TO MATCH DEVICE, OR TO MATCH BASE BUILDING STANDARDS, WHICHER IS APPLICABLE.

SECTION 27 0528 - COMMUNICATION RACEWAY SYSTEMS

1. PROVIDE EMPTY CONDUIT SYSTEMS WITH NO. 14 AWG PULL WIRE AND BACK BOXES; BACK BOXES SHALL BE 4 INCH SQUARE GALVANIZED PRESS STEEL WITH PLASTIC RING. PROVIDE 3/4 INCH CONDUIT WITH PULL WIRE FROM EACH BACK BOX TO 6 INCHES ABOVE NEAREST ACCESSIBLE