ADVERTISEMENT FOR BIDS FOR
MISCELLANEOUS RENOVATIONS
AT THE OTSEGO COUNTY COURTHOUSE
GAYLORD, MI

BID 2014-03

The County of Otsego is seeking bids for various renovations at the Otsego County Courthouse at 225 W. Main Street, Gaylord, MI. The purpose of the remodel is to renovate space to accommodate the Sheriff's Road Patrol and Civil Division.

1. Sealed bids will be received by the County of Otsego at 225 West Main Street, Room 203, Gaylord, Michigan until Noon local time on Friday, August 29, 2014. The bids will be publicly read aloud at 1:30 pm on August 29 at 225 West Main Street in Room 100.
2. The full bid package is available on-line at http://www.otsegocountymi.gov/bids-and-proposals-192/. Any questions must be received by Friday, August 15 at noon.
3. Interested bidders must email John Burt at jburt@otsegocountymi.gov or call 989-731-7527 by August 15 at noon in order to ensure they are on the potential bidders list to obtain clarifications and amendments to the bid package.
4. Bids shall remain firm and shall not be withdrawn for a period of sixty (60) calendar days after bid opening.
5. The County of Otsego reserves the right to accept, reject or negotiate any or all bids to waive or not waive informalities or irregularities in the bids or bidding procedures and to accept any bid determined by the County to be in the best interest of the County, regardless of price. Vendors located in Otsego County receive a 5% cost variance for low bid determination.

Please note: We are looking for bids from general contractors, not separate bids trade bids.

OTSEGO COUNTY BUILDING REMODELING FOR:

FOR

OTSEGO COUNTY SHERIFF DEPARTMENT

GAYLORD, MICHIGAN

SHEET INDEX

BUILDING DATA

APPLICABLE CONSTRUCTION (BUILDING) CODES
2009 MICHIGAN REHABILITATION CODE
2009 MICIGAN BUILDING CODE

EXISTING CONSTRUCTION TYPE
TYPE IIIB CONSTRUCTION – COMBUSTIBLE/UNPROTECTED

USE AND OCCUPANCY CLASSIFICATION
EXISTING GROUP B OFFICE – PROPOSED TO REMAIN THE SAME

REQUIRED FIRE RESISTANCE RATINGS FOR BUILDING ELEMENTS (TABLE 601)
STRUCTURAL FRAME: 0 HOURS
BEARING WALLS (EXT): 2 HOURS
BEARING WALLS (INT): 0 HOURS
NON-BEARING WALLS AND PARTITIONS (EXT): 0 HOURS
NON-BEARING WALLS AND PARTITIONS (INT): 0 HOURS
FLOOR CONSTRUCTION: 0 HOURS
ROOF CONSTRUCTION: 0 HOURS

FIRE SUPPRESSION SYSTEM: NONE

OCCUPANT LOAD BASED ON 2009 MBC 1004.1
SHERIFF DEPARTMENT REMODELING (WORK) AREA: 1,386 sf / 100 sf PER OCCUPANT= 13

MINIMUM NUMBER OF EXITS
1 REQUIRED (2009 MBC 1015.1) / 1 PROVIDED
OCCUPANT LOAD < 49
TRAVEL DISTANCE < 75 FEET

WORK AREA CALCULATIONS
TOTAL BUILDING GROSS AREA: 27,958 sf
TOTAL LEVEL 2 ALTERATION WORK AREA: 2,345 sf
INCLUDES WORK AREA 1, 2 AND 3:

LEVEL 2 ALTERATION < 50% OF TOTAL BUILDING AREA

ACCESSIBILE ROUTE (2009 MRCEB 310.8.1)
1 ACCESSIBLE ENTRANCE REQUIRED /
1 ACCESSIBLE ENTRANCE PROVIDED THROUGH COMMISSIONERS ROOM.

ANTHONY P. ESSON
ARCHITECT
PO BOX 479 GAYLORD, MICHIGAN 49734
TELEPHONE: (989) 732-0585

DRAWING TITLE
TITLE SHEET
PROJECT INFORMATION

PROJECT TITLE
PROPOSED OTSEGO COUNTY BUILDING REMODELING FOR:
OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO.
213-14

DATE
7/7/14

SHEET
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STATE OF MICHIGAN
REGISTRATION

CONTRACTING REQUIREMENTS:

1. FORM OF AGREEMENT SHALL BE AIA DOCUMENT A101–2007 STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR.
2. CONDITIONS OF THE CONTRACT SHALL BE AIA DOCUMENT A201 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, CURRENT EDITION.
3. CONTRACTOR SHALL PROVIDE LIABILITY AND WORKERS COMPENSATION INSURANCE IN AMOUNTS DETERMINED BY THE OWNER AND/OR REQUIRED BY STATUTE.
4. CONTRACTOR SHALL PROVIDE PERFORMANCE AND LABOR/MATERIAL PAYMENT BONDS WHEN REQUIRED BY THE OWNER OR BY STATUTE.

012000 – PRICE AND PAYMENT PROCEDURES:

1. PAYMENT PROCEDURES:
   A. FORM OF APPLICATION SHALL BE AIA DOCUMENT G702 APPLICATION AND CERTIFICATE FOR PAYMENT AND AIA G703 CONTINUATION SHEET.
   B. SUBMIT THREE APPLICATIONS (INCLUDING BACK–UP).
   C. SUBMIT FULLY EXECUTED SWORN STATEMENT MAKING UP THE FULL BALANCE OF THE REQUEST. INDICATE ALL MONIES OWED TO SUBCONTRACTORS AND SUPPLIERS.
   D. SUBMIT WAIVERS OF LIEN FROM SUBCONTRACTORS AND SUPPLIERS FOR THE FULL BALANCE OF THE PREVIOUS PAYMENT.
2. CHANGE PROCEDURES:
   A. ARCHITECT SHALL DIRECT MINOR CHANGES NOT AFFECTING COST OR TIME IN WRITING.
   B. FORM OF CHANGE ORDERS FOR CHANGES AFFECTING COST OR TIME WILL BE AIA DOCUMENT G701 CHANGE ORDER. CONTRACTOR SHALL NOT PROCEED WITH CHANGES IN THE WORK AFFECTING COST OR TIME IN ADVANCE OF FULL EXECUTION OF A PROPER CHANGE ORDER WITHOUT WRITTEN APPROVAL OR DIRECTION FROM THE ARCHITECT.
3. DEFECT ASSESSMENT:
   A. REMOVE AND REPLACE WORK NOT CONFORMING TO SPECIFICATIONS.
   B. IF IN THE OPINION OF THE ARCHITECT IT IS NOT FEASIBLE TO REMOVE AND REPLACE THE WORK, ARCHITECT DIRECT AN APPROPRIATE REMEDY INCLUDING AND ADJUSTMENT IN THE CONTRACT AMOUNT.
   C. AUTHORITY OF ARCHITECT TO ASSESS DEFECTS IS FINAL.

013000 – ADMINISTATIVE REQUIREMENTS:

1. COORDINATION OF PROJECT CONDITIONS:
   A. COORDINATE SCHEDULING, SUBMITTALS, AND WORK OF VARIOUS SECTIONS TO ENSURE EFFICIENT AND ORDERLY SEQUENCE OF INSTALLATION WITH PROVISIONS FOR ACCOMODATING ITEMS INSTALLED LATER.
   B. VERIFY UTILITY REQUIREMENTS AND CHARACTERISTICS OF OPERATING EQUIPMENT ARE COMPATIBLE WITH BUILDING UTILITIES.
   C. COORDINATE SPAVCE REQUIREMENTS, SUPPORTS, AND INSTALLATION OF MECHANICAL AND ELECTRICAL WORK INDICATED DIAGRAMMATICALLY ON DRAWINGS.
   D. CONCEAL PIPES, DUCTS, CONDUITS AND WIRING WITHIN CONSTRUCTION IN FINISHED AREAS.
2. PROGRESS MEETINGS:
   A. SCHEDULE AND ADMINISTER MEETINGS AT MONTHLY INTERVALS.
   B. REVIEW WORK IN PROGRESS; FIELD OBSERVATIONS, PROBLEMS AND DECISIONS; IDENTIFICATION OF PROBLEMS IMPEDEING PLANNED PROGRESS; SUBMITTAL STATUS; OFF–SITE FABRICATIONA ND DELIVERY SCHEDULES; MAINTENANCE OF PROGRESS SCHEDULE AND CORRECTIVE ACTION TO REGAIN LOST DAYS; MAINTENANCE OF QUALITY STANDARDS; EFFECTS OF PROPOSED CHANGES ON THE WORK AND SCHEDULE; OTHER BUSINESS RELATING TO THE WORK.
3. PERIODIC CONSTRUCTION VISITS:
   A. ARCHITECT AND OWNER WILL VISIT THE PROJECT PERIODICALLY DURING CONSTRUCTION.
   B. CONTRACTOR'S SITE SUPERINTENDENT SHALL BE AVAILABLE FOR MEETINGS WITH OWNER AND ARCHITECT.
4. CONTRACTOR SHALL MAINTAIN AND UPDATE PROJECT RECORD DOCUMENTS (AS–BUILT DRAWINGS) ON SITE DURING CONSTRUCTION.
5. BEFORE STARTING AND OPERATION, CONTRACTOR SHALL EXAMINE THE WORK PERFORMED BY OTHERS TO WHICH THEIR WORK ADJOINS OR IS APPLIED AND SHALL REPORT TO THE ARCHITECT ANY CONDITIONS THAT WILL PREVENT SATISFACTORY ACCOMPLISHMENT OF THEIR WORK. FAILURE TO NOTIFY THE ARCHITECT OF FAULTS OR DEFICIENCIES IN PROCEEDING WORK CONSTITUTES ACCEPTANCE AND WAIVER OF CLAIMS AS TO IT USABILITY.

013300 – SUBMITTAL PROCEDURES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF SPECIFIED MATERIALS AND SYSTEMS TO THE ARCHITECT FOR REVIEW FOR GENERAL CONFORMANCE WITH THE DESIGN INTENT.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL QUANTITIES AND DIMENSIONS, AND FOR COORDINATION OF MATERIALS, SYSTEMS, AND COMPONENTS IN THE WORK.
3. SUBMIT SHOP DRAWINGS, PRODUCT DATA, DESIGN DATA, TEST REPORTS, CERTIFICATES, AND OTHER INFORMATION REQUESTED ELECTRONCIALLY TO THE ARCHITECT IN .pdf FORMAT. ARCHITECT WILL REVIEW AND COMMENT AND RETURN SUBMITTALS ELECTRONICALLY TO CONTRACTOR.
4. SUBMIT PHYSICAL SAMPLES FOR SELECTION OF COLORS AND FINISHES.
5. CONTRACTOR SHALL MAINTAIN A COMPLETE FILE OF APPROVED SHOP DRAWINGS TO BE TURNED OVER TO THE OWNER AT CLOSEOUT.

014000 – QUALITY REQUIREMENTS:

1. CONTRACTOR IS RESPONSIBLE TO MONITOR INSTALLATION OF THE WORK AND ASSURE COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ENVIRONMENTAL REQUIREMENTS APPLICABLE TO THE INSTALLATION OF ALL MATERIALS AND SYSTEMS AS INDICATED IN MANUFACTURERS INSTALLATION INSTRUCTIONS, OR AS OTHERWISE REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
3. TESTING AND INSPECTION SERVICES:
   A. OWNER WILL EMPLOY AND PAY FOR SERVICES OF TESTING AND INSPECTION AGENCY FOR SPECIAL INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. COORDINATE WITH TESTING/INSPECTION AGENCY AND FURNISH INCEDENTAL LABOR AS REQUIRED.
   B. COSTS FOR RETESTING AS A RESULT OF FAILED TESTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
   C. TESTING/INSPECTION AGENCY WILL PROVIDE WRITTEN REPORT TO CONTRACTOR WITH COPIES TO THE ARCHITECT.

015000 – TEMPORARY FACILITIES AND CONTROLS:

1. CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICITY, LIGHTING, HEAT, VENTILATION, WATER, AND SANITARY SERVICES WHERE NOT CURRENTLY AVAILABLE AS NECESSARY FOR THE EXECUTION OF THE WORK.
2. CONTRACTOR SHALL PROVIDE BARRIERS AND ENCLOSURES AS REQUIRED FOR SECURITY, ENVIRONMENTAL CONTROL, DUST CONTROL, AND FIRE SAFETY SEPARATION AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

016000 – PRODUCT REQUIREMENTS:

1. DELIVERY, STORAGE AND PROTECTION REQUIREMENTS:
   A. TRANSPORT, DELIVERY, HANDLE, STORE AND PROTECT PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
   B. STORE WEATHER SENSITIVE PRODCUTS IN WEATHER TIGHT, CLIMATE CONTROLLED ENVIRONMENT.
   C. COVER PRODUCTS TO PREVENT DETERIORATION. VENTILATE TO PREVENT CONDENSATION INSIDE COVERING.
2. PRODUCT OPTIONS:
   A. PRODUCTS SPECIFIED BY REFERENCE STANDARD OR DESCRIPTION ONLY: PROVIDE PRODUCTS OF ANY MANUFACTURER MEETING SPECIFIED STANDARD OR DESCRIPTION.
   B. PRODUCTS SPECIFIED BY NAMING ONE OR MANUFACTURER: PROVIDE PRODUCTS OF NAMED MANUFACTURER AND MEETING SPECIFEID REQUIREMENTS. SUBSTITUTIONS WILL NOT BE ALLOWED.
      i. PRODUCTS SPECIFIED WITH AN "OR EQUAL" PROVISION: PROVIDE PRODUCTS OF ANY MANUFACTURER EQAUL IN QUALITY AND SUITABILITY. ACCEPTABILITY OF "OR EQUAL" PRODUCTS WILL BE DETERMINED BY THE ARCHITECT DURING THE SUBMITTAL REVIEW PROCESS.
      ii. PRODUCTS SPECIFIED WITH A "SUBSTITUTIONS PERMITTED" PROVISION: PREAPPROVAL OF SUBSTITUTION IS REQUIRED. SUBMIT DATA DEMONSTRATING ACCEPTABILITY OF SUBSTITUTION TO ARCHITECT 7 DAYS PRIOR TO BIDDING. ACCEPTABLE SUBSTITUTIONS WILL BE INDICATED BY ADDENDUM.
   C. POST–BID SUBSTITUTIONS WILL ONLY BE CONSIDERED WHEN A SPECIFIED OR APPROVED PRODUCT BECOMES UNAVAILABLE THORUGH NO FUALT OF THE CONTRACTOR.

017000 – EXECUTION AND CLOSEOUT REQUIREMENTS:

1. PUNCH LIST PROCEDURES:
   A. SUBMIT WRITTEN CERITIFICATION TO THE ARCHITECT WHEN THE WORK IS SUBSTANTIALLY COMPLETE.
   B. ARCHTIECT AND OWNER WILL INSPECT THE WORK AND WILL ISSUE A PUNCH LIST IDENTIFYING ITEMS TO BE COMPLETED/CORRECTED AS A CONDITION TO FINAL ACCEPTANCE.
2. CLOSEOUT PROCEDURES:
   A. SUBMIT WRITTEN CERTIFICATION THAT ALL WORK IS COMPLETED AND READY FOR FINAL INSPECTION.
   B. ARCHITECT AND OWNER WILL INSPECT THE WORK AND WILL DETERMINE FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS INCURRED FOR RE–INSPECTIONS OF THE WORK REQUIRED AS A RESULT OF THE CONTRACTOR'S FAILURE TO COMPLETE/CORRECT WORK INDICATED ON THE PUNCH LIST. SUCH COSTS WIL BE DEDUCTED FROM CONTRACTOR'S PROGRESS OR FINAL PAYMENT AS APPLICABLE.
   C. SUBMIT FINAL APPLICATION FOR PAYMENT INCLUDING CONDITIONAL WAIVERS OF LIEN FOR THE FULL BALANCE OF THE CONTRACT AMOUNT.
   D. SUBMIT CLOSEOUT MATERIALS AND INFORMATION:
      i. AS–BUILT DRAWINGS
      ii. APPROVED SHOP DRAWINGS
      iii. OPERATION AND MAINTENANCE MANUALS (ARRANGED BY SPECIFICATION SECTION):
      a. CONTRACTOR DIRECTORY
      b. OPERATING INSTRUCTIONS
      c. MAINTENANCE INSTRUCTIONS
      d. TEST AND BALANCE REPORTS
      e. WARRANTIES
   E. COMPLETE START–UP, DEMONSTRATION AND OWNER TRAINING OF SYSTEMS.

024119 – SELEVTIVE STRUCTURE DEMOLITION:

1. PROTECT EXISTING MATERIALS AND SURFACES TO REMAIN FROM DAMAGE.
2. PROVIDE WEATHERPROOF ENCLOSURES WHERE REQUIRED TO PROTECT THE OWNER'S EXISTING PROPERTY FROM DAMAGE.
3. REMOVE DEMOLISHED MATERIALS FROM SITE AND DISPOSE OF PROPERLY.
4. RESTORE IMPROVEMENTS TO REMAIN DAMAGED BY DEMOLITION TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO THE OWNER.

033000 – CAST–IN–PLACE CONCRETE:

1. SUBMITTALS: SUBMIT DESIGN MIX TO ARCHITECT FOR REVIEW:
2. CONCRETE MATERIALS: IN ACCORDANCE WITH ACI 301
   A. CEMENT: ASTM C150, TYPE I –NORMAL AND TYPE IA – AIR ENTRAINING.
   B. NORMAL WEIGHT AGGREGATES: ASTM C33.
      d. FINE AGGREGATE: SIZE 2NS; CLEAN, SHARP, NATURAL SAND FREE FROM LOAM, CLAY LUMPS, OR OTHER DELETERIOUS SUBSTANCES.
      ii. COARSE AGGREGATE MAXIMUM SIZE: IN ACCORDANCE WITH ACI 318.
      iii. AGGREGATE SHALL BE CLEAN, UNCOATED, CRUSHED STONE, PROCESSED FROM NATURAL ROCK OR STONE CONTAINING NO CLAY, MUD, LOAM, OF FOREIGN MATTER.
   C. ADMIXTURES:
      i. AIR ENTREAINMENT – ASTM C260.
      ii. CHEMICAL: ASTM C494/C494M.
      iii. FLY ASH AND CALCINED POZZOLAN: ASTM C618 CLASS F.
      iv. PLASTICIZING: ASTM C1017/C1017M.
   D. FIBROUS REINFORCEMENT: FIBER REINFORCING CONSISTING OF 100 PERCENT VIRGIN HOMOPOLYMER POLYPROPYLENE FIBRILLATED FIBERS; FIBERMESH 300 AS MANUFACTURED BY PROPEX CONCRETE SYTEMS OR EQUAL.
4. ACCESSORIES:
   A. BONDING AGENT: THREE COMPONENT, PRE–PROPORTIONED, WATER BASED EPOXY MODIFIED PORTLAND CEMENT BONDING AGENT AS MANUFACTURED BY EUCLID CHEMICAL COMPANY, MODEL DURALPREP AC OR EQUAL.
   B. VAPOR RETARDER: ASTM E1745 CLASS B; 6 MIL THICK CLEAR POLYETHYLENE FILM; TYPE RECOMMENDED FOR BELOW GRADE APPLICATION; AS MANUFACTURED BY GLOBAL PLASTICS, MODEL VAPORBLOCK 6 OR EQUAL. FURNISH JOINT TAPE RECOMMENDED BY MANUFACTURER.
5. JOINT DEVICES AND FILLER MATERIALS:
   A. JOINT FILLER TYPE A: ASTM D1751; ASPHALT IMPREGNATED FIBERBOARD OR FELT, 1/2 INCH THICK X FULL DEPTH OF SLAB.
   B. JOINT FILLER TYPE B: CLOSED CELL POLYETHYLENE FOAM ; 1/2 INCH THICK WITH PRESET TEAR STRIP; ALL–PURPOSE ROLL FOAM MANUFACTURED BY RIGHT POINTE OR EQUAL.
6. CONCRETE MIX:
   A. INTERIOR CONCRETE NOT SUBJECT TO FREEZE THAW: 3,500 PSI, NON AIR–ENTRAINED, FIBER REINFORCED, MAX. SLUMP 4 INCHES.
   B. MIX AND DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94.
7. PLACE CONCRETE IN ACCORDANCE WITH ACI 318.
8. INSTALL VAPOR RETARDER UNDER INTERIOR SLABS ON GRADE IN ACCORDANCE WITH ASTM E1643. LAP JOINTS MINIMUM 6 INCHES AND SEAL WATERTIGHT BY ADHESIVE APPLIED BETWEEN OVERLAPPING EDGES AND ENDS OR BY TAPING EDGES AND ENDS WITH VAPOR RETARDER MANUFACTURER RECOMMENDED TAPE.
9. SEPARATE SLABS ON GRADE FROM VERTICAL SURFACES WITH SPECIFIED JOINT FILLER. USE TYPE A JOINT FILLER IN SLABS SCHEDULED TO RECEIVE OVERLAY FINISH; USE TYPE B JOINT FILLER IN SLABS TO REMAIN UNFINISHED, OR WHERE NOTED OTHERWISE IN PLANS.
10. SCREED FLOORS AND SLABS ON GRADE LEVEL, MAINTAINING SURFACE FLATNESS OF FF OF 20.
11. FINISHING:
   A. UNDER THIN FILM FLOORING AND EXPOSED TO VIEW CONCRETE: F(F) 35 AND F(L) 25.

062000 – FINISH CARPENTRY:

1. STANDING AND RUNNING TRIM MATERIALS:
   A. SPECIES: MATCH EXISTING.
   B. PROFILE: MATCH EXISITNG.
2. ACCESSORIES
   A. ADHESIVE FOR HIGH PRESSURE DECORATIVE LAMINATES: TYPE RECOMMENDED BY LAMINATE MANUFACTURER TO SUIT APPLICATION.
   B. WALL ADHESIVE: CARTRIDGE TYPE, COMPATIBLE WITH WALL SUBSTRATE, CAPABLE OF ACHIEVING DURABLE BOND.
   C. FASTENERS AND ANCHORS:
      i. FASTENERS: ASTM A153/A153M, HOT DIPPED GALVANIZED STEEL FOR HIGH HUMIDITY AND TREATED WOOD LOCATIONS, UNFINISHED STEEL ELSEWHERE.
      ii. NAILS AND STAPLES: ASTM F1667.
   D. CONCEALED JOINT FASTENERS: THREADED STEEL.
   E. LUMBER FOR SHIMMING AND BLOCKING: SOFTWOOD LUMBER OF ANY SPECIES.
   F. SEALANT FOR BACKSPLASH TO COUNTER JOINT: CLEAR SILICONE SEALANT (TYPE S); ASTM C920, SINGLE COMPONENT, MILDEW RESISTANT, FUNGUS RESISTANT, CHEMICAL CURING, NON–SAGGING, NON–STAINING, NON–BLEEDING; FORMULATED FOR USE IN CONJUNCTION WITH PLUMBING FIXTURES, CERAMIC TILE AND OTHER CONDITIONS WHERE HIGH HUMIDITY AND TEMPERATURE EXTREMES ARE ANTICIPATED; EQUAL TO TYPE 795 AS MANUFACTURED BY DOW CORNING COMPANY.
   G. VENEER EDGE BAND: AWI AWS; STANDARD WOOD VENEER EDGE BAND MATCHING FACE VENEER.
   H. PLASTIC EDGE TRIM: AWI AWS; PVC; COLOR AS SELECTED.
   I. PRIMER: ACRYLIC PRIMER SEALER TYPE.
   J. WOOD FILLER: SOLVENT BASE, TINTED TO MATCH SURFACE FINISH COLOR.
3. FABRICATION
   A. FABRICATE FINISH CARPENTRY TO AWI AWS SECTION 6 CUSTOM GRADE.
   B. SHOP ASSEMBLE WORK FOR DELIVERY TO SITE, PERMITTING PASSAGE THROUGH BUILDING OPENINGS.
   C. WHEN NECESSARY TO CUT AND FIT ON SITE, FABRICATE MATERIALS WITH AMPLE ALLOWANCE FOR CUTTING. FURNISH TRIM FOR SCRIBING AND SITE CUTTING.
   D. APPLY HIGH PRESSURE DECORATIVE LAMINATE FINISH IN FULL UNINTERRUPTED SHEETS CONSISTENT WITH MANUFACTURED SIZES. FIT CORNERS AND JOINTS HAIRLINE; SECURE WITH CONCEALED FASTENERS.]
      i. APPLY LAMINATE BACKING SHEET TO REVERSE FACE OF HIGH PRESSURE DECORATIVE LAMINATE FINISHED SURFACES.
      ii. CAP EXPOSED EDGES WITH PLASTIC TRIM.
4. FINISHES
   A. SAND WORK SMOOTH AND SET EXPOSED NAILS AND SCREWS.
   B. APPLY WOOD FILLER IN EXPOSED NAIL AND SCREW INDENTATIONS.
   C. ON ITEMS TO RECEIVE TRANSPARENT FINISHES, USE WOOD FILLER MATCHING SURROUNDING SURFACES AND OF TYPES RECOMMENDED FOR APPLIED FINISHES.
   D. STAIN, SEAL, AND VARNISH EXPOSED TO VIEW SURFACES.
   E. SEAL INTERNAL SURFACES AND SEMI–CONCEALED SURFACES.
   F. SEAL SURFACES IN CONTACT WITH CEMENTITIOUS MATERIALS.
5. PREPARATION
   A. PRIME PAINT SURFACES OF WOOD ITEMS AND ASSEMBLIES TO BE IN CONTACT WITH CEMENTITIOUS MATERIALS.
6. DEMOLITION
   A. MODIFY AND EXTEND EXISTING FINISH CARPENTRY INSTALLATIONS USING MATERIALS AND METHODS AS SPECIFIED.
7. INSTALLATION
   A. INSTALL WORK IN ACCORDANCE WITH AWI AWS SECTION 6 CUSTOM GRADE AND MANUFACTURER'S INSTRUCTIONS.
   B. SET AND SECURE MATERIALS AND COMPONENTS IN PLACE, PLUMB AND LEVEL.
   C. CAREFULLY SCRIBE WORK ABUTTING OTHER COMPONENTS, WITH MAXIMUM GAPS OF 1/32 INCH. DO NOT USE ADDITIONAL OVERLAY TRIM TO CONCEAL LARGER GAPS.
   D. INSTALL COMPONENTS AND TRIM WITH NAILS, SCREWS, BOLTS OR WITH BLIND FASTENERS AS INDICATED.
   E. PREPARATION FOR SITE FINISHING:
      i. SET EXPOSED FASTENERS. APPLY WOOD FILLER IN EXPOSED FASTENER INDENTATIONS. SAND WORK SMOOTH.
      ii. SITE FINISHING: REFER TO SECTION 09 90 00.
8. TOLERANCES
   A. CONFORM TO AWI AWS SECTION 6 REQUIREMENTS FOR THE FOLLOWING:
      i. SMOOTHNESS.
      ii. GAPS.
      iii. FLUSHNESS.

079000 – JOINT PROTECTION:

1. SUBMIT PRODUCT DATA ON MATERIALS AND ACCESSORIES. SUBMIT COLOR SAMPLES FOR SELECTION.
2. GENERAL PURPOSE INTERIOR SEALANT: ACRYLIC EMULSION LATEX; ASTM C834, SINGLE COMPONENT, PAINTABLE.
   A. ACCEPTABLE PRODUCTS: TREMFLEX 834 MANUFACTURED BY TREMCO; OR PECORA AC–20 + SILCONE MANUFACTURED BY PECORA CORP.
   B. APPLICATIONS: JOINTS BETWEEN DOOR AND WINDOW FRAMES AND WALL SURFACES, AND OTHER INTERIOR JOINTS FOR WHICH NO OTHER TYPE OF SEALANT IS INDICATED.
3. BATHTUB/TILE SEALANT: WHITE SILICONE; ASTM C920, USES M AND A; SINGLE COMPONENT, MILDEW RESISTANT.
   A. ACCEPTABLE PRODUCTS: TREMSIL 200 MANUFACTURED BY TREMCO; PECORA 898 MANUFACTURED BY PECORA CORP; OR DOW CORNING 786 MANUFACTURED BY DOW CORNING CORP.
   B. APPLICATIONS: USE FOR JOINTS BETWEEN PLUMBING FIXTURES AND FLOOR AND WALL SURFACES, AND JOINTS BETWEEN KITCHEN AND BATHROOM TOILET ROOM COUNTER TOPS AND WALL SURFACES.

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4. INSTALLATION:
   A. PERFORM INSTALLATION IN ACCORDANCE WITH ASTM C1193.
   B. MEASURE JOINT DIMENSIONS AND SIZE JOINT BACKERS TO ACHIEVE THE FOLLOWING, UNLESS OTHERWISE INDICATED:
      i. WIDTH/DEPTH RATIO OF 2: 1.
      ii. NECK DIMENSION NO GREATER THAN 1/3 OF JOINT WIDTH.
      iii. SURFACE BOND AREA ON EACH SIDE NOT LESS THAN 75 PERCENT OF JOINT WIDTH.
   C. INSTALL SEALANT FREE OF AIR POCKETS, FOREIGN EMBEDDED MATTER, RIDGES, AND SAGS.
   D. TOOL JOINTS CONCAVE.

081214 – STANDARD STEEL FRAMES:

1. SUBMIT SHOP DRAWINGS AND PRODUCT DATA.
2. HOLLOW METAL FRAMES:
   A. INTERIOR FRAMES: FABRICATED FROM 16 GA. SHEET STEEL.
3. ACCESSORIES:
   A. BITUMINOUS COATING: NON–ASBESTOS FIBERED ASPHALT EMULSION.
   B. PRIMER: ANSI A250.10 RUST INHIBITIVE TYPE.
   C. SILENCERS: RESILIENT RUBBER FITTED INTO DRILLED HOLE.
4. FABRICATION:
   A. FABRICATE FRAMES INSTALLED IN MASONRY AS WELDED UNITS. FABRICATE FRAMES INSTALLED IN STUD CONSTRUCTION AS KNOCK–DOWN UNITS.
   B. FABRICATE FRAMES WITH HARDWARE REINFORCEMENT PLATES WELDED IN PLACE. PROVIDE MORTAR GUARD BOXES FOR FRAMES TO BE INSTALLED IN MASONRY CONSTRUCTION.
   C. REINFORCE FRAMES WIDER THAN 48 INCHES WITH ROLL FORMED STEEL CHANNELS FITTED TIGHTLY INTO FRAME HEAD, FLUSH WITH TOP.
   D. PREPARE FRAMES FOR SILENCERS. PROVIDE THREE SINGLE SILENCERS FOR SINGLE DOORS ON STRIKE SIDE. PROVIDE TWO SINGLE SILENCERS ON FRAME HEAD AT DOUBLE DOORS.
   E. ATTACH FIRE RATED LABEL TO EACH FIRE RATED FRAME.
5. SHOP FINISHING
   A. STEEL SHEET: GALVANIZED TO ASTM A653/A653M G60.
   B. PRIMER: BAKED.
   C. COAT INSIDE OF FRAME PROFILE WITH BITUMINOUS COATING TO MINIMUM THICKNESS OF 1/16 INCH.
6. INSTALLATION
   A. INSTALL FRAMES IN ACCORDANCE WITH ANSI A250.8.
   B. COORDINATE WITH GYPSUM BOARD WALL CONSTRUCTION FOR ANCHOR PLACEMENT.
   C. COORDINATE INSTALLATION OF FRAMES WITH INSTALLATION OF HARDWARE SPECIFIED IN SECTION 087100 AND DOORS IN SECTION 081416.
7. ERECTION TOLERANCES: MAXIMUM DIAGONAL DISTORTION: 1/16 INCH MEASURED WITH STRAIGHT EDGES, CROSSED CORNER TO CORNER.

081416 – FLUSH WOOD DOORS:

1. SUBMIT PRODUCT DATA AND SHOP DRAWINGS FOR REVIEW. SUBMIT COLOR SAMPLES FOR SELECTION.
2. PERFORM WORK IN ACCORDANCE WITH AWI AWS SECTION 9, PREMIUM GRADE. FINISH DOORS IN ACCORDANCE WITH AWI AWS SECTION 5 PREMIUM GRADE.
3. FLUSH INTERIOR DOORS: SOLID CORE; THICKNESS: 1–3/4 INCHES; PC CORE; FIVE PLY FACE CONSTRUCITON; HEAVY DUTY PERFORMANCE DUTY LEVEL.
4. INTERIOR DOOR FACES: TRANSPARENT FINISHED PLAIN SLICED, BOOK MATCHED RED OAK VENEER.
5. FABRICATION:
   A. FABRICATE DOORS IN ACCORDANCE WITH AWI AWS SECTION 9 REQUIREMENTS.
   B. VERTICAL EXPOSED EDGE OF STILES: WOOD VENEER MATCHING DOOR FACING.
   C. FIT DOOR EDGE TRIM TO EDGE OF STILES AFTER APPLYING VENEER FACING.
   D. BOND EDGE BANDING TO CORES.
   E. FACTORY MACHINE DOORS FOR FINISH HARDWARE IN ACCORDANCE WITH HARDWARE REQUIREMENTS AND DIMENSIONS. DO NOT MACHINE FOR SURFACE HARDWARE. FURNISH SOLID BLOCKING FOR THROUGH BOLTED HARDWARE.
   F. FACTORY FIT DOORS FOR FRAME OPENING DIMENSIONS IDENTIFIED ON SHOP DRAWINGS.
   G. PROVIDE EDGE CLEARANCES IN ACCORDANCE WITH AWI AWS SECTION 9.
6. FINISHES
   A. TRANSPARENT FINISH SYSTEM: STAINED, COLOR AND SHEEN AS SELECTED.
   B. SEAL DOOR TOP EDGE WITH COLOR SEALER TO MATCH DOOR FACING.
7. ACCESSORIES
   A. DOOR GLAZING: AS SPECIFIED IN SECTION 088000.
   B. GLAZING STOPS: WOOD, OF SAME SPECIES AS DOOR FACING.
8. INSTALLATION
   A. INSTALL DOORS IN ACCORDANCE WITH AWI AWS SECTION 9 AND MANUFACTURER'S INSTRUCTIONS.
   B. FIELD FITTING AND TRIMMING: TRIM NON–RATED DOOR WIDTH BY CUTTING EQUALLY ON BOTH JAMB EDGES; TRIM DOOR HEIGHT BY CUTTING BOTTOM EDGES TO MAXIMUM OF 3/4 INCH.
   C. COORDINATE INSTALLATION OF DOORS WITH INSTALLATION OF FRAMES SPECIFIED IN SECTION 081214 AND HARDWARE SPECIFIED IN SECTION 087100.
   D. COORDINATE INSTALLATION OF GLASS AND GLAZING SPECIFIED IN SECTION 088000.
9. TOLERANCES:
   A. MAXIMUM DIAGONAL DISTORTION (WARP): 1/8 INCH MEASURED WITH STRAIGHT EDGE OR TAUT STRING, CORNER TO CORNER, OVER IMAGINARY 36 X 84 INCHES SURFACE AREA.
   B. MAXIMUM VERTICAL DISTORTION (BOW): 1/8 INCH MEASURED WITH STRAIGHT EDGE OR TAUT STRING, TOP TO BOTTOM, OVER IMAGINARY 36 X 84 INCHES SURFACE AREA.
   C. MAXIMUM WIDTH DISTORTION (CUP): 1/8 INCH MEASURED WITH STRAIGHT EDGE OR TAUT STRING, EDGE TO EDGE, OVER IMAGINARY 36 X 84 INCHES SURFACE AREA.

087100 – DOOR HARDWARE:

1. FURNISH FINISH HARDWARE COMPLYING WITH THE REQUIREMENTS OF LAWS, CODES, ORDINANCES AND GUIDELINES OF GOVERNMENTAL AUTHORITIES HAVING JURISDICTION: NFPA 101, "LIFE SAFETY CODE", 2000 EDITION; NFPA 80, "INSTALLATION OF FIRE DOORS AND WINDOWS", 1999 EDITION; MICHIGAN BUILDING CODE – CURRENT EDITION; ANSI A117.1–2003 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES.
2. SUBMIT SHOP DRAWINGS AND PRODUCT DATA. INCLUDE HARDWARE SCHEDULE ORGANIZED INTO "HARDWARE SETS", INDICATING COMPLETE DESIGNATIONS OF EVERY ITEM REQUIRED FOR EACH DOOR OR OPENING. INCLUDE THE FOLLOWING INFORMATION FOR EACH ITEM OF FINISH HARDWARE: MANUFACTURER; TYPE; STYLE; FUNCTION; SIZE; DEGREE AND DIRECTION OF OPENING SWING ("HAND"); FINISH; FASTENERS; LOCATION OF HARDWARE SET CROSS–REFERENCED TO INDICATIONS ON FLOOR PLANS, DOOR, SCHEDULE, AND FRAME SCHEDULE; EXPLANATION OF ALL ABBREVIATIONS, SYMBOLS, CODES, ETC. CONTAINED IN SCHEDULE; MOUNTING HEIGHTS AND LOCATIONS FOR HARDWARE; DOOR AND FRAME SIZES AND MATERIALS; KEYING INFORMATION.
3. LOCK CYLINDERS AND KEYING: KEY AS DIRECTED BY OWNER USING SCHLAGE EVEREST C123 KEYWAY.
4. INSTALLATION:
   A. INSTALL EACH ITEM IN ITS PROPER LOCATION FIRMLY ANCHORED INTO POSITION, LEVEL AND PLUMB, AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
   B. HANDING, HARDWARE HEIGHTS, LOCATIONS, AND DEGREE OF OPENING SWING ARE INDICATED IN THE DRAWINGS AND FINISH HARDWARE SCHEDULE.
   C. MOUNT FINISH HARDWARE UNITS AT RECOMMENDED HEIGHTS AND LOCATIONS AS SHOWN IN APPROVED FINISH HARDWARE SCHEDULE, COMPLYING WITH REQUIREMENTS OF THE A.D.A., AND PERTINENT PROVISIONS OF THE BUILDING CODE; TO FUNCTION AT PROPER DEGREE OF OPENING OF DOORS AS INDICATED ON APPROVED FINISH HARDWARE SCHEDULE; BY MANUFACTURER'S TEMPLATE.
   D. PRIOR TO FINAL FINISHING OF THE DOOR. REMOVE HARDWARE TO ALLOW FINISHING OF DOOR, AND PERMANENTLY REINSTALL HARDWARE UPON COMPLETION OF FINISHING OPERATION.
   E. REINFORCE, WHERE NECESSARY, THE SUBSTRATE TO ASSURE PROPER ATTACHMENT.
   F. DRILL AND COUNTERSINK UNITS WHICH ARE NOT FACTORY–PREPARED FOR ANCHORAGE FASTENERS.
   G. SPACE FASTENERS AND ANCHORS IN ACCORDANCE WITH INDUSTRY STANDARDS.
   H. INSTALLING CLOSERS: MOUNT CLOSERS PER MANUFACTURER'S TEMPLATE, AND SECURE THE ARCHITECT'S APPROVAL OF THE CLOSER INSTALLATION. THE CONTRACTOR WILL BE REQUIRED TO REPLACE DOORS ONTO WHICH CLOSERS ARE IMPROPERLY MOUNTED AT NO ADDITIONAL COST TO THE OWNER. REPAIR OR PATCHING OF SUCH DOORS WILL NOT BE ACCEPTABLE.
   I. INSTALLING THRESHOLDS AT EXTERIOR DOORS: SET IN FULL BED OF BUTYL–RUBBER, OR POLYISOBUTYLENE MASTIC SEALANT.
5. HARDWARE SETS:

HARDWARE GROUP NO. 1
FOR USE ON MARK/DOOR #(S): 109A.1

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:
(3) HINGE; IVES 5BB1 4.5 X 4.5; 652
(1) PRIVACY LOCK; SCHLAGE AL40S NEP; 626
(1) KICK PLATE; IVES 8400 10" X 2" LDW; 630
(1) WALL STOP; IVES WS407CVX; 630

HARDWARE GROUP NO. 2
FOR USE ON MARK/DOOR #(S): 110.1

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:
(3) HINGE; IVES 5BB1 4.5 X 4.5; 652
(1) PRIVACY LOCK; SCHLAGE AL40S NEP; 626
(1) SURFACE CLOSER; LCN 4111 EDA; 689
(1) KICK PLATE; IVES 8400 10" X 2" LDW; 630
(1) WALL STOP; IVES WS407CVX; 630

088000 – GLAZING:

1. SUBMIT PRODUCT DATA ON MATERIALS AND ACCESSORIES.
2. SAFETY GLASS UNITS: CLEAR TEMPERED GLASS, 1/4 INCH THICK; ASTM C1048, TYPE 1 TRANSPARENT FLAT, QUALITY Q3, FT FULLY TEMPERED, CONDITION A UNCOATED, EXPOSED EDGES POLISHED.
3. GLAZING ACCESSORIES:
   G. SLIDING WINDOW TRACK ASSEMBLY AS MANUFACTURED BY EPCO HARDWARE; ASSEMBLY NO. 15 CONSISTING OF UPPER GUIDE SET, SHOES, DOUBLE TRACKS, TRACK BASE, ROLLERS, CLIP GUIDES, GLAZING VINYL, AND MOUNTING SCREWS. FINISH: CLEAR ANODIZED ALUMINUM.

092116 – GYPSUM BOARD ASSEMBLIES:

6. SUBMIT PRODUCT DATA ON MATERIALS AND ACCESSORIES.
7. MATERIALS AND ACCESSORIES:
   A. FRAMING MATERIALS: ASTM C645; Z FURRING AND CHANNELS AS MANUFACTERED BY DIETRICH INDUSTRIES, OR EQUAL.
   B. GYPSUM BOARD: ASTM C1396; TYPE X, 5/8 INCH THICK, SQUARE ENDS, TAPERED EDGES.
   C. METAL ACCESSORIES: ASTM C1047; CORNER BEADS, EDGE TRIM, AND EXPANSION JOINTS; GALVANIZED. TYPE LC, L, AND U BEAD AS REQUIRED.
   D. JOINT MATERIALS: ASTM C475/C475M; REINFORCING TAPE, JOINT COMPOUND, AND WATER.
3. INSTALLATION
   A. INSTALL GYPSUM BOARD IN ACCORDANCE WITH ASTM C840, GA–216, AND GA–600.
   B. ERECT SINGLE LAYER GYPSUM BOARD IN MOST ECONOMICAL DIRECTION, WITH ENDS AND EDGES OCCURRING OVER FIRM BEARING.
   C. USE SCREWS WHEN FASTENING GYPSUM BOARD FURRING OR FRAMING.
   D. PLACE CORNER BEADS AT EXTERNAL CORNERS. USE LONGEST PRACTICAL LENGTH. PLACE EDGE TRIM WHERE GYPSUM BOARD ABUTS DISSIMILAR MATERIALS.
4. JOINT TREATMENT:
   A. TAPE, FILL, AND SAND EXPOSED JOINTS, EDGES, AND CORNERS TO PRODUCE SMOOTH SURFACE READY TO RECEIVE FINISHES.
   B. FEATHER COATS ON TO ADJOINING SURFACES SO THAT CAMBER IS MAXIMUM 1/32 INCH.
   C. TAPING, FILLING, AND SANDING IS REQUIRED AT ALL EXPOSED TO VIEW SURFACES
   D. TAPING AND FILLING IS REQUIRED AT CONCEALED SURFACES.

093000 – TILING

1. SUBMIT SAMPLES FOR SELECTION.
2. MATERIALS AND ACCESSORIES:
   A. CERAMIC TILE 1 (CT–1): ANSI A137.1, SIMULATED SLATE, "TUNDRA" SERIES AS MANUFACTURED BY AMERICAN FLORIUM: SIZE 12 x 12 x 1/4 INCH; SQUARE; CUSHIONED EDGE; UNPOLISHED; COLOR AS SELECTED w/ MATCHING 4 INCH HIGH BASE MADE FROM CUT TILE.
   B. CERAMIC TILE 2 (CT–2): ANSI A137.1, UNGLAZED CERAMIC MOSAIC: SIZE 2 x 2 x 1/4 INCH; SQUARE; CUSHIONED EDGE; UNGLAZED MATTE FINISH; COLOR AS SELECTED.
   C. CERAMIC TILE 3 (CT–3): ANSI A137.1, GLAZED CERAMIC: SIZE 4 x 4 x 1/4 INCH; SQUARE; CUSHIONED EDGE; GLAZED GLOOS FINISH; COLOR AS SELECTED.
   D. MORTAR BED MATERIALS: ANSI A108.1B; PORTLAND CEMENT, SAND, LATEX ADDITIVE, AND WATER; PROPORTIONED IN ACCORDANCE WITH APPLICABLE CODE.
   E. MORTAR BOND COAT MATERIALS: LATEX–PORTLAND CEMENT TYPE: ANSI A118.4.
   F. GROUT MATERIALS:
      i. GROUT: LATEX–PORTLAND CEMENT TYPE AS SPECIFIED IN ANSI A118.6; COLOR AS SELECTED.
      ii. SILICONE RUBBER GROUT: SILICONE SEALANT, MOISTURE AND MILDEW RESISTANT TYPE, COMPLYING WITH ANSI A118.6, COLOR AS SELECTED; USE FOR SHOWER FLOORS AND WALLS.
   G. WATERPROOFING MEMBRANE AT SHOWER FLOORS AND WALLS: 9235 WATERPROOFING MEMBRANE AS M ANUFACTURED BY LATICRETE.
   H. MEMBRANE AT OTHER WALLS SPECIFIED: 4 MIL THICK POLYETHYLENE FILM.
   I. TILE BACKER BOARD:
      i. BACKER BOARDS FOR SHOWER AREAS: CEMENTITIOUS BACKER UNITS; ANSI A118.9; HIGH DENSITY, CEMENTITIOUS, GLASS FIBER REINFORCED, THCKNESS INDICATED; 2 INCH WIDE COATED GLASS FIBER TAPE FOR JOINTS AND CORNERS. DUROCK AS MANUFACTURED BY USG OR EQUAL.
      ii. BACKER BAORDS FOR OTHER AREAS: ASTM C–1178, GLASS MAT WATER–RESISTANT GYPSUM TILE BACKER BOARD, TYPE X, THICKNESS INDICATED; 2 INCH WIDE COATED GLASS FIBER TAPE FOR JOINTS AND CORNERS. DENSSHIELD TILE BACKER BY GEORGIA PACIFIC OR EQUAL.
   J. THRESHOLDS AT SHOWER OPENINGS AND WHERE SHOWN ON DRAWINGS: MARBLE TYPE, WHITE COLOR, HONED FINISH, 4 X 1/2 INCH SIZE BY FULL WIDTH OF OPENING, BEVELED BOTH SIDES TO MEET ADA / MICHIGAN BARRIER FREE REQUIREMENTS, RADIUSED EDGES FROM BEVEL TO VERTICAL FACE.
   K. THRESHOLDS AT CHANGES IN FLOOR FINISH: EXTRUDED ALUMINUM, WITH INTEGRAL EDGE STRIP, WHERE FLOOR TILE ABUTS DISSIMILAR FLOORING MATERIALS (IE. CARPETING, VCT).
   L. EXTERNAL CORNER TRIM: PROVIDE DECORATIVE BULLNOSED METAL EDGE TRIM AT EXTERNAL CORNERS IN WALL ASSEMBLIES, PROFILE COLOR AND FINISH AS SELECTED BY ARCHITECT.
3. INSTALLATION:
   A. VERIFY SURFACES ARE READY TO RECEIVE WORK.
   B. PROTECT SURROUNDING WORK FROM DAMAGE.
   C. VACUUM CLEAN SURFACES.
   D. SEAL SUBSTRATE SURFACE CRACKS WITH FILLER. LEVEL EXISTING SUBSTRATE SURFACES TO ACCEPTABLE FLATNESS TOLERANCES.
   E. INSTALL BACKER BOARD IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. TAPE JOINTS AND CORNERS, COVER WITH SKIM COAT OF DRY–SET MORTAR TO FEATHER EDGE.
   F. INSTALL WATERPROOF MEMBRANE PER MANUFACTURES INSTALLATION INSTRUCTIONS AND ANSI A108.13.
   G. INSTALL TILE, THRESHOLDS, AND GROUT IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF ANSI A108.1 THROUGH A108.10, AND TCA HANDBOOK RECOMMENDATIONS.
   H. LAY TILE TO PATTERN INDICATED. DO NOT INTERRUPT TILE PATTERN THROUGH OPENINGS.
   I. PLACE THRESHOLDS AND EDGE STRIPS AT EXPOSED TILE EDGES AND LOCATIONS INDICATED.
   J. CUT AND FIT TILE TO PENETRATIONS THROUGH TILE, LEAVING SEALANT JOINT SPACE. FORM CORNERS AND BASES NEATLY. ALIGN FLOOR, BASE AND WALL JOINTS.
   K. PLACE TILE WITH JOINTS UNIFORM IN WIDTH, SUBJECT TO VARIANCE IN TOLERANCE ALLOWED IN TILE SIZE. MAKE JOINTS WATERTIGHT, WITHOUT VOIDS, CRACKS, EXCESS MORTAR, OR EXCESS GROUT.
      i. CERAMIC TILE: 1/8 INCH.
      ii. PORCELAIN TILE: 1/4 INCH.
   L. FORM INTERNAL ANGLES SQUARE. M. PROVIDE DECORATIVE BULLNOSED METAL TRIM FOR EXTERNAL ANGLES.
   N. SOUND TILE AFTER SETTING. REPLACE HOLLOW SOUNDING UNITS.
   O. ALLOW TILE TO SET FOR A MINIMUM OF 48 HOURS PRIOR TO GROUTING.
   P. GROUT TILE JOINTS.
   Q. APPLY SEALANT TO JUNCTION OF TILE AND DISSIMILAR MATERIALS AND JUNCTION OF DISSIMILAR PLANES.
4. INSTALLATION METHODS:
   A. FLOORS – THIN–SET METHODS:
      i. OVER INTERIOR CONCRETE SUBSTRATES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F113, DRY–SET OR LATEX–PORTLAND CEMENT BOND COAT, UNLESS OTHERWISE INDICATED.
   B. SHOWER WALLS:
      i. AT TILED SHOWER RECEPTORS INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD B415, MORTAR BED FLOOR, AND W244, THIN–SET OVER CEMENTITIOUS BACKER UNIT WALLS.
      ii. GROUT WITH SILICONE RUBBER GROUT.
      iii. SEAL JOINTS BETWEEN TILE WORK AND OTHER WORK WITH SEALANT TYPE SPECIFIED IN SECTION 079000.
5. CLEAN TILE AND GROUT SURFACES.
6. DO NOT PERMIT TRAFFIC OVER FINISHED FLOOR SURFACE FOR 4 DAYS AFTER INSTALLATION.

095113 – SUSPENDED ACOUSTICAL CEILINGS:

1. SUBMIT PRODUCT DATA ON MATERIALS AND ACCESSORIES.
2. MATERIALS AND ACCESSORIES:
   A. SUSPENDED ACOUSTICAL TILE 1 (SAT–1): ASTM E1264, TYPE III, FORM 2, EQUAL TO CORTEGA AS MANUFACTURED BY ARMSTRONG WORLD INDUSTRIES.
   B. CEILING SUSPENSION GRID: NON–FIRE RATED, ASTM C635, INTERMEDIATE; COMPONENTS DIE CUT AND INTERLOCKING, EQUAL TO PRELUDE AS MANUFACTURED BY ARMSTRONG WORLD INDUSTRIES, SUSPENDED FROM BUILDING STRUCTURAL COMPONENTS WITH A MAXIMUM DEFLECTION LIMIT OF L/360.
1. LAY–IN GRID SUSPENSION SYSTEM:
   A. INSTALL SUSPENSION SYSTEM IN ACCORDANCE WITH ASTM C635, ASTM C636 AND AS SUPPLEMENTED IN THIS SECTION.
   B. LOCATE SYSTEM ON ROOM AXIS ACCORDING TO REFLECTED PLAN.
   C. INSTALL AFTER MAJOR ABOVE CEILING WORK IS COMPLETE. COORDINATE LOCATION OF HANGERS WITH OTHER WORK.
   D. HANG SUSPENSION SYSTEM INDEPENDENT OF WALLS, COLUMNS, DUCTS, PIPES AND CONDUIT. WHERE CARRYING MEMBERS ARE SPLICED, AVOID VISIBLE DISPLACEMENT OF FACE PLANE OF ADJACENT MEMBERS.
   E. WHERE DUCTS OR OTHER EQUIPMENT PREVENT REGULAR SPACING OF HANGERS, REINFORCE NEAREST AFFECTED HANGERS AND RELATED CARRYING CHANNELS TO SPAN EXTRA DISTANCE.
   F. DO NOT SUPPORT COMPONENTS ON MAIN RUNNERS OR CROSS RUNNERS WHEN WEIGHT CAUSES TOTAL DEAD LOAD TO EXCEED DEFLECTION CAPABILITY. SUPPORT FIXTURE LOADS BY SUPPLEMENTARY HANGERS LOCATED WITHIN 6 INCHES OF EACH CORNER; OR SUPPORT COMPONENTS INDEPENDENTLY.
   G. DO NOT ECCENTRICALLY LOAD SYSTEM, OR PRODUCE ROTATION OF RUNNERS.
   H. PERIMETER MOLDING: INSTALL EDGE MOLDING AT INTERSECTION OF CEILING AND VERTICAL SURFACES. OVERLAP AND RIVET CORNERS.
4. ACOUSTIC UNITS:
   A. FIT ACOUSTIC UNITS IN PLACE, FREE FROM DAMAGED EDGES OR OTHER DEFECTS DETRIMENTAL TO APPEARANCE AND FUNCTION.
   B. CUT TO FIT IRREGULAR GRID AND PERIMETER EDGE TRIM.
   C. CUT SQUARE REVEAL EDGES TO FIELD CUT UNITS.
   D. INSTALL HOLD–DOWN CLIPS TO RETAIN PANELS TIGHT TO GRID SYSTEM IN VESTIBULES AND WITHIN 20 FT OF EXTERIOR DOORS IN CORRIDORS WITHOUT VESITBULES.
5. TOLERANCES: MAXIMUM VARIATION FROM FLAT AND LEVEL SURFACE: 1/8 INCH IN 10 FEET. MAXIMUM VARIATION FROM PLUMB OF GRID MEMBERS CAUSED BY ECCENTRIC LOADS: 2 DEGREES.

096816 SHEET CARPETING

1. SUBMIT SAMPLES FOR SELECTION.
2. CARPET MATERIALS: COMMERCIAL GRADE LEVEL LOOP, GLUE DOWN. INCLUDE COST OF INSTALLATION (AND ACCESSORY MATERIALS) AND $15.00 PER YARD ALLOWANCE FOR PURCHASE OF CARPETING IN BID. OWNER WILL SELECT PRODUCT FROM THOSE PROPOSED BY SUPPLIER/INSTALLER.
   A. WALL BASE: WOOD TO MATCH EXISTING AS SPECIFIED IN SECTION 062000.
   B. ADHESIVES: WATERPROOF; TYPE RECOMMENDED BY MANUFACTURER.
3. SUBFLOOR FILLER: WHITE PRE–MIX LATEX; TYPE RECOMMENDED BY FLOORING MANUFACTURER.
4. PREPARATION:
   A. VERIFY THAT SUBSTRATE SURFACES ARE SMOOTH AND FLAT WITH MAXIMUM VARIATION OF 1/8" INCH IN 10' FT. AND ARE READY TO RECEIVE WORK. CORRECT ANY DEVIATIONS IN SUBSTRATE TO THE SATISFACTION OF THE OWNER/ARCHITECT.
   B. REMOVE SUB–FLOOR RIDGES AND BUMPS. FILL MINOR OR LOCAL LOW SPOTS, CRACKS, JOINTS, HOLES, AND OTHER DEFECTS WITH SUB–FLOOR FILLER. APPLY, TROWEL, AND FLOAT FILLER TO ACHIEVE SMOOTH, FLAT, HARD SURFACE. PROHIBIT TRAFFIC UNTIL FILLER IS CURED.
   C. VACUUM CLEAN SUBSTRATE.
7. INSTALLATION – CARPET
   A. INSTALL SHEET CARPET IN ACCORDANCE WITH CRI CARPET INSTALLATION STANDARD AND MANUFACTURERS INSTRUCTIONS.
   B. INSTALLATION OF CARPET MUST PROCEED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. THIS INCLUDES THE USE OF ADHESIVES AND SEAM SEALERS SUPPLIED BY THE MANUFACTURER.
   C. VERIFY SHEET CARPET MATCH BEFORE CUTTING TO ENSURE MINIMAL VARIATION BETWEEN DYE LOTS.
   D. LAY OUT SHEET CARPET AND LOCATE SEAMS IN ACCORDANCE WITH CRI CARPET INSTALLATION STANDARD SECTION 6.2:
      i. LOCATE SEAMS IN AREA OF LEAST TRAFFIC, OUT OF AREAS OF PIVOTING TRAFFIC, AND PARALLEL TO MAIN TRAFFIC.
      ii. DO NOT LOCATE SEAMS PERPENDICULAR THROUGH DOOR OPENINGS.
      iii. ALIGN RUN OF PILE IN SAME DIRECTION AS ANTICIPATED TRAFFIC AND IN SAME DIRECTION ON ADJACENT PIECES.
      iv. LOCATE CHANGE OF COLOR OR PATTERN BETWEEN ROOMS UNDER DOOR CENTERLINE.
      v. PROVIDE MONOLITHIC COLOR, PATTERN, AND TEXTURE MATCH WITHIN EACH CONTIGUOUS AREA.
   E. INSTALL SHEET CARPET TIGHT AND FLAT ON SUBFLOOR, WELL FASTENED AT EDGES, WITH UNIFORM APPEARANCE.
   F. DOUBLE CUT SHEET CARPET SEAMS , WITH ACCURATE PATTERN MATCH. MAKE CUTS STRAIGHT, TRUE, AND UNFRAYED. APPLY SEAM ADHESIVE TO CUT EDGES OF WOVEN SHEET CARPET IMMEDIATELY.
   G. DIRECT GLUE–DOWN INSTALLATION: CRI CARPET INSTALLATION STANDARD SECTION 13.
      i. APPLY CONTACT ADHESIVE TO FLOOR UNIFORMLY AT RATE RECOMMENDED BY MANUFACTURER. AFTER SUFFICIENT OPEN TIME, PRESS SHEET CARPET INTO ADHESIVE.
      ii. APPLY SEAM ADHESIVE. LAY ADJOINING PIECE WITH SEAM STRAIGHT, NOT OVERLAPPED OR PEAKED, AND FREE OF GAPS.
      iii. ROLL WITH APPROPRIATE ROLLER FOR COMPLETE CONTACT OF ADHESIVE TO SHEET CARPET BACKING.
   H. TRIM SHEET CARPET NEATLY AT WALLS AND AROUND INTERRUPTIONS.
   I. COMPLETE INSTALLATION OF EDGE STRIPS, CONCEALING EXPOSED EDGES.
8. CLEANING AND PROTECTION
   A. REMOVE EXCESS ADHESIVE WITHOUT DAMAGE, FROM FLOOR, BASE, AND WALL SURFACES.
   B. CLEAN AND VACUUM SHEET CARPET SURFACES.
   C. COVER CARPETING IN TRAFFIC AREAS WITH PROTECTIVE NON–STAINING BUILDING PAPER. DO NOT USE PLASTIC SHEETING.

099000 – PAINTING AND COATING:

1. SUBMIT PRODUCT DATA ON MATERIALS AND ACCESSORIES. SUBMIT SAMPLES FOR COLOR AND FINISH SELECTION.
2. PAINT SYSTEMS:
   A. INTERIOR PAINT SYSTEM 1 (IPS–1): SATIN LATEX WITH APPROPRIATE PRIMER FOR SUBSTRATE BEING PAINTED, COLOR AS SELECTED BY OWNER.
   B. INTERIOR PAINT SYSTEM 2 (IPS–2): EPOXY PAINT, GLOSS, WATER BASED WITH APPROPRIATE PRIMER FOR SUBSTRATE BEING PAINTED, COLOR AS SELECTED BY OWNER.
   C. INTERIOR PAINT SYSTEM 3 (IPS–3): SEMI–GLOSS ENAMEL WITH APPROPRIATE PRIMER FOR SUBSTRATE BEING PAINTED, COLOR AS SELECTED BY OWNER.
   D. INTERIOR TRANSPARENT FINISH SYSTEM (ITF): OIL STAIN AND SATIN FINISH INCLUDING PASTE WOOD FILLER, INTERIOR OIL STAIN, SANDING SEALER AND SATIN FINISH; COLOR TO MATCH EXISTING.
3. PREPARATION:
   A. SURFACE APPURTENANCES: REMOVE ELECTRICAL PLATES, HARDWARE, LIGHT FIXTURE TRIM, ESCUTCHEONS, AND FITTINGS PRIOR TO PREPARING SURFACES OR FINISHING.
   B. SURFACES: CORRECT DEFECTS AND CLEAN SURFACES CAPABLE OF AFFECTING WORK OF THIS SECTION. REMOVE OR REPAIR EXISTING COATINGS EXHIBITING SURFACE DEFECTS.
   C. PREPARE SURFACES TO RECEIVE PAINT AS RECOMMENDED BY PAINT MANUFACTURER.
4. APPLICATION:
   A. APPLY PAINTS AND COATINGS IN ACCORDANCE WITH MANUFACTUERS INSTRUCTIONS.
   B. DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY. ALLOW APPLIED COATS TO DRY BEFORE NEXT COAT IS APPLIED.
   C. APPLY EACH COAT TO UNIFORM APPEARANCE. APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS SPECIFIED OTHERWISE.
   D. SAND WOOD AND METAL SURFACES LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
   E. VACUUM CLEAN SURFACES OF LOOSE PARTICLES. USE TACK CLOTH TO REMOVE DUST AND PARTICLES JUST PRIOR TO APPLYING NEXT COAT.
   F. WHERE CLEAR FINISHES ARE REQUIRED, TINT FILLERS TO MATCH WOOD. WORK FILLERS INTO GRAIN BEFORE SET. WIPE EXCESS FROM SURFACE.
   G. PRIME CONCEALED SURFACES OF INTERIOR AND EXTERIOR WOODWORK WITH PRIMER PAINT.
   H. PRIME CONCEALED SURFACES OF INTERIOR WOOD SURFACES SCHEDULED TO RECEIVE STAIN OR VARNISH FINISH WITH GLOSS VARNISH REDUCED 25 PERCENT WITH THINNER.

102800 – TOILET, BATH AND LAUNDRY ACCESSORIES:

1. SUBMIT SHOP DRAWINGS AND PRODUCT DATA. SUBMIT SAMPLES FOR COLOR AND FINISH SELECTION.
2. ACCESSORIES:
   A. TOILET TISSUE DISPENSER (TTD): SURFACE MOUNTED SINGLE ROLL TOILET TISSUE DISPENSER OF CHROME PLATED CAST BRASS. EQUAL TO BRADLEY MODEL 508.
   B. COMBINATION PAPER TOWEL DISPENSER / DISPOSAL (PTD/D RECESSED): RECESSED COMBINATION TOWEL DISPENSER AND WASTE RECEPTACLE FABRICATED OF TYPE 304 (18–8), STAINLESS STEEL WITH EXPOSED SURFACES IN SATIN FINISH. DOOR OF NONFLEXING CONSTRUCTION, EQUIPPED WITH FULL LENGTH PIANO HINGE AND TUMBLER LOCK. TOWEL DISPENSER CAPACITY 475 MULTI–FOLD OR 350 C–FOLD TOWELS. REMOVABLE 2 GAL. STAINLESS STEEL WASTE RECEPTACLE. EQUAL TO BRADLEY MODEL 2291.
   C. SOAP DISPENSER (SD): SURFACE MOUNTED LIQUID SOAP DISPENSER FABRICATED OF 20 GUAGE SATIN FINISH STAINLESS STEEL. DISPENSER SHALL HAVE COMPLETELY CONCEALED MOUNTING, VANDAL–RESISTANT FILLER HOLE COVER AND SIGHT GAUGE. PUSH–IN CORROSION–RESISTANT LIQUID SOAP VALVE OPERATING WITH LESS THAN 5 LBS. OF FORCE. CAPACITY: 40 OZ. LIQUID SOAP. EQUAL TO BRADLEY MODEL 6562.
   D. MIRRORS (MIR): MIRROR SHALL BE 18" X 30" SIZE AND SHALL BE FRAMED WITH HEAVY–GAUGE, ONE PIECE ROLL–FORMED STAINLESS STEEL ANGLE 3/4" X 3/4" WITH CORNERS HELIARC WELDED AND GROUND SMOOTH TO A SATIN FINISH. DOUBLE STRENGTH CONTINUOUS INTEGRAL STIFFENER ON ALL SIDES FOR ADDED STRENGTH. BEVEL ON FRONT OF ANGLE SECURES FRAME FLUSH AGAINST MIRROR. BACK SHALL BE FABRICATED OF 20–GAUGE GALVANIZED STEEL, SECURED TO FRAME WITH CONCEALED SCREWS, EQUIPPED WITH INTEGRAL HORIZONTAL HANGING BRACKETS. MIRROR SHALL BE FIRST QUALITY 1/4" FLOAT GLASS PROTECTED BY A SHOCK ABSORBING NEOPRENE TUBING. WALL HANGER SHALL BE COLD ROLLED 18 GAUGE STEEL. EQUAL TO BRADLEY MODEL 780.
   E. FEMININE NAPKIN DISPOSAL (FND): SURFACE–MOUNTED SANITARY NAPKIN DISPOSAL SHALL BE TYPE–304 22 GAUGE STAINLESS STEEL WITH ALL–WELDED CONSTRUCTION; EXPOSED SURFACES SHALL HAVE SATIN FINISH. COVER SHALL BE FABRICATED OF TYPE 304 22 GAUGE STAINLESS STEEL AND SECURED TO CONTAINER WITH A FULL–LENGTH STAINLESS STEEL PIANO–HINGE. COVER SHALL HAVE INTEGRAL FINGER TAB FOR OPENING COVER. EQUAL TO BRADLEY MODEL 4781–15.
   F. SHOWER CURTAIN ROD/CURTAIN/HOOKS (SCR): CONCEALED MOUNTED SHOWER CURTAIN ROD SHALL BE FABRICATED OF TYPE 304 (18–8), 18 GAUGE STAINLESS STEEL OF SEAMLESS CONSTRUCTION. MOUNTING FLANGES SHALL BE OF GLASS POLYPROPYLENE WITH SNAP–ON VANDAL–RESISTANT PROTECTIVE ESCUTCHEONS. EQUAL TO BRADLEY MODEL 9538–36. SHOWER CURTAIN SHALL BE 6 GAUGE VINYL MATERIAL WITH HEMMED TOP EDGES AND ALUMINUM GROMMETS AT 6 INCH CENTERS. EQUAL TO BRADLEY MODEL 9533–36. PROVIDE REQUIRED NUMBER OF SHOWER CURTAIN HOOKS, STAINLESS STEEL SPRING WIRE WITH SNAP FASTENER. EQUAL TO BRADLEY MODEL 9536.
   G. ROBE/TOWEL HOOK (RT/H): SURFACE MOUNTED, FABRICATED OF TYPE 304, HEAVY GAUGE NO. 4 SATIN FINISH STAINLESS STEEL WITH CONCEALED MOUNT. EQUAL TO BRADLEY MODEL 9314.
3. INSTALLATION:
   A. INSTALL ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
   B. INSTALL PLUMB AND LEVEL, SECURELY AND RIGIDLY ANCHORED TO SUBSTRATE.
   C. MOUNTING HEIGHTS AND LOCATIONS: AS REQUIRED BY ACCESSIBILITY REGULATORY REQUIREMENTS.

105113 – METAL LOCKERS AND ACCESSORIES

1. SUBMIT PRODUCT DATA AND SHOP DRAWINGS.
2. LOCKERS:
   A. ACCEPTABLE MANUFACTURES:
      i. LYON WORKSPACE PRODUCTS
      ii. REPUBLIC STORAGE SYSTEMS COMPANY
      iii. DEBOURGH
      iv. OR EQUAL
   B. NOMINAL 24"W x 18"D x 72"H VENTILATED LOCKER; FORMED DOORS, SIDE HINGED, RECESSED HANDLE WITH HASP FOR LOCK. FULL WIDTH TOP SHELF; DIVIDED MAIN COMPARTMENT WITH COAT ROD AND HOOKS ONE SIDE, AND FIXED SHELVING ONE SIDE; BOOT COMPARTMENT AT BOTTOM; PROVIDE WITH INTEGRAL LOCKER BASE.
   C. FABRICATION:
      i. LOCKER BODY: WELDED AT SEAMS AND JOINTS, WALL WELDS SANDED SMOOTH.
      ii. FRAMES: CONTINUOUS 1" x 1" x 1/8" ANGLE IRON STEEL
      iii. DOOR: 14 GAGE FORMED STEEL, LOUVERED.
      iv. HINGES: CONTINUOUS PIANO HINGE.
      v. BASES, SLOPED TOPS, ENDS AND FILLER PIECES: STEEL, FINISHED TO MATCH LOCKERS.
   D. LOCKER FINISH: ELECTRO–GALVANIZING AND BAKED ENAMEL FINISH; COLOR AS SELECTED.
3. BENCHES:
   A. HARDWOOD BENCH: CLEAR HARDWOOD TOPS 9–1/2"W x 1–1/4" THICK FINISHED WITH TWO COATS OF ACRYLIC FINISH.
   B. PEDESTAL BASES: FABRICATED OF 14 GAGE STEEL WITH 1–5/8" TUBING UPRIGHTS; ENAMEL FINISHED TO MATCH LOCKERS; SPACED 6'–0" O.C. MAX.
4. INSTALLATION:
   A. INSTALL LOCKERS AND BENCHES IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
   B. INSTALL LOCKERS PLUMB AND SQUARE.
   C. SECURE LOCKERS WITH RECOMMENDED ANCHORS TO RESIST MINIMUM PULLOUT FORCE OF 100 POUNDS.

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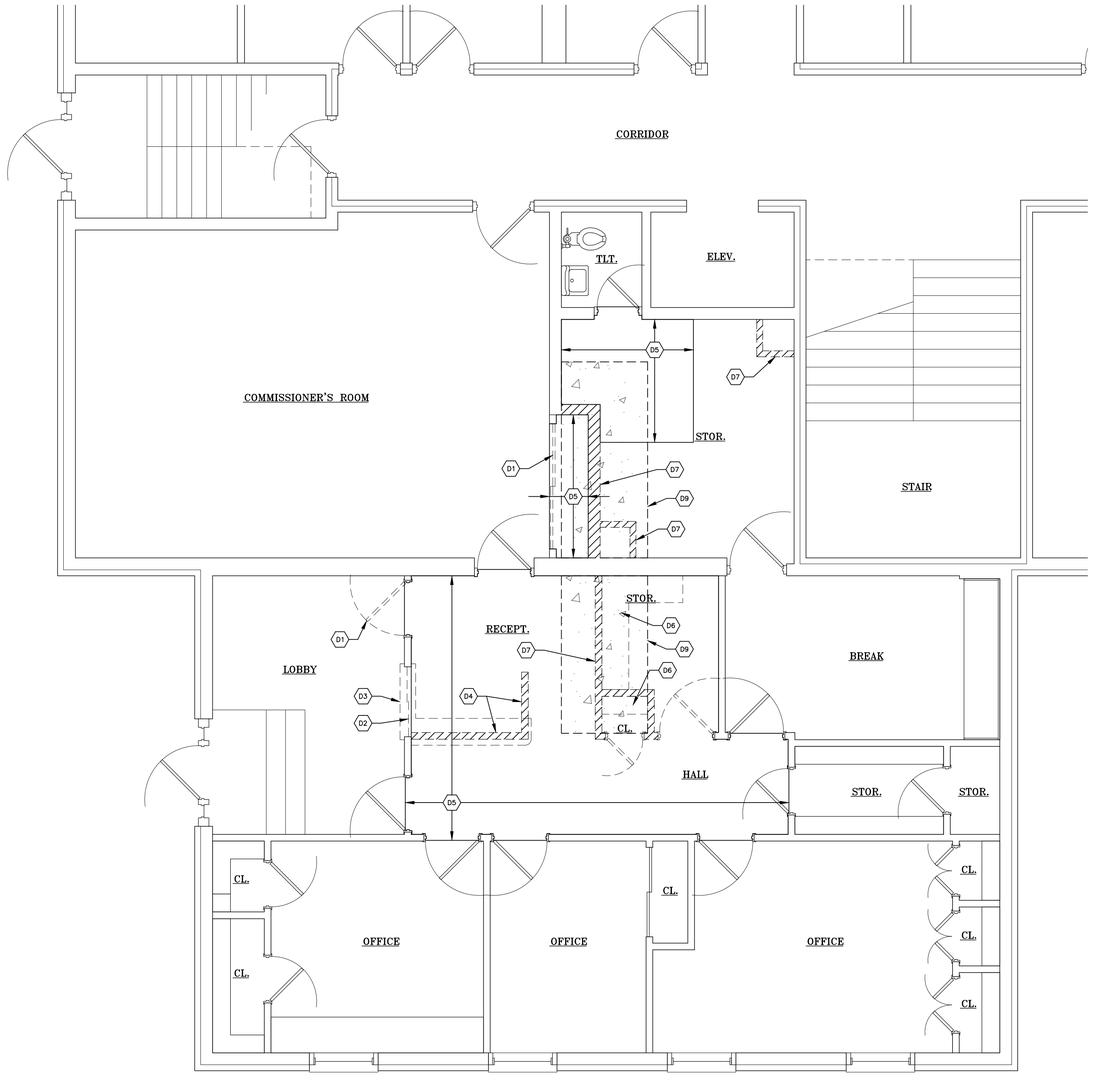
DRAWING TITLE
SPECIFICATIONS

PROJECT TITLE
PROPOSED OTSEGO COUNTY BUILDING REMODELING FOR:
OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO.
213-14

DATE
7/7/14

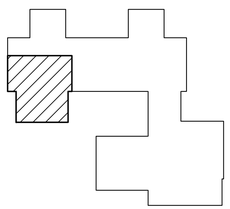
SHEET
SP1



NORTH

PARTIAL FIRST FLOOR PLAN - DEMOLITION

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



KEY PLAN - FIRST FLOOR

GENERAL DEMOLITIONTION NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EX'G. CONDITIONS AND DIMENSIONS PRIOR TO BIDDING AND INCLUDE ANY INCIDENTAL WORK NECESSARY TO COMPLY WITH THE INTENT OF THE CONTRACT DOCUMENTS IN THE BID. DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN ARE TO BE REPORTED TO THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

KEYED DEMOLITION NOTES

D1 REMOVE EX'G. DOOR AND FRAME FROM EX'G. OPENING. PREPARE OPENING FOR NEW PARTITION INFILL.

D2 REMOVE EX'G. SLIDING GLASS SERVICE WINDOW AND FRAME. PREPARE OPENING TO RECEIVE NEW SLIDING GLASS SERVICE WINDOW.

D3 REMOVE EX'G. SERVICE COUNTER AND WALL CONSTRUCTION AS REQ'D. FOR NEW SERVICE WINDOW OPENING. REFER TO DETAILS FOR PROPOSED CONSTRUCTION.

D4 REMOVE EX'G. KNEE WALL.

D5 REMOVE EX'G. FLOOR COVERING AND BASE. REFER TO ROOM FINISH SCHEDULE FOR EX'G. BASE TO REMAIN. PREPARE SUBSTRATE TO RECEVIE NEW FLOOR COVERING AS INDICATED IN ROOM FINISH SCHEDULE.

D6 REMOVE EX'G. SHELVING.

D7 REMOVE EX'G. WALLS AND ASSOCIATED DOORS, FRAMES, AND APPURTENANCES.

D8 REMOVE EX'G. SUSPENDED CEILING AND APPURTENANCES.

D9 SAW-CUT AND REMOVE EX'G. CONCRETE SLAB ON GRADE AS REQ'D. FOR INSTALLATION OF NEW UNDERGROUND PLUMBING - REFER TO MEP SHEETS FOR ADD'L. INFORMATION.

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DRAWING TITLE
PARTIAL FIRST FLOOR PLAN - DEMOLITION

PROJECT TITLE
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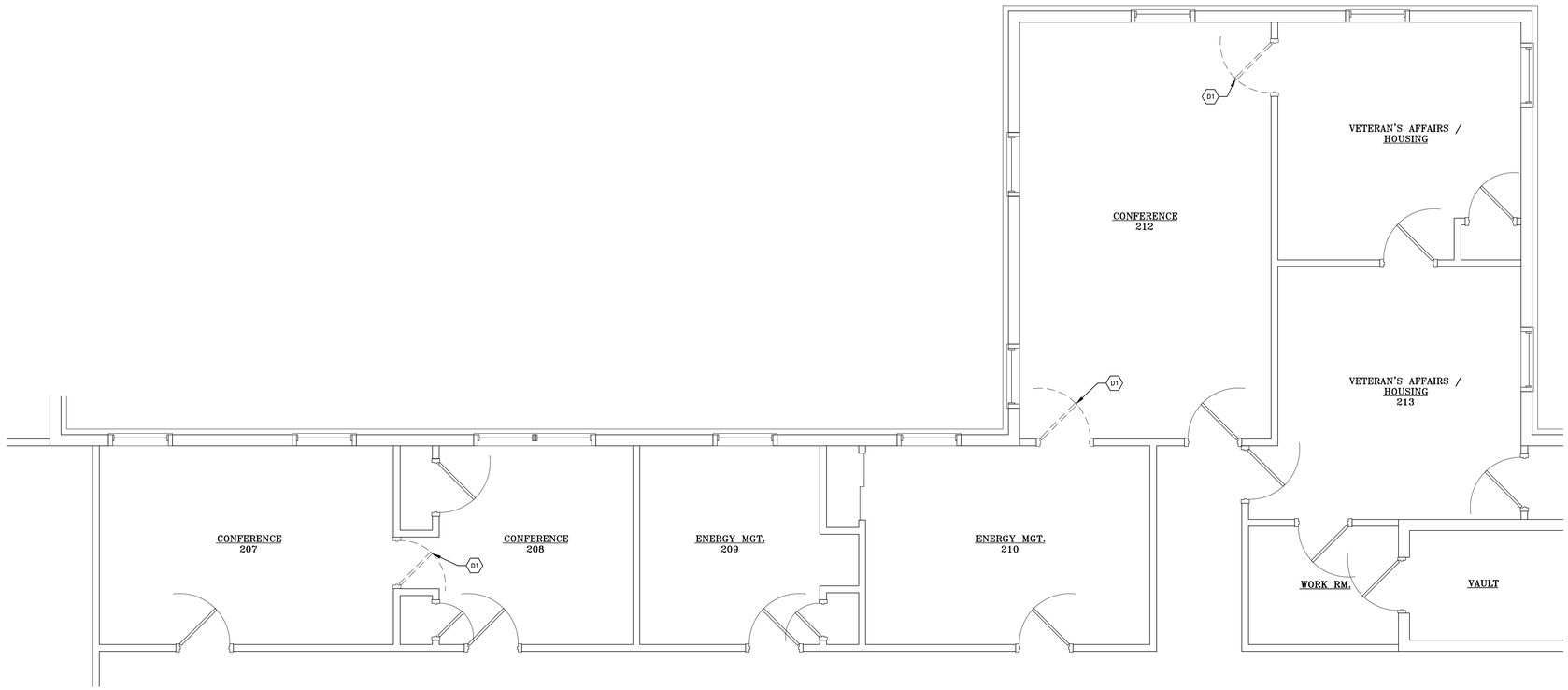
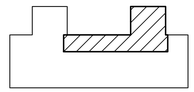
D1.1



NORTH

PARTIAL SECOND FLOOR PLAN - DEMOLITION

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



KEY PLAN - SECOND FLOOR

GENERAL DEMOLITIONTION NOTES

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KEYED DEMOLITION NOTES

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- D2 REMOVE EX'G. SLIDING GLASS SERVICE WINDOW AND FRAME. PREPARE OPENING TO RECEIVE NEW SLIDING GLASS SERVICE WINDOW.
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- D4 REMOVE EX'G. KNEE WALL.
- D5 REMOVE EX'G. FLOOR COVERING AND BASE. REFER TO ROOM FINISH SCHEDULE FOR EX'G. BASE TO REMAIN. PREPARE SUBSTRATE TO RECEVIE NEW FLOOR COVERING AS INDICATED IN ROOM FINISH SCHEDULE.
- D6 REMOVE EX'G. SHELVING.
- D7 REMOVE EX'G. WALLS AND ASSOCIATED DOORS, FRAMES, AND APPURTENANCES.
- D8 REMOVE EX'G. SUSPENDED CEILING AND APPURTENANCES.

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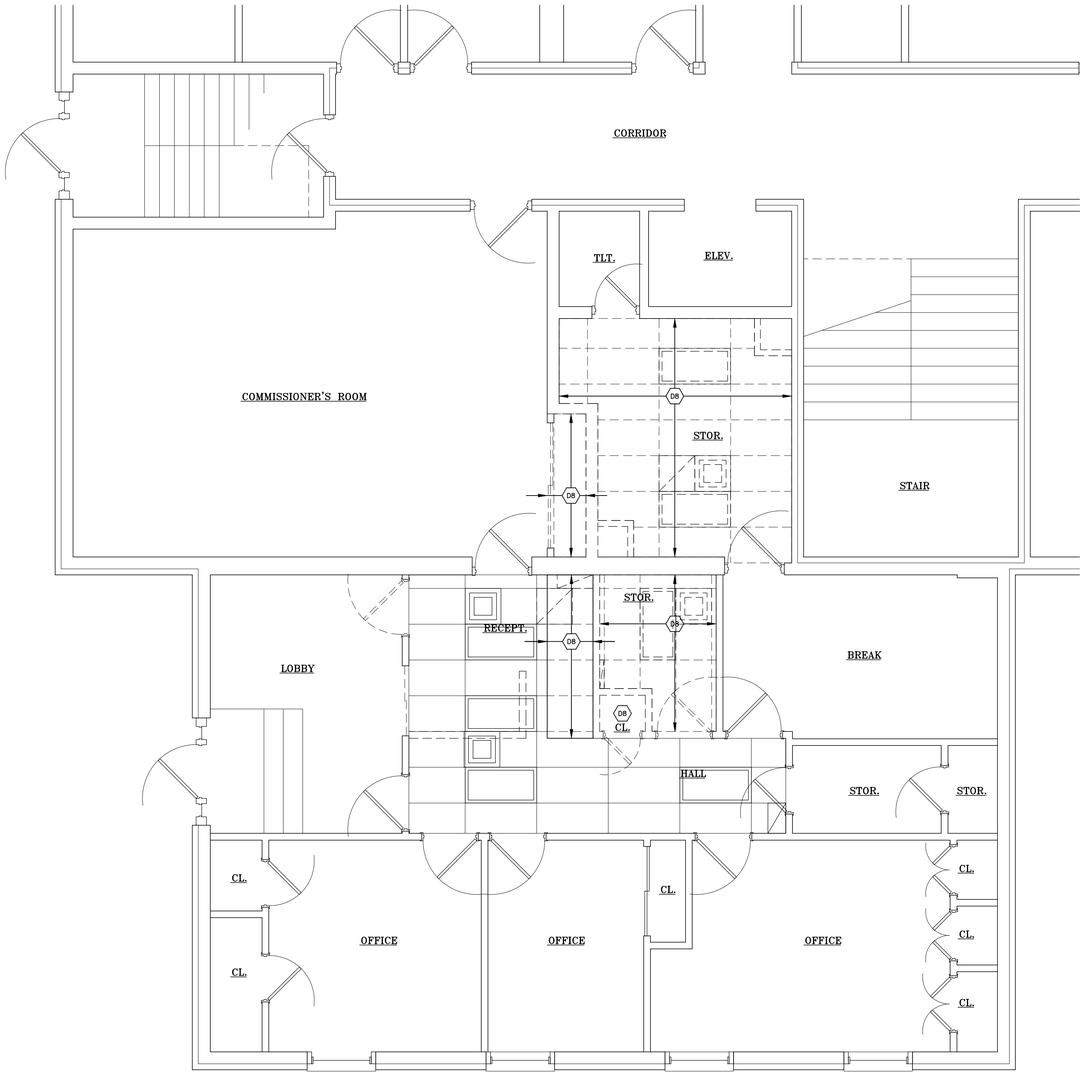
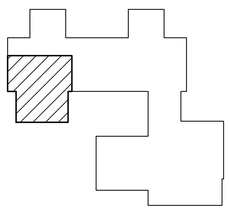


NORTH

PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - DEMOLITION

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



KEY PLAN - FIRST FLOOR

GENERAL DEMOLITIONTION NOTES

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PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - DEMOLITION

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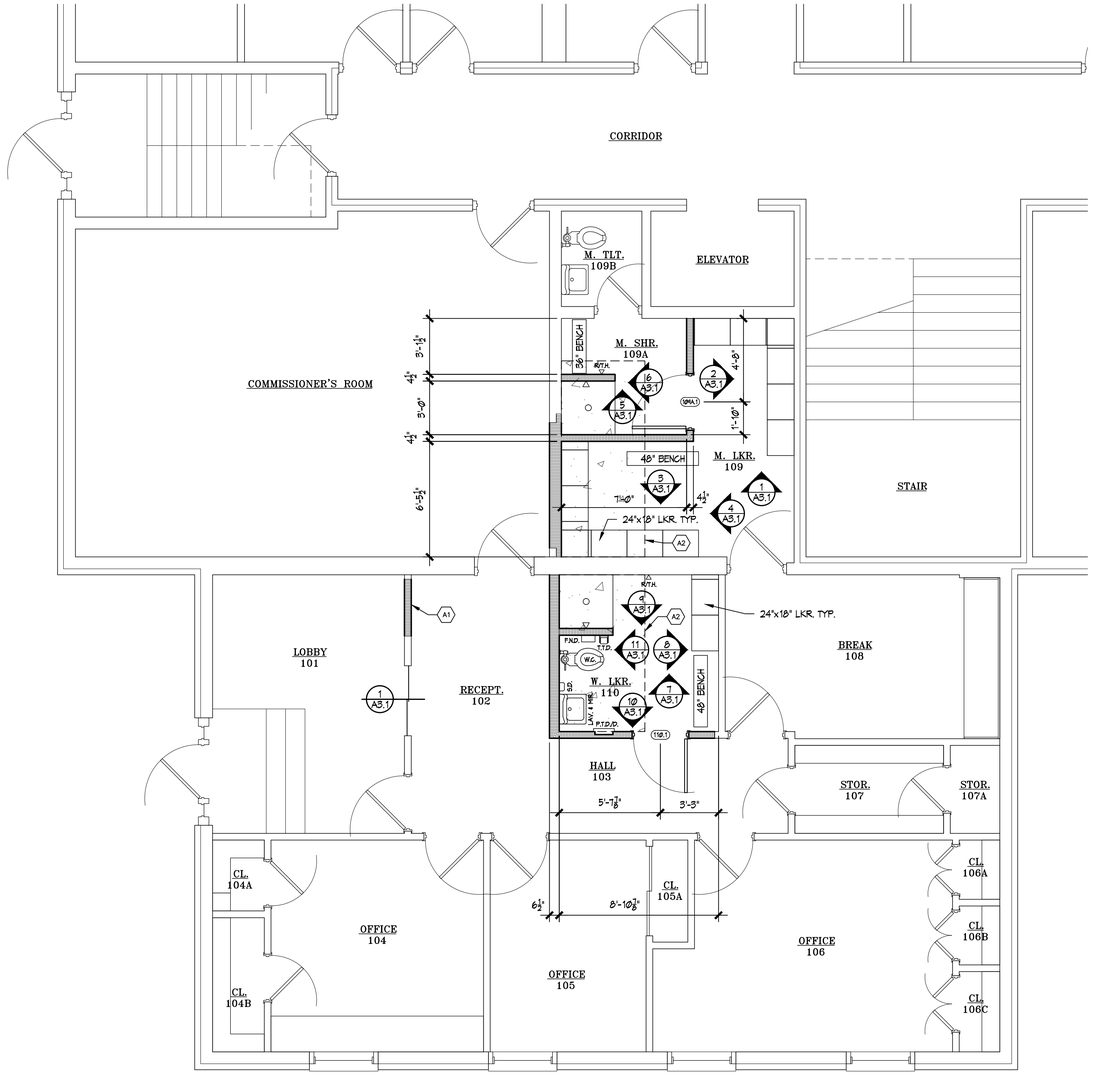


NORTH

PARTIAL FIRST FLOOR PLAN

SCALE: ¼" = 1'-0"

PARTITION LEGEND

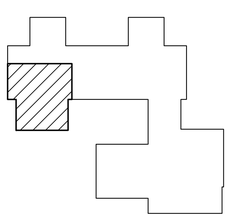
4½" — 3⅝" MTL. STUDS AT 16" O.C. MAX. w/ ½" GYP. BD. EACH SIDE AND 3" THERMAFIBER ACOUSTICAL INSULATION - EXTEND FLOOR TO BTM. OF EX'G. ROOF DECK.

6½" — 5⅜" MTL. STUDS AT 16" O.C. MAX. w/ ½" GYP. BD. EACH SIDE AND 3" THERMAFIBER ACOUSTICAL INSULATION - EXTEND FLOOR TO BTM. OF EX'G. ROOF DECK.

DIMENSION NOTES:

INTERIOR DIMENSIONS OF CMU WALLS ARE FACE OF CMU TO FACE OF CMU.

INTERIOR DIMENSIONS OF PARTITIONS ARE FACE OF FINISH GB TO FACE OF FINISH GB.



KEY PLAN - FIRST FLOOR

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EX'G. CONDITIONS AND DIMENSIONS PRIOR TO BIDDING AND INCLUDE ANY INCIDENTAL WORK NECESSARY TO COMPLY WITH THE INTENT OF THE CONTRACT DOCUMENTS IN THE BID. DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN ARE TO BE REPORTED TO THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

KEYED CONSTRUCTION NOTES

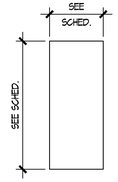
(A1) INFILL EX'G OPENING w/ METAL STUDS (FIELD VERIFY STUD DEPTH), 3" THERMAFIBER ACOUTSICAL INSULATION, AND ½" GYP. BD. BOARD BOTH SIDES, AND FINISH.

(A2) INFILL CONCRETE FLOOR SLAB REMOVED FOR UNDERGROUND PLUMBING w/ COMPACTED SAND FILL, VAPOR BARRIER, AND FIBER REINFORCED CONCRETE. DOWEL CONCRETE INFILL INTO EX'G SLABS w/ #4 DOWELS SPACED 12" O.C. APPLY BONDING AGENT TO CONTACT SURFACES AT EX'G. CONCRETE PRIOR TO PLACEMENT OF NEW CONCRETE.

DOOR SCHEDULE

DOOR TAG	DOOR SIZE	DOOR DATA			FRAME DATA			DETAILS			HDWE SET NO	FIRE RATING	REMARKS
		MATERIAL	TYPE	GLAZING	MATERIAL	TYPE	GLAZING	HEAD	JAMB	SILL			
109A.1	3'-0"XT'-2"x1¾"	WOOD	F	NONE	H.M.	A	NONE	H1	J1	S1	1	NONE	MATCH EX'G DOOR FINISH
110.1	3'-0"XT'-2"x1¾"	WOOD	F	NONE	H.M.	A	NONE	H1	J1	S1	2	NONE	MATCH EX'G DOOR FINISH

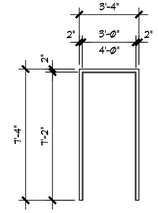
DOOR AND FRAME NOTES:
1. H.M. FRAME THROAT DIMENSION TO ALLOW FULL WRAP OVER NEW WALL FINISHES.



F FLUSH

DOOR TYPES

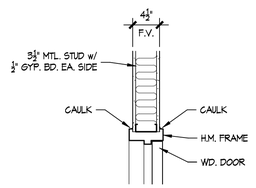
SCALE: ¼" = 1'-0"



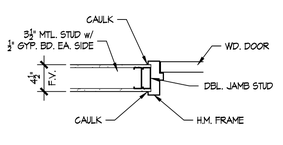
A

FRAME ELEVATIONS

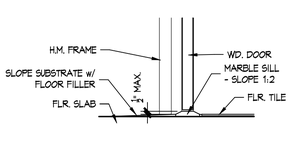
SCALE: ¼" = 1'-0"



H1



J1



S1

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DRAWING TITLE
PARTIAL FIRST FLOOR PLAN
DOOR SCHEDULE AND DETAILS

PROJECT TITLE
PROPOSED OTSEGO COUNTY BUILDING REMODELING FOR:
OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO.
213-14

DATE
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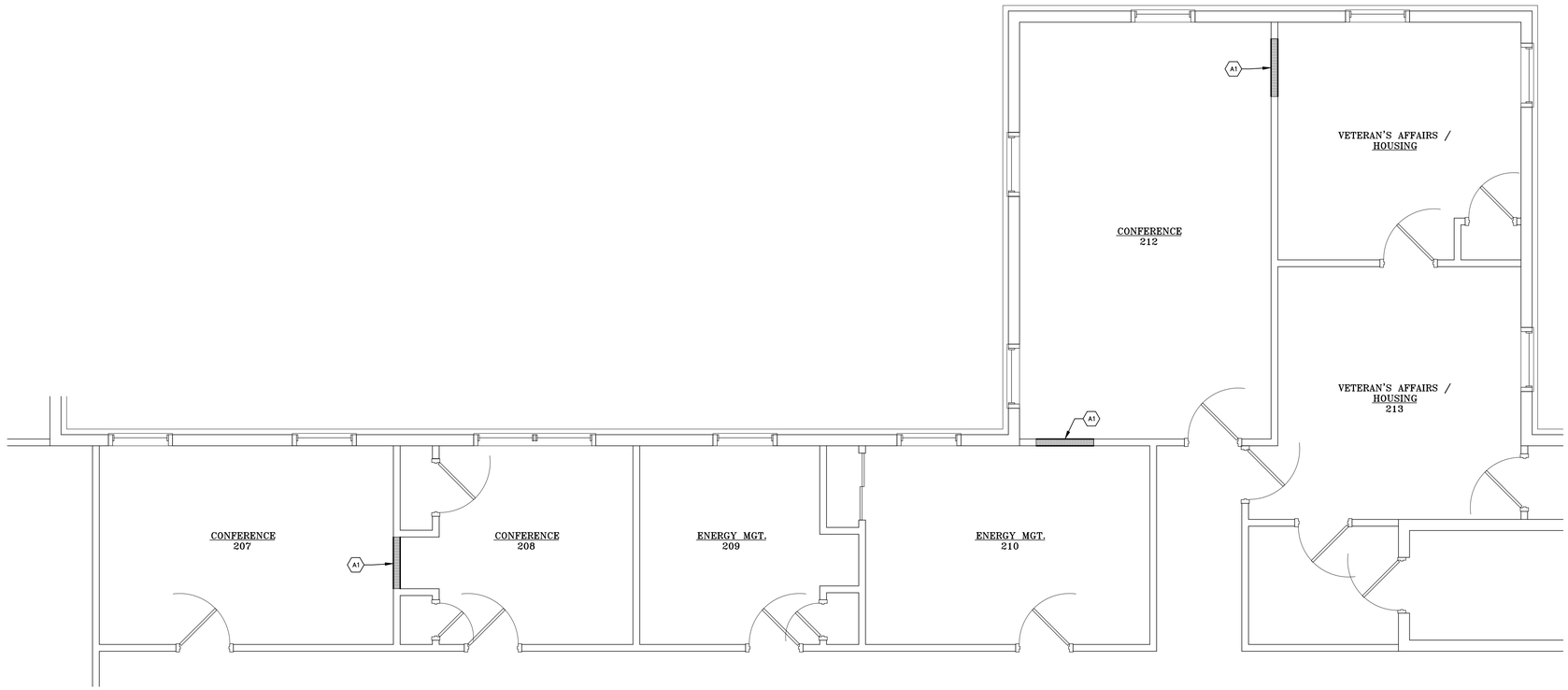
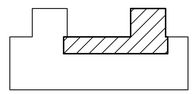
SHEET
A1.1



NORTH

PARTIAL SECOND FLOOR PLAN

SCALE: $\frac{1}{4}$" = 1'-0"



KEY PLAN - SECOND FLOOR

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EX'G. CONDITIONS AND DIMENSIONS PRIOR TO BIDDING AND INCLUDE ANY INCIDENTAL WORK NECESSARY TO COMPLY WITH THE INTENT OF THE CONTRACT DOCUMENTS IN THE BID. DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN ARE TO BE REPORTED TO THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

KEYED CONSTRUCTION NOTES

(A1) INFILL EX'G OPENING w/ METAL STUDS (FIELD VERIFY STUD DEPTH), 3" THERMAFIBER ACOUTSICAL INSULATION, AND $\frac{5}{8}$" GYP. BD. BOARD BOTH SIDES, AND FINISH.

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DRAWING TITLE
PARTIAL SECOND FLOOR PLAN

PROJECT TITLE
PROPOSED OTSEGO COUNTY BUILDING REMODELING FOR:
OTSEGO COUNTY SHERIFF DEPARTMENT
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213-14

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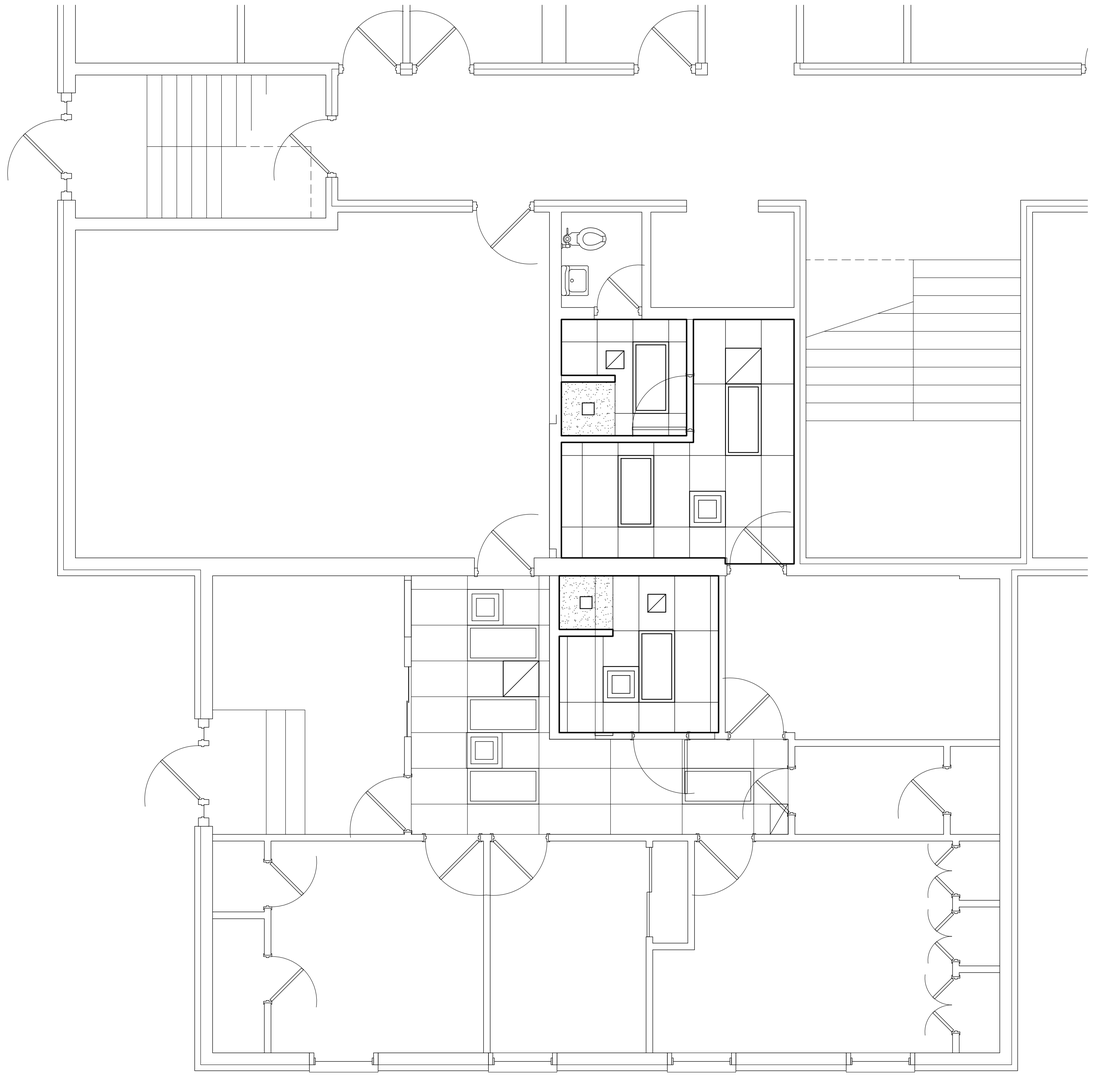
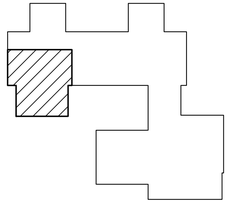
A1.2



NORTH

PARTIAL FIRST FLOOR REFLECTED CEILING PLAN

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



KEY PLAN - FIRST FLOOR

LEGEND	
SUSPENDED ACOUSTICAL CEILING - SEE ROOM FINISH SCHEDULE FOR MATERIAL REQUIREMENTS	H.V.A.C. DIFFUSERS & GRILLES - SEE MECHANICAL PLANS
	LIGHT FIXTURES SEE ELECTRICAL PLANS

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DRAWING TITLE
PARTIAL FIRST FLOOR REFLECTED CEILING PLAN

PROJECT TITLE
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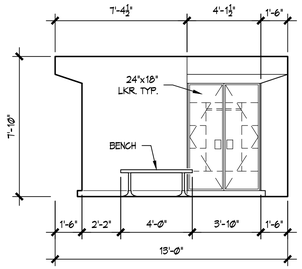
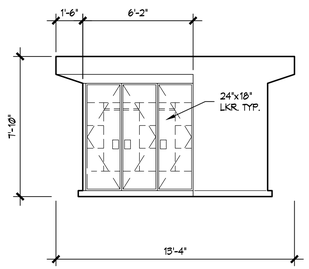


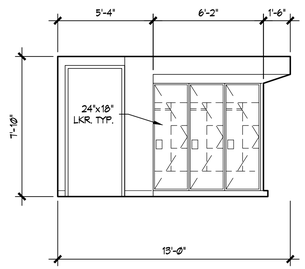
1 A3.1 M. LKR. 109 - N

SCALE: ¼" = 1'-0"



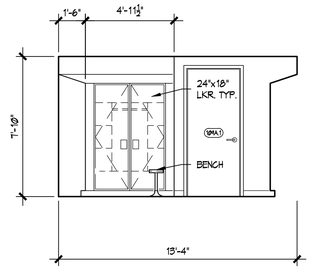
2 A3.1 M. LKR. 109 - E

SCALE: ¼" = 1'-0"



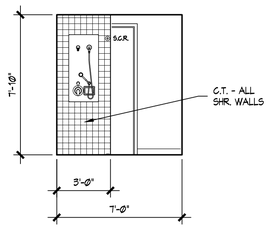
3 A3.1 M. LKR. 109 - S

SCALE: ¼" = 1'-0"



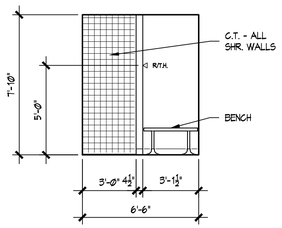
4 A3.1 M. LKR. 109 - W

SCALE: ¼" = 1'-0"



5 A3.1 M. SHR. 109A - N

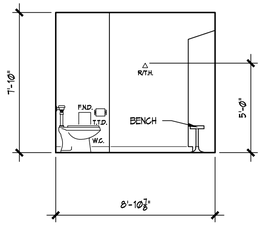
SCALE: ¼" = 1'-0"



6 A3.1 M. SHR. 109A - W

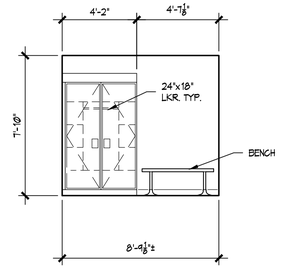
SCALE: ¼" = 1'-0"

ELEVATION ABBREVIATIONS	
F.N.D.	FEMININE NAPKIN DISPOSAL
LAV.	LAVATORY
MIR.	MIRROR
P.T.D./D.	PAPER TOWEL DISPENSER/DISPOSAL
R/TH	ROBE/TOWEL HOOKS
T.T.D.	TOILET TISSUE DISPENSER
S.D.	SOAP DISPENSER
S.C.R.	SHOWER CURTAIN ROD
W.C.	WATER CLOSET



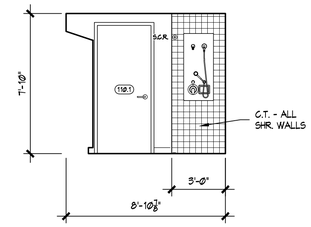
7 A3.1 W. SHR. 110 - N

SCALE: ¼" = 1'-0"



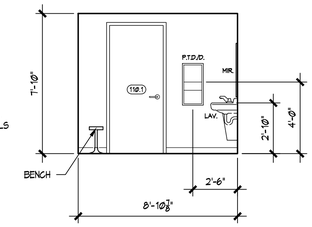
8 A3.1 W. SHR. 110 - E

SCALE: ¼" = 1'-0"



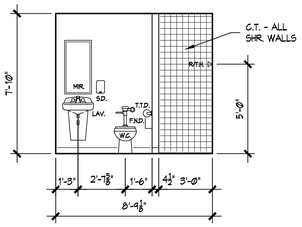
9 A3.1 W. SHR. 110 - S

SCALE: ¼" = 1'-0"



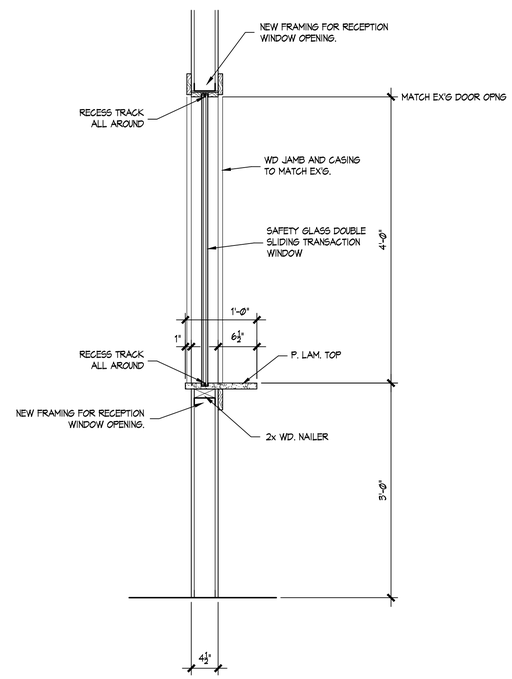
10 A3.1 W. SHR. 110 - S

SCALE: ¼" = 1'-0"



11 A3.1 W. SHR. 110 - W

SCALE: ¼" = 1'-0"



1 A3.1 TRANSACTION WINDOW

SCALE: 1" = 1'-0"

ROOM FINISH SCHEDULE

ROOM TAG	ROOM NAME	FLOOR DATA		WALL DATA (SUBSTRATE/FINISH)				CEILING DATA		REMARKS
		MATERIAL	W. BASE	NORTH	EAST	SOUTH	WEST	MATERIAL/FINISH	HEIGHT	
101	LOBBY	ETR	ETR	ETR	EXG GB / IPS-1 GB / IPS-1	ETR	ETR	ETR		
102	RECEPTION	C	ETR	EXG GB / IPS-1	GB / IPS-1	EXG GB / IPS-1	EXG GB / IPS-1 GB / IPS-1	ETR - NOTE 1		
103	HALL	C	NOTE 2	EXG GB / IPS-1 GB / IPS-1	ETR	ETR	NONE	ETR - NOTE 1		
109	MEN'S LOCKER	CT-1	CT-1	EXG CMU / IPS-1 GB / IPS-1	EXG CMU / IPS-1	EXG CMU / IPS-1 EXG GB / IPS-1	GB / IPS-1	SAT-1	7'-10"	
104A	MEN'S SHOWER	CT-1 / NOTE 3	CT-1 / NOTE 4	EXG CMU / IPS-2 NOTE 4	GB / IPS-3	GB / IPS-2 NOTE 4	EXG GB / IPS-2 GB / IPS-3 - NOTE 4	SAT-1 / NOTE 5	7'-10"	
110	WOMEN'S LOCKER	CT-1 / NOTE 3	CT-1 / NOTE 4	EXG GB / IPS-2 GB / IPS-3 - NOTE 4	EXG GB / IPS-2	GB / IPS-2 NOTE 4	GB / IPS-2 NOTE 4	SAT-1 / NOTE 5	7'-10"	

GENERAL NOTES:

FINISH ALL NEW HM FRAMES IPS-3.

FINISH ALL NEW INTERIOR WOOD TRIM ITF TO MATCH EXG.

PATCH EXISTING MATERIALS AND FINISHES AFFECTED BY DEMOLITION TO MATCH REMAINING EXISTING ADJACENT MATERIALS AND FINISHES.

KEYED NOTES:

1. CUT BACK EXG CLNG GRID AS REQ'D FOR NEW WALL. INSTALL NEW WALL ANGLE AND PATCH EXG. CLNG.
2. EXG. WOOD BASE TO REMAIN. INSTALL NEW WOOD BASE TO MATCH AT NEW WALL CONSTRUCTION.
3. SHOWER FLOOR TO BE CERAMIC MOSAIC TILE (CT-2).
4. SHOWER WALLS TO BE GLAZED CERAMIC TILE (CT-3).
5. SHOWER CEILING TO BE GB / IPS-2.

ROOM FINISH SCHEDULE ABBREVIATIONS:

C	CARPET
CMU	CONCRETE MASONRY UNIT
CT-1	CERAMIC TILE -1 (12 x 12 PORCELAIN)
CT-2	CERAMIC TILE -2 (2 x 2 CERAMIC MOSAIC)
CT-3	CERAMIC TILE -2 (4 x 4 GLAZED CERAMIC)
ETR	EXISTING TO REMAIN
EXG	EXISTING
GB	GYPSUM BOARD
IPS-1	INTERIOR PAINT SYSTEM -1 (LATEX)
IPS-2	INTERIOR PAINT SYSTEM -2 (EPOXY)
IPS-3	INTERIOR PAINT SYSTEM -3 (ENAMEL)
ITF	INTERIOR TRANSPARENT FINISH
SAT-1	SUSPENDED ACOUSTICAL TILE - 1 (2'x4')

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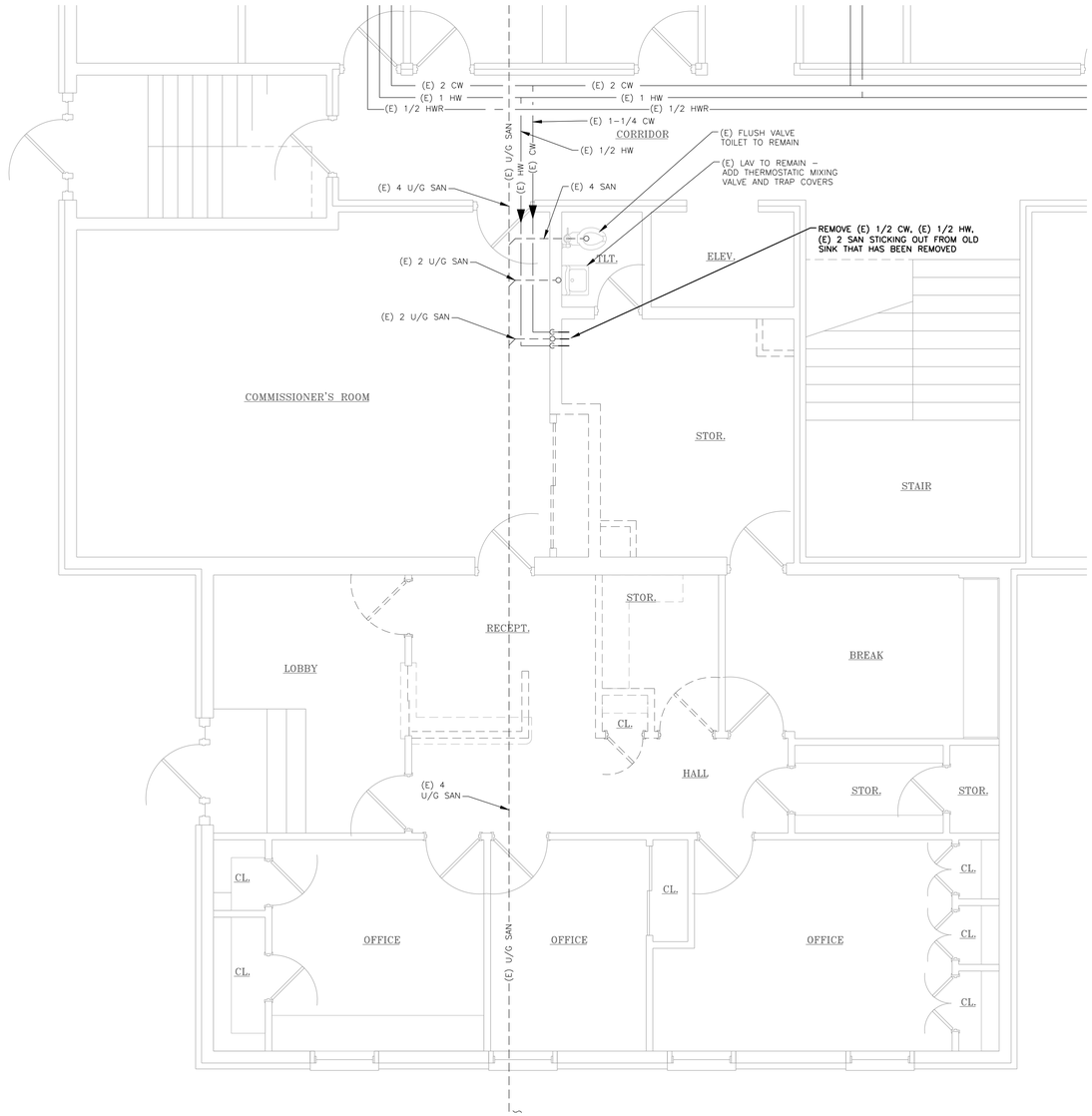
DRAWING TITLE: INTERIOR ELEVATIONS / ROOM FINISH SCHEDULE

PROJECT TITLE: PROPOSED OTSEGO COUNTY BUILDING REMODELING FOR: OTSEGO COUNTY SHERIFF DEPARTMENT GAYLORD, MICHIGAN

PROJECT NO. 213-14

DATE 7/7/14

SHEET A3.1



NORTH

PLUMBING DEMOLITION PLAN

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

PLUMBING ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
AAV	AIR ADMITANCE VALVE
AFF	ABOVE FINISHED FLOOR
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CAP	CAPACITY
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CO	CLEAN OUT
COND	CONDENSATE
CONT	CONTINUATION OR CONTINUED
CORD.	COORDINATE
CW	DOMESTIC COLD WATER
DB	DRY BULB TEMPERATURE
DEG	DEGREES
DN	DOWN
DWH	DOMESTIC WATER HEATER
DW&V	DRAINAGE WASTE & VENT
E.C.	ELECTRICAL CONTRACTOR
(E)	EXISTING
EWC	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMPERATURE
FD	FLOOR DRAIN
FLR	FLOOR
FPM	FEET PER MINUTE
FFD	FUNNEL FLOOR DRAIN
FT	FEET
(F)	FUTURE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HR	HOUR
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN

ABBREVIATION	DESCRIPTION
KW	KILOWATT
LAV	LAVATORY
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
M.C.	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
P.C.	PLUMBING CONTRACTOR
PD	PRESSURE DROP (FEET OF WATER)
PRV	PRESSURE REDUCING VALVE
PSIA	POUNDS PER SQUARE INCH - ABSOLUTE
PSIG	POUNDS PER SQUARE INCH - GAUGE
RPM	REVOLUTIONS PER MINUTE
SAN	SANITARY WASTE
SHR	SHOWER
SK	SINK
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
U/G	UNDERGROUND (BELOW GRADE)
V	VENT
VS	VENT STACK
VTR	VENT THRU ROOF
W	WASTE
W&V	WASTE AND VENT
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WG	WATER GAUGE

GENERAL PLUMBING DEMOLITION NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE EXTENT OF DEMOLITION WORK SHALL BE AS REQUIRED BY THE NEW WORK.

2. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING SYSTEMS/EQUIPMENT PRIOR TO ISSUING HIS BID. (I.E. ALL EXISTING PIPE SIZES AND ROUTINGS/LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR).

3. ALL PLUMBING ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE WITH ALL RELATED ITEMS INCLUDING, BUT NOT LIMITED TO, HANGERS, SUPPORTS, CONTROLS, ETC. REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF OFF SITE. CAP ALL OPEN ENDED PIPING AND DUCTWORK.

4. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED, BY THE OWNER OR OWNER'S REPRESENTATIVE, AT LEAST (7) DAYS IN ADVANCE SO AS NOT TO INTERFERE WITH THE PRESENT BUILDING OPERATION.

5. WHERE DEMOLITION OF EXISTING SERVICES ARE REQUIRED TO ACCOMMODATE THE PROJECT PHASING/SCHEDULING, AND SERVICES ARE TO BE INTERRUPTED IN AREAS THAT ARE REMAINING OCCUPIED, THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AND/OR CONNECTIONS TO THE OCCUPIED AREAS TO MAINTAIN ITS PRESENT OPERATION. IF SYSTEM SHUT DOWNS ARE REQUIRED, THE CONTRACTOR SHALL SCHEDULE WORK TO BE PERFORMED AT UNOCCUPIED HOURS.

6. ALL ITEMS TO BE REMOVED AND/OR RELOCATED SHALL BE REMOVED AND/OR RELOCATED TOGETHER WITH ALL RELATED ITEMS AS REQUIRED BY THE NEW WORK TO BE PERFORMED.

7. CONTRACTOR SHALL COORDINATE ALL REMOVAL AND/OR RELOCATION WITH THE EXTENT OF THE NEW WORK AND WITH ALL OTHER TRADES INVOLVED.

8. UNLESS NOTED OTHERWISE, EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, CORING, PATCHING ASSOCIATED WITH THEIR WORK. CUTTING, CORING, PATCHING WORK SHALL BE PERFORMED BY A QUALIFIED SUB-CONTRACTOR AND MATCH EXISTING OR NEW FINSIHES.

PLUMBING SYMBOL LIST

SYMBOL	DESCRIPTION
	PIPE ELBOW UP
	PIPE ELBOW DOWN
	DIRECTION OF FLOW
	UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	PIPE CAP OR PLUG
	CIRCULATING PUMP
	ISOLATION VALVE
	COMBINATION BALANCE VALVE & FLOW MEASURING DEVICE
	FLOOR DRAIN (PLAN VIEW)
CO	CLEAN OUT (IN FLOOR)
CO	CLEAN OUT (IN LINE)
CW	DOMESTIC COLD WATER PIPING
HW	DOMESTIC HOT WATER PIPING
HWR	DOMESTIC HOT WATER RETURN PIPING
SAN	SANITARY WASTE PIPING
	SANITARY VENT PIPING

METHODS OF NOTATION

- EF 1 — EQUIPMENT DESIGNATION, (i.e. EXHAUST FAN NUMBER 1)
- 1 — CONSTRUCTION KEY NOTE NUMBER
- 1 — DEMOLITION KEY NOTE NUMBER
- EXISTING SYSTEM COMPONENT TO BE REMOVED
- NEW SYSTEM COMPONENT
- EXISTING SYSTEM COMPONENT TO REMAIN
- POINT OF NEW CONNECTION.

PLUMBING DRAWING INDEX

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Project Number
AEA 1402-01

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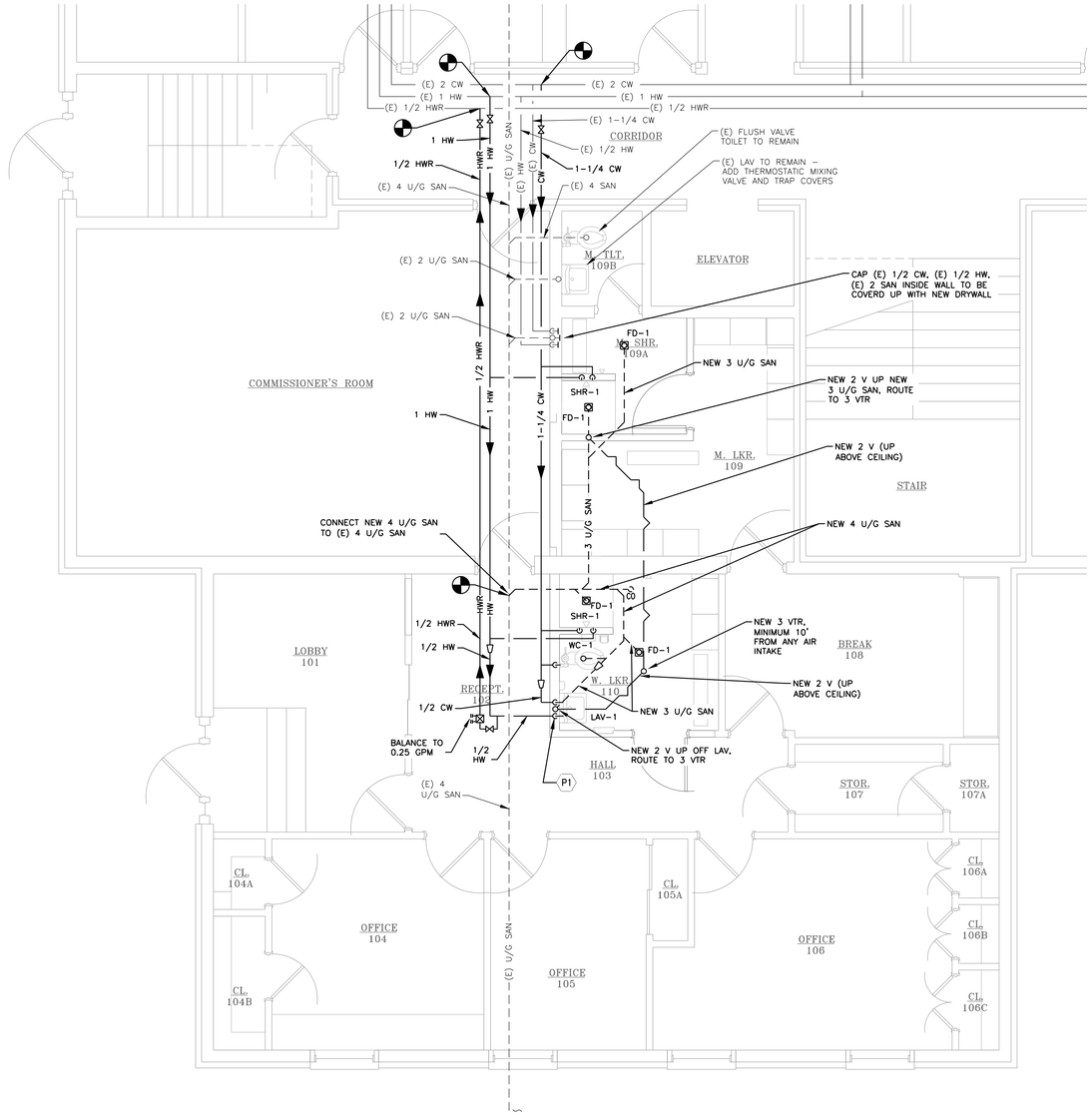
DRAWING TITLE: PLUMBING DEMOLITION PLAN

PROJECT TITLE: PROPOSED OTSEGO COUNTY BUILDING REMOLDING FOR:
OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO.: 213-14

DATE: JULY 7, 2014

SHEET: P1.1



NORTH

PLUMBING NEW WORK PLAN

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

KEYED PLUMBING CONSTRUCTION NOTES:

(P1) 1/2 CW, 1/2 HW DN TO LAV. 2 W DN, 1-1/2 V UP FROM LAV.

GENERAL PLUMBING NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL SCOPE OF WORK. CONTRACTOR SHALL PROVIDE PLUMBING SYSTEMS AND RELATED EQUIPMENT COMPLETE AND INCLUDE ALL NECESSARY OFFSETS, FITTINGS, AND OTHER COMPONENTS REQUIRED DUE TO INTERFERENCES, SPACE CONSTRAINTS, ETC.

2. PLUMBING SYSTEMS SHALL BE INSTALLED PER MICHIGAN PLUMBING CODE, INTERNATIONAL FUEL GAS CODE, MICHIGAN MECHANICAL CODE, AND APPLICABLE BUILDING CODES (I.E. MICHIGAN BUILDING CODES, NFPA CODES, ETC.).

3. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF PLUMBING WORK WITH ALL OTHER TRADES. CONTRACTOR SHALL VERIFY ALL MECHANICAL AND ELECTRICAL CLEARANCES PRIOR TO FABRICATION OF ANY NEW WORK. PIPING SHALL NOT BE LOCATED DIRECTLY OVER ELECTRICAL EQUIPMENT AND PANELS, OR INTERFERE WITH ELECTRICAL/MECHANICAL EQUIPMENT CLEARANCE SPACES.

4. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION/HEIGHTS OF FIXTURES (STANDARD AND BARRIER FREE), SINKS, TOILETS, LAVATORIES, WATER COOLERS, ETC. COORDINATE WITH ARCHITECTURAL PLANS FOR DETAILS ON CASEWORK, FURNITURE, ETC.

5. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, HANGERS, ETC., FOR THE PROPER INSTALLATION OF ALL MECHANICAL AND PLUMBING SYSTEMS. PIPING SHALL NOT BE SUPPORTED FROM/BY EQUIPMENT OR EQUIPMENT CONNECTIONS.

6. MINIMUM UNDERGROUND SANITARY PIPE SIZE SHALL BE 3".

7. PLUMBING VENTS THROUGH THE ROOF SHALL BE LOCATED AT LEAST 10'-0" AWAY FROM OUTDOOR AIR INTAKE LOCATIONS.

8. ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING SHALL HAVE CODE REQUIRED CLEARANCES PROVIDED.

9. ALL FIXTURES / EQUIPMENT SHALL BE PROVIDED WITH ISOLATION VALVES. ALL VALVES SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.

10. WATER HAMMER ARRESTORS SHALL BE INSTALLED AT ALL LAVATORIES, SINKS, AND OTHER QUICK CLOSING VALVES. ARRESTORS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.

11. ALL FLOOR DRAINS SUBJECT TO LOSS OF SEAL (I.E. RESTROOMS, STORAGE ROOMS, ETC.) SHALL BE PROTECTED BY A TRAP SEAL PRIMER.

12. COORDINATE ALL FLOOR, WALL, AND ROOF PENETRATIONS, ETC. WITH ARCHITECTURAL/STRUCTURAL TRADES PRIOR TO ROUGH-IN. UNLESS NOTED OTHERWISE, EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, CORING, PATCHING ASSOCIATED WITH THEIR WORK. CUTTING, CORING, PATCHING WORK SHALL BE PERFORMED BY A QUALIFIED SUB-CONTRACTOR AND MATCH EXISTING OR NEW FINISHES.

PLUMBING FIXTURE SCHEDULE

FIXTURE MARK	MANUFACTURER SERIES NUMBER	FIXTURE AND TRIM DESCRIPTION					ACCESSORIES, FEATURES, AND NOTES
LAVATORIES							
		BOWL TYPE	FAUCET	SUPPLY PIPE	TRAP	TAIL-PIECE	
LAV-1	KOHLER "GREENWICH K-2032" BARRIER FREE	WHITE VITREOUS CHINA WALL HUNG W/ CONCEALED ARM SUPPORTS	ADA APPROVED CHROME PLATED	ANGLE SCREW-DRIVER STOPS	1-1/2" CHROME PLATED	1-1/2" CHROME PLATED ADA COMPLIANT	TRIM: KOHLER "CORALAIS" #K-15592-F SINGLE LEVER FAUCET WITH 4-1/2" VANDEL RESISTANT LEVER. PROVIDE GRID STRAINER DRAIN.
SHOWERS							
		SHOWER TYPE	SHOWER VALVE	SHOWER HEAD/ SPRAY PACKAGE			
SHR-1	BRADLEY HN200 "HN200-6"-HD-V"/S2"-SF-ST-CT-ST-SB-DBS-DCR-DGB" GRAB BARS, SEAT, SHOWER CURTAIN BY OTHERS	STAINLESS STEEL RECESSED WALL MOUNTED SHOWER SUPPLY MODULE	PRESSURE BALANCED - ASSE 1016 CERTIFIED BRADLEY "EQUA-FLO HD"	DELUX SHOWERHEAD ADJUSTABLE SPRAY HEAD & HAND-HELD SHOWER SPRAY WITH 60" FLEXIBLE S.S. HOSE W/ OPTIONAL SLIDE BAR (SB)			ADA COMPLIANT PRE-ASSEMBLED WALL SHOWER UNIT W/ ASSE 1016 LISTED PRESSURE BALANCE SHOWER VALVE. PROVIDE FOLLOWING OPTIONS: DELUX SHOWERHEAD WITH BALL JOINT, SOAP CONTAINER IN PANEL, STOPS ON SUPPLIES, SLIDE BAR. DEDUCT GRAB BARS, SEAT, SHOWER CURTAIN - TO BE SUPPLIED BY OTHERS.
WATER CLOSETS							
		BOWL TYPE	OUTLET	FLUSH VALVE	SEAT	CARRIER	
WC-1	KOHLER "HIGHCLIFF" BARRIER FREE ADA	FLOOR MOUNT ELONGATED SIPHON JET	BOTTOM	SLOAN ROYAL 1.6 GPF ADA	OLSONITE #95	N/A	WHITE COLOR. SEAT SHALL BE ANTIMICROBIAL PLASTIC OPEN-FRONT SEAT. FLUSH VALVE.

NOTES:
1. ALL PLUMBING FIXTURES, EQUIPMENT, TRIM AND FITTINGS SHALL COMPLY WITH LOCAL, STATE AND FEDERAL REGULATIONS AND CODES, INCLUDING, BUT NOT LIMITED TO, WATER AND ENERGY CONSERVATION CODES, ADA REQUIREMENTS.
2. REFER TO SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS OF FIXTURES AND TRIM.
3. PROVIDE/INSTALL POINT OF USE "ASSE 1070 LISTED" THERMOSTATIC MIXING VALVES ON SUPPLIES TO ALL ADA ACCESSIBLE LAVATORIES AND SINKS.
4. INSTALL "LAV-SHIELDS" ON WALL MOUNTED LAVS/SINKS TO COMPLETELY CONCEAL EXPOSED TRAPS, SUPPLIES, AND MIXING VALVES.
5. COORDINATE ALL FIXTURE FINISHES/COLORS WITH ARCHITECT PRIOR TO ORDERING.
6. FLUSH VALVE HANDLES ARE TO BE LOCATED ON OPEN SIDE OF BARRIER FREE WATER CLOSETS - REFER TO ARCHITECTURAL INTERIOR ELEVATIONS.

PLUMBING CONNECTION SCHEDULE

FIXTURE TYPE	HOT WATER	COLD WATER	WASTE	TRAP	VENT
LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	1-1/2"
SHOWER	1/2"	1/2"	3"	--	1-1/2"
WATER CLOSET (FLUSH VALVE)	--	1-1/4"	3"-4"	--	2"

NOTES:
1. REFER TO DRAWINGS AND SPECIFICATIONS FOR MORE DETAILS.

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DRAWING TITLE: PLUMBING NEW WORK PLAN

PROJECT TITLE: PROPOSED OTSEGO COUNTY BUILDING REMOLDING FOR: OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO. 213-14

DATE JULY 7, 2014

SHEET P2.1

15000 – GENERAL PLUMBING REQUIREMENTS

WORK INCLUDED:
PROVIDE ALL ITEMS, ARTICLES, MATERIALS, OPERATIONS OR METHODS LISTED, MENTIONED OR SCHEDULED IN DESIGN DOCUMENTS AND/OR HEREIN, INCLUDING ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY AND REQUIRED FOR THEIR COMPLETION. ALL DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING THE GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO WORK OF ALL DIVISION 15/22/23 SECTIONS. THE ITEMS IN THIS SECTION ARE NOT INTENDED TO SUPERSEDE, BUT ARE SUPPLEMENTARY TO, THE REQUIREMENTS SET FORTH IN OTHER DIVISIONS OF THE SPECIFICATIONS.

CONDITIONS:
THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW THE GENERAL ARRANGEMENT OF EQUIPMENT, PIPING, DUCTWORK AND RELATED ITEMS. THEY SHALL BE FOLLOWED AS CLOSELY AS ELEMENTS OF THE CONSTRUCTION WILL PERMIT. THE CONTRACTOR SHALL VISIT THE SITE, EXAMINE AND VERIFY THE CONDITIONS UNDER WHICH THE WORK MUST BE CONDUCTED PRIOR TO SUBMITTING A PROPOSAL. THE SUBMISSION OF A PROPOSAL IMPLIES THAT THE CONTRACTOR HAS VISITED THE SITE, IS FAMILIAR WITH ALL CONDITIONS, INCLUDING EXISTING SERVICES, AND EQUIPMENT, OBSTRUCTIONS, AND ALL CONDITIONS, WHICH WILL BE ENCOUNTERED IN THE REMOVAL AND/OR RELOCATION OF PRESENT MATERIALS/EQUIPMENT, INSTALLATION OF NEW MATERIALS, EQUIPMENT, ETC. FOR A NEW COMPLETE INSTALLATION. IF ANY INTERFERENCES, VIOLATIONS, OR OMISSIONS APPEAR TO DEPART FROM THE DESIGN INTENT OF THE BID DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO ENTERING INTO A CONTRACT WITH THE OWNER. FAILURE TO PROVIDE THE ARCHITECT/ENGINEER WITH THE AFOREMENTIONED NOTIFICATION WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE TO COMPLETE ALL WORK TO MEET THE DESIGN INTENT OF THE BID DOCUMENTS WITH NO ADDITIONAL EXPENSES BEING INCURRED. CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO STARTING THEIR WORK.

COORDINATION:
CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES IN ORDER TO AVOID INTERFERENCES. CONTRACTOR SHALL EXAMINE THE DRAWINGS OF OTHER TRADES AND VERIFY THE CONDITIONS GOVERNING THE WORK ON THE JOB SITE. ARRANGE WORK ACCORDINGLY, PROVIDING SUCH DUCTWORK, PIPING, ETC. AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. WHERE INTERFERENCES OCCUR, THE CONTRACTOR SHALL, PRIOR TO INSTALLATION OT THE WORK, CONSULT WITH THE ARCHITECT/ENGINEER AS TO THE EXACT LOCATION AND LEVEL OF HIS WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ARRANGEMENT OF HIS WORK. SHOULD WORK INSTALLED BY HIM REQUIRE MODIFICATION TO AVOID INTERFERENCES WITH OTHER WORK, AS DETERMINED BY THE ARCHITECT/ENGINEER, SUCH CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST.

SUPPORTS AND HANGERS:
CONTRACTOR SHALL PROVIDE ALL NECESSARY ANGLE/BRACKETS OR SUPPLEMENTARY STEEL AS REQUIRED FOR ADEQUATE SUPPORT OF ALL PIPING, DUCTWORK, SPECIALTIES, AND EQUIPMENT. SUPPORT PIPING SYSTEMS SECURELY WHILE ALLOWING FOR PIPE AND BUILDING EXPANSION/CONTRACTION. PROVIDE COPPER PLATED HANGERS FOR COPPER PIPING. USE ADJUSTABLE CLEVIS HANGERS OR ADJUSTABLE STEEL BAND HANGERS. MAXIMUM SPACING SHALL BE 5' FOR 1/2" PIPING, 7' FOR 3/4" TO 1-1/4" PIPING, 8' FOR 1-1/2" OR LARGER PIPING. FURNISH MECHANICAL EQUIPMENT SUPPORTS AS DETAILED OR AS REQUIRED TO ADEQUATELY CARRY THE WEIGHT OF THE EQUIPMENT. SECURE APPROVAL FROM THE ARCHITECT/ENGINEER, IN WRITING, PRIOR TO WELDING OR BOLTING TO STEEL FRAMING OR ANCHORING TO CONCRETE STRUCTURE.

GUARANTEE OF WORK:
CONTRACTOR SHALL GUARANTEE ALL OF THE WORK FURNISHED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE YEAR AFTER OWNER ACCEPTANCE. THE CONTRACTOR SHALL FIX/REPAIR ANY DEFECTS WITHIN THIS PERIOD AT NO EXPENSE TO THE OWNER. THE CONTRACTOR SHALL SUBMIT TO THE OWNER ALL WARRANTIES FOR EQUIPMENT INSTALLED.

CODES AND REGULATIONS:
ALL CONSTRUCTION WORK AND MATERIALS SHALL BE COMPLETED IN ACCORDANCE WITH THE THEN CURRENT RULES SET FORTH IN LOCAL, STATE, AND FEDERAL CODES AND REGULATIONS. CONSTRUCTION AND MATERIALS SHALL COMPLY WITH CURRENT AMERICAN DISABILITIES ACT (ADA) REQUIREMENTS. CONTRACTOR SHALL PREPARE AND ISSUE ANY PLAN REVIEW APPLICATIONS/SUBMITTALS THAT MAY BE REQUIRED BY THE GOVERNING AUTHORITIES. CONTRACTOR SHALL COORDINATE INSPECTIONS WITH ALL CODE OFFICALS HAVING AUTHORITY ON THE PROJECT (IE. STATE FIRE MARSHALL, ETC.). WHERE THE DESIGN DOCUMENTS INDICATE MATERIALS OR CONSTRUCTION IN EXCESS OF CODE REQUIREMENTS, THE DESIGN DOCUMENTS SHALL GOVERN. IN THE EVENT THAT THE PLANS AND SPECIFICATIONS CONFLICT WITH ANY RULES, REGULATIONS, OR CODES APPLYING, SAID RULES, REGULATIONS AND CODES SHALL GOVERN.

PERMITS, FEES, ETC.:
UNLESS OTHERWISE INDICATED, ALL REQUIRED PERMITS, LICENSES, INSPECTIONS, PLAN REVIEWS, APPROVALS AND FEES FOR THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR. AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL FURNISH THE OWNER WITH ALL CERTIFICATES OF FINAL INSPECTIONS AND APPROVALS.

SUBSTITUTION ITEMS REQUIRING PRIOR APPROVAL:
ALL ITEMS THAT THE CONTRACTOR PROPOSES TO USE IN HIS WORK THAT ARE NOT SPECIFICALLY NAMED IN THE DOCUMENTS MUST BE SUBMITTED FOR REVIEW. SUCH ITEMS MUST BE SUBMITTED IN DUPLICATE TO THE ARCHITECT/ENGINEER FOR APPROVAL A MINIMUM OF 10 DAYS PRIOR TO BID OPENING.

MANUFACTURER'S AND EQUIPMENT:
IF AN APPROVED MANUFACTURER IS OTHER THAN THE MANUFACTURER USED AS THE BASIS OF DESIGN, THE EQUIPMENT OR PRODUCT PROVIDED SHALL BE EQUAL IN QUALITY, DURABILITY, APPEARANCE, CAPACITY, AND EFFICIENCY THROUGH ALL RANGES OF OPERATION, SHALL CONFORM TO THE ARRANGEMENTS AND SPACE LIMITATIONS OF THE EQUIPMENT SHOWN ON THE DOCUMENTS, SHALL BE COMPATIBLE WITH THE OTHER COMPONENTS OF THE SYSTEM AND SHALL COMPLY WITH REQUIREMENTS FOR PRIOR APPROVAL. ALL COSTS TO MAKE THESE ITEMS COMPLY WITH THESE REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, PIPING, SHEET METAL, ELECTRICAL, AND BUILDING ALTERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND BE INCLUDED IN THE ORIGINAL BID. ALL EQUIPMENT SHALL BE FURNISHED COMPLETE WITH ALL ACCESSORIES NORMALLY SUPPLIED WITH THE CATALOG ITEMS LISTED AND ALL OTHER ACCESSORIES NECESSARY FOR A COMPLETE AND SATISFACTORY OPERATING SYSTEM. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND SHALL BE STANDARD PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF PLUMBING, HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT AND SHALL BE THE MANUFACTURER'S LATEST DESIGN.

OPERATION AND MAINTENANCE MANUALS:
PROVIDE TWO (2) COMPLETE OPERATION AND MAINTENANCE (O&M) MANUALS COVERING ALL MECHANICAL AND PLUMBING EQUIPMENT HEREIN SPECIFIED. O&M MANUALS SHALL INCLUDE SHOP DRAWINGS, OPERATION/MAINTENANCE INSTRUCTIONS, AND SPARE PART LISTS.

SHOP DRAWING SUBMITTALS:
SUBMIT FOR REVIEW AND APPROVAL, WITHIN 30 DAYS AFTER NOTICE TO PROCEED, DIGITAL COPIES (IN .PDF FORMAT) OF SHOP DRAWINGS FOR ALL ITEMS LISTED BELOW. WHERE ITEMS ARE REFERRED TO BY SYMBOLIC DESIGNATION ON THE DRAWINGS AND SPECIFICATIONS, ALL SUBMITTALS SHALL BEAR THE SAME DESIGNATION.

PLUMBING FIXTURES
PLUMBING EQUIPMENT AND SPECIALTIES

OWNER TRAINING:
BEFORE FINAL INSPECTION THE CONTRACTOR SHALL INSTRUCT OWNER'S DESIGNATED PERSONNEL IN OPERATION, ADJUSTMENT AND MAINTENANCE OF MECHANICAL EQUIPMENT AND SYSTEMS AT AGREED UPON TIMES. FOR EQUIPMENT REQUIRING SEASONAL OPERATION, PERFORM INSTRUCTIONS FOR OTHER SEASONS WITHIN SIX MONTHS. USE OPERATION AND MAINTENANCE MANUALS AS BASIS FOR INSTRUCTION. REVIEW CONTENTS OF MANUAL WITH PERSONNEL IN DETAIL TO EXPLAIN ALL ASPECTS OF OPERATION AND MAINTENANCE.

RECORD DRAWINGS:
CONTRACTOR SHALL SUBMIT RECORD DRAWINGS WHICH HAVE BEEN NEATLY MARKED TO REPRESENT AS-BUILT CONDITIONS FOR ALL NEW WORK.

DEMOLITION WORK:
ALL DEMOLITION OF EXISTING EQUIPMENT AND MATERIALS SHALL BE DONE BY THE CONTRACTOR UNLESS OTHERWISE INDICATED.
INCLUDE ALL ITEMS SUCH AS, BUT NOT LIMITED TO, EXISTING PIPING, DUCTWORK, SUPPORTS AND EQUIPMENT WHERE SUCH ITEMS ARE NOT REQUIRED FOR THE PROPER OPERATION OF THE MODIFIED SYSTEM.
IN GENERAL, DEMOLITION WORK IS INDICATED ON THE DRAWINGS. HOWEVER, THE CONTRACTOR SHALL VISIT THE JOB SITE TO DETERMINE THE FULL EXTENT OF THE WORK.
UNLESS SPECIFICALLY NOTED TO THE CONTRARY, REMOVED MATERIALS SHALL NOT BE REUSED IN THE WORK. ITEMS ON WHICH THE OWNER WAIVES OWNERSHIP SHALL BECOME THE PROPERTY OF THE CONTRACTOR, WHO SHALL REMOVE AND LEGALLY DISPOSE OF SAME, AWAY FROM THE PREMISES.

SLEEVES:
PROVIDE AND INSTALL SCHEDULE 40 BLACK STEEL PIPE SLEEVES, CUT TO LENGTH, WHEREVER PIPES PASS THROUGH ABOVE GRADE WALLS AND FLOORS. PROVIDE AND INSTALL GALVANIZED STEEL PIPE SLEEVES, CUT TO LENGTH, WHEREVER PIPES PASS THROUGH BELOW GRADE FOUNDATION WALLS AND SLAB ON GRADE FLOORS. SLEEVES SHALL TERMINATE FLUSH WITH WALLS IN FINISHED AREAS. ALL SLEEVES THROUGH THE FLOOR ARE TO EXTEND TWO (2) INCHES ABOVE FINISH FLOOR.

PENETRATIONS:
SEAL THE SPACE AROUND PIPES IN SLEEVES AND AROUND DUCT OPENINGS THROUGH WALLS, FLOORS, ROOFS, AND CEILINGS. ANY MECHANICAL SYSTEMS PENETRATING THROUGH FIRE-RATED ASSEMBLIES SHALL BE FIRE AND DRAFT STOPPED WITH NON-COMBUSTABLE MATERIALS PER APPLICABLE BUILDING CODE REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE ASSEMBLY LOCATIONS, TYPES, AND RATINGS.

CUTTING, CORING, AND PATCHING:
ALL CUTTING, CORING, AND PATCHING WORK REQUIRED FOR MECHANICAL INSTALLATIONS SHALL BE PERFORMED BY THE CONTRACTOR THROUGH APPROVED QUALIFIED SUB-CONTRACTORS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PAINTING, AND/OR OTHER REPAIRS REQUIRED. PRIOR WRITTEN APPROVAL FROM THE ARCHITECT/STRUCTURAL ENGINEER MUST BE OBTAINED PRIOR TO ANY CUTTING OF ANY BUILDING STRUCTURAL SYSTEMS.

PLUMBING SPECIFICATIONS

SECTION 15075 – MECHANICAL IDENTIFICATION

MANUFACTURERS:
BRADY CORPORATION, CHAMPION AMERICA, SETON IDENTIFICATION PRODUCTS

NAMEPLATES:
DESCRIPTION: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED LETTERS. LETTER COLOR: BLACK. LETTER HEIGHT: 1/2 TO 1 INCH TO SUIT THE SIZE OF EQUIPMENT BEING LABELED. BACKGROUND COLOR: WHITE.

TAGS:
PLASTIC TAGS: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED BLACK LETTERS ON LIGHT CONTRASTING BACKGROUND COLOR. TAG SIZE MINIMUM 1-1/2 INCH DIAMETER.

PIPE MARKERS:
COLOR: CONFORM TO ASME A13.1. PLASTIC PIPE MARKERS: FACTORY FABRICATED, FLEXIBLE, SEMI- RIGID PLASTIC, PREFORMED TO FIT AROUND PIPE OR PIPE COVERING; MINIMUM INFORMATION INDICATING FLOW DIRECTION ARROW AND IDENTIFICATION OF FLUID BEING CONVEYED. PLASTIC TAPE PIPE MARKERS: FLEXIBLE, VINYL FILM TAPE WITH PRESSURE SENSITIVE ADHESIVE BACKING AND PRINTED MARKINGS. UNDERGROUND PLASTIC PIPE MARKERS: BRIGHT COLORED CONTINUOUSLY PRINTED PLASTIC RIBBON TAPE, MINIMUM 6 INCHES WIDE BY 4 MIL THICK, MANUFACTURED FOR DIRECT BURIAL SERVICE.

INSTALLATION:
INSTALL PLASTIC NAMEPLATES WITH CORROSIVE-RESISTANT MECHANICAL FASTENERS, OR ADHESIVE. INSTALL PLASTIC TAPE PIPE MARKERS COMPLETE AROUND PIPE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INSTALL UNDERGROUND PLASTIC PIPE MARKERS 6 TO 8 INCHES BELOW FINISHED GRADE, DIRECTLY ABOVE BURIED PIPE. IDENTIFY PIPING, CONCEALED OR EXPOSED, WITH PLASTIC PIPE MARKERS. IDENTIFY SERVICE, FLOW DIRECTION, AND UNIQUE PRESSURE OR TEMPERATURE IF NECESSARY TO DISTINGUISH BETWEEN OTHER SYSTEMS. INSTALL IN CLEAR VIEW AND ALIGN WITH AXIS OF PIPING. LOCATE IDENTIFICATION NOT TO EXCEED 20 FEET ON STRAIGHT RUNS INCLUDING RISERS AND DROPS, ADJACENT TO EACH VALVE AND TEE, AT EACH SIDE OF PENETRATION OF STRUCTURE OR ENCLOSURE, AND AT EACH OBSTRUCTION. ARROWS AND MARKERS SHALL BE MOUNTED TO PROVIDE UNOBSTRUCTED VISIBILITY FROM FLOOR LEVEL. PAINT EXPOSED PIPING AND DUCTWORK PER SPECIFICATION SECTION 09900.

SECTION 15082 – PIPING INSULATION

PRODUCT REQUIREMENTS: SURFACE BURNING CHARACTERISTICS: FLAME SPREAD/SMOKE DEVELOPED INDEX OF 25/50, MAXIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM E 84, NFPA 255, OR UL 723. WHERE INSULATION AND COVERING IS SPECIFIED OR REQUIRED TO INCLUDE A VAPOR BARRIER, IT IS CRITICAL THAT THE INTEGRITY OF THE VAPOR BARRIER IS CONTINUOUSLY MAINTAINED. FASTENERS OR OTHER SECURING DEVICES THAT MAY UNINTENTIONALLY PENETRATE, OR DAMAGE, THE VAPOR BARRIER ARE PROHIBITED. WHERE FASTENERS MUST PENETRATE THE VAPOR BARRIER, THE VAPOR BARRIER SHALL BE REPAIRED.

FIBERGLASS PIPE INSULATION:
MANUFACTURERS: KNAUF, OWENS/CORNING, CERTAINTEED, JOHNS MANVILLE
INSULATION SHALL BE ASTM C547; RIGID MOLDED, NONCOMBUSTIBLE; "K" VALUE: ASTM C117 0.24 AT 75 DEGREES F; MINIMUM SERVICE TEMPERATURE: -20 DEGREES F; MAXIMUM SERVICE TEMPERATURE: 850 DEGREES F; MAXIMUM MOISTURE ABSORPTION: 0.2 PERCENT BY VOLUME. DENSITY: 3.5 LB/CU.FT.
VAPOR BARRIER JACKET SHALL BE WHITE KRAFT PAPER REINFORCED (ASJ) WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM; MOISTURE VAPOR TRANSMISSION: ASTM E96 0.02 PERM-INCHES; SECURE WITH SELF SEALING LONGINTUDINAL LAP AND BUTT STRIPS.
TIE WIRE: 0.048 INCH STAINLESS STEEL WITH TWISTED ENDS ON MAX 12 INCH CENTERS.
INDOOR VAPOR BARRIER FINISH: VINYL EMULSION TYPE ACRYLIC, COMPATIBLE WITH INSULATION, WHITE COLOR.

FLEXIBLE ELASTOMERIC CELLULAR INSULTATION (CELLULAR FOAM):
MANUFACTURERS: ARMACELL, ARMSTRONG MODEL "AP ARMAFLEX", RUBATEX CORP.
INSULATION: PREFORMED FLEXIBLE ELASTOMERIC CELLULAR RUBBER INSULATION COMPLYING WITH ASTM C 534 GRADE 3; USE MOLDED TUBULAR MATERIAL WHEREVER POSSIBLE. INSULATION SHALL NOT BE USED ON STAINLESS STEEL. K VALUE: ASTM C177 OR C518; 0.27 AT 75 DEGREES F. MINIMUM SERVICE TEMPERATURE: -40 DEGREES F. MAXIMUM SERVICE TEMPERATURE: 220 DEGREES F. MAXIMUM SERVICE ABSORPTION: ASTM D1056; 1.0 PERCENT (PIPE) BY VOLUME, 1.0 PERCENT (SHEET) BY VOLUME. MAXIMUM VAPOR TRANSMISSION: ASTM E96; 0.20 PERM INCHES. CONNECTION: WATERPROOF VAPOR BARRIER ADHESIVE.
ELASTOMERIC FOAM ADHESIVE: AIR DRIED, CONTACT ADHESIVE, COMPATIBLE WITH INSULATION.

JACKETS:
MANUFACTURERS: JOHNS MANVILLE, KNAUF, CERTAIN TEED, CEEL-CO.
PVC PLASTIC JACKET: ONE PIECE MOLDED TYPE, OFF-WHITE COLOR; MINIMUM SERVICE TEMPERATURE: -40 DEGREES F; MAXIMUM SERVICE TEMPERATURE: 150 DEGREES F; MOISTURE VAPOR TRANSMISSION: ASTM E96, 0.002 PERM-INCHES; THICKNESS: 10 MIL; CONNECTIONS: PRESSURE SENSITIVE COLOR MATCHING VINYL TAPE.

INSTALLATION:

EXPOSED PIPING: LOCATE INSULATION AND COVER SEAMS IN LEAST VISIBLE LOCATIONS. INSTALL PVC JACKETS AND FITTING COVERS. PAINT TO MATCH FINISHES. REFER TO SPECIFICATION SECTION 09900 – COORDINATE COLOR WITH ARCHITECT.

GLASS FIBER INSULATED PIPES CONVEYING FLUIDS BELOW AMBIENT TEMPERATURE: PROVIDE VAPOR BARRIER JACKETS, FACTORY-APPLIED OR FIELD-APPLIED. SECURE WITH SELF-SEALING LONGITUDINAL LAPS AND BUTT STRIPS WITH PRESSURE SENSITIVE ADHESIVE. SECURE WITH OUTWARD CLINCH EXPANDING STAPLES AND VAPOR BARRIER MASTIC. VAPOR BARRIER SHALL BE CONTINUOUS.
INSULATE FITTINGS, JOINTS, AND VALVES WITH MOLDED INSULATION OF LIKE MATERIAL AND THICKNESS AS ADJACENT PIPE. FINISH WITH GLASS CLOTH AND VAPOR BARRIER ADHESIVE OR PVC FITTING COVERS.
PROVIDE CALCIUM SILICATE INSERTS WHERE PIPES PASS THROUGH WALLS, SLEEVES, PIPE HANGERS/ROLLERS, AND OTHER PIPE PENETRATIONS.
INSULATE ENTIRE SYSTEM INCLUDING FITTINGS, VALVES, UNIONS, FLANGES, STRAINERS, FLEXIBLE CONNECTIONS, PUMP BODIES, AND EXPANSION JOINTS. BEVEL AND SEAL ENDS OF INSULATION. PROVIDE REMOVABLE INSULATION ACCESS SECTIONS TO PERMIT ACCESS AND REMOVAL OF UNIONS, FLANGES, AND STRAINER BASKETS.

GLASS FIBER INSULATED PIPES CONVEYING FLUIDS ABOVE AMBIENT TEMPERATURE:
PROVIDE STANDARD JACKETS, WITH VAPOR BARRIER, FACTORY-APPLIED OR FIELD-APPLIED. SECURE WITH SELF-SEALING LONGITUDINAL LAPS AND BUTT STRIPS WITH PRESSURE SENSITIVE ADHESIVE. SECURE WITH OUTWARD CLINCH EXPANDING STAPLES.
INSULATE FITTINGS, JOINTS, AND VALVES WITH INSULATION OF LIKE MATERIAL AND THICKNESS AS ADJOINING PIPE. FINISH WITH GLASS CLOTH AND ADHESIVE OR PVC FITTING COVERS.
FINISH WITH TAPE AND WHITE PAINTABLE VAPOR BARRIER JACKET.
PROVIDE CALCIUM SILICATE INSERTS WHERE PIPES PASS THROUGH WALLS, SLEEVES, PIPE HANGERS/ROLLERS, AND OTHER PIPE PENETRATIONS.
INSULATE ENTIRE SYSTEM INCLUDING FITTINGS, VALVES, UNIONS, FLANGES, STRAINERS, FLEXIBLE CONNECTIONS, PUMP BODIES, AND EXPANSION JOINTS. BEVEL AND SEAL ENDS OF INSULATION.

INSERTS AND SHIELDS:
SHIELDS: GALVANIZED STEEL BETWEEN PIPE HANGERS OR PIPE HANGER ROLLS AND INSERTS. ALL PIPING, ALL SIZES, SHALL HAVE SHIELDS INSTALLED BETWEEN THE PIPE HANGERS AND INSULATION OR INSERTS.
INSERT LOCATION: BETWEEN SUPPORT SHIELD AND PIPING AND UNDER THE FINISH JACKET.
INSERT CONFIGURATION: MINIMUM 6 INCHES LONG, OF SAME THICKNESS AND CONTOUR AS ADJOINING INSULATION; MAY BE FACTORY FABRICATED.
INSERT MATERIAL: HYDROUS CALCIUM SILICATE INSULATION OR OTHER HEAVY DENSITY INSULATING MATERIAL SUITABLE, AS APPROVED BY THE ENGINEER, FOR THE PLANNED TEMPERATURE RANGE.

CONTINUE INSULATION THROUGH WALLS, SLEEVES, PIPE HANGERS/ROLLERS, AND OTHER PIPE PENETRATIONS. INSTALL STEEL SLEEVES AT ALL WALL AND FLOOR PENETRATIONS. FINISH AT SUPPORTS, PROTRUSIONS, AND INTERRUPTIONS.

BURIED PIPING: PROVIDE FACTORY FABRICATED ASSEMBLY WITH INNER ALL-PURPOSE SERVICE JACKET WITH SELF-SEALING LAP, AND ASPHALT IMPREGNATED OPEN MESH GLASS FABRIC, WITH ONE MIL THICK ALUMINUM FOIL SANDWICHED BETWEEN THREE LAYERS OF BITUMINOUS COMPOUND; OUTER SURFACE FACED WITH A POLYESTER FILM.

ENDS OF INSULATION SHALL BE SEALED OFF. SPRAY PAINT IS NOT ACCEPTABLE. THERE SHALL BE NO EXPOSED ENDS.

SCHEDULES:

DOMESTIC HOT WATER SUPPLY, DOMESTIC HOT WATER RE-CIRCULATION:
PIPE SIZE RANGE: 1-1/2" AND SMALLER = 1" THICK GLASS FIBER
PIPE SIZE RANGE: 2" AND LARGER = 1-1/2" THICK GLASS FIBER

DOMESTIC COLD WATER SUPPLY:
PIPE SIZE RANGE: ALL SIZES = 1" THICK GLASS FIBER

PLUMBING SPECIFICATIONS

SECTION 15145 – PLUMBING PIPING

SANITARY SEWER (SAN, V) PIPING, BURIED WITHIN 5 FEET OF BUILDING:
CAST IRON PIPE: CISPI 301, HUBLESS WITH CAST IRON FITTINGS AND CISPI 310 JOINTS (NEOPRENE GASKET WITH STAINLESS STEEL CLAMP AND SHEILDS)
PVC PIPE: ASTM D2665 OR ASTM D 3024, PVC JOINTS SOLVENT WELDED WITH ASTM D 2564 SOLVENT CEMENT
NOTES: ALL PIPES PASSING UNDER FOOTINGS SHALL BE CISPI 301, SERVICE WIEGHT, HUBLESS, CAST IRON PIPE WITH NEOPRENE GASKETS AND STAINLESS STEEL CLAMP-AND-SHEILD GASKETS.

SANITARY SEWER (SAN, V) PIPING, ABOVE GRADE:
CAST IRON PIPE: CISPI 301, HUBLESS WITH CAST IRON FITTINGS AND CISPI 310 JOINTS (NEOPRENE GASKET WITH STAINLESS STEEL CLAMP AND SHEILDS)
PVC PIPE: ASTM D2665 OR ASTM D 3024, PVC JOINTS SOLVENT WELDED WITH ASTM D 2564 SOLVENT CEMENT – WHERE ALLOWED BY CODE.

DOMESTIC HOT WATER (HW), COLD WATER (CW), DOMESTIC HOT WATER RECIRC. (HWR) PIPING, ABOVE GRADE:
COPPER TUBING: ASTM B88, TYPE L (B), HARD DRAWN FOR SIZES 4 INCH AND SMALLER.
JOINTS: ASTM B32, SOLDER, GRADE 95TA. SOLDER CONTAINING LEAD WILL NOT BE PERMITTED.

PIPING TRANSITIONS:
PROVIDE TRANSITIONS FOR JOINING TWO DIFFERENT TYPES OF PIPE MATERIALS SUCH AS CAST IRON, STEEL, COPPER, OR PLASTIC. FABRICATE TRANSITIONS WITH BUSHINGS CAPABLE OF RESISTING NORMAL MOISTURE CORROSION.

INSTALLATION:
INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.
ESTABLISH ELEVATIONS OF BURIED PIPING OUTSIDE THE BUILDING TO ENSURE NOT LESS THAN 4' OF COVER.
INSTALL CONCRETE THRUST BLOCKS AT ELBOWS OF UNDERGROUND DOMESTIC WATER SERVICE PIPING.
INSTALL WATER PIPING TO ASME B31.9.
EACH FIXTURE, OR GROUP OF PLUMBING FIXTURES, SHALL HAVE ISOLATION VALVES PROVIDED. ALL COLD WATER AND HOT WATER RUN-OUTS FROM PIPING MAINS TO FIXTURES SHALL BAVE ISOLATION VALVES INSTALLED NEAR THE MAIN TAKE-OFF, WHETHER SHOWN ON THE PLANS OR NOT.
PROVIDE DIELECTRIC CONNECTIONS AT JOINING OF DISSIMILAR METALS.
SLOPE AND INSTALL PIPING TO DRAIN AT LOW POINTS.
INSTALL SLEEVES AT WALL AND FLOOR PENETRATIONS. PROVIDE SEAL TO ACHIEVE APPROPRIATE FIRE SEPARATION WHERE REQUIRED.
PROVIDE UNIONS OR BOLTED FLANGES TO PERMIT REMOVAL OF REQUIREMENT AND CONTROL VALVES FROM THE PIPING SYSTEM. MAKE FINAL CONNECTIONS TO EQUIPMENT WITH UNIONS OR FLANGES LOCATED BETWEEN EQUIPMENT AND VALVES.
PROVIDE ACCESS TO VALVES AND FITTINGS NOT EXPOSED.
MINIMUM UNDERGROUND SANITARY PIPING SIZE SHALL BE 3".
PLUMBING VENTS THROUGH THE ROOF SHALL BE LOCATED AT LEAST 10'-0" AWAY FROM OUTDOOR AIR INTAKE LOCATIONS.
ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING SHALL HAVE CODE REQUIRED CLEARANCES PROVIDED.
ALL FIXTURES/EQIPMENT SHALL BE PROVIDED WITH ISOLATION VALVES. ALL VALVES SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.

PIPING SYSTEMS TESTING:
TEST DRAINAGE PIPING SYSTEMS IN ACCORDANCE WITH THEIR RESPECTIVE AND APPLICABLE GOVERNING CODES. TEST DRAINAGE AND WASTE PIPING HYDRAULICALLY BY FILLING SYSTEM TO ITS HIGHEST POINT OR, WHICHEVER IS GREATER, AT A STATIC HEAD OF 10 FEET. LEAKAGE AT ANY JOINT SHALL BE SUFFICIENT CAUSE FOR REJECTION AND REMAKING OF JOINT.

PRESSURE TEST COLD WATER (CW) AND HOT WATER (HW) PIPING, PRIOR TO INSULATION, WITH WATER AT 225 PSIG. PERMISSIBLE PRESSURE DROP SHALL BE 0 PSIG DROP IN 2 HOURS.

SECTION 15146 – PLUMBING SPECIALTIES

DRAIN MANUFACTURERS: JR SMITH, ZURN, WADE

FLOOR DRAINS:
FLOOR DRAIN (FD-1):
ASME A112.21.1M; LACQUERED CAST IRON TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEEP HOLES, REVERSIBLE CLAMPING COLLAR, TRAP PRIMER CONNECTION, AND ADJUSTABLE ROUND NICKEL-BRONZE STRAINER.
LACQUERED FINISH IS STANDARD. USE CLAMPING COLLAR ON FLOORS ABOVE GRADE.
THIS IS A STANDARD FLOOR DRAIN USED IN TOILET ROOMS, JANITOR'S CLOSETS, SHOWERS, ETC.
PRODUCT: ZURN MODEL Z-415 (WITH TYPE B-STRAINER) OR EQUAL.

TRAP PRIMERS:
MANUFACTURERS: JR SMITH, ZURN, PRECISION PLUMBING PRODUCTS.
FOR SINGLE TRAP PRIMER INSTALLATIONS: INSTALL JR SMITH "PRIME-ESE" P-TRAP TRAP PRIMER ON THE SANITARY OUTLET OF LAVATORIES OR DRINKING FOUNTAINS. INSTALL PPP INC. MODEL P1 OR P2 TRAP PRIMER VALVE ON DOMESTIC COLD WATER SUPPLY PIPE (MAXIMUM 1-1/2") FEEDING NEARBY SINK, LAVATORY, WATER COOLER, ETC.
FOR MULTIPLE TRAP PRIMER INSTALLATIONS: INSTALL PPP INC. MODEL P1 OR P2 TRAP PRIMER VALVE AND PPP INC. TRAP PRIMER DISTRIBUTION UNIT WITH UP TO 4 OUTLETS TO UP TO 8 FLOOR DRAINS.

CLEANOUTS:
AT EXTERIOR SURFACED AREAS: ROUND CAST NICKEL BRONZE ACCESS FRAME AND NON-SKID COVER.
AT EXTERIOR UNSURFACED AREAS: LINE TYPE WITH LACQUERED CAST IRON BODY AND ROUND EPOXY COATED GASKETED COVER.
AT INTERIOR FINISHED FLOOR AREAS ON GRADE: SMITH MODEL 4025-F CAST IRON BODY WITH ROUND, HEAVY DUTY, SCORIATED POLISHED-BRONZE FLUSH COVER. COVER SHALL BE ADJUSTABLE TO FINISHED FLOOR AFTER CONCRETE HAS SET.
AT INTERIOR FINISHED WALL AREAS ON GRADE: LINE TYPE WITH CAST IRON BODY AND ROUND EPOXY COATED GASKET COVER AND ROUND STAINLESS STEEL ACCESS COVER WITH MACHINE SCREW INSTALLED FLUSH WITH THE WALL.

WATER HAMMER ARRESTORS:
MANUFACTURERS: J.R. SMITH, ZURN, WATTS
STAINLESS STEEL CONSTRUCTION, BELLOWS TYPE SIZED IN ACCORDANCE WITH PDI WH-201, PRECHARGED SUITABLE FOR TEMPERATURE RANGE OF -100 TO 3000 DEGREES F AND MAXIMUM 250 PSIG WORKING PRESSURE.

POINT OF USE THERMOSTATIC MIXING VALVES:
MANUFACTURERS: LAWLER, LEONARD, WATTS
VALVE: BRONZE BODY, STAINLESS STEEL DISC AND SPRING, INTEGRAL TEMPERATURE ADJUSTMENT CAP WITH LOCKING FEATURE. COPPER THERMOSTAT ASSEMBLY. BUNA-N; EPDM O'RINGS. INTEGRAL CHECK VALVES ON HOT AND COLD WATER INLETS. ASSE 1070 LISTED.
CAPACITY: 1/2" 3.5 GPM AT 5 PSI DIFFERENTIAL.
CAPACITY: 3/4" 7.5 GPM AT 5 PSI DIFFERENTIAL.
ACCESSORIES: INSTALL CHECK VALVES ON INLETS IF NO INTEGRAL CHECK VALVES, VOLUME CONTROL SHUT-OFF VALVE ON OUTLET, STEM THERMOMETER ON OUTLET, INSTALL STRAINERS ON HOT AND COLD WATER SUPPLY LINES.

INSTALLATION:
INSTALL WATER HAMMER ARRESTORS COMPLETE WITH ACCESSIBLE ISOLATION VALVE ON HOT AND COLD WATER SUPPLY PIPING TO LAVATORIES, SINKS, WATER CLOSETS, BATHTUBS/SHOWERS, AND OTHER APPLICAPLE FIXTURE LOCATIONS WITH QUICK CLOSING VALVES.
FLOOR DRAIN TRAP SIZE SHALL MATCH THE OUTLET SIZE OF THE DRAIN AND THE SIZE SHOWN ON THE PLANS. FLOOR DRAIN TRAPS SUBJECT TO LOSS BY EVAPORATION (I.E. STORAGE ROOMS, MECHANICAL ROOMS, BATHROOMS, ETC.) SHALL HAVE A DEEP SEAL TRAP CONSISTING OF AT LEAST A 4 INCH SEAL, A TRAP PRIMER CONNECTION, AND BE PROTECTED BY A TRAP PRIMER VALVE.
TRAP PRIMERS: TRAP PRIMER SHALL BE PROVIDED FOR ALL FLOOR DRAINS SUBJECT TO LOSS OF SEAL BY EVAPORATION (IE. STORAGE ROOMS, BATHROOMS, MECHANICAL ROOMS, ETC.). TAP OFF TOP OF DOMESTIC COLD WATER MAIN PIPE FEEDING NEARBY PLUMBING FIXTURE.
TRAP PRIMER VALVES SHALL BE INSTALLED IN CONCEALLED BUT ACCESSIBLE LOCATIONS FOR MAINTENANCE.
INSTALL "ASSE 1070 LISTED" POINT OF USE THERMOSTATIC MIXING VALVES AT ALL ACCESSIBLE FIXTURES (LAVATORIES, SINKS, ETC.).
PROVIDE LAV-SHIELDS UNDER LAVATORIES TO CONCEAL MIXING VALVES.

SECTION 15410 – PLUMBING FIXTURES

PLUMBING FIXTURES SHALL BE AS SCHEDULED ON PLANS.

FIXTURE MANUFACTURERS: AMERICAN STANDARD, KOHLER, ELJER, ZURN.

FLUSH VALVE MANUFACTURERS: SLOAN, ZURN, GERBERIT.

CARRIER MANUFACTURERS: JOSAM, SLOAN, ZURN, JR SMITH

FAUCET MANUFACTURERS: AMERICAN STANDARD, KOHLER, CHICAGO FAUCET, DELTA, ZURN, SLOAN.

SHOWER MANUFACTURERS: HAWS, SPEAKMAN, BRADLEY.

INSTALLATION:
PROVIDE CHROME PLATED RIGID SUPPLIES TO FIXTURES WITH SCREWDRIVER STOPS, REDUCERS, AND ESCUTCHEONS.
FURNISH AND INSTALL ALL PLUMBING FIXTURES COMPLETE WITH ALL SUPPLY, SOIL, WASTE AND VENT PIPING CONNECTIONS; TOGETHER WITH ALL FITTINGS, SUPPORTS, FASTENING DEVICES, COCKS, VALVES AND APPURTENANCES REQUIRED TO COMPLETE INSTALLATIONS.
ALL FAUCETS AND EXPOSED TRAPS, FITTINGS, TRIM, CONNECTIONS, ETC. SHALL BE OF POLISHED CHROMIUM PLATED BRASS UNLESS OTHERWISE SPECIFIED.
ALL PLUMBING FIXTURES, EQUIPMENT, TRIM AND FITTINGS SHALL COMPLY WITH LOCAL, STATE, AND FEDERAL REGULATIONS AND CODES, INCLUDING, BUT NOT LIMITED TO, WATER AND EVERGY CONSERVATION CODES, ADA REQUIREMENTS.
REFER TO SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS OF FIXTURES AND TRIM.
PROVIDE/INSTALL POINT OF USE "ASSE 1070 LISTED" THERMOSTATIC MIXING VALVES ON SUPPLIES TO ALL ADA ACCESSIBLE LAVATORIES AND SINKS.
INSTALL "LAV-SHIELDS" ON WALL MOUNTED LAVS/SINKS TO COMPLETELY CONCEAL EXPOSED TRAPS, SUPPLIES, AND MIXING VALVES.
COORDINATE ALL FIXTURE FINISHES/COLORS WITH ARCHITECT PRIOR TO ORDERING.

FIXTURE ROUGH-IN SCHEDULES:
WATER CLOSET (FLUSH VALVE TYPE): 1-1/4" CW, 3"-4" WASTE, 2" VENT
LAVATORY: 1/2" CW, 1/2" HW, 2" WASTE, 1-1/2" VENT
SHOWER: 1/2" CW, 1/2" HW, 3" WASTE, 1-1/2" VENT

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AEA 1402-01
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DRAWING TITLE
PLUMBING SPECIFICATIONS

PROJECT TITLE
PROPOSED OTSEGO COUNTY BUILDING REMOLDING FOR:
OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO.
213-14

DATE
JULY 7, 2014

SHEET
P3.1

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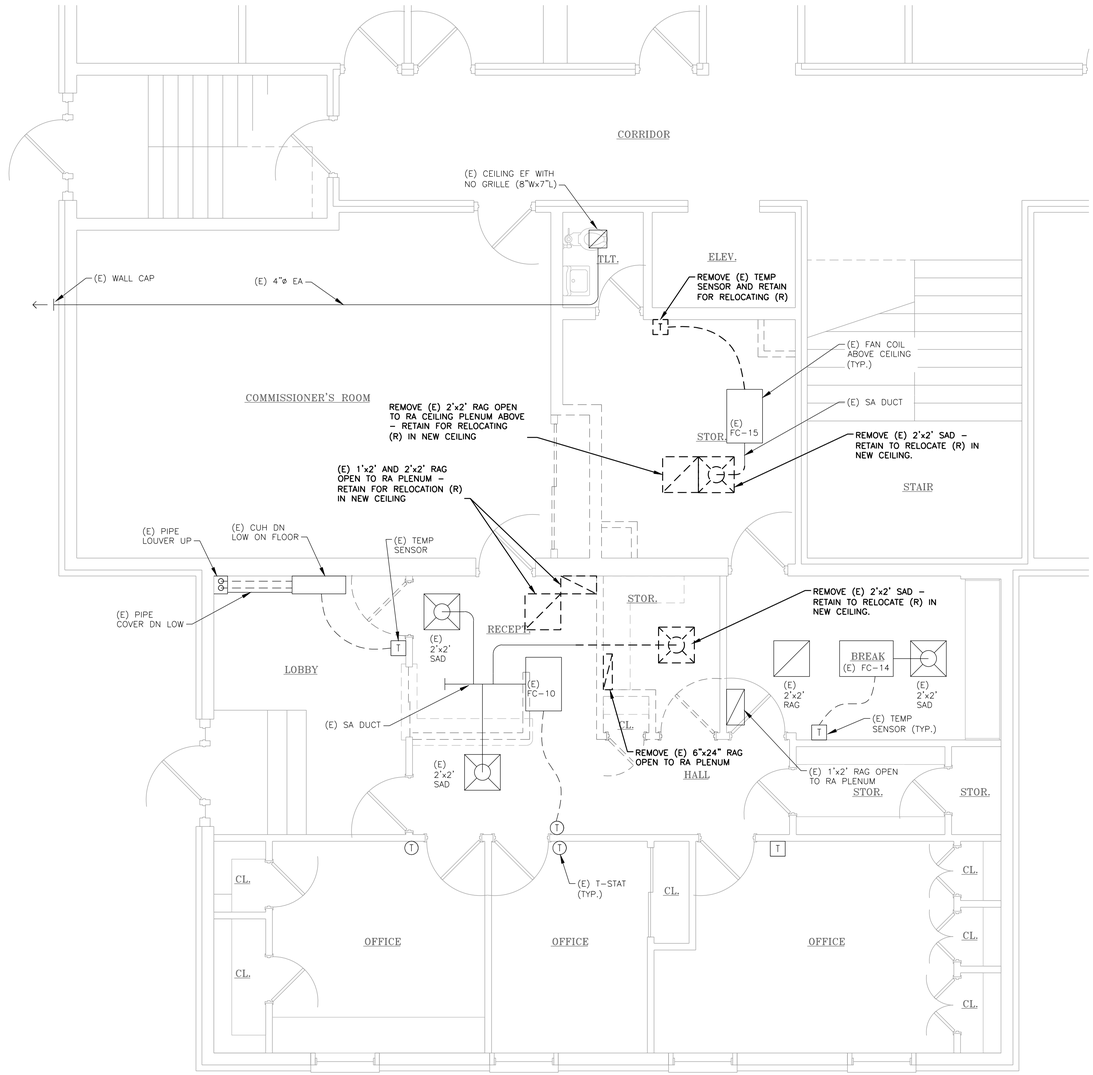

NORTH

MECHANICAL DEMOLITION PLAN

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

GENERAL MECHANICAL DEMOLITION NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE EXTENT OF DEMOLITION WORK SHALL BE AS REQUIRED BY THE NEW WORK.

2. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING SYSTEMS/EQUIPMENT PRIOR TO ISSUING HIS BID. (IE. ALL EXISTING PIPE/DUCT SIZES AND ROUTINGS/LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR).

3. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE WITH ALL RELATED ITEMS INCLUDING, BUT NOT LIMITED TO, HANGERS, SUPPORTS, CONTROLS, ETC. REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF OFF SITE. CAP ALL OPEN ENDED PIPING AND DUCTWORK.

4. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED, BY THE OWNER OR OWNER'S REPRESENTATIVE, AT LEAST (7) DAYS IN ADVANCE SO AS NOT TO INTERFERE WITH THE PRESENT BUILDING OPERATION.

5. WHERE DEMOLITION OF EXISTING SERVICES ARE REQUIRED TO ACCOMMODATE THE PROJECT PHASING/SCHEDULING, AND SERVICES ARE TO BE INTERRUPTED IN AREAS THAT ARE REMAINING OCCUPIED, THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AND/OR CONNECTIONS TO THE OCCUPIED AREAS TO MAINTAIN ITS PRESENT OPERATION. IF SYSTEM SHUT DOWNS ARE REQUIRED, THE CONTRACTOR SHALL SCHEDULE WORK TO BE PERFORMED AT UNOCCUPIED HOURS.

6. ALL ITEMS TO BE REMOVED AND/OR RELOCATED SHALL BE REMOVED AND/OR RELOCATED TOGETHER WITH ALL RELATED ITEMS AS REQUIRED BY THE NEW WORK TO BE PERFORMED.

7. CONTRACTOR SHALL COORDINATE ALL REMOVAL AND/OR RELOCATION WITH THE EXTENT OF THE NEW WORK AND WITH ALL OTHER TRADES INVOLVED.

8. UNLESS NOTED OTHERWISE, EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, CORING, PATCHING ASSOCIATED WITH THEIR WORK. CUTTING, CORING, PATCHING WORK SHALL BE PERFORMED BY A QUALIFIED SUB-CONTRACTOR AND MATCH EXISTING OR NEW FINISHES.

METHODS OF NOTATION

S-1 10ø 350-4	SUPPLY DIFFUSER WITH SCHEDULE TAG, 10" DIAMETER NECK SIZE 350 CFM TYPICAL FOR 4.
R-1 22X10 640-2	RETURN REGISTER WITH SCHEDULE TAG, 22x10 NECK SIZE 640 CFM TYPICAL FOR 2 EXHAUST REGISTER (E) DESIGNATION SIMILAR.
EF 1	EQUIPMENT DESIGNATION, (i.e. EXHAUST FAN NUMBER 1)
1	CONSTRUCTION KEY NOTE NUMBER
1	DEMOLITION KEY NOTE NUMBER

EXISTING SYSTEM COMPONENT TO BE REMOVED

NEW SYSTEM COMPONENT

EXISTING SYSTEM COMPONENT TO REMAIN

POINT OF NEW CONNECTION.

MECHANICAL SYMBOL LIST

SYMBOL	DESCRIPTION
	RECTANGULAR TAKE-OFF (SINGLE LINE)
	RECTANGULAR TAKE-OFF (DOUBLE LINE)
	ROUND TAKE-OFF (SINGLE LINE)
	ROUND TAKE-OFF (DOUBLE LINE)
	SPIN-IN FITTING (WITH VOLUME DAMPER)
	RECTANGULAR ELBOW (WITH TURNING VANES)
	RADIUS RECTANGULAR ELBOW
	RADIUS ROUND ELBOW
	RECTANGULAR ELBOW UP
	ROUND ELBOW UP
	DUCT UP (SINGLE LINE)
	RECTANGULAR ELBOW DOWN
	ROUND ELBOW DOWN
	DUCT DOWN (SINGLE LINE)
	CONCENTRIC TRANSITION (DOUBLE LINE)
	CONCENTRIC TRANSITION (SINGLE LINE)
	ECCENTRIC TRANSITION (DOUBLE LINE)
	ECCENTRIC TRANSITION (SINGLE LINE)
	CROSS SECTION OF SUPPLY AIR DUCT
	CROSS SECTION OF EXHAUST OR RETURN AIR DUCT
	SQUARE CEILING DIFFUSER
	RETURN OR EXHAUST CEILING GRILLE
	TRANSFER GRILLE
	ROOF VENTILATOR (PLAN VIEW)
T	THERMOSTAT
T	TEMPERATURE SENSOR
HWHS	HOT WATER HEATING SUPPLY PIPING
HWHR	HOT WATER HEATING RETURN PIPING
CHWS	CHILLED WATER SUPPLY PIPING
CHWR	CHILLED WATER RETURN PIPING

MECHANICAL DRAWING INDEX

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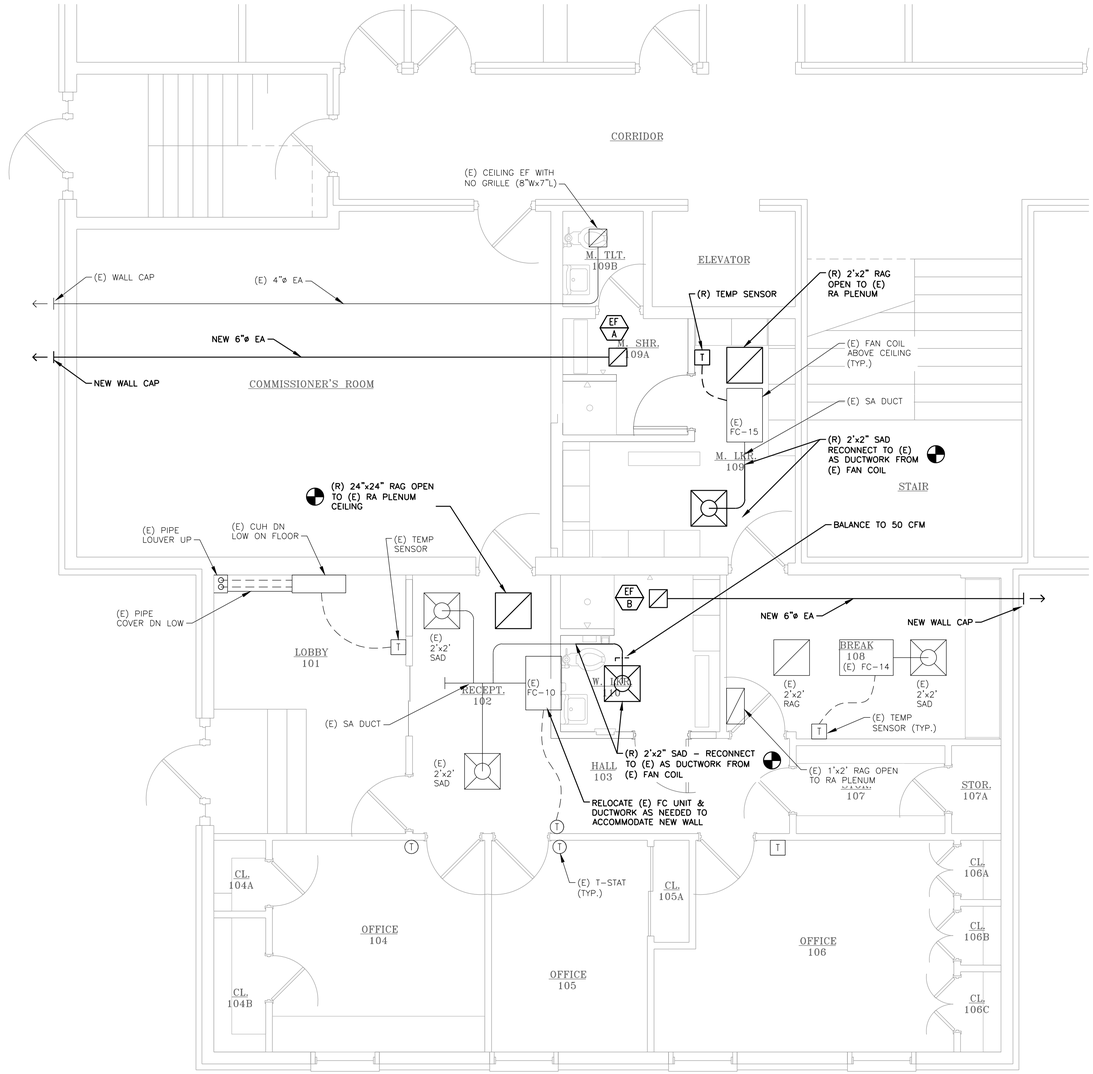
DRAWING TITLE: MECHANICAL DEMOLITION PLAN

PROJECT TITLE: PROPOSED OTSEGO COUNTY BUILDING REMOLDING FOR: OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO. 213-14

DATE JULY 7, 2014

SHEET M1.1



NORTH

MECHANICAL NEW WORK PLAN

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

GENERAL MECHANICAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL SCOPE OF WORK. CONTRACTOR SHALL PROVIDE ALL MECHANICAL SYSTEMS AND ASSOCIATED EQUIPMENT COMPLETE AND INCLUDE ALL NECESSARY OFFSETS, FITTINGS, AND OTHER COMPONENTS REQUIRED DUE TO INTERFERENCES, SPACE CONSTRAINTS, CODES, ETC.

2. MECHANICAL SYSTEMS SHALL BE INSTALLED PER MICHIGAN MECHANICAL CODE, MICHIGAN PLUMBING CODE, INTERNATIONAL FUEL GAS CODE, APPLICABLE NFPA BUILDING CODES (IE. 101, 90A, ETC.), AND APPLICABLE BUILDING CODES (I.E. 2006 MICHIGAN BUILDING CODE, ETC.).

3. CONTRACTOR TO VERIFY REQUIREMENTS OF ALL EQUIPMENT WITH SHOP DRAWING SUBMITTALS PRIOR TO INSTALLATION. NOTIFY THE ENGINEER OF ANY CONFLICTS BETWEEN SHOP DRAWINGS AND PLANS.

4. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF MECHANICAL WORK WITH ALL OTHER TRADES. VERIFY ALL MECHANICAL AND ELECTRICAL CLEARANCES PRIOR TO THE FABRICATION OF ANY WORK. DUCTWORK, PIPING, ETC. SHALL NOT BE LOCATED DIRECTLY OVER ELECTRICAL PANELS/EQUIPMENT, OR INTERFERE WITH MECHANICAL/ ELECTRICAL EQUIPMENT CLEARANCES.

5. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, HANGERS, ETC., FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. DUCTWORK OR PIPING SHALL NOT BE SUPPORTED FROM/BY EQUIPMENT OR EQUIPMENT CONNECTIONS.

6. COORDINATE ALL FLOOR, WALL, AND ROOF PENETRATIONS, EQUIPMENT PADS, LOUVERS, ETC. WITH ARCHITECTURAL/STRUCTURAL TRADES PRIOR TO ROUGH-IN. UNLESS NOTED OTHERWISE, EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, CORING, PATCHING ASSOCIATED WITH THEIR WORK. CUTTING, CORING, PATCHING WORK SHALL BE PERFORMED BY A QUALIFIED SUB-CONTRACTOR AND MATCH EXISTING OR NEW FINISHES.

MECHANICAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CFM	CUBIC FEET PER MINUTE
CONT.	CONTINUATION OR CONTINUED
CORD.	COORDINATE
CUH	CABINET UNIT HEATER
DEG	DEGREES
DN	DOWN
(E)	EXISTING
EG	EXHAUST GRILLE OR REGISTER
EA	EXHAUST AIR
E.C.	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ELEC	ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
(F)	FUTURE
FLA	FULL LOAD AMPS
FC	FAN COIL
FLR	FLOOR
FPM	FEET PER MINUTE
HP	HORSEPOWER
HR	HOUR
HTG	HEATING
ISP	INTERNAL STATIC PRESSURE
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
M.C.	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
OA	OUTSIDE AIR
P.C.	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PRI	PRIOR TO ROUGH-IN
RAG	RETURN AIR GRILLE OR REGISTER
RA	RETURN AIR
RPM	REVOLUTIONS PER MINUTE
SAD	SUPPLY AIR DIFFUSER
SAG	SUPPLY AIR GRILLE
SA	SUPPLY AIR
SP	STATIC PRESSURE
T.C.	TEMPERATURE CONTROLS CONTRACTOR
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
VD	VOLUME DAMPER
V	VENT

FAN SCHEDULE

UNIT I.D.	SYSTEM SERVED	TYPE	AIRFLOW CFM	E.S.P. IN. W.G.	FAN RPM	MOTOR				ELECTRICAL		CURB HEIGHT (IN)	WEIGHT LBS	MODEL NO.	REMARKS
						WATTS	HP	RPM	DRIVE	VOLTS	PHASE				
EF-A	MENS LOCKER	CEILING MOUNTED EXHAUST	75	0.25	905	74 W	FRACT.	1,100	DIRECT	115	1	-	26	SP-A110	SEE NOTES 1, 2 - 0.8 SONES
EF-B	WOMENS LOCKER	CEILING MOUNTED EXHAUST	75	0.25	905	74 W	FRACT.	1,100	DIRECT	115	1	-	26	SP-A110	SEE NOTES 1, 2 - 0.8 SONES

NOTES:
1. MODEL NUMBERS ARE GREENHECK UNLESS OTHERWISE NOTED. OR EQUAL BY COOK, S&P, AND PENN.
2. PROVIDE THE FOLLOWING OPTIONS/ACCESSORIES: UL-507 - "ELECTRIC FANS"; SOLID STATE SPEED CONTROL (MOUNTED AND WIRED INTERNALLY); ROUND HOODED WALL CAP (MODEL WC-6) - SHIPPED LOOSE; LIGHTED GRILLE W/ WHITE ENAMEL FINISH; ROUND DUCT CONNECTOR (MODEL RDC-6) - SHIPPED LOOSE; POLYPROPYLENE WHEEL.

JLK Engineering Project Number: AEA 1402-01

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GAYLORD, MICHIGAN

PROJECT NO. 213-14

DATE JULY 7, 2014

SHEET M2.1

MECHANICAL SPECIFICATIONS

15000 – GENERAL MECHANICAL REQUIREMENTS

WORK INCLUDED:
PROVIDE ALL ITEMS, ARTICLES, MATERIALS, OPERATIONS OR METHODS LISTED, MENTIONED OR SCHEDULED IN DESIGN DOCUMENTS AND/OR HEREIN, INCLUDING ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY AND REQUIRED FOR THEIR COMPLETION. ALL DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING THE GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO WORK OF ALL DIVISION 15/22/23 SECTIONS. THE ITEMS IN THIS SECTION ARE NOT INTENDED TO SUPERSEDE, BUT ARE SUPPLEMENTARY TO, THE REQUIREMENTS SET FORTH IN OTHER DIVISIONS OF THE SPECIFICATIONS.

CONDITIONS:
THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW THE GENERAL ARRANGEMENT OF EQUIPMENT, PIPING, DUCTWORK AND RELATED ITEMS. THEY SHALL BE FOLLOWED AS CLOSELY AS ELEMENTS OF THE CONSTRUCTION WILL PERMIT. THE CONTRACTOR SHALL VISIT THE SITE, EXAMINE AND VERIFY THE CONDITIONS UNDER WHICH THE WORK MUST BE CONDUCTED PRIOR TO SUBMITTING A PROPOSAL. THE SUBMISSION OF A PROPOSAL IMPLIES THAT THE CONTRACTOR HAS VISITED THE SITE, IS FAMILIAR WITH ALL CONDITIONS, INCLUDING EXISTING SERVICES, AND EQUIPMENT, OBSTRUCTIONS, AND ALL CONDITIONS, WHICH WILL BE ENCOUNTERED IN THE REMOVAL AND/OR RELOCATION OF PRESENT MATERIALS/EQUIPMENT, INSTALLATION OF NEW MATERIALS, EQUIPMENT, ETC. FOR A NEW COMPLETE INSTALLATION. IF ANY INTERFERENCES, VIOLATIONS, OR OMISSIONS APPEAR TO DEPART FROM THE DESIGN INTENT OF THE BID DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO ENTERING INTO A CONTRACT WITH THE OWNER. FAILURE TO PROVIDE THE ARCHITECT/ENGINEER WITH THE AFOREMENTIONED NOTIFICATION WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE TO COMPLETE ALL WORK TO MEET THE DESIGN INTENT OF THE BID DOCUMENTS WITH NO ADDITIONAL EXPENSES BEING INCURRED. CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO STARTING THEIR WORK.

COORDINATION:
CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES IN ORDER TO AVOID INTERFERENCES. CONTRACTOR SHALL EXAMINE THE DRAWINGS OF OTHER TRADES AND VERIFY THE CONDITIONS GOVERNING THE WORK ON THE JOB SITE. ARRANGE WORK ACCORDINGLY, PROVIDING SUCH DUCTWORK, PIPING, ETC. AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. WHERE INTERFERENCES OCCUR, THE CONTRACTOR SHALL, PRIOR TO INSTALLATION OF THE WORK, CONSULT WITH THE ARCHITECT/ENGINEER AS TO THE EXACT LOCATION AND LEVEL OF HIS WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ARRANGEMENT OF HIS WORK. SHOULD WORK INSTALLED BY HIM REQUIRE MODIFICATION TO AVOID INTERFERENCES WITH OTHER WORK, AS DETERMINED BY THE ARCHITECT/ENGINEER, SUCH CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST.

SUPPORTS AND HANGERS:
CONTRACTOR SHALL PROVIDE ALL NECESSARY ANGLE/BRACKETS OR SUPPLEMENTARY STEEL AS REQUIRED FOR ADEQUATE SUPPORT OF ALL PIPING, DUCTWORK, SPECIALTIES, AND EQUIPMENT. SUPPORT PIPING SYSTEMS SECURELY WHILE ALLOWING FOR PIPE AND BUILDING EXPANSION/CONTRACTION. PROVIDE COPPER PLATED HANGERS FOR COPPER PIPING. USE ADJUSTABLE CLEVIS HANGERS OR ADJUSTABLE STEEL BAND HANGERS. MAXIMUM SPACING SHALL BE 5' FOR 1/2" PIPING, 7' FOR 3/4" TO 1-1/4" PIPING, 8' FOR 1-1/2" OR LARGER PIPING. FURNISH MECHANICAL EQUIPMENT SUPPORTS AS DETAILED OR AS REQUIRED TO ADEQUATELY CARRY THE WEIGHT OF THE EQUIPMENT. SECURE APPROVAL FROM THE ARCHITECT/ENGINEER, IN WRITING, PRIOR TO WELDING OR BOLTING TO STEEL FRAMING OR ANCHORING TO CONCRETE STRUCTURE.

GUARANTEE OF WORK:
CONTRACTOR SHALL GUARANTEE ALL OF THE WORK FURNISHED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE YEAR AFTER OWNER ACCEPTANCE. THE CONTRACTOR SHALL FIX/REPAIR ANY DEFECTS WITHIN THIS PERIOD AT NO EXPENSE TO THE OWNER. THE CONTRACTOR SHALL SUBMIT TO THE OWNER ALL WARRANTIES FOR EQUIPMENT INSTALLED.

CODES AND REGULATIONS:
ALL CONSTRUCTION WORK AND MATERIALS SHALL BE COMPLETED IN ACCORDANCE WITH THE THEN CURRENT RULES SET FORTH IN LOCAL, STATE, AND FEDERAL CODES AND REGULATIONS. CONSTRUCTION AND MATERIALS SHALL COMPLY WITH CURRENT AMERICAN DISABILITIES ACT (ADA) REQUIREMENTS. CONTRACTOR SHALL PREPARE AND ISSUE ANY PLAN REVIEW APPLICATIONS/SUBMITTALS THAT MAY BE REQUIRED BY THE GOVERNING AUTHORITIES. WHERE THE DESIGN DOCUMENTS INDICATE MATERIALS OR CONSTRUCTION IN EXCESS OF CODE REQUIREMENTS, THE DESIGN DOCUMENTS SHALL GOVERN. IN THE EVENT THAT THE PLANS AND SPECIFICATIONS CONFLICT WITH ANY RULES, REGULATIONS, OR CODES APPLYING, SAID RULES, REGULATIONS AND CODES SHALL GOVERN.

PERMITS, FEES, ETC.:
UNLESS OTHERWISE INDICATED, ALL REQUIRED PERMITS, LICENSES, INSPECTIONS, PLAN REVIEWS, APPROVALS AND FEES FOR THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR. AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL FURNISH THE OWNER WITH ALL CERTIFICATES OF FINAL INSPECTIONS AND APPROVALS.

SUBSTITUTION ITEMS REQUIRING PRIOR APPROVAL:
ALL ITEMS THAT THE CONTRACTOR PROPOSES TO USE IN HIS WORK THAT ARE NOT SPECIFICALLY NAMED IN THE DOCUMENTS MUST BE SUBMITTED FOR REVIEW. SUCH ITEMS MUST BE SUBMITTED IN DUPLICATE TO THE ARCHITECT/ENGINEER FOR APPROVAL A MINIMUM OF 10 DAYS PRIOR TO BID OPENING.

MANUFACTURER'S AND EQUIPMENT:
IF AN APPROVED MANUFACTURER IS OTHER THAN THE MANUFACTURER USED AS THE BASIS OF DESIGN, THE EQUIPMENT OR PRODUCT PROVIDED SHALL BE EQUAL IN QUALITY, DURABILITY, APPEARANCE, CAPACITY, AND EFFICIENCY THROUGH ALL RANGES OF OPERATION, SHALL CONFORM TO THE ARRANGEMENTS AND SPACE LIMITATIONS OF THE EQUIPMENT SHOWN ON THE DOCUMENTS, SHALL BE COMPATIBLE WITH THE OTHER COMPONENTS OF THE SYSTEM AND SHALL COMPLY WITH REQUIREMENTS FOR PRIOR APPROVAL. ALL COSTS TO MAKE THESE ITEMS COMPLY WITH THESE REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, PIPING, SHEET METAL, ELECTRICAL, AND BUILDING ALTERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND BE INCLUDED IN THE ORIGINAL BID.
ALL EQUIPMENT SHALL BE FURNISHED COMPLETE WITH ALL ACCESSORIES NORMALLY SUPPLIED WITH THE CATALOG ITEMS LISTED AND ALL OTHER ACCESSORIES NECESSARY FOR A COMPLETE AND SATISFACTORY OPERATING SYSTEM. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND SHALL BE STANDARD PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF PLUMBING, HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT AND SHALL BE THE MANUFACTURER'S LATEST DESIGN.

OPERATION AND MAINTENANCE MANUALS:
PROVIDE TWO (2) COMPLETE OPERATION AND MAINTENANCE (O&M) MANUALS COVERING ALL MECHANICAL AND PLUMBING EQUIPMENT HEREIN SPECIFIED. O&M MANUALS SHALL INCLUDE SHOP DRAWINGS, OPERATION/MAINTENANCE INSTRUCTIONS, AND SPARE PART LISTS.

SHOP DRAWING SUBMITTALS:
SUBMIT FOR REVIEW AND APPROVAL, WITHIN 30 DAYS AFTER NOTICE TO PROCEED, DIGITAL COPIES (IN .PDF FORMAT) OF SHOP DRAWINGS FOR ALL ITEMS LISTED BELOW. WHERE ITEMS ARE REFERRED TO BY SYMBOLIC DESIGNATION ON THE DRAWINGS AND SPECIFICATIONS, ALL SUBMITTALS SHALL BEAR THE SAME DESIGNATION.

FANS

OWNER TRAINING:
BEFORE FINAL INSPECTION THE CONTRACTOR SHALL INSTRUCT OWNER'S DESIGNATED PERSONNEL IN OPERATION, ADJUSTMENT AND MAINTENANCE OF MECHANICAL EQUIPMENT AND SYSTEMS AT AGREED UPON TIMES. FOR EQUIPMENT REQUIRING SEASONAL OPERATION, PERFORM INSTRUCTIONS FOR OTHER SEASONS WITHIN SIX MONTHS. USE OPERATION AND MAINTENANCE MANUALS AS BASIS FOR INSTRUCTION. REVIEW CONTENTS OF MANUAL WITH PERSONNEL IN DETAIL TO EXPLAIN ALL ASPECTS OF OPERATION AND MAINTENANCE.

RECORD DRAWINGS:
CONTRACTOR SHALL SUBMIT RECORD DRAWINGS WHICH HAVE BEEN NEATLY MARKED TO REPRESENT AS-BUILT CONDITIONS FOR ALL NEW WORK.

DEMOLITION WORK:
ALL DEMOLITION OF EXISTING EQUIPMENT AND MATERIALS SHALL BE DONE BY THE CONTRACTOR UNLESS OTHERWISE INDICATED. INCLUDE ALL ITEMS SUCH AS, BUT NOT LIMITED TO, EXISTING PIPING, DUCTWORK, SUPPORTS AND EQUIPMENT WHERE SUCH ITEMS ARE NOT REQUIRED FOR THE PROPER OPERATION OF THE MODIFIED SYSTEM.
IN GENERAL, DEMOLITION WORK IS INDICATED ON THE DRAWINGS. HOWEVER, THE CONTRACTOR SHALL VISIT THE JOB SITE TO DETERMINE THE FULL EXTENT OF THE WORK.
UNLESS SPECIFICALLY NOTED TO THE CONTRARY, REMOVED MATERIALS SHALL NOT BE REUSED IN THE WORK. ITEMS ON WHICH THE OWNER WAIVES OWNERSHIP SHALL BECOME THE PROPERTY OF THE CONTRACTOR, WHO SHALL REMOVE AND LEGALLY DISPOSE OF SAME, AWAY FROM THE PREMISES.

PENETRATIONS:
SEAL THE SPACE AROUND PIPES IN SLEEVES AND AROUND DUCT OPENINGS THROUGH WALLS, FLOORS, ROOFS, AND CEILINGS. ANY MECHANICAL SYSTEMS PENETRATING THROUGH FIRE-RATED ASSEMBLIES SHALL BE FIRE AND DRAFT STOPPED WITH NON-COMBUSTABLE MATERIALS PER APPLICABLE BUILDING CODE REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE ASSEMBLY LOCATIONS, TYPES, AND RATINGS.

CUTTING, CORING, AND PATCHING:
ALL CUTTING, CORING, AND PATCHING WORK REQUIRED FOR MECHANICAL INSTALLATIONS SHALL BE PERFORMED BY THE CONTRACTOR THROUGH APPROVED QUALIFIED SUB-CONTRACTORS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PAINTING, AND/OR OTHER REPAIRS REQUIRED. PRIOR WRITTEN APPROVAL FROM THE ARCHITECT/STRUCTURAL ENGINEER MUST BE OBTAINED PRIOR TO ANY CUTTING OF ANY BUILDING STRUCTURAL SYSTEMS.

MECHANICAL SPECIFICATIONS

SECTION 15075 – MECHANICAL IDENTIFICATION

MANUFACTURERS:
BRADY CORPORATION, CHAMPION AMERICA, SETON IDENTIFICATION PRODUCTS

NAMEPLATES:
DESCRIPTION: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED LETTERS. LETTER COLOR: BLACK. LETTER HEIGHT: 1/2 TO 1 INCH TO SUIT THE SIZE OF EQUIPMENT BEING LABELED. BACKGROUND COLOR: WHITE.

TAGS:
PLASTIC TAGS: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED BLACK LETTERS ON LIGHT CONTRASTING BACKGROUND COLOR. TAG SIZE MINIMUM 1-1/2 INCH DIAMETER.

PIPE MARKERS:
COLOR: CONFORM TO ASME A13.1. PLASTIC PIPE MARKERS: FACTORY FABRICATED, FLEXIBLE, SEMI- RIGID PLASTIC, PREFORMED TO FIT AROUND PIPE OR PIPE COVERING; MINIMUM INFORMATION INDICATING FLOW DIRECTION ARROW AND IDENTIFICATION OF FLUID BEING CONVEYED. PLASTIC TAPE PIPE MARKERS: FLEXIBLE, VINYL FILM TAPE WITH PRESSURE SENSITIVE ADHESIVE BACKING AND PRINTED MARKINGS. UNDERGROUND PLASTIC PIPE MARKERS: BRIGHT COLORED CONTINUOUSLY PRINTED PLASTIC RIBBON TAPE, MINIMUM 6 INCHES WIDE BY 4 MIL THICK, MANUFACTURED FOR DIRECT BURIAL SERVICE.

DUCT MARKERS:
PLASTIC TAPE DUCT MARKERS: FLEXIBLE, VINYL FILM TAPE WITH PRESSURE SENSITIVE ADHESIVE BACKING AND PRINTED MARKINGS.

INSTALLATION:
INSTALL PLASTIC NAMEPLATES WITH CORROSIVE-RESISTANT MECHANICAL FASTENERS, OR ADHESIVE. INSTALL PLASTIC TAPE PIPE MARKERS COMPLETE AROUND PIPE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INSTALL UNDERGROUND PLASTIC PIPE MARKERS 6 TO 8 INCHES BELOW FINISHED GRADE, DIRECTLY ABOVE BURIED PIPE. IDENTIFY EQUIPMENT (IE. AIR HANDLING UNITS, FANS, PUMPS, BOILERS, WATER HEATERS, ETC.) WITH PLASTIC NAMEPLATES. SMALL DEVICES, SUCH AS IN-LINE PUMPS, MAY BE IDENTIFIED WITH TAGS. IDENTIFY PIPING, CONCEALED OR EXPOSED, WITH PLASTIC PIPE MARKERS. IDENTIFY SERVICE, FLOW DIRECTION, AND UNIQUE PRESSURE OR TEMPERATURE IF NECESSARY TO DISTINGUISH BETWEEN OTHER SYSTEMS. INSTALL IN CLEAR VIEW AND ALIGN WITH AXIS OF PIPING. LOCATE IDENTIFICATION NOT TO EXCEED 20 FEET ON STRAIGHT RUNS INCLUDING RISERS AND DROPS, ADJACENT TO EACH VALVE AND TEE, AT EACH SIDE OF PENETRATION OF STRUCTURE OR ENCLOSURE, AND AT EACH OBSTRUCTION. ARROWS AND MARKERS SHALL BE MOUNTED TO PROVIDE UNOBSTRUCTED VISIBLILITY FROM FLOOR LEVEL. IDENTIFY DUCTWORK WITH PLASTIC TAPE DUCT MARKERS AND FLOW DIRECTION ARROWS. LOCATE IDENTIFICATION AT AIR HANDLING UNIT, AT EACH SIDE OF PENETRATION OF STRUCTURE OR ENCLOSURE, AT EACH OBSTRUCTION, AT EACH RISER, AND AT STRAIGHT RUNS NOT TO EXCEED 20' APART. PAINT EXPOSED PIPING AND DUCTWORK PER SPECIFICATION SECTION 09900.

SECTION 15810 – DUCTWORK

DEFINITIONS:
DUCT SIZES SHOWN ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS. FOR LINED DUCTS, MAINTAIN SIZES INSIDE LINING.
LOW PRESSURE DUCTWORK: UP TO 2 INCHES WG AND VELOCITIES LESS THAN 1,500 FPM. CONSTRUCT FOR 2 INCH WG POSITIVE AND NEGATIVE OR POSITIVE STATIC PRESSURES.

MATERIALS:
ALL DUCTWORK SHALL BE NON-COMBUSTIBLE AND/OR CONFORM TO REQUIREMENTS FOR CLASS 1 AIR DUCT MATERIALS, OR UL 181.
GALVANIZED STEEL DUCTS: ASTM A 653/A 653M GALVANIZED STEEL SHEET, FORMING STEEL (FS) DESIGNATION, WITH G90/Z275 ZINC COATING. GASKETS: CHLOROPRENE ELASTOMER, 40 DUROMETER, 1/8 INCH THICK, FULL FACE, ONE PIECE VULCANIZED OR DOVETAIL AT JOINTS. ALL REINFORCEMENT FOR DUCTS HAVING A SIDE DIMENSION 48" OR LESS SHALL BE EXTERNAL. INTERNAL REINFORCEMENT SHALL BE ACCEPTABLE ONLY FOR DUCTS HAVING A SIDE DIMENSION GREATER THAN 48 INCHES. REINFORCEMENT SHALL BE PROVIDED PER SMACNA STANDARDS.

STEEL DUCTS – GALVANIZED ROUND AND FLAT OVAL SPIRAL: GALVANIZED SHEET STEEL DUCT AND FITTINGS, LOCK FORMING QUALITY PER ASTM A527, COATING DESIGNATION G-90, FACTORY FABRICATED, LOCK SEAM OR WELDED DESIGN IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS OR SMACNA INDUSTRIAL DUCT CONSTRUCTION STANDARDS AS REQUIRED BASED ON PRESSURE CLASS. FLAT OVAL AND ROUND FITTINGS SHALL BE FACTORY FABRICATED WELDED DESIGN. USE OF FIELD FABRICATED FITTINGS (WELDED DESIGN) SHALL ONLY BE PERMITTED WHEN FACTORY FABRICATED FITTINGS ARE UNAVAILABLE. MANUFACTURERS: FOREMOST MFG. CO., SEMCO, LAPINE METAL PRODUCTS, UNITED-MCGILL

INSULATED FLEXIBLE DUCTS, LOW (< 2 INCH W.G.) AND MEDIUM PRESSURE(2-6 INCH W.G.):
FLEXIBLE DUCTS: INTERLOCKING SPIRAL OF GALVANIZED STEEL OR ALUMINUM CONSTRUCTION OR FABRIC SUPPORTED HELICALLY WOUND SPRING STEEL WIRE OR FLAT STEEL BANDS; RATED TO 6 INCHES WG POSITIVE AND 4 INCHES NEGATIVE FOR LOW AND MEDIUM PRESSURE DUCTS.
INSULATED FLEXIBLE DUCTS: FLEXIBLE DUCT WRAPPED WITH FLEXIBLE FIBER GLASS INSULATION, ENCLOSED IN A FIRE RETARDANT POLYETHYLENE VAPOR BARRIER JACKET; MAXIMUM 0.23 K VALUE AT 75 DEG F.
ACOUSTICAL PERFORMANCE TESTED IN ACCORDANCE WITH THE AIR DIFFUSION COUNCIL'S "FLEXIBLE AIR DUCT TEST CODE FD 72-R1."
FLEXIBLE DUCT FITTINGS: GALVANIZED STEEL, TWIST IN DESIGN WITH DAMPER.
MANUFACTURERS: FLEXMASTER TYPE 8M, UL 181, CLASS 1, AUTOMATION INDUSTRIES THERMAFLEX, HART & COOLEY.

CAULK: ELASTOMER CAULK, UL LISTED AND PER NFPA 90A.

SEALANT: UL LISTED AND PER NFPA 90A, NON-HARDENING, WATER RESISTANT, FIRE RESISTIVE, COMPATIBLE WITH MATING MATERIALS; LIQUID USED ALONE OR WITH TAPE, OR HEAVY MASTIC FOR USE ON ALL SEAL CLASS B JOINTS AND ALL CLASS A JOINTS FOR FLAT OVAL, RECTANGULAR, AND ROUND STEEL DUCTWORK. NOTE: USE PVC "DUCT SEALER" ON PVC COATED DUCTWORK PER MFR. RECOMMENDATIONS.

HANGER ROD: ASTM A 36/A 36M; STEEL, GALVANIZED; THREADED BOTH ENDS, THREADED ONE END, OR CONTINUOUSLY THREADED.

FABRICATION – LOW PRESSURE DUCTWORK (+/-2 INCH W.G. STATIC PRESSURE CLASS):
FABRICATE AND SUPPORT IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE, AND AS INDICATED. PROVIDE DUCT MATERIAL, GAGES, REINFORCING, AND SEALING FOR OPERATING PRESSURES INDICATED.
CONSTRUCT T'S, BENDS, AND ELBOWS WITH RADIUS OF NOT LESS THAN 1-1/2 TIMES WIDTH OF DUCT ON CENTERLINE.
WHERE NOT POSSIBLE AND WHERE RECTANGULAR ELBOWS MUST BE USED, PROVIDE AIR FOIL TURNING VANES. WHERE ACOUSTICAL LINING IS INDICATED, PROVIDE TURNING VANES OF PERFORATED METAL WITH GLASS FIBER INSULATION.
INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE WHEREVER POSSIBLE; MAXIMUM 30 DEGREES DIVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM.
WHERE DUCTS ARE CONNECTED TO EXTERIOR WALL LOUVERS AND DUCT OUTLET IS SMALLER THAN LOUVER FRAME, PROVIDE BLANK-OUT PANELS SEALING LOUVER AREA AROUND DUCT. USE SAME MATERIAL AS DUCT, PAINTED BLACK ON EXTERIOR SIDE; SEAL TO LOUVER FRAME AND DUCT.

DUCTWORK APPLICATION SCHEDULE:
SUPPLY AIR – GENERAL: GALVANIZED STEEL; +2 INCHES WG.
GENERAL EXHAUST – TOILET ROOMS, STORAGE, AND JANITOR'S CLOSETS: GALVANIZED STEEL; -2 INCHES WG.
RETURN AIR – GENERAL: GALVANIZED STEEL; -2 INCHES WG.

INSTALLATION:
DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS. FOR LINED DUCTS, MAINTAIN SIZES INSIDE LINING.
INSTALL AND SEAL METAL AND FLEXIBLE DUCTS IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE.
PROVIDE FLEXIBLE DUCT CONNECTIONS WHERE DUCTWORK CONNECTS TO FANS, AIR HANDLING EQUIPMENT, AND OTHER ROTATING EQUIPMENT AND/OR WHERE INDICATED ON THE DRAWINGS.
PROVIDE STRAIGHT RUNS OF DUCTWORK AT FANS, COILS, AIR TERMINAL UNITS, AND OTHER EQUIPMENT PER MANUFACTURERS RECOMENDATIONS.
WHERE DUCTS PASS THROUGH WALLS AND FLOORS, FINISH WALL OPENINGS WITH METAL TRIM STRIPS AND CURB FLOOR OPENINGS. WOOD FRAMES ARE NOT PERMITTED.
INSTALL AIRFOIL TURNING VANES IN ALL RECTANGULAR MITERED ELBOWS, WHETHER INDICATED ON DRAWINGS OR NOT.

MECHANICAL SPECIFICATIONS

SECTION 15820 – DUCTWORK ACCESSORIES

BACKDRAFT DAMPERS:
MANUFACTURERS: GREENHECK, NAILOR, RUSKIN
MULTI-BLADE, PARALLEL ACTION GRAVITY BALANCED BACKDRAFT DAMPERS: GALVANIZED STEEL OR EXTRUDED ALUMINUM, WITH CENTER PIVOTED BLADES OF MAXIMUM 6 INCH WIDTH, WITH FELT OR FLEXIBLE VINYL SEALED EDGES, LINKED TOGETHER IN RATTLE-FREE MANNER WITH 90 DEGREE STOP, STEEL BALL BEARINGS, AND PLATED STEEL PIVOT PIN; ADJUSTMENT DEVICE TO PERMIT SETTING FOR VARYING DIFFERENTIAL STATIC PRESSURE.

LOW PRESSURE MANUAL VOLUME CONTROL DAMPERS:
MANUFACUTRERS: RUSKIN, ARROW, GREENHECK, NAILOR, LOUVERS & DAMPERS.
FABRICATE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE, AND AS INDICATED.
SINGLE BLADE DAMPERS: FABRICATE FOR DUCT SIZES UP TO 6 X 30 INCH.
MULTI-BLADE DAMPER: FABRICATE OF OPPOSED BLADE PATTERN WITH MAXIMUM BLADE SIZES 8 X 72 INCH. ASSEMBLE CENTER AND EDGE CRIMPED BLADES IN PRIME COATED OR GALVANIZED CHANNEL FRAME WITH SUITABLE HARDWARE.
QUADRANTS: PROVIDE LOCKING, INDICATING QUADRANT REGULATORS ON SINGLE AND MULTI-BLADE DAMPERS. ON INSULATED DUCTS MOUNT QUADRANT REGULATORS ON STAND-OFF MOUNTING BRACKETS, BASES, OR ADAPTERS. WHERE ROD LENGTHS EXCEED 30 INCHES PROVIDE REGULATOR AT BOTH ENDS.

INSTALLATION:
INSTALL ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, NFPA 90A, AND FOLLOW SMACNA HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE. REFER TO SECTION 15810 FOR DUCT CONSTRUCTION AND PRESSURE CLASS.
PROVIDE BACKDRAFT DAMPERS ON EXHAUST FANS OR EXHAUST DUCTS NEAREST TO OUTSIDE AND WHERE INDICATED.
AT FANS AND MOTORIZED EQUIPMENT ASSOCIATED WITH DUCTS, PROVIDE FLEXIBLE DUCT CONNECTIONS IMMEDIATELY ADJACENT TO THE EQUIPMENT.
PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT WIDTHS FROM DUCT TAKE-OFF.
PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFF TO DIFFUSERS, GRILLES, AND REGISTERS, REGARDLESS OF WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER, GRILLE, OR REGISTER ASSEMBLY.

SECTION 15086 – DUCT INSULATION

PRODUCT REQUIREMENTS: SURFACE BURNING CHARACTERISTICS: FLAME SPREAD/SMOKE DEVELOPED INDEX OF 25/50, MAXIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM E 84, NFPA 255, OR UL 723. WHERE INSULATION AND COVERING IS SPECIFIED OR REQUIRED TO INCLUDE A VAPOR BARRIER, IT IS CRITICAL THAT THE INTEGRITY OF THE VAPOR BARRIER IS CONTINUOUSLY MAINTAINED. FASTENERS OR OTHER SECURING DEVICES THAT MAY UNINTENTIONALLY PENETRATE, OR DAMAGE, THE VAPOR BARRIER ARE PROHIBITED. WHERE FASTENERS MUST PENETRATE THE VAPOR BARRIER, THE VAPOR BARRIER SHALL BE REPAIRED.

GLASS FIBER, FLEXIBLE (EXTERIOR DUCT WRAP):
MANUFACTURERS: KNAUF, JOHNS MANVILL, OWENS CORNING, CERTAINTEED
INSULATION SHALL BE ASTM C553; FLEXIBLE, NONCOMBUSTIBLE BLANKET; 'K' VALUE= ASTM C518, 0.29 AT 75 DEGREES F; MAXIMUM SERVICE TEMPERATURE= 450 DEGREES F; MAXIMUM MOISTURE ABSORPTION= 5% BY VOLUME; DENSITY= 1.5 LB/CU.FT.
VAPOR BARRIER JACKET SHALL BE KRAFT PAPER WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM; MOISTURE VAPOR TRANSMISSION: ASTM E96; 0.04 PERM; SECURE WITH PRESSURE SENSITIVE TAPE. THE USE OF DUCT TAPE IS PROHIBITED.

RIGID FIBERGLASS INSULATION (EXTERIOR DUCT BOARD):
MANUFACTURERS: KNAUF, JOHNS MANVILL, OWENS CORNING, CERTAINTEED
INSULATION SHALL BE ASTM C612; RIGID, NONCOMBUSTIBLE BLANKET; "K" VALUE= ASTM C518, 0.31 AT 75 DEGREES F; MAX SERVICE TEMPERATURE= 450 DEGREES F; MAX MOISTURE ABSORPTION= 5% BY VOLUME; DENSITY= 3.0 LB/CU.FT.
VAPOR BARRIER JACKET SHALL BE KRAFT PAPER WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM; MOISTURE VAPOR TRANSMISSION: ASTM E96, 0.04 PERM; SECURE WITH PRESSURE SENSITIVE TAPE.

INSTALLATION:
EXTERNAL DUCT INSULATION APPLICATION:
SECURE INSULATION WITH VAPOR BARRIER WITH WIRES AND SEAL JACKET JOINTS WITH VAPOR BARRIER ADHESIVE OR TAPE TO MATCH JACKET.
SECURE INSULATION WITHOUT VAPOR BARRIER WITH STAPLES, TAPE, OR WIRES.
INSTALL WITHOUT SAG ON UNDERSIDE OF DUCT. USE ADHESIVE OR MECHANICAL FASTENERS WHERE NECESSARY TO PREVENT SAGGING. LIFT DUCT OFF TRAPEZE HANGERS AND INSERT SPACERS.
SEAL VAPOR BARRIER PENETRATIONS BY MECHANICAL FASTENERS WITH VAPOR BARRIER ADHESIVE.
STOP AND POINT INSULATION AROUND ACCESS DOORS AND DAMPER OPERATORS TO ALLOW OPERATION WITHOUT DISTURBING WRAPPING.
CONTINUE INSULATION THROUGH WALL PENETRATIONS USING RIGID FIBERGLASS INSULATION 6 INCHES ON EITHER SIDE OF WALL.
INSTALL METAL NOSING AT EVERY LEADING EDGE IN DUCTS WITH AIR VELOCITIES ABOVE 4,000 FPM.

SCHEDULES:
COMBUSTION AIR DUCT:
EXHAUST AND RELIEF DUCTS WITHIN 10 FEET OF EXTERIOR OPENINGS:
FLEXIBLE GLASS FIBER = 1-1/2" THICK

ALL SUPPLY AIR DUCTWORK:
FLEXIBLE GLASS FIBER = 1-1/2" THICK

DUCTS PASSING THROUGH WALLS (6" EITHER SIDE OF WALL):
RIGID GLASS FIBER BOARD = 1" THICK

SECTION 15850 – AIR OUTLETS AND INLETS

MANUFACTURERS: PRICE, TITUS, TUTTLE AND BAILEY, NAILOR, CARNES

GENERAL:
REFER TO SCHEDULES ON DRAWINGS FOR QUANTITIES, TYPES, FINISHES, AND MANUFACTURERS MODEL NUMBERS OF DIFFUSION DEVICES.
PROVIDE PLASTER FRAMES FOR UNITS INSTALLED IN PLASTER CEILINGS.
AIR DIFFUSION DEVICES SHALL BE STANDARD OFF WHITE BAKED ENAMEL FINISH UNLESS NOTED OTHERWISE. PROVIDE AIR DIFFUSION DEVICE INTERIOR SURFACES, INCLUDING BLANK-OFFS, WITH BLACK MATTE FINISH.
AIR PATTERN ADJUSTMENTS SHALL BE MADE FROM THE FACE OF THE DEVICE.
COORDINATE FRAME TYPES WITH ARCHITECTURAL REFLECTED CEILING PLAN.

INSTALLATION:
CHECK LOCATION OF OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY, AND LIGHTING ARRANGEMENT.
INSTALL DIFFUSERS TO DUCTWORK WITH AIR TIGHT CONNECTION.
PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFF TO DIFFUSERS, AND GRILLES AND REGISTERS, DESPITE WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER, OR GRILLE AND REGISTER ASSEMBLY.
PAINT DUCTWORK VISIBLE BEHIND AIR OUTLETS AND INLETS MATTE BLACK. REFER TO SECTION 09900.

SECTION 15900 – TEMPERATURE CONTROLS

QUALITY ASSURANCE: THE CONTRACTOR SHALL FURNISH, OR SUBCONTRACT A QUALIFIED TEMPERATURE CONTROLS CONTRACTOR TO FURNISH, ALL CONTROLS EQUIPMENT, WIRING, LABOR REQUIRED FOR PROVIDING FULLY FUNCTIONAL TEMPERATURE CONTROL SYSTEMS.

FURNISH AND INSTALL ALL THERMOSTATS, SENSORS, AND OR ANY OTHER EQUIPMENT REQUIRED FOR CONTROL OF MECHANICAL EQUIPMENT/SYSTEMS.

ALL LOW VOLTAGE CONTROL WIRING SHALL BE INSTALLED BY THE TEMPERATURE CONTROLS CONTRACT AND SHALL BE INSTALLED PER DIVISION 16 ELECTRICAL REQUIREMENTS (IE. ALL WIRING IN CONDUIT, METAL BOXES, ETC.).

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Project Number:
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DRAWING TITLE
MECHANICAL SPECIFICATIONS

PROJECT TITLE
PROPOSED OTSEGO COUNTY BUILDING REMOLDING FOR:
OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO.
213-14

DATE
JULY 7, 2014

SHEET
M3.1

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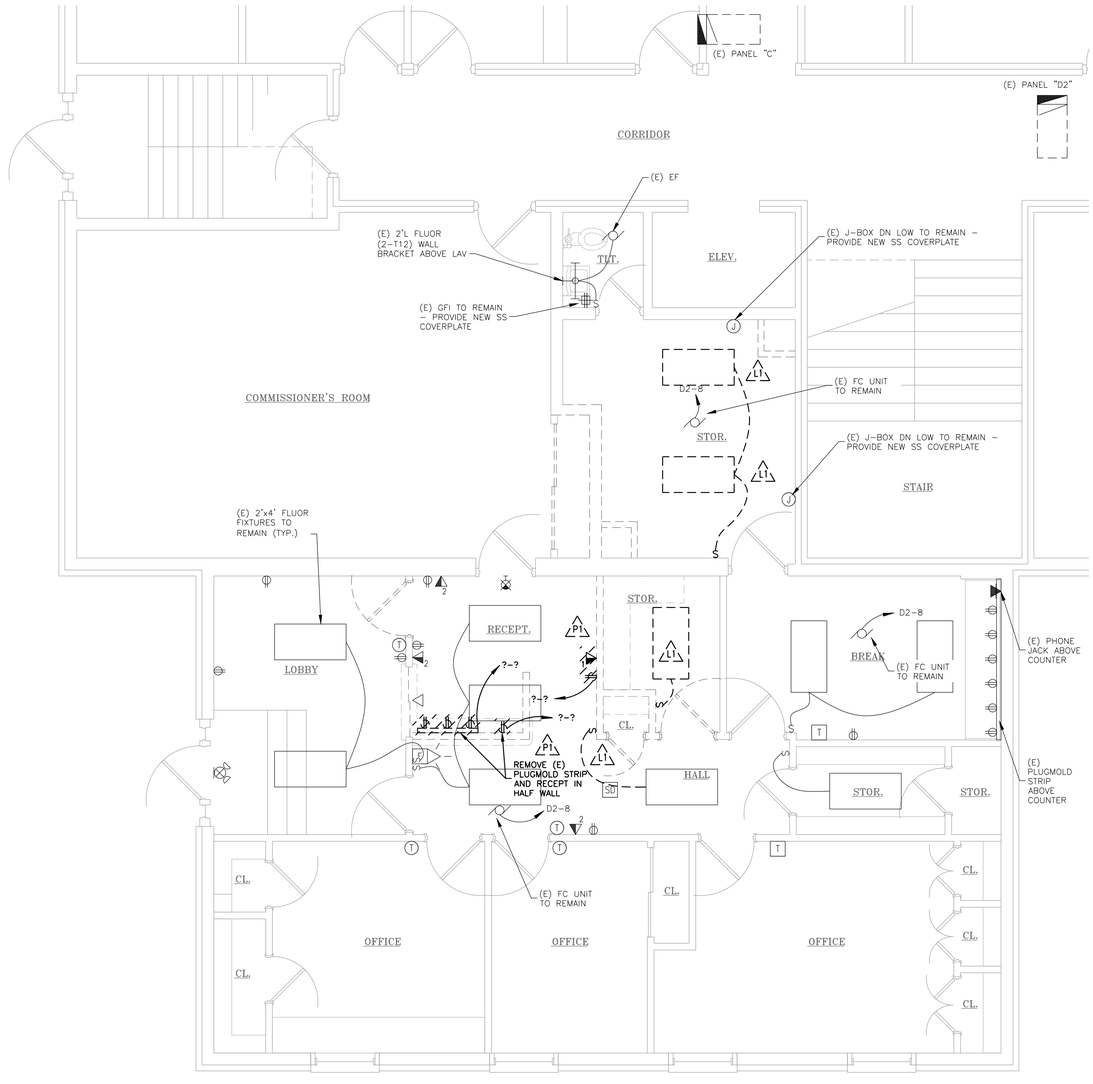


NORTH

ELECTRICAL DEMOLITION PLAN

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

KEYED ELECTRICAL DEMOLITION NOTES:

L1 — REMOVE EXISTING (E) LIGHTING SYSTEMS, INCLUDING FIXTURES, SWITCHES, CKTS, ETC. AS REQUIRED TO ACCOMMODATE THE RENOVATIONS.

E1 — REMOVE EXISTING (E) POWER DISTRIBUTION SYSTEMS, INCLUDING DEVICES, RECEPTACLES, CKTS, ETC. AS REQUIRED TO ACCOMMODATE THE RENOVATIONS.

ELECTRICAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
AIC	AMPS INTERRUPTING CAPACITY
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
COORD.	COORDINATION
DISC	DISCONNECT
DP	DISTRIBUTION PANEL
DWG	DRAWING
EBU	EMERGENCY BATTERY UNIT
E.C.	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EMT	ELECTRICAL METALLIC TUBING
(E)	EXISTING
EM	EMERGENCY LIGHT
FLA	FULL LOAD AMPS
(F)	FUTURE
FC	FAN COIL
FU	FUSE
GFI	GROUND FAULT INTERRUPTER
GRD	GROUND
GRS	GALVANIZED RIGID STEEL
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
JB	JUNCTION BOX
KW	KILOWATT
KWH	KILOWATT - HOURS
KVA	KILO VOLT-AMPERES
LP	LIGHTING PANEL
LC	LIGHTING CONTROLLER
M.C.	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MFS	MAX FUSE SIZE
MLO	MAIN LUGS ONLY
MTD	MOUNTED
N.E.C.	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
P-A	PANEL "A"
P.C.	PLUMBING CONTRACTOR
PRI	PRIOR TO ROUGH-IN
RECEPT.	RECEPTACLE
(R)	RELOCATED
SD	SMOKE DETECTOR
SPEC	SPECIFICATION
S.S.	STAINLESS STEEL
TELCOM	TELECOMMUNICATIONS
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
U/G	UNDERGROUND (BELOW GRADE)
WP	WEATHERPROOF

GENERAL ELECTRICAL DEMOLITION NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE EXTENT OF DEMOLITION WORK SHALL BE AS REQUIRED BY THE NEW WORK.

2. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING SYSTEMS/EQUIPMENT PRIOR TO ISSUING HIS BID. ALL EXISTING PANEL/WIRE/LIGHT SIZES AND ROUTINGS SHOWN ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED.

3. ALL ELECTRICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE WITH ALL RELATED ITEMS INCLUDING, BUT NOT LIMITED TO, WIRES, CONDUITS, SUPPORTS, FIXTURES, LAMPS, ETC. REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF OFF SITE.

4. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED, BY THE OWNER OR OWNER'S REPRESENTATIVE, AT LEAST (7) DAYS IN ADVANCE SO AS NOT TO INTERFERE WITH THE PRESENT BUILDING OPERATION.

5. WHERE DEMOLITION OF EXISTING SERVICES ARE REQUIRED TO ACCOMMODATE THE PROJECT PHASING/SCHEDULING, AND SERVICES ARE TO BE INTERRUPTED IN AREAS THAT ARE REMAINING OCCUPIED, THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES/CONNECTIONS TO THE OCCUPIED AREAS TO MAINTAIN ITS PRESENT OPERATION. IF SYSTEM SHUT DOWNS ARE REQUIRED, THE CONTRACTOR SHALL SCHEDULE WORK TO BE PERFORMED AT UNOCCUPIED HOURS.

6. ALL ITEMS TO BE REMOVED AND/OR RELOCATED SHALL BE REMOVED AND/OR RELOCATED TOGETHER WITH ALL RELATED ITEMS AS REQUIRED BY THE NEW WORK TO BE PERFORMED.

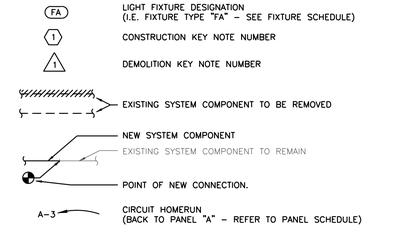
7. CONTRACTOR SHALL COORDINATE ALL REMOVAL AND/OR RELOCATION WITH THE EXTENT OF THE NEW WORK AND WITH ALL OTHER TRADES INVOLVED.

8. INSTALL STAINLESS STEEL BLANK COVER PLATES AT ALL LOCATIONS WHERE DEVICES (SWITCHES, RECEPTACLES, FIRE ALARM, ETC.) ARE TO BE REMOVED.

9. EACH SUBCONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ANY/ALL CEILING TILES AND/OR GRID ASSOCIATED WITH THEIR WORK. THE RESPONSIBLE CONTRACTOR SHALL REPLACE/REPAIR ALL CEILING TILES AND/OR GRID DAMAGED DURING THE CONSTRUCTION WITH NEW CEILING TILES.

10. EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, CORING, PATCHING ASSOCIATED WITH THEIR WORK. CUTTING, CORING, PATCHING WORK SHALL BE PERFORMED BY A QUALIFIED CONTRACTOR AND MATCH EXISTING OR NEW FINISHES.

METHODS OF NOTATION



STANDARD MOUNTING HEIGHTS

CONVENIENCE AND SPECIAL PURPOSE RECEPTACLE OUTLETS, TELE/DATA AND COMMUNICATIONS OUTLETS, NOT OTHERWISE SPECIFIED.	18" AFF TO CENTER OF BOX IN CMU WALLS - 16" AFF TO BOTTOM OF BOX.
CONVENIENCE AND SPECIAL PURPOSE RECEPTACLE OUTLETS ABOVE COUNTERS, NOT OTHERWISE SPECIFIED.	6" ABOVE COUNTER TO CENTER OF BOX OR AS REQUIRED TO ACCOMMODATE COUNTERS. (REFER TO ARCHITECTURAL ELEVATIONS.)
LIGHT SWITCHES, MOTOR CONTROL DEVICES, AND FIRE ALARM PULL STATIONS, NOT OTHERWISE SPECIFIED.	50" AFF TO CENTER OF BOX IN CMU WALLS - 48" AFF TO TOP OF BOX.
T-STATS, TEMP. SENSORS, CO2 SENSORS, NOT OTHERWISE SPECIFIED.	50" AFF TO CENTER OF BOX IN CMU WALLS - 48" AFF TO TOP OF BOX.
GFI RECEPTACLES IN TOILET ROOMS AND JANITOR CLOSETS, NOT OTHERWISE SPECIFIED.	48" AFF TO TOP OF BOX.

ELECTRICAL DRAWING INDEX

JLK Engineering Project Number AEA 1402-01

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DRAWING TITLE: ELECTRICAL DEMOLITION PLAN

PROJECT TITLE: PROPOSED OTSEGO COUNTY BUILDING REMODLING FOR: OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO. 213-14

DATE JULY 7, 2014

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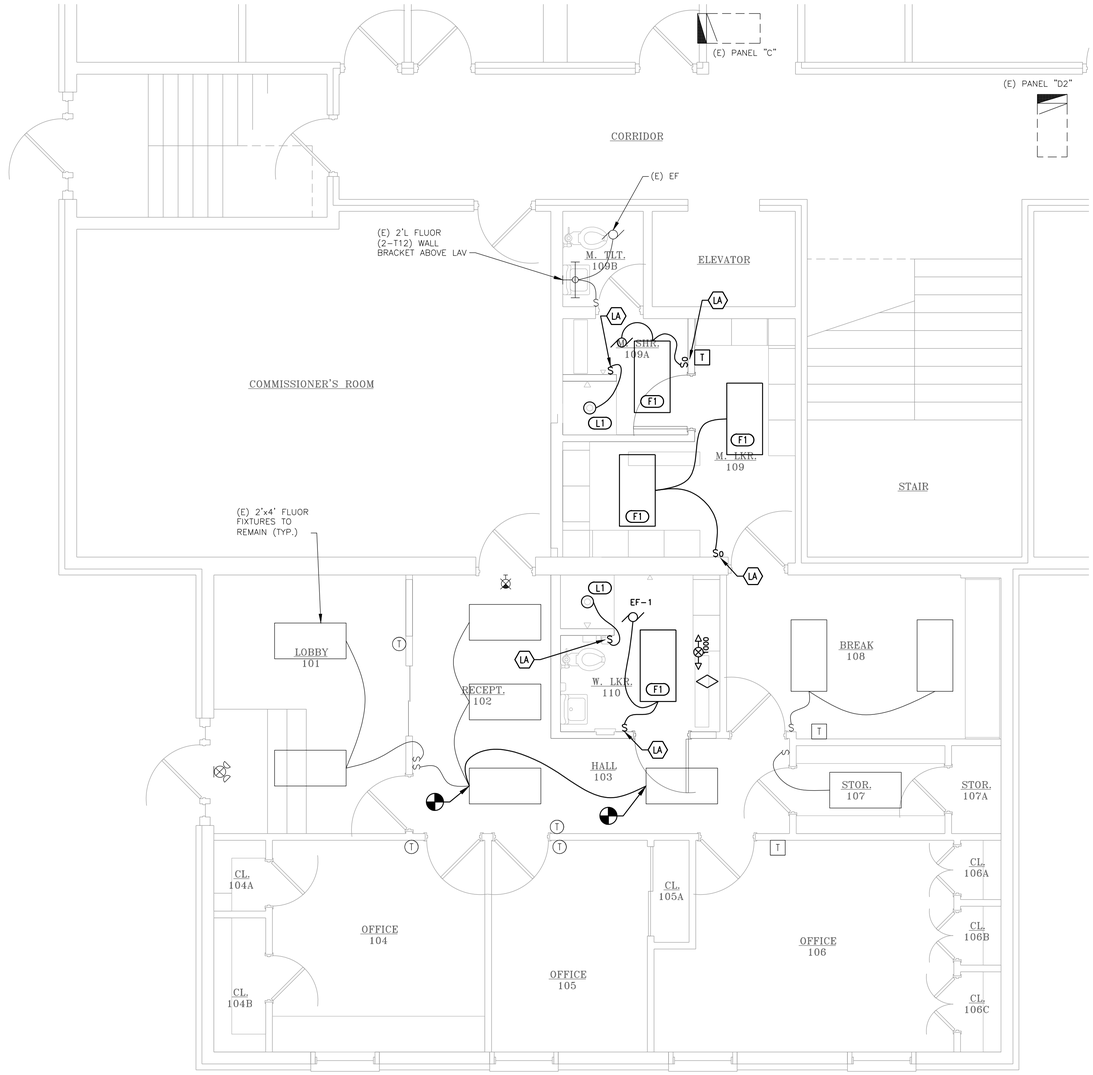

NORTH

ELECTRICAL LIGHTING – NEW WORK PLAN

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

KEYED ELECTRICAL CONSTRUCTION NOTES:

(LA) CONNECT TO NEAR-BY LIGHTING CIRCIUT.

(EA) CONNECT TO NEAR-BY RECEPTACLE CIRCIUT.

GENERAL ELECTRICAL LIGHTING NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF WORK. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MATERIALS (I.E. CONDUIT, WIRE, PULL BOXES, FIXTURES, ETC.) REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM.

2. ALL ELECTRICAL SYSTEMS SHALL BE PROVIDED/INSTALLED TO MEET APPLICABLE BUILDING CODES: MICHIGAN BUILDING CODE, MICHIGAN ELECTRICAL CODE, N.E.C., LIFE SAFETY CODE NFPA 101, MICHIGAN ENERGY CODE, ETC.

3. VERIFY REQUIREMENTS OF ALL MECHANICAL/PLUMBING/ARCHITECTURAL EQUIPMENT WITH SHOP DRAWING SUBMITTALS PRIOR TO INSTALLATION. NOTIFY THE ENGINEER OF ANY CONFLICTS BETWEEN SHOP DRAWINGS AND PLANS.

4. COORDINATE LOCATIONS AND MOUNTING HEIGHTS OF ALL OUTLETS WITH LOCATIONS/HEIGHTS OF COUNTERTOPS, SINKS, FURNITURE, CABINETS, ETC. WITH ARCHITECTURAL ELEVATIONS AND OTHER TRADES.

5. CONTRACTOR SHALL INSTALL ALL MISCELLANEOUS STEEL, STRUT, ETC. REQUIRED TO SUPPORT/HANG EQUIPMENT, CONDUIT, ETC. COORDINATE ATTACHMENTS WITH STRUCTURAL TRADES.

6. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL ELECTRICAL WORK WITH ALL OTHER TRADES. CONTRACTOR SHALL VERIFY ALL MECHANICAL AND ELECTRICAL CLEARANCES PRIOR TO FABRICATION OF ANY NEW WORK. ELECTRICAL EQUIPMENT, WIRING, ETC. SHALL NOT INTERFERE WITH MECHANICAL EQUIPMENT CLEARANCE SPACES.

7. ALL CIRCUITS FOR POWER, LIGHTING, ETC. SHALL BE INSTALLED IN CONDUIT AS SPECIFIED. ALL CIRCUITS SHALL BE CONCEALED IN WALLS, INCLUDING (E) WALLS. SURFACE MOUNTED RACEWAY SHALL NOT BE USED, UNLESS NOTED OTHERWISE, OR UNLESS ABSOLUTELY NECESSARY. APPROVAL FROM ARCHITECT/ENGINEER MUST BE OBTAINED PRIOR TO USING SURFACE MOUNTED CONDUIT.

8. EACH SUBCONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ANY/ALL CEILING TILES AND/OR GRID ASSOCIATED WITH THEIR WORK. THE RESPONSIBLE CONTRACTOR SHALL REPLACE/REPAIR ALL CEILING TILES AND/OR GRID DAMAGED DURING THE CONSTRUCTION WITH NEW CEILING TILES.

9. UNLESS OTHERWISE NOTED, EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ALL NEW PENETRATIONS THROUGH ALL WALLS WITH FIRE CAULK IN ACCORDANCE WITH CURRENT BUILDING CODE REQUIREMENTS.

10. UNLESS OTHERWISE NOTED, EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, CORING, PATCHING ASSOCIATED WITH THEIR WORK. CUTTING, CORING, PATCHING WORK SHALL BE PERFORMED BY A QUALIFIED CONTRACTOR AND MATCH EXISTING OR NEW FINISHES.

11. ALL LIGHTING SYSTEMS SHALL BE PROVIDED/INSTALLED TO MEET APPLICABLE BUILDING CODES: MICHIGAN BUILDING CODE, MICHIGAN ELECTRICAL CODE, N.E.C., LIFE SAFETY CODE NFPA 101, MICHIGAN ENERGY CODE, ETC.

12. COORDINATE EXACT FIXTURE LOCATIONS WITH ARCHITECTURAL PLANS (REFLECTED CEILING PLANS, BUILDING ELEVATIONS ETC.).

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURERS	LAMPS	VOLTS/WATTS	REMARKS
F1	2'X4', (3) LAMP, RECESSED LAY-IN FLUORESCENT FIXTURE WITH FLUSH STEEL WHITE FRAME; 0.125 ACRYLIC LENSE.	1. METALUX "2GC8" SERIES - #2GC8-332 A.125-UNV-ERB1 2. ENGINEER APPROVED EQUAL BY LITHONIA OR COLUMBIA.	(3) - F32WT8RS	120V / 96W	
L1	LED DOWNLIGHT - 6" DIAMETER, IC RATED, AIR TIGHT HOUSING; DIMMABLE LED DRIVER MODULE WITH > .90 POWER FACTOR AT 120V AND INTEGRAL THERMAL PROTECTION; RECRESSED LENS WITH WHITE BAFFLE AND WHITE TRIM RING (SHOWER RATED)	1. HALO 900 SERIES LED WITH "ML709830ICAT1200" LED MODULE, H750ICAT HOUSING, AND "493WSWD6" TRIM. 2. ENGINEER APPROVED EQUAL.	LED 3000K	120V / 15W	

JLK Engineering Project Number: AEA 1402-01

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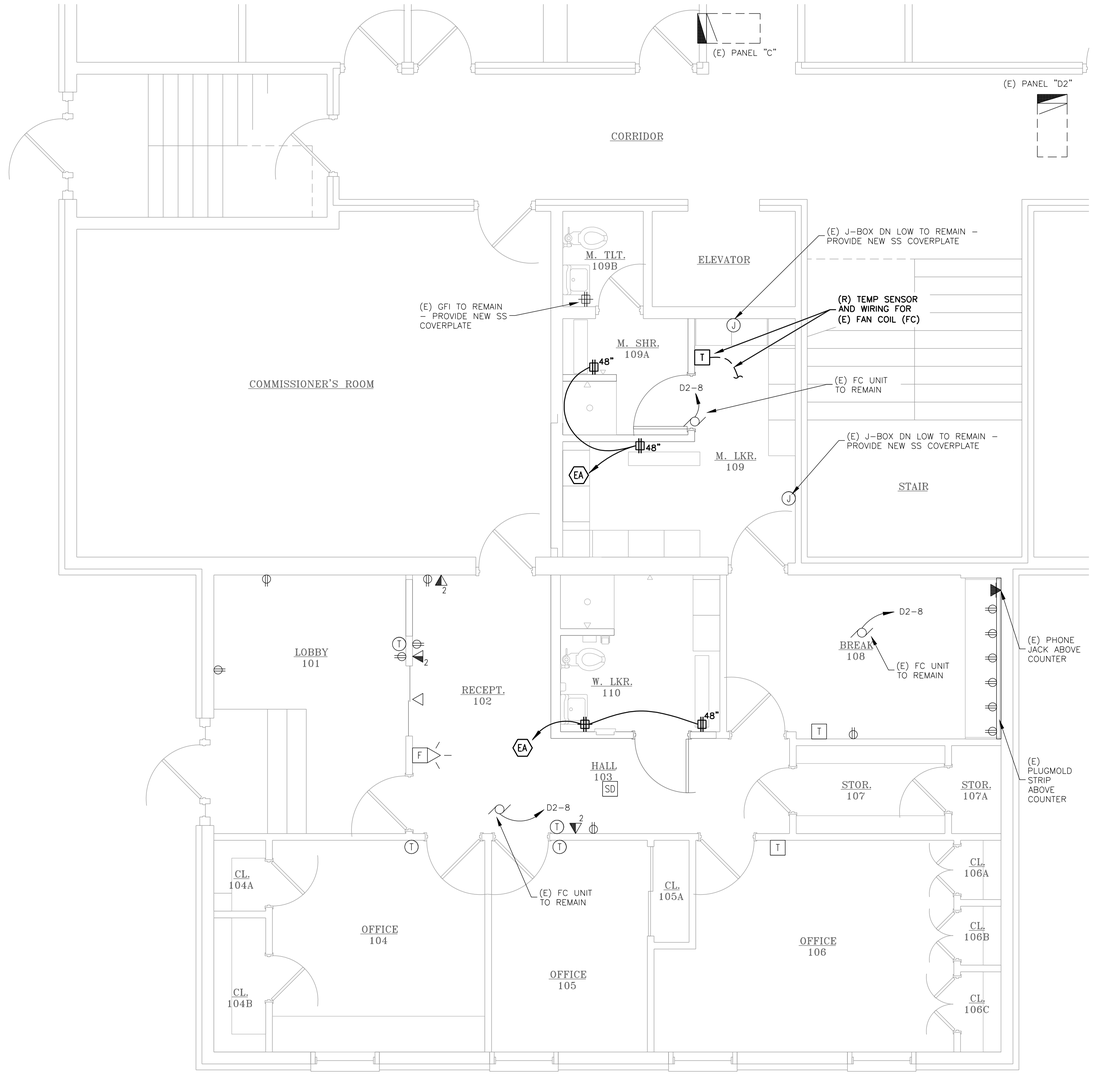
DRAWING TITLE: ELECTRICAL LIGHTING - NEW WORK PLAN

PROJECT TITLE: PROPOSED OTSEGO COUNTY BUILDING REMODLING FOR: OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO. 213-14

DATE JULY 7, 2014

SHEET E2.1



NORTH

ELECTRICAL POWER - NEW WORK PLAN

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

KEYED ELECTRICAL CONSTRUCTION NOTES:

(LA) CONNECT TO NEAR-BY LIGHTING CIRCIUT.

(EA) CONNECT TO NEAR-BY RECEPTACLE CIRCIUT.

GENERAL ELECTRICAL POWER NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF WORK. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MATERIALS (I.E. CONDUIT, WIRE, PULL BOXES, FIXTURES, ETC.) REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM.

2. ALL ELECTRICAL SYSTEMS SHALL BE PROVIDED/INSTALLED TO MEET APPLICABLE BUILDING CODES: MICHIGAN BUILDING CODE, MICHIGAN ELECTRICAL CODE, N.E.C., LIFE SAFETY CODE NFPA 101, MICHIGAN ENERGY CODE, ETC.

3. VERIFY REQUIREMENTS OF ALL MECHANICAL/PLUMBING/ARCHITECTURAL EQUIPMENT WITH SHOP DRAWING SUBMITTALS PRIOR TO INSTALLATION. NOTIFY THE ENGINEER OF ANY CONFLICTS BETWEEN SHOP DRAWINGS AND PLANS.

4. COORDINATE LOCATIONS AND MOUNTING HEIGHTS OF ALL OUTLETS WITH LOCATIONS/HEIGHTS OF COUNTERTOPS, SINKS, FURNITURE, CABINETS, ETC. WITH ARCHITECTURAL ELEVATIONS AND OTHER TRADES.

5. CONTRACTOR SHALL INSTALL ALL MISCELLANEOUS STEEL, STRUT, ETC. REQUIRED TO SUPPORT/HANG EQUIPMENT, CONDUIT, ETC. COORDINATE ATTACHMENTS WITH STRUCTURAL TRADES.

6. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL ELECTRICAL WORK WITH ALL OTHER TRADES. CONTRACTOR SHALL VERIFY ALL MECHANICAL AND ELECTRICAL CLEARANCES PRIOR TO FABRICATION OF ANY NEW WORK. ELECTRICAL EQUIPMENT, WIRING, ETC. SHALL NOT INTERFERE WITH MECHANICAL EQUIPMENT CLEARANCE SPACES.

7. ALL CIRCUITS FOR POWER, LIGHTING, ETC. SHALL BE INSTALLED IN CONDUIT AS SPECIFIED. ALL CIRCUITS SHALL BE CONCEALED IN WALLS, INCLUDING (E) WALLS. SURFACE MOUNTED RACEWAY SHALL NOT BE USED, UNLESS NOTED OTHERWISE, OR UNLESS ABSOLUTELY NECESSARY. APPROVAL FROM ARCHITECT/ENGINEER MUST BE OBTAINED PRIOR TO USING SURFACE MOUNTED CONDUIT.

8. EACH SUBCONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ANY/ALL CEILING TILES AND/OR GRID ASSOCIATED WITH THEIR WORK. THE RESPONSIBLE CONTRACTOR SHALL REPLACE/REPAIR ALL CEILING TILES AND/OR GRID DAMAGED DURING THE CONSTRUCTION WITH NEW CEILING TILES.

9. UNLESS OTHERWISE NOTED, EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ALL NEW PENETRATIONS THROUGH ALL WALLS WITH FIRE CAULK IN ACCORDANCE WITH CURRENT BUILDING CODE REQUIREMENTS.

10. UNLESS OTHERWISE NOTED, EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, CORING, PATCHING ASSOCIATED WITH THEIR WORK. CUTTING, CORING, PATCHING WORK SHALL BE PERFORMED BY A QUALIFIED CONTRACTOR AND MATCH EXISTING OR NEW FINISHES.

ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION
(FA)	FIXTURE TYPE
	RECESSED OR SURFACE MOUNTED FLUORESCENT LIGHTING FIXTURE
	RECESSED OR SURFACE MOUNTED FLUORESCENT EMERGENCY LIGHTING FIXTURE
	SURFACE OR PENDANT MOUNTED FLUORESCENT LIGHTING FIXTURE
	SURFACE OR PENDANT MOUNTED FLUORESCENT EMERGENCY LIGHTING FIXTURE
T	WALL MOUNTED FLUORESCENT LIGHTING FIXTURE
	DOWNLIGHT LIGHTING FIXTURE
	DOWNLIGHT EMERGENCY LIGHTING FIXTURE
	WALL MOUNTED LIGHTING FIXTURE
	EMERGENCY LIGHTING UNIT
	EXIT LIGHTING FIXTURE WITH EMERGENCY EGRESS LIGHTING AND BATTERY
	EXIT LIGHTING FIXTURE WITH DIRECTIONAL ARROWS (SHADED AREA INDICATES FACE)
	EXIT LIGHTING FIXTURE WITH DIRECTIONAL ARROWS (SHADED AREA INDICATES FACE)
	EXIT LIGHTING FIXTURE - WALL MOUNTED
	REMOTE EMERGENCY EXIT DISCHARGE LIGHT
S	SINGLE POLE TOGGLE SWITCH
S2	TWO POLE TOGGLE SWITCH
S3	3 WAY TOGGLE SWITCH
So	OCCUPANCY SENSOR WALL SWITCH - LEVITON #OSSMT OR EQUAL
T	T-STAT (BY OTHERS) ROUGHED IN BY E.C. @ 52" AFF WITH CONDUIT PATHWAY TO EQUIPMENT CONTROLS CONNECTION - COORD. WITH MECHANICAL TRADES
T	TEMPERATURE SENSOR (BY OTHERS) ROUGHED IN BY E.C. @ 52" AFF WITH CONDUIT PATHWAY TO EQUIPMENT CONTROLS CONNECTION - COORD. WITH MECHANICAL TRADES
	DUPLEX RECEPTACLE
48"	DUPLEX RECEPTACLE MOUNTED AT 48" ABOVE FLOOR (UNLESS NOTED OTHERWISE) (SIMILAR FOR ISOLATED GROUND, EMERGENCY AND GFI RECEPTACLES)
	DUPLEX RECEPTACLE GFI MOUNTED 6" ABOVE COUNTER TOP (UNLESS NOTED OTHERWISE) OR AS REQUIRED TO ACCOMODATE COUNTERS (REFER TO ARCHITECTURAL ELEVATIONS) (SIMILAR FOR OTHER DEVISES)
	DUPLEX RECEPTACLE-GROUND FAULT INTERRUPTER
	SPECIAL RECEPTACLE-NEMA CONFIGURATION AS NOTED
	MULTI-OUTLET RACEWAY

SYMBOL	DESCRIPTION
	SINGLE PHASE MOTOR
	THREE PHASE MOTOR
	COMBINATION MOTOR STARTER WITH DISCONNECT SWITCH
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
SM	HORSE POWER RATED SWITCH
J	JUNCTION BOX
	HARD WIRE POWER CONNECTION
	CONDUIT UP
	CONDUIT DOWN
	CIRCUIT BREAKER
	GROUND
A-3	CIRCUIT HOMERUN TO PANEL "A" - CKT #3
	PANELBOARD "A" (P-A)
T	TRANSFORMER
F	MANUAL FIRE ALARM STATION
SD	SMOKE DETECTOR
XX	FIRE ALARM STROBE-WALL MOUNT (xx CANDELA)
C XX	FIRE ALARM STROBE-CEILING MOUNT (xx CANDELA)
F XX	FIRE ALARM HORN/STROBE-WALL MOUNT (xx CANDELA)
C F XX	FIRE ALARM HORN/STROBE-CEILING MOUNT (xx CANDELA)
	DATA OUTLET
	DATA OUTLET MTD 8" ABOVE COUNTERTOP
	COMBINATION TELE/DATA OUTLET
	COMBINATION TELE/DATA OUTLET MOUNTED 8" ABOVE COUNTER TOP (UNLESS NOTED OTHERWISE)
	COMBINATION TELE/DATA OUTLET 8" ABOVE COUNTERTOP
	TELEPHONE OUTLET
	TELEPHONE OUTLET MTD 8" ABOVE COUNTERTOP
48"	DATA OR TELE OUTLET - WALL MOUNTED @ 48"

JLK Engineering Project Number AEA 1402-01

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DRAWING TITLE: ELECTRICAL POWER - NEW WORK PLAN

PROJECT TITLE: PROPOSED OTSEGO COUNTY BUILDING REMODLING FOR: OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO. 213-14

DATE JULY 7, 2014

SHEET E2.2

GENERAL ELECTRICAL REQUIREMENTS:

WORK INCLUDED:
PROVIDE ALL ITEMS, ARTICLES, MATERIALS, OPERATIONS OR METHODS LISTED, MENTIONED OR SCHEDULED IN DESIGN DOCUMENTS AND/OR HEREIN, INCLUDING ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY AND REQUIRED FOR THEIR COMPLETION. ALL DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING THE GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO WORK OF ALL DIVISION 16/26 SECTIONS. THE ITEMS IN THIS SECTION ARE NOT INTENDED TO SUPERSEDE, BUT ARE SUPPLEMENTARY TO, THE REQUIREMENTS SET FORTH IN OTHER DIVISIONS OF THE SPECIFICATIONS.

CONDITIONS:
THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW THE GENERAL ARRANGEMENT OF EQUIPMENT, LIGHTING, WIRING AND RELATED ITEMS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL MATERIALS (I.E. CONDUIT, WIRE, PULL BOXES, FIXTURES, ETC.) REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM. IF ANY INTERFERENCES, VIOLATIONS, OR OMISSIONS APPEAR TO DEPART FROM THE DESIGN INTENT OF THE BID DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO ENTERING INTO A CONTRACT WITH THE OWNER. FAILURE TO PROVIDE THE ARCHITECT/ENGINEER WITH THE AFOREMENTIONED NOTIFICATION WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE TO COMPLETE ALL WORK TO MEET THE DESIGN INTENT OF THE BID DOCUMENTS WITH NO ADDITIONAL EXPENSES.

COORDINATION:
CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES IN ORDER TO AVOID INTERFERENCES. COORDINATE EXACT FIXTURE LOCATIONS WITH ARCHITECTURAL PLANS (REFLECTED CEILING PLANS, BUILDING ELEVATIONS, ETC). VERIFY REQUIREMENTS OF ALL MECHANICAL/PLUMBING/ARCHITECTURAL EQUIPMENT WITH SHOP DRAWING SUBMITTALS PRIOR TO INSTALLATION. NOTIFY THE ENGINEER OF ANY CONFLICTS BETWEEN SHOP DRAWINGS AND PLANS. COORDINATE LOCATIONS AND MOUNTING HEIGHTS OF ALL DEVICES WITH LOCATIONS/HEIGHTS OF COUNTERTOPS, SINKS, FURNITURE, CABINETS, ETC. WITH ARCHITECTURAL ELEVATIONS AND OTHER TRADES. CONTRACTOR SHALL EXAMINE THE DRAWINGS OF OTHER TRADES AND VERIFY THE CONDITIONS GOVERNING THE WORK ON THE JOB SITE. ARRANGE WORK ACCORDINGLY, PROVIDING SUCH CONDUIT, WIRING, ETC. AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. WHERE INTERFERENCES OCCUR, THE CONTRACTOR SHALL, PRIOR TO INSTALLATION OF THE WORK, CONSULT WITH THE ARCHITECT/ENGINEER AS TO THE EXACT LOCATION AND LEVEL OF HIS WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ARRANGEMENT OF HIS WORK. SHOULD WORK INSTALLED BY HIM REQUIRE MODIFICATION TO AVOID INTERFERENCES WITH OTHER WORK, AS DETERMINED BY THE ARCHITECT/ENGINEER, SUCH CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST.

SUPPORTS AND HANGERS:
CONTRACTOR SHALL PROVIDE ALL NECESSARY ANGLE/BRACKETS OR SUPPLEMENTARY STEEL AS REQUIRED FOR ADEQUATE SUPPORT OF ALL LIGHTS, PANELS, WIRING, ETC. SECURE APPROVAL FROM THE ARCHITECT, IN WRITING, PRIOR TO WELDING OR BOLTING TO STEEL FRAMING OR ANCHORING TO CONCRETE STRUCTURE.

GUARANTEE OF WORK:
CONTRACTOR SHALL GUARANTEE ALL OF THE WORK FURNISHED UNDER HIS CONTRACT TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE YEAR AFTER OWNER ACCEPTANCE. THE CONTRACTOR SHALL FIX/REPAIR ANY DEFECTS WITH IN THIS PERIOD AT NO EXPENSE TO THE OWNER. THE CONTRACTOR SHALL SUBMIT TO THE OWNER ALL WARRANTIES FOR EQUIPMENT INSTALLED.

CODES AND REGULATIONS:
ALL CONSTRUCTION WORK AND MATERIALS SHALL BE COMPLETED IN ACCORDANCE WITH THE THEN CURRENT RULES SET FORTH IN LOCAL, STATE, AND FEDERAL CODES AND REGULATIONS. CONSTRUCTION AND MATERIALS SHALL COMPLY WITH CURRENT AMERICAN DISABILITIES ACT (ADA) REQUIREMENTS. CONTRACTOR SHALL PREPARE AND ISSUE ANY PLAN REVIEW APPLICATIONS/SUBMITTALS THAT MAY BE REQUIRED BY THE GOVERNING AUTHORITIES. WHERE THE DESIGN DOCUMENTS INDICATE MATERIALS OR CONSTRUCTION IN EXCESS OF CODE REQUIREMENTS, THE DESIGN DOCUMENTS SHALL GOVERN. IN THE EVENT THAT THE PLANS AND SPECIFICATIONS CONFLICT WITH ANY RULES, REGULATIONS, OR CODES APPLYING, SAID RULES, REGULATIONS AND CODES SHALL GOVERN.

PERMITS, FEES, ETC.:
UNLESS OTHERWISE INDICATED, ALL REQUIRED PERMITS, LICENSES, INSPECTIONS, PLAN REVIEWS, APPROVALS AND FEES FOR THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR. AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL FURNISH THE OWNER WITH ALL CERTIFICATES OF FINAL INSPECTIONS AND APPROVALS.

SUBSTITUTION ITEMS REQUIRING PRIOR APPROVAL:
ALL ITEMS THAT THE CONTRACTOR PROPOSES TO USE IN HIS WORK THAT ARE NOT SPECIFICALLY NAMED IN THE DOCUMENTS MUST BE SUBMITTED FOR REVIEW. SUCH ITEMS MUST BE SUBMITTED IN DUPLICATE TO THE ARCHITECT/ENGINEER FOR APPROVAL A MINIMUM OF 10 DAYS PRIOR TO BID OPENING.

MANUFACTURER'S:
IF AN APPROVED MANUFACTURER IS OTHER THAN THE MANUFACTURER USED AS THE BASIS OF DESIGN, THE EQUIPMENT OR PRODUCT PROVIDED SHALL BE EQUAL IN QUALITY, DURABILITY, APPEARANCE, CAPACITY, AND EFFICIENCY THROUGH ALL RANGES OF OPERATION, SHALL CONFORM TO THE ARRANGEMENTS AND SPACE LIMITATIONS OF THE EQUIPMENT SHOWN ON THE DOCUMENTS, SHALL BE COMPATIBLE WITH THE OTHER COMPONENTS OF THE SYSTEM AND SHALL COMPLY WITH REQUIREMENTS FOR PRIOR APPROVAL. ALL COSTS TO MAKE THESE ITEMS COMPLY WITH THESE REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, WIRING, CONDUIT, MECHANICAL, AND BUILDING ALTERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND BE INCLUDED IN THE ORIGINAL BID.

OPERATION AND MAINTENANCE MANUALS:
PROVIDE TWO (2) COMPLETE OPERATION AND MAINTENANCE (O&M) MANUALS COVERING ALL ELECTRICAL EQUIPMENT HEREIN SPECIFIED. O&M MANUALS SHALL INCLUDE SHOP DRAWINGS, OPERATION/MAINTENANCE INSTRUCTIONS, AND SPARE PART LISTS.

SHOP DRAWINGS SUBMITTALS:
SUBMIT FOR REVIEW AND APPROVAL, WITHIN 30 DAYS AFTER NOTICE TO PROCEED, DIGITAL .PDF COPIES OF SHOP DRAWINGS FOR ALL ITEMS LISTED BELOW. WHERE ITEMS ARE REFERRED TO BY SYMBOLIC DESIGNATION ON THE DRAWINGS AND SPECIFICATIONS, ALL SUBMITTALS SHALL BEAR THE SAME DESIGNATION.

LIGHT FIXTURES

OWNER TRAINING:
BEFORE FINAL INSPECTION THE CONTRACTOR SHALL INSTRUCT OWNER'S DESIGNATED PERSONNEL IN OPERATION, ADJUSTMENT AND MAINTENANCE OF ELECTRICAL EQUIPMENT AND SYSTEMS AT AGREED UPON TIMES. FOR EQUIPMENT REQUIRING SEASONAL OPERATION, PERFORM INSTRUCTIONS FOR OTHER SEASONS WITHIN SIX MONTHS. USE OPERATION AND MAINTENANCE MANUALS AS BASIS FOR INSTRUCTION. REVIEW CONTENTS OF MANUAL WITH PERSONNEL IN DETAIL TO EXPLAIN ALL ASPECTS OF OPERATION AND MAINTENANCE.

RECORD DRAWINGS:
CONTRACTOR SHALL SUBMIT RECORD DRAWINGS WHICH HAVE BEEN NEATLY MARKED TO REPRESENT AS-BUILT CONDITIONS FOR ALL NEW WORK.

DEMOLITION WORK:
ALL DEMOLITION OF EXISTING EQUIPMENT AND MATERIALS SHALL BE DONE BY THE CONTRACTOR UNLESS OTHERWISE INDICATED. INCLUDE ALL ITEMS SUCH AS, BUT NOT LIMITED TO, EXISTING WIRING, PANELBOARDS, CONDUIT, LIGHT FIXTURES, WIRING DEVICES, ETC. AND EQUIPMENT WHERE SUCH ITEMS ARE NOT REQUIRED FOR THE PROPER OPERATION OF THE MODIFIED SYSTEM. IN GENERAL, DEMOLITION WORK IS INDICATED ON THE DRAWINGS. HOWEVER, THE CONTRACTOR SHALL VISIT THE JOB SITE TO DETERMINE THE FULL EXTENT OF THE WORK. UNLESS SPECIFICALLY NOTED TO THE CONTRARY, REMOVED MATERIALS SHALL NOT BE REUSED IN THE WORK. ITEMS ON WHICH THE OWNER WAIVES OWNERSHIP SHALL BECOME THE PROPERTY OF THE CONTRACTOR, WHO SHALL REMOVE AND LEGALLY DISPOSE OF SAME, AWAY FROM THE PREMISES.

CUTTING, CORING, AND PATCHING:
ALL CUTTING, CORING, AND PATCHING WORK REQUIRED FOR ELECTRICAL INSTALLATIONS SHALL BE PERFORMED BY THE CONTRACTOR THROUGH APPROVED QUALIFIED SUB-CONTRACTORS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PAINTING, AND/OR OTHER REPAIRS REQUIRED. PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND/OR STRUCTURAL ENGINEER MUST BE OBTAINED PRIOR TO ANY CUTTING OF ANY BUILDING STRUCTURAL SYSTEMS.

EQUIPMENT SUPPORTS:
FOR EQUIPMENT SUSPENDED FORM CEILING OR WALLS, FURNISH AND INSTALL ALL INSERTS, RODS, STRUCTURAL STEEL FRAMES, BRACKETS AND PLATFORMS REQUIRED. OBTAIN APPROVAL OF ARCHITECT AND/OR ENGINEER FOR SAME INCLUDING LOADS, LOCATIONS, AND METHODS OF ATTACHMENT.

SLEEVES:
PROVIDE AND INSTALL SCHEDULE 40 BLACK STEEL PIPE SLEEVES, CUT TO LENGTH, WHEREVER CONDUITS PASS THROUGH ABOVE GRADE WALLS AND FLOORS. PROVIDE AND INSTALL GALVANIZED STEEL PIPE SLEEVES, CUT TO LENGTH, WHEREVER CONDUITS PASS THROUGH BELOW GRADE FOUNDATION WALLS AND SLAB ON GRADE FLOORS. SLEEVES SHALL TERMINATE FLUSH WITH WALLS IN FINISHED AREAS. ALL SLEEVES THROUGH THE FLOOR ARE TO EXTEND TWO (2) INCHES ABOVE FINISH FLOOR.

PENETRATIONS:
SEAL THE SPACE AROUND CONDUITS IN SLEEVES AND AROUND ELECTRICAL OPENINGS THROUGH WALLS, FLOORS, ROOFS, AND CEILINGS. ANY ELECTRICAL SYSTEMS PENETRATING THROUGH FIRE-RATED ASSEMBLIES SHALL BE FIRE AND DRAFT STOPPED WITH NON-COMBUSTABLE MATERIALS PER APPLICABLE BUILDING CODE REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE ASSEMBLY LOCATIONS, TYPES, AND RATINGS.

ELECTRICAL SPECIFICATIONS:

ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE MOST RECENT ENFORCEABLE VERSION OF THE NATIONAL ELECTRIC CODE (N.E.C.), LOCAL/STATE CODES, ORDINANCES, AND REGULATIONS, INCLUDING THE LOCAL BUILDING CODE, NFPA RULES, OSHA, AND AMERICAN DISABILITIES ACT (ADA).

EQUIPMENT:
ALL ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE NEW, CONFORM TO LATEST APPROVED STANDARDS OF I.E.E.E., ANSI, AND BEAR THE "UL" LABEL OR LISTING. ALL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

16060 GROUNDING & BONDING:
FURNISH AND INSTALL A COMPLETE GROUNDING SYSTEM IN ACCORDANCE WITH N.E.C. AND LOCAL CODES AND ORDINANCES.

THE NEUTRAL BUS AT THE MAIN SWITCHES SHALL BE CONNECTED TO THE GROUNDING ELECTRODE SYSTEM. THE GROUNDING ELECTRODE SYSTEM SHALL BE IN COMPLIANCE WITH THE N.E.C.

GROUNDING PATH FROM CIRCUITS, EQUIPMENT, CONDUCTOR ENCLOSURES, ETC. SHALL BE PERMANENT AND CONTINUOUS AND SHALL HAVE A RESISTANCE TO GROUND OF LESS THAN 5 OHMS.

16070 HANGERS AND SUPPORTS:
CONTRACTOR SHALL PROVIDE ALL NECESSARY ANGLE/BRACKETS OR SUPPLEMENTARY STEEL AS REQUIRED FOR ADEQUATE SUPPORT OF ALL LIGHTS, PANELS, WIRING, ETC. SECURE APPROVAL FROM THE ARCHITECT, IN WRITING, PRIOR TO WELDING OR BOLTING TO THE BUILDING STRUCTURE.

16075 ELECTRICAL IDENTIFICATION:
INSTALL 1/2" HIGH ENGRAVED PHENOLIC NAMEPLATES/LABELS ON ALL ELECTRICAL EQUIPMENT AND LOADS (PLASTIC TAPE IS NOT ACCEPTABLE). LABEL AS FOLLOWS: DISCONNECTS (EQUIPMENT SERVED, CIRCUIT #, VOLTAGE/PHASE), JUNCTION BOXES (SOURCE, DESTINATION, VOLTAGE/PHASE), PANELBOARDS (DESTINATION, VOLTAGE/PHASE). LABELS SHALL MATCH NOMENCLATURE ON PLANS.

PROVIDE TYPEWRITTEN PANEL SCHEDULES INDICATING LOADS. EXISTING PANEL SCHEDULES SHALL BE UPDATED TO INDICATE CHANGES.

16123 BUILDING WIRE AND CABLE:
BRANCH CIRCUITS EQUAL, OR LESS THAN, 4/0 AWG SHALL BE COPPER, 600 VOLT INSULATION, MINIMUM SIZE #10 AWG (EXCEPT FOR RECEPTACLE CIRCUITS MAY BE MIN. #12 AWG), AND BE TYPE "THWN" RATED 75 DEGREES C, ROUTED IN CONDUIT, OR AC/MC CABLE.

FEEDERS LARGER THAN #4/0 AND SECONDARY SERVICE CONDUCTORS SHALL BE COPPER, 600 VOLT INSULATION, AND BE TYPE "XHHW" RATED 90 DEGREES C, ROUTED IN CONDUIT.

ALL FEEDERS AND BRANCH CIRCUITS SHALL BE SIZED FOR MAXIMUM OF 2% VOLTAGE DROP.

ALL CONDUCTORS SHALL BE COPPER AND ROUTED IN CONDUIT.

16131 CONDUIT:

DRY INTERIOR LOCATIONS:
WHERE CONCEALED – USE ELECTRICAL METALLIC TUBING (EMT).
WHERE EXPOSED – USE ELECTRICAL METALLIC TUBING (EMT).

EQUIPMENT CONNECTIONS (I.E. TRANSFORMERS, MOTORS, ETC.) – USE LIQUIDTIGHT FLEXIBLE CONDUIT. NOTE: USE GALVANIZED RIGID STEEL (GRS) CONDUIT WHERE EXPOSED/SUBJECT TO DAMAGE IN MECHANICAL ROOMS UP TO 10 FEET ABOVE FINISHED FLOOR.

LIGHT FIXTURES – USE MC CABLE FROM J-BOX (MAX. LENGTH 6').

WIRING DEVICES – USE MC CABLE FOR DROPS WHERE CONCEALED WITHIN WALLS. DO NOT USE MC CABLE FOR HOMERUNS. NOTE: USE ELECTRICAL METALLIC TUBING (EMT) CONDUIT WHERE EXPOSED.

CONTROL WIRING – ELECTRICAL METALLIC TUBING (EMT).

NOTE: ALL CIRCUITS FOR POWER, LIGHTING, ETC. SHALL BE IN CONDUIT AS SPECIFIED. ALL CIRCUITS SHALL BE CONCEALED IN WALLS, INCLUDING (E) WALLS. SURFACE MOUNTED RACEWAY SHALL NOT BE USED UNLESS NOTED OTHERWISE OR UNLESS ABSOLUTELY NECESSARY. APPROVAL FROM ARCHITECT/ENGINEER MUST BE OBTAINED PRIOR TO USING SURFACE MOUNTED RACEWAY.

16140 WIRING DEVICES:
WALL SWITCHES SHALL BE NEMA WD1, SPEC. GRADE, 20A, 120/277 RATED. SINGLE POLE, DOUBLE POLE, 3-WAY, ETC. AS INDICATED. COORDINATE COLOR WITH ARCHITECT. EQUAL BY HUBBELL, LEVITON, ARROW-HART, P&S.

RECEPTACLES SHALL BE NEMA WD1, SPEC. GRADE, GROUNDED TYPE, 20A, 120V RATED. COORDINATE COLOR WITH ARCHITECT. EQUAL BY HUBBELL, LEVITON, ARROW-HART, OR P&S.

GFCI RECEPTACLES SHALL MEET UL STANDARDS. EQUAL BY HUBBELL, LEVITON, ARROW-HART, P&S.

WALL PLATES FOR DEVICES SHALL BE TYPE 302 STAINLESS STEEL. HUBBELL TYPE "S" OR AS SELECTED BY OWNER/ARCHITECT.

COORDINATE LOCATIONS AND MOUNTING HEIGHTS OF ALL OUTLETS WITH LOCATIONS/HEIGHTS OF COUNTERTOPS, SINKS, FURNITURE, CABINETS, ETC. WITH ARCHITECTURAL ELEVATIONS AND OTHER TRADES.

16510 LIGHTING:
FURNISH AND INSTALL LIGHT FIXTURES AND LAMPS AS INDICATED IN SCHEDULE.

LIGHTING FIXTURE LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN, AND OTHER TRADES (MECHANICAL, PLUMBING, ETC.)

FLUORESCENT BALLASTS SHALL BE ANSI C82.1, ENERGY EFFICIENT, HIGH POWER FACTOR, PROGRAM RAPID START TYPE ELECTRONIC TYPE BALLAST, SUITABLE FOR LUMINAIRE VOLTAGE. BALLAST SHALL BE UL LISTED, CLASS "P", WITH A SOUND RATING AT OR BELOW CLASS "A". BALLAST FACTOR SHALL BE 0.875-1.0. TDH SHALL BE 10% OR LESS. CREST FACTOR SHALL BE 1.5 OR LESS. EQUAL BY ADVANCE, MAGNETEK, VALMONT.

SUPPORT FIXTURES INDEPENDENT OF THE CEILING GRID.

ALL LIGHTING SYSTEMS AND CONTROLS SHALL BE PROVIDED/INSTALLED TO MEET APPLICABLE CODES: LOCAL BUILDING CODE, ELECTRICAL CODE, N.E.C., LIFE SAFETY CODE NFPA 101, LOCAL ENERGY CODE, ETC.

JLK Engineering Project Number AEA 1402-01

JLK ENGINEERING
Mechanical | Electrical | Plumbing
5786 Catawaba Ct. | Gaylord, MI 49735 | P 989.448.4631
www.jlkengineering.com

ANTHONY P. ESSON
ARCHITECT
PO BOX 479 GAYLORD, MICHIGAN 49734
TELEPHONE: (989) 732-0585

DRAWING TITLE: ELECTRICAL SPECIFICATIONS

PROJECT TITLE: PROPOSED OTSEGO COUNTY BUILDING REMODLING FOR:
OTSEGO COUNTY SHERIFF DEPARTMENT
GAYLORD, MICHIGAN

PROJECT NO.: 213-14

DATE: JULY 7, 2014

SHEET: E3.1

Otsego County
Office of the County Administrator
225 West Main Street • Gaylord, Michigan 49735
989-731-7520 • Fax 989-731-7529

Clarification/Addendum #1

Request for Proposal
Otsego County Courthouse Renovations
Gaylord, MI

RFP 2014-03

July 29, 2014

Dear Vendor:

Thank you for your participation in Otsego County's Request for Proposal process for Bid 2014-03, for renovations at the Otsego County Courthouse in Gaylord, Michigan.

We have prepared a Clarification Notice Number One (1) to the RFP to provide clarification pertaining to timing of the project.

The location of several departments will be changed as part of the project. The doorway between rooms 210 and 212 will have to be completed, and several offices will have to be moved, prior to starting work on the first/ground floor of the building. It is anticipated that it will take approximately two weeks, once the second floor work is completed, to move the various departments prior to starting the ground floor work.

If you have any questions on this Clarification or on any other aspects of the Request for Proposal, please contact me at (989) 731-7527, Fax (989) 731-7529 or Email at jburt@otsegocountymi.gov.

Respectfully,

John Burt
County Administrator

County-City Building
225 W. Main St.
Gaylord, MI 49735

Otwell Mawby, P.C.
Consulting Engineers

April 21, 2006

Ms. Trisha Adam
Human Resources Director
Otsego County
225 W. Main Street, Room 203
Gaylord, MI 49735

RE: Asbestos Inspection Report
County/City Building
225 West Main Street
Gaylord, Michigan

Dear Ms. Adam:

Otwell Mawby, P.C. (OMPC) has completed an inspection of the County/City Building located at 225 West Main Street in Gaylord, Michigan. The inspection was completed to evaluate the building for the presence of asbestos containing building materials (ACBM). The inspection was conducted on March 17 & April 1, 2006, and covered the entire building. This letter presents the findings of the inspection and serves as the Asbestos Inspection Report for the referenced facility.

Collection Protocol

The building materials suspected of containing asbestos were divided into 16 homogeneous areas. Thirty-two samples were then collected from these materials in accordance with Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) standards. The materials consisted of plaster, drywall, pipe fitting insulation, stucco, ceiling tiles, ceiling panels, floor tiles, floor tile mastic, and linoleum. One additional material, fire door insulation was assumed to contain asbestos. The insulation could not be sampled without damaging the integrity of the doors.

Analytical Protocol

The bulk samples collected during the inspection were analyzed by Environmental Enterprise Group (EEG) in Russellville, Arkansas using Polarized Light Microscopy (PLM). EEG is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for the analysis of asbestos in bulk samples using PLM (NVLAP Lab Code 101587-0). The analytical laboratory package is attached in appendix A.

Summary of Analytical Results

Of the 16 materials sampled, 4 tested positive for asbestos content and thus are defined as ACBM. A description of the ACBM, locations, and approximate quantities is provided on the table located in Appendix B. The location of the ACBM can compared to the site plans located in Appendix C.

Inaccessible Areas

OMPC could not access certain areas of the facility without damaging the integrity of the building materials in place. These areas included the restrooms and halls with solid drywall or stucco ceilings. If the ceilings are entered the personnel doing so should have the training necessary to recognize potential ACBM.

Condition of ACBM/Recommended Response Actions

During the on-site inspection, the OMPC Inspector also noted the condition of the ACBM. The table in Appendix B has a column listing the amount of damaged material present, if applicable. If the damage column does not list damage, the material is in good condition and may be left in place as is. A column for notes follows the damage column on the table. The table should be updated with date(s) as materials are repaired or removed per building area. OMPC recommends that small amount of damaged pipe fitting insulation and floor tile be repaired by properly trained personnel.

Additional Requirements per OSHA

The OSHA Asbestos Standard, Part 305: Asbestos (General Industry Standards) requires that all employees, tenants, employees of tenants, and contractors who will work in or adjacent to asbestos-containing materials be notified of the location of the ACBM. In addition to the notification, all maintenance and custodial personnel in the building must be provided with asbestos awareness training, at a minimum. A sign warning must be placed near the entrance to mechanical rooms containing floor tiles and mastic.

All outside contractors entering the building that could have the potential of disturbing the ACBM should also have asbestos awareness training under the standard. Their employer is responsible for providing the training for them.

All bulk sample collection, quantification, and ACBM assessment was performed by Robert Peters of OMPC. Mr. Peters is certified as an asbestos inspector by the State of Michigan, Department of Labor and Economic Growth (MDLEG) Asbestos Program. A copy of this certification can be found in Appendix D.

If you have any questions regarding this report, please feel free to contact me at (231) 946-5200. We appreciate the opportunity to provide these services and thank you for your confidence in OMPC.

Sincerely,

OTWELL MAWBY, P.C.

Robert L. Peters Jr.
State of Michigan, Certified Asbestos Inspector #A3270

Enclosures, as stated.

APPENDIX A

EEG
Environmental
Enterprise Group, Inc.

320 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1956
www.eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County/City Building
Received: 3/20/2006 **Shipped Via:** Fed Ex

Job Number: 00326- B2006-0150
Sampled By: Bob Peters

Date Sampled: 3/17/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis
1	01A	No	Positive

Sample Description: Tan
Floor Tile
Room 206

This material contains approximately

Chrysotile Asbestos	2%	Calcite	50%
Quartz	1%	Particulate Matter	47%

Sample #	Client Sample ID:	Layered	Analysis
2	02A	No	Positive

Sample Description: Black
Mastic
Room 206

This material contains approximately

Chrysotile Asbestos	4%	Cellulose	<1%
Calcite	3%	Quartz	3%
Particulate Matter	90%		

Sample #	Client Sample ID:	Layered	Analysis
3	03A	No	None Detected

Sample Description: White / Brown
Drywall
Room 206

This material contains approximately

Cellulose	50%	Quartz	1%
Gypsum Mortar	40%	Particulate Matter	9%

Sample #	Client Sample ID:	Layered	Analysis
4	03B	Yes 1	None Detected

Sample Description: White / Brown
Drywall
2nd Floor Janitor

This material contains approximately

Cellulose	40%	Fiberglass	2%
Quartz	1%	Gypsum Mortar	45%
Particulate Matter	12%		

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent. Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

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NVLAP LAB CODE 101587-0

Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

EEG
Environmental
Enterprise Group, Inc.

320 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1956
www.3eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County/City Building
Received: 3/20/2006 **Shipped Via:** Fed Ex

Job Number: 00326- B2006-0150
Sampled By: Bob Peters

Date Sampled: 3/17/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
4	03B	Yes 2	None Detected	Cellulose	<1%	Calcite	80%
				Quartz	2%	Particulate Matter	18%
Sample Description: White Drywall Compound 2nd Floor Janitor							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
4	03B	Yes	None Detected	Cellulose	36%	Fiberglass	2%
				Calcite	8%	Quartz	<1%
				Gypsum Mortar	41%	Particulate Matter	13%
Sample Description: White / Brown Composite Analysis 2nd Floor Janitor							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
5	03C	Yes 1	None Detected	Cellulose	25%	Quartz	1%
				Gypsum Mortar	65%	Particulate Matter	9%
Sample Description: White / Brown Drywall Chief Police Closet							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
5	03C	Yes 2	None Detected	Cellulose	<1%	Calcite	75%
				Quartz	2%	Perlite	5%
Sample Description: White Drywall Compound Chief Police Closet				Particulate Matter	18%		

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Respectfully Submitted,
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220 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1656
www.3weg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County/City Building
Received: 3/20/2006 **Shipped Via:** Fed Ex

Job Number: 00326- B2006-0150
Sampled By: Bob Peters

Date Sampled: 3/17/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis
5	03C	Yes	None Detected

Sample Description: White / Brown
Composite Analysis
Chief Police Closet

This material contains approximately

Cellulose	16%	Calcite	26%
Quartz	1%	Perlite	2%
Gypsum Mortar	42%	Particulate Matter	13%

Sample #	Client Sample ID:	Layered	Analysis
6	04A	No	None Detected

Sample Description: Brown
Cove Base
Room 206

This material contains approximately

Calcite	35%	Quartz	<1%
Particulate Matter	65%		

Sample #	Client Sample ID:	Layered	Analysis
7	05A	Yes 1	None Detected

Sample Description: White / Green
Plaster
Conference Room West Wall

This material contains approximately

Quartz	3%	Gypsum Mortar	75%
Particulate Matter	22%		

Sample #	Client Sample ID:	Layered	Analysis
7	05A	Yes 2	None Detected

Sample Description: Off White
Plaster
Conference Room West Wall

This material contains approximately

Quartz	40%	Gypsum Mortar	45%
Particulate Matter	15%		

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent. Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

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Analyst

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230 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1056
www.3eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County/City Building
Received: 3/20/2006 **Shipped Via:** Fed Ex

Job Number: 00326- B2006-0150
Sampled By: Bob Peters

Date Sampled: 3/17/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
7	05A	Yes 3	None Detected	Cellulose	97%	Particulate Matter	3%
Sample Description: Gray / Brown Debris Conference Room West Wall							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
8	05B	Yes 1	None Detected	Quartz	4%	Gypsum Mortar	75%
				Particulate Matter	21%		
Sample Description: White / Green Plaster Room 204 South Wall							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
8	05B	Yes 2	None Detected	Cellulose	<1%	Quartz	40%
				Gypsum Mortar	45%	Particulate Matter	15%
Sample Description: Off White Plaster Room 204 South Wall							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
9	05C	No	None Detected	Quartz	5%	Gypsum Mortar	75%
				Particulate Matter	20%		
Sample Description: White Plaster							

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent. Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

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Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

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139 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1956
www.1eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County/City Building
Received: 3/20/2006 **Shipped Via:** Fed Ex

Job Number: 00326- B2006-0150
Sampled By: Bob Peters

Date Sampled: 3/17/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis
10	06A	No	None Detected

Sample Description: White / Off White
Ceiling Panel
2nd Floor North Hall

This material contains approximately

Cellulose	40%	Mineral Wool	35%
Quartz	1%	Perlite	15%
Particulate Matter	9%		

Sample #	Client Sample ID:	Layered	Analysis
11	06B	No	None Detected

Sample Description: White / Off White
Ceiling Panel

This material contains approximately

Cellulose	40%	Mineral Wool	35%
Quartz	1%	Perlite	15%
Particulate Matter	9%		

Sample #	Client Sample ID:	Layered	Analysis
12	06C	No	None Detected

Sample Description: White / Off White
Ceiling Panel
West Entry

This material contains approximately

Cellulose	40%	Mineral Wool	35%
Quartz	1%	Perlite	15%
Particulate Matter	9%		

Sample #	Client Sample ID:	Layered	Analysis
13	07A	No	None Detected

Sample Description: White
Floor Tile
2nd Floor East Entry

This material contains approximately

Calcite	55%	Quartz	1%
Particulate Matter	44%		

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent. Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

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Respectfully Submitted
EEG, Inc

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229 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6757 Fax (479) 968-1956
www.eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County/City Building
Received: 3/20/2006 **Shipped Via:** Fed Ex

Job Number: 00326- B2006-0150
Sampled By: Bob Peters

Date Sampled: 3/17/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis
14	08A	No	None Detected

Sample Description: Black
Mastic
2nd Floor East Entry

This material contains approximately

Cellulose	<1%	Synthetic Fiber	<1%
Calcite	10%	Quartz	3%
Particulate Matter	87%		

Sample #	Client Sample ID:	Layered	Analysis
15	07B	No	None Detected

Sample Description: Tan
Floor Tile
West Entry

This material contains approximately

Calcite	55%	Quartz	1%
Particulate Matter	44%		

Sample #	Client Sample ID:	Layered	Analysis
16	08B	No	None Detected

Sample Description: Black
Mastic
West Entry

This material contains approximately

Cellulose	<1%	Synthetic Fiber	<1%
Calcite	7%	Quartz	3%
Particulate Matter	90%		

Sample #	Client Sample ID:	Layered	Analysis
17	09A	No	Positive

Sample Description: White
Pipe Fitting
Hall by Boiler Room

This material contains approximately

Chrysotile Asbestos	5%	Cellulose	<1%
Mineral Wool	15%	Diatomaceous Earth	5%
Quartz	3%	Gypsum Mortar	55%
Particulate Matter	17%		

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent. Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

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Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

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320 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1937
www.3wco.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County/City Building
Received: 3/20/2006 **Shipped Via:** Fed Ex

Job Number: 00326- B2006-0150
Sampled By: Bob Peters

Date Sampled: 3/17/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis
18	09B	No	Positive

Sample Description: White
Pipe Fitting
Hall by Boiler Room

This material contains approximately

Chrysotile Asbestos	7%	Cellulose	<1%
Mineral Wool	15%	Diatomaceous Earth	5%
Quartz	3%	Gypsum Mortar	55%
Particulate Matter	15%		

Sample #	Client Sample ID:	Layered	Analysis
19	09C	Yes 1	Positive

Sample Description: White
Pipe Fitting
Hall by Receiving

This material contains approximately

Chrysotile Asbestos	7%	Cellulose	<1%
Mineral Wool	15%	Diatomaceous Earth	5%
Quartz	4%	Gypsum Mortar	50%
Particulate Matter	19%		

Sample #	Client Sample ID:	Layered	Analysis
19	09C	Yes 2	Positive

Sample Description: Silver
Coating Material
Hall by Receiving

This material contains approximately

Chrysotile Asbestos	3%	Quartz	1%
Particulate Matter	96%		

Sample #	Client Sample ID:	Layered	Analysis
20	10A	No	Trace

Sample Description: White
Stucco
1st Floor Hall East End

This material contains approximately

Chrysotile Asbestos	<1%	Cellulose	<1%
Quartz	7%	Perlite	15%
Gypsum Mortar	60%	Particulate Matter	18%

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos deteetion limit is less than 1 percent. Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

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Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

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220 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1990
www.3eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County/City Building
Received: 3/20/2006 **Shipped Via:** Fed Ex

Job Number: 00326-B2006-0150
Sampled By: Bob Peters

Date Sampled: 3/17/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis
21	10B	No	Positive

Sample Description: White
Stucco
1st Floor Hall Center

This material contains approximately

Chrysotile Asbestos	2%	Cellulose	<1%
Quartz	5%	Perlite	15%
Gypsum Mortar	60%	Particulate Matter	18%

Sample #	Client Sample ID:	Layered	Analysis
22	10C	No	Positive

Sample Description: White
Stucco
1st Floor Hall West End

This material contains approximately

Chrysotile Asbestos	2%	Cellulose	<1%
Quartz	7%	Perlite	15%
Gypsum Mortar	55%	Particulate Matter	21%

Sample #	Client Sample ID:	Layered	Analysis
23	11A	No	None Detected

Sample Description: White / Brown
Ceiling Panel
Report Room Police

This material contains approximately

Cellulose	90%	Mineral Wool	2%
Quartz	<1%	Perlite	1%
Particulate Matter	7%		

Sample #	Client Sample ID:	Layered	Analysis
24	12A	No	None Detected

Sample Description: White
Ceiling Panel
Police Hall

This material contains approximately

Cellulose	45%	Mineral Wool	35%
Quartz	<1%	Perlite	10%
Particulate Matter	10%		

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent. Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

NVLAP®
NVLAP LAB CODE 101587-0

Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

EEG
Environmental
Enterprise Group, Inc.

[illegible] North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1055
www.3eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County/City Building
Received: 3/20/2006 **Shipped Via:** Fed Ex

Job Number: 00326- B2006-0150
Sampled By: Bob Peters

Date Sampled: 3/17/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
25	13A	Yes 1	None Detected	Cellulose	20%	Fiberglass	3%
				Calcite	25%	Quartz	2%
				Particulate Matter	50%		
Sample Description: White Linoleum Police Bath							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
25	13A	Yes 2	None Detected	Cellulose	<1%	Calcite	10%
				Quartz	4%	Particulate Matter	86%
Sample Description: Tan Mastic Police Bath							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
25	13A	Yes 3	None Detected	Cellulose	25%	Calcite	25%
				Quartz	3%	Particulate Matter	47%
Sample Description: Gray Linoleum Police Bath							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
25	13A	Yes 4	None Detected	Cellulose	<1%	Calcite	3%
				Quartz	1%	Particulate Matter	96%
Sample Description: Tan Mastic Police Bath							

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent. Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

NVLAP®
NVLAP LAB CODE 101587-0

Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

EEG
Environmental
Enterprise Group, Inc.

339 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1978
www.3wen.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County/City Building
Received: 3/20/2006 **Shipped Via:** Fed Ex

Job Number: 00326- B2006-0150
Sampled By: Bob Peters

Date Sampled: 3/17/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis
26	14A	No	None Detected

Sample Description: White
Ceiling Panel
City Council Room

This material contains approximately			
Cellulose	35%	Mineral Wool	35%
Quartz	1%	Perlite	15%
Particulate Matter	14%		

Sample #	Client Sample ID:	Layered	Analysis
27	15A	No	None Detected

Sample Description: White
Exterior Stucco
Main Entrance

This material contains approximately			
Quartz	65%	Particulate Matter	35%

Sample #	Client Sample ID:	Layered	Analysis
28	15B	No	None Detected

Sample Description: White
Exterior Stucco
East Entrance

This material contains approximately			
Quartz	65%	Particulate Matter	35%

Sample #	Client Sample ID:	Layered	Analysis
29	15C	No	None Detected

Sample Description: White
Exterior Stucco
West Entrance

This material contains approximately			
Quartz	65%	Particulate Matter	35%

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent. Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

NVLAP®
NVLAP LAB CODE 101587-0

Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

EEG
Environmental
Enterprise Group, Inc.

220 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1936
www.3eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - County City Building
Received: 4/ 4/2006 **Shipped Via:** FedEx

Job Number: 00326- B2006-0181
Sampled By: Bob Peters

Date Sampled: 4/ 1/2006
Reported: 4/ 6/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
1	16A	No	None Detected	Cellulose	2%	Mineral Wool	90%
				Calcite	2%	Quartz	1%
Sample Description: White Ceiling Tile Courtroom South Wall				Particulate Matter	5%		

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
2	16B	No	None Detected	Cellulose	2%	Mineral Wool	90%
				Calcite	3%	Quartz	2%
Sample Description: White Ceiling Tile Courtroom Southeast Wall				Particulate Matter	3%		

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
3	16C	No	None Detected	Cellulose	1%	Mineral Wool	90%
				Calcite	3%	Quartz	2%
Sample Description: White Ceiling Tile Courtroom North Wall				Particulate Matter	4%		

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent.
Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

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NVLAP LAB CODE 101587-0

Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

APPENDIX B

ACBM	Location	Approximate Quantity	Damage	Notes
First Floor				
Pipe Fitting Insulation	A115a/City Council Meeting	22 Fittings	N/A	
Pipe Fitting Insulation	A109b/Office	7 Fittings	N/A	
Pipe Fitting Insulation	A109a/Office	5 Fittings	N/A	
Pipe Fitting Insulation	A108b/Office	3 Fittings	N/A	
9" Floor Tiles	A107/Janitor's Closet	30 SF	N/A	
Tile Mastic	A107/Janitor's Closet	30 SF	N/A	
Pipe Fitting Insulation	A105/Office	2 Fittings	N/A	
Pipe Fitting Insulation	A104/Office	1 Fitting	N/A	
9" Floor Tiles	A106/Office	56 SF	1 SF	
Tile Mastic	A106/Office	56 SF	N/A	
Stucco	100/Entrance	60 SF	N/A	
Stucco	A102/Hall	1,228 SF	N/A	
Pipe Fitting Insulation	A118/Office	2 Fittings	N/A	
Labeled Fire Door	A118/Office	1 Door	N/A	
9" Floor Tiles	A120/Vault	396 SF	N/A	
Tile Mastic	A120/Vault	396 SF	N/A	

SF = Square Feet
LF = Lineal Feet

ACBM	Location	Approximate Quantity	Damage	Notes
First Floor				
Labeled Fire Doors	A120/Vault	2 Doors	N/A	
9" Floor Tiles	A121/Office	200 SF	N/A	
Tile Mastic	A121/Office	200 SF	N/A	
Pipe Fitting Insulation	A122/Office	8 Fittings	N/A	
9" Floor Tiles	A136/Vault	100 SF	N/A	
Tile Mastic	A136/Vault	100 SF	N/A	
Labeled Fire Doors	Stairway B	2 Doors	N/A	
Labeled Fire Doors	A101/Lobby	2 Doors	N/A	
Labeled Fire Doors	Stairway C	2 Doors	N/A	
Pipe Fitting Insulation	A125/Hall	13 Fittings	N/A	
9" Floor Tiles	A125/Hall	150 SF	N/A	
Tile Mastic	A125/Hall	150 SF	N/A	
Pipe Fitting Insulation	A126/Storage	4 Fittings	2 Fittings	
9" Floor Tiles	A125a/Entry	44 SF	N/A	
Tile Mastic	A125a/Entry	44 SF	N/A	

SF = Square Feet
LF = Lineal Feet

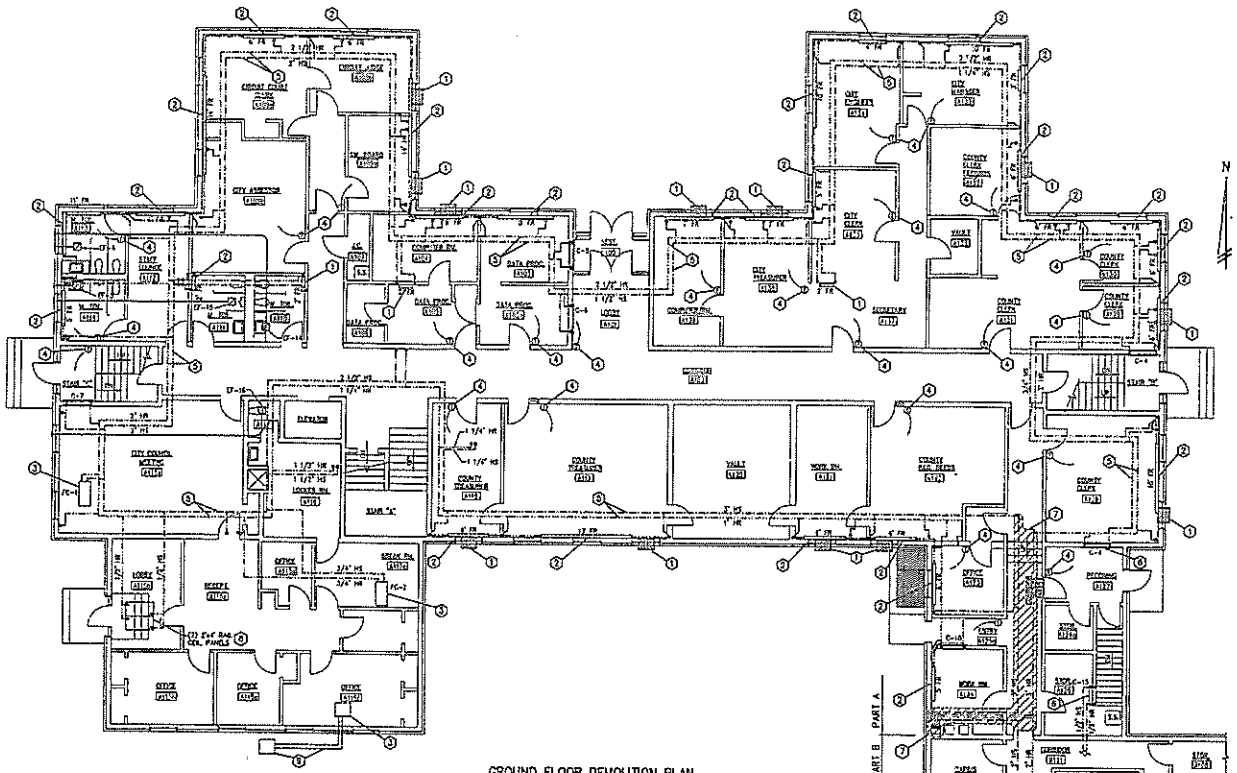
ACBM	Location	Approximate Quantity	Damage	Notes
Basement				
Pipe Fitting Insulation	Basement Hall	6 Fittings	N/A	
Second Floor				
9" Floor Tiles	A203/Closet	40 SF	N/A	
Tile Mastic	A203/Closet	40 SF	N/A	
9" Floor Tiles	A203/Office	120 SF	N/A	
Tile Mastic	A203/Office	120 SF	N/A	
9" Floor Tiles	A206/Bath	25 SF	N/A	
Tile Mastic	A206/Bath	25 SF	N/A	
9" Floor Tiles	A231-232/Mechanical	162 SF	N/A	
Tile Mastic	A231-232/Mechanical	162 SF	N/A	
9" Floor Tiles	A219/Closet	24 SF	N/A	
Tile Mastic	A219/Closet	24 SF	N/A	
9" Floor Tiles	A230/Storage	75 SF	N/A	
Tile Mastic	A230/Storage	75 SF	N/A	
9" Floor Tiles	A225/Storage	70 SF	N/A	

SF = Square Feet
LF = Lineal Feet

ACBM Second Floor	Location	Approximate Quantity	Damage	Notes
Tile Mastic	A225/Storage	70 SF	N/A	
Labeled Fire Door	A228B/Office	1 Door	N/A	
9" Floor Tiles	A211/Storage	80 SF	N/A	
Tile Mastic	A211/Storage	80 SF	N/A	
Labeled Fire Door	A211/Storage	1 Door	N/A	
9" Floor Tiles	211/Closet	36 SF	N/A	
Tile Mastic	211/Closet	36 SF	N/A	
Labeled Fire Door	211/Closet	1 Door	N/A	
9" Floor Tiles	A210/Vault	80 SF	N/A	
Tile Mastic	A210/Vault	80 SF	N/A	

SF = Square Feet
LF = Lineal Feet

APPENDIX C



GROUND FLOOR DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

CONTRACTOR SHALL NOTE PROJECT REQUIREMENTS FOR ASBESTOS ABATEMENT IN THE CONTRACT DOCUMENTS. IN GENERAL, ABATEMENT SHALL BE PERFORMED BY CERTIFIED WORKERS TRAINED IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS. CONTRACTOR SHALL PROVIDE 72 HOURS NOTICE TO THE OWNER AND ENGINEER PRIOR TO COMMENCING ABATEMENT.

DEMOLITION NOTES:

1. CONTRACTOR TO REMOVE EXISTING AIR CONDITIONING UNIT AND SALVAGE TO OWNER. CONTRACTOR SHALL ALSO FURNISH AND INSTALL NEW "ANDERSON" CASEMENT SASH AT EACH LOCATION, FINISH TO MATCH EXISTING (FIELD VERIFY SIZE AND TYPE).
2. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING FIN TUBE RADIATION UNITS.
3. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING FAN COIL UNIT, DUCTWORK AND CEILING GRILLES. CONTRACTOR SHALL REPLACE CEILING WHERE DISTURBED WITH NEW MATERIALS TO MATCH EXISTING.
4. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING THERMOSTATS. PATCH EXISTING WALL AS REQUIRED.
5. * HEATING SUPPLY AND HEATING RETURN PIPING TO BE ABANDONED IN PLACE. CAP OFF BRANCH PIPING IN GROUND FLOOR CEILING SPACE AND PATCH HOLES IN FLOORS AND WALLS WITH NON-SHRINK GROUT. CONTRACTOR MAY, AT HIS OPTION AND COST, REMOVE ADDITIONAL HYDRONIC PIPING TO FACILITATE PROPOSED INSTALLATION.
6. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING CABINET HEATERS. REPAIR WALL AS REQUIRED TO MATCH EXISTING.
7. CONTRACTOR SHALL REMOVE EXISTING HYDRONIC PIPING INDICATED. CONTRACTOR MAY, AT HIS OPTION AND COST, REMOVE ADDITIONAL HYDRONIC PIPING TO FACILITATE PROPOSED INSTALLATION.
8. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING CEILING RADIATION PANELS. CONTRACTOR SHALL REPLACE CEILING WHERE DISTURBED WITH NEW MATERIALS TO MATCH EXISTING.
9. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING CONDENSING UNIT AND REFRIGERANT LINES.

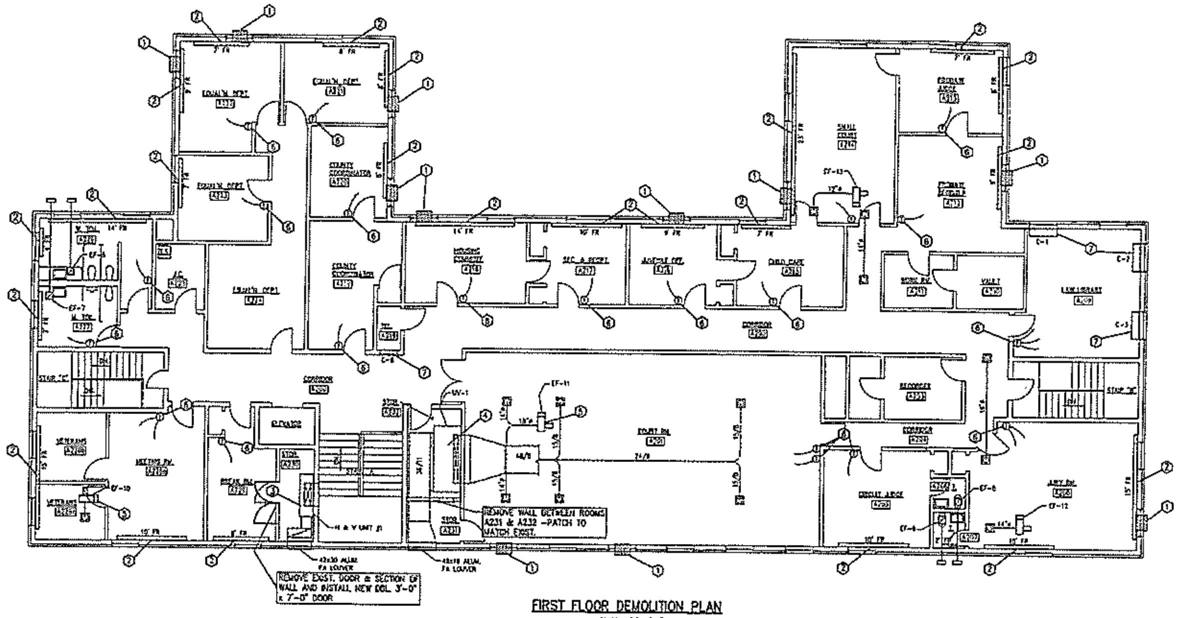
CAPITAL CONSULTANTS ENGINEERS

JOINT BUILDING AUTHORITY
FOR
OTSEGO COUNTY/CITY OF GAYLORD
225 WEST MAIN GAYLORD, MICHIGAN

GROUND FLOOR
DEMOLITION PLAN

SCALE: 1/8" = 1'-0"
PROJ. NO.: 98-218
DATE: MAR

SHEET
MD-1



FIRST FLOOR DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

CONTRACTOR SHALL NOTE PROJECT REQUIREMENTS FOR ASBESTOS ABATEMENT IN THE CONTRACT DOCUMENTS. IN GENERAL ABATEMENT SHALL BE PERFORMED BY CERTIFIED WORKERS TRAINED IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS. CONTRACTOR SHALL PROVIDE 72 HOURS NOTICE TO THE OWNER AND ENGINEER PRIOR TO COMMENCING ABATEMENT.

DEMOLITION NOTES:

1. CONTRACTOR TO REMOVE EXISTING AIR CONDITIONING UNIT AND SALVAGE TO OWNER. CONTRACTOR SHALL ALSO FURNISH AND INSTALL NEW "ANDERSEN" CASEMENT SASH AT EACH LOCATION. FINISH TO MATCH EXISTING (FIELD VERIFY SIZE AND TYPE).
2. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING FIN TUBE RADIATION UNITS.
3. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING HEATING VENTILATING UNIT #1 AND ALL ASSOCIATIVE DUCTWORK, LOUVERS, ETC.
4. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING UV-1 AND ALL ASSOCIATIVE DUCTWORK, LOUVERS, CEILING GRILLES, ETC. CONTRACTOR SHALL REPLACE WHERE DISTURBED WITH NEW MATERIALS TO MATCH EXISTING.
5. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING EXHAUST FAN, DUCTWORK AND CEILING GRILLES. CONTRACTOR SHALL REPLACE CEILING WHERE DISTURBED WITH NEW MATERIALS TO MATCH EXISTING.
6. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING THERMOSTATS. PATCH EXISTING WALL AS REQUIRED.
7. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING CABINET HEATERS. REPAIR WALL AS REQUIRED TO MATCH EXISTING.

FIRST FLOOR DEMOLITION PLAN

JOINT BUILDING AUTHORITY
FOR
OTSEGO COUNTY/CITY OF GAYLORD
225 WEST MAIN GAYLORD, MICHIGAN

CAPITAL CONSULTANTS ENGINEERS

REVISIONS	DATE

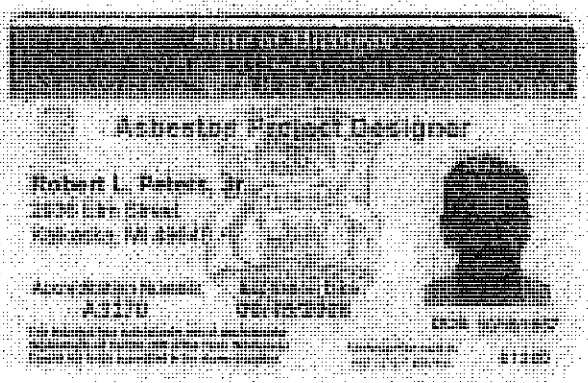
SCALE: 1/8" = 1'-0"

SHEET MD-2

APPENDIX D

Asbestos Inspector

Robert L. Peters, Jr.

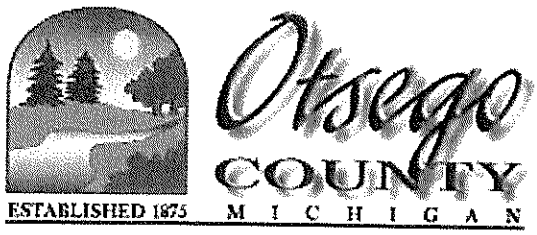


Asbestos Project Designer

Robert L. Peters, Jr.

Asbestos Management Planner

Robert L. Peters, Jr.



Sheriff's Department
124 S. Court St.
Gaylord, MI 49735

Otwell Mawby, P.C.
Consulting Engineers

April 21, 2006

Ms. Trisha Adam
Human Resources Director
Otsego County
225 W. Main Street, Room 203
Gaylord, MI 49735

RE: Asbestos Inspection Report
Sheriff Department
124 S. Court Street
Gaylord, Michigan

Dear Ms. Adam:

Otwell Mawby, P.C. (OMPC) has completed an inspection of the Sheriff Department located at 124 S. Court Street in Gaylord, Michigan. The inspection was completed to evaluate the building for the presence of asbestos containing building materials (ACBM). The inspection was conducted on March 10 & April 4, 2006, and covered the entire building. This letter presents the findings of the inspection and serves as the Asbestos Inspection Report for the referenced facility.

Collection Protocol

The building materials suspected of containing asbestos were divided into 9 homogeneous areas. Thirty-two samples were then collected from these materials in accordance with Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) standards. The materials consisted of drywall, pipe fitting insulation, various ceiling panels, floor tiles, and floor tile mastic.

Analytical Protocol

The bulk samples collected during the inspection were analyzed by Environmental Enterprise Group (EEG) in Russellville, Arkansas using Polarized Light Microscopy (PLM). EEG is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for the analysis of asbestos in bulk samples using PLM (NVLAP Lab Code 101587-0). The analytical laboratory package is attached in appendix A.

Summary of Analytical Results

Of the 9 materials sampled, 3 tested positive for asbestos content and thus are defined as ACBM. A description of the ACBM, locations, and approximate quantities is provided on the table located in Appendix B. The location of the ACBM can compared to the site plans located in Appendix C.

Inaccessible Areas

OMPC could not access certain areas of the facility without damaging the integrity of the building materials in place. These areas included the ceilings in the jail area. If the ceilings are entered the personnel doing so should have the training necessary to recognize potential ACBM.

Condition of ACBM/Recommended Response Actions

During the on-site inspection, the OMPC Inspector also noted the condition of the ACBM. The table in Appendix B has a column listing the amount of damaged material present, if applicable. If the damage column does not list damage, the material is in good condition and may be left in place as is. A column for notes follows the damage column on the table. The table should be updated with date(s) as materials are repaired or removed per building area. OMPC recommends that small amount of damaged pipe fitting insulation and floor tile be repaired by properly trained personnel.

Additional Requirements per OSHA

The OSHA Asbestos Standard, Part 305: Asbestos (General Industry Standards) requires that all employees, tenants, employees of tenants, and contractors who will work in or adjacent to asbestos-containing materials be notified of the location of the ACBM. In addition to the notification, all maintenance and custodial personnel in the building must be provided with asbestos awareness training, at a minimum.

All outside contractors entering the building that could have the potential of disturbing the ACBM should also have asbestos awareness training under the standard. Their employer is responsible for providing the training for them.

All bulk sample collection, quantification, and ACBM assessment was performed by Robert Peters of OMPC. Mr. Peters is certified as an asbestos inspector by the State of Michigan, Department of Labor and Economic Growth (MDLEG) Asbestos Program. A copy of this certification can be found in Appendix D.

If you have any questions regarding this report, please feel free to contact me at (231) 946-5200. We appreciate the opportunity to provide these services and thank you for your confidence in OMPC.

Sincerely,

OTWELL MAWBY, P.C.

RC Peters

Robert L. Peters Jr.
State of Michigan, Certified Asbestos Inspector #A3270

Enclosures, as stated.

APPENDIX A

EEG
Environmental
Enterprise Group, Inc.

220 North Knoxville · Russellville, Arkansas 72801
Phone (479) 968-6767 · Fax (479) 968-1968
www.3eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - Sherriff Dept.
Received: 3/13/2006 **Shipped Via:** FedEx

Job Number: 00326- B2006-0136
Sampled By: Bob Peters

Date Sampled: 3/10/2006
Reported: 3/15/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis
63	01A	No	None Detected

Sample Description: White
Floor Tile
Front Entry

This material contains approximately

Calcite	55%	Mica	1%
Quartz	1%	Particulate Matter	43%

Sample #	Client Sample ID:	Layered	Analysis
64	02A	No	Positive

Sample Description: Black
Mastic
Front Entry

This material contains approximately

Chrysotile Asbestos	5%	Cellulose	1%
Calcite	5%	Quartz	3%
Particulate Matter	86%		

Sample #	Client Sample ID:	Layered	Analysis
65	03A	No	None Detected

Sample Description: White / Off White
Ceiling Panel
Squad Room

This material contains approximately

Cellulose	55%	Mineral Wool	20%
Quartz	1%	Perlite	15%
Particulate Matter	9%		

Sample #	Client Sample ID:	Layered	Analysis
66	03B	No	None Detected

Sample Description: White / Off White
Ceiling Panel
Open Area

This material contains approximately

Cellulose	55%	Mineral Wool	20%
Quartz	<1%	Perlite	15%
Particulate Matter	10%		

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent.
Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

NVLAP®
NVLAP LAB CODE 101587-0

Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

EEG
Environmental
Enterprise Group, Inc.

326 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1956
www.eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - Sherriff Dept.
Received: 3/13/2006 **Shipped Via:** FedEx

Job Number: 00326- B2006-0136
Sampled By: Bob Peters

Date Sampled: 3/10/2006
Reported: 3/15/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis
67	04A	No	Trace

Sample Description: White / Off White
Ceiling Panel
Civil Process

This material contains approximately

Mineral Wool	80%	Calcite	1%
Actinolite Asbestos	1%	Particulate Matter	18%

Sample #	Client Sample ID:	Layered	Analysis
68	05A	Yes 1	Positive

Sample Description: White / Off White
Pipe Fitting
Above Ceiling Open Area

This material contains approximately

Chrysotile Asbestos	7%	Cellulose	<1%
Mineral Wool	15%	Diatomaceous Earth	5%
Quartz	2%	Gypsum Mortar	50%
Particulate Matter	21%		

Sample #	Client Sample ID:	Layered	Analysis
68	05A	Yes 2	Positive

Sample Description: Silver
Coating Material
Above Ceiling Open Area

This material contains approximately

Chrysotile Asbestos	3%	Quartz	2%
Particulate Matter	95%		

Sample #	Client Sample ID:	Layered	Analysis
71	06A	Yes 1	None Detected

Sample Description: Off White / Gray
Drywall
Mens Public Rest Room

This material contains approximately

Cellulose	30%	Fiberglass	3%
Quartz	1%	Gypsum Mortar	55%
Particulate Matter	11%		

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent.
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NVLAP®
NVLAP LAB CODE 101587-0

Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

EEG
Environmental
Enterprise Group, Inc.

120 North Enoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1956
www.3weg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - Sherriff Dept.
Received: 3/13/2006 **Shipped Via:** FedEx

Job Number: 00326- B2006-0136
Sampled By: Bob Peters

Date Sampled: 3/10/2006
Reported: 3/15/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
71	06A	Yes 2	None Detected	Cellulose	<1%	Quartz	15%
				Gypsum Mortar	15%	Particulate Matter	70%

Sample Description: White / Off White
Debris
Mens Public Rest Room

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
72	06B	Yes 1	None Detected	Cellulose	<1%	Quartz	35%
				Gypsum Mortar	40%	Particulate Matter	25%

Sample Description: Off White / Gray
Drywall
Ladies Public Rest Room

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
72	06B	Yes 2	Trace	Chrysotile Asbestos	<1%	Cellulose	<1%
				Calcite	5%	Mica	1%
				Quartz	1%	Particulate Matter	93%

Sample Description: White / Off White
Debris
Ladies Public Rest Room

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
73	07A	No	None Detected	Cellulose	55%	Mineral Wool	15%
				Quartz	1%	Perlite	15%
				Particulate Matter	14%		

Sample Description: White / Off White
Ceiling Panel
Locker Room

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent.
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NVLAP LAB CODE 101587-0

Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

EEG
Environmental
Enterprise Group, Inc.

230 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1956
www.3eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - Sherriff Dept.
Received: 3/13/2006 **Shipped Via:** FedEx

Job Number: 00326- B2006-0136
Sampled By: Bob Peters

Date Sampled: 3/10/2006
Reported: 3/15/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
74	08A	No	Positive	Chrysotile Asbestos	3%	Calcite	50%
				Quartz	1%	Particulate Matter	46%
Sample Description: Off White Floor Tile Locker Room Bath							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
75	09A	No	Positive	Chrysotile Asbestos	4%	Cellulose	<1%
				Calcite	7%	Quartz	3%
Sample Description: Black Mastic Locker Room Bath				Particulate Matter	86%		

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent. Test measurements are traceable to Standard Reference Material 1866a and 1867. The results are valid only for the materials tested. The information listed above is for the exclusive use of the client listed above. Sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. Sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not consumed in analysis will be retained for a maximum of 30 days. Samples may be returned to the client upon request. Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under NVLAP code 101587-0.

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EEG, Inc

Analyst

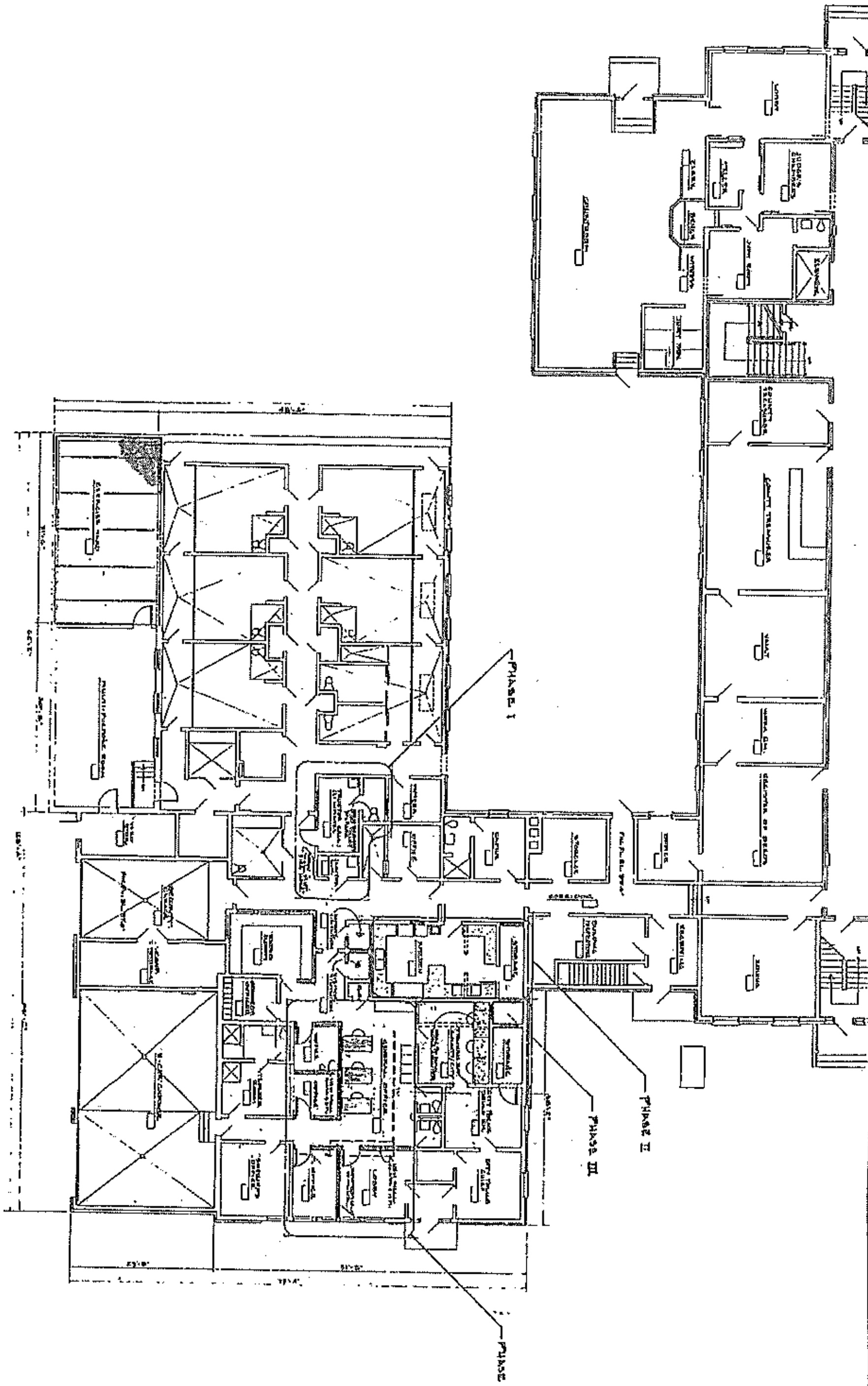
NVLAP Signatory

APPENDIX B

ACBM	Location	Approximate Quantity	Damage	Notes
Pipe Fitting Insulation	General Office	6 Fittings	2 Fittings	
Pipe Fitting Insulation	Men's Public Restroom	4 Fittings	N/A	
Pipe Fitting Insulation	Women's Public Restroom	4 Fittings	N/A	
9" Floor Tiles	Locker Room Bath	60 SF	6 SF	
Tile Mastic	Locker Room Bath	60 SF	N/A	
Tile Mastic	Front Entrance	48 SF	N/A	
Tile Mastic	Men's Public Restroom	25 SF	N/A	
Tile Mastic	Women's Public Restroom	25 SF	N/A	

SF = Square Feet
LF = Lineal Feet

APPENDIX C



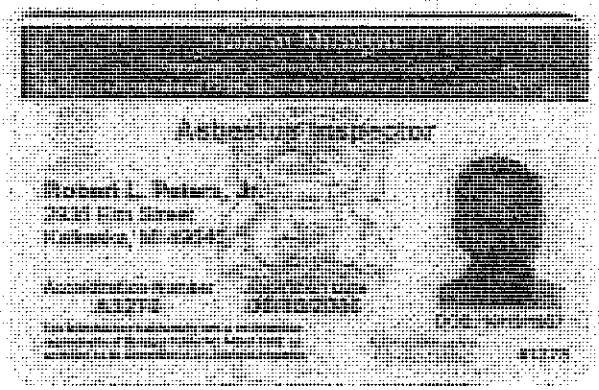
EXISTING AND PROPOSED FLOOR PLAN

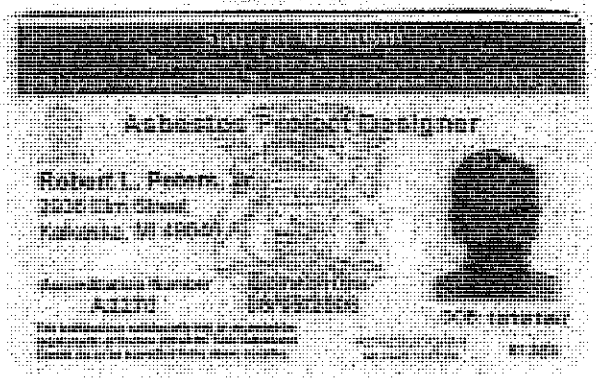
REVIEW SET ONLY
NOT FOR CONSTRUCTION
DONALD E. MORGRIDGE
ARCHITECT

SHEET	DATE	PROJECT NO.	PROJECT TITLE	DRAWING TITLE
			PROPOSED RENOVATIONS FOR: OTSEGO COUNTY COURTHOUSE and JAIL OTSEGO COUNTY BUILDING AUTHORITY	1st FLOOR PLAN

DONALD E. MORGRIDGE
ARCHITECT

APPENDIX D


Robert L. Peters, Jr.


Robert L. Peters, Jr.


Robert L. Peters, Jr.

Sheriff's Department Storage Building 611 S. Illinois St. Gaylord, MI 49735

Otwell Mawby, P.C.
Consulting Engineers

April 5, 2006

Ms. Trisha Adam
Human Resources Director
Otsego County
225 W. Main Street, Room 203
Gaylord, MI 49735

RE: Asbestos Inspection Report
Sheriff Department Storage Building
611 S. Illinois
Gaylord, Michigan

Dear Ms. Adam:

Otwell Mawby, P.C. (OMPC) has completed an inspection of the Sheriff Department Storage Building located at 611 S. Illinois in Gaylord, Michigan. The inspection was completed to evaluate the building for the presence of asbestos containing building materials (ACBM). The inspection was conducted on March 18, 2006, and covered the entire building. This letter presents the findings of the inspection and serves as the Asbestos Inspection Report for the referenced facility.

Collection Protocol

The building materials suspected of containing asbestos were divided into 4 homogeneous areas. Fourteen samples were then collected from these materials in accordance with Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) standards. The materials consisted of ceiling tiles, drywall, floor tiles, linoleum, and mastic.

Analytical Protocol

The bulk samples collected during the inspection were analyzed by Environmental Enterprise Group (EEG) in Russellville, Arkansas using Polarized Light Microscopy (PLM). EEG is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for the analysis of asbestos in bulk samples using PLM (NVLAP Lab Code 101587-0). The analytical laboratory package is attached in appendix A.

Summary of Analytical Results

Please note that asbestos was not detected in any of the samples.

All bulk sample collection was performed by Robert Peters of OMPC. Mr. Peters is certified as an asbestos inspector by the State of Michigan, Department of Labor and Economic Growth (MDLEG) Asbestos Program. A copy of this certification can be found in Appendix B.

If you have any questions regarding this Report, please feel free to contact me at (231) 946-5200. We appreciate the opportunity to provide these services and thank you for your confidence in OMPC.

Sincerely,

OTWELL MAWBY, P.C.

Robert L. Peters Jr.
State of Michigan, Certified Asbestos Inspector #A3270

Enclosures, as stated.

APPENDIX A

EEG
Environmental
Enterprise Group, Inc.

320 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1076
www.eeg.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - Sherrif Storage
Received: 3/21/2006 **Shipped Via:** FedEx

Job Number: 00326- B2006-0153
Sampled By: Bob Peters

Date Sampled: 3/18/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
1	01A	Yes 1	None Detected	Cellulose	20%	Fiberglass	2%
				Synthetic Fiber	5%	Calcite	20%
Sample Description: White Linoleum Bathroom				Quartz	3%	Particulate Matter	50%

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
1	01A	Yes 2	None Detected	Cellulose	1%	Synthetic Fiber	<1%
				Calcite	5%	Quartz	3%
Sample Description: Brown Mastic Bathroom				Particulate Matter	91%		

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
2	02A	No	None Detected	Calcite	55%	Quartz	1%
				Particulate Matter	44%		
Sample Description: Tan / Brown Floor Tile Furnce Room							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
3	03A	No	None Detected	Cellulose	1%	Synthetic Fiber	1%
				Calcite	7%	Quartz	3%
Sample Description: Clear Mastic Furnace Room				Particulate Matter	88%		

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NVLAP LAB CODE 101587-0

Respectfully Submitted,
EEG, Inc

Analyst

NVLAP Signatory

EEG
Environmental
Enterprise Group, Inc.

220 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1925
www.eegcc.com

Client: Otwell Mawby PC
Client Project: 06-052
Methodology: EPA-600/R-93/116
Sample(s) Taken From: Ostego County - Sherrif Storage
Received: 3/21/2006 **Shipped Via:** FedEx

Job Number: 00326- B2006-0153
Sampled By: Bob Peters

Date Sampled: 3/18/2006
Reported: 3/22/2006

Bulk Asbestos Report

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
4	04A	No	None Detected	Cellulose	95%	Mineral Wool	<1%
				Particulate Matter	5%		
Sample Description: Brown / White Ceiling Tile File Storage Room North Wall							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
5	04B	No	None Detected	Cellulose	95%	Particulate Matter	5%
Sample Description: Brown / White Ceiling Tile File Storage Room East Wall							

Sample #	Client Sample ID:	Layered	Analysis	This material contains approximately			
6	04C	No	None Detected	Cellulose	95%	Synthetic Fiber	<1%
				Particulate Matter	5%		
Sample Description: Brown / White Ceiling Tile File Storage Room West Wall							

Current information listed above applies to the standards or procedures identified and the samples actually tested. The methodology(s) listed in this report is the only methodology(s) used. The methodology listed in this report is a deviation from NVLAP's specific scope of accreditation (EPA-600/M-4-82-020 method). Each percentage reported above is a visual estimation of total composition, unless otherwise noted in this report. Asbestos detection limit is less than 1 percent.
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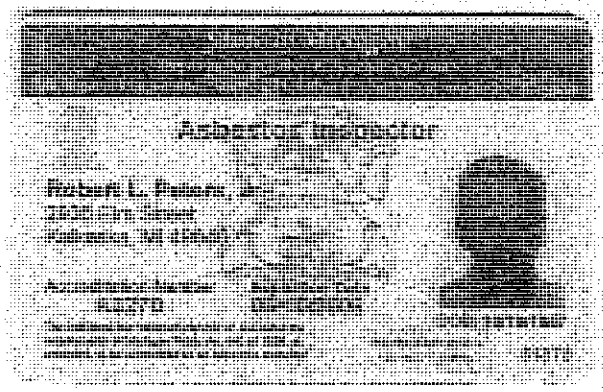
NVLAP LAB CODE 101587-0

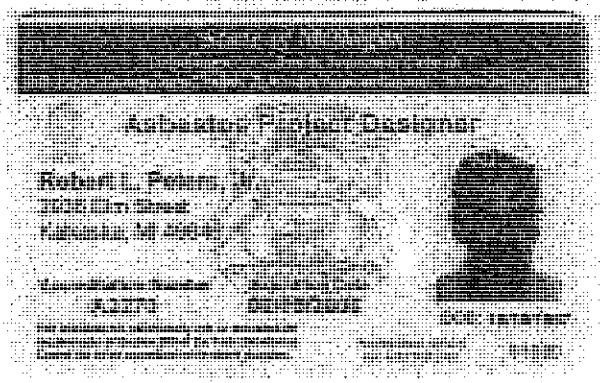
Respectfully Submitted,
EEG, Inc

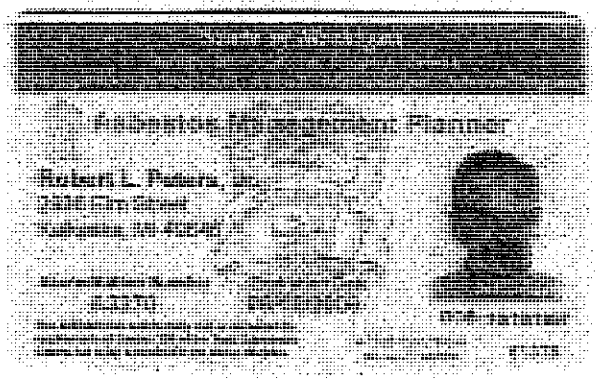
Analyst

NVLAP Signatory

APPENDIX B


Asbestos Inspector
Robert L. Peters, Jr.


Asbestos Project Designer
Robert L. Peters, Jr.


Asbestos Management Planner
Robert L. Peters, Jr.

Otsego County
Office of the County Administrator
225 West Main Street • Gaylord, Michigan 49735
989-731-7520 • Fax 989-731-7529

Clarification/Addendum #2

Request for Proposal
Otsego County Courthouse Renovations
Gaylord, MI

RFP 2014-03

July 31, 2014

Dear Vendor:

Thank you for your participation in Otsego County's Request for Proposal process for Bid 2014-03, for renovations at the Otsego County Courthouse in Gaylord, Michigan.

We have prepared a Clarification Notice Number Two (2) to the RFP to provide clarification pertaining to timing of the project.

There are pipe fittings over room 100 and the ground floor hallway that contain asbestos. It is unknown at this time whether any will have to be removed as part of the project. If asbestos removal is necessary, the County will pay for that cost. You can see the asbestos report for the Courthouse at http://www.otsegocountymi.gov/bids-and-proposals-192/.

If you have any questions on this Clarification or on any other aspects of the Request for Proposal, please contact me at (989) 731-7527, Fax (989) 731-7529 or Email at jburt@otsegocountymi.gov.

Respectfully,

John Burt
County Administrator

Bidder Notification List

Company	Tel
Haggard's Plumbing and Heating	231-547-4046
H&H Tube & Mfg Co (Plumbing)	989-983-2800
Sunrise	989-732-3784
LTD Construction	231-275-7270
Siwecki Construction	989-390-5803
Jordan Construction Group	231-536-0600
Walker Telecommunications	989-274-7384
ABI Mechanical	
Integrity Construction	989-705-1131
Sobie Company	616-698-9800
Windemuller Electric	231-346-2657
Paramount Painting	989-614-1196
Graham Construction	989-921-3030
Bonus Enviornmental, LLC	989-779-7686
Landman Insulation	616-243-1419