



**INVITATION TO BID
BID NO. 9917**

TROY SCHOOL DISTRICT – FLOORING REPLACEMENT AND FLOOR POLISHING PROGRAM

The Troy School District will receive firm, sealed bids for all labor, material, equipment and all other services to complete Bid No. 9917 Troy School District - Flooring Replacement and Floor Polishing Program.

Specifications and proposal forms can be obtained online at <http://www.troy.k12.mi.us>. From the main page menu click the “Business Services” tab listed under “Departments”, then click “Purchasing Bids and Invitations” and scroll down to locate and access the bid document. Bid documents will be placed on Buildingconnect.com with the following link: <https://app.buildingconnected.com/public/5cc9d7f637c1a90018cb55dc> by December 17, 2020 at 5:00 PM local time.

Sealed bids should be submitted through Buildingconnect.com with the following link: <https://app.buildingconnected.com/public/5cc9d7f637c1a90018cb55dc>. No physical bids will be accepted in person or via delivery service. Bids are to be submitted no later than **11:00 AM Local Time Thursday January 7, 2021**. The District will not consider or accept a bid received after the date and time specified for bid submission. Bids will be publicly opened immediately following the close of receiving bids with the following virtual meeting link meet.google.com/gff-szuu-bfg . No oral, email, telephonic or telegraphic proposals shall be considered.

A pre-bid walk through has been scheduled for 10:00 AM Local Time, Monday, December 21, 2020 at Morse Elementary School located at 475 Cherry Street; Troy, MI 48083. All questions regarding the services specified, the bid specified, or the bid terms and conditions will be accepted in writing ONLY and subsequently answered through an addendum to all interested parties. Questions must be received no later than noon, Wednesday, December 30, 2020; at no other time prior to the bid opening will questions/concerns be addressed or accepted and may be faxed to: 248.823.4077, or emailed as a Word document to: PurchasingOffice@troy.k12.mi.us.

All bidders must provide familial disclosure in compliance with MCL 380.1267 and attach this information to the bid proposal. The bid proposal will be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the owner or any employee of the bidder and any member of the Troy School Board or the Troy School Districts Superintendent. Also, a sworn & notarized Affidavit of compliance for the Iran Economic Sanctions Act certifying the vendor does and will comply with Public Act 517 of 2012 shall accompany all proposals. Both forms will be enclosed in the specification’s booklet that shall be used for this purpose. The District will not accept a bid proposal that does not include these sworn and notarized disclosure statement.

In accordance with Michigan Compiled Laws Section 129.201, successful bidders whose proposals are \$50,000 or more, for any bid category, will be required to furnish a U.S. Treasury Listed Company Performance and Payment Bond in the amount of 100% of their bid. The cost of the Bond shall be identified within each proposal.

The Troy Board of Education reserves the right to accept or reject any or all bids, either in whole or in part; to award contract to other than the low bidder; to waive any irregularities and/or informalities; and in general to make awards in any manner deemed to be in the best interest of the owner.

Purchasing Department
Troy School District
1140 Rankin
Troy, MI 48083

INSTRUCTIONS TO BIDDERS

PROPOSAL/INTENT

1. The Troy School District will receive firm, sealed bids for all labor, material, equipment and all other services to complete Bid No. 9917 Troy School District - Flooring Replacement and Floor Polishing Program
2. Sealed bids should be submitted through Buildingconnect.com with the following link: <https://app.buildingconnected.com/public/5cc9d7f637c1a90018cb55dc>. No physical bids will be accepted in person or via delivery service. Bids are to be submitted no later than **11:00 AM Local Time, Thursday January 7, 2021**. The District will not consider or accept a bid received after the date and time specified for bid submission. Bids will be publicly opened immediately following the close of receiving bids with the following virtual meeting link: meet.google.com/gff-szUU-bfg . No oral, email, telephonic or telegraphic proposals shall be considered.
3. Proposals will be made in conformity with all the conditions set forth in the specifications. All products must conform to the specifications.
4. A pre-bid walk through has been scheduled for 10:00 AM, Monday, December 21, 2020 at Morse Elementary School located at 475 Cherry Street; Troy, MI 48083. Questions must be received no later than noon, Monday, December 7, 2020.
5. Bidder shall be reputable and a recognized organization, with at least five (5) years successful experience on work of this type and scope, of equal or better quality than this project.
6. References in the specifications to any article, product, material, fixture, form or type of construction, etc., by proprietary name, manufacturer, make or catalog number will be interpreted as establishing a standard quality of design and will not be construed as limiting proposals.
7. Bid bond or certified check, for an amount not less than five (5%) percent of the amount of the bid, must accompany each bid. Failure to submit proper bid security shall constitute rejection of bid.
8. A performance bond shall be required for the project if the cost is in excess of \$50,000 and must be listed separately on the proposal form as an individual line item.
9. A completed Familial Disclosure and an Iran Economic Sanctions form must be included with each proposal submitted or the proposal will not be accepted, please note these forms must be notarized.
10. The Troy Board of Education reserves the right to accept or reject any or all proposals either in whole or in part; to waive any irregularities and/or informalities; and in general to make awards or cancel this proposal, if deemed to be in the best interests of the owner.

SCOPE

This bid includes Troy School District Paving Program per the attached documents. Proposals will be on a line item lump sum basis, according to the schedule listed below and where specified only the qualified products listed will be considered in this proposal.

WARRANTY

All material and equipment will be guaranteed to be free from defects in both workmanship and materials for no less than two years from date of receipt/installation. If manufacturer warranty exceeds this minimum requirement, the manufacturer warranty will prevail. Any item(s) found to be defective will be replaced or repaired within seven working days at Vendor(s) expense.

WITHDRAWAL OF BIDS

Any bidder may withdraw their bid at any time prior to the scheduled time for receipt of bids. No proposal may be withdrawn until after 45 days after bid opening.

FIRM PRICING

Unit pricing will prevail when computing total quantity on bids. No price allowance or extra consideration on behalf of the bidder will subsequently be allowed by reason of error or oversight on the part of the bidder. The successful bidder(s) will hold bid prices firm for all purchase orders placed for a period of approximately one full year.

PERMITS, FEES AND REGULATIONS

The Contractor shall obtain and pay for all permits, assessments, fees, bonds, and other charges as necessary to perform and complete the work of this contract, including disconnection charges, capping and unplugging utilities.

The Contractor shall be responsible for obtaining all permits and licenses necessary for the proper completion of project. Permits and licenses are available from the appropriate agencies having jurisdiction. The Contractor shall give all notices, pay all fees and comply with all laws, ordinances, rules and regulations bearing on the work. At the completion of the project, the Contractor will provide to the District all paperwork related to the full execution of the permits(s), including all payments and inspections.

If any of the work of the Contractor is done contrary to such laws, ordinance rules and regulations without such notice, he shall bear all costs arising therefrom. The Contractor shall include all cost and taxes in its bid, and make proper provisions for payment of all other State and Federal applicable taxes, fees or other costs.

TAXES

Troy School District is not automatically exempt from State of Michigan Sales and Use Taxes. The District must pay these taxes when materials are to be incorporated into reality. Materials that are permanently attached i.e lockers, built-in, incorporated or otherwise made part of the structure all applicable taxes shall be paid by the Vendor. Troy School District shall not be responsible for any taxes that are imposed on the Vendor. Furthermore, the Vendor understands that it cannot claim exemption from taxes by virtue of any exemption that is provided to Troy School District.

DELIVERY/INSTALLATION

Time of delivery is part of the consideration. It is understood that the bidder agrees to deliver prepaid to the schools, specified from the resulting contract, all items. All cost of delivery, drayage, freight, packing, unpacking, and setup are to be included in the prices bid.

The Contractor is responsible for removing from the project all waste materials and rubbish resulting from his operations and installation including all packing cartons and debris. Removal is to occur on a daily basis. Failure to do so will result in the Owner doing so and the cost thereof shall be charged to the Contractor as a deduction in his contract price.

The Contractor shall provide an adequate number of qualified, experienced installers, in harmony with other works at the site.

BID SECURITY

Bid Bond or certified check, for an amount not less than five (5%) percent of the amount of the bid, must accompany each bid. The check or bond of each unsuccessful bidder will be returned within ten (10) days after the bid is awarded. Failure of any accepted bidder to enter into a contract to complete the specified work may forfeiture of his bid security. Failure to submit proper bid security shall constitute rejection of bid.

PERFORMANCE BOND/PAYMENT BOND

Within fourteen (14) days after date of issuance of written notice of selection for the award of a contract, which shall be considered as the notice to proceed, the successful bidder shall enter into a contract with the Owner and shall execute and file with the Owner, the following in the amount 100% equal to full contract sum.

A performance bond shall be required for the project if the cost is in excess of \$50,000 and must be listed separately on the proposal form as an individual line item. The Performance Bond must insure the faithful performance of all provisions of the contract and satisfactory completion of the specified work, within the time agreed upon.

The payment bond must insure the payment and protection of claimants supplying labor or materials to the principal contractor or his subcontractors in the prosecution of the work provided for in the contract. The successful contractor's bond company must be listed by the State of Michigan as a licensed carrier and have an excellent or superior rating from AM Best Company.

SAFETY

Under the "General Conditions of the Contract for Construction" of the contract to be awarded, the Contractor;

- a) shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures;
- b) shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the contract;
- c) shall take reasonable precautions for safety of all persons who may be affected, including employees of the Contractor and Subcontractor; and
- d) shall have an accident prevention representative at the site.

The general conditions of the contract for construction and the agreement also require that the Contractor indemnify the Owner in the event of certain claims arising out of the performance of the work.

INSURANCE REQUIREMENTS

The Contractor shall protect, defend and indemnify the Owner, its officers, agents, servants, volunteers, and employees from any and all liabilities, claims, liens, demands, and costs of whatsoever kind and nature which may result in injury or death to any persons, and for any result in injury or death to any person, and for loss or damage to any property, including property owned or in the care, custody, or control of the Owner in connection with or in any way incident to or arising out of the occupancy, use, with this Agreement resulting in whole or in part from negligent acts or omissions of the Contractor, any Subcontractor, or any employee, agent or representative of the Contractor or any Subcontractor.

The Contractor shall maintain, at its expense, during the term of this contract the following insurance:

- a) Worker's Compensation Insurance with statutory limits and Employer's Liability Insurance with a minimum limit of \$1,000,000 each occurrence.
- b) Comprehensive General Liability Insurance with a minimum combined single limit of \$1,000,000 per occurrence, \$1,000,000 aggregate, in the same amount made for bodily injury and property damage. The policy is to include products and completed operations, cross liability, broad form property damage, independent contractors, and contractual liability coverage. The policy shall be endorsed to provide sixty (60) days written notice to the District of any material change of coverage, cancellation, or non-renewal of coverage.
- c) If Subcontractors are likely to be used, the Comprehensive General Liability policy shall include coverage for independent Contractors.
- d) Owner's Contractor's Protective Policy-comprehensive in the name of the Owner, with a minimum combined single limit of \$1,000,000 per occurrence in the same amount for bodily injury or property damage.
- e) Automobile Liability insurance covering all owned, hired, and non-owned vehicles with personal protection insurance and property insurance to comply with the provisions of the Michigan no-fault Insurance Law, including residual liability insurance with a minimum combined single limit of \$1,000,000 each occurrence of bodily injury and property damage.
- f) All insurance policies shall be issued by companies licensed to do business in the State of Michigan. The companies issuing the policies must be domestic (on-shore) companies and have an A rating by AM Best.
- g) The Contractor shall be responsible for payment of all deductibles contained in any insurance policy required in this contract.

COMPLIANCE WITH SCHOOL SAFETY INITIATIVE LEGISLATION

Meeting the requirements of the School Safety Initiative Legislation, being MCL 380.1230, 80.1230a, 380.1230c, 380.1230d and 380.1230g.

The Bidder acknowledges and agrees that the Bidder will have any and all of its installation personnel (including sub-contractors) subjected to criminal history and background checks. **Personnel that fall into this group will be working on District premises for more than one continuous week.** Criminal history and background checks will be done within a year of the beginning of the project and should be completed before worked begins on this project.

The Bidder is required to provide written documentation listing all personnel who fall into the group indicated in the above paragraph. The documentation will also verify that none of the personnel have a “listed offense” as indicated below. This documentation is to be provided before the beginning of the project and updated as necessary for any additions or subtractions from the list as long as the project lasts.

The Bidder shall indemnify, defend and hold the District, its employees, Board of Education, and each member thereof, agents and consultants, harmless from and against any and all claims, counter-claims, suits, debts, demands, actions, judgments, liens, liabilities, costs, expenses, including actual attorney’s fees and actual expert witness fees, arising out of or in connection with any violation of, or the Bidder’s failure to comply with the above paragraphs.

The Bidder shall be responsible for all costs and expenses associated with the above-required criminal history and background checks.

LISTED OFFENSES

1. MCL 750.145a - Accosting, enticing or soliciting child (less than 16 years of age) for immoral purposes.
2. MCL 750.145b - Accosting, enticing or soliciting child (less than 16 years of age) immoral purposes – second or subsequent offenses.
3. MCL 750.145c - Involvement in child sexually abusive activity or material, including possession of child sexually abusive material (“child” is a person less than 18 years of age who has not been legally emancipated.)
4. MCL 750.158 - Crime against nature (i.e., sodomy and bestiality) if the victim is an individual less than 18 years of age.
5. A third of subsequent violation of any combination of the following:
 - a. MCL 750.167(1)(f) - indecent or obscene conduct in a public place;
 - b. MCL 750.335a - indecent exposure;
 - c. A local ordinance of a municipality substantially corresponding to a section described in (a) or (b), *supra*.
6. Except for juvenile disposition or adjudication, a violation of:
 - a. MCL 750.338 - gross indecency between males; fellatio or masturbation;
 - b. MCL 750.338a - gross indecency between females; oral sex;
 - c. MCL 750.338b - gross indecency between male and female persons; if the victim is an individual less than 18 years of age.
7. MCL 750.349 - Kidnapping, if victim is an individual less than 18 years of age.
8. MCL 750.350 - Kidnapping; child under 14 years of age with intent to detain or conceal from child’s parent or legal guardian.
9. MCL 750.448 - Soliciting or accosting by a person 16 years of age or older, if victim is an individual less than 18 years of age.
10. MCL 750.455 - Pandering
11. MCL 750.520b - First degree criminal sexual conduct.
12. MCL 750.520c - Second degree criminal sexual conduct.
13. MCL 750.520d - Third degree criminal sexual conduct.
14. MCL 750.520e - Fourth degree criminal sexual conduct.
15. MCL 750.520g - Assault with intent to commit criminal sexual conduct.
16. Any other violation of a law of the state or a local ordinance of municipality that by its nature constitutes a sexual offense against an individual who is less than 18 years of age.

17. MCL 750.10a - Offense by sexually delinquent person (i.e., “any person whose sexual behavior is characterized by repetitive or compulsive acts which indicate a disregard of consequences or the recognized rights of others, or by the use of force upon another person in attempting sexual relations of either a heterosexual or homosexual nature, or by the commission of sexual aggressions against children under the age of 16”).
18. An attempt or conspiracy to commit an offense described in (1) through (17).
19. An offense substantially similar to an offense described in (1) through (17) under a law of the United States, any state, or any country or any tribal or military law.

TERMINATION BY THE DISTRICT FOR CONVENIENCE

The District may, at any time, terminate the Contract for the District’s convenience and without cause.

Upon receipt of written notice from the District of such termination for the District’s convenience, the Contractor shall:

- a) Cease operations as directed by the District in the notice;
- b) Take actions necessary, or that the District may direct, for the protection and preservation of the Work; and
- c) Except for Work directed to performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further Subcontracts and purchase orders.

Owner Is An Equal Opportunity Employer

The Owner is an Equal Opportunity Employer. Pursuant to the Executive Order 11246 as amended, you are advised that under the provisions of this order, Contractors and Subcontractors are obligated to take affirmative action to provide equal opportunity without regard to race, creed, color, national origin, age or sex.

Michigan Right to Know Law

Troy School District will comply with the Michigan Right to Know Law by informing Contractors of hazardous chemicals to which they may be exposed. All Contractors will be required to provide Material Safety Data Sheets for any hazardous chemicals brought to the workplace. The Contractor shall comply with all applicable provisions of the Occupational Safety and Health Act for the duration of the specified work.

Asbestos Hazard Emergency Response Act

As required by the Environmental Protection Agency Asbestos Hazard Emergency Response Act, each school district is responsible for providing contractors with information regarding locations of known or assumed asbestos containing material prior to the Contractor entering a building under the school district’s jurisdiction. The successful bidder will be required to complete the school district’s Contractor Notification forms.

Notification of Assumed Lead-Containing Materials

The intent of this section is to formally notify all Contractors and Sub-Contractors applying for or bidding on work covered within this specification that, due to the age of the facilities within this District, there is the presumption that building components do contain lead-based paint pursuant to OSHA definition. The District has not conducted lead-based paint inspections. As a result, all Contractors and Sub-Contractors bidding must assume that building components do contain lead-based paint.

Furthermore, all awarded Contractors and Sub-Contractors shall be responsible to comply with all applicable Federal and Michigan State lead regulations including, but not limited to, 29 CFR Part 1926.62 of the OSHA Lead Construction Standard, (Part 603 of the Michigan State Standards). All costs associated with regulatory compliance shall be borne by the Contractor and/or Sub-Contractor.

General Conditions

The District reserves the right to accept or reject any or all proposals, to waive irregularities, and to accept a proposal which, in the District’s opinion, is in the District’s best interest.

The District reserves the right to declare as non-responsive, and reject, any bid which is incomplete or where material information requested is not furnished, or where indirect or incomplete answers or information is provided.

In the event, the Administration Building is closed due to unforeseen circumstances on the day Proposals are due, Proposals will be due at the same time on the next day that the District and/or the Administration Building is open.

Negligence in preparation, improper preparation, errors in, or omissions from, proposal shall not relieve a bidder from fulfillment of any and all obligations and requirements of the proposed Contract Documents.

The District expects that the awarded bidder will complete the work as outlined in the specifications for the amount bid by the bidder. Any additional costs above the amount bid and awarded, must be approved by the District in advance of any work.

Voluntary alternates for bids are acceptable but should NOT be put in the space for the Base Bid on the Bid Response Form but on an attached sheet, clearly labeled Voluntary Alternative. Such Alternates should be described in enough detail for the District to understand the Bidder's intent.

Owner may choose to conduct testing to verify correct products and installation. If the materials and installation are found not to be per spec, owner will require subsequent tests to be performed by Owners testing company at contractors' expense.

Any exceptions to the terms and conditions contained in this RFP or any special considerations or conditions requested or required by the Contractor MUST be specifically enumerated by the Contractor and be submitted as part of its Proposal, together with an explanation as to the reason such terms and conditions of this RFP cannot be met by, or in the Contractor's opinion should not be applicable to, the Contractor. The Contractor shall be required and expected to meet the specifications and the requirements as set forth in this RFP in their entirety, except to the extent exceptions or special considerations or conditions are expressly set forth in the Contractor's Proposal and those exceptions or special considerations or conditions are expressly accepted by the District.

No responsibility shall attach to the District, or the authorized representatives of either one, for the premature opening of any proposal, which is not properly addressed and identified.

The Contract Documents, as outlined in the executed Agreement, shall imply the inclusion of the entire agreement between the parties thereto, and the Contractor shall not claim any modification thereof resulting from any representation or promise made at any time by an officer, agent or employee of the District or by any other person.

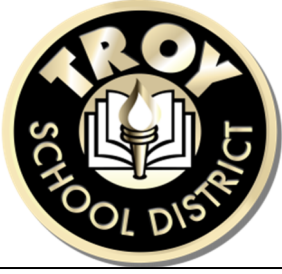
The bidders shall include an allowance for the following:

- \$5,000 for Flooring Replacement at Costello Elementary School.
- \$5,000 for Flooring Replacement at Morse Elementary School
- \$5,000 for Flooring Replacement at Leonard Elementary School
- \$5,000 for Flooring Replacement at Smith Middle School
- \$5,000 for Flooring Polishing at Costello Elementary School
- \$5,000 for Flooring Polishing at Morse Elementary School
- \$5,000 for Flooring Polishing at Leonard Elementary School

Opening and Awarding of Bids

Bids will be publicly opened and read aloud immediately following the close of receiving bids with the following virtual meeting link meet.google.com/gff-szuu-bfg at 11:00 AM Local Time, Thursday, January 7, 2021.

The recommendation for award will be submitted to the Board of Education at the regular Board of Education Meeting to be held on Tuesday, February 16, 2021.



DUE: 11:00 AM, Thursday, January 7, 2021
PROPOSAL: BID 9917 Troy School District –
 Flooring Replacement & Floor Polishing Program

PROPOSAL FORM

We propose to furnish all material, labor and equipment, as per the specifications, for the Troy School District. and all other services to complete BID 9917 Flooring Replacement and Floor Polishing Program. **NOTE – There are 2 bid divisions you do NOT have to bid on both divisions. However, you must bid on all schools included in each bid division.**

**Bid Division 1 – Flooring Demo and Replacement
 BASE BID**

Costello Elementary School	\$ _____
Morse Elementary School	\$ _____
Leonard Elementary School	\$ _____
Martell Elementary School (base at polished concrete)	\$ _____
Troy Union Elementary School (base at polished concrete)	\$ _____
Smith Middle School	\$ _____
Bond Costs – All Schools Combined	\$ _____
Grand Total All Schools (including bond)	\$ _____

ALTERNATES FOR BUILDINGS

#1. Costello Elementary School – Media Center /Computer lab)	\$ _____
#2. Costello Elementary School - Gymnasium	\$ _____
#3. Morse Elementary School - Centrum/Corridor	\$ _____
#4. Morse Elementary School - LGI	\$ _____
#5. Morse Elementary School - Gym	\$ _____
#6. Leonard Elementary School - LGI Flotex	\$ _____
#7. Leonard Elementary School - LGI MCT	\$ _____
Bond Costs – All Alternates	\$ _____

GRAND TOTAL (w/All Alternates, bond cost & allowances) **\$ _____**

Bid 2 – Floor Polishing Without Grout Coat

Martell Elementary School	\$ _____
Costello Elementary School	\$ _____
Morse Elementary School	\$ _____
Leonard Elementary School	\$ _____
Union Elementary School	\$ _____
Bond Costs – All Schools Combined	\$ _____
Grand Total (including bond)	\$ _____

Bid 2 – Floor Polishing With Grout Coat

Martell Elementary School	\$ _____
Costello Elementary School	\$ _____
Morse Elementary School	\$ _____
Leonard Elementary School	\$ _____
Union Elementary School	\$ _____
Bond Costs – All Schools Combined	\$ _____
Grand Total (including bond)	\$ _____

General Alternates and Unit Pricing

#1. Cost increase (delta) for Forbo moisture resistant adhesive per 4 gallon bucket	\$ _____
#2. Provide labor rate per hour	\$ _____
#3. Cost to add moisture mitigation for MCT or Flotex (base on 900 sf room)	\$ _____
#4. Provide per classroom cost for 900sf of removal, prep & installation of Flotex	\$ _____
#5. Cost to add polishing of terrazzo per sf (base on min of 250 sf)	\$ _____
#6. Cost to add polishing of concrete per sf (base on min of 250 sf)	\$ _____

BIDDER'S FIRM NAME _____

ADDRESS _____

CITY/STATE _____ ZIP _____

CELL NUMBER _____ FAX # _____

SIGNED BY _____ TITLE _____

TYPED NAME _____ DATE _____

E-MAIL ADDRESS _____

VENDOR: LIST FIVE RECENT REFERENCES, PREFERABLY SCHOOL DISTRICTS:

_____ School District	_____ Person to Contact	_____ Phone Number
_____ School District	_____ Person to Contact	_____ Phone Number
_____ School District	_____ Person to Contact	_____ Phone Number
_____ School District	_____ Person to Contact	_____ Phone Number
_____ School District	_____ Person to Contact	_____ Phone Number

Interested vendors will note in this space only any additional information, criteria or contingencies affecting their proposal, understanding that this additional information, criteria or contingency may be utilized in the evaluation process and subsequent award.

**SWORN AND NOTARIZED FAMILIAL DISCLOSURE STATEMENT
FAMILIAR DISCLOSURE AFFIDAVIT**

The undersigned, the owner or authorized office of the below-named contractor (the ‘Contractor’), pursuant to the familial disclosure requirement provided to Troy Schools, hereby represents and warrants that, excepts as provided below, no familial relationship exists between the owner or key employee of the Contractor, and any member of the Troy School Board or the Troy School Superintendent. A list of the School District’s Board of Education Members and its Superintendent may be found at <http://www.troy.k12.mi.us>.

List any Familial Relationships:

Contractor:

Print Name of Contractor

By: _____

Its: _____

Subscribed and sworn before me, this _____

Seal:

day of _____, 20 ____, a Notary Public

in and for _____ County, _____

(Signature)
NOTARY PUBLIC

My Commission expires _____

CERTIFICATION OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT

Michigan Public Act No. 517 of 2012

The undersigned, the owner, or authorized officer of the below-named Company, pursuant to the compliance certification requirement provided in Troy School District’s Request For Proposal, the “RFP”, hereby certifies, represents, and warrants that the Company and its officers, directors and employees, is not an “Iran Linked Business” within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the “Act”), and that in the event the Company is awarded a contract by Troy School District as a result of the aforementioned RFP, the Company is not and will not become an “Iran Linked Business” at any time during the course of performing any services under the contract.

The Company further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than \$250,000.00 or two (2) times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of Troy School District’s investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on a request for proposal for three (3) years from the date the it is determined that the person has submitted the false certification.

NAME OF COMPANY

NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

SIGNATURE

DATE

Acceptance of Proposal

The undersigned agrees to execute a Contract for work covered by this Proposal provided that he is notified of its acceptance within thirty days after the opening of the Proposal.

It is agreed that this bid will not be withdrawn until after forty-five (45) days after receipt of bids.

The undersigned affirms that the bid was developed without any collusion, undertaking, or agreement, either directly or indirectly, with any other bidder(s) to maintain the prices of indicated work or prevent any other bidder(s) from bidding the work.

BIDDER'S FIRM NAME _____

BUSINESS ADDRESS _____

TELEPHONE NUMBER _____

CELL NUMBER _____

FAX NUMBER _____

BY (SIGNATURE) _____

PRINTED NAME _____

TITLE _____

SIGNED THIS _____ DAY OF _____, 20 _____

E-MAIL ADDRESS _____

2021 Flooring Scope of Work

Project consists of:

Removal and installation of flooring materials and floor polishing at Costello, Leonard, Martell, Morse, Troy Union Elementary Schools and Smith Middle School. For each building there is a composite plan showing the areas of work – shaded by color, a composite plan, enlarged plan(s) and a room finish schedule. Room finish schedule contains information on desired materials and alternates. Some existing flooring is asbestos containing. These spaces will be abated by TSD. As such do not include demolition of these rooms. Spaces indicated on the room finish schedule in the demolition column with a “yes” means you are to include demolition in your bid.

This bid includes flooring work associated with building remodeling at Smith Middle School. That work is being overseen by Barton Malow. Contractor to coordinate with TSD and BM for this work.

Note: Project is divided into two bid divisions. Bid division 1 is all the flooring demo and replacement. Bid division 2 is concrete and terrazzo floor polishing.

Scope of work - Replacement:

Costello, Leonard and Morse - Remove and replace flooring in shaded rooms.

Smith Middle School – Install flooring in shaded room.

Scope of work - Polishing:

Costello & Martell – Polish concrete in art room and terrazzo at cafeteria.

Troy Union – Polish terrazzo at corridors.

Leonard and Morse – Polish concrete at art rooms.

Specifications:

Demolition – VCT and Carpet Areas

1. Remove existing flooring and base as noted in room finish schedule – dispose of legally off site.
2. It is essential that all substrates be permanently dry, clean, smooth, and structurally sound. Substrates shall be free of all foreign materials such as dust, solvent, paint, wax, grease, oil, residual adhesive, adhesive removers, curing, sealing, hardening, or parting compounds, alkaline salts, excessive carbonation or laitance, mold, mildew, and other foreign materials that might prevent adhesive bond. Substrate preparation should be done while the permanent HVAC is set at a minimum 68°F. Vacuuming the substrates with a commercial shop vacuum is a preferred method of removing dirt and dust. For concrete floors, damp mopping is an excellent way to remove fine dust. A clean substrate is essential for proper bonding of the adhesive to the substrate.

Installation – Rubber Flooring – (Pink)

Provide nora Environcare 24” X 24” tiles. Colors TBD.

1. All installation will be per the manufacturer’s guidelines for this product.
2. Sand/grind smooth the existing surface.
3. Skim coat all areas with Ardex or similar to receive nora product.

4. Check Rh for 60 days prior to install.
5. Product will be installed with nora AC 100 one part adhesive.
6. Provide new 4 1/2" H Roppe rubber base color; TBD
7. Contractor must have manufacturer certified installer on site during installation.
8. See manufactures specifications for proper installation of product.

Installation – Walk off carpet (Yellow)

1. Provide Forbo Coral 24" X 24" tile. Color TBD - extent as shown on drawings.
2. All installation will be per the manufacturer's guidelines for this product.
3. Grind smooth existing surface.
4. Skim coat all areas with Ardex or similar to receive Forbo product.
5. Check Rh for 60 days prior to install.
6. Product will be installed using Forbo Sustain 1195 adhesive.
7. Provide new 4 1/2" H Roppe rubber base color; TBD
8. Contractor must have certified installer on site during installation.
9. See manufactures specifications for proper installation of product.

Installation – Luxury tile (Red)

1. Provide Forbo MCT as the base bid.
2. All installation will be per the manufacturer's guidelines for this product.
3. Grind smooth existing surface.
4. Skim coat all areas with Ardex or similar to receive Forbo product.
5. Check Rh for 60 days prior to install.
6. Product will be installed with Sustain 1195 adhesive.
7. Provide new 4 1/2" H Roppe rubber base color; TBD.
8. Contractor must have certified installer on site during installation.
9. See manufactures specifications for proper installation of product.

Installation – Flotex (Blue)

1. Provide Forbo Flotex modular v1.01 20" X 20" or 10" X 40" - extent as shown on drawings.
2. All installation will be per the manufacturer's guidelines for this product.
3. Grind smooth existing surface.
4. Skim coat all areas with Ardex or similar to receive Forbo product.
5. Check Rh for 60 days prior to install.
6. Product will be installed with FRT 950 adhesive.
7. Provide new 4 1/2" H Roppe rubber base color; TBD.
8. Contractor must have certified installer on site during installation.
9. See manufactures specifications for proper installation of product.

Installation – Taraflex Gymnasium Flooring (Orange)

1. Gerflor Taraflex Sport M Plus Standard Sports Flooring base bid and Taraflex Sport M Plus Drytex (100% RH) as the alternate. Alternate shall be the increased cost NOT the total.
2. All installation will be per the manufacturer's guidelines for this product.

3. Grind smooth existing surface.
4. Skim coat all areas with Ardex or similar that is acceptable to the Gerflor product.
5. Check Rh for 60 days prior to install.
6. No seams shall be "stacked" laterally. Must be off-set by 2' minimum and random.
7. Product will be installed with manufacturer's full-spread adhesive.
8. For alternate install with Gerflor high-moisture tolerance full-spread adhesive.
9. Provide new 4 ½" H Roppe rubber base color; TBD.
10. Provide game lines to match existing - system complete including primer, compatible with flooring and installed per manufactures standards. Picture provided.
11. Field to be "wood" finish.
12. Contractor to provide game line shop drawing. Game lines to be similar to existing layout.
13. Contractor must have certified installer on site during installation.
14. See manufactures specifications for proper installation of product.

Installation – Stair treads and risers (Smith only)

1. Provide nora combo treads/risers with hammered finish. Treads to be full width. If a seam is required (due to limitations of product) it will be in the middle.
2. Grind smooth existing surface.
3. All installation to be per the manufacturer's specification for this product.
4. Skim coat all areas with Ardex or similar to receive nora product.
5. Check Rh for 60 days prior to install.
6. Provide matching material at the mid landing for all locations.
7. Provide new 4 1/2" H Roppe rubber base color; TBD
8. Contractor must have certified installer on site during installation.
9. See manufactures specifications for proper installation of product.

Schedule:

Abatement schedule is as follows:

Morse – June 28 – July 24, 2021

Leonard – Mid July

Costello – Mid July

Smith - June

Flooring schedule is as follows:

Costello – June 23 to July 2, 2021.

Leonard – First 2 weeks of July

Morse – Second 2 weeks of July

Smith – Stage will not be available until August date TBD

Polishing schedule is as follows:

Costello – June 23 to July 2, 2021

Troy Union – June 23 to July 2, 2021

Leonard – During first 2 weeks of July

Morse – During second 2 weeks of July

Martell – Week of July 12th.

General Notes

TSD will address all moving needs.

Color schedule will be issued as an addendum.

Contractor to provide rubber transitions strips by Mannington model – Fusion at all transitions from soft to hard surface, height differences or at the edge of exposed flooring. Contractor to verify locations with owner prior to install. Color TBD.

Contractor to remove ALL metal Schluter trim in rooms/spaces where work is taking place. This is between CT and carpet, VCT to walk off, VCT to recessed mat and other conditions. In a few locations where the recessed mats are being filled in the metal can be ground down below the level of the prep. Must be 1/8" below prep so as not to telegraph through.

For all rooms being abated by TSD they will be ground. Contractor to include floor prep.

For rooms with moveable partitions – carpet will extend under the partitions. TSD will open partitions.

When installing base in rooms include installing base on casework. Note some will require cutting base down.

In all rooms where a pedigrd type mat exists contractor to remove mat, remove Schluter strip, infill flush with adjacent surface then grind/sand smooth to accept new finishes.

If flooring demo is called for include demo of base. Include in your bid 4 ½" h base. This will be reviewed in the field after demolition is complete.

At all rooms to be polished include new rubber base per room finish schedule.

Provide 3% for attic stock.

At Costello and Morse Elementary Schools assume existing gymnasium wood system is 2" thick. Contractor to provide cementitious fill with pea gravel or smaller stone compared to traditional aggregate for first 1 ½" with ½" of Ardex k-15 over that top. Contractor to protect access point and path to gym for this process.

Building specific notes:

Leonard – vestibule by LGI has existing quarry tile and quarry tile base to be removed, then grind floor slab, then install floor stone. Provide new door threshold at Lounge.

Smith – Existing stage is wood. Construction package through BM will include a new substrate being installed on top of the existing wood.

Costello and Morse Elementary Schools – note where new door thresholds are called for at gymnasiums.

Costello – provide additional floor prep at corridor doors to kindergarten rooms.

Morse and Leonard Elementary Schools – note at most classrooms the flooring demo and new flooring limit extends into the door pocket in corridor.

END

Costello Elementary School

Room type	Room number	Abatement	Demolition	New Finish	Base	Base bid or alternate
Classroom	1	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	2	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	3	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	5	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	6	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	7	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	8	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	9	No	Yes	CPT/MCT/CPT2	Rubber	Base bid
Classroom	10	No	Yes	CPT/MCT/CPT2	Rubber	Base bid
Classroom	11	No	Yes	CPT/MCT/CPT2	Rubber	Base bid
Classroom	12	No	Yes	CPT/MCT/CPT2	Rubber	Base bid
Classroom	13	No	Yes	CPT/MCT/CPT2	Rubber	Base bid
Classroom	14	No	Yes	CPT/MCT/CPT2	Rubber	Base bid
Classroom	15	No	Yes	CPT/MCT/CPT2	Rubber	Base bid
Classroom	16	No	Yes	CPT/MCT/CPT2	Rubber	Base bid
Classroom	20	No	Yes	CPT	Rubber	Base bid
Classroom	21	No	Yes	CPT	Rubber	Base bid
Staff Lounge	-	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	Kindergarten A	Yes	No	MCT/CPT1/CPT2	Rubber	Base bid
Classroom	Kindergarten B	Yes	No	MCT/CPT1/CPT2	Rubber	Base bid
Storage by Kind.	-	Yes	No	MCT	Rubber	Base bid
ELL	-	No	Yes	CPT	6" Rubber	Base bid
Special Ed	-	No	Yes	CPT	6" Rubber	Base bid
Classroom	Special Ed/ASD	No	Yes	CPT/MCT/CPT2	6" Rubber	Base bid
Corridor by Art	-	No	Yes	MCT/CPT2	Rubber	Base bid
Classroom	Art	No	Yes	POLISHED CONCRETE	6" Rubber	Base bid
Storage by art	-	No	Yes	POLISHED CONCRETE	6" Rubber	Base bid
Storage by art	-	No	Yes	POLISHED CONCRETE	6" Rubber	Base bid
Cafeteria	-	No	No	POLISHED TERRAZZO	Rubber	Base bid
Gymnasium	-	No	Yes	TARAFLEX	Rubber	Base bid
Storage by Gym	-	No	Yes	TARAFLEX	Rubber	Base bid
Office by Gym	-	No	Yes	TARAFLEX	Rubber	Base bid
LGI	-	No	Yes	MCT	6" Rubber	Base bid
Conf A	-	No	Yes	CPT	Rubber	Base bid
Conf B	-	No	Yes	CPT	Rubber	Base bid
Media Center/Comp	-	No	Yes	CPT	Rubber	Alternate 1
Office by MC	-	No	Yes	CPT	Rubber	include w/ Alternate 1

Base at stage only

Morse Elementary School

Room type	Room number	Abatement	Demolition	New Finish	Base	Base bid or alternate
Classroom	1	Yes	No	MCT/CPT	Rubber	Base bid
Classroom	Art 7	Yes	No	POLISHED CONCRETE	Rubber	Base bid
Storage off 7	-	Yes	No	POLISHED CONCRETE	Rubber	Base bid
Storage off 7	-	Yes	No	POLISHED CONCRETE	Rubber	Base bid
Classroom	8	Yes	No	CPT/MCT	Rubber	Base bid
Classroom	9	Yes	No	CPT/MCT	Rubber	Base bid
Classroom	10	Yes	No	CPT/MCT	Rubber	Base bid
Classroom	11	Yes	No	CPT/MCT	Rubber	Base bid
Classroom	12	Yes	No	CPT/MCT	Rubber	Base bid
Classroom	13	Yes	No	CPT/MCT	Rubber	Base bid
Classroom	14	Yes	No	CPT/MCT	Rubber	Base bid
Classroom	15	Yes	No	CPT/MCT	Rubber	Base bid
Classroom	16 Kind A	Yes	No	MCT/CPT	Rubber	Base bid
Classroom	17 Kind B	Yes	No	MCT/CPT	Rubber	Base bid
Classroom	18	Yes	No	CPT/MCT/CPT2	Rubber	Base bid
Classroom	19	Yes	No	CPT/MCT/CPT2	Rubber	Base bid
Classroom	20	Yes	No	CPT/MCT/CPT2	Rubber	Base bid
Classroom	23	Yes	No	CPT/MCT/CPT2	Rubber	Base bid
Classroom	24	Yes	No	CPT/MCT/CPT2	Rubber	Base bid
Classroom	25	Yes	No	CPT/MCT/CPT2	Rubber	Base bid
Classroom	26	Yes	No	CPT/MCT/CPT2	Rubber	Base bid

Classroom	27	Yes	No	CPT/MCT/CPT2	Rubber	Base bid
Conf A	-	No	Yes	CPT	Rubber	Base bid
Conf B	-	No	Yes	CPT	Rubber	Base bid
Conf C	-	No	Yes	CPT	Rubber	Base bid
Conf D	-	No	Yes	CPT	Rubber	Base bid
Conf E	-	No	Yes	CPT	Rubber	Base bid
Conf by Media Center	-	No	Yes	CPT	Rubber	Base bid
SW by Media Center		No	Yes	CPT	Rubber	Base bid
Speech by Media Center		No	Yes	CPT	Rubber	Base bid
Classroom	Computer Lab	No	Yes	CPT 1/CPT 2	Rubber	Base bid
Lounge	-	Yes	No	CPT/MCT	Rubber	Base bid
Copy Room	-	Yes	No	MCT	Rubber	Base bid
Resource	-	No	Yes	CPT	Rubber	Base bid
Psych	-	No	Yes	CPT	Rubber	Base bid
Title 1	-	No	Yes	CPT	Rubber	Base bid
Gymnasium	-	No	Yes	TARAFLEX	Rubber	Base bid
Office off Gym	-	No	Yes	TARAFLEX	Rubber	Base bid
Centrum/Corridor	Hallway by MC	No	Yes	CPT	Rubber	Alternate 1
LGI	-	No	Yes	CPT	Rubber	Alternate 2

Leonard Elementary School

Room type	Room number	Abatement	Demolition	New Finish	Base	Base bid or alternate
Classroom	1	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	2	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	3	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	4	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	5	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	6	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	7	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	8	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	9	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	10	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	11	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	12	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	13	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	14	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	15	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	16	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	17	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	18	No	Yes	CPT/MCT	Rubber	Base bid
Classroom	19	No	Yes	POLISHED CONCRETE	Rubber	Base bid
Classroom	20	No	Yes	MCT/CPT	Rubber	Base bid
Classroom	KIND A	No	Yes	MCT/CPT/CPT2	Rubber	Base bid
Classroom	KIND B	No	Yes	MCT/CPT/CPT2	Rubber	Base bid
Storage	Between A and B	Yes	No	MCT	Rubber	Base bid
Copy room	-	No	Yes	MCT	Rubber	Base bid
Office by Copy	-	No	Yes	CPT	Rubber	Base bid
Conf by Reading	-	No	Yes	CPT	Rubber	Base bid
Reading	-	No	Yes	CPT	Rubber	Base bid
Lounge	-	No	Yes	CPT/MCT	Rubber	Base bid
Office by LGI	-	No	Yes	CPT	Rubber	Base bid
Conf by LGI	-	No	Yes	CPT	Rubber	Base bid
ELD	-	Yes	No	CPT	Rubber	Base bid
Conf by ELD	-	Yes	No	CPT	Rubber	Base bid
Vestibule by room 7	-	No	Yes	Coral	Rubber	Base bid
LGI	-	No	Yes	CPT	Rubber	Alternate 1
LGI	-	No	Yes	MCT	Rubber	Alternate 2

Martell Elementary School

Room type	Room number	Abatement	Demolition	New Finish	Base	Base bid or alternate
Cafeteria	Café	No	No	POLISHED CONCRETE	Partial	Base bid
Hall by room 23	-	No	No	None	Rubber	Base bid
Storage off 25	-	No	Yes	POLISHED CONCRETE	6" Rubber	Base bid
Storage off 25	-	No	Yes	POLISHED CONCRETE	6" Rubber	Base bid
Classroom	25	No	Yes	POLISHED CONCRETE	6" Rubber	Base bid

Base at Stage only

Troy Union Elementary School







Room type	Room number	Abatement	Demolition	New Finish	Base	Base bid or alternate
Corridor	-	No	Base only	POLISHED CONCRETE	4" Rubber	Base bid

Do not demo "hard base"

Smith Middle School

Room type	Room number	Abatement	Demolition	New Finish	Base	Base bid or alternate
Stage	Stage	Yes	Base only	Rub1	Rubber	Base bid

Flooring Key

	=	RUB1	Nora 2mm Rubber
	=	MCT	Forbo MCT
	=	CPT1	Forbo Flotex
	=	CPT2	Forbo Coral Brush
	=	GYM1	Taraflex
	=	POL1	Polished concrete

SECTION 03 35 00
POLISHED CONCRETE FINISHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Polished Concrete.
 - 1. Polished concrete finishing including grout coat, repairs, joint filler, densification and polish guard.
 - 2. Grind, hone and polish concrete starting from a minimum of #25 grit progressing to #1500 grit.
 - 3. Polish concrete according to the Concrete Polishing Council, ASCC.
 - a. Aggregate Exposure: Class C Coarse Aggregate 80- 90 % Coarse Aggregate.
 - b. Polished Concrete Appearance: Level 3 Polished with a Distinctness-of-Image (DOI) Gloss reading between 65 – 70 %.
 - 4. Procedure:
 - a. Grinding and honing concrete surface to receive a concrete densifier.
 - b. **ALTERNATE PRICING:** Full application of resin-based grout coat over entire floor surface. Base bid amount shall include Prosoco Consolideck Grind-N-Fill full grout coat.
 - c. Resin-based floor repairs.
 - d. Filling of all joints utilizing a polyurea joint filler.
 - e. Application of concrete densifier.
 - f. Progressively refining and polishing of the concrete surface with not less than 10 diamond tool steps with full refinement of each diamond tool starting at 25 grit progressing up to 1500 grit resin bonded pad.
 - 5. Field testing floor surface for ANSI DCOF and ASME Surface Texture.
 - 6. Application of polished concrete protective treatment with dry burnishing.
- B. Joint Fillers & Repairs
 - 1. Provide semi-rigid, two-part, 100% solids polyurea control and construction joint fillers.
 - 2. Fill all contraction (control) and construction (formed) joints in the interior concrete floor slab.
 - 3. Repair all cracks, spalls, popouts, scratches, gouges and other floor imperfections using resin-based Metzger/McGuire SRG or DiamoPro DiamoGrout Plus.
- C. Filed Testing
 - 1. Contractor shall be responsible for all field-testing including equipment rental and calibration. Fields tests shall be performed prior to and after any coating application.
 - 2. ANSI Standards B-101.3 Test Method for Measuring Wet DCOF of Common Hard Surface Floor Materials.
 - a. It is the contractor's sole responsibility to ensure the finished polished floor conforms to the ANSI B-101.3 standard of not less than Wet DCOF 0.42.
 - 3. ASME B46.1 Surface Texture (Surface Roughness, Waviness, and Lay).

1.2 RELATED SECTIONS

- A. Section 03 31 70 – Concrete Floor Joint Fillers

1.3 DEFINITIONS

- A. Coefficient of Friction:
 - 1. Static Coefficient of Friction (SCOF): The frictional resistance between two objects

- when beginning motion from a stationary position.
2. Dynamic Coefficient of Friction (DCOF): The frictional resistance between two objects when one is already in motion.
- B. Cross Hatch: A multi-directional pass with grinding or polishing equipment.
- C. Diamond Tooling - Metal Bond, Hybrid, Transitional and Resin Bonds:
1. Metal Bond Tooling: Diamond tooling typically used in the grinding and early honing stages that contains industrial grade diamonds with a metallic bonded matrix that is attached to rotating heads to refine the concrete surface.
 2. Hybrid Tooling: Diamond tooling that combines metal bond and resin bond, or specially hardened resin that has the characteristics of both types of tooling and used as transitional tooling from metal to resin bond tools or as a first cut tool on smooth concrete surfaces.
 3. Transition Tooling: Diamond tooling used to refine the scratch pattern of metal bond tooling prior to the use of resin bond tooling in an effort to extend the life of resin bond tooling and create a better surface for the polishing process.
 4. Resin Bond Tooling: Diamond tooling typically used in the honing and polishing stages that contains industrial grade diamonds within a resinous bonded matrix (poly-phenolic, ester-phenolic, and thermoplastic-phenolic) that is attached to rotating heads to refine the concrete surface.
- D. Distinction of Image (DOI): The sharpness of light reflections or reflected images.
- E. Gloss: also known as specular gloss, is the quantity of light reflecting from the concrete or terrazzo surface.
- F. Gloss (Finished): Processing a concrete or terrazzo floor surface to achieve a specified level of finished gloss prior to application of any protective treatment; Flat (ground), satin (honed), semi polished, and highly polished are measured in reflective clarity (DOI), and reflective sheen (specular gloss). Finished Gloss is classified as levels 1, 2, 3 and 4 with varying degrees of reflective clarity, and sheen.
- G. Gloss Measurement: A determination of specular gloss that incorporates distinction of image, haze and reflection.
- H. Gloss Meter: A device to measure specular gloss at 20, 60, or 85 degrees.
- I. Gloss Reading: A Gloss reading shall consist of the average of a group of three (3) readings taken within a 12-inch diameter of each other using an 85-degree angle Gloss Meter.
- J. Gloss Restoration/Polishing Levels - Levels 1, 2, 3 and 4:
1. Level 1 (flat): A level 1 ground polish usually can be obtained by stopping below the 100-grit resin bond. When you look directly down at the floor, it will appear somewhat hazy with little if any clarity or reflection.
 2. Level 2 (satin): A level 2 honed polish is obtained by stopping at the 400-grit resin bond, producing a low-sheen finish. When you look directly down at the finished floor and at a distance of roughly 100 feet, you can start to see a slight overhead reflection. This grit level produces a low-luster matte finish and typically has an average Gloss reading between 40 and 50 when measured using a Gloss Meter prior to any sealer or polish guard application. Sometimes this is referred to as an Industrial grade polish.
 3. Level 3 (semi-polished): A level 3 polish is achieved by going up to an 800-grit or higher diamond abrasive. The surface will have a much higher sheen than that of level 2 finish, and you'll start to see good light reflectivity. At a distance between 30 to 50 feet, the floor will clearly reflect side and overhead lighting and typically has an average Gloss reading between 50 and 60 when measured using a Gloss Meter prior to any sealer or polish guard application. . Sometimes this is referred to as a

Commercial grade polish.

4. Level 4 (highly polished): This level of polish produces a high degree of shine, so that when standing directly over the surface, you can see your reflection with total clarity. Also, the floor appears to be wet when viewed from different vantage points. A level 4 polish is obtained by going up to a 3,000-grit resin-bond diamond or by burnishing the floor with a high-speed burnisher outfitted with specialty buffing pads and typically has an average Gloss reading between 60 and 80 when measured using a Gloss Meter at a 85 degree angle setting prior to any sealer or polish guard application. Sometimes this is referred to as a Showroom grade polish.
- K. Maximum refinement: The point in time when the diamond tool has refined the surface to the degree to which it no longer cuts or cuts very little under its current weight and variables as defined by the Concrete Polishing Association of America (CPAA) .
- L. Reflective Clarity: The DOI (distinction of image) value of the degree of sharpness and crispness of the reflection of overhead objects when measured by a device in accordance to ASTM D5767.
- M. Reflective Sheen: The specular gloss value of the degree of gloss reflected from a surface, at specified angles of illumination, when measured by a device in accordance to ASTM D523-08.
- N. Shine is the quality of light.

1.4 REFERENCES

- A. American Concrete Institute (ACI): ACI 302.1R - Guide for Concrete Floor and Slab Construction.
- B. American Society of Concrete Contractors (ASCC) Subgroup - Concrete Polishing Council (CPC) Polished Concrete Definition: D 100.1.
- C. Concrete Polishing Council (CPC), formerly the Concrete Polishing Association of America (CPAA), a specialty council of the American Society of Concrete Contractors (ASCC).
- D. American National Standards Institute (ANSI): Standards B-101.3 Test Method for Measuring Wet DCOF of Common Hard Surface Floor Materials.
- E. American Society of Mechanical Engineers (ASME)
 1. ASME B46.1 Surface Texture (Surface Roughness, Waviness, and Lay)
- F. ASTM International (ASTM):
 1. ASTM F 2509-2011 – Standard Practice for Validation and Calibration of Walkway Tribometer using Reference Surfaces.
- G. National Floor Safety Institute (NFSI): NFSI Test Method 101-A - Standard for Evaluating High-Traction Flooring Materials.

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Meeting: Convene before the start of work on new concrete slabs, patching of existing concrete slabs, and start of application of concrete finish system.
 1. Require attendance of parties directly affecting work of this section, including the Owner's Representative, Contractor, Architect, concrete installer, and surface treatment/polishing contractor. Meeting should only convene when required parties are present.
 2. Review the Following:
 - a. Physical requirements of completed concrete slab and slab finish.

- b. Locations and time of test areas.
- c. Protection of surfaces not scheduled for finish application.
- d. Surface preparation.
- e. Application procedure.
- f. Quality control.
- g. Cleaning.
- h. Protection of finish system.
- i. Coordination with other ongoing work.

B. Submittals

1.6 SYSTEM DESCRIPTION

- A. Polished concrete floor, progressively refining and polishing of the concrete surface with not less than 10 diamond tool steps with full refinement of each diamond tool starting at 25 grit progressing up to 1500 grit resin bonded pad.
- B. Performance Requirements: Provide polished flooring that has been designed, manufactured and installed to achieve the following:
 - 1. ANSI B101.3 Wet (DCOF) Rating: Not less than 0.42.
 - 2. ASME B46.1 Surface Texture minimum Ra value of 0.41 micrometer.

1.7 SUBMITTALS

- A. Shop Drawings: Indicate information on shop drawings as follows:
 - 1. Typical layout including dimensions and floor grinding schedule.
 - 2. Plan view of floor and joint pattern layout.
 - 3. Areas to receive colored surface treatment (if applicable).
 - 4. Joint filler, hardener, sealer, densifier identified in notes.
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA product sheet, for specified products.
 - 1. Material Safety Data Sheets (MSDS).
 - 2. Preparation and concrete grinding procedures.
 - 3. Colored Concrete Surface, Dye Selection Guides (if applicable).
 - 4. Joint Filler Color Selection Guides.
- C. Quality Assurance Submittals:
 - 1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties as cited in Performance Requirements.
 - 2. Certificates:
 - a. Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements of ANSI B101.3 Standard.
 - b. Current contractor's certificate signed by manufacturer declaring Contractor as an approved installer of polishing system.
 - 3. Manufacturer's Instructions: Manufacturer's installation instructions.
- D. Warranty: Submit warranty documents specified.
 - 1. Contractor shall provide written two (2) year warranty covering all labor and materials for entire scope of work performed.
 - 2. Contractor shall provide two (2) year maintenance bond prior to final acceptance of project by Owner.
- E. Operation and Maintenance Data: Submit operation and maintenance data for installed products.
 - 1. Manufacturer's instructions on maintenance renewal of applied treatments.

2. Protocols and product specifications for joint filing, crack repair and/or surface repair.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications:
 1. Experience: Company Installer with a minimum of 4 years' experience in performing specified work similar in design, products and extent to scope of this Project.
 2. Supervision: Maintain competent supervisor who is at Project during times specified work is in progress, and is currently certified as Craftsman or Mater Craftsman by CPPA.
 3. Current Certification from the CPAA stating that the technicians are trained craftsmen.
- B. Dynamic Coefficient of Friction: Comply with ANSI B101.3 Standard Test Method for Measuring Wet Dynamic Coefficient of Friction (DCOF) of Common Hard Surface Floor Materials of not less than Wet DCOF 0.42.
- C. Average Roughness Profile: Comply with ASME B46.1 Surface Texture (Surface Roughness, Waviness and Lay), using ISCS test methods, during the polishing process to ensure the floor has a minimum Ra value of 0.41 micrometer.
- D. Manufacturer Qualifications:
 1. Manufacturer capable of providing field service representation during construction and approving application method.
- E. Mock-Ups:
 1. Mock-Up Size: A minimum of 100 sf sample at jobsite at location as directed under conditions similar to those which will exist during actual placement. Mock-up shall be performed in Athens High School B137 Office area.
 2. Mock-up will be used to judge workmanship, concrete substrate preparation, operation of equipment, material application, color selection and shine.
 3. Allow 24 hours for inspection of mock-up and written approval from Owner before proceeding with work.
 4. When accepted, mock-up will demonstrate minimum standard of quality required for this work.
 - a. Approved mock-up may remain as part of finished work.
 5. Mock-Up will demonstrate required level of cut:
 - a. Class Level 3 - Medium Aggregate: Exposing more of the overall girth of the coarse aggregate within the concrete. Generally, this level of cut can be achieved within 1/8" of the surface.
 - b. Sheen Level B: Sheen (high gloss) as determined by a gloss reading of 60 - 7 exposure of aggregates.
- F. Pre-installation Meetings: Conduct a pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Review the following:
 1. Environmental requirements.
 2. Scheduling and phasing of work.
 3. Coordinating with other work and personnel. Remind all trades that they are working on a surface that is to become a finished surface.
 4. Protection of adjacent surfaces.
 5. Surface preparation.
 6. Repair of defects and defective work prior to installation.
 7. Cleaning.
 8. Installation of polished floor finishes.
 9. Application of liquid hardener, densifier.
 10. Protection of finished surfaces after installation.
 11. placing of materials on the concrete surface that may cause staining, etching or

scratching

1.9 DELIVERY, STORAGE AND HANDLING

- A. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- B. Delivery: Deliver materials in manufacturer's original packaging with identification labels and seals intact.
- C. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.

1.10 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
- B. Protect Concrete Slab:
 - 1. Protect from petroleum stains during construction.
 - 2. Diaper hydraulic power equipment.
 - 3. Restrict vehicular parking.
 - 4. Restrict use of pipe cutting machinery.
 - 5. Restrict placement of reinforcing steel on slab.
 - 6. Restrict use of acids or acidic detergents on slab.
- C. Waste Management and Disposal:
 - 1. Dispose of all waste and other construction debris in accordance with all Federal, State and Local requirements.
 - 2. Remove from site and dispose of packaging materials at appropriate recycling facilities.

1.11 PROJECT AMBIENT CONDITIONS

- A. Installation Location: Comply with manufacturer's written recommendations.
 - 1. Do not proceed with work when project ambient conditions are not within the manufacturer's requirements.

1.12 SEQUENCING

- A. Sequence with Other Work: Comply with manufacturer's written recommendations for sequencing construction operations.

1.13 WARRANTY

- A. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and does not limit, other rights Owner may have under Contract Documents.
- B. Contractor shall provide written two (2) year warranty covering all labor and materials for entire scope of work performed.
- C. Contractor shall provide two (2) year maintenance bond prior to final acceptance of project by Owner.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer:
 - 1. DiamoPro
 - 2. Husqavarna/HTC
 - 3. Lavina
 - 4. Metzger/McGuire
 - 5. Prosoco
- B. Substitutions: Not permitted.

2.2 POLISHED CONCRETE

- A. Products/Systems:
 - 1. Hardener, Densifier:
 - a. Acceptable Material:
 - 1) Prosoco Consolideck LS Densifier.
 - 2. Grout Coat Application & Repairs
 - a. Acceptable Material (BASE BID)
 - 1) Prosoco Consolideck Grind-N-Fill.
 - b. Acceptable Material (ALTERNATE)
 - 1) Metzger/McGuire SRG (Surface Refinement Grout)
 - 2) DiamoPro DiamoGrout
 - 3. Joint Filler: Semi-rigid, 2-component, self-leveling, 100% solids, rapid curing, polyurea control joint and crack filler with Shore A 80 or higher hardness.
 - a. Acceptable Material:
 - 1) Metzger/McGuire Spal-Pro RS-88. Color to be matched to mock-up sample.
 - 2) DiamoPro DiamoJointFill Plus
 - 4. Polish Guard:
 - a. Acceptable Material:
 - 1) Prosoco Consolideck LSGuard.

2.3 POLISHING EQUIPMENT

- A. Field Grinding and Polishing Equipment:
 - 1. Variable speed, multiple head, counter-rotating, walk-behind machine with not less than 450 pounds of down pressure on grinding pads.
 - 2. Acceptable Equipment:
 - a. HTC Duratiq 6
 - b. Lavina L25E
 - c. Approved equal
- B. Dust Etraction System for Grinding/Sawing:
 - 1. HEPA filtration dust extraction equipment with a minimum of 130 CFM flow rate suitable for the amount of dust generated.
 - 2. Acceptable Equipment:
 - a. S36 by Pullman-Ermator
 - b. D30/D60 by HTC
 - c. Lavina D25
 - d. Approved equal
- C. Edge Grinding and Polishing Equipment: Hand-held or walk behind machines which utilize the same diamond tooling and produces same results, without noticeable differences, as the field grinding and polishing equipment.
- D. Burnishing Equipment: High speed walk-behind or ride-on machines capable of generating

1000 to 2000 revolutions per minute and with sufficient head pressure of not less than 20 pounds to raise floor temperature to manufacturer's requirements.

- E. Metal Bonded Pads: Grinding pads with embedded industrial grade diamonds of varying grits fabricated by either HTC, Lavina or DiamaPro for mounting on equipment.
- F. Hybrid Bonded Pads:
 - 1. DT Series grinding pads fabricated by HTC.
- G. Resin Bonded Pads:
 - 1. DX Series grinding pads fabricated by HTC.
 - 2. Husqvarna Hyperflex resin pads or polishing pucks.
 - 3. DiamaPro resin polishing pucks.
- H. Burnishing Pads: Maintenance pads for use with high speed burnishing equipment.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Site Verification of Conditions:
 - 1. Verify that concrete substrate conditions, which have been previously installed under other sections or contracts, are acceptable for product installation in accordance with manufacturer's instructions prior to installation of concrete finishing materials.
- B. Do not begin installation until substrates have been properly prepared.
 - 1. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
 - 2. Verify overall floor flatness is a minimum of Ff 40.
 - 3. Starting work within a particular area will be construed as acceptance of surface conditions by polishing contractor.

3.2 PREPARATION

- A. Cleaning Concrete Surfaces:
 - 1. Prepare and clean concrete surfaces.
 - 2. Ensure surfaces are clean and free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, paint splatter and other foreign matter harmful to performance of concrete finishing materials.
- B. Examine surface to determine soundness of concrete for polishing.

3.3 POLISHING CONCRETE FLOOR INSTALLATION

- A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions, product carton installation instructions.
- B. Floor Surface Polishing and Treatment:
 - 1. Provide polished concrete floor treatment in entirety of slab indicated by drawings. Provide consistent finish in all contiguous areas.
 - 2. Contractor shall achieve maximum refinement with each grinding step before proceeding to finer grit tools.
 - 3. Floor shall be thoroughly scrubbed utilizing an auto scrubber between each grit pass to remove all loose material.
 - 4. Initial Diamond Grinding
 - a. Machine grind floor surfaces to receive polished finishes level and smooth and to depth required to reveal aggregate to match approved mockup. Grind concrete floor surfaces starting with at least a #25 grit metal diamond tooling

- and proceeding to a minimum of a #80 grit metal diamond tooling. Installer shall determine the optimum starting grit in order to achieve the specified aggregate exposure.
5. Grout Coat (Pinholes and Micro-defects) **BASE BID**
 - a. Apply Consolideck Grind-N-Fill as required by manufacture.
 - b. Product shall be applied with the first hybrid transitional diamond tool and after the last metal bond diamond tool.
 6. Grout Coat (Pinholes and Micro-defects) **ALTERNATE**
 - a. Utilize Metzger/McGuire Co SRG (Surface Refinement Grout). Grout coat shall be applied to entire concrete floor surface scheduled to receive a polish finish.
 - b. Color shall match mock-up sample from manufacture's color chart.
 - c. Apply grout coat application in accordance with manufacturer's requirements. Concrete shall be clean and dry prior to material installation.
 - d. Apply material generously on the entire floor and work into the surface using a metal smoother or rigid-edged trowel. Monitor surface for air holes resulting from entrapped air and re-apply as needed.
 - e. Removal of grout coat application in accordance with manufacture's requirements and no less than # 80 grit metal diamond tooling.
 - f. Removal of cured SRG cap/film should be performed as soon as cure allows and within the latest recommended removal time after placement.
 - g. Comply with the material manufacturer's recommended polishing grits size minimums for all grout, repairs and joint filler installation applications. Joint filler, grout coats or repairs shall not take place prior to the # 40 grit metal grinding step.
 - h. Approved Equal: DiamoPro DiamoGrout Resinous Concrete Grout.
 7. Joint Filler
 - a. Comply with Section 03 31 70 Concrete Floor Joint Fillers.
 - b. Utilize Metzger/McGuire Co Spal-Pro RS 88 Rapid Set Polyurea Joint Filler.
 - 1) Install all joint filler in accordance with manufacture's requirements.
 - 2) Contractor shall utilize Metzger/McGuire Co SPF (Stain Preventing Film) for all joint filling.
 - 3) Joint Filler color shall match mock-up sample from manufacture's color chart.
 - 4) Fill joints flush to surface prior to the start of polishing operations.
 - 5) Approved Equal: DiamoPro DiamoJoint Fill Plus.
 8. Transitional Diamond Grinding:
 - a. Machine grind concrete floor surfaces utilizing DT3 transitional diamond tooling.
 - b. Machine grind concrete floor surface utilizing DT5 transitional diamond tooling.
 9. Resin Diamond Grinding:
 - a. It is the sole responsibility of the contractor to determine if a lower grit resin diamond tooling is required to achieve the required floor finish.
 - b. Machine grind concrete floor surface starting with a minimum of #150 grit resin diamond tooling.
 - c. Machine grind concrete floor surface with #200 grit resin diamond tooling.
 10. Hardener and Densifier Application:
 - a. Floor shall be cleaned utilizing an auto scrubber with brush pads prior to the application of the densifier and any resin residue shall be removed from the floor surface.
 - b. First coat of densifier shall be applied following the #200 grit resin step. For soft concrete (between 2-3 Mohs), contractor shall apply two (2) coats of densifier.
 - c. Follow manufacturer's recommendations for drying time between successive coats and polishing steps.
 11. Honing:
 - a. Machine grind concrete floor surface using #400 grit resin diamond tooling.
 12. Polishing:

- a. Machine grind concrete floor surface using #800 grit resin diamond tooling.
 - b. Machine grind concrete floor surface using #1500 grit resin diamond tooling.
 - c. Clean the concrete surface floor utilizing a resin-free diamond impregnated pad (DIP) to ensure all resin residue has been removed.
 - d. Contractor shall measure the ASME B46.1, "Average Roughness Profile" to verify if the floor has a minimum Ra value of 0.41 micrometer and an average DOI reading between 65 – 70 prior to the application of any sealers, protective finishes or the polish guard.
13. Polish Guard:
- a. Apply floor finish prior to installation of fixtures and accessories.
 - b. Uniformly apply two (2) coats of Consolideck PolishGuard as required by the manufacture.
 - c. Dry burnish polish guard between each application coat.
 - d. Contractor shall utilize burnishing pads as recommended by polish guard manufacture.

3.4 ADJUSTMENTS

- A. Re-polish those areas not meeting specified DOI, gloss levels and DCOF per mock-up and specifications.

3.5 FINAL CLEANING

- A. Upon completion, remove surplus and excess materials, rubbish, tools and equipment.

3.6 PROTECTION

- A. Protect finish polished concrete floor from damage during construction in accordance with manufacturer's recommendations.

END OF SECTION

SECTION 09
POLISHED TERRAZZO RESTORATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Polished Terrazzo.
1. Polished terrazzo finishing including grout coat, crack repairs, densification and polish guard.
 2. Grind, hone and polish concrete starting from a minimum of #100 grit (Braze Lippage Removal pad) progressing to #1500 grit.
 3. Caution: Divider strips may be coated instead of solid composition. Coated strips should not be ground. Grinding may cause coated divider strips to lose their coating and discolor. Exercise caution when grinding near coated divider strips. It is the contractor's sole responsibility to repair any damage they caused to the Owner's sole satisfaction.
 4. Polish terrazzo according to the Concrete Polishing Council, ASCC.
 - a. Polished Terrazzo Appearance: Level 3 Polished with a Distinctness-of-Image (DOI) Gloss reading between 65 – 70 %.
 5. Procedure:
 - a. Grinding and honing terrazzo surface to receive a concrete densifier.
 - b. **ALTERNATE PRICING:** Full application of resin-based grout coat over entire floor surface. Base bid amount shall not include "grout" coat.
 - c. Filling of all cracks utilizing a resin-based repair material color matched to terrazzo matrix color.
 - d. Application of concrete densifier.
 - e. Progressively refining and polishing of the concrete surface with not less than 7 diamond tool steps with full refinement of each diamond tool starting at #100 grit metal lippage progressing up to 1500 grit resin bonded pad.
 6. Field testing floor surface for ANSI DCOF and ASME Surface Texture.
 7. Application of Polished Terrazzo protective treatment with dry burnishing.
- B. Crack Repairs
1. Repair all cracks, spalls, pop outs, scratches, gouges and other floor imperfections using resin-based Metzger/McGuire SRG or DiamaPro DiamaGrout Plus.
- C. Filed Testing
1. Contractor shall be responsible for all field-testing including equipment rental and calibration. Fields tests shall be performed prior to and after any coating application.
 2. ANSI Standards B-101.3 Test Method for Measuring Wet DCOF of Common Hard Surface Floor Materials.
 - a. It is the contractor's sole responsibility to ensure the finished polished floor conforms to the ANSI B-101.3 standard of not less than Wet DCOF 0.42.
 3. ASME B46.1 Surface Texture (Surface Roughness, Waviness, and Lay).

1.2 RELATED SECTIONS

1.3 DEFINITIONS

- A. Coefficient of Friction:
1. Static Coefficient of Friction (SCOF): The frictional resistance between two objects when beginning motion from a stationary position.
 2. Dynamic Coefficient of Friction (DCOF): The frictional resistance between two objects when one is already in motion.

- B. Cross Hatch: A multi-directional pass with grinding or polishing equipment.
- C. Diamond Tooling - Metal Bond, Hybrid, Transitional and Resin Bonds:
 1. Metal Bond Tooling: Diamond tooling typically used in the grinding and early honing stages that contains industrial grade diamonds with a metallic bonded matrix that is attached to rotating heads to refine the concrete surface.
 2. Hybrid Tooling: Diamond tooling that combines metal bond and resin bond, or specially hardened resin that has the characteristics of both types of tooling and used as transitional tooling from metal to resin bond tools or as a first cut tool on smooth concrete surfaces.
 3. Transition Tooling: Diamond tooling used to refine the scratch pattern of metal bond tooling prior to the use of resin bond tooling in an effort to extend the life of resin bond tooling and create a better surface for the polishing process.
 4. Resin Bond Tooling: Diamond tooling typically used in the honing and polishing stages that contains industrial grade diamonds within a resin bonded matrix (poly-phenolic, ester-phenolic, and thermoplastic-phenolic) that is attached to rotating heads to refine the concrete surface.
- D. Distinction of Image (DOI): The sharpness of light reflections or reflected images.
- E. Gloss: also known as specular gloss, is the quantity of light reflecting from the concrete or terrazzo surface.
- F. Gloss (Finished): Processing a concrete or terrazzo floor surface to achieve a specified level of finished gloss prior to application of any protective treatment; Flat (ground), satin (honed), semi polished, and highly polished are measured in reflective clarity (DOI), and reflective sheen (specular gloss). Finished Gloss is classified as levels 1, 2, 3 and 4 with varying degrees of reflective clarity, and sheen.
- G. Gloss Measurement: A determination of specular gloss that incorporates distinction of image, haze and reflection.
- H. Gloss Meter: A device to measure specular gloss at 20, 60, or 85 degrees.
- I. Gloss Reading: A Gloss reading shall consist of the average of a group of three (3) readings taken within a 12-inch diameter of each other using an 85-degree angle Gloss Meter.
- J. Gloss Restoration/Polishing Levels - Levels 1, 2, 3 and 4:
 1. Level 1 (flat): A level 1 ground polish usually can be obtained by stopping below the 100-grit resin bond. When you look directly down at the floor, it will appear somewhat hazy with little if any clarity or reflection.
 2. Level 2 (satin): A level 2 honed polish is obtained by stopping at the 400-grit resin bond, producing a low-sheen finish. When you look directly down at the finished floor and at a distance of roughly 100 feet, you can start to see a slight overhead reflection. This grit level produces a low-luster matte finish and typically has an average Gloss reading between 40 and 50 when measured using a Gloss Meter prior to any sealer or polish guard application. Sometimes this is referred to as an Industrial grade polish.
 3. Level 3 (semi-polished): A level 3 polish is achieved by going up to an 800-grit or higher diamond abrasive. The surface will have a much higher sheen than that of level 2 finish, and you'll start to see good light reflectivity. At a distance between 30 to 50 feet, the floor will clearly reflect side and overhead lighting and typically has an average Gloss reading between 50 and 60 when measured using a Gloss Meter prior to any sealer or polish guard application. . Sometimes this is referred to as a Commercial grade polish.
 4. Level 4 (highly polished): This level of polish produces a high degree of shine, so that when standing directly over the surface, you can see your reflection with total clarity. Also, the floor appears to be wet when viewed from different vantage points. A level 4

polish is obtained by going up to a 3,000-grit resin-bond diamond or by burnishing the floor with a high-speed burnisher outfitted with specialty buffing pads and typically has an average Gloss reading between 60 and 80 when measured using a Gloss Meter at a 85 degree angle setting prior to any sealer or polish guard application. Sometimes this is referred to as a Showroom grade polish.

- K. Maximum refinement: The point in time when the diamond tool has refined the surface to the degree to which it no longer cuts or cuts very little under its current weight and variables as defined by the Concrete Polishing Association of America (CPAA) .
- L. Reflective Clarity: The DOI (distinction of image) value of the degree of sharpness and crispness of the reflection of overhead objects when measured by a device in accordance to ASTM D5767.
- M. Reflective Sheen: The specular gloss value of the degree of gloss reflected from a surface, at specified angles of illumination, when measured by a device in accordance to ASTM D523-08.
- N. Shine is the quality of light.

1.4 REFERENCES

- A. American Concrete Institute (ACI): ACI 302.1R - Guide for Concrete Floor and Slab Construction.
- B. American Society of Concrete Contractors (ASCC) Subgroup - Concrete Polishing Council (CPC) Polished Concrete Definition: D 100.1.
- C. Concrete Polishing Council (CPC), formerly the Concrete Polishing Association of America (CPAA), a specialty council of the American Society of Concrete Contractors (ASCC).
- D. American National Standards Institute (ANSI): Standards B-101.3 Test Method for Measuring Wet DCOF of Common Hard Surface Floor Materials.
- E. American Society of Mechanical Engineers (ASME)
 - 1. ASME B46.1 Surface Texture (Surface Roughness, Waviness, and Lay)
- F. ASTM International (ASTM):
 - 1. ASTM F 2509-2011 – Standard Practice for Validation and Calibration of Walkway Tribometer using Reference Surfaces.
- G. National Floor Safety Institute (NFSI): NFSI Test Method 101-A - Standard for Evaluating High-Traction Flooring Materials.
- H. National Terrazzo and Mosaic Association, Inc. (NTMA):

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Meeting: Convene before the start of work on new concrete slabs, patching of existing concrete slabs, and start of application of concrete finish system.
 - 1. Require attendance of parties directly affecting work of this section, including the Owner's Representative, Contractor, Architect, concrete installer, and surface treatment/polishing contractor. Meeting should only convene when required parties are present.
 - 2. Review the Following:
 - a. Physical requirements of completed concrete slab and slab finish.
 - b. Locations and time of test areas.
 - c. Protection of surfaces not scheduled for finish application.

- d. Surface preparation.
- e. Application procedure.
- f. Quality control.
- g. Cleaning.
- h. Protection of finish system.
- i. Coordination with other ongoing work.

B. Submittals

1.6 SYSTEM DESCRIPTION

- A. Polished Terrazzo floor, progressively refining and polishing of the concrete surface with not less than 7 diamond tool steps with full refinement of each diamond tool starting at 100 grit metal lippage removal progressing down to hybrid transitional DT3, DT5 and up to 1500 grit resin bonded pad.
- B. Performance Requirements: Provide polished flooring that has been designed, manufactured and installed to achieve the following:
 - 1. ANSI B101.3 Wet (DCOF) Rating: Not less than 0.42.
 - 2. ASME B46.1 Surface Texture minimum Ra value of 0.41 micrometer.

1.7 SUBMITTALS

- A. Shop Drawings: Indicate information on shop drawings as follows:
 - 1. Typical layout including dimensions and floor grinding schedule.
 - 2. Plan view of floor and layout of crack repairs.
 - 3. Repair material, grout, hardener, sealer, densifier identified in notes.
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA product sheet, for specified products.
 - 1. Material Safety Data Sheets (MSDS).
 - 2. Preparation and concrete grinding procedures.
 - 3. Colored Terrazzo Matrix, Dye Selection Guides (if applicable).
- C. Quality Assurance Submittals:
 - 1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties as cited in Performance Requirements.
 - 2. Certificates:
 - a. Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements of ANSI B101.3 Standard.
 - b. Current contractor's certificate signed by manufacturer declaring Contractor as an approved installer of polishing system.
 - 3. Manufacturer's Instructions: Manufacturer's installation instructions.
- D. Warranty: Submit warranty documents specified.
 - 1. Contractor shall provide written two (2) year warranty covering all labor and materials for entire scope of work performed.
 - 2. Contractor shall provide two (2) year maintenance bond prior to final acceptance of project by Owner.
- E. Operation and Maintenance Data: Submit operation and maintenance data for installed products.
 - 1. Manufacturer's instructions on maintenance renewal of applied treatments.
 - 2. Protocols and product specifications for joint filing, crack repair and/or surface repair.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Experience: Company Installer with a minimum of 4 years' experience in performing specified work similar in design, products and extent to scope of this Project.
 - 2. Supervision: Maintain competent supervisor who is at Project during times specified work is in progress, and is currently certified as Craftsman or Mater Craftsman by CPPA.
 - 3. Current Certification from the CCAA stating that the technicians are trained craftsmen.
- B. Dynamic Coefficient of Friction: Comply with ANSI B101.3 Standard Test Method for Measuring Wet Dynamic Coefficient of Friction (DCOF) of Common Hard Surface Floor Materials of not less than Wet DCOF 0.42.
- C. Average Roughness Profile: Comply with ASME B46.1 Surface Texture (Surface Roughness, Waviness and Lay), using ISCS test methods, during the polishing process to ensure the floor has a minimum Ra value of 0.41 micrometer.
- D. Manufacturer Qualifications:
 - 1. Manufacturer capable of providing field service representation during construction and approving application method.
- E. Mock-Ups:
 - 1. Mock-Up Size: A minimum of 100 sf sample at jobsite at location as directed under conditions similar to those which will exist during actual placement. Mock-up shall be performed in location determined by Owner.
 - 2. Mock-up will be used to judge workmanship, terrazzo substrate preparation, operation of equipment, material application, color selection, DOI, DCOF and shine.
 - 3. Allow 24 hours for inspection of mock-up and written approval from Owner before proceeding with work.
 - 4. When accepted, mock-up will demonstrate minimum standard of quality required for this work.
 - a. Approved mock-up may remain as part of finished work.
 - 5. Mock-Up will demonstrate required level of sheen:
 - a. Sheen Level: Sheen (high gloss) as determined by an average gloss reading of 55 – 60.
 - 1) If a grout coat is applied, the Sheen Level shall have an average gloss reading of 60 – 70.
- F. Pre-installation Meetings: Conduct a pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Review the following:
 - 1. Environmental requirements.
 - 2. Scheduling and phasing of work.
 - 3. Coordinating with other work and personnel. Remind all trades that they are working on a surface that is to become a finished surface.
 - 4. Protection of adjacent surfaces.
 - 5. Surface preparation.
 - 6. Repair of defects and defective work prior to installation.
 - 7. Cleaning.
 - 8. Installation of polished floor finishes.
 - 9. Application of liquid hardener, densifier.
 - 10. Protection of finished surfaces after installation.
 - 11. placing of materials on the concrete surface that may cause staining, etching or scratching

1.9 DELIVERY, STORAGE AND HANDLING

- A. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to

avoid construction delays.

- B. Delivery: Deliver materials in manufacturer's original packaging with identification labels and seals intact.
- C. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.

1.10 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
- B. Protect Terrazzo Floor:
 - 1. Protect from petroleum stains during construction.
 - 2. Diaper hydraulic power equipment.
 - 3. Restrict vehicular parking.
 - 4. Restrict use of pipe cutting machinery.
 - 5. Restrict placement of reinforcing steel on slab.
 - 6. Restrict use of acids or acidic detergents on slab.
- C. Waste Management and Disposal:
 - 1. Dispose of all waste and other construction debris in accordance with all Federal, State and Local requirements.
 - 2. Remove from site and dispose of packaging materials at appropriate recycling facilities.

1.11 PROJECT AMBIENT CONDITIONS

- A. Installation Location: Comply with manufacturer's written recommendations.
 - 1. Do not proceed with work when project ambient conditions are not within the manufacturer's requirements.

1.12 SEQUENCING

- A. Sequence with Other Work: Comply with manufacturer's written recommendations for sequencing construction operations.

1.13 WARRANTY

- A. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and does not limit, other rights Owner may have under Contract Documents.
- B. Contractor shall provide written two (2) year warranty covering all labor and materials for entire scope of work performed.
- C. Contractor shall provide two (2) year maintenance bond prior to final acceptance of project by Owner.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer:
 - 1. DiamaPro
 - 2. Husqavarna/HTC

3. Lavina
4. Metzger/McGuire
5. Prosoco

B. Substitutions: Not permitted.

2.2 POLISHED TERRAZZO

A. Products/Systems:

1. Hardener, Densifier:
 - a. Acceptable Material:
 - 1) Prosoco Consolideck LS Densifier.
2. Grout Coat Application & Repairs
 - a. Acceptable Material (ALTERNATE)
 - 1) Metzger/McGuire SRG (Surface Refinement Grout)
 - 2) DiamoPro DiamoGrout
 - 3) Portland cement, ASTM C150, Type I Nonstaining, except as modified to comply with NTMA requirements for compressive strength.
 - 4) Approved equal.
3. Crack Repairs: Resin-based Cementous, two-component material.
 - a. Acceptable Material:
 - 1) Metzger/McGuire SRG.
 - 2) DiamoPro DiamoGrout.
 - 3) General Polymers 3746 100% Solids Epoxy
 - 4) Color to be match terrazzo matrix.
4. Polish Guard:
 - a. Acceptable Material:
 - 1) Prosoco Consolideck LSGuard.

2.3 POLISHING EQUIPMENT

A. Field Grinding and Polishing Equipment:

1. Variable speed, multiple head, counter-rotating, walk-behind machine with not less than 450 pounds of down pressure on grinding pads.
2. Acceptable Equipment:
 - a. HTC Duratiq 6
 - b. Lavina L25E
 - c. Approved equal

B. Dust Etraction System for Grinding/Sawing:

1. HEPA filtration dust extraction equipment with a minimum of 130 CFM flow rate suitable for the amount of dust generated.
2. Acceptable Equipment:
 - a. S36 by Pullman-Ermator
 - b. D30/D60 by HTC
 - c. Lavina D25
 - d. Approved equal

C. Edge Grinding and Polishing Equipment: Hand-held or walk behind machines which utilize the same diamond tooling and produces same results, without noticeable differences, as the field grinding and polishing equipment.

D. Burnishing Equipment: High speed walk-behind or ride-on machines capable of generating 1000 to 2000 revolutions per minute and with sufficient head pressure of not less than 20 pounds to raise floor temperature to manufacture's requirements.

E. Metal Bonded Pads:

1. #100 grit metal Brazed Lippage grinding pads with embedded industrial grade diamonds of varying grits fabricated by Lavina for mounting on equipment.
- F. Hybrid Bonded Pads:
1. DT Series grinding pads fabricated by HTC.
- G. Resin Bonded Pads:
1. DX Series grinding pads fabricated by HTC.
 2. Husqvarna Hyperflex resin pads or polishing pucks.
 3. DiamaPro resin polishing pucks.
- H. Burnishing Pads: Maintenance pads for use with high speed burnishing equipment.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Site Verification of Conditions:
1. Verify that terrazzo substrate conditions, which have been previously installed under other sections or contracts, are acceptable for product installation in accordance with manufacturer's instructions prior to installation of concrete finishing materials.
- B. Do not begin installation until substrates have been properly prepared.
1. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
 2. Starting work within a particular area will be construed as acceptance of surface conditions by polishing contractor.

3.2 PREPARATION

- A. Cleaning Terrazzo Surfaces:
1. Prepare and clean terrazzo surfaces.
 2. Strip and remove all existing floor wax coatings.
 3. Ensure surfaces are clean and free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, paint splatter and other foreign matter harmful to performance of terrazzo finishing materials.
- B. Examine surface to determine soundness of terrazzo for polishing.

3.3 POLISHING TERRAZZO FLOOR INSTALLATION

- A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions, product carton installation instructions.
- B. Floor Surface Polishing and Treatment:
1. Provide Polished Terrazzo floor treatment in entirety of floor indicated by drawings. Provide consistent finish in all contiguous areas.
 2. Contractor shall achieve maximum refinement with each grinding step before proceeding to finer grit tools.
 3. Floor shall be thoroughly scrubbed utilizing an auto scrubber between each grit pass to remove all loose material.
 4. Initial Diamond Grinding
 - a. Machine grind floor surfaces to receive polished finishes level and smooth and to depth required to reveal aggregate to match approved mockup. Grind terrazzo floor surfaces starting with at least a #100 grit brazed metal lippage removal diamond tooling.
 5. Grout Coat (Pinholes and Micro-defects) **ALTERNATE**
 - a. Utilize Metzger/McGuire Co SRG (Surface Refinement Grout), DiamaPro

- Diamagrout or Non-staining Portland Cement Sand mixture. Grout coat shall be applied to entire concrete floor surface scheduled to receive a polish finish.
- b. Color shall match mock-up sample from manufacturer's color chart.
 - c. Apply grout coat application in accordance with manufacturer's requirements. Terrazzo shall be clean and dry prior to material installation.
 - d. Apply material generously on the entire floor and work into the surface using a metal smoother or rigid-edged trowel. Monitor surface for air holes resulting from entrapped air and re-apply as needed.
 - e. Removal of grout coat application in accordance with manufacturer's requirements and no less than DT3 transitional hybrid diamond tooling.
 - f. Removal of cured SRG cap/film should be performed as soon as cure allows and within the latest recommended removal time after placement.
 - g. Comply with the material manufacturer's recommended polishing grits size minimums for all grout and repairs applications.
6. Transitional Diamond Grinding:
 - a. Machine grind concrete floor surfaces utilizing DT3 transitional diamond tooling.
 - b. Machine grind concrete floor surface utilizing DT5 transitional diamond tooling.
 7. Resin Diamond Grinding:
 - a. It is the sole responsibility of the contractor to determine if a lower grit resin diamond tooling is required to achieve the required floor finish.
 - b. Machine grind concrete floor surface starting with a minimum of DX5 (#150 grit) resin diamond tooling.
 - c. Machine grind concrete floor surface with DX6 (#200 grit) resin diamond tooling.
 8. Hardener and Densifier Application:
 - a. Floor shall be cleaned utilizing an auto scrubber with brush pads prior to the application of the densifier and any resin residue shall be removed from the floor surface.
 - b. First coat of densifier shall be applied following the DX6 (#200 grit) resin step. For soft concrete (between 2-3 Mohs), contractor shall apply two (2) coats of lithium densifier.
 - c. Follow manufacturer's recommendations for drying time between successive coats and polishing steps.
 9. Honing:
 - a. Machine grind concrete floor surface using DX7 (#400 grit) resin diamond tooling.
 10. Polishing:
 - a. Machine grind concrete floor surface using DX8 (#800 grit) resin diamond tooling.
 - b. Machine grind concrete floor surface using DX9 (#1500) grit resin diamond tooling.
 - c. Clean the concrete surface floor utilizing a resin-free 1500 grit or higher diamond impregnated pad (DIP) to ensure all resin residue has been removed.
 - d. Contractor shall measure the ASME B46.1, "Average Roughness Profile" to verify if the floor has a minimum Ra value of 0.41 micrometer and an average DOI reading between 65 – 70 prior to the application of any sealers, protective finishes or the polish guard.
 11. Polish Guard:
 - a. Apply floor finish prior to installation of fixtures and accessories.
 - b. Uniformly apply two (2) coats of Consolideck PolishGuard as required by the manufacture.
 - c. Dry burnish polish guard between each application coat.
 - d. Contractor shall utilize burnishing pads as recommended by polish guard manufacture.

3.4 ADJUSTMENTS

- A. Re-polish those areas not meeting specified DOI, gloss levels and DCOF per mock-up and specifications.

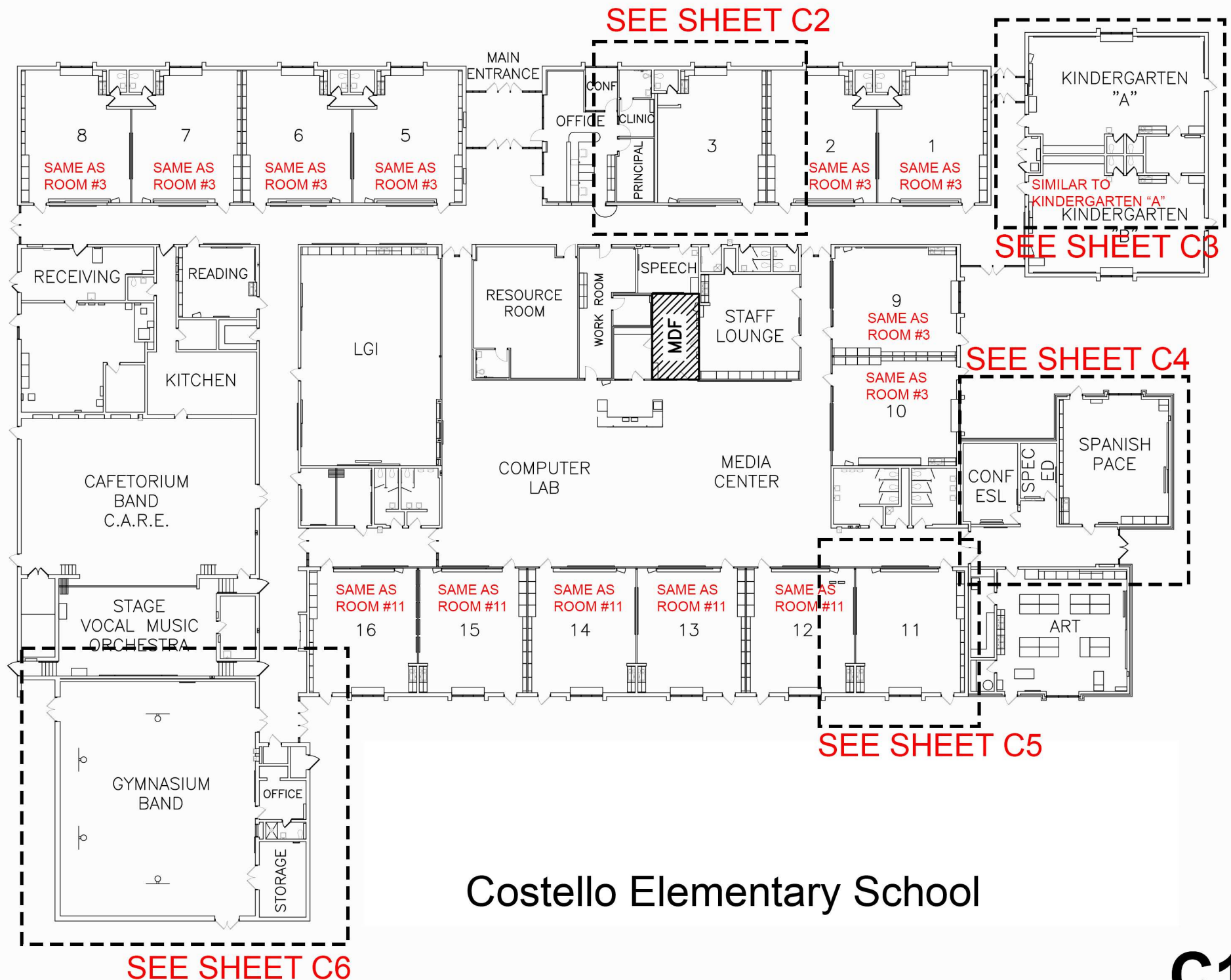
3.5 FINAL CLEANING

- A. Upon completion, remove surplus and excess materials, rubbish, tools and equipment.

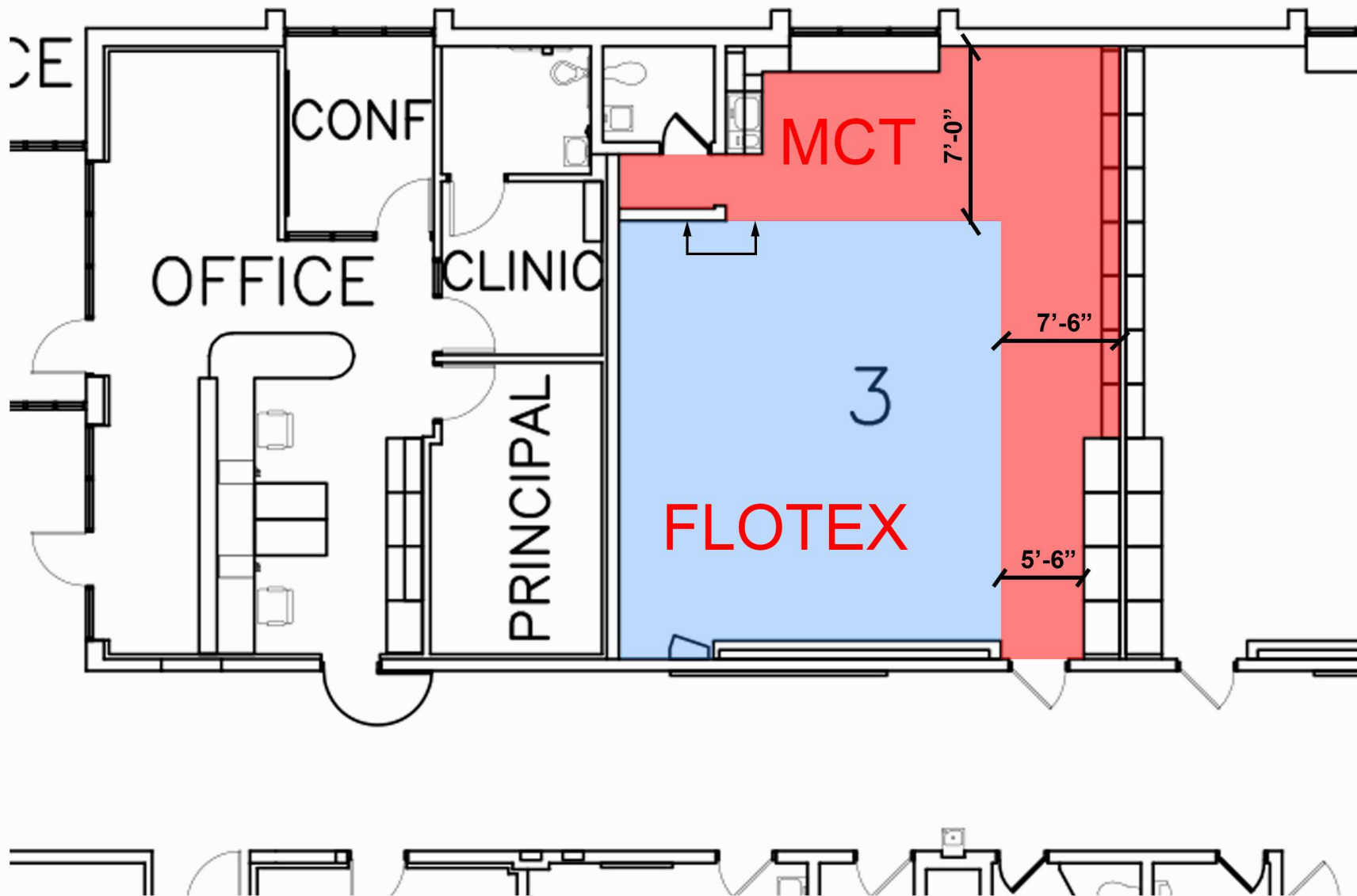
3.6 PROTECTION

- A. Protect finish Polished Terrazzo floor from damage during construction in accordance with manufacturer's recommendations.

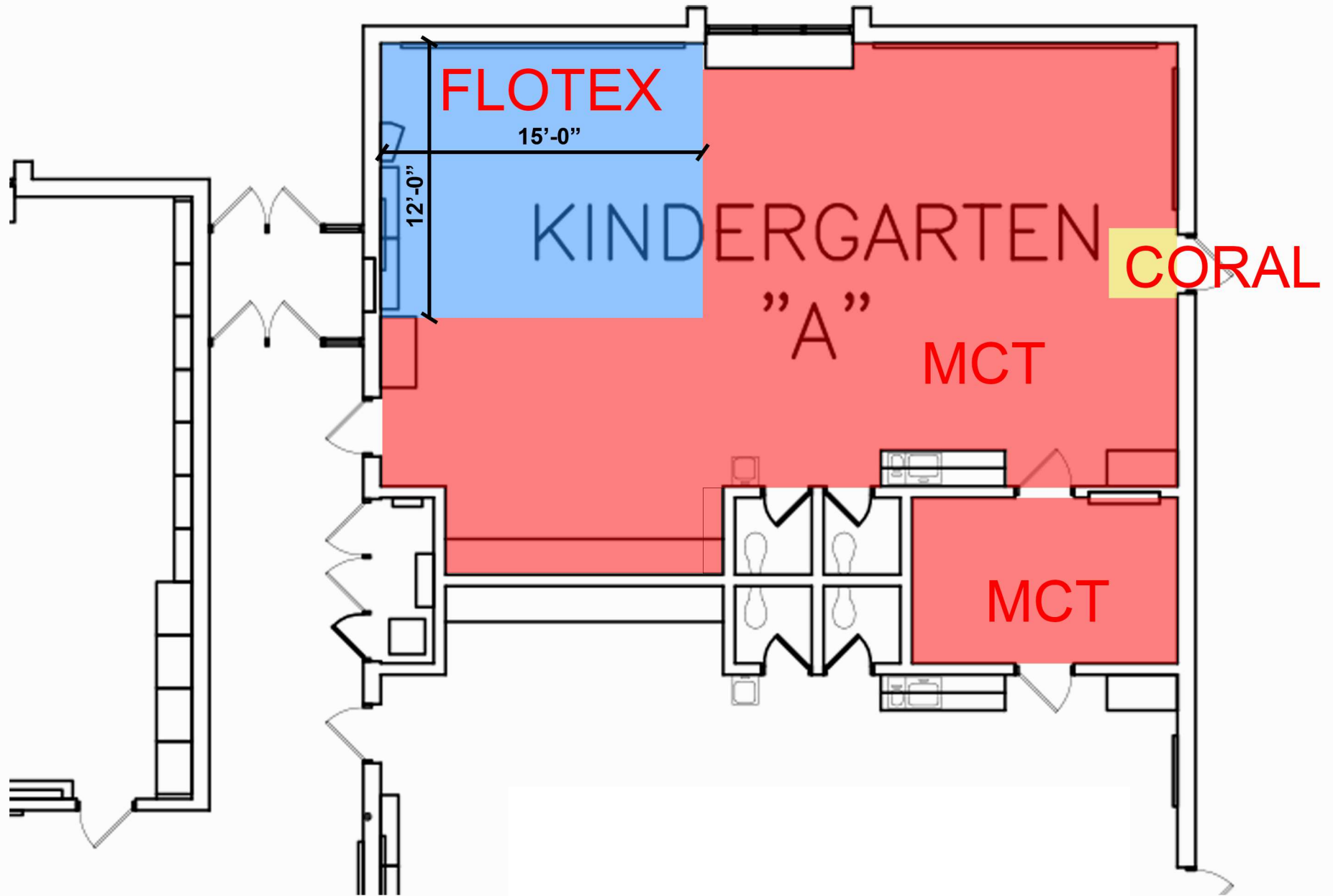
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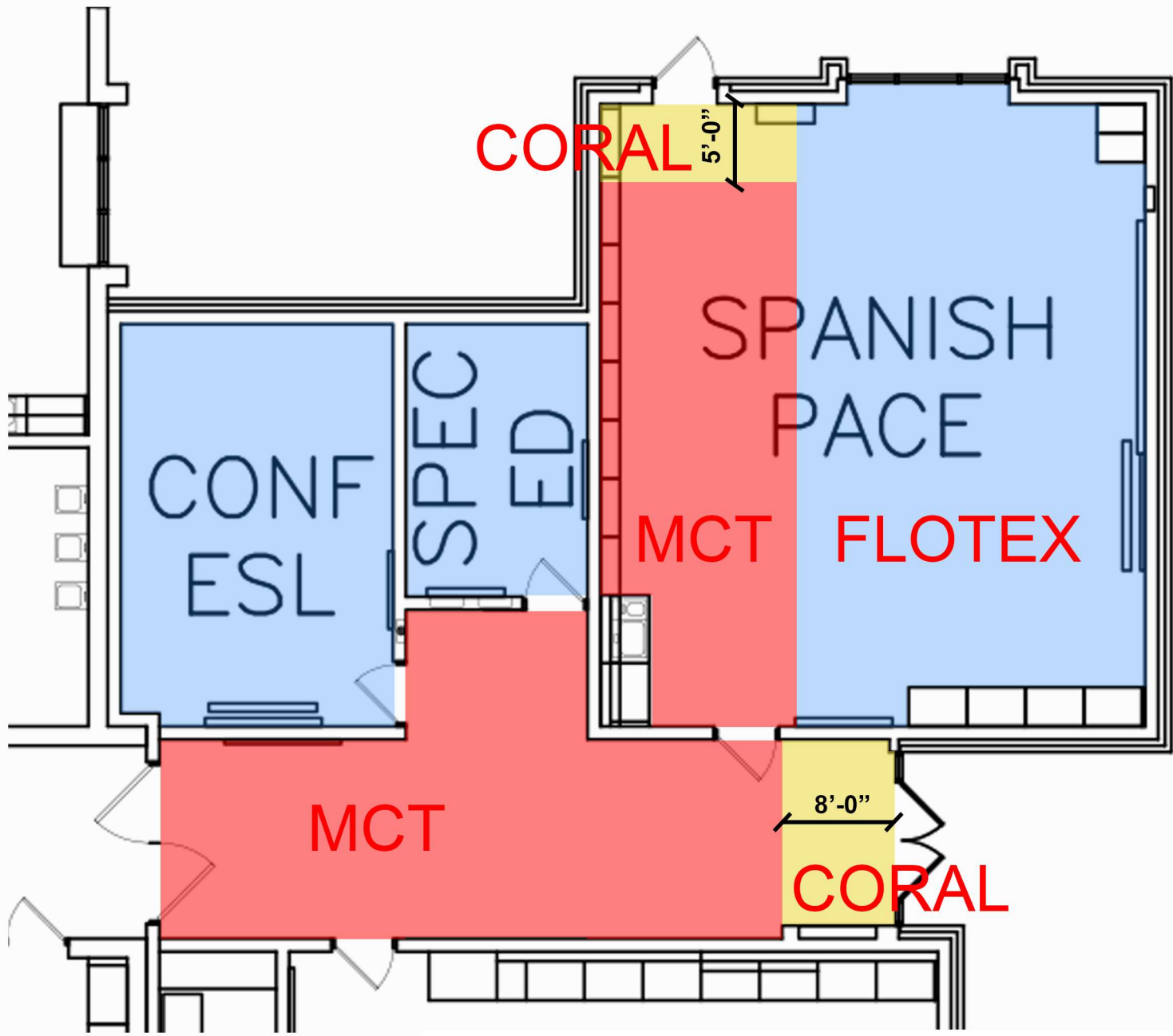
Costello Elementary School



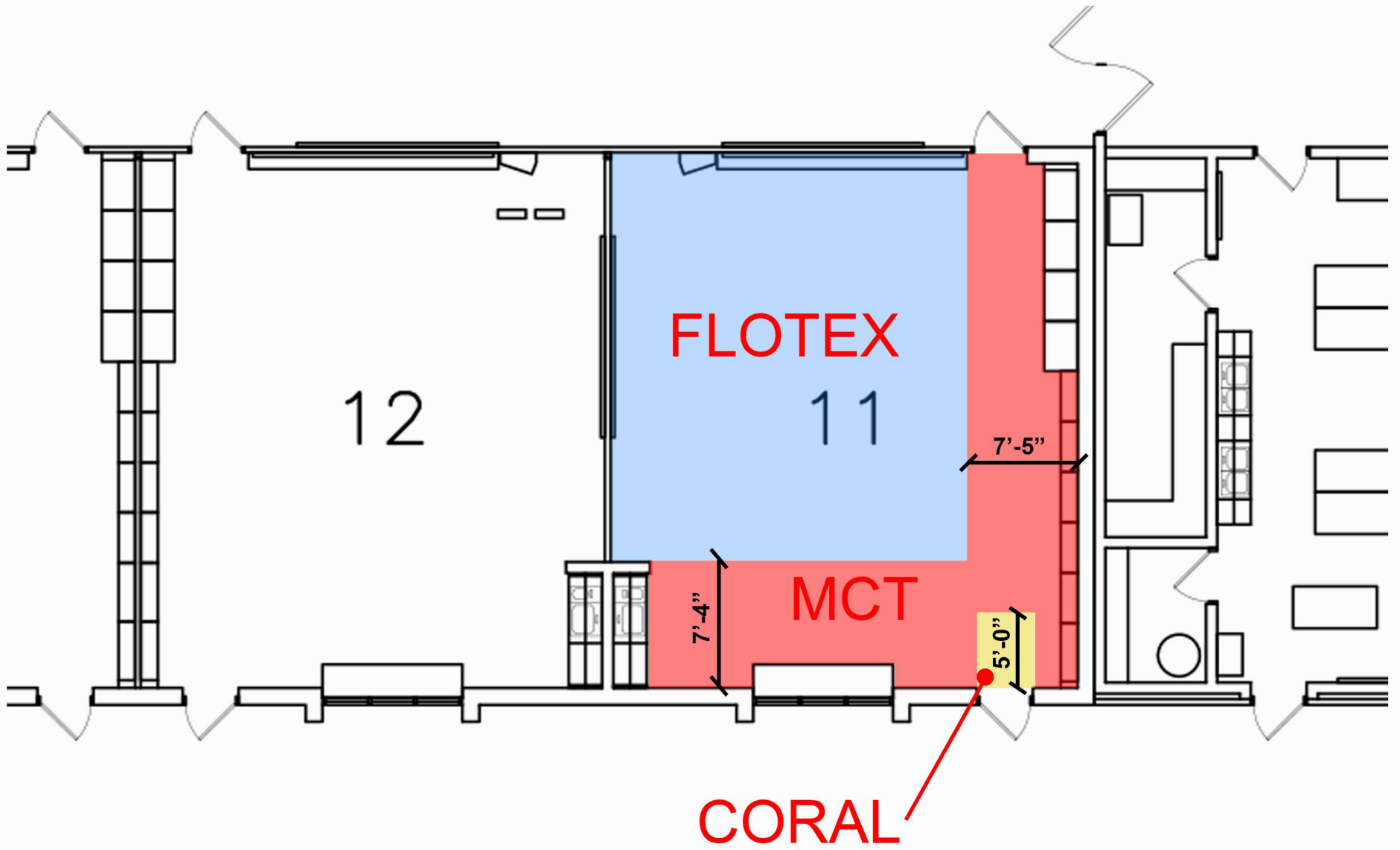
Costello Elementary School



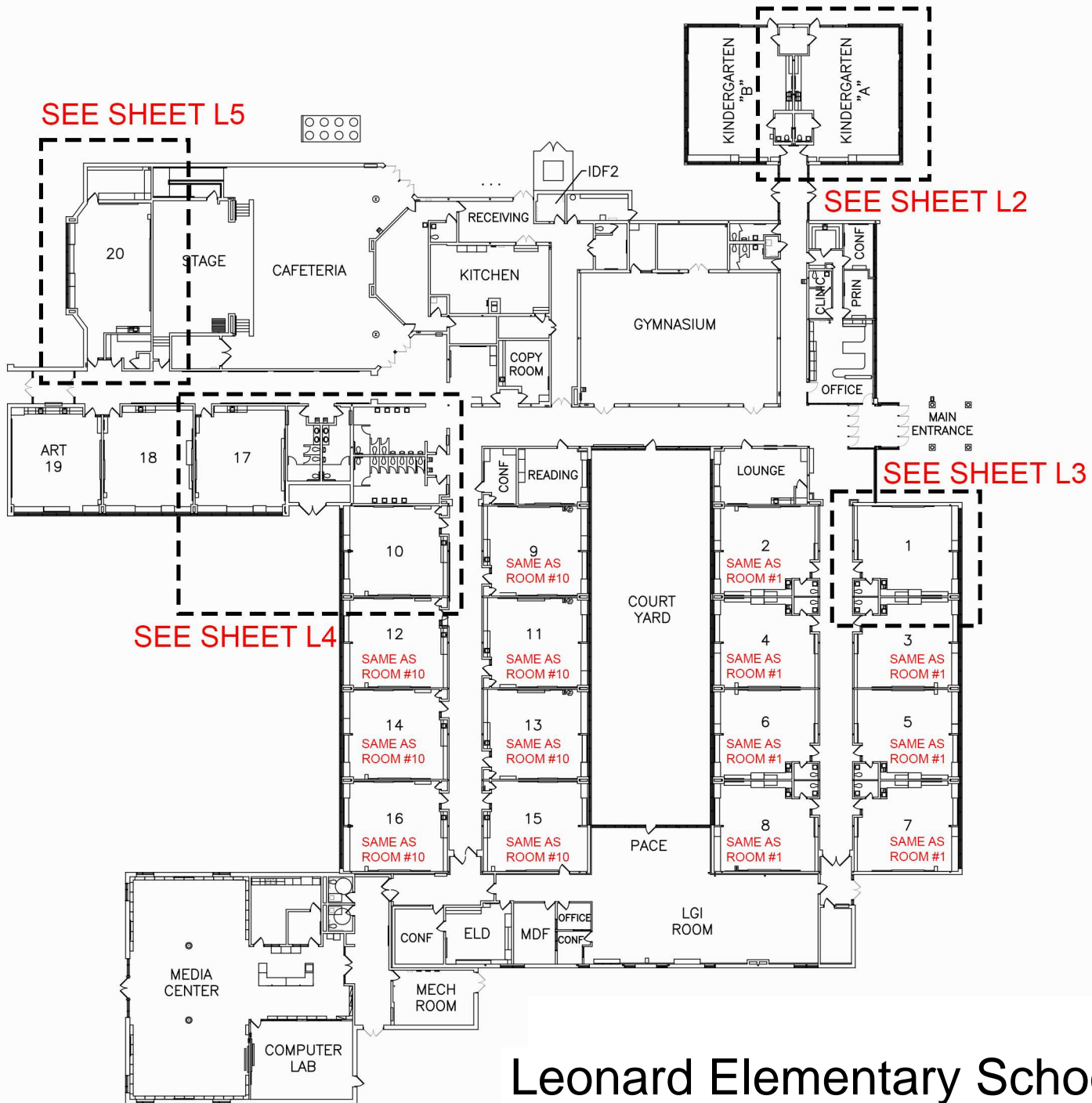
Costello Elementary School



Costello Elementary School

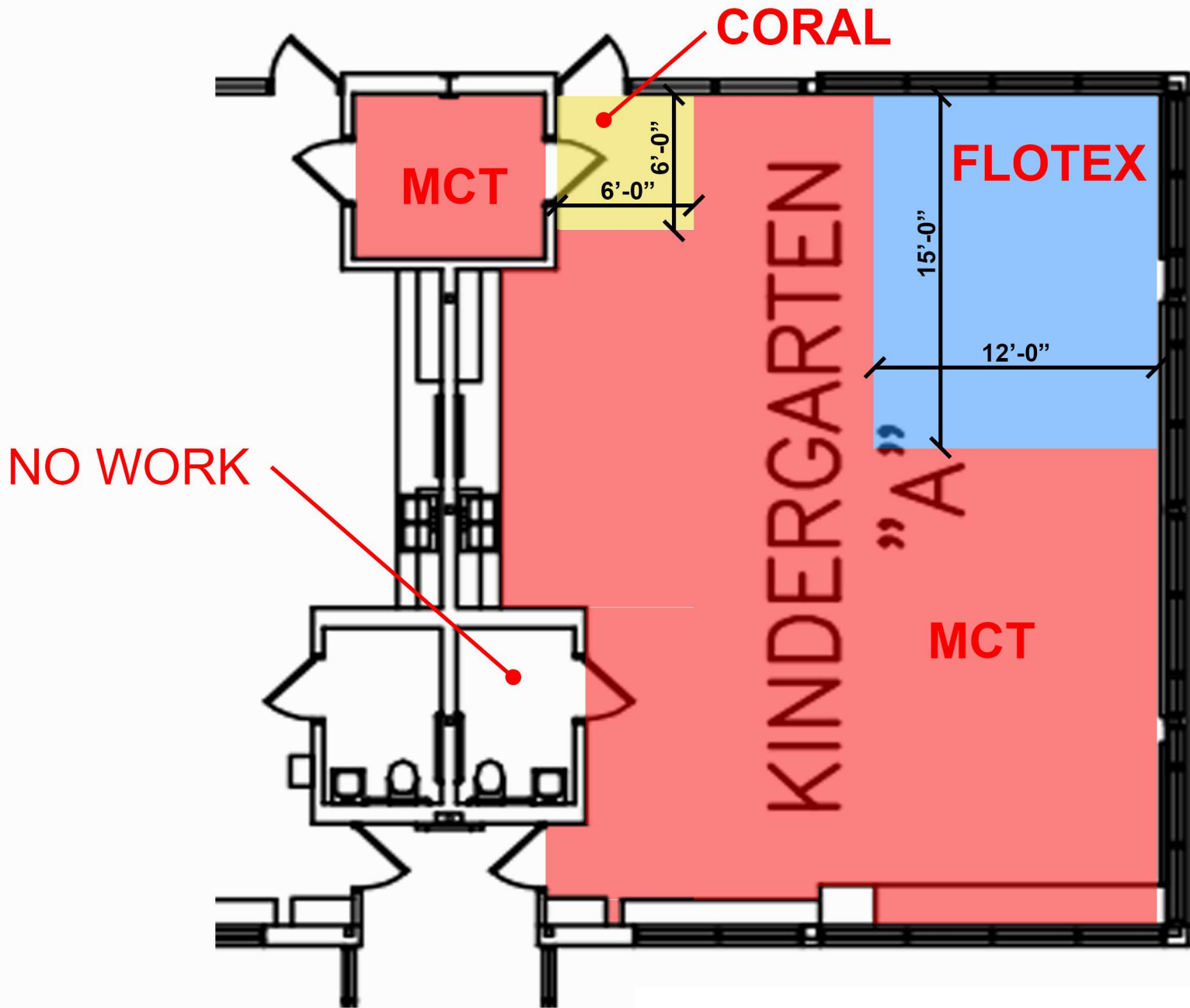


Costello Elementary School

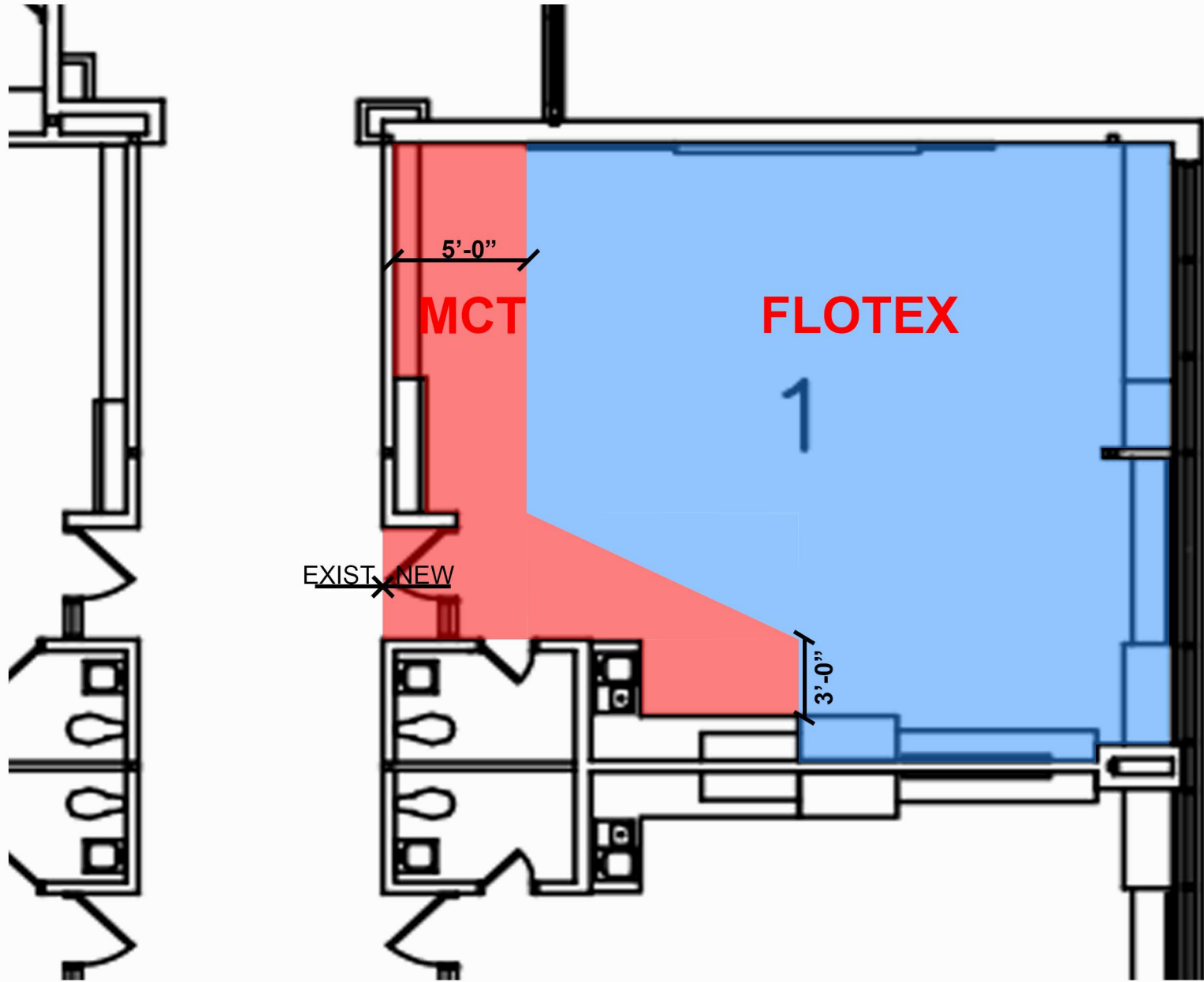


Leonard Elementary School

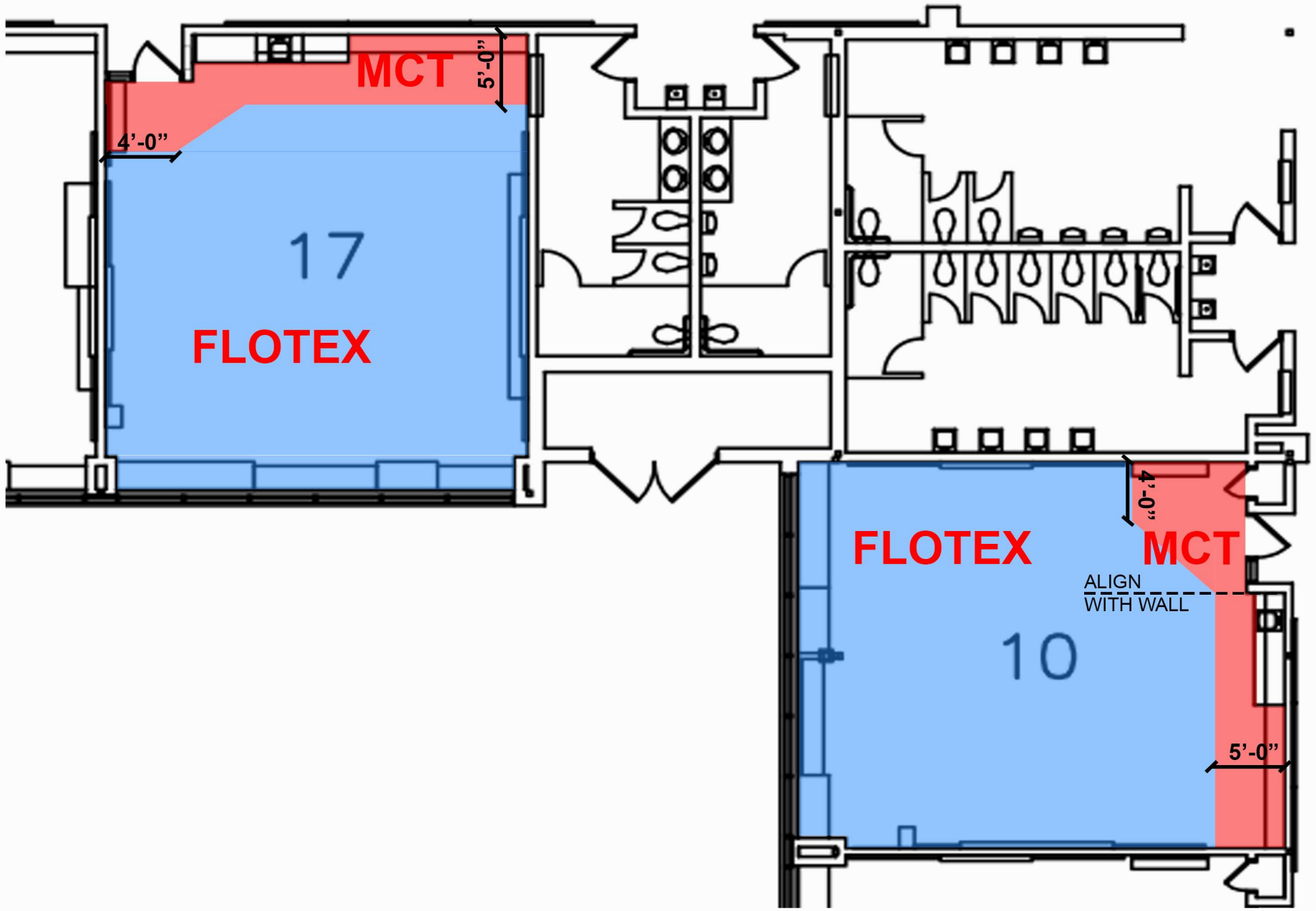
L1



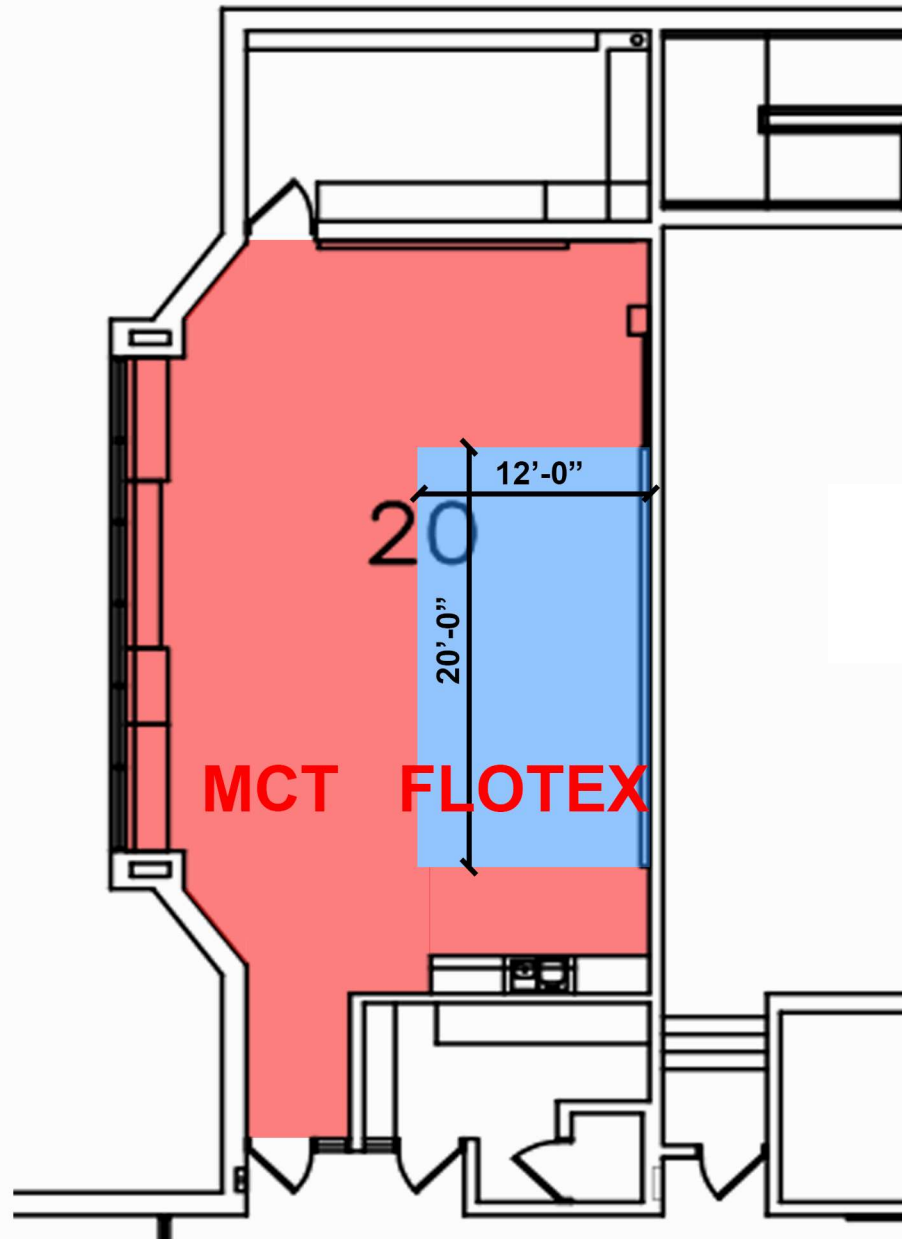
Leonard Elementary School



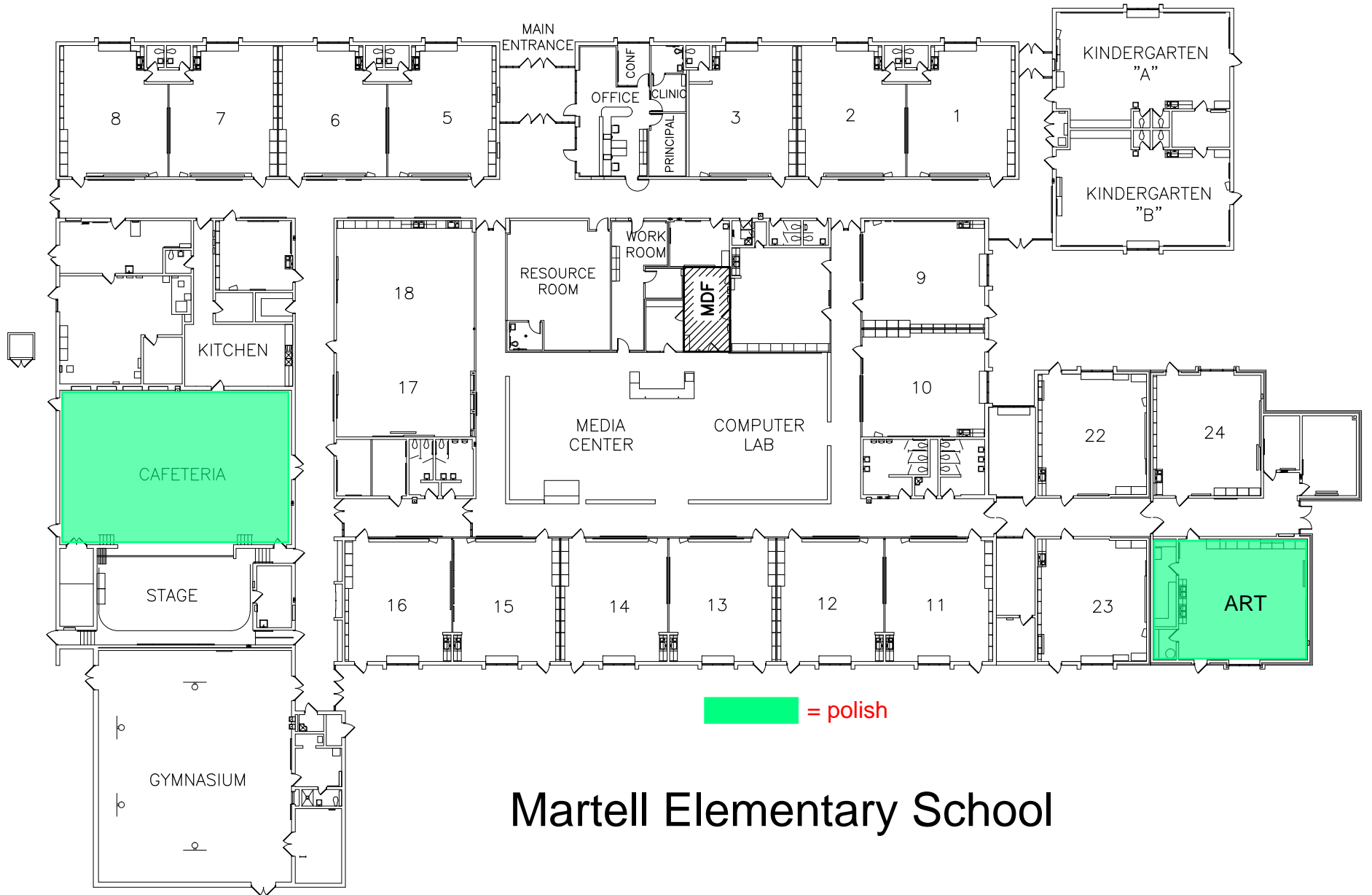
Leonard Elementary School



Leonard Elementary School

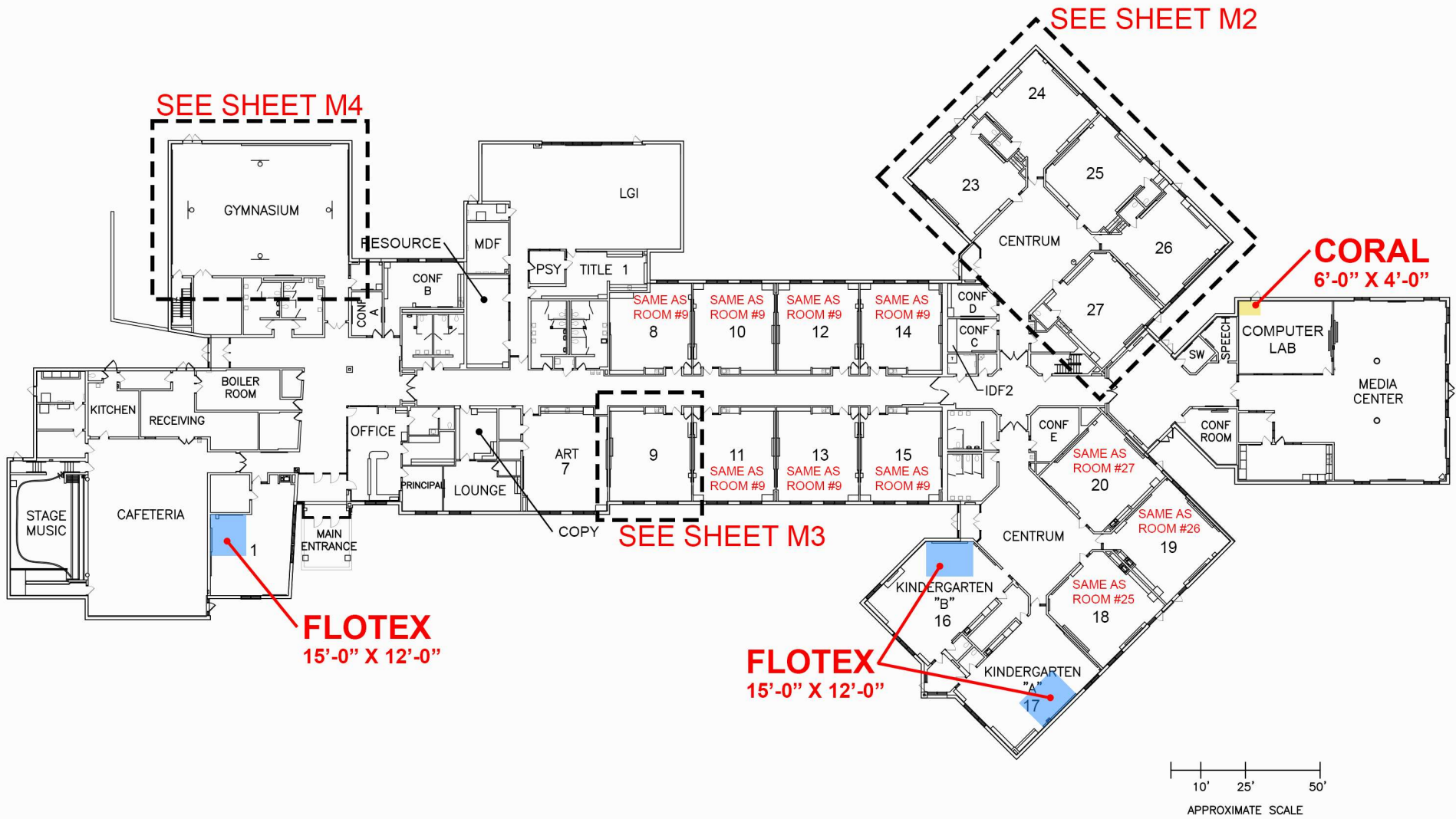


Leonard Elementary School



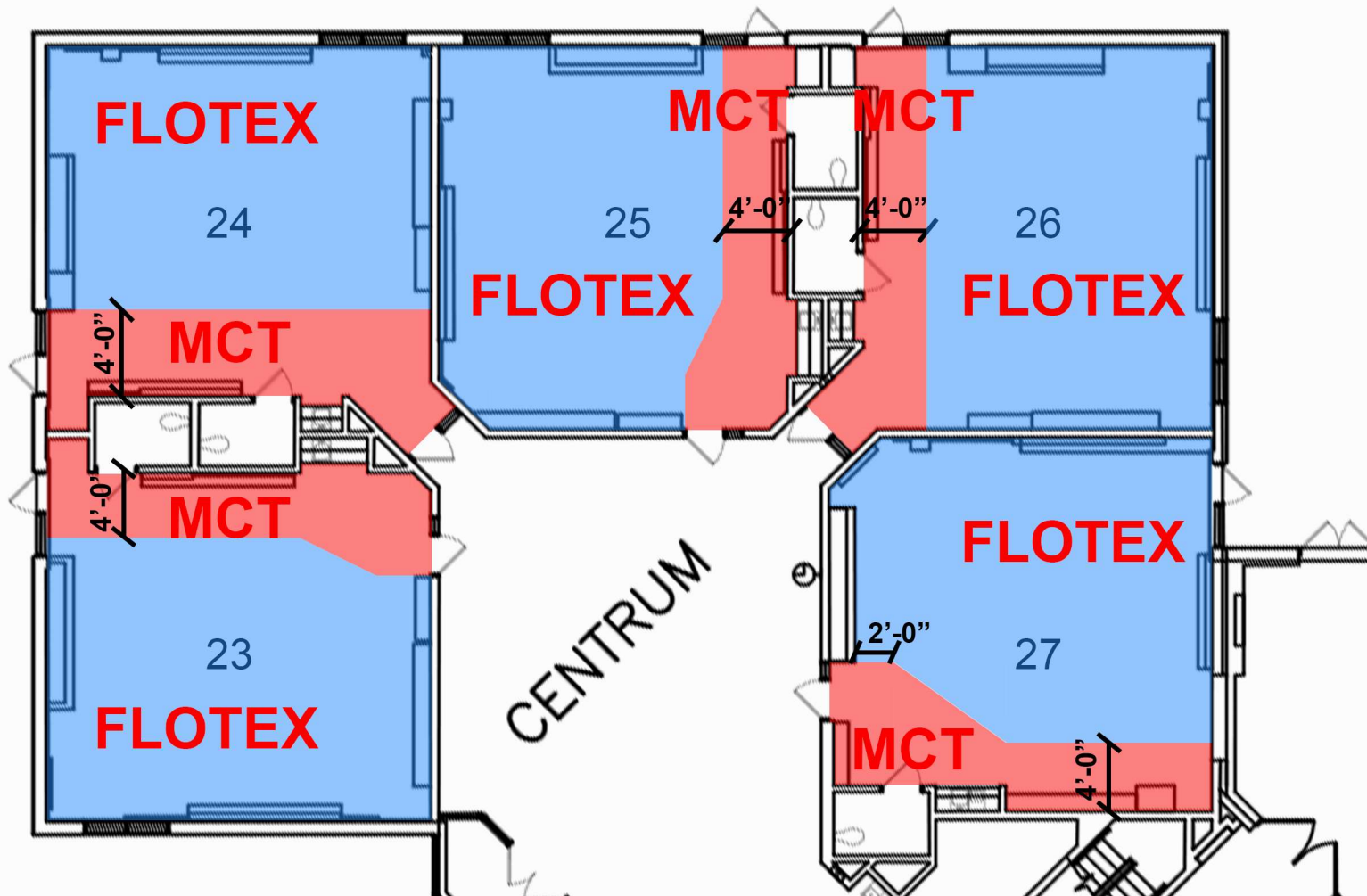
Martell Elementary School

MA1

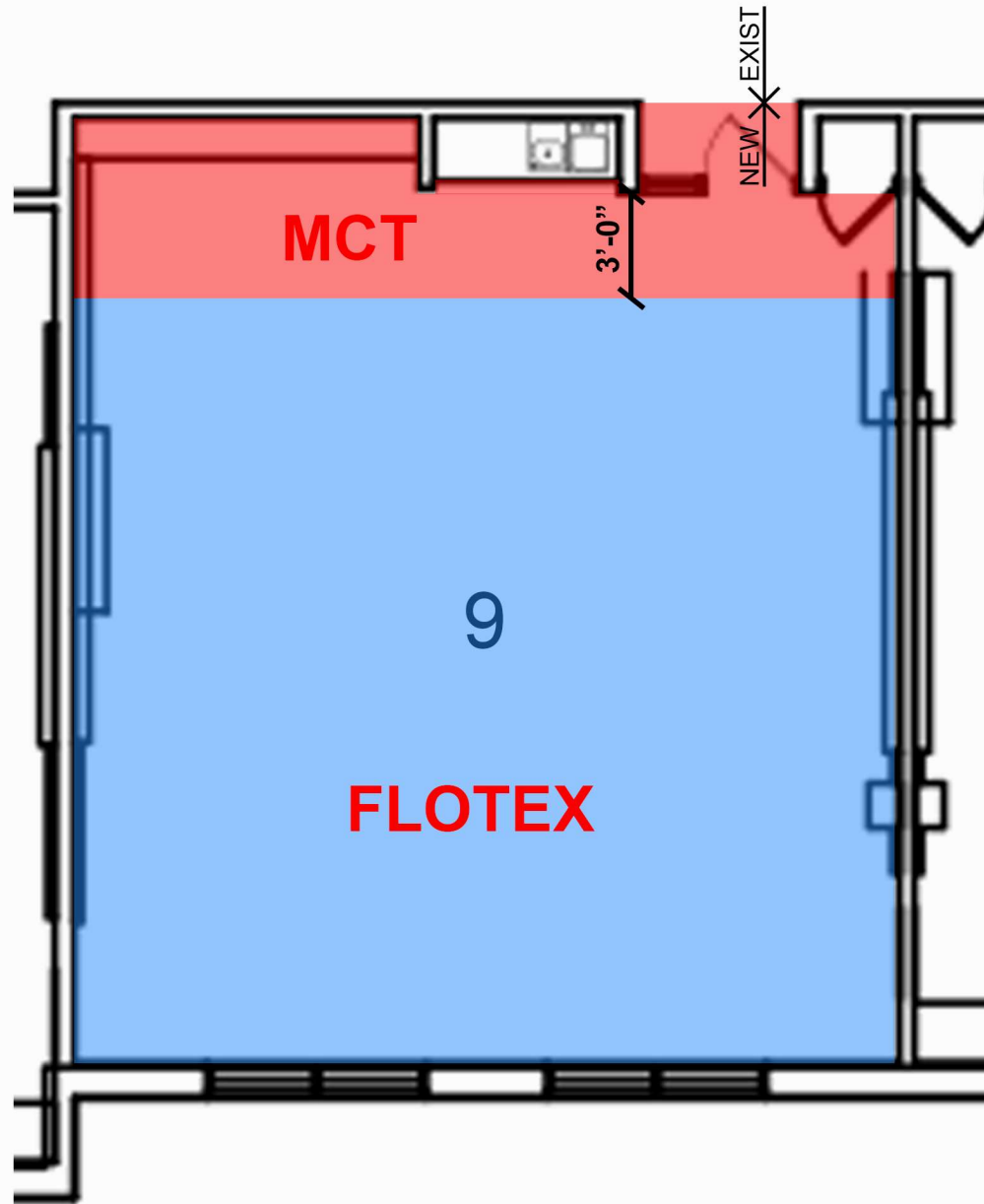


Morse Elementary School

M1

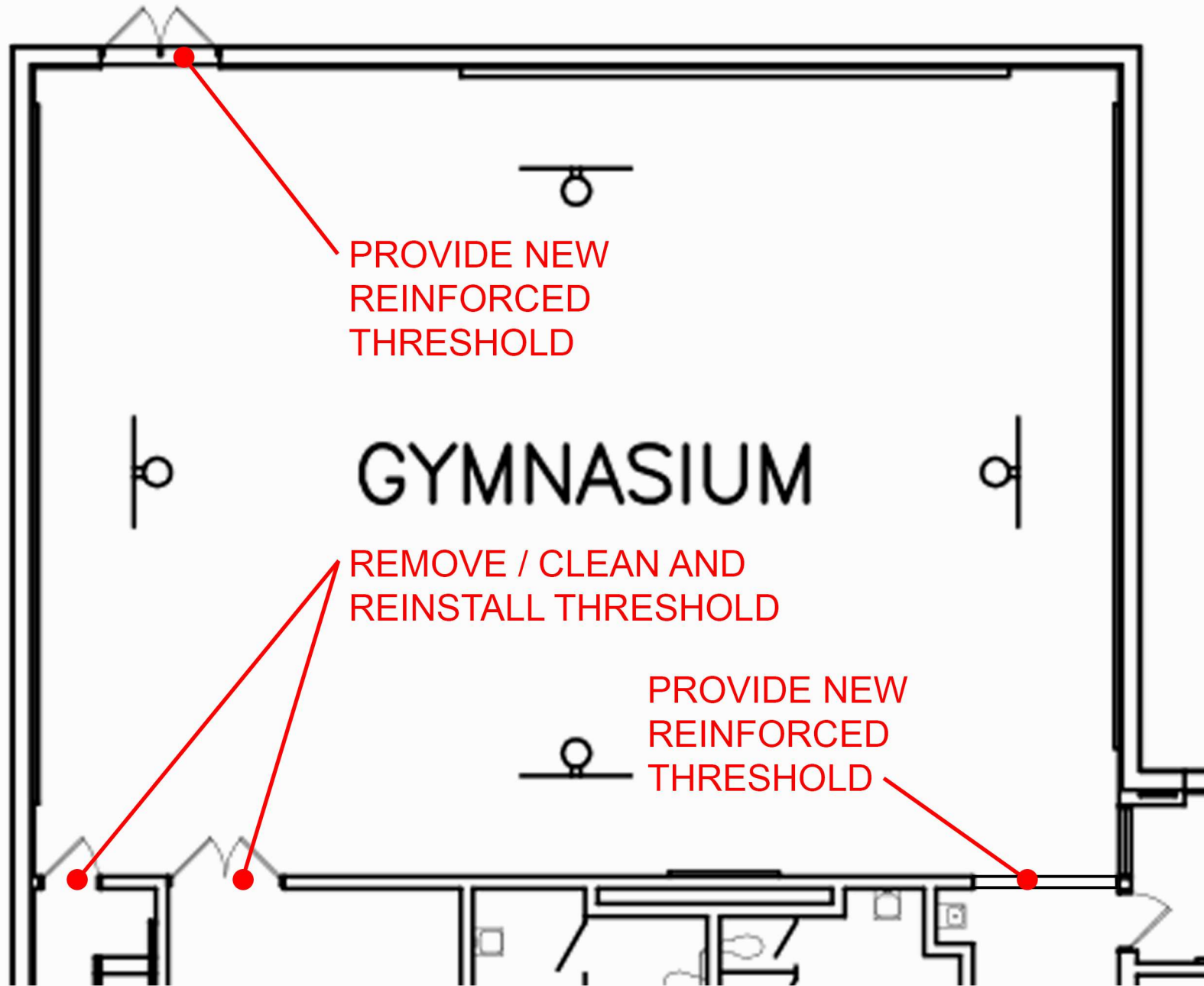


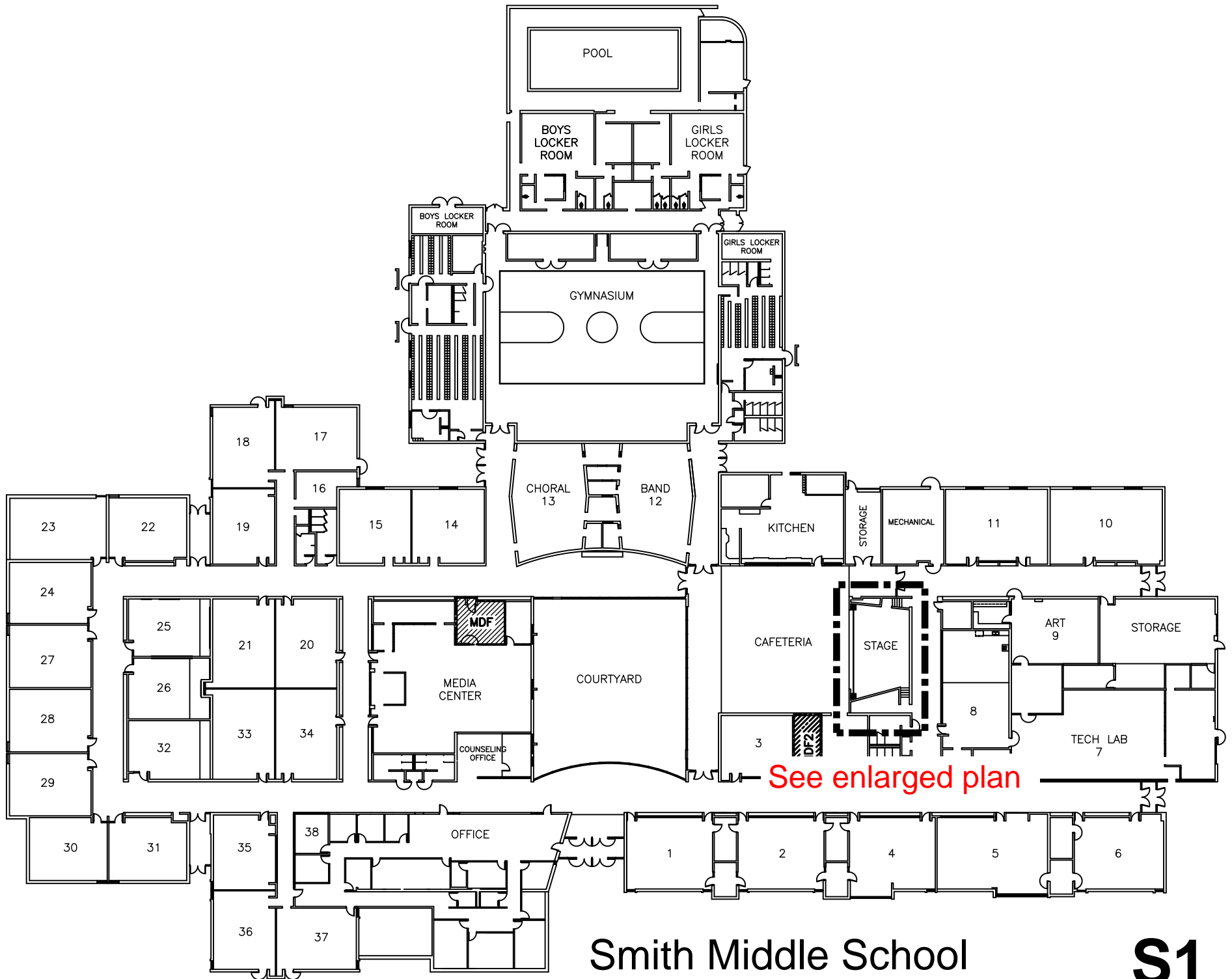
Morse Elementary School



Morse Elementary School

M3

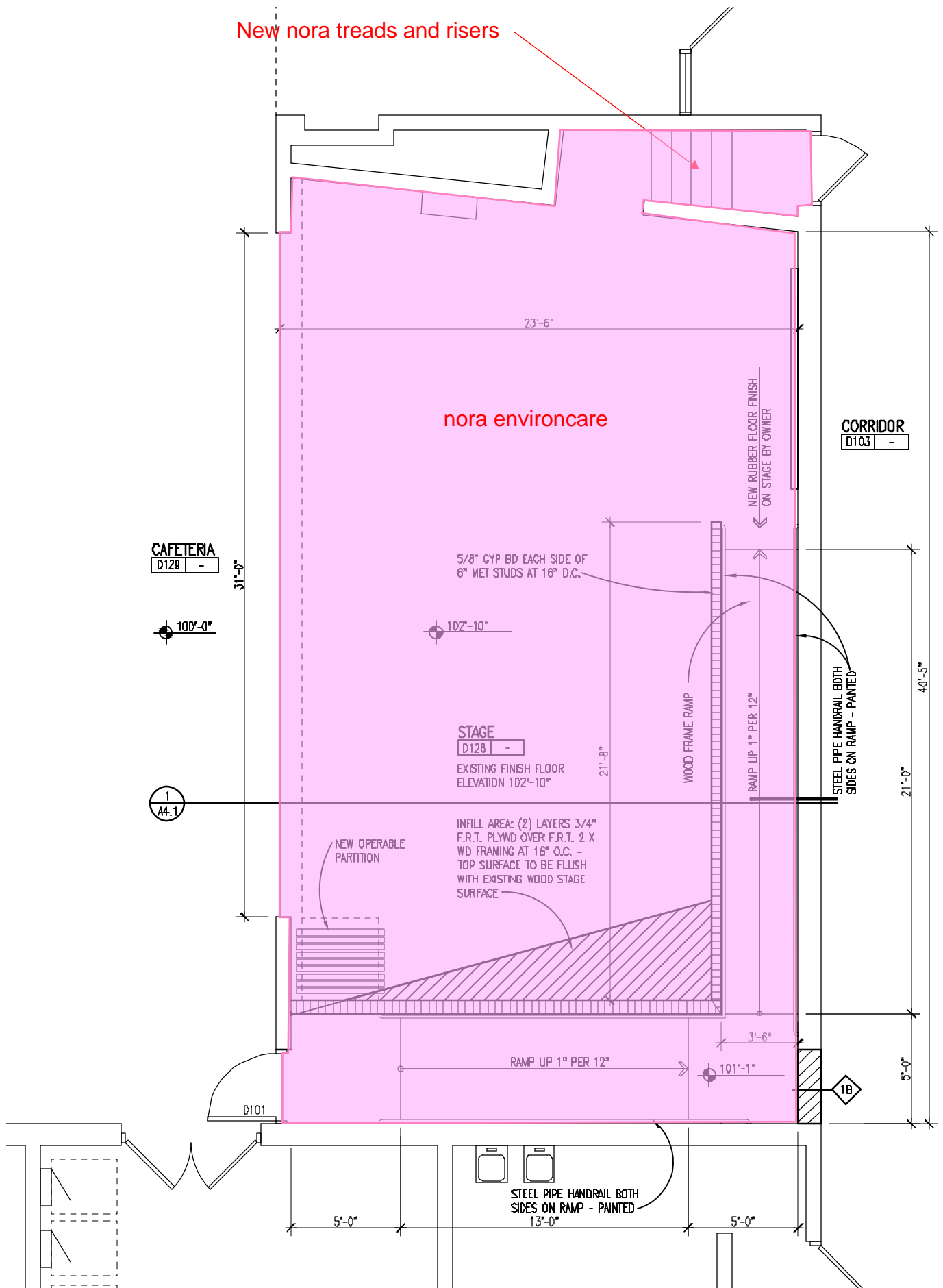




Smith Middle School

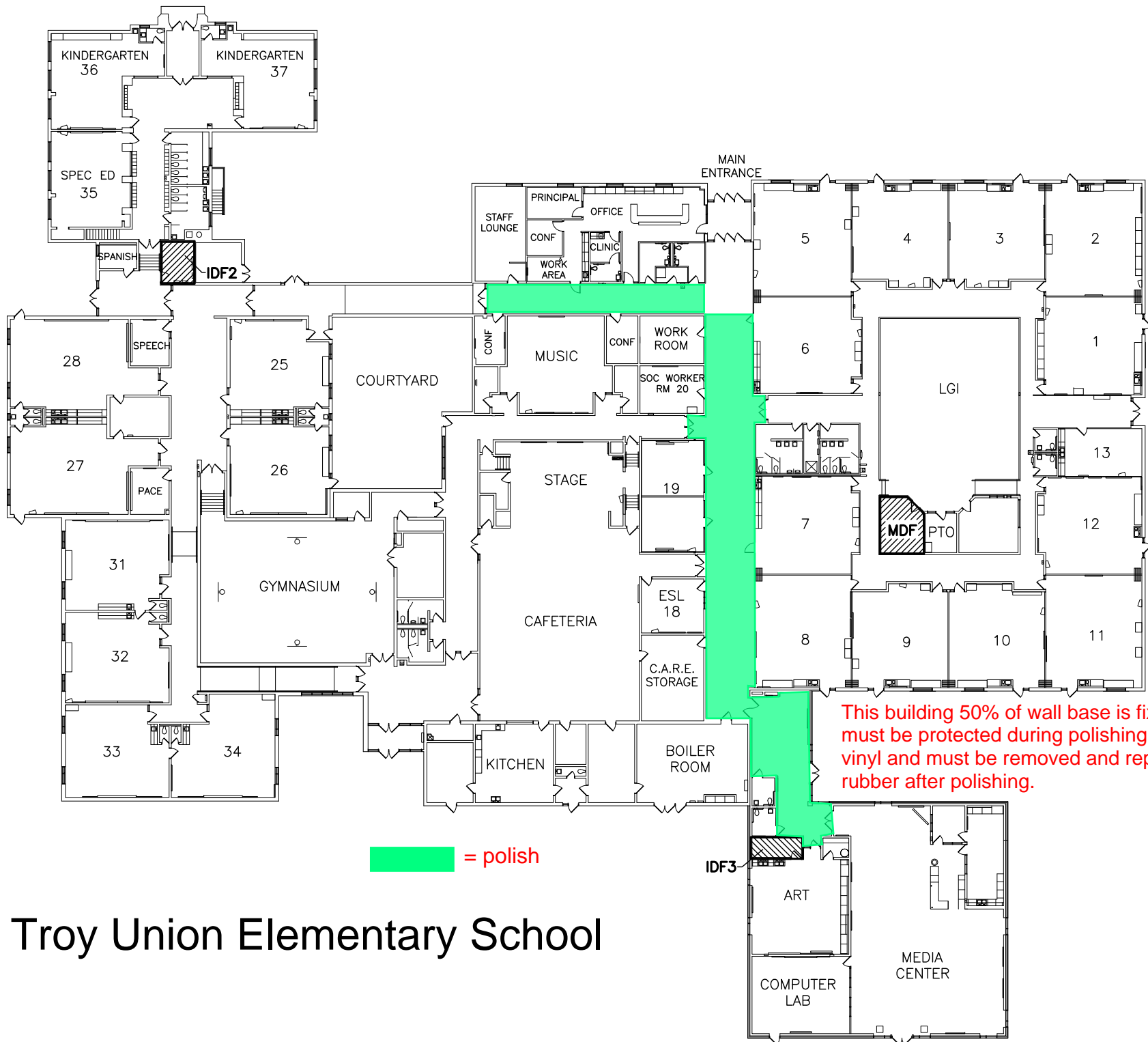
S1

New nora treads and risers



Smith Middle School

S2



Troy Union Elementary School

T1



Addendum 1

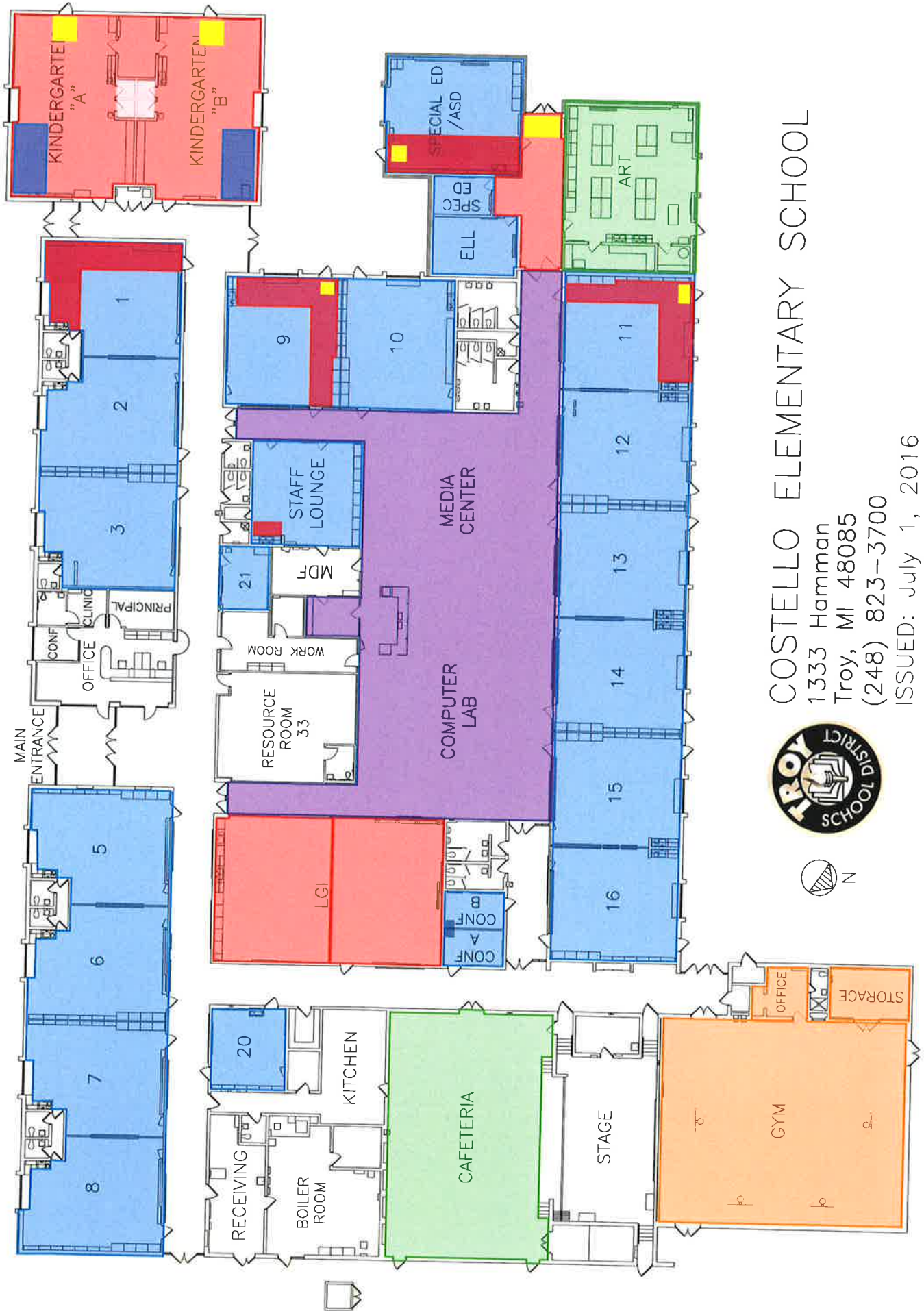
Project: **BID NO. 9917 2021 FLOORING REPLACEMENT AND POLISHING
PROGRAM TROY SCHOOL DISTRICT**

Bid Due date: 11:00 AM Local Time Thursday, January 7, 2021 (UNCHANGED)

This Addendum is issued as modifications to the RFP previously issued to provide clarifications to the scope of work. This Addendum supersedes the original RFP. This along with the RFP becomes the bid documents.

1. Contractor to provide 1% attic stock.
2. In areas of polishing, contractor to remove floor drain covers and clean. Also remove and clean clean-out covers.
3. Include in your bid removal (if required) and new flooring at the "entry notch" in classrooms 8-15 at Morse and 1-16 at Leonard Elementary Schools.
4. See attached colored composite plans for clarification on extent.
5. At Morse Elementary School add 25 SF of Forbo Coral Brush at exterior doors in classrooms 23-27 and 18-20.
6. At Morse Elementary School include two centrum doors include 70SF of Forbo Coral Brush.
7. At Morse Elementary School replace reducer at office door.
8. At Morse Elementary School include removal of single ply vapor barrier which is typically installed in far east centrum by classrooms 20 and 27.
9. See composite scale drawings of Costello, Leonard, and Morse Elementary Schools.

END

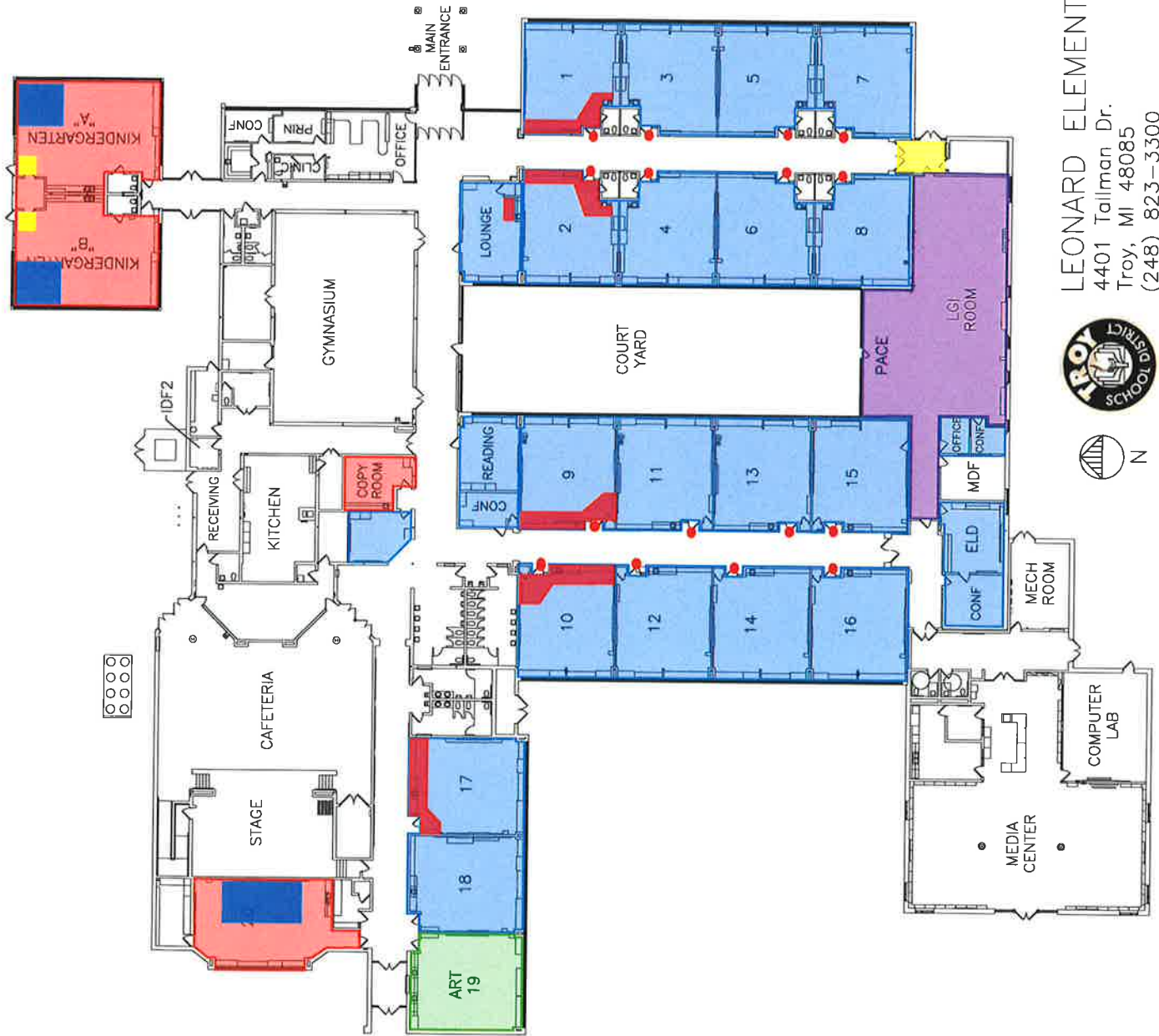


COSTELLO ELEMENTARY SCHOOL

1333 Hamman
 Troy, MI 48085
 (248) 823-3700

ISSUED: July 1, 2016

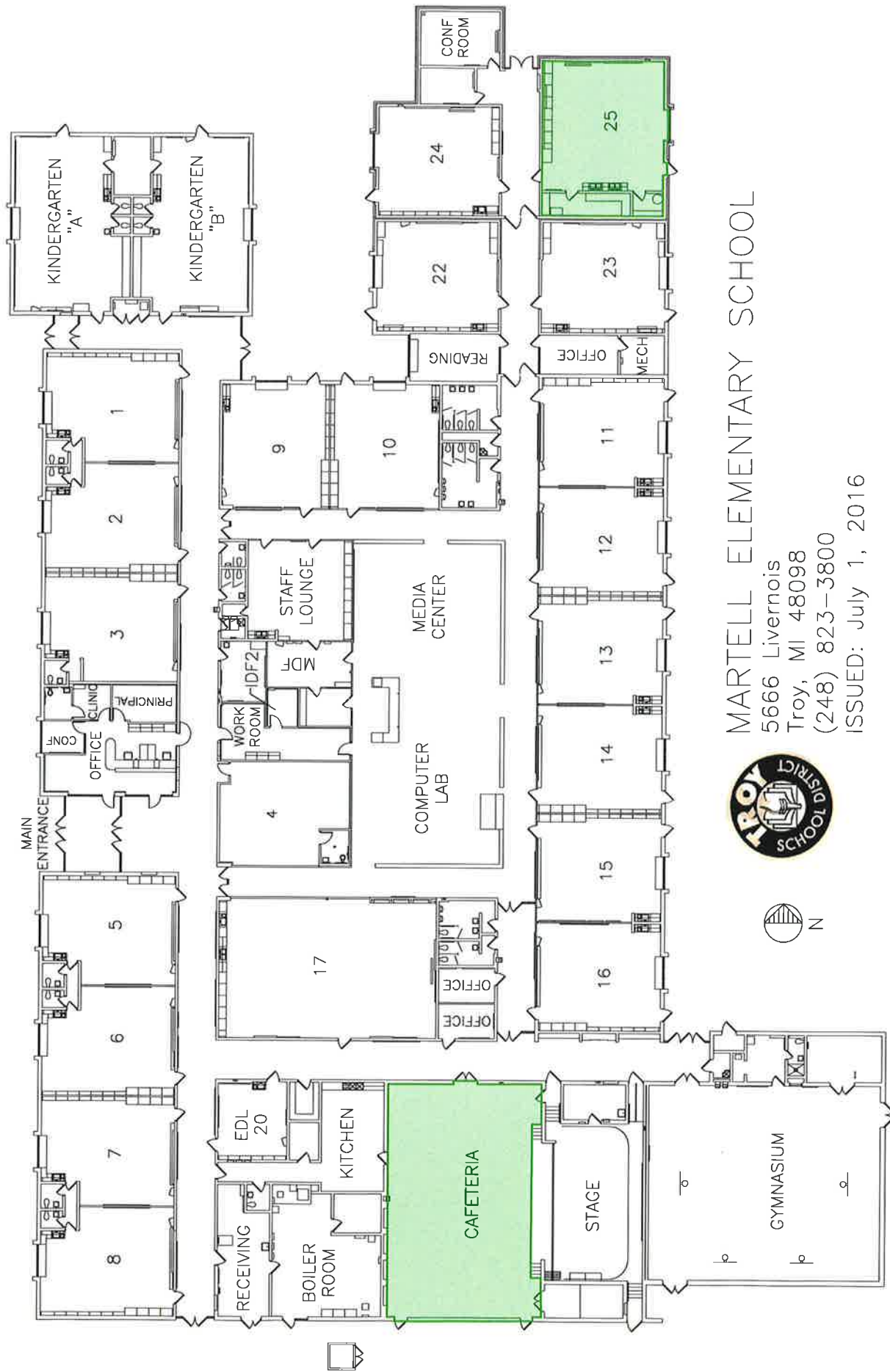




LEONARD ELEMENTARY SCHOOL

4401 Tallman Dr.
 Troy, MI 48065
 (248) 823-3300
 ISSUED: July 1, 2016

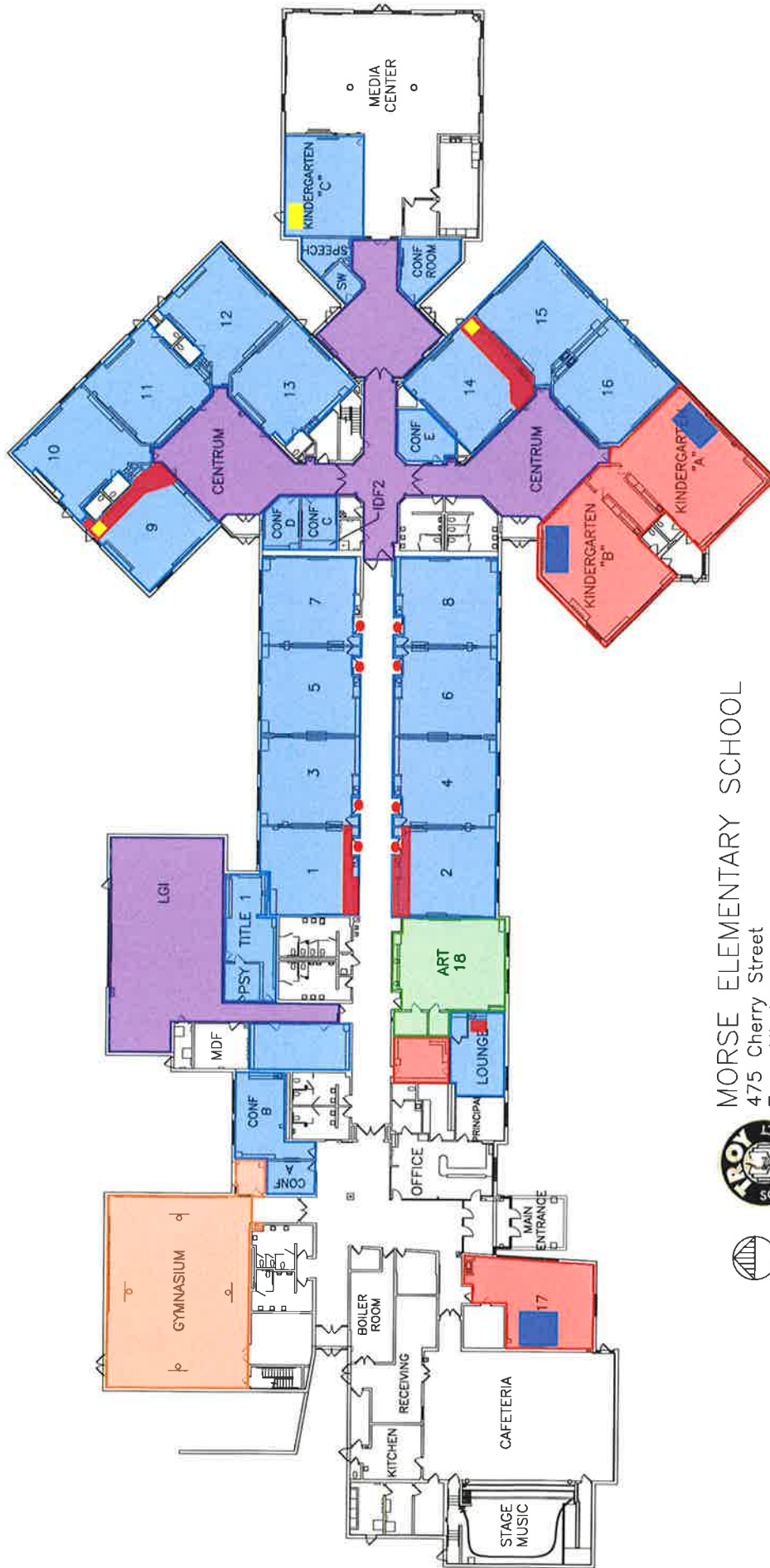




MARTELL ELEMENTARY SCHOOL

5666 Livernois
 Troy, MI 48098
 (248) 823-3800
 ISSUED: July 1, 2016



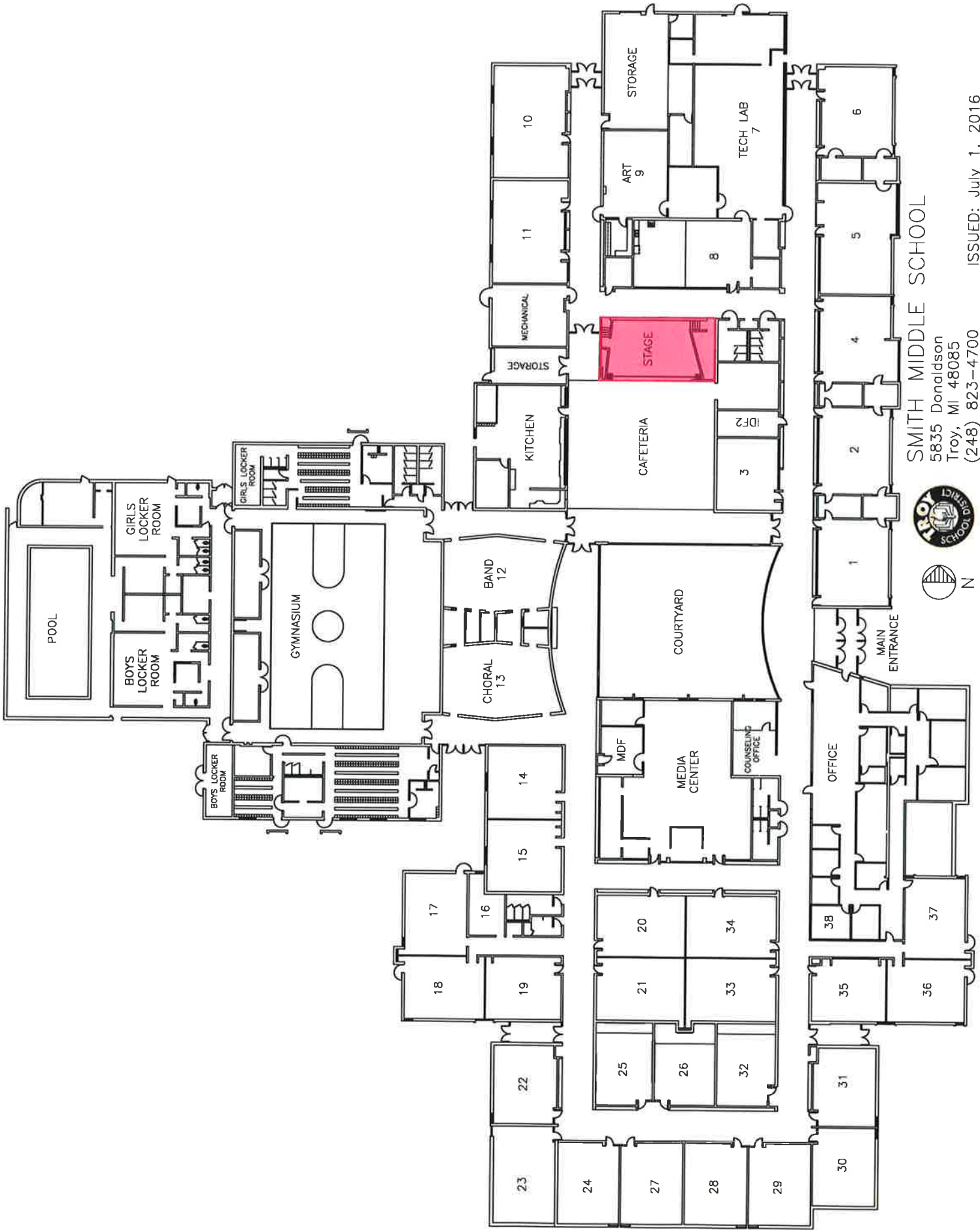


MORSE ELEMENTARY SCHOOL

475 Cherry Street
Troy, MI 48063
(248) 823-3200

UPDATED: December 13, 2016

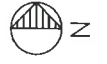




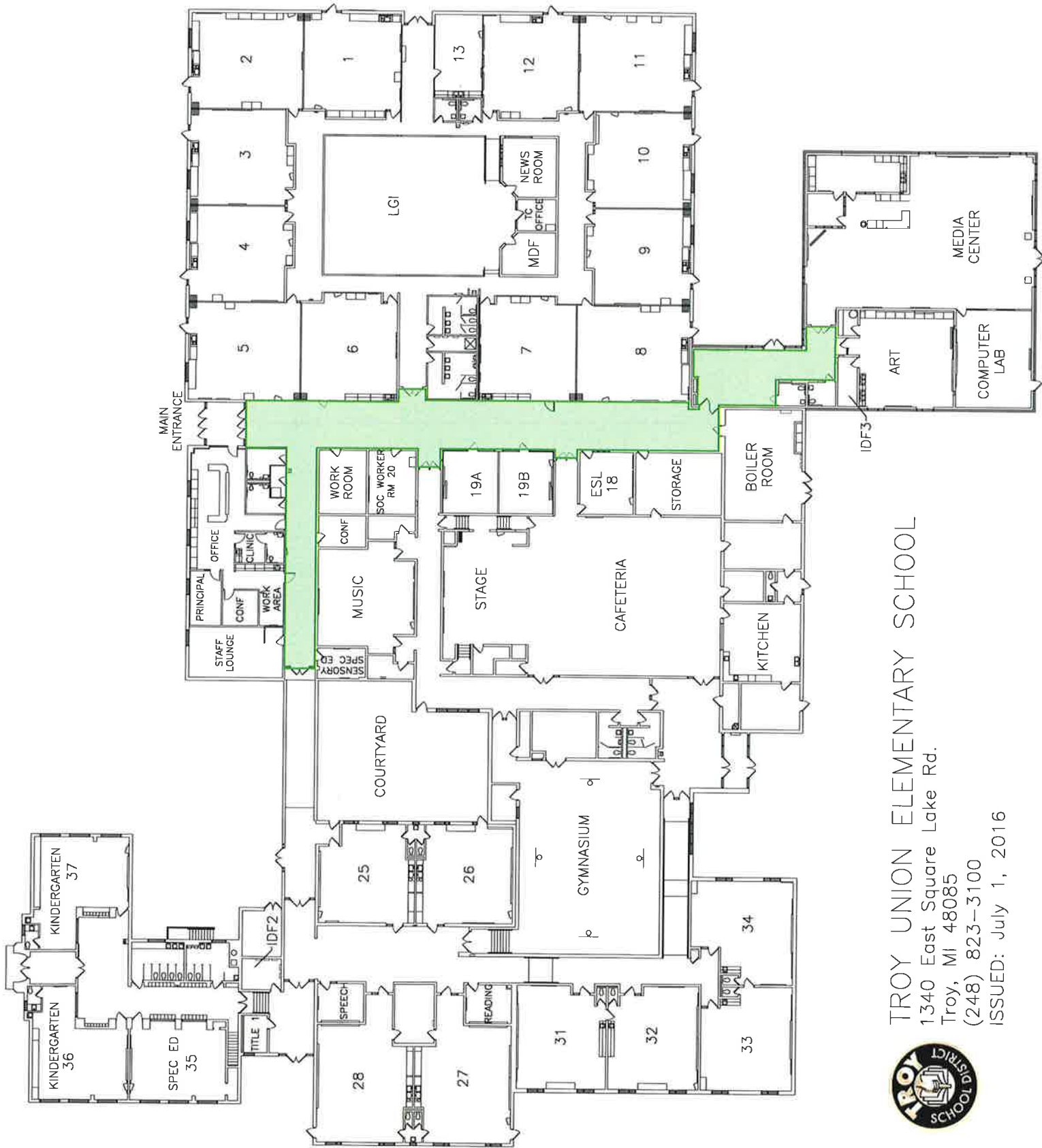
SMITH MIDDLE SCHOOL

5835 Donaldson
Troy, MI 48085

(248) 823-4700



ISSUED: July 1, 2016



TROY UNION ELEMENTARY SCHOOL

1340 East Square Lake Rd.

Troy, MI 48085

(248) 823-3100

ISSUED: July 1, 2016





PRODUCTION DESCRIPTION:

THE EXISTING HIGH SCHOOL BUILDING WILL HAVE RENOVATIONS TO EXISTING BUILDING AND NEW ADDITIONS WHICH AMOUNT TO LESS THAN 50% OF THE EXISTING BUILDING. THEREFORE, THE CONDITIONS IN THE EXISTING BUILDING SHALL REMAIN.

CODE COMPLIANCE LEGEND:

- ① - - - - - 1 HOUR FIRE RATED BARRIER. EXTEND TIGHT TO ROOF DECK ABOVE. 45 MIN. OPENING ASSEMBLIES SEALED PENETRATIONS.
- (A) - - - - - 1 HOUR FIRE RATED BARRIER. EXTEND TIGHT TO ROOF DECK. 20 MIN. OPENING ASSEMBLIES SEALED PENETRATIONS.
- ② - - - - - 2 HOUR FIRE RATED BARRIER. EXTEND TIGHT TO ROOF DECK. 40 MIN. OPENING ASSEMBLIES DAMPERED DUCTS, SEALED PENETRATIONS.
- (2A) - - - - - 2 HOUR FIRE RATED BARRIER. STRUCTURAL BUILDING SEPARATION 1/4 90 MIN. OPENING ASSEMBLIES, DAMPERED DUCTS, SEALED PENETRATIONS.

- EX FE • EXISTING FIRE EXTINGUISHER /
- EX FEC □ EXISTING FIRE EXTINGUISHER CABINET
- FE • NEW FIRE EXTINGUISHER /
- FEC □ NEW FIRE EXTINGUISHER CABINET
- EXIT ↓ EXIT
- ⬢ EGRESS WINDOW

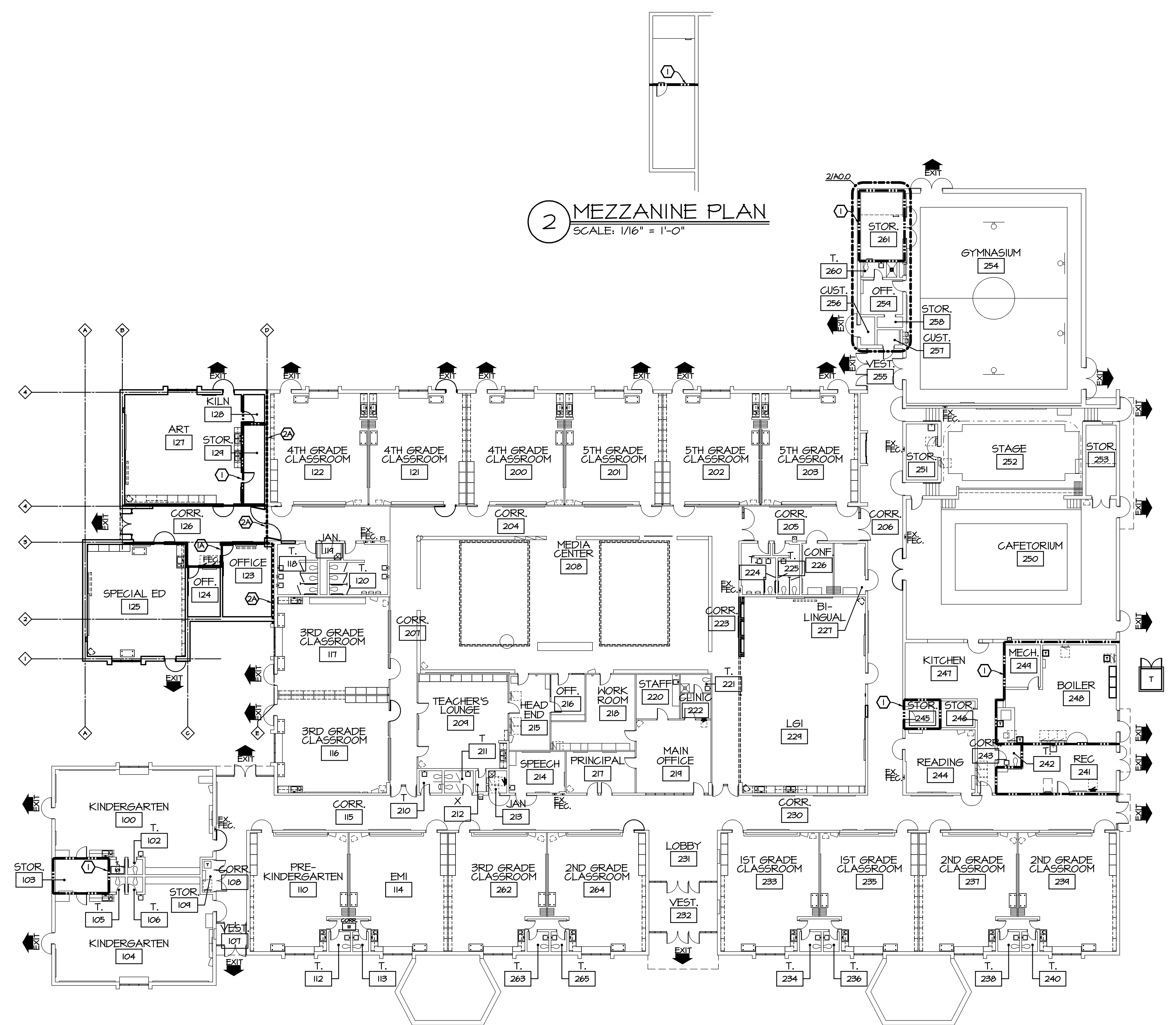
- ▨ EXISTING BUILDING REMODEL
- ▩ NEW BUILDING ADDITION
- EXISTING BUILDING

PROJECT DATA:

CODE REGULATION:	2003 MICHIGAN BUILDING CODE 1994 MICHIGAN FIRE SAFETY RULES 1991 NFPA 101 LIFE SAFETY CODE
MECHANICAL CODE:	2003 MICHIGAN MECHANICAL CODE
PLUMBING CODE:	2003 MICHIGAN PLUMBING CODE
ELECTRICAL CODE:	2002 NATIONAL ELECTRICAL CODE
BARRIER FREE DESIGN:	MICHIGAN BUILDING CODE CHAPTER II
OCCUPANCY:	EDUCATIONAL "E" - MEC 305
TYPE OF CONSTRUCTION:	EXISTING: MEC - TYPE II-B NFPA - TYPE II (000) ADDITION: MEC - TYPE II-B NFPA - TYPE II (000)
ALLOWABLE HEIGHT AND AREA:	EDUCATIONAL - 2 STORIES / 14,500 S.F.

ACTUAL TOTAL BUILDING AREA:	ADDITION = 3,671 S.F.
	EXISTING BUILDING = 60,869 S.F.
	TOTAL = 64,540 S.F.

EGRESS WIDTH PER OCCUPANT:	DOORS .15
SEPARATION OF BUILDING AREA:	2HR
FIRE ENCLOSURE OF EXITS:	1HR
MAXIMUM DEADEND CORRIDOR:	20'
MINIMUM WIDTH OF CORRIDOR:	12'



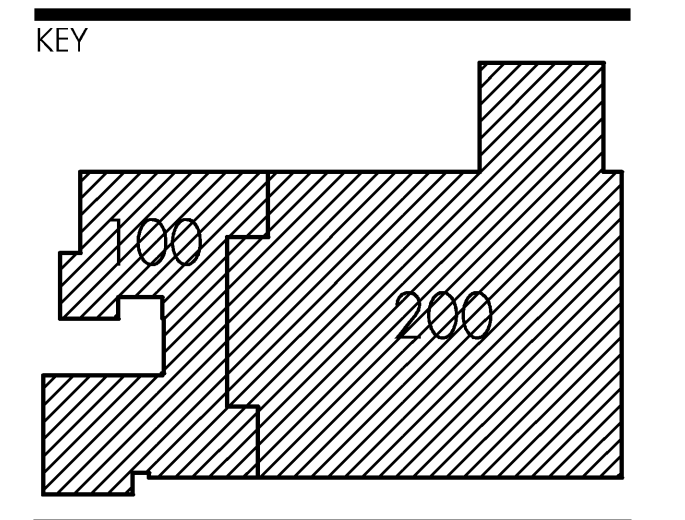
2 MEZZANINE PLAN
SCALE: 1/16" = 1'-0"

1 CODE COMPLIANCE PLAN
SCALE: 1/16" = 1'-0"

ADDITIONS
&
REMODELING
TROY
SCHOOL DISTRICT

COSTELLO
ELEM. SCHOOL

REVISIONS/REVIEW	DATE
ISSUE FOR REVIEW	12.16.05
ISSUE FOR BID	03.02.06



JOB NO. 2643-10
SHEET TITLE
NORTH

CODE COMPLIANCE PLAN
SHEET NO.

A0.0
© KINGSOTT ASSOCIATES, INC. KALAMAZOO, MICHIGAN

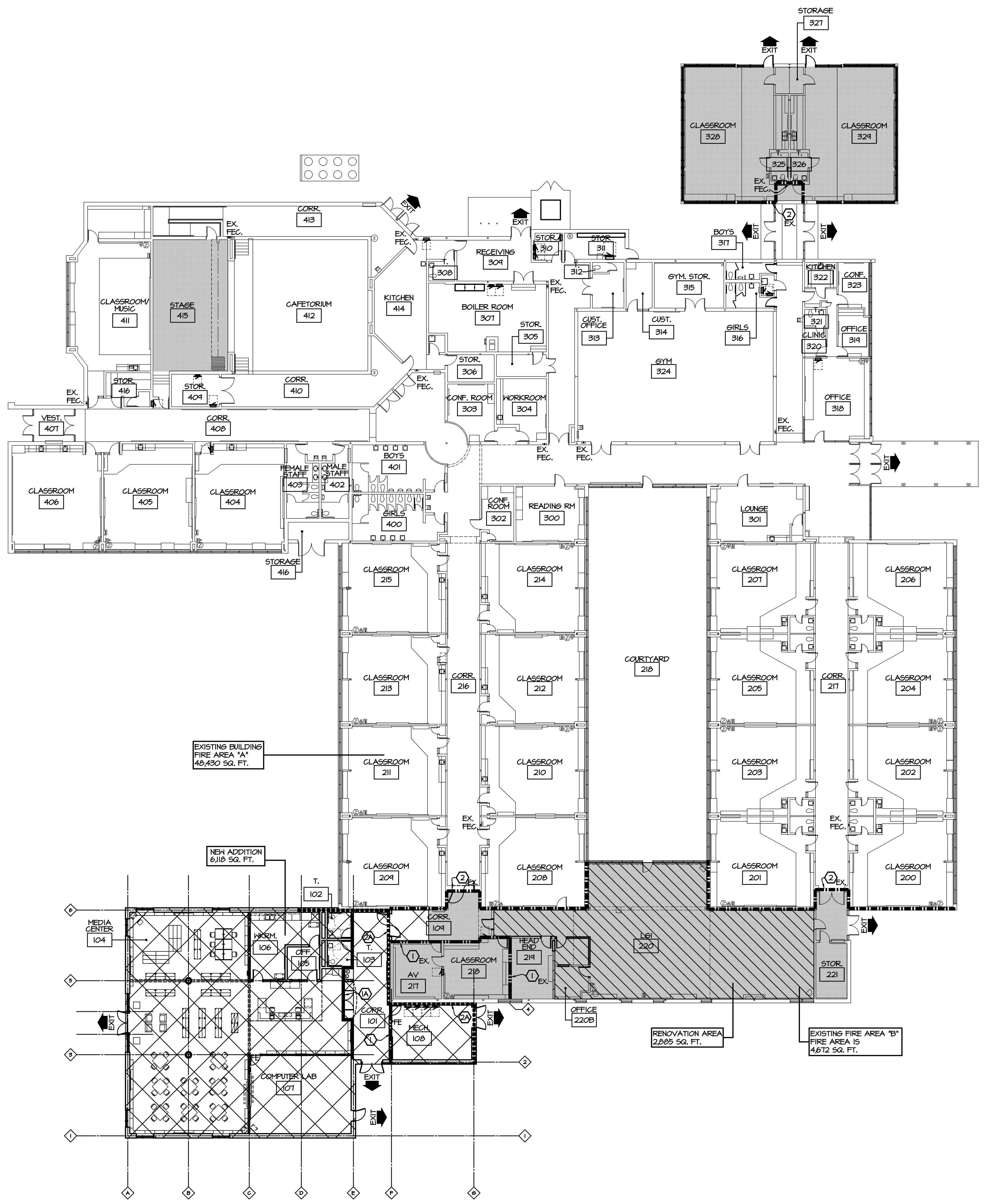


PRODUCTION DESCRIPTION:
 THE EXISTING HIGH SCHOOL BUILDING WILL HAVE RENOVATIONS TO EXISTING BUILDING AND NEW ADDITIONS WHICH AMOUNT TO LESS THAN 50% OF THE EXISTING BUILDING. THEREFORE, THE CONDITIONS IN THE EXISTING BUILDING SHALL REMAIN.

- CODE COMPLIANCE LEGEND:**
- ① --- 1 HOUR FIRE RATED BARRIER, EXTEND TIGHT TO ROOF DECK ABOVE, 45 MIN. OPENING ASSEMBLIES SEALED PENETRATIONS.
 - ② --- 2 HOUR FIRE RATED BARRIER, EXTEND TIGHT TO ROOF DECK, 20 MIN. OPENING ASSEMBLIES, SEALED PENETRATIONS.
 - ③ --- 15HR
 - ④ --- 2 HOUR FIRE RATED BARRIER, EXTEND TIGHT TO ROOF DECK, 90 MIN. OPENING ASSEMBLIES, DAMPERED DUCTS, SEALED PENETRATIONS.
 - ⑤ --- 2 HOUR STRUCTURAL SEPARATION, 90 MIN. OPENING ASSEMBLIES, DAMPERED DUCTS, SEALED PENETRATIONS.
 - EX FE • EXISTING FIRE EXTINGUISHER / EXISTING FIRE EXTINGUISHER CABINET
 - FE • NEW FIRE EXTINGUISHER / NEW FIRE EXTINGUISHER CABINET
 - EXIT ↓ EXIT DOOR
 - E EGRESS WINDOW
 - FIRE SUPPRESSION AREA
 - ▨ EXISTING BUILDING REMODEL
 - ⊠ NEW BUILDING ADDITION
 - EXISTING BUILDING

PROJECT DATA:

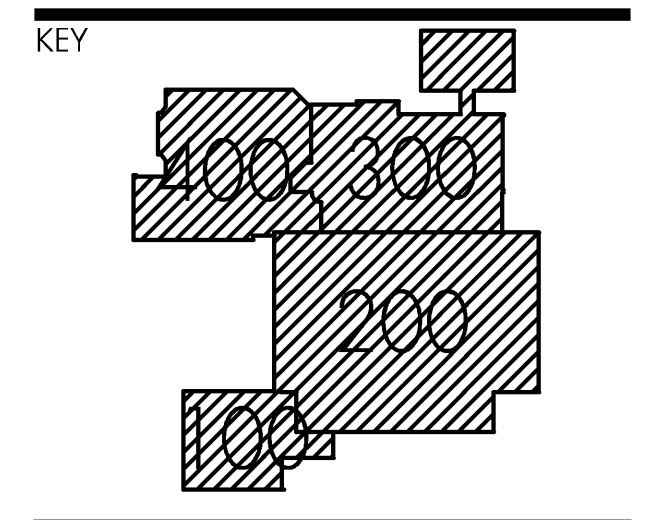
FIRE SUPPRESSION:	BUILDING EQUIPPED WITH A FIRE SUPPRESSION SYSTEM IN AREAS INDICATED.
CODE REGULATION:	2003 MICHIGAN BUILDING CODE 1997 MICHIGAN FIRE SAFETY RULES 1997 NFPA 101 LIFE SAFETY CODE
MECHANICAL CODE:	2003 MICHIGAN MECHANICAL CODE
PLUMBING CODE:	2003 MICHIGAN PLUMBING CODE
ELECTRICAL CODE:	2002 NATIONAL ELECTRICAL CODE
BARRIER FREE DESIGN:	MICHIGAN BUILDING CODE CHAPTER II
OCCUPANCY:	EDUCATIONAL "E" - MEC 305
TYPE OF CONSTRUCTION:	EXISTING: MEC - TYPE II-B NFPA - TYPE II (000) ADDITION: MEC - TYPE II-B NFPA - TYPE II (000)
FIRE SUPPRESSION:	PARTIALLY
ALLOWABLE HEIGHT AND AREA:	EDUCATIONAL - 2 STORIES / 14500 S.F.
FRONTAGE:	576
ALLOWABLE AREA W/ FRONTAGE INCREASE:	14,140 SQ. FT.
ACTUAL TOTAL BUILDING AREA:	ADDITION = 6,118 SQ. FT. EXISTING BUILDING = 53,102 SQ. FT. TOTAL = 59,220 FT.
SEPARATION OF BUILDING AREA:	2HR
FIRE ENCLOSURE OF EXITS:	1HR
MAXIMUM DEADEND CORRIDOR:	20'
MINIMUM WIDTH OF CORRIDOR:	12'



1 CODE COMPLIANCE PLAN
 SCALE: 1/16" = 1'-0"

ADDITIONS & REMODELING
TROY
 SCHOOL DISTRICT
LEONARD
 ELEM. SCHOOL

REVISIONS/REVIEW	DATE
ISSUE FOR REVIEW	01-21-05
ISSUE FOR REVIEW	07-12-05
ISSUE FOR BID	10-28-05



JOB NO. 2643-09
 SHEET TITLE

CODE COMPLIANCE PLAN
 SHEET NO.

A0.0
 © KINGSOTT ASSOCIATES INC. KALAMAZOO, MICHIGAN

PRODUCTION DESCRIPTION:

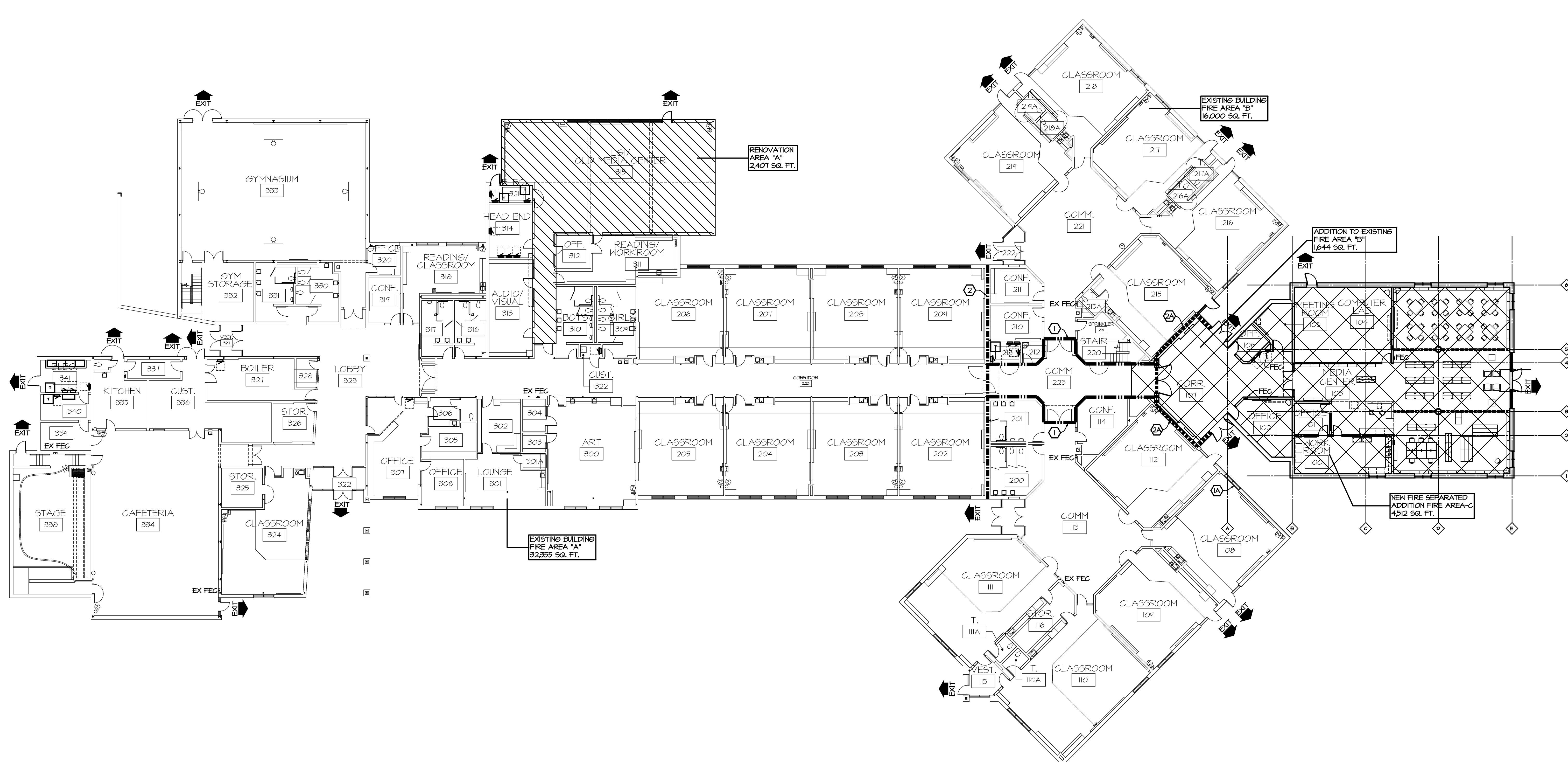
THE EXISTING HIGH SCHOOL BUILDING WILL HAVE RENOVATIONS TO EXISTING BUILDING AND NEW ADDITIONS WHICH AMOUNT TO LESS THAN 50% OF THE EXISTING BUILDING. THEREFORE, THE CONDITIONS IN THE EXISTING BUILDING SHALL REMAIN.

CODE COMPLIANCE LEGEND:

- ① - - - - 1 HOUR FIRE RATED BARRIER, EXTEND TIGHT TO ROOF DECK ABOVE, 45 MIN. OPENING ASSEMBLIES SEALED PENETRATIONS.
- ② - - - - 2 HOUR FIRE RATED BARRIER, EXTEND TIGHT TO ROOF DECK, 20 MIN. OPENING ASSEMBLIES, SEALED PENETRATIONS.
- ③ - - - - 2 HOUR FIRE RATED BARRIER, EXTEND TIGHT TO ROOF DECK, 40 MIN. OPENING ASSEMBLIES, DAMPERED DUCTS, SEALED PENETRATIONS.
- ④ - - - - 2 HOUR FIRE RATED BARRIER, STRUCTURAL BUILDING SEPARATION W/ 40 MIN. OPENING ASSEMBLIES, DAMPERED DUCTS, SEALED PENETRATIONS.
- EX FE • EXISTING FIRE EXTINGUISHER / EX FEC ■ EXISTING FIRE EXTINGUISHER CABINET
- FE • NEW FIRE EXTINGUISHER / FEC ■ NEW FIRE EXTINGUISHER CABINET
- EXIT ↗ EXIT
- ⬇ EGRESS WINDOW
- ▨ EXISTING BUILDING REMODEL
- ▩ NEW BUILDING ADDITION
- EXISTING BUILDING

PROJECT DATA:

FIRE SUPPRESSION:	100% EXISTING & ADDITION
CODE REGULATION:	2003 MICHIGAN BUILDING CODE 1994 MICHIGAN FIRE SAFETY RULES 1991 NFPA 101 LIFE SAFETY CODE
MECHANICAL CODE:	2003 MICHIGAN MECHANICAL CODE
PLUMBING CODE:	2003 MICHIGAN PLUMBING CODE
ELECTRICAL CODE:	2002 NATIONAL ELECTRICAL CODE
BARRIER FREE DESIGN:	MICHIGAN BUILDING CODE CHAPTER II
OCCUPANCY:	EDUCATIONAL "E" - MEG 305
TYPE OF CONSTRUCTION:	EXISTING: MEG - TYPE II-B NFPA - TYPE II (000) ADDITION: MEG - TYPE II-B NFPA - TYPE II (000)
ALLOWABLE HEIGHT AND AREA:	EDUCATIONAL - 2 STORIES / 14,500 S.F. 478
FRONTAGE, ALLOWABLE AREA WITH FRONTAGE INCREASE:	17,690 SQ. FT.
ALLOWABLE AREA WITH FIRE SUPPRESSION:	ADDITION = 53,070 S.F. EXISTING BUILDING = 48,480 S.F. TOTAL = 54,636 S.F.
EGRESS WIDTH PER OCCUPANT:	STAIRWAYS 2 DOORS J5
SEPARATION OF BUILDING AREA:	2HR
FIRE ENCLOSURE OF EXITS:	1HR
MAXIMUM DEADEND CORRIDOR:	20'
MINIMUM WIDTH OF CORRIDOR:	72"
LENGTH OF EXIT ACCESS TRAVEL:	-- LINEAL FEET

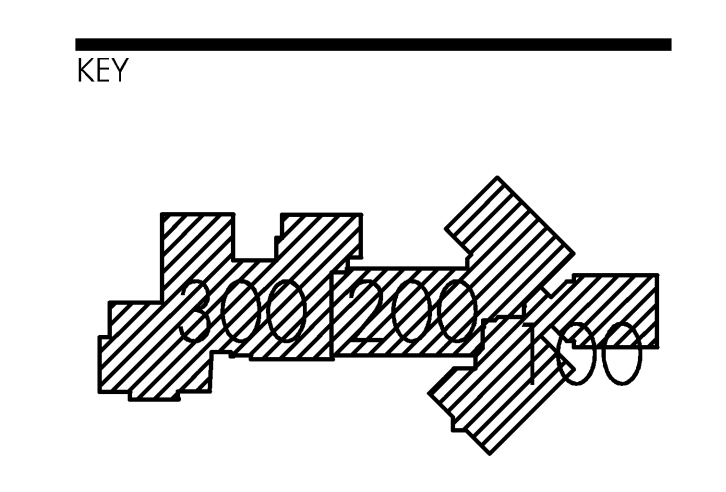


ADDITIONS & REMODELING

TROY
SCHOOL DISTRICT

MORSE
ELEM. SCHOOL

REVISIONS/REVIEW	DATE
ISSUE FOR REVIEW	01-21-05
ISSUE FOR REVIEW	07-12-05
ISSUE FOR BID	10-28-05

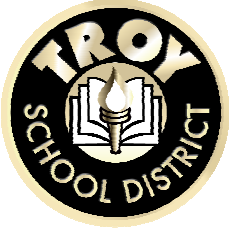


JOB NO. 2643-09 NORTH
SHEET TITLE

CODE COMPLIANCE PLAN
SHEET NO.

A0.0
© KINGSOTT ASSOCIATES, INC. KALAMAZOO, MICHIGAN

1 CODE COMPLIANCE PLAN
SCALE: 1/16" = 1'-0"



Addendum 2

Project: **BID NO. 9917 2021 FLOORING REPLACEMENT AND POLISHING PROGRAM
TROY SCHOOL DISTRICT**

Bid Due date: 11:00 AM Local Time, Thursday, January 7, 2021 (UNCHANGED)

This Addendum is issued as modifications to the RFP previously issued to provide clarifications to the scope of work. This Addendum supersedes the original RFP. This along with the RFP becomes the bid documents.

I. General Information

1. For questions e-mail purchasingoffice@troy.k12.mi.us or through Buildingconnected.com.
2. If any bidders would like schedule job site visit, contact Michelle Kerns at (248) 921-3929. Do not visit the building without a scheduled visit.

II. Questions and Answers

- 1Q. Costello Elementary School. Classrooms 20 and 21 are shown on the room finish schedule but not identified on the plans. Please advise.
- 1A. See Addendum #1 page 2 the colored composite drawing for location.

- 2Q. Costello Elementary School. What type of flooring should be installed in Reading, Resource Room, Work Room, Speech and Offices?
- 2A. See Addendum #1 page 2 the color composite drawing.

- 3Q. Costello Elementary School. Is there flooring in the MDF Room?
- 3A. No.

- 4Q. General. If the spaces that have floor polishing, who is responsible for the base demolition?
- 4A. The flooring replacement contractor.

END



Addendum 3

Project: **BID NO. 9917 2021 FLOORING REPLACEMENT AND POLISHING
PROGRAM TROY SCHOOL DISTRICT**

Bid Due date: Thursday January 7, 11:00AM (UNCHANGED)

This Addendum is issued as modifications to the RFP previously issued to provide clarifications to the scope of work. This Addendum supersedes the original RFP. This along with the RFP becomes the bid documents.

1. In areas where polishing is called for AND demolition is called for on the room finish schedule, demolition to be performed by the flooring contractor.

END

