# GROSSE POINTE PUBLIC SCHOOL SYSTEM

# Richard Elementary School

# Restroom Remodeling - Phase Two

Richard Elementary School 176 McKinley Grosse Pointe Farms, MI 48236 313.432.4905

Contact: Mr. Randal Baker, Building Engineer

Grosse Pointe Public School System 389 St. Clair Avenue Grosse Pointe, MI 48230 313.432.3082

Contact: Mr. Richard VanGorder Manager of Buildings and Grounds

### **ARCHITECT**

## **Ehresman Associates, Inc.**

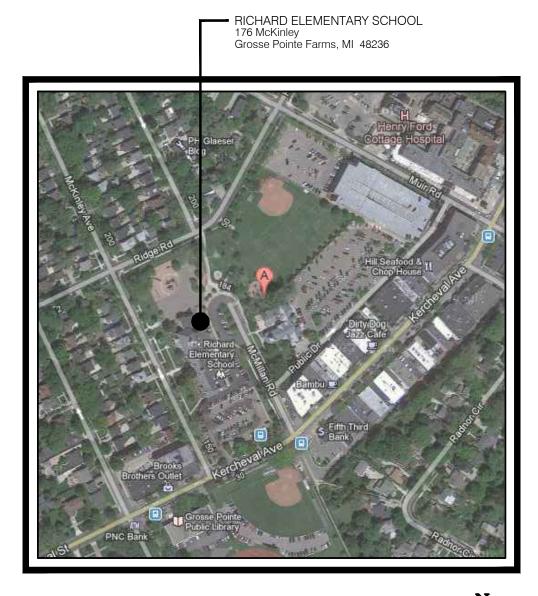
architects • engineers

803 West Big Beaver Road, Suite 350 Troy, Michigan 48084-4734 248.244.9710 248.244.9712 (f)

email: architects@ehresmanassociates.com

MECHANICAL AND **ELECTRICAL ENGINEER:** 





# LOCATION PLAN



## APPLICABLE CODES:

MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS LIFE SAFETY CODE 101 MICHIGAN SCHOOL FIRE SAFETY RULES MICHIGAN UNIFORM ENERGY CODE NATIONAL ELECTRIC CODE (WITH MICHIGAN PART 8 RULES) MICHIGAN PLUMBING CODE MICHIGAN MECHANICAL CODE FEDERAL ADA STANDARDS FOR ACCESSIBLE DESIGN MICHIGAN BARRIER FREE DESIGN ACT

1999 EDITION 2009 EDITION 2011 EDITION 2009 EDITION 2012 EDITION **CURRENT EDITION** 

## OCCUPANCY GROUP: E: EDUCATIONAL

ZONING DISTRICT:

**CONSTRUCTION TYPE:** 

# TOTAL FLOOR AREA:

(GROSS FLOOR AREA) 38,246 SF (E) BUILDING FLOOR AREA: REMODELED FLOOR AREA: FIRST FLOOR GIRLS RESTROOM: SECOND FLOOR BOYS RESTROOM:

CLASSROOM NET AREA THREE FLOORS: OCCUPANT LOAD = 20 NET SQ FT CLASSROOM PER OCCUPENT = 16,000/20:

CS: COMMUNITY SERVICE (EXISTING)

TYPE II (000) WITHOUT SPRINKLER COVERAGE

800

16,000 SF

(GROSS FLOOR AREA) 552 SF

## FIXTURE COUNT

| 1/2 (400) = BOYS 1/2 (400) = GIRLS      |        |           |      |
|---|--------|-----------|------|
| ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |        |           |      |
| EDUCATIONAL BUILDING REQUIREMENTS (PE   | r code | E) EACH G | ENDE |
| WATER CLOSETS                           | 1/50   | 400/50    | 8    |
| LAVATORIES                              | 1/50   | 400/50    | 8    |
| FIXTURES PROVIDED                       |        |           |      |
| FIRST FLOOR - BOYS (EXISTING)           |        |           |      |
| WATER CLOSETS                           |        |           | 2    |
| URINALS                                 |        |           | 3    |
| WASHFOUNTAIN (EQUALS 4 LAVS)            |        |           | 1    |
| SECOND FLOOR - BOYS (RENOVATION)        |        |           |      |
| WATER CLOSETS                           |        |           | 2    |
| URINALS                                 |        |           | 3    |
| WASHFOUNTAIN (EQUALS 4 LAVS)            |        |           | 1    |
|   |        |           |      |
| BOYS: TOTAL WATER CLOSETS PROVIDED      |        |           | 10   |
| TOTAL LAVATORIES PROVIDED               |        |           | 8    |
| FIXTURES PROVIDED                       |        |           |      |
| FIRST FLOOR - GIRLS (RENOVATION)        |        |           |      |
| WATER CLOSETS                           |        |           | 5    |
| WASHFOUNTAIN (EQUALS 4 LAVS)            |        |           | 1    |
| SECOND FLOOR - GIRLS - (EXISTING)       |        |           |      |
| WATER CLOSETS                           |        |           | 5    |
| WASHFOUNTAIN (EQUALS 4 LAVS)            |        |           | 1    |
| GIRLS: TOTAL WATER CLOSETS PROVIDED     |        |           | 10   |
| TOTAL LAVATORIES PROVIDED               |        |           | 8    |

# PROJECT NO.: 9113 LIST OF DRAWINGS:

PARTIAL FIRST AND SECOND FLOOR MECHANICAL PLANS MECHANICAL DETAILS AND SCHEDULES

#### **ELECTRICAL**

ELECTRICAL STANDARDS AND DRAWING INDEX

ELECTRICAL STANDARD SCHEDULES

ELECTRICAL COMPOSITE PLANS PARTIAL FIRST AND SECOND FLOOR ELECTRICAL PLANS

Bidding: 20 January 2016

Title Sheet

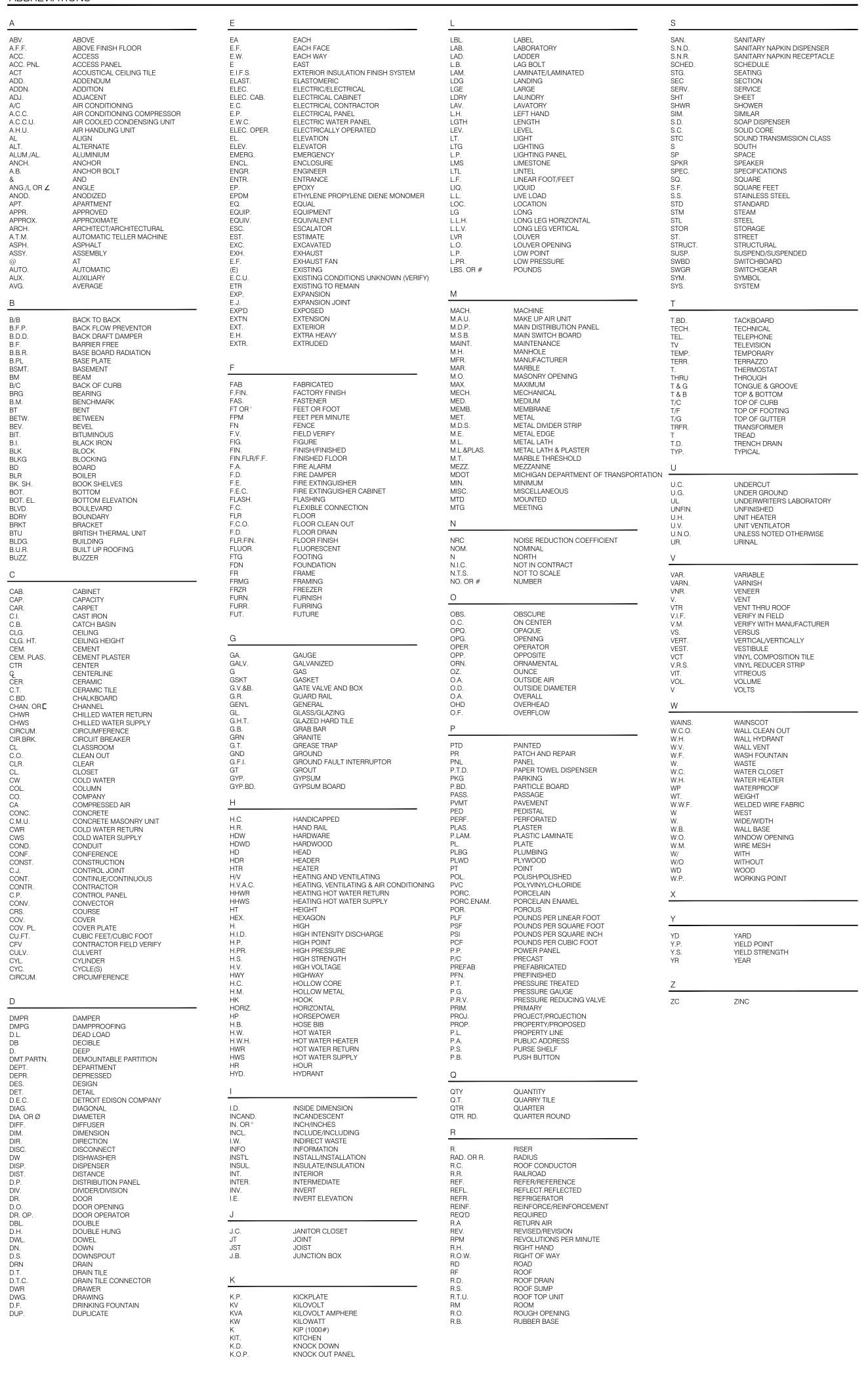
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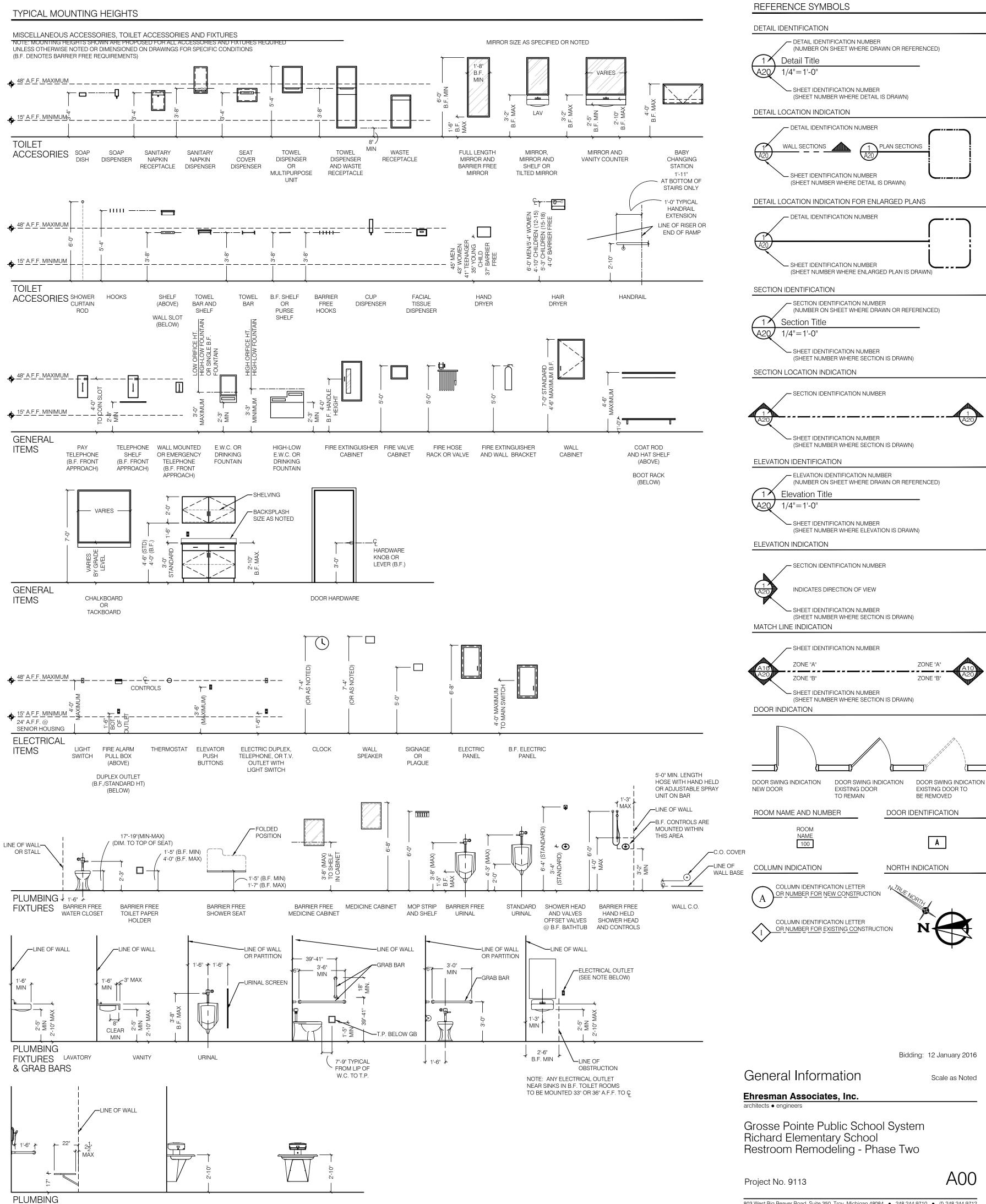
Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase One

Project No.: 9113

Scale as Noted

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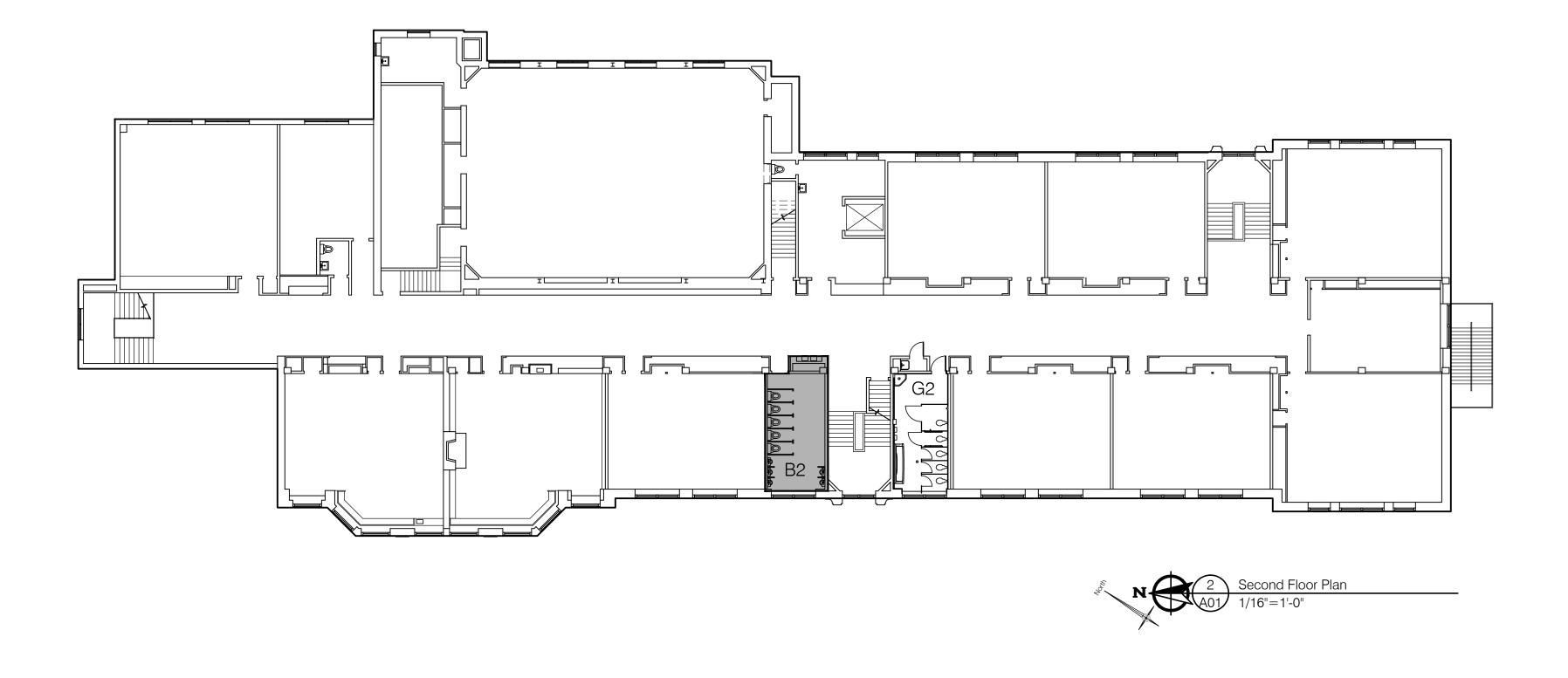
FIXTURES BARRIER FREE

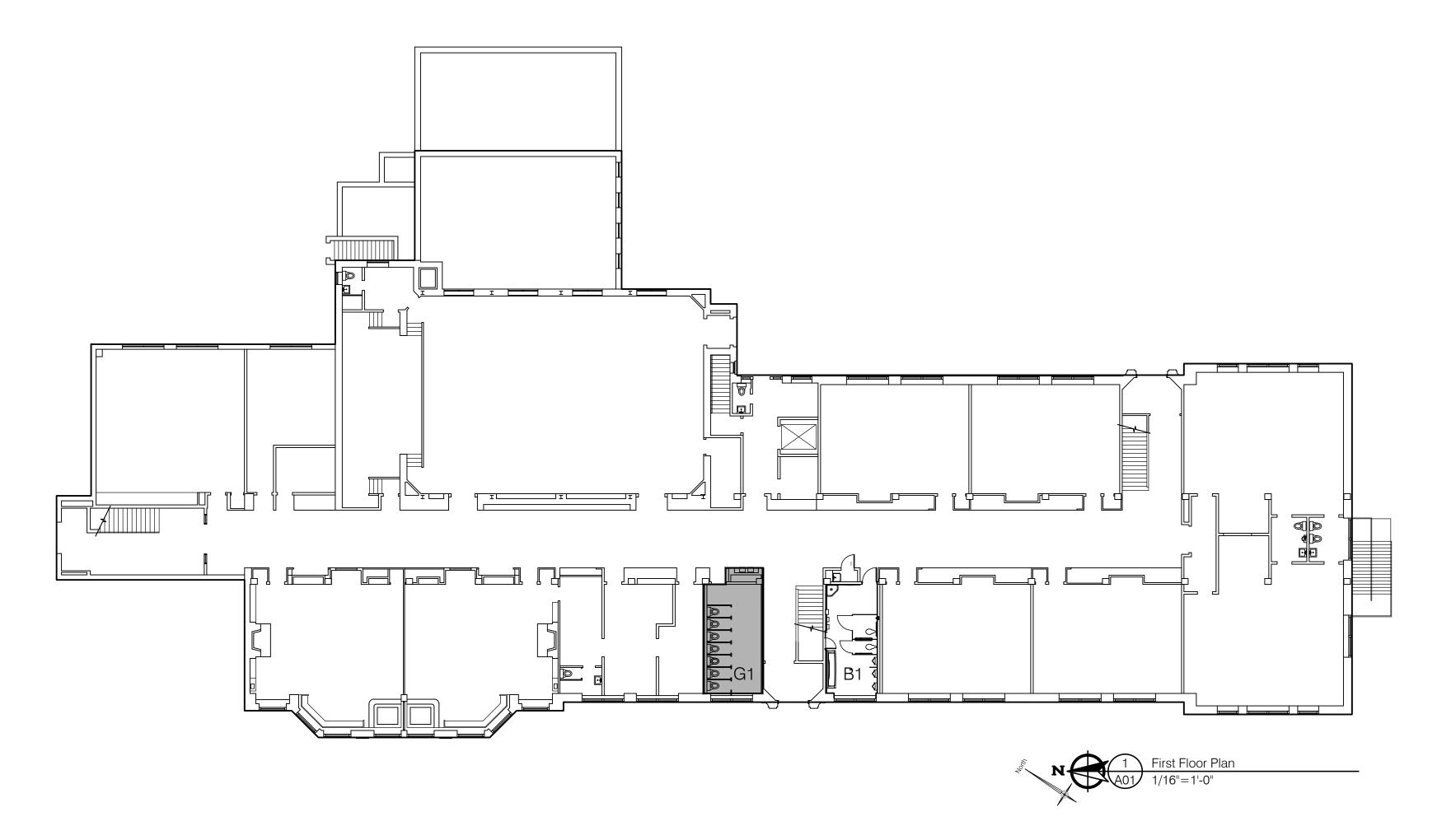
WALL MOUNTED

WASH FOUNTAIN

WALL MOUNTED

WASH FOUNTAIN





#### EXISTING FIXTURE COUNT

| DES.                       | LOCATION         | WATER<br>CLOSETS | URINALS | LAVATORIES | WASH<br>FOUNTAIN |  |  |  |  |  |  |  |
|----------------------------|------------------|------------------|---------|------------|------------------|--|--|--|--|--|--|--|
| FIRST FLOOR                |                  |                  |         |            |                  |  |  |  |  |  |  |  |
| B1 BOYS (EXISTING) 2 3 0 1 |                  |                  |         |            |                  |  |  |  |  |  |  |  |
| G1                         | GIRLS            | 5                |         | 0          | 1                |  |  |  |  |  |  |  |
|                            |                  |                  |         |            |                  |  |  |  |  |  |  |  |
| SECON                      | ID FLOOR         |                  |         |            |                  |  |  |  |  |  |  |  |
| B2                         | BOYS             | 2                | 3       | 0          | 1                |  |  |  |  |  |  |  |
| G2                         | GIRLS (EXISTING) | 5                |         | 0          | 1                |  |  |  |  |  |  |  |

#### LEGEND:

SHADED AREA REPRESENTS THE RESTROOMS TO BE REMODELED

Bidding: 12 Janaury 2016

Location Plan

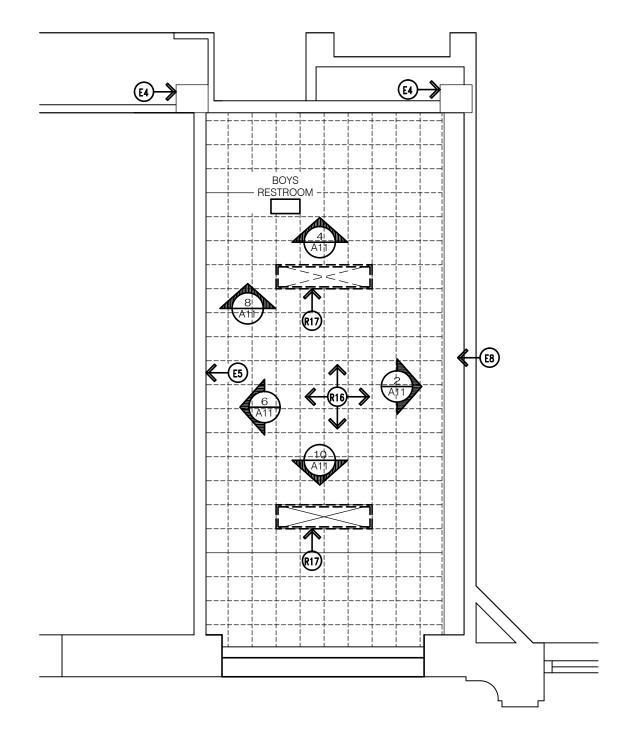
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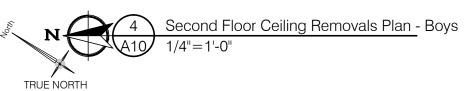
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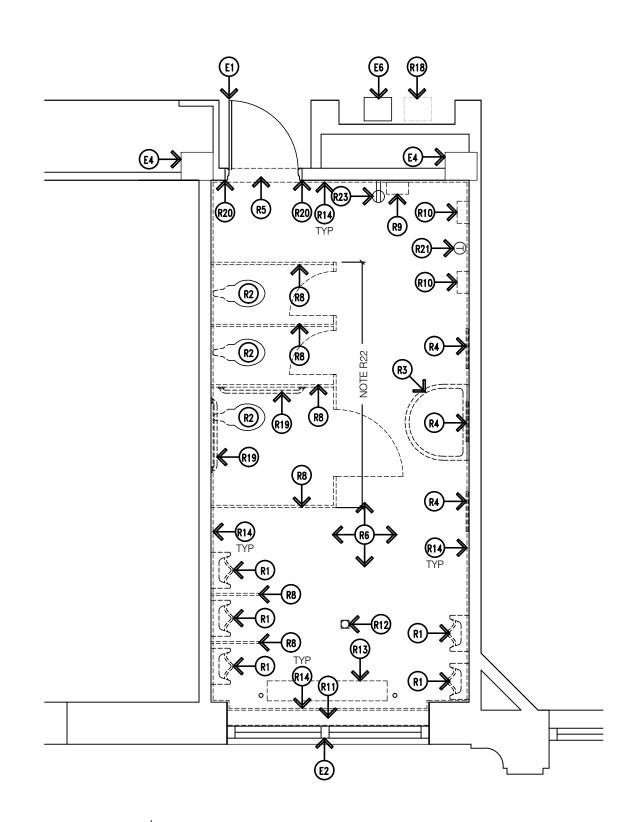
Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase Two

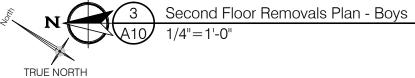
Project No. 9113

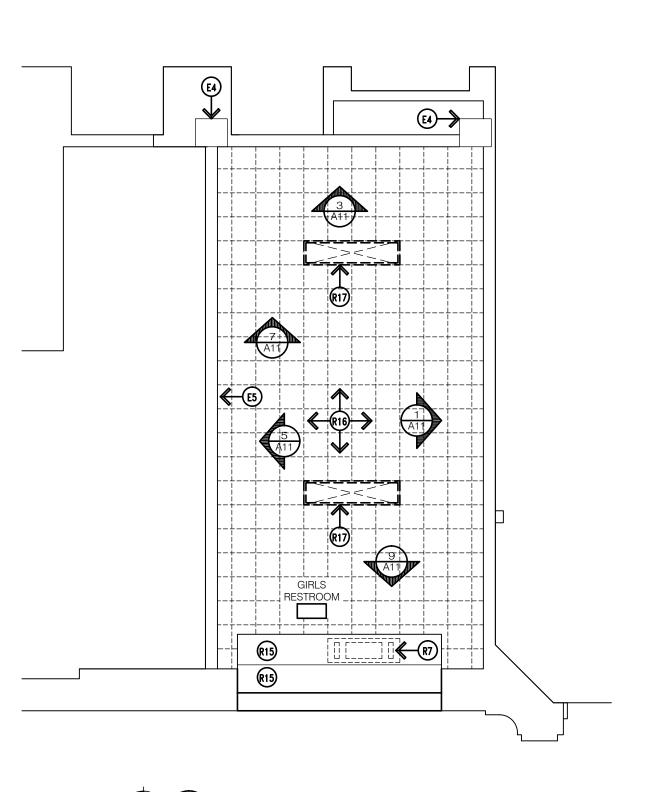
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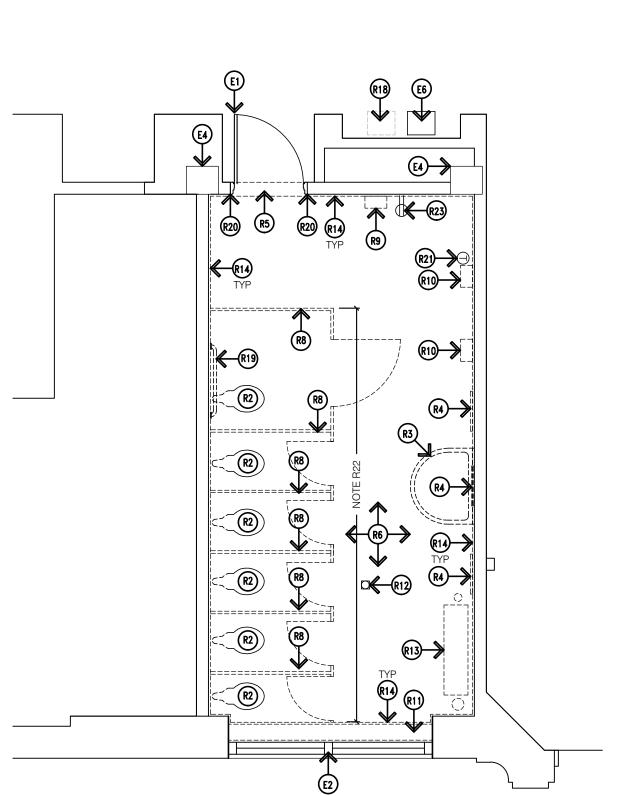






First Floor Ceiling Removals Plan - Girls

TRUE NORTH



First Floor Removals Plan - Girls

#### CONTRACTOR COORDINATION:

ALL CONTRACTORS TO REVIEW THE ENVIRONMENTAL ENGINEER'S REPORT AND BE AWARE OF ALL HAZARDOUS MATERIALS IN THE AREA OF SCOPE OF WORK AND PROCEED

\*\*IMPORTANT CONTRACTOR COORDINATION WILL BE REQUIRED BETWEEN GENERAL CONTRACTOR AND OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR. REFER TO PROJECT MANUAL FOR FURTHER INFORMATION AND MATERIALS SURVEYS.

- C1. GENERAL CONTRACTOR TO REMOVE ALL TOILET PARTITIONS, FIXTURES, ACCESSORIES, SUSPENDED CEILING GRID AND TILES, ETC. PRIOR TO ENVIRONMENTAL CONTRACTOR COMMENCEMENT.
- C2. ENVIRONMENTAL CONTRACTOR TO PROTECT FLOOR WITH PLYWOOD
- C3. ENVIRONMENTAL CONTRACTOR TO REMOVE WALL PLASTER (±4'-0"OF WALL ABOVE MARBLE) PLASTER CEILING, 1'X1' CEILING TILES AND ASSOCIATED GLUE PODS.
- C4. ENVIRONMENTAL CONTRACTOR TO REMOVE MARBLE WALL PANELS AND SET ASIDE FOR DISPOSAL BY GENERAL CONTRACTOR. C5. ENVIRONMENTAL CONTRACTOR TO REMOVE PAINT FROM ROOF/FLOOR DECK WITH
- CHEMICAL STRIPPER. C6. ENVIRONMENTAL CONTRACTOR TO REMOVE ITEMS NOTED IN SURVEY AS HAVING
- LEAD CONTAINING PAINT (I.E. VENTS, RADIATOR, DOOR, ETC.)
- C7. ENVIRONMENTAL CONTRACTOR TO REMOVE PIPE INSULATION, POLY SHEETING AND FIBERGLASS DEBRIS LOCATED IN CRAWLSPACE.
- ELECTRICAL REMOVAL WORK, MECHANICAL REMOVAL WORK, ETC.) FIRE ALARMS, STROBES, CALL BELLS, PA SYSTEM, ELECTRICAL CIRCUIT BOX, SWITCHES, OUTLETS, WIREMOLD (NOT ASSOCIATED WITH WORK TO BE REMOVED), EMERGENCY LIGHTS WITH BATTERY BACKUP, EXIT LIGHTS, ETC. TO

G4. COORDINATE ALL REMOVAL WORK (ARCHITECTURAL REMOVAL WORK,

G1. DISPOSE OF ALL ITEMS REMOVED OFF SITE PER LOCAL BUILDING AND SAFETY

PATCHED, REPAIRED AND FINISHED BACK TO EXISTING CONDITION.

ORDINANCES. ANY ITEM REQUESTED BY GPPSS TO BE SALVAGED SHALL BE

G2. ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE

G3. DO NOT DISTURB EXISTING UTILITIES TO REMAIN. USE EVERY PRECAUTION TO

ENSURE SAFE REMOVAL WORK. INSPECT EXISTING WORK FOR POSSIBLE

**GENERAL REMOVAL NOTES:** 

RETURNED TO OWNER.

UNUSUAL CONDITIONS.

G6. CONTRACTOR TO COORDINATE TIMING OF REMOVAL WORK THAT AFFECTS SCHOOL OPERATIONS SO AS TO NOT CAUSE DISRUPTION TO NORMAL

REMAIN IN WORKING ORDER AT ALL TIMES.

- G7. CONTRACTOR TO FIELD VERIFY EXISTING FLOOR SUBSTRATE PRIOR TO STARTING THE WORK TO ASSURE THAT IT IS AN ACCEPTABLE SURFACE FOR FINISH
- G8. CONTRACTOR TO FIELD VERIFY EXISTING WALL SUBSTRATE PRIOR TO STARTING THE WORK TO ASSURE THAT IT IS AN ACCEPTABLE SURFACE FOR FINISH
- APPLICATION. G9. PROJECT INTENT IS FOR ALL MECHANICAL, PLUMBING, ELECTRICAL, ETC. TO BE
- CONCEALED IN WALLS. G10. THE RESTROOM WALLS AND CEILING MUST BE PATCHED/REPAIRED BACK TO A

SUITABLE 1-HOUR RATING WHEN CONSTRUCTION IS COMPLETE.

- G11. CEILING REMOVALS SHOWN FOR REFERENCE ONLY. EXACT LOCATIONS TO BE
- DETERMINED BY CONTRACTOR'S MEANS AND METHODS FOR ALL WORK (ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, ETC.)
- G12. ALL WALLS ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE

#### **EXISTING ITEMS TO REMAIN:**

- E1. WOOD DOOR, WOOD FRAME, WOOD TRIM AND HARDWARE.
- E2. WINDOW
- E3. NOT USED
- E4. STRUCTURAL COLUMN
- E5. STRUCTURAL BEAM
- E6. ELECTRIC WATER COOLER
- E7. NOT USED
- E8. SOFFIT

#### REMOVAL NOTES: (REMOVE THE FOLLOWING ITEMS)

- R1. WALL MOUNTED URINAL. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- R2. FLOOR MOUNTED WATER CLOSET. REFER TO MECHANICAL FOR FURTHER
- R3. FLOOR MOUNTED WASH FOUNTAIN. REFER TO MECHANICAL FOR FURTHER INFORMATION. SALVAGE AND RETURN TO OWNER.
- R4. MIRROR
- R5. MARBLE THRESHOLD
- R6. TERRAZZO FLOORING AND COVED BASE. REMOVE AS REQUIRED TO PROVIDE NEW EPOXY TERRAZZO FINISH AND REPAIR OVERLAY. REFER TO DETAILS AND SPECIFICATIONS. INTENT IS NOT TO REMOVE THE FLOOR IN ITS ENTIRETY, ONLY AS NEEDED AT HIGH SPOTS, PENETRATIONS, FLOOR DRAINS, EPOXY FINISH, ETC. EXISTING COVE BASE IS INTENDED TO BE REMOVED COMPLETELY.
- R7. ATTIC ACCESS DOOR, TRIM, HARDWARE COMPLETE.
- R8. MARBLE PARTITION.
- R9. PAPER TOWEL DISPENSER. RETURN TO OWNER.
- R10. ELECTRIC HAND DRYER
- R11. MARBLE WINDOW SILL.
- R12. FLOOR DRAIN REFER TO MECHANICAL FOR FURTHER INFORMATION
- R13. RADIATOR AND PIPING REFER TO MECHANICAL FOR FURTHER INFORMATION
- R14. MARBLE WALL PANEL AND TOP TRIM PIECE BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR. CONTRACTOR RESPONSIBLE FOR DISPOSAL OF
- R15. PLASTER CEILING AND LATH BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR
- R16. 12x12 GLUE ON CEILING TILES, GLUE, ETC.- BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR
- R17. SURFACE MOUNTED LIGHT FIXTURE REFER TO ELECTRICAL FOR FURTHER
- R18. ELECTRIC WATER COOLER. SALVAGE AND RETURN TO OWNER. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- R19. GRAB BAR
- R20. WOOD DOOR TRIM TO BE REWORKED AFTER NEW WALL TILE IS INSTALLED.
- R22. PLASTIC TOILET PARTITION DOOR AND HARDWARE COMPLETE.
- R23. ELECTRICAL DUPLEX OUTLET. DISCONNECT WIRING BACK TO SOURCE. REFER TO ELECTRICAL FOR FURTHER INFORMATION.

Bidding: 12 January 2016

### Floor & Ceiling Removals Plans

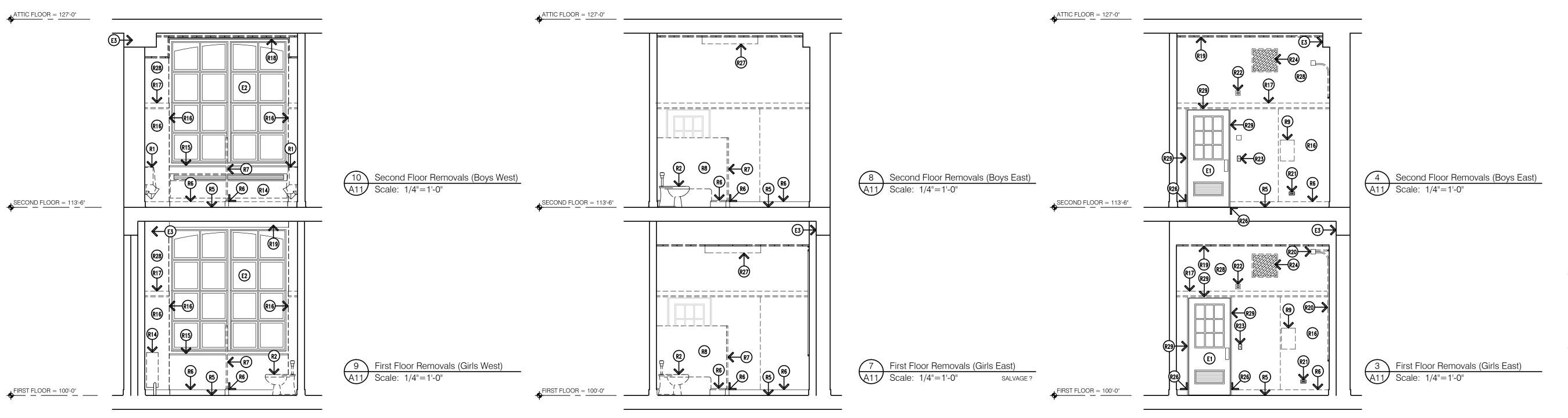
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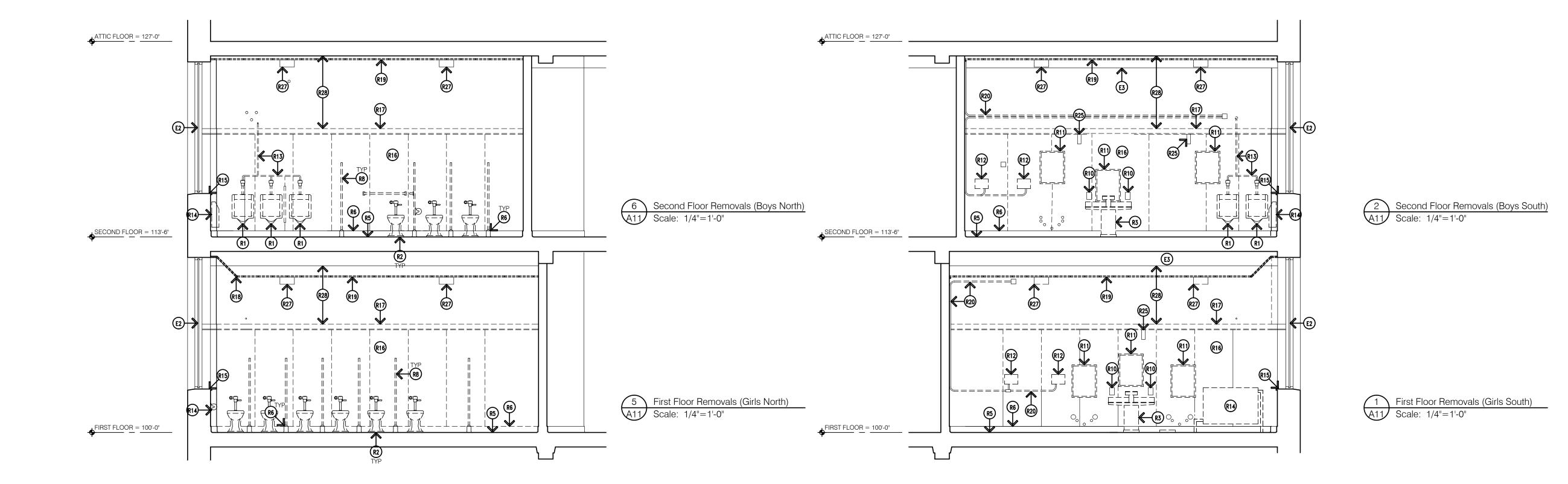
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Grosse Pointe Public School System Richard Elementary School
Restroom Remodeling - Phase Two

Project No. 9113

architects • engineers





#### GENERAL REMOVAL NOTES:

- G1. DISPOSE OF ALL ITEMS REMOVED OFF SITE PER LOCAL BUILDING AND SAFETY ORDINANCES. ANY ITEM REQUESTED BY GPPSS TO BE SALVAGED SHALL BE RETURNED TO OWNER.
- G2. ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE PATCHED, REPAIRED AND FINISHED BACK TO EXISTING CONDITION.
- G3. DO NOT DISTURB EXISTING UTILITIES TO REMAIN. USE EVERY PRECAUTION TO ENSURE SAFE REMOVAL WORK. INSPECT EXISTING WORK FOR POSSIBLE UNUSUAL CONDITIONS.
- G4. COORDINATE ALL REMOVAL WORK (ARCHITECTURAL REMOVAL WORK, ELECTRICAL REMOVAL WORK, MECHANICAL REMOVAL WORK, ETC.)
- G5. FIRE ALARMS, STROBES, CALL BELLS, PA SYSTEM, ELECTRICAL CIRCUIT BOX, SWITCHES, OUTLETS, WIREMOLD (NOT ASSOCIATED WITH WORK TO BE REMOVED), EMERGENCY LIGHTS WITH BATTERY BACKUP, EXIT LIGHTS, ETC. TO REMAIN IN WORKING ORDER AT ALL TIMES.
- G6. CONTRACTOR TO COORDINATE TIMING OF REMOVAL WORK THAT AFFECTS SCHOOL OPERATIONS SO AS TO NOT CAUSE DISRUPTION TO NORMAL OPERATIONS
- G7. CONTRACTOR TO FIELD VERIFY EXISTING FLOOR SUBSTRATE PRIOR TO STARTING THE WORK TO ASSURE THAT IT IS AN ACCEPTABLE SURFACE FOR FINISH APPLICATION.
- G8. CONTRACTOR TO FIELD VERIFY EXISTING WALL SUBSTRATE PRIOR TO STARTING THE WORK TO ASSURE THAT IT IS AN ACCEPTABLE SURFACE FOR FINISH
- G9. PROJECT INTENT IS FOR ALL MECHANICAL, PLUMBING, ELECTRICAL ETC. TO BE CONCEALED IN WALLS.
- G10. THE RESTROOM WALLS AND CEILING MUST BE PATCHED/REPAIRED BACK TO A SUITABLE 1-HOUR RATING WHEN CONSTRUCTION IS COMPLETE.
- G11. CEILING REMOVALS SHOWN FOR REFERENCE ONLY. EXACT LOCATIONS TO BE DETERMINED BY CONTRACTOR'S MEANS AND METHODS FOR ALL WORK (ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, ETC.)
- G12. ALL WALLS ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE

#### **EXISTING ITEMS TO REMAIN:**

- E1. WOOD DOOR, WOOD FRAME, WOOD TRIM AND HARDWARE.
- E2. WINDOW
- E3. CONCRETE BEAM EXACT CONDITIONS UNKNOWN

#### REMOVAL NOTES: (REMOVE THE FOLLOWING ITEMS)

- R1. WALL MOUNTED URINAL. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- R2. FLOOR MOUNTED WATER CLOSET. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- R3. FLOOR MOUNTED WASH FOUNTAIN. REFER TO MECHANICAL FOR FURTHER INFORMATION. SALVAGE AND RETURN TO OWNER.
- R4. WALL MOUNTED SERVICE SINK. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- R5. TERRAZZO FLOORING AND COVED BASE. REMOVE AS REQUIRED TO PROVIDE NEW EPOXY TERRAZZO FINISH AND REPAIR OVERLAY. REFER TO DETAILS AND SPECIFICATIONS. INTENT IS NOT TO REMOVE THE FLOOR IN ITS ENTIRETY, ONLY AS NEEDED AT HIGH SPOTS, PENETRATIONS, FLOOR DRAINS, EPOXY FINISH, ETC.
- R6. TERRAZZO COVED BASE
- R7. PLASTIC PARTITION
- R8. MARBLE PARTITION
- R9. PAPER TOWEL DISPENSER. RETURN TO OWNER.
- R10. SOAP DISPENSER. RETURN TO OWNER.
- R11. MIRROR
- R12. HAND DRYER
- R13. PIPING REFER TO MECHANICAL FOR FURTHER INFORMATION
- R14. RADIATOR AND PIPING- REFER TO MECHANICAL FOR FURTHER INFORMATION
- R15. MARBLE WINDOW SILL BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR

  R16. MARBLE WALL PANEL BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR
- R17. MARBLE WALL TRIM BAND BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR
- R18. PLASTER CEILING AND LATH BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR
- R19. GLUE ON CEILING TILE BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR
- R20. ELECTRICAL CONDUIT
- R21. DUPLEX RECEPTACLE
- R22. FIRE ALARM DEVICER23. LIGHT SWITCH AND PLATE
- R24 METAL GRATE RETURN TO OWNE
- R24. METAL GRATE. RETURN TO OWNER.
- R25. AIR FRESHENER
- R26. PLINTH BLOCK BOTH SIDES OF DOOR.
- R27. SURFACE MOUNTED LIGHT FIXTURE. REFER TO ELECTRICAL FOR FURTHER INFORMATION
- R28. PLASTER, LATH, ETC. BY OWNER'S SEPARATE VENDOR
- R29. WOOD DOOR TRIM TO BE REWORKED AFTER NEW WALL TILE IS INSTALLED.

Bidding: 12 January 2016

## Removals Elevations

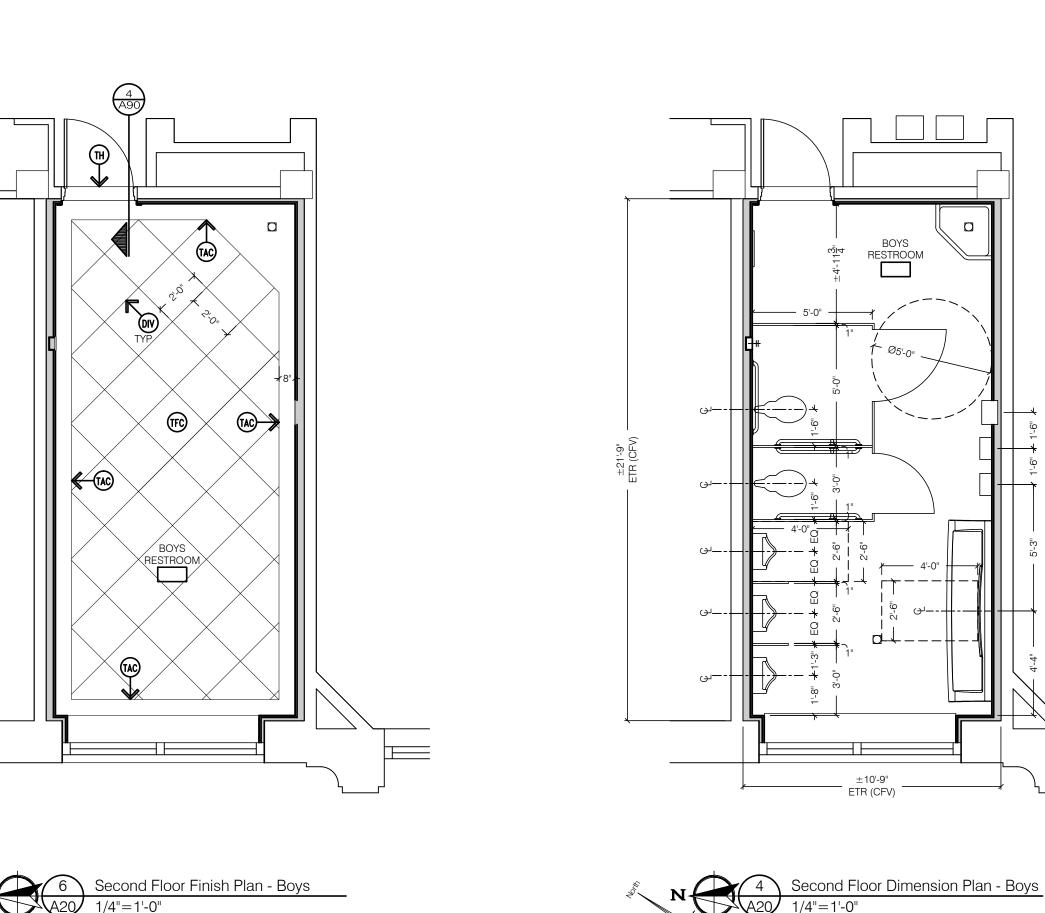
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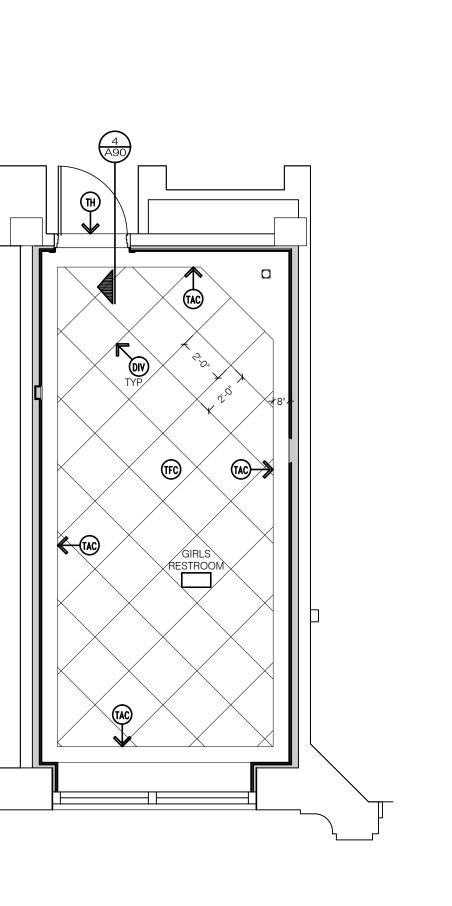
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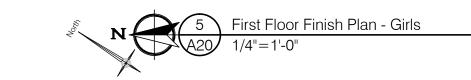
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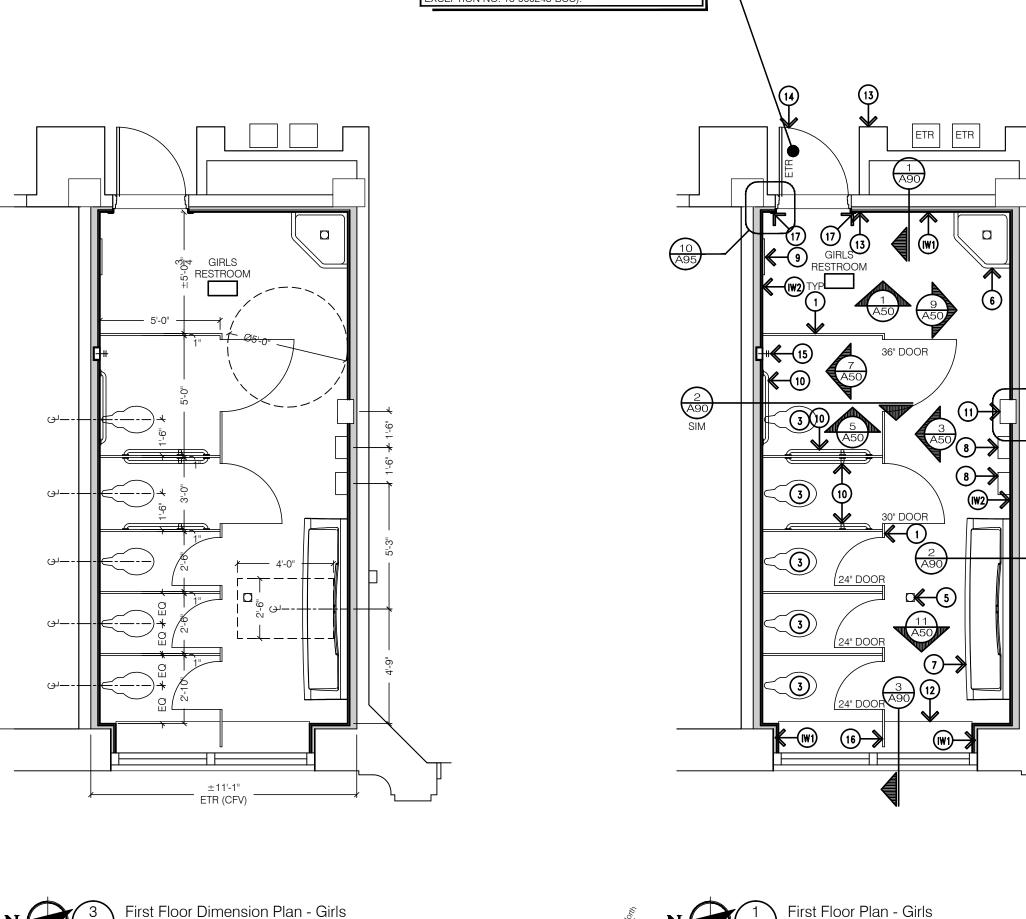
Project No. 9113

A11









- G1. COORDINATE ALL WORK (ARCHITECTURAL WORK, ELECTRICAL WORK, MECHANICAL WORK, PLUMBING WORK, ETC.)
- G2. ALL WALLS ARE EXISTING UNLESS OTHERWISE INDICATED.
- G3. CONTRACTOR TO COORDINATE TIMING OF WORK THAT AFFECTS SCHOOL OPERATIONS SO AS TO NOT CAUSE DISRUPTION TO NORMAL OPERATIONS.
- G4. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING
- G5. INTENTION IS THAT ALL STALLS ARE THE SAME SIZE EXCEPT FOR BARRIER FREE
- G6. TOILET TISSUE DISPENSERS WILL BE FURNISHED BY THE OWNER AND INSTALLED BY THIS CONTRACTOR (ONE PER STALL).
- G7. INTENT IS THAT ALL EXISTING AND NEW PIPING IS TO BE CONCEALED.

#### DRAWING NOTES:

ON THE WORK.

- 1. FLOOR MOUNTED, OVERHEAD BRACED PLASTIC TOILET COMPARTMENT WITH DOOR, HINGES, SLIDE LATCH, DOOR PULL, COAT HOOK, ETC. REFER TO SPECIFICATIONS
- 2. WALL MOUNTED, PLASTIC URINAL SCREEN WITH CONTINUOUS WALL BRACKET. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 3. FLOOR MOUNTED TOILET WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F. (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 4. WALL MOUNTED URINAL WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F. (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION. PROVIDE CONCEALED CARRIER WITH TUBE STEEL SUPPORT LEGS.
- 5. FLOOR DRAIN. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 6. FLOOR MOUNTED MOP SINK. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 7. WALL MOUNTED WASH FOUNTAIN. REFER TO MECHANICAL FOR FURTHER
- INFORMATION.
- 8. ELECTRIC HAND DRYER. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. 9. MIRROR. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 10. GRAB BAR. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 11. SEMI-RECESSED TRASH RECEPTACLE. REFER TO SPECIFICATIONS FOR FURTHER
- INFORMATION.
- 12. MARBLE WINDOW SILL 13. LOCATION OF WIRELESS AUTOMATIC DOOR ACTUATOR, PER SECTION 08711.
- 14. REPLACE DOOR CLOSER WITH AUTOMATIC DOOR OPERATOR, PER SECTION 08711. OPERATOR TO BE PUSH SIDE MOUNTED.
- 15. RECESS HOSE BIBB WITH LOCKABLE COVER. REFER TO MECHANICAL FOR FURTHER
- 16. COPE FLOOR MOUNTED, OVERHEAD BRACED PLASTIC PARTITION AROUND WINDOW SILL TO PROVIDE ADEQUATE PRIVACY
- 17. NEW WOOD DOOR TRIM AT EXISTING DOOR (TOP AND SIDES). REFER TO DETAILS FOR FURTHER INFORMATION. MATCH EXISTING PROFILE, SPECIES, STAIN, ETC.

#### INTERIOR WALL DESIGNATIONS:

- IW1. CERAMIC TILE TO 5'-11" A.F.F., PER PROJECT MANUAL
- • 1-5/8" METAL STUD FRAMING @ 16" O.C. TO UNDERSIDE OF FLOOR STRUCTURE ABOVE (STOP MINIMUM 1" BELOW FLOOR STRUCTURE ABOVE FOR FLOOR
- DEFLECTION WITH SLIP TRACK) SOUND INSULATION
- EXISTING WALL STRUCTURE
- ABOVE CERAMIC TILE PROVIDE 5 TYPE "X" MOLD AND MOISTURE RESISTANT GYPSUM BOARD (TAPED AND FINISHED 3 COATS) TO UNDERSIDE OF EXISTING STRUCTURE ABOVE (STOP MINIMUM 1-1/2" BELOW TO ALLOW FOR DEFLECTION). INSTALL FIRE SAFING AT TOP OF WALL.
- IW2. CERAMIC TILE TO 5'-11" A.F.F., PER PROJECT MANUAL
- § CEMENTITOUS BACKER BOARD • 3-5/8" METAL STUD FRAMING @ 16" O.C. TO UNDERSIDE OF FLOOR STRUCTURE
- ABOVE (STOP MINIMUM 1" BELOW FLOOR STRUCTURE ABOVE FOR FLOOR DEFLECTION WITH SLIP TRACK)
- EXISTING WALL STRUCTURE ABOVE CERAMIC TILE PROVIDE ₹ TYPE "X" MOLD & MOISTURE RESISTANT GYPSUM BOARD, TAPED AND FINISHED THREE COATS TO UNDERSIDE OF EXISTING STRUCTURE ABOVE (STOP MINIMUM 1-1/2" BELOW TO ALLOW FOR DEFLECTION). INSTALL FIRE SAFING AT TOP OF WALL.

#### GENERAL ROOM FINISH NOTES:

- RF1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION
- RF2. REFER TO SPECIFICATIONS AND INTERIOR ELEVATIONS FOR CERAMIC TILE DESIGNATIONS
- RF3. CERAMIC TILE GROUT JOINTS TO BE 1/8"

#### INTERIOR FINISH ABBREVIATIONS:

- DIV TERRAZZO DIVIDER STRIP
- TAC TERRAZZO ACCENT/BASE COLOR REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. THIS COLOR TO BE USED FOR INTEGRAL BASE AS WELL.
- TFC TERRAZZO FIELD COLOR REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- TH TERRAZZO THRESHOLD, MATCH ACCENT/BASE COLOR REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. PROVIDE SLOPES PER ALL BARRIER FREE REQUIREMENTS.

Bidding: 16 January 2016

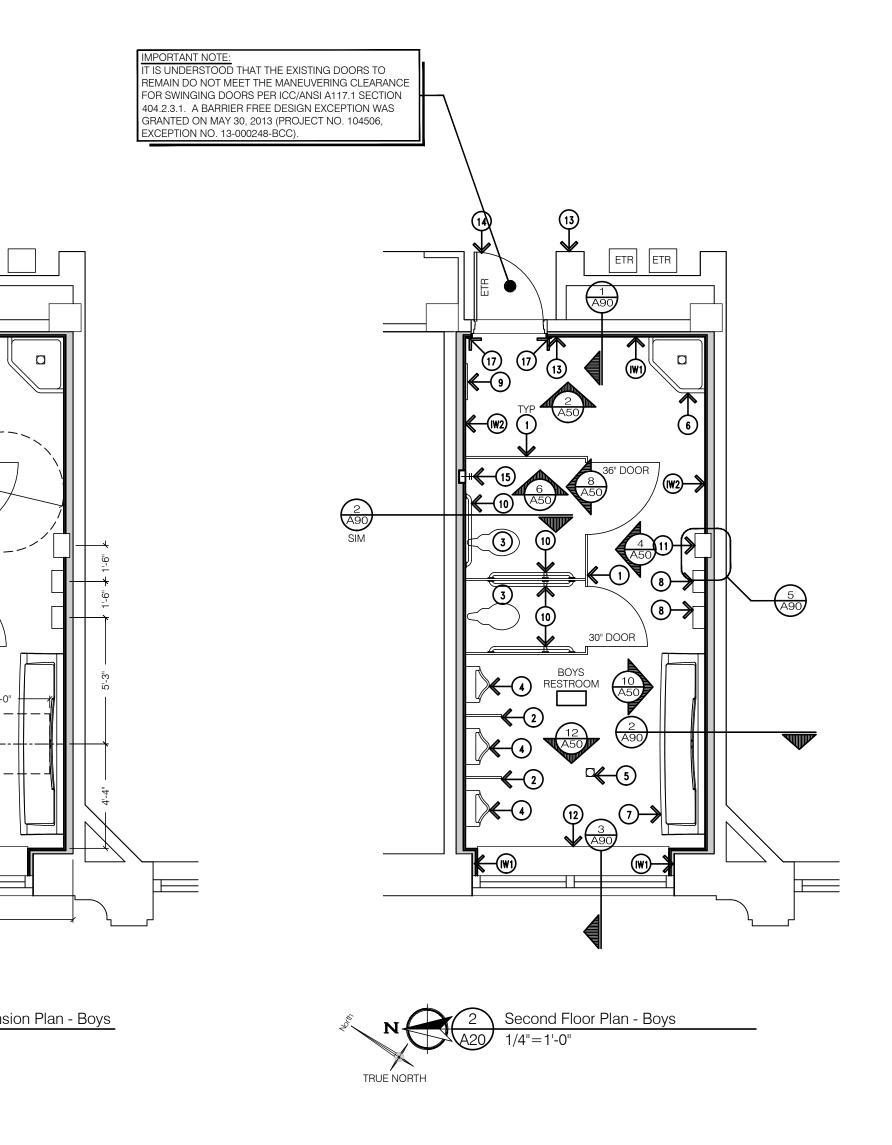
Floor & Dimensioned Plans

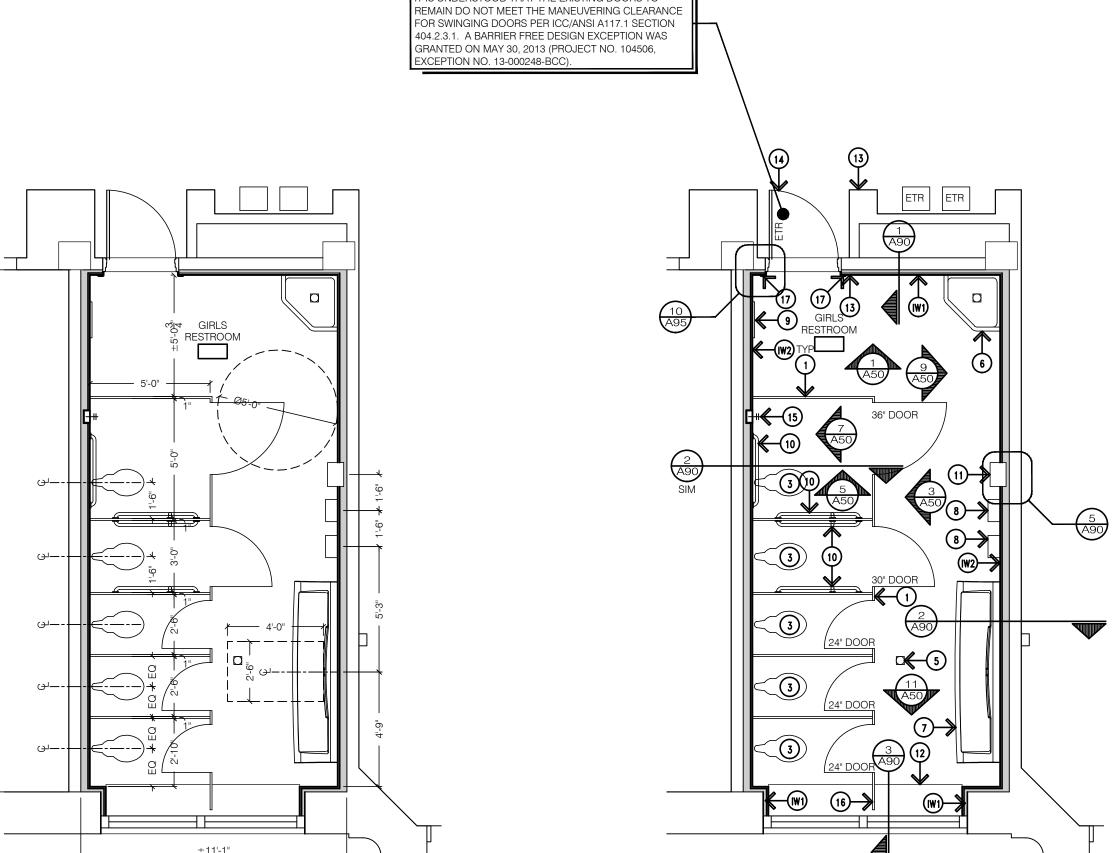
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Grosse Pointe Public School System Richard Elementary School
Resetroom Remodeling - Phase Two

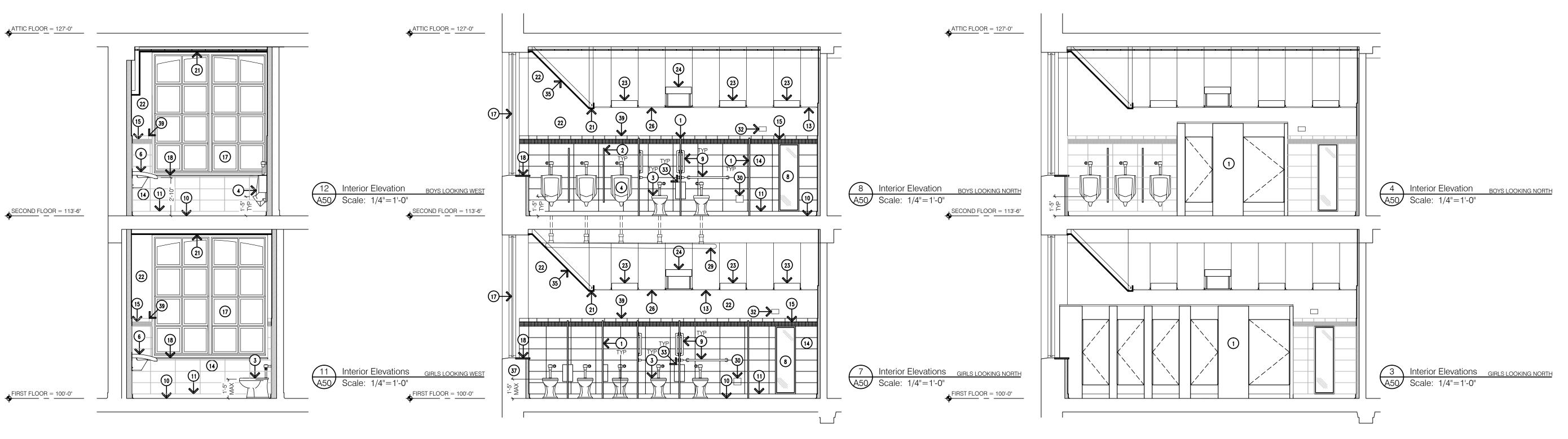
Project No. 9113

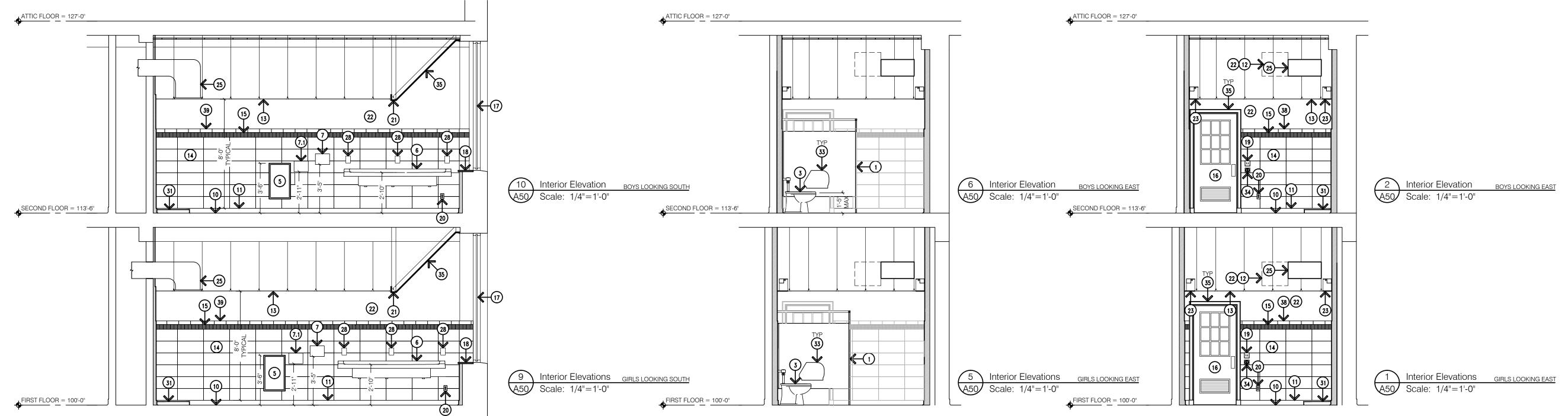
803 West Big Beaver Road, Suite 350, Troy, Michigan 48084 • 248.244.9710 • (f) 248.244.9712 email: architects@ehresmanassociates.com © Ehresman Associates, Inc. 2016





IMPORTANT NOTE: IT IS UNDERSTOOD THAT THE EXISTING DOORS TO





- G1. ALL WALLS ARE EXISTING UNLESS OTHERWISE INDICATED.
- G2. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ON THE WORK. CONFIRM ALL DIMENSIONS PRIOR TO WALL
- G3. CLEAN AND PAINT ALL EXPOSED ELEMENTS (RADIATOR, PIPING, CONDUIT, ETC.)
- G4. REFER TO ROOM FINISH SCHEDULE FOR FURTHER INFORMATION

#### DRAWING NOTES:

- 1. FLOOR MOUNTED, OVERHEAD BRACED PLASTIC TOILET COMPARTMENT WITH DOOR, HINGES, SLIDE LATCH, DOOR PULL, COAT HOOK, ETC. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 2. WALL MOUNTED PLASTIC URINAL SCREEN WITH CONTINUOUS BRACKET
- 3. FLOOR MOUNTED TOILET WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F. (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 4. WALL MOUNTED URINAL WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F. (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION.
- PROVIDE CONCEALÉD CARRIER.
- 5. WALL MOUNTED TRASH RECEPTACLE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 6. WALL MOUNTED WASH FOUNTAIN. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION
- 7. ELECTRIC HAND DRYER. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 7.1 ELECTRIC HAND DRYER, MOUNTED AT BARRIER FREE HEIGHT. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 8. MIRROR. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- GRAB BAR. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
   EPOXY TERRAZZO FLOOR (FIELD COLOR). REFER TO INTERIOR DETAILS AND
- SPECIFICATIONS FOR FURTHER INFORMATION.

  11. COVED EPOXY TERRAZZO BASE (ACCENT COLOR). REFER TO INTERIOR DETAILS
- AND SPECIFICATIONS FOR FURTHER INFORMATION.
- 12. ORIGINAL LOCATION OF WALL DIFFUSER.
- ACOUSTICAL CEILING TILE AND GRID. REFER TO REFLECTED CEILING PLAN FOR FURTHER INFORMATION.
- 14. CERAMIC WALL FIELD TILE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 15. CERAMIC WALL ACCENT TILE . REFER TO SPECIFICATIONS FOR FURTHER
- 16. EXISTING DOOR, FRAME AND HARDWARE TO REMAIN REPLACE CLOSER AS
- 17. EXISTING WINDOW TO REMAIN.
- 18. MARBLE WINDOW SILL
- 19. KEYED LIGHT SWITCH AND SWITCH PLATE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 20. GFI CONVENIENCE DUPLEX OUTLET WITH COVER PLATE. REFER TO ELECTRICAL AND SPECIFICATIONS FOR FURTHER INFORMATION.
- 21. PAINTED GYPSUM BOARD WINDOW SOFFIT. REFER TO REFLECTED CEILING PLAN FOR FURTHER INFORMATION.
- 22. PAINTED GYPSUM BOARD. REFER TO INTERIOR WALL DESIGNATIONS AND SPECIFICATIONS FOR FURTHER INFORMATION.
- 23. RECESSED LIGHT FIXTURE. REFER TO REFLECTED CEILING PLAN AND ELECTRICAL FOR FURTHER INFORMATION.
- 24. UNIT HEATER WITH BLOWER, DUCT WORK & DIFFUSER. REFER TO REFLECTED
- CEILING PLAN AND MECHANICAL FOR FURTHER INFORMATION.

  25. RETURN AIR DIFFUSER & DUCT WORK. REFER TO REFLECTED CEILING PLAN AND
- 26. CEILING MOUNTED FIRE ALARM STROBE. CONNECT TO NEW CONCEALED WIRING. COORDINATE WITH FIRE ALARM CONTRACTOR, REFLECTED CEILING PLAN AND
- ELECTRICAL PLAN.

  27. WOOD DOOR TRIM, STAIN TO MATCH EXISTING DOOR AND FRAME. REFER TO
- DETAILS FOR FURTHER INFORMATION

  28. SOAP DISPENSER. PROVIDED BY OWNER FOR INSTALLATION BY CONTRACTOR.
- 29. PIPING. REFER TO MECHANICAL FOR FURTHER INFORMATION.

MECHANICAL FOR FURTHER INFORMATION.

- 30. RECESSED WALL HYDRANT & COVER REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 31. FLOOR MOUNTED MOP SINK. REFER TO MECHANICAL FOR FURTHER INFORMATION
- INFORMATION.
- 32. APPROXIMATE LOCATION OF THERMOSTAT/SENSOR. DEVICE COVER TO BE WHITE. PROVIDE LOCKABLE COVER REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 33. TOILET PAPER DISPENSER. PROVIDED BY OWNER FOR INSTALLATION BY CONTRACTOR.
- 34. LOCATION OF WIRELESS ACTUATOR
- 35. NEW WOOD DOOR TRIM TO MATCH EXISTING PROFILE, SPECIES, STAIN, ETC.
- 36. 17" TO RIM. TYPICAL ALL URINALS37. 17" MAX TO RIM, ALL WATER CLOSETS VWM
- 37. 17" MAX TO RIM, ALL WATER CLOSETS VWN38. TILE TOP TRIM PIECE

Bidding: 12 January 2016

Interior Elevations

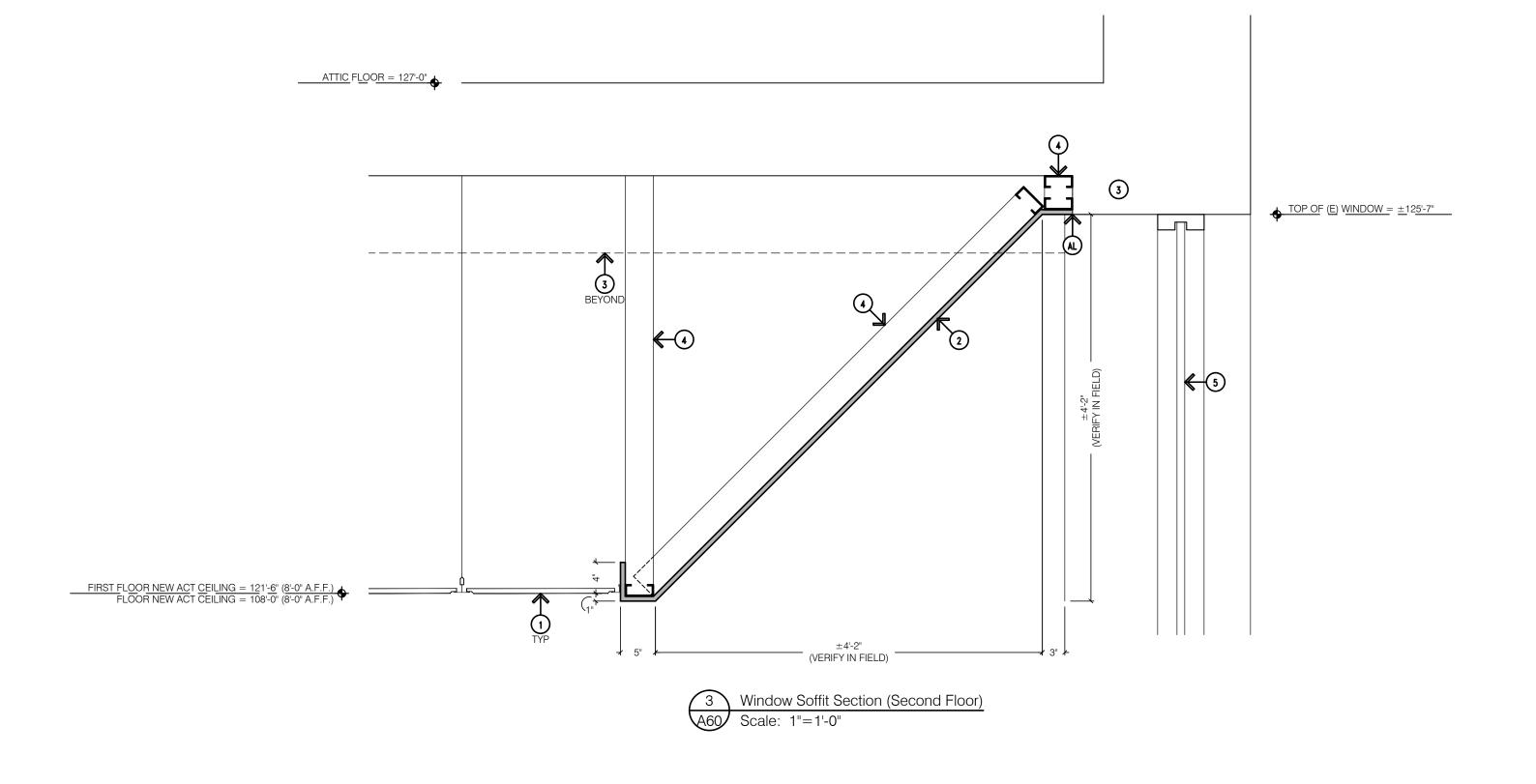
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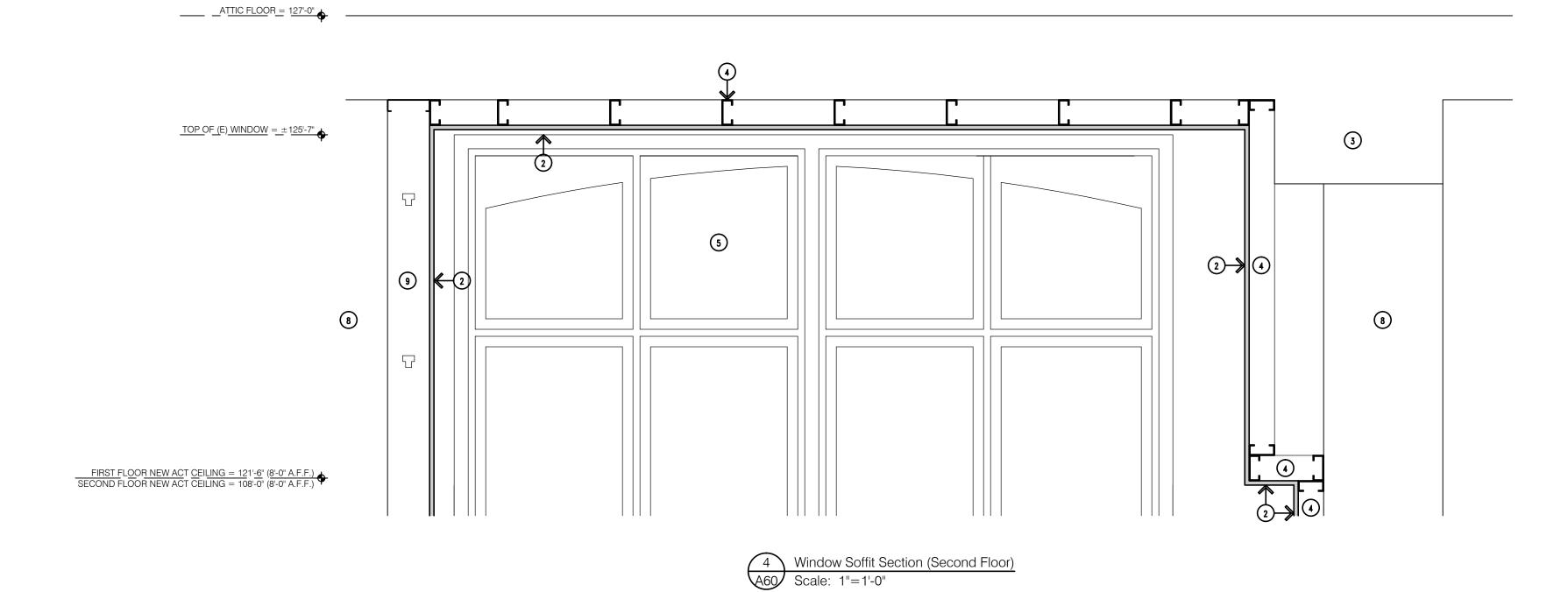
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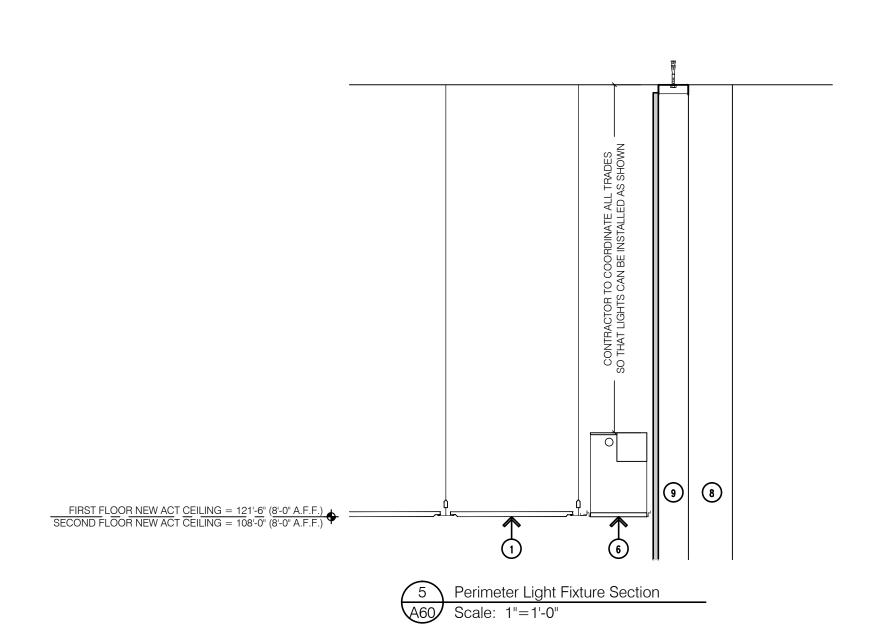
Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase Two

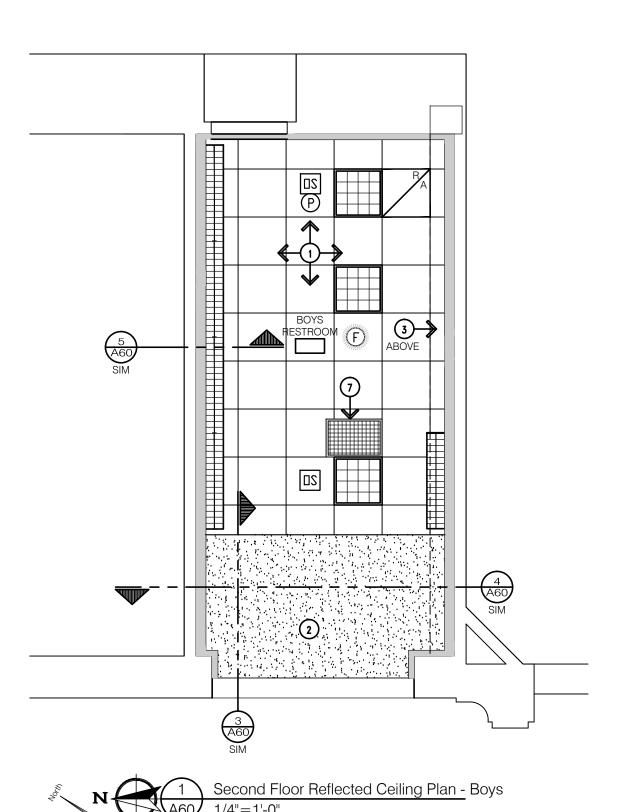
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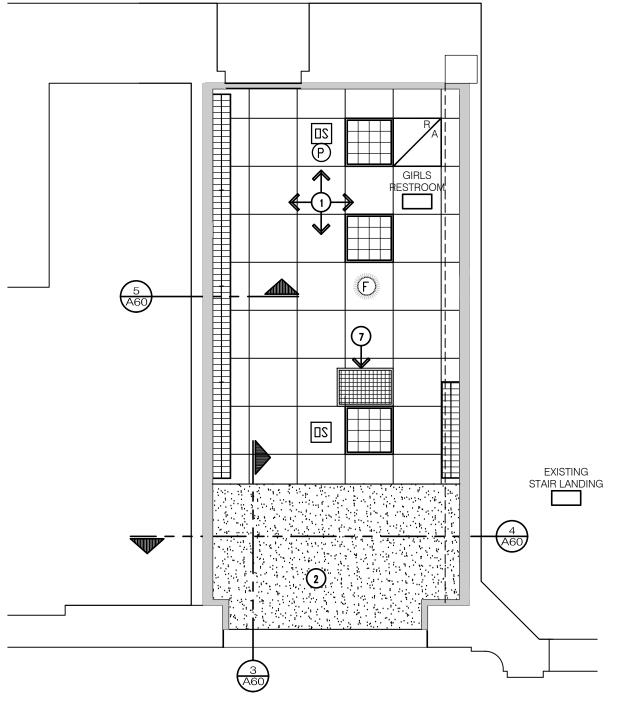
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- G1. COORDINATE ALL WORK (ARCHITECTURAL WORK, ELECTRICAL WORK, MECHANICAL WORK, PLUMBING WORK, ETC.)
- G2. EXISTING WIRING HOMERUNS LOCATIONS ARE UNKNOWN AND ARE TO BE FIELD
- G3. THE INTENT IS USE FULL TILES WITHOUT ANY CUTS. ADJUST THE SPACING OF TILE ACCORDINGLY  $\pm 1/2$  To Fit.
- G4. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ON THE WORK.
- G5. CONTRACTOR RESPONSIBLE TO FIELD VERIFY EXISTING CONDITIONS FOR ACCESS TO CONDUIT INSTALLATION ETC.
- G6. THE RESTROOM WALS AND CEILINGS MUST BE PATCHED/REPAIRED BACK TO A SUITABLE 1-HOUR RATING WHEN CONSTRUCTION IS COMPLETE.

#### DRAWING NOTES:

- 1. 2'X2" ACOUSTIC CEILING TILE, GRID AND SUPPORTS/TIES REFER TO SPECIFICATION FOR MORE INFORMATION.
- 2. 5/8" GYPSUM BOARD WINDOW SOFFIT REFER TO DETAILS FOR FURTHER
- 3. EXISTING CONCRETE BEAM TO REMAIN
- 4. 3-5/8" METAL STUD FRAMING @ 12" O.C.- SECURE TO EXISTING STRUCTURE ABOVE
- 5. EXISTING WINDOW TO REMAIN
- 6. LIGHT FIXTURE REFER TO ELECTRICAL FOR FURTHER INFORMATION.
- 7. UNIT HEATER REFER TO MECHANICAL FOR FURTHER INFORMATION. 8. EXISTING WALL STRUCTURE TO REMAIN
- 9. METAL STUD FRAMING @ 12" O.C. SECURE TO EXISTING STRUCTURE ABOVE

2'x2' RECESSED LIGHT FIXTURE - REFER TO ELECTRICAL FOR FURTHER INFORMATION



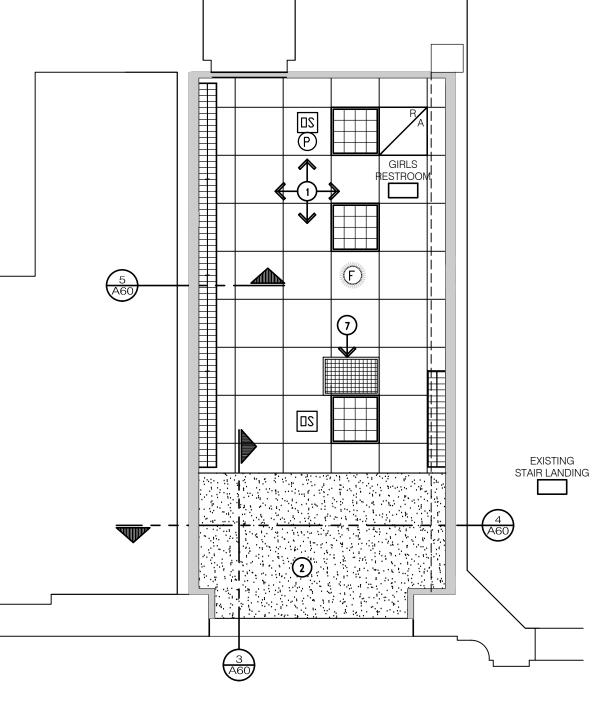
WITH MANUFACTURER. LAYOUT SHOWN FOR GENERAL INFORMATION ONLY.



REFER TO ELECTRICAL DRAWINGS. LINE OF 1 HOUR FIRE RATED CONSTRUCTION - VERIFY EXISTING MASONRY WALL EXTEND TO STRUCTURE ABOVE. FIRE SEAL ALL EXISTING AND NEW PENETRATIONS AND OPENINGS.



2'x2' DIFFUSER - REFER TO MECHANICAL FOR FURTHER INFORMATION



1 First Floor Reflected Ceiling Plan - Girls

Bidding: 12 January 2016

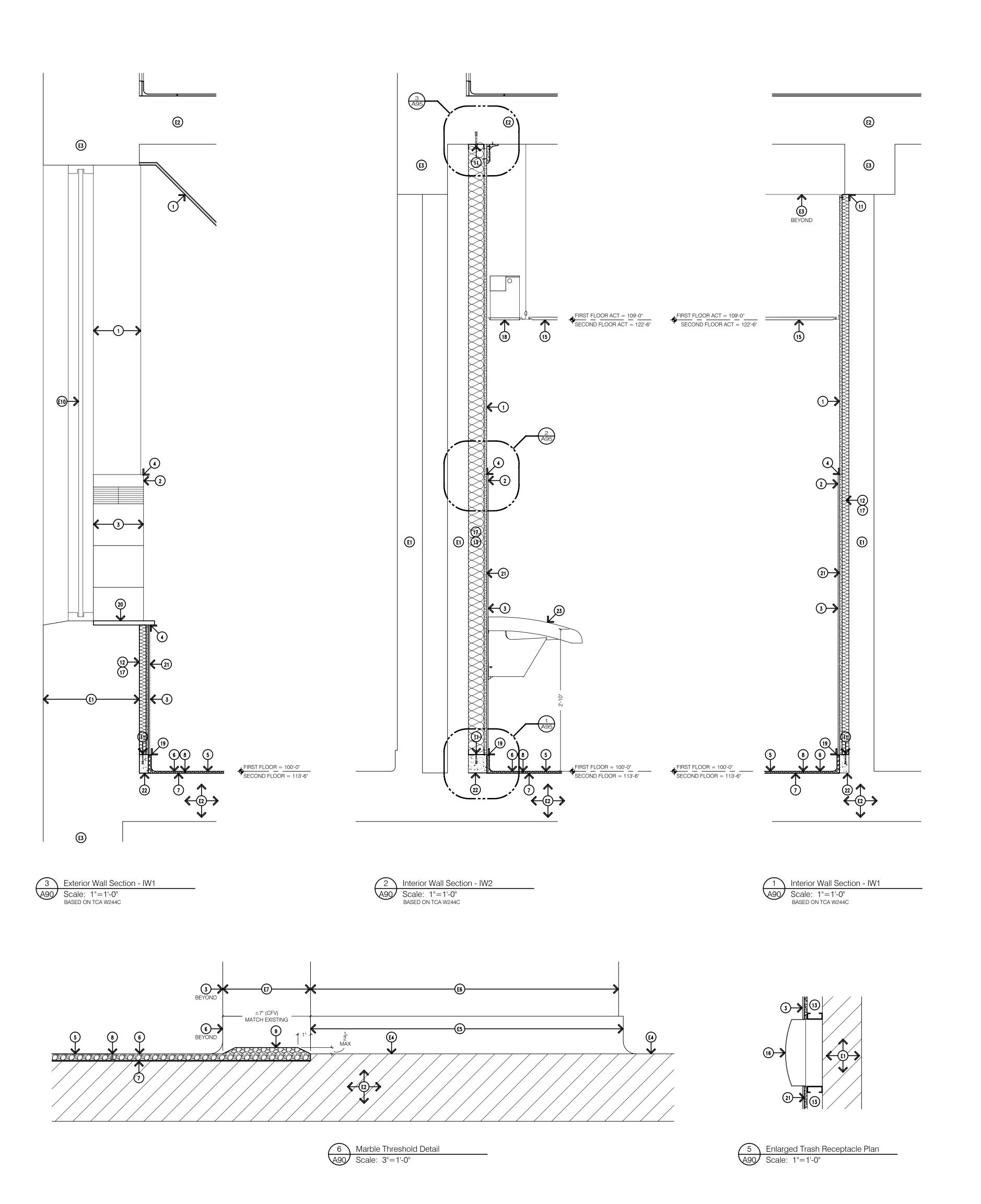
Reflected Ceiling Plan Ehresman Associates, Inc. architects • engineers

Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase Two

Project No. 9113

A60

Scale: 1/4"=1'-0"



- G1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING
- G2. INTERIOR WALLS ARE TO EXTEND TIGHT TO UNDERSIDE OF EXISTING STRUCTURE ABOVE TO MAINTAIN 1-HOUR RATING.

#### EXISTING ITEMS TO REMAIN: (CONTRACTOR TO FIELD VERIFY)

- E1. WALL ECU
- E2. CONCRETE FLOOR STRUCTURE ECU
- E3. CONCRETE BEAM ECU
- E4. FLOORING ECU
- E5. TERRAZZO BASE ECU
- E6. MARBLE WALL PANEL ECUE7. DOOR FRAME ECU
- E8. FRAMING ECU
- E9. NOT USED
- E10. WINDOW ECU

#### DRAWING NOTES:

- 1. 5/8" GYPSUM BOARD (TAPED AND FINISHED THREE (3) COATS), PROVIDE MOISTURE AND MOLD RESISTANT.
- 2. CERAMIC WALL TILE TRIM PIECE
- 3. CERAMIC WALL TILE
- 4. SEALANT. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 5. EPOXY TERRAZZO FLOOR (FIELD COLOR). REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 6. EPOXY TERRAZZO COVE BASE (ACCENT COLOR). REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 7. ISOLATION MEMBRANE
- 8. BRASS DIVIDER STRIP
- 9. TERRAZZO THRESHOLD, TO MATCH ACCENT/BASE COLOR. THRESHOLD TO MEET ALL APPLICABLE BARRIER FREE CODES.
- 10. MORTAR
- 11. METAL STUD RUNNER TRACK (SLIP-TRACK AT TOP OF WALL) SECURELY ATTACHED TO EXISTING CONCRETE ROOF AND FLOOR CONSTRUCTION.
- 12. 1-5/8" METAL STUD FRAMING @ 16" O.C. ANCHOR SECURELY TO EXISTING WALL/CEILING STRUCTURE.
- 13. 3-5/8" METAL STUD FRAMING @ 16" O.C. ANCHOR SECURELY TO EXISTING WALL/CEILING STRUCTURE.
- 14. 6" METAL STUD FRAMING @ 16" O.C. ANCHOR SECURELY TO EXISTING WALL/CEILING
- 15. ACOUSTICAL CEILING TILE AND GRID
- 16. SEMI-RECESSED TRASH RECEPTACLE
- 17. SOUND INSULATION
- 18. RECESSED LIGHT FIXTURE REFER TO ELECTRICAL FOR FURTHER INFORMATION
- 40 METAL DAGE DE

STRUCTURE.

- 19. METAL BASE BEAD
- 20. MARBLE WINDOW SILL
  21. 5/8" CEMENTITOUS BACKER BOARD. SECURE TO EXISTING WALL STRUCTURE
- 20 CONCRETE OU
- 23. WALL MOUNTED LAVATORY REFER TO MECHANICAL DRAWINGS

Bidding: 12 January 2016

Interior Wall Section

Ehresman Associates, Inc.

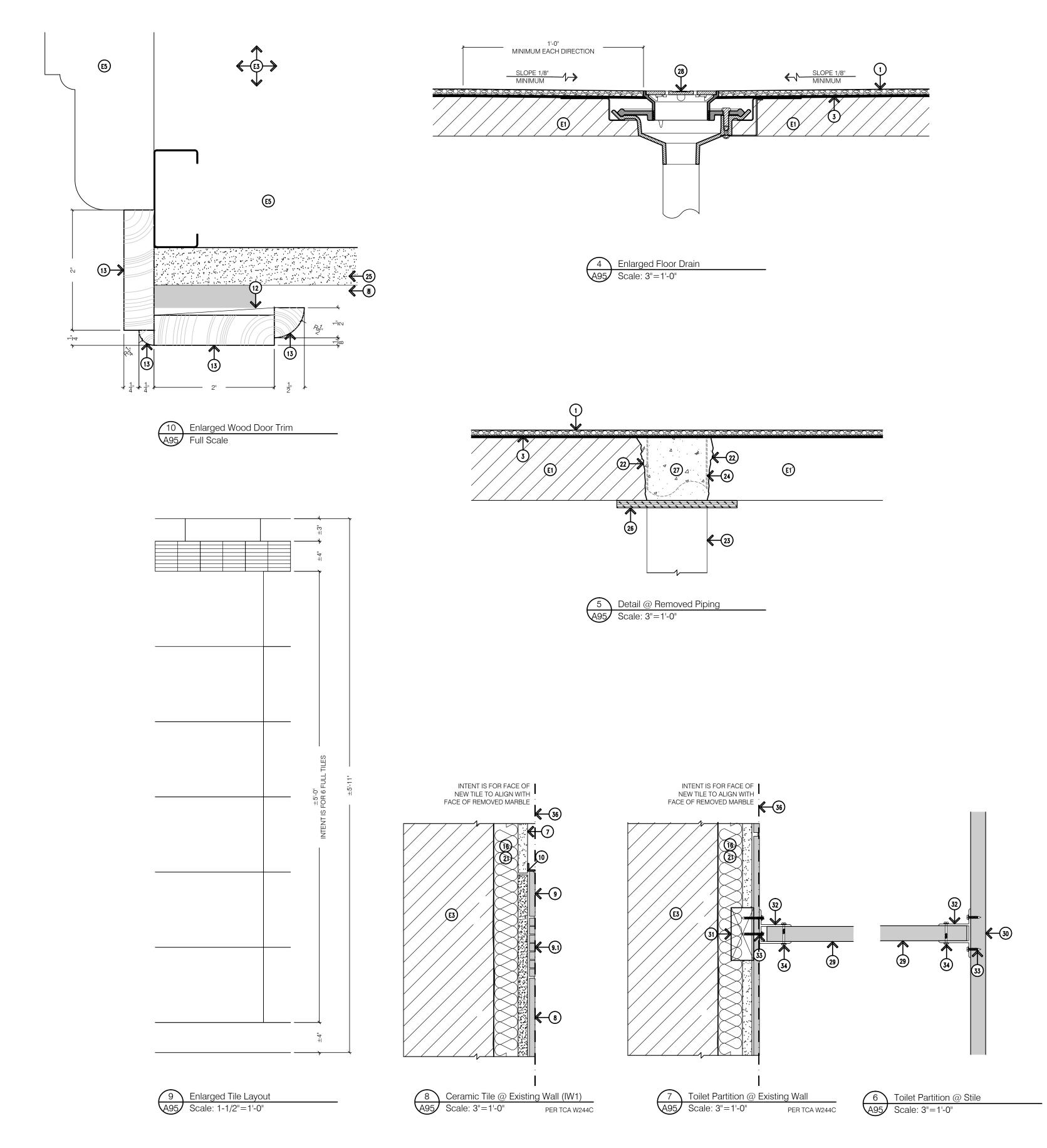
architects • engineers

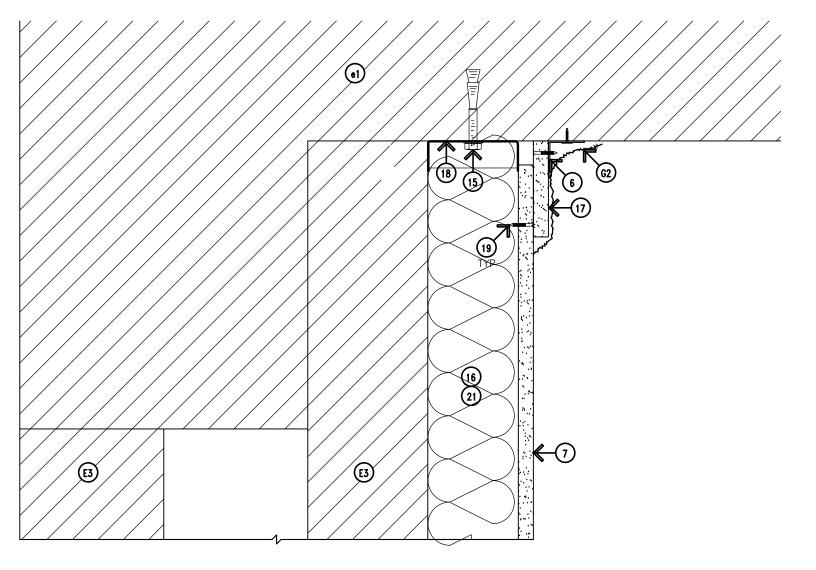
Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase Two

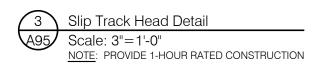
Project No. 9113

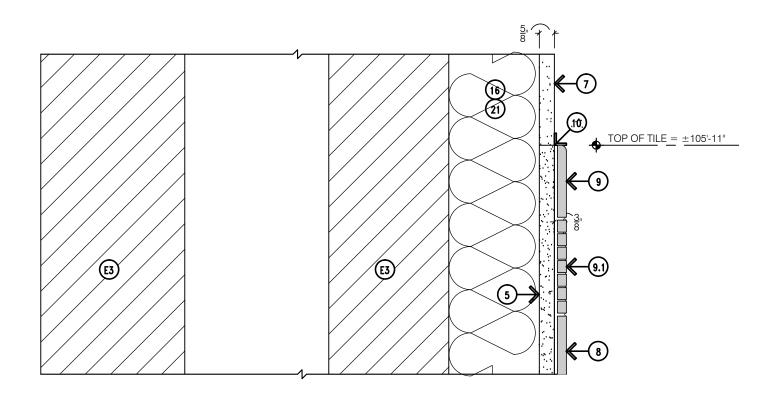
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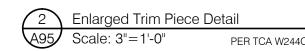
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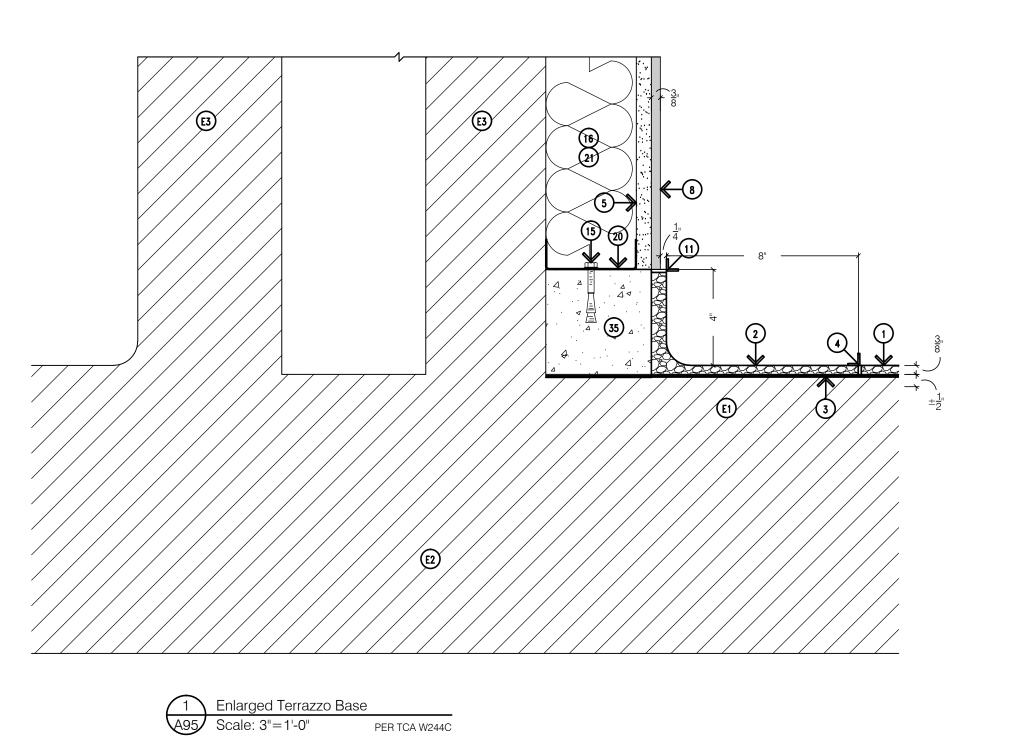












- G1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING
- G2. PROVIDE COATING AS REQUIRED FOR 1 HOUR RATED CONSTRUCTION

#### EXISTING ITEMS TO REMAIN:

- E1. CONCRETE FLOOR/ROOF STRUCTURE ECU
- E2. CONCRETE FLOOR JOIST ECU
- E3. CONCRETE WALL STRUCTURE ECU
- E4. PARGING ECU
- E5. WOOD DOOR FRAME ECU

#### DRAWING NOTES

1. EPOXY TERRAZZO FLOOR (FIELD COLOR). REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

- 2. EPOXY TERRAZZO COVE BASE AND BORDER (ACCENT COLOR). REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 3. ISOLATION MEMBRANE ON EXISTING FLOOR STRUCTURE
- 4. BRASS DIVIDER STRIP REFER TO SPECIFICATIONS FOR FURTHER INFORMATION
- CEMENTITIOUS BACKER UNIT
- 6. 3"x3"X8" LATERAL BRACING @ 48" O.C.
- 7. MOISTURE AND MOLD RESISTANT GYPSUM BOARD PAINTED
- 8. CERAMIC WALL TILE REFER TO SPECIFICATIONS FOR FURTHER INFORMATION
- 9. CERAMIC WALL TILE TRIM PIECE REFER TO SPECIFICATIONS FOR FURTHER
- 10. SEALANT. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- METAL BASE BEAD
- 12. WOOD SHIM
- 13. WOOD TRIM PIECE. STAIN TO MATCH EXISTING DOOR AND FRAME
- 14. NOT USED
- 15. 3/8" DIAMETER EXPANSION ANCHOR INTO EXISTING BUILDING STRUCTURE @ 24" O.C.
- 16. METAL STUD WALL FRAMING @ 16" O.C. MAXIMUM.
- 17. 5/8" x 4" GYPSUM BOARD.

19. #8 WAFERHEAD SCREW--TYPICAL.

- 18. METAL SLIP-TRACK (SLP-TRK) SYSTEM--PROVIDE MINIMUM 1" GAP FOR EXISTING ROOF DEFLECTION.
- 20. METAL STUD RUNNER TRACK SECURELY ATTACHED TO THE EXISTING CONCRETE
- 21. SOUND INSULATION
- 22. TAPER AND ROUGHEN EXISTING EDGES OF EXISTING HOLE AROUND PERIMETER
- 23. TEMPORARY POST SHORE AS REQUIRED
- 24. PIPING TO BE REMOVED
- 25. 5 CEMENT BOARD
- 26. TEMPORARY SHORING WITH FORM RELEASE AGENT OR PERMANENT METAL SHORING
- 27. INFILL WITH SIKA GROUT 212 CEMENTITIOUS GROUT. CLEAN SURFACE & PROVIDE SIKA ARMATEC 110 BONDING AGENT TO EXISTING CONSTRUCTION PER MANUFACTURERS INSTRUCTIONS PRIOR TO GROUT INSTALLATION.
- 28. FLOOR DRAIN REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 29. FLOOR MOUNTED, WALL BRACED TOILET PARTITION. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 30. FLOOR MOUNTED STILE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 31. BLOCKING
- 32. CONTINUOUS METAL BRACKET. REFER TO SPECIFICATIONS FOR FURTHER
- 33. SCREW
- 34. TORX HEAD SEXBOLT
- 35. CONCRETE CURB
- 36. LINE OF (REMOVED) MARBLE WALL PANEL
- 37. METAL LATH

Bidding: 12 January 2016

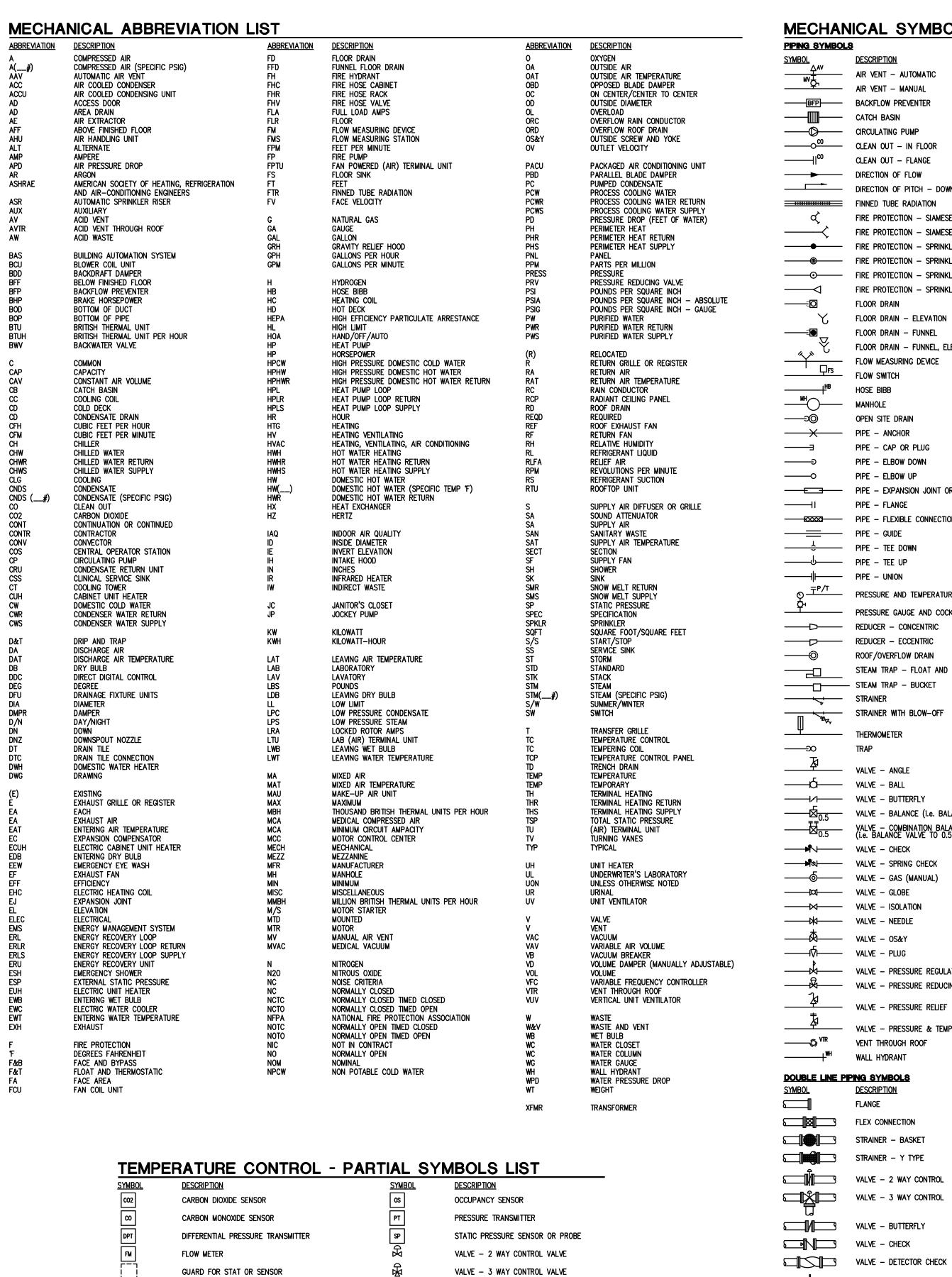
#### Interior Details

Ehresman Associates, Inc. architects • engineers

Scale: 3"=1'-0"

# Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase Two

Project No. 9113



## THERMOSTAT OR TEMPERATURE SENSOR HUMIDISTAT OR HUMIDITY SENSOR (AS DEFINED ON TC DRAWNGS) (AS DEFINED ON TC DRAWINGS)

NOTE: LIST OF ADDITIONAL SYMBOLS & ABBREVIATIONS ASSOCIATED WITH TEMPERATURE CONTROLS ARE IDENTIFIED ON TC DRAWINGS.

#### MECHANICAL DESIGN CONDITIONS

SUMMER: 95 DEG F DB/75 F WB\*

WATER COOLED EVAPORATIVE EQUIPMENT: 78 DEG WB AIR COOLED CONDENSING UNITS AMBIENT AIR TEMPERATURE: 95 DEG F.

#### MECHANICAL SYMBOL LIST

| <u>MECHAI</u>                          | NICAL SYMBOL LIST  |  |  |
|--|--|--|--|
| PIPING SYMBO                           |  | DUCTWORK SY                                      |  |
| SYMBOL<br>AAV                          | <u>DESCRIPTION</u>   | <u>SYMBOL</u>                                    | <u>DESCRIPTION</u>                                   |
| MA <u>Ė</u>                            | AIR VENT - AUTOMATIC   | TU-101   | AIR TERMINAL UNIT                                    |
|  | AIR VENT - MANUAL  | <u> </u>   | AIR TERMINAL UNIT WITH HEATING COIL                  |
| —————————————————————————————————————— | BACKFLOW PREVENTER  CATCH BASIN  |  | LABORATORY AIR TERMINAL UNIT                         |
| ————                                   | CIRCULATING PUMP   | \\   | LABORATORY AIR TERMINAL UNIT WITH HEATING COIL       |
|  | CLEAN OUT - IN FLOOR   | LTU-101  | LABORATORT AIR TERMINAL UNIT WITH HEATING COIL       |
| ———II <sup>co</sup>                    | CLEAN OUT - FLANGE   |  | DAMPER - HORIZONTAL FIRE (EXISTING, NEW)             |
|  | DIRECTION OF FLOW  | _\$ <sup>7</sup> _ <b>#</b>                      | DAMPER - HORIZONTAL FIRE / SMOKE (EXISTING, NEW)     |
|  | DIRECTION OF PITCH — DOWN  | <b>ب</b> م                                       | ·  |
| ₹                                      | FINNED TUBE RADIATION  FIRE PROTECTION — SIAMESE CONNECTION — FREE STANDING  | <i></i>  | DAMPER - SMOKE (EXISTING, NEW)                       |
| —— <del>`</del>                        | FIRE PROTECTION — SIAMESE CONNECTION — WALL MOUNTED                          |  | DAMPER - VERTICAL FIRE (EXISTING, NEW)               |
|  | FIRE PROTECTION - SPRINKLER HEAD, CONCEALED                                  | _^^ _ <b>^</b>                                   | DAMPER - VERTICAL FIRE / SMOKE (EXISTING, NEW)       |
| <b></b>                                | FIRE PROTECTION — SPRINKLER HEAD, PENDANT                                    | BDD<br>  | DAMPER - BACK DRAFT                                  |
| <b>─</b>                               | FIRE PROTECTION — SPRINKLER HEAD, UPRIGHT                                    | М  | DAMPER — MOTORIZED                                   |
| <b>─</b>                               | FIRE PROTECTION — SPRINKLER HEAD, SIDEWALL                                   | I  |  |
| ——3 <b>0</b><br>✓                      | Floor Drain<br>Floor Drain — Elevation                                       |  | DAMPER - VOLUME (MANUALLY ADJUSTABLE)                |
| <b>`</b>                               | FLOOR DRAIN — FUNNEL   | ji oj  | DIFFUSER - BLANK OFF                                 |
| ₹                                      | FLOOR DRAIN - FUNNEL, ELEVATION  |  | DIFFUSER - LINEAR SLOT                               |
| <u> </u>                               | FLOW MEASURING DEVICE  | <b>\times</b>                                    | DIFFLICED CALLADE OD DECTANICIJI AD                  |
|  | FLOW SWITCH  |  | DIFFUSER - SQUARE OR RECTANGULAR                     |
| MH HB                                  | HOSE BIBB  | $\bowtie$  | DUCT CROSS SECTION - SUPPLY                          |
| $ \overline{\bigcirc}$ $-$             | MANHOLE  ODEN SITE DRAIN   |  | DUCT CROSS SECTION - RETURN OR EXHAUST               |
| —>⊚<br>—————                           | open site drain<br>Pipe — anchor   |  | DUCT CROSS SECTION — EXHAUST                         |
| <del>_</del>                           | PIPE - CAP OR PLUG   | <u> </u>   |  |
| <del></del> ə                          | PIPE - ELBOW DOWN  | <b>†</b>   | DUCT — FLEXIBLE CONNECTION                           |
| <del></del> 0                          | PIPE - ELBOW UP  | <del> }}}}}-</del>                               | DUCT — FLEXIBLE DUCT                                 |
| <del></del>                            | PIPE - EXPANSION JOINT OR COMPENSATOR  | <del>\ \ \ \</del>                               | DUCT TAKE—OFF — ROUND CONICAL                        |
| ——II                                   | PIPE - FLANGE  | <u>بر</u>  | DUCT TAVE OFF DEGTANCINAD WITH CHOE TAD              |
| <del></del>                            | PIPE - FLEXIBLE CONNECTION  PIPE - GUIDE                                     | , <del>)</del> ,                                 | DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP            |
| <del>^</del>                           | PIPE - TEE DOWN  |  | ELBOW - RECTANGULAR WITH TURNING VANES               |
| ь                                      | PIPE - TEE UP  |  | ELBOW - RECTANGULAR/ ROUND SMOOTH RADIUS             |
| ———                                    | PIPE - UNION   | <u>√</u>   | ELBOW DOWN — RECTANGULAR                             |
| <u>₹</u> P/T                           | PRESSURE AND TEMPERATURE TEST PLUG   | ,  |  |
|  | PRESSURE GAUGE AND COCK  | <del>} </del>                                    | ELBOW DOWN — ROUND                                   |
| <b>─</b>                               | REDUCER - CONCENTRIC   | <b>├</b> ───⊠                                    | ELBOW UP - RECTANGULAR                               |
| ————                                   | REDUCER — ECCENTRIC  | <del></del>                                      | ELBOW UP - ROUND                                     |
| <b></b> ⊚                              | ROOF/OVERFLOW DRAIN  | <del></del>                                      | FAN AVIAL  |
|  | STEAM TRAP - FLOAT AND THERMOSTATIC  — STEAM TRAP - BUCKET                   |  | FAN – AXIAL  |
|  | STRAINER   | لره)   | FAN - CENTRIFUGAL (ELEVATION)                        |
|  | STRAINER WITH BLOW-OFF   | <b>├</b>   | HEATING COIL   |
|  | THERMOMETER  | ( <u>D</u> (                                     | INCLINED DROP IN DIRECTION OF AIRFLOW                |
| —-∞                                    | TRAP   | , , , , , , , , , , , , , , , , , , ,            |  |
| <b>_</b>                               | VALVE - ANGLE  | <del>∫                                    </del> | INCLINED RISE IN DIRECTION OF AIRFLOW                |
|  | VALVE - ANGLE  VALVE - BALL  |  | INTAKE OR RELIEF HOOD                                |
| ——⊬——                                  | VALVE — BUTTERFLY  | <u> </u>   | REGISTER – RETURN OR EXHAUST                         |
| —————————————————————————————————————— | VALVE - BALANCE (i.e. BALANCE VALVE TO 0.5 GPM)                              | · •  |  |
| —————————————————————————————————————— | VALVE - COMBINATION BALANCE & FLOW MEASURING (i.e. BALANCE VALVE TO 0.5 GPM) | <u>/                                    </u>     | REGISTER — RETURN WITH BOOT                          |
| <b></b> N                              | VALVE - CHECK  |  | REGISTER - TRANSFER GRILLE                           |
| <b>₩</b> ₩                             | VALVE - SPRING CHECK   | $(\widehat{\square})$                            | ROOF EXHAUST FAN                                     |
| ——⊚——                                  | VALVE - GAS (MANUAL)   |  | TRANSITION - CONCENTRIC                              |
| —————————————————————————————————————— | VALVE — GLOBE  | ,  |  |
| ——⋈——                                  | VALVE - ISOLATION  | <del>\\\</del>                                   | TRANSITION - ECCENTRIC                               |
| —————<br>杰                             | VALVE - NEEDLE   | <b>(</b> ] -                                     | UNIT HEATER - HORIZONTAL THROW                       |
| —————————————————————————————————————— | VALVE - OS&Y   |  | UNIT HEATER - VERTICAL THROW                         |
| ——                                     | VALVE - PLUG   |  |  |
| ×                                      | VALVE - PRESSURE REGULATING  VALVE - PRESSURE REDUCING                       | SYMBOL   | UCTWORK SYMBOLS  DESCRIPTION                         |
|  | VALVE - PRESSURE REDUCING  | <b></b>  | DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP            |
|  | VALVE - PRESSURE RELIEF  |  |  |
| <u>‡</u>                               | VALVE - PRESSURE & TEMPERATURE RELIEF  | + +  | DUCT TAKE-OFF - ROUND CONICAL                        |
| ——© <sup>VTR</sup>                     | VENT THROUGH ROOF  |  |  |
| WH                                     | WALL HYDRANT   | <u> </u>   | ELBOW - RECTANGULAR WITH TURNING VANES               |
| DOUBLE LINE F                          | PIPING SYMBOLS   |  |  |
| SYMBOL<br>———                          | <u>DESCRIPTION</u>   | <u>†──</u> <u>₹</u> <u>∑</u>                     | ELBOW - RECTANGULAR SHORT RADIUS WITH SPLITTER VANES |
| <b>8</b>                               | FLANGE   |  | ELBOW - ROUND  |
|  | FLEX CONNECTION  | <u></u>  | EDON NOOND   |
|  | STRAINER - BASKET  | ₽Ţ.  | ELBOW - RECTANGULAR SMOOTH RADIUS                    |
|  | STRAINER - Y TYPE  | · #  |  |
|  | VALVE - 2 WAY CONTROL  | <b>-</b> [x]                                     | ELBOW DOWN - RECTANGULAR                             |
|  | VALVE - 3 WAY CONTROL  |  | ELBOW DOWN — ROUND                                   |
|  | C mil common   | <u> </u>   |  |
|  | VALVE — BUTTERFLY  | † LIXI   | ELBOW UP — RECTANGULAR                               |
|  |  | $\Box$   | ELBOW UP - ROUND                                     |

VALVE - OS&Y HORIZONTAL STEM

VALVE − OS&Y VERTICAL STEM

ELBOW UP - ROUND

INCLINED DROP IN DIRECTION OF AIRFLOW

INCLINED RISE IN DIRECTION OF AIRFLOW

TRANSITION - CONCENTRIC

TRANSITION - ECCENTRIC

HEATING COIL

#### MECHANICAL DRAWING INDEX

SHEET NO. SHEET TITLE

MECHANICAL STANDARDS AND DRAWING INDEX PARTIAL FIRST AND SECOND FLOOR MECHANICAL PLANS MECHANICAL DETAILS AND SCHEDULES TEMPERATURE CONTROLS STANDARDS AND GENERAL NOTES

SUPPLY DIFFUSER WITH SCHEDULE TAG "1"; 10" DIAMETER NECK SIZE

STANDARD METHODS OF NOTATION

350-4 350 CFM TYPICAL FOR 4 R-1 RETURN REGISTER WITH SCHEDULE TAG "1", 22"x 22" NECK SIZE 22x22 640-2 640 CFM TYPICAL FOR 2 EXHAUST REGISTER E DESIGNATION SIMILAR. AIR TERMINAL UNIT WITH HEATING COIL NO. 101 WITH SERVICE CLEARANCE SHOWN LABORATORY AIR TERMINAL WITH HEATING COIL NO. 101 WITH SERVICE CLEARANCE SHOWN

PIPE DIAMETER NOTATION ALL SIZES IN INCHES -RECTANGULAR DUCT

EQUIPMENT DESIGNATION, (i.e. EXHAUST FAN NUMBER 1) HW-1 PIPING RISER DESIGNATION (i.e. HOT WATER RISER NUMBER 1)

EXISTING SYSTEM COMPONENT TO REMAIN --- POINT OF NEW CONNECTION SYMBOL

CONSTRUCTION NOTE NUMBER

—SECTION OR PLAN NUMBER SHEET WHERE SECTION IS DRAWN — AREA OF ENLARGEMENT — PLAN NUMBER SHEET WHERE ENLARGED PLAN IS DRAWN

SECTION OR ENLARGED PLAN M5.1

- SHEET WHERE SECTION IS CUT OR

ENLARGED PLAN IS REFERENCED

HEAVY LINE WEIGHT INDICATES NEW WORK LIGHT LINE WEIGHT INDICATES EXISTING EQUIPMENT OR REFERENCED INFORMATION GRAY LINE INDICATES BACKGROUND INFORMATION DASHED LINES INDICATE PIPING

ROUTED BELOW SLAB OR GRADE HATCH MARKS INDICATE EQUIPMENT OR MATERIALS TO BE DISCONNECTED AND REMOVED.

NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT



5145 Livernois, Suite 100 Troy, Michigan 48098-3276

> Tel: 248-879-5666 Fax: 248-879-0007

www.pbanet.com

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MECHANICAL STANDARDS AND DRAWING INDEX

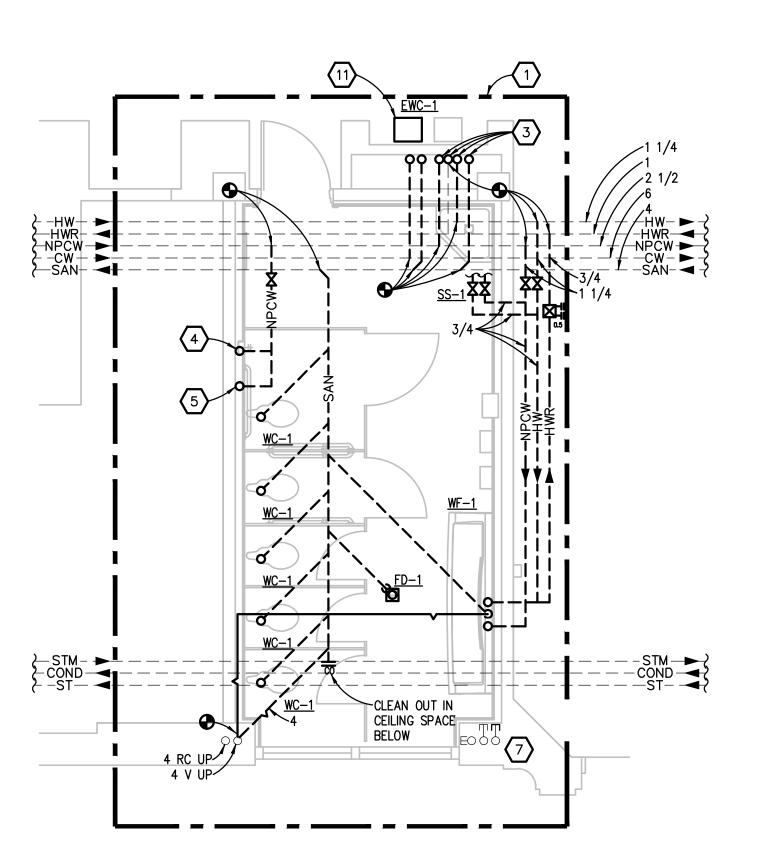
Ehresman Associates, Inc. Scale: As Noted

Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase 2

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Bidding: 12 January 2016



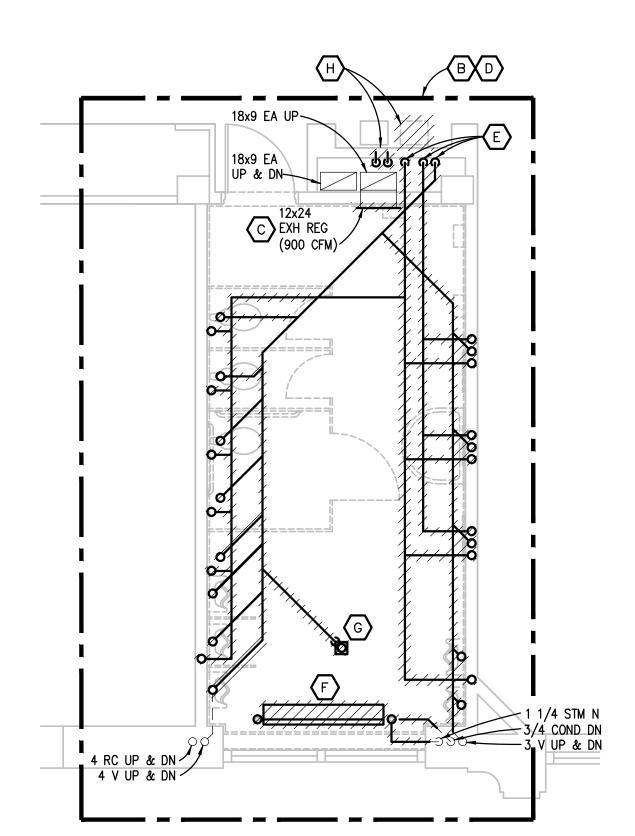




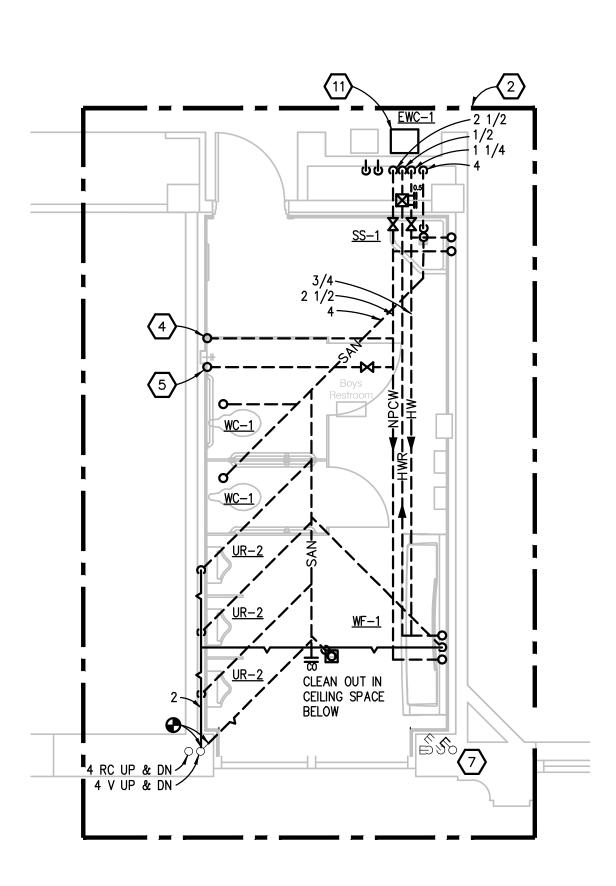


PARTIAL FIRST FLOOR HVAC NEW **WORK PLAN - GIRLS RESTROOM** SCALE: 1/4" - 1' - 0"

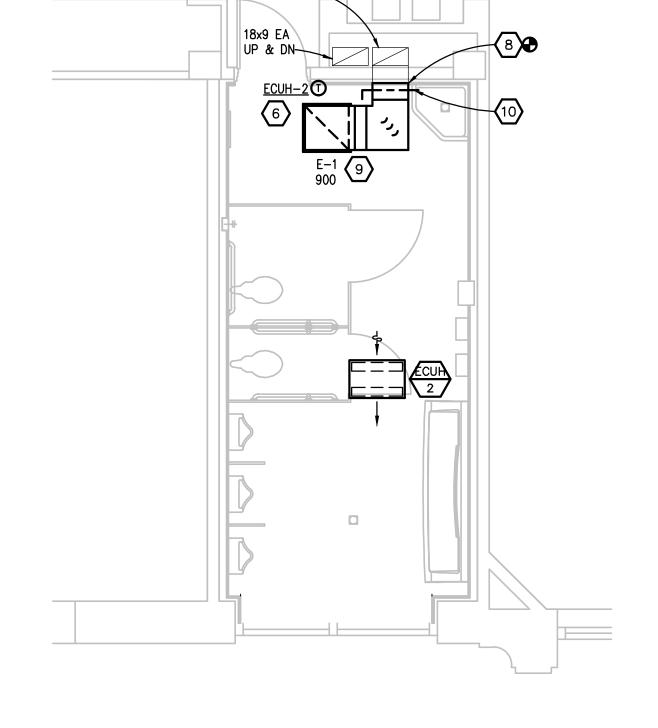
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## PARTIAL SECOND FLOOR HVAC NEW **WORK PLAN - BOYS RESTROOM**

## MECHANICAL GENERAL DEMOLITION NOTES:

- 1. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
- 2. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. ACTUAL ROUTING AND SIZES OF EXISTING PIPING AND DUCTWORK MIGHT DIFFER TO A LIMITED EXTENT FROM WHAT IS SHOWN. MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE REPORTED
- 3. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
- 4. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE, INCLUDING ALL RELATED ITEMS SUCH AS HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTWORK.

## **#** DEMOLITION KEY NOTES:

- A. ALL PIPING FOR FIRST FLOOR TOILET ROOM, EXCEPT VENT PIPING IS ROUTED IN BASEMENT CEILING SPACE. DOMESTIC PIPING FOR FIXTURES IS EXPOSED.
- B. ALL PIPING FOR SECOND FLOOR TOILET ROOM, EXCEPT VENT PIPING IS ROUTED IN FIRST FLOOR CEILING SPACE. DOMESTIC PIPING FOR FIXTURES IS EXPOSED.
- C. REMOVE EXHAUST REGISTER AND PREPARE REMAINING EXHAUST DUCT FOR NEW WORK. PATCH UNUSED PORTION OF WALL OPENING TO MATCH EXISTING. REFER TO ARCHITECTURAL DRAWINGS. PROVIDE PRE CONSTRUCTION AIRFLOW READING PRIOR TO DEMOLITION WORK. RECORD VALUE FOR POST CONSTRUCTION AIR BALANCING.
- D. DISCONNECT AND REMOVE ALL PLUMBING FIXTURES, ALL RELATED WATER SUPPLIES AND WASTE (TO MAIN) AND VENT (TO POINT INDICATED) AND PREPARE FOR NEW CONNECTION. FIELD VERIFY EXACT LOCATION.
- E. REMOVE HOT WATER, COLD WATER, AND SANITARY RISERS.
- F. DISCONNECT AND REMOVE RADIATOR, RELATED STEAM AND CONDENSATE PIPING BACK TO RISER. FIELD VERIFY EXACT LOCATION.
- G. REMOVE FLOOR DRAIN AND PREPARE FLOOR FOR NEW FLOOR DRAIN.
- H. REMOVE ELECTRIC WATER COOLER AND PREPARE FOR NEW WORK.

#### MECHANICAL GENERAL NOTES:

- 1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
- 2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- 5. SUBMIT PROPOSED METHODS OF ANCHORING AND GUIDING PIPING SYSTEMS TO STRUCTURAL ENGINEER FOR APPROVAL.
- 6. COORDINATE LOCATION OF DUCT-MOUNTED HYDRONIC DEVICES WITH SHEET METAL TRADES.
- 7. BRANCH PIPING SERVING TERMINAL UNIT HEATING COILS OR RADIANT CEILING PANELS SHALL BE 3/4" UNLESS OTHERWISE NOTED. BRANCH PIPING SERVING MORE THAN ONE TERMINAL UNIT HEATING COIL SHALL BE 1" UNLESS OTHERWISE NOTED. BRANCH PIPING SERVING HOT WATER UNIT HEATERS AND CABINET UNIT HEATERS SHALL BE 1" UNLESS OTHERWISE NOTED.
- 8. MOUNT THERMOSTATS 72" A.F.F., UNLESS OTHERWISE NOTED. LOCATE AS CLOSE AS POSSIBLE TO DOOR WHEN INDICATED NEAR DOOR. COORDINATE EXACT LOCATION WITH ALL OTHER TRADES.

## **EXAMPLE 2** CONSTRUCTION NOTES:

- ALL PIPING FOR FIRST FLOOR TOILET ROOM, EXCEPT VENT PIPING IS ROUTED IN BASEMENT CEILING SPACE. INSULATE EXISTING TO REMAIN PIPES DISTURBED AS PART OF THIS PROJECT AS REQUIRED. REFER TO INSULATION SCHEDULES ON
- ALL PIPING FOR SECOND FLOOR TOILET ROOM, EXCEPT VENT PIPING IS ROUTED IN FIRST FLOOR CEILING SPACE. ROUTE PIPING AS HIGH AS POSSIBLE. INSULATE EXISTING TO REMAIN PIPES DISTURBED AS PART OF THIS PROJECT AS REQUIRED. REFER TO INSULATION SCHEDULES ON SHEET M701.
- 3. 1 1/4 HOT WATER, 1/2 HOT WATER RETURN, 2 1/2 COLD WATER, AND 4 SANITARY PIPÉ UP TO SECOND FLOOR.
- 4. 3/4 COLD WATER UP TO WALL HYDRANT WITH LOCKABLE COVER.
- 5. ROUTE 2 1/2 COLD WATER UNDIMINISHED TO FURTHEST FIXTURE. REFER TO PLUMBING FIXTURE SCHEDULE FOR CONNECTIONS TO EACH FIXTURE.
- 6. THERMOSTAT SHOWN FOR REFERENCE ONLY. VERIFY INSTALLATION LOCATION WITH
- 7. CAP VENT, STEAM, AND CONDENSATE PIPING AND ABANDON IN WALL.

8. CONNECT 18x9 EXHAUST DUCT TO EXISTING EXHAUST RISER IN CHASE.

- 9. TESTING AND BALANCING AGENCY SHALL BALANCE EXHAUST FAN AND INDIVIDUAL EXHAUST GRILLES TO THE PREVIOUSLY RECORDED VALUES.
- 10. MANUAL VOLUME DAMPER.
- 11. ELECTRIC WATER COOLER. REWORK COLD WATER, SANITARY, AND VENT PIPING AS

Bidding: 12 January 2016

PARTIAL FIRST AND SECOND FLOOR MECHANICAL PLANS

**Ehresman Associates, Inc.** 

Restroom Remodeling - Phase 2

Grosse Pointe Public School System Richard Elementary School

Project No. 9113

Peter Basso Associates Inc

CONSULTING ENGINEERS

5145 Livernois, Suite 100 Troy, Michigan 48098-3276

Tel: 248-879-5666 Fax: 248-879-0007

www.pbanet.com PBA Project No. 2013-0361 M11

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SCALE: 1/4" - 1' - 0"

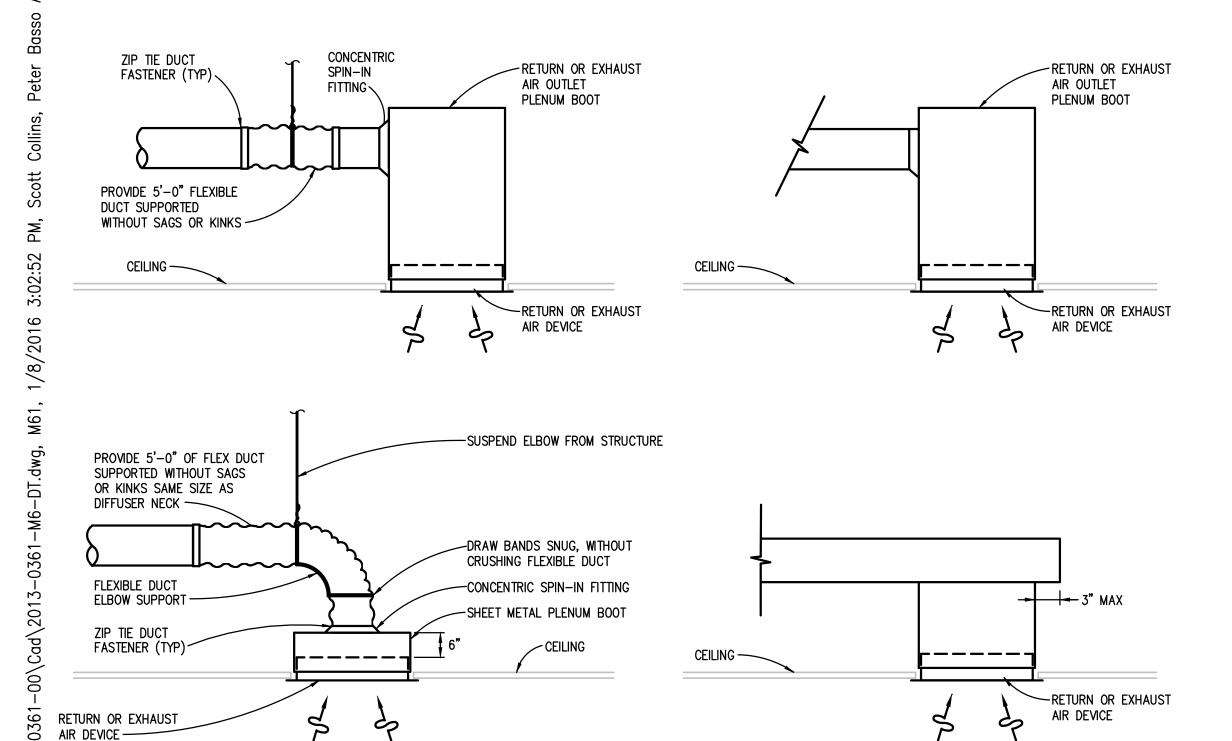
- **GENERAL NOTES**
- 1. 'X' OR THICKNESS IN INCHES INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
- 2. INSULATE PIPING WITHIN AIR HANDLING EQUIPMENT THE SAME AS INDOOR PIPING. PROVIDE ALUMINUM OR STAINLESS STEEL JACKET.

#### KEYED NOTES

A. PROVIDE FIELD APPLIED JACKET FOR PIPING EXPOSED IN EQUIPMENT ROOMS, STORAGE ROOMS, JANITORS CLOSETS, RECEIVING ROOMS, TEST AREAS, CIRCULATION AREAS AND SUCH AREAS SUBJECT TO DAMAGE, WITHIN 10 FEET (3 METERS) OF FINISHED FLOOR.

| DUC                                | T                     | SY   | STI  | EM                                       | A                        | PPI      | LIC                      | ΑT                       | 101                                | <b>V</b> S                         | SCH                                | łΕC                 | DUL   | Ε      |                                   |            |                                       |             |
|------------------------------------|-----------------------|--|--|--|--------------------------|----------|--------------------------|--------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------|---|--------|-----------------------------------|------------|---------------------------------------|-------------|
|                                    |                       |  |  |  |                          | DI       | JCT M                    | ATERIA                   | L                                  |                                    |                                    |                     |   |        |                                   |            |                                       |             |
| AIR SYSTEMS                        | G90 GALV. SHEET METAL | DOUBLE-WALL LINED G90 GALV. SHEET METAL (SOLID INNER WALL) | DOUBLE—WALL LINED G90 GALV. SHEET METAL (PERF. INNER WALL) | G90 GALV. SHEET METAL WITH 1-INCH LINING | GALVANNEALED SHEET METAL | ALUMINUM | TYPE 304 STAINLESS STEEL | TYPE 316 STAINLESS STEEL | PVC COATED GALV. SHEET METAL (4X1) | PVC COATED GALV. SHEET METAL (1X4) | PVC COATED GALV. SHEET METAL (4X4) | 16 GA. CARBON STEEL | ZERO-CLEARANCE PREFABRICATED RANGE HOOD<br>EXHAUST DUCT | FABRIC | DESIGN PRESSURE CLASS (INCHES WG) | SEAL CLASS | MAX. ALLOWABLE LEAKAGE RATE (PERCENT) | KEYED NOTES |
| EXHAUST AIR WITHOUT TERMINAL UNITS | Х                     |  |  |  |                          |          |                          |                          |                                    |                                    |                                    |                     |   |        | -2                                | Α          | 5                                     |             |

- 1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A DUCT SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED
- 2. 4 X 1 PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON EXTERIOR SHEET METAL SURFACES OF
- DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND MINIMUM 1 MIL (0.025 MM) THICK ON INTERIOR SURFACES. 3. 1 X 4 (4 X 1 REVERSE COATED) PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON INTERIOR
- SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND MINIMUM 1 MIL (0.025 MM) THICK ON EXTERIOR SURFACES. 4. 4 X 4 PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON SHEET METAL SURFACES OF DUCTS
- AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND 4 MILS (0.10 MM) THICK ON OPPOSITE SURFACES.



#### RETURN OR EXHAUST AIR DEVICE INSTALLATION DETAIL NO SCALE (PAINT INTERIOR SURFACES OF PLENUM BOX FLAT BLACK)

NOTE: PAINT INTERIOR SURFACE OF PLENUM BOX FLAT BLACK.

PLUMBING PIPING & VALVE APPLICATION SCHEDULE GRAVITY DWV MATERIAL PRESSURE CONNECTIONS ISOLATION VALVES CONNECTIONS PIPE SIZE (INCHES) ABOVEGROUND DOMESTIC WATER (POTABLE AND NON-POTABLE) ON DISTRIBUTION SIDE OF METER - MIN. WORKING PRESS. & TEMP., 125 PSIG AT 200 DEG F ABOVEGROUND SANITARY WASTE & VENT - MIN. WORKING PRESS. 10-FOOT HEAD OF WATER

#### GENERAL NOTES

- 1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A PIPING SYSTEM, CONTRACTOR MAY
- SELECT FROM THOSE INDICATED SELECTIONS. 2. DISSIMILAR-METAL PIPING JOINTS: CONSTRUCT JOINTS USING DIELECTRIC FITTINGS COMPATIBLE WITH BOTH PIPING MATERIALS.
  - a. NPS 2 AND SMALLER: USE DIELECTRIC NIPPLE/WATERWAY. b. NPS 2-1/2 AND LARGER: USE DIELECTRIC FLANGE KITS.
- 3. USE UNIONS OR FLANGES AT VALVE AND EQUIPMENT CONNECTIONS.
- 4. PLUMBING EQUIPMENT DRAINS, VENTS, SAFETY VALVE PIPING, BLOWDOWN PIPING AND THE LIKE SHALL BE SAME PIPING MATERIAL AS ASSOCIATED
- 5. GROOVED END VALVES MAY BE USED WITH GROOVED PIPING.

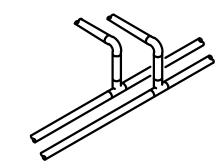
- KEYED NOTES
- A. GROOVED AND PRESSURE SEALED FITTINGS, JOINTS, AND COUPLINGS, IF INDICATED AS AN ACCEPTABLE SELECTION, MAY BE USED IN ACCESSIBLE LOCATIONS ONLY FOR THIS PIPING SYSTEM.

|                        | ELECTRIC CENTRIFUGAL FAN CABINET UNIT HEATER SCHEDULE |                |              |             |                 |          |                  |                  |                 |                 |                |                 |                             |       |       |            |     |                         |                 |         |
|------------------------|---|----------------|--------------|-------------|-----------------|----------|------------------|------------------|-----------------|-----------------|----------------|-----------------|-----------------------------|-------|-------|------------|-----|-------------------------|-----------------|---------|
| UNIT<br>IDENTIFICATION | CAPACITY<br>MBH                                       |                | AIR          |             | HEATING         | ELEMENT  |                  | DIMENSIONS       |                 | RECESS<br>DEPTH | FILT           | TER             | MODULATION/<br>CONTROL TYPE |       |       | ELECTRICAL | L   |                         | MODEL<br>NUMBER | REMARKS |
|                        |   | AIRFLOW<br>CFM | E.D.B.<br>°F | L.D.B.<br>F | 1ST STAGE<br>KW | TOTAL KW | LENGTH<br>INCHES | HEIGHT<br>INCHES | DEPTH<br>INCHES | INCHES          | TYPE           | AREA<br>SQ. FT. |                             | VOLTS | PHASE | FLA        | MOP | OPTIONS/<br>ACCESSORIES |                 |         |
| ECUH-1                 | 17  | 250            | 65           | 129         | 5.0             | 3.3      | 29               | 27               | 12              | 12              | THROW-<br>AWAY |                 | AUTO                        | 208   | 3     | 15.3       | 20  | В                       | CUI             | NOTE 3  |
| ECUH-2                 | 17  | 250            | 65           | 129         | 5.0             | 3.3      | 29               | 27               | 12              | 12              | THROW-<br>AWAY |                 | AUTO                        | 208   | 3     | 15.3       | 20  | В                       | CUI             | NOTE 3  |

1. REFER TO SCHEDULES GENERAL NOTES. 2. MODEL NUMBERS ARE INDEECO UNLESS OTHERWISE NOTED. 3. CEILING MOUNTED FULLY RECESSED.

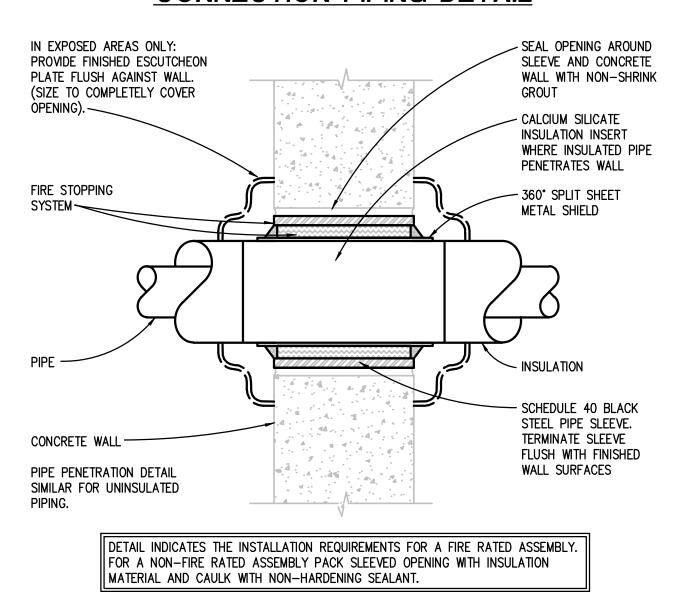
|                        | GRILLE, REGISTER, AND DIFFUSER SCHEDULE |           |            |           |              |        |                 |         |  |  |  |  |  |  |  |
|------------------------|---|-----------|------------|-----------|--------------|--------|-----------------|---------|--|--|--|--|--|--|--|
| UNIT<br>IDENTIFICATION | FACE SIZE                               | NECK SIZE | FRAME TYPE | ACCESSORY | CONSTRUCTION | FINISH | MODEL<br>NUMBER | REMARKS |  |  |  |  |  |  |  |
| E-1                    | 24x24                                   | 22x22     | NOTE 2     | DAMPER    | ALUMINUM     | WHITE  | PAR             |         |  |  |  |  |  |  |  |

MODEL NUMBERS ARE TITUS UNLESS OTHERWISE NOTED. 2. COORDINATE FRAME TYPE WITH ARCHITECTURAL TRADES.

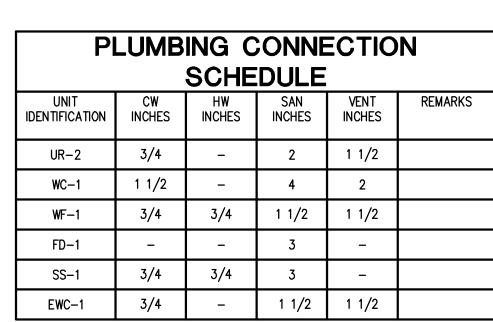


**BRANCH CONNECTION OFF TOP** APPLIES TO THE FOLLOWING SYSTEMS: DOMESTIC WATER

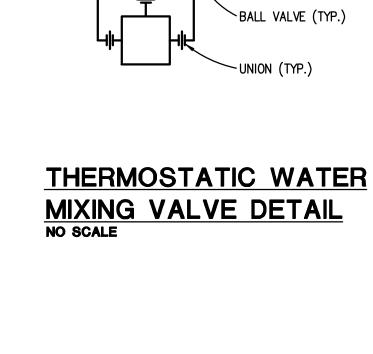
### TYPICAL BRANCH TAKE-OFF **CONNECTION PIPING DETAIL**



FIRE RATED AND NON-FIRE RATED POURED CONCRETE OR BLOCK WALL PIPE PENETRATION DETAIL NO SCALE



NOTE: INDIVIDUAL WATER LINE BRANCHES, WASTE LINES, VENTS, AND TRAPS FOR CONNECTION TO INDIVIDUAL FIXTURES, FIXTURE FITTINGS, AND SPECIALTIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE OR AS INDICATED ON DRAWINGS, WHICHEVER IS GREATER.



MIXING VALVE DETAIL

SCHEDULES GENERAL NOTES:

SCHEDULES FOR ADDITIONAL ELECTRICAL INFORMATION

SHALL BE FOR THE REMAINDER OF THE UNIT.

THE ELECTRICAL STANDARD SCHEDULES SHEET.

REFER TO ELECTRICAL STANDARD SCHEDULES, ONE LINE DIAGRAM AND PANEL

PROVIDE THE FOLLOWING FACTORY-WIRED ELECTRICAL OPTIONS/ACCESSORIES WHERE

F - UNIT SHALL HAVE (2) SINGLE POINT CONNECTIONS WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND CONTROLS. (1) CONNECTION SHALL BE FOR CONDENSING SECTION AND (1) CONNECTION

WHERE EQUIPMENT IS DESIGNATED BY MANUFACTURER AND MODEL NUMBER, THIS IS THE BASIS OF DESIGN. IF THE CONTRACTOR ELECTS TO PROVIDE EQUIPMENT BY

OTHER SPECIFIED MANUFACTURERS OR PROPOSED ALTERNATE EQUIPMENT BY THE

BASIS OF DESIGN MANUFACTURER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR

ANY REVISIONS TO ELECTRICAL REQUIREMENTS, STRUCTURAL LOADING, OR

ARCHITECTURAL APPURTENANCES AND SHALL INCLUDE THE COST OF SUCH

4. SIZE ALL EQUIPMENT FEEDERS BASED ON THE LISTED MOP (MAXIMUM OVERCURRENT

PROTECTION). REFER TO THE FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE ON

B - UNIT SHALL BE SINGLE POINT ELECTRICAL CONNECTION WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND

TYPICAL FOR ALL SCHEDULE SHEETS:

INDICATED IN SCHEDULE:

C - SERVICE RECEPTACLE

REVISIONS IN HIS BID.

D - FUSED DISCONNECT SWITCH E - COMBINATION STARTER

A - NON-FUSED DISCONNECT SWITCH

Bidding: 12 January 2016

TEMPERED WATER

SUPPLY TO WASH

FOUNTAIN

#### MECHANICAL DETAILS AND SCHEDULES

**Ehresman Associates, Inc.** 

Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase 2

Project No. 9113

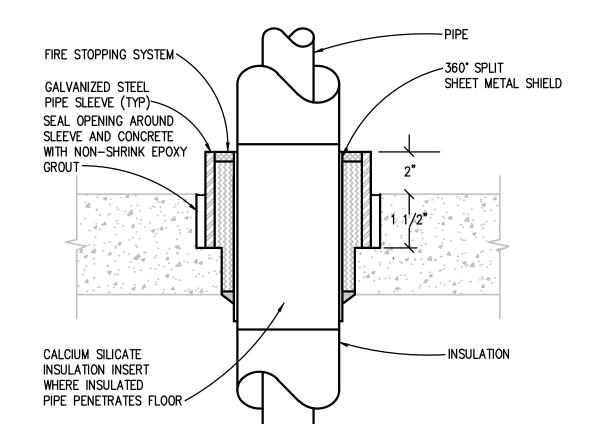
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5145 Livernois, Suite 100

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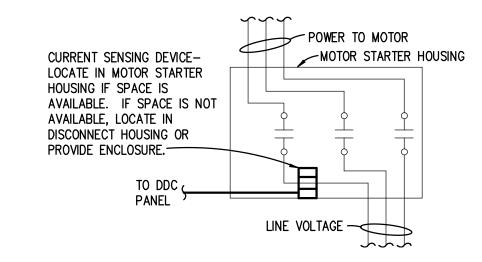
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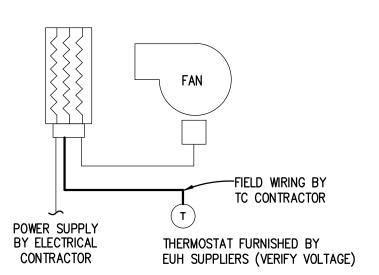


**EXISTING FLOOR PIPE PENETRATION DETAIL** NO SCALE

| IEMATIC SY       |   | SCHEMATIC SY                   |  | WIRING SYMBO                  |   |
|------------------|---|--------------------------------|--|-------------------------------|---|
| MBOL<br>c        | DESCRIPTION  AIR FLOW CONTROLLER                          | SYMBOL DD DD                   | <u>DESCRIPTION</u> SMOKE DETECTOR — DUCT MOUNTED             | <u>SYMBOL</u><br>1 <b>⊿</b> 2 | <u>DESCRIPTION</u>                                  |
|                  | AQUASTAT, STRAP ON BULB                                   | SD                             | SMOKE DETECTOR — SPACE MOUNTED                               |                               | SWITCH - 2 POSITION SELECTOR                        |
| *                |   | s/s                            | START/STOP RELAY   | \ <u>\</u>                    |   |
| _                | CARBON DIOXIDE SENSOR — WALL MOUNTED                      | SPT                            | STATIC PRESSURE TRANSMITTER                                  | H 0 A                         |   |
| ]                | CARBON DIOXIDE SENSOR — DUCT MOUNTED                      | SP                             | STATIC PRESSURE SENSOR OR PROBE                              |                               | SWITCH - 3 POSITION SELECTOR HAND/OFF/AUTO          |
|                  | CARBON MONOXIDE SENSOR — WALL MOUNTED                     | SW                             | SWITCH   | o_ o                          |   |
|                  | CARBON MONOXIDE SENSOR — DUCT MOUNTED  CURRENT SWITCH     |                                |  |                               | SWITCH - FLOW (AIR, WATER, ETC.),                   |
| · ]              | CURRENT TRANSMITTER                                       |                                | TEMPERATURE SENSOR - RIGID ELEMENT IN WELL                   |                               | SWITCH - FLOW (AIR, WATER, ETC.),                   |
| _                | CORRENT TRANSMITTER                                       |                                | TEMPERATURE SENSOR — STRAP ON BULB                           | <b>%</b>                      | SWITCH - LIMIT, NO                                  |
|                  | DAMPER - INLET VANES                                      |                                |  | <b>∞</b>                      | SWITCH - LIMIT, NO, HELD CLOSED                     |
| / /              | DAMPER - OPPOSED BLADE                                    |                                | TEMPERATURE SENSOR — DUCT MOUNTED RIGID ELEMENT              | 00                            | SWITCH - LIMIT, NC                                  |
|                  | DAMPER — PARALLEL BLADE                                   | (T)                            | THERMOSTAT OR TEMPERATURE SENSOR (AS DEFINED ON TC DRAWINGS) | <b>∞</b> • •                  | SWITCH - LIMIT, NC, HELD OPEN                       |
| ]                | DAMPER MOTOR  | T <sub>N</sub>                 | THERMOSTAT FOR NIGHT SETBACK                                 |                               | SWITCH - LIQUID LEVEL, NO                           |
| Ĺ <sub>(M)</sub> |   | XF                             | TRANSFORMER  | 7,                            | SWITCH - LIQUID LEVEL, NC                           |
| ]                | DAMPER MOTOR W/ POSITIVE POSITIONER                       | <u>~</u>                       | VALVE - 2 WAY CONTROL VALVE                                  | 0                             | SWITCH - MANUAL SPST, NO                            |
| T]               | DIFFERENTIAL PRESSURE TRANSMITTER                         | X OX                           |  | <b>~</b> ~°                   | SWITCH — MANUAL DPDT, NO                            |
|                  | DIFFERENTIAL PRESSURE SWITCH                              | _                              | VALVE — 3 WAY CONTROL VALVE                                  | <b>√</b> 0                    | S S WINNONE DI DI, NO                               |
| •                | ELECTRIC-PNEUMATIC RELAY                                  | ₩<br>X                         | VALVE _ 2 WAY CONTROL W / DOCUMENTS                          | 0—0                           | SWITCH - MANUAL SPST, NC                            |
| ]                | ELECTRIC TO PNEUMATIC TRANSDUCER                          |                                | VALVE - 2 WAY CONTROL W/ POSITIONER                          | 0_0                           | SWITCH - MANUAL DPDT, NC                            |
| ]                | FIRE ALARM SYSTEM, ADDRESSABLE CONTROL MODULE             | (M)                            | VALVE 7 WAY CONTROL W/ DOCTORS                               | 010                           | Smilet - MANUAL DEDI, NC                            |
| ]                | FIRE ALARM SYSTEM, ADDRESSABLE INTERFACE MODULE           | ¥ .                            | VALVE - 3 WAY CONTROL W/ POSITIONER                          |                               | SWITCH - MANUAL SPDT                                |
| <b>s</b> ]       | FLOW MEASURING STATION                                    | VFC                            | VARIABLE FREQUENCY CONTROLLER                                | 0                             |   |
| _                | FLOW METER  | vs                             | VELOCITY SENSOR  | 0/1                           | SWITCH - MANUAL DPDT                                |
|                  | FLOW SWITCH   | ИВ                             | VIBRATION SWITCH   | ا کر                          |   |
| }~~              | FREEZESTAT  | V                              | VOLTAGE SENSOR   | 0                             |   |
| )                | GAUGE - FLOW  |                                |  | ~~                            | SWITCH - PRESSURE & VACUUM, NO                      |
| )                | GAUGE - PRESSURE  | WIRING SYMBO                   | <u>LS</u>  | <u>م</u>                      | SWITCH - PRESSURE & VACUUM, NC                      |
| )                | GAUGE - TEMPERATURE                                       | SYMBOL                         | DESCRIPTION  | <b>△</b>                      | ·   |
| ]                | GUARD FOR STAT OR SENSOR                                  | $\succeq$                      | AUDIBLE DEVICE (AS DEFINED ON TC DRAWINGS)                   | <u> </u>                      | SWITCH - TEMPERATURE ACTUATED,                      |
| <u> </u>         | - HUMIDIFIER  | <u>—(M/S)</u> —                | COIL - MOTOR STARTER CONTACTOR                               | 7                             | SWITCH - TEMPERATURE ACTUATED,                      |
| )                | HUMIDISTAT OR HUMIDITY SENSOR (AS DEFINED ON TC DRAWINGS) |                                | COIL - RELAY   | -∕∕∕-<br>or,s                 | THERMAL OVERLOAD, SINGLE PHASE                      |
| þ                | HUMIDITY SENSOR, DUCT MOUNTED                             | —(TDR)—                        | COIL - TIME DELAY RELAY                                      | 11111                         | THERMAL OVERLOAD CONTACTS - 3                       |
| ]                | LEVEL SWITCH OR TRANSMITTER                               |                                | COIL - VARIABLE FREQUENCY CONTROLLER CONTACTOR               | $\mathcal{M}$                 | TRANSFORMER   |
| ]                | LIMIT SWITCH  |                                | COIL - EP OR SOLENOID VALVE                                  | o                             | WIRE TERMINATION AT DEVICE                          |
|                  | LINE - ELECTRIC   | $\rightarrow$                  | CONTACT - INSTANT OPERATING, NO                              | +                             | WIRE TO WIRE TERMINATION                            |
|                  | LINE - PNEUMATIC  | 010                            | CONTACT - INSTANT OPERATING, NC                              |                               | WIRING NOT CONNECTED                                |
|                  | MAIN CONTROL AIR SUPPLY                                   | $\stackrel{\bullet}{\searrow}$ | CONTACT - TIMED AFTER COIL IS ENERGIZED, NOTC                | ·                             |   |
| ]                | MOTOR STARTER   | <del></del>                    | CONTACT - TIMED AFTER COIL IS ENERGIZED, NCTO                | WIRING TERMS                  |   |
| ]                | OCCUPANCY SENSOR  | $\sim$                         | CONTACT - TIMED AFTER COIL IS DE-ENERGIZED, NOTO             | <u>ABBREVIATION</u>           | <u>DESCRIPTION</u>                                  |
| <b>~</b>         | PILOT LIGHT OR BEACON                                     | $\sim$                         | CONTACT - TIMED AFTER COIL IS DE-ENERGIZED, NCTC             | SPST<br>SPDT                  | SINGLE POLE SINGLE THROW SINGLE POLE DOUBLE THROW   |
| )                | R — RED LENS<br>A — AMBER LENS                            | <u> </u>                       | GROUND   | DPST                          | DOUBLE POLE SINGLE THROW                            |
|                  | B — BLUE LENS<br>G — GREEN LENS                           | <del>=</del><br>6              | MOTOR CINCLE BULGE   | DPDT<br>NO                    | DOUBLE POLE DOUBLE THROW NORMALLY OPEN              |
|                  | PNEUMATIC-ELECTRIC SWITCH                                 | 9                              | MOTOR, SINGLE PHASE  | NC                            | NORMALLY CLOSED                                     |
|                  | PRESSURE SWITCH   | R                              | PILOT LIGHT OR BEACON  R — RED LENS                          | NOTO<br>NOTC                  | NORMALLY OPEN TIMED OPEN NORMALLY OPEN TIMED CLOSED |
| ]                | PRESSURE TRANSMITTER                                      |                                | A — AMBER LENS B — BLUE LENS                                 | NCTO                          | NORMALLY CLOSED TIMED OPEN                          |
| ]                | RELAY, ELECTRIC   |                                | G — GREEN LENS   | NCTC                          | NORMALLY CLOSED TIMED CLOSED                        |
| ]<br>]           | SELECTOR SWITCH, (N=NUMBER OF POSITIONS)                  | R                              | PILOT LIGHT, WITH PUSH-TO-TEST                               | PNEI IMATIC CO                | NTROL SYMBOLS (ADDITIONAL)                          |
| ) <sub>N</sub>   | ·   | . ) '                          |  | SYMBOL                        | DESCRIPTION   |
| )                | SIGNAL - DDC/BAS, ANALOG OUTBUT                           |                                | PUSH BUTTON - MOMENTARY CONTACT, NO                          | LA                            | LOAD ANALYZER                                       |
| )                | SIGNAL - DDC/BAS, ANALOG OUTPUT                           |                                |  | LR                            | LOW PRESSURE SELECTOR RELAY                         |
| )                | SIGNAL - DDC/BAS, DIGITAL INPUT                           | مله                            | PUSH BUTTON - MOMENTARY CONTACT, NC                          |                               | MANUAL GRADUAL POSITION SWITCH                      |
| )                | SIGNAL — DDC/BAS, DIGITAL OUTPUT                          | مله                            | DUOL DUTTOU  | PS                            | PNEUMATIC SWITCH                                    |
| 7                | SIGNAL - PACKAGED EQUIPMENT, ANALOG INPUT                 | 0 0                            | PUSH BUTTON - MOMENTARY CONTACT, NO & NC                     | RR                            |   |
| 7                | SIGNAL - PACKAGED EQUIPMENT, ANALOG OUTPUT                | $\frac{\uparrow}{\circ}$       | PUSH BUTTON - MOMENTARY, NO (MUSHROOM HEAD)                  | [KK]                          | RATIO RELAY   |
| 7                | SIGNAL - PACKAGED EQUIPMENT, DIGITAL INPUT                |                                | ŕ  | RC                            | RECEIVER CONTROLLER                                 |
| \                | SIGNAL - PACKAGED EQUIPMENT, DIGITAL OUTPUT               | $\circ$ $\frown$ $\circ$       | PUSH BUTTON - MOMENTARY, NC (MUSHROOM HEAD)                  | $\otimes$                     | SWITCHED CONTROL AIR SUPPLY                         |



# CURRENT SWITCH INSTALLATION DETAIL NO SCALE



### TYPICAL ECUH CONTROL

REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF UNITS.

#### **SEQUENCE OF OPERATION:**

SPACE THERMOSTAT SHALL ENERGIZE UNIT HEATER CONTROL CIRCUIT TO MAINTAIN SPACE TEMPERATURE SETPOINT.

Bidding: 12 January 2016 TEMPERATURE CONTROLS STANDARDS AND

Ehresman Associates, Inc.

GENERAL NOTES

Scale: As Noted

Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase 2



5145 Livernois, Suite 100 Troy, Michigan 48098-3276 Tel: 248-879-5666 Fax: 248-879-0007

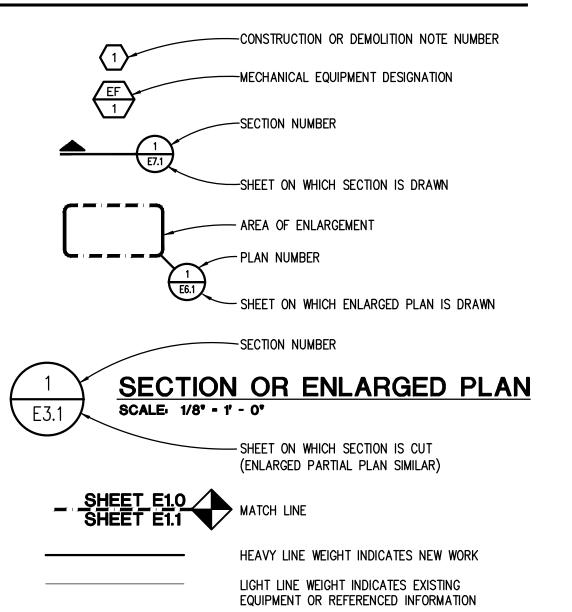
www.pbanet.com PBA Project No. 2013-0361

Project No. 9113

6" A.F.F. HORIZONTALLY

TO TOP OF BOX, U.O.N.

#### STANDARD METHODS OF NOTATION



GRAY LINE INDICATES BACKGROUND INFORMATION

THIN GRAY LINE INDICATES CEILING GRID

DASHED LINES INDICATE CONDUIT ROUTED

HATCH MARKS INDICATE EQUIPMENT TO

BE DISCONNECTED AND REMOVED.

IN OR BELOW SLAB OR GRADE

CIRCUIT HOMERUN

#### **ELECTRICAL DRAWING INDEX**

<u>SHEET TITLE</u>

SHEET NO. ELECTRICAL STANDARDS AND DRAWING INDEX E02 ELECTRICAL STANDARD SCHEDULES E03 ELECTRICAL COMPOSITE PLAN PARTIAL FIRST AND SECOND FLOOR ELECTRICAL PLANS

#### **ELECTRICAL ABBREVIATION LIST**

\_\_\_\_\_

HORSEPOWER HIGH VOLTAGE HERTZ

ISOLATED GROUND JUNCTION BOX

Bidding: 12 January 2016

Scale: As Noted

ELECTRICAL STANDARDS AND DRAWING INDEX

Peter Basso Associates Inc

CONSULTING ENGINEERS

5145 Livernois, Suite 100

Troy, Michigan 48098-3276

Tel: 248-879-5666

Fax: 248-879-0007

www.pbanet.com

PBA Project No. 2013-0361

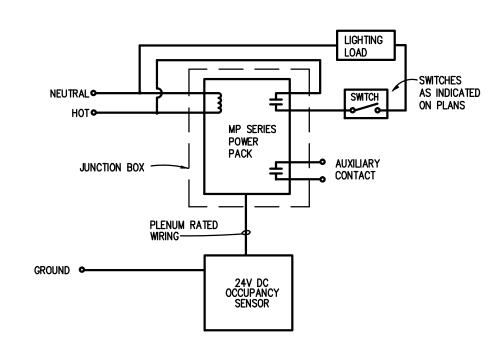
Grosse Pointe Public School System Richard Elementary School

Project No. 9113

Restroom Remodeling - Phase 2

Ehresman Associates, Inc.

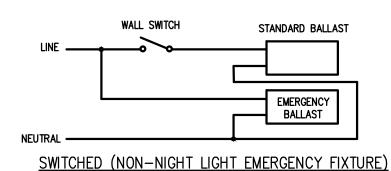
|      | LIGHTING FIXTURE SCHEDULE   |   |                 |  |  |  |  |  |  |  |  |  |  |  |
|------|---|---|-----------------|--|--|--|--|--|--|--|--|--|--|--|
| TYPE | DESCRIPTION   | MANUFACTURERS   | LAMPS           |  |  |  |  |  |  |  |  |  |  |  |
| F1   | 2'X2' (2) LAMP RECESSED LAY-IN 9 CELL PARABOLIC FLUORESCENT LIGHT FIXTURE: LOW IRIDESCENT ANODIZED SILVER ALUMINUM DIFFUSER 3" DEEP WITH BLACK REVEAL. BALLAST SHALL BE ELECTRONIC PROGRAM RAPID START MULTI VOLT HIGH POWER FACTOR, CLASS A SOUND RATED. GMF FUSED, CLASS P THERMAL RATED WITH TOTAL HARMONIC DISTORTION (THD)<10%. FIXTURE SHALL HAVE HIGH REFLECTANCE POST PAINT.  | 1. LITHONIA 2PM3N SERIES 2PM3N-G-B-2-17W-9LD- MVOLT- 1/3-GEB1ORS-GMF OR ENGINEER/OWNER APPROVED EQUAL. PROVIDED A MINIMUM OF 5 DAYS PRIOR TO BIDS FOR APPROVAL. | 17WT8/4100K/RS  |  |  |  |  |  |  |  |  |  |  |  |
| F1E  | SAME AS FIXTURE TYPE F1 EXCEPT WITH EMERGENCY BATTERY BACKUP WITH MINIMUM 1200 LUMEN OUTPUT WITH 2 LAMPS ON EMERGENCY BATTERY WITH SELF DIAGNOSTICS. PROVIDE BODINE B50ST.  |   |                 |  |  |  |  |  |  |  |  |  |  |  |
| F2   | 9" WIDE (1) LAMP WALL SLOT RECESSED PERIMETER LAY—IN FLUORESCENT FIXTURE: CONTINUOUS AND SEAMLESS, LAMP LENGTH AS INDICATED ON DRAWINGS. SEMI—SPECULAR PARABOLIC BAFFLE. STEAL HOUSING WITH MAT WHITE FINISH FLUSH WHITE ACRYLIC 0.10 THICK. BALLAST SHALL BE ELECTRONIC PROGRAM RAPID START MULTI VOLT HIGH POWER FACTOR, CLASS A SOUND RATED. GMF FUSED, CLASS P THERMAL RATED WITH TOTAL HARMONIC DISTORTION (THD)≤10%. FIXTURE SHALL HAVE HIGH REFLECTANCE POST PAINT.  NOTE: STAGGER LAMPS SO THAT FIXTURE HAS NOT DARK AREAS AT THE END OF EACH LAMP. | 1. PAL MLR5 SERIES<br>OR ENGINEER/OWNER APPROVED<br>EQUAL. PROVIDED A MINIMUM OF 5<br>DAYS PRIOR TO BIDS FOR APPROVAL.  | T8/25W/4100K/RS |  |  |  |  |  |  |  |  |  |  |  |



#### CEILING MOUNTED OCCUPANCY SENSOR **WIRING DIAGRAM**

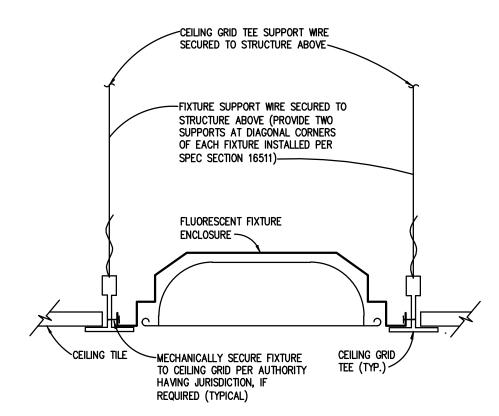
NO SCALE

- 1. OCCUPANCY SENSOR SHALL BE SENSORSWITCH. AS SPECIFIED ON DRAWINGS.
- 2. PROVIDE POWER PACKS AND SLAVE PACKS AS REQUIRED FOR SWITCHING AS INDICATED ON PLAN. REVISE DETAIL AS REQUIRED BY MANUFACTURER.
- 3. MOUNTING LOCATION PER MANUFACTURER'S RECOMMENDATION.
- 4. ADJUST SENSITIVITY LEVELS PER THE OWNER. 5. PROVIDE FACTORY SUPPORT FOR AIMING/ADJUSTING OF SENSORS.



NOTE: PRIMARY CIRCUIT ONLY. LAMP LEADS NOT SHOWN.

#### EMERGENCY BALLAST WIRING DIAGRAM NO SCALE



RECESSED FLUORESCENT FIXTURE INSTALLATION DETAIL NO SCALE

| FEED                    | FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE - GENERAL PURPOSE |                  |  |  |   |   |  |  |  |  |  |  |  |  |
|-------------------------|---|------------------|--|--|---|---|--|--|--|--|--|--|--|--|
|                         |   |                  | COPPER CON                                   | IDUCTOR8                                     |   |   |  |  |  |  |  |  |  |  |
| OVERCURRENT             |   | SIZE<br>R KCMIL) |  | CC   | ONDUIT SIZE                             |   |  |  |  |  |  |  |  |  |
| DEVICE RATING (AMPERES) | PHASE & NEUTRAL   | GROUND           | SINGLE<br>PHASE<br>2 WIRE+G<br>(1PH, 1N, 1G) | SINGLE<br>PHASE<br>3 WIRE+G<br>(2PH, 1N, 1G) | THREE<br>PHASE<br>3 WIRE+G<br>(3PH, 1G) | THREE PHASE<br>& NEUTRAL<br>4 WIRE+G<br>(3PH, 1N, 1G) |  |  |  |  |  |  |  |  |
| 15-20                   | 12  | 12               | 3/4"   | 3/4"   | 3/4"                                    | 3/4"  |  |  |  |  |  |  |  |  |
| 25-30                   | 10  | 10               | 3/4"   | 3/4"   | 3/4"                                    | 3/4"  |  |  |  |  |  |  |  |  |
| 35-40                   | 8   | 10               | 3/4"   | 3/4"   | 3/4"                                    | 3/4"  |  |  |  |  |  |  |  |  |
| 45-50                   | 8 (6)   | 10               | 3/4"   | 3/4"   | 3/4"                                    | 3/4"  |  |  |  |  |  |  |  |  |
| 60                      | 6 (4)   | 10               | 3/4" (1")                                    | 3/4" (1")                                    | 3/4" (1")                               | 3/4" (1")   |  |  |  |  |  |  |  |  |
| 70                      | 4   | 8                | 1"   | 1 1/4"                                       | 1 1/4"                                  | 1 1/4"  |  |  |  |  |  |  |  |  |
| 80                      | 4 (3)   | 8                | 1"   | 1 1/4"                                       | 1 1/4"                                  | 1 1/4"  |  |  |  |  |  |  |  |  |
| 90-100                  | 3 (2)   | 8                | 1 1/4"                                       | 1 1/4"                                       | 1 1/4"                                  | 1 1/4"  |  |  |  |  |  |  |  |  |
| 110                     | 2 (1)   | 6                | -  | 1 1/4"                                       | 1 1/4"                                  | 1 1/4" (1 1/2")                                       |  |  |  |  |  |  |  |  |
| 125                     | 1 (1/0)   | 6                | -  | 1 1/4" (1 1/2")                              | 1 1/4" (1 1/2")                         | 1 1/2"  |  |  |  |  |  |  |  |  |
| 150                     | 1/0   | 6                | -  | 1 1/2"                                       | 1 1/2"                                  | 1 1/2"  |  |  |  |  |  |  |  |  |
| 175                     | 2/0   | 6                | -  | 2"   | 2"                                      | 2"  |  |  |  |  |  |  |  |  |
| 200                     | 3/0   | 6                | -  | 2"   | 2**                                     | 2 1/2"  |  |  |  |  |  |  |  |  |
| 225                     | 4/0   | 4                | _  | 2"   | 2*                                      | 2 1/2"  |  |  |  |  |  |  |  |  |
| 250                     | 250   | 4                | -  | 2 1/2"                                       | 2 1/2"                                  | 2 1/2"  |  |  |  |  |  |  |  |  |
| 300                     | 350   | 4                | -  | 2 1/2"                                       | 2 1/2"                                  | 3 <b>"</b>  |  |  |  |  |  |  |  |  |
| 350                     | 500   | 3                | _  | 3"   | 3"                                      | 3 <b>"</b>  |  |  |  |  |  |  |  |  |
| 400                     | 500   | 3                | -  | 3"   | 3"                                      | 3 <b>"</b>  |  |  |  |  |  |  |  |  |
| 450                     | 2-4/0   | 2-2              | -  | 2-2"   | 2-2"                                    | 2-2 1/2"  |  |  |  |  |  |  |  |  |
| 500                     | 2-250   | 2-2              | _  | 2-2 1/2"                                     | 2-2 1/2"                                | 2-2 1/2"  |  |  |  |  |  |  |  |  |
| 600                     | 2-350   | 2-1              | -  | 2-2 1/2"                                     | 2-2 1/2"                                | 2-3"  |  |  |  |  |  |  |  |  |
| 700                     | 2-500   | 2–1/0            | _  | 2-3"   | 2-3"                                    | 2-3"  |  |  |  |  |  |  |  |  |
| 800                     | 2-500   | 2-1/0            | _  | 2-3"   | 2-3"                                    | 2-3 1/2"  |  |  |  |  |  |  |  |  |
| 1000                    | 3-400   | 3-2/0            | _  | 3–3*   | 3–3"                                    | 3–3"  |  |  |  |  |  |  |  |  |
| 1200                    | 3-600   | 3-3/0            | _  | 3-3 1/2"                                     | 3-3 1/2"                                | 3-3 1/2"  |  |  |  |  |  |  |  |  |
| 1600                    | 4-600   | 4-4/0            | _  | 4-3 1/2"                                     | 4-3 1/2"                                | 4-3 1/2"  |  |  |  |  |  |  |  |  |
| 2000                    | 5-600   | 5-250            | _  | 5-3 1/2"                                     | 5-3 1/2"                                | 5-3 1/2"  |  |  |  |  |  |  |  |  |

- 1. CONTRACTOR TO SIZE FEEDERS AND BRANCH CIRCUITS BASED ON THIS SCHEDULE AND OVER CURRENT DEVICE SIZE, UNLESS NOTED OTHERWISE.
- 2. CONTRACTOR MAY COMBINE 20A CIRCUITS AS NOTED IN SPECIFICATION. 3. CONDUCTORS ARE BASED ON THHN/THWN UP TO AND INCLUDING #4/0. LARGER THAN #4/0 ARE BASED ON TYPE XHHW.
  4. CONDUCTORS ARE BASED ON 90°C, 600V. INSULATED COPPER WIRE APPLIED AT 75°C FOR TERMINATION RATED 60/75°C OR
- 75°C. FOR TERMINATION RATED AT 60°C, USE CONDUCTORS AND CONDUIT SIZES INDICATED IN PARENTHESES.

  5. CONDUIT SIZES ARE VALID FOR EMT OR RGS. CONDUIT SIZES SHALL BE ADJUSTED AS REQUIRED FOR OTHER TYPES OF
- 6. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE REQUIRED WIRE SIZES TO ACCOMMODATE MECHANICAL EQUIPMENT LUG SIZES. 7. SIZE OF DISCONNECT SWITCH LOCATED AT EQUIPMENT SHALL BE SIZED BASED UPON OVERCURRENT PROTECTION OF THAT
- 8. PRIOR APPROVAL FROM ENGINEER SHALL OCCUR IF A DIFFERENT SIZE/NUMBER OF CONDUCTORS IS TO BE USED. AMPACITY SHALL BE EQUAL OR GREATER.

|                 | OCCUPANCY SENSOR LEGEND   |
|-----------------|---|
| TYPE            | DESCRIPTION   |
| os <sub>A</sub> | 360° CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, 11' CEILING HEIGHT   |
| os <sub>B</sub> | 180° WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR<br>COORDINATE MOUNTING HEIGHT WITH MANUFACTURER'S REQUIREMENTS |
| os <sub>c</sub> | 360' CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, 25' CEILING HEIGHT "HIGH BAY STYLE"                        |
| os <sub>D</sub> | 360° CEILING MOUNTED ULTRASONIC OCCUPANCY SENSOR  |
| So              | WALL SWITCH PASSIVE INFRARED OCCUPANCY SENSOR   |
| SoSo            | WALL SWITCH PASSIVE INFRARED OCCUPANCY SENSOR - DUAL LEVEL SWITCHING  |

- 1. MANUFACTURER SHALL BE SENSOR SWITCH ONLY.
- 2. PLACE CEILING MOUNTED OCCUPANCY SENSORS IN A FULL CEILING TILE, WHERE APPLICABLE. FOR WALL MOUNTED SENSORS, MANUFACTURER SHALL DETERMINE MOUNTING HEIGHT.
- 3. ALL OCCUPANCY SENSOR LOCATIONS ARE SHOWN IN APPROXIMATE LOCATIONS. THE OCCUPANCY SENSOR MANUFACTURER SHALL SHOW ALL DEVICES IN EXACT LOCATIONS ON SHOP DRAWINGS. THE OCCUPANCY SENSOR MANUFACTURER SHALL PROVIDE/RELOCATE/ADD DEVICES AS REQUIRED TO DETECT "SMALL HAND MOVEMENT" FOR ENTIRE SPACE BEING SERVED. ANY ADDITIONAL SENSORS ADDED SHALL BE DONE WITH NO ADDITIONAL EXPENSE TO OWNER.
- 4. MANUFACTURER SHALL PROVIDE SPECIFIC WIRING DIAGRAMS FOR EACH DESIGNATED AREA OF USE OF OCCUPANCY SENSORS. WRING DIAGRAMS INDICATED ON THE DRAWINGS INDICATE INTENT ONLY. ELECTRICAL CONTRACTOR SHALL FOLLOW SPECIFIC WIRING DIAGRAMS FROM THE MANUFACTURER.
- 5. COORDINATE AND PROVIDE ALL REQUIRED COMPONENTS FOR A COMPLETE SYSTEM.
- 6. ADJUST SENSOR SENSITIVITY LEVELS AND TIME DURATION PER OWNER REQUIREMENTS. FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS. ADJUSTMENT FOR DUAL TECHNOLOGY SENSORS: BEFORE MAKING ADJUSTMENTS, MAKE SURE ROOM FURNITURE IS INSTALLED, LIGHTING CIRCUITS ARE TURNED ON, AND THE HVAC SYSTEMS ARE IN THE ON POSITION. VAV SYSTEMS SHOULD BE SET TO THEIR HIGHEST AIRFLOW. SET THE LOGIC CONFIGURATION DIP SWITCHES TO "EITHER". EITHER REQUIRES MOTION DETECTION BY ONLY ONE TECHNOLOGY. SET THE TIME DELAY PER OWNERS
- 7. MAXIMUM OF (3) SENSORS PER MP POWER PACK.
- 8. PROVIDE AUXILIARY CONTACTS FOR MECHANICAL EQUIPMENT CONTROL.
- 9. UPON LOSS OF POWER TO OCCUPANCY SENSOR OR POWER PACK, LOAD TURNS ON REGARDLESS OF OCCUPANCY.
- 10. A MANUFACTURER REPRESENTATIVE SHALL TEST ALL SENSORS PRIOR TO COMPLETION OF WORK.
- 11. PROVIDE APPROPRIATE OCCUPANCY SENSORS FOR EACH APPLICATION, PER MANUFACTURERS

| RAC                     | EWAY APPLICATION SCHEDULE  |             |                        |                                  |                 |                                     |                              |   |                                  |   |  |  |                     |   |   |   |   |   |   |
|-------------------------|--|-------------|------------------------|----------------------------------|-----------------|-------------------------------------|------------------------------|---|----------------------------------|---|--|--|---------------------|---|---|---|---|---|---|
| RACEWAY                 |  | AC/MC CABLE | ALUMINUM RIGID CONDUIT | ELECTRICAL METALLIC TUBING (EMT) | SURFACE RACEWAY | ELECTRICAL NONMETALLIC TUBING (ENT) | FLEXIBLE METAL CONDUIT (FMC) | GENERAL-USE OPTICAL FIBER/COMMUNICATION CABLE RACEWAY | INTERMEDIATE METAL CONDUIT (IMC) | LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC) | LIQUIDTIGHT FLEXIBLE NONMETAL CONDUIT (LFNC) | PLENUM-TYPE OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY | RIGID STEEL CONDUIT | RISER-TYPE OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY | RIGID NONMETALLIC CONDUIT (RNC) TYPE EPC-40 | RIGID NONMETALLIC CONDUIT (RNC) TYPE EPC-80 | HIGH DENSITY POLYTHYLENE (HDPE) SCHEDULE 40 | HIGH DENSITY POLYTHYLENE (HDPE) SCHEDULE 80 | KEYED NOTES   |
| క్ర                     | EXPOSED  |             | H                      | 寸                                | ╗               | 一                                   | 一                            |   | Х                                |   |  |  | х                   |   |   |   |   |   |   |
| OUTDOOR                 | CONCEALED (ABOVE GROUND)   |             |                        |                                  |                 |                                     |                              |   | Х                                |   |  |  | Х                   |   |   |   |   |   |   |
| ō                       | UNDERGROUND  |             |                        |                                  |                 |                                     |                              |   |                                  |   |  |  | Х                   |   | Х   | Х   | Х   | Х   |   |
|                         | CONNECTED TO VIBRATING EQUIPMENT   |             |                        |                                  |                 |                                     |                              |   |                                  | х   |  |  |                     |   |   |   |   |   | EQUIPMENT INCLUDING: TRANSFORMERS, HYDRAULIC PNEUMATIC, ELECTRIC SOLENOID, MOTOR DRIVEN EQUIPMENT   |
| INDOOOR                 | EXPOSED NOT SUBJECT TO PHYSICAL DAMAGE — UNFINISHED SPACES EXPOSED             |             |                        | Х                                | Х               |                                     |                              |   |                                  |   |  |  |                     |   |   |   |   |   |   |
|                         | NOT SUBJECT TO PHYSICAL DAMAGE — FINISHED<br>SPACES                            |             |                        |                                  |                 |                                     |                              |   |                                  |   |  |  |                     |   |   |   |   |   |   |
|                         | EXPOSED SUBJECT TO SEVERE PHYSICAL DAMAGE                                      |             |                        |                                  |                 |                                     |                              |   | Х                                |   |  |  | Х                   |   |   |   |   |   | [RIGID STEEL CONDUIT UP TO 10'-0"AFF.] LOCATIONS INCLUDE: LOADING LOCKS, CORRIDORS USED FOR TRAFFIC OF MECHANIZED CARTS AND PALLET HANDLING UNITS, MECHANICAL ROOMS |
|                         | CONCEALED IN CEILINGS, INTERIOR WALL AND PARTITIONS                            | Х           |                        | Х                                |                 |                                     |                              |   |                                  |   |  |  |                     |   |   |   |   |   | NOT TO EXCEED 6'-0" IN CEILING SPACE  |
|                         | CONNECTED TO MBRATING EQUIPMENT  |             |                        |                                  |                 |                                     | Х                            |   |                                  | Х   |  |  |                     |   |   |   |   |   | EQUIPMENT INCLUDING: TRANSFORMERS, HYDRAULIC PNEUMATIC, ELECTRIC SOLENOID, MOTOR DRIVEN EQUIPMENT USE LFMC IN DAMP/WET LOCATIONS                                    |
|                         | DAMP AND WET LOCATIONS   |             | Ц                      |                                  |                 |                                     |                              |   | Х                                |   |  |  | Х                   |   |   |   |   |   |   |
|                         | BELOW SLAB IN GRADE  |             |                        |                                  |                 |                                     |                              |   |                                  |   |  |  |                     |   | Х   | Х   |   |   | PROVIDE RIGID STEEL ELBOWS WHERE CONDUIT PENETRATES SLAB. CONDUIT INSTALLED 6" BELOW BOTTOM OF SLAB   |
|                         | EMBEDDED IN CONCRETE ABOVE GRADE   |             | П                      |                                  |                 |                                     |                              |   |                                  |   |  |  | Х                   |   | Х   | Х   |   |   |   |
|                         | OPTICAL FIBER OR COMMUNICATIONS CABLE IN SPACES USED FOR ENVIRONMENTAL AIR     |             |                        | Х                                |                 |                                     |                              |   |                                  |   |  | Х  |                     |   |   |   |   |   |   |
|                         | CONCEALED GENERAL PURPOSE DISTRIBUTION OF OPTICAL FIBER OR COMMUNICATION CABLE |             |                        | Х                                |                 |                                     |                              | Χ   |                                  |   |  | Х  |                     | Х   |   |   |   |   |   |
| SNO                     | MRI  |             | Х                      |                                  |                 |                                     |                              |   |                                  |   |  |  |                     |   |   |   |   |   |   |
| IAL<br>ICATI            | NATATORIUMS/FOUNTAINS  |             | Ц                      | X                                | _               | _                                   | _                            |   | _                                |   |  |  | ┖                   |   |   |   |   |   | USE COMPRESSION FITTINGS  |
| SPECIAL<br>APPLICATIONS |  | $\vdash$    | Н                      | 4                                | 4               | $\dashv$                            | $\dashv$                     |   |                                  | $\vdash$                                  |  |  | ╀                   | $\vdash$  | $\vdash$                                    |   |   |   |   |
|                         | GENERAL NOTES  | <u> </u>    | Ц                      | !                                | !               | !                                   | !                            |   | <u> </u>                         |   |  |  |                     |   |   |   |   |   |   |
|                         | 1 'Y' INDICATES ACCEPTABLE SELECTION   |             |                        |                                  |                 |                                     |                              |   |                                  |   |  |  |                     |   |   |   |   |   |   |

1. 'X' INDICATES ACCEPTABLE SELECTION.

2. REFER TO "CONDUCTORS AND CABLES" SPECIFICATION FOR APPLICATION LIMITATIONS OF AC/MC CABLE.

| BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE<br>FOR SINGLE PHASE CIRCUITS |                    |   |      |      |      |      |
|--|--------------------|---|------|------|------|------|
| BRANCH<br>CKT<br>RATING (A)  | WIRE SIZE<br>(AWG) | MAXIMUM BRANCH CIRCUIT LENGTH (IN FEET) |      |      |      |      |
|  |                    | 120V                                    | 208V | 240V | 277V | 480V |
| 20A  | 12                 | 83                                      | 143  | 165  | 191  | 331  |
|  | 10                 | 128                                     | 222  | 256  | 295  | 511  |
|  | 8                  | 201                                     | 348  | 402  | 464  | 804  |
|  | 6                  | 313                                     | 542  | 625  | 721  | 1250 |
| 30A  | 10                 | 85                                      | 148  | 170  | 197  | 341  |
|  | 8                  | 134                                     | 232  | 268  | 309  | 536  |
|  | 6                  | 208                                     | 361  | 417  | 481  | 833  |
|  | 4                  | 313                                     | 542  | 625  | 721  | 1250 |

1. THE ABOVE TABLE VALUES ARE BASED ON COPPER CONDUCTORS, IN STEEL CONDUIT, WITH A LOAD POWER FACTOR OF 0.85 PER NEC CHAPTER 9, TABLE 9.

OF 0.85 PER NEC CHAPTER 9, TABLE 9.

2. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.

3. CONDUCTOR SIZES ARE BASED ON MAXIMUM OF 9 CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT.

4. LIMITS FOR CONDUCTOR LENGTHS SHOWN ARE BASED ON A MAXIMUM BRANCH CIRCUIT LOADING OF 64% OF THE BRANCH BREAKER RATING AND A MAXIMUM OF 3 PERCENT VOLTAGE DROP TO COMPLY WITH ASHRAE/IES 90.1 -1999 AND THE NEC. FOR CIRCUITS LOADED GREATER THAN 64% OF BRANCH BREAKER RATING, THE CONTRACTOR SHALL PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

> NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

> > Bidding: 12 January 2016

#### ELECTRICAL STANDARD SCHEDULES

Restroom Remodeling - Phase 2

Ehresman Associates, Inc.

Grosse Pointe Public School System Richard Elementary School

CONSULTING ENGINEERS

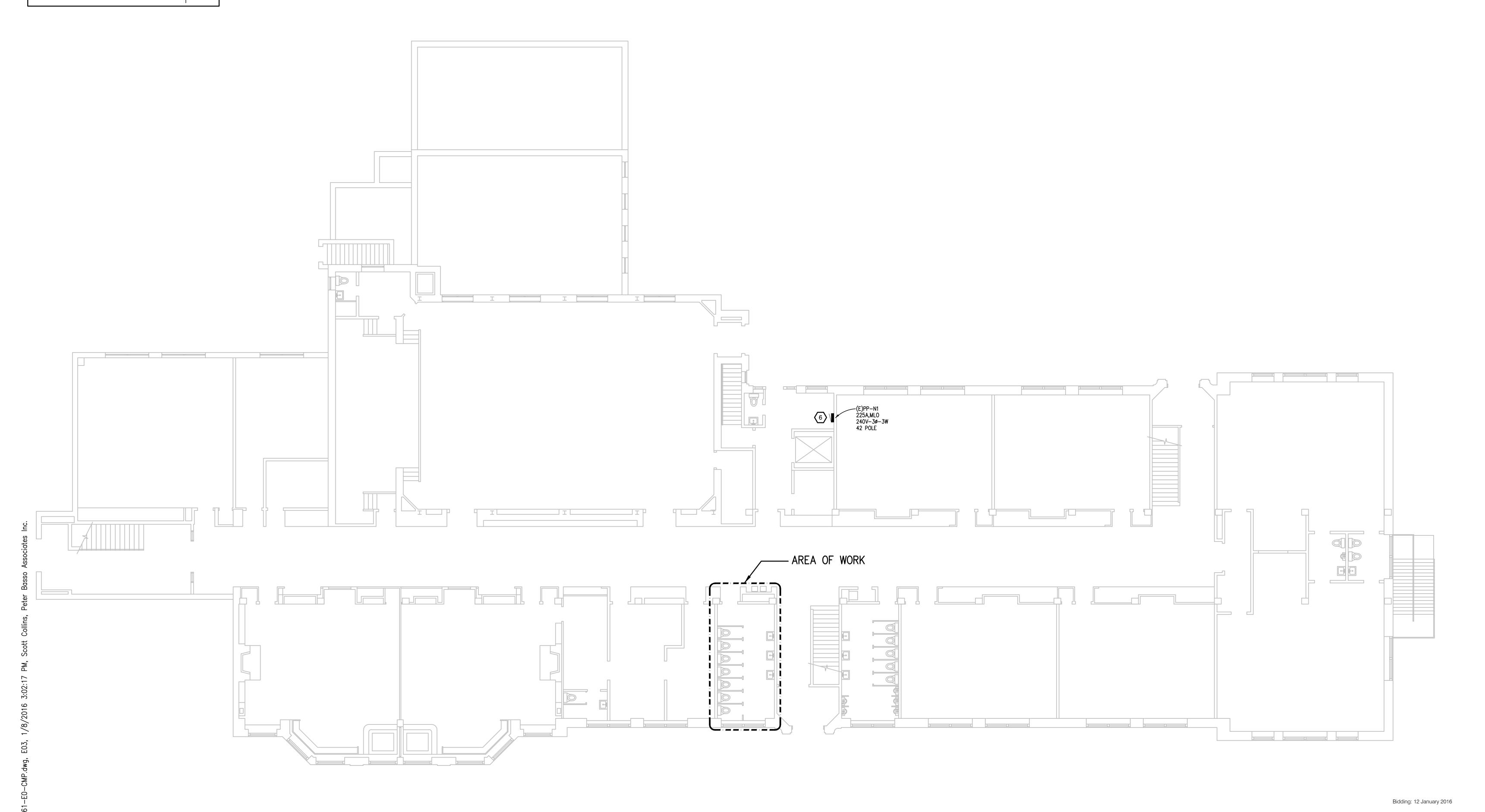
Peter Basso Associates Inc

Tel: 248-879-5666 Fax: 248-879-0007

www.pbanet.com PBA Project No. 2013-0361

5145 Livernois, Suite 100 Troy, Michigan 48098-3276 Project No. 9113

803 West Big Beaver Road, Suite 350, Troy, Michigan 48084 • 248.244.9710 • (f) 248.244.9712 © Ehresman Associates, Inc. 2014





ELECTRICAL COMPOSITE PLAN
SCALE: 1/8' - 1' - 0'

## ELECTRICAL COMPOSITE PLAN

Ehresman Associates, Inc. architects • engineers

Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase 2

Project No. 9113

Peter Basso Associates Inc CONSULTING ENGINEERS

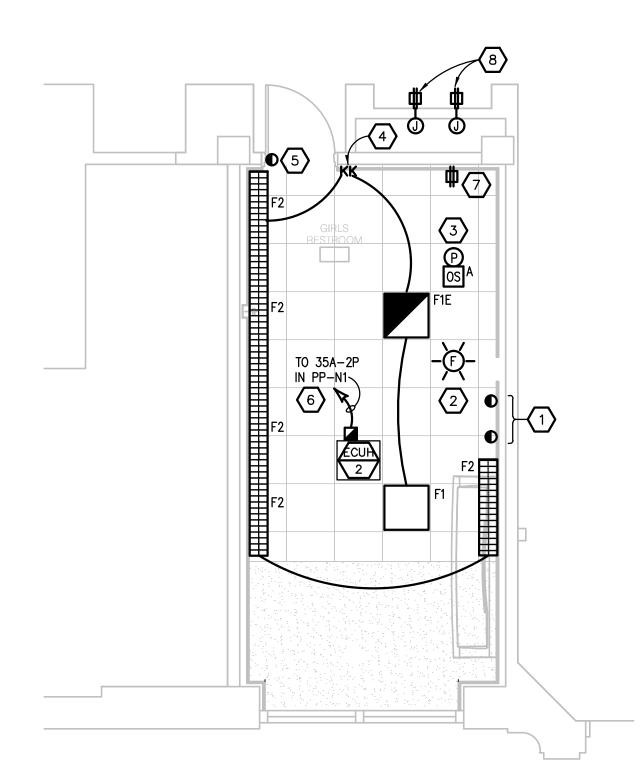
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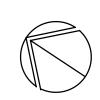
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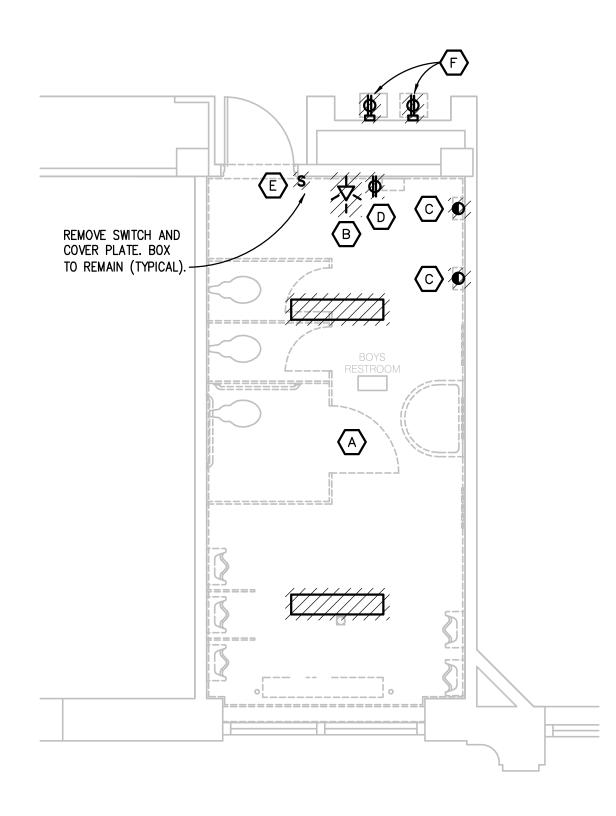


#### PARTIAL FIRST FLOOR ELECTRICAL **DEMOLITION PLAN - GIRLS RESTROOM** SCALE: 1/4" - 1' - 0"



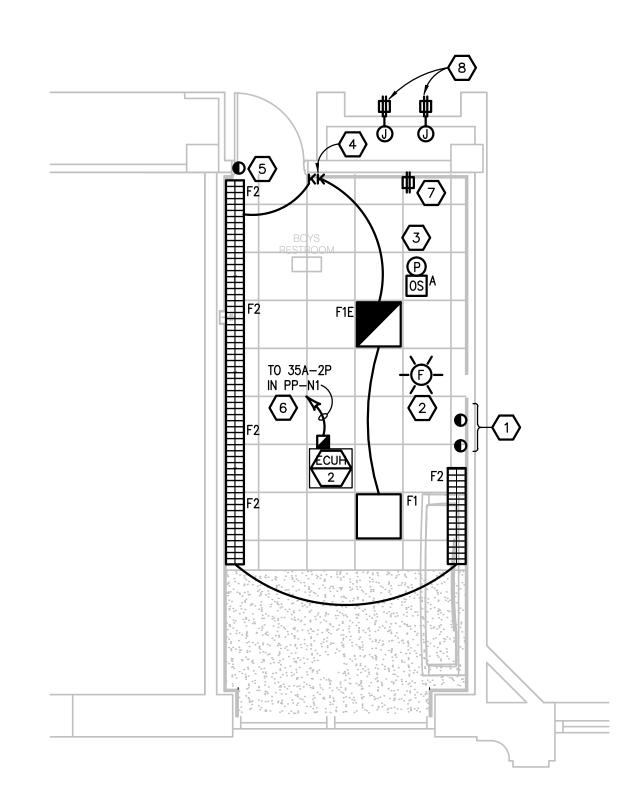


PARTIAL FIRST FLOOR ELECTRICAL **NEW WORK PLAN - GIRLS RESTROOM** SCALE: 1/4" = 1' - 0"





PARTIAL SECOND FLOOR ELECTRICAL **DEMOLITION PLAN - BOYS RESTROOM** SCALE: 1/4" - 1' - 0"





PARTIAL SECOND FLOOR ELECTRICAL **NEW WORK PLAN - BOYS RESTROOM** SCALE: 1/4" - 1' - 0"

#### **GENERAL DEMOLITION NOTES:**

- 1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
- 2. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
- 3. REMOVE LIGHTING FIXTURES AND ELECTRICAL DEVICES AS INDICATED ON PLAN WITH CROSS HATCHING. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO, THOSE
- 4. COORDINATE WITH NEW WORK PLANS, ONE LINE DIAGRAMS AND RISER DIAGRAMS FOR EXTENT OF DEMOLITION WORK.
- 5. PROVIDE PROPER SUPPORT FOR EXISTING TO REMAIN CONDUITS AND BOXES WHERE EXISTING SUPPORT IS TO BE REMOVED. RE-ROUTE BRANCH CIRCUIT CONDUITS AND RELOCATE JUNCTION BOXES AS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT AND SYSTEMS IN CEILING SPACES.
- 6. REMOVE ALL CONDUIT AND WIRE BACK TO THE SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
- 7. MAINTAIN ELECTRICAL SERVICE TO ALL LIGHTING FIXTURES, DEVICES AND EQUIPMENT THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM LOADS THAT ARE TO REMAIN.
- 8. DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING TCLP TESTING, PROPER DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
- 9. RING OUT AND TAG ALL CIRCUITS AFFECTED BY THIS ALTERATION AT BOTH ENDS. MARK ALL UNUSED CIRCUIT BREAKERS "SPARE".
- 10. PROVIDE UPDATED TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS ALTERATION.
- 11. VERIFY ALL UNDERGROUND AND IN SLAB UTILITY LOCATIONS PRIOR TO SAW-CUTTING OR PENETRATING ANY FLOOR SLAB.
- 12. COORDINATE ANY SHUT DOWN OF EXISTING SERVICES AND EQUIPMENT THAT ARE REMAINING IN USE WITH THE OWNER'S REPRESENTATIVE. WHERE EXISTING BUILDING SERVICE IS REQUIRED TO BE SHUT DOWN, INCLUDE ALL ASSOCIATED OVERTIME COSTS TO PERFORM THIS WORK DURING WEEKENDS AND EVENINGS INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER WHERE SHUT DOWNS MUST OCCUR FOR PERIODS LONGER THAN THESE HOURS. COORDINATE ELECTRICAL SHUT DOWNS WITH THE OWNER 72 HOURS PRIOR TO SHUT DOWN.

#### **# DEMOLITION NOTES:**

- A. DISCONNECT AND REMOVE LIGHTING. EXISTING LIGHTING CIRCUIT SHALL REMAIN FOR
- B. DISCONNECT AND REMOVE FIRE ALARM DEVICE. EXISTING CIRCUITING SHALL REMAIN
- C. DISCONNECT ELECTRIC HAND DRYERS. EXISTING CIRCUITING SHALL REMAIN FOR
- D. DISCONNECT AND REMOVE RECEPTACLE. EXISTING CIRCUIT SHALL REMAIN FOR
- E. REMOVE LIGHT SWITCH. CIRCUITING SHALL REMAIN FOR REUSE.
- F. REMOVE RECEPTACLE AND SURFACE MOUNTED WIREMOLD TO ELECTRIC WATER COOLER. CIRCUITING SHALL REMAIN FOR REUSE.

#### **GENERAL NOTES:**

- 1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
- 2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- 3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- 5. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- 6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- 7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
- 8. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.

#### **#** CONSTRUCTION NOTES:

- 1. ELECTRIC HAND DRYER. ONE IN EACH RESTROOM SHALL BE BARRIER FREE MOUNTED AT AT 37" AFF. THE OTHERS SHALL BE AT 43" AFF TO THE BOTTOM OF DRYER. ALL RACEWAY SHALL BE CONCEALED IN WALLS. COORDINATE WITH ARCHITECTURAL ELEVATION PLANS PRIOR TO ROUGH-IN. CONNECT TO EXISTING CIRCUIT. EXTEND CIRCUITING AS REQUIRED.
- 2. NEW CEILING MOUNTED FIRE ALARM DEVICE. EXTEND EXISTING FIRE ALARM CIRCUITING TO NEW LOCATION AS REQUIRED. FIELD VERIFY EXISTING CONDITIONS. ALL WIRING AND RACEWAY SHALL BE CONCEALED IN WALLS OR CEILING.
- OCCUPANCY SENSOR SHALL BE PROVIDED WITH PHOTO CELL CONTROL FOR DAYLIGHT HARVESTING AND SET AT 10 FOOTCANDLES. DAYLIGHT CONTROL SHALL ONLY BE FOR LIGHT FIXTURE TYPES F1 AND F1E.
- 4. NEW KEYED LIGHT SWITCHING. PROVIDE NEW 2 GANG BOX. CONNECT TO EXISTING LIGHTING CIRCUIT. PROVIDE GROUND WIRE PER NEC. NO EXPOSED CONDUIT IS ACCEPTABLE. PROVIDE STAINLESS STEEL COVER PLATE. SWITCH BOX SHALL BE RECESSED BEHIND TILE WALL FINISH. COORDINATE WITH ARCHITECTURAL TRADES PRIOR TO ROUGH-IN.
- 5. AUTODOOR OPERATOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS FOR A COMPLETE INSTALLATION AND OPERATION. CIRCUIT TO NEAREST AVAIABLE 120V CIRCUIT AND EXTEND CIRCUITING AS REQUIRED. PUSHBUTTON IS WIRELESS. NO SURFACE MOUNTED RACEWAY IS ACCEPTABLE.
- 6. PROVIDE NEW 20A-3P BREAKER IN EXISTING PP-N1 LOCATED IN STORAGE ROOM. SEE COMPOSITE PLAN FOR EXACT LOCATION. PP-N1 225A 208/120V-3Ø-43 PANELBOARD SERVING (2) AC UNITS. NEW LOAD HEATING ONLY AND WILL NOT INCREASE DEMAND LOAD
- 7. NEW RECEPTACLE TO REPLACE EXISTING. PROVIDE NEW STAINLESS STEEL COVER
- 8. REMOVE EXISTING SURFACE MOUNTED WIREMOLD COMPLETE. CONNECT NEW EWC TO EXISTING CIRCUITING AND EXTEND CIRCUITING AS REQUIRED. NO SURFACE MOUNTED RACEWAY IS ACCEPTABLE.

Bidding: 12 January 2016

PARTIAL FIRST AND SECOND FLOOR ELECTRICAL PLANS

**Ehresman Associates, Inc.** Scale: As Noted

Grosse Pointe Public School System Richard Elementary School Restroom Remodeling - Phase 2 Peter Basso Associates Inc

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5145 Livernois, Suite 100 Troy, Michigan 48098-3276 Tel: 248-879-5666 Fax: 248-879-0007

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